Comprehensive Data Validation Report
Radford Army Ammunition Plant (RFAAP), Radford, Virginia
Facility: HWMU-5 Groundwater Monitoring Event: Second Quarter 2017

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 6020A											
Laboratory: ELLE, Lancaster, PA											
Antimony	5W5B	0.4	U	U		2	0.4	2	0.4	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.4	U	U		2	0.4	2	0.4	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.4	U	U		2	0.4	2	0.4	ug/l	Analyte not detected at or above the DL or QL.
	5WC22	0.4	U	U		2	0.4	2	0.4	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.4	U	U		2	0.4	2	0.4	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.4	U	U		2	0.4	2	0.4	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Arsenic	5W5B	2	U	U		4	2	10	2	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	2	U	U		4	2	10	2	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	2	U	U		4	2	10	2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	2	U	U		4	2	10	2	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	2	U	U		4	2	10	2	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	2	U	U		4	2	10	2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Barium	5W5B	28		28		4	1	10	1	ug/l	No action taken.
	5W7B	34.8		34.8		4	1	10	1	ug/l	No action taken.
	5WC21	13.8		13.8		4	1	10	1	ug/l	No action taken. Blind field duplicate 5WDUP.
	5WC22	26.4		26.4		4	1	10	1	ug/l	No action taken.
	5WC23	21		21		4	1	10	1	ug/l	No action taken.
	5WDUP	13.9		13.9		4	1	10	1	ug/l	No action taken. Blind field duplicate 5WC21.
Beryllium	5W5B	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	1		1		1	0.2	1	0.2	ug/l	No action taken. Blind field duplicate 5WDUP.
	5WC22	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	1		1		1	0.2	1	0.2	ug/l	No action taken. Blind field duplicate 5WC21.
Cadmium	5W5B	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 6020A											
Laboratory: ELLE, Lancaster, PA											
Cadmium	5WC21	0.32	J	0.32	J	1	0.2	1	0.2	ug/l	Result < permit QL. Blind field duplicate 5WDUP.
	5WC22	0.21	J	0.21	J	1	0.2	1	0.2	ug/l	Result < permit QL.
	5WC23	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.41	J	0.41	J	1	0.2	1	0.2	ug/l	Result < permit QL. Blind field duplicate 5WC21.
Chromium	5W5B	1	U	1		4	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	1	U	1		4	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	3.8	J	3.8	J	4	1	5	1	ug/l	Result < permit QL. Blind field duplicate 5WDUP.
	5WC22	1	U	1		4	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	1	U	1		4	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	3.7	J	3.7	J	4	1	5	1	ug/l	Result < permit QL. Blind field duplicate 5WC21.
Cobalt	5W8B	1	U	U		5	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5W5B	1	U	U		5	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	1	U	U		5	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	66.8		66.8		5	1	5	1	ug/l	No action taken. Blind field duplicate 5WDUP.
	5WC22	7.8		7.8		5	1	5	1	ug/l	No action taken.
	5WC23	3	J	3	J	5	1	5	1	ug/l	Result < permit QL.
	5WDUP	63.6		63.6		5	1	5	1	ug/l	No action taken. Blind field duplicate 5WC21.
	5W12A	1	U	U		5	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
Copper	5W5B	1.5	J	1.5	J	4	1	5	1	ug/l	Result < permit QL.
	5W7B	3.4	J	3.4	J	4	1	5	1	ug/l	Result < permit QL.
	5WC21	3.1	J	3.1	J	4	1	5	1	ug/l	Result < permit QL. Blind field duplicate 5WDUP.
	5WC22	1	U	U		4	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	1	U	U		4	1	5	1	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	3.2	J	3.2	J	4	1	5	1	ug/l	Result < permit QL. Blind field duplicate 5WC21.
Lead	5W5B	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.39	J	0.39	J	2	0.2	2	0.2	ug/l	Result < permit QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 6020A											
Laboratory: ELLE, Lancaster, PA											
Lead	5WC21	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Nickel	5W5B	2	U	U		4	2	10	2	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	2	U	U		4	2	10	2	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	34.3		34.3		4	2	10	2	ug/l	No action taken. Blind field duplicate 5WDUP.
	5WC22	4.8	J	4.8	J	4	2	10	2	ug/l	Result < permit QL.
	5WC23	2.4	J	2.4	J	4	2	10	2	ug/l	Result < permit QL.
	5WDUP	34.5		34.5		4	2	10	2	ug/l	No action taken. Blind field duplicate 5WC21.
Selenium	5W5B	3	U	U		4	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	3	U	U		4	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	3	U	U		4	3	10	3	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	3	U	U		4	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	3	U	U		4	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	3	U	U		4	3	10	3	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Silver	5W5B	0.2	U	U		1	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.2	U	U		1	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.2	U	U		1	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.2	U	U		1	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.2	U	U		1	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.2	U	U		1	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Thallium	5W5B	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 6020A											
Laboratory: ELLE, Lancaster, PA											
Thallium	5WC23	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.2	U	U		1	0.2	1	0.2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Vanadium	5W5B	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	1	J	1	J	10	1	10	1	ug/l	Result < permit QL. Blind field duplicate 5WDUP.
	5WC22	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	1	U	U	J	10	1	10	1	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Zinc	5W5B	7.3	U	U		30	7.3	30	7.3	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	12.7	J	12.7	J	30	7.3	30	7.3	ug/l	Result < permit QL.
	5WC21	27.5	J	27.5	J	30	7.3	30	7.3	ug/l	Result < permit QL. Blind field duplicate 5WDUP.
	5WC22	7.3	U	U		30	7.3	30	7.3	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	7.3	U	U		30	7.3	30	7.3	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	23.8	J	23.8	J	30	7.3	30	7.3	ug/l	Result < permit QL. Blind field duplicate 5WC21.
Method: 7470A											
Laboratory: ELLE, Lancaster, PA											
Mercury	5W5B	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.2	U	U		2	0.2	2	0.2	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 8260C											
Laboratory: ELLE, Lancaster, PA											
Acetone	5W5B	3	U	U		10	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	3	U	U		10	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	3	U	U		10	3	10	3	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	3	U	U		10	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	3	U	U		10	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	3	U	U		10	3	10	3	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	Trip Blank 1	3	U	U		10	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	3	U	U		10	3	10	3	ug/l	Analyte not detected at or above the DL or QL.
2-Butanone	5W5B	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	Trip Blank 1	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	1	U	U		10	1	10	1	ug/l	Analyte not detected at or above the DL or QL.
Chloroform	5W5B	4		4	J	1	0.1	1	0.1	ug/l	MS recovered low (74%).
	5W7B	23		23	J	1	0.1	1	0.1	ug/l	MS recovered low (74%).
	5WC21	11		11	J	1	0.1	1	0.1	ug/l	MS recovered low (74%). Blind field duplicate 5WDUP.
	5WC22	1	J	1	J	1	0.1	1	0.1	ug/l	Result < permit QL. MS recovered low (74%).
	5WC23	1		1	J	1	0.1	1	0.1	ug/l	MS recovered low (74%).
	5WDUP	11		11	J	1	0.1	1	0.1	ug/l	MS recovered low (74%). Blind field duplicate 5WC21.
	Trip Blank 1	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. MS recovered low (74%).
	Trip Blank 2	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. MS recovered low (74%).
Dichlorodifluoromethane	5W5B	0.3	U	U		1	0.3	1	0.28	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.3	U	U		1	0.3	1	0.28	ug/l	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 8260C											
Laboratory: ELLE, Lancaster, PA											
Dichlorodifluoromethane	5WC21	0.3	U	U		1	0.3	1	0.28	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.3	U	U		1	0.3	1	0.28	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.3	U	U		1	0.3	1	0.28	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.3	U	U		1	0.3	1	0.28	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	Trip Blank 1	0.3	U	U		1	0.3	1	0.28	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.3	U	U		1	0.3	1	0.28	ug/l	Analyte not detected at or above the DL or QL.
1,2-Dichloroethane	5W5B	0.1	U	U		1	0.1	1	0.147	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.1	U	U		1	0.1	1	0.147	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.1	U	U		1	0.1	1	0.147	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.1	U	U		1	0.1	1	0.147	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.1	U	U		1	0.1	1	0.147	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.1	U	U		1	0.1	1	0.147	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	Trip Blank 1	0.1	U	U		1	0.1	1	0.147	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.1	U	U		1	0.1	1	0.147	ug/l	Analyte not detected at or above the DL or QL.
1,1-Dichloroethene	5W8B	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL.
	5W5B	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	5W12A	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 1	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.4	U	U		1	0.4	1	0.44	ug/l	Analyte not detected at or above the DL or QL.
cis-1,2-Dichloroethene	5W8B	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	5W5B	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 8260C											
Laboratory: ELLE, Lancaster, PA											
cis-1,2-Dichloroethene	5W7B	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	5W12A	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 1	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
trans-1,2-Dichloroethene	5W8B	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL.
	5W5B	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	5W12A	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 1	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.8	U	U		1	0.8	1	0.8	ug/l	Analyte not detected at or above the DL or QL.
Diethyl ether	5W5B	0.4	U	U		12	0.4	12	0.39	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.4	U	U		12	0.4	12	0.39	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.9	J	0.9	J	12	0.4	12	0.39	ug/l	Result < permit QL. Blind field duplicate 5WDUP.
	5WC22	3.4	J	3.4	J	12	0.4	12	0.39	ug/l	Result < permit QL.
	5WC23	11	J	11	J	12	0.4	12	0.39	ug/l	Result < permit QL.
	5WDUP	1.2	J	1.2	J	12	0.4	12	0.39	ug/l	Result < permit QL. Blind field duplicate 5WC21.
	Trip Blank 1	0.4	U	U		12	0.4	12	0.39	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.4	U	U		12	0.4	12	0.39	ug/l	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 8260C											
Laboratory: ELLE, Lancaster, PA											
Methylene chloride	5W5B	0.2	U	U		1	0.2	1	0.182	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.2	U	U		1	0.2	1	0.182	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.2	U	U		1	0.2	1	0.182	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.2	U	U		1	0.2	1	0.182	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.2	U	U		1	0.2	1	0.182	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.2	U	U		1	0.2	1	0.182	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	Trip Blank 1	0.2	U	U		1	0.2	1	0.182	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.2	U	U		1	0.2	1	0.182	ug/l	Analyte not detected at or above the DL or QL.
Toluene	5W5B	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	Trip Blank 1	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
Trichloroethene	5W8B	0.2	U	U		1	0.2	1	0.177	ug/l	Analyte not detected at or above the DL or QL.
	5W5B	0.2	U	U		1	0.2	1	0.177	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.2	U	U		1	0.2	1	0.177	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	2.4		2.4		1	0.2	1	0.177	ug/l	No action taken. Blind field duplicate 5WDUP.
	5WC22	2.9		2.9		1	0.2	1	0.177	ug/l	No action taken.
	5WC23	4.3		4.3		1	0.2	1	0.177	ug/l	No action taken.
	5WDUP	2.4		2.4		1	0.2	1	0.177	ug/l	No action taken. Blind field duplicate 5WC21.
	5W12A	0.2	U	U		1	0.2	1	0.177	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 1	0.2	U	U		1	0.2	1	0.177	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.2	U	U		1	0.2	1	0.177	ug/l	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 8260C											
Laboratory: ELLE, Lancaster, PA											
Vinyl chloride	5W8B	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-29%).
	5W5B	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-29%).
	5W7B	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-29%).
	5WC21	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-29%). Blind field duplicate 5WDUP.
	5WC22	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-29%).
	5WC23	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-29%).
	5WDUP	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-29%). Blind field duplicate 5WC21.
	5W12A	0.1	U	U	J	1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-29%).
	Trip Blank 1	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.1	U	U		1	0.1	1	0.1	ug/l	Analyte not detected at or above the DL or QL.
Xylenes (Total)	5W5B	0.2	U	U		3	0.2	3	0.208	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.2	U	U		3	0.2	3	0.208	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.2	U	U		3	0.2	3	0.208	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.2	U	U		3	0.2	3	0.208	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.2	U	U		3	0.2	3	0.208	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.2	U	U		3	0.2	3	0.208	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
	Trip Blank 1	0.2	U	U		3	0.2	3	0.208	ug/l	Analyte not detected at or above the DL or QL.
	Trip Blank 2	0.2	U	U		3	0.2	3	0.208	ug/l	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 8270D											
Laboratory: ELLE, Lancaster, PA											
bis(2-Ethylhexyl)phthalate	5W5B	1.5	U	U		6.1	1.5	6	1.5	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	1.5	U	U		6.1	1.5	6	1.5	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	1.5	U	U		6.1	1.5	6	1.5	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	1.5	U	U		6.1	1.5	6	1.5	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	1.5	U	U		6.1	1.5	6	1.5	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	1.5	U	U		6.1	1.5	6	1.5	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Diethyl phthalate	5W5B	0.51	U	U		10	0.51	10	0.5	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.51	U	U		10	0.51	10	0.5	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.5	U	U		10	0.51	10	0.5	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.51	U	U		10	0.51	10	0.5	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.5	U	U		10	0.51	10	0.5	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.51	U	U		10	0.51	10	0.5	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
2,4-Dinitrotoluene	5W5B	0.61	U	U		10	0.61	10	0.6	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.61	U	U		10	0.61	10	0.6	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.9	J	0.9	J	10	0.61	10	0.6	ug/l	Result < permit QL. Blind field duplicate 5WDUP.
	5WC22	0.61	U	U		10	0.61	10	0.6	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.6	J	0.6	J	10	0.61	10	0.6	ug/l	Result < permit QL.
	5WDUP	0.9	J	0.9	J	10	0.61	10	0.6	ug/l	Result < permit QL. Blind field duplicate 5WC21.
2,6-Dinitrotoluene	5W5B	0.71	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.71	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.7	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.71	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	0.7	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	0.71	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
o-Nitroaniline	5W5B	0.71	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.71	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Lab Result	Q	Validated Result	Q	Lab QL	Lab DL	Permit QL	Permit DL	Units	Validation Notes
Method: 8270D											
Laboratory: ELLE, Lancaster, PA											
o-Nitroaniline	5WC21	0.8	J	0.8	J	10	0.71	10	0.7	ug/l	Result < permit QL. Blind field duplicate 5WDUP.
	5WC22	2	J	2	J	10	0.71	10	0.7	ug/l	Result < permit QL.
	5WC23	2	J	2	J	10	0.71	10	0.7	ug/l	Result < permit QL.
	5WDUP	0.71	U	U		10	0.71	10	0.7	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
p-Nitroaniline	5W5B	1.3	U	U		20	1.3	20	1.3	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	1.3	U	U		20	1.3	20	1.3	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	1.3	U	U		20	1.3	20	1.3	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	1.3	U	U		20	1.3	20	1.3	ug/l	Analyte not detected at or above the DL or QL.
	5WC23	1.3	U	U		20	1.3	20	1.3	ug/l	Analyte not detected at or above the DL or QL.
	5WDUP	1.3	U	U		20	1.3	20	1.3	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.
Nitrobenzene	5W5B	0.81	U	U		10	0.81	10	0.8	ug/l	Analyte not detected at or above the DL or QL.
	5W7B	0.81	U	U		10	0.81	10	0.8	ug/l	Analyte not detected at or above the DL or QL.
	5WC21	0.8	U	U		10	0.81	10	0.8	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WDUP.
	5WC22	0.9	J	0.9	J	10	0.81	10	0.8	ug/l	Result < permit QL.
	5WC23	0.9	J	0.9	J	10	0.81	10	0.8	ug/l	Result < permit QL.
	5WDUP	0.81	U	U		10	0.81	10	0.8	ug/l	Analyte not detected at or above the DL or QL. Blind field duplicate 5WC21.

Definitions:

QL Denotes quantitation limit.
DL Denotes detection limit
Q Denotes data qualifier.
U Denotes analyte not detected at or above Detection Limit (DL) or Quantitation Limit (QL).
UA Denotes analyte not detected at or above adjusted sample DL or QL.
J Denotes analyte reported at or above the DL and associated result is estimated. When used with "U" (i.e., "UJ"), denotes analyte not detected at or above **DL and QL and DL and QL are estimated.**
When used with "UA" (i.e., "**UAJ**"), denotes analyte not detected at or above adjusted **DL and QL and adjusted DL and QL are estimated.**
R Denotes result rejected.
Laboratory Data Qualifiers, "U" and "<"**, denote not detected at or above the DL or QL.**

SW-846 METHODS 6020A AND 7470A INORGANIC DATA REVIEW SUMMARY

Draper Aden Associates performed a manual comprehensive data review of the analytical results for the May 17 & 22, 2017 Corrective Action groundwater monitoring event for Hazardous Waste Management Unit 5 (HWMU 5) located at the Radford Army Ammunition Plant (RFAAP), Radford, Virginia. Draper Aden Associates collected the groundwater samples from monitoring wells 5W8B, 5W5B, 5W7B, 5WC21, 5WC22, 5WC23, and 5W12A. Groundwater sample 5WDUP was submitted to the laboratory as a blind sample duplicate for 5WC21. The following information and attached table summarize the inorganic data validation results. Validation of other required methods is presented on separate reports.

For this Corrective Action annual groundwater monitoring event, samples 5W5B, 5W7B, 5WC21, 5WC22 and 5WC23 (downgradient point of compliance (POC) wells) were analyzed for the sixteen inorganic constituents listed in Appendix K of the facility's permit by SW-846 Method 6020A and SW-846 Method 7470A. Samples 5W8B (upgradient groundwater monitoring well) and 5W12A (plume monitoring well) were analyzed for cobalt only by SW-846 Method 6020A.

Inductively coupled plasma atomic emission spectroscopy/mass spectrometry (ICP-MS) and cold vapor atomic absorption (CVAA) were the techniques used for the metal analyses. ICP-MS Method 6020A was used to analyze for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium and zinc. CVAA Method 7470A was used to analyze for mercury. Target analytes were analyzed for total (T) concentrations.

Draper Aden Associates sent samples to Eurofins Lancaster Laboratories Environmental (ELLE), of Lancaster, Pennsylvania. ELLE performed the Method 6020A and 7470A analyses. On behalf of RFAAP, ELLE submitted results to Draper Aden Associates in a final certificate of analysis, which included sample analytical results, as well as relevant documentation to validate and verify the results. ELLE is accredited under the Virginia Environmental Laboratory Accreditation Program (VELAP) for the above analytes, methods and matrix.

The evaluation of ELLE's compliance with the method and validation of results presented here are based upon a review of quality assurance/quality control (QA/QC) information including chain-of-custody, case narrative, holding time, preservation procedures, instrument calibration, tuning, blank (method, calibration and other blanks), interference check sample, matrix spike/matrix spike duplicate (MS/MSD), laboratory control sample (LCS), internal standard, and serial dilution data. A review of transcriptions from instrument data to sample summary sheets was performed. Calculation checks were performed on ten percent of the data set, where applicable. The following information is intended to summarize data review results and any observed significant deviations from method and/or contractual requirements.

ELLE received the samples on ice and in good condition with custody seals intact. The chain of custody was appropriately signed and dated by field and laboratory personnel, except where noted below. Applicable holding time and preservation criteria were met.

Method 6020A (ICP-MS)

The revised certificates of analysis were received on July 13, 2017. The certificates of analysis appeared complete in its presentation and the data were of acceptable quality. The data set demonstrated the laboratory's ability to achieve the reported permit quantitation limit (QL) or detection limit (DL). The certificates of analysis were revised to reflect the permit required QLs and MDLs.

QC history documentation was provided. Applicable preservation and technical holding time criteria were met. Instrument calibration, calibration verification and tuning requirements were met. QL check standards, blank, interference check samples (ICSAB), MS/MSD, LCS, internal standard data, and serial dilution sample results were within control limits, where applicable. Field duplicate/sample results exhibited acceptable precision, where applicable. Calculation checks were performed on ten percent of the data set. A review of transcriptions from instrument data to sample summary sheets was performed. No deviations from QA/QC criteria were noted during data review.

For this Corrective Action groundwater monitoring event, sample results were reported to at or above the permit specified detection limit (DL). Target analytes detected at or above the DL or QL and/or analytical data that required a data validation qualifier due to quality control deviations noted above are summarized on the attached table.

Results for samples unaffected by the data validation process and reported as not detected at or above the DL were validated and qualified "U." Reported detected values less than the QL should be considered estimated concentrations and were validated and qualified "J." No results were rejected based on the data validation criteria.

Method 7470A (CVAA)

The revised certificates of analysis were received on July 13, 2017. The certificates of analysis appeared complete in its presentation and the final data were of acceptable quality. The certificate of analysis demonstrated the ability of the laboratory to achieve the reported permit QL or DL for mercury. The certificates of analysis were revised to reflect the permit required QL and MDL for mercury.

QC history documentation was provided. Applicable preservation and technical holding time criteria were met. Instrument calibration and calibration verification criteria were met. QL standard, blank, MS/MSD and LCS results recovered within control limits. Field duplicate/sample

results exhibited acceptable precision, where applicable. Calculation checks were performed on ten percent of the data set. A review of transcriptions from instrument data to sample summary sheets was performed. No deviations from QA/QC criteria were noted during data review.

For this Corrective Action groundwater monitoring event, sample results were reported to at or above the permit detection limit. Mercury detected at or above the detection limit or QL and/or analytical data that required a data validation qualifier due to quality control deviations noted above are summarized on the attached table.

For this Corrective Action groundwater monitoring event, mercury results for the samples unaffected by the data validation process and not detected at or above the detection limit and/or QL were validated and reported as "U." No results were rejected based on the data validation criteria.

INORGANIC DATA EVALUATION FOR ICP/MS SW-846 METHOD 6020A

Eurofins Lancaster Laboratories Environmental, Lancaster, PA; SDG#s: RAE87, RAE89
Preparation Method: 3020A
"☑" denotes items reviewed. See Data Validation Summary for additional comments.

A. DOCUMENTION COMPLETENESS CRITERIA:
Data Quality Objective: Representativeness

- ☑ Chain of custody – Custody transfers must be signed and dated
- ☑ Chain of custody properly and completely filled out including sampler signatures, date and time of sampling, sample ID, analysis requested

B. DETECTION LIMIT AND QUANTITATION LIMIT CRITERIA:
Data Quality Objective: Analytical Sensitivity

- ☑ Specific detection limit reported
- ☑ Specific quantitation limit reported
- ☑ Standard analyzed at the QL (LLQC), digested, 70-130% recovery, analyzed after MDL determination and as needed
- ☑ Instrument detection limit (IDL) less than QL
- ☑ VELAP accredited within 12 months

C. INITIAL DEMONSTRATION OF CAPABILITY (IDOC) CRITERIA:
Data Quality Objective: Laboratory Method Sensitivity

- ☑ IDOC for analyst Scott Cuff submitted previously

D. SAMPLE AND STANDARD PREPARATION CRITERIA:
Data Quality Objective: Accuracy and Representativeness

- ☑ Digestion prior to analysis
- ☑ Digestion method: 3020A
- ☑ Samples and standards matrix matched or internal standard used

E. TECHNICAL HOLDING TIME / PRESERVATION REQUIREMENTS:
Data Quality Objective: Representativeness

- ☑ 6 month holding time, pH<2 with Nitric Acid (HNO_3)

F. INSTRUMENT TUNE CRITERIA:
Data Quality Objective: Verify Operating Conditions

- ☑ Prior to calibration
- ☑ Relative Standard Deviation (RSD) </=5%
- ☑ Resolution < 0.9 amu full width at 10% peak height (or lower)
- ☑ Mass calibration </=0.1 amu difference from true value

G. INITIAL CALIBRATION CRITERIA:
Data Quality Objective: Laboratory Accuracy

- ☑ 1 calibration blank and at least 1 standard,
- ☑ Linear curve fit with correlation coefficient r>0.998
- ☑ Daily calibration following tuning and prior to sample analysis

H. INITIAL CALIBRATION VERIFICATION (ICV) CRITERIA:

Data Quality Objective: Laboratory Accuracy

- ☑ Daily following initial calibration
- ☑ ICV concentration near mid-point of calibration curve, 90-110% recovery
- ☑ Low level ICV (LLICV) – prior to analysis, at QL concentration, 70-130% recovery

I. INITIAL CALIBRATION BLANK CRITERIA:

Data Quality Objective: Laboratory Analytical Sensitivity/Instrument Drift/Contamination Evaluation

- ☑ Daily following ICV
- ☑ Interference free

J. CONTINUING CALIBRATION VERIFICATION (CCV) CRITERIA:

Data Quality Objective: Laboratory Analytical Accuracy

- ☑ CCV, prior to analysis, after every 10 samples, at end of analysis
- ☑ CCV recovery within 90-110%, mid-point of curve concentration
- ☑ Low level CCV (LLCCV), concentration at QL, prior to analysis, after every 10 samples, end of analysis (70-130% R)

K. CONTINUING CALIBRATION BLANK CRITERIA:

Data Quality Objective: Laboratory Analytical Sensitivity/Instrument Drift/Contamination Evaluation

- ☑ Immediately after the CCV, 10 sample frequency
- ☑ Interference free

L. BLANK CRITERIA:

Data Quality Objective: Sensitivity/Instrument Drift/Contamination Evaluation

- N/A Trip Blank (check only if analyzed)
- ☑ Method/Other Lab Blanks (check only if analyzed), one per digestion batch
- ☑ Interference free

M. INTERFERENCE CHECK SAMPLE (ICS) CRITERIA:

Data Quality Objective: Analytical Accuracy/Verification of Isobaric Interference Corrections

- ☑ At beginning of analytical run
- ☑ Recovery: 80-120%

N. MATRIX SPIKE DUPLICATE (MSD) OR SAMPLE DUPLICATE CRITERIA:

Data Quality Objective: Method Precision in Sample Matrix

- ☑ All analytes, one MSD or sample duplicate per batch of 20 samples
- ☑ Spiked prior to sample preparation
- ☑ RPD ≤ 20 between MS and MSD results or sample and duplicate results
- ☑ MSD analyte recovery 75-125%

O. MATRIX SPIKE (MS) CRITERIA:

Data Quality Objective: Method Accuracy in Sample Matrix

- ☑ All analytes, one MS per digestion batch of 20 samples
- ☑ Spiked prior to sample preparation
- ☑ Recovery: 75-125%
- ☑ Post digestion spike if MS/MSD recoveries low
- ☑ Recovery of post digestion spike analytes within 80-120%

P. LABORATORY CONTROL SAMPLE (LCS) CRITERIA:

Data Quality Objective: Laboratory Method Accuracy, Laboratory Performance

- ☑ LCS for all target analytes, one LCS per 20 sample batch
- ☑ LCS concentration at approximately mid-point of analytical curve
- ☑ Recovery within 80-120% for all analytes

Q. INTERNAL STANDARDS (IS) CRITERIA:

Data Quality Objective: Analytical Accuracy in Sample Matrix

- ☑ IS added to each sample and QC sample
- ☑ % Relative intensity (RI) within 70-125%

R. SERIAL DILUTION TEST CRITERIA:

Data Quality Objective: Accuracy in Sample Matrix

- ☑ Similar matrix, if concentration is 10X QL, then % Difference < 10%

S. SAMPLE QUANTITATION AND GENERAL REPORTING CRITERIA:

Data Quality Objective: n/a

- ☑ Sample results reported within instrument calibration range
- ☑ Sample results reported to the project detection limit
- ☑ Calculation checks on 10% of the data set
- ☑ Sample/Field duplicate RPD ≤ 20, where applicable

Draper Aden Associates conducted a limited data validation of the above noted data set using the data package provided by the analyzing laboratory. Data evaluation was conducted using SW-846 (Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, USEPA, SW-846, 3rd Edition-Final Update I, II/IIA, III, and subsequent updates) method requirements and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2017, where applicable). Validation of this data set is limited to review of items detailed in this data review report. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

INORGANIC DATA EVALUATION FOR MERCURY BY COLD VAPOR AA METHOD 7470A

Eurofins Lancaster Laboratories Environmental, Lancaster, PA; SDG#s: RAE87, RAE89
"☑" denotes items were reviewed. See Data Validation Summary for additional comments.

A. QC DOCUMENTATION CRITERIA:

- ☑ Specific quantitation limit for mercury
- ☑ Specific detection limit for mercury, where applicable
- ☑ Electronic data file reviewed
- ☑ QC standard analyzed at or less than the QL (70-130%Recovery)
- ☑ IDOC for analyst D. Valentin submitted previously
- ☑ VELAP accredited

B. TECHNICAL HOLDING TIMES / PRESERVATION REQUIREMENTS:

- ☑ 28 days holding time
- ☑ Adjust pH <2 w/ HNO_3

C. INSTRUMENT CALIBRATION CRITERIA:

- ☑ 1 calibration blank and at least 5 standards
- ☑ Instrument calibrated for every analytical sequence for every method
- ☑ Linear curve fit with correlation coefficient r>0.995

D. INITIAL / CONTINUING CALIBRATION VERIFICATION CRITERIA:

- ☑ 10 sample frequency for CCV
- ☑ Recovery within 80-120% range

E. BLANK CRITERIA:

- N/A Trip Blank (check only if analyzed)
- N/A Equipment Blank (check only if analyzed)
- ☑ Method/other laboratory blanks (check only if analyzed)
- ☑ Interference free

F. DUPLICATE/MATRIX SPIKE DUPLICATE (MSD) CRITERIA:

- ☑ Target analyte: mercury
- ☑ One sample duplicate or matrix spike duplicate per batch of 20 samples
- ☑ RPD ≤ 20 for spike/sample values greater than 5 times QL
- ☑ RPD ≤ 20 between MS and MSD results

G. MATRIX SPIKE (MS) SAMPLE CRITERIA:

- ☑ Mercury, MS spiked prior to digestion
- ☑ Recovery within 75-125%

H. LABORATORY CONTROL SAMPLE (LCS) CRITERIA:

- ☑ Recovery within 80-120%
- ☑ LCS for Mercury, one LCS per 20 sample batch

I. SAMPLE RESULTS CRITERIA:

- ☑ Results reported within instrument calibration range
- ☑ Results reported to detection limit
- ☑ Calculation checks on 10% of the data set
- ☑ Sample/Field duplicate RPD ≤ 20, where applicable

Draper Aden Associates conducted a limited data validation of the above noted data set using the data package provided by the analyzing laboratory. Data evaluation was conducted using SW-846 (Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, USEPA, SW-846, 3rd Edition-Final Update I, II/IIA, III, and subsequent updates) method requirements and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2017, where applicable). Validation of this data set is limited to review of items detailed in this data review report. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

LIMITATIONS:

Draper Aden Associates prepared this document (which may include drawings, specifications, reports, studies and attachments) in accordance with the agreement between Draper Aden Associates and BAE Systems, Ordnance Systems, Inc.

The standard of care for all professional engineering, environmental and surveying and related services performed or furnished by Draper Aden Associates under this Agreement are the care and skill ordinarily used by members of these professions practicing under similar circumstances at the same time and in the same locality. Draper Aden Associates makes no warranties, express or implied, under this Agreement in connection with Draper Aden Associates' services.

Conclusions presented are based upon a review of available information, the results of our field studies, and/or professional judgment. To the best of our knowledge, information provided by others is true and accurate, unless otherwise noted.

Draper Aden Associates' liability, hereunder, shall be limited to amounts due Draper Aden Associates for services actually rendered, or reimbursable expenses actually incurred. Any reuse or modification of any of the aforementioned documents (whether hard copies or electronic transmittals) prepared by Draper Aden Associates without written verification or adaptation by Draper Aden Associates will be at the sole risk of the individual or entity utilizing said documents and such use is without the authorization of Draper Aden Associates. Draper Aden Associates shall have no legal liability resulting from any and all claims, damages, losses, and expenses, including attorney's fees arising out of the unauthorized reuse or modification of these documents. Client shall indemnify Draper Aden Associates from any claims arising out of unauthorized use or modification of the documents whether hard copy or electronic.

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Draper Aden Associates
Engineering ♦ Surveying ♦ Environmental Services

This Report has been prepared by:

_____JCF/AT_____ _____9/21/17_____
Ashley Thacker, Staff Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; athacker@daa.com, www.daa.com

This Report has been subjected to technical and quality review by:

_____JCF/KO_____ _____9/21/17_____
Kathy Olsen, Project Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; kolsen@daa.com, www.daa.com

SW-846 METHOD 8260C VOLATILE ORGANIC DATA REVIEW SUMMARY

Draper Aden Associates performed a manual comprehensive review of the analytical results for the May 17 & 22, 2017 semiannual groundwater monitoring event at Hazardous Waste Management Unit 5 (HWMU 5) located at the Radford Army Ammunition Plant (RFAAP), Radford, Virginia. Draper Aden Associates collected the groundwater samples from monitoring wells 5W8B, 5W5B, 5W7B, 5WC21, 5WC22, 5WC23 and 5W12A. Groundwater sample 5WDUP was submitted to the laboratory as a blind sample duplicate for 5WC21. The following information and attached table summarize the Method 8260C data validation results. Validation of other required methods is presented on separate reports.

For this Corrective Action annual groundwater monitoring event, samples 5W5B, 5W7B, 5WC21, 5WC22 and 5WC23 (downgradient point of compliance (POC) wells) and two trip blanks were analyzed for five Appendix J and nine Appendix K volatile organic target analytes, as listed in the facility's permit, by USEPA SW-846 Method 8260C. Samples 5W8B (upgradient groundwater monitoring well) and 5W12A (plume monitoring well) were analyzed for the five Appendix J volatile organic target analytes by USEPA SW-846 Method 8260C.

Draper Aden Associates sent samples to Eurofins Lancaster Laboratories Environmental, (ELLE), of Lancaster, Pennsylvania. ELLE performed the SW-846 Method 8260C volatile analysis. ELLE is accredited under the Virginia Environmental Laboratory Accreditation Program (VELAP) for the analytes, method and matrix as reported on the certificate of analysis. On behalf of RFAAP, ELLE submitted results to Draper Aden Associates in a final certificate of analysis that included sample analytical results as well as relevant documentation to validate and verify the results (SDG#s: RAE86, RAE88).

The evaluation of ELLE's compliance with Method 8260C and validation of the results were based on a review of the following items: quality control (QC) deliverables package, QC history documentation, technical holding time and preservation requirements, instrument performance (tune) check, instrument calibration and calibration verification, blank, surrogate spike, matrix spike and matrix spike duplicate (MS/MSD), laboratory control sample (LCS), internal standard, and/or target analyte identification and quantitation results. A review of transcriptions from instrument data to sample summary sheets was performed. Calculation verifications were performed on ten percent of the data set, where applicable. The following information is intended to summarize data review results and any observed significant deviations from method and/or contractual requirements.

ELLE received the samples on ice and in good condition, with custody seals intact. The chain of custody was appropriately signed and dated by field and laboratory personnel. Applicable holding time and preservation criteria were met for the samples.

The original certificates of analysis were received on July 3, 2017. The original certificate of analysis appeared complete in its presentation and the data were of acceptable quality. The certificate of analysis demonstrated the ability of the laboratory to achieve the permit required quantitation limit (QL) for each target analyte, except where noted below.

QC deliverables package requirements were met. QC history documentation and instrument performance check criteria were met. Sample holding time, preservation, initial calibration, calibration verification, blanks, surrogates, MS/MSD, LCS, and internal standards criteria were met, except where noted below. Deviations from specific QA/QC criteria that were identified during the review process are summarized below. Field duplicate/sample results exhibited acceptable precision, where applicable. Sample results were verified and no transcription errors were observed.

Vinyl chloride did not meet the continuing calibration verification (CV) standard percent difference/drift requirement (±20%). Vinyl chloride was not detected at or above the detection limit or QL in any sample and sample results for this analyte were validated and qualified "UJ" to note that the detection limit (DL) and QL were estimated due to the observed QC deficiency. The remaining CV standard criteria were met.

Chloroform recovered low in the MS. Detected results for chloroform were validated and qualified "J" to note that the results were estimated. Results for chloroform not detected above the MDL or QL were qualified "UJ" to note that the MDL and QL were estimated due to the observed QC deficiency. The remaining MS/MSD/LCS criteria were met.

A 25 ml sample purge volume was used for the analysis of the target analytes.

Results were reported by the laboratory to at or above the laboratory method detection limit (MDL) for this Corrective Action monitoring event. The laboratory MDL was at or below the permit specified detection limit (DL), or slightly above, due to rounding.

Results for samples unaffected by the data validation process and reported as not detected at or above the MDL were validated and qualified "U." Except where noted above, reported values less than the quantitation limit (QL) should be considered estimated concentrations and were validated and qualified "J." No results were rejected based on the data validation criteria.

SW-846 METHOD 8260C (GC/MS) VOLATILE ORGANIC DATA VALIDATION

Comments: *Volatile organic analysis uses a purge and trap system to remove volatile organic target analytes from a 25 ml water sample (SW-846 5030C). Target analytes are separated and quantified using a capillary column gas chromatograph (GC)/mass spectrometer (MS).*

A. QC DELIVERABLES PACKAGE:

1.	Was the case narrative present/signed by a lab representative?	☑ YES ☐ NO
2.	Was the Chain of Custody present/signed by a lab representative?	☑ YES ☐ NO
3.	Were the sample results included for the sample locations?	☑ YES ☐ NO
4.	Did the laboratory report the required target analytes?	☑ YES ☐ NO
5.	Were the analyte QLs reported on reports in agreement with the instrument specific MDL study and project required QL?	☑ YES ☐ NO
6.	Were the sample locations, analytes and QLs in agreement with the electronic deliverable (EDD)?	☑ YES ☐ NO

Comments: QC deliverables package requirements were met.

B. QC HISTORY DOCUMENTATION CRITERIA:

1.	Was an instrument specific MDL study provided which included DL and QL values for the target analytes?	☑ YES ☐ NO
2.	Was the instrument calibration range provided?	☑ YES ☐ NO
3.	Were the instrument specific check sample data provided for the target analytes?	☑ YES ☐ NO

Comments: QC history documentation was provided and met criteria. The laboratory analyzed a MDL check sample at 0.1 µg/l (25 ml purge) for most target analytes.

C. TECHNICAL HOLDING TIME AND PRESERVATION CRITERIA:

1.	Was the 14-day sample collection to analysis holding time met?	☑ YES ☐ NO
2.	Were the samples received at ≤6°C, zero headspace?	☑ YES ☐ NO
3.	Were the sample pHs adjusted to < 2 with HCl?	☑ YES ☐ NO
4.	Were sample pHs adjusted to 4-5 with HCl? (Acrolein)	☑ NA ☐ YES ☐ NO
5.	Were samples analyzed unpreserved (2-Chloroethyl vinyl)	☑ NA ☐ YES ☐ NO

Comments: Technical holding time and sample preservation criteria were met.

D. GC/MS INSTRUMENT PERFORMANCE (TUNING) CHECK CRITERIA:

1.	Was analysis of the instrument performance check solution performed at the beginning of each 12-hour period during which standards or samples were analyzed?	☑ YES ☐ NO
2.	Was there documentation of the injection of 5-50 ng	

bromofluorobenzene (BFB)? ☑ YES ☐ NO

3. Were the ion abundance criteria met? ☑ YES ☐ NO
4. Were calibration, blank, and sample analyses performed within 12 hours of tuning? ☑ YES ☐ NO

Comments: Instrument performance check criteria were met.

E. INITIAL GC/MS CALIBRATION CRITERIA:

***SW-846 Criteria**:*

1. Did the internal standard (IS) which was selected for target analyte RF calculation have a retention time close to the IS? ☑ YES ☐ NO
2. Were the target analytes included in the ICAL? ☑ YES ☐ NO
3. Were any calibration levels removed from the curve that would negatively influence the data integrity? ☐ YES ☑ NO
4. Did the ICALs consist of a minimum of 5 calibration levels? ☑ YES ☐ NO
5. Was the lowest concentration calibration standard at or below the associated MCL? ☑ YES ☐ NO
6. Was the calibration curve developed using the same purge volume used for sample analysis? ☑ YES ☐ NO
7. Were 8260C minimum Relative Response Factor (RRF) criteria met? *Refer to Table 4- SW-846 Method 8260C (Rev3 8/06) for specific analyte RRFs* ☑ YES ☐ NO
8. Was each target analyte %RSD ≤ 20%? ☑ YES ☐ NO
9. Was the correlation coefficient >0.99 for target analytes with ≥20 % RSD? *(System recalibrated if >10% analytes fail above condition)* ☑ NA ☐ YES ☐ NO
10. Was an initial calibration verification (ICV) standard analyzed immediately following the ICAL? ☑ YES ☐ NO
11. Was the recovery within 70-130%? ☑ YES ☐ NO
12. Was the ICV standard prepared from a different source from the ICAL ? ☑ YES ☐ NO

Method Validation Performance Criteria:

1. Did target analytes and surrogates that have RSDs > 20% have ≥0.99 correlation coefficient or coefficient of determination? ☑ NA ☐ YES ☐ NO
2. For linear regression curves, was the recalculated concentration of the low calibration point within ±30%? ☑ NA ☐ YES ☐ NO
3. For quadratic curves, was a minimum six standards used? ☑ NA ☐ YES ☐ NO

Comments: Initial calibration criteria were met.

F. CALIBRATION VERIFICATION (CV) CRITERIA:

SW-846 Criteria:

1. Was a calibration verification analyzed at the beginning of each 12-hour period following the analysis of the instrument performance check and prior to analysis of the method blank and samples? The calibration verification may be part of the ICAL or analyzed independently during another 12-hour analysis period. ☑ YES ☐ NO
2. Were 8260C minimum Relative Response Factor (RRF) criteria met?

Refer to Table 4- SW-846 Method 8260C (Rev3 8/06) for specific analyte RRFs ☑ YES ☐ NO

3. Did the target analytes and system monitoring analytes (surrogates) have the % D within ± 20%? ☐ YES ☑ NO
   If "NO", list analytes that exceed these criteria: *See comment*

Draper Aden Associates Contractual Requirements:

1. Did the target analytes and system monitoring analytes (surrogates) have % Ds within ± 20%? ☐ YES ☑ NO

Comments: The CV standard criteria were met except where noted above.

G. BLANK CRITERIA:

1. Was a method blank analyzed after the calibration standards, prior to sample analysis, and once for every 12-hour period beginning with the injection of BFB? ☑ YES ☐ NO
2. Was a trip blank analyzed with this sample batch? ☑ YES ☐ NO
3. Were the trip blanks and method blanks interference free? See comment
4. Was the level of blank contamination less than 5% of the regulatory limit associated with an analyte or less than 5% of the sample result for the same analyte, whichever is greater? ☑ NA ☐ YES ☐ NO
5. List target analytes detected in the blanks: *None*
6. Did any result exceed the calibration range? ☐ YES ☑ NO
7. Were one or more blanks analyzed following the high concentration sample to prevent cross contamination? ☑ NA ☐ YES ☐ NO

Comments: A trip blank was submitted and analyzed for each day of sample collection. Blank criteria were met.

H. SURROGATE CRITERIA:

SW-846 Criteria:

1. Were the following surrogates used? ☑ YES ☐ NO
   - dibromofluoromethane (77-114%)
   - 4-bromofluorobenzene (78-110%)
   - toluene-d_8 (77-110%)
   - 1,2-dichloroethane-d_4 (74-113%)
2. Were recoveries within specified ranges? ☑ YES ☐ NO
   If "NO", corrective action is required. Flagging of the data as estimated is not acceptable until corrective action has been attempted
3. Were samples with surrogates outside the QC window reanalyzed as required? ☑ NA ☐ YES ☐ NO

Comments: Surrogate criteria were met.

I. MATRIX SPIKE, MATRIX SPIKE DUPLICATE (MS/MSD) CRITERIA:

(MS/MSD Requirements - CLP Guidelines)

Analyte	*% R Water*	*% RPD Water*
1,1-dichloroethene	61-145	14
trichloroethene	71-120	14

benzene	76-127	11
toluene	76-125	13
chlorobenzene	75-130	13

1. Was a MS/MSD analyzed per sample batch or every 20 samples? ☑ YES ☐ NO
2. Did the MS/MSD spike contain additional target analytes? ☑ YES ☐ NO
3. Was the MS/MSD analyzed on the specific project matrix? ☑ YES ☐ NO
4. List the MS % recovery range: 75-125%; 70-130% poor purge analytes; RPD ≤20
5. Were any analytes qualified as estimated? ☑ YES ☐ NO
   - If yes, and the LCS for the analyte(s) recovered within control limits, matrix interference is suspected.

Comments: MS/MSD criteria were met except as noted above.

J. LABORATORY CONTROL SAMPLE (LCS) CRITERIA:

1. Was a LCS included in the sample analysis? ☑ YES ☐ NO
2. Did the LCS contain the required target analytes? ☑ YES ☐ NO
3. List the LCS acceptance criteria: 80-120% (most analytes).
4. List the LCS analytes which were not within the specified ranges: *None*
5. Were any analytes flagged as estimated due to LCS criteria? ☐ YES ☑ NO

Comments: LCS criteria were met.

K. INTERNAL STANDARDS (IS) CRITERIA:

1. Were the following internal standards (IS) used? ☑ YES ☐ NO
   t-butyl alcohol-d_{10}, fluorobenzene, chlorobenzene-d_5, 1,4-dichlorobenzene-d_4
2. Were IS areas within - 50% to + 100% of the last CV? ☑ YES ☐ NO
3. Were IS RTs within ± 30 seconds of the last CV? ☑ YES ☐ NO
4. Were samples failing Items 2 and/or 3 above reanalyzed as required by the method? ☑ NA ☐ YES ☐ NO

Comments: Internal standards criteria were met.

L. TARGET ANALYTE IDENTIFICATION:

1. Were the RRTs of the reported analytes within ± 0.06 RRT units of the standard RRT? ☑ YES ☐ NO
2. Check the sample spectra against the laboratory standard spectra to see that the following criteria were met:
   - ***** Did characteristic ions maximize in the same scan or within one scan of each other? ☑ YES ☐ NO
   - ***** Were the characteristic ions present in the standard spectra and sample spectra for analytes detected above the QL? ☑ YES ☐ NO
   - ***** Were the relative intensities of the ions between the standard and sample spectra within ± 30%? ☑ YES ☐ NO

3. Were the reported analytes confirmed? ☑ YES ☐ NO

Comments: See attached table for detected analytes. Identification criteria were met.

M. TARGET ANALYTE QUANTITATION:

* If the %RSD of an analyte was 20% or less, then the average relative response factor should have been used for quantitation.
* If the %RSD of an analyte was greater than 20%, then the quantitation should have been based on a calibration curve using the first or higher order regression fit of the five calibration points. (6 calibration points for 2nd order).

1. List the detected analytes whose %RSD was > 20%: *None*
   - Was quantitation based on a linear regression fit? ☑ NA ☐ YES ☐ NO
2. Did the initial analysis of any sample have a concentration of an analyte which exceeded the initial calibration range? ☐ YES ☑ NO
   If so, was the sample reanalyzed at a higher dilution? ☑ NA ☐ YES ☐ NO
3. Were the analyte concentrations that were recorded on the instrument data/quantitation reports accurately transferred to the sample summary sheets? ☑ YES ☐ NO
4. Were sample/ field duplicate RPDs <20% where applicable? ☐ YES ☑ NO

Comments: Target analyte quantitation criteria were met except where noted above. Calculation checks were performed on ten percent of the data set and no errors were noted.

N. CORRECTIVE ACTION TAKEN AND GENERAL COMMENTS:

Comments: No corrective action was taken. Library searches were not requested. The initial demonstration of capability (IDOC) for analyst K. Legerlotz was submitted previously.

REFERENCES:

Draper Aden Associates conducted data validation of the above noted data set using summary tables and instrument data provided by the analyzing laboratory. Data were evaluated in general accordance with SW-846 Method requirements (Test Methods for Evaluating Solid Wastes - Physical and Chemical Methods, USEPA SW-846, 3rd edition - Final Update I, II/IIA, III and subsequent updates) and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2017, where applicable). Where QA/QC criteria differed, the analytical method acceptance criteria were used. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

LIMITATIONS:

Draper Aden Associates prepared this document (which may include drawings, specifications, reports, studies and attachments) in accordance with the agreement between Draper Aden Associates and BAE Systems, Ordnance Systems, Inc. The standard of care for all professional engineering, environmental and surveying and related services performed or furnished by Draper Aden Associates under this Agreement are the care and skill ordinarily used by members of these professions practicing under similar circumstances at the same time and in the same locality. Draper Aden Associates makes no warranties, express or implied, under this Agreement in connection with Draper Aden Associates' services.

Conclusions presented are based upon a review of available information, the results of our field studies, and/or professional judgment. To the best of our knowledge, information provided by others is true and accurate, unless otherwise noted. Draper Aden Associates' liability, hereunder, shall be limited to amounts due Draper Aden Associates for services actually rendered, or reimbursable expenses actually incurred. Any reuse or modification of any of the aforementioned documents (whether hard copies or electronic transmittals) prepared by Draper Aden Associates without written verification or adaptation by Draper Aden Associates will be at the sole risk of the individual or entity utilizing said documents and such use is without the authorization of Draper Aden Associates. Draper Aden Associates shall have no legal liability resulting from any and all claims, damages, losses, and expenses, including attorney's fees arising out of the unauthorized reuse or modification of these documents. Client shall indemnify Draper Aden Associates from any claims arising out of unauthorized use or modification of the documents whether hard copy or electronic.

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Draper Aden Associates
Engineering ♦ Surveying ♦ Environmental Services

This Report has been prepared by:

_____JCF/AT_____ _____9/21/17_____
Ashley Thacker, Staff Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444, athacker@daa.com, www.daa.com

This Report has been subjected to technical and quality review by:

_____JCF/AT_____ _____9/21/17_____
Kathy Olsen, Project Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444, kolsen@daa.com, www.daa.com

SW-846 METHOD 8270D SEMIVOLATILE ORGANIC DATA REVIEW SUMMARY

Draper Aden Associates performed a comprehensive manual review of the analytical results for the May 17 & 22, 2017 Corrective Action groundwater monitoring event at Hazardous Waste Management Unit 5 (HWMU 5) located at the Radford Army Ammunition Plant (RFAAP), Radford, Virginia. Draper Aden Associates collected the groundwater samples from point of compliance (POC) monitoring wells 5W5B, 5W7B, 5WC21, 5WC22, and 5WC23. Sample 5WDUP was submitted to the laboratory as a blind field sample duplicate for 5WC21.

Samples were analyzed for the seven Appendix K semivolatile target analytes listed in the facility's permit by USEPA SW-846 Method 8270D. The following information and attached table summarize the Method 8270D data validation results. Other wells were listed on the chain of custody (COC); however, USEPA SW-846 Method 8270D analysis was not required for those sample locations.

Draper Aden Associates sent samples to Eurofins Lancaster Laboratories Environmental, (ELLE), of Lancaster, Pennsylvania. ELLE performed the Method 8270D analyses. ELLE is accredited under the Virginia Environmental Laboratory Accreditation Program (VELAP) for the analytes, method and matrix as reported on the certificate of analysis. On behalf of RFAAP, ELLE submitted results to Draper Aden Associates in final certificates of analysis, which included sample analytical results, as well as relevant documentation to validate and verify the results (SDG# RAE88).

The evaluation of ELLE's compliance with Method 8270D and validation of the results was based on review of the following items: quality control (QC) deliverables package, QC history documentation, case narrative, technical holding time and preservation requirements, instrument performance (tune) check, instrument calibrations, blank analysis, surrogate spike recoveries, matrix spike and matrix spike duplicate (MS/MSD), laboratory control sample (LCS), and internal standard results. A review of transcriptions from instrument data to sample summary sheets was performed. Calculations checks were performed on ten percent of the data set, where applicable. The following information is intended to summarize data review results and any observed significant deviations from method and/or contractual requirements.

ELLE received the samples on ice and in good condition, with custody seals intact. The chain of custody (COC) was appropriately signed and dated by field and laboratory personnel, except as noted.

The original certificate of analysis was received on July 3, 2017. The certificates of analysis appeared complete and data were of acceptable quality, except where noted below. The data set demonstrated the laboratory's ability to achieve the reported permit required quantitation limit (QL).

QC history documentation (instrument specific initial demonstration of proficiency and method detection limit data) were provided. Applicable preservation and technical holding time criteria were met. Instrument performance check (tuning) criteria, initial calibration, calibration verification, blank, MS/MSD, LCS, surrogate recoveries, and internal standard requirements were met, except where noted below. Sample results were reviewed for transcription errors from the instrument data to the laboratory report and no errors were noted. No deviations from specific QA/QC criteria were identified during the data review process. Field duplicate/sample results exhibited acceptable precision, where applicable.

A footnote presented in Appendix K, Groundwater Corrective Action Annual Monitoring List, of Permit Module VI – *Groundwater Corrective Action & Monitoring Program for Unit 5* indicates that verification is required for constituents detected at a concentration less than the Limit of Quantitation/Quantitation Limit (LOQ)/QL if their associated groundwater protection standard (GPS) is:

(1) based on a background value equal to the QL/LOQ/PQL
(2) greater than the applicable risk-based concentration (i.e., ACL or RBC/regional screening level).

The GPS for p-nitroaniline is based on a background value equal to the QL/LOQ/PQL as noted above; however, p-nitroaniline was not detected at or above the method detection limit (MDL) and no further action was required.

Except where noted above, results remain as reported by the laboratory. Sample results were reported by the laboratory to at or above the method detection limit (MDL). These current laboratory established MDLs slightly differ from the MDL listed in Appendix K of the permit.

Target analytes detected at or above the MDL or QL and/or analytical data that required a data validation qualifier due to quality control deviations noted above are summarized on the attached table.

Sample results unaffected by the data validation process and reported as not detected at or above the MDL/detection limit (DL) were validated and qualified "U." Reported values less than the QL should be considered estimated concentrations and were validated and qualified "J." No results were rejected based on the data validation criteria.

SW-846 METHOD 8270D (GC/MS) SEMIVOLATILE ORGANIC DATA VALIDATION

Comments: *Semivolatile (a.k.a, base/neutral and acid extractables) analysis involves sample preparation using liquid/liquid extraction technique (SW-846 Method 3510C). The semivolatile extracts are concentrated through evaporation. Target analytes are separated and quantified using a capillary column gas chromatograph (GC)/mass spectrometer (MS).*

A. QC DELIVERABLES PACKAGE:

1. Was the case narrative present/signed by a lab representative? ☑ YES ☐ NO
2. Was the Chain of Custody present/signed by a lab representative? ☑ YES ☐ NO
3. Were the sample results included for the sample locations? ☑ YES ☐ NO
4. Did the data correspond to the project specific analyte list? ☑ YES ☐ NO
5. Were the analyte QLs reported on sample summary sheets in agreement with the instrument specific MDL study? ☑ YES ☐ NO

Comments: QC deliverables package criteria were met.

B. QC HISTORY DOCUMENTATION CRITERIA:

1. Were instrument specific detection limits provided for analytes? ☑ YES ☐ NO
2. Were the instrument specific QLs for target analytes provided? ☑ YES ☐ NO
3. Was calibration range specified for the target analytes? ☑ YES ☐ NO

Comments: QC history documentation criteria were met.

C. TECHNICAL HOLDING TIME AND PRESERVATION CRITERIA:

1. Was the 7-day sample collection to extraction holding time met? ☑ YES ☐ NO
2. Was the 40-day extraction to analysis holding time met? ☑ YES ☐ NO
3. Were the samples received at ≤6°C? ☑ YES ☐ NO

Comments: Sample holding times and preservation criteria were met.

D. GC/MS INSTRUMENT PERFORMANCE CHECK CRITERIA:
(Tuning, Injection Port and Column Performance)

1. Was performance check solution analysis performed at the beginning of each 12-hour period of standard and/or sample analysis? ☑ YES ☐ NO
2. Was there documentation of the injection of 50 ng of DFTPP? ☑ YES ☐ NO
3. Were the ion abundance criteria met? ☑ YES ☐ NO
4. Was the injection port inertness verified by analysis of 4,4'-DDT? ☑ YES ☐ NO
   - If no, does associated data require qualification? ☑ NA ☐ YES ☐ NO
   - Was the injection port inertness check acceptable? ☑ YES ☐ NO
5. Was column performance checked through the analysis of peak tailing of pentachlorophenol and benzidine? ☑ YES ☐ NO

- If no, does associated data require qualification? ☑ NA ☐ YES ☐ NO
- Was column performance check acceptable? ☑ YES ☐ NO

Comments: Instrument performance check criteria were met.

E. INITIAL GC/MS CALIBRATION CRITERIA:

SW-846 Criteria:

1. Were the initial calibrations (ICAL) and any directly associated blanks and samples analyzed within 12-hours of the associated instrument performance (tune) check? ☑ YES ☐ NO
2. Were quantitation ions, used and listed on data, randomly checked against primary quantitation ions as required by Method 8270D? ☑ YES ☐ NO
3. Were the target analytes included in the ICAL? ☑ YES ☐ NO
4. Did the ICAL consist of a minimum of 5 calibration levels? ☑ YES ☐ NO
5. Was the lowest concentration calibration standard at or below the associated MCL, regulatory compliance, or action limit? ☑ YES ☐ NO
6. Were calibration levels removed from the curve that would negatively impact the data integrity? ☐ YES ☑ NO
7. Were 8270D minimum RRF criteria met?
   Relative Response Factor-range (RRF 0.010-0.900) ☑ YES ☐ NO
   **Refer to Table 4 of SW-846 Method 8270D (Rev4 2/07) for specific analyte RRFs*
8. Was each target analyte %RSD ≤ 20%? ☑ YES ☐ NO
9. Was the correlation coefficient or coefficient of determination >0.99 for target analytes with > 20% RSD? ☑ NA ☐ YES ☐ NO
   **System recalibrated if >10% analytes fail above condition*
10. Was an initial calibration verification (ICV) standard analyzed immediately following the ICAL? ☑ YES ☐ NO
11. Was the recovery within 70-130%? ☑ YES ☐ NO
12. Was the ICV standard prepared from a different source from the ICAL ? ☑ YES ☐ NO

Method Validation Performance Criteria:

1. Did target analytes and surrogates that have RSDs > 20% have ≥0.99 correlation coefficient or coefficient of determination? ☑ NA ☐ YES ☐ NO
2. For linear regression curves, was the recalculated concentration of the low calibration point within ±30%? ☑ NA ☐ YES ☐ NO
3. For quadratic curves, was a minimum six standards used? ☑ NA ☐ YES ☐ NO

Comments: Initial calibration criteria were met.

F. CALIBRATION VERIFICATION CRITERIA:

SW-846 Criteria:

1. Was a calibration verification analyzed at the beginning of each 12-hour period following the analysis of the instrument performance check and prior to analysis of the method blank and samples? The calibration verification may be part of the ICAL or run independently on another 12-hour analysis period. ☑ YES ☐ NO

2. Was each target analyte % difference/drift ≤ 20%? ☑ YES ☐ NO
   (Corrective action if >20%)
3. Were 8270D minimum RRF criteria met?
   Relative Response Factor-range (RRF 0.010-0.900) ☑ YES ☐ NO

**Refer to Table 4 of SW-846 Method 8270D (Rev4 2/07) for specific analyte RRFs*

Method Validation Performance Criteria:

1. Did target analytes and system monitoring
   analytes (surrogates) have % Ds within ± 20.0%? ☑ YES ☐ NO
   If "NO", list analytes that exceed this criterion:

Comments: Calibration verification criteria were met.

G. BLANK CRITERIA:

1. Was a method/extraction blank analyzed on each GC/MS system
   used for sample analysis? ☑ YES ☐ NO
2. Was a trip blank analyzed with this sample batch? ☑ NA ☐ YES ☐ NO
3. Were the blank samples interference free? ☑ YES ☐ NO
4. Was the level of blank contamination > 5% of the MCL? ☑ NA ☐ YES ☐ NO
5. List target analytes detected in the blanks: *None*

Comments: Blank criteria were met.

H. SURROGATE CRITERIA:

1. Were the following surrogates used? See comment
   - phenol - d_6 (10%-94%)
   - 2-fluorophenol (21%-100%)
   - 2,4,6-tribromophenol (10%-123%)
   - nitrobenzene – d_8 (35%-114%)
   - 2-fluorobiphenyl (43%-116%)
   - p-terphenyl - d_{14} (33%-141%)
2. Were recoveries within the specified ranges? ☑ YES ☐ NO
3. Were any two base/neutral or acid surrogates out of specification or did any one base/neutral or acid extractable surrogate have a recovery of less than 10%? ☑ NA ☐ YES ☐ NO
   If yes, was a reextraction and reanalysis performed to confirm that the non-compliance was due to sample matrix effects rather than laboratory deficiencies?

Comments: The laboratory made surrogate substitutions as allowed by the method. The surrogate criteria were met.

I. MATRIX SPIKE/ MATRIX SPIKE DUPLICATE (MS/MSD) CRITERIA:

(MS/MSD Requirements - CLP Guidelines)

Analyte	% R Water	% RPD Water
Phenol	12-110	42
2-Chlorophenol	27-123	40
N-Nitroso-di-n-propylamine	41-116	38
4-Chloro-3-methylphenol	23-97	42
Acenaphthene	46-118	31
4-Nitrophenol	10-80	50
2,4-Dinitrotoluene	24-96	38
Pyrene	26-127	31

1. Was a MS/MSD analyzed per sample batch or every 20 samples, whichever may occur first? ☑ YES ☐ NO
2. Did the MS/MSD spike contain additional target analytes? ☑ YES ☐ NO
3. Was the MS/MSD analyzed on the specific project matrix? ☑ YES ☐ NO
4. List the MS % recovery range: *See certificate of analysis*
5. Were any analytes qualified as estimated? ☐ YES ☑ NO
    - If yes, and the LCS for the analyte(s) recovered within control limits, matrix interference is suspected.

Comments: MS/MSD criteria were met. Field duplicate/sample results exhibited acceptable precision, where applicable.

J. LABORATORY CONTROL SAMPLE (LCS) CRITERIA:

1. Was a LCS included in the sample analysis? ☑ YES ☐ NO
2. Did the LCS contain required target analytes? ☑ YES ☐ NO
3. List the LCS target analytes and laboratory recovery range: *See semivolatile certificate of analysis*.
4. Were any analytes qualified as estimated due to LCS criteria? ☐ YES ☑ NO

Comments: LCS criteria were met.

K. INTERNAL STANDARDS (IS) CRITERIA:

1. Were the following internal standards used? ☑ YES ☐ NO
    - 1,4-Dichlorobenzene-d_4
    - Naphthalene-d_8
    - Acenapththene-d_{10}
    - Phenanthrene-d_{10}
    - Pyrene-d_{10}
    - Perylene-d_{12}
2. Were the IS areas within - 50% to + 100% of the last CV? ☑ YES ☐ NO
3. Were IS RTs within ± 30 seconds of last CV? ☑ YES ☐ NO

Comments: Internal standard criteria were met or no data qualification was required.

L. TARGET ANALYTE IDENTIFICATION:

1. Were the RRTs of the reported analytes within ± 0.06 RRT units of the standard RRT? ☑ YES ☐ NO
2. Check the sample spectra against the laboratory standard spectra to see that the following criteria were met: ☑ YES ☐ NO
   * Did characteristic ions maximize in the same scan or within one scan of each other?
   * Were characteristic ions present in the standard spectra present in the sample spectra for analytes detected above the QL?
   * Were the relative ion intensities between the standard and sample spectra within ± 30%?
3. Were the reported analytes confirmed? ☑ YES ☐ NO

Comments: Target analyte identification criteria were met.

M. TARGET ANALYTE QUANTITATION:

* If the %RSD of an analyte was 20% or less, then the average relative response factor should have been used for quantitation.
* If the %RSD of an analyte was greater than 20%, then the quantitation should be based on a calibration curve using the first or higher order regression fit of the five calibration points (6 calibration points for 2nd order).

1. List the analytes detected above the QL whose %RSD was >20%: *None*
   a. Was quantitation based on a linear regression fit? ☑ NA ☐ YES ☐ NO
   b. Was the curve forced through the origin? ☑ NA ☐ YES ☐ NO
2. Did the initial analysis of any sample have a concentration of a target analyte that exceeded the initial calibration range? ☐ YES ☑ NO
   -If so, was the sample reanalyzed at a higher dilution? ☑ NA ☐ YES ☐ NO
3. Were the analyte concentrations that were recorded on the raw sample quantitation reports accurately transferred to the sample summary sheets? ☑ YES ☐ NO
4. Were sample/ field duplicate RPDs <20% where applicable? ☐ YES ☑ NO

Comments: Target analyte quantitation criteria were met except where noted above. Calculations checks were performed on ten percent of the data set, where applicable.

N. CORRECTIVE ACTION TAKEN AND GENERAL COMMENTS:

Comments: No corrective action was taken. Library searches were not requested with this data set. The initial demonstration of capability (IDOC) for analysts C. Bachman and A. Bauer was submitted previously.

REFERENCES:

Draper Aden Associates conducted data validation of the above noted data set using summary tables and instrument data provided by the analyzing laboratory. Data were evaluated in general accordance with SW-846 Method requirements (Test Methods for Evaluating Solid Wastes - Physical and Chemical Methods,

USEPA SW-846, 3rd edition - Final Update I, II/IIA, III and subsequent updates) and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2017, where applicable). Where QA/QC criteria differed, the analytical method acceptance criteria were used. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

LIMITATIONS:

Draper Aden Associates prepared this document (which may include drawings, specifications, reports, studies and attachments) in accordance with the agreement between Draper Aden Associates and BAE Systems, Ordnance Systems, Inc. The standard of care for all professional engineering, environmental and surveying and related services performed or furnished by Draper Aden Associates under this Agreement are the care and skill ordinarily used by members of these professions practicing under similar circumstances at the same time and in the same locality. Draper Aden Associates makes no warranties, express or implied, under this Agreement in connection with Draper Aden Associates' services. Conclusions presented are based upon a review of available information, the results of our field studies, and/or professional judgment. To the best of our knowledge, information provided by others is true and accurate, unless otherwise noted. Draper Aden Associates' liability, hereunder, shall be limited to amounts due Draper Aden Associates for services actually rendered, or reimbursable expenses actually incurred. Any reuse or modification of any of the aforementioned documents (whether hard copies or electronic transmittals) prepared by Draper Aden Associates without written verification or adaptation by Draper Aden Associates will be at the sole risk of the individual or entity utilizing said documents and such use is without the authorization of Draper Aden Associates. Draper Aden Associates shall have no legal liability resulting from any and all claims, damages, losses, and expenses, including attorney's fees arising out of the unauthorized reuse or modification of these documents. Client shall indemnify Draper Aden Associates from any claims arising out of unauthorized use or modification of the documents whether hard copy or electronic.

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Draper Aden Associates
Engineering ♦ Surveying ♦ Environmental Services

This Report has been prepared by:

_____JCF/AT_____ _____09/21/17___
Ashley Thacker, Staff Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; athacker@daa.com, www.daa.com

This Report has been subjected to technical and quality review by:

_____JCF/KO_____ _____9/21/17__
Kathy Olsen, Project Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; kolsen@daa.com, www.daa.com

Comprehensive Data Validation Report
Sample/Blind Field Duplicate Results Greater Than the Quantitation Limit
Radford Army Ammunition Plant (RFAAP), Radford, Virginia
Facility: HWMU-5 Monitoring Event: Second Quarter 2017

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 6020A							
Laboratory: ELLE, Lancaster, PA							
Barium	5WC21	13.8		13.8		4	No action taken. Blind field duplicate 5WDUP.
	5WDUP	13.9		13.9		4	No action taken. Blind field duplicate 5WC21.
Beryllium	5WC21	1		1		1	No action taken. Blind field duplicate 5WDUP.
	5WDUP	1		1		1	No action taken. Blind field duplicate 5WC21.
Cobalt	5WC21	66.8		66.8		5	No action taken. Blind field duplicate 5WDUP.
	5WDUP	63.6		63.6		5	No action taken. Blind field duplicate 5WC21.
Nickel	5WC21	34.3		34.3		4	No action taken. Blind field duplicate 5WDUP.
	5WDUP	34.5		34.5		4	No action taken. Blind field duplicate 5WC21.
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Chloroform	5WC21	11		11	J	1	MS recovered low (74%). Blind field duplicate 5WDUP.
	5WDUP	11		11	J	1	MS recovered low (74%). Blind field duplicate 5WC21.
Trichloroethene	5WC21	2.4		2.4		1	No action taken. Blind field duplicate 5WDUP.
	5WDUP	2.4		2.4		1	No action taken. Blind field duplicate 5WC21.

Definitions:
Data Validation Qualifiers:
QL Denotes permit quantitation limit. **Q** Denotes data qualifier.
J Denotes analyte reported at or above quantitation limit and associated result is estimated.

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Type I Data Package

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Project: RAAP - Radford, VA - HWMU-5
Groundwater and Water Samples
Collected on 05/17/17

SDG# RAE86

GROUP	SAMPLE NUMBERS
1804001	9006007-9006012

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman

Dana M. Kauffman
Manager

Date: **06/29/2017**

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Table of Contents for SDG# RAE86

1. Sample Reference List 3
2. Preservation Data 4
3. Methodology Summary/Reference 5
4. Analysis Reports / Field Chain of Custody 6
5. Volatiles by GC/MS Data 24
   a. Case Narrative/Conformance Summary 25
   b. Quality Control and Calibration Summary Forms 28
   c. Sample Data 53
   d. Standards Data 78
   e. Raw QC Data 308
6. Semivolatiles by GC/MS Data 338
   a. Case Narrative/Conformance Summary 339
   b. Quality Control and Calibration Summary Forms 341
   c. Sample Data 371
   d. Standards Data 377
   e. Raw QC Data 511
   f. Extraction/Distillation/Digestion Logs 528

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Reference List for SDG Number RAE86
with a Data Package Type of I

11200 - Draper Aden Associates, Inc.

Project: RAAP - Radford, VA - HWMU-5

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9006007	5W8B	05/17/2017 11:55	05/20/2017 10:00
9006008	5W7B	05/17/2017 13:35	05/20/2017 10:00
9006009	5W7B Matrix Spike	05/17/2017 13:35	05/20/2017 10:00
9006010	5W7B Matrix Spike Dup	05/17/2017 13:35	05/20/2017 10:00
9006011	5W12A	05/17/2017 12:50	05/20/2017 10:00
9006012	Trip Blank 1	05/17/2017 00:00	05/20/2017 10:00

eurofins | Lancaster Laboratories

Sample pH Log

SDG: RAE86

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #	Record Date	Employee
9006007	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:57PM	2002
9006008	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002
9006009	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002
9006010	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002
9006011	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002
9006012	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030C, May 2003.

11996 VOCs- 25ml Water by 8260C

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS), SW-846 Method 8260C, August 2006.

11010 8270D BNA Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at both a pH of 11 and 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, Rev 3, December 1996

14241 SVOAs 8270D MINI

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270D, February 2007.

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Report Date: June 06, 2017

Project: RAAP - Radford, VA - HWMU-5

Submittal Date: 05/20/2017
Group Number: 1804001
SDG: RAE86
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
5W8B Grab Groundwater	9006007
5W7B Grab Groundwater	9006008
5W7B Matrix Spike Grab Groundwater	9006009
5W7B Matrix Spike Dup Grab Groundwater	9006010
5W12A Grab Groundwater	9006011
Trip Blank 1 Water	9006012

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Draper Aden Associates, Inc.	Attn: Kathy Olsen
Electronic Copy To	Draper Aden Associates, Inc.	Attn: Janet Frazier

Respectfully Submitted,

Barbara Weyandt

Barbara A. Weyandt
Specialist

(717) 556-7264

Project Name: RAAP - Radford, VA - HWMU-5
LL Group #: 1804001

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 9006007, 9006008, 9006011, 9006012

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Batch #: H171502AA (Sample number(s): 9006007-9006012 UNSPK: 9006008)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Chloroform

Sample Description: 5W8B Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9006007
LL Group # 1804001
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 11:55 by KC

Submitted: 05/20/2017 10:00
Reported: 06/06/2017 14:54

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE861 SDG#: RAE86-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H171502AA	05/30/2017 18:00	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 18:00	Kerri E Legerlotz	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W7B Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9006008
LL Group # 1804001
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 06/06/2017 14:54

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE862 SDG#: RAE86-02BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11996	Acetone	67-64-1	N.D.	3.0	10	1
11996	2-Butanone	78-93-3	N.D.	1.0	10	1
11996	Chloroform	67-66-3	23	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.	0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Ethyl ether	60-29-7	N.D.	0.4	12	1
11996	Methylene Chloride	75-09-2	N.D.	0.2	1.0	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
14241	Diethylphthalate	84-66-2	N.D.	0.51	10	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.	0.61	10	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.	0.71	10	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1.5	6.1	1
14241	2-Nitroaniline	88-74-4	N.D.	0.71	10	1
14241	4-Nitroaniline	100-01-6	N.D.	1.3	20	1
14241	Nitrobenzene	98-95-3	N.D.	0.81	10	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 15:58	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 15:58	Kerri E Legerlotz	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17143WAF026	05/24/2017 18:29	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17143WAF026	05/23/2017 16:40	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W7B Matrix Spike Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9006009
LL Group # 1804001
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 06/06/2017 14:54

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE862 SDG#: RAE86-02MS

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Acetone	67-64-1	39		3.0	10	1
11996	2-Butanone	78-93-3	35		1.0	10	1
11996	Chloroform	67-66-3	26	E	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	4.9		0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	5.1		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	5.1		0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	5.1		0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	5.2		0.8	1.0	1
11996	Ethyl ether	60-29-7	4.9	J	0.4	12	1
11996	Methylene Chloride	75-09-2	5.0		0.2	1.0	1
11996	Toluene	108-88-3	5.2		0.1	1.0	1
11996	Trichloroethene	79-01-6	5.0		0.2	1.0	1
11996	Vinyl Chloride	75-01-4	5.8		0.1	1.0	1
11996	Xylene (Total)	1330-20-7	16		0.2	3.0	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	**ug/l**	
14241	Diethylphthalate	84-66-2	35		0.50	10	1
14241	2,4-Dinitrotoluene	121-14-2	43		0.60	10	1
14241	2,6-Dinitrotoluene	606-20-2	42		0.70	10	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	46		1.5	6.0	1
14241	2-Nitroaniline	88-74-4	41		0.70	10	1
14241	4-Nitroaniline	100-01-6	42		1.3	20	1
14241	Nitrobenzene	98-95-3	42		0.80	10	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 16:18	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 16:18	Kerri E Legerlotz	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17143WAF026	05/24/2017 18:57	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17143WAF026	05/23/2017 16:40	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W7B Matrix Spike Dup Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9006010
LL Group # 1804001
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 06/06/2017 14:54

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE862 SDG#: RAE86-02MSD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Acetone	67-64-1	39		3.0	10	1
11996	2-Butanone	78-93-3	34		1.0	10	1
11996	Chloroform	67-66-3	27	E	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	4.9		0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	5.4		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	5.4		0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	5.3		0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	5.4		0.8	1.0	1
11996	Ethyl ether	60-29-7	5.0	J	0.4	12	1
11996	Methylene Chloride	75-09-2	5.1		0.2	1.0	1
11996	Toluene	108-88-3	5.6		0.1	1.0	1
11996	Trichloroethene	79-01-6	5.1		0.2	1.0	1
11996	Vinyl Chloride	75-01-4	5.2		0.1	1.0	1
11996	Xylene (Total)	1330-20-7	17		0.2	3.0	1
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	**ug/l**	
14241	Diethylphthalate	84-66-2	36		0.51	10	1
14241	2,4-Dinitrotoluene	121-14-2	43		0.61	10	1
14241	2,6-Dinitrotoluene	606-20-2	44		0.71	10	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	44		1.5	6.1	1
14241	2-Nitroaniline	88-74-4	43		0.71	10	1
14241	4-Nitroaniline	100-01-6	43		1.3	20	1
14241	Nitrobenzene	98-95-3	43		0.81	10	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 16:38	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 16:38	Kerri E Legerlotz	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17143WAF026	05/24/2017 19:25	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17143WAF026	05/23/2017 16:40	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

Sample Description: 5W12A Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9006011
LL Group # 1804001
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 12:50 by KC

Submitted: 05/20/2017 10:00
Reported: 06/06/2017 14:54

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE863 SDG#: RAE86-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" list	SW-846 8260C	1	H171502AA	05/30/2017 18:20	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 18:20	Kerri E Legerlotz	1

*=This limit was used in the evaluation of the final result

Sample Description: Trip Blank 1 Water
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9006012
LL Group # 1804001
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017

Submitted: 05/20/2017 10:00
Reported: 06/06/2017 14:54

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE864 SDG#: RAE86-04TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Acetone	67-64-1	N.D.	3.0	10	1
11996	2-Butanone	78-93-3	N.D.	1.0	10	1
11996	Chloroform	67-66-3	N.D.	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.	0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Ethyl ether	60-29-7	N.D.	0.4	12	1
11996	Methylene Chloride	75-09-2	N.D.	0.2	1.0	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 15:37	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 15:37	Kerri E Legerlotz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804001
Reported: 06/06/2017 14:54

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: H171502AA	Sample number(s): 9006007-9006012		
Acetone	N.D.	3.0	10
2-Butanone	N.D.	1.0	10
Chloroform	N.D.	0.1	1.0
Dichlorodifluoromethane	N.D.	0.3	1.0
1,2-Dichloroethane	N.D.	0.1	1.0
1,1-Dichloroethene	N.D.	0.4	1.0
cis-1,2-Dichloroethene	N.D.	0.1	1.0
trans-1,2-Dichloroethene	N.D.	0.8	1.0
Ethyl ether	N.D.	0.4	12
Methylene Chloride	N.D.	0.2	1.0
Toluene	N.D.	0.1	1.0
Trichloroethene	N.D.	0.2	1.0
Vinyl Chloride	N.D.	0.1	1.0
Xylene (Total)	N.D.	0.2	3.0
Batch number: 17143WAF026	Sample number(s): 9006008-9006010		
Diethylphthalate	N.D.	0.50	10
2,4-Dinitrotoluene	N.D.	0.60	10
2,6-Dinitrotoluene	N.D.	0.70	10
bis(2-Ethylhexyl)phthalate	N.D.	1.5	6.0
2-Nitroaniline	N.D.	0.70	10
4-Nitroaniline	N.D.	1.3	20
Nitrobenzene	N.D.	0.80	10

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: H171502AA	Sample number(s): 9006007-9006012								
Acetone	37.5	32.75			87		60-133		
2-Butanone	37.5	31.03			83		57-144		
Chloroform	5.00	4.89			98		80-120		
Dichlorodifluoromethane	5.00	4.27			85		26-144		
1,2-Dichloroethane	5.00	5.16			103		72-127		
1,1-Dichloroethene	5.00	5.17			103		76-120		
cis-1,2-Dichloroethene	5.00	5.13			103		80-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804001
Reported: 06/06/2017 14:54

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
trans-1,2-Dichloroethene	5.00	5.15			103		80-120		
Ethyl ether	5.00	4.61			92		71-120		
Methylene Chloride	5.00	5.05			101		80-120		
Toluene	5.00	5.05			101		80-120		
Trichloroethene	5.00	4.77			95		80-120		
Vinyl Chloride	5.00	4.09			82		62-128		
Xylene (Total)	15	15.39			103		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17143WAF026	Sample number(s): 9006008-9006010								
Diethylphthalate	50	40.11			80		47-122		
2,4-Dinitrotoluene	50	44.06			88		76-122		
2,6-Dinitrotoluene	50	44.26			89		80-120		
bis(2-Ethylhexyl)phthalate	50	46.89			94		64-126		
2-Nitroaniline	50	40.79			82		74-121		
4-Nitroaniline	50	43.46			87		57-114		
Nitrobenzene	50	43.49			87		53-119		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: H171502AA	Sample number(s): 9006007-9006012 UNSPK: 9006008									
Acetone	N.D.	37.5	38.59	37.5	38.59	103	103	60-133	0	30
2-Butanone	N.D.	37.5	35.46	37.5	34.42	95	92	57-144	3	30
Chloroform	22.63	5.00	26.33	5.00	26.6	74 (2)	80 (2)	80-120	1	30
Dichlorodifluoromethane	N.D.	5.00	4.93	5.00	4.87	99	97	26-144	1	30
1,2-Dichloroethane	N.D.	5.00	5.11	5.00	5.40	102	108	72-127	5	30
1,1-Dichloroethene	N.D.	5.00	5.08	5.00	5.39	102	108	76-120	6	30
cis-1,2-Dichloroethene	N.D.	5.00	5.08	5.00	5.30	102	106	80-120	4	30
trans-1,2-Dichloroethene	N.D.	5.00	5.17	5.00	5.38	103	108	80-120	4	30
Ethyl ether	N.D.	5.00	4.85	5.00	4.98	97	100	71-120	3	30
Methylene Chloride	N.D.	5.00	4.98	5.00	5.15	100	103	80-120	3	30
Toluene	N.D.	5.00	5.23	5.00	5.58	105	112	80-120	6	30
Trichloroethene	N.D.	5.00	4.97	5.00	5.14	99	103	80-120	3	30
Vinyl Chloride	N.D.	5.00	5.80	5.00	5.22	116	104	62-128	10	30
Xylene (Total)	N.D.	15	16.08	15	17.04	107	114	80-120	6	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 17143WAF026	Sample number(s): 9006008-9006010 UNSPK: 9006008									
Diethylphthalate	N.D.	50.2	34.65	50.81	35.99	69	71	47-122	4	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804001
Reported: 06/06/2017 14:54

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4-Dinitrotoluene	N.D.	50.2	42.57	50.81	43.23	85	85	76-122	2	30
2,6-Dinitrotoluene	N.D.	50.2	41.52	50.81	43.89	83	86	80-120	6	30
bis(2-Ethylhexyl)phthalate	N.D.	50.2	45.77	50.81	43.94	91	86	64-126	4	30
2-Nitroaniline	N.D.	50.2	40.84	50.81	42.74	81	84	74-121	5	30
4-Nitroaniline	N.D.	50.2	42.31	50.81	43.39	84	85	57-114	3	30
Nitrobenzene	N.D.	50.2	41.58	50.81	42.51	83	84	53-119	2	30

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: RAAP Unit 5 "J" and "K" lists
Batch number: H171502AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9006007	102	103	104	96
9006008	107	110	102	93
9006009	100	102	104	101
9006010	101	101	102	100
9006011	106	105	102	97
9006012	105	113	102	94
Blank	102	108	105	93
LCS	102	106	102	102
MS	100	102	104	101
MSD	101	101	102	100
Limits:	77-114	74-113	77-110	78-110

Analysis Name: SVOAs 8270D MINI
Batch number: 17143WAF026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9006008	77	80	87
9006009	75	77	81
9006010	76	76	74
Blank	80	77	88
LCS	80	79	85
MS	75	77	81
MSD	76	76	74
Limits:	29-119	41-112	38-125

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11200 | 1804001 | 9006 007-12

CHAIN OF CUSTODY RECORD

5/24/17 OK JVE

Laboratory: Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barb Weyandt, Manager/ (717) 656-2300

Client: Draper Aden Associates **Attn:** 0 **Address:** 0 0 **Phone:** 0 **Fax:** 0 **Fax:** 0	**Consultant:** Draper Aden Associates **Attn:** Janet C. Frazier **Address:** 2206 South Main Street Blacksburg, Virginia 24060 **Phone:** (540) 552-0444 **Fax:** (540) 552-0291	**Sample Site:** RFAAP, Radford, Virginia **Location:** HWMU5 **Event:** 2 Qtr 2017 Corrective Action Annual Monitoring Event **DAA JN:** B03204-17A **Lab JN:**	**Project Specific (PS) or Batch (B) QC:** **Sample Collection for Project Complete?** YES WB: 12 754 02X YO 5541 9483 **Carrier:** **Tracking Number:**		

Box 1: Matrix
SW Surface Water; GW Groundwater; L Leachate; S Soil; T Trip Blank; E Equipment Blank; P Product; O Other

Box 2: Preservative
A HCL; B HNO_3; C H_2SO_4; D $Na_2S_2O_3$; E NaOH; F ZnAc; G Other (Specify); H None

Box 3: Filtered/Unfiltered
F Filtered; U Unfiltered

Box 4: Sample Type
G Grab; C Composite

Box 5: Sample Container Type
P Plastic; V VOA; AG Amber Glass; CG Clear Glass

Invoice
Copy to Consultant: YES
Bill: CLIENT OTHER
Preserved and shipped on Ice: YES

Box 4 - Sample Type	G	G	G	G
Box 3 - Filtered/Unfiltered	U	U	U	U
Required pH of Sample	<2	<2	<2	
Box 2 - Preservative	A	B	B	H
Box 5 - Sample Container Type	3-40ml V	1-500ml P	1-500ml P	2-250mL AG

Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles	8260C/5030C 25 ml purge Appendix J Analyte List	8260C/5030C 25 ml purge Appendix K Analyte List	(Metals-Total) 6020A(3020A)/ 7470A	Cobalt only-Total 6020A/3020A	8270D/3510C (Semivolatiles)
5W8B	5/17	1155	GW	4	X			X	
5W5B			GW	6	X	X	X		X
5W7B	5/17	1335	GW	18	X	X	X		X
5WC21			GW	6	X	X	X		X
5WDUP			GW	6	X	X	X		X
5WC22			GW	6	X	X	X		X
5WC23			GW	6	X	X	X		X
5W12A	5/17	1250	GW	4	X			X	
Trip Blank 1	5/17	—	T	2	X	X			
Trip Blank 2			T	2	X	X			

GENERAL NOTES:
1. See attached analyte list.
2. Report permit required LOQ/MDL or lab MDL if higher than permit MDL. Report Results to MDL with "J" Flags.
3. VELAP accreditation required.
4. Project specific MDL/QL's attached.
5. Cobalt = QL = 5ug/L / DL = 1ug/L

JVE 3/24/17

upgradient monitoring well

will be shipped at later date JVE 5-19-17

USE FOR QC

will be shipped at later date 5-19-17 JVE

plume well

Clients Special Instructions: level 1 with edd.

Received by lab in Good Condition ____ Yes ____ No Custody Seal Intact ____ Yes ____ No Temperature upon arrival ____ Received on Ice ____ Yes ____ No
Describe problems, if any:

Sampler Name (Print): KEN CODDINGTON	Date: 5/17/17	#1 Relinquished by (Signature):	Date: 5/19/17	#2 Relinquished by (Signature):	Date:	Sample Storage Time Requested:
Sampler Signature:	Time: 0800	Company Name: DAA	Time: 1700	Company Name:	Time:	
Sampler Name (Print):	Date:	#1 Received by (Signature):	Date:	#2 Received by (Signature):	Date: 5-20-17	30 DYS ORG/6 MTHS INORG
Sampler Signature:	Time:	Company Name:	Time:	Company Name: ECLE	Time: 1080	

VC JVE 3/24/17

1804001

HWMU5 Appendix - J
Radford Army Ammunition Plant
Groundwater Corrective Action Semiannual Monitoring Event
DAA JN: B03204-17A

ANALYTICAL METHOD: 8260C/5030C
TYPE METHOD: GCMS
CLASS: VOLATILE

Appendix – J Target Analyte List

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL*
1.	Trichloroethene	79-01-6	1	0.177
2.	1,1-Dichloroethene	75-35-4	1	0.44
3.	Cis-1,2-Dichloroethene	156-59-2	1	0.1
4.	Trans-1,2-Dichloroethene	156-60-5	1	0.8
5.	Vinyl Chloride	75-01-4	1	0.1

Note: *Report current lab MDL if higher.

25 ml purge volume

.t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-5\hwmu5 - coc rev 2010\hwmu 5 - appendix j cap target analyte list - rev 2015.doc

1804001

ANALYTICAL METHOD: 8260C/5030C
TYPE METHOD: GCMS
CLASS: VOLATILE

Appendix – K Target Analyte List

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL (µg/l)
1.	Acetone	67-64-1	10	3
2.	Chloroform (trichloromethane)	67-66-3	1	0.1
3.	2-butanone (methyl ethyl ketone - MEK)	78-93-3	10	1
4.	1,2-dichloroethane	107-06-2	1	0.147
5.	Methylene chloride (Dichloromethane)	75-09-2	1	0.182
6.	Toluene (methyl benzene)	108-88-3	1	0.1
7.	Xylenes (total)	1330-20-7	3	0.208
8.	Diethyl ether	60-29-7	12	0.39
9.	Dichlorodifluoromethane	75-71-8	1	0.28

Note.
2Q2010 is the first event under corrective action monitoring. Analyte list and monitoring wells sampled have changed from previous event.

Final Report must list the project required QLs and MDLs listed above. Report results between the project required QL and MDL as estimated value.

Rev 07-2014 permit mod. JCF

25 ml purge volume

√ VOA ⌀
√ QL/DL ok

1804001

HWMU5 - Appendix K
Radford Army Ammunition Plant
Groundwater Corrective Action Annual Monitoring Event
DAA JN: B03204-17A

ANALYTICAL METHOD: 8270D
TYPE METHOD: GCMS
CLASS: SEMIVOLATILE

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL (µg/l)
1.	Bis(2-ethylhexyl)phthalate	117-81-7	6	1.5
2.	Diethyl phthalate	84-66-2	10	0.5
3.	2,4-dinitrotoluene	121-14-2	10	0.6
4.	2,6-dinitrotoluene	606-20-2	10	0.7
5.	2-Nitroaniline (o-Nitroaniline)	88-74-4	10	0.7
6.	4-Nitroaniline (p-Nitroaniline)	100-01-6	20	1.3
7.	Nitrobenzene	98-95-3	10	0.8

Final Report must list the project required QLs listed above. Report results between the project required QL and MDL noted above as estimated value.

Note: # 5-7 added on Jan 2004 due To 4Q2003 detection. JCF 0104

✓ VOAP
✓ QL/DL

Reviewed:
Revised and updated 1/15/2004 JCF.
Revised and updated 10/1/06.
Reviewed 4 Q 2006 -3/23/2017 3:41 PM
10/9/2007 JCF – 2007 switched to semiannual monitoring 2/4 Q.
Revised and updated 2/12/2010 kfc
QLs and MDLs noted above reflect permit modification data Nov 5, 2009. Checked 2015JCF

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 184307

Group Number(s): 1804001

Client: Draper Aden Associates

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	05/20/2017 10:00
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Melvin Sanchez (8943) at 16:25 on 05/20/2017

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.5	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	none detected
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Volatiles by GC/MS Data

Case Narrative/Conformance Summary

Volatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE86

GC/MS Volatiles

Fraction: Volatiles by GC/MS

RAAP Unit 5 "J" and "K" lists

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9006007	5W8B	X		1	
9006008	5W7B	X		1	Unspiked
9006009	5W7B Matrix Spike	X		1	Matrix Spike
9006010	5W7B Matrix Spike Dup	X		1	Matrix Spike Duplicate
9006011	5W12A	X		1	
9006012	Trip Blank 1	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Please note that US EPA Methods for organic compounds do not require action by the laboratory based on out-of-specification MS/MSD results.

Batch#: H171502AA (Sample number(s): 9006007-9006012, UNSPK: 9006008)
The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Chloroform

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE86

GC/MS Volatiles

Fraction: Volatiles by GC/MS

SAMPLE ANALYSIS:

(Sample number(s): 9006007-9006008, 9006011-9006012: Analysis: 11996)
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Volatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Volatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE86

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
RAAP Unit 5 "J" and "K" lists	H171502AA	VBLKH20	05/30/2017 13:29:00
		LCSH20	05/30/2017 12:07:00
		9006008 UNSPK	05/30/2017 15:58:00
		9006009 MS	05/30/2017 16:18:00
		9006010 MSD	05/30/2017 16:38:00
		9006012	05/30/2017 15:37:00
RAAP Unit 5 "J" list	H171502AA	9006007	05/30/2017 18:00:00
		9006011	05/30/2017 18:20:00

Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: RAE86
Matrix: LIQUID

Fraction: Volatiles by GC/MS

H171502AA / VBLKH20 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	05/30/17	N.D.	ug/l	0.3	1.0
Vinyl Chloride	05/30/17	N.D.	ug/l	0.1	1.0
Ethyl ether	05/30/17	N.D.	ug/l	0.4	12
1,1-Dichloroethene	05/30/17	N.D.	ug/l	0.4	1.0
Acetone	05/30/17	N.D.	ug/l	3.0	10
Methylene Chloride	05/30/17	N.D.	ug/l	0.2	1.0
trans-1,2-Dichloroethene	05/30/17	N.D.	ug/l	0.8	1.0
2-Butanone	05/30/17	N.D.	ug/l	1.0	10
cis-1,2-Dichloroethene	05/30/17	N.D.	ug/l	0.1	1.0
Chloroform	05/30/17	N.D.	ug/l	0.1	1.0
1,2-Dichloroethane	05/30/17	N.D.	ug/l	0.1	1.0
Trichloroethene	05/30/17	N.D.	ug/l	0.2	1.0
Toluene	05/30/17	N.D.	ug/l	0.1	1.0
Xylene (Total)	05/30/17	N.D.	ug/l	0.2	3.0

Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: RAE86
Matrix: LIQUID

Fraction: Volatiles by GC/MS

H171502AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKH20	108	74 - 113	93	78 - 110	102	77 - 114	105	77 - 110
LCSH20	106	74 - 113	102	78 - 110	102	77 - 114	102	77 - 110
9006007	103	74 - 113	96	78 - 110	102	77 - 114	104	77 - 110
9006008 UNSPK	110	74 - 113	93	78 - 110	107	77 - 114	102	77 - 110
9006009 MS	102	74 - 113	101	78 - 110	100	77 - 114	104	77 - 110
9006010 MSD	101	74 - 113	100	78 - 110	101	77 - 114	102	77 - 110
9006011	105	74 - 113	97	78 - 110	106	77 - 114	102	77 - 110
9006012	113	74 - 113	94	78 - 110	105	77 - 114	102	77 - 110

GC/MS Volatiles

Fraction: Volatiles by GC/MS

UNSPK: 9006008 MS: 9006009 MSD: 9006010 **Analyte**	Batch: **H171502AA** (Sample number(s): 9006007-9006012)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Dichlorodifluoromethane	5.00	N.D.	4.93	4.87	99	97	26-144	1	30
Vinyl Chloride	5.00	N.D.	5.80	5.22	116	104	62-128	10	30
Ethyl ether	5.00	N.D.	4.85	4.98	97	100	71-120	3	30
1,1-Dichloroethene	5.00	N.D.	5.08	5.39	102	108	76-120	6	30
Acetone	37.5	N.D.	38.59	38.59	103	103	60-133	0	30
Methylene Chloride	5.00	N.D.	4.98	5.15	100	103	80-120	3	30
trans-1,2-Dichloroethene	5.00	N.D.	5.17	5.38	103	108	80-120	4	30
2-Butanone	37.5	N.D.	35.46	34.42	95	92	57-144	3	30
cis-1,2-Dichloroethene	5.00	N.D.	5.08	5.30	102	106	80-120	4	30
Chloroform	5.00	22.63	26.33	26.6	74 (2)	80 (2)	80-120	1	30
1,2-Dichloroethane	5.00	N.D.	5.11	5.40	102	108	72-127	5	30
Trichloroethene	5.00	N.D.	4.97	5.14	99	103	80-120	3	30
Toluene	5.00	N.D.	5.23	5.58	105	112	80-120	6	30
Xylene (Total)	15	N.D.	16.08	17.04	107	114	80-120	6	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: RAE86
Matrix: LIQUID

GC/MS Volatiles

Fraction: Volatiles by GC/MS

LCS: LCSH20	Batch: **H171502AA** (Sample number(s): 9006007-9006012)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Dichlorodifluoromethane	5.00	4.27	NA	85	NA	26-144	NA	NA
Vinyl Chloride	5.00	4.09	NA	82	NA	62-128	NA	NA
Ethyl ether	5.00	4.61	NA	92	NA	71-120	NA	NA
1,1-Dichloroethene	5.00	5.17	NA	103	NA	76-120	NA	NA
Acetone	37.5	32.75	NA	87	NA	60-133	NA	NA
Methylene Chloride	5.00	5.05	NA	101	NA	80-120	NA	NA
trans-1,2-Dichloroethene	5.00	5.15	NA	103	NA	80-120	NA	NA
2-Butanone	37.5	31.03	NA	83	NA	57-144	NA	NA
cis-1,2-Dichloroethene	5.00	5.13	NA	103	NA	80-120	NA	NA
Chloroform	5.00	4.89	NA	98	NA	80-120	NA	NA
1,2-Dichloroethane	5.00	5.16	NA	103	NA	72-127	NA	NA
Trichloroethene	5.00	4.77	NA	95	NA	80-120	NA	NA
Toluene	5.00	5.05	NA	101	NA	80-120	NA	NA
Xylene (Total)	15	15.39	NA	103	NA	80-120	NA	NA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE86___

Lab File ID: ha19t01.d BFB Injection Date: 04/19/17

Instrument ID: HP19094 BFB Injection Time: 11:06

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.19
75	30.0 - 60.0% of mass 95	48.18
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.59
173	Less than 2.0% of mass 174	1.43 (1.70)1
174	Greater than 50.0% of mass 95	84.20
175	5.0 - 9.0% of mass 174	6.43 (7.64)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.40 (100.241
177	5.0 - 9.0% of mass 176	5.99 (7.09)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD25	ha19i01.d	04/19/17	11:58
02	VSTD10	ha19i02.d	04/19/17	12:18
03	VSTD5	ha19i03.d	04/19/17	12:39
04	VSTD2	ha19i04.d	04/19/17	12:59
05	VSTD1	ha19i05.d	04/19/17	13:19
06	VSTD.5	ha19i06.d	04/19/17	13:40
07	VSTD.2	ha19i07.d	04/19/17	14:00
08	MDL0.1 - MDL0.1	ha19m01.d	04/19/17	14:21
09	MDL0.4 - MDL0.4	ha19m02.d	04/19/17	14:41
10	LCSHLG	ha19v01.d	04/19/17	15:01
11	VSTD25	ha19i11.d	04/19/17	16:03
12	VSTD10	ha19i12.d	04/19/17	16:23
13	VSTD5	ha19i13.d	04/19/17	16:43
14	VSTD2	ha19i14.d	04/19/17	17:03
15	VSTD1	ha19i15.d	04/19/17	17:24
16	VSTD.5	ha19i16.d	04/19/17	17:44
17	VSTD.2	ha19i17.d	04/19/17	18:05
18	MDL0.1 - MDL0.1	ha19m11.d	04/19/17	18:25
19	LCSHSM	ha19v11.d	04/19/17	18:45
20	LCDHSM	ha19v12.d	04/19/17	19:06
21	VBLK99	ha19b01.d	04/19/17	19:52
22	8929590	ha19s07.d	04/19/17	20:26

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE86___

Lab File ID: ha19t01.d BFB Injection Date: 04/19/17

Instrument ID: HP19094 BFB Injection Time: 11:06

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.19
75	30.0 - 60.0% of mass 95	48.18
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.59
173	Less than 2.0% of mass 174	1.43 (1.70)1
174	Greater than 50.0% of mass 95	84.20
175	5.0 - 9.0% of mass 174	6.43 (7.64)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.40 (100.241
177	5.0 - 9.0% of mass 176	5.99 (7.09)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8929590MS	ha19s19.d	04/19/17	20:46
24	8929590MSD	ha19s18.d	04/19/17	21:07
25	8929588	ha19s04.d	04/19/17	21:47
26	8929589	ha19s05.d	04/19/17	22:08
27	8929612	ha19s06.d	04/19/17	22:28

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE86___

Lab File ID: hy30t05.d BFB Injection Date: 05/30/17

Instrument ID: HP19094 BFB Injection Time: 10:54

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.87
75	30.0 - 60.0% of mass 95	49.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.10
173	Less than 2.0% of mass 174	0.91 (1.11)1
174	Greater than 50.0% of mass 95	81.63
175	5.0 - 9.0% of mass 174	5.97 (7.32)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.68 (96.39)1
177	5.0 - 9.0% of mass 176	5.71 (7.26)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD10	hy30c02.d	05/30/17	11:47
02	LCSH20	hy30l03a.d	05/30/17	12:07
03	LCSH21	hy30l03b.d	05/30/17	12:07
04	LCDH21	hy30l04b.d	05/30/17	12:27
05	LCSH19	hy30l04.d	05/30/17	12:27
06	MDLH19 - MDLH19	hy30m01.d	05/30/17	12:48
07	MDLH20 - MDLH20	hy30m01a.d	05/30/17	12:48
08	MDLH21 - MDLH21	hy30m01b.d	05/30/17	12:48
09	VBLKH19	hy30b01.d	05/30/17	13:29
10	VBLKH20	hy30b01a.d	05/30/17	13:29
11	VBLKH21	hy30b01b.d	05/30/17	13:29
12	9002049	hy30s01.d	05/30/17	14:14
13	9002047	hy30s02.d	05/30/17	14:34
14	9002045	hy30s03.d	05/30/17	14:57
15	9002045DL	hy30s04.d	05/30/17	15:17
16	9006012	hy30s11.d	05/30/17	15:37
17	9006008	hy30s12.d	05/30/17	15:58
18	9006009MS	hy30s13.d	05/30/17	16:18
19	9006010MSD	hy30s14.d	05/30/17	16:38
20	9002047MS	hy30s05.d	05/30/17	16:59
21	9002047MSD	hy30s06.d	05/30/17	17:19
22	SECC010	hy30s07.d	05/30/17	17:40

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE86___

Lab File ID: hy30t05.d BFB Injection Date: 05/30/17

Instrument ID: HP19094 BFB Injection Time: 10:54

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.87
75	30.0 - 60.0% of mass 95	49.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.10
173	Less than 2.0% of mass 174	0.91 (1.11)1
174	Greater than 50.0% of mass 95	81.63
175	5.0 - 9.0% of mass 174	5.97 (7.32)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.68 (96.39)1
177	5.0 - 9.0% of mass 176	5.71 (7.26)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	9006007	hy30s15.d	05/30/17	18:00
24	9006011	hy30s16.d	05/30/17	18:20
25	9009419	hy30s17.d	05/30/17	18:41
26	9009414	hy30s18.d	05/30/17	19:01
27	9009415	hy30s19.d	05/30/17	19:21
28	9009416	hy30s20.d	05/30/17	19:42
29	9009417	hy30s21.d	05/30/17	20:02
30	9009418	hy30s22.d	05/30/17	20:22
31	9000067DL2	hy30s31.d	05/30/17	20:43
32	9002901	hy30s32.d	05/30/17	21:03
33	9002906DL	hy30s33.d	05/30/17	21:24
34	9002907DL	hy30s34.d	05/30/17	21:44
35	9002908DL	hy30s35.d	05/30/17	22:04

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	#0.3790	0.3676	0.4365	0.4046	0.3679	0.3741	0.3785	0.3869	7	AVG #
Chloromethane	#0.4669	0.4171	0.4256	0.4252	0.3795	0.3814	0.3476	0.4062	10	AVG #
Vinyl Chloride	#0.4012	0.3509	0.3781	0.3763	0.3232	0.3328	0.3334	0.3565	8	AVG #
1,3-Butadiene	0.5570	0.5895	0.6000	0.6500	0.5387	0.5213	0.4747	0.5616	10	AVG
Bromomethane	#0.2389	0.2184	0.2406	0.2363	0.2097	0.2127	0.2110	0.2239	6	AVG #
Chloroethane	#0.2407	0.2078	0.2089	0.2039	0.1951	0.1879	0.1853	0.2042	9	AVG #
Dichlorofluoromethane	0.5050	0.4391	0.5094	0.4860	0.4647	0.4557	0.4298	0.4699	7	AVG
Trichlorofluoromethane	#0.4091	0.3849	0.4556	0.4196	0.4150	0.4133	0.3943	0.4131	5	AVG #
Ethyl ether	0.1744	0.1569	0.1798	0.1582	0.1652	0.1618	0.1494	0.1637	6	AVG
Freon 123a	0.2754	0.2944	0.3351	0.3381	0.3299	0.3150	0.2940	0.3117	8	AVG
Acrolein	3.4256	3.4965	4.0410	3.7566	4.0013	4.0701	3.8401	3.8045	7	AVG
1,1-Dichloroethene	#0.2068	0.2048	0.2314	0.2387	0.2269	0.2225	0.2220	0.2219	6	AVG #
Freon 113	#0.1909	0.2202	0.2523	0.2497	0.2454	0.2368	0.2393	0.2335	9	AVG #
Acetone	#	4.3094	4.9932	4.4615	4.4826	4.7235	4.6721	4.6070	5	AVG #
Methyl Iodide	0.3923	0.4023	0.4192	0.4325	0.4232	0.4077	0.4074	0.4121	3	AVG
Carbon Disulfide	#0.5816	0.5878	0.6352	0.6625	0.6273	0.6260	0.6371	0.6225	5	AVG #
Allyl Chloride	0.4327	0.4242	0.4477	0.4218	0.4308	0.4250	0.4316	0.4306	2	AVG
Methyl Acetate	#13.955	17.996	19.433	13.022	15.227	15.269	14.683	15.655	14	AVG #
Methylene Chloride	#0.2511	0.2385	0.2429	0.2465	0.2447	0.2350	0.2373	0.2423	2	AVG #
t-Butyl Alcohol	1.1333	1.3702	1.2241	1.3424	1.0524	1.2867	1.3480	1.2510	10	AVG
Acrylonitrile	4.6185	5.4946	6.7993	6.5230	6.4918	6.9619	6.6907	6.2257	14	AVG
trans-1,2-Dichloroethene	#0.2299	0.2313	0.2489	0.2570	0.2576	0.2454	0.2450	0.2450	5	AVG #
Methyl Tertiary Butyl Ether	#0.4055	0.4028	0.4407	0.4793	0.4654	0.4632	0.4548	0.4445	7	AVG #
n-Hexane	0.2601	0.3169	0.3765	0.4172	0.4197	0.4135	0.4252	0.3756	17	AVG
1,1-Dichloroethane	#0.4298	0.4860	0.5004	0.5192	0.4996	0.4684	0.4807	0.4834	6	AVG #
di-Isopropyl Ether	0.7503	0.7838	0.8125	0.8746	0.8559	0.8406	0.8495	0.8239	5	AVG
2-Chloro-1,3-Butadiene	0.3458	0.3699	0.4119	0.4432	0.4336	0.4233	0.4314	0.4085	9	AVG
Ethyl t-butyl ether	0.5488	0.5910	0.6320	0.6734	0.6718	0.6617	0.6551	0.6334	7	AVG
cis-1,2-Dichloroethene	#0.2594	0.2611	0.2791	0.2927	0.2749	0.2727	0.2745	0.2735	4	AVG #
2,2-Dichloropropane	0.3512	0.3221	0.3740	0.3888	0.3715	0.3631	0.3647	0.3622	6	AVG
2-Butanone	#7.3613	9.2139	9.5004	9.9612	10.022	10.303	9.4141	9.3967	10	AVG #
Propionitrile	2.0277	2.2150	2.1810	2.2539	2.3400	2.3260	2.2848	2.2326	5	AVG
Methacrylonitrile	8.0361	8.3798	9.8842	9.6450	9.8894	10.315	9.1928	9.3346	9	AVG
Bromochloromethane	0.1223	0.0994	0.1141	0.1068	0.1027	0.1048	0.1070	0.1081	7	AVG
Tetrahydrofuran	1.8359	2.0968	2.5157	2.4948	2.6178	2.5843	2.2868	2.3474	12	AVG
Chloroform	#0.4504	0.4529	0.4564	0.4819	0.4580	0.4465	0.4467	0.4561	3	AVG #
1,1,1-Trichloroethane	#0.3760	0.3828	0.3896	0.4134	0.3935	0.3816	0.3824	0.3884	3	AVG #
Cyclohexane	#0.3690	0.4914	0.4808	0.5104	0.5059	0.4902	0.5046	0.4789	10	AVG #
Cyclohexane(2)	#0.2924	0.3044	0.3866	0.4052	0.3993	0.3950	0.3935	0.3681	13	AVG #
Cyclohexane(3)	#0.0961	0.1236	0.1372	0.1450	0.1474	0.1442	0.1472	0.1344	14	AVG #
1,1-Dichloropropene	0.3100	0.3340	0.3671	0.3946	0.3759	0.3694	0.3745	0.3608	8	AVG
Carbon Tetrachloride	#0.3077	0.2929	0.3357	0.3562	0.3361	0.3236	0.3306	0.3261	6	AVG #
Isobutyl Alcohol	0.6079	0.5272	0.5648	0.5468	0.5031	0.4836	0.5456	0.5398	8	AVG
Benzene	#0.9996	1.0209	1.0627	1.1116	1.0718	1.0302	1.0368	1.0476	4	AVG #
1,2-Dichloroethane	#0.2239	0.2503	0.2618	0.2600	0.2592	0.2487	0.2493	0.2504	5	AVG #
t-Amyl methyl ether	0.4511	0.4582	0.5172	0.5543	0.5472	0.5381	0.5392	0.5150	8	AVG
n-Heptane	0.3652	0.3793	0.4533	0.4740	0.4738	0.4688	0.4807	0.4422	11	AVG
n-Butanol	0.3756	0.3775	0.3257	0.4161	0.4125	0.4191	0.4561	0.3975	11	AVG
Trichloroethene	#0.2869	0.2626	0.2847	0.2858	0.2788	0.2715	0.2710	0.2773	3	AVG #
Methylcyclohexane	#0.4259	0.4067	0.4800	0.4826	0.4968	0.4884	0.4992	0.4685	8	AVG #
1,2-Dichloropropane	#0.2518	0.2771	0.2743	0.2887	0.2769	0.2731	0.2705	0.2732	4	AVG #
Methyl Methacrylate	10.700	14.488	17.862	18.557	19.107	20.292	18.528	17.076	20	AVG

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

FORM VI VOA

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
Dibromomethane	0.0988	0.1060	0.1052	0.1094	0.1068	0.1058	0.1051	0.1053	3	AVG
1,4-Dioxane		0.0398	0.1001	0.1150	0.1047	0.0926	0.0960	0.0914	29	2NDDEG
Bromodichloromethane	#0.2716	0.2612	0.2906	0.3066	0.2967	0.2913	0.3011	0.2884	6	AVG #
2-Nitropropane	5.3699	4.9092	5.9435	5.7512	5.9604	5.9943	5.4962	5.6321	7	AVG
cis-1,3-Dichloropropene	#0.2697	0.2920	0.3135	0.3485	0.3414	0.3479	0.3631	0.3252	11	AVG #
4-Methyl-2-Pentanone	#21.185	21.526	26.100	25.938	27.194	27.828	24.526	24.899	11	AVG #
Toluene	#0.9682	0.9440	1.0434	0.9799	0.9895	0.9264	0.9101	0.9659	5	AVG #
trans-1,3-Dichloropropene	#0.3748	0.3522	0.3790	0.3666	0.3890	0.3843	0.3883	0.3763	4	AVG #
Ethyl Methacrylate	0.2435	0.2565	0.2637	0.2913	0.3024	0.2964	0.2946	0.2783	8	AVG
1,1,2-Trichloroethane	#0.2221	0.2168	0.2404	0.2284	0.2281	0.2205	0.2144	0.2244	4	AVG #
Tetrachloroethene	#0.4401	0.4235	0.4841	0.4646	0.4578	0.4351	0.4307	0.4480	5	AVG #
1,3-Dichloropropane	0.4247	0.3882	0.4169	0.4054	0.4036	0.3903	0.3819	0.4016	4	AVG
2-Hexanone	#15.093	14.702	18.615	19.535	18.504	19.226	17.165	17.548	11	AVG #
Dibromochloromethane	#0.2747	0.2453	0.2673	0.2780	0.2678	0.2623	0.2659	0.2659	4	AVG #
1,2-Dibromoethane	#0.2135	0.2137	0.2141	0.2253	0.2117	0.2055	0.2015	0.2122	4	AVG #
Chlorobenzene	#1.0347	1.0319	1.1182	1.1247	1.0580	1.0087	0.9964	1.0532	5	AVG #
1,1,1,2-Tetrachloroethane	0.3367	0.3495	0.3743	0.3700	0.3505	0.3354	0.3383	0.3507	5	AVG
Ethylbenzene	#1.7307	1.7411	1.9723	2.0265	1.9369	1.8562	1.8383	1.8717	6	AVG #
m+p-Xylene	#0.6176	0.6748	0.7638	0.7779	0.7373	0.7076	0.7029	0.7117	8	AVG #
o-Xylene	#0.5657	0.6568	0.7079	0.7545	0.7182	0.6919	0.6894	0.6835	9	AVG #
Styrene	#0.8449	0.9067	1.0789	1.1676	1.1231	1.0897	1.0945	1.0436	11	AVG #
Bromoform	#0.1256	0.1135	0.1279	0.1476	0.1339	0.1375	0.1435	0.1328	9	AVG #
Isopropylbenzene	#1.5174	1.6096	1.8688	1.9681	1.8994	1.8371	1.8196	1.7886	9	AVG #
1,1,2,2-Tetrachloroethane	#0.7068	0.6700	0.6639	0.6621	0.6447	0.6054	0.5650	0.6454	7	AVG #
Bromobenzene	1.0211	0.9832	1.0400	1.0475	0.9833	0.9154	0.8981	0.9841	6	AVG
trans-1,4-Dichloro-2-butene		4.5233	6.3094	6.9130	6.8134	7.6912	7.4154	6.6109	17	AVG
1,2,3-Trichloropropane	0.1891	0.1644	0.1625	0.1678	0.1591	0.1469	0.1405	0.1615	10	AVG
n-Propylbenzene	4.9490	5.0042	5.4282	5.7670	5.5222	5.1475	5.0145	5.2618	6	AVG
2-Chlorotoluene	0.9506	1.0147	1.0064	1.0695	1.0420	0.9425	0.9398	0.9951	5	AVG
1,3,5-Trimethylbenzene	3.1964	3.3176	3.7152	3.8908	3.7334	3.4951	3.4349	3.5405	7	AVG
4-Chlorotoluene	0.9230	1.0122	1.0458	1.0924	1.0175	0.9665	0.9440	1.0002	6	AVG
tert-Butylbenzene	0.7440	0.7690	0.7411	0.8560	0.7975	0.7354	0.7396	0.7689	6	AVG
Pentachloroethane	0.5785	0.5422	0.6362	0.5675	0.5765	0.5639	0.5565	0.5745	5	AVG
1,2,4-Trimethylbenzene	3.0734	3.2582	3.6550	3.9181	3.7557	3.5488	3.4936	3.5290	8	AVG
sec-Butylbenzene	4.0161	4.3849	4.6870	5.0446	4.9279	4.6543	4.5839	4.6141	7	AVG
1,3-Dichlorobenzene	#1.9428	1.8895	1.9971	2.0353	1.9652	1.8519	1.8526	1.9335	4	AVG #
p-Isopropyltoluene	3.1144	3.3921	3.8359	4.2226	4.0933	3.8862	3.8836	3.7754	10	AVG
1,4-Dichlorobenzene	#2.2648	2.0212	2.1379	2.1105	1.9446	1.8348	1.7909	2.0150	8	AVG #
1,2,3-Trimethylbenzene	1.7116	1.5253	1.6900	1.5618	1.5056	1.4584	1.4373	1.5557	7	AVG
Benzyl Chloride	0.1657	0.1851	0.1884	0.2234	0.2211	0.2171	0.2228	0.2034	11	AVG
n-Butylbenzene	1.4038	1.4876	1.8295	2.1320	2.1020	1.9986	2.0234	1.8539	16	AVG
1,2-Dichlorobenzene	#1.7896	1.6689	1.8100	1.8311	1.7400	1.6076	1.5741	1.7173	6	AVG #
1,2-Dibromo-3-chloropropane	#3.1316	3.0110	3.3115	4.0366	3.9823	4.3932	3.9506	3.6881	14	AVG #
1,2,4-Trichlorobenzene	#1.1441	1.0231	1.0982	1.1527	1.1162	1.1156	1.1017	1.1074	4	AVG #
Hexachlorobutadiene	0.5522	0.4922	0.5114	0.5909	0.5443	0.5600	0.5885	0.5485	7	AVG
Naphthalene	1.6625	1.5196	1.6072	1.7110	1.7211	1.6352	1.5504	1.6295	5	AVG
1,2,3-Trichlorobenzene	1.0920	0.8579	0.9377	1.0013	0.9292	0.8906	0.8407	0.9356	9	AVG
Dibromofluoromethane	0.2187	0.2258	0.2172	0.2245	0.2240	0.2286	0.2304	0.2242	2	AVG
Dibromofluoromethane(2)	0.2254	0.2319	0.2221	0.2278	0.2306	0.2360	0.2379	0.2302	2	AVG
1,2-Dichloroethane-d4	0.0348	0.0370	0.0360	0.0350	0.0369	0.0364	0.0377	0.0362	3	AVG
1,2-Dichloroethane-d4(2)	0.1766	0.1774	0.1756	0.1761	0.1709	0.1789	0.1797	0.1764	2	AVG

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

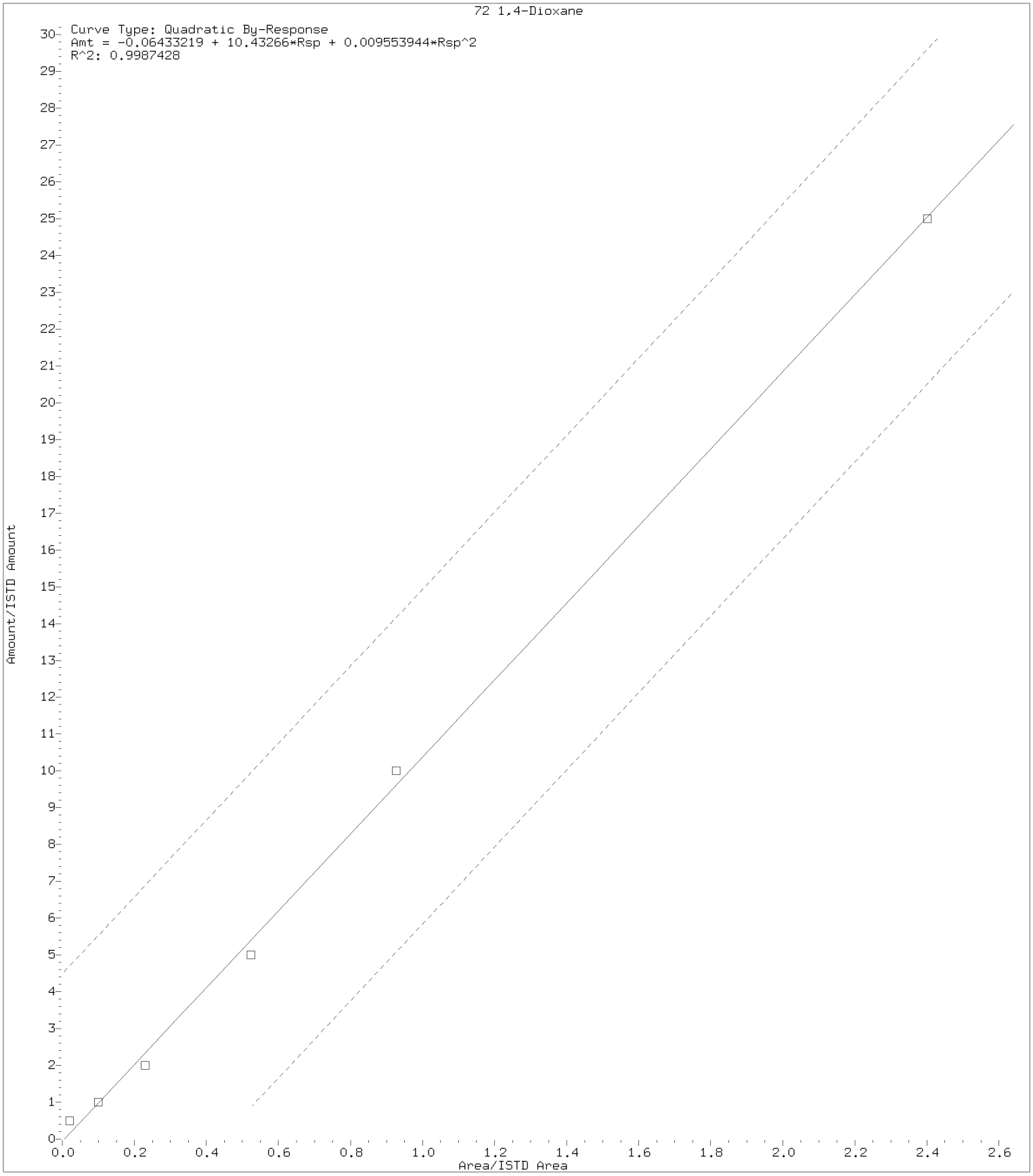
LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
1,2-Dichloroethane-d4(3)	0.0221	0.0218	0.0223	0.0197	0.0222	0.0224	0.0233	0.0220	5	AVG
Toluene-d8	1.5232	1.4867	1.5528	1.3963	1.4522	1.4241	1.3972	1.4618	4	AVG
Toluene-d8(2)	0.9744	0.9598	0.9978	0.8961	0.9367	0.9171	0.9071	0.9413	4	AVG
4-Bromofluorobenzene	0.3973	0.4161	0.4142	0.4209	0.4143	0.4202	0.4243	0.4153	2	AVG
4-Bromofluorobenzene(2)	0.3551	0.3626	0.3720	0.3726	0.3681	0.3778	0.3794	0.3697	2	AVG

Average %RSD 7

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

FORM VI VOA



Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:28.
Target 3.5 esignature user ID: kas02648

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP19094.i/17apr19a.b/ha19i01.d	VSTD025
/chem2/HP19094.i/17apr19a.b/ha19i02.d	VSTD010
/chem2/HP19094.i/17apr19a.b/ha19i03.d	VSTD005
/chem2/HP19094.i/17apr19a.b/ha19i04.d	VSTD002
/chem2/HP19094.i/17apr19a.b/ha19i05.d	VSTD001
/chem2/HP19094.i/17apr19a.b/ha19i06.d	VSTD0.5
/chem2/HP19094.i/17apr19a.b/ha19i07.d	VSTD0.2

Area Summary

File ID:

Internal Standard Name	ha19i01.d	ha19i02.d	ha19i03.d	ha19i04.d	ha19i05.d	ha19i06.d	ha19i07.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	74228	67885	71762	68028	62071	75157	69135	69752	6	Yes
Fluorobenzene	2800014	2863672	2875093	2655800	2788645	2807038	2670698	2780137	3	Yes
Chlorobenzene-d5	1967440	1964158	1916028	1854966	1721164	1818984	1665343	1844012	6	Yes
1,4-Dichlorobenzene-d4	879364	868838	817140	790252	738701	760024	671591	789416	9	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	ha19i01.d	ha19i02.d	ha19i03.d	ha19i04.d	ha19i05.d	ha19i06.d	ha19i07.d	Avg. RT
t-Butyl Alcohol-d10	4.239	4.299	4.306	4.257	4.300	4.342	4.269	4.287
Fluorobenzene	7.781	7.781	7.774	7.775	7.775	7.775	7.781	7.777
Chlorobenzene-d5	11.244	11.243	11.243	11.243	11.244	11.243	11.243	11.243
1,4-Dichlorobenzene-d4	13.121	13.121	13.121	13.121	13.127	13.121	13.127	13.123

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 04/20/2017 at 09:58.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.3869	0.4107	5.31	5	6	#
# Chloromethane	0.4062	0.4219	5.19	5	4	#
# Vinyl Chloride	0.3565	0.3654	5.12	5	2	#
1,3-Butadiene	0.5616	0.4618	4.11	5	-18	
# Bromomethane	0.2239	0.2357	5.26	5	5	#
# Chloroethane	0.2042	0.1985	4.86	5	-3	#
Dichlorofluoromethane	0.4699	0.4557	4.85	5	-3	
# Trichlorofluoromethane	0.4131	0.4057	4.91	5	-2	#
Ethyl ether	0.1637	0.1559	4.76	5	-5	
Freon 123a	0.3117	0.3253	5.22	5	4	
Acrolein	3.8045	3.6532	36.01	37.5	-4	
# 1,1-Dichloroethene	0.2219	0.2243	5.06	5	1	#
# Freon 113	0.2335	0.2387	5.11	5	2	#
# Acetone	4.6070	4.2000	34.19	37.5	-9	#
Methyl Iodide	0.4121	0.4105	4.98	5	0	
# Carbon Disulfide	0.6225	0.6304	5.06	5	1	#
Allyl Chloride	0.4306	0.3838	4.46	5	-11	
# Methyl Acetate	15.6550	15.4352	4.93	5	-1	#
# Methylene Chloride	0.2423	0.2387	4.93	5	-1	#
t-Butyl Alcohol	1.2510	1.0623	42.46	50	-15	
Acrylonitrile	6.2257	6.9506	27.91	25	12	
# trans-1,2-Dichloroethene	0.2450	0.2495	5.09	5	2	#
# Methyl Tertiary Butyl Ether	0.4445	0.4618	5.19	5	4	#
n-Hexane	0.3756	0.3750	4.99	5	0	
# 1,1-Dichloroethane	0.4834	0.4829	4.99	5	0	#
di-Isopropyl Ether	0.8239	0.8710	5.29	5	6	
2-Chloro-1,3-Butadiene	0.4085	0.4278	5.24	5	5	
Ethyl t-butyl ether	0.6334	0.6473	5.11	5	2	
# cis-1,2-Dichloroethene	0.2735	0.2705	4.95	5	-1	#
2,2-Dichloropropane	0.3622	0.3581	4.94	5	-1	
# 2-Butanone	9.3967	9.8786	39.42	37.5	5	#
Propionitrile	2.2326	1.9908	33.44	37.5	-11	
Methacrylonitrile	9.3346	9.9059	39.79	37.5	6	
Bromochloromethane	0.1081	0.1030	4.76	5	-5	
Tetrahydrofuran	2.3474	2.5916	27.60	25	10	
# Chloroform	0.4561	0.4474	4.90	5	-2	#

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# 1,1,1-Trichloroethane	0.3884	0.3842	4.95	5	-1	#
# Cyclohexane	0.4789	0.4672	4.88	5	-2	#
1,1-Dichloropropene	0.3608	0.3475	4.82	5	-4	
# Carbon Tetrachloride	0.3261	0.3228	4.95	5	-1	#
Isobutyl Alcohol	0.5398	0.4588	106.24	125	-15	
# Benzene	1.0476	1.0316	4.92	5	-2	#
# 1,2-Dichloroethane	0.2504	0.2480	4.95	5	-1	#
t-Amyl methyl ether	0.5150	0.5312	5.16	5	3	
n-Heptane	0.4422	0.4200	4.75	5	-5	
n-Butanol	0.3975	0.3248	204.31	250	-18	
# Trichloroethene	0.2773	0.2732	4.93	5	-1	#
# Methylcyclohexane	0.4685	0.4354	4.65	5	-7	#
# 1,2-Dichloropropane	0.2732	0.2741	5.02	5	0	#
Methyl Methacrylate	17.076	20.3330	5.95	5	19	
Dibromomethane	0.1053	0.1064	5.05	5	1	
1,4-Dioxane	0.0914	0.0845	106.94	125	-14	
# Bromodichloromethane	0.2884	0.2875	4.98	5	0	#
2-Nitropropane	5.6321	5.9564	5.29	5	6	
# cis-1,3-Dichloropropene	0.3252	0.3228	4.96	5	-1	#
# 4-Methyl-2-Pentanone	24.899	025.8929	26.00	25	4	#
# Toluene	0.9659	1.0092	5.22	5	4	#
# trans-1,3-Dichloropropene	0.3763	0.3939	5.23	5	5	#
Ethyl Methacrylate	0.2783	0.3044	5.47	5	9	
# 1,1,2-Trichloroethane	0.2244	0.2279	5.08	5	2	#
# Tetrachloroethene	0.4480	0.4686	5.23	5	5	#
1,3-Dichloropropane	0.4016	0.4181	5.21	5	4	
# 2-Hexanone	17.548	018.1251	25.82	25	3	#
# Dibromochloromethane	0.2659	0.2644	4.97	5	-1	#
# 1,2-Dibromoethane	0.2122	0.2197	5.18	5	4	#
# Chlorobenzene	1.0532	1.0639	5.05	5	1	#
1,1,1,2-Tetrachloroethane	0.3507	0.3536	5.04	5	1	
# Ethylbenzene	1.8717	1.9345	5.17	5	3	#
# m+p-Xylene	0.7117	0.7507	10.55	10	5	#
# o-Xylene	0.6835	0.7114	5.20	5	4	#
# Styrene	1.0436	1.1469	5.49	5	10	#
# Bromoform	0.1328	0.1344	5.06	5	1	#

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# Isopropylbenzene	1.7886	1.9179	5.36	5	7	#
# 1,1,2,2-Tetrachloroethane	0.6454	0.6339	4.91	5	-2	#
Bromobenzene	0.9841	0.9840	5.00	5	0	
trans-1,4-Dichloro-2-butene	6.6109	6.5801	24.88	25	0	
1,2,3-Trichloropropane	0.1615	0.1668	5.17	5	3	
n-Propylbenzene	5.2618	5.4619	5.19	5	4	
2-Chlorotoluene	0.9951	1.0144	5.10	5	2	
1,3,5-Trimethylbenzene	3.5405	3.6946	5.22	5	4	
4-Chlorotoluene	1.0002	1.0212	5.11	5	2	
tert-Butylbenzene	0.7689	0.8211	5.34	5	7	
Pentachloroethane	0.5745	0.6146	5.35	5	7	
1,2,4-Trimethylbenzene	3.5290	3.7023	5.25	5	5	
sec-Butylbenzene	4.6141	4.8149	5.22	5	4	
# 1,3-Dichlorobenzene	1.9335	1.9383	5.01	5	0	#
p-Isopropyltoluene	3.7754	3.9943	5.29	5	6	
# 1,4-Dichlorobenzene	2.0150	1.9524	4.84	5	-3	#
1,2,3-Trimethylbenzene	1.5557	1.6629	5.34	5	7	
Benzyl Chloride	0.2034	0.2151	5.29	5	6	
n-Butylbenzene	1.8539	2.0074	5.41	5	8	
# 1,2-Dichlorobenzene	1.7173	1.7188	5.00	5	0	#
# 1,2-Dibromo-3-chloropropane	3.6881	3.8604	5.23	5	5	#
# 1,2,4-Trichlorobenzene	1.1074	1.0738	4.85	5	-3	#
Hexachlorobutadiene	0.5485	0.4863	4.43	5	-11	
Naphthalene	1.6295	1.6181	4.96	5	-1	
1,2,3-Trichlorobenzene	0.9356	0.8721	4.66	5	-7	

Average %Drift 5

Compounds with required minimum RRF.
Maximum % Drift = 30 %

^

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP19094.i/17apr19a.b/ha19i07.d
/chem2/HP19094.i/17apr19a.b/ha19i06.d
/chem2/HP19094.i/17apr19a.b/ha19i05.d
/chem2/HP19094.i/17apr19a.b/ha19i04.d
/chem2/HP19094.i/17apr19a.b/ha19i03.d
/chem2/HP19094.i/17apr19a.b/ha19i02.d
/chem2/HP19094.i/17apr19a.b/ha19i01.d

File /chem2/HP19094.i/17apr19a.b/ha19i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP19094.i/17may30b.b/hy30c02.d

RT Summary

Internal Standard Name	File ID: hy30c02.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.257	4.299	Yes
Fluorobenzene	7.775	7.781	Yes
Chlorobenzene-d5	11.237	11.243	Yes
1,4-Dichlorobenzene-d4	13.121	13.121	Yes

A "No" indicates the retention time is greater than 10 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: hy30c02.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	112769	67885	33942	135770	Yes
Fluorobenzene	3168741	2863672	1431836	5727344	Yes
Chlorobenzene-d5	2162187	1964158	982079	3928316	Yes
1,4-Dichlorobenzene-d4	927495	868838	434419	1737676	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/30/17 Time: 11:47

Lab File ID: hy30c02.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.3869	0.3421	8.84	10	-12	#
# Chloromethane	0.4062	0.3053	7.52	10	-25	#<-
# Vinyl Chloride	0.3565	0.2533	7.11	10	-29	#<-
1,3-Butadiene	0.5616	0.2204	3.92	10	-61	<-
# Bromomethane	0.2239	0.1797	8.02	10	-20	#
# Chloroethane	0.2042	0.1702	8.33	10	-17	#
Dichlorofluoromethane	0.4699	0.5596	11.91	10	19	
# Trichlorofluoromethane	0.4131	0.4405	10.66	10	7	#
Ethyl ether	0.1637	0.1704	10.41	10	4	
Freon 123a	0.3117	0.3270	10.49	10	5	
Acrolein	3.8045	2.6957	354.29	500	-29	<-
# 1,1-Dichloroethene	0.2219	0.2087	9.41	10	-6	#
# Freon 113	0.2335	0.2351	10.07	10	1	#
# Acetone	4.6070	4.6346	100.60	100	1	#
Methyl Iodide	0.4121	0.4157	10.09	10	1	
# Carbon Disulfide	0.6225	0.6547	10.52	10	5	#
Allyl Chloride	0.4306	0.4273	9.92	10	-1	
# Methyl Acetate	15.655	013.2097	8.44	10	-16	#
# Methylene Chloride	0.2423	0.2379	9.82	10	-2	#
t-Butyl Alcohol	1.2510	1.3707	219.13	200	10	
Acrylonitrile	6.2257	5.9485	47.77	50	-4	
# trans-1,2-Dichloroethene	0.2450	0.2413	9.85	10	-2	#
# Methyl Tertiary Butyl Ether	0.4445	0.4701	10.57	10	6	#
n-Hexane	0.3756	0.3996	10.64	10	6	
# 1,1-Dichloroethane	0.4834	0.4783	9.89	10	-1	#
di-Isopropyl Ether	0.8239	0.8533	10.36	10	4	
2-Chloro-1,3-Butadiene	0.4085	0.4235	10.37	10	4	
Ethyl t-butyl ether	0.6334	0.6557	10.35	10	4	
# cis-1,2-Dichloroethene	0.2735	0.2772	10.14	10	1	#
2,2-Dichloropropane	0.3622	0.3553	9.81	10	-2	
# 2-Butanone	9.3967	8.1343	86.57	100	-13	#
Propionitrile	2.2326	2.2522	201.75	200	1	
Methacrylonitrile	9.3346	7.5210	80.57	100	-19	
Bromochloromethane	0.1081	0.1091	10.09	10	1	
Tetrahydrofuran	2.3474	1.9762	84.18	100	-16	
# Chloroform	0.4561	0.4434	9.72	10	-3	#

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/30/17 Time: 11:47

Lab File ID: hy30c02.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# 1,1,1-Trichloroethane	0.3884	0.3615	9.31	10	-7	#
# Cyclohexane	0.4789	0.4874	10.18	10	2	#
# Cyclohexane(2)	0.3681	0.3822	10.38	10	4	#
# Cyclohexane(3)	0.1344	0.1433	10.66	10	7	#
1,1-Dichloropropene	0.3608	0.3708	10.28	10	3	
# Carbon Tetrachloride	0.3261	0.3257	9.99	10	0	#
Isobutyl Alcohol	0.5398	0.5554	514.41	500	3	
# Benzene	1.0476	1.0464	9.99	10	0	#
# 1,2-Dichloroethane	0.2504	0.2574	10.28	10	3	#
t-Amyl methyl ether	0.5150	0.5439	10.56	10	6	
n-Heptane	0.4422	0.4566	10.33	10	3	
n-Butanol	0.3975	0.4578	1151.72	1000	15	
# Trichloroethene	0.2773	0.2680	9.66	10	-3	#
# Methylcyclohexane	0.4685	0.4719	10.07	10	1	#
# 1,2-Dichloropropane	0.2732	0.2757	10.09	10	1	#
Methyl Methacrylate	17.076	14.3614	8.41	10	-16	
Dibromomethane	0.1053	0.1102	10.47	10	5	
1,4-Dioxane	0.0914	0.1046	543.12	500	9	
# Bromodichloromethane	0.2884	0.3075	10.66	10	7	#
2-Nitropropane	5.6321	4.6205	82.04	100	-18	
# cis-1,3-Dichloropropene	0.3252	0.3729	11.47	10	15	#
# 4-Methyl-2-Pentanone	24.899	20.4175	82.00	100	-18	#
# Toluene	0.9659	0.9507	9.84	10	-2	#
# trans-1,3-Dichloropropene	0.3763	0.4083	10.85	10	9	#
Ethyl Methacrylate	0.2783	0.3109	11.17	10	12	
# 1,1,2-Trichloroethane	0.2244	0.2273	10.13	10	1	#
# Tetrachloroethene	0.4480	0.4340	9.69	10	-3	#
1,3-Dichloropropane	0.4016	0.4117	10.25	10	3	
# 2-Hexanone	17.548	13.6644	77.87	100	-22	#<-
# Dibromochloromethane	0.2659	0.2885	10.85	10	9	#
# 1,2-Dibromoethane	0.2122	0.2145	10.11	10	1	#
# Chlorobenzene	1.0532	1.0346	9.82	10	-2	#
1,1,1,2-Tetrachloroethane	0.3507	0.3502	9.99	10	0	
# Ethylbenzene	1.8717	1.8824	10.06	10	1	#
# m+p-Xylene	0.7117	0.7209	20.26	20	1	#
# o-Xylene	0.6835	0.7041	10.30	10	3	#

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/30/17 Time: 11:47

Lab File ID: hy30c02.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# Styrene	1.0436	1.1190	10.72	10	7	#
# Bromoform	0.1328	0.1593	11.99	10	20	#
# Isopropylbenzene	1.7886	1.8377	10.27	10	3	#
# 1,1,2,2-Tetrachloroethane	0.6454	0.6394	9.91	10	-1	#
Bromobenzene	0.9841	0.9498	9.65	10	-3	
trans-1,4-Dichloro-2-butene	6.6109	6.3579	96.17	100	-4	
1,2,3-Trichloropropane	0.1615	0.1538	9.53	10	-5	
n-Propylbenzene	5.2618	5.2855	10.04	10	0	
2-Chlorotoluene	0.9951	1.0044	10.09	10	1	
1,3,5-Trimethylbenzene	3.5405	3.5835	10.12	10	1	
4-Chlorotoluene	1.0002	1.0124	10.12	10	1	
tert-Butylbenzene	0.7689	0.7576	9.85	10	-1	
Pentachloroethane	0.5745	0.5918	10.30	10	3	
1,2,4-Trimethylbenzene	3.5290	3.6331	10.29	10	3	
sec-Butylbenzene	4.6141	4.6845	10.15	10	2	
# 1,3-Dichlorobenzene	1.9335	1.8676	9.66	10	-3	#
p-Isopropyltoluene	3.7754	3.9420	10.44	10	4	
# 1,4-Dichlorobenzene	2.0150	1.8408	9.14	10	-9	#
1,2,3-Trimethylbenzene	1.5557	1.5472	9.95	10	-1	
Benzyl Chloride	0.2034	0.2329	11.45	10	15	
n-Butylbenzene	1.8539	2.0018	10.80	10	8	
# 1,2-Dichlorobenzene	1.7173	1.6361	9.53	10	-5	#
# 1,2-Dibromo-3-chloropropane	3.6881	2.9461	7.99	10	-20	#
# 1,2,4-Trichlorobenzene	1.1074	0.9263	8.36	10	-16	#
Hexachlorobutadiene	0.5485	0.4756	8.67	10	-13	
Naphthalene	1.6295	1.3002	7.98	10	-20	
1,2,3-Trichlorobenzene	0.9356	0.6440	6.88	10	-31	<-
Dibromofluoromethane	0.2242	0.2294	10.24	10	2	
Dibromofluoromethane(2)	0.2302	0.2363	10.27	10	3	
1,2-Dichloroethane-d4	0.0362	0.0365	10.07	10	1	
1,2-Dichloroethane-d4(2)	0.1764	0.1815	10.29	10	3	
1,2-Dichloroethane-d4(3)	0.0220	0.0241	10.98	10	10	
Toluene-d8	1.4618	1.4509	9.93	10	-1	
Toluene-d8(2)	0.9413	0.9369	9.95	10	0	
4-Bromofluorobenzene	0.4153	0.4223	10.17	10	2	

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/30/17 Time: 11:47

Lab File ID: hy30c02.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
4-Bromofluorobenzene(2)	0.3697	0.3636	9.84	10	-2

Average %Drift 7

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE86___

Lab File ID (Standard): hy30c02.d Date Analyzed: 05/30/17

Instrument ID: HP19094 Time Analyzed: 11:47

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	112769	4.257	3168741	7.775	2162187	11.237	927495	13.121
UPPER LIMIT	225538	4.757	6337482	8.275	4324374	11.737	1854990	13.621
LOWER LIMIT	56384	3.757	1584370	7.275	1081094	10.737	463748	12.621
LAB SAMPLE ID								
01 LCSH20	111851	4.257	3183814	7.775	2124586	11.243	907114	13.121
02 LCSH21	111851	4.257	3183814	7.775	2124586	11.243	907114	13.121
03 LCSH19	111574	4.275	3139393	7.774	2054038	11.243	855655	13.121
04 LCDH21	107208	4.275	3139393	7.774	2054038	11.243	855655	13.121
05 MDLH19 - MD	99367	4.263	3036649	7.775	1959774	11.243	769054	13.121
06 MDLH20 - MD	99707	4.263	3036649	7.775	1959774	11.243	769054	13.121
07 MDLH21 - MD	99367	4.263	3036649	7.775	1959774	11.243	769054	13.121
08 VBLKH19	104268	4.251	2948234	7.774	1881725	11.243	709158	13.127
09 VBLKH20	104077	4.251	2948234	7.774	1881725	11.243	709158	13.127
10 VBLKH21	104268	4.251	2948234	7.774	1881725	11.243	709158	13.127
11 9002049	117858	4.263	2857500	7.775	1801020	11.243	703820	13.127
12 9002047	99530	4.263	2884858	7.775	1859108	11.244	710369	13.127
13 9002045	83483	4.257	2960545	7.775	1985573	11.244	766852	13.121
14 9002045DL	96185	4.245	2898914	7.775	1939588	11.244	749432	13.121
15 9006012	97416	4.269	2873913	7.774	1901999	11.243	727544	13.121
16 9006008	90342	4.251	2882547	7.768	1901442	11.243	735577	13.127
17 9006009MS	101194	4.257	3034057	7.774	1971695	11.243	834939	13.121
18 9006010MSD	106105	4.263	3088070	7.775	2000798	11.244	828376	13.121
19 9002047MS	95675	4.263	3085706	7.775	1984744	11.243	830568	13.121
20 9002047MSD	84920	4.263	3111489	7.775	1991110	11.237	826554	13.121
21 SECC010	102325	4.251	3137393	7.768	2021446	11.237	842314	13.121
22 9006007	102410	4.275	2963700	7.775	1871564	11.244	736153	13.127

IS1 (TBA)=t-Butyl Alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE86___

Lab File ID (Standard): hy30c02.d Date Analyzed: 05/30/17

Instrument ID: HP19094 Time Analyzed: 11:47

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	112769	4.257	3168741	7.775	2162187	11.237	927495	13.121
UPPER LIMIT	225538	4.757	6337482	8.275	4324374	11.737	1854990	13.621
LOWER LIMIT	56384	3.757	1584370	7.275	1081094	10.737	463748	12.621
LAB SAMPLE ID								
23 9006011	93131	4.269	2962238	7.775	1935797	11.243	744615	13.121
24 9009419	94458	4.251	2974503	7.781	1947181	11.244	740587	13.121
25 9009414	82533	4.251	2924338	7.775	1907055	11.238	747447	13.121
26 9009415	93001	4.257	2854729	7.775	1869770	11.244	714902	13.121
27 9009416	80360	4.251	2867004	7.775	1833089	11.243	705576	13.121
28 9009417	98923	4.263	2859156	7.775	1832956	11.243	707968	13.121
29 9009418	92158	4.263	2816012	7.774	1805912	11.243	692813	13.121
30 9000067DL2	99313	4.239	2800610	7.768	1828238	11.237	713978	13.127
31 9002901	95985	4.251	2870374	7.775	1803429	11.243	699307	13.121
32 9002906DL	84258	4.251	2824024	7.774	1808881	11.243	684186	13.121
33 9002907DL	92556	4.245	2791357	7.775	1849204	11.244	707606	13.121
34 9002908DL	87400	4.263	2796864	7.774	1776709	11.243	677870	13.121

IS1 (TBA)=t-Butyl Alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

Sample Data

Volatiles by GC/MS

Fraction: Volatiles by GC/MS

11996: RAAP Unit 5 "J" and "K" lists Analyte Name	Default MDL	Default LOQ	Units
Dichlorodifluoromethane	0.3	1.0	ug/l
Vinyl Chloride	0.1	1.0	ug/l
Ethyl ether	0.4	12	ug/l
1,1-Dichloroethene	0.4	1.0	ug/l
Acetone	3.0	10	ug/l
Methylene Chloride	0.2	1.0	ug/l
trans-1,2-Dichloroethene	0.8	1.0	ug/l
2-Butanone	1.0	10	ug/l
cis-1,2-Dichloroethene	0.1	1.0	ug/l
Chloroform	0.1	1.0	ug/l
1,2-Dichloroethane	0.1	1.0	ug/l
Trichloroethene	0.2	1.0	ug/l
Toluene	0.1	1.0	ug/l
Xylene (Total)	0.2	3.0	ug/l

Data file: /chem2/HP19094.i/17may30b.b/hy30s15.d Injection date and time: **30-MAY-2017 18:00**
Data file Sample Info. Line: AE861;9006007;1;0;;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 18:18 Automation

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12025**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274; 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.275	(-0.018)	441	65	102410	(-9)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2963700	(-6)	10.00	
97) Chlorobenzene-d5	11.244	(-0.006)	1584	117	1871564	(-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127	(-0.006)	1893	152	736153	(-21)	10.00	

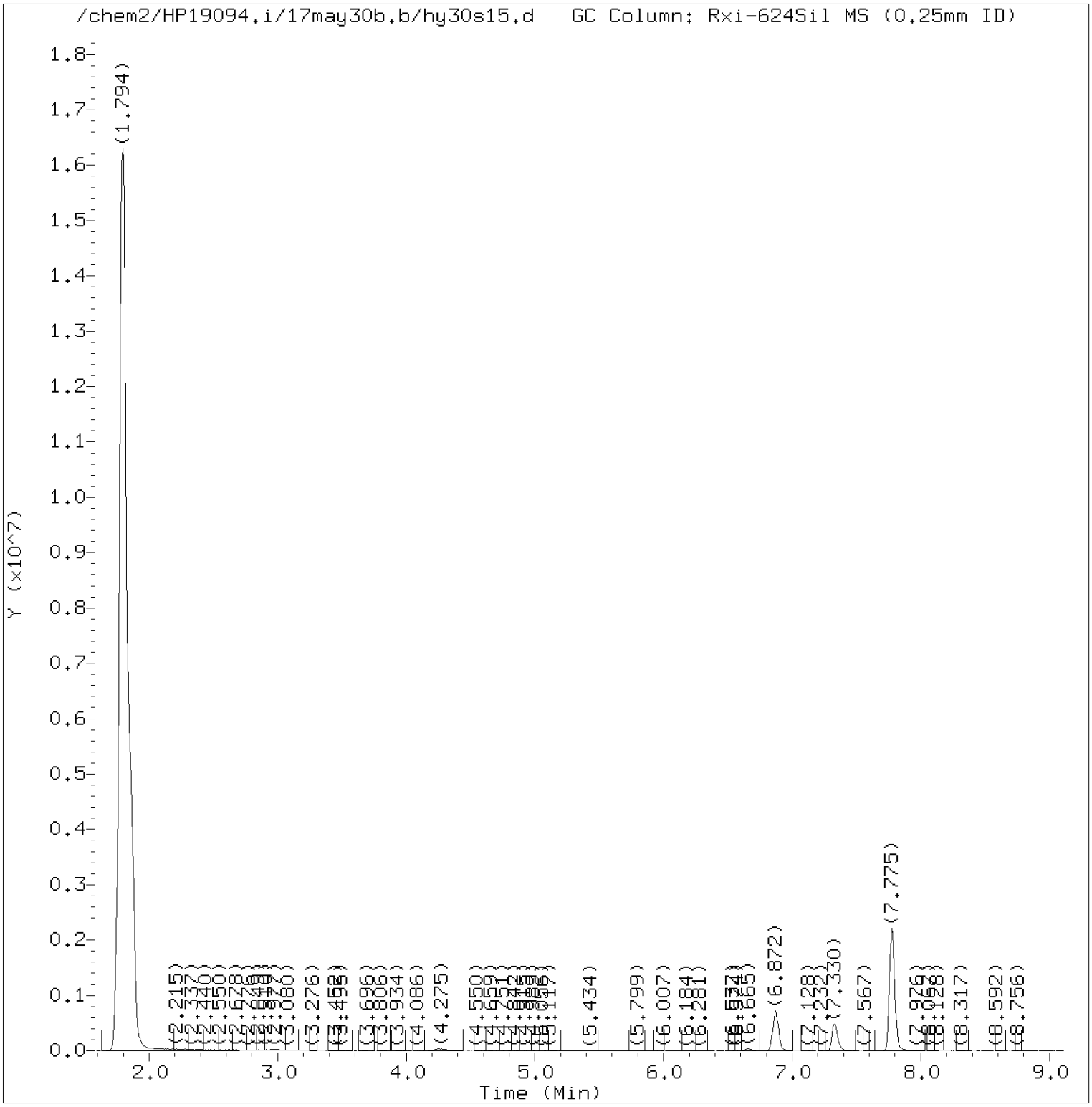
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(0.000)	113	677730	10.201	102%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	110861	10.320	103%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2855427	10.437	104%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	743718	9.568	96%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)				Not Detected					0.1	1
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1

Total number of targets = 5

Digitally signed by Sara E. Johnson on 05/30/2017 at 18:29. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

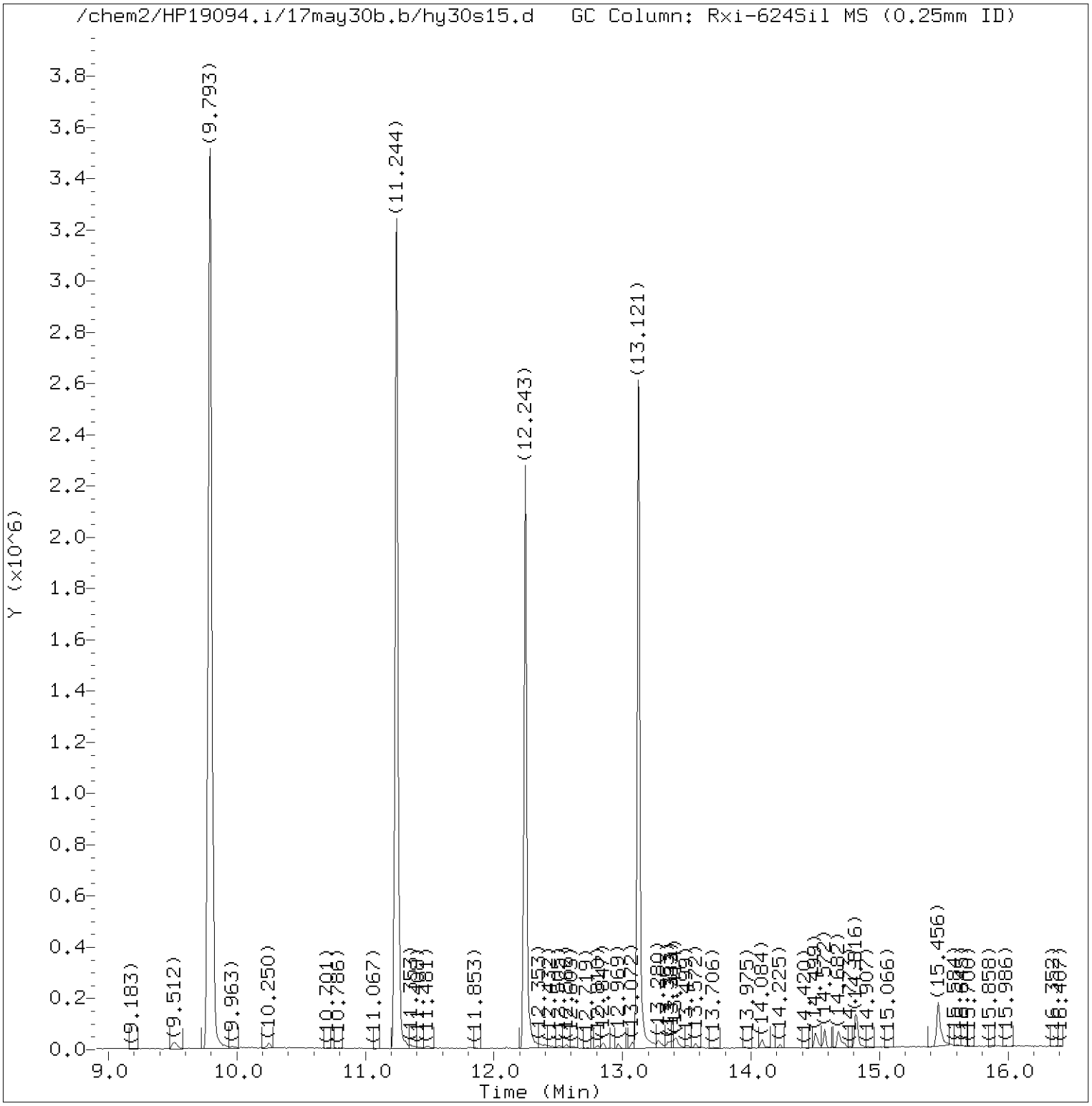
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s15.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12025
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 18:18 Automation

Sample Name: AE861 Lab Sample ID: 9006007

Digitally signed by Sara E. Johnson
on 05/30/2017 at 18:29.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s15.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12025
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 18:18 Automation

Sample Name: AE861 Lab Sample ID: 9006007

Digitally signed by Sara E. Johnson
on 05/30/2017 at 18:29.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s15.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12025
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 18:18 Automation

Sample Name: AE861 Lab Sample ID: 9006007

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.275	65	102410	50.000
50)$Dibromofluoromethane	(2)	6.872	113	677730	10.201
57)$1,2-Dichloroethane-d4	(2)	7.330	102	110861	10.320
63)*Fluorobenzene	(2)	7.775	96	2963700	10.000
82)$Toluene-d8	(3)	9.793	98	2855427	10.437
97)*Chlorobenzene-d5	(3)	11.244	117	1871564	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	743718	9.568
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	736153	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 05/30/2017 at 18:29.
Target 3.5 esignature user ID: sej02002

AE862 Lancaster Laboratories
Analysis Summary for GC/MS Volatiles 9006008

Data file: /chem2/HP19094.i/17may30b.b/hy30s12.d Injection date and time: **30-MAY-2017 15:58**
Data file Sample Info. Line: AE862;9006008;1;0;;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 16:16 Automation

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274; 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.006)	437	65	90342	(-20)	50.00	
63) Fluorobenzene	7.768	(0.006)	1014	96	2882547	(-9)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1901442	(-12)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127	(-0.006)	1893	152	735577	(-21)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	693075	10.726	107%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(-0.001)	102	114548	10.963	110%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	2833467	10.194	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	736904	9.331	93%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.3	1
5) Vinyl Chloride	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)				Not Detected					0.4	12
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
14) Acetone	(1)				Not Detected					3	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
49) Chloroform	(2)	6.653	(0.000)	83	2974784	22.626	22.63			0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1
83) Toluene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:23. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s12.d Injection date and time: **30-MAY-2017 15:58**
Data file Sample Info. Line: AE862;9006008;1;0;;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 16:16 Automation

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

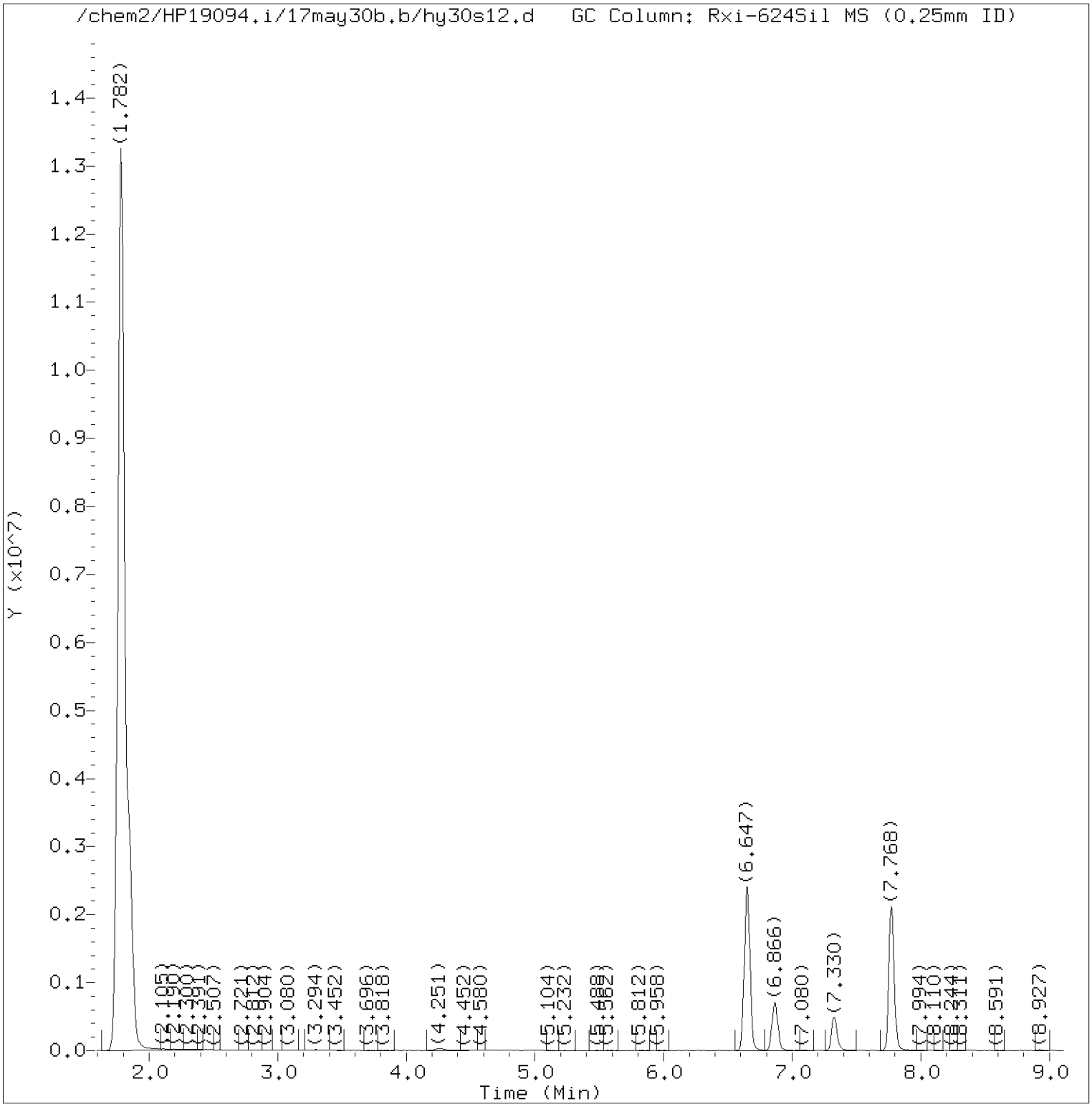
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:23. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

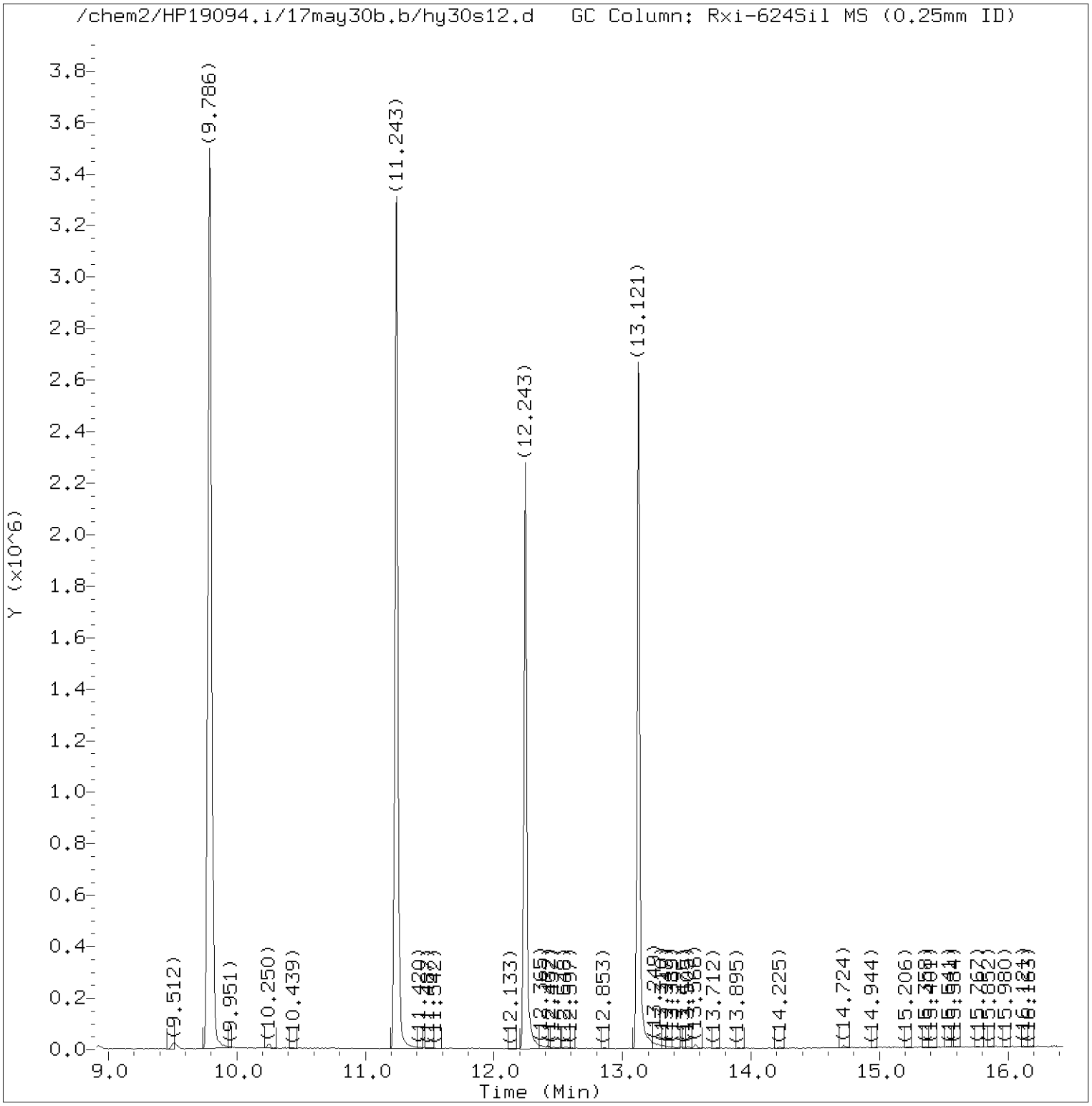
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s12.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:16 Automation

Sample Name: AE862 Lab Sample ID: 9006008

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:23.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s12.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:16 Automation

Sample Name: AE862 Lab Sample ID: 9006008

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:23.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s12.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:16 Automation

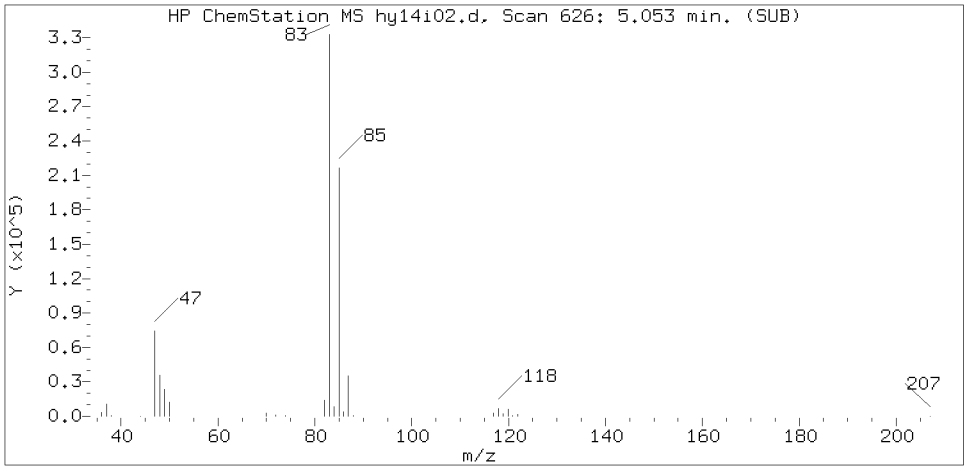
Sample Name: AE862 Lab Sample ID: 9006008

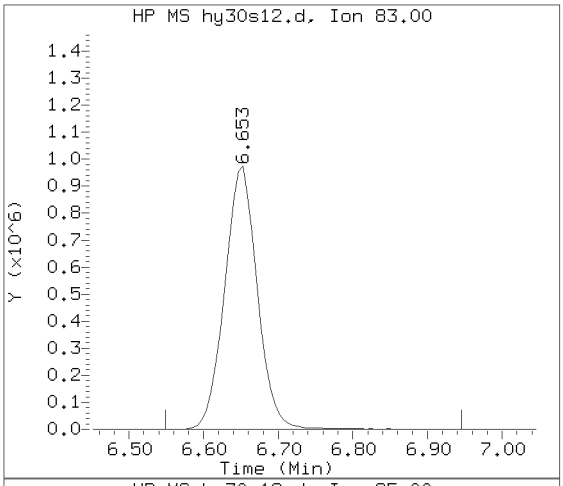
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.251	65	90342	50.000
49) Chloroform	(2)	6.653	83	2974784	22.626
50)$Dibromofluoromethane	(2)	6.866	113	693075	10.726
57)$1,2-Dichloroethane-d4	(2)	7.330	102	114548	10.963
63)*Fluorobenzene	(2)	7.768	96	2882547	10.000
82)$Toluene-d8	(3)	9.786	98	2833467	10.194
97)*Chlorobenzene-d5	(3)	11.243	117	1901442	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	736904	9.331
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	735577	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

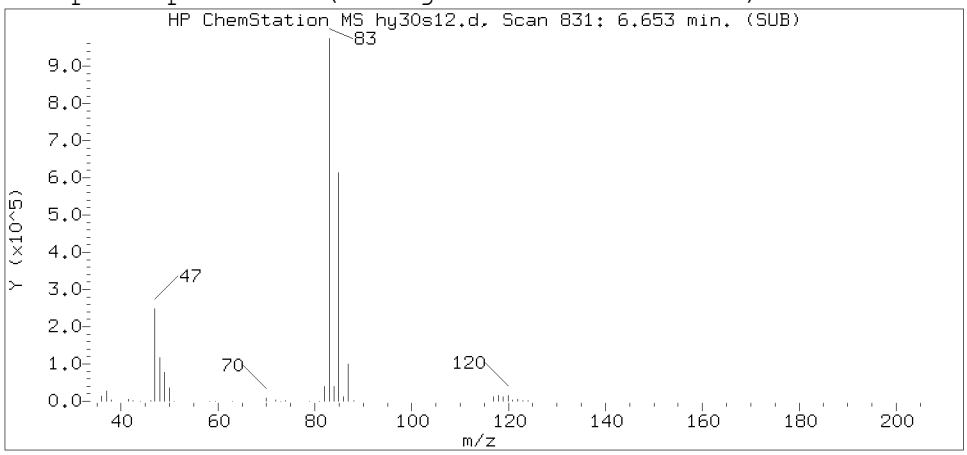
Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:23.
Target 3.5 esignature user ID: sej02002

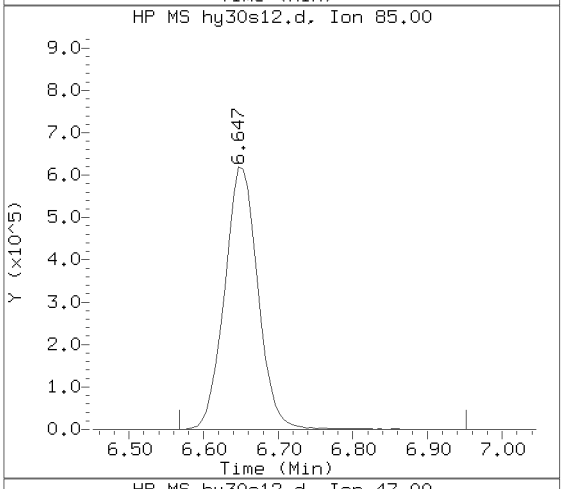
Reference Standard Spectrum for Chloroform



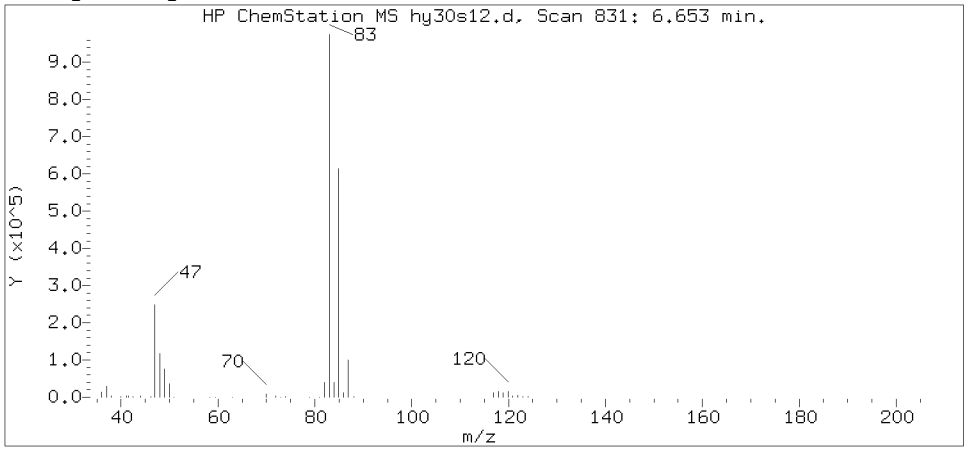


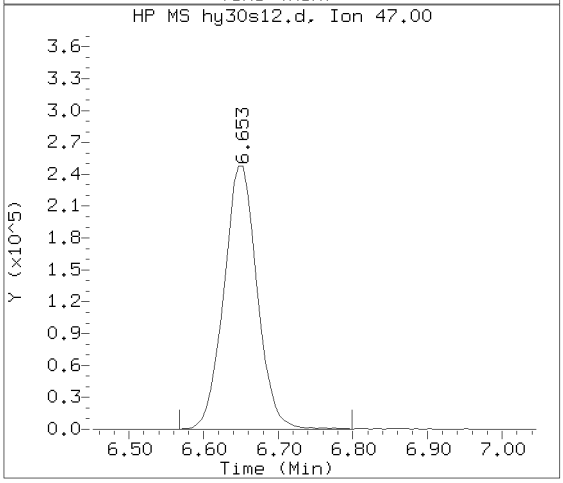
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s12.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:16 Automation

Sample Name: AE862 Lab Sample ID: 9006008

Compound Number	: 49
Compound Name	: Chloroform
Scan Number	: 831
Retention Time (minutes)	: 6.653
Relative Retention Time	: 0.00011
Quant Ion	: 83.00
Area (flag)	: 2974784
On-Column Amount (ng)	: 22.6258

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:23.
Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s16.d Injection date and time: **30-MAY-2017 18:20**
Data file Sample Info. Line: AE863;9006011;1;0;;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 18:45 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12025**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274, 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269	(-0.012)	440	65	93131M	(-17)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2962238	(-7)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1935797	(-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	744615	(-20)	10.00	

M = Internal Standard was manually integrated

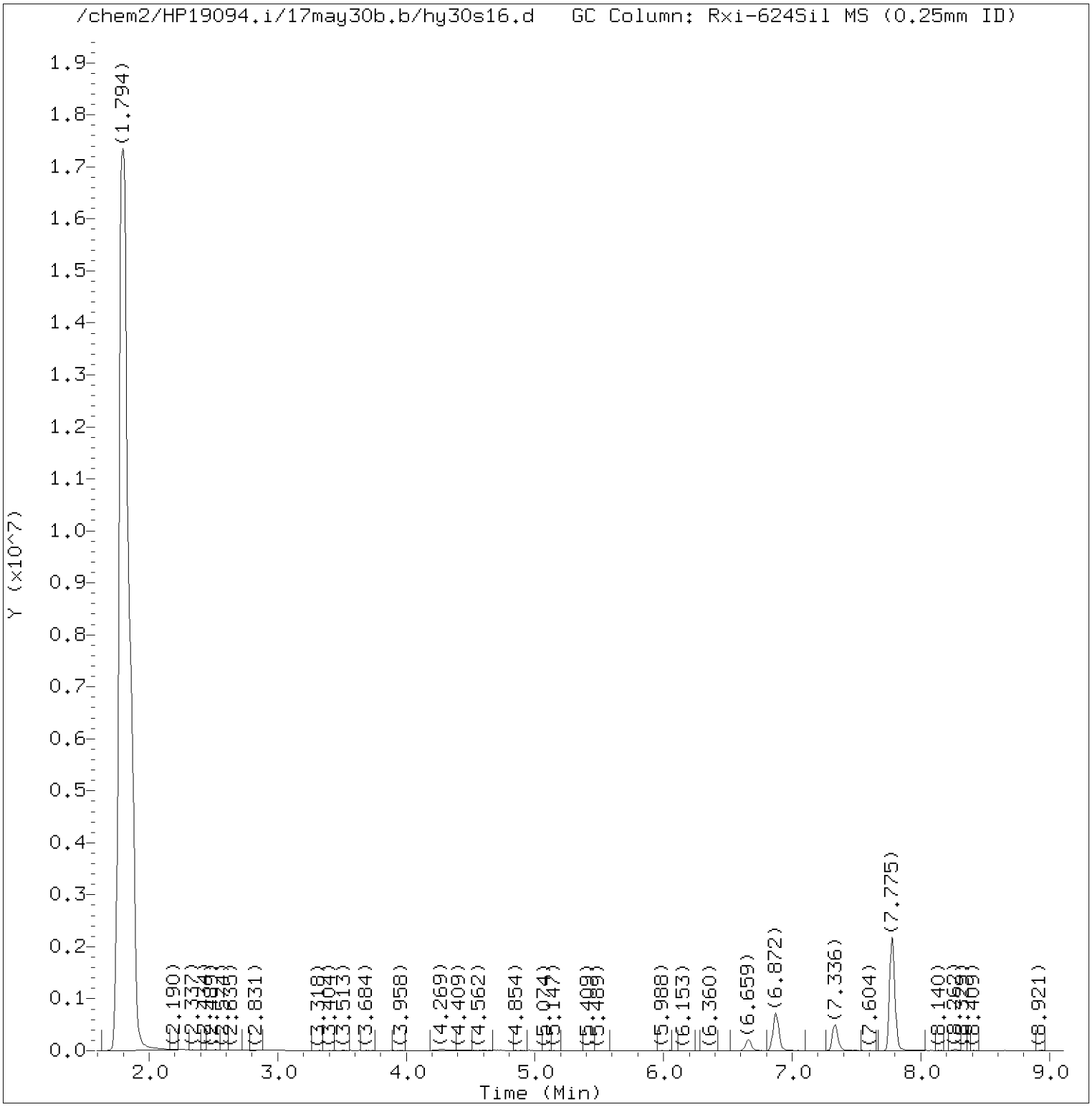
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(0.000)	113	702828	10.584	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336	(-0.001)	102	112579	10.485	105%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2882852	10.188	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	776421	9.657	97%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
5) Vinyl Chloride	(2)				Not Detected					0.1	1
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1

Total number of targets = 5

Digitally signed by Sara E. Johnson on 05/30/2017 at 18:45. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

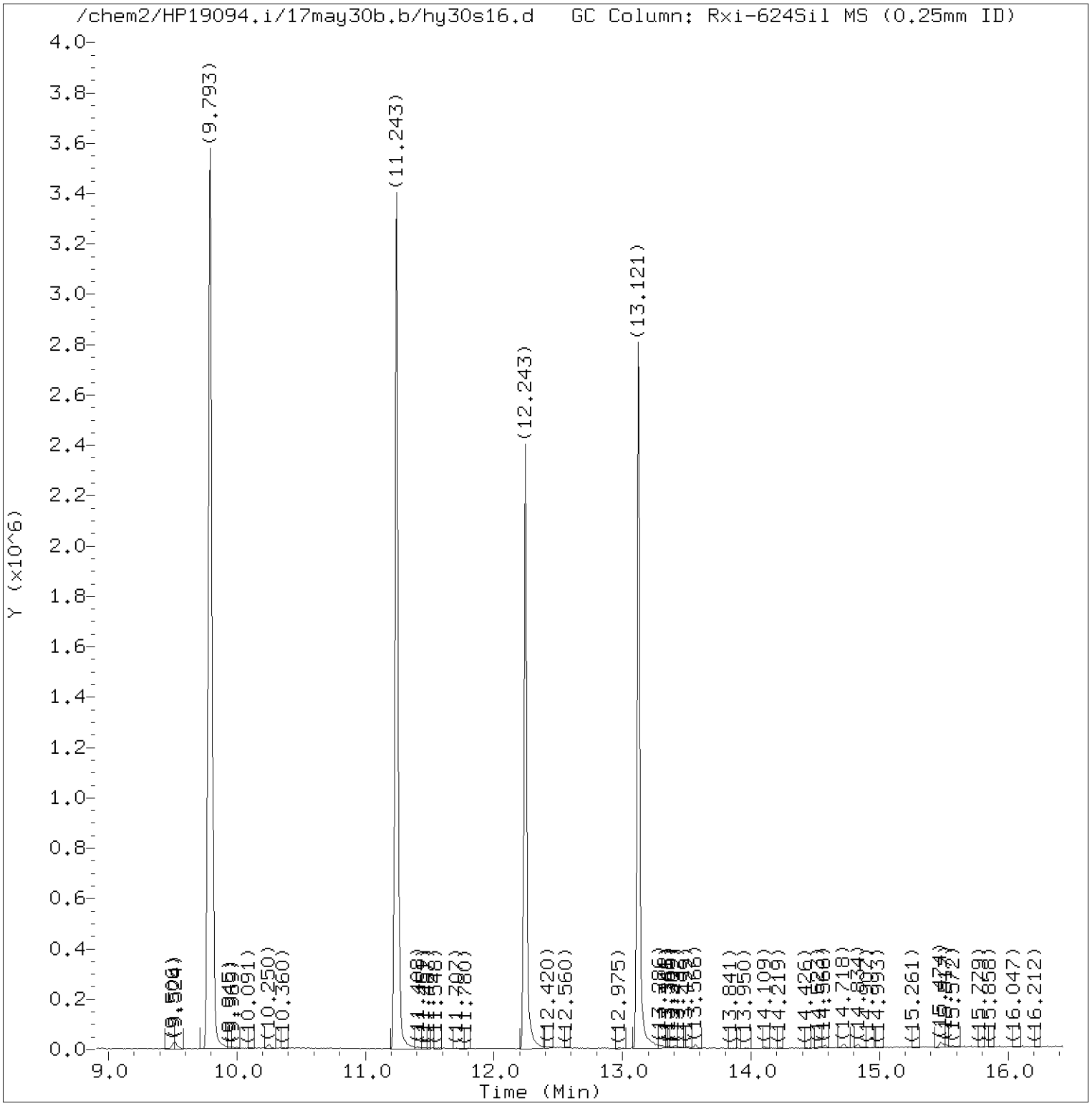
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s16.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:20 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12025
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 18:45 sej02002

Sample Name: AE863 Lab Sample ID: 9006011

Digitally signed by Sara E. Johnson
on 05/30/2017 at 18:45.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s16.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:20 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12025
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 18:45 sej02002

Sample Name: AE863 Lab Sample ID: 9006011

Digitally signed by Sara E. Johnson
on 05/30/2017 at 18:45.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s16.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:20 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12025
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 18:45 sej02002

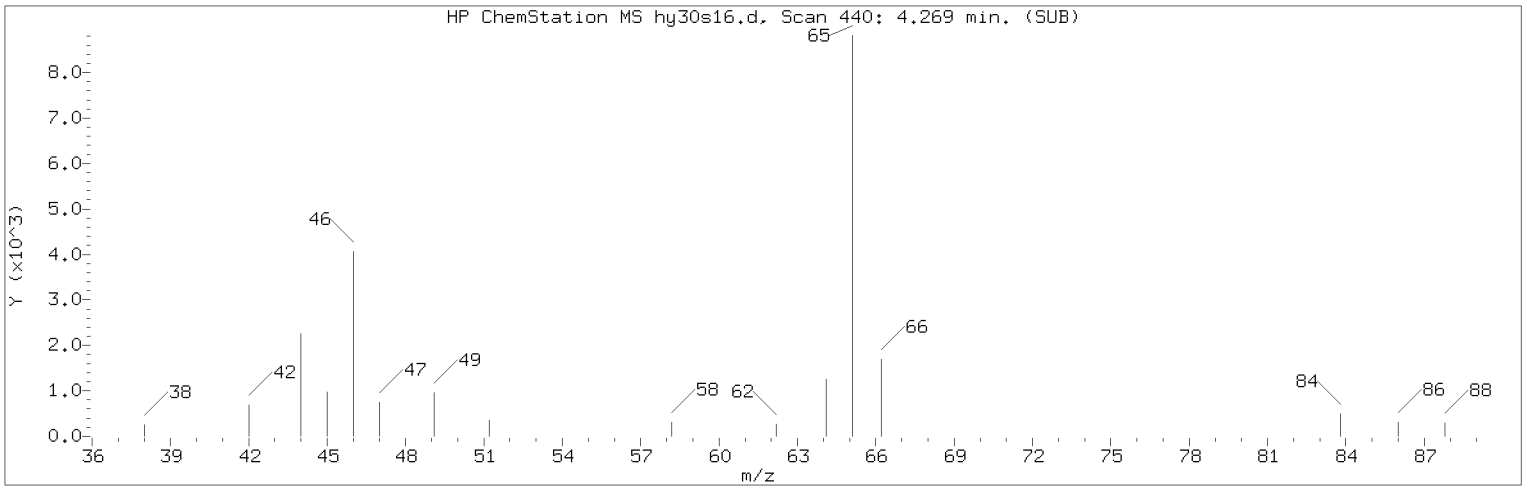
Sample Name: AE863 Lab Sample ID: 9006011

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.269	65	93131M	50.000
50)$Dibromofluoromethane	(2)	6.872	113	702828	10.584
57)$1,2-Dichloroethane-d4	(2)	7.336	102	112579	10.485
63)*Fluorobenzene	(2)	7.775	96	2962238	10.000
82)$Toluene-d8	(3)	9.793	98	2882852	10.188
97)*Chlorobenzene-d5	(3)	11.243	117	1935797	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	776421	9.657
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	744615	10.000

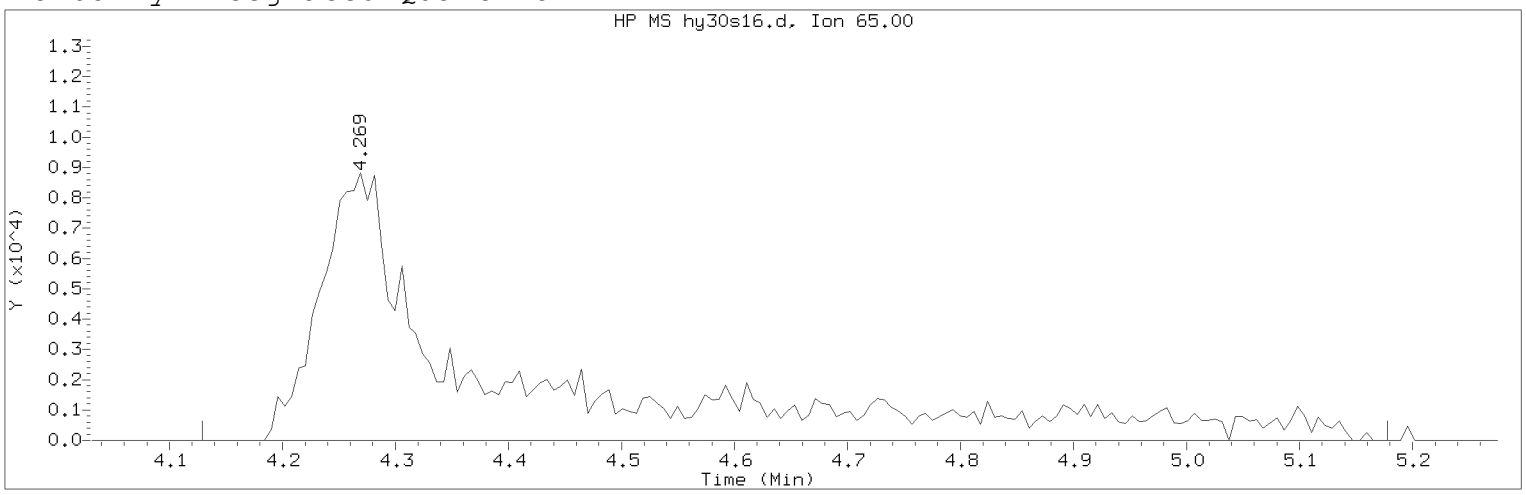
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 05/30/2017 at 18:45.
Target 3.5 esignature user ID: sej02002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s16.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:20 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12025
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 18:45 sej02002

Sample Name: AE863 Lab Sample ID: 9006011

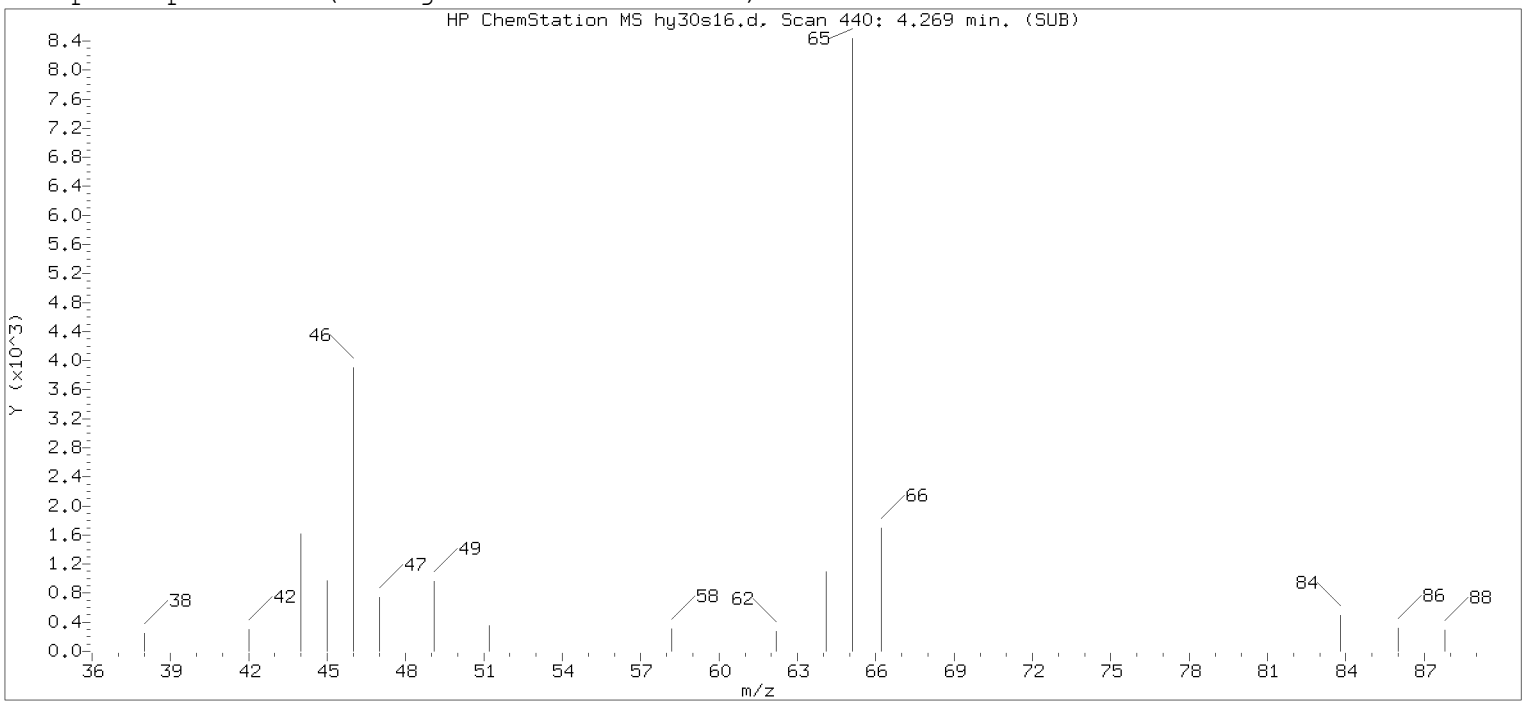
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area (flag) : 93131M
On-Column Amount (ng) : 50.0000
Integration start scan : 416 Integration stop scan: 588
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

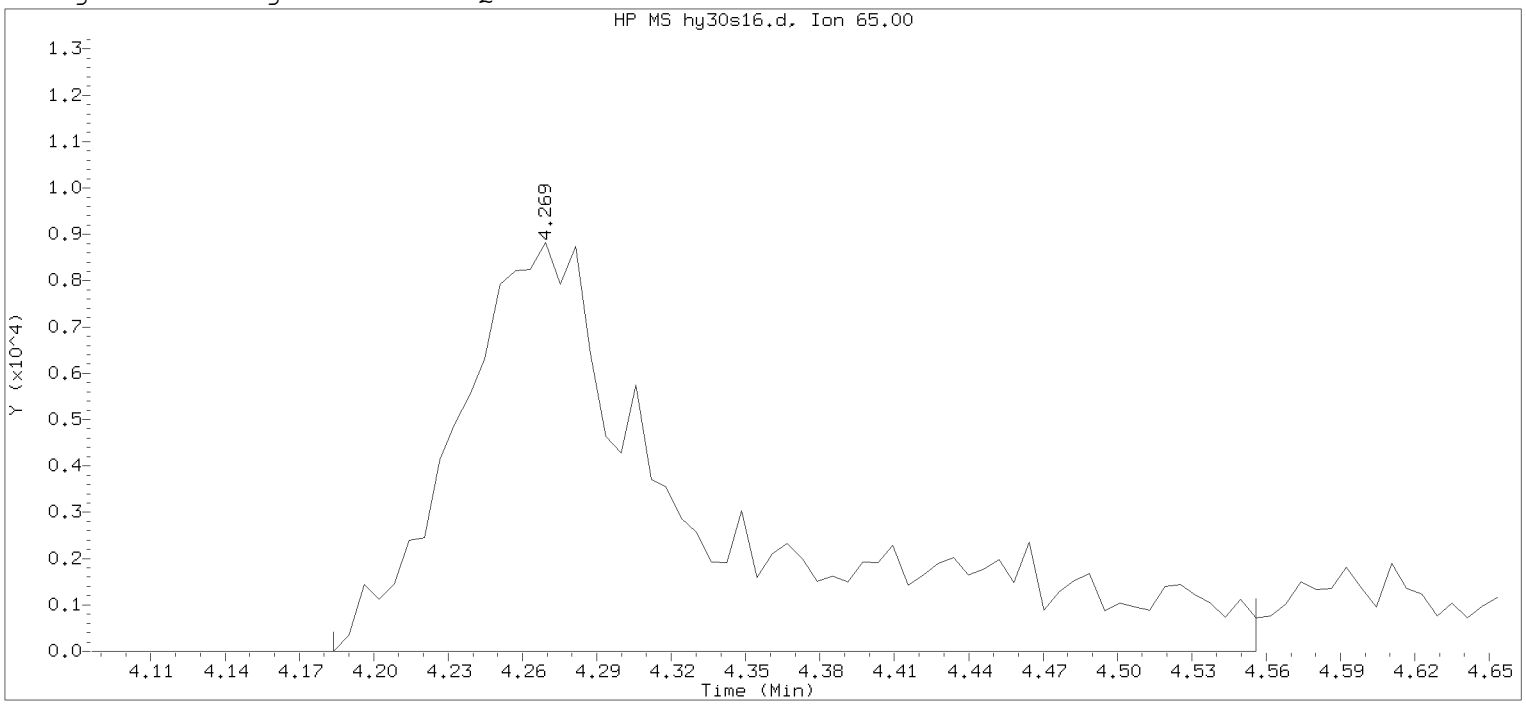
Analyst responsible for change: Digitally signed by Sara E. Johnson
on 05/30/2017 at 18:45.
Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s16.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:20 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12025
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 18:39 Automation

Sample Name: AE863 Lab Sample ID: 9006011

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 440		
Retention Time (minutes)	: 4.269		
Quant Ion	: 65.00		
Area	: 62951		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 425	Integration stop scan:	486
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Sara E. Johnson on 05/30/2017 at 18:45.
Target 3.5 esignature user Reviewed

AE864 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 9006012

Data file: /chem2/HP19094.i/17may30b.b/hy30s11.d Injection date and time: **30-MAY-2017 15:37**
Data file Sample Info. Line: AE864;9006012;1;0;;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 16:21 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274; 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269	(-0.012)	440	65	97416M	(-14)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2873913	(-9)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1901999	(-12)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	727544	(-22)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.001)	113	675913	10.492	105%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.329	(0.000)	102	117309	11.261	113%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	2829738	10.178	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	743135	9.407	94%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)				Not Detected					0.3	1
5) Vinyl Chloride	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)				Not Detected					0.4	12
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
14) Acetone	(1)				Not Detected					3	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
49) Chloroform	(2)				Not Detected					0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1
83) Toluene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:22. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s11.d Injection date and time: **30-MAY-2017 15:37**
Data file Sample Info. Line: AE864;9006012;1;0;;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 16:21 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE

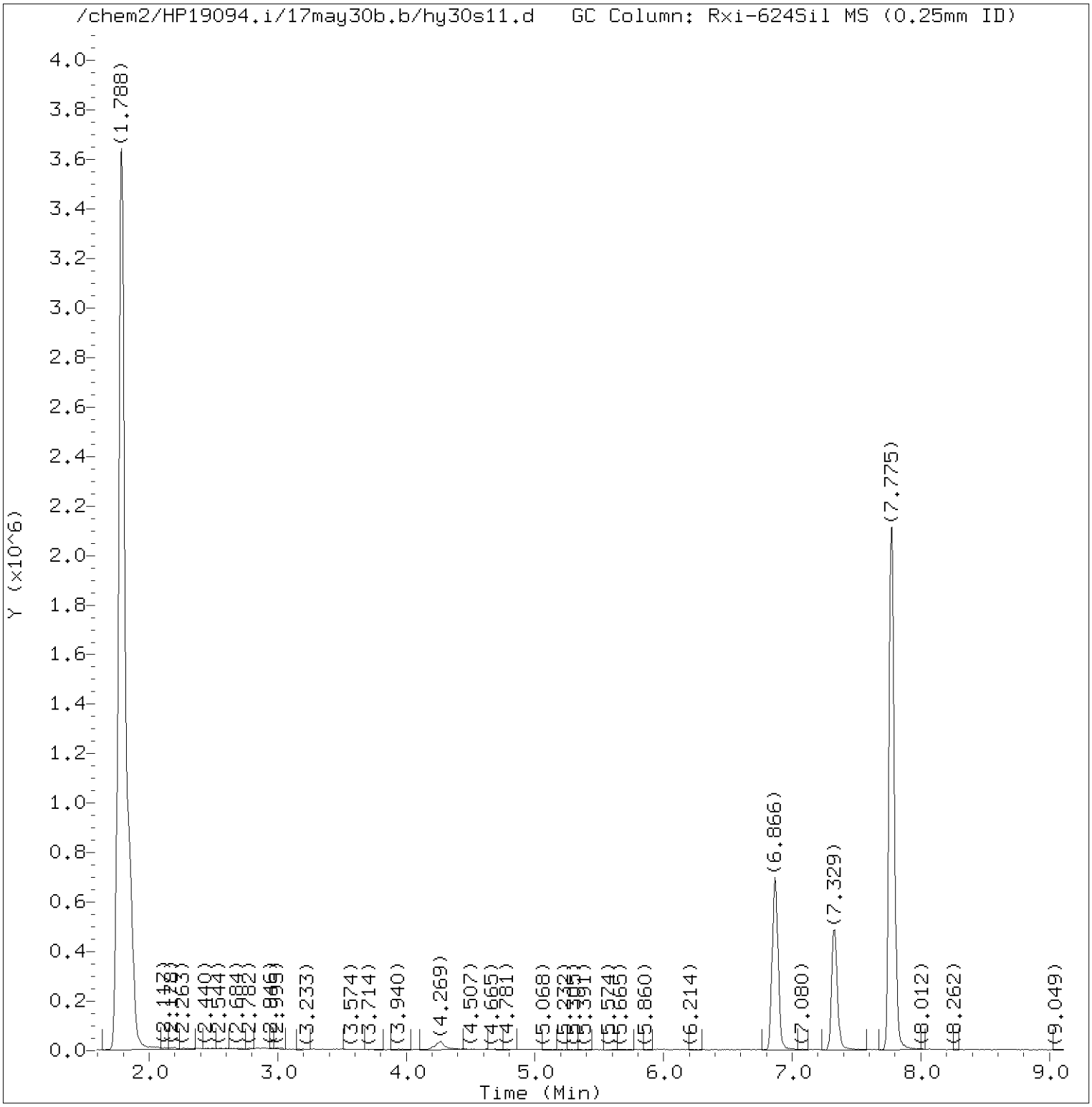
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:22. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

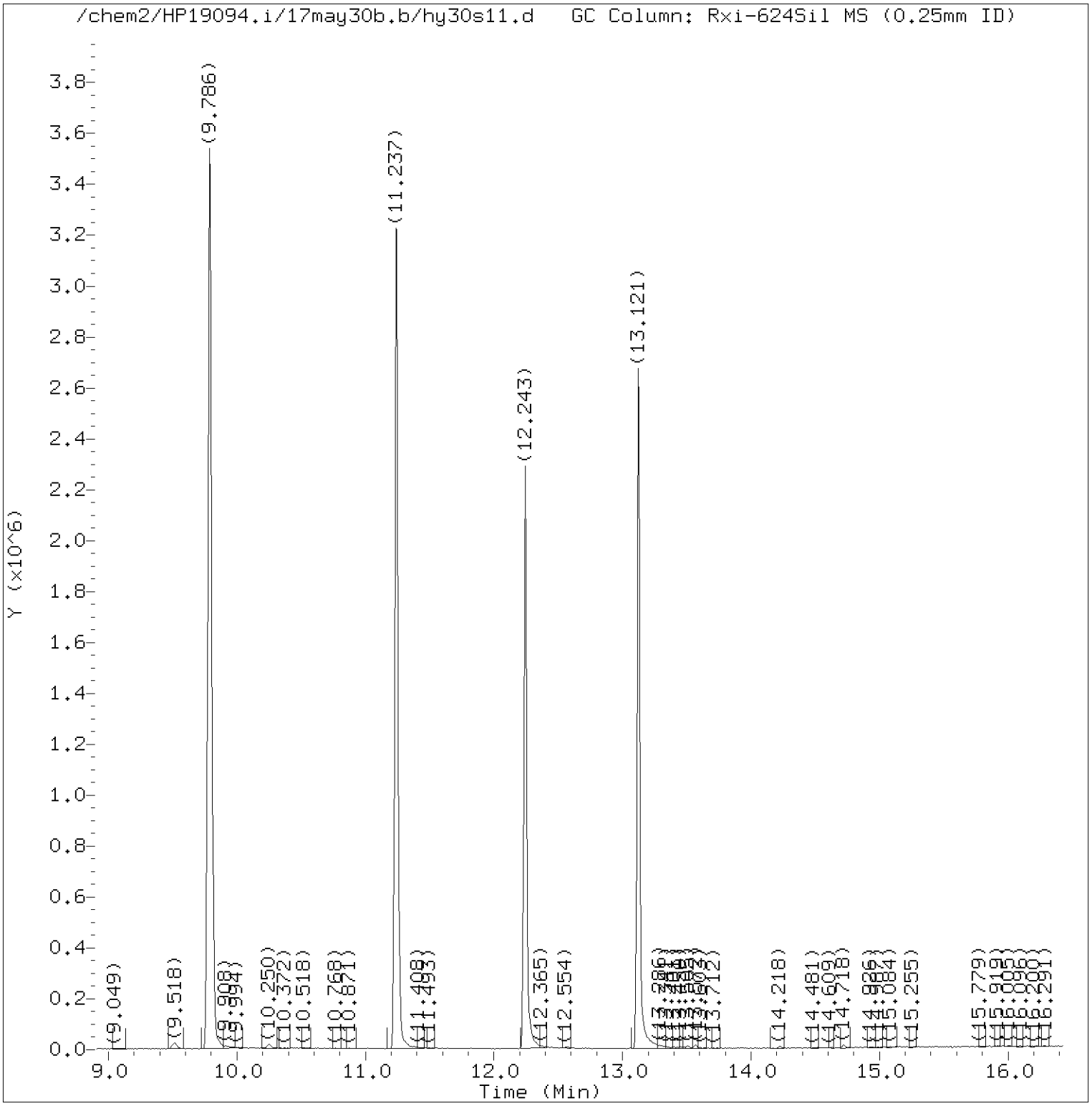
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s11.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:37 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:21 sej02002

Sample Name: AE864 Lab Sample ID: 9006012

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:22.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s11.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:37 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:21 sej02002

Sample Name: AE864 Lab Sample ID: 9006012

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:22.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s11.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:37 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:21 sej02002

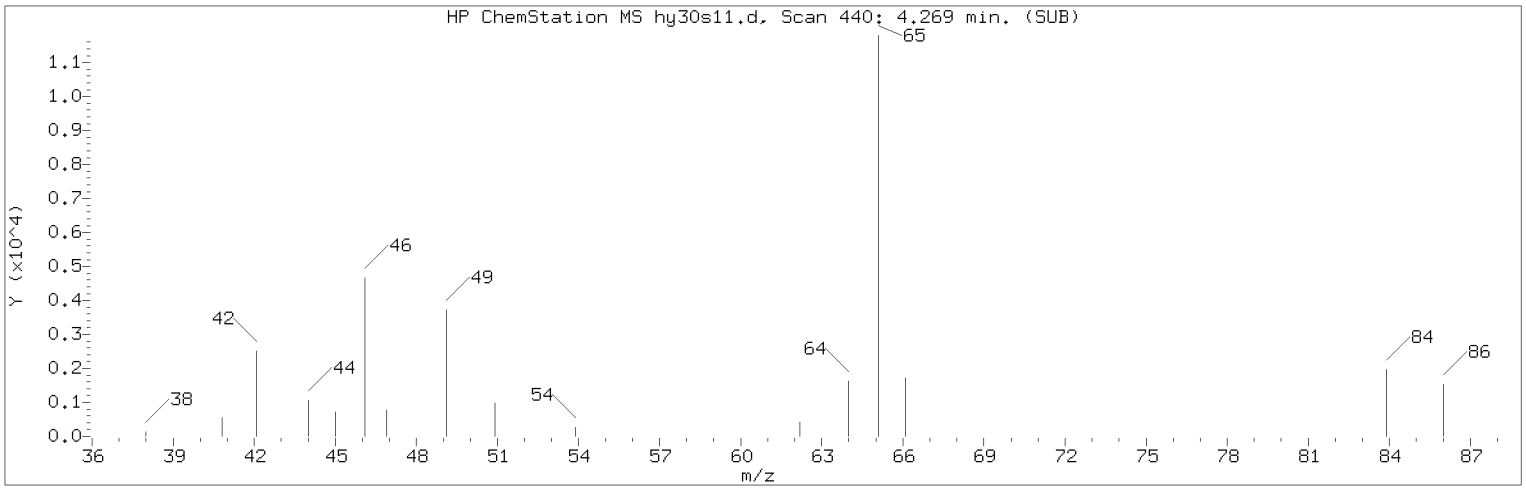
Sample Name: AE864 Lab Sample ID: 9006012

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.269	65	97416M	50.000
50)$Dibromofluoromethane	(2)	6.866	113	675913	10.492
57)$1,2-Dichloroethane-d4	(2)	7.329	102	117309	11.261
63)*Fluorobenzene	(2)	7.775	96	2873913	10.000
82)$Toluene-d8	(3)	9.786	98	2829738	10.178
97)*Chlorobenzene-d5	(3)	11.243	117	1901999	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	743135	9.407
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	727544	10.000

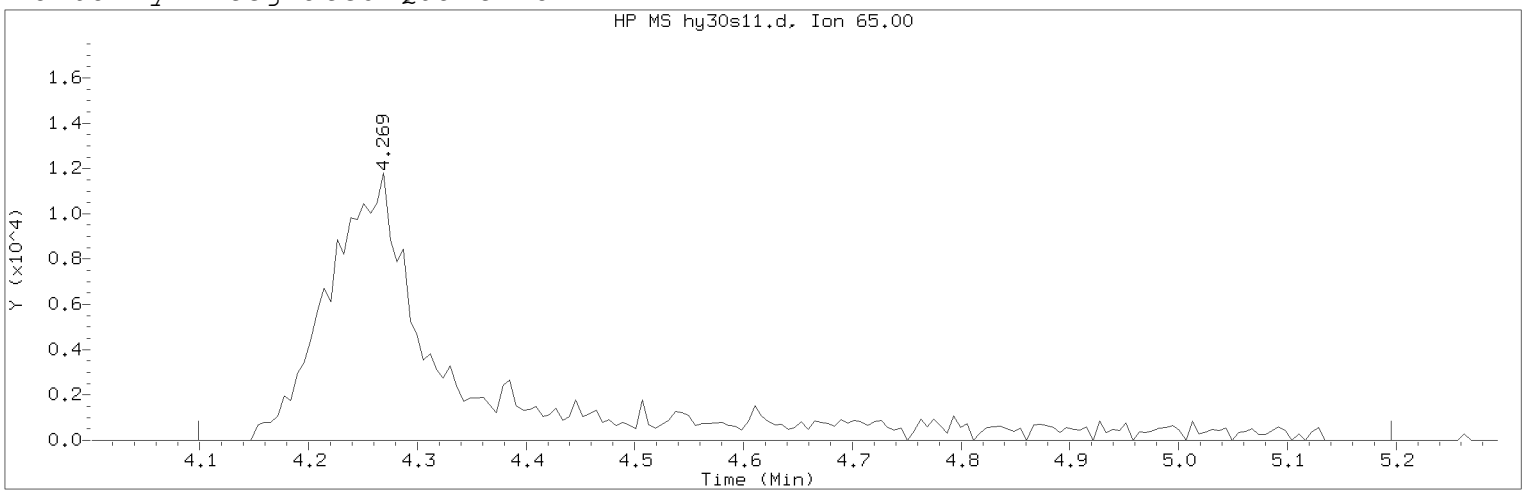
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:22.
Target 3.5 esignature user ID: sej02002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s11.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:37 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:21 sej02002

Sample Name: AE864 Lab Sample ID: 9006012

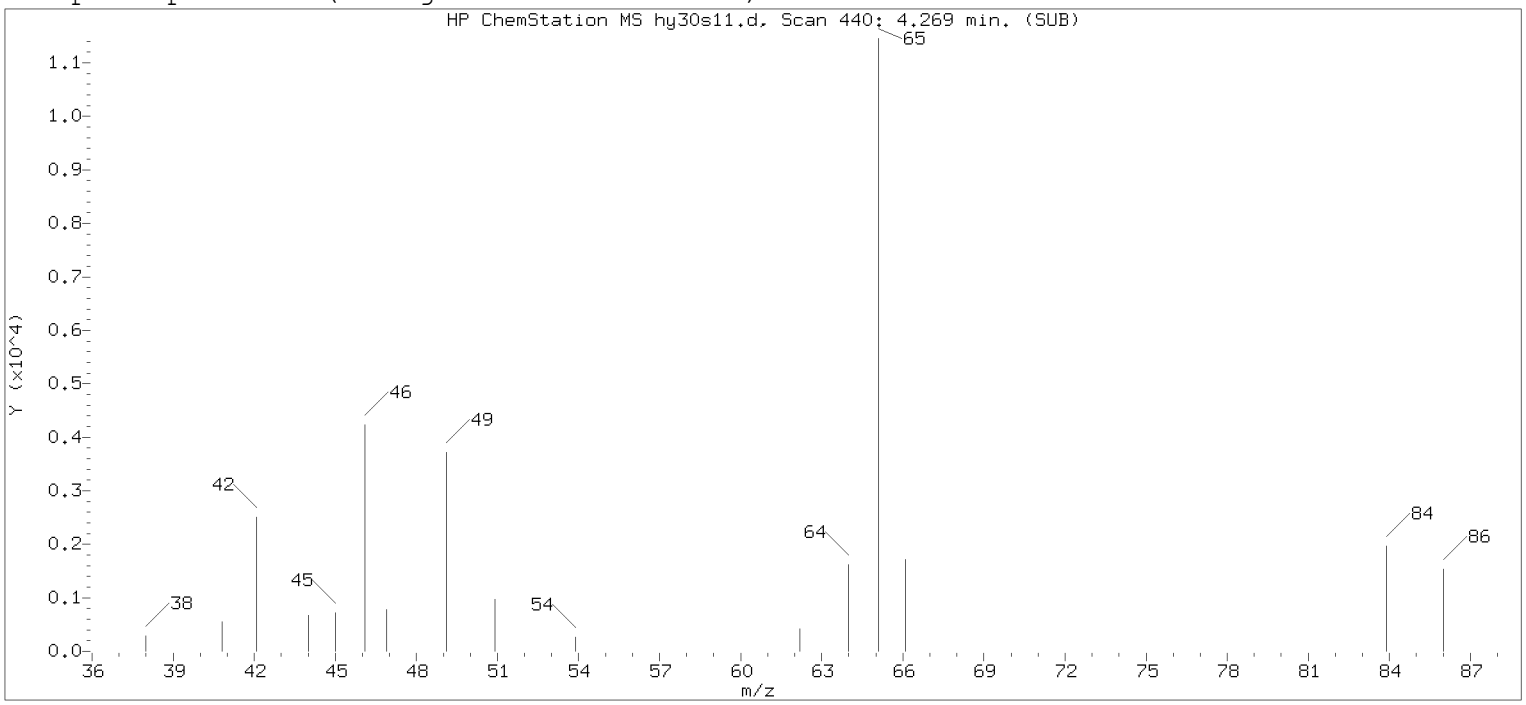
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area (flag) : 97416M
On-Column Amount (ng) : 50.0000
Integration start scan : 411 Integration stop scan: 591
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

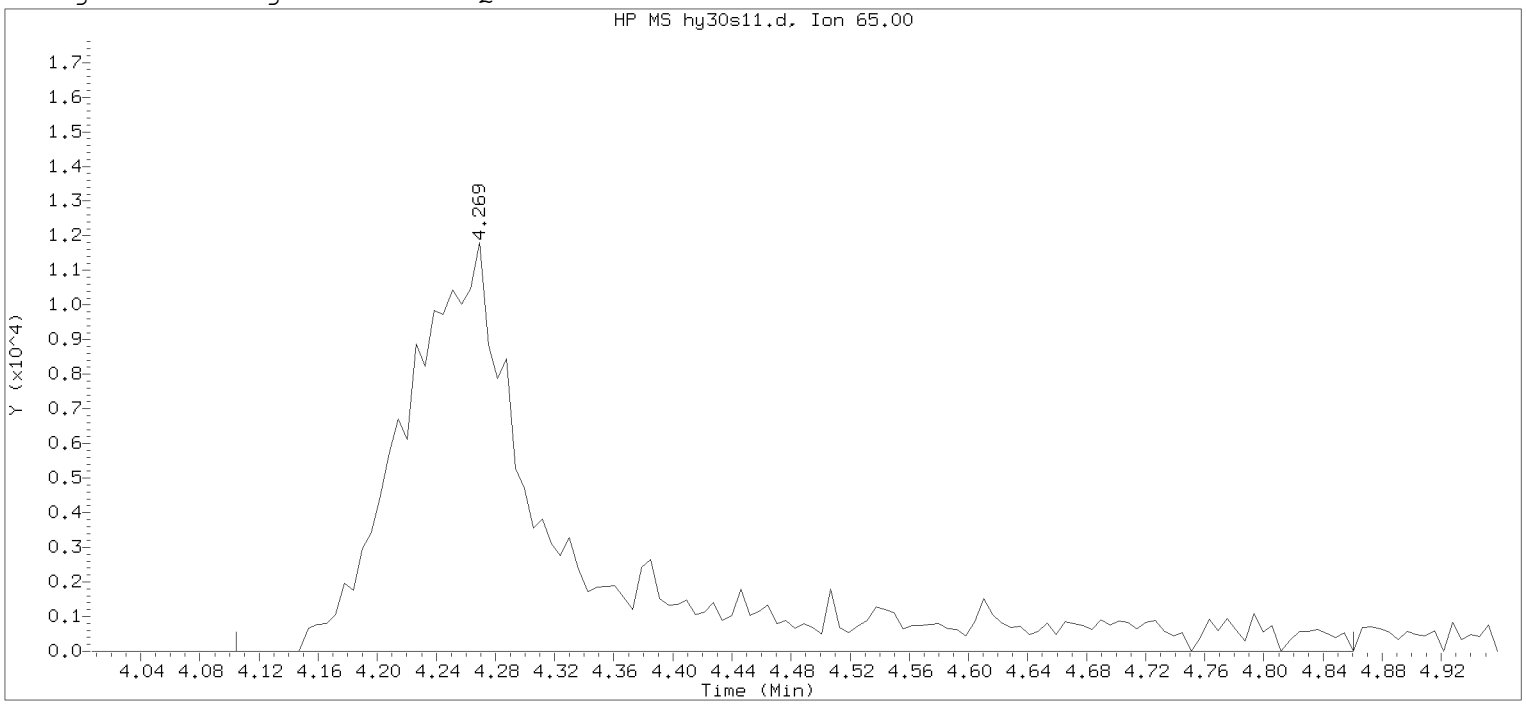
Analyst responsible for change: Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:22.
Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s11.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 15:37 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 15:56 Automation

Sample Name: AE864 Lab Sample ID: 9006012

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 440		
Retention Time (minutes)	: 4.269		
Quant Ion	: 65.00		
Area	: 90587		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 412	Integration stop scan:	536
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:22.
Target 3.5 esignature user Reason: 0072

Standards Data

Volatiles by GC/MS

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - D:\DATA\17APR19A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KEL01973	ha19t01.D	bfb 02-20-17	04/19/2017	11:06		
kel01973	HA19X05.D	blk	04/19/2017	11:38		
kel01973	HA19i01.D	VSTD025	04/19/2017	11:58		
kel01973	HA19i02.D	VSTD010	04/19/2017	12:18		
kel01973	HA19i03.D	VSTD005	04/19/2017	12:39		
kel01973	HA19i04.D	VSTD002	04/19/2017	12:59		
kel01973	HA19i05.D	VSTD001	04/19/2017	13:19		
kel01973	HA19i06.D	VSTD0.5	04/19/2017	13:40		
kel01973	HA19i07.D	VSTD0.2	04/19/2017	14:00		
kel01973	HA19m01.D	MDL0.1	04/19/2017	14:21		
kel01973	HA19m02.D	MDL0.4	04/19/2017	14:41		
kel01973	HA19v01.D	LCSHLG	04/19/2017	15:01		
kel01973	HA19X06.D	blk	04/19/2017	15:22		
kel01973	HA19i11.D	VSTD025	04/19/2017	16:03		
kel01973	HA19i12.D	VSTD010	04/19/2017	16:23		
kel01973	HA19i13.D	VSTD005	04/19/2017	16:43		
kel01973	HA19i14.D	VSTD002	04/19/2017	17:03		
kel01973	HA19i15.D	VSTD001	04/19/2017	17:24		
kel01973	HA19i16.D	VSTD0.5	04/19/2017	17:44		
kel01973	HA19i17.D	VSTD0.2	04/19/2017	18:05		
kel01973	HA19m11.D	MDL0.1	04/19/2017	18:25		
kel01973	HA19v11.D	LCSHSM	04/19/2017	18:45		
kel01973	HA19v12.D	LCDHSM	04/19/2017	19:06		
kel01973	HA19X99.D	VBLK99	04/19/2017	19:32		
kel01973	HA19B01.D	VBLK99	04/19/2017	19:52		
MSK07970	HA19S07.D	8929590	04/19/2017	20:26	H171091AA	
MSK07970	HA19S19.D	8929590MS	04/19/2017	20:46	H171091AA	
MSK07970	HA19S18.D	8929590MSD	04/19/2017	21:07	H171091AA	
MSK07970	HA19X80.D	VBLKH91	04/19/2017	21:27	H171091AA	
MSK07970	HA19S04.D	8929588	04/19/2017	21:47	H171091AA	
MSK07970	HA19S05.D	8929589	04/19/2017	22:08	H171091AA	
MSK07970	HA19S06.D	8929612	04/19/2017	22:28	H171091AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - D:\DATA\17MAY30B\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KEL01973	hy30t02.D	bfb 02-20-17	05/30/2017	09:46		
KEL01973	hy30t03.D	bfb 02-20-17	05/30/2017	10:15		
KEL01973	hy30t04.D	bfb 02-20-17	05/30/2017	10:39		
KEL01973	hy30t05.D	bfb 02-20-17	05/30/2017	10:54		
kel01973	HY30X02.D	BLK	05/30/2017	11:06	H171501AA	
kel01973	HY30X03.D	BLK	05/30/2017	11:26	H171501AA	
kel01973	HY30C02.D	VSTD010	05/30/2017	11:47	H171501AA	
kel01973	HY30L03.D	LCSH19	05/30/2017	12:07	H171501AA	
kel01973	HY30L04.D	LCDH19	05/30/2017	12:27	H171501AA	
kel01973	HY30M01.D	MDLH19	05/30/2017	12:48	H171501AA	
kel01973	HY30B00.D	VBLKH19	05/30/2017	13:08	H171501AA	
kel01973	HY30B01.D	VBLKH19	05/30/2017	13:29	H171501AA	
kel01973	HY30S01.D	9002049	05/30/2017	14:14	H171501AA	
kel01973	HY30S02.D	9002047	05/30/2017	14:34	H171501AA	
kel01973	HY30S03.D	9002045	05/30/2017	14:57	H171501AA	5
kel01973	HY30S04.D	9002045DL	05/30/2017	15:17	H171501AA	50
kel01973	HY30S11.D	9006012	05/30/2017	15:37	H171502AA	
kel01973	HY30S12.D	9006008	05/30/2017	15:58	H171502AA	
kel01973	HY30S13.D	9006009MS	05/30/2017	16:18	H171502AA	
kel01973	HY30S14.D	9006010MSD	05/30/2017	16:38	H171502AA	
kel01973	HY30S05.D	9002047MS	05/30/2017	16:59	H171501AA	
kel01973	HY30S06.D	9002047MSD	05/30/2017	17:19	H171501AA	
kel01973	HY30S07.D	SECC010	05/30/2017	17:40	H171501AA	
kel01973	HY30S15.D	9006007	05/30/2017	18:00	H171502AA	
kel01973	HY30S16.D	9006011	05/30/2017	18:20	H171502AA	
kel01973	HY30S17.D	9009419	05/30/2017	18:41	H171502AA	
kel01973	HY30S18.D	9009414	05/30/2017	19:01	H171502AA	
kel01973	HY30S19.D	9009415	05/30/2017	19:21	H171502AA	
kel01973	HY30S20.D	9009416	05/30/2017	19:42	H171502AA	
kel01973	HY30S21.D	9009417	05/30/2017	20:02	H171502AA	
kel01973	HY30S22.D	9009418	05/30/2017	20:22	H171502AA	
kel01973	HY30S31.D	9000067DL2	05/30/2017	20:43	H171503AA	200
kel01973	HY30S32.D	9002901	05/30/2017	21:03	H171503AA	5
kel01973	HY30S33.D	9002906DL	05/30/2017	21:24	H171503AA	10
kel01973	HY30S34.D	9002907DL	05/30/2017	21:44	H171503AA	10
kel01973	HY30S35.D	9002908DL	05/30/2017	22:04	H171503AA	10

Data File: /chem2/HP19094.i/17apr19a.b/ha19t01.d

Date : 19-APR-2017 11:06

Client ID: bfb 50ng

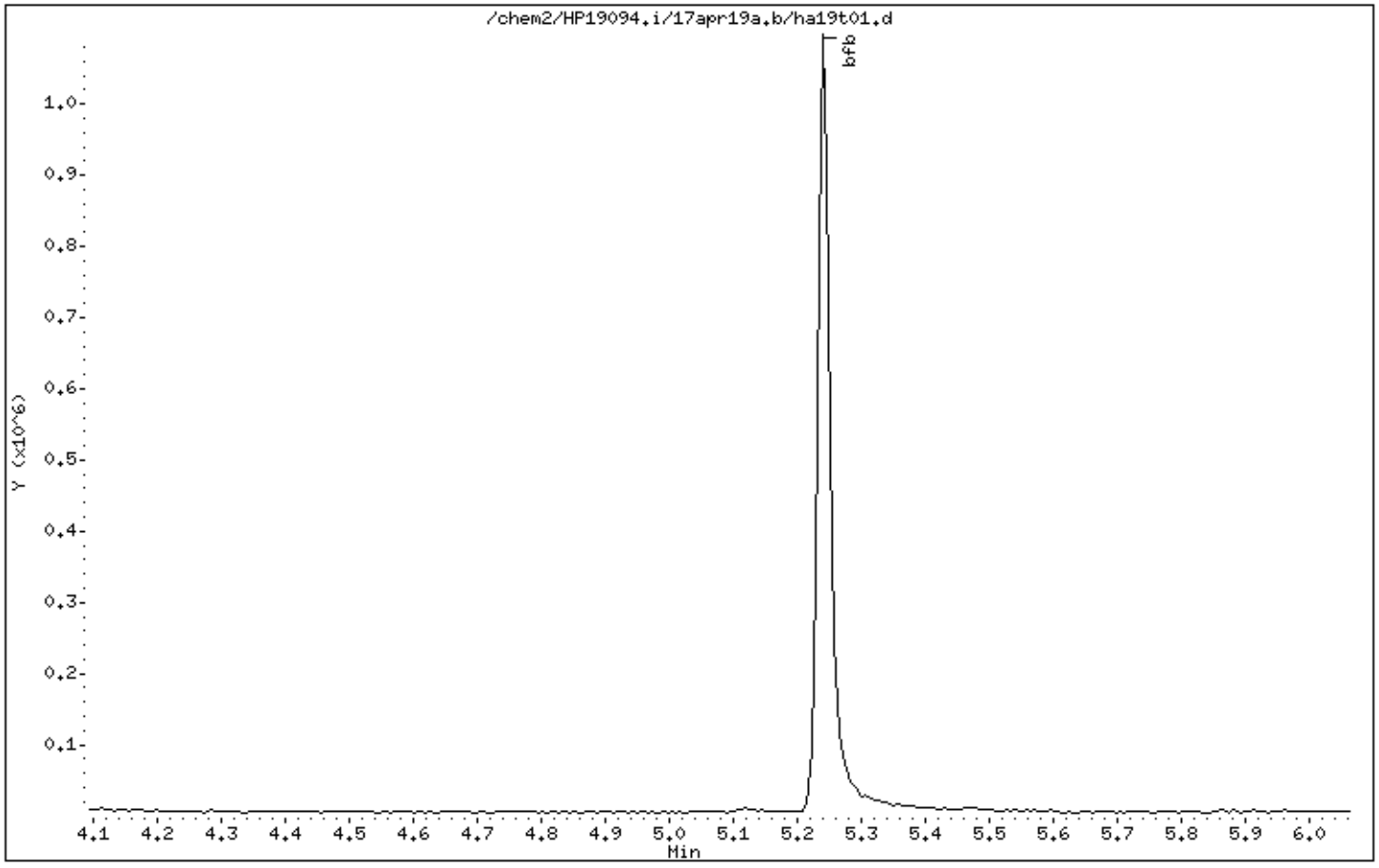
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Data File: /chem2/HP19094.i/17apr19a.b/ha19t01.d

Date : 19-APR-2017 11:06

Client ID: bfb 50ng

Instrument: HP19094.i

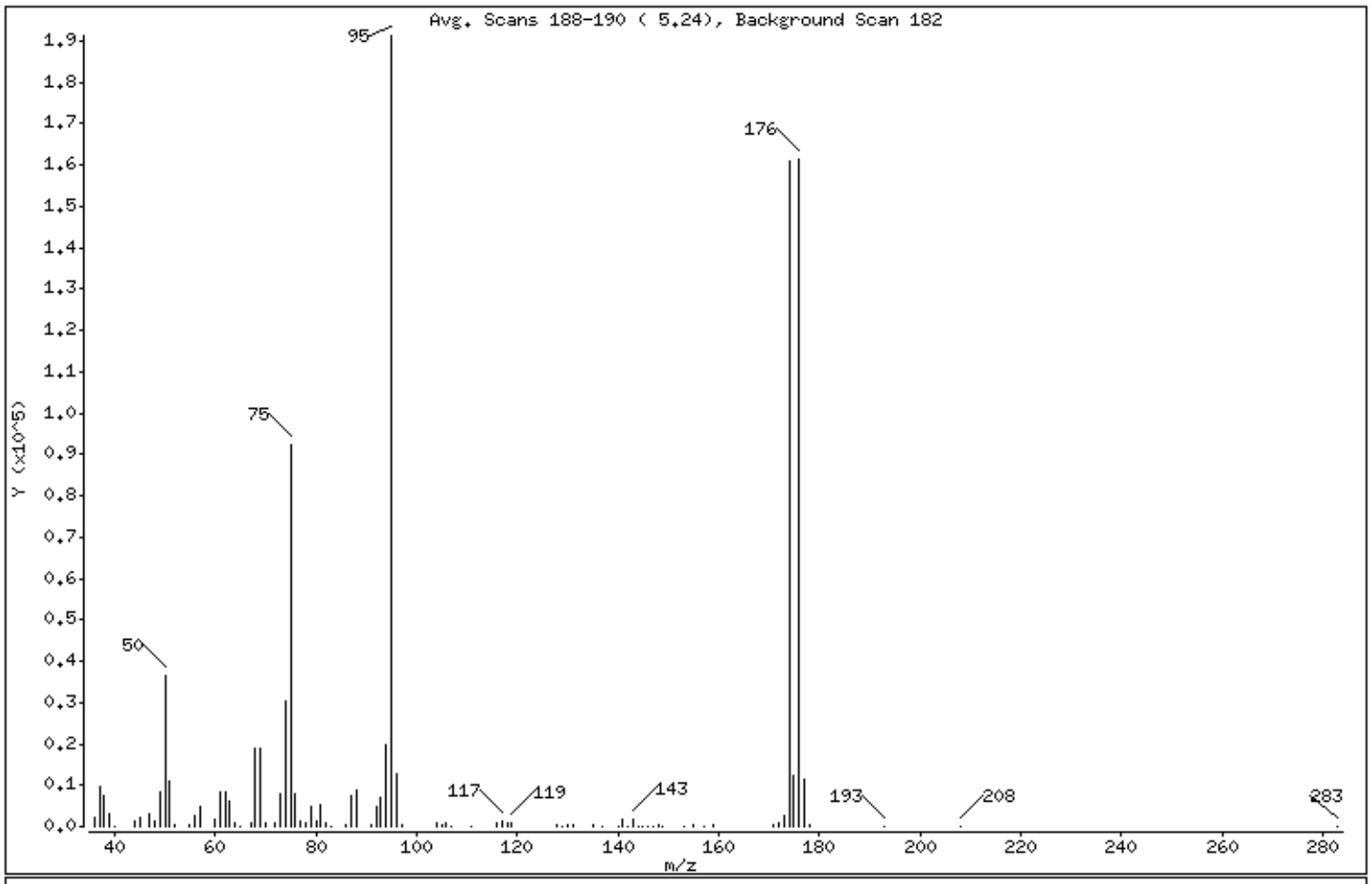
Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.19
75	30.00 - 60.00% of mass 95	48.18
96	5.00 - 9.00% of mass 95	6.59
173	Less than 2.00% of mass 174	1.43 (1.70)
174	50.00 - 100.00% of mass 95	84.20
175	5.00 - 9.00% of mass 174	6.43 (7.64)
176	95.00 - 101.00% of mass 174	84.40 (100.24)
177	5.00 - 9.00% of mass 176	5.99 (7.09)

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Date : 19-APR-2017 11:06

Client ID: bfb 50ng Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

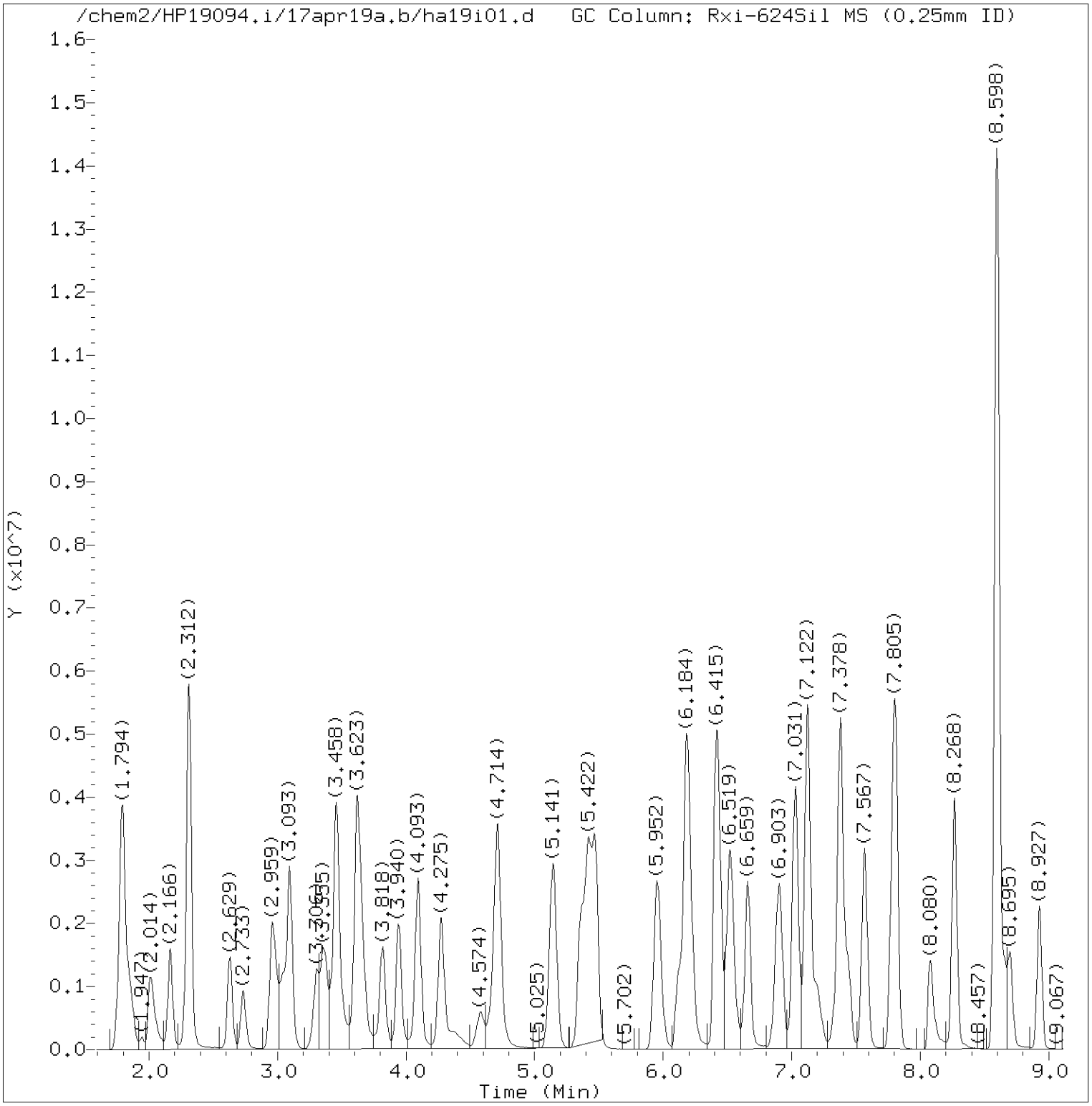
Operator: KEL01973

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: ha19t01.d
Spectrum: Avg. Scans 188-190 (5.24), Background Scan 182
Location of Maximum: 95.00
Number of points: 88

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2122	68.00	18720	96.00	12603	146.00	192
37.00	9859	69.00	18992	97.00	520	147.00	99
38.00	7436	70.00	1067	104.00	685	148.00	408
39.00	3175	72.00	876	105.00	297	149.00	88
40.00	31	73.00	7875	106.00	731	153.00	96
44.00	1284	74.00	30256	107.00	198	155.00	284
45.00	2109	75.00	92152	111.00	89	157.00	166
47.00	2890	76.00	7894	116.00	724	159.00	266
48.00	1285	77.00	1471	117.00	1285	171.00	251
49.00	8413	78.00	827	118.00	828	172.00	823
50.00	36704	79.00	4964	119.00	946	173.00	2735
51.00	10836	80.00	1398	128.00	474	174.00	161024
52.00	612	81.00	5345	129.00	129	175.00	12302
55.00	450	82.00	893	130.00	626	176.00	161408
56.00	2425	83.00	90	131.00	474	177.00	11451
57.00	4881	86.00	233	135.00	287	178.00	262
60.00	1660	87.00	7546	137.00	175	193.00	161
61.00	8506	88.00	8585	140.00	115	208.00	97
62.00	8266	91.00	637	141.00	1566	283.00	89
63.00	6087	92.00	4822	142.00	205		
64.00	881	93.00	6954	143.00	1753		
65.00	195	94.00	19696	144.00	105		
67.00	764	95.00	191296	145.00	94		

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

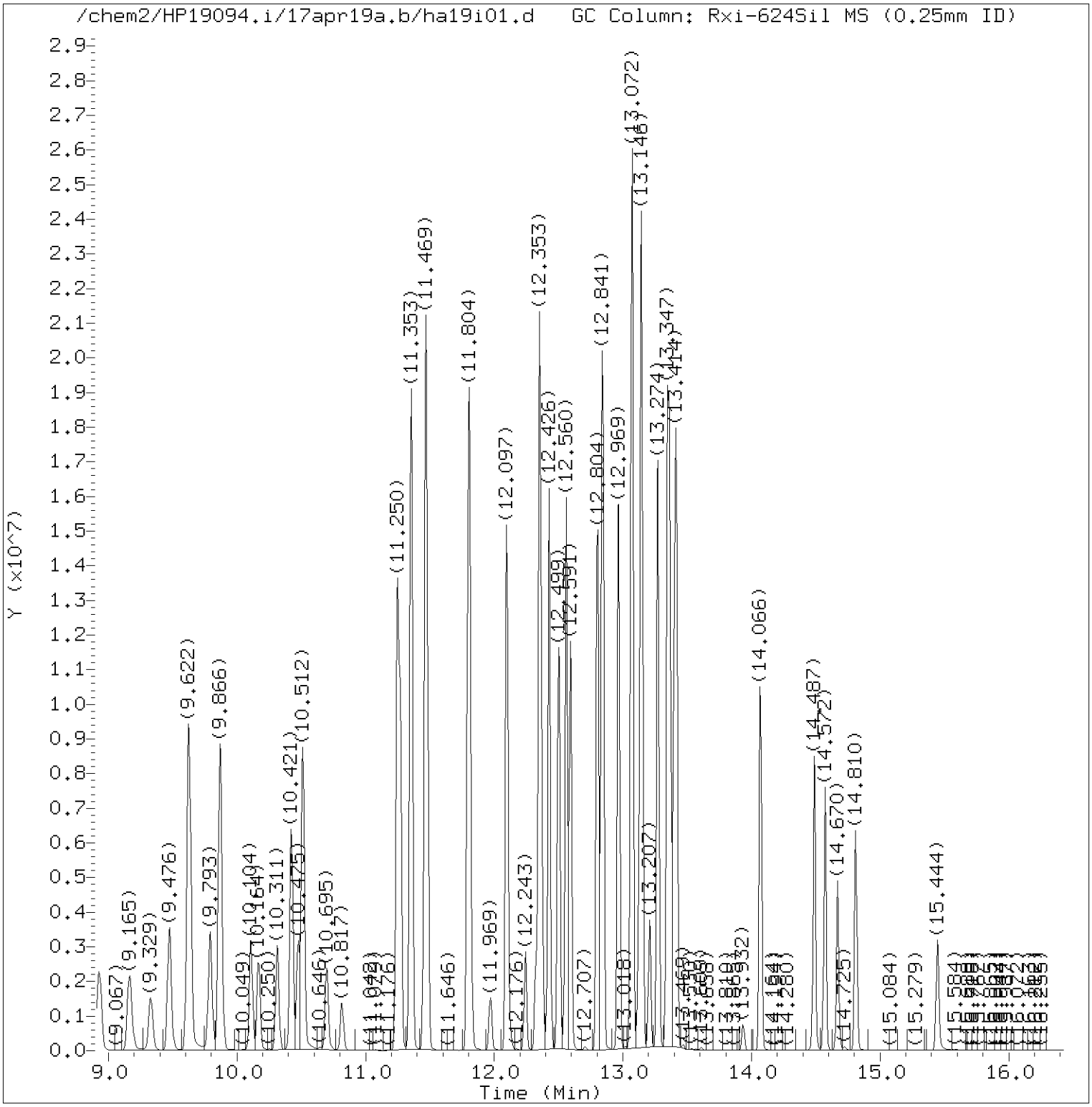
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	2649406	25.000
2) Chloromethane	(2)	2.166	50	2433080	25.000
5) Vinyl Chloride	(2)	2.300	62	2334062	25.000
6) 1,3-Butadiene	(2)	2.312	39	3323098	25.000
7) Bromomethane	(2)	2.629	94	1476891	25.000
8) Chloroethane	(2)	2.733	64	1297243	25.000
9) Dichlorofluoromethane	(2)	2.959	67	3008718	25.000
10) Trichlorofluoromethane	(2)	3.038	101	2760447	25.000
11) Ethyl ether	(2)	3.300	59	1045475	25.000
12) Freon 123a	(2)	3.355	67	2057887	25.000
13) Acrolein	(1)	3.458	56	7126059	1250.000
14) Acetone	(1)	3.617	43	1734007	250.000
15) 1,1-Dichloroethene	(2)	3.617	96	1554167	25.000
16) Freon 113	(2)	3.654	101	1675402	25.000
17) Methyl Iodide	(2)	3.818	142	2852117	25.000
18) Carbon Disulfide	(2)	3.940	76	4459925	25.000
21) Methyl Acetate	(1)	4.056	43	544949M	25.000
22) Allyl Chloride	(2)	4.093	41	3021369	25.000
26)*t-Butyl Alcohol-d10	(1)	4.239	65	74228M	50.000
23) Methylene Chloride	(2)	4.269	84	1661117	25.000
28) t-Butyl Alcohol	(1)	4.373	59	1000559	500.000
29) Acrylonitrile	(1)	4.586	53	1241592	125.000
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	3183865	25.000
31) trans-1,2-Dichloroethene	(2)	4.714	96	1714790	25.000
32) n-Hexane	(2)	5.141	57	2976724	25.000
33) 1,1-Dichloroethane	(2)	5.361	63	3365203	25.000
34) di-Isopropyl Ether	(2)	5.422	45	5946779	25.000
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	3019942	25.000
37) Ethyl t-butyl ether	(2)	5.952	59	4585618	25.000
40) 1,2-Dichloroethene (Total)	(2)		96	3636317	50.000
38) 2-Butanone	(1)	6.123	43	3493953	250.000
39) cis-1,2-Dichloroethene	(2)	6.177	96	1921527	25.000
42) Propionitrile	(1)	6.190	54	1695961	500.000
41) 2,2-Dichloropropane	(2)	6.208	77	2552729	25.000
45) Methacrylonitrile	(1)	6.421	67	3411828	250.000
47) Bromochloromethane	(2)	6.519	128	748713	25.000
48) Tetrahydrofuran	(1)	6.531	71	848708	250.000
49) Chloroform	(2)	6.659	83	3127249	25.000

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	645156	10.000
50)$Dibromofluoromethane	(2)	6.872	111	666179	10.000
51) 1,1,1-Trichloroethane	(2)	6.903	97	2676943	25.000
52) Cyclohexane	(2)	7.031	56	3532511	25.000
52) Cyclohexane	(2)	7.031	84	2754792	25.000
52) Cyclohexane	(2)	7.031	69	1030104	25.000
55) 1,1-Dichloropropene	(2)	7.122	75	2621557	25.000
54) Carbon Tetrachloride	(2)	7.135	117	2313974	25.000
56) Isobutyl Alcohol	(1)	7.202	41	1012416	1250.000
57)$1,2-Dichloroethane-d4	(2)	7.336	102	105495M	10.000
57)$1,2-Dichloroethane-d4	(2)	7.330	65	503219	10.000
57)$1,2-Dichloroethane-d4	(2)	7.336	104	65108	10.000
58) Benzene	(2)	7.378	78	7257611	25.000
59) 1,2-Dichloroethane	(2)	7.439	62	1745072	25.000
60) t-Amyl methyl ether	(2)	7.567	73	3774345	25.000
63)*Fluorobenzene	(2)	7.781	96	2800014	10.000
62) n-Heptane	(2)	7.805	43	3364877	25.000
65) n-Butanol	(1)	8.080	56	1692592A	2500.000
67) Trichloroethene	(2)	8.268	95	1897278	25.000
70) 1,2-Dichloropropane	(2)	8.592	63	1893274	25.000
69) Methylcyclohexane	(2)	8.598	83	3494386	25.000
71) Methyl Methacrylate	(1)	8.659	69	687658A	25.000
72) 1,4-Dioxane	(1)	8.689	88	178200M	1250.000
73) Dibromomethane	(2)	8.701	93	736048	25.000
74) Bromodichloromethane	(2)	8.927	83	2107877	25.000
76) 2-Nitropropane	(1)	9.165	41	2039874	250.000
80) cis-1,3-Dichloropropene	(2)	9.476	75	2541712	25.000
81) 4-Methyl-2-Pentanone	(1)	9.622	43	9102660	250.000
82)$Toluene-d8	(3)	9.793	98	2748817	10.000
82)$Toluene-d8	(3)	9.793	100	1784610	10.000
83) Toluene	(3)	9.866	92	4476189	25.000
84) trans-1,3-Dichloropropene	(3)	10.110	75	1909780	25.000
86) Ethyl Methacrylate	(3)	10.164	69	1449028	25.000
85) 1,3-Dichloropropene (total)	(3)		75	4451492	50.000
88) 1,1,2-Trichloroethane	(3)	10.311	97	1054699	25.000
89) Tetrachloroethene	(3)	10.421	166	2118212	25.000
90) 1,3-Dichloropropane	(3)	10.475	76	1878449	25.000
91) 2-Hexanone	(1)	10.512	43	6370500	250.000

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	1307800	25.000
95) 1,2-Dibromoethane	(3)	10.817	107	990950	25.000
97)*Chlorobenzene-d5	(3)	11.244	117	1967440	10.000
98) Chlorobenzene	(3)	11.268	112	4900907	25.000
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	1664181	25.000
100) Ethylbenzene	(3)	11.353	91	9041800	25.000
101) m+p-Xylene	(3)	11.469	106	6914491	50.000
105) Xylene (Total)	(3)		106	10305528	75.000
104) o-Xylene	(3)	11.798	106	3391037	25.000
106) Styrene	(3)	11.810	104	5383329	25.000
107) Bromoform	(3)	11.969	173	705857	25.000
108) Isopropylbenzene	(3)	12.097	105	8949706	25.000
111)$4-Bromofluorobenzene	(3)	12.243	95	834801	10.000
111)$4-Bromofluorobenzene	(3)	12.243	174	746536	10.000
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	1242048	25.000
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	2752141A	250.000
114) Bromobenzene	(4)	12.359	156	1974472	25.000
116) 1,2,3-Trichloropropane	(4)	12.377	110	308943	25.000
117) n-Propylbenzene	(4)	12.426	91	11023934	25.000
119) 2-Chlorotoluene	(4)	12.505	126	2066143	25.000
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	7551326	25.000
122) 4-Chlorotoluene	(4)	12.591	126	2075318	25.000
125) tert-Butylbenzene	(4)	12.804	134	1625959M	25.000
126) Pentachloroethane	(4)	12.835	167	1223399	25.000
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	7680342	25.000
128) sec-Butylbenzene	(4)	12.969	105	10077306	25.000
131) 1,3-Dichlorobenzene	(4)	13.066	146	4072688	25.000
132) p-Isopropyltoluene	(4)	13.072	119	8537787	25.000
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	879364	10.000
134) 1,4-Dichlorobenzene	(4)	13.140	146	3937032	25.000
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	3159824	25.000
136) Benzyl Chloride	(4)	13.207	126	489784	25.000
138) n-Butylbenzene	(4)	13.365	92	4448293	25.000
139) 1,2-Dichlorobenzene	(4)	13.396	146	3460522	25.000
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	146624	25.000
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	2422012	25.000
146) Hexachlorobutadiene	(4)	14.572	225	1293703	25.000
147) Naphthalene	(4)	14.670	128	3408445	25.000

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

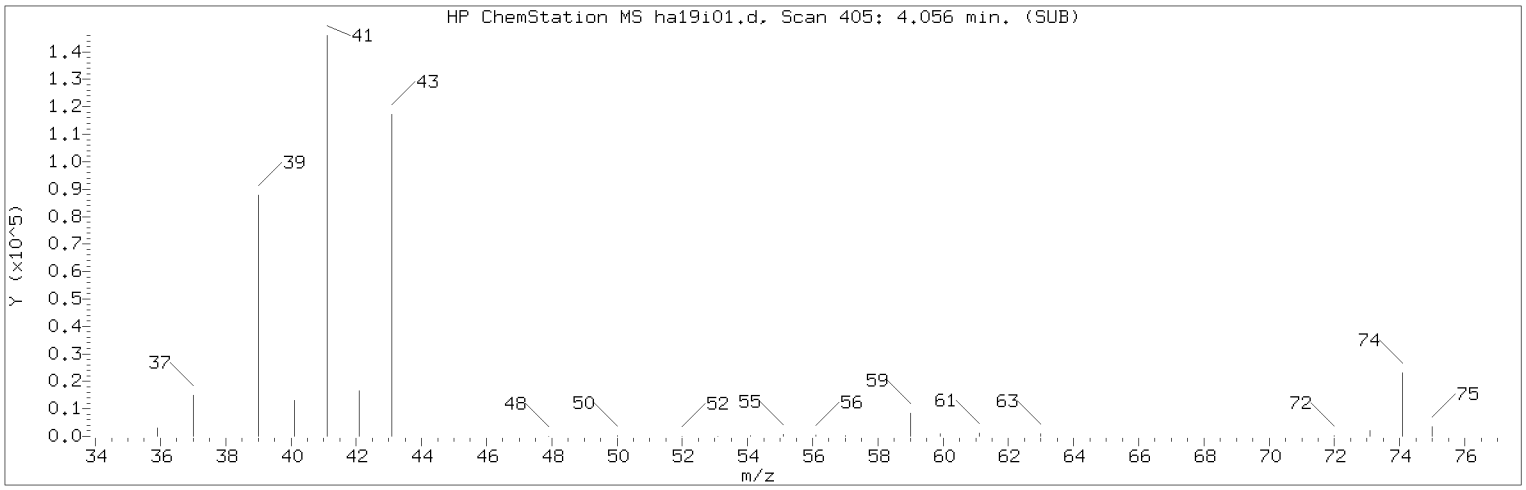
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

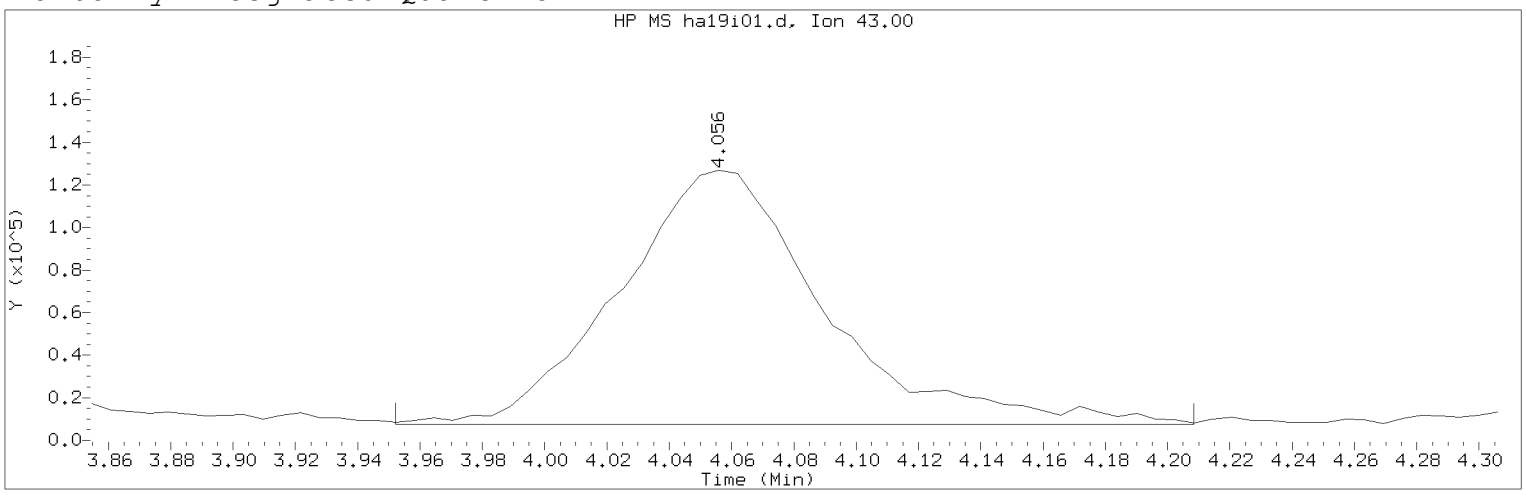
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	1848294	25.000

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

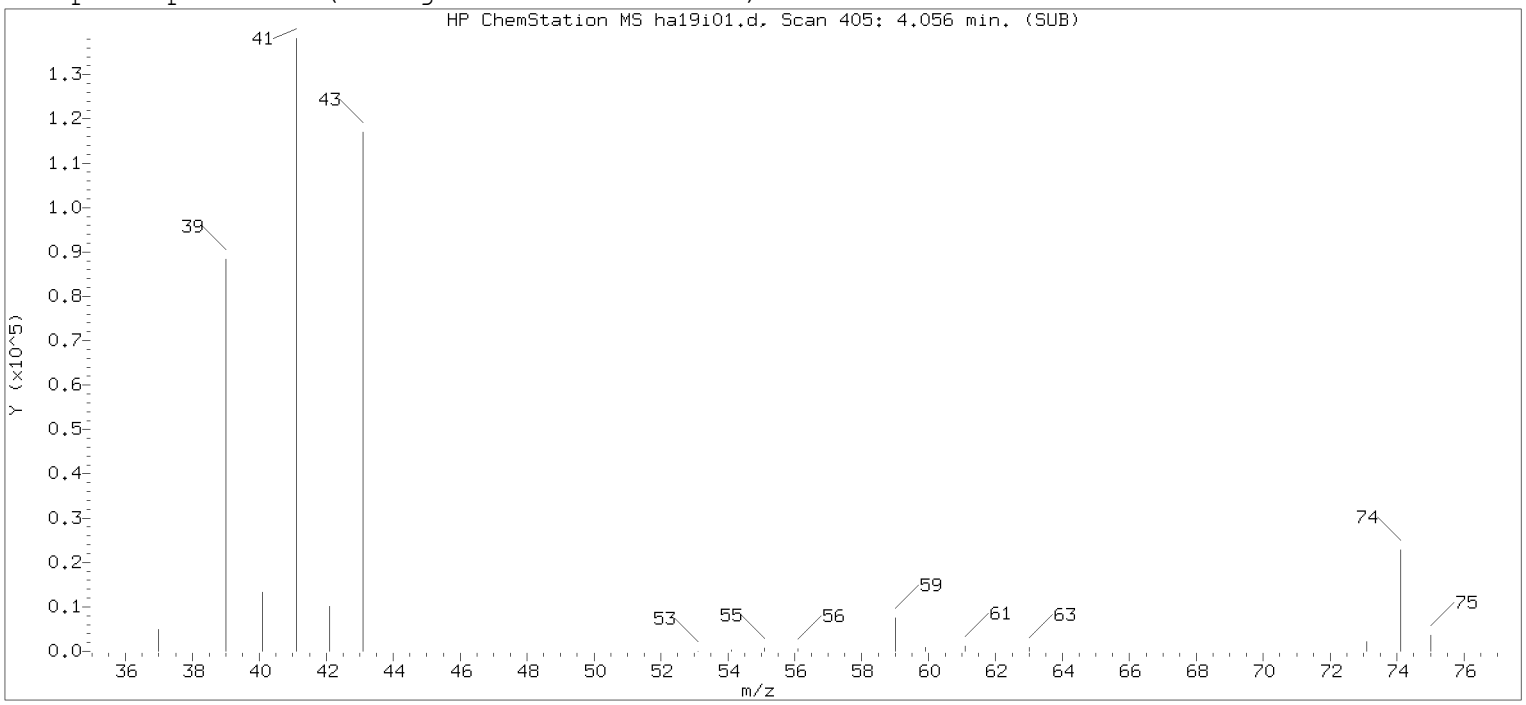
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 405
Retention Time (minutes): 4.056
Quant Ion : 43.00
Area (flag) : 544949M
On-Column Amount (ng) : 25.0000
Integration start scan : 387 Integration stop scan: 429
Y at integration start : 7622 Y at integration end: 7622

Reason for manual integration: improper integration

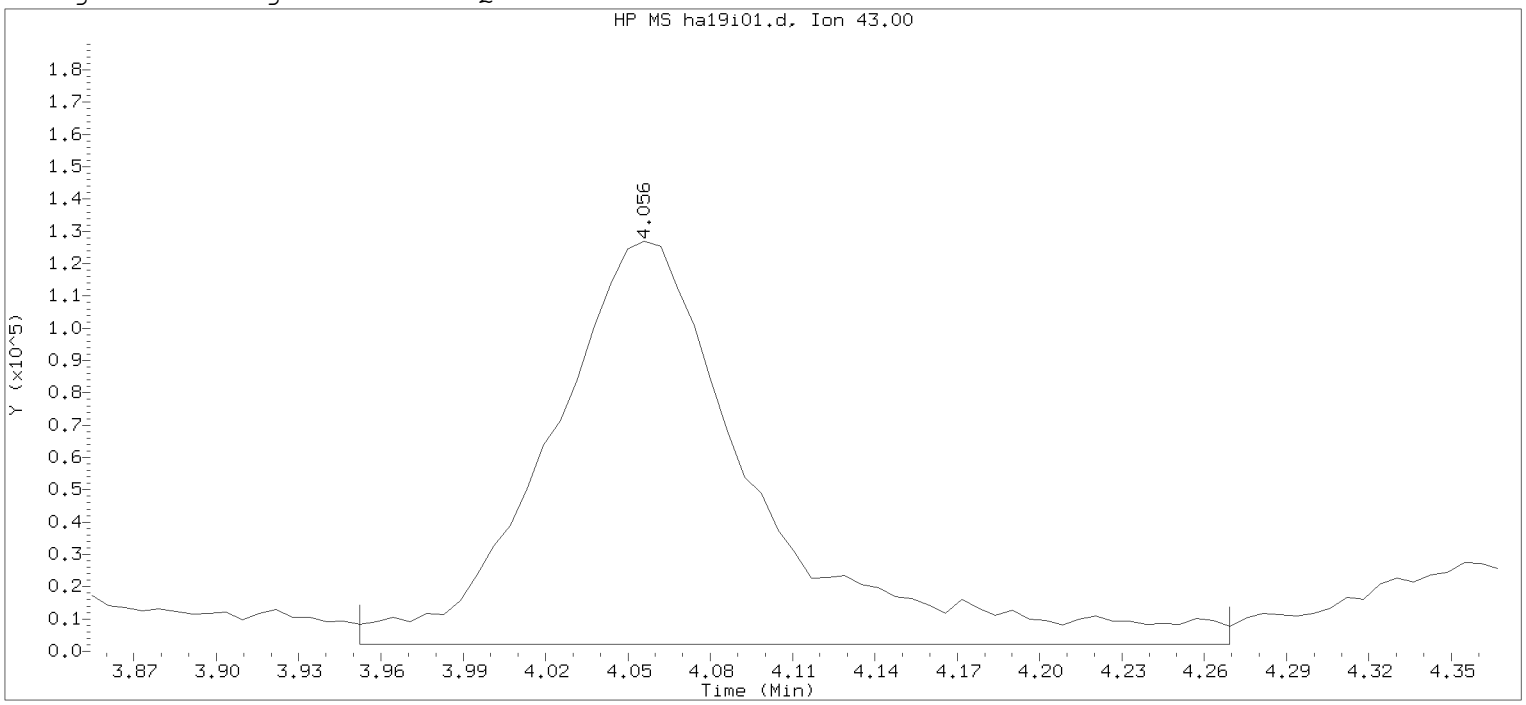
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

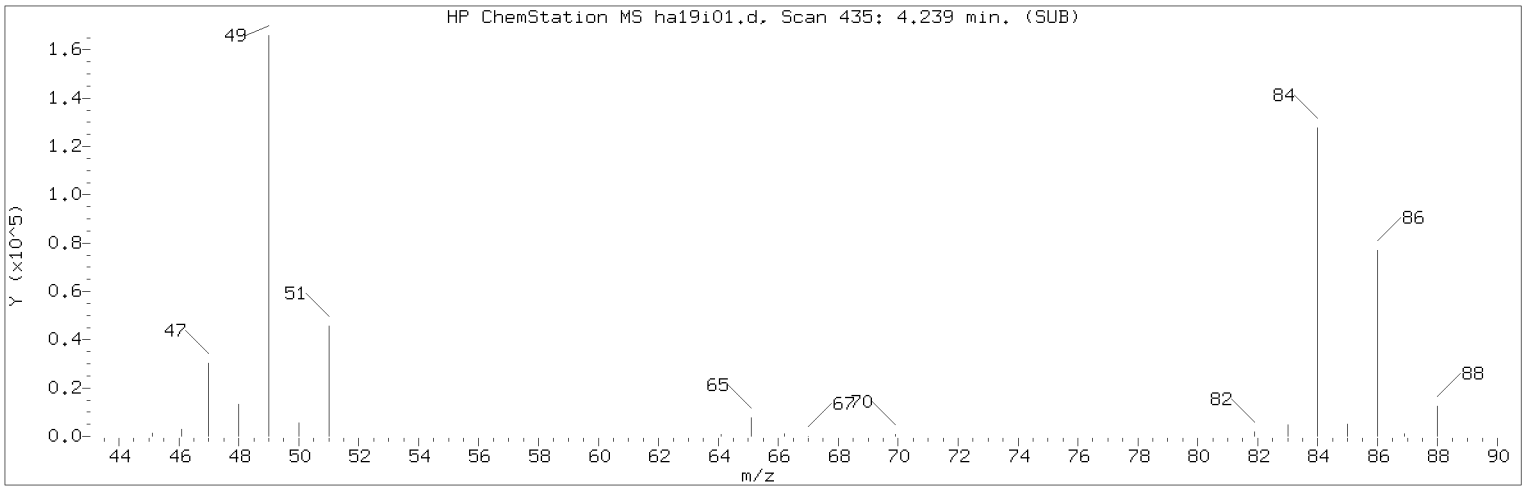
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

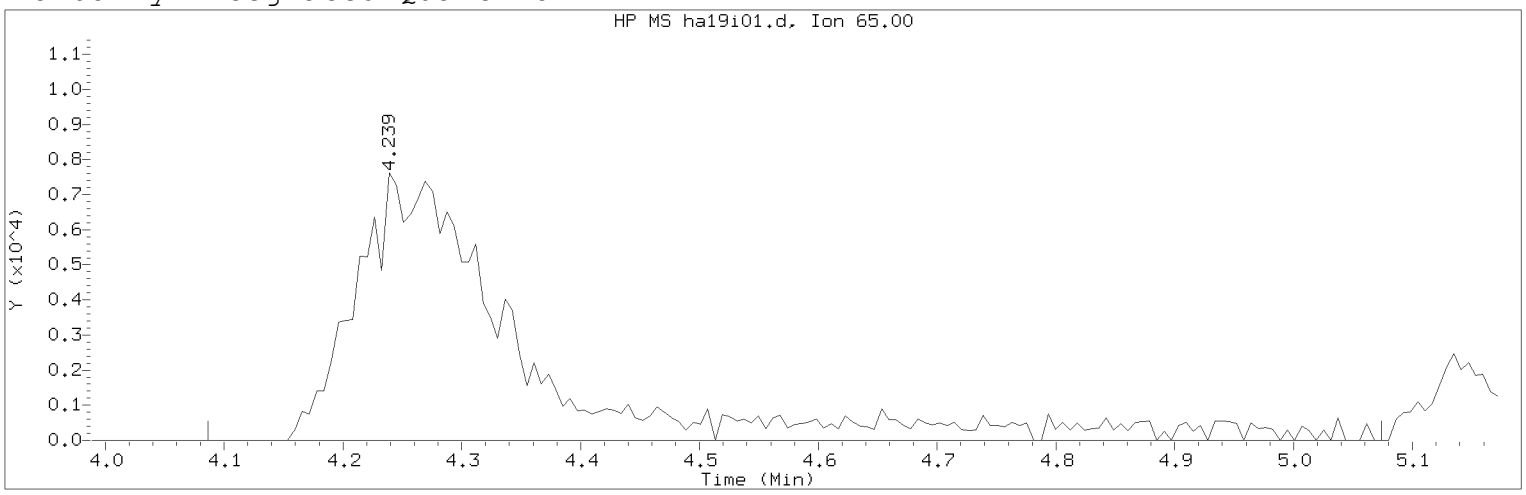
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 405
Retention Time (minutes): 4.056
Quant Ion : 43.00
Area : 653266
On-column Amount (ng) : 37.3024
Integration start scan : 387 Integration stop scan: 439
Y at integration start : 2224 Y at integration end: 2224

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

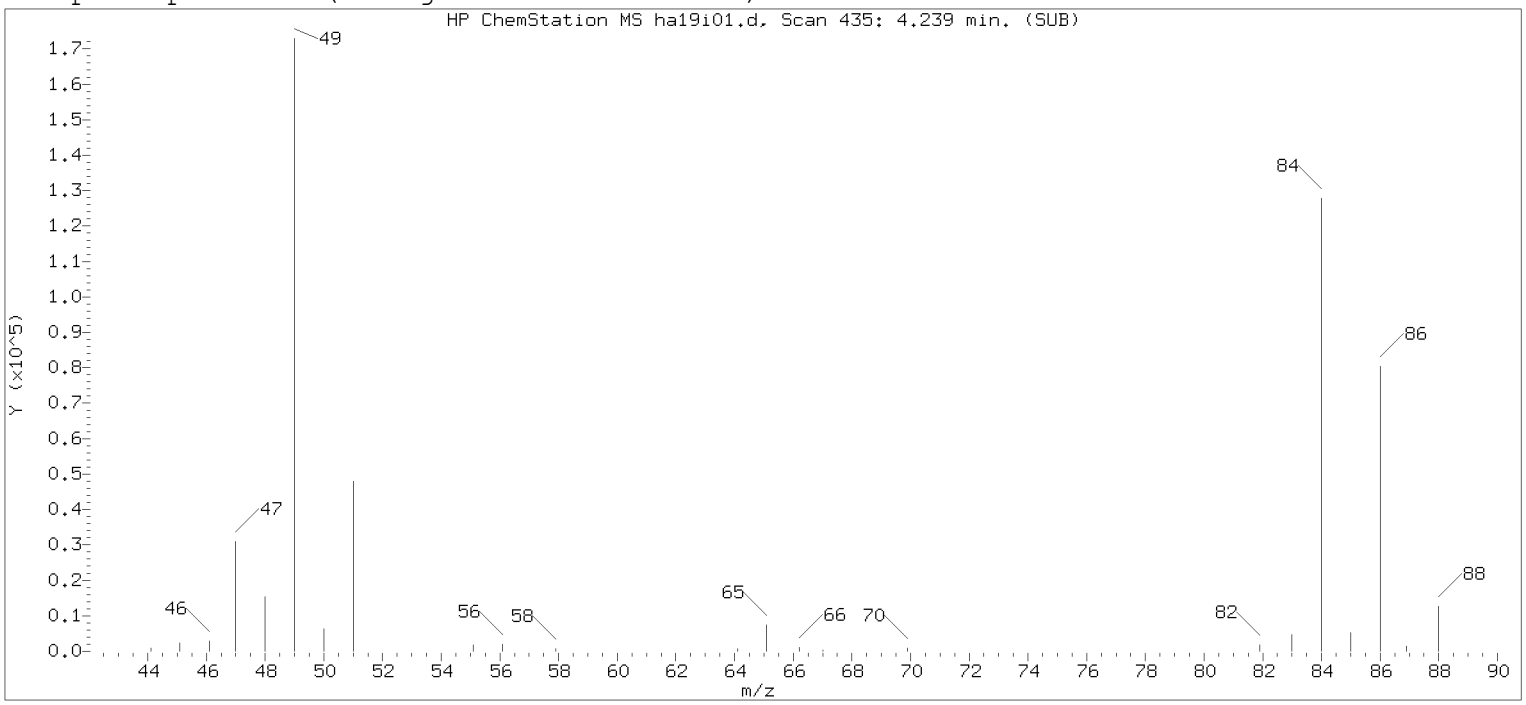
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 435
Retention Time (minutes): 4.239
Quant Ion : 65.00
Area (flag) : 74228M
On-Column Amount (ng) : 50.0000
Integration start scan : 409 Integration stop scan: 571
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

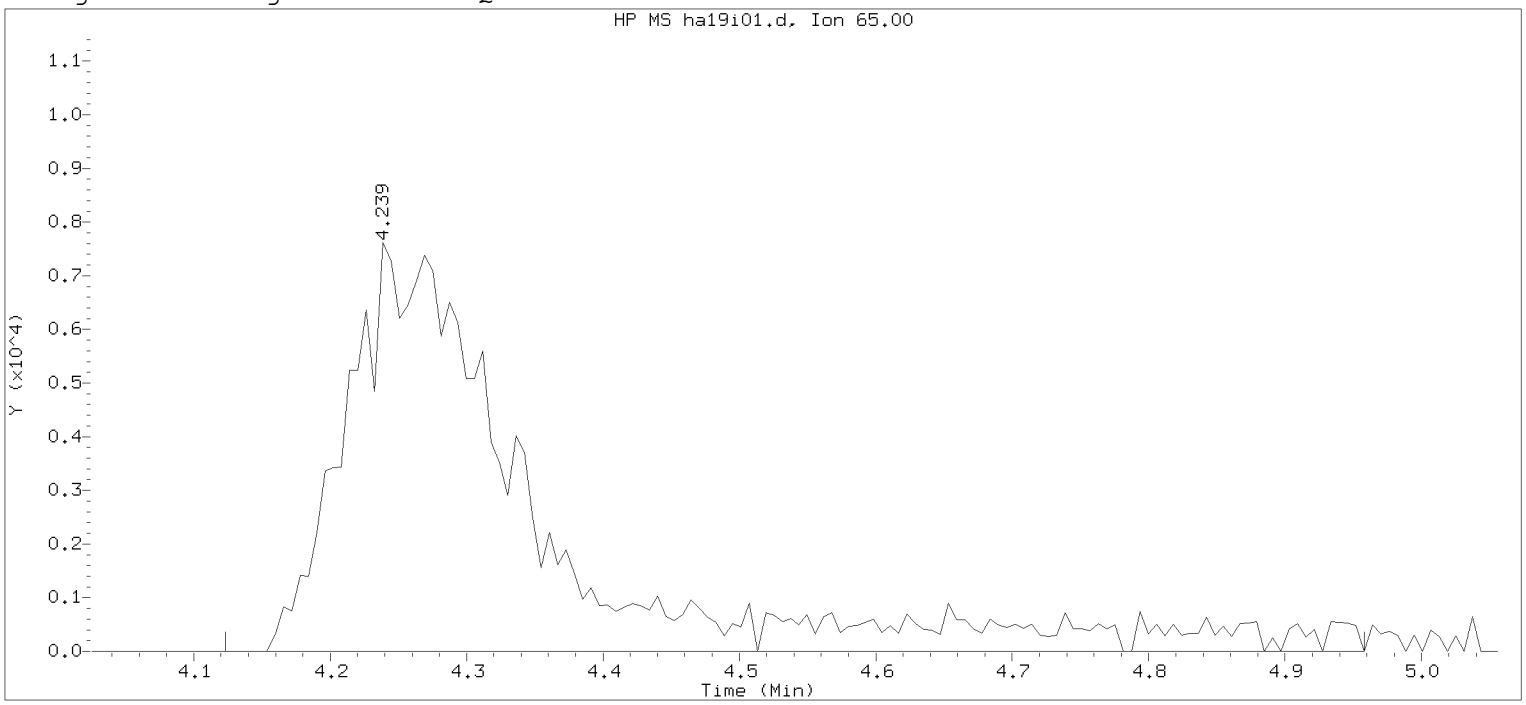
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

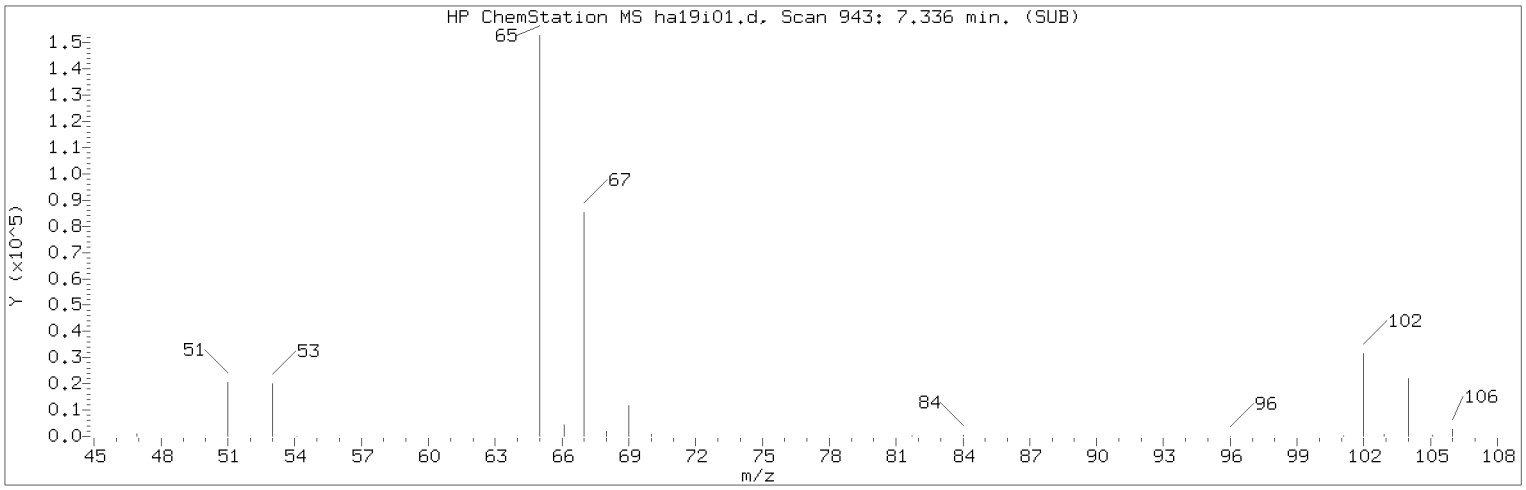
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

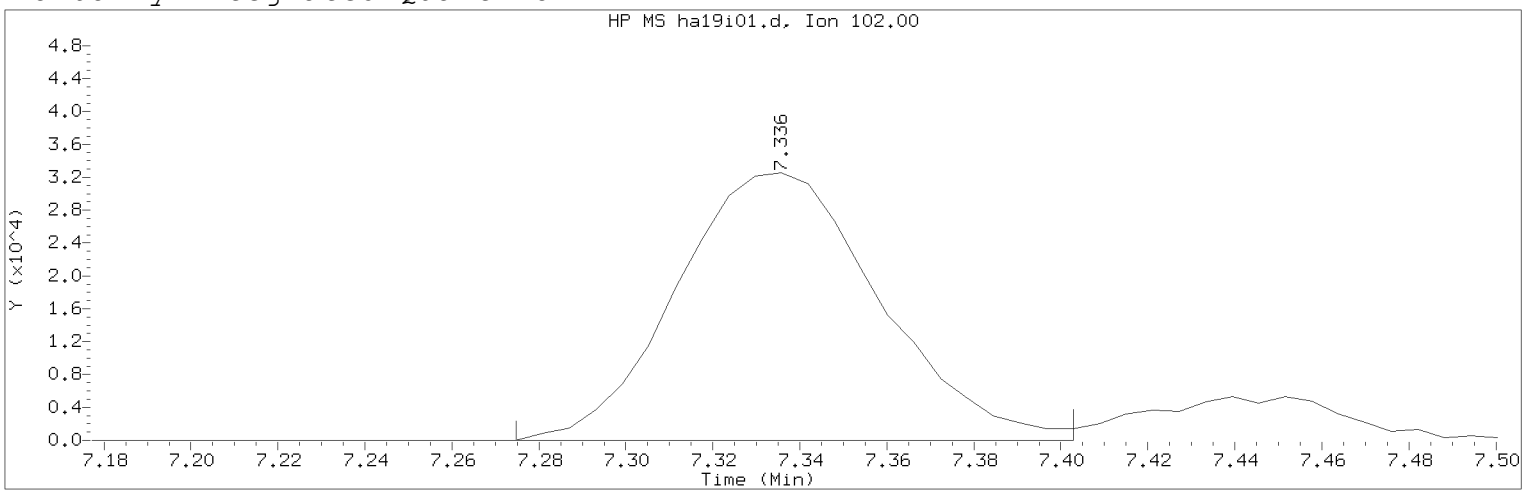
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 435
Retention Time (minutes): 4.239
Quant Ion : 65.00
Area : 72809
On-column Amount (ng) : 50.0000
Integration start scan : 415 Integration stop scan: 552
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

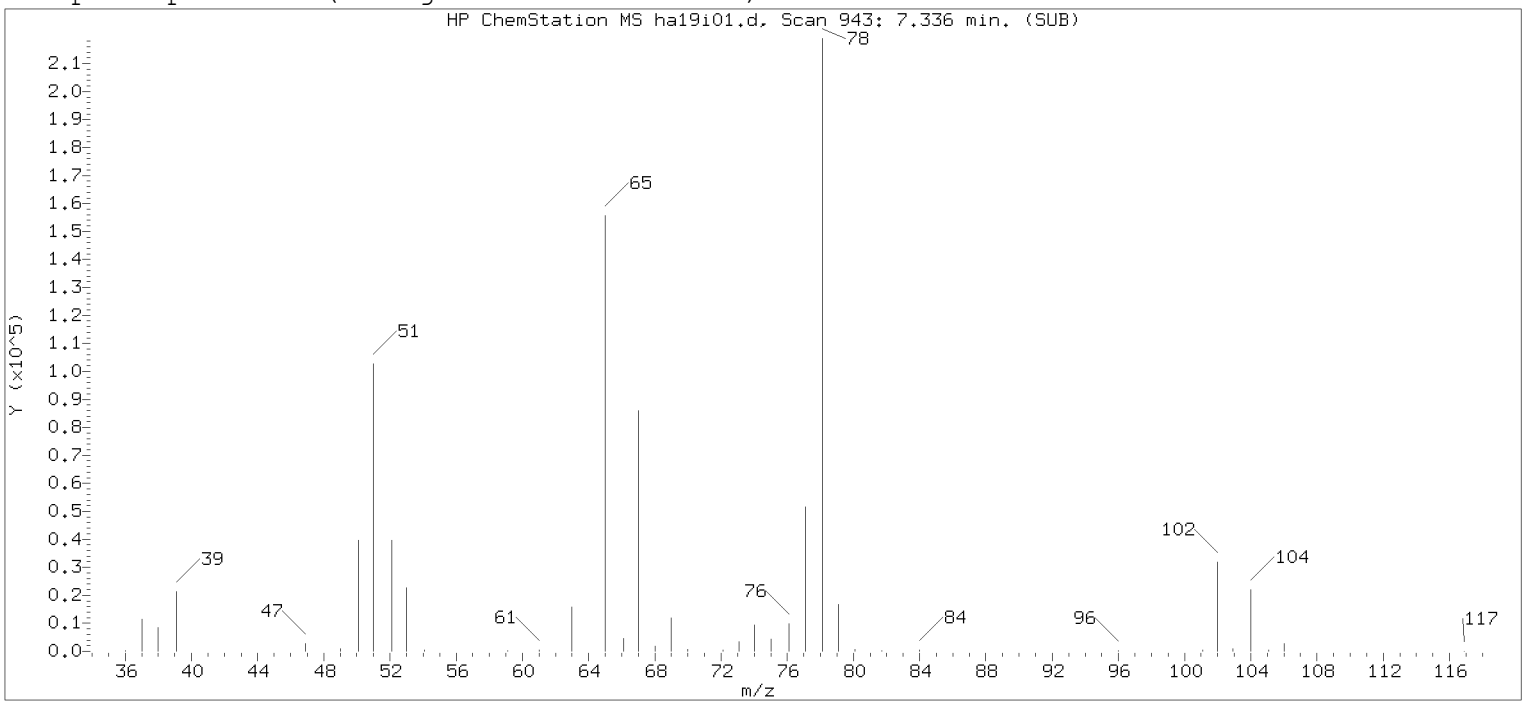
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 943
Retention Time (minutes): 7.336
Quant Ion : 102.00
Area (flag) : 105495M
On-Column Amount (ng) : 10.0000
Integration start scan : 932 Integration stop scan: 953
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

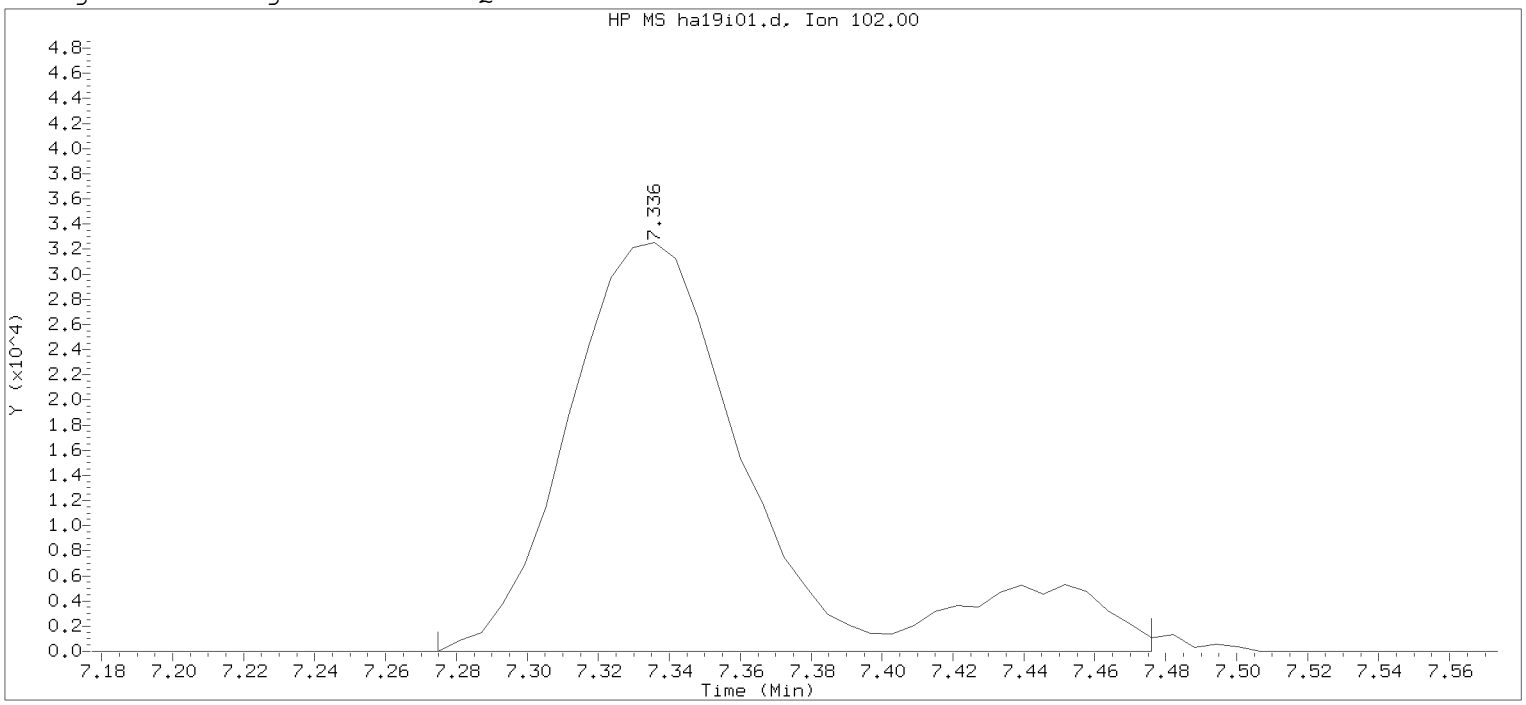
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

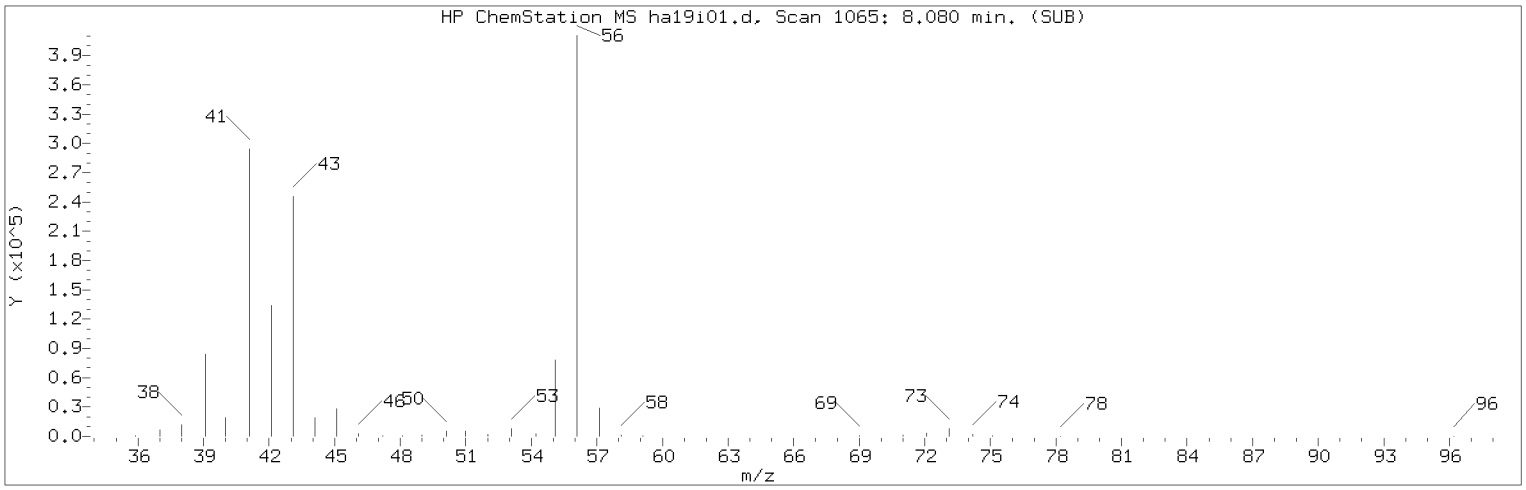
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

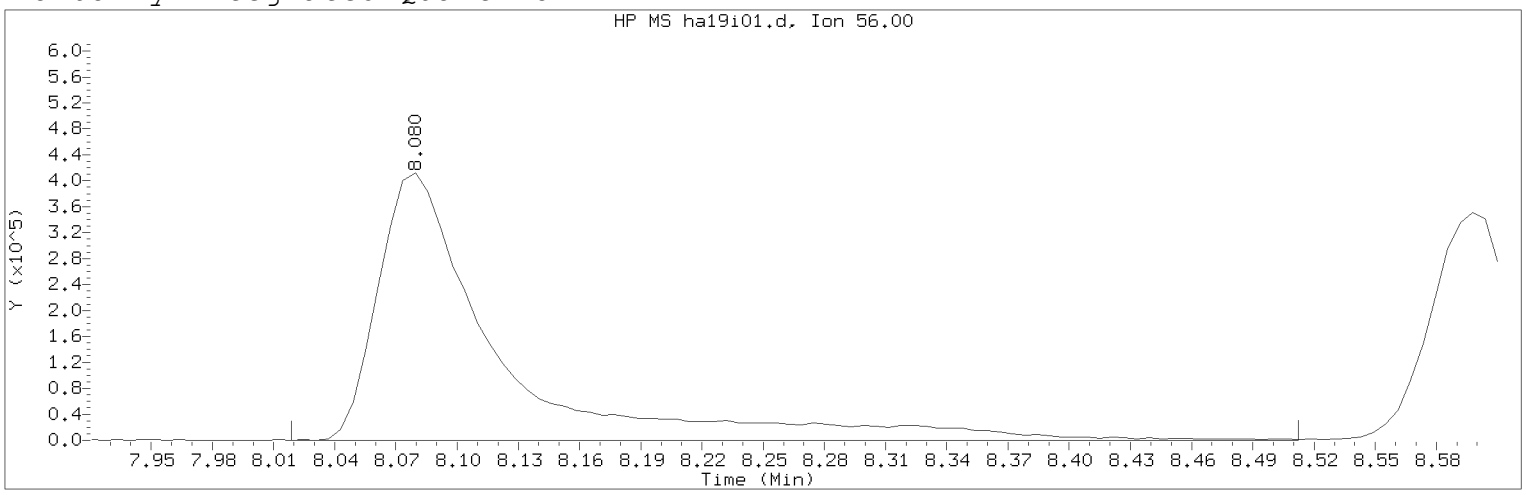
Compound Number	: 57		
Compound Name	: 1,2-Dichloroethane-d4		
Scan Number	: 943		
Retention Time (minutes)	: 7.336		
Quant Ion	: 102.00		
Area	: 121172		
On-column Amount (ng)	: 11.6756		
Integration start scan	: 932	Integration stop scan:	965
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

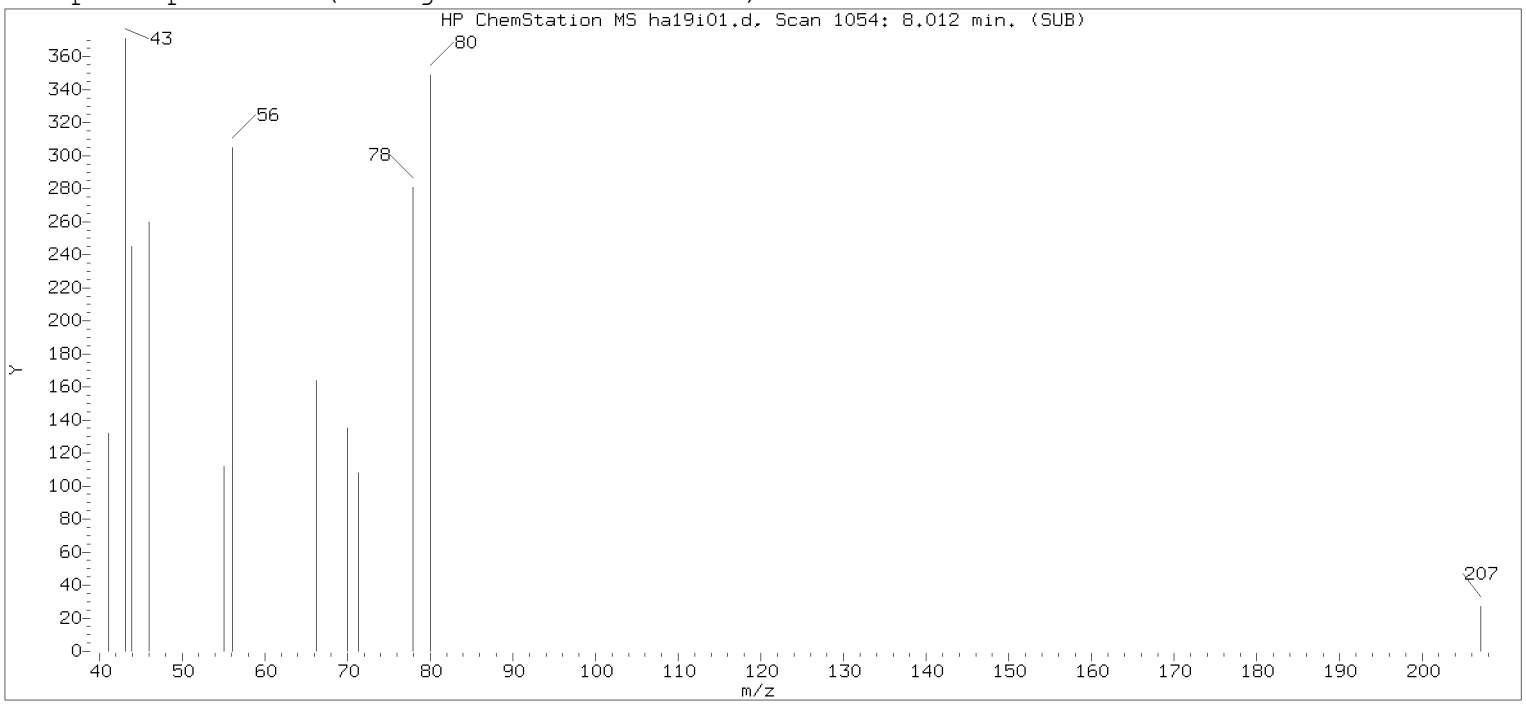
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1065
Retention Time (minutes): 8.080
Quant Ion : 56.00
Area (flag) : 1692592A
On-Column Amount (ng) : 2500.0000
Integration start scan : 1054 Integration stop scan: 1135
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

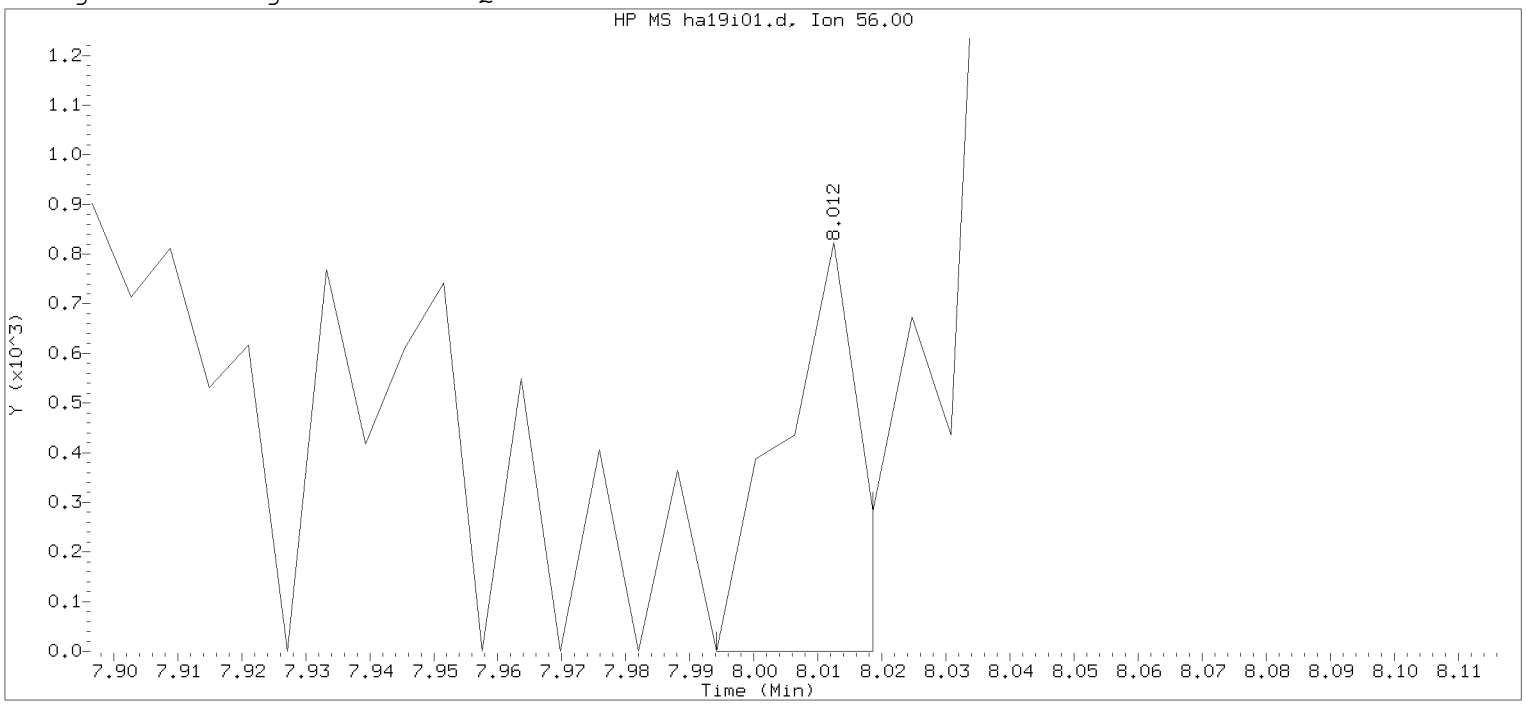
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

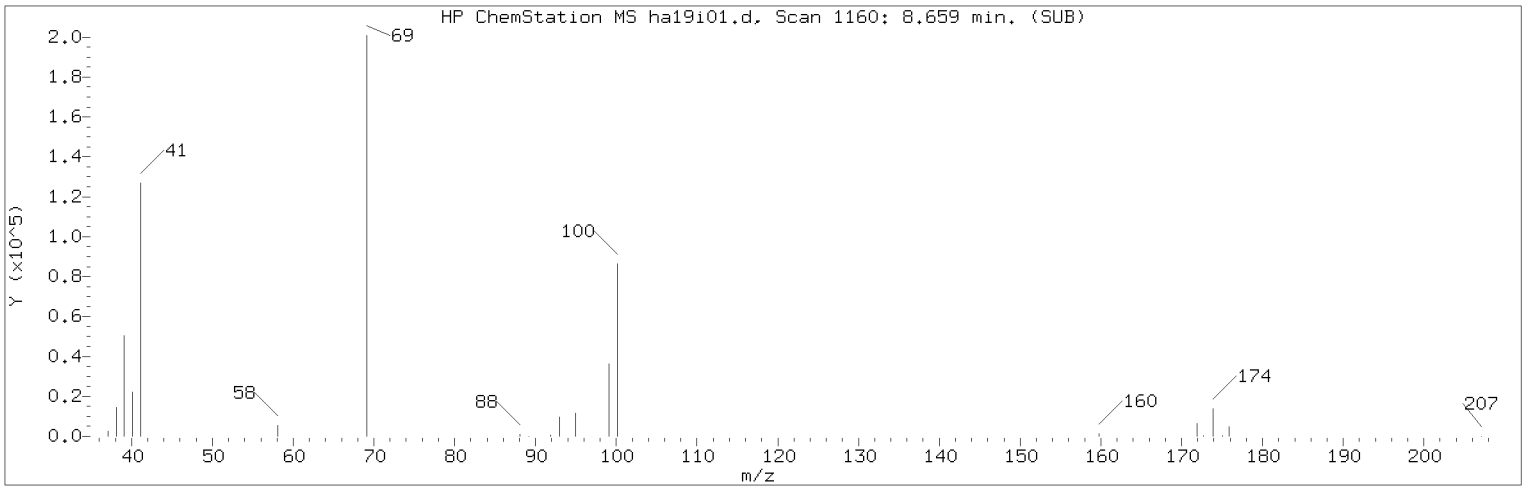
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

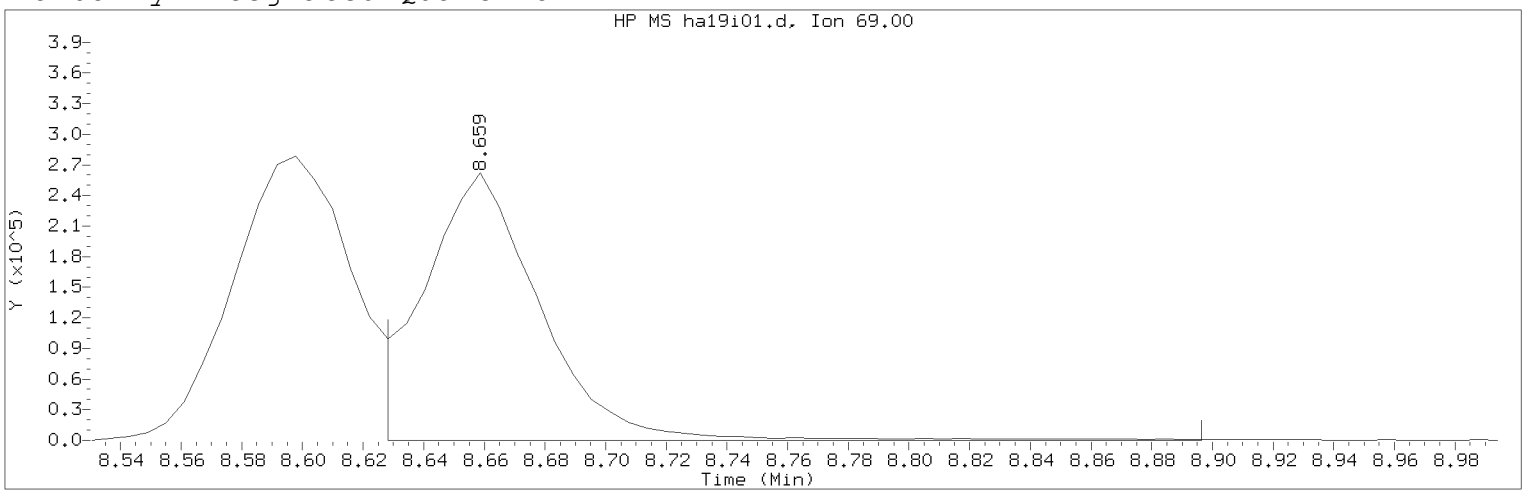
Compound Number	: 65		
Compound Name	: n-Butanol		
Scan Number	: 1054		
Retention Time (minutes)	: 8.012		
Quant Ion	: 56.00		
Area	: 654		
On-column Amount (ng)	: 1.1644		
Integration start scan	: 1050	Integration stop scan	: 1054
Y at integration start	: 0	Y at integration end	: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

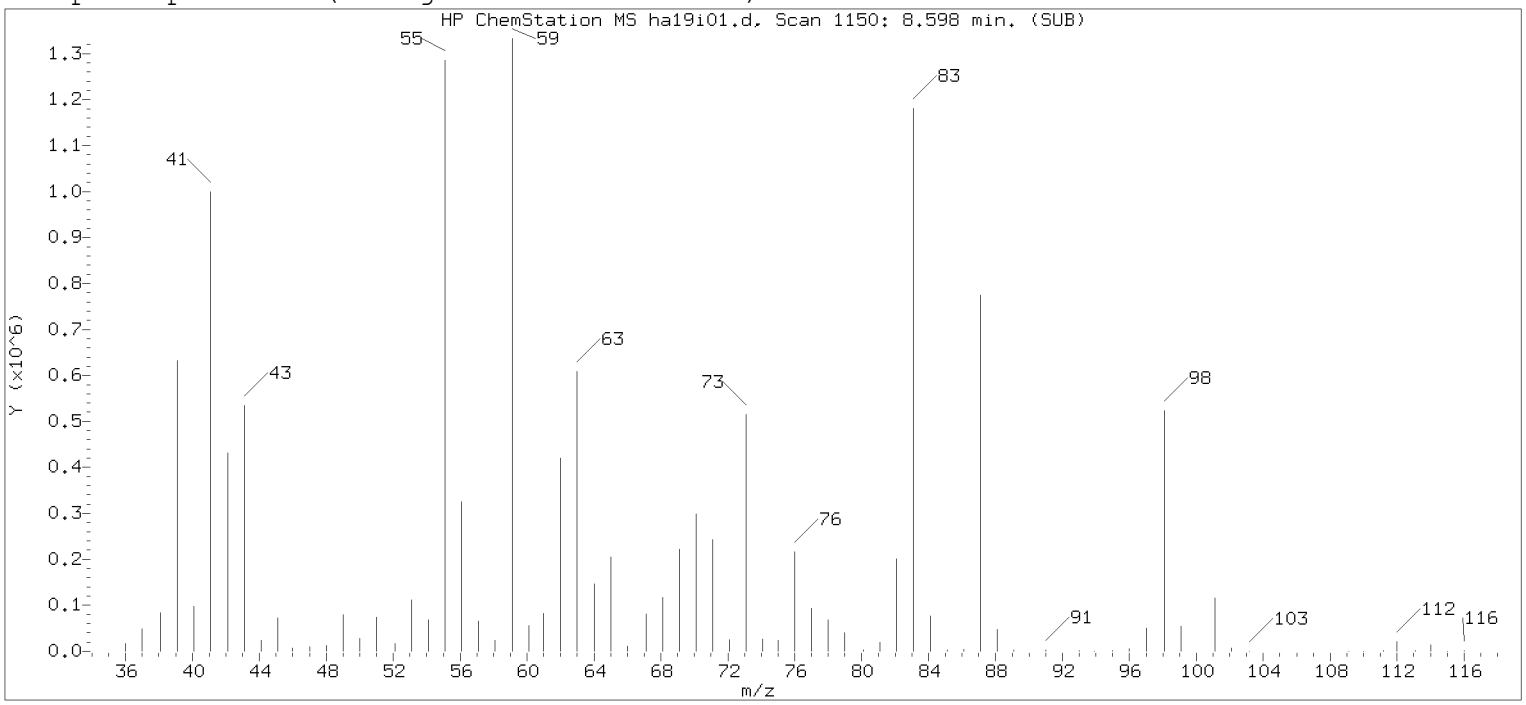
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 687658A
On-Column Amount (ng) : 25.0000
Integration start scan : 1154 Integration stop scan: 1198
Y at integration start : 166 Y at integration end: 259

Reason for manual integration: improper integration

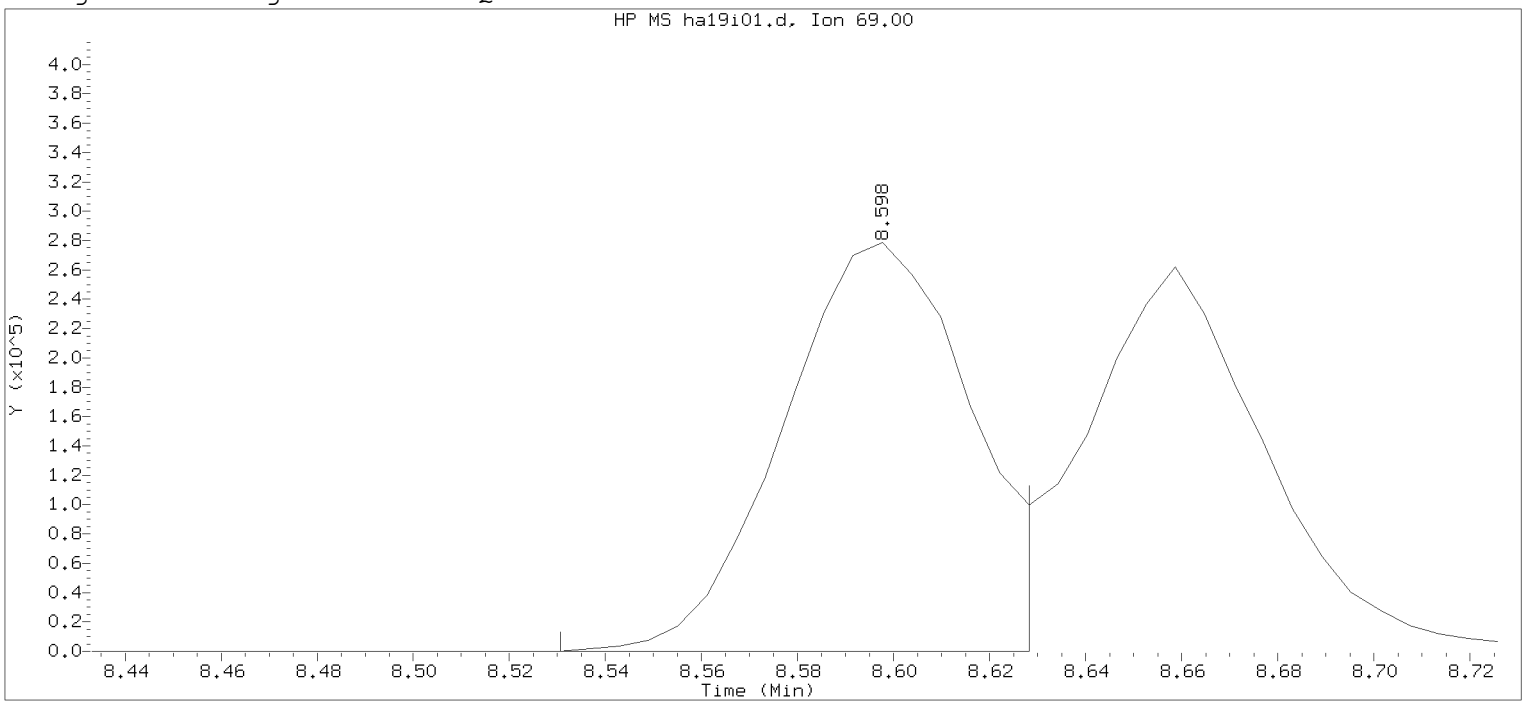
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

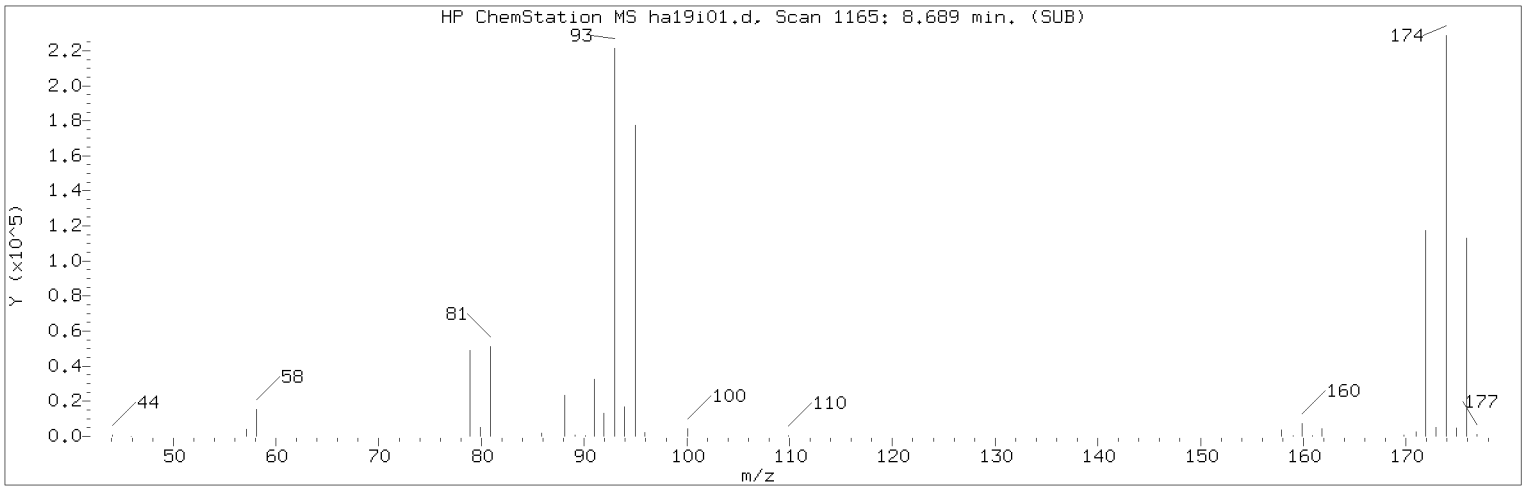
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

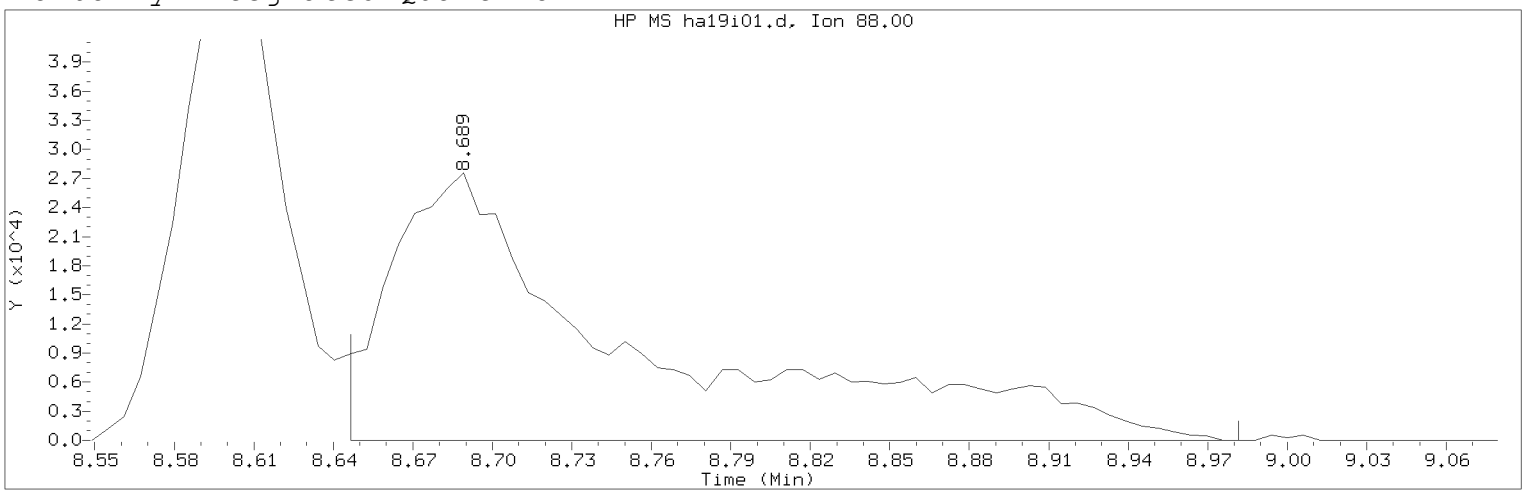
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 69.00
Area : 746664
On-column Amount (ng) : 35.1292
Integration start scan : 1138 Integration stop scan: 1154
Y at integration start : 0 Y at integration end: 166

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

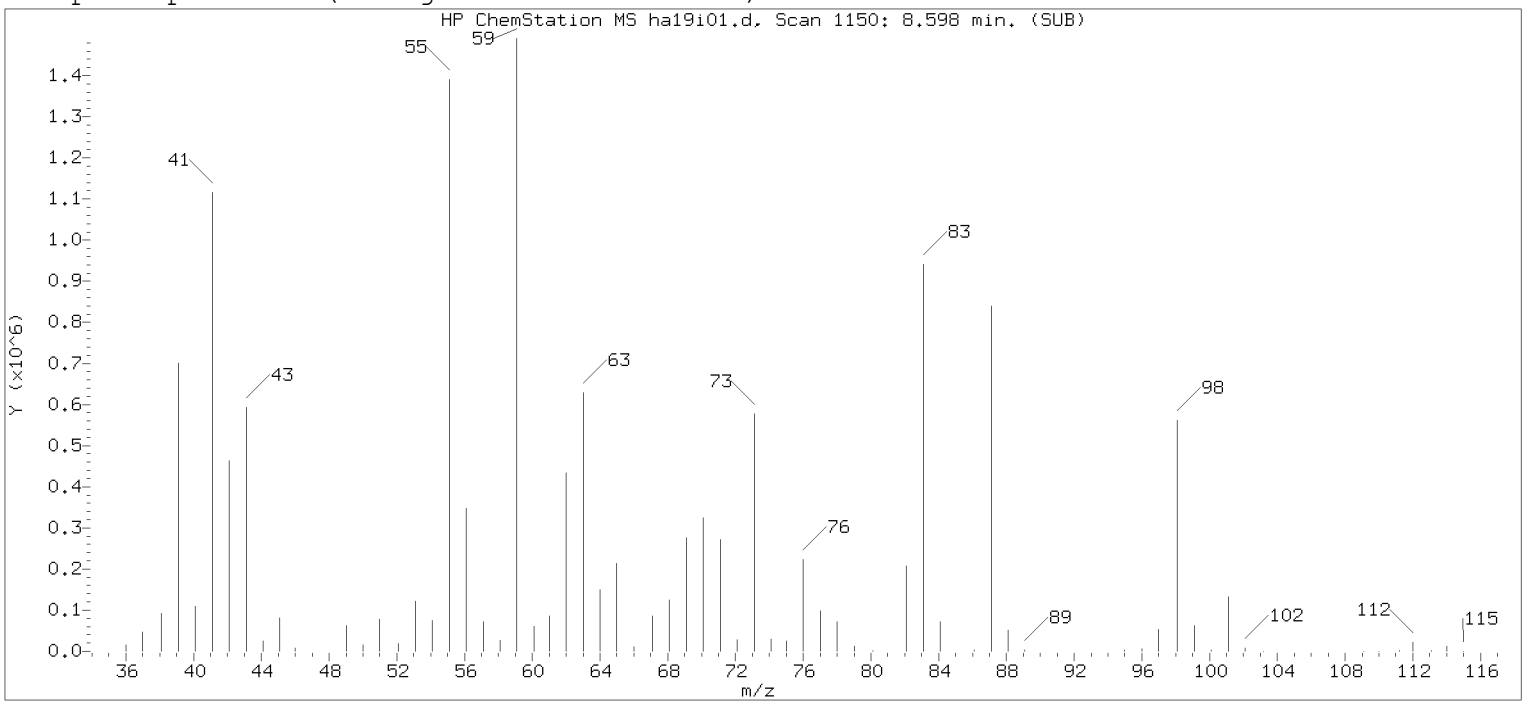
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1165
Retention Time (minutes): 8.689
Quant Ion : 88.00
Area (flag) : 178200M
On-Column Amount (ng) : 1250.0000
Integration start scan : 1157 Integration stop scan: 1212
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

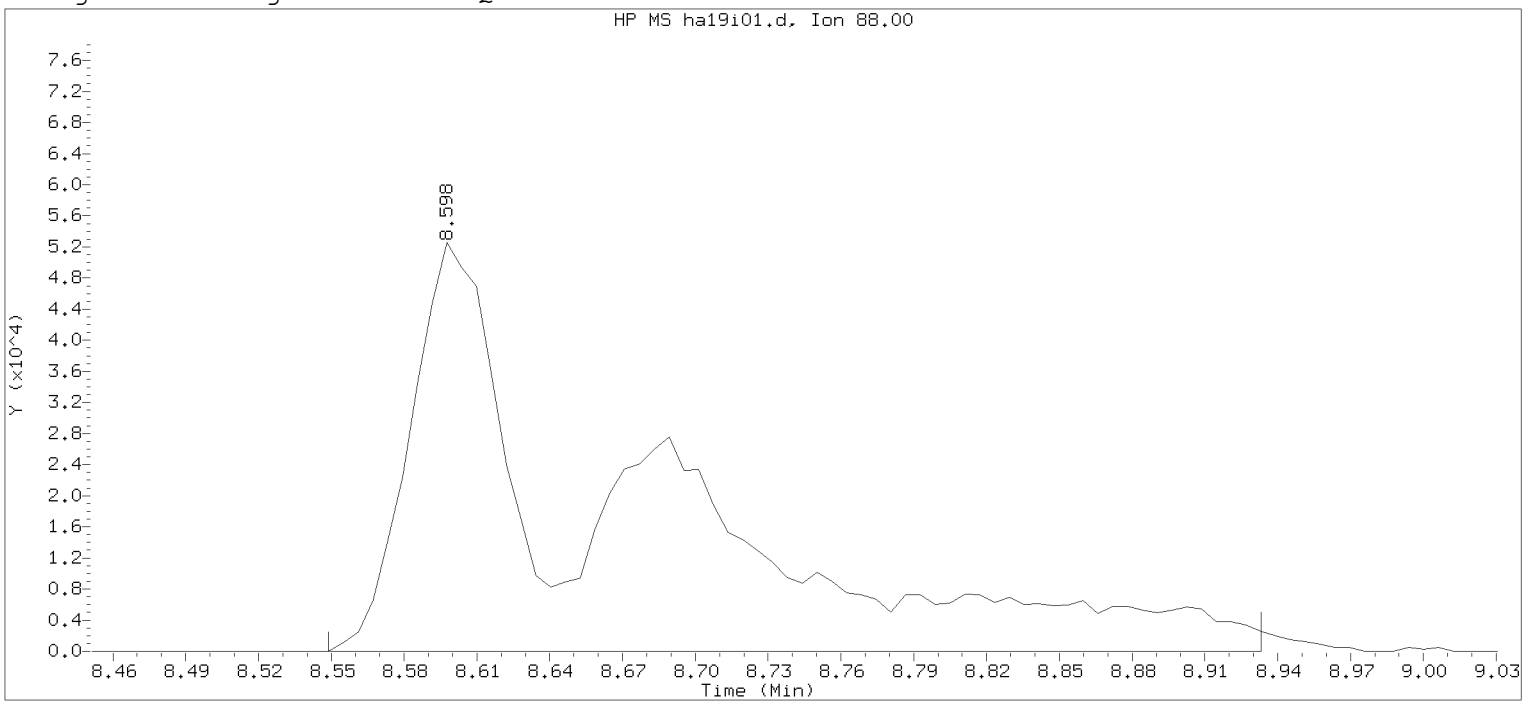
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

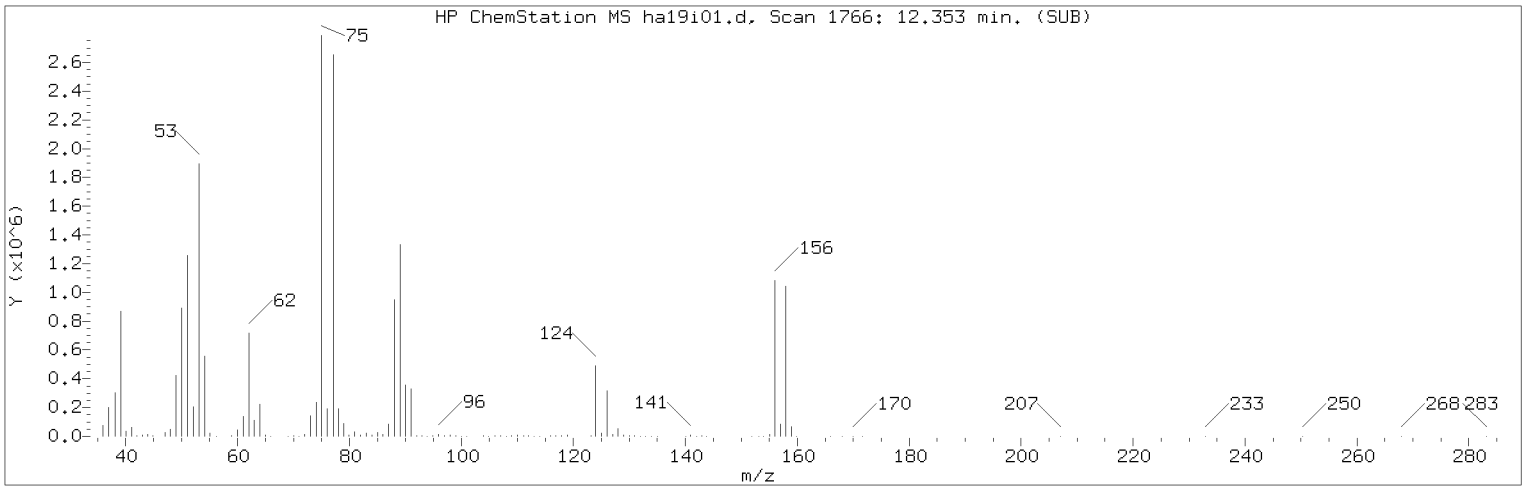
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

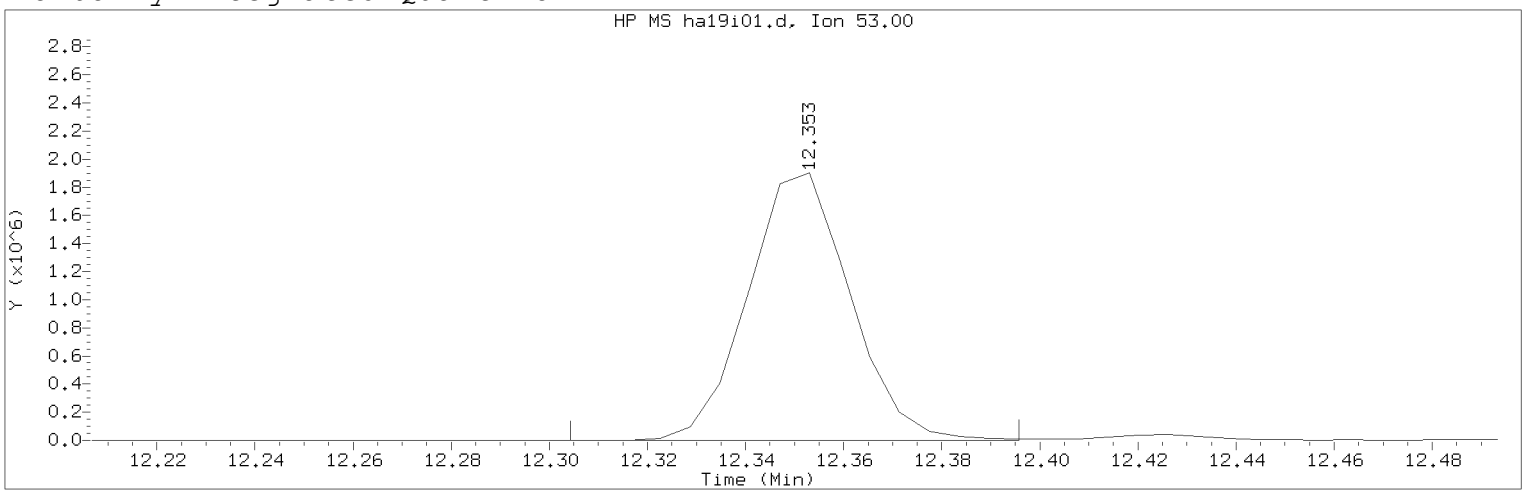
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 310414
On-column Amount (ng) : 1770.9350
Integration start scan : 1141 Integration stop scan: 1204
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

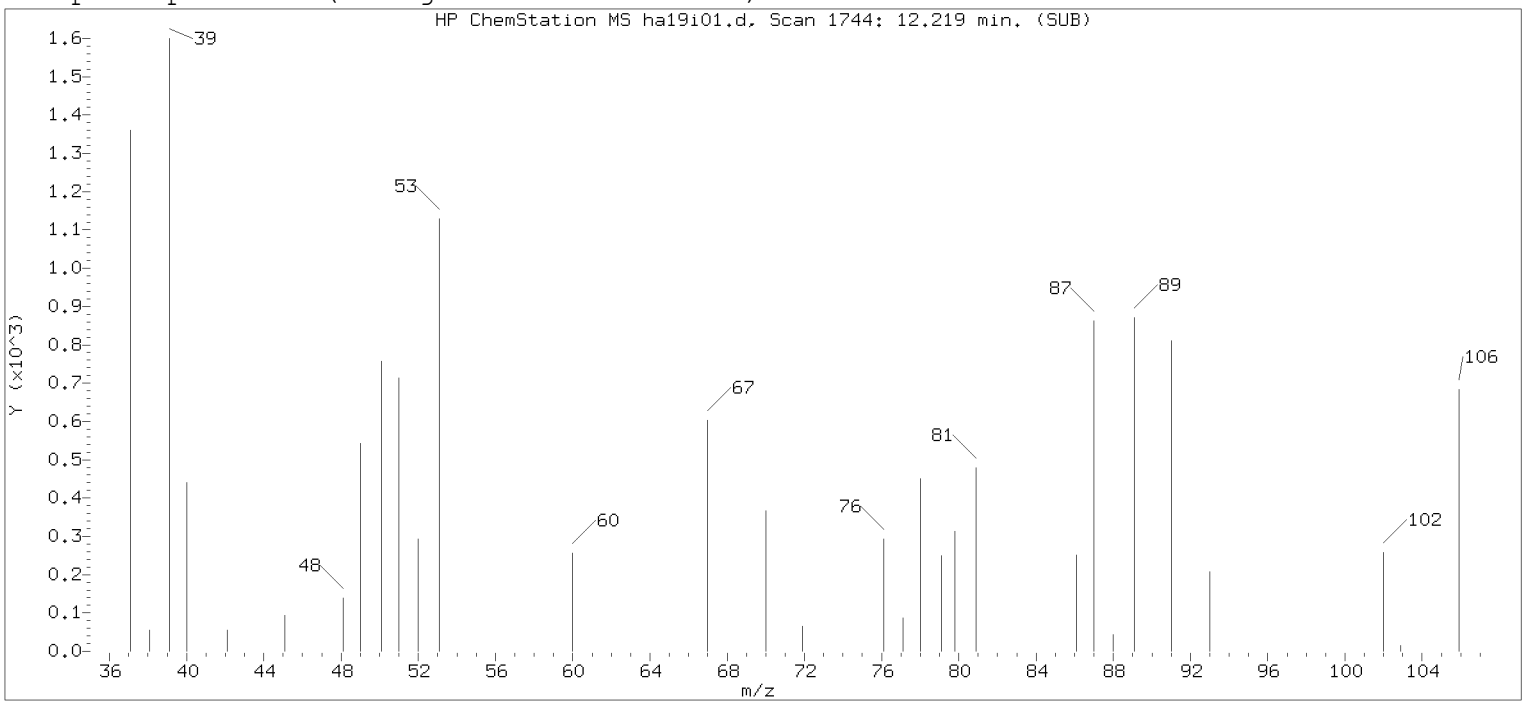
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 2752141A
On-Column Amount (ng) : 250.0000
Integration start scan : 1757 Integration stop scan: 1772
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

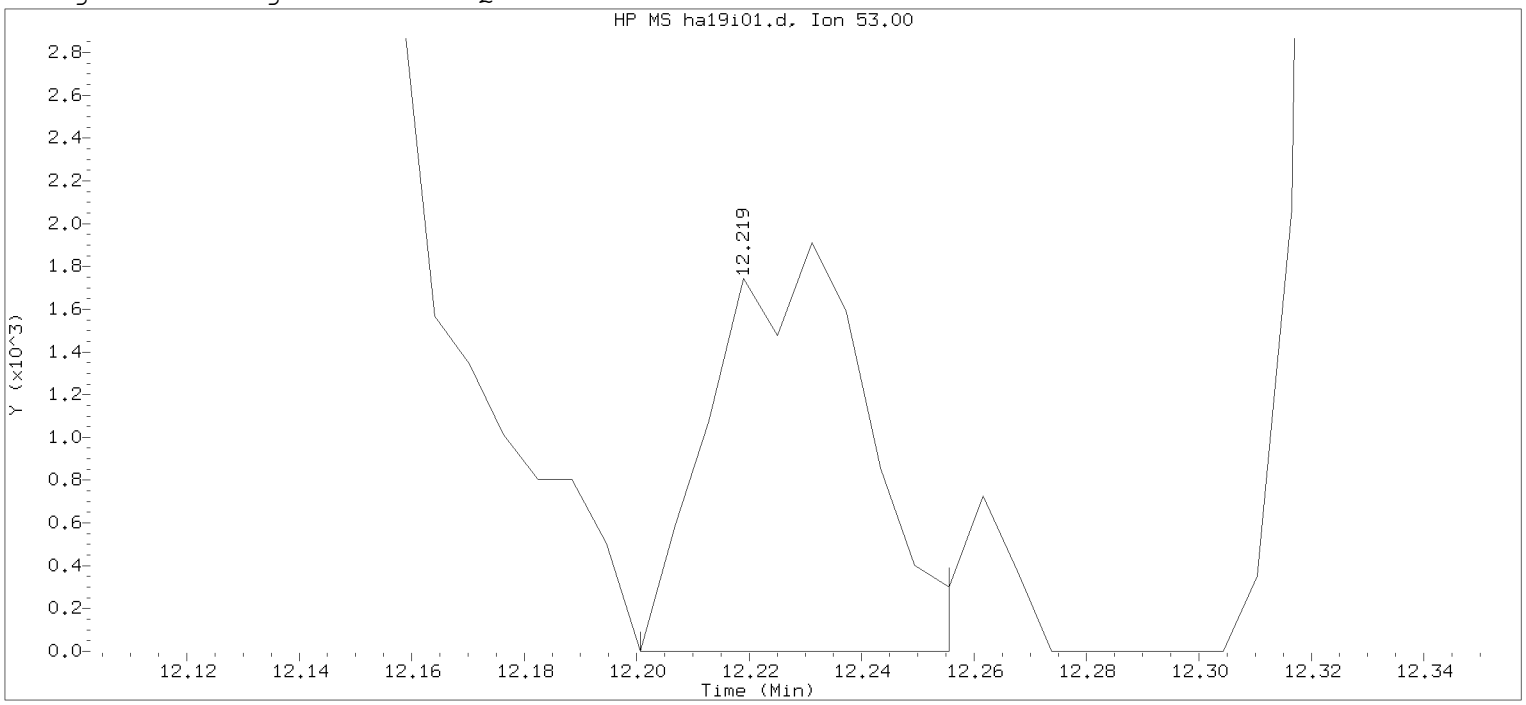
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

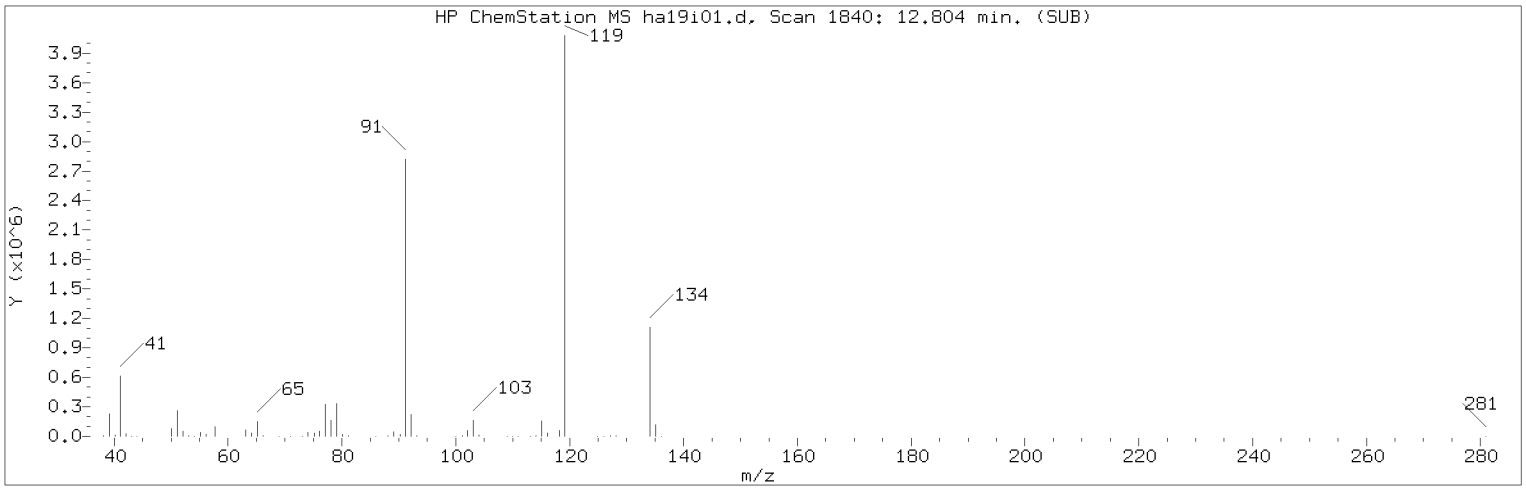
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

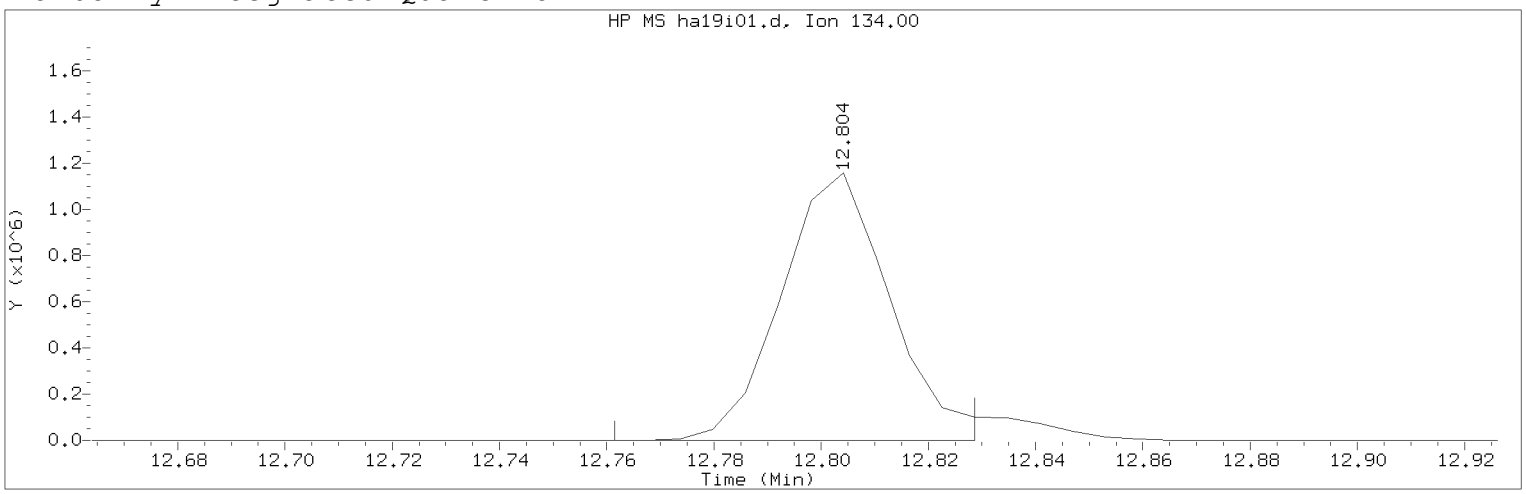
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1744
Retention Time (minutes): 12.219
Quant Ion : 53.00
Area : 3583
On-column Amount (ng) : 0.5430
Integration start scan : 1740 Integration stop scan: 1749
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

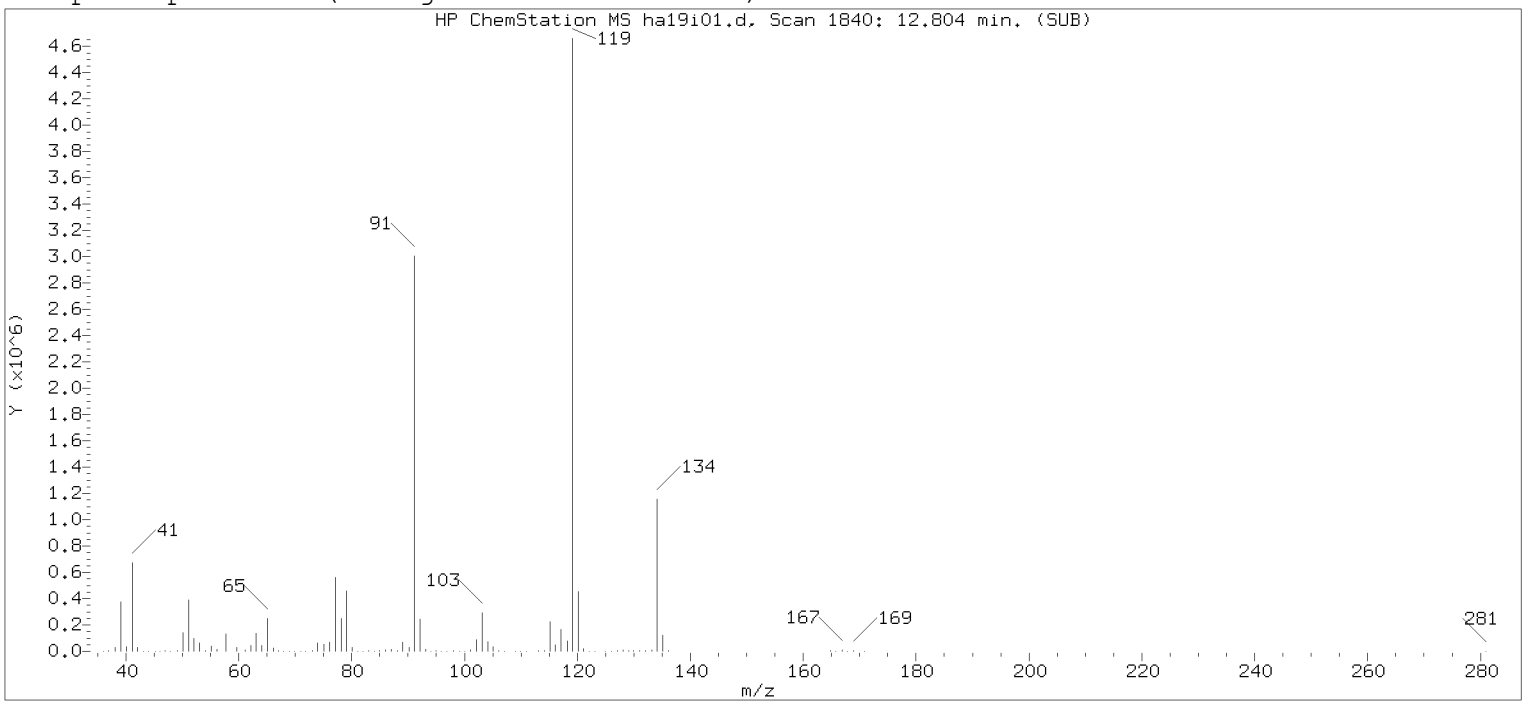
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 1625959M
On-Column Amount (ng) : 25.0000
Integration start scan : 1832 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

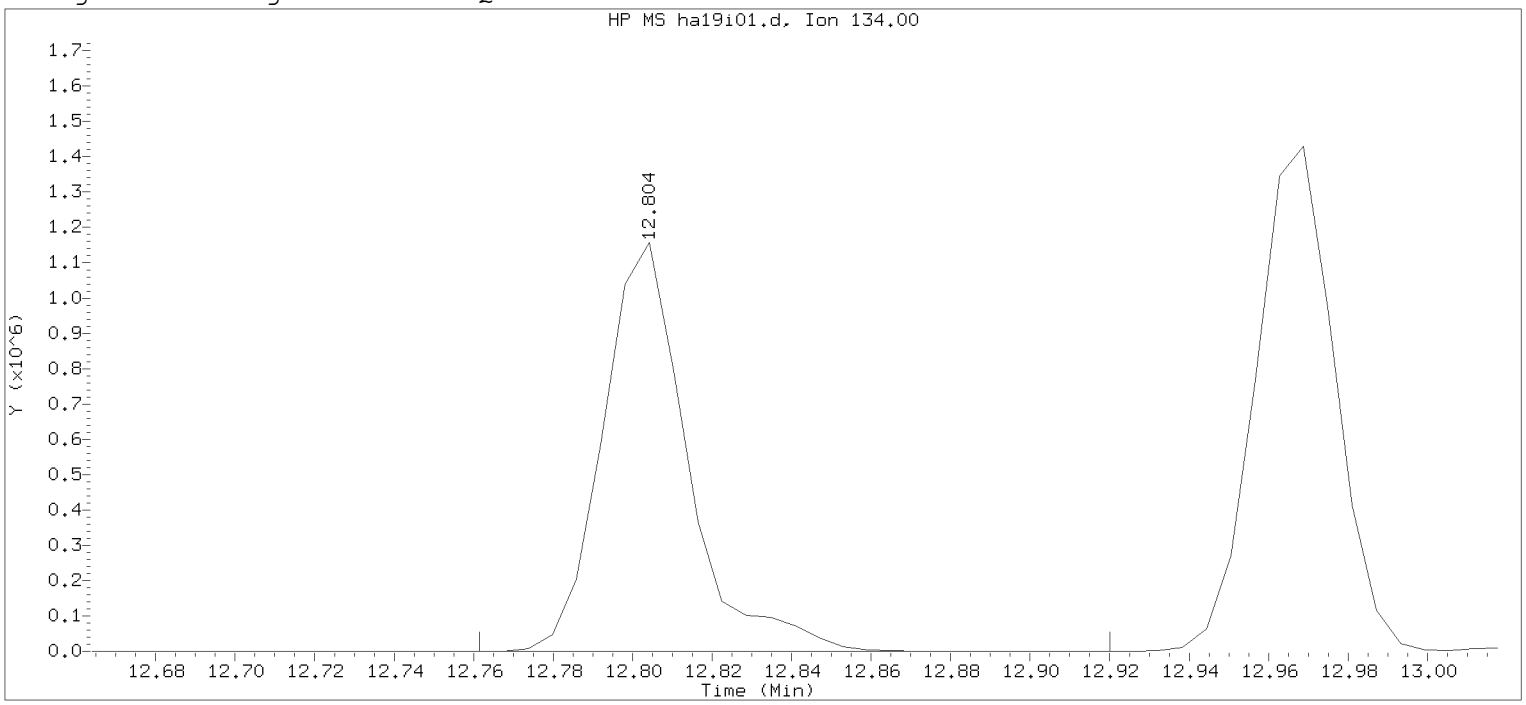
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



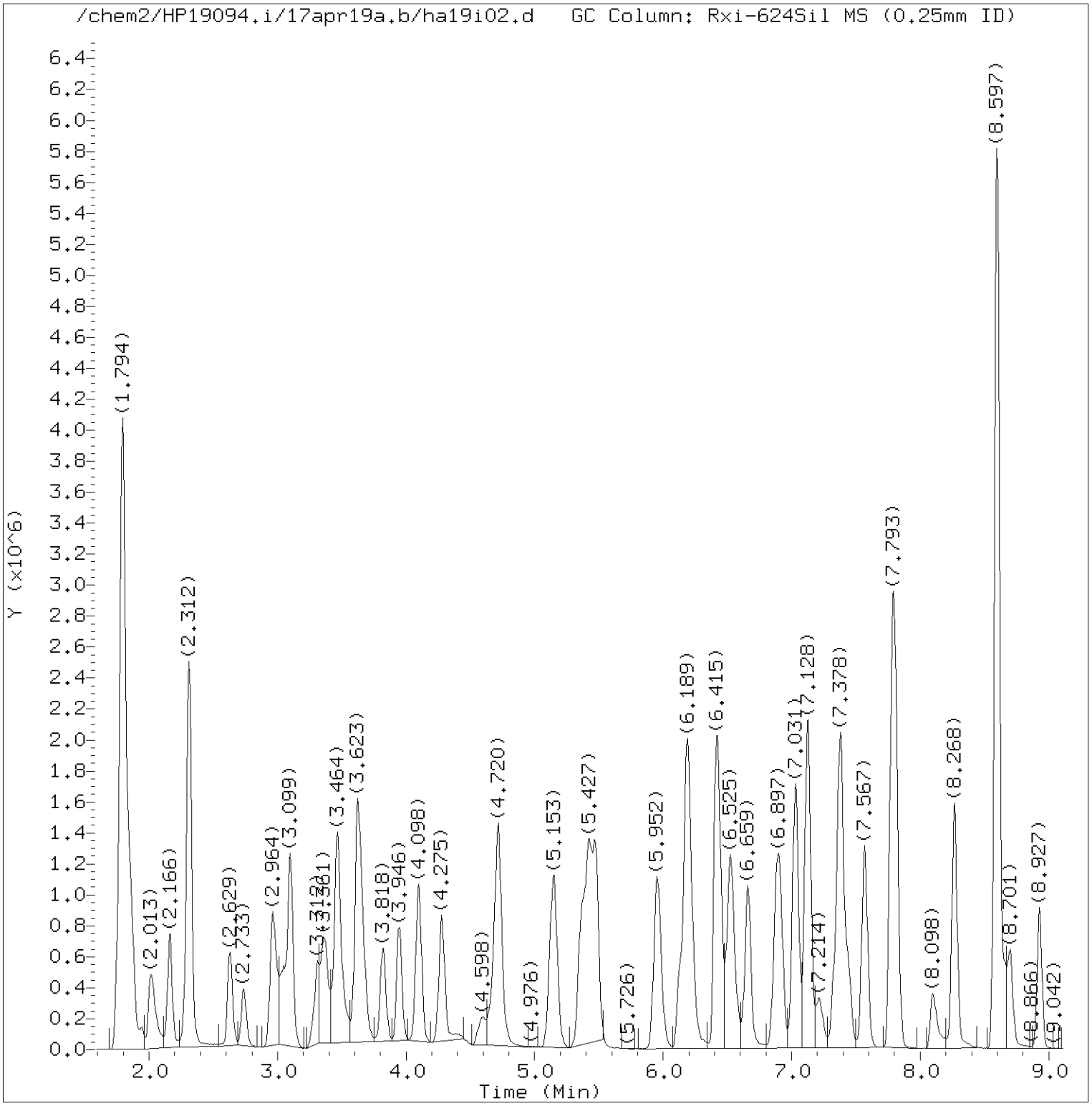
Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 1708923
On-column Amount (ng) : 23.0765
Integration start scan : 1832 Integration stop scan: 1858
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user keksposito



Total Ion Chromatogram (TIC)

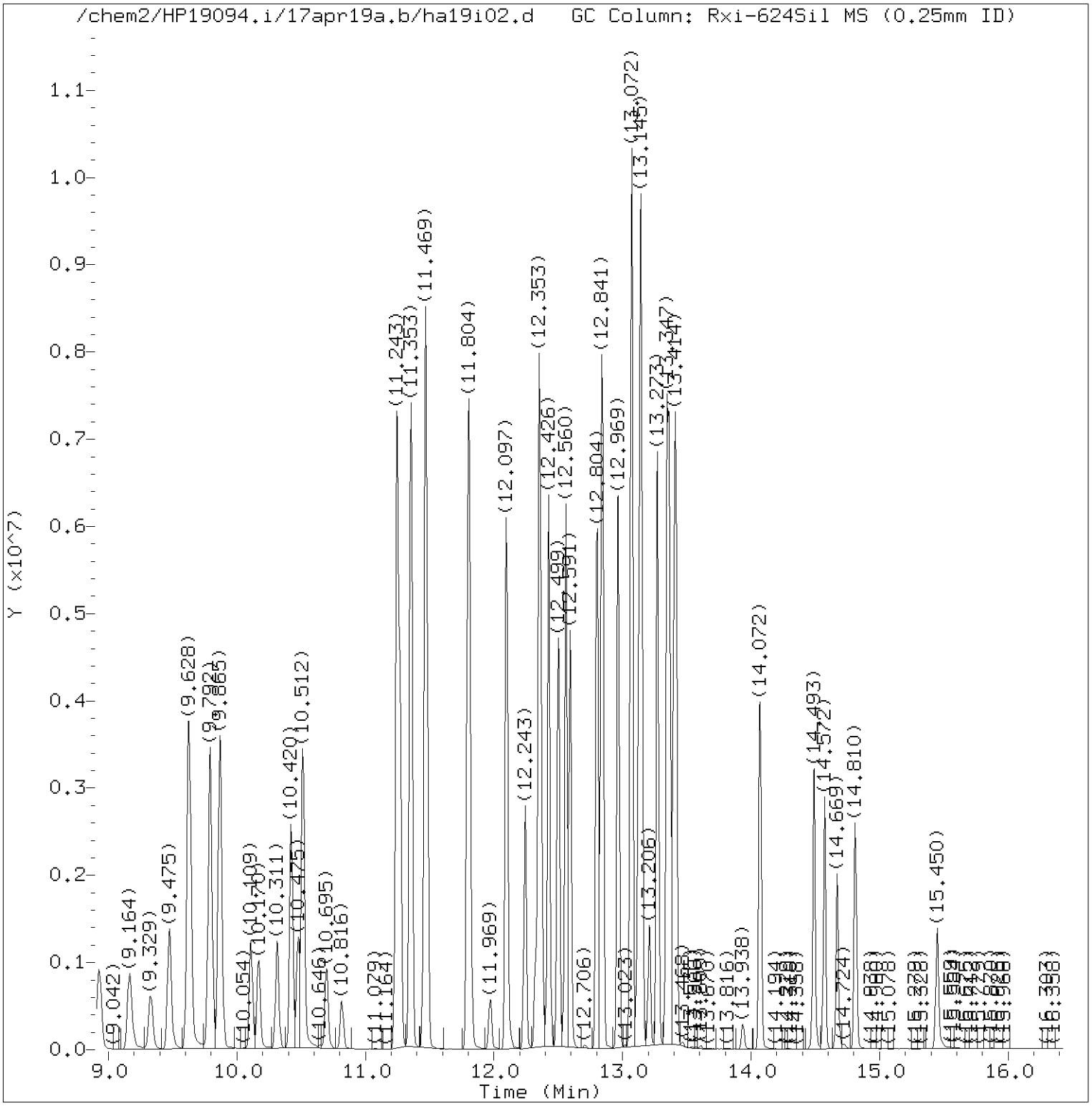
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.019	85	1071262	9.669
2) Chloromethane	(2)	2.160	50	1092226	9.390
5) Vinyl Chloride	(2)	2.300	62	953003	9.334
6) 1,3-Butadiene	(2)	2.312	39	1492747	9.282
7) Bromomethane	(2)	2.629	94	609079	9.497
8) Chloroethane	(2)	2.733	64	538059	9.200
9) Dichlorofluoromethane	(2)	2.958	67	1305115	9.698
10) Trichlorofluoromethane	(2)	3.044	101	1183579	10.005
11) Ethyl ether	(2)	3.306	59	463452	9.888
12) Freon 123a	(2)	3.361	67	902075	10.106
13) Acrolein	(1)	3.464	56	2762988	534.913
15) 1,1-Dichloroethene	(2)	3.623	96	637174	10.029
14) Acetone	(1)	3.641	43	641303	102.527
16) Freon 113	(2)	3.647	101	677975	10.138
17) Methyl Iodide	(2)	3.824	142	1167566	9.894
18) Carbon Disulfide	(2)	3.946	76	1792746	10.057
21) Methyl Acetate	(1)	4.068	43	207306M	9.753
22) Allyl Chloride	(2)	4.098	41	1216942	9.870
23) Methylene Chloride	(2)	4.275	84	673081	9.701
26)*t-Butyl Alcohol-d10	(1)	4.299	65	67885M	50.000
28) t-Butyl Alcohol	(1)	4.403	59	349391	205.706
29) Acrylonitrile	(1)	4.586	53	472610	55.913
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	1326574	10.421
31) trans-1,2-Dichloroethene	(2)	4.720	96	702761	10.016
32) n-Hexane	(2)	5.147	57	1184016	11.008
33) 1,1-Dichloroethane	(2)	5.366	63	1341424	9.689
34) di-Isopropyl Ether	(2)	5.421	45	2407178	10.203
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	1212212	10.364
37) Ethyl t-butyl ether	(2)	5.952	59	1894771	10.446
40) 1,2-Dichloroethene (Total)	(2)		96	1483818	19.989
38) 2-Butanone	(1)	6.128	43	1398892	109.649
39) cis-1,2-Dichloroethene	(2)	6.183	96	781057	9.973
42) Propionitrile	(1)	6.208	54	631605	208.364
41) 2,2-Dichloropropane	(2)	6.208	77	1039712	10.024
45) Methacrylonitrile	(1)	6.421	67	1400493	110.504
47) Bromochloromethane	(2)	6.519	128	299989	9.687
48) Tetrahydrofuran	(1)	6.543	71	350865	110.089
49) Chloroform	(2)	6.659	83	1278502	9.788

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	654497	10.196
50)$Dibromofluoromethane	(2)	6.872	111	675876	10.251
51) 1,1,1-Trichloroethane	(2)	6.909	97	1092724	9.823
52) Cyclohexane	(2)	7.031	56	1403831	10.236
52) Cyclohexane	(2)	7.031	84	1131033M	10.242
52) Cyclohexane	(2)	7.031	69	413049	10.733
55) 1,1-Dichloropropene	(2)	7.116	75	1057901	10.240
54) Carbon Tetrachloride	(2)	7.134	117	926635	9.923
56) Isobutyl Alcohol	(1)	7.220	41	328311	447.932
57)$1,2-Dichloroethane-d4	(2)	7.335	102	104170	10.036
57)$1,2-Dichloroethane-d4	(2)	7.335	65	512298	10.139
57)$1,2-Dichloroethane-d4	(2)	7.329	104	64153	10.197
58) Benzene	(2)	7.378	78	2950193	9.834
59) 1,2-Dichloroethane	(2)	7.439	62	712157	9.930
60) t-Amyl methyl ether	(2)	7.567	73	1540965	10.448
63)*Fluorobenzene	(2)	7.781	96	2863672	10.000
62) n-Heptane	(2)	7.805	43	1342480	10.602
65) n-Butanol	(1)	8.104	56	568957M	1054.252
67) Trichloroethene	(2)	8.262	95	777450	9.789
70) 1,2-Dichloropropane	(2)	8.591	63	782054	9.997
69) Methylcyclohexane	(2)	8.597	83	1398483	10.424
71) Methyl Methacrylate	(1)	8.658	69	275510M	11.883
72) 1,4-Dioxane	(1)	8.689	88	62881M	480.375
73) Dibromomethane	(2)	8.701	93	303095	10.050
74) Bromodichloromethane	(2)	8.927	83	834117	10.099
76) 2-Nitropropane	(1)	9.164	41	813840	106.430
80) cis-1,3-Dichloropropene	(2)	9.475	75	996206	10.699
81) 4-Methyl-2-Pentanone	(1)	9.628	43	3778195	111.760
82)$Toluene-d8	(3)	9.792	98	2797178	9.742
82)$Toluene-d8	(3)	9.792	100	1801336	9.743
83) Toluene	(3)	9.865	92	1819632	9.591
84) trans-1,3-Dichloropropene	(3)	10.109	75	754766	10.212
85) 1,3-Dichloropropene (total)	(3)		75	1750972	20.911
86) Ethyl Methacrylate	(3)	10.170	69	582092	10.647
88) 1,1,2-Trichloroethane	(3)	10.311	97	433031	9.825
89) Tetrachloroethene	(3)	10.420	166	854667	9.713
90) 1,3-Dichloropropane	(3)	10.475	76	766685	9.720
91) 2-Hexanone	(1)	10.512	43	2610250	109.558

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	515238	9.865
95) 1,2-Dibromoethane	(3)	10.816	107	403655	9.685
97)*Chlorobenzene-d5	(3)	11.243	117	1964158	10.000
98) Chlorobenzene	(3)	11.268	112	1981165	9.577
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	658759	9.564
100) Ethylbenzene	(3)	11.353	91	3645850	9.917
101) m+p-Xylene	(3)	11.469	106	2779520	19.884
105) Xylene (Total)	(3)		106	4138521	30.002
104) o-Xylene	(3)	11.798	106	1359001	10.123
106) Styrene	(3)	11.810	104	2140342	10.350
107) Bromoform	(3)	11.975	173	270000	10.351
108) Isopropylbenzene	(3)	12.097	105	3608335	10.271
111)$4-Bromofluorobenzene	(3)	12.243	95	825254	10.116
111)$4-Bromofluorobenzene	(3)	12.243	174	741991	10.219
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	526007	9.380
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	1044235A	116.340
114) Bromobenzene	(4)	12.359	156	795361	9.302
116) 1,2,3-Trichloropropane	(4)	12.377	110	127632	9.097
117) n-Propylbenzene	(4)	12.426	91	4472359	9.783
119) 2-Chlorotoluene	(4)	12.505	126	818841	9.471
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	3036642	9.872
122) 4-Chlorotoluene	(4)	12.591	126	839721	9.663
125) tert-Butylbenzene	(4)	12.804	134	638983M	9.564
126) Pentachloroethane	(4)	12.834	167	489943	9.816
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	3083341	10.056
128) sec-Butylbenzene	(4)	12.969	105	4043809	10.087
131) 1,3-Dichlorobenzene	(4)	13.066	146	1609033	9.578
132) p-Isopropyltoluene	(4)	13.072	119	3376502	10.293
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	868838	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	1594143	9.106
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	1267094	9.374
136) Benzyl Chloride	(4)	13.212	126	188592	10.673
138) n-Butylbenzene	(4)	13.365	92	1736495	10.781
139) 1,2-Dichlorobenzene	(4)	13.395	146	1396754	9.361
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	59646A	11.912
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	969316	10.075
146) Hexachlorobutadiene	(4)	14.572	225	486582	10.210
147) Naphthalene	(4)	14.669	128	1420704	10.035

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

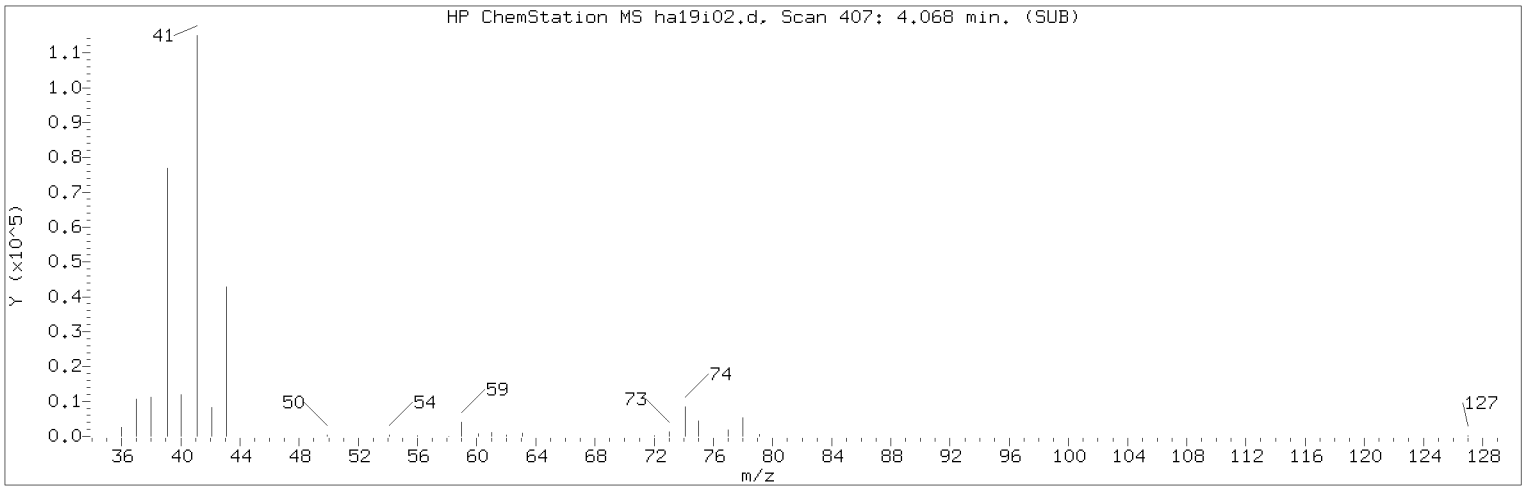
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

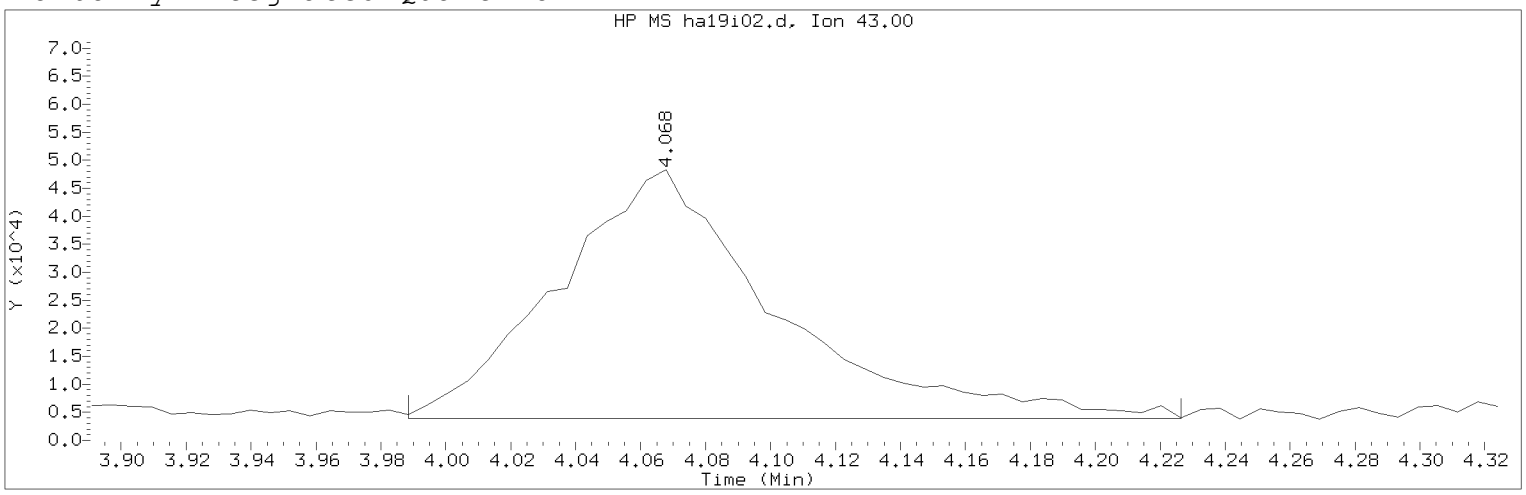
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	773785	9.519

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

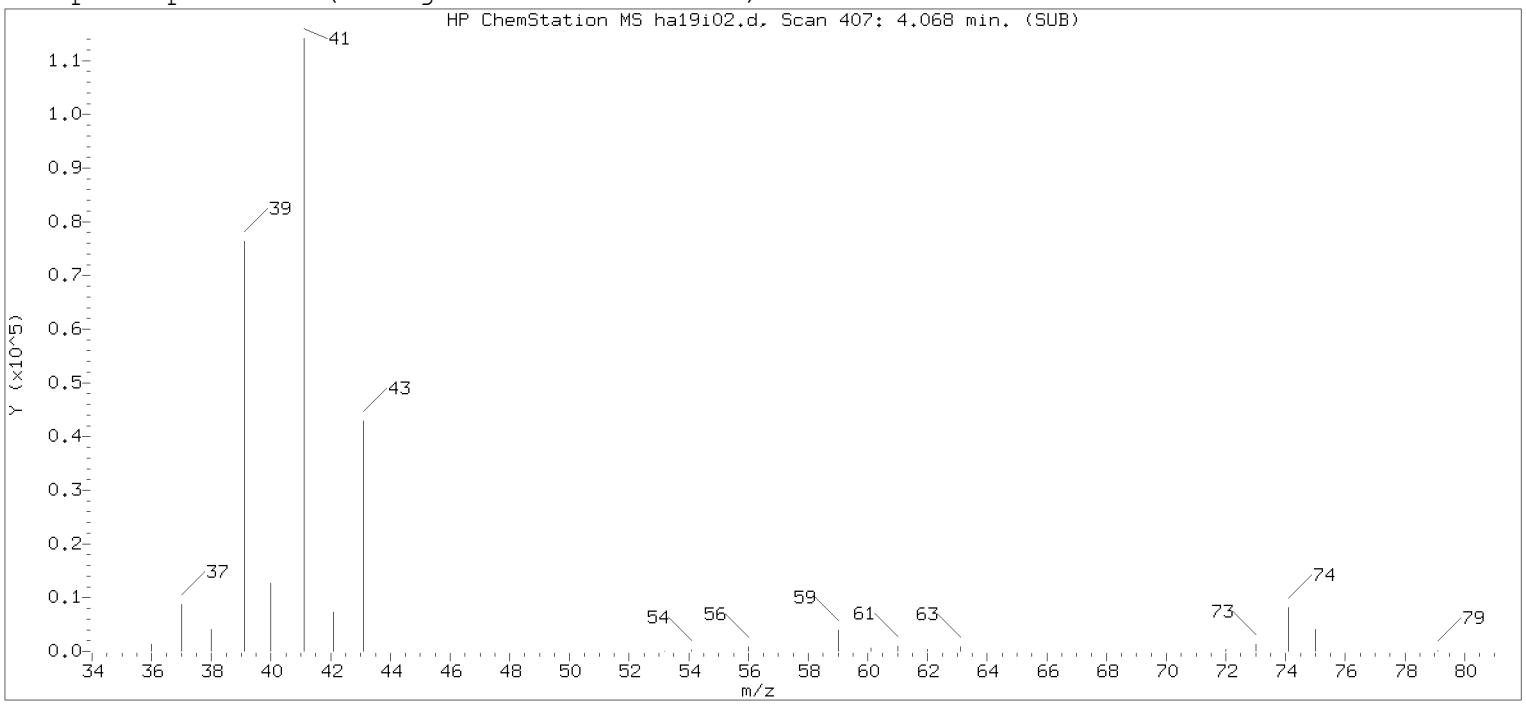
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 407
Retention Time (minutes): 4.068
Quant Ion : 43.00
Area (flag) : 207306M
On-Column Amount (ng) : 9.7534
Integration start scan : 393 Integration stop scan: 432
Y at integration start : 3910 Y at integration end: 3910

Reason for manual integration: improper integration

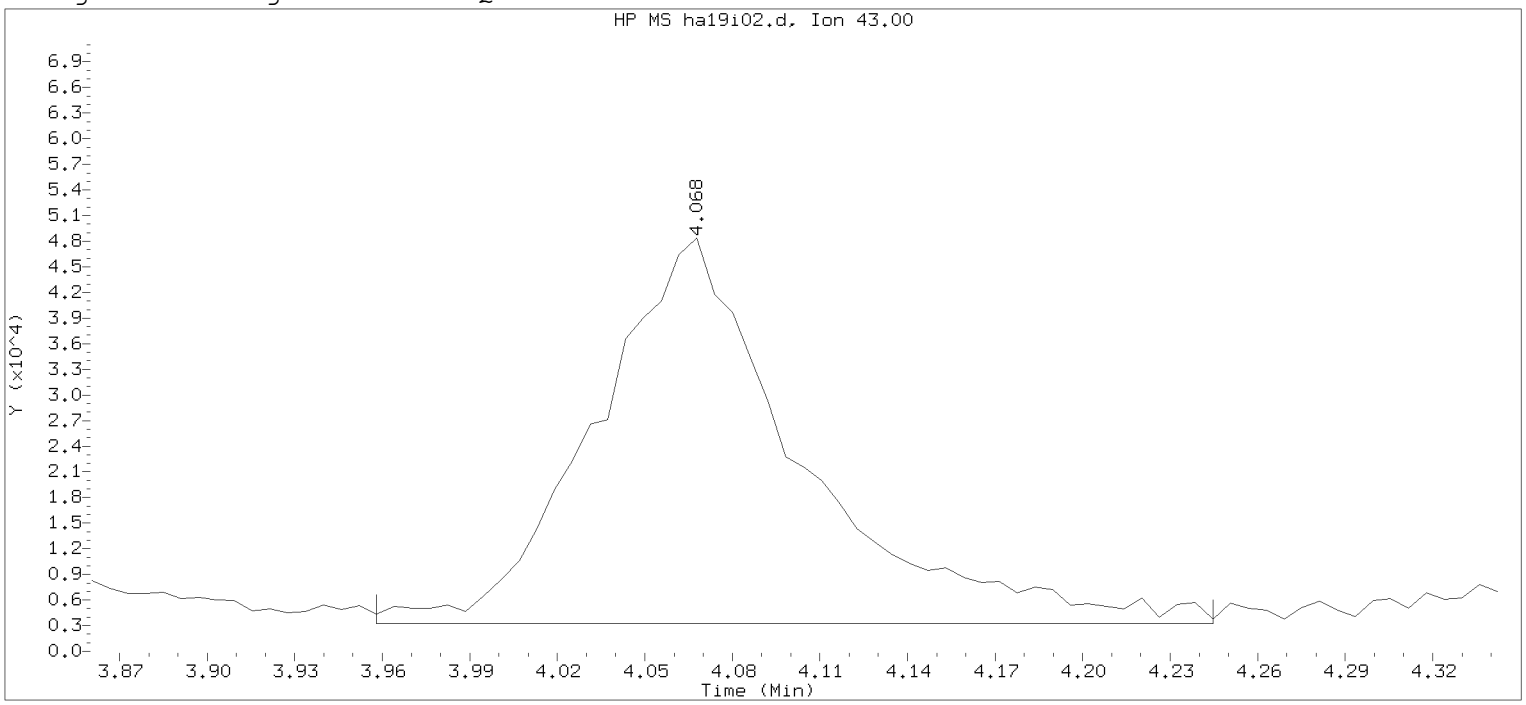
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

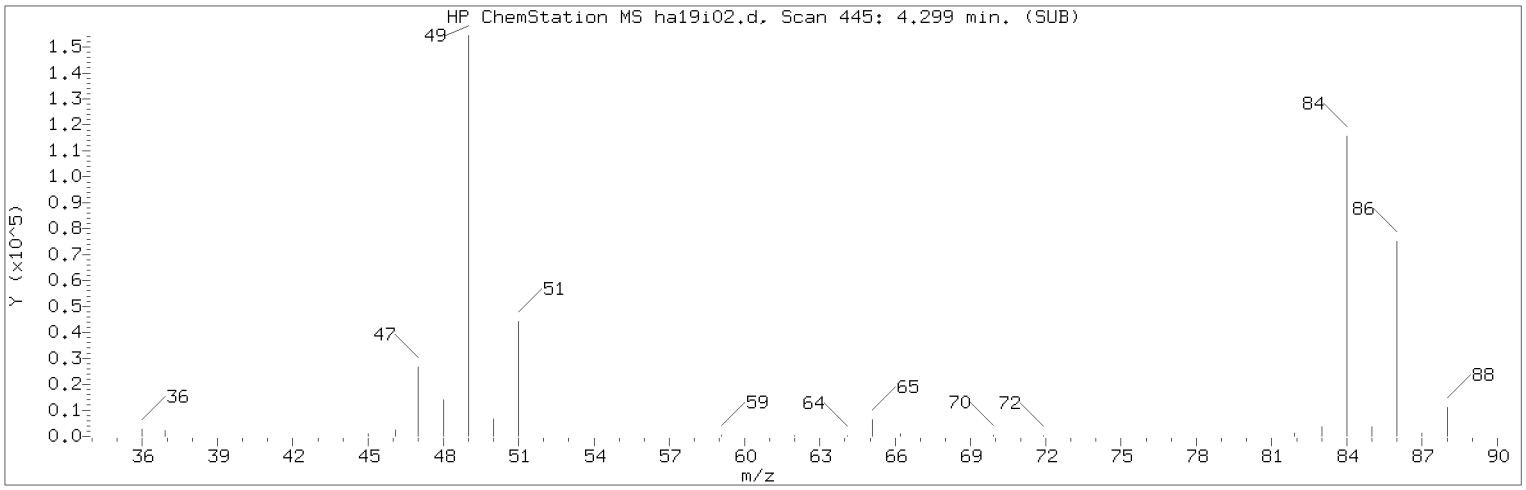
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

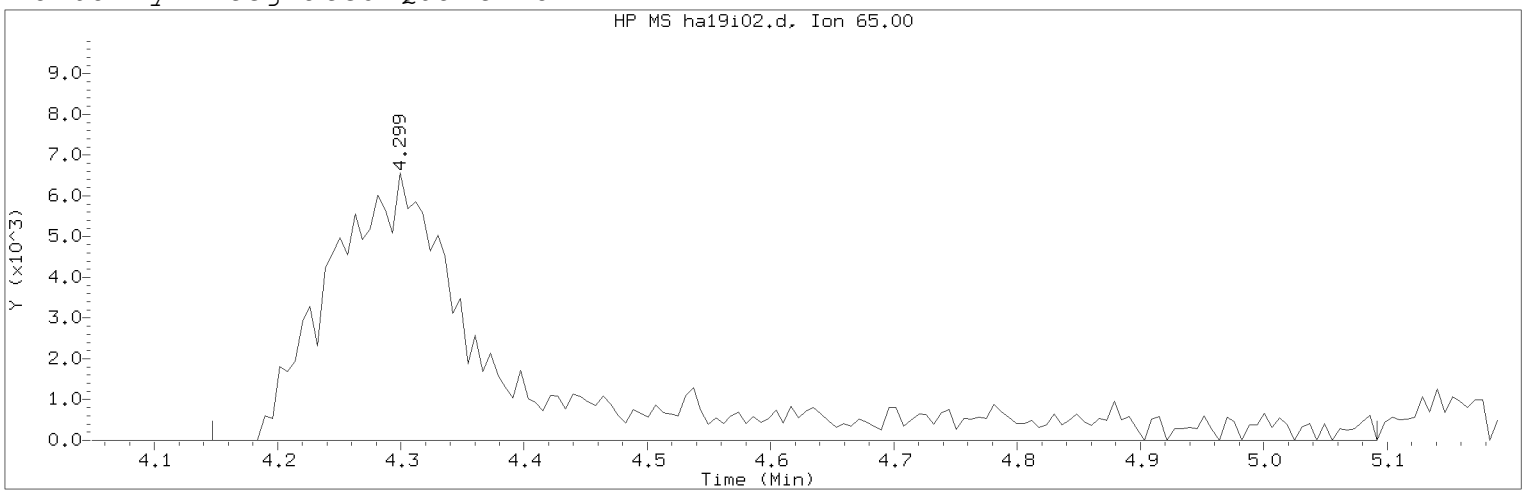
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 407
Retention Time (minutes): 4.068
Quant Ion : 43.00
Area : 221682
On-column Amount (ng) : 14.8497
Integration start scan : 388 Integration stop scan: 435
Y at integration start : 3257 Y at integration end: 3257

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

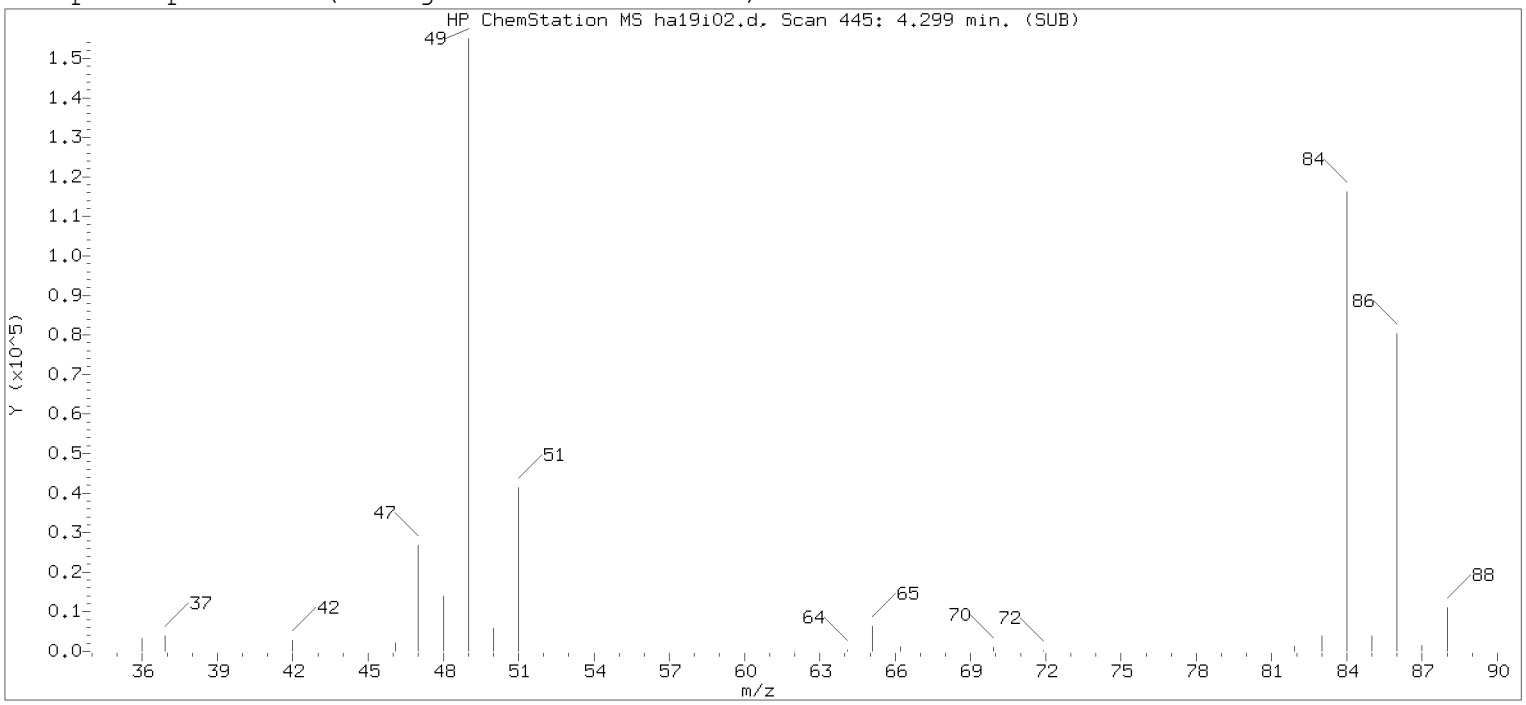
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.299
Quant Ion : 65.00
Area (flag) : 67885M
On-Column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 574
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

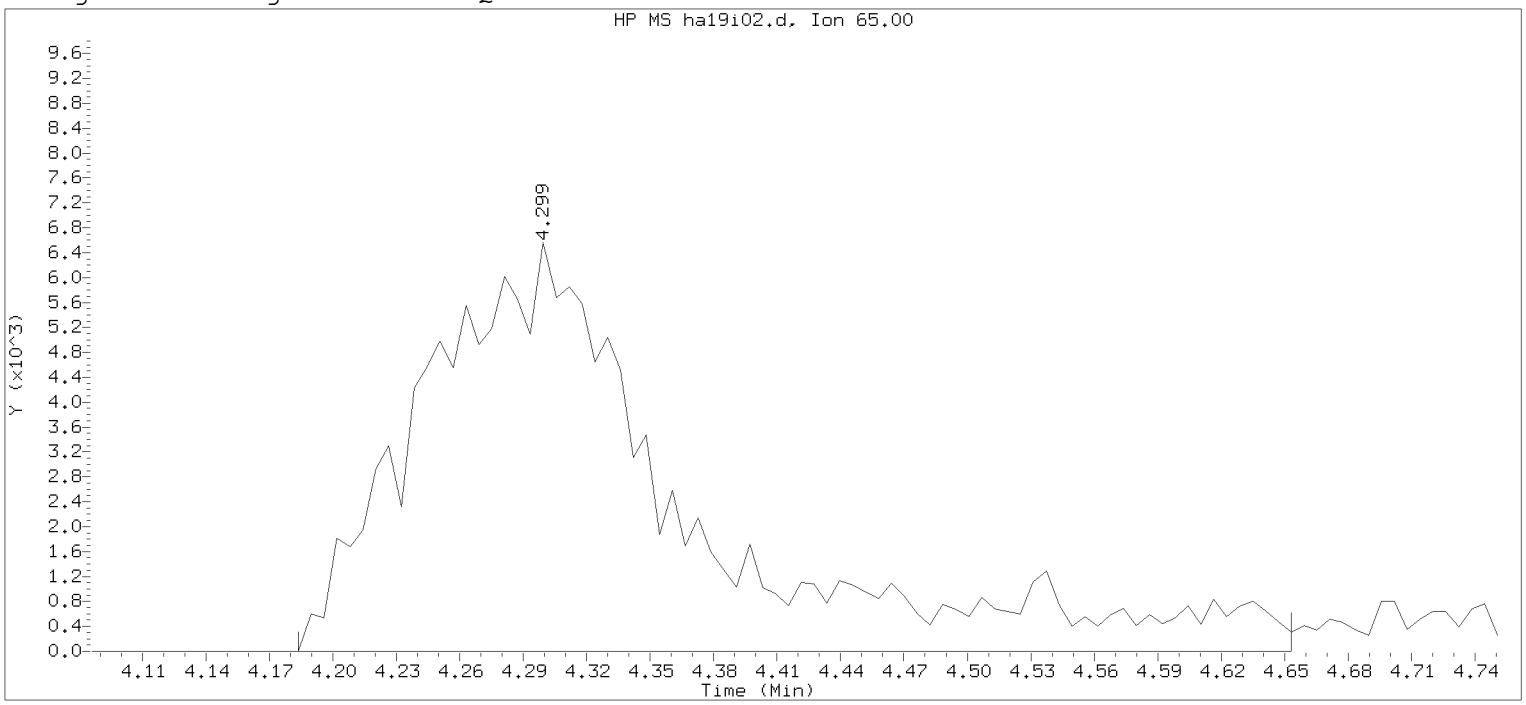
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

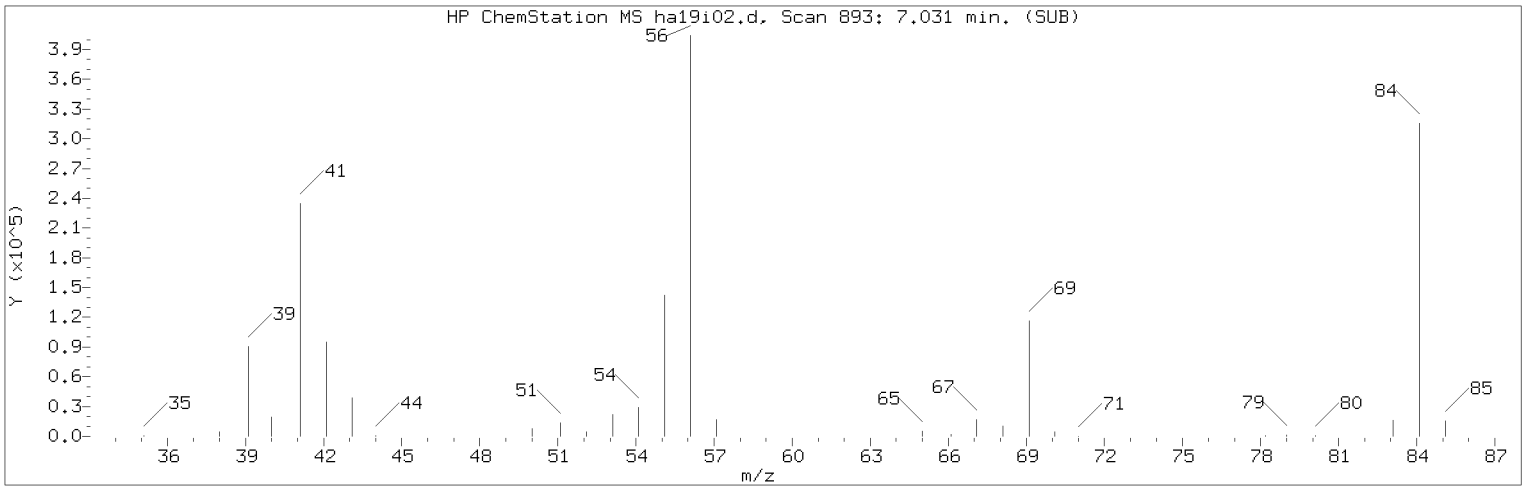
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

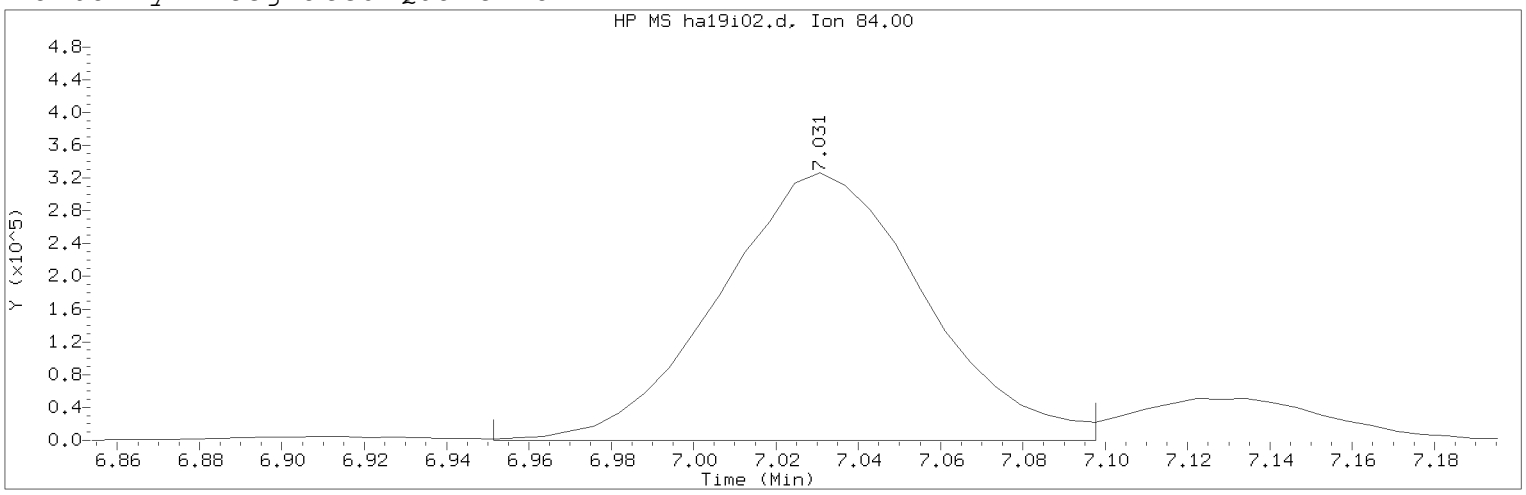
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.299
Quant Ion : 65.00
Area : 56605
On-column Amount (ng) : 50.0000
Integration start scan : 425 Integration stop scan: 502
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

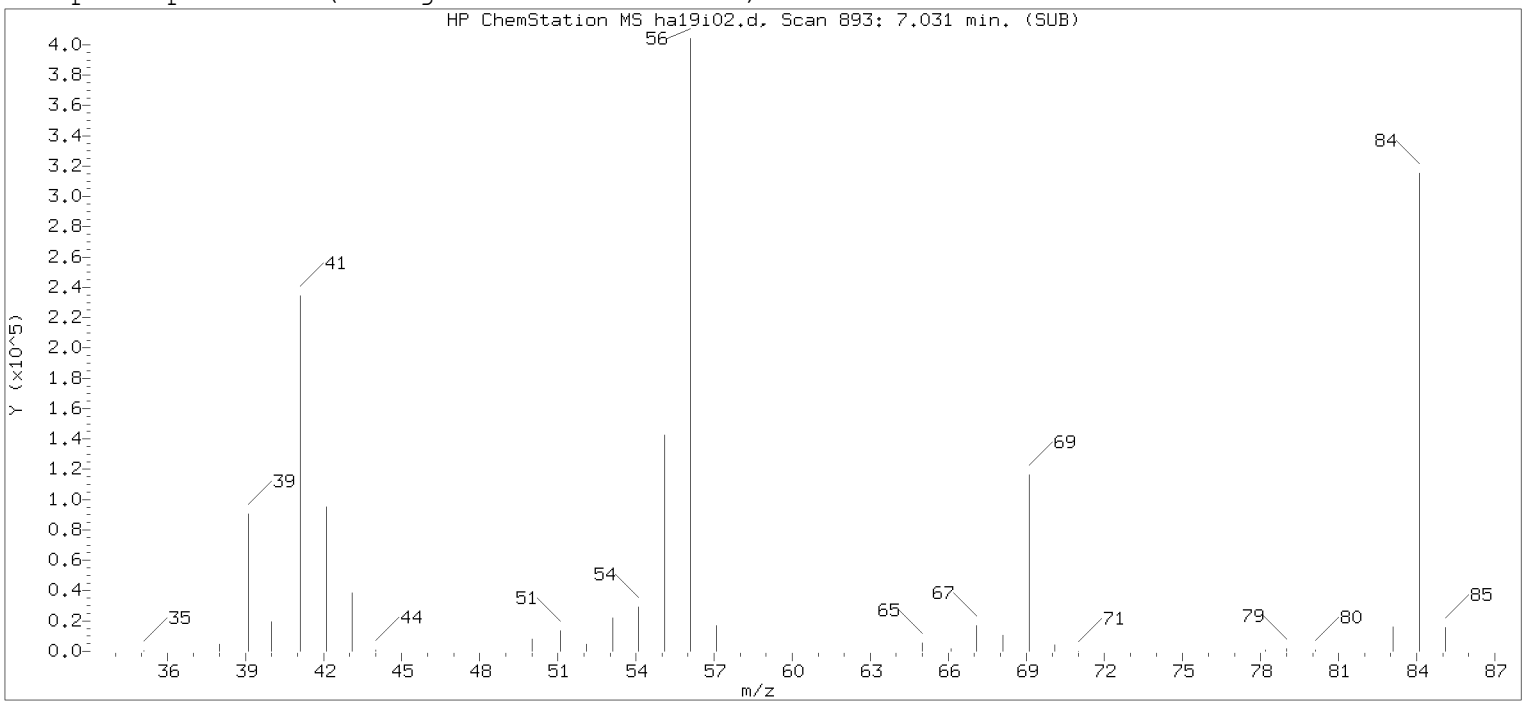
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 893
Retention Time (minutes): 7.031
Quant Ion : 84.00
Area (flag) : 1131033M
On-Column Amount (ng) : 10.2423
Integration start scan : 879 Integration stop scan: 903
Y at integration start : 103 Y at integration end: 150

Reason for manual integration: improper integration

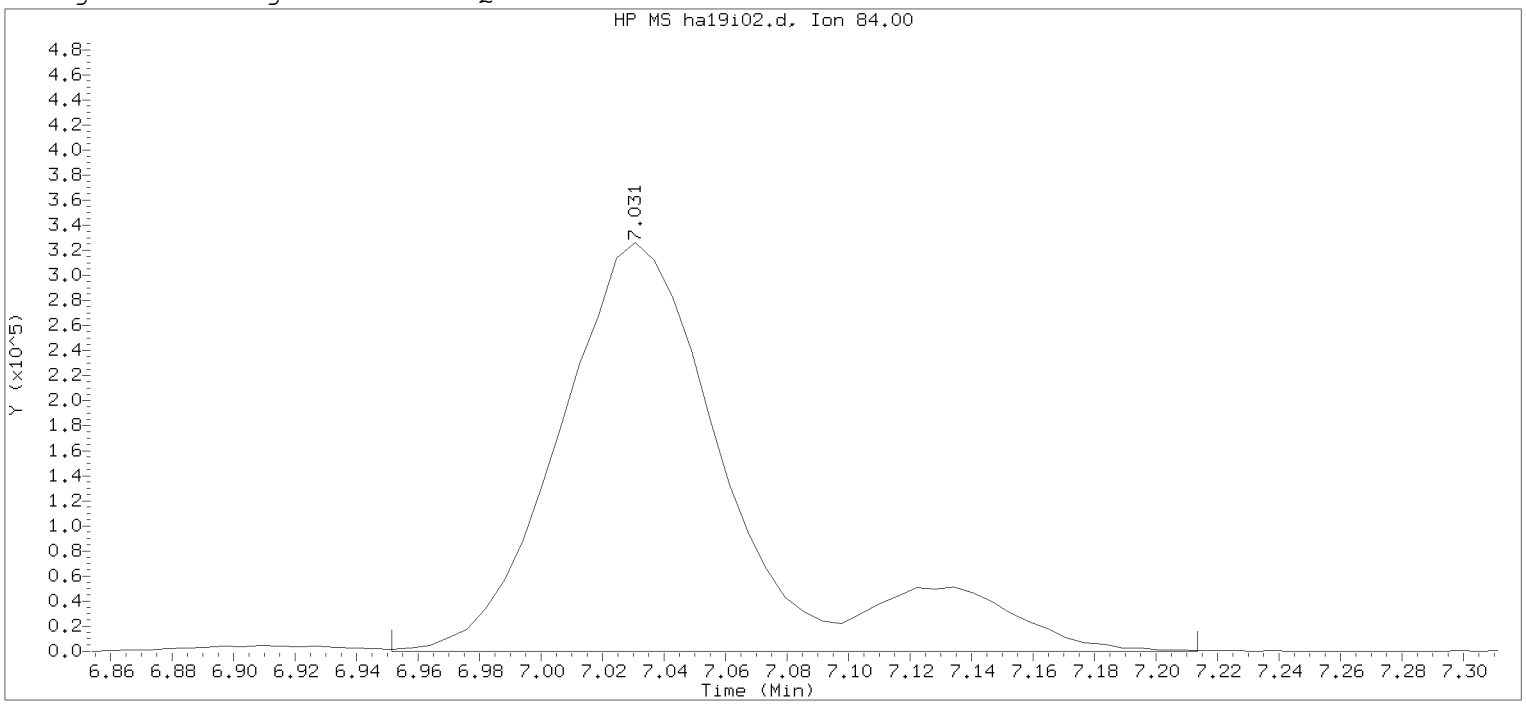
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

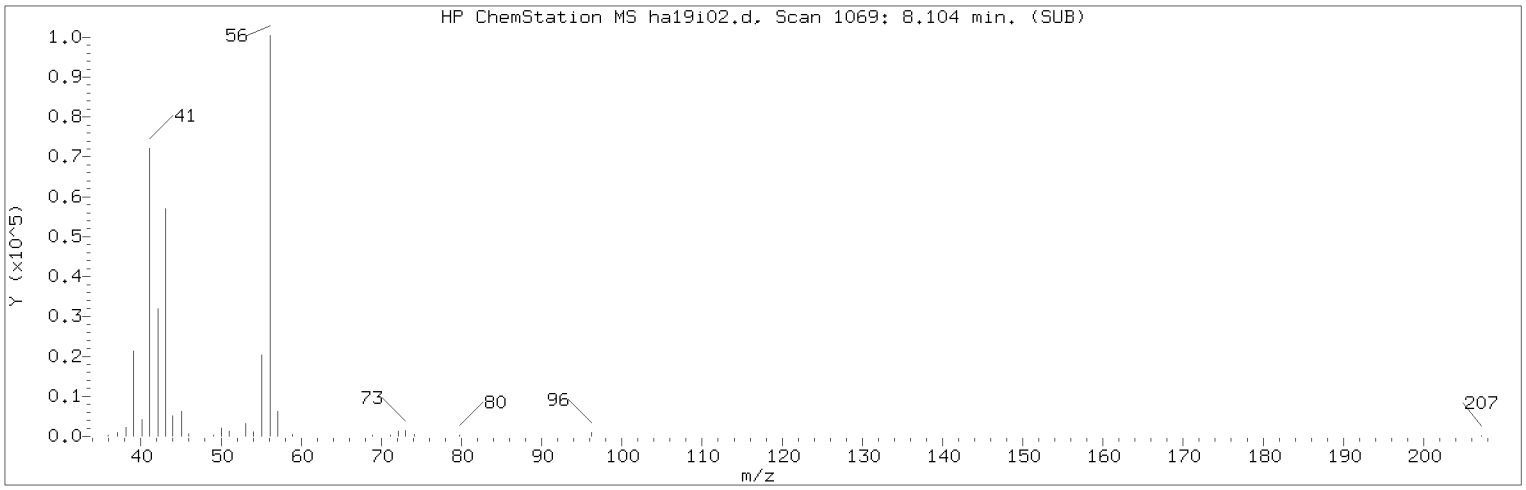
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

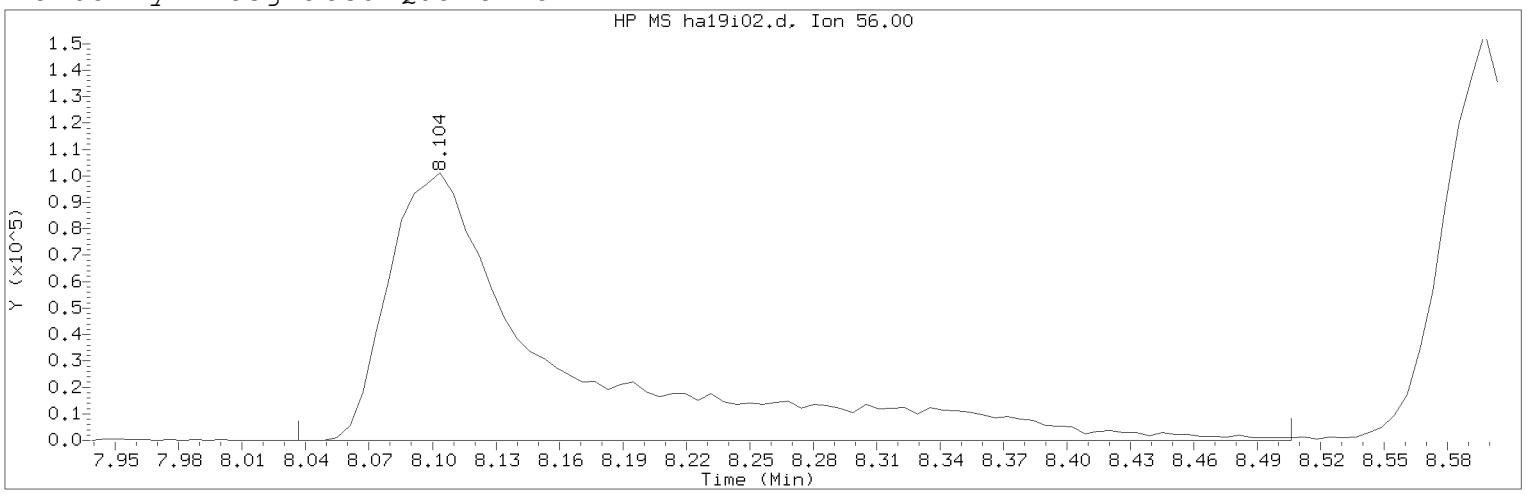
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 893
Retention Time (minutes): 7.031
Quant Ion : 84.00
Area : 1294855
On-column Amount (ng) : 11.3043
Integration start scan : 879 Integration stop scan: 922
Y at integration start : 103 Y at integration end: 189

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

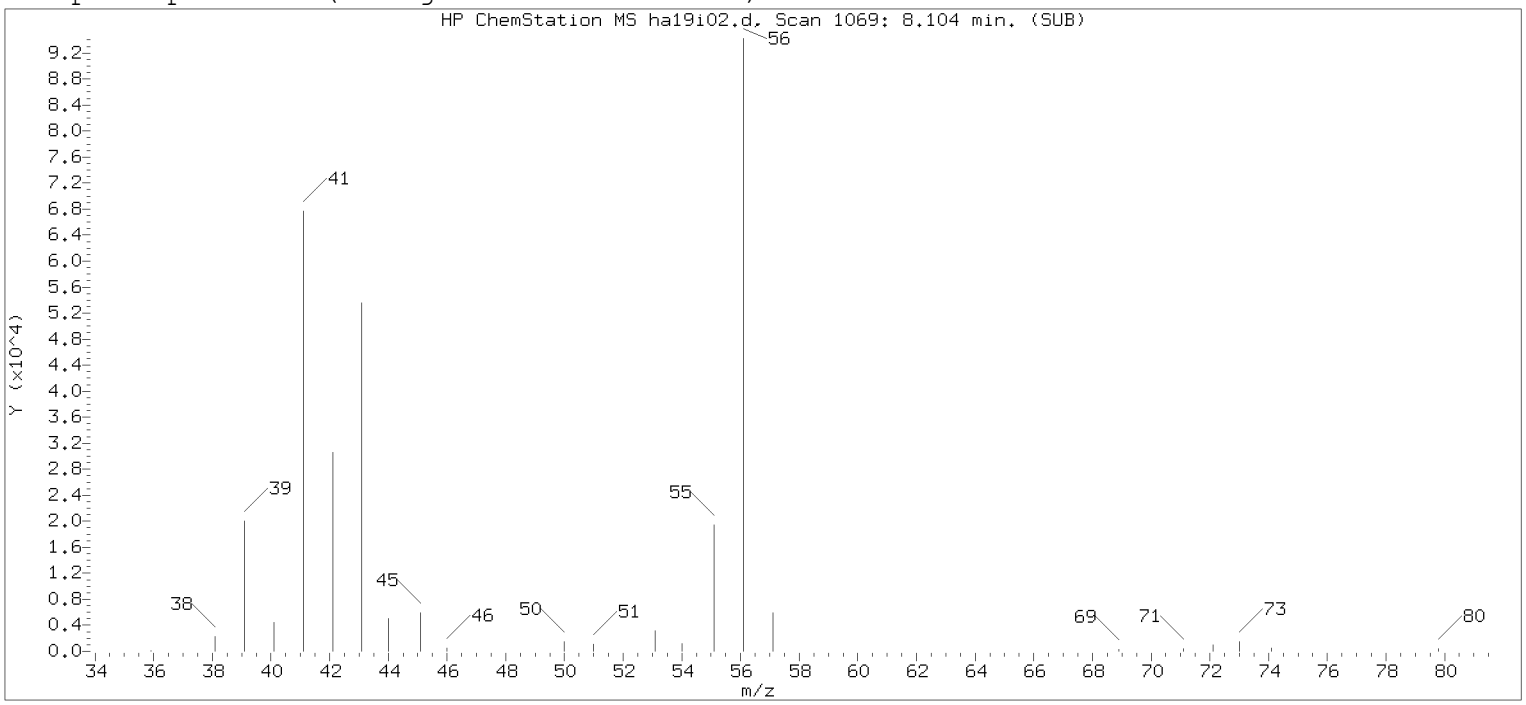
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area (flag) : 568957M
On-Column Amount (ng) : 1054.2522
Integration start scan : 1057 Integration stop scan: 1134
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

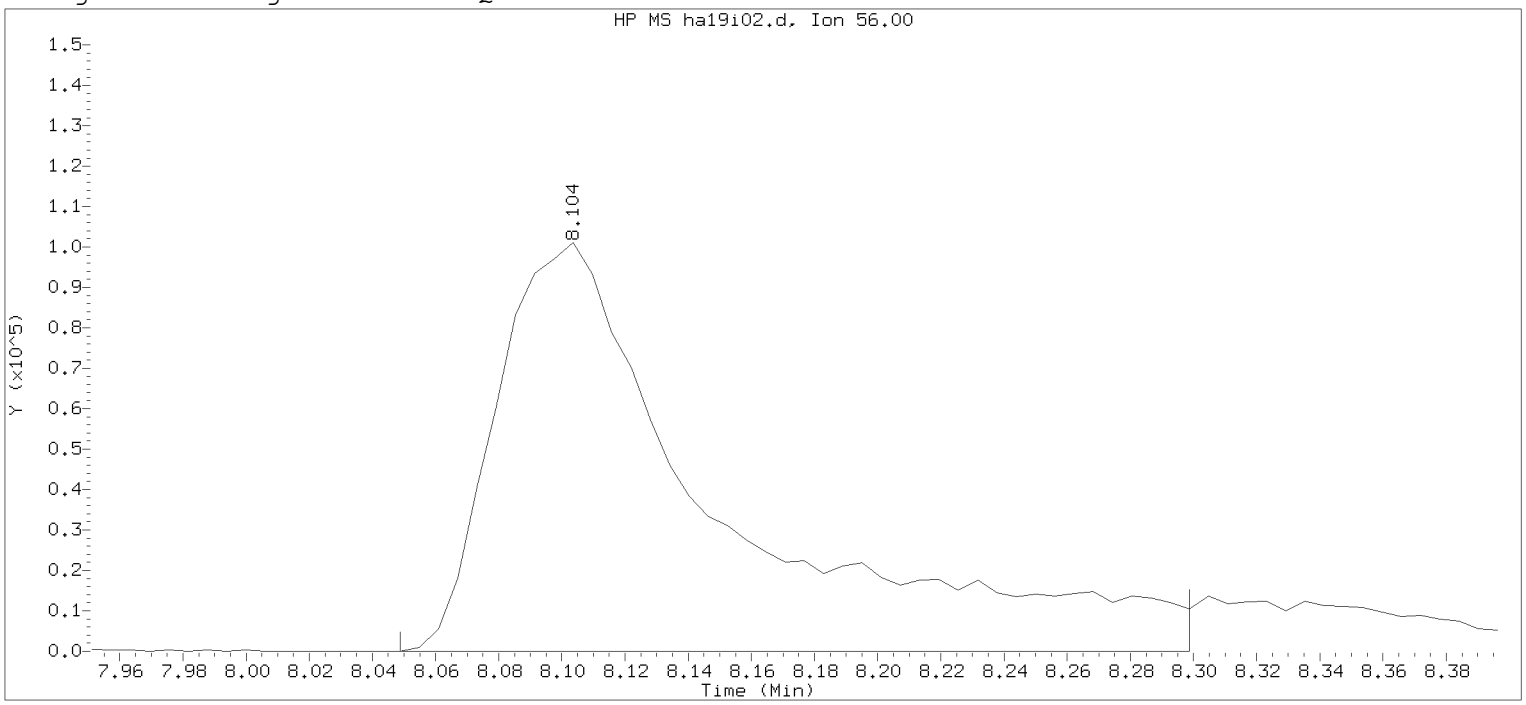
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

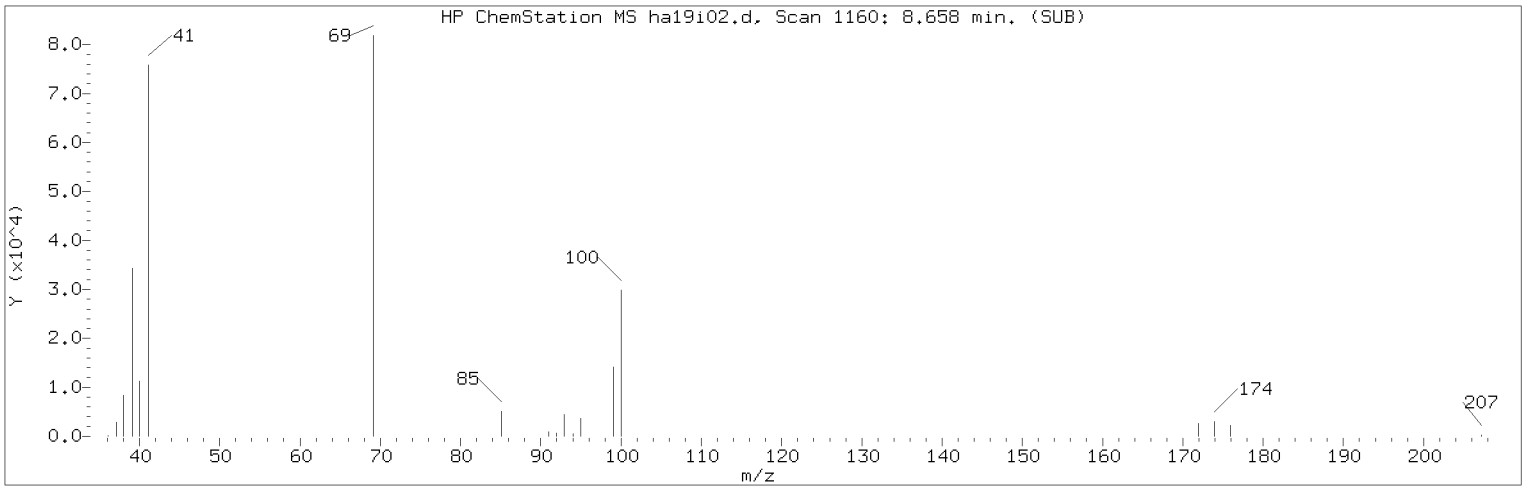
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

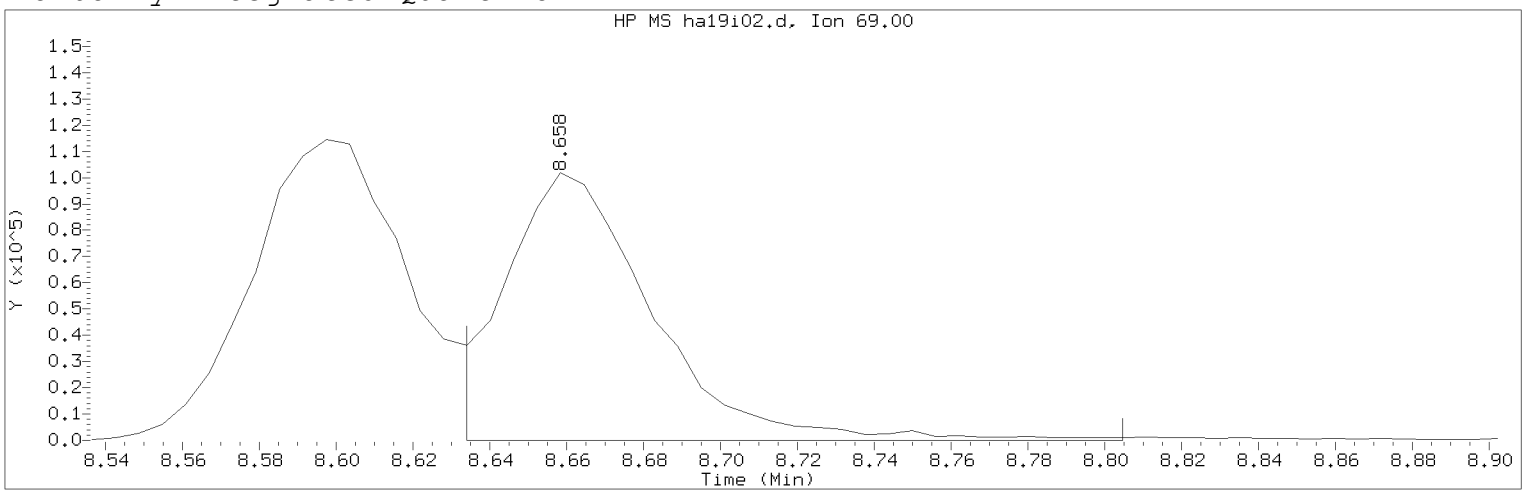
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area : 494439
On-column Amount (ng) : 1147.1115
Integration start scan : 1059 Integration stop scan: 1100
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

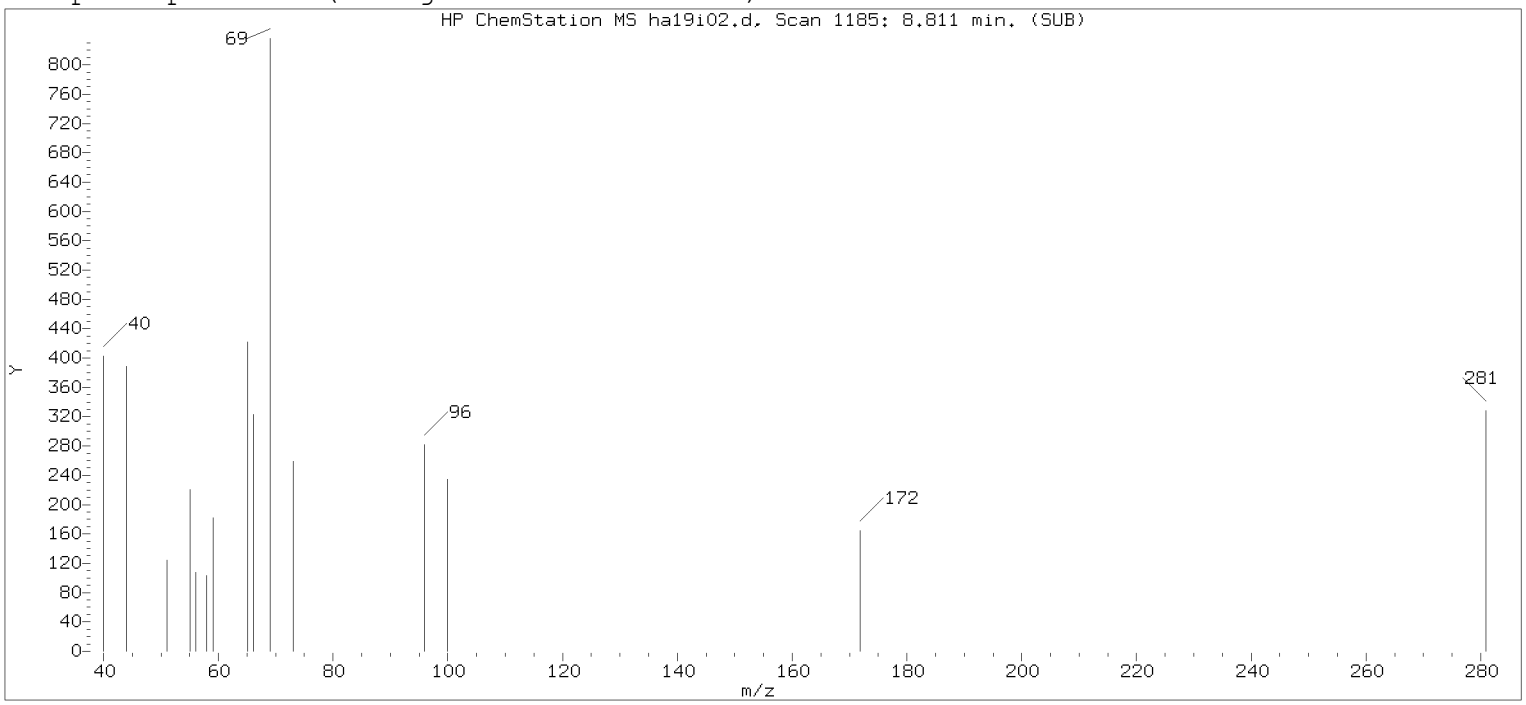
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.658
Quant Ion : 69.00
Area (flag) : 275510M
On-Column Amount (ng) : 11.8833
Integration start scan : 1155 Integration stop scan: 1183
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

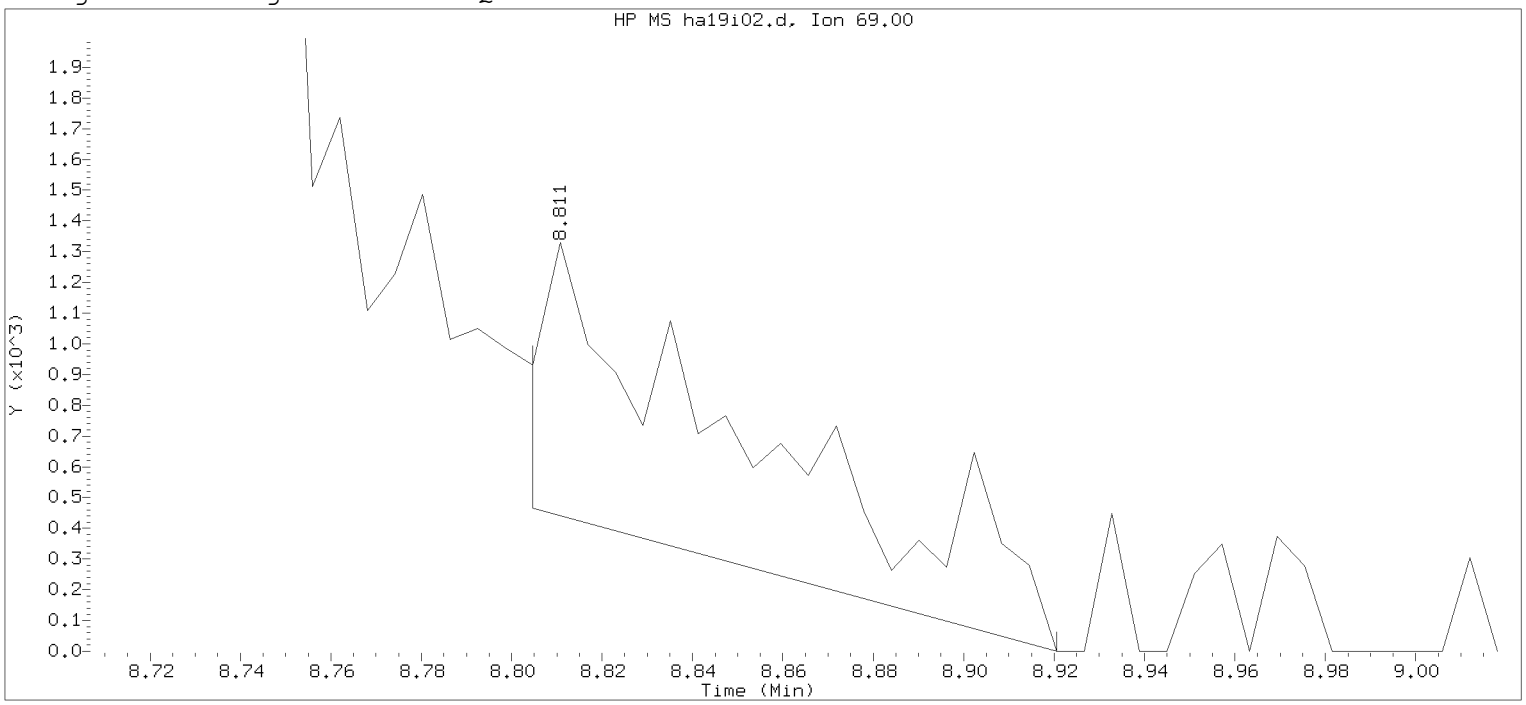
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

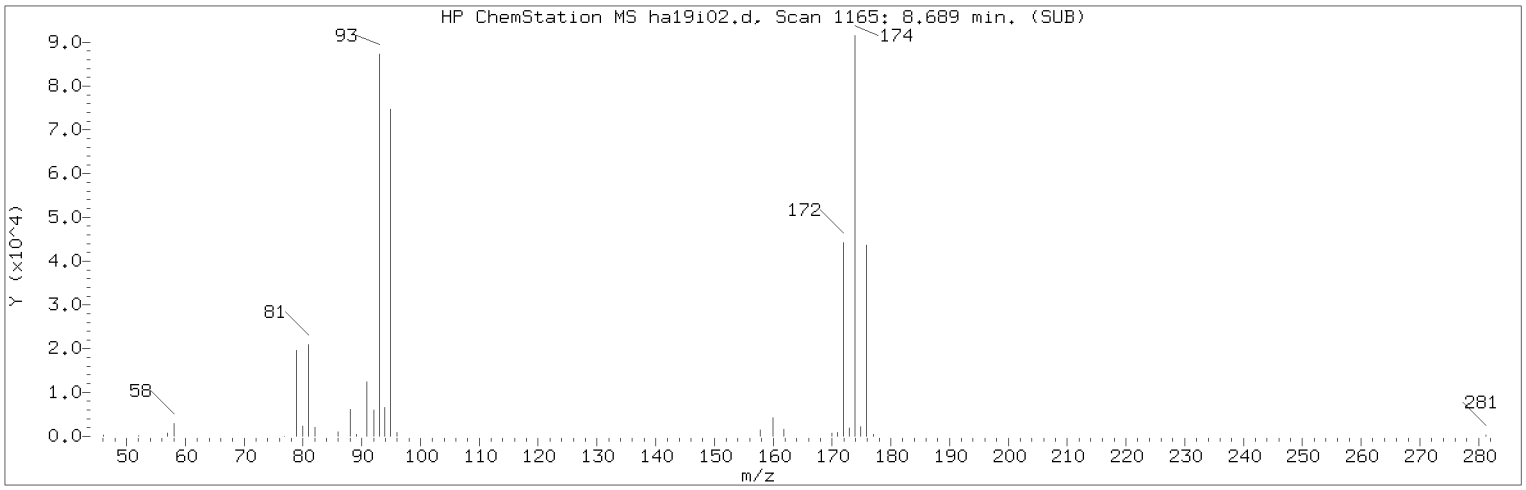
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

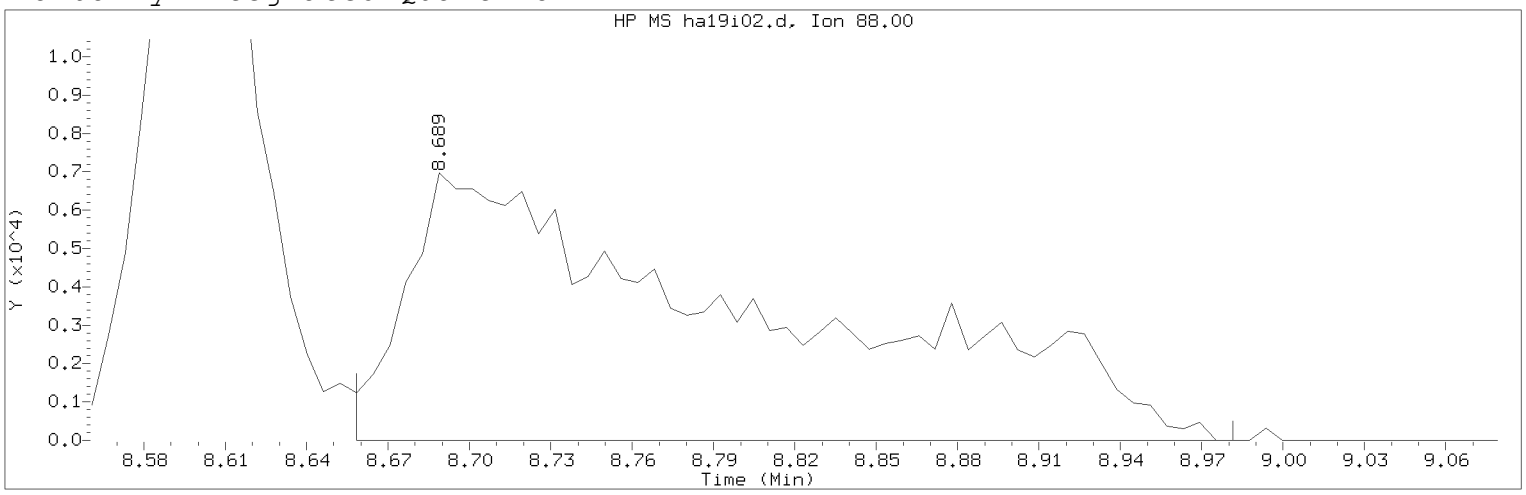
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1185
Retention Time (minutes): 8.811
Quant Ion : 69.00
Area : 2840
On-column Amount (ng) : 0.1976
Integration start scan : 1183 Integration stop scan: 1202
Y at integration start : 466 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user name: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

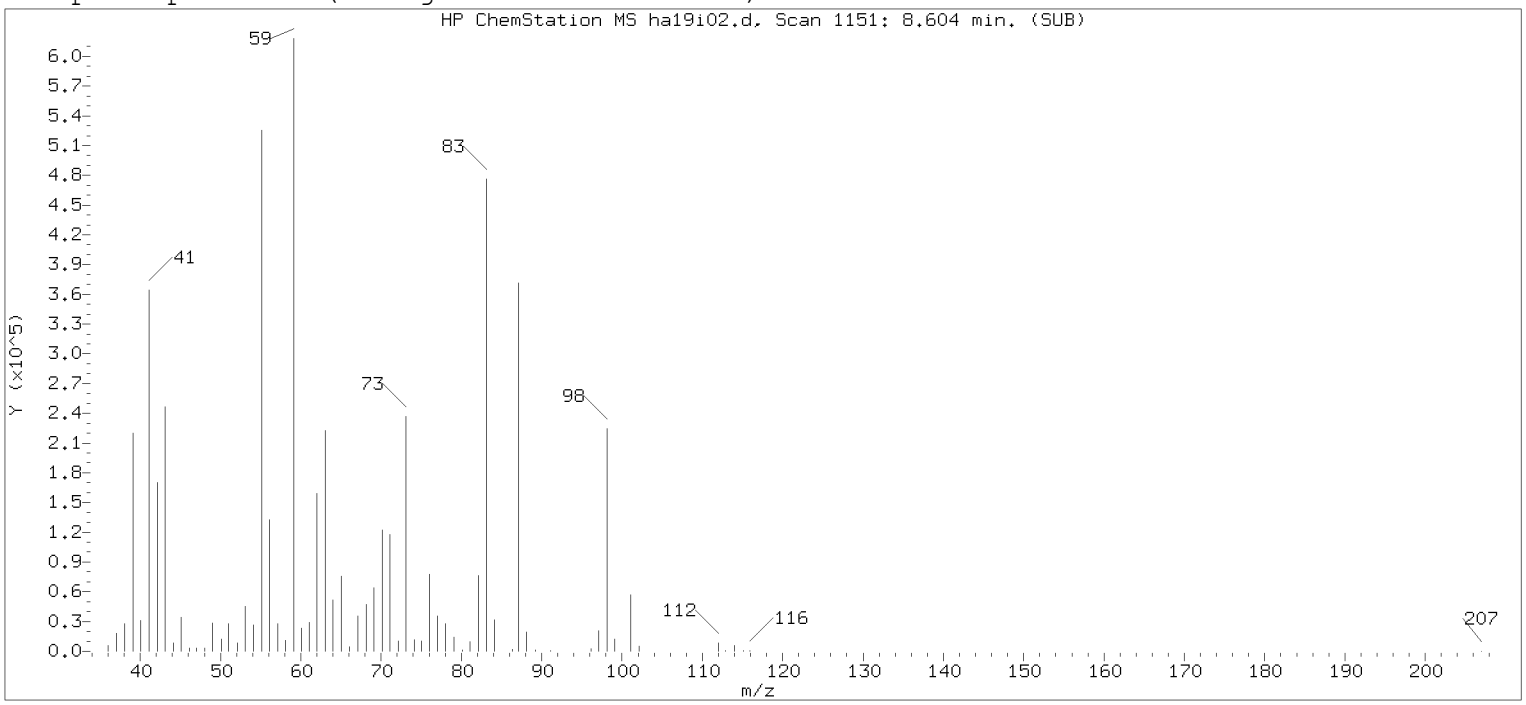
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1165
Retention Time (minutes): 8.689
Quant Ion : 88.00
Area (flag) : 62881M
On-Column Amount (ng) : 480.3753
Integration start scan : 1159 Integration stop scan: 1212
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

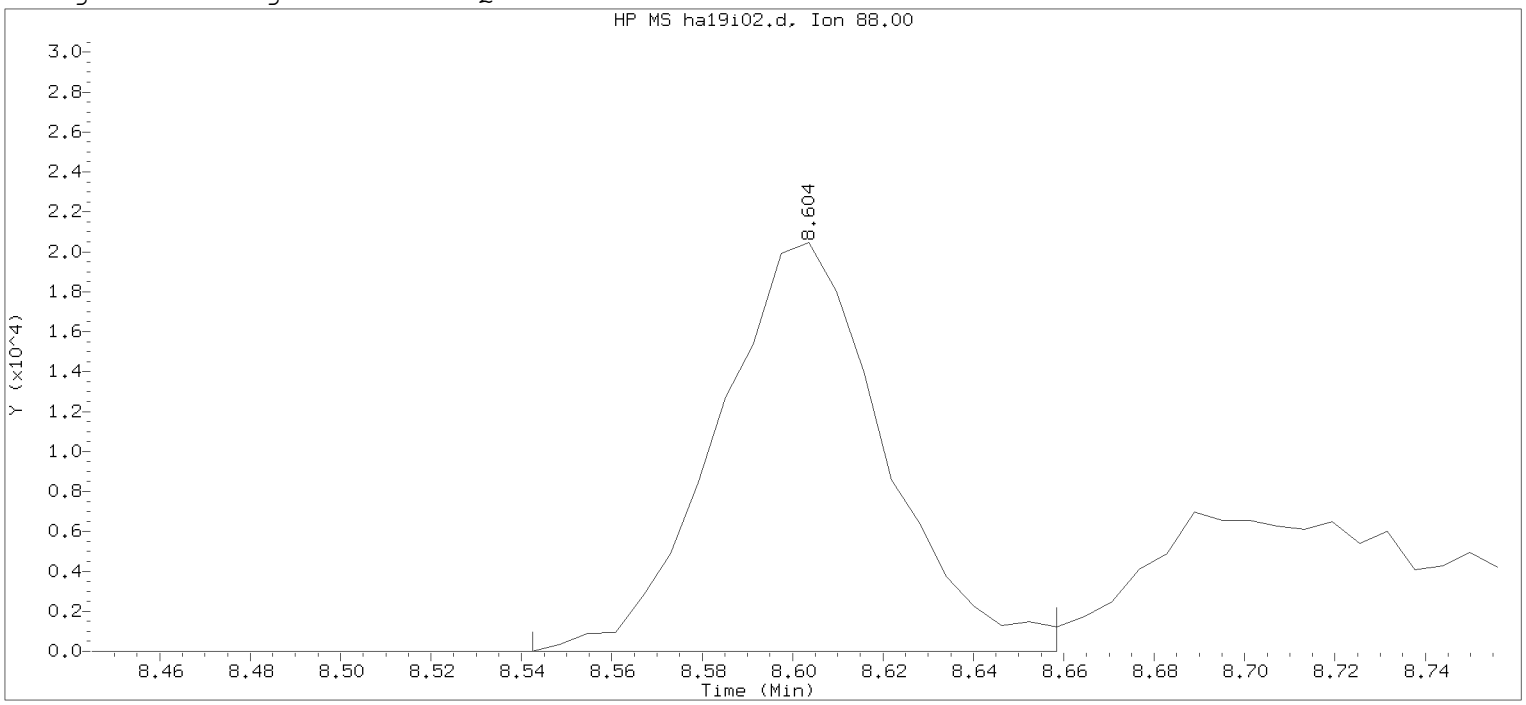
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

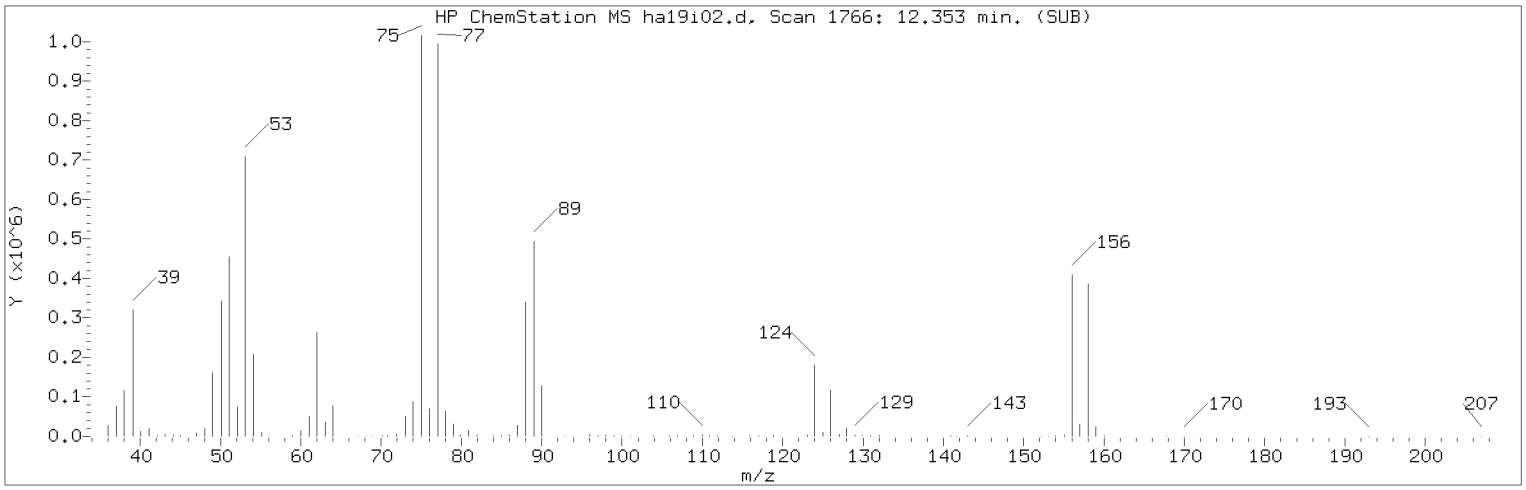
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

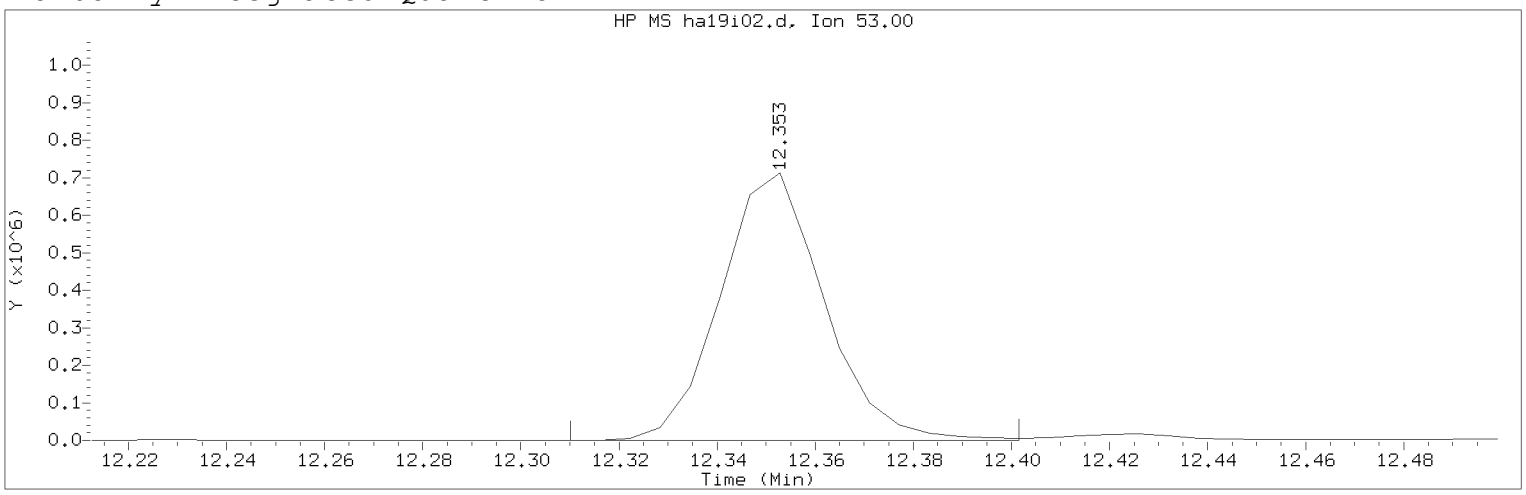
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 52357
On-column Amount (ng) : 396.6429
Integration start scan : 1140 Integration stop scan: 1159
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

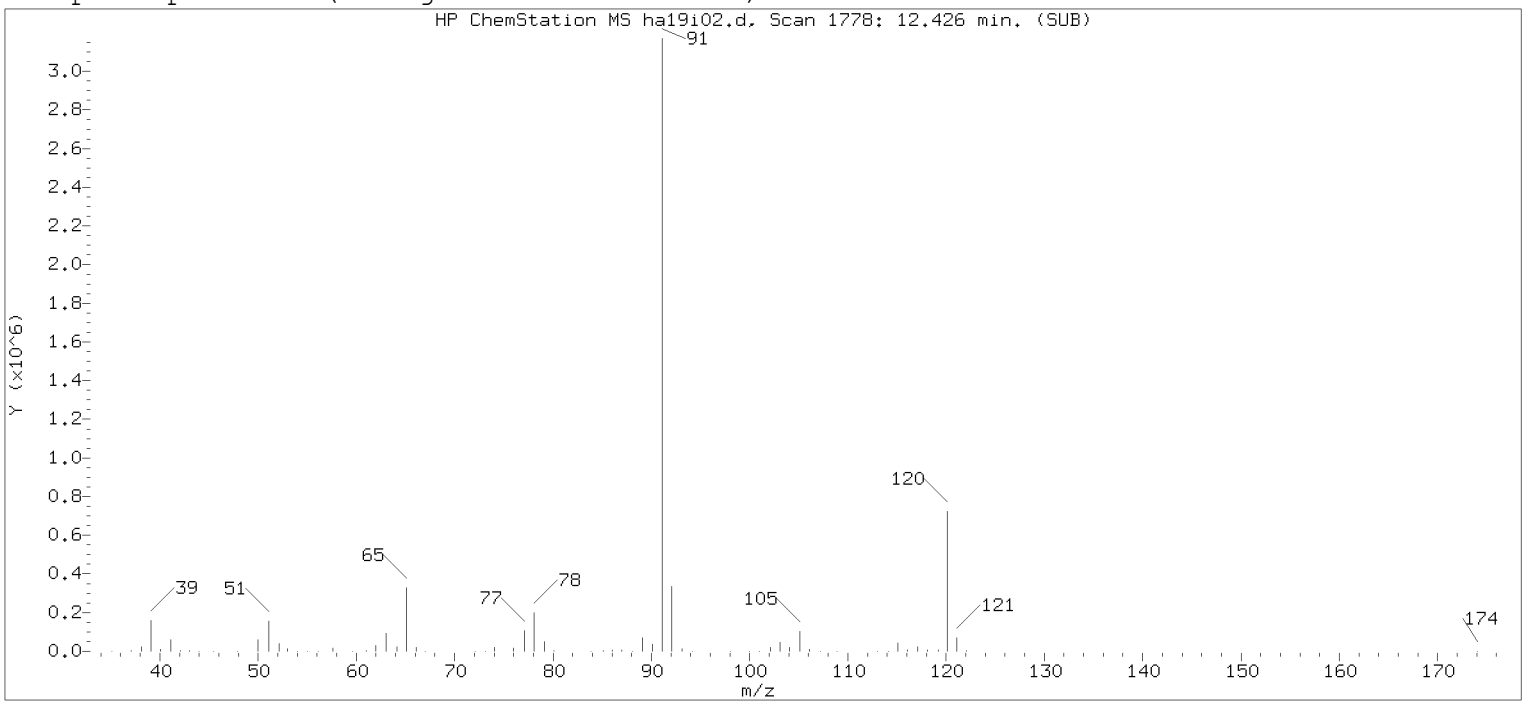
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 1044235A
On-Column Amount (ng) : 116.3404
Integration start scan : 1758 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

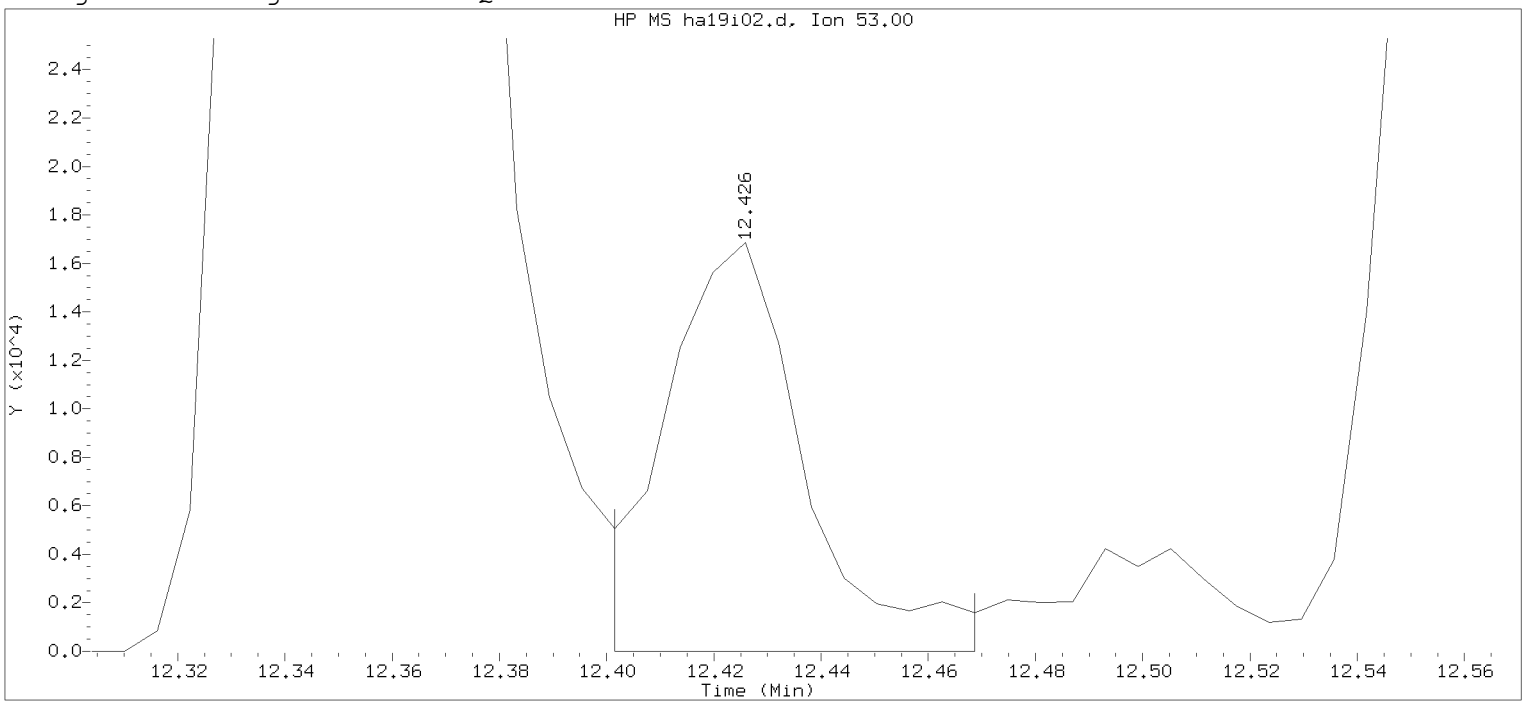
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

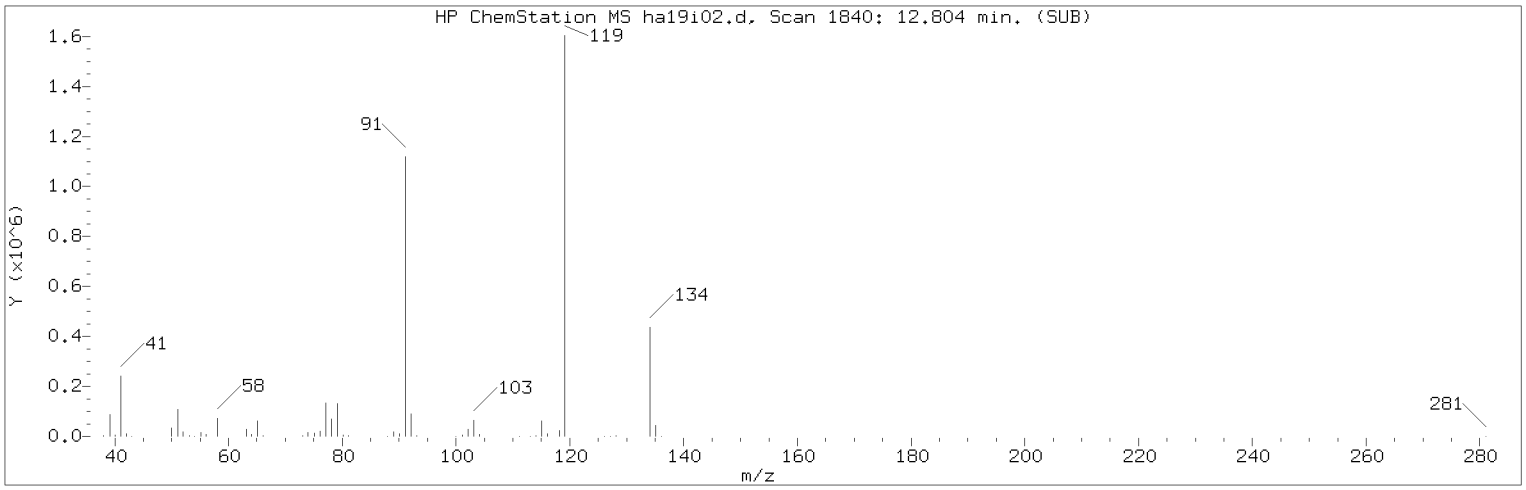
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

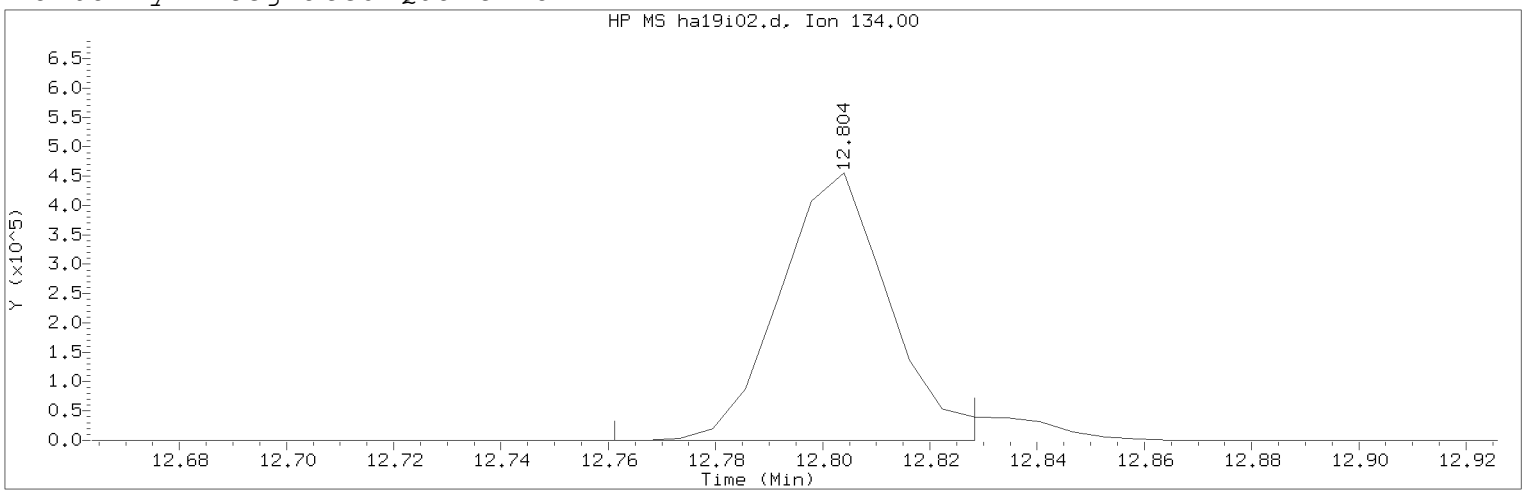
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1778
Retention Time (minutes): 12.426
Quant Ion : 53.00
Area : 30090
On-column Amount (ng) : 7.0915
Integration start scan : 1773 Integration stop scan: 1784
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

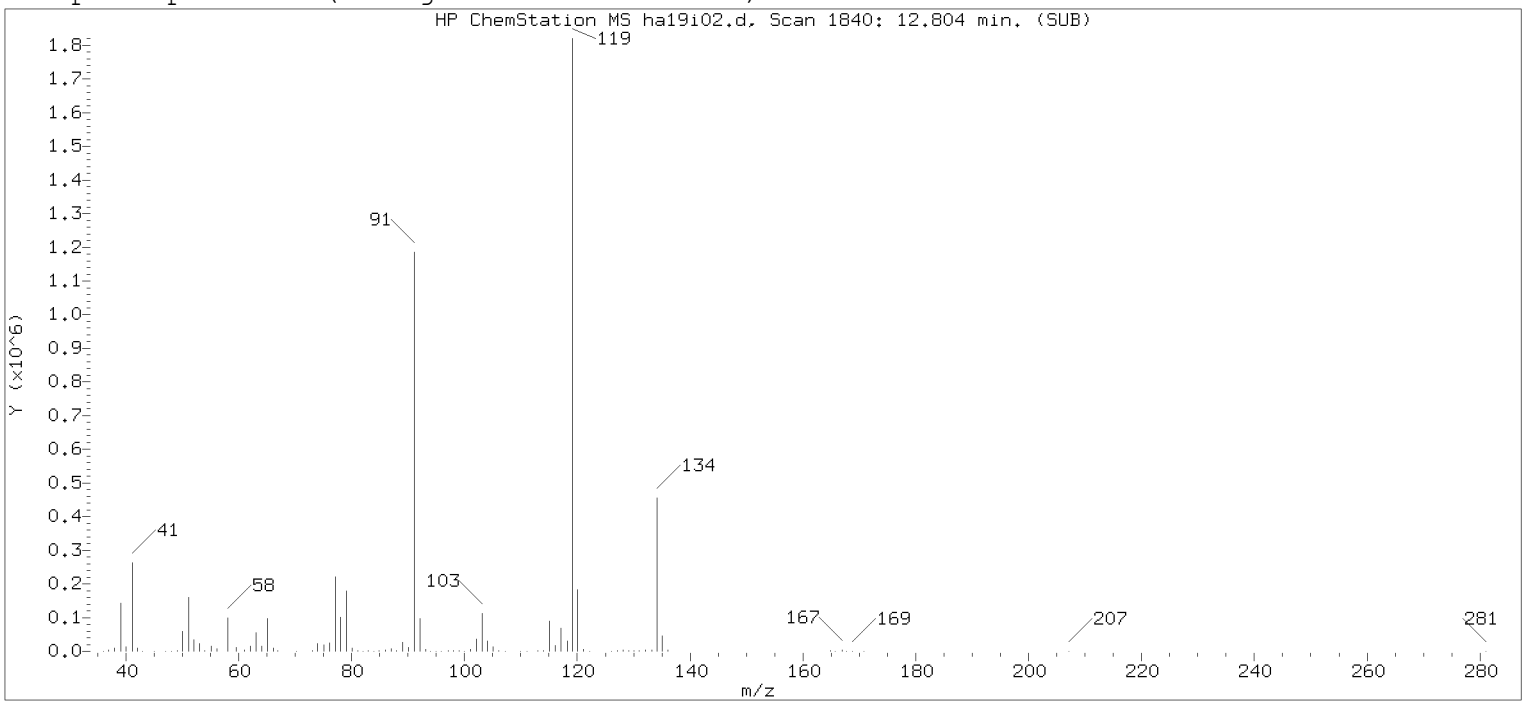
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 638983M
On-Column Amount (ng) : 9.5643
Integration start scan : 1832 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

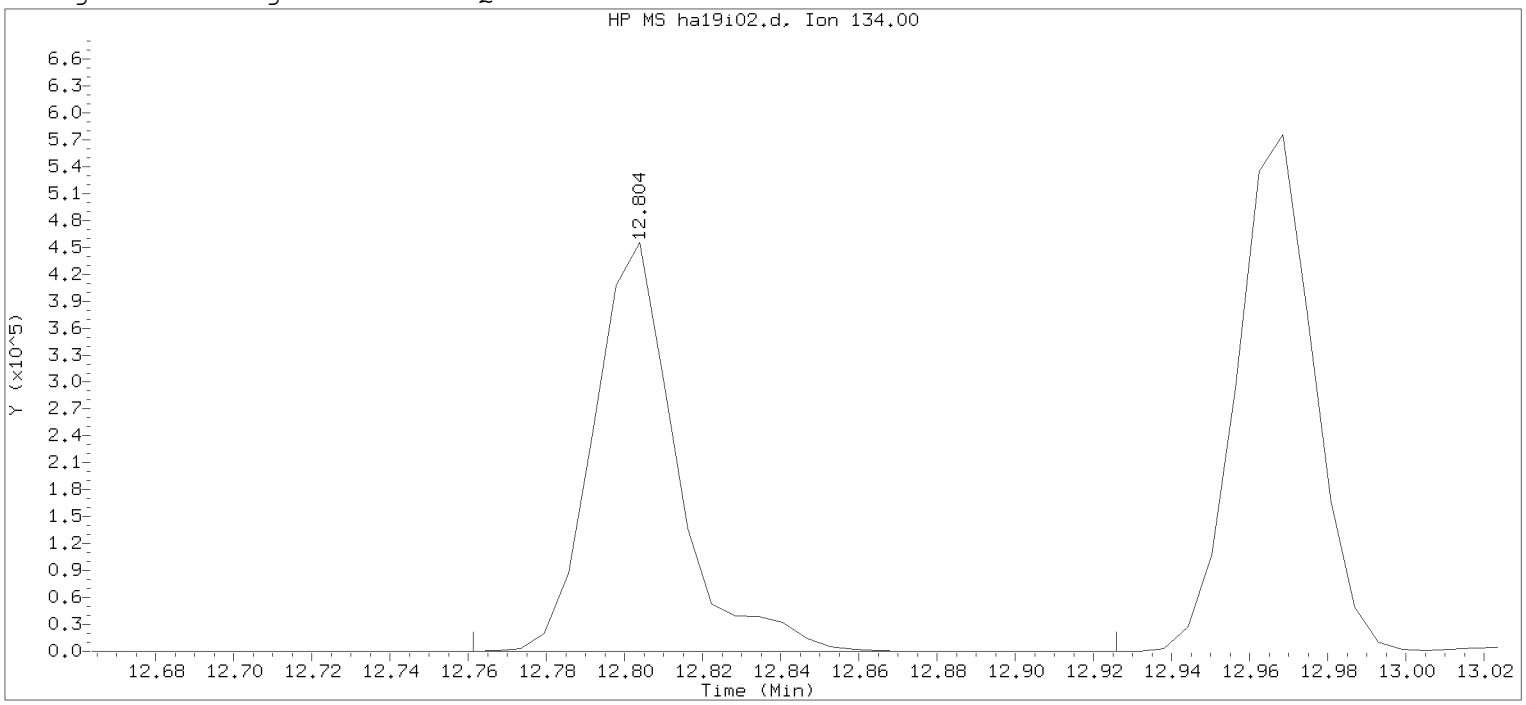
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

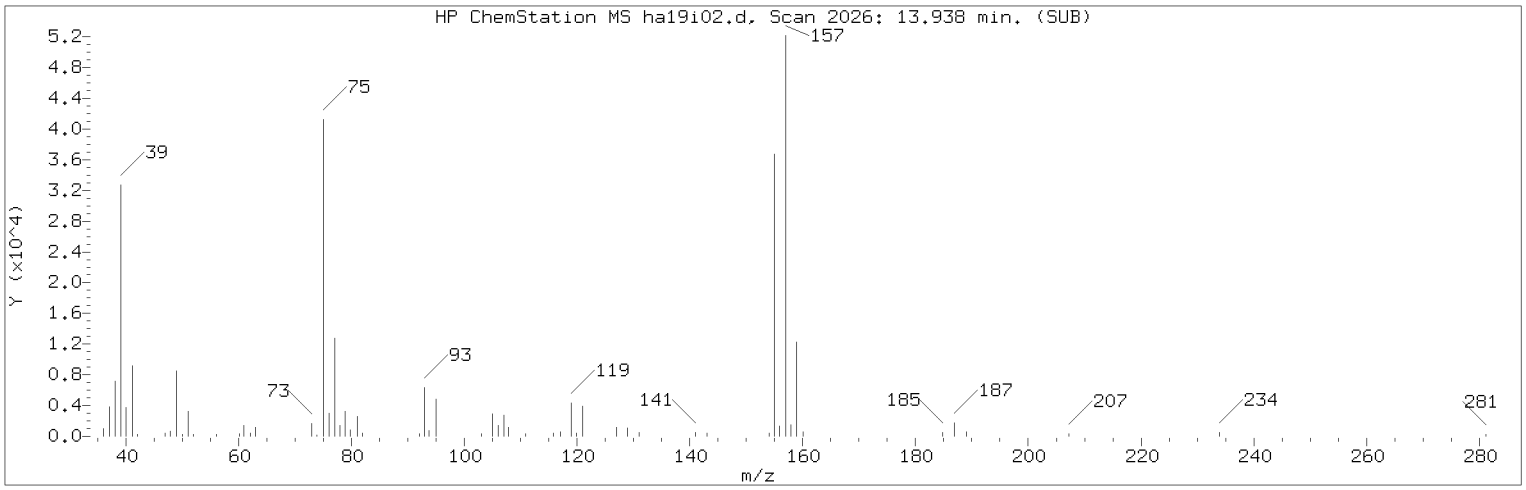
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

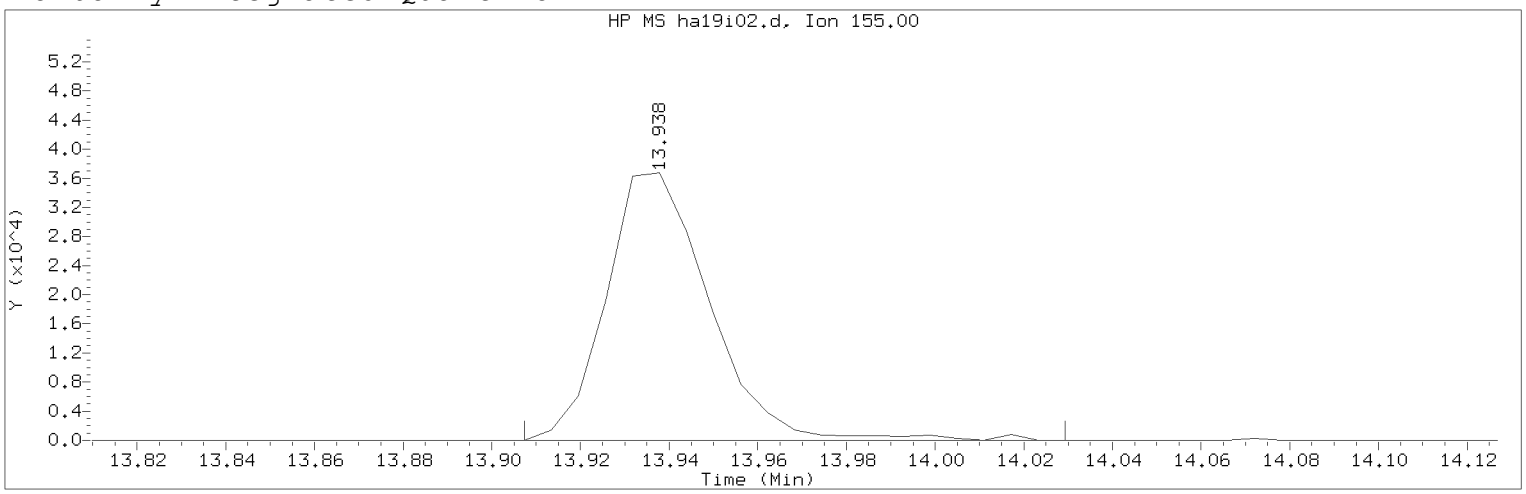
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 672816
On-column Amount (ng) : 9.2262
Integration start scan : 1832 Integration stop scan: 1859
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

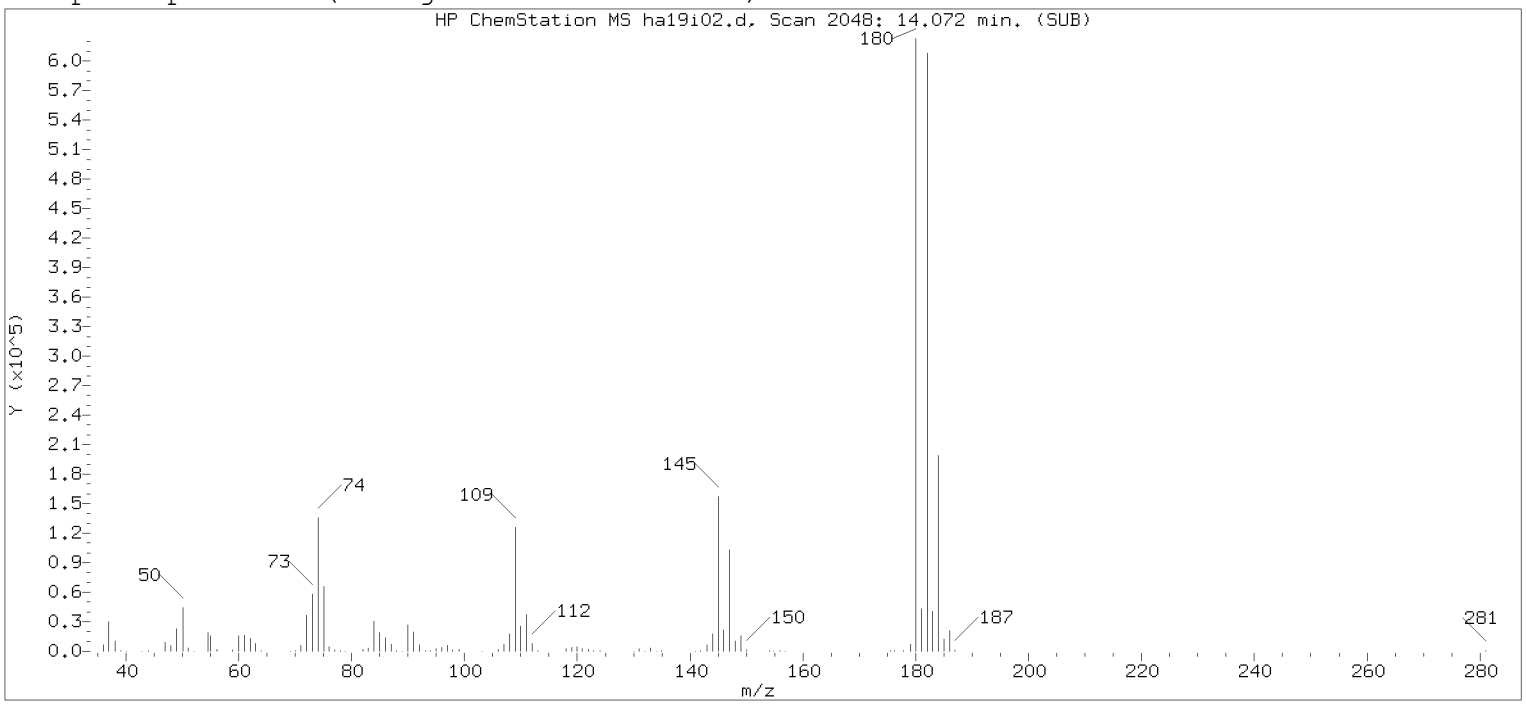
Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2026
Retention Time (minutes): 13.938
Quant Ion : 155.00
Area (flag) : 59646A
On-Column Amount (ng) : 11.9117
Integration start scan : 2020 Integration stop scan: 2040
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

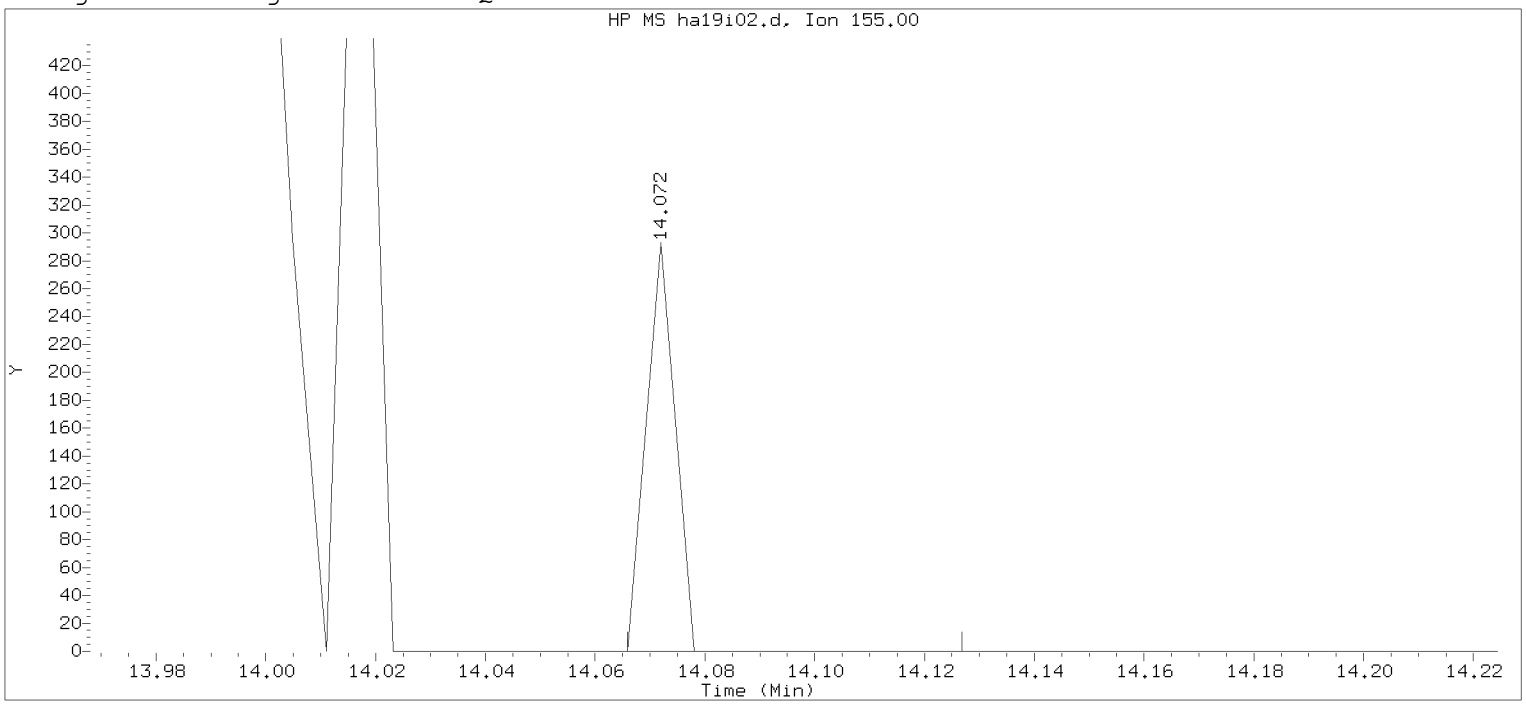
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



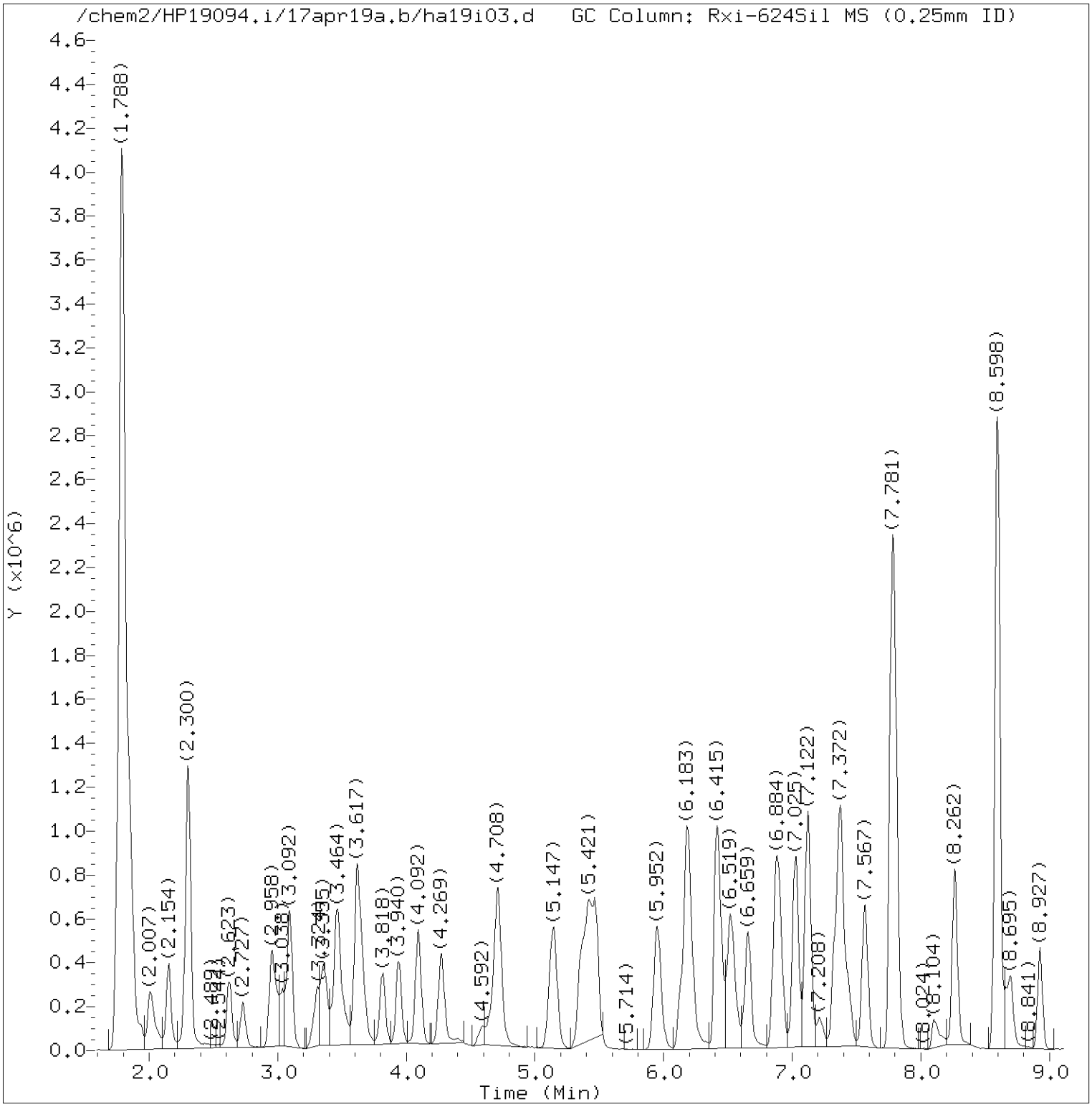
Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2048
Retention Time (minutes): 14.072
Quant Ion : 155.00
Area : 107
On-column Amount (ng) : 0.0378
Integration start scan : 2046 Integration stop scan: 2056
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user name: kevin.sposito



Total Ion Chromatogram (TIC)

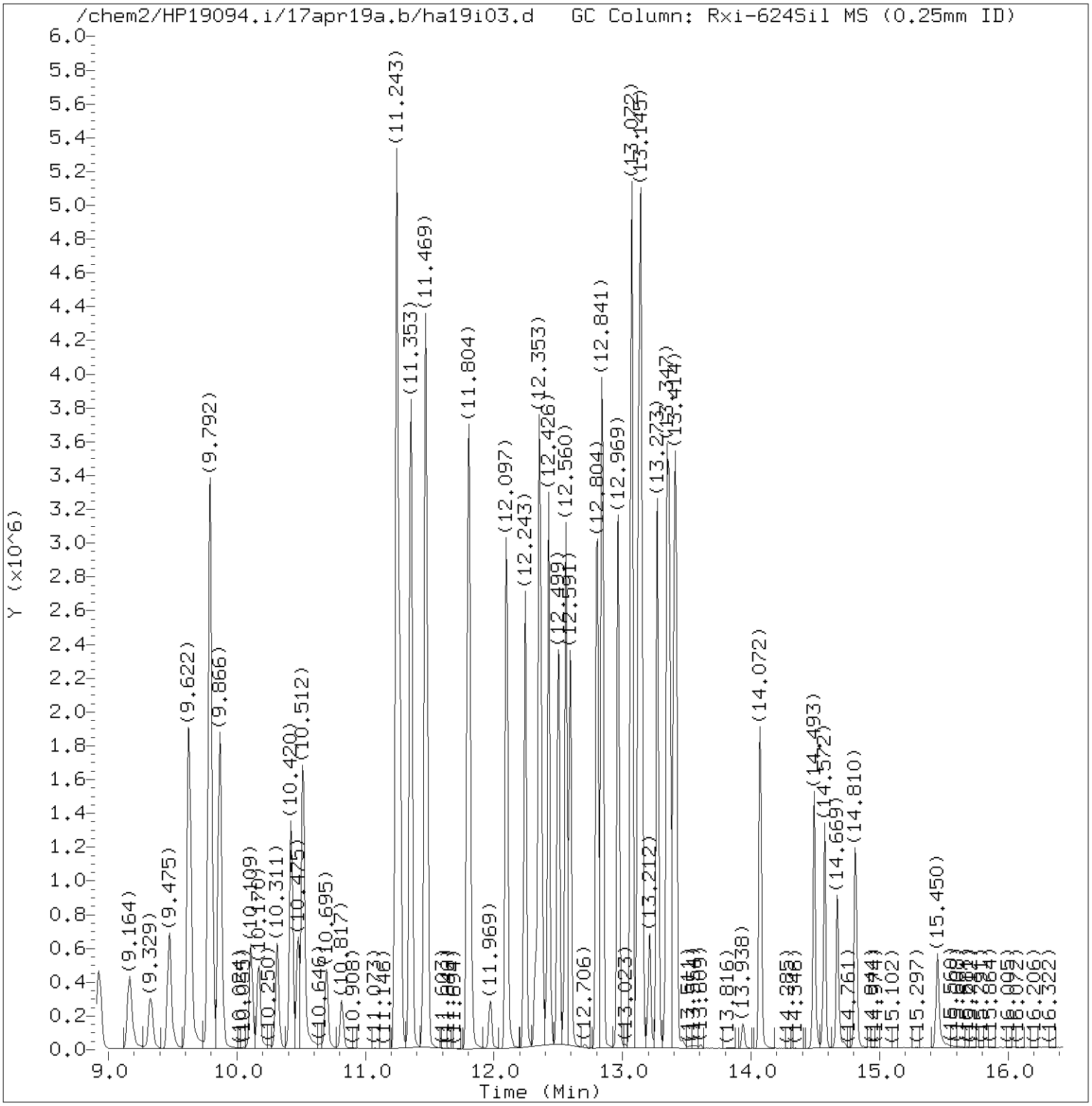
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	528926	4.755
2) Chloromethane	(2)	2.154	50	545593	4.672
5) Vinyl Chloride	(2)	2.288	62	464629	4.533
6) 1,3-Butadiene	(2)	2.306	39	774372	4.796
7) Bromomethane	(2)	2.617	94	301413	4.681
8) Chloroethane	(2)	2.733	64	280420	4.776
9) Dichlorofluoromethane	(2)	2.952	67	667963	4.944
10) Trichlorofluoromethane	(2)	3.032	101	596527	5.022
11) Ethyl ether	(2)	3.300	59	237449	5.046
12) Freon 123a	(2)	3.355	67	474190	5.291
13) Acrolein	(1)	3.464	56	1435703	262.935
15) 1,1-Dichloroethene	(2)	3.611	96	326196	5.114
14) Acetone	(1)	3.623	43	321683M	48.650
16) Freon 113	(2)	3.647	101	352835	5.255
17) Methyl Iodide	(2)	3.818	142	608438	5.135
18) Carbon Disulfide	(2)	3.940	76	901757	5.038
21) Methyl Acetate	(1)	4.068	43	109275	4.863
22) Allyl Chloride	(2)	4.092	41	619363	5.003
23) Methylene Chloride	(2)	4.269	84	351791	5.050
26)*t-Butyl Alcohol-d10	(1)	4.306	65	71762M	50.000
28) t-Butyl Alcohol	(1)	4.403	59	151046	84.125
29) Acrylonitrile	(1)	4.598	53	232934	26.069
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	669087	5.235
31) trans-1,2-Dichloroethene	(2)	4.720	96	370253	5.256
32) n-Hexane	(2)	5.147	57	603359	5.587
33) 1,1-Dichloroethane	(2)	5.360	63	718210	5.167
34) di-Isopropyl Ether	(2)	5.415	45	1230438	5.194
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	623368	5.308
37) Ethyl t-butyl ether	(2)	5.952	59	965810	5.303
40) 1,2-Dichloroethene (Total)	(2)		96	765399	10.282
38) 2-Butanone	(1)	6.122	43	719234	53.330
39) cis-1,2-Dichloroethene	(2)	6.177	96	395146	5.025
41) 2,2-Dichloropropane	(2)	6.202	77	534003	5.128
42) Propionitrile	(1)	6.208	54	335847	104.809
45) Methacrylonitrile	(1)	6.421	67	709682	52.971
47) Bromochloromethane	(2)	6.513	128	147612	4.748
48) Tetrahydrofuran	(1)	6.531	71	187859	55.759
49) Chloroform	(2)	6.659	83	658333	5.020

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	643970	9.992
50)$Dibromofluoromethane	(2)	6.872	111	662876	10.014
51) 1,1,1-Trichloroethane	(2)	6.903	97	565737	5.065
52) Cyclohexane	(2)	7.025	56	727268	5.282
52) Cyclohexane	(2)	7.031	84	573992	5.070
52) Cyclohexane	(2)	7.019	69	211838	5.483
55) 1,1-Dichloropropene	(2)	7.122	75	540304	5.209
54) Carbon Tetrachloride	(2)	7.134	117	483099	5.153
56) Isobutyl Alcohol	(1)	7.214	41	180504	232.966
57)$1,2-Dichloroethane-d4	(2)	7.329	102	106025	10.174
57)$1,2-Dichloroethane-d4	(2)	7.329	65	491332	9.685
57)$1,2-Dichloroethane-d4	(2)	7.323	104	63799	10.100
58) Benzene	(2)	7.372	78	1540706	5.115
59) 1,2-Dichloroethane	(2)	7.433	62	372628	5.175
60) t-Amyl methyl ether	(2)	7.567	73	786659	5.312
63)*Fluorobenzene	(2)	7.774	96	2875093	10.000
62) n-Heptane	(2)	7.805	43	681161	5.358
65) n-Butanol	(1)	8.104	56	295989M	518.824
67) Trichloroethene	(2)	8.262	95	400802	5.027
70) 1,2-Dichloropropane	(2)	8.591	63	397998	5.067
69) Methylcyclohexane	(2)	8.598	83	714121	5.302
71) Methyl Methacrylate	(1)	8.658	69	137114M	5.594
73) Dibromomethane	(2)	8.701	93	153587	5.072
72) 1,4-Dioxane	(1)	8.762	88	37550A	269.863
74) Bromodichloromethane	(2)	8.927	83	426475	5.143
76) 2-Nitropropane	(1)	9.164	41	427733	52.915
80) cis-1,3-Dichloropropene	(2)	9.475	75	490800	5.250
81) 4-Methyl-2-Pentanone	(1)	9.622	43	1951526	54.608
82)$Toluene-d8	(3)	9.792	98	2782414	9.934
82)$Toluene-d8	(3)	9.792	100	1794837	9.952
83) Toluene	(3)	9.866	92	947952	5.122
84) trans-1,3-Dichloropropene	(3)	10.109	75	372638	5.168
85) 1,3-Dichloropropene (total)	(3)		75	863438	10.418
86) Ethyl Methacrylate	(3)	10.170	69	289708	5.432
88) 1,1,2-Trichloroethane	(3)	10.317	97	218565	5.084
89) Tetrachloroethene	(3)	10.420	166	438595	5.110
90) 1,3-Dichloropropane	(3)	10.475	76	386696	5.026
91) 2-Hexanone	(1)	10.512	43	1327854	52.722

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	256579	5.036
95) 1,2-Dibromoethane	(3)	10.817	107	202838	4.989
97)*Chlorobenzene-d5	(3)	11.243	117	1916028	10.000
98) Chlorobenzene	(3)	11.268	112	1013579	5.023
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	335821	4.998
100) Ethylbenzene	(3)	11.353	91	1855553	5.174
101) m+p-Xylene	(3)	11.469	106	1412667	10.360
105) Xylene (Total)	(3)		106	2100708	15.612
104) o-Xylene	(3)	11.798	106	688041	5.254
106) Styrene	(3)	11.810	104	1075924	5.334
107) Bromoform	(3)	11.975	173	128273	5.041
108) Isopropylbenzene	(3)	12.097	105	1819693	5.310
111)$4-Bromofluorobenzene	(3)	12.243	95	793787	9.975
111)$4-Bromofluorobenzene	(3)	12.243	174	705289	9.958
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	263387	4.994
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	488943A	51.531
114) Bromobenzene	(4)	12.359	156	401762	4.996
116) 1,2,3-Trichloropropane	(4)	12.377	110	64991	4.926
117) n-Propylbenzene	(4)	12.426	91	2256214	5.247
119) 2-Chlorotoluene	(4)	12.505	126	425735	5.236
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	1525353	5.272
122) 4-Chlorotoluene	(4)	12.597	126	415728	5.087
125) tert-Butylbenzene	(4)	12.804	134	325824M	5.185
126) Pentachloroethane	(4)	12.834	167	235546	5.018
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1534482	5.321
128) sec-Butylbenzene	(4)	12.969	105	2013392M	5.340
131) 1,3-Dichlorobenzene	(4)	13.066	146	802938	5.082
132) p-Isopropyltoluene	(4)	13.072	119	1672418	5.421
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	817140	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	794518	4.825
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	615145	4.839
136) Benzyl Chloride	(4)	13.212	126	90315	5.435
138) n-Butylbenzene	(4)	13.365	92	858809	5.669
139) 1,2-Dichlorobenzene	(4)	13.395	146	710911	5.066
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	28578A	5.399
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	456045	5.040
146) Hexachlorobutadiene	(4)	14.572	225	222387	4.962
147) Naphthalene	(4)	14.669	128	703176	5.281

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

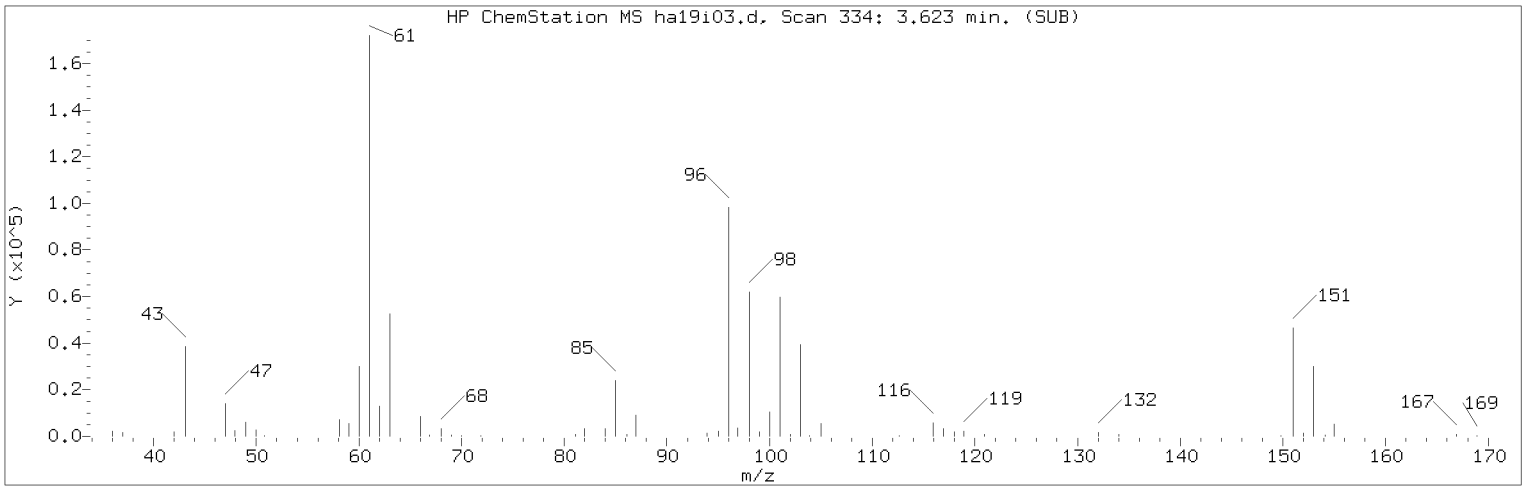
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

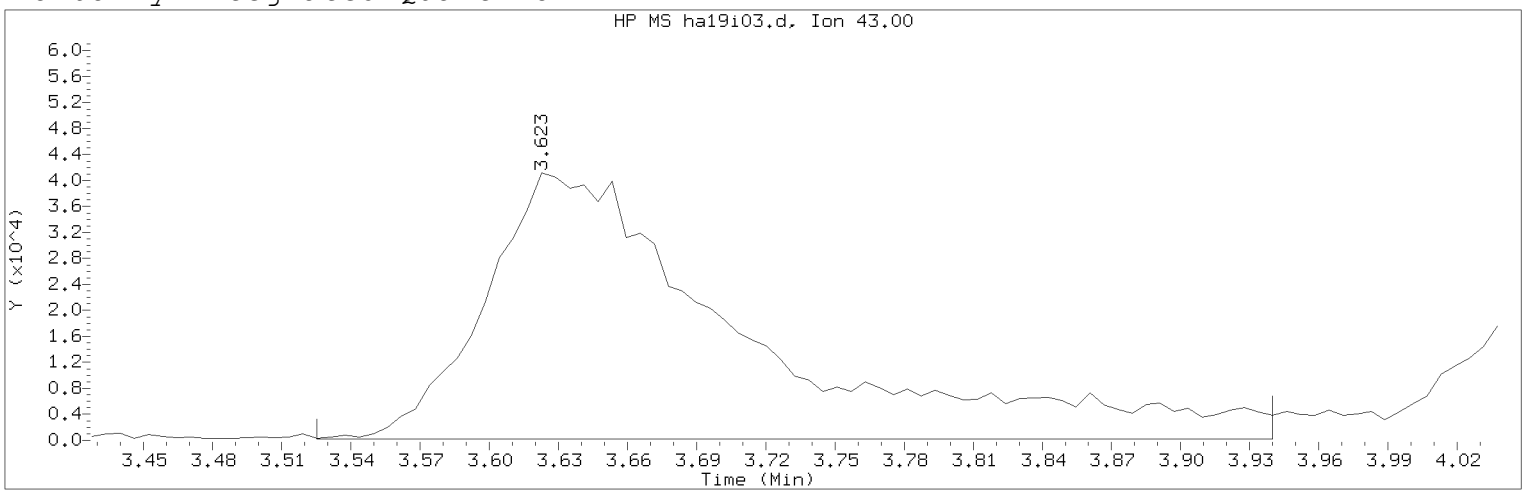
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	379632	4.966

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

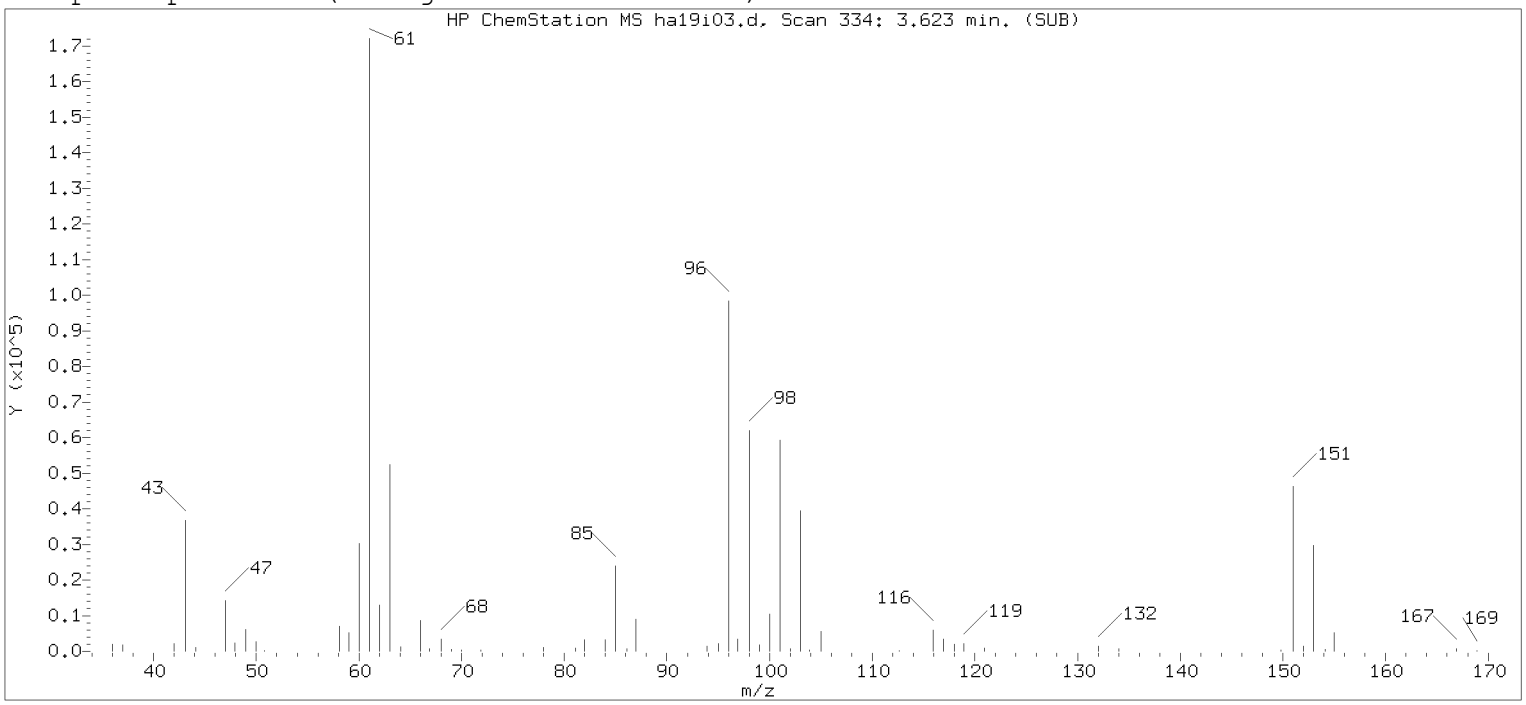
Compound Number : 14
Compound Name : Acetone
Scan Number : 334
Retention Time (minutes): 3.623
Quant Ion : 43.00
Area (flag) : 321683M
On-Column Amount (ng) : 48.6498
Integration start scan : 317 Integration stop scan: 385
Y at integration start : 198 Y at integration end: 198

Reason for manual integration: improper integration

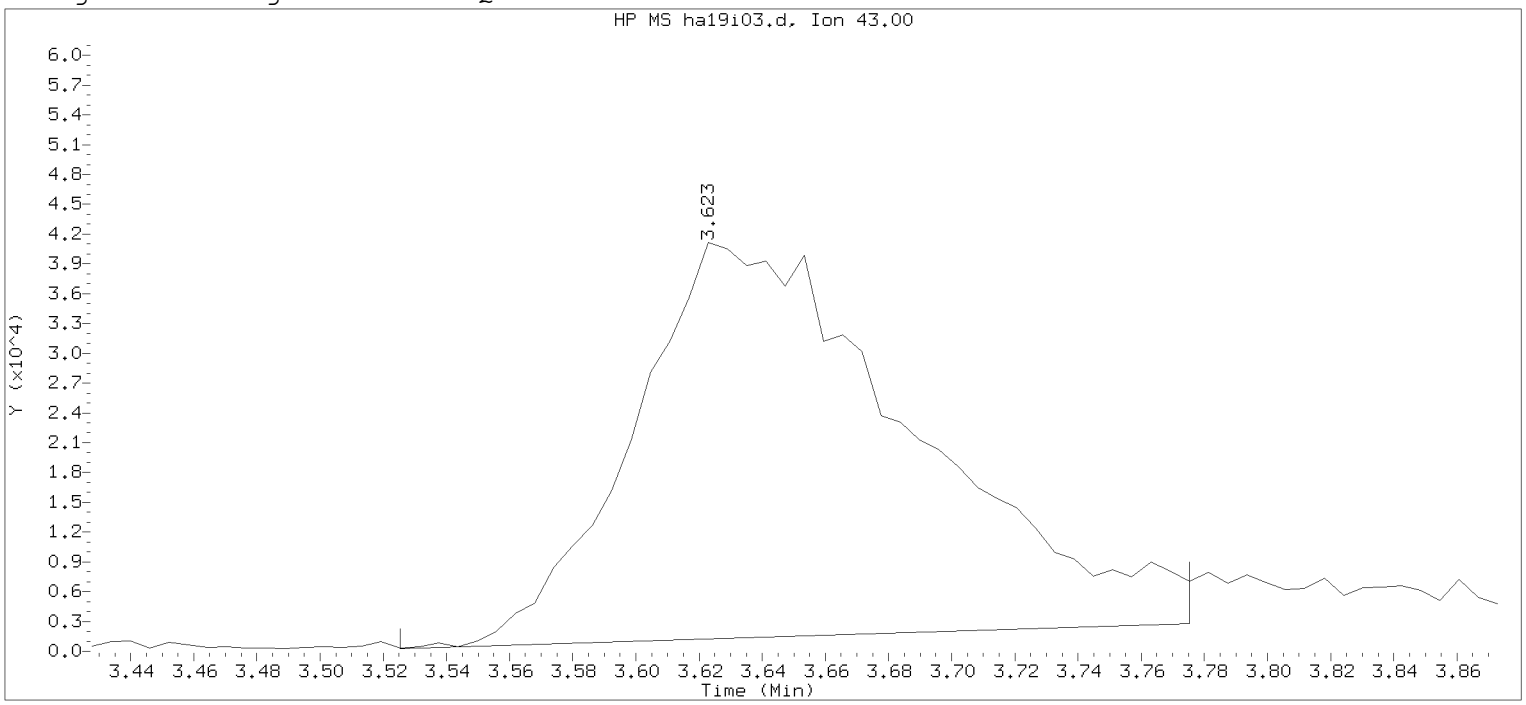
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

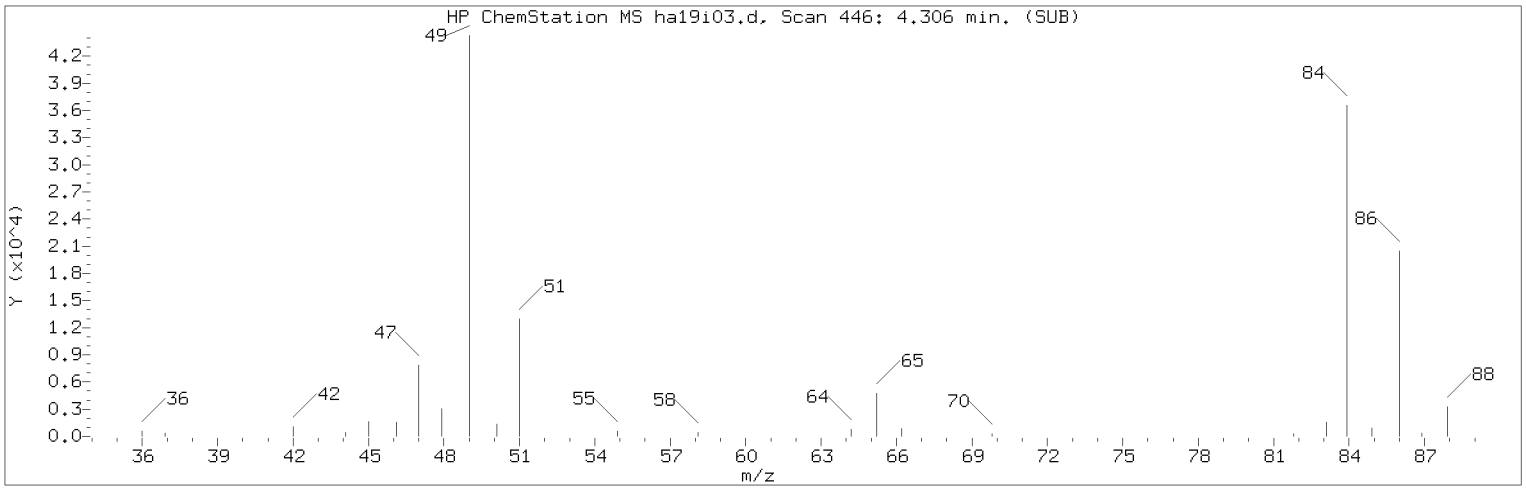
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

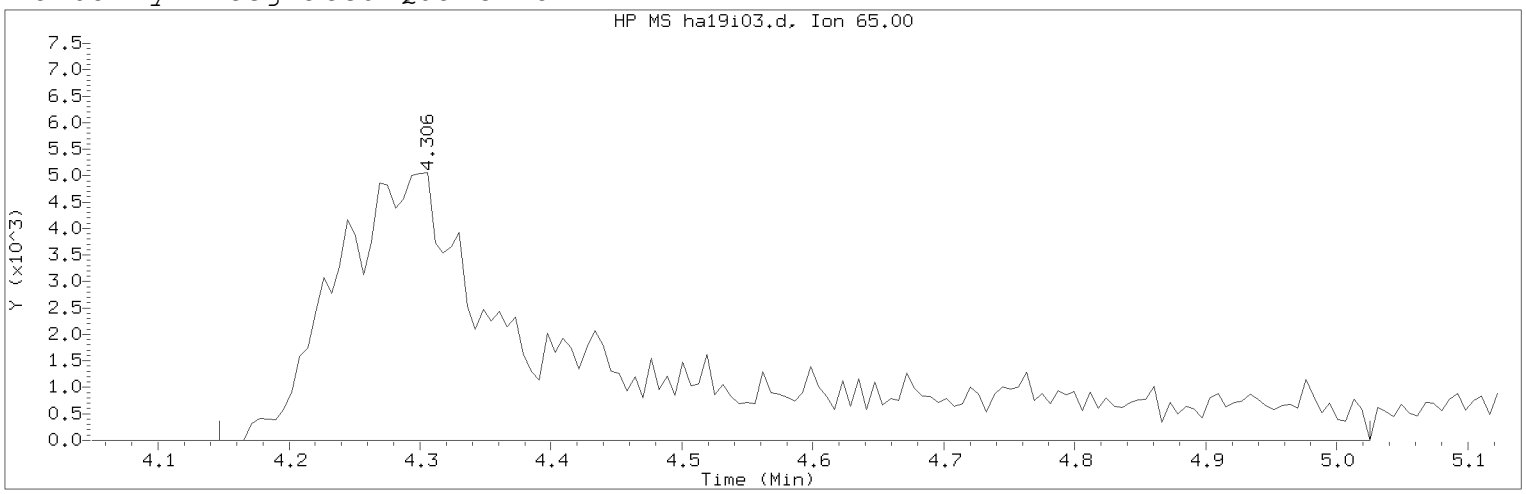
Compound Number : 14
Compound Name : Acetone
Scan Number : 334
Retention Time (minutes): 3.623
Quant Ion : 43.00
Area : 246744
On-column Amount (ng) : 36.4893
Integration start scan : 317 Integration stop scan: 358
Y at integration start : 255 Y at integration end: 2749

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

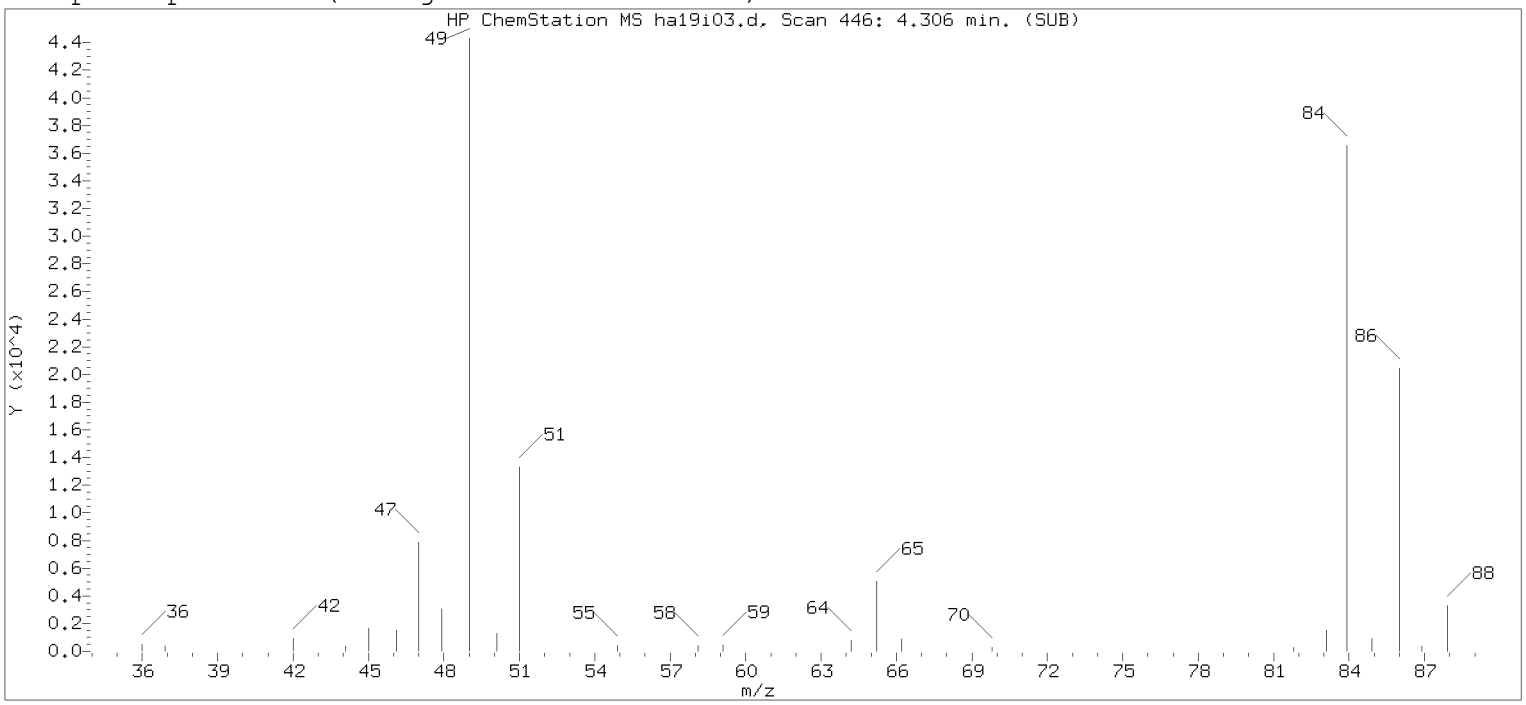
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 446
Retention Time (minutes): 4.306
Quant Ion : 65.00
Area (flag) : 71762M
On-Column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 563
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

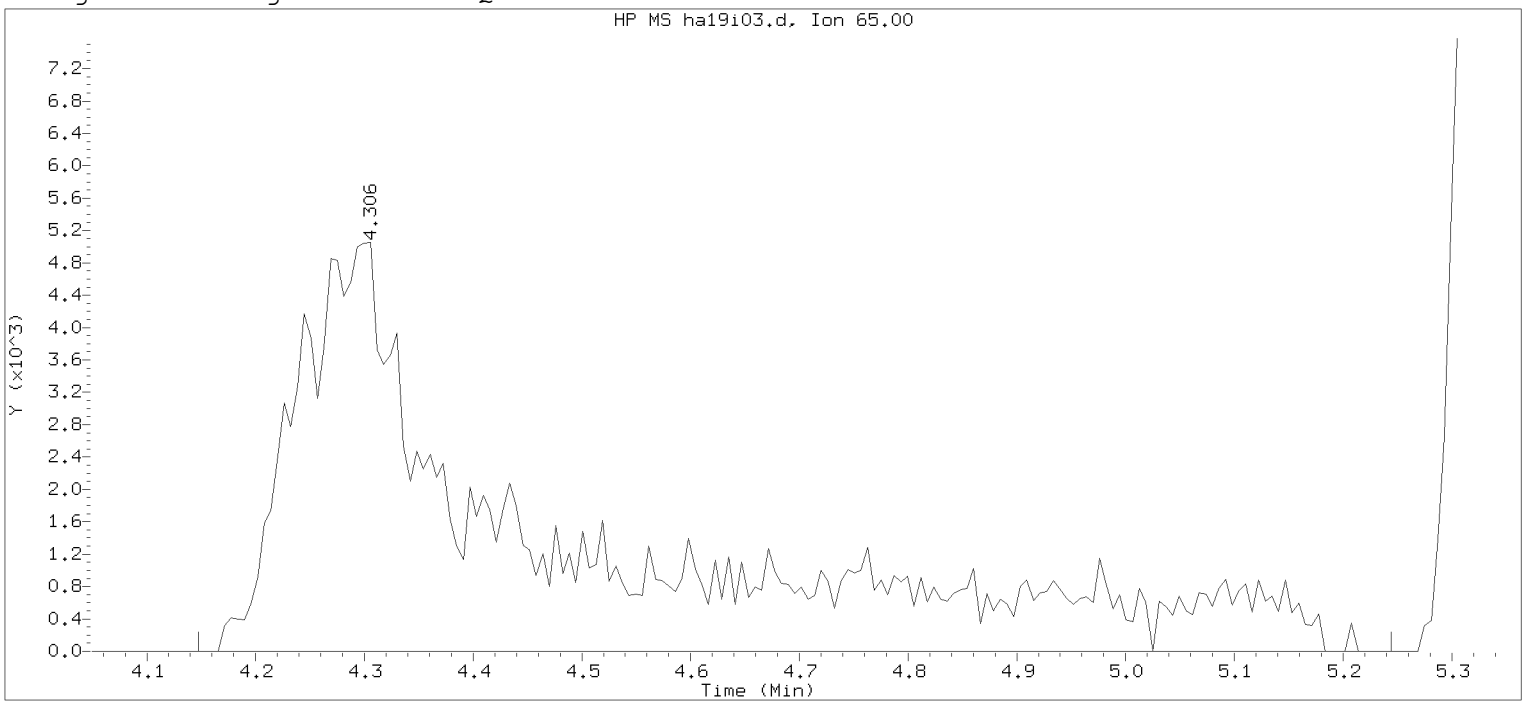
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

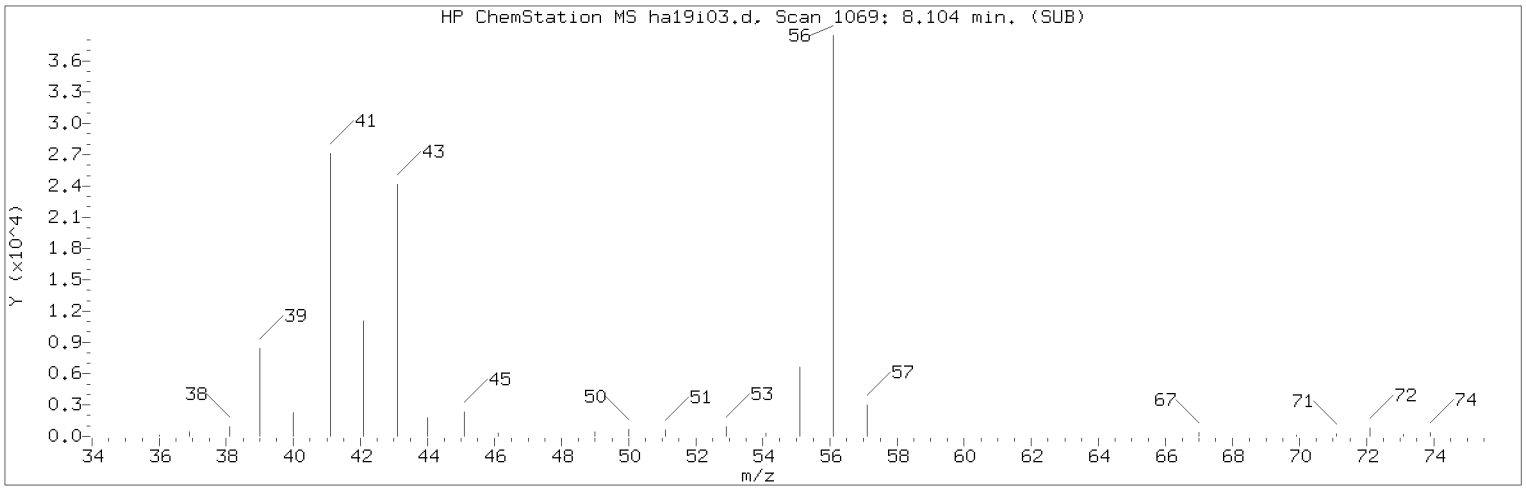
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

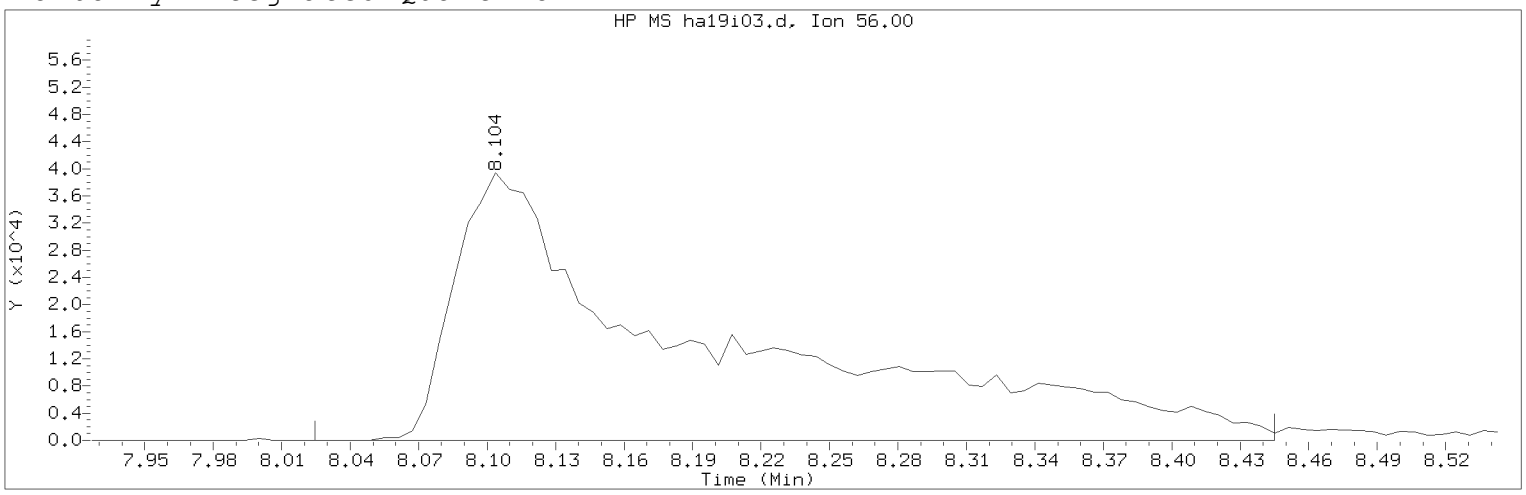
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 446
Retention Time (minutes): 4.306
Quant Ion : 65.00
Area : 77469
On-column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 599
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

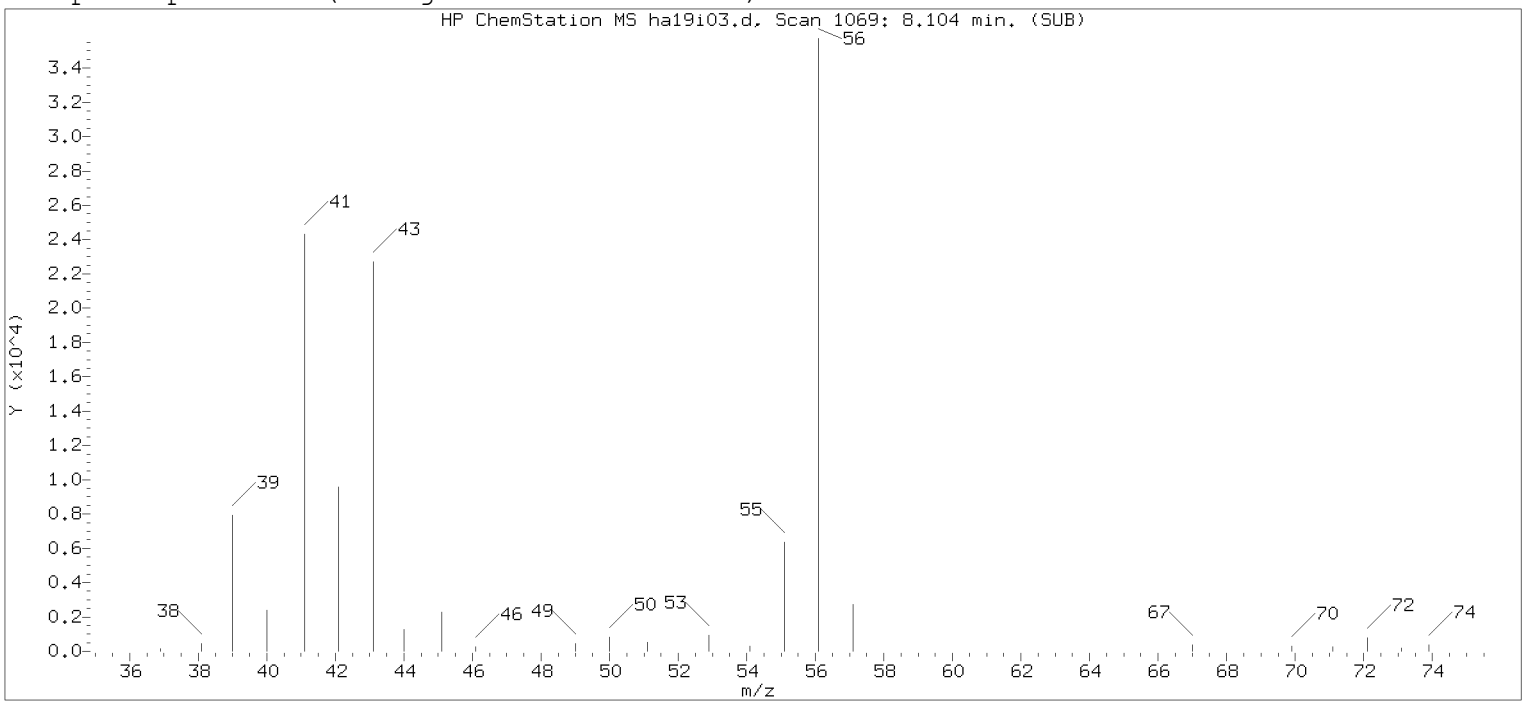
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area (flag) : 295989M
On-Column Amount (ng) : 518.8238
Integration start scan : 1055 Integration stop scan: 1124
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

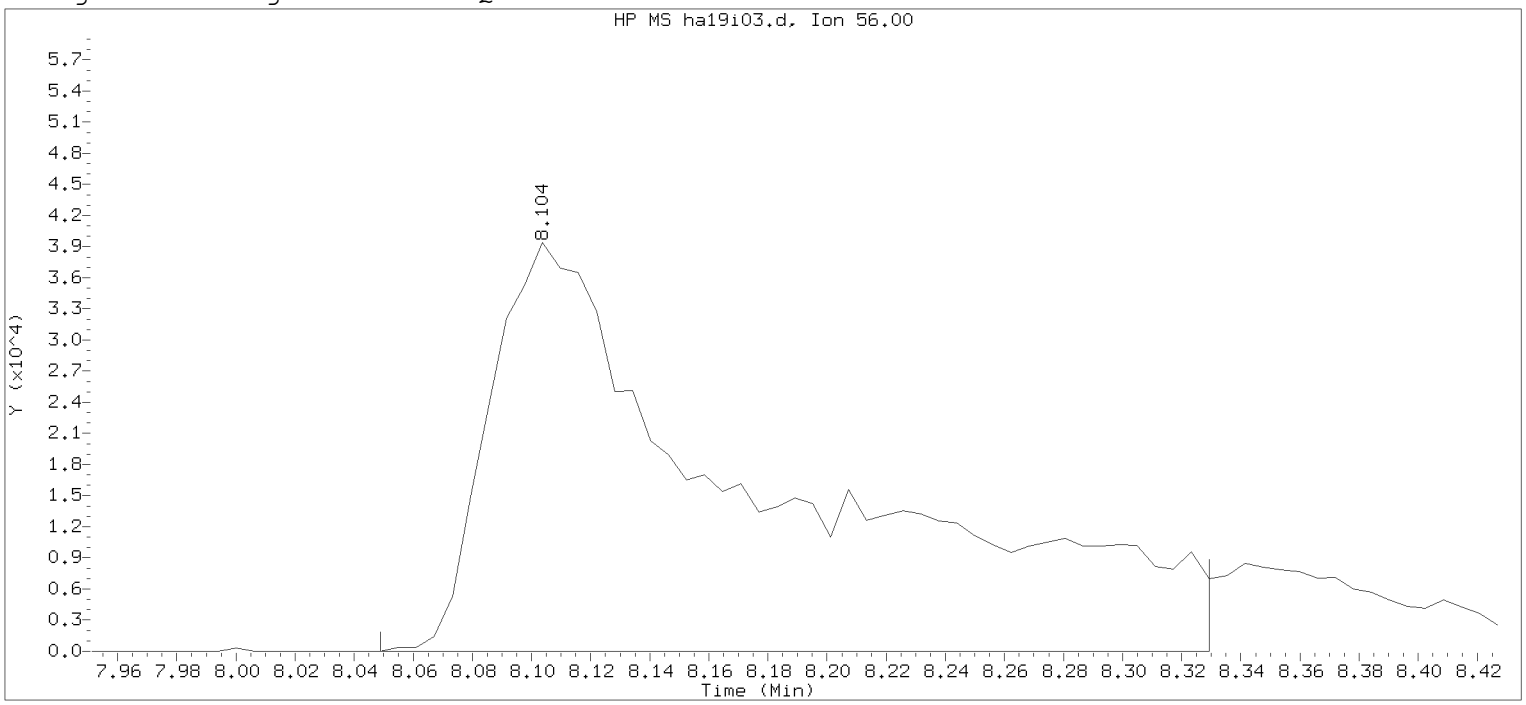
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

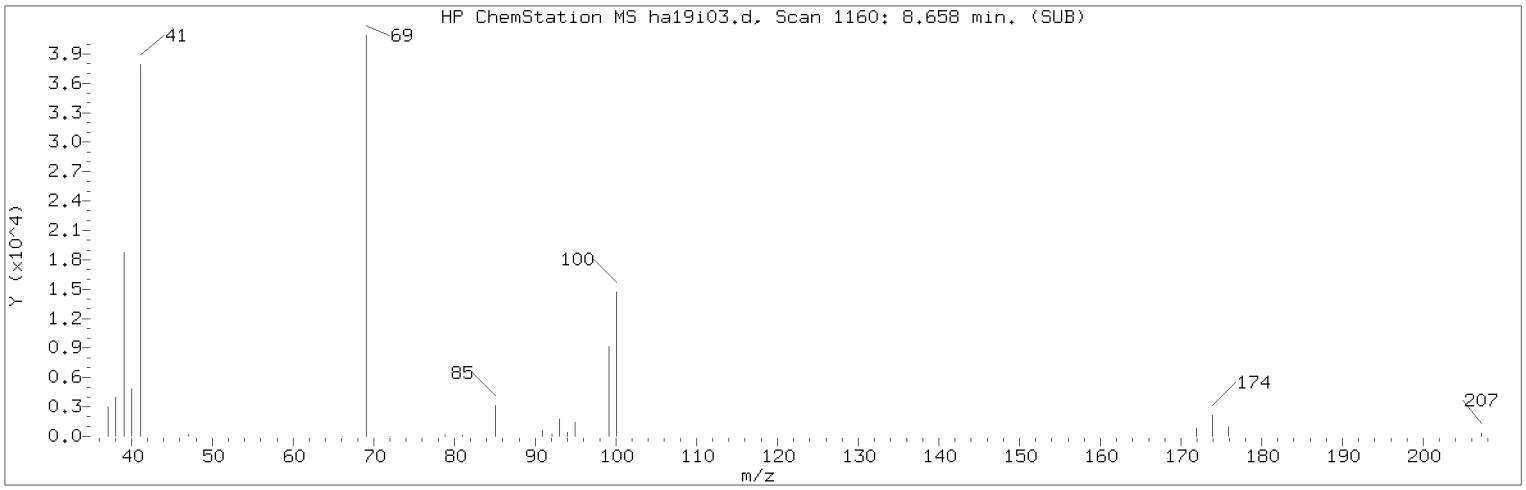
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

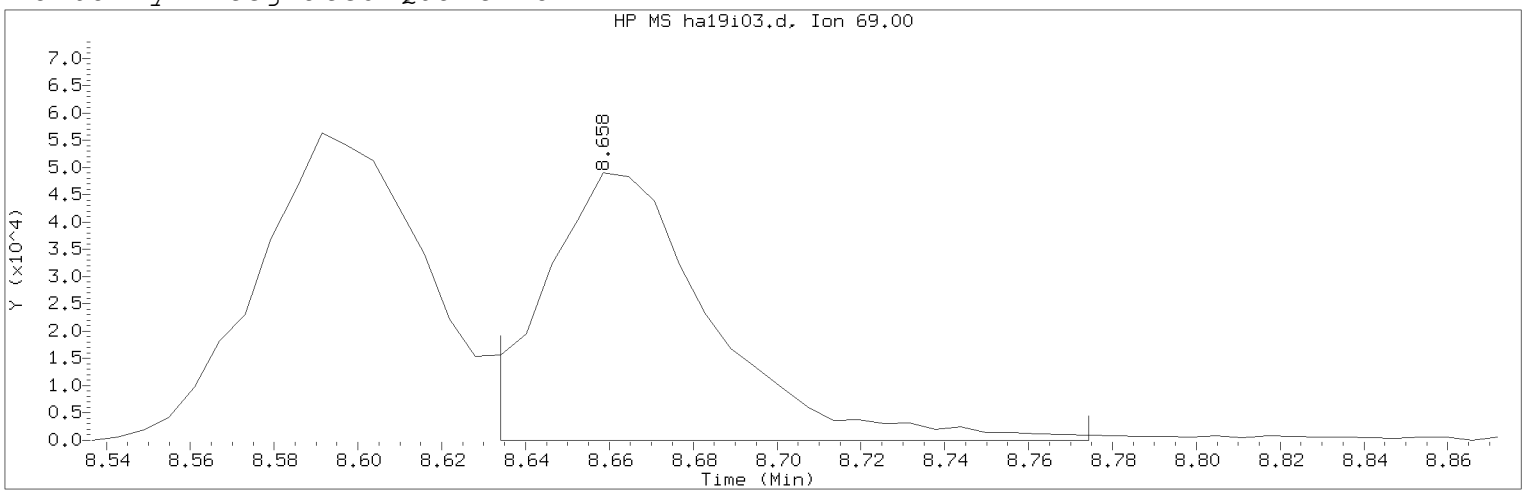
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area : 258178
On-column Amount (ng) : 457.1172
Integration start scan : 1059 Integration stop scan: 1105
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

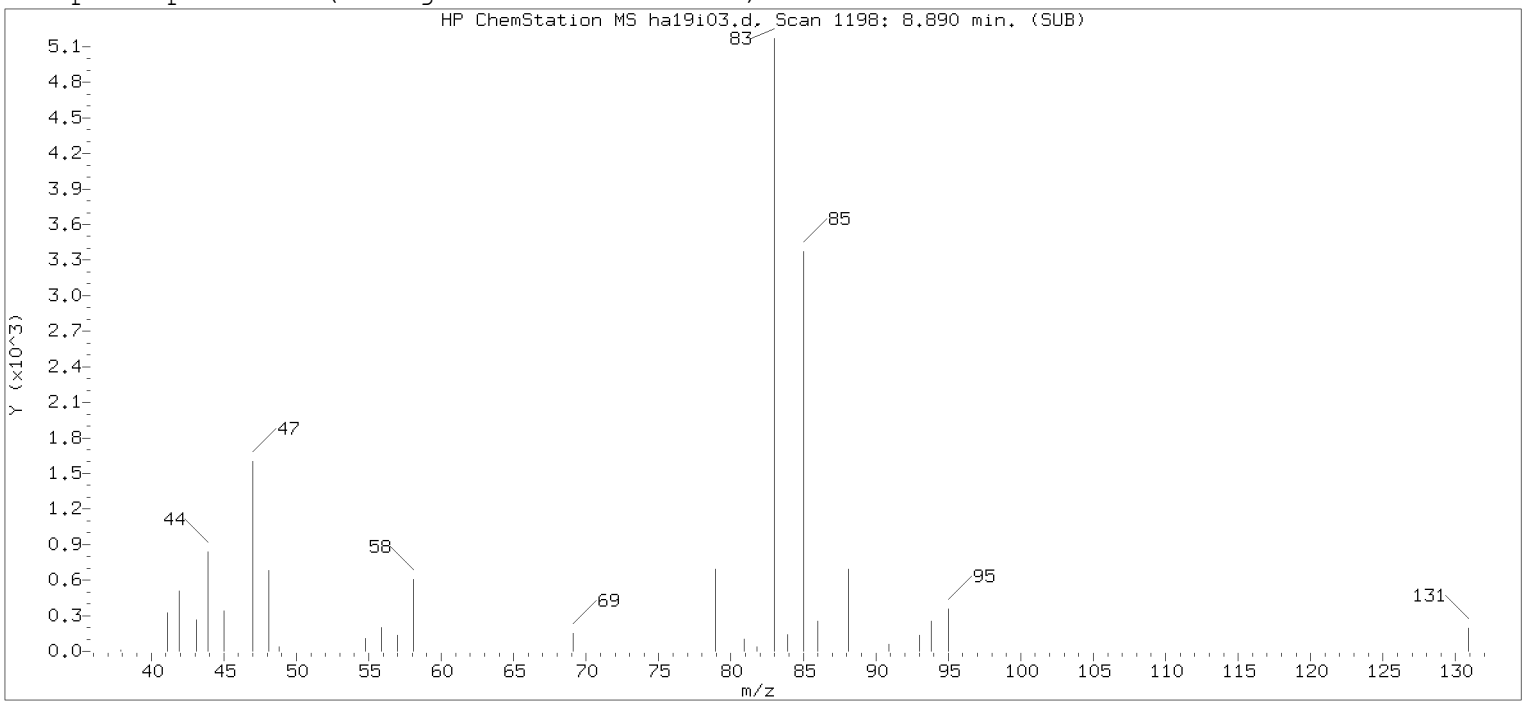
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.658
Quant Ion : 69.00
Area (flag) : 137114M
On-Column Amount (ng) : 5.5945
Integration start scan : 1155 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

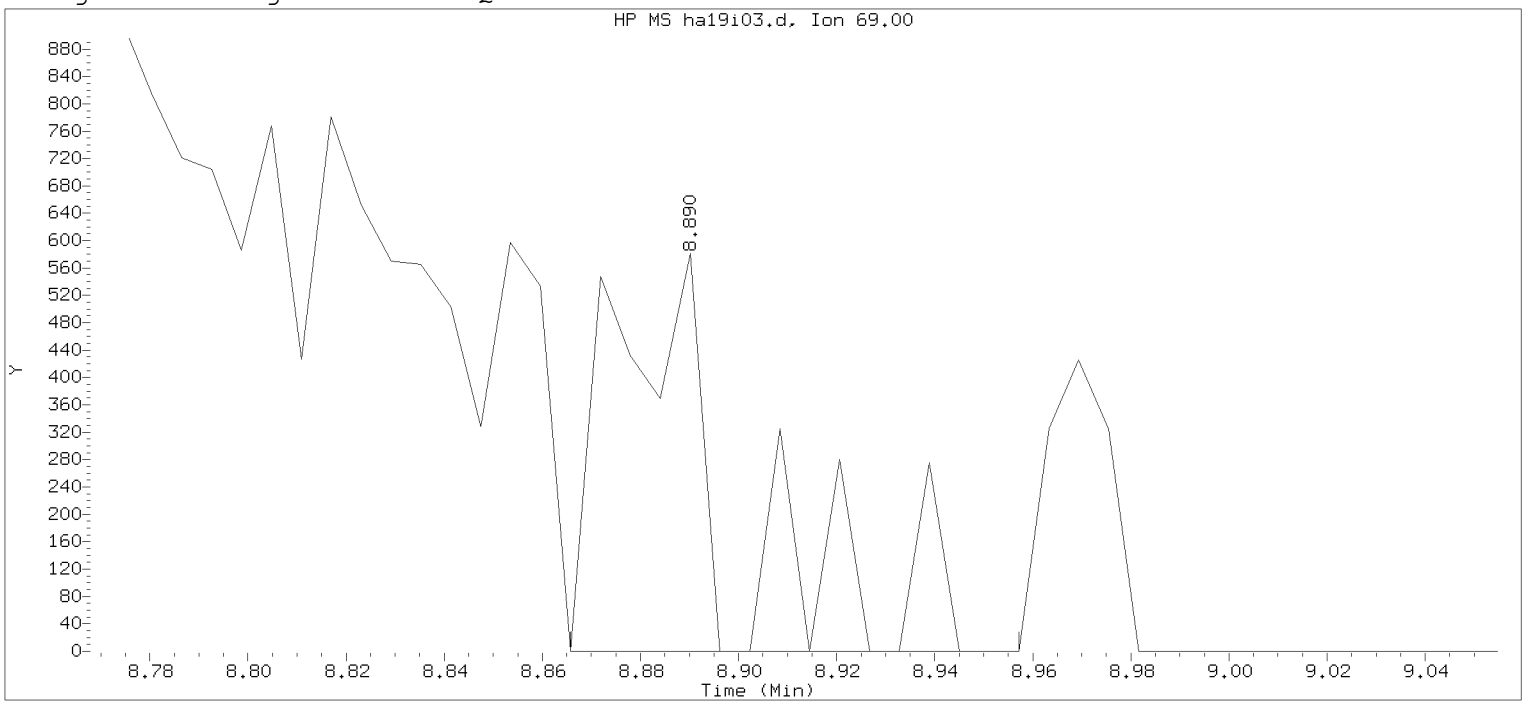
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

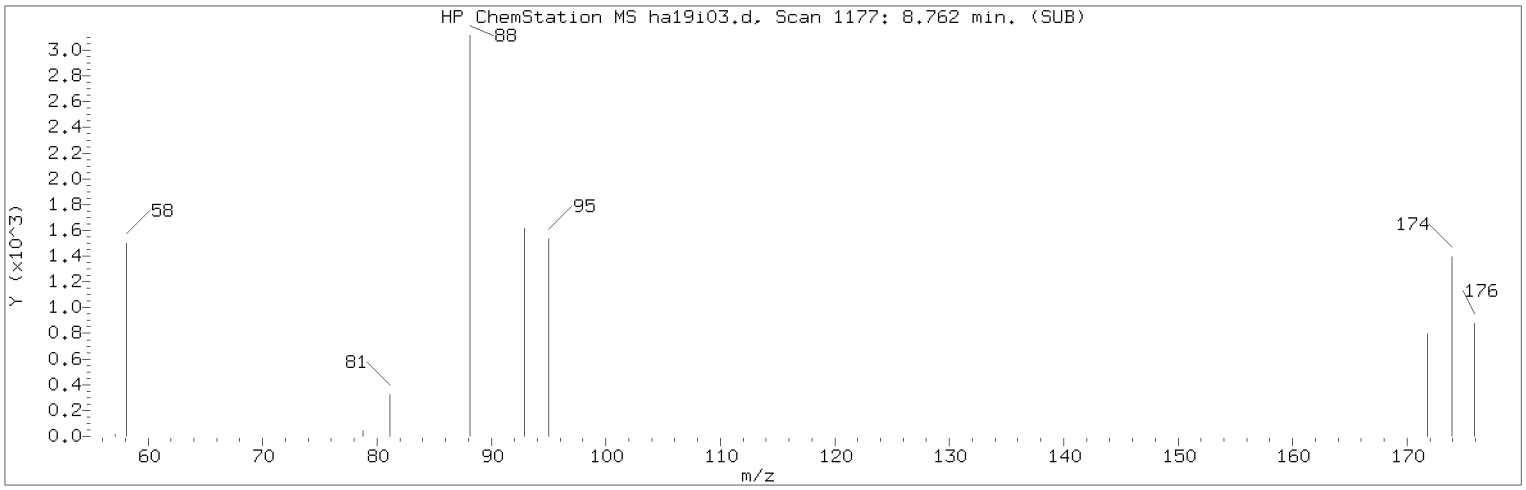
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

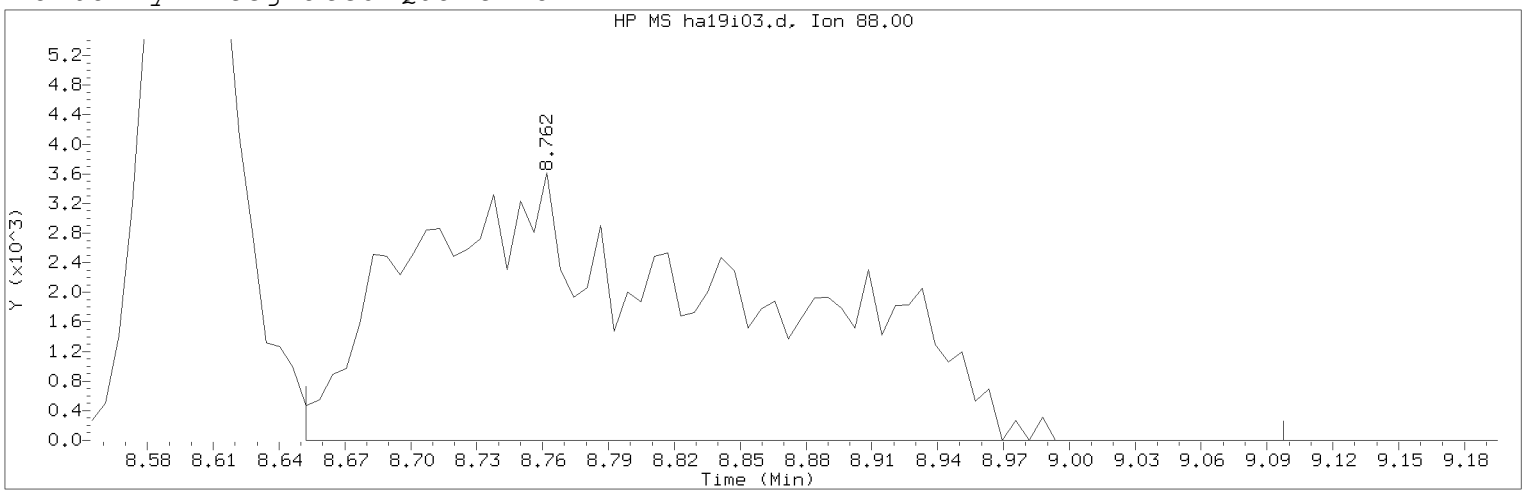
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1198
Retention Time (minutes): 8.890
Quant Ion : 69.00
Area : 1028
On-column Amount (ng) : 0.0613
Integration start scan : 1193 Integration stop scan: 1208
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

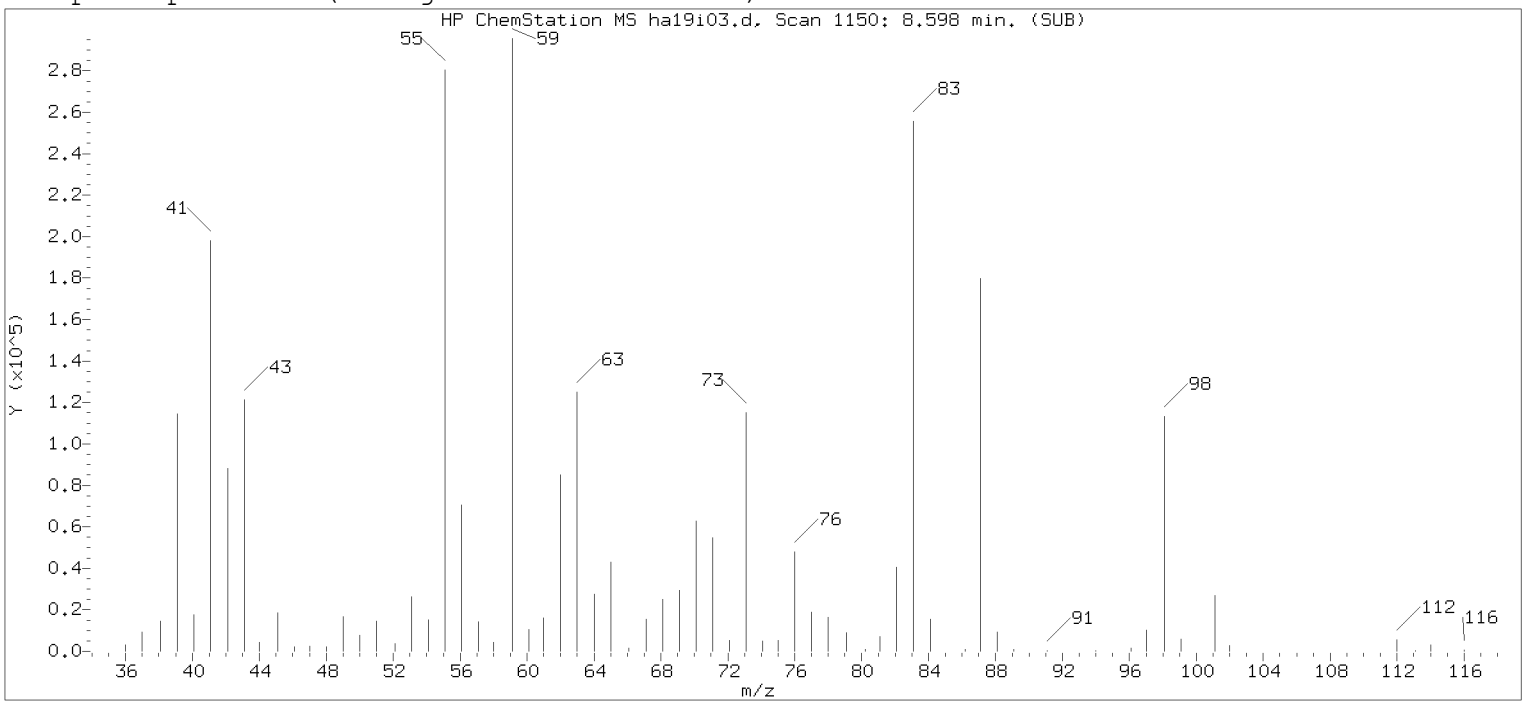
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1177
Retention Time (minutes): 8.762
Quant Ion : 88.00
Area (flag) : 37550A
On-Column Amount (ng) : 269.8626
Integration start scan : 1158 Integration stop scan: 1231
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

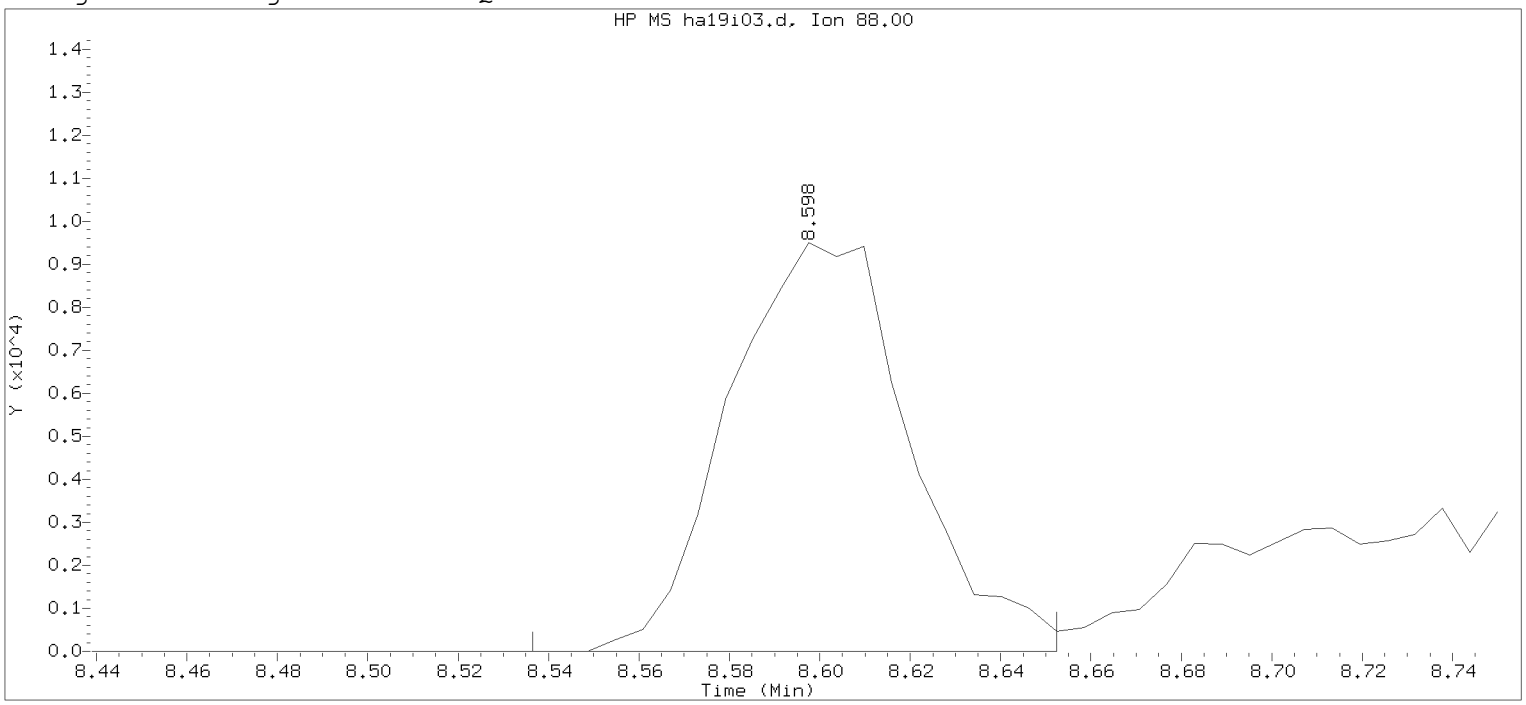
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

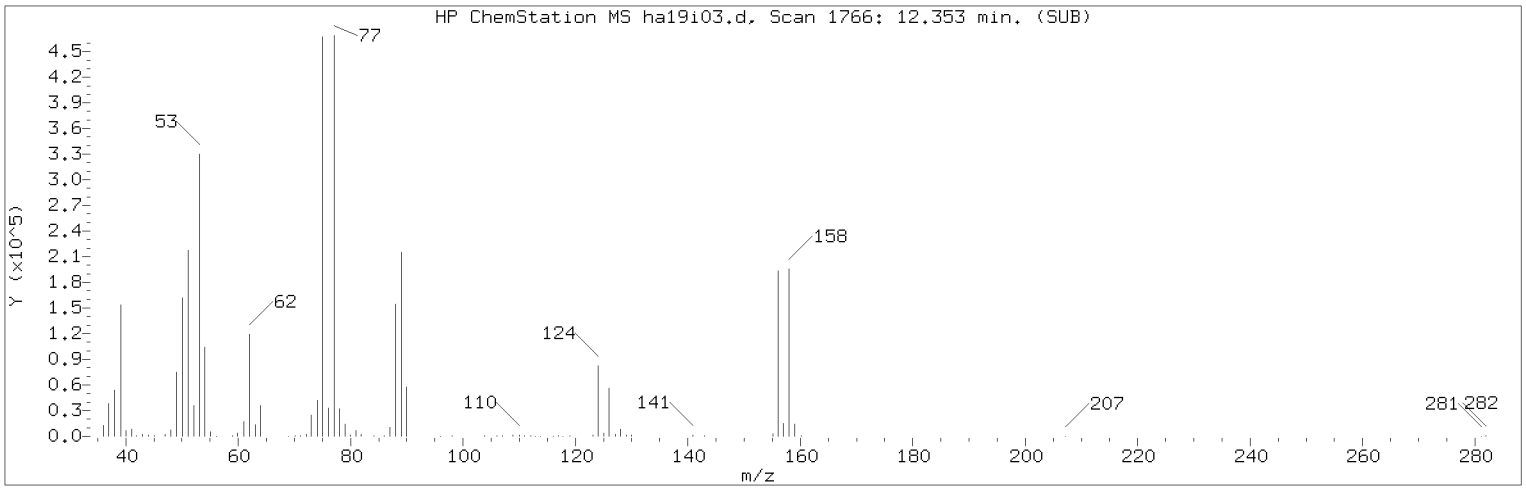
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

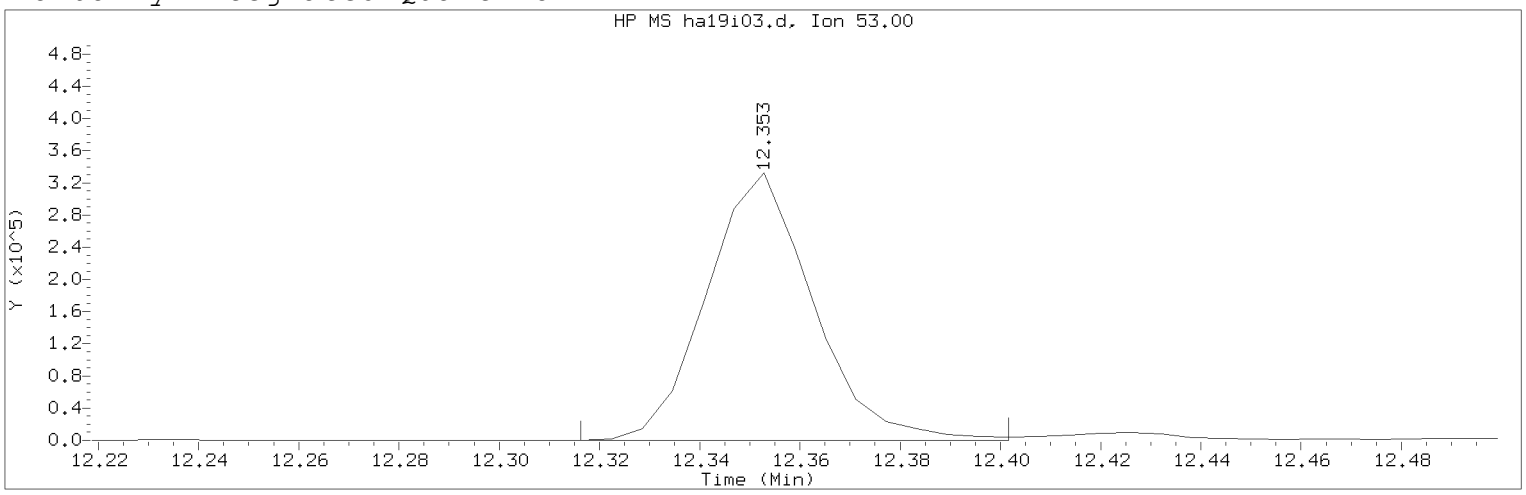
Compound Number	: 72		
Compound Name	: 1,4-Dioxane		
Scan Number	: 1150		
Retention Time (minutes)	: 8.598		
Quant Ion	: 88.00		
Area	: 26338		
On-column Amount (ng)	: 157.3260		
Integration start scan	: 1139	Integration stop scan:	1158
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

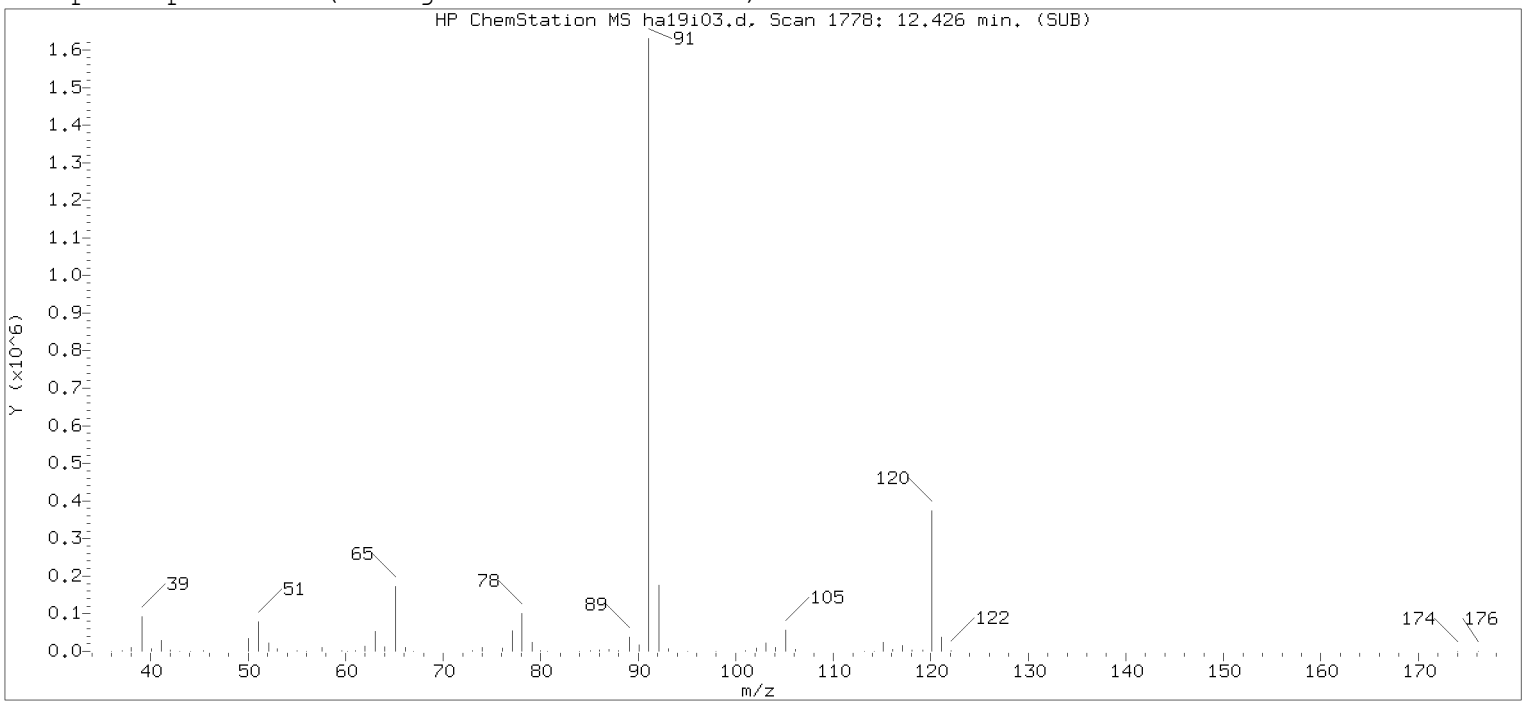
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 488943A
On-Column Amount (ng) : 51.5312
Integration start scan : 1759 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

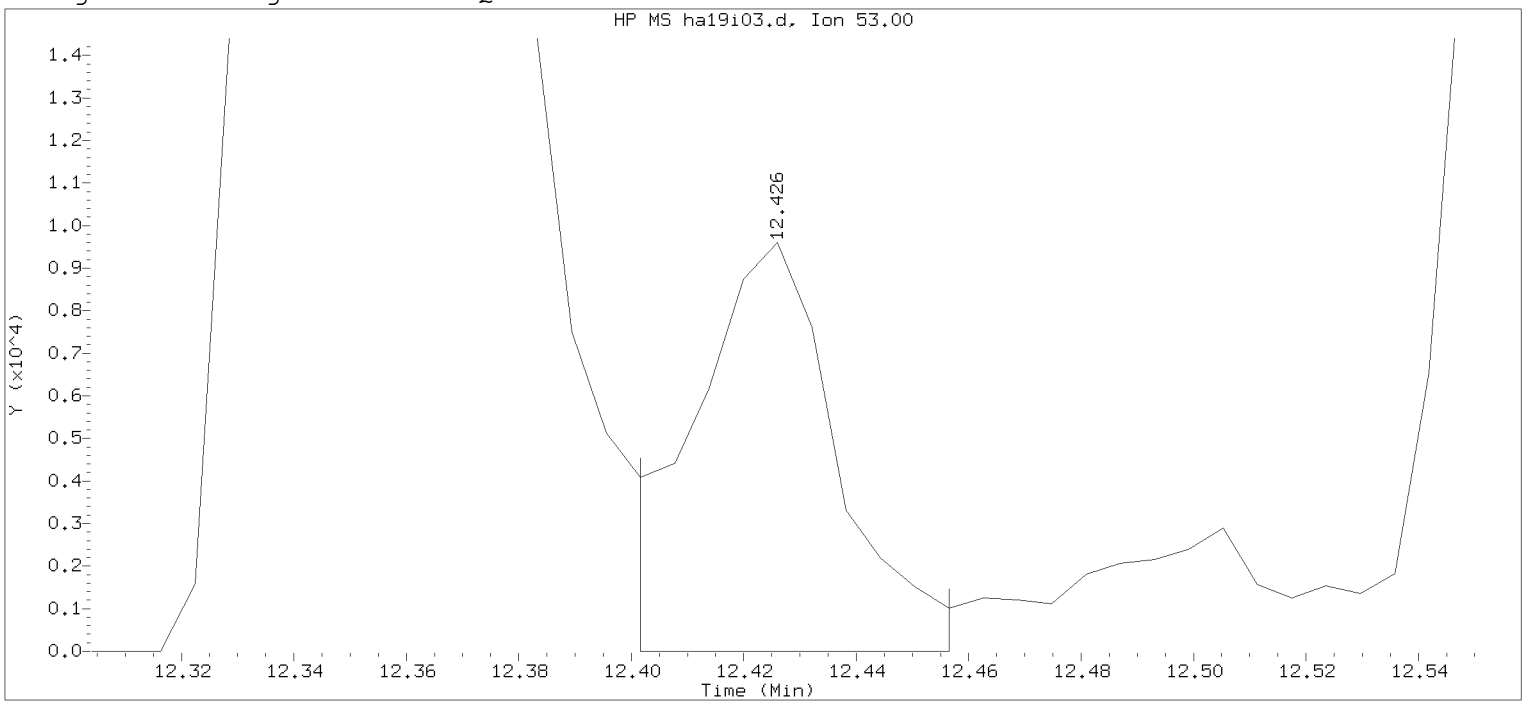
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

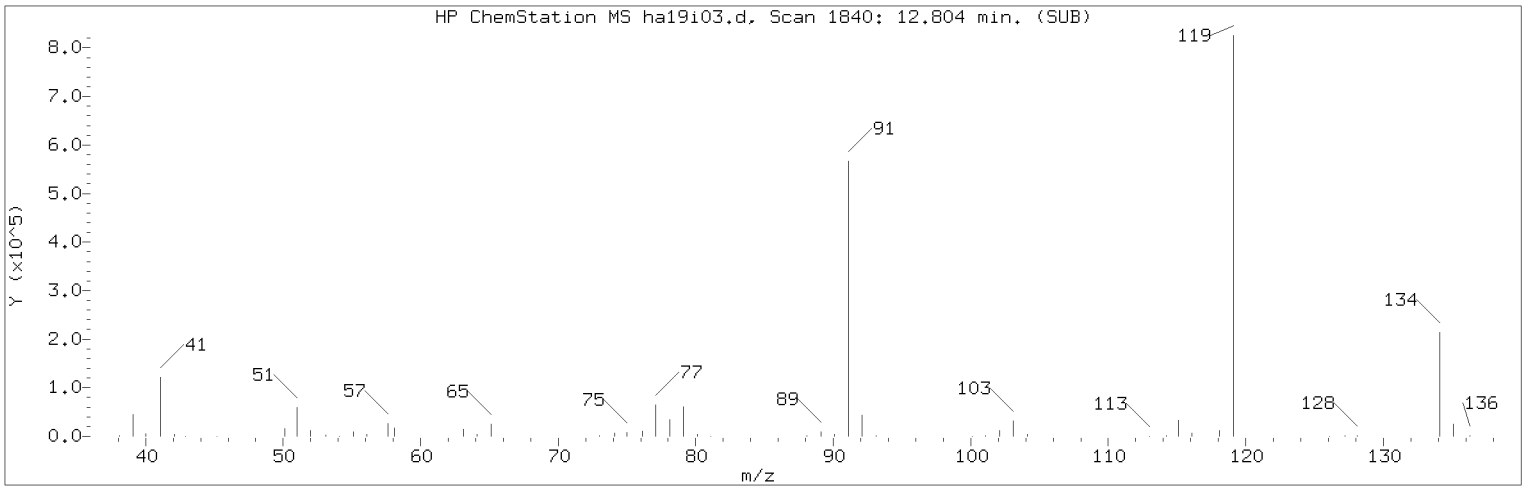
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

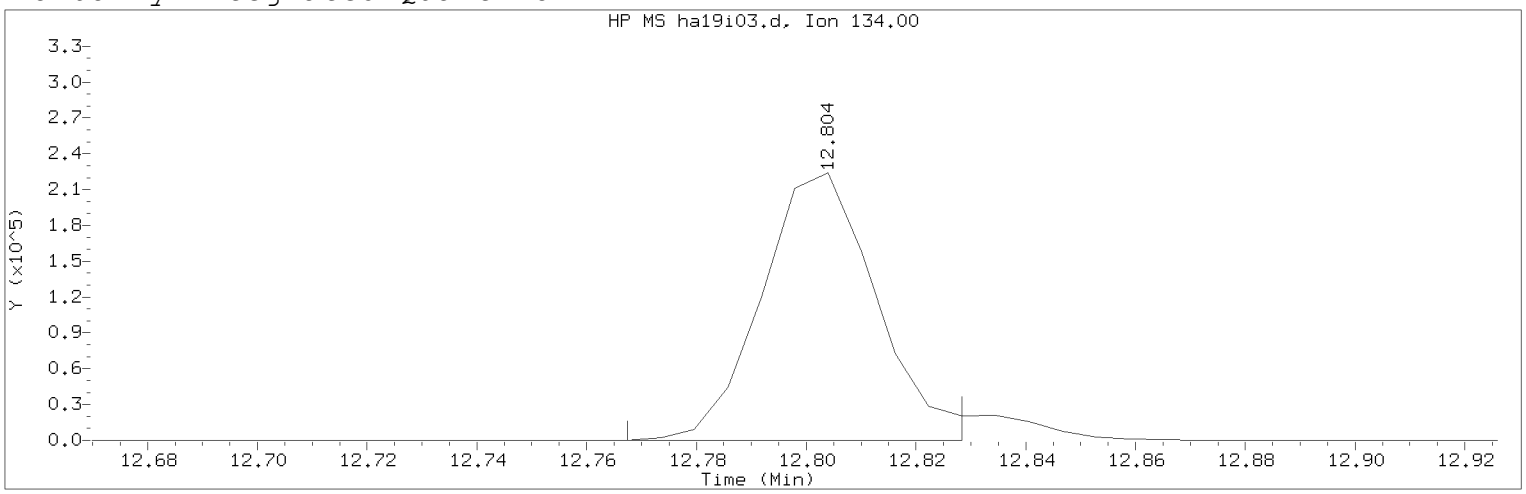
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1778
Retention Time (minutes): 12.426
Quant Ion : 53.00
Area : 16866
On-column Amount (ng) : 3.6265
Integration start scan : 1773 Integration stop scan: 1782
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

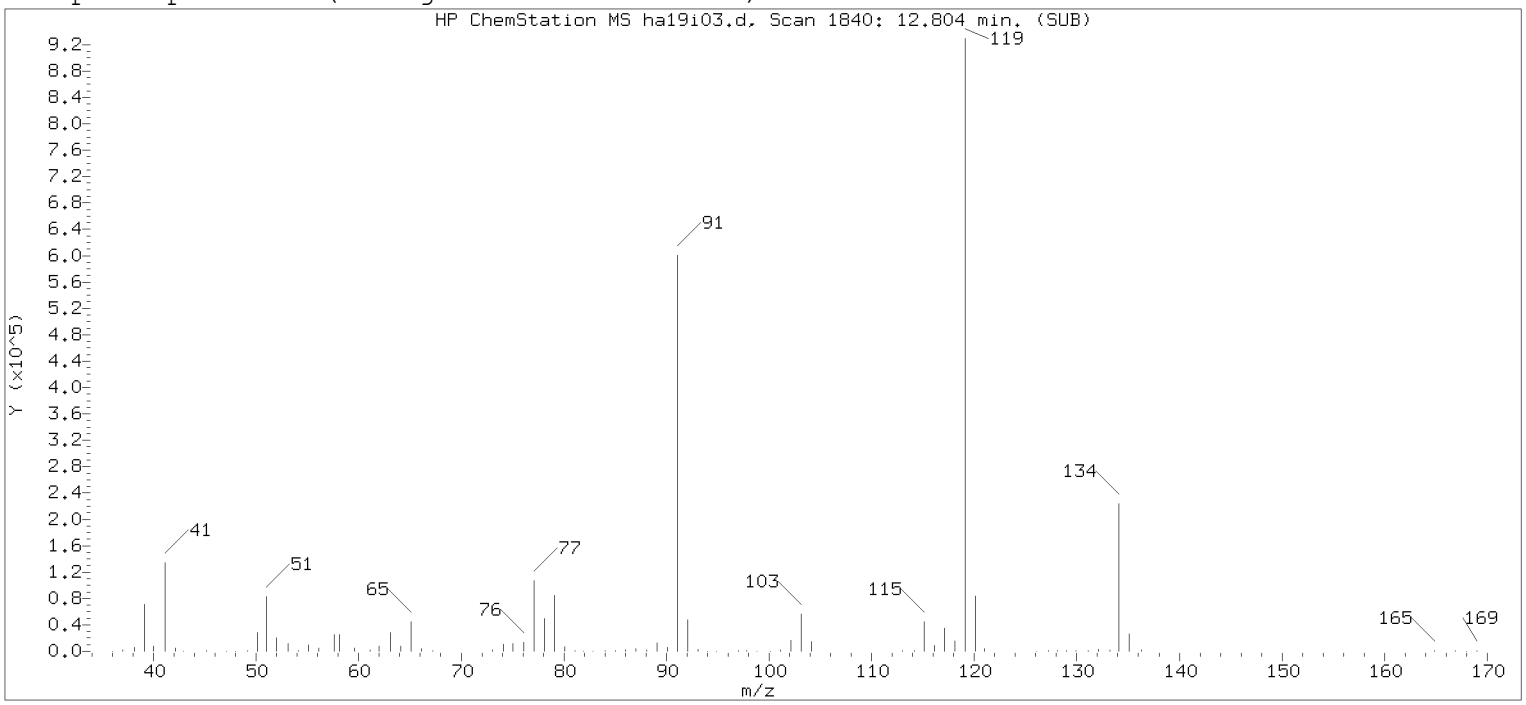
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 325824M
On-Column Amount (ng) : 5.1855
Integration start scan : 1833 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

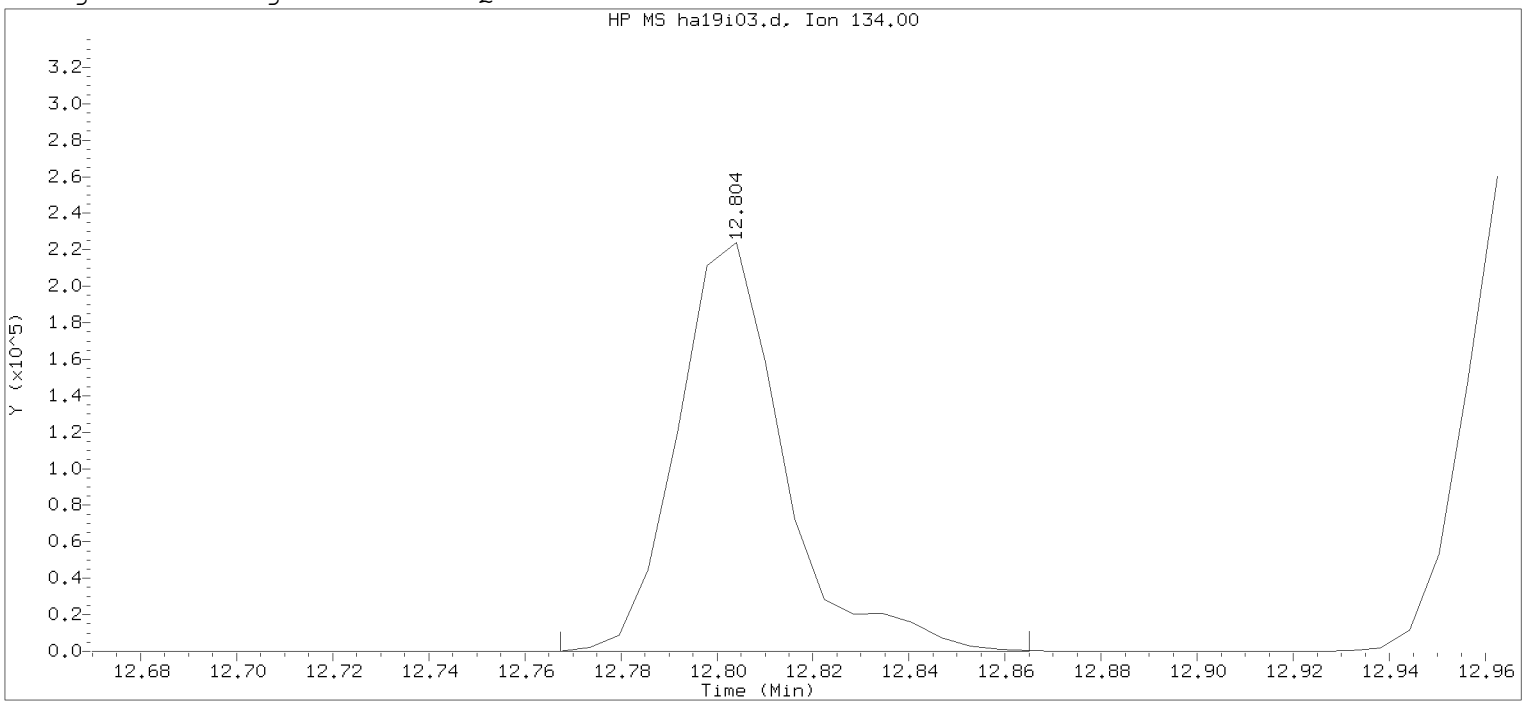
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

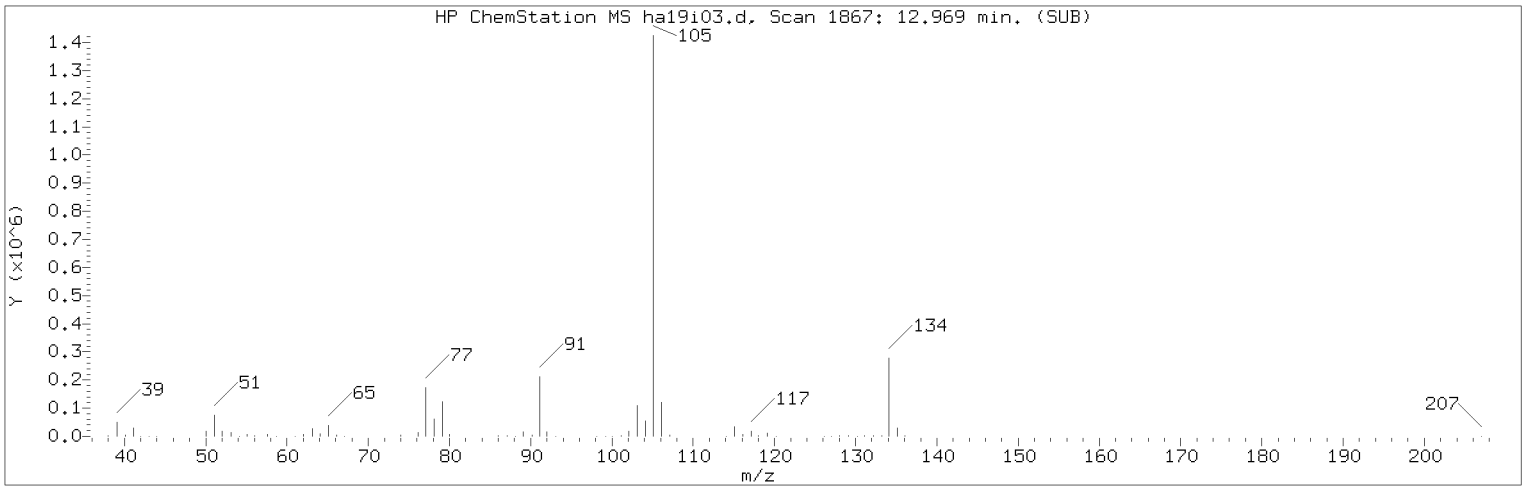
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

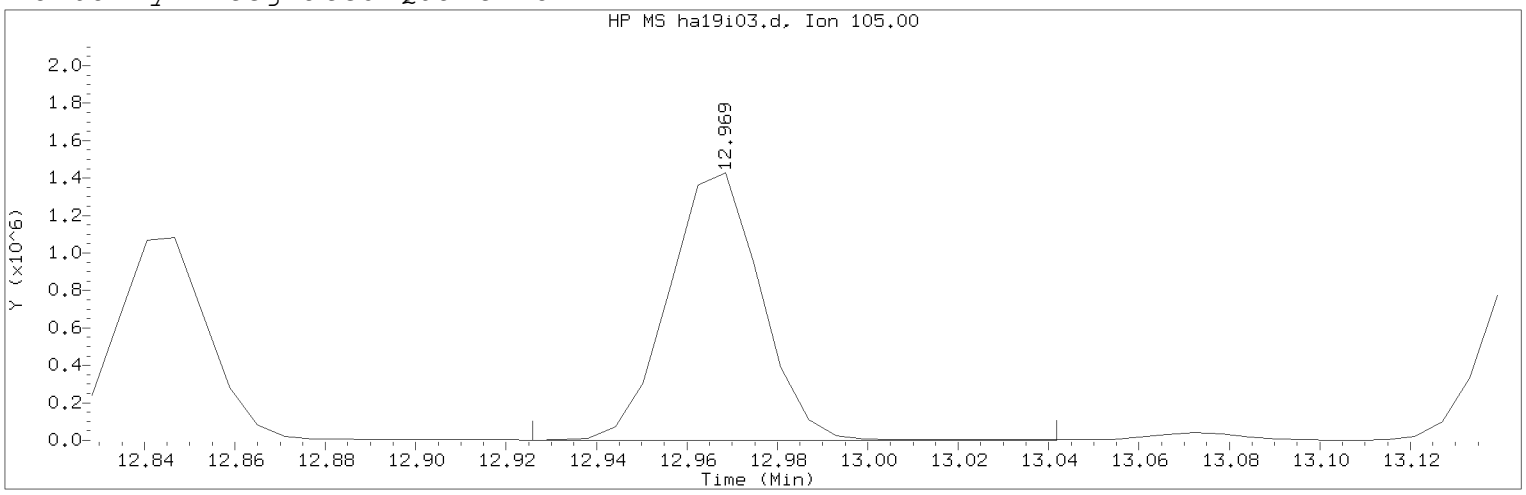
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 343481
On-column Amount (ng) : 5.0181
Integration start scan : 1833 Integration stop scan: 1849
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

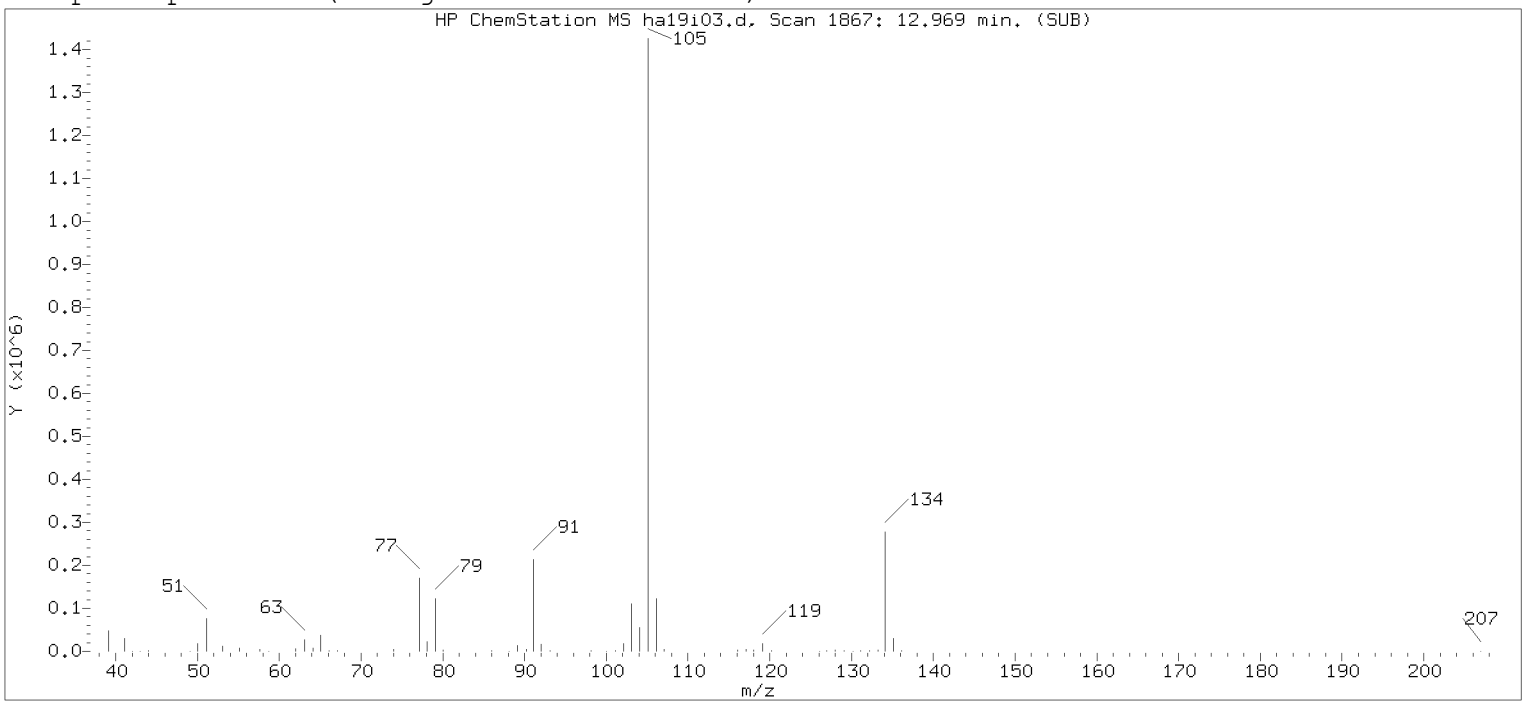
Compound Number : 128
Compound Name : sec-Butylbenzene
Scan Number : 1867
Retention Time (minutes): 12.969
Quant Ion : 105.00
Area (flag) : 2013392M
On-Column Amount (ng) : 5.3400
Integration start scan : 1859 Integration stop scan: 1878
Y at integration start : 302 Y at integration end: 302

Reason for manual integration: improper integration

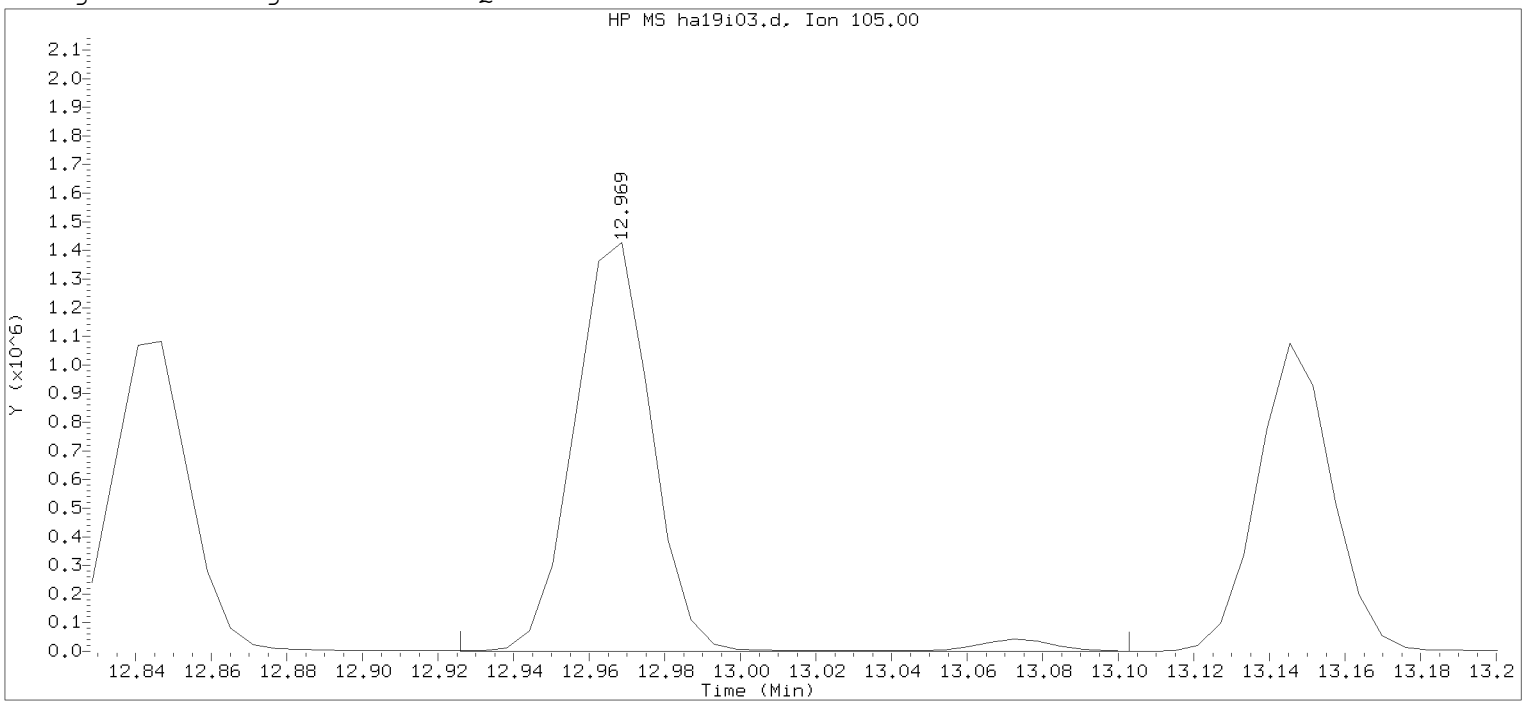
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

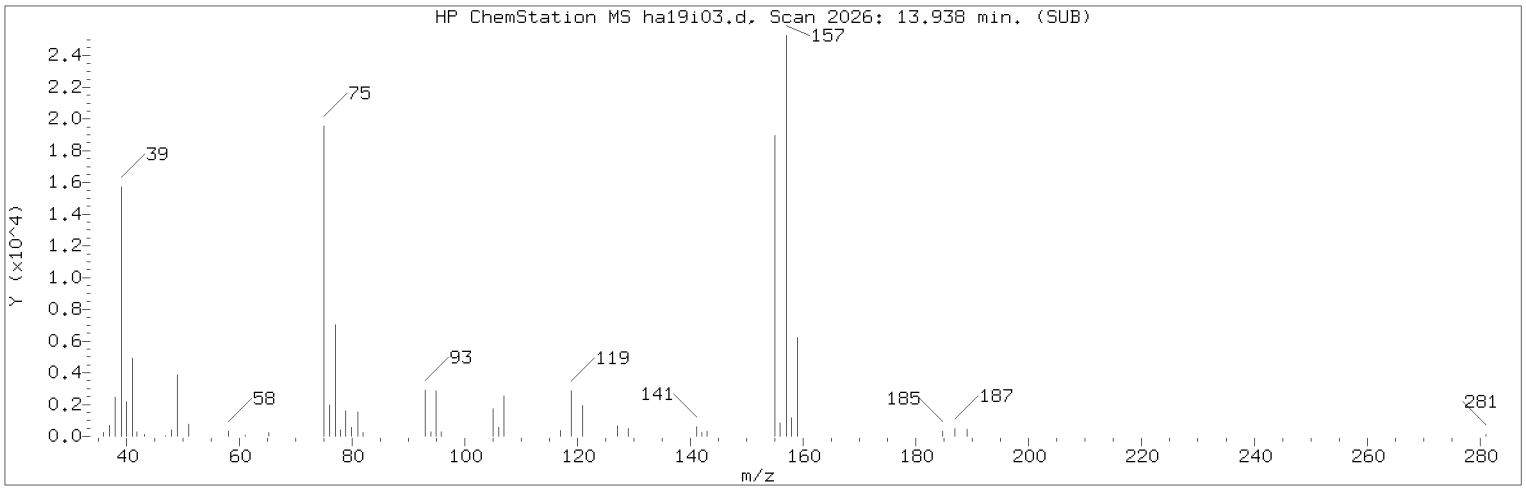
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

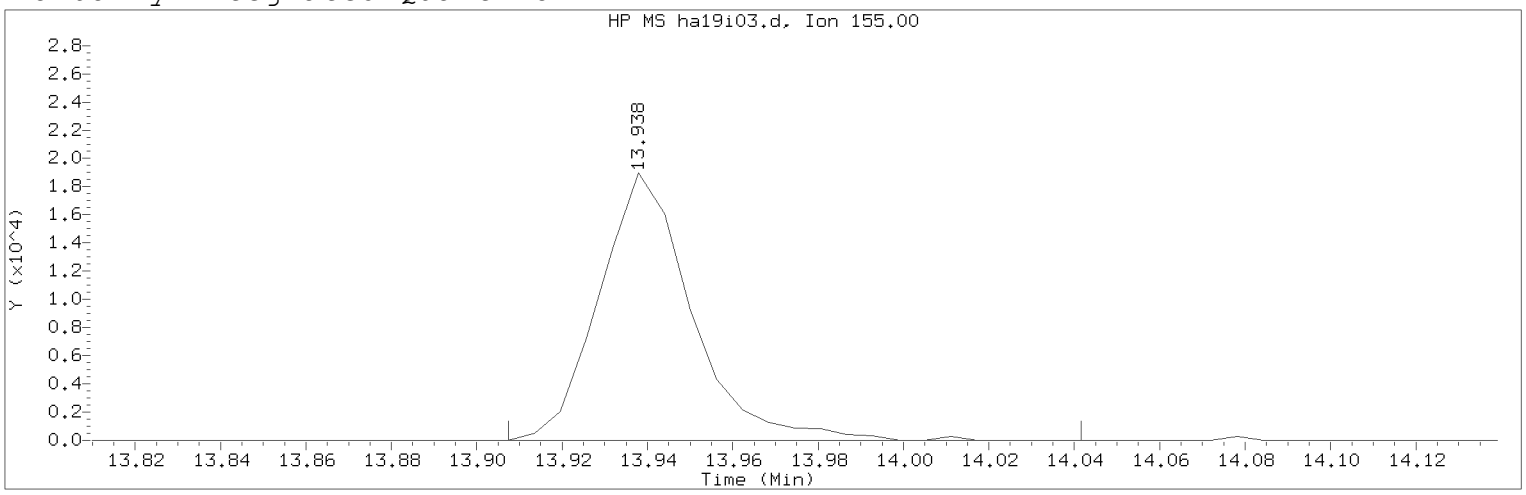
Compound Number : 128
Compound Name : sec-Butylbenzene
Scan Number : 1867
Retention Time (minutes): 12.969
Quant Ion : 105.00
Area : 2070605
On-column Amount (ng) : 5.1178
Integration start scan : 1859 Integration stop scan: 1888
Y at integration start : 302 Y at integration end: 302

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito@ct.gov

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

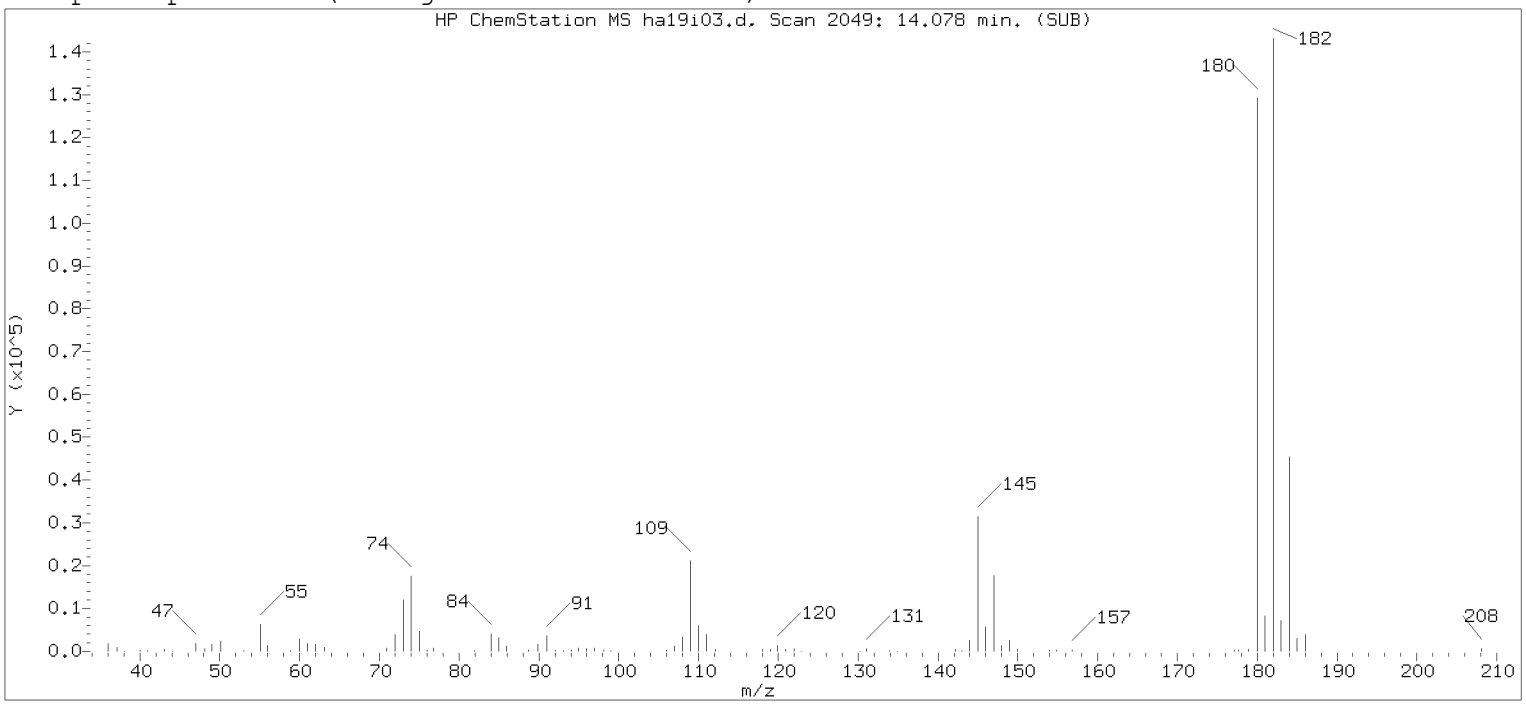
Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2026
Retention Time (minutes): 13.938
Quant Ion : 155.00
Area (flag) : 28578A
On-Column Amount (ng) : 5.3989
Integration start scan : 2020 Integration stop scan: 2042
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

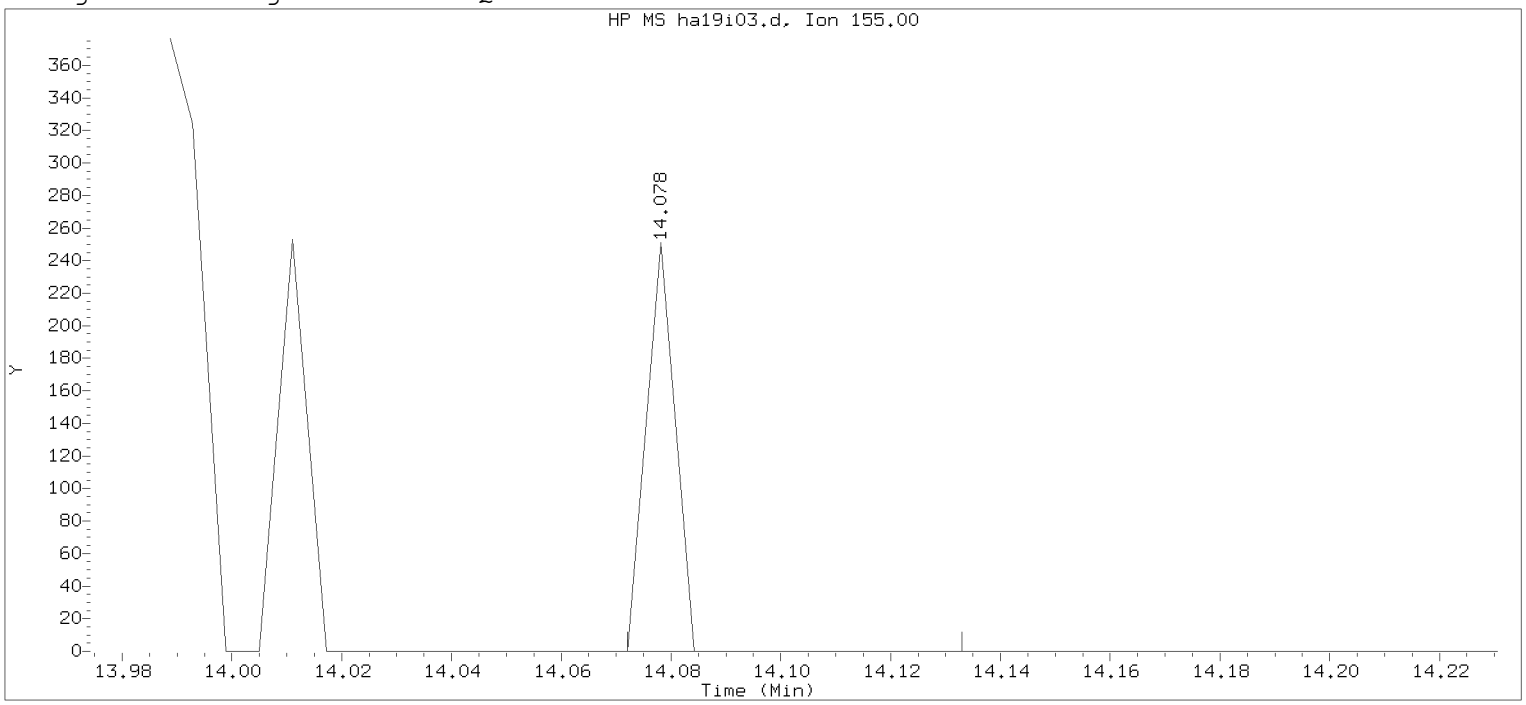
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



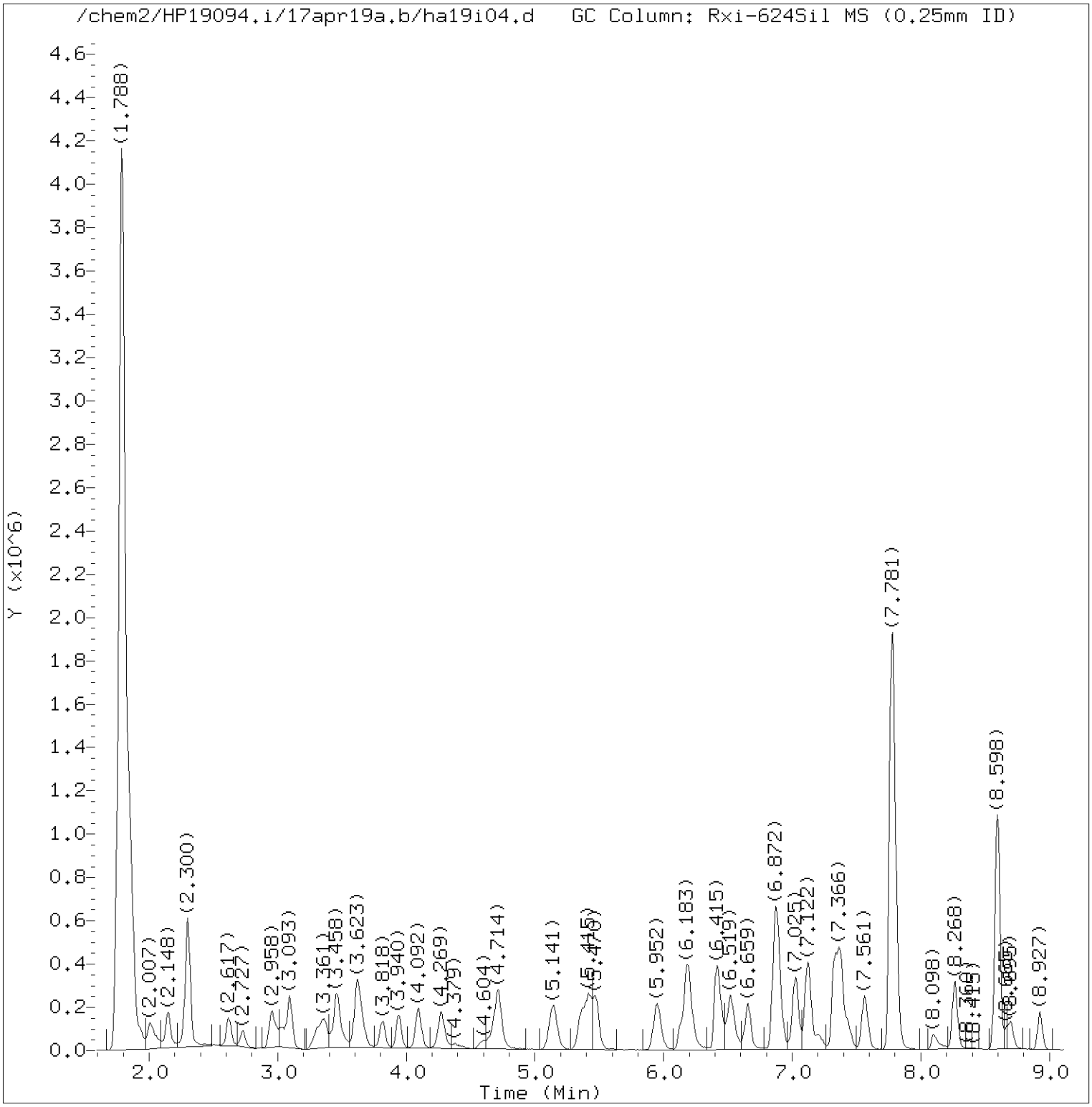
Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2049
Retention Time (minutes): 14.078
Quant Ion : 155.00
Area : 91
On-column Amount (ng) : 0.0285
Integration start scan : 2047 Integration stop scan: 2057
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito



Total Ion Chromatogram (TIC)

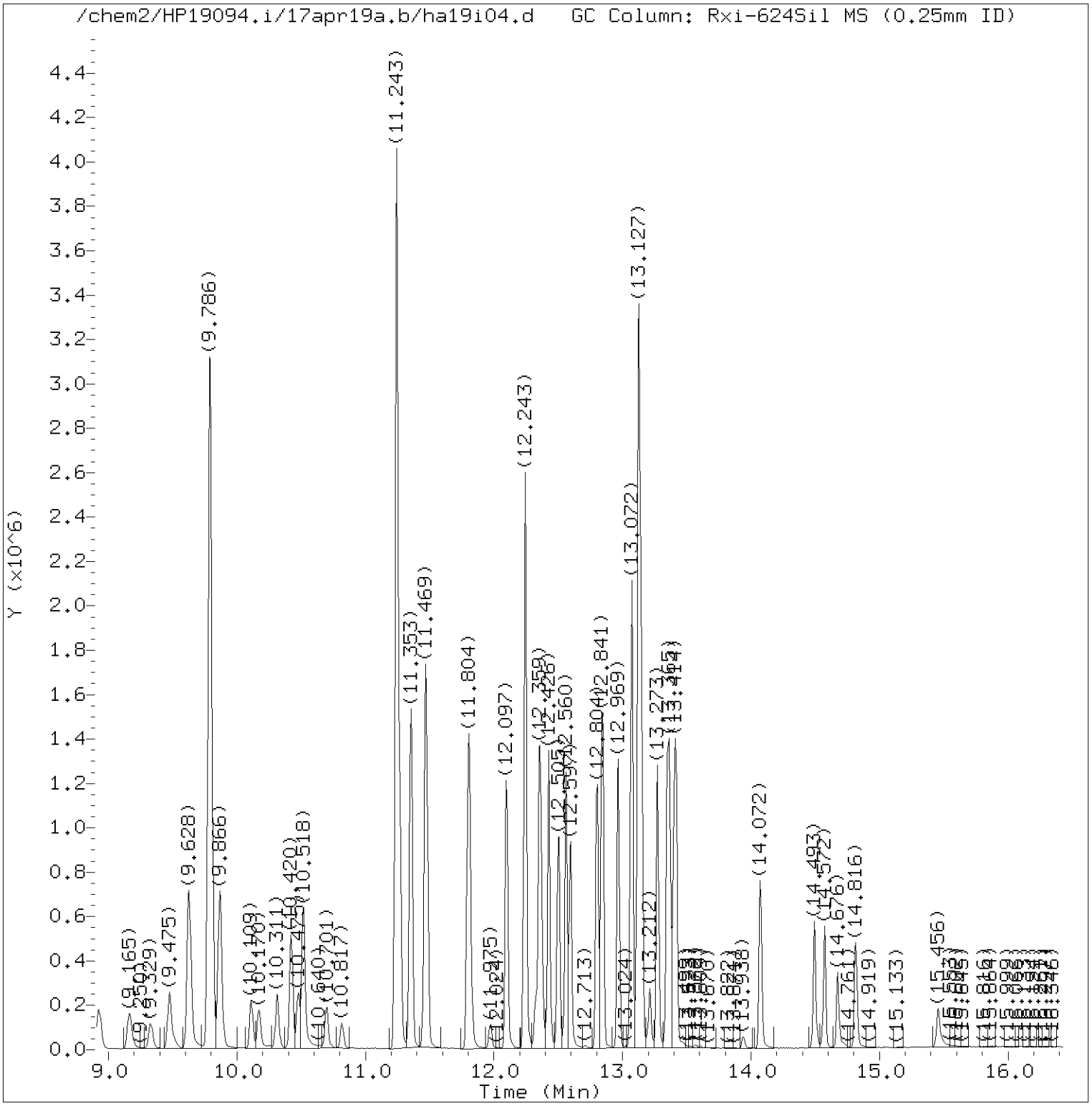
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	214933	2.092
2) Chloromethane	(2)	2.148	50	225851	2.094
5) Vinyl Chloride	(2)	2.288	62	199865	2.111
6) 1,3-Butadiene	(2)	2.300	39	345235	2.315
7) Bromomethane	(2)	2.617	94	125537	2.111
8) Chloroethane	(2)	2.727	64	108321	1.997
9) Dichlorofluoromethane	(2)	2.946	67	258118	2.068
10) Trichlorofluoromethane	(2)	3.032	101	222848	2.031
11) Ethyl ether	(2)	3.306	59	84043	1.933
12) Freon 123a	(2)	3.349	67	179587	2.169
13) Acrolein	(1)	3.458	56	511106	98.742
15) 1,1-Dichloroethene	(2)	3.617	96	126774	2.152
14) Acetone	(1)	3.623	43	121402	19.368
16) Freon 113	(2)	3.635	101	132614	2.138
17) Methyl Iodide	(2)	3.818	142	229743	2.099
18) Carbon Disulfide	(2)	3.940	76	351900	2.129
21) Methyl Acetate	(1)	4.062	43	35434	1.664
22) Allyl Chloride	(2)	4.098	41	224070	1.960
26)*t-Butyl Alcohol-d10	(1)	4.257	65	68028	50.000
23) Methylene Chloride	(2)	4.269	84	130911	2.034
28) t-Butyl Alcohol	(1)	4.379	59	73057	42.922
29) Acrylonitrile	(1)	4.598	53	88750	10.478
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	254578	2.156
31) trans-1,2-Dichloroethene	(2)	4.720	96	136501	2.098
32) n-Hexane	(2)	5.147	57	221575	2.221
33) 1,1-Dichloroethane	(2)	5.354	63	275757	2.148
34) di-Isopropyl Ether	(2)	5.415	45	464544	2.123
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	235409	2.170
37) Ethyl t-butyl ether	(2)	5.952	59	357666	2.126
40) 1,2-Dichloroethene (Total)	(2)		96	291974	4.238
38) 2-Butanone	(1)	6.122	43	271057	21.202
39) cis-1,2-Dichloroethene	(2)	6.177	96	155473	2.141
42) Propionitrile	(1)	6.189	54	122663	40.381
41) 2,2-Dichloropropane	(2)	6.196	77	206491	2.147
45) Methacrylonitrile	(1)	6.415	67	262452	20.665
47) Bromochloromethane	(2)	6.513	128	56709	1.975
48) Tetrahydrofuran	(1)	6.531	71	67886	21.255
49) Chloroform	(2)	6.659	83	255967	2.113

* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	596099	10.013
50)$Dibromofluoromethane	(2)	6.866	111	604932	9.893
51) 1,1,1-Trichloroethane	(2)	6.909	97	219568	2.128
52) Cyclohexane	(2)	7.031	56	271103	2.131
52) Cyclohexane	(2)	7.025	84	215212M	2.154
52) Cyclohexane	(2)	7.025	69	77017	2.158
55) 1,1-Dichloropropene	(2)	7.122	75	209573	2.187
54) Carbon Tetrachloride	(2)	7.128	117	189179	2.184
56) Isobutyl Alcohol	(1)	7.201	41	74392	101.284
57)$1,2-Dichloroethane-d4	(2)	7.336	102	92983	9.659
57)$1,2-Dichloroethane-d4	(2)	7.329	65	467588	9.979
57)$1,2-Dichloroethane-d4	(2)	7.317	104	52387	8.978
58) Benzene	(2)	7.378	78	590415	2.122
59) 1,2-Dichloroethane	(2)	7.433	62	138075	2.076
60) t-Amyl methyl ether	(2)	7.561	73	294416	2.152
63)*Fluorobenzene	(2)	7.775	96	2655800	10.000
62) n-Heptane	(2)	7.805	43	251776	2.144
65) n-Butanol	(1)	8.098	56	113225M	209.360
67) Trichloroethene	(2)	8.268	95	151791	2.061
70) 1,2-Dichloropropane	(2)	8.591	63	153366	2.114
69) Methylcyclohexane	(2)	8.598	83	256321	2.060
71) Methyl Methacrylate	(1)	8.665	69	50497	2.173
73) Dibromomethane	(2)	8.695	93	58111	2.078
72) 1,4-Dioxane	(1)	8.726	88	15642A	116.750
74) Bromodichloromethane	(2)	8.927	83	162841	2.126
76) 2-Nitropropane	(1)	9.165	41	156496	20.423
80) cis-1,3-Dichloropropene	(2)	9.475	75	185134	2.144
81) 4-Methyl-2-Pentanone	(1)	9.628	43	705793A	20.834
82)$Toluene-d8	(3)	9.786	98	2590118	9.552
82)$Toluene-d8	(3)	9.786	100	1662193	9.520
83) Toluene	(3)	9.866	92	363552	2.029
84) trans-1,3-Dichloropropene	(3)	10.109	75	135993	1.948
85) 1,3-Dichloropropene (total)	(3)		75	321127	4.092
86) Ethyl Methacrylate	(3)	10.170	69	108084	2.093
88) 1,1,2-Trichloroethane	(3)	10.311	97	84724	2.036
89) Tetrachloroethene	(3)	10.426	166	172348	2.074
90) 1,3-Dichloropropane	(3)	10.475	76	150411	2.019
91) 2-Hexanone	(1)	10.518	43	531567	22.264

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.701	129	103122	2.091
95) 1,2-Dibromoethane	(3)	10.817	107	83577	2.123
97)*Chlorobenzene-d5	(3)	11.243	117	1854966	10.000
98) Chlorobenzene	(3)	11.268	112	417252	2.136
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	137269	2.110
100) Ethylbenzene	(3)	11.359	91	751832	2.165
101) m+p-Xylene	(3)	11.469	106	577164	4.372
105) Xylene (Total)	(3)		106	857089	6.579
104) o-Xylene	(3)	11.798	106	279925	2.208
106) Styrene	(3)	11.816	104	433158	2.218
107) Bromoform	(3)	11.975	173	54776	2.224
108) Isopropylbenzene	(3)	12.097	105	730153	2.201
111)$4-Bromofluorobenzene	(3)	12.243	95	780719	10.134
111)$4-Bromofluorobenzene	(3)	12.243	174	691175	10.080
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	104644	2.052
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	188111M	20.914
114) Bromobenzene	(4)	12.359	156	165563	2.129
116) 1,2,3-Trichloropropane	(4)	12.377	110	26520	2.078
117) n-Propylbenzene	(4)	12.426	91	911475	2.192
119) 2-Chlorotoluene	(4)	12.505	126	169029	2.150
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	614947	2.198
122) 4-Chlorotoluene	(4)	12.597	126	172657	2.184
125) tert-Butylbenzene	(4)	12.804	134	135295	2.226
126) Pentachloroethane	(4)	12.835	167	89686	1.976
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	619265	2.221
128) sec-Butylbenzene	(4)	12.969	105	797302	2.187
131) 1,3-Dichlorobenzene	(4)	13.066	146	321679	2.105
132) p-Isopropyltoluene	(4)	13.072	119	667388	2.237
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	790252	10.000
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	246842	2.008
134) 1,4-Dichlorobenzene	(4)	13.145	146	333573	2.095
136) Benzyl Chloride	(4)	13.212	126	35310	2.197
138) n-Butylbenzene	(4)	13.365	92	336964	2.300
139) 1,2-Dichlorobenzene	(4)	13.401	146	289413	2.133
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	10984	2.189
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	182178	2.082
146) Hexachlorobutadiene	(4)	14.572	225	93394	2.155
147) Naphthalene	(4)	14.676	128	270419	2.100

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

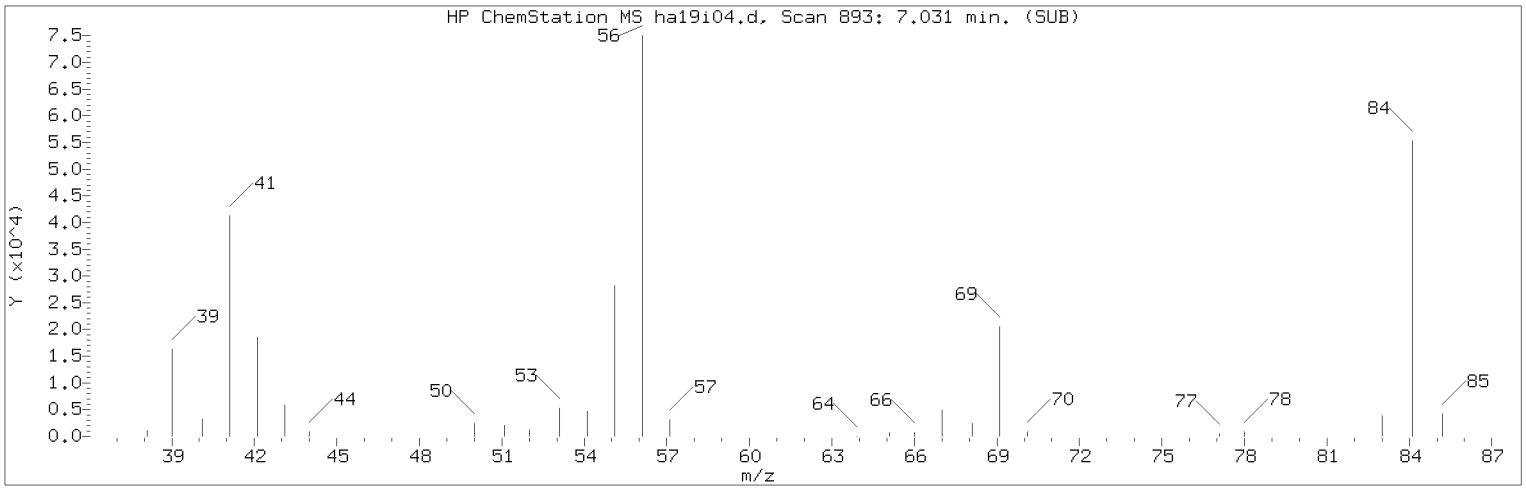
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

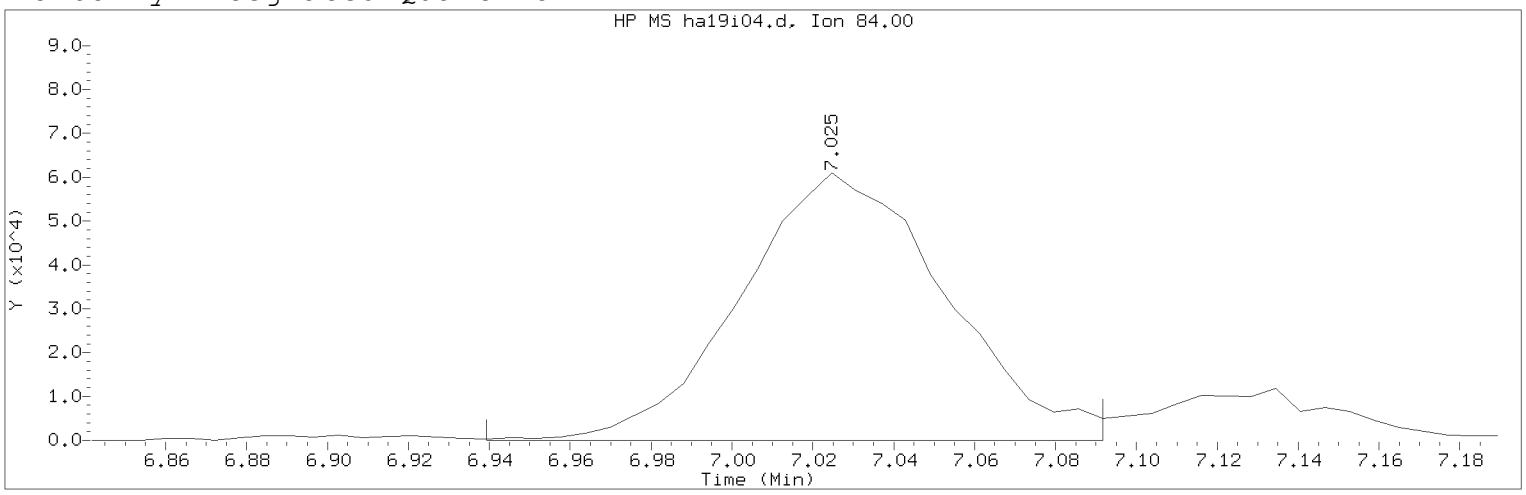
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	158250	2.140

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

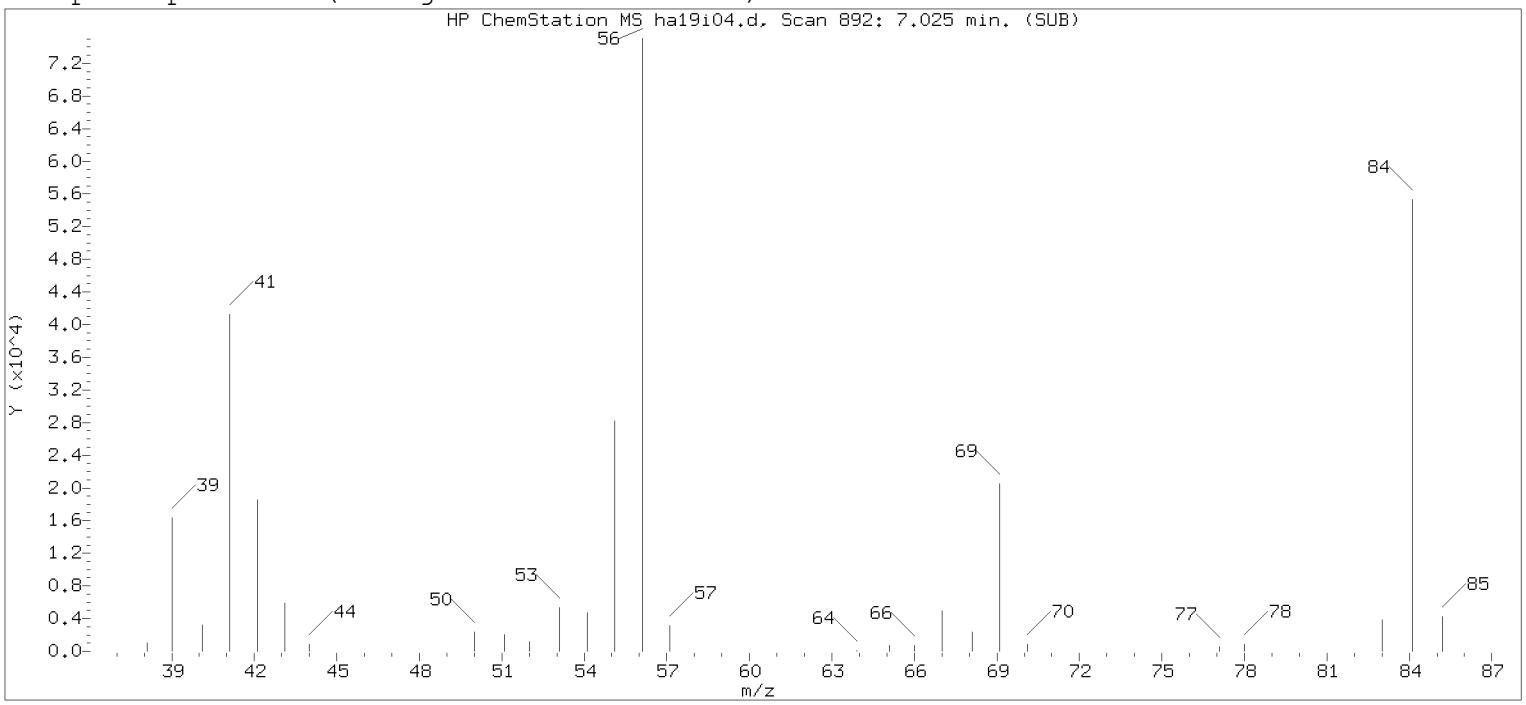
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 892
Retention Time (minutes): 7.025
Quant Ion : 84.00
Area (flag) : 215212M
On-Column Amount (ng) : 2.1543
Integration start scan : 877 Integration stop scan: 902
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

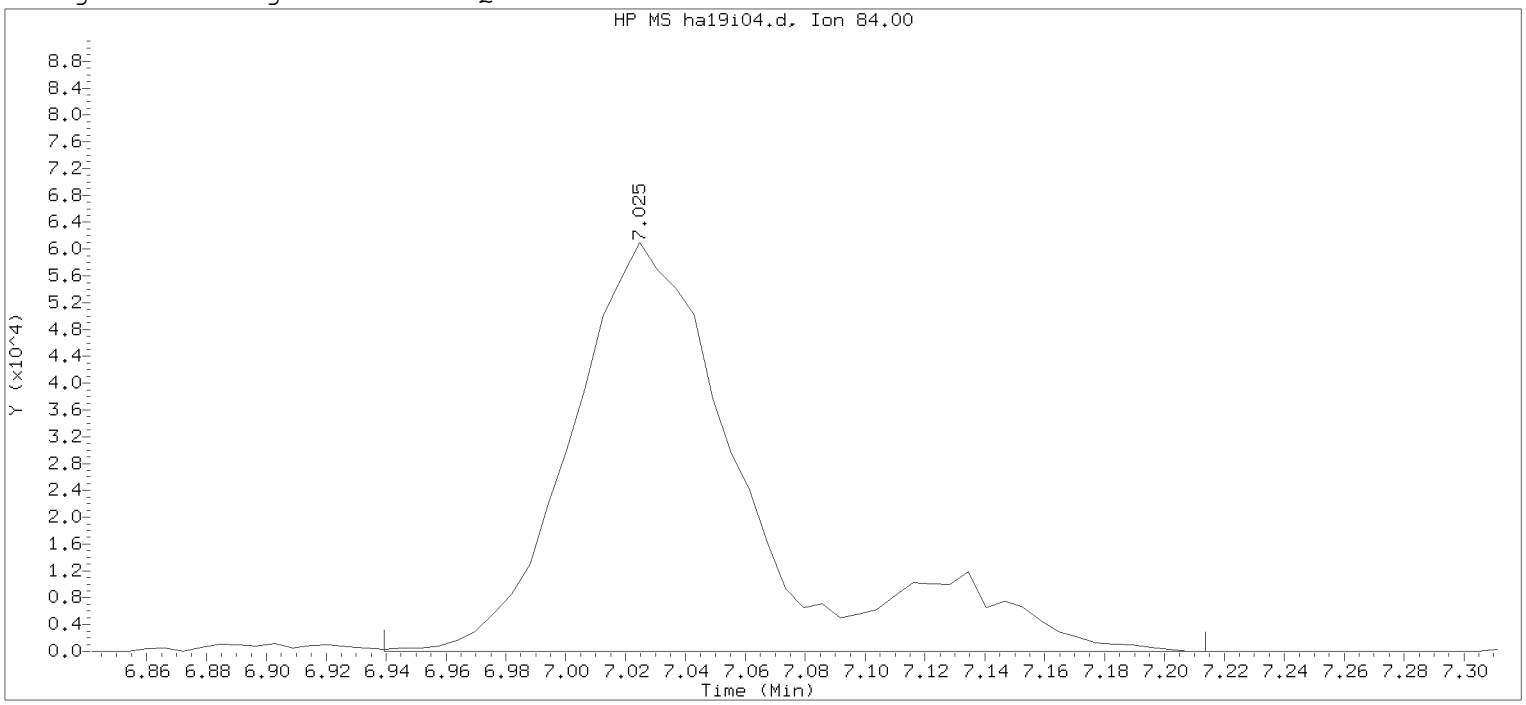
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

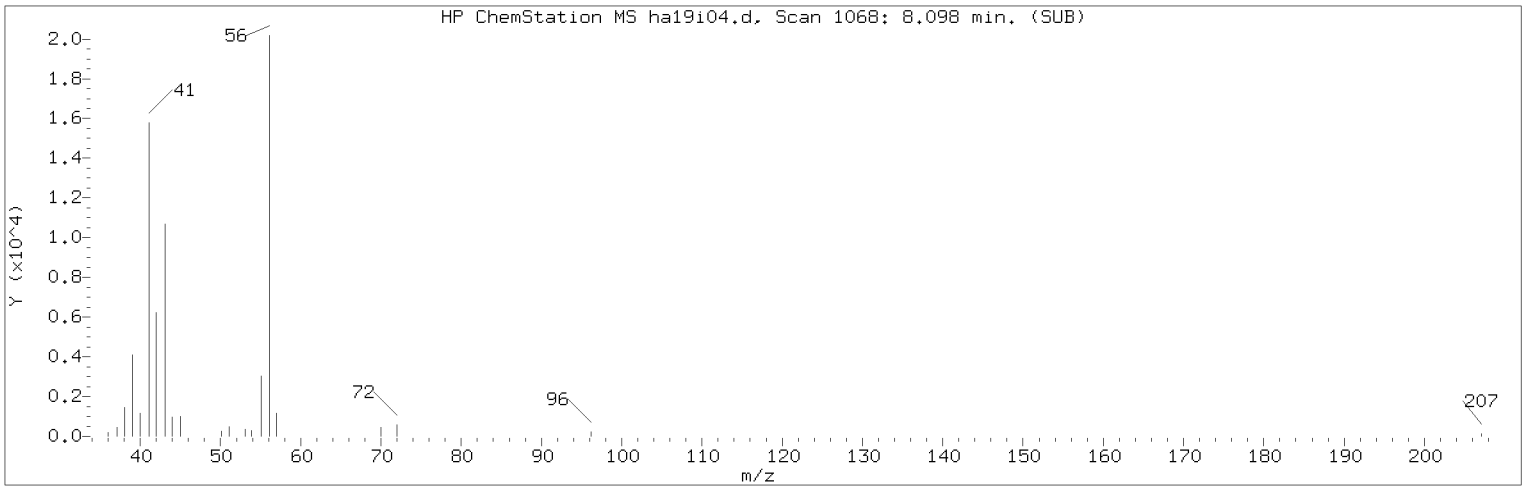
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

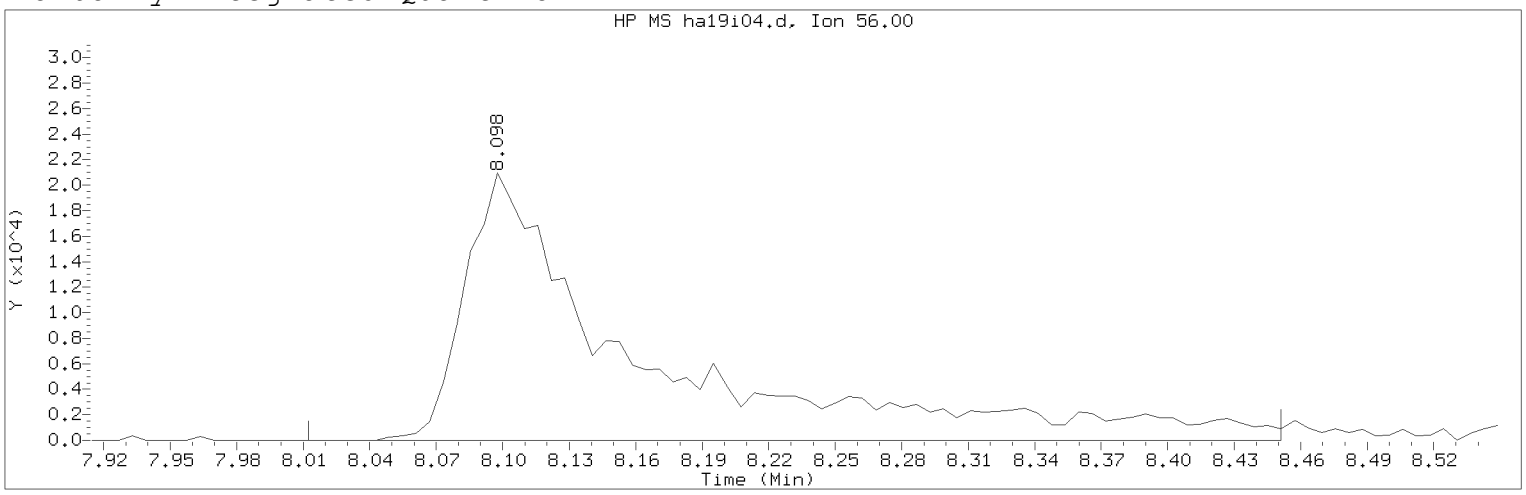
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 892
Retention Time (minutes): 7.025
Quant Ion : 84.00
Area : 250410
On-column Amount (ng) : 2.2933
Integration start scan : 877 Integration stop scan: 922
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

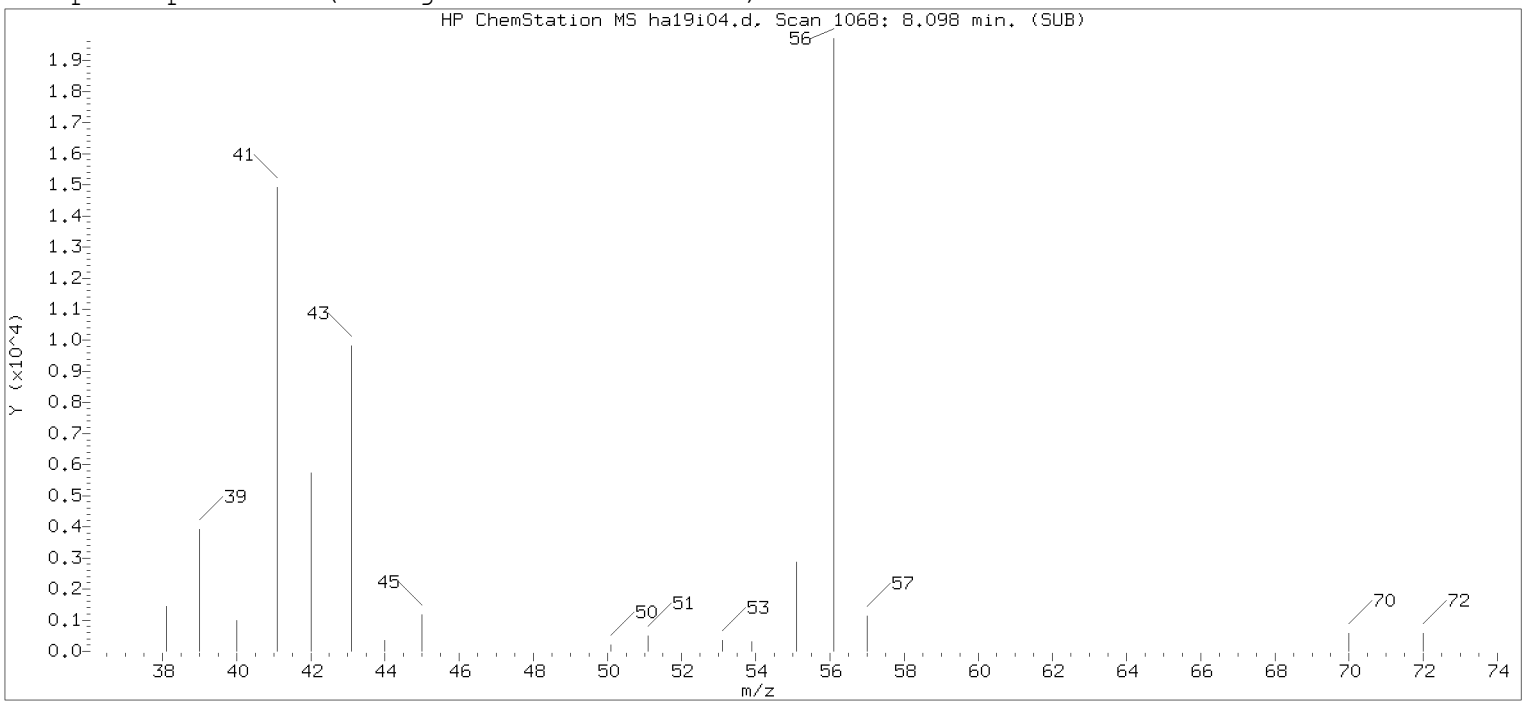
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1068
Retention Time (minutes): 8.098
Quant Ion : 56.00
Area (flag) : 113225M
On-Column Amount (ng) : 209.3599
Integration start scan : 1053 Integration stop scan: 1125
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

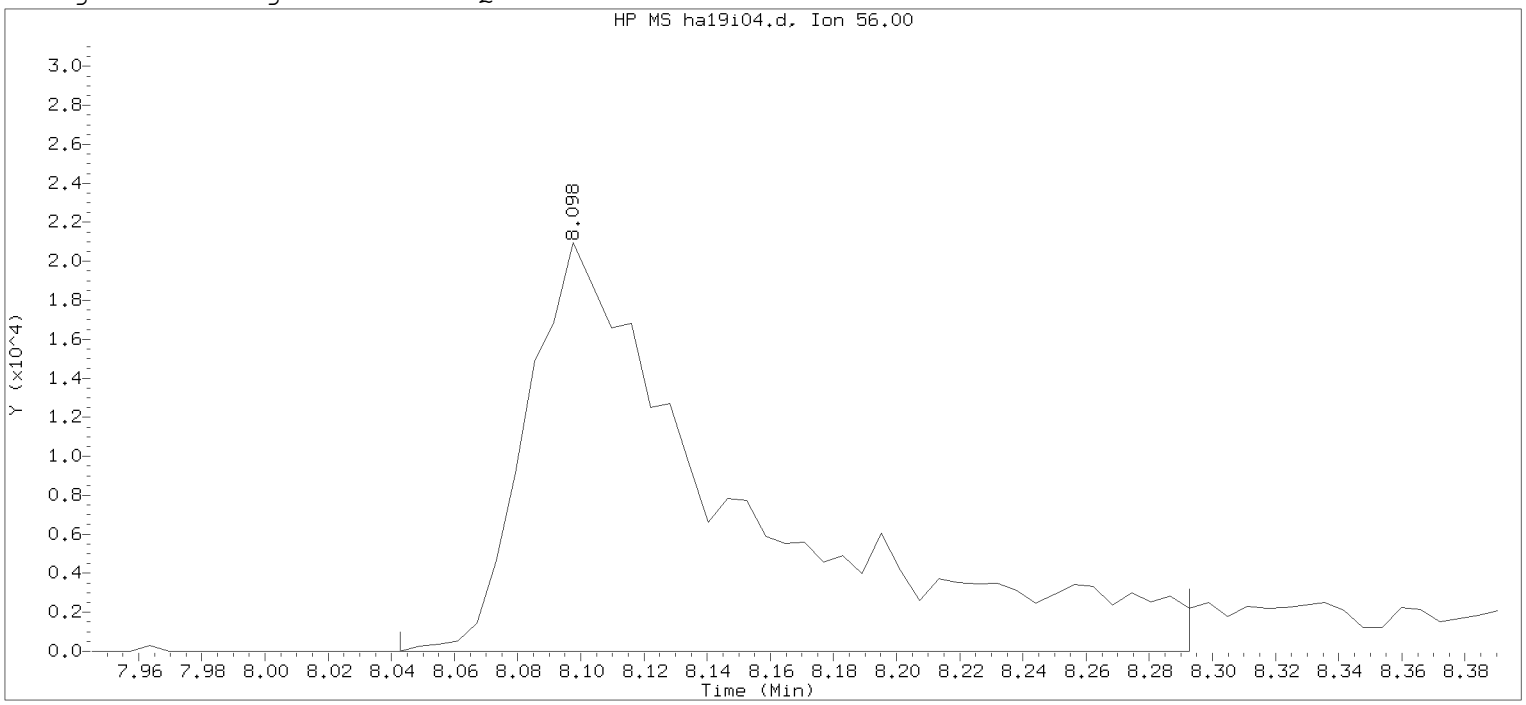
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

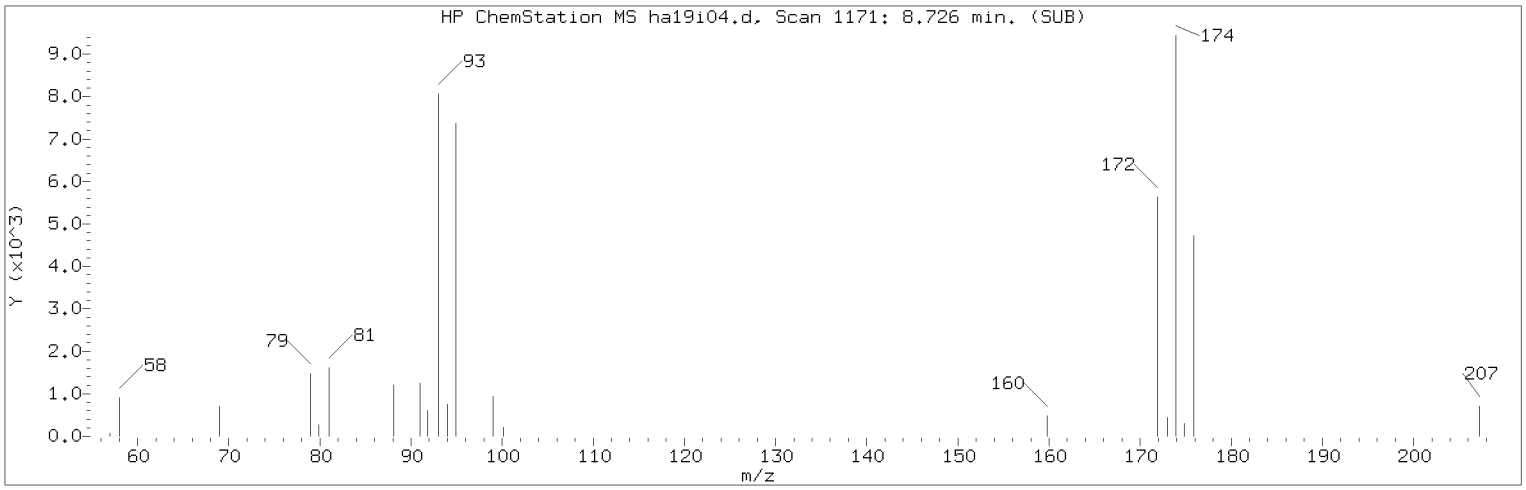
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

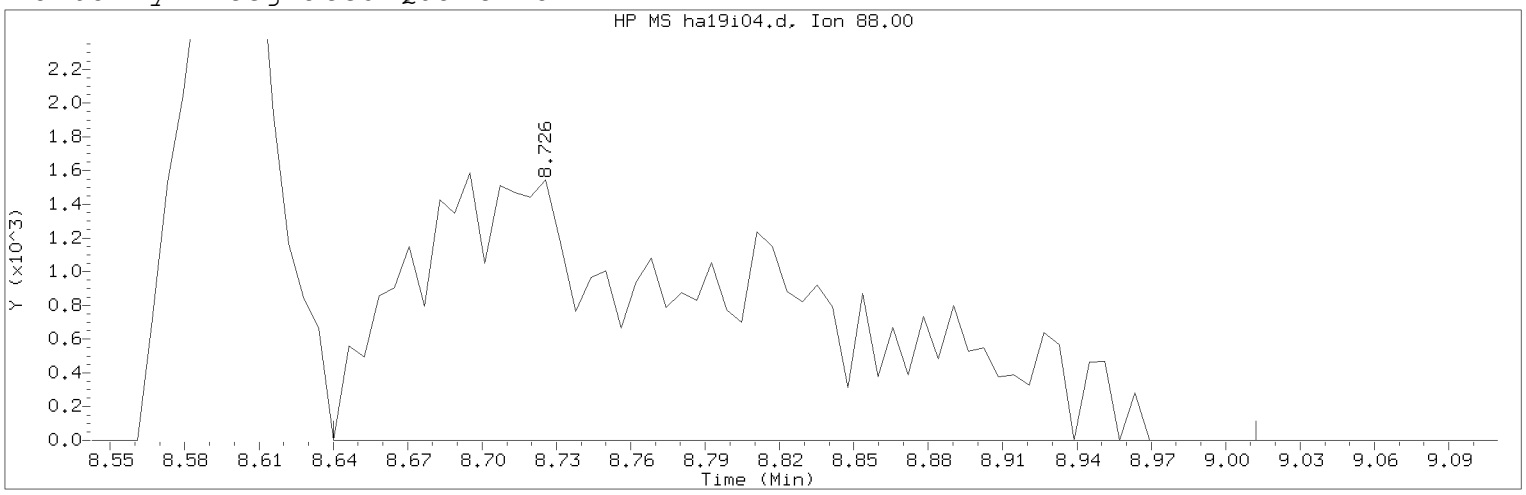
Compound Number	: 65		
Compound Name	: n-Butanol		
Scan Number	: 1068		
Retention Time (minutes)	: 8.098		
Quant Ion	: 56.00		
Area	: 96156		
On-column Amount (ng)	: 198.9785		
Integration start scan	: 1058	Integration stop scan	: 1099
Y at integration start	: 0	Y at integration end	: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

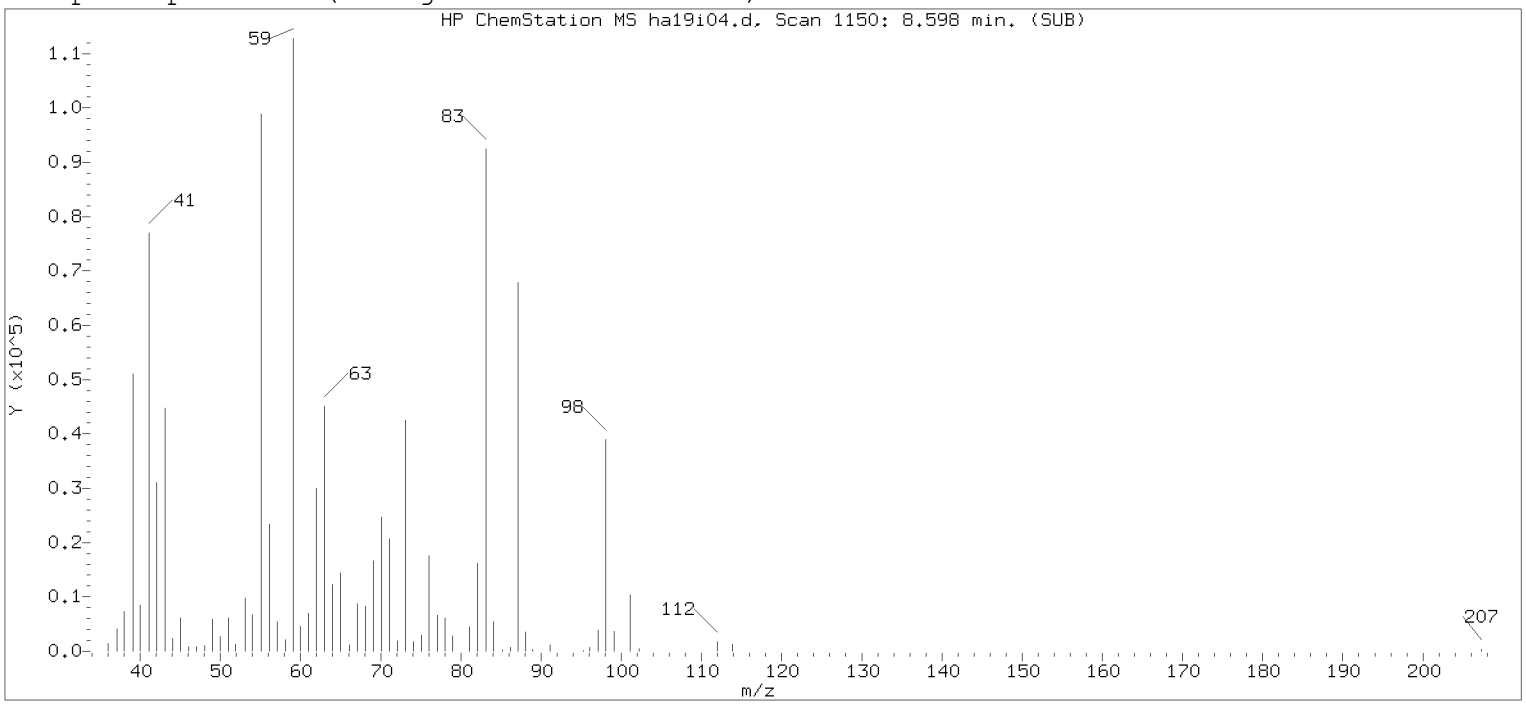
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1171
Retention Time (minutes): 8.726
Quant Ion : 88.00
Area (flag) : 15642A
On-Column Amount (ng) : 116.7502
Integration start scan : 1156 Integration stop scan: 1217
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

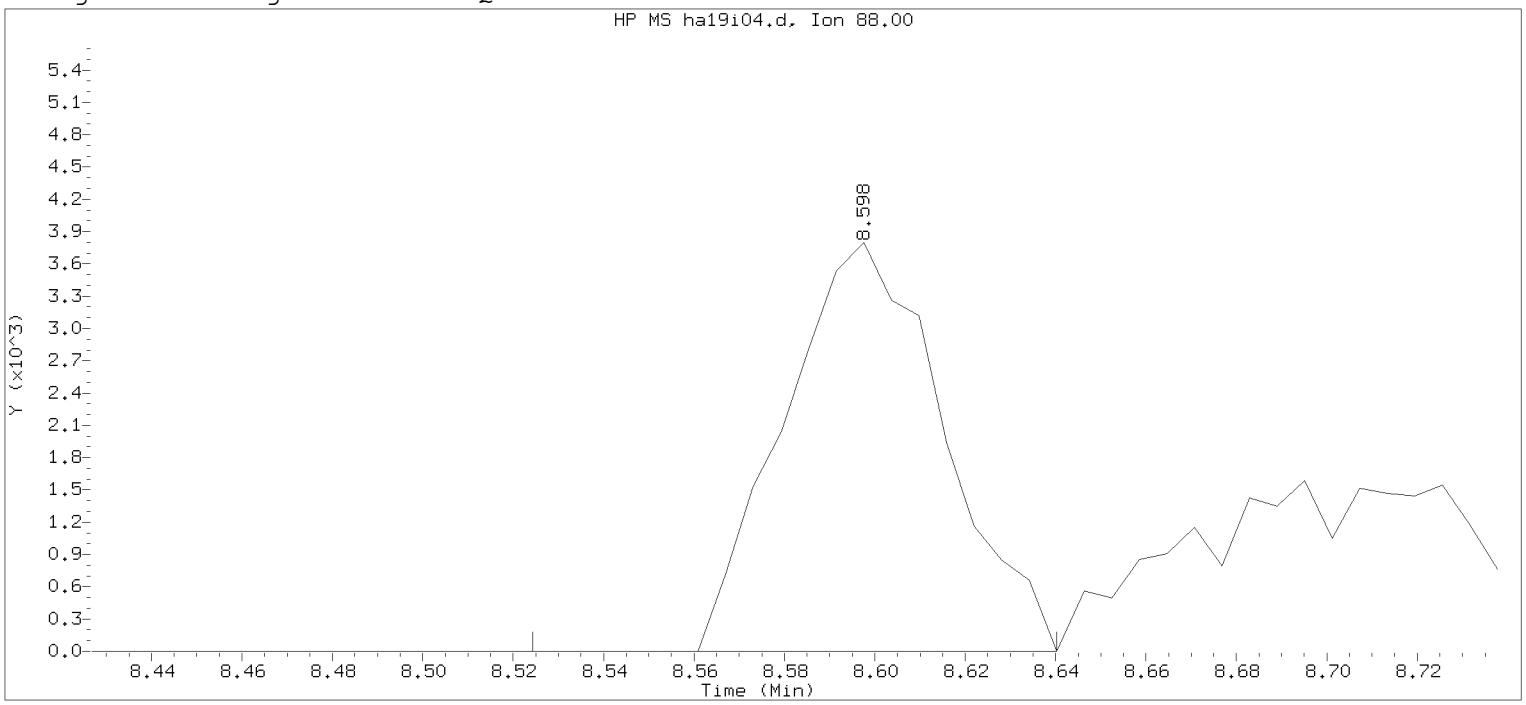
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

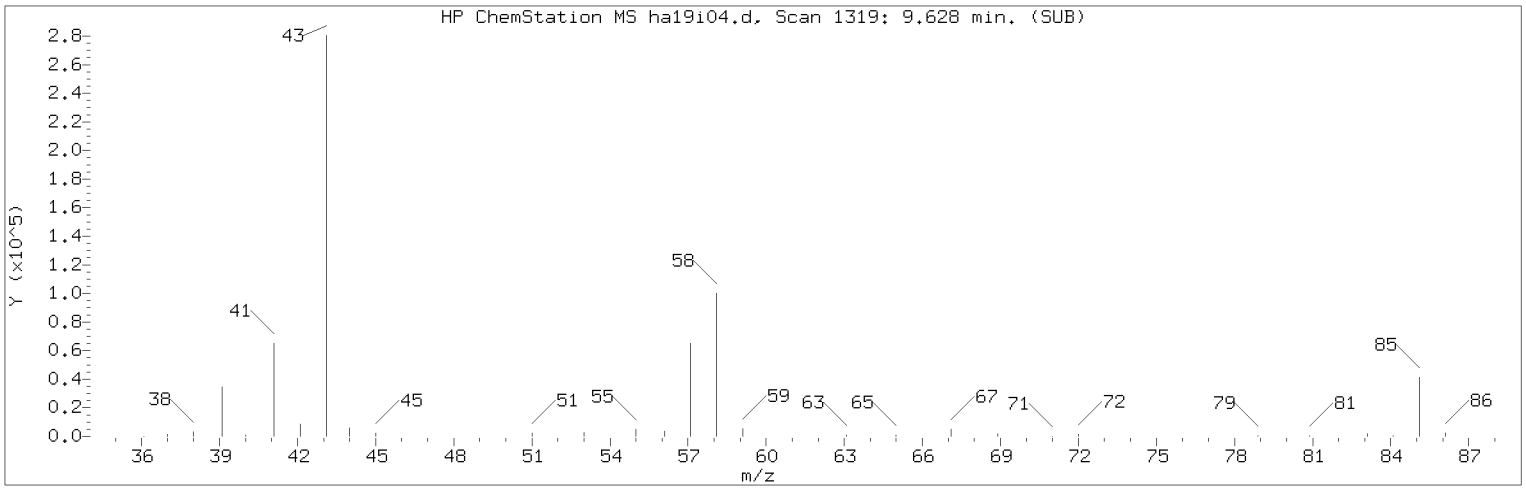
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

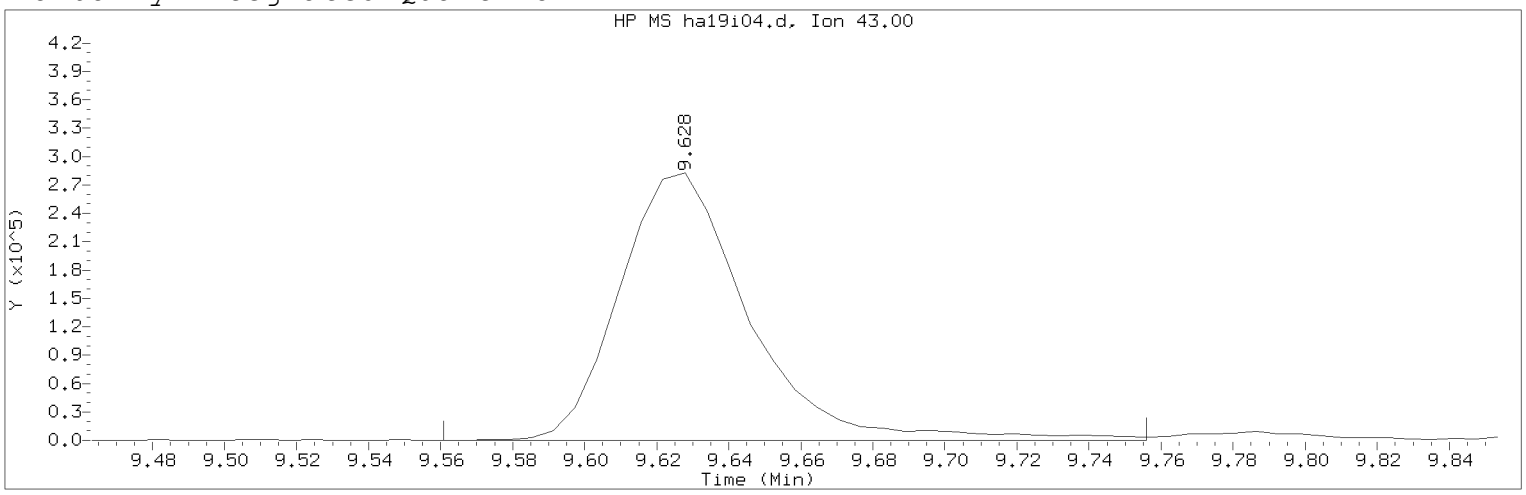
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 9294
On-column Amount (ng) : 68.1186
Integration start scan : 1137 Integration stop scan: 1156
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

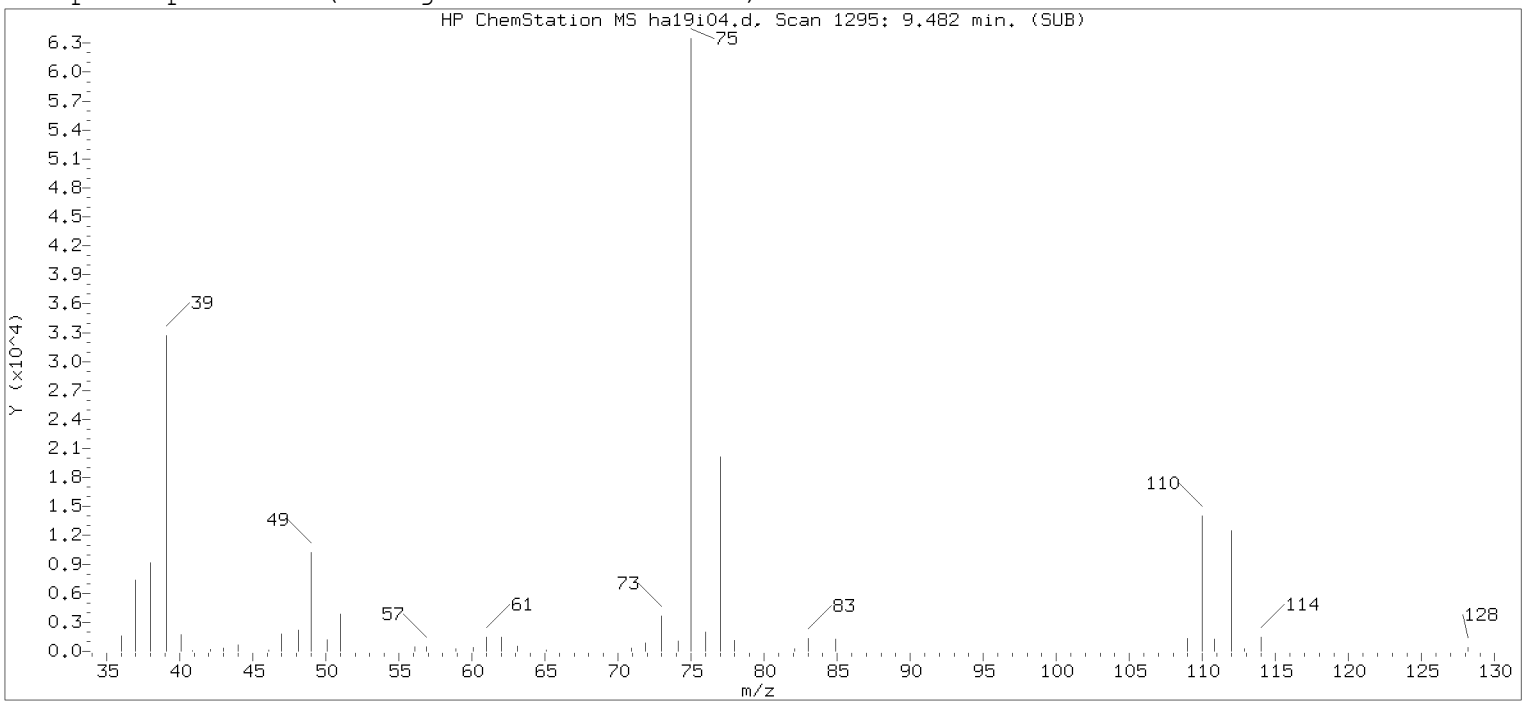
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area (flag) : 705793A
On-Column Amount (ng) : 20.8337
Integration start scan : 1307 Integration stop scan: 1339
Y at integration start : 0 Y at integration end: 63

Reason for manual integration: improper integration

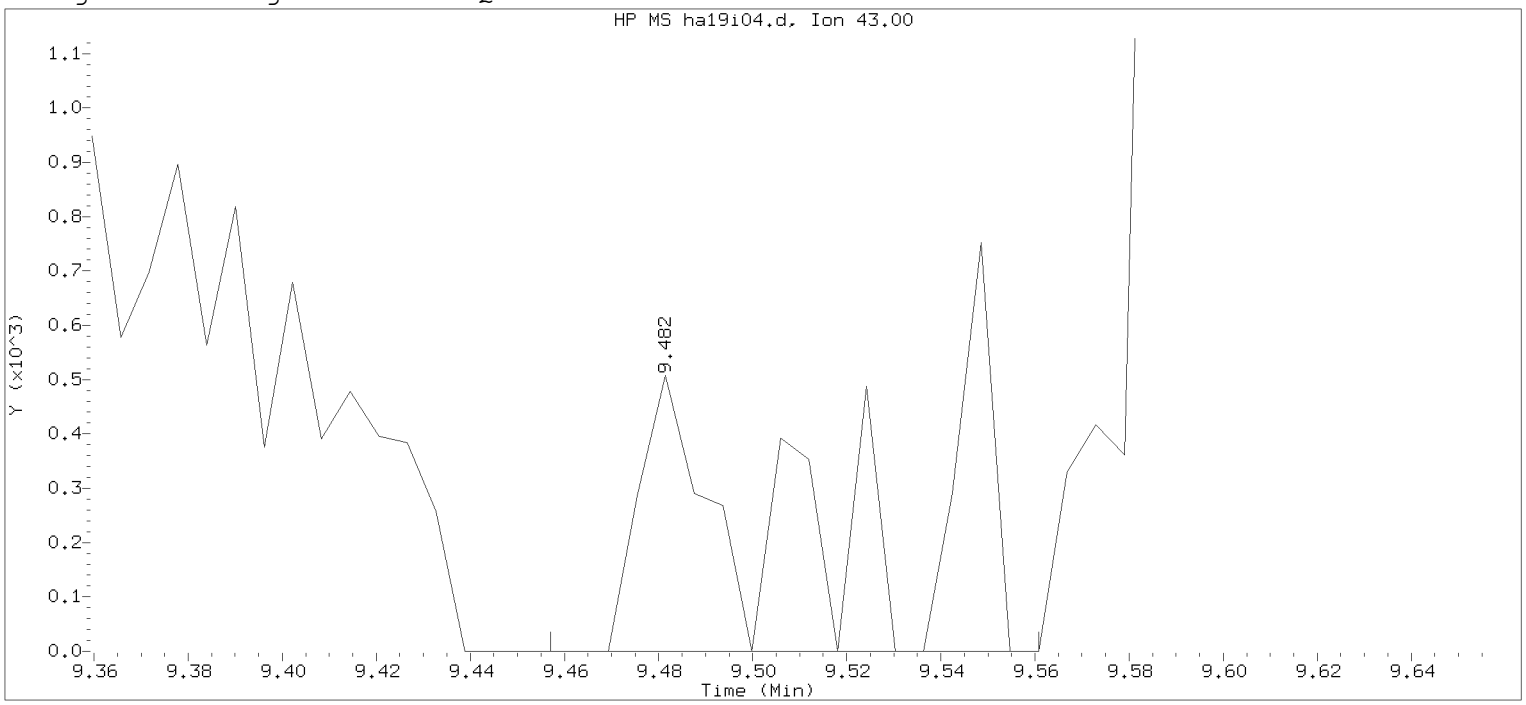
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

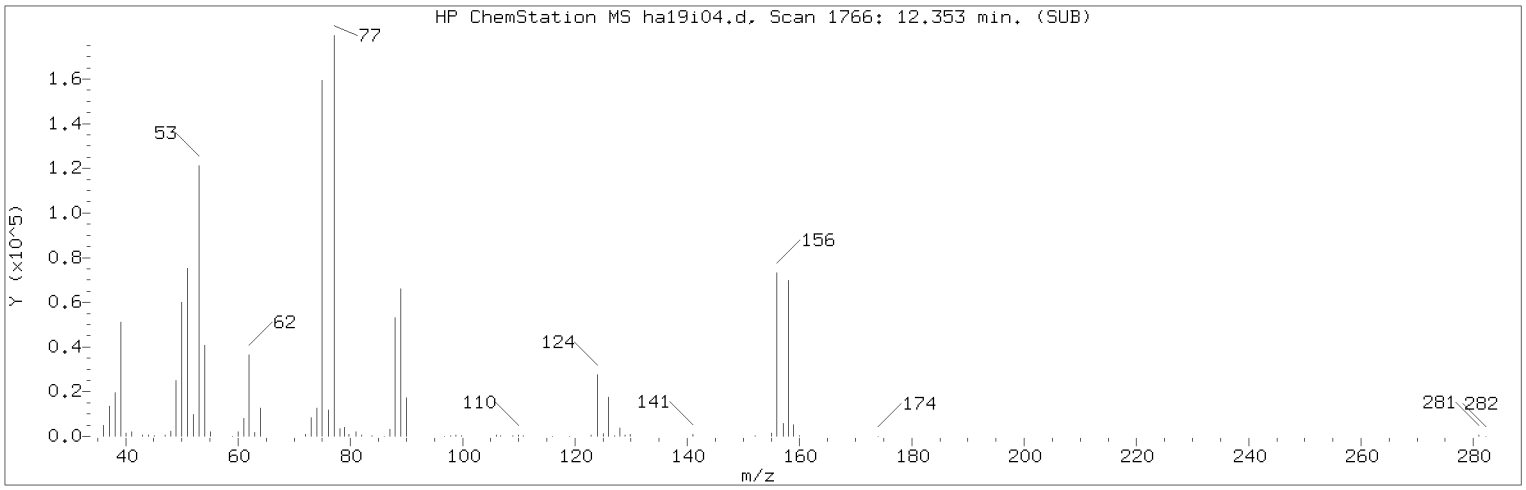
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

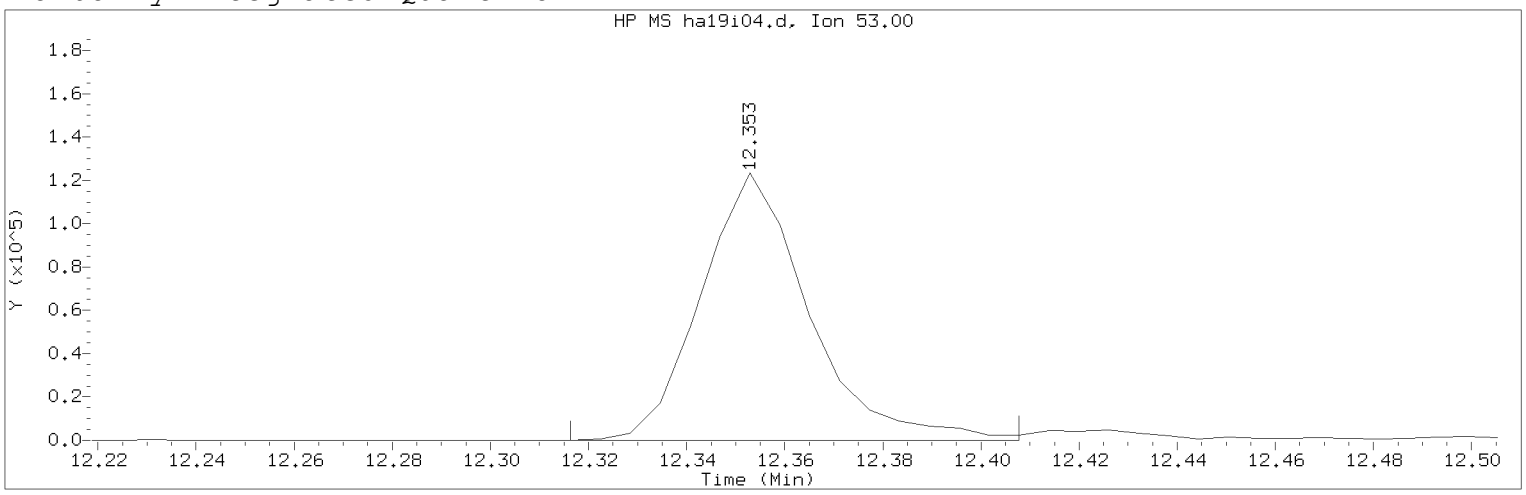
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1295
Retention Time (minutes): 9.482
Quant Ion : 43.00
Area : 1327
On-column Amount (ng) : 0.0489
Integration start scan : 1290 Integration stop scan: 1307
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

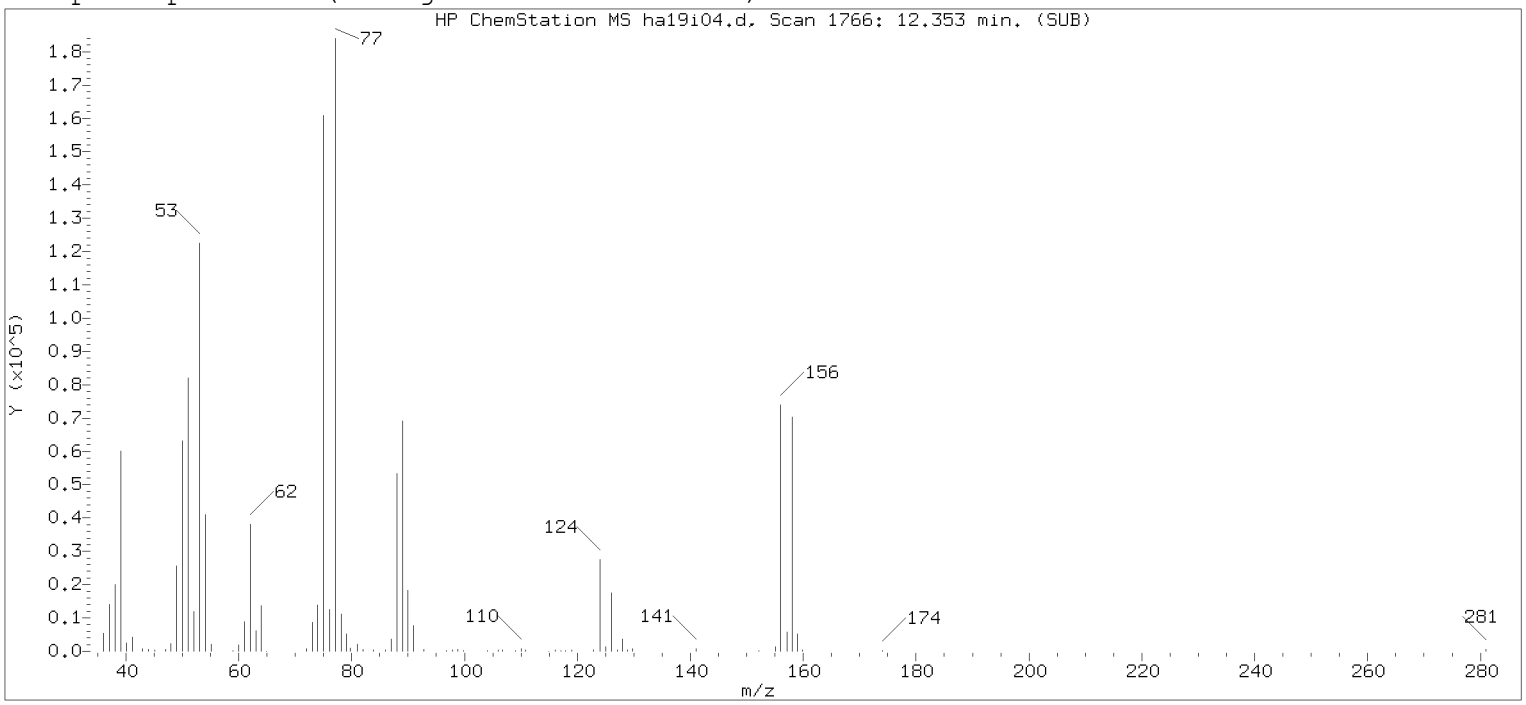
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 188111M
On-Column Amount (ng) : 20.9138
Integration start scan : 1759 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

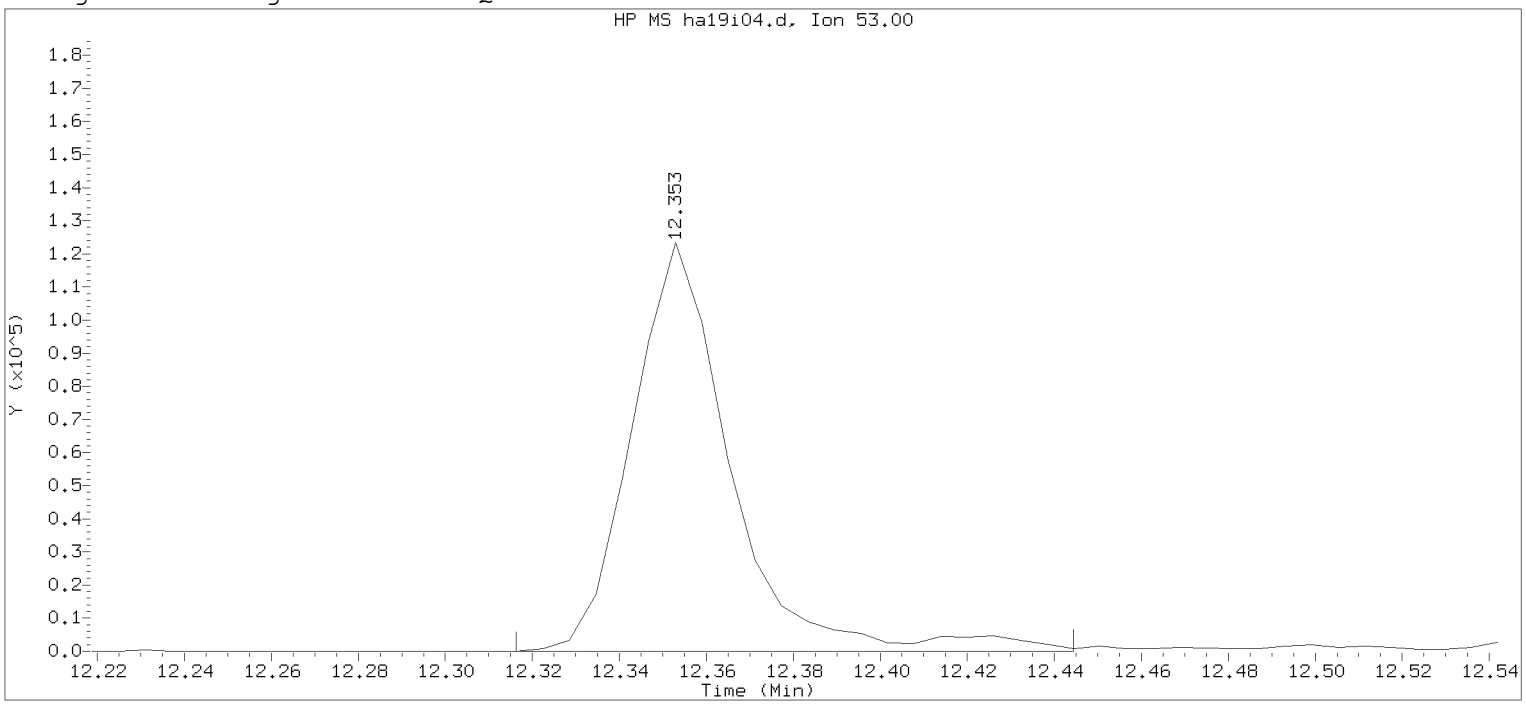
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



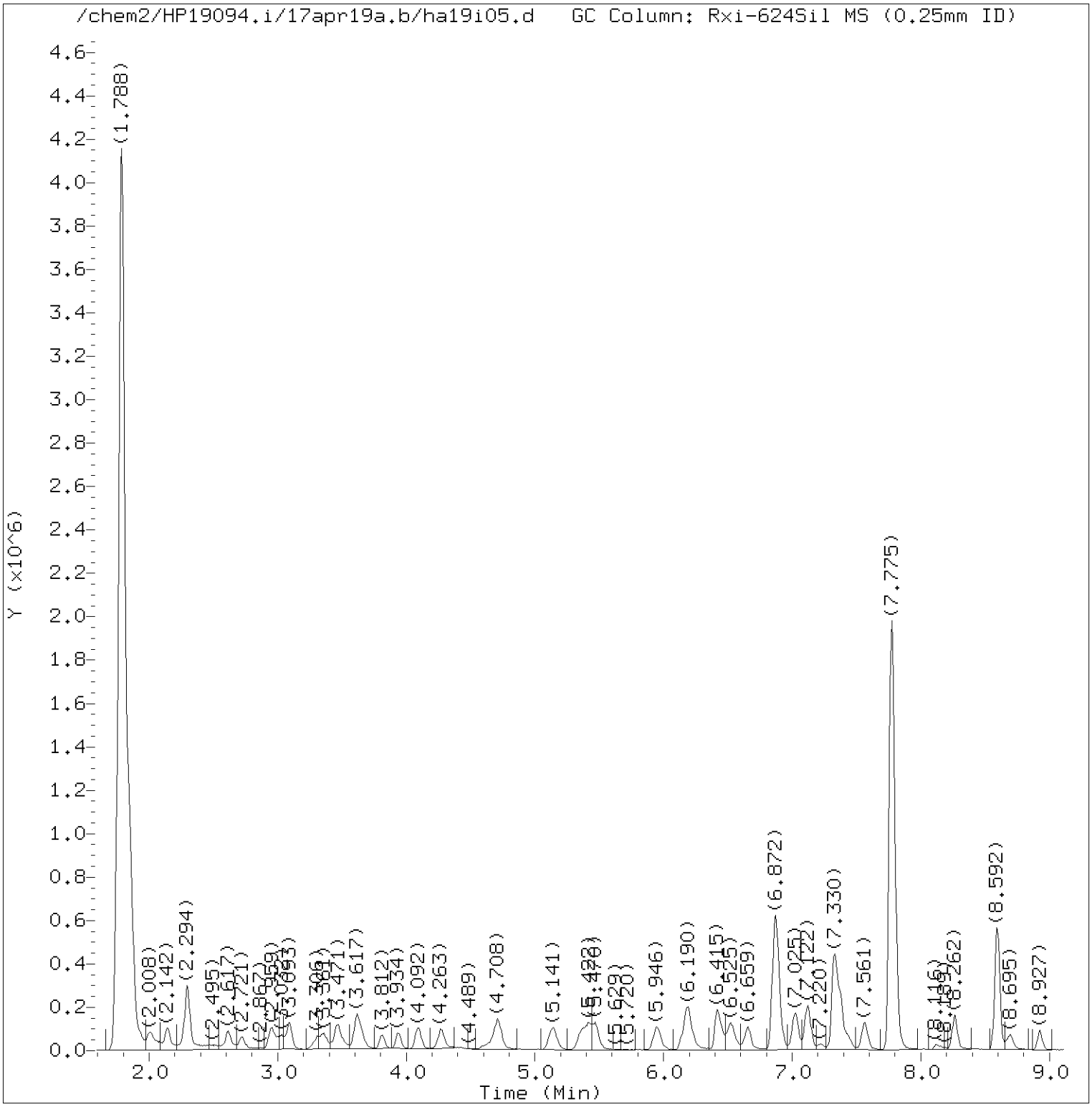
Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area : 195033
On-column Amount (ng) : 43.4217
Integration start scan : 1759 Integration stop scan: 1780
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kevin.sposito



Total Ion Chromatogram (TIC)

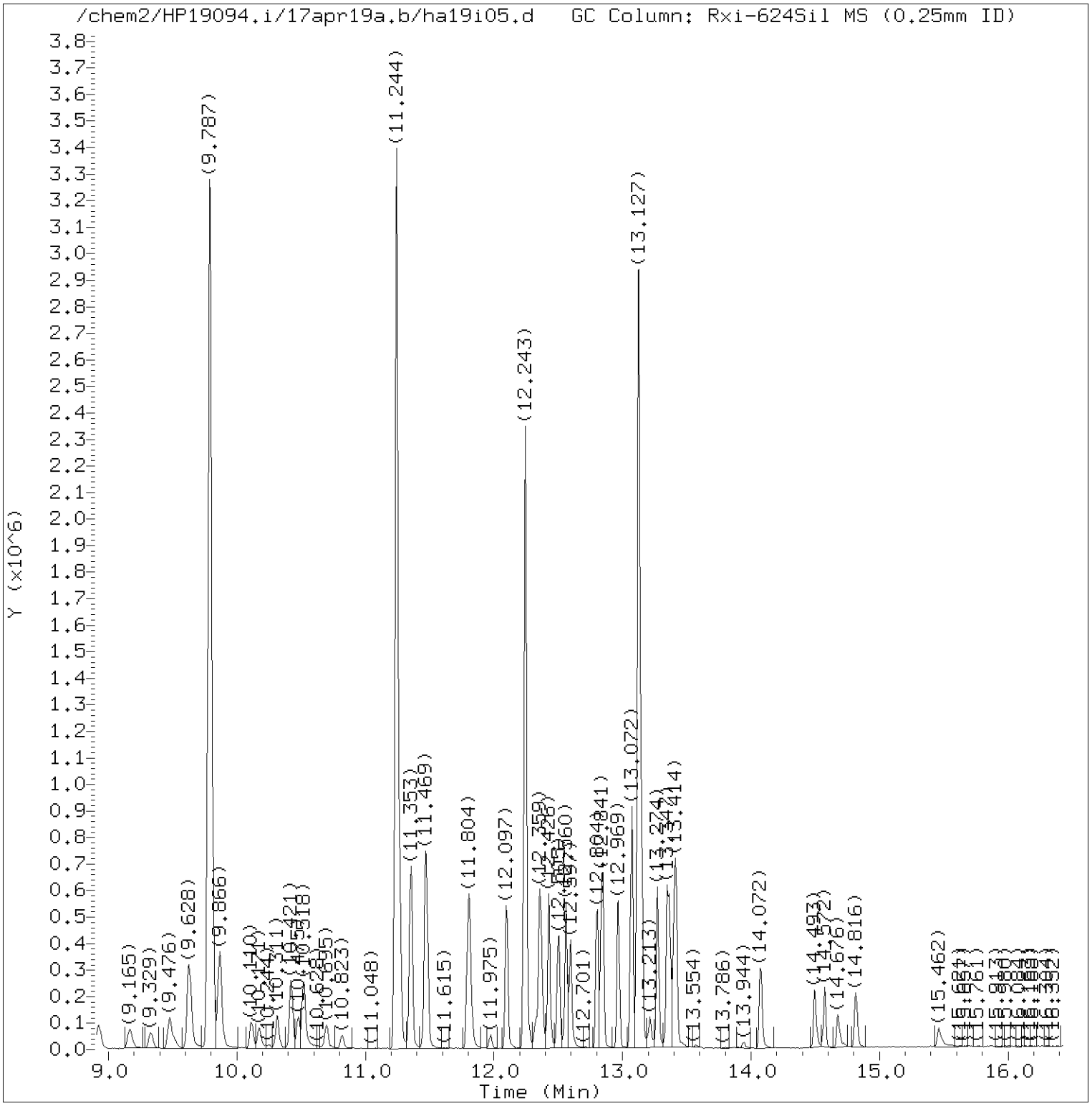
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	121714	1.128
2) Chloromethane	(2)	2.142	50	118684	1.048
5) Vinyl Chloride	(2)	2.276	62	105428	1.060
6) 1,3-Butadiene	(2)	2.300	39	167328	1.068
7) Bromomethane	(2)	2.611	94	67092	1.074
8) Chloroethane	(2)	2.727	64	58245	1.023
9) Dichlorofluoromethane	(2)	2.952	67	142043	1.084
10) Trichlorofluoromethane	(2)	3.038	101	127050	1.103
11) Ethyl ether	(2)	3.294	59	50130	1.098
12) Freon 123a	(2)	3.349	67	93440	1.075
13) Acrolein	(1)	3.465	56	250827	53.108
15) 1,1-Dichloroethene	(2)	3.611	96	64526	1.043
16) Freon 113	(2)	3.635	101	70371	1.081
14) Acetone	(1)	3.635	43	61987	10.838
17) Methyl Iodide	(2)	3.812	142	116892	1.017
18) Carbon Disulfide	(2)	3.934	76	177132	1.020
21) Methyl Acetate	(1)	4.080	43	24125	1.241
22) Allyl Chloride	(2)	4.092	41	124858	1.040
23) Methylene Chloride	(2)	4.269	84	67736	1.003
26)*t-Butyl Alcohol-d10	(1)	4.300	65	62071M	50.000
28) t-Butyl Alcohol	(1)	4.416	59	30393M	19.570
29) Acrylonitrile	(1)	4.598	53	42204	5.461
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	122889	0.991
31) trans-1,2-Dichloroethene	(2)	4.714	96	69423	1.016
32) n-Hexane	(2)	5.153	57	104987	1.002
33) 1,1-Dichloroethane	(2)	5.354	63	139552	1.035
34) di-Isopropyl Ether	(2)	5.409	45	226580	0.986
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	114878	1.009
37) Ethyl t-butyl ether	(2)	5.952	59	176241	0.998
40) 1,2-Dichloroethene (Total)	(2)		96	147248	2.037
38) 2-Butanone	(1)	6.135	43	117940	10.110
39) cis-1,2-Dichloroethene	(2)	6.177	96	77825	1.020
41) 2,2-Dichloropropane	(2)	6.202	77	104301	1.033
42) Propionitrile	(1)	6.226	54	54150	19.537
45) Methacrylonitrile	(1)	6.421	67	122705	10.589
47) Bromochloromethane	(2)	6.525	128	31822	1.055
48) Tetrahydrofuran	(1)	6.531	71	31230	10.717
49) Chloroform	(2)	6.659	83	127278	1.001

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.866	113	605676	9.689
50)$Dibromofluoromethane	(2)	6.872	111	619445	9.648
51) 1,1,1-Trichloroethane	(2)	6.903	97	108634	1.003
52) Cyclohexane	(2)	7.031	56	134088	1.004
52) Cyclohexane	(2)	7.025	84	107796	1.050
52) Cyclohexane	(2)	7.031	69	38267	1.021
55) 1,1-Dichloropropene	(2)	7.122	75	102369	1.018
54) Carbon Tetrachloride	(2)	7.128	117	93602	1.029
56) Isobutyl Alcohol	(1)	7.232	41	35056	52.309
57)$1,2-Dichloroethane-d4	(2)	7.324	102	100320	9.925
57)$1,2-Dichloroethane-d4	(2)	7.330	65	489559	9.950
57)$1,2-Dichloroethane-d4	(2)	7.330	104	62123	10.140
58) Benzene	(2)	7.378	78	296353	1.014
59) 1,2-Dichloroethane	(2)	7.427	62	73001	1.045
60) t-Amyl methyl ether	(2)	7.567	73	144225	1.004
63)*Fluorobenzene	(2)	7.775	96	2788645	10.000
62) n-Heptane	(2)	7.799	43	126399	1.025
65) n-Butanol	(1)	8.122	56	40434M	81.940
67) Trichloroethene	(2)	8.262	95	79402	1.027
70) 1,2-Dichloropropane	(2)	8.586	63	76486	1.004
69) Methylcyclohexane	(2)	8.598	83	133848	1.025
71) Methyl Methacrylate	(1)	8.671	69	22174M	1.046
73) Dibromomethane	(2)	8.695	93	29335	0.999
72) 1,4-Dioxane	(1)	8.695	88	6215M	49.018
74) Bromodichloromethane	(2)	8.927	83	81025	1.007
76) 2-Nitropropane	(1)	9.171	41	73784	10.553
80) cis-1,3-Dichloropropene	(2)	9.476	75	87425	0.964
81) 4-Methyl-2-Pentanone	(1)	9.628	43	324011	10.482
82)$Toluene-d8	(3)	9.787	98	2672599	10.623
82)$Toluene-d8	(3)	9.787	100	1717313	10.600
83) Toluene	(3)	9.866	92	179589	1.080
84) trans-1,3-Dichloropropene	(3)	10.110	75	65238	1.007
85) 1,3-Dichloropropene (total)	(3)		75	152663	1.971
86) Ethyl Methacrylate	(3)	10.171	69	45380	0.947
88) 1,1,2-Trichloroethane	(3)	10.311	97	41372	1.071
89) Tetrachloroethene	(3)	10.421	166	83314	1.081
90) 1,3-Dichloropropane	(3)	10.481	76	71755	1.038
91) 2-Hexanone	(1)	10.518	43	231090	10.608

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	46004	1.005
95) 1,2-Dibromoethane	(3)	10.823	107	36855	1.009
97)*Chlorobenzene-d5	(3)	11.244	117	1721164	10.000
98) Chlorobenzene	(3)	11.268	112	192469	1.062
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	64428	1.067
100) Ethylbenzene	(3)	11.359	91	339458	1.054
101) m+p-Xylene	(3)	11.469	106	262916	2.146
105) Xylene (Total)	(3)		106	384762	3.183
104) o-Xylene	(3)	11.798	106	121846	1.036
106) Styrene	(3)	11.817	104	185704M	1.034
107) Bromoform	(3)	11.975	173	22020	0.963
108) Isopropylbenzene	(3)	12.097	105	321646	1.045
111)$4-Bromofluorobenzene	(3)	12.243	95	712856	9.972
111)$4-Bromofluorobenzene	(3)	12.243	174	640351	10.064
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	49045	1.029
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	78326A	9.544
114) Bromobenzene	(4)	12.359	156	76825	1.057
116) 1,2,3-Trichloropropane	(4)	12.377	110	12003	1.006
117) n-Propylbenzene	(4)	12.426	91	400981	1.032
119) 2-Chlorotoluene	(4)	12.505	126	74346	1.011
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	274441	1.049
122) 4-Chlorotoluene	(4)	12.597	126	77251	1.046
125) tert-Butylbenzene	(4)	12.804	134	54746M	0.964
126) Pentachloroethane	(4)	12.835	167	46993	1.107
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	269992	1.036
128) sec-Butylbenzene	(4)	12.963	105	346230	1.016
131) 1,3-Dichlorobenzene	(4)	13.072	146	147525	1.033
132) p-Isopropyltoluene	(4)	13.072	119	283359	1.016
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	738701	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	157926	1.061
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	124841	1.086
136) Benzyl Chloride	(4)	13.219	126	13920	0.927
138) n-Butylbenzene	(4)	13.365	92	135149	0.987
139) 1,2-Dichlorobenzene	(4)	13.396	146	133706	1.054
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	4111	0.898
145) 1,2,4-Trichlorobenzene	(4)	14.499	180	81123	0.992
146) Hexachlorobutadiene	(4)	14.572	225	37780	0.932
147) Naphthalene	(4)	14.676	128	118724	0.986

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

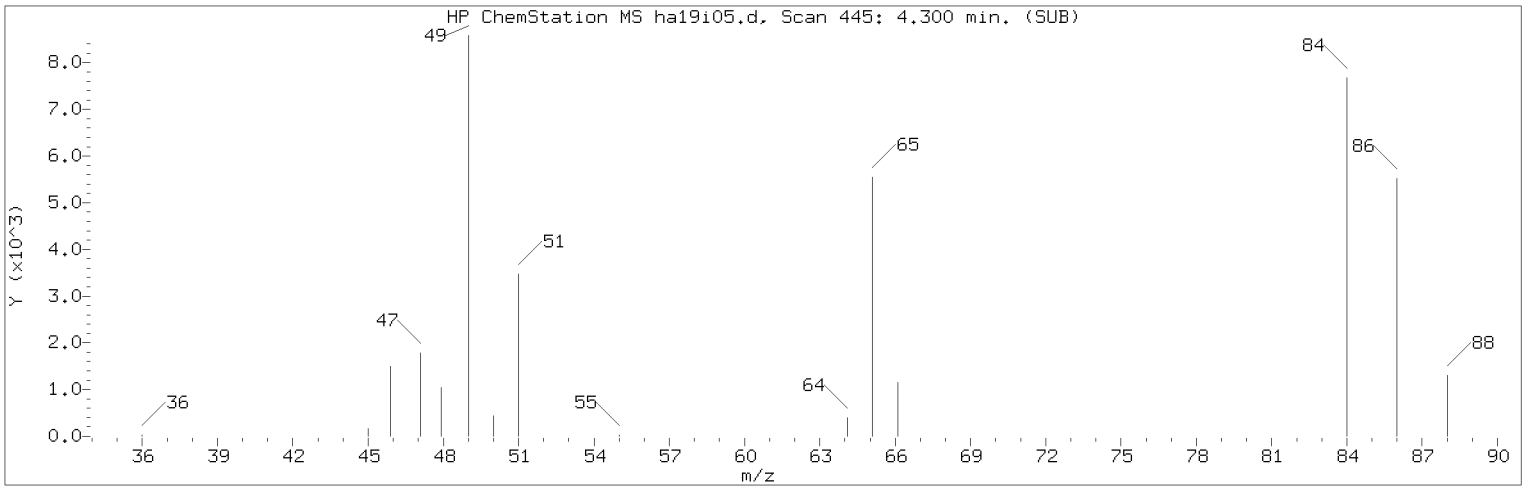
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

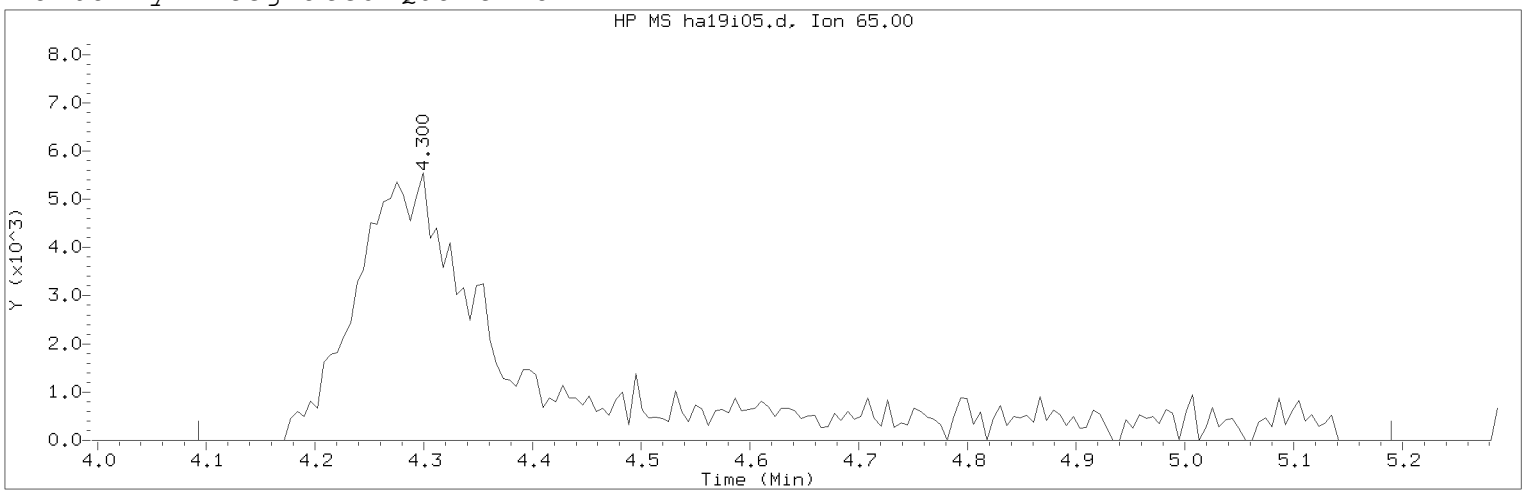
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	69266	1.002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

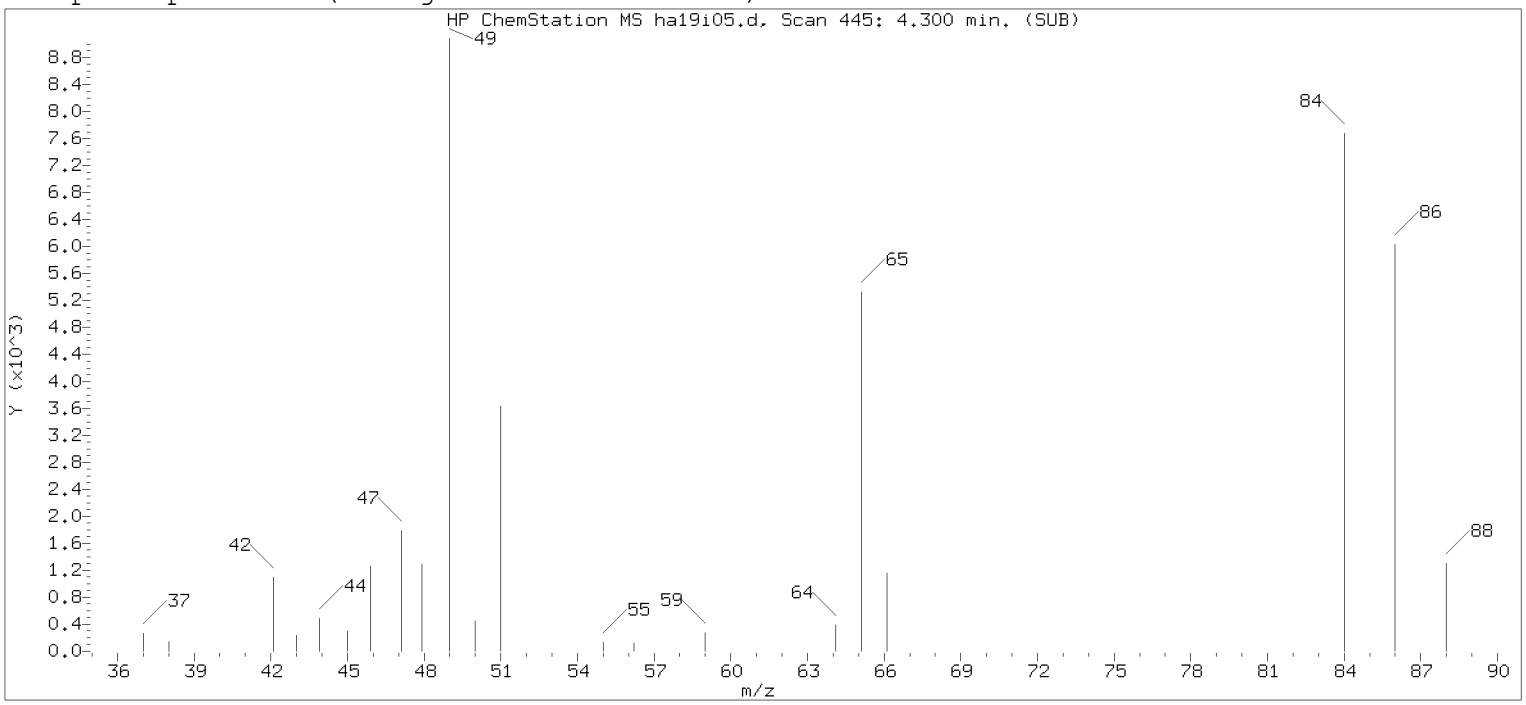
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.300
Quant Ion : 65.00
Area (flag) : 62071M
On-Column Amount (ng) : 50.0000
Integration start scan : 410 Integration stop scan: 590
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

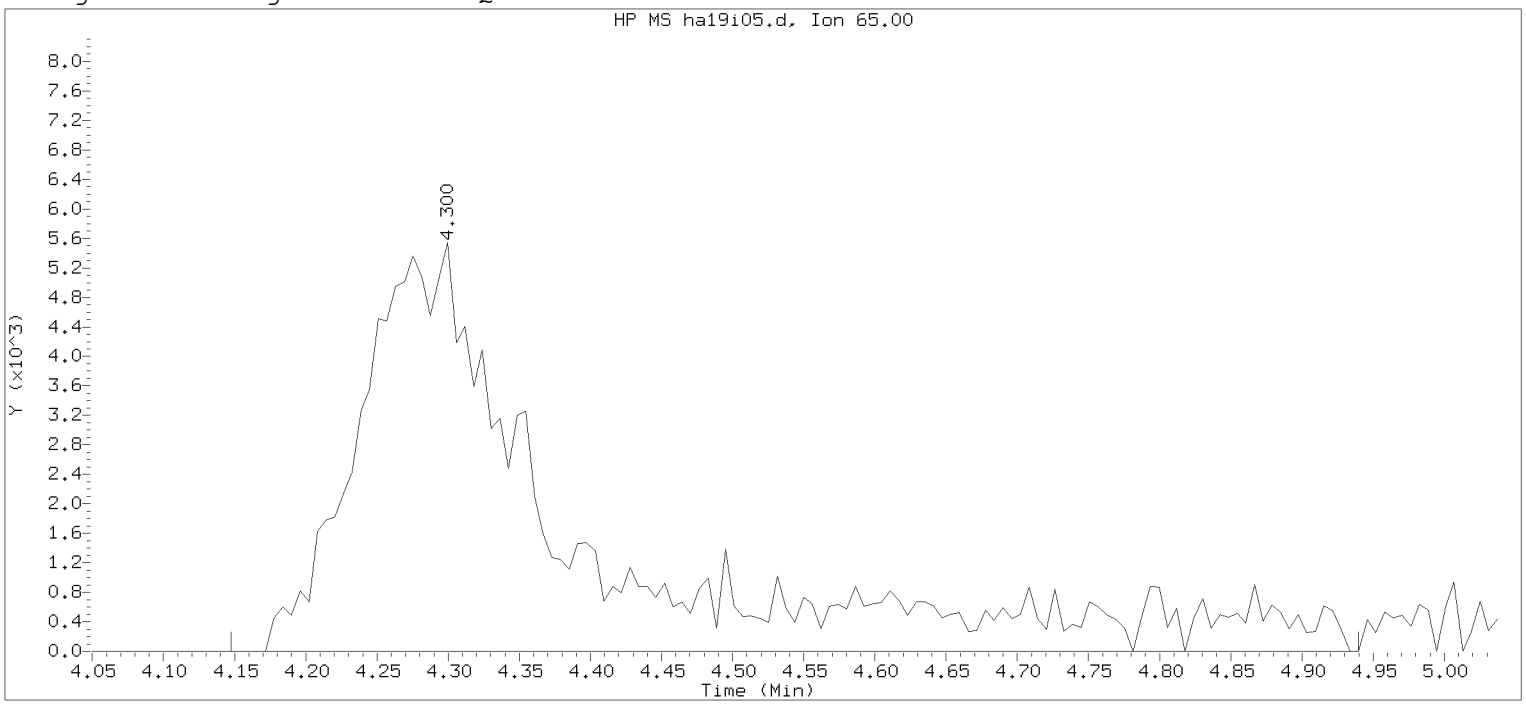
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

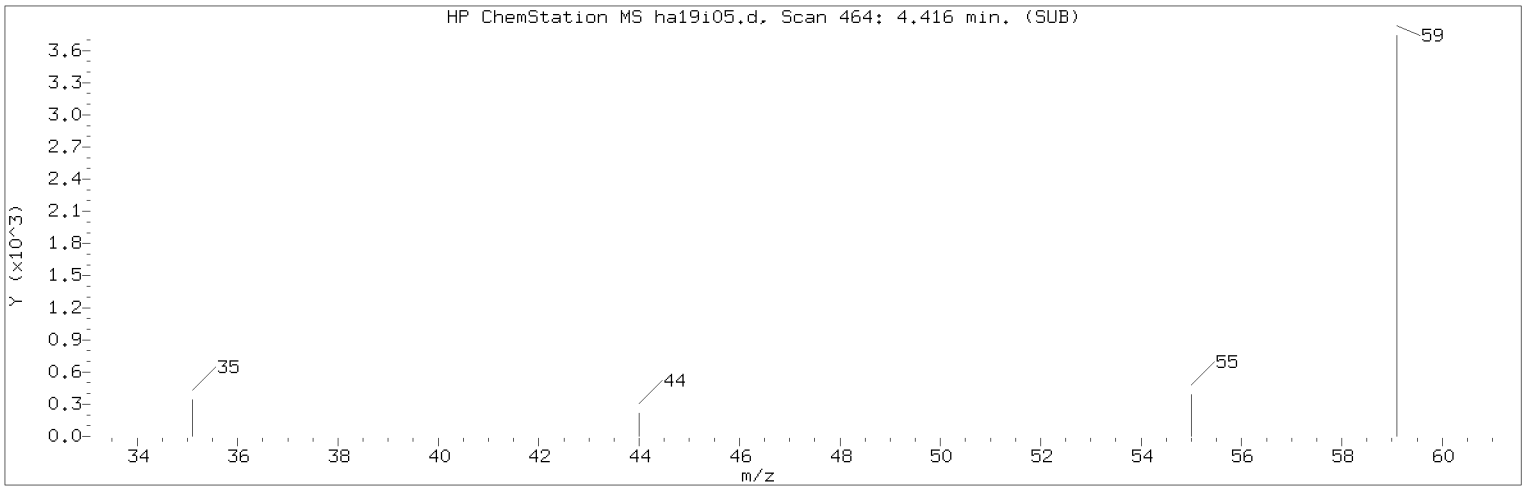
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

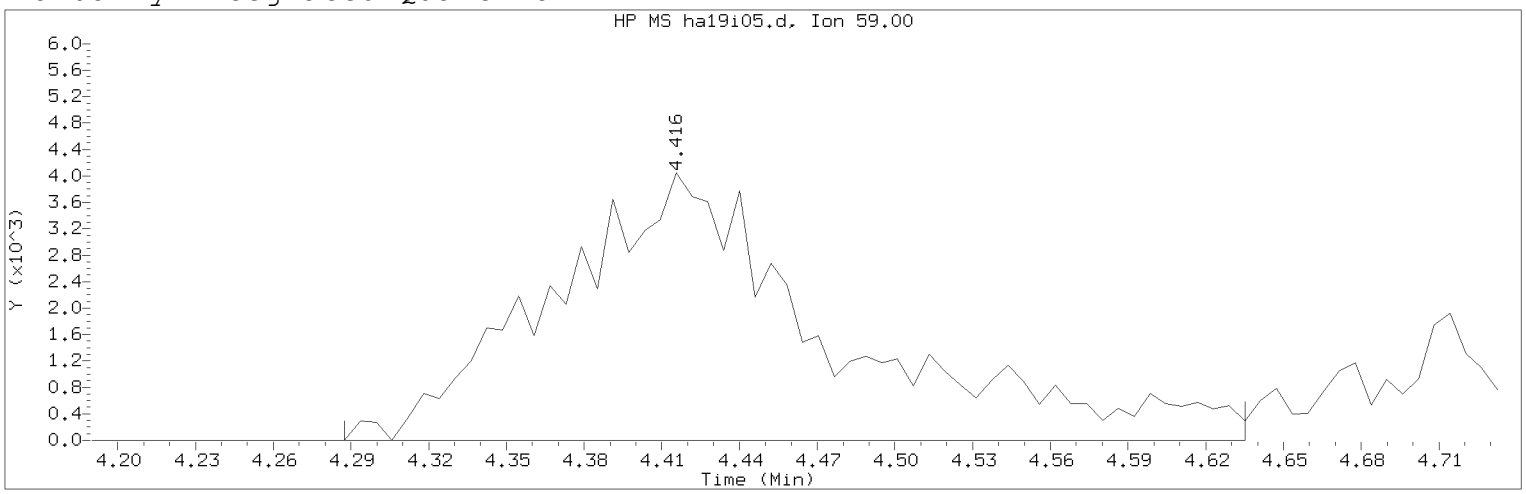
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.300
Quant Ion : 65.00
Area : 57165
On-column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 549
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

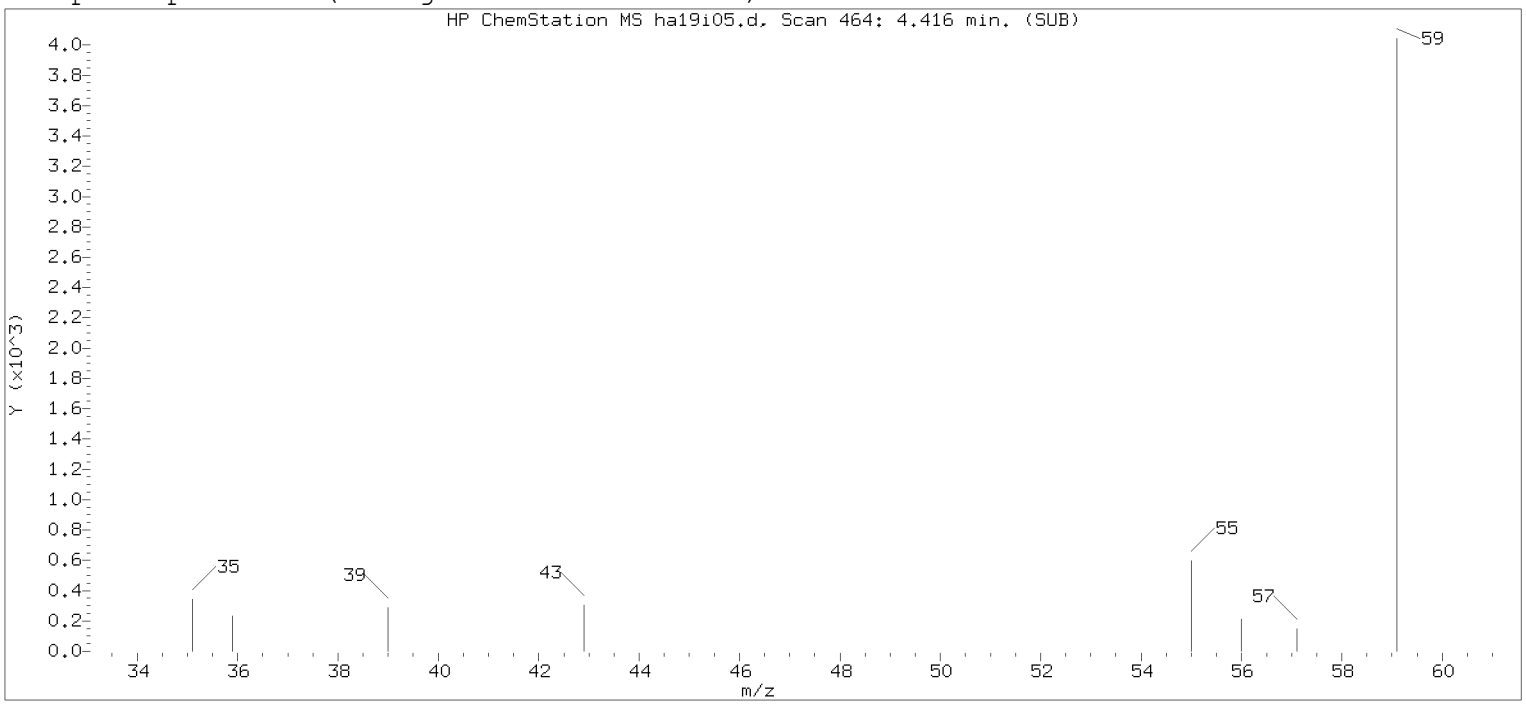
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 464
Retention Time (minutes): 4.416
Quant Ion : 59.00
Area (flag) : 30393M
On-Column Amount (ng) : 19.5701
Integration start scan : 442 Integration stop scan: 499
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

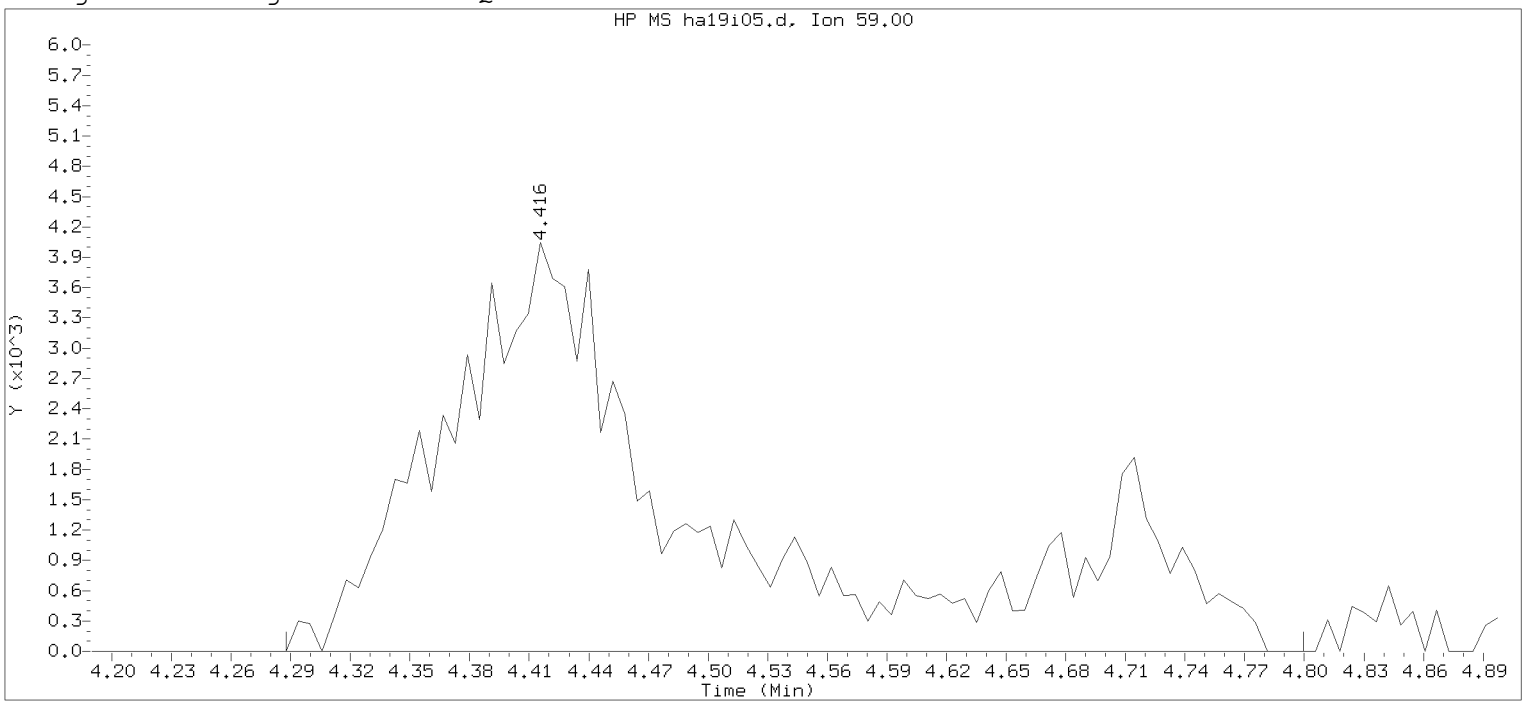
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

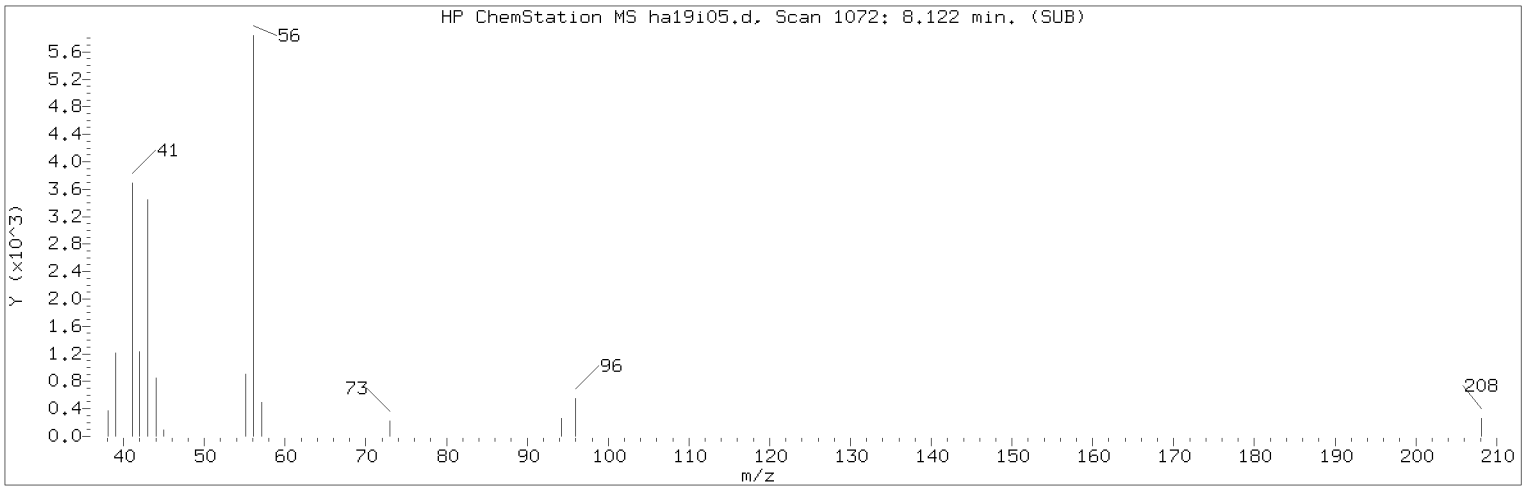
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

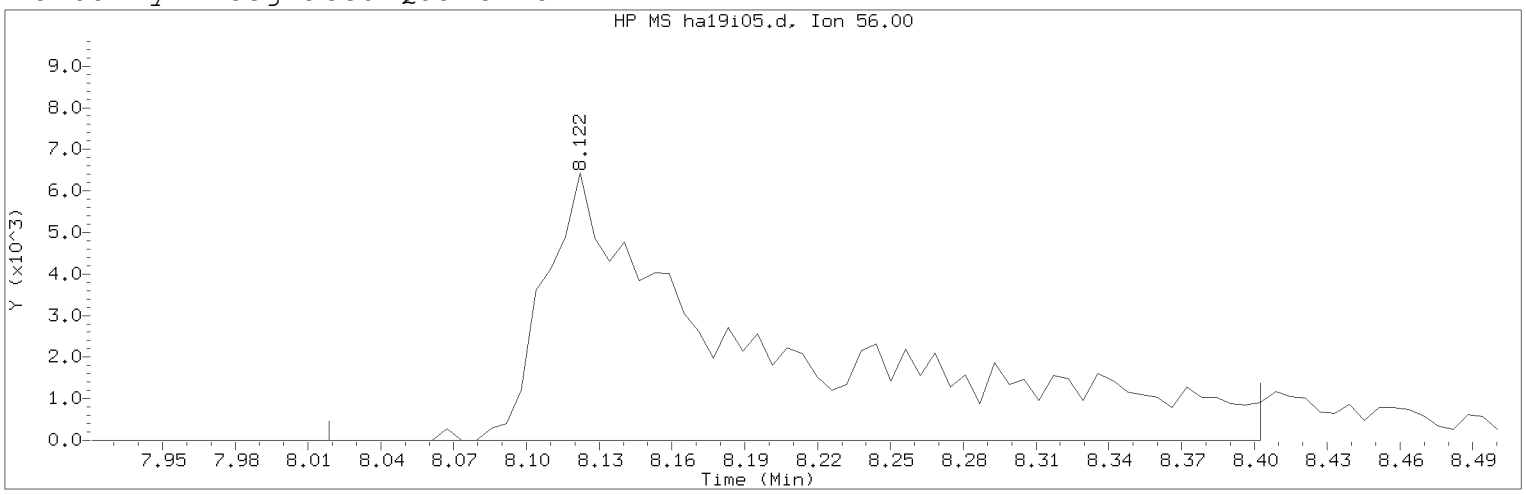
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 464
Retention Time (minutes): 4.416
Quant Ion : 59.00
Area : 37406
On-column Amount (ng) : 23.1270
Integration start scan : 442 Integration stop scan: 526
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

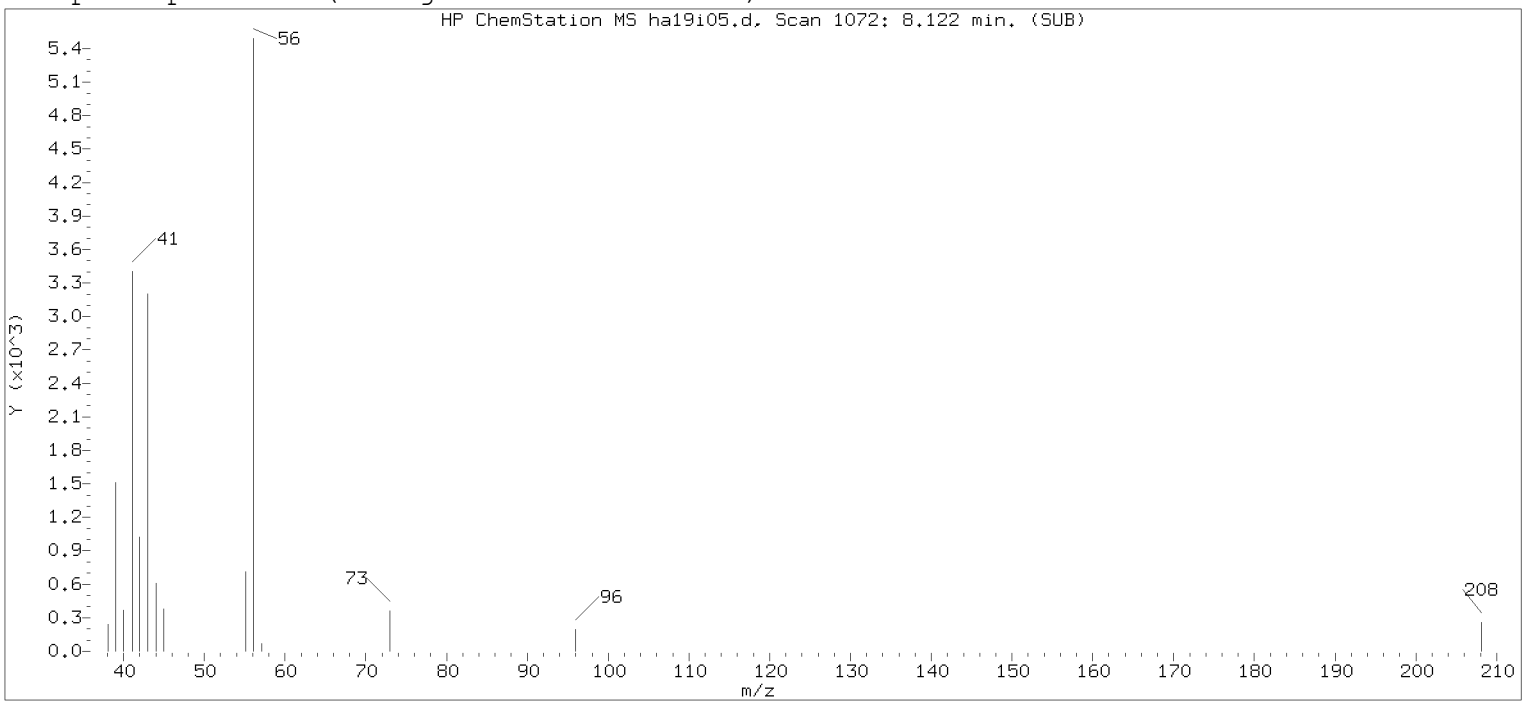
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1072
Retention Time (minutes): 8.122
Quant Ion : 56.00
Area (flag) : 40434M
On-Column Amount (ng) : 81.9402
Integration start scan : 1054 Integration stop scan: 1117
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

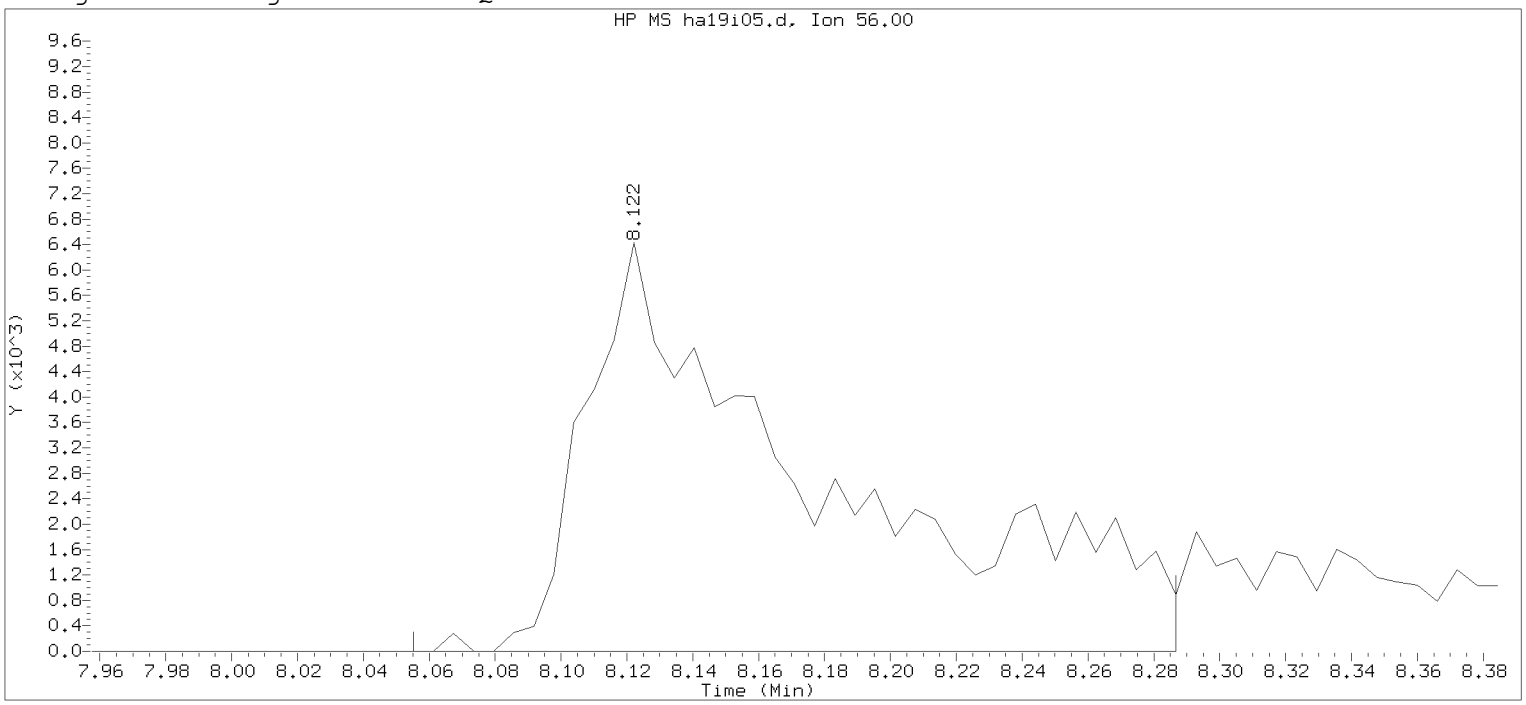
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

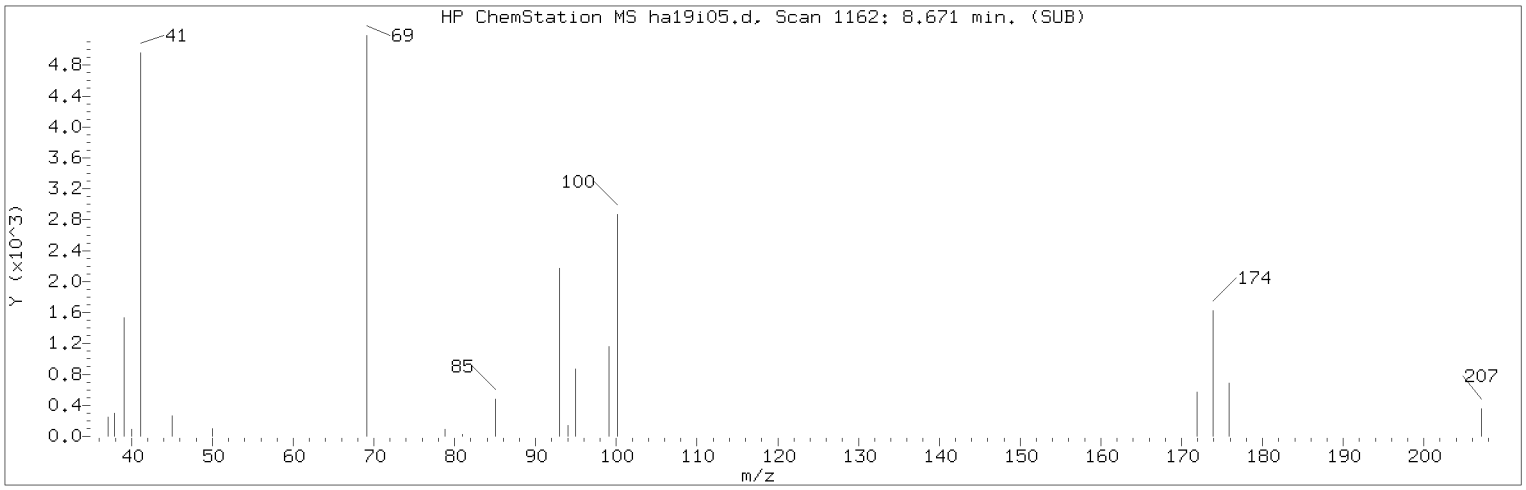
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

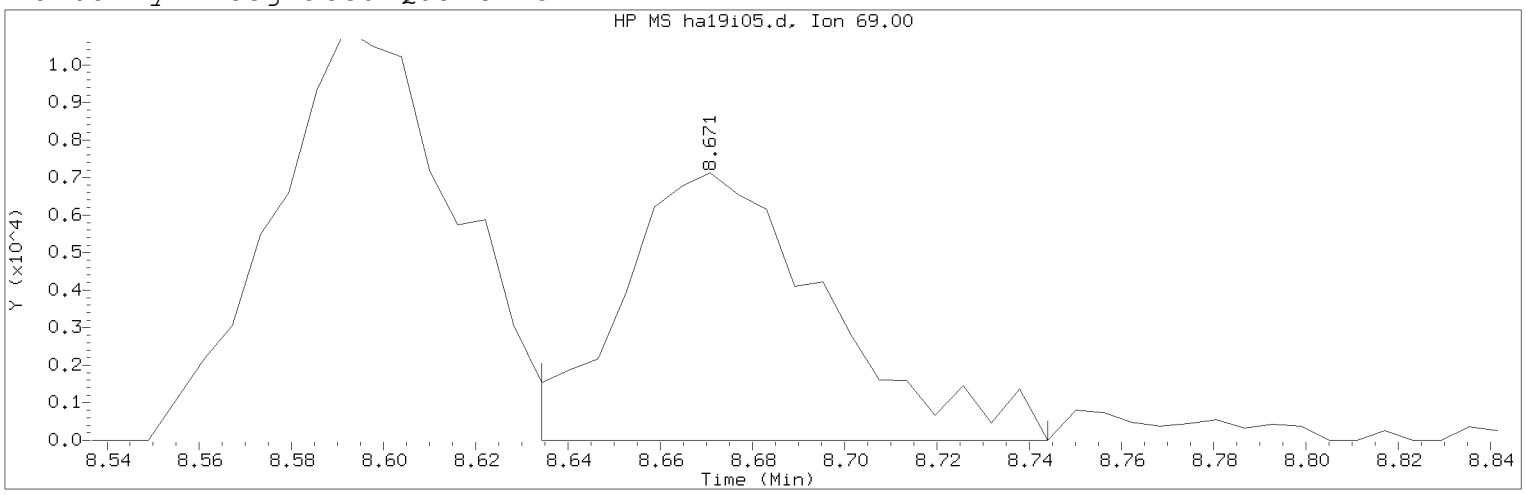
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1072
Retention Time (minutes): 8.122
Quant Ion : 56.00
Area : 31947
On-column Amount (ng) : 83.2201
Integration start scan : 1060 Integration stop scan: 1098
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

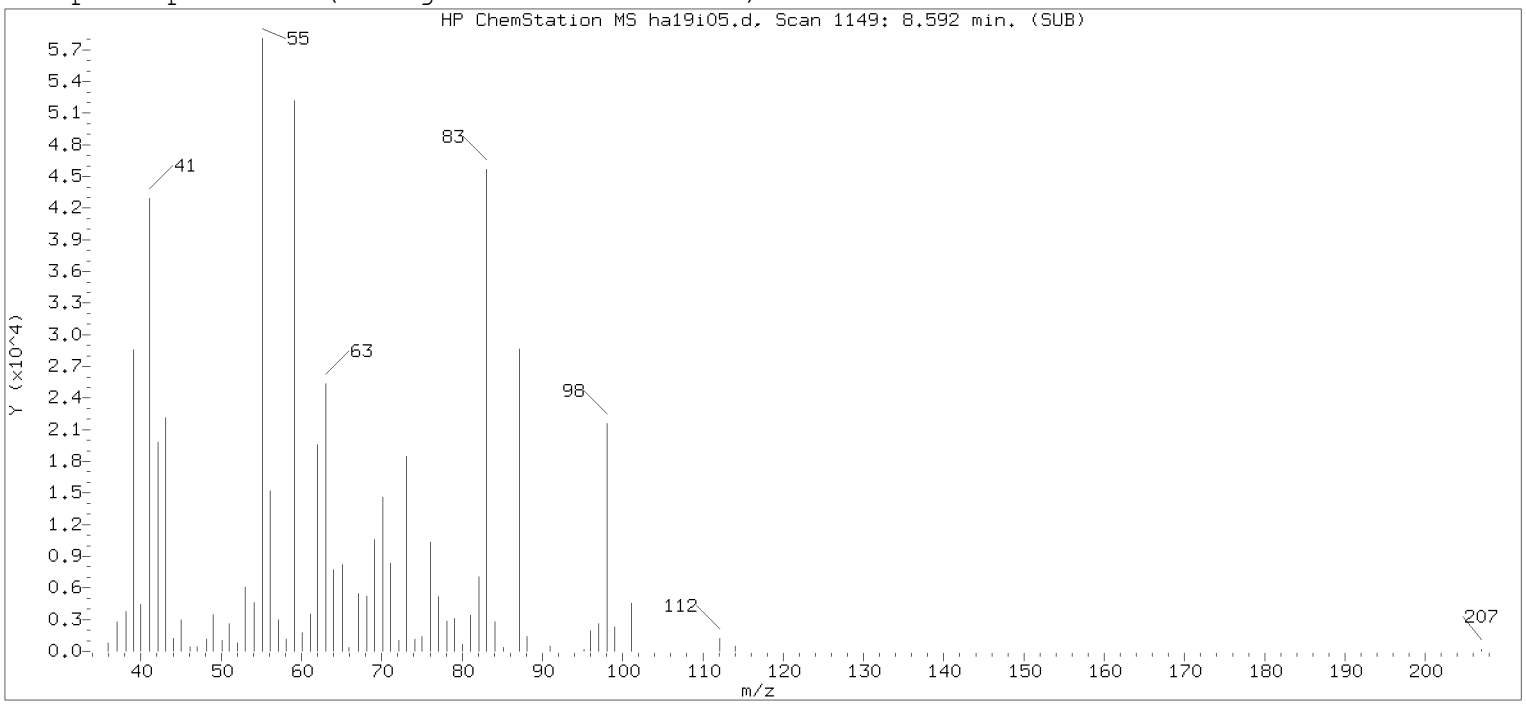
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1162
Retention Time (minutes): 8.671
Quant Ion : 69.00
Area (flag) : 22174M
On-Column Amount (ng) : 1.0460
Integration start scan : 1155 Integration stop scan: 1173
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

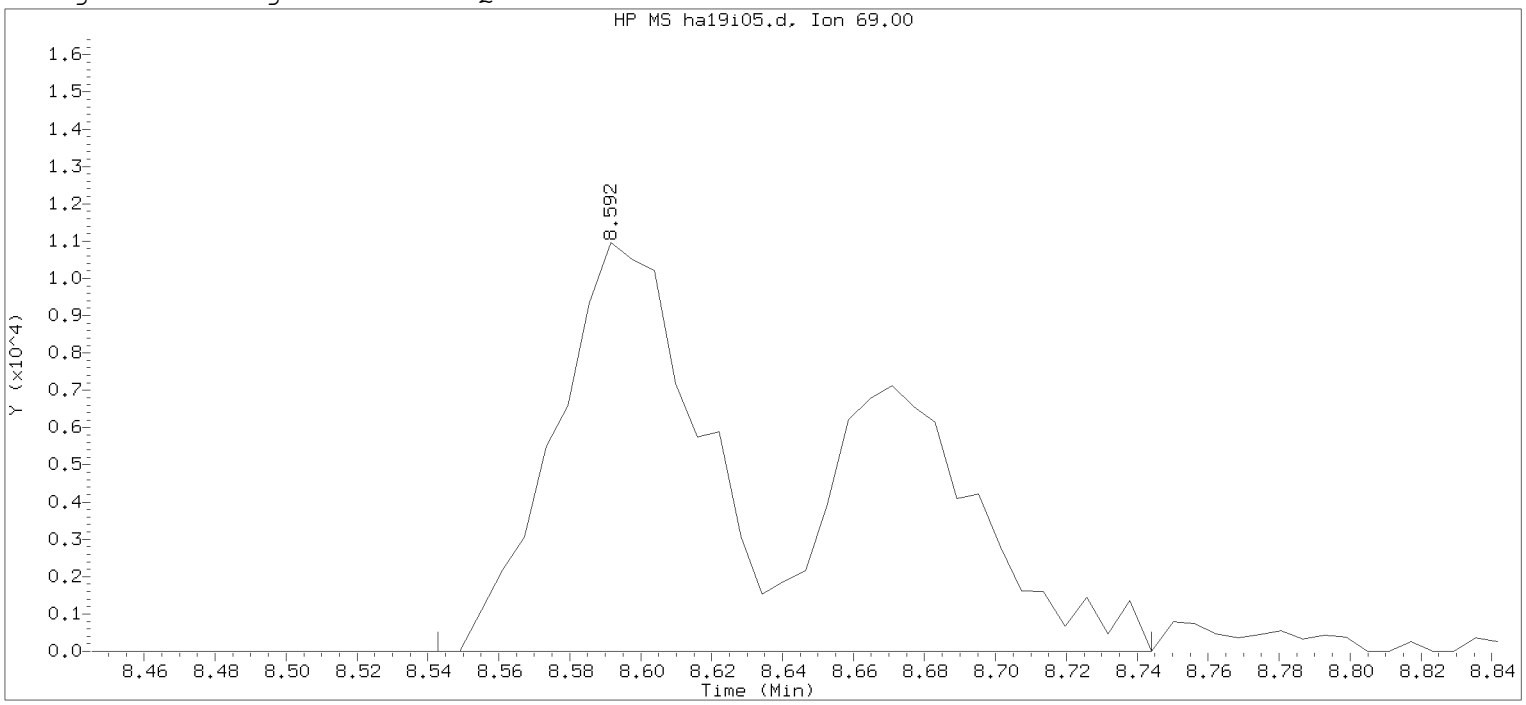
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

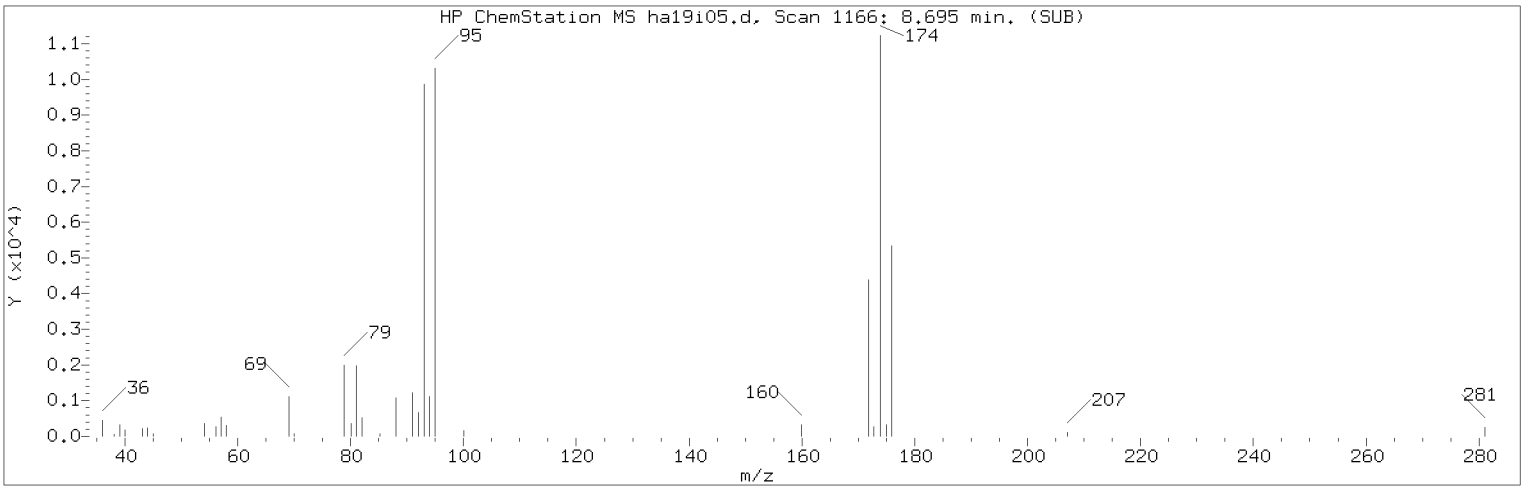
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

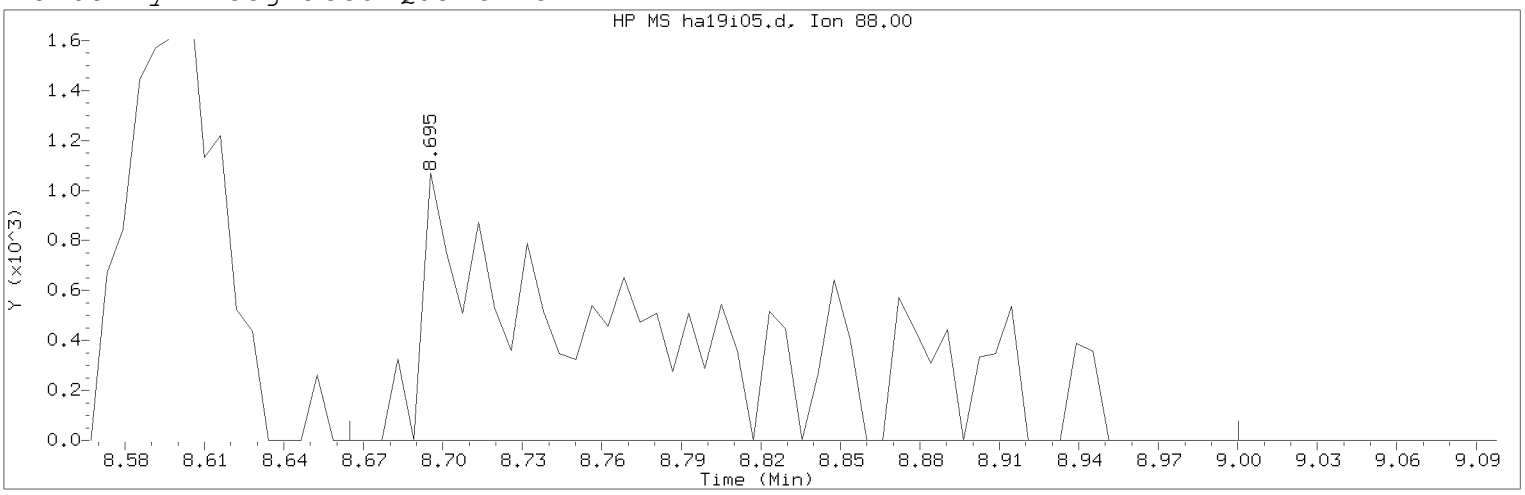
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1149
Retention Time (minutes): 8.592
Quant Ion : 69.00
Area : 51912
On-column Amount (ng) : 2.8236
Integration start scan : 1140 Integration stop scan: 1173
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@tes

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

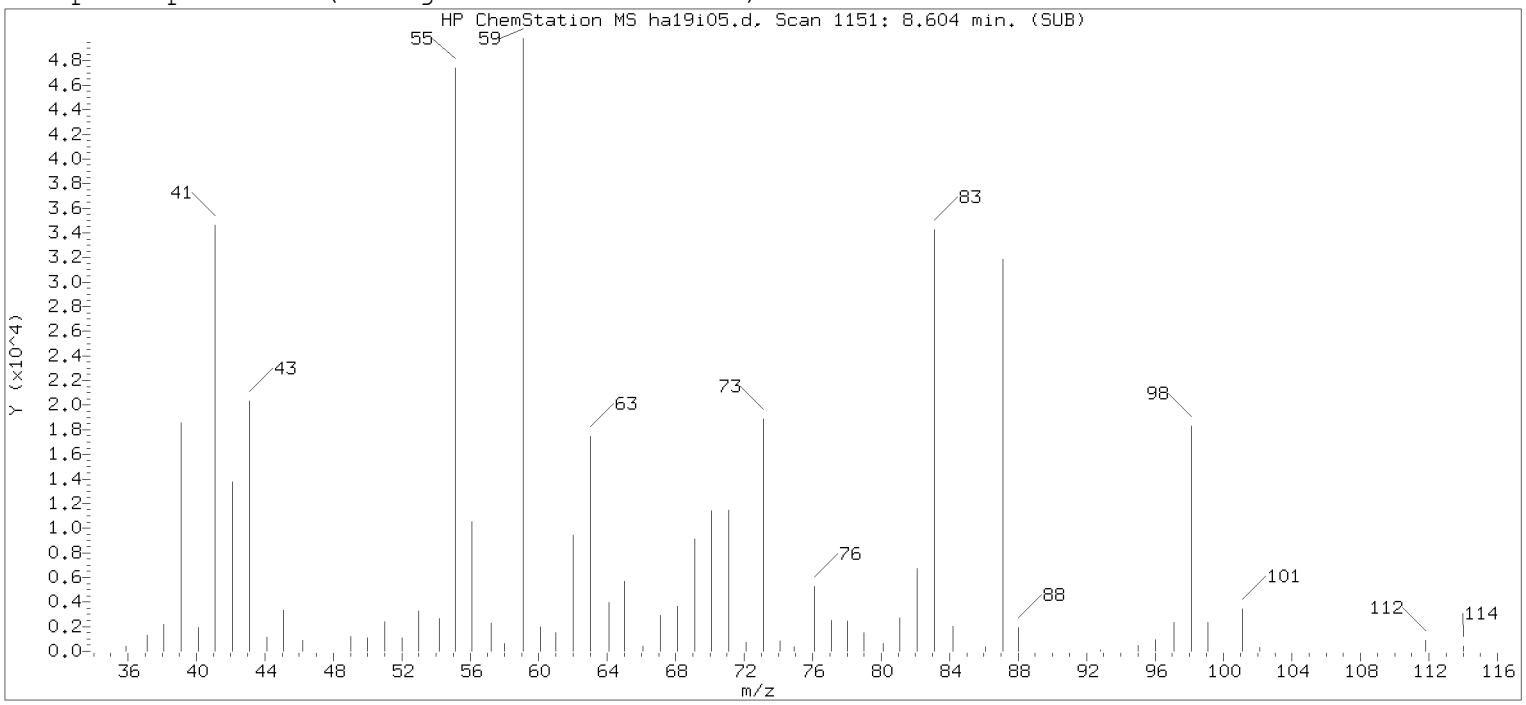
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1166
Retention Time (minutes): 8.695
Quant Ion : 88.00
Area (flag) : 6215M
On-Column Amount (ng) : 49.0179
Integration start scan : 1160 Integration stop scan: 1215
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

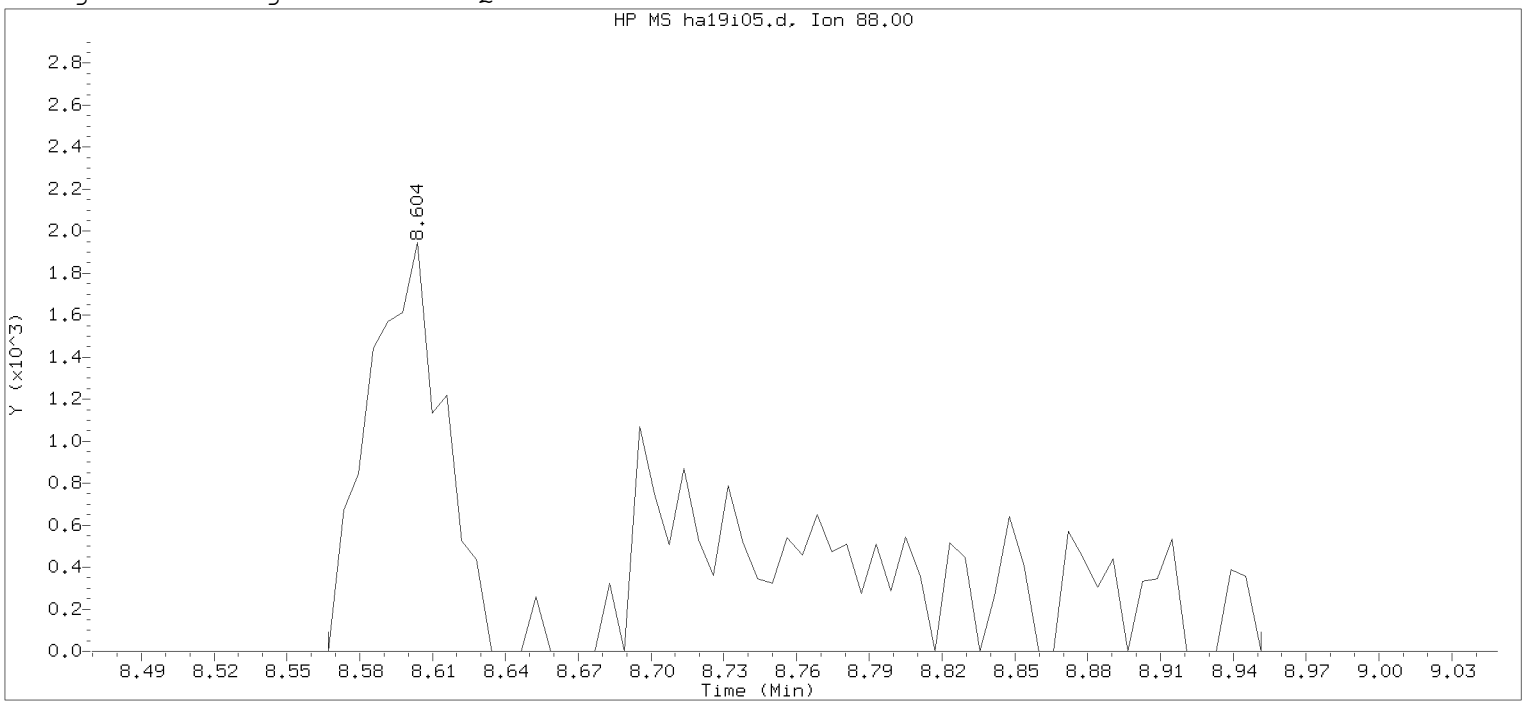
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

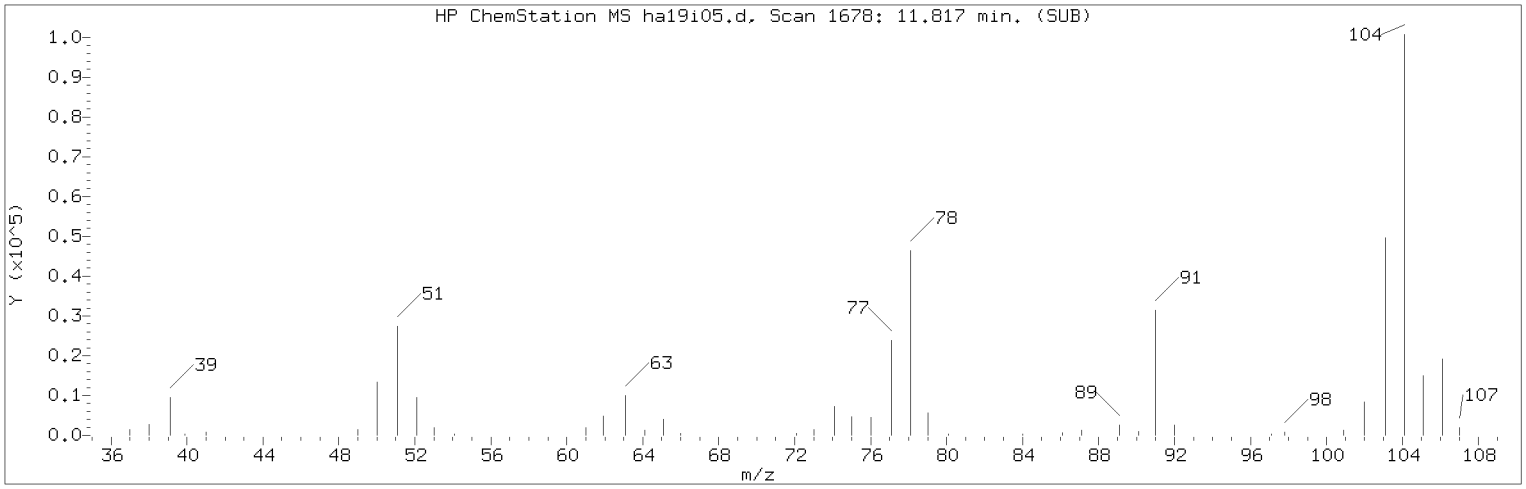
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

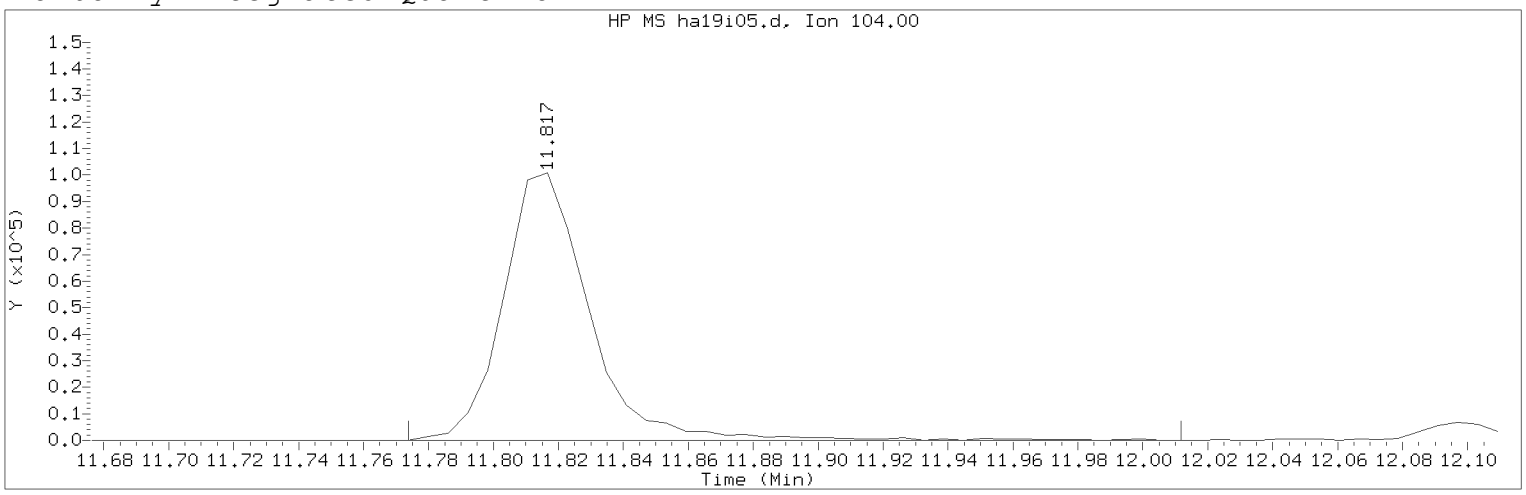
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 10481
On-column Amount (ng) : 81.4184
Integration start scan : 1144 Integration stop scan: 1207
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

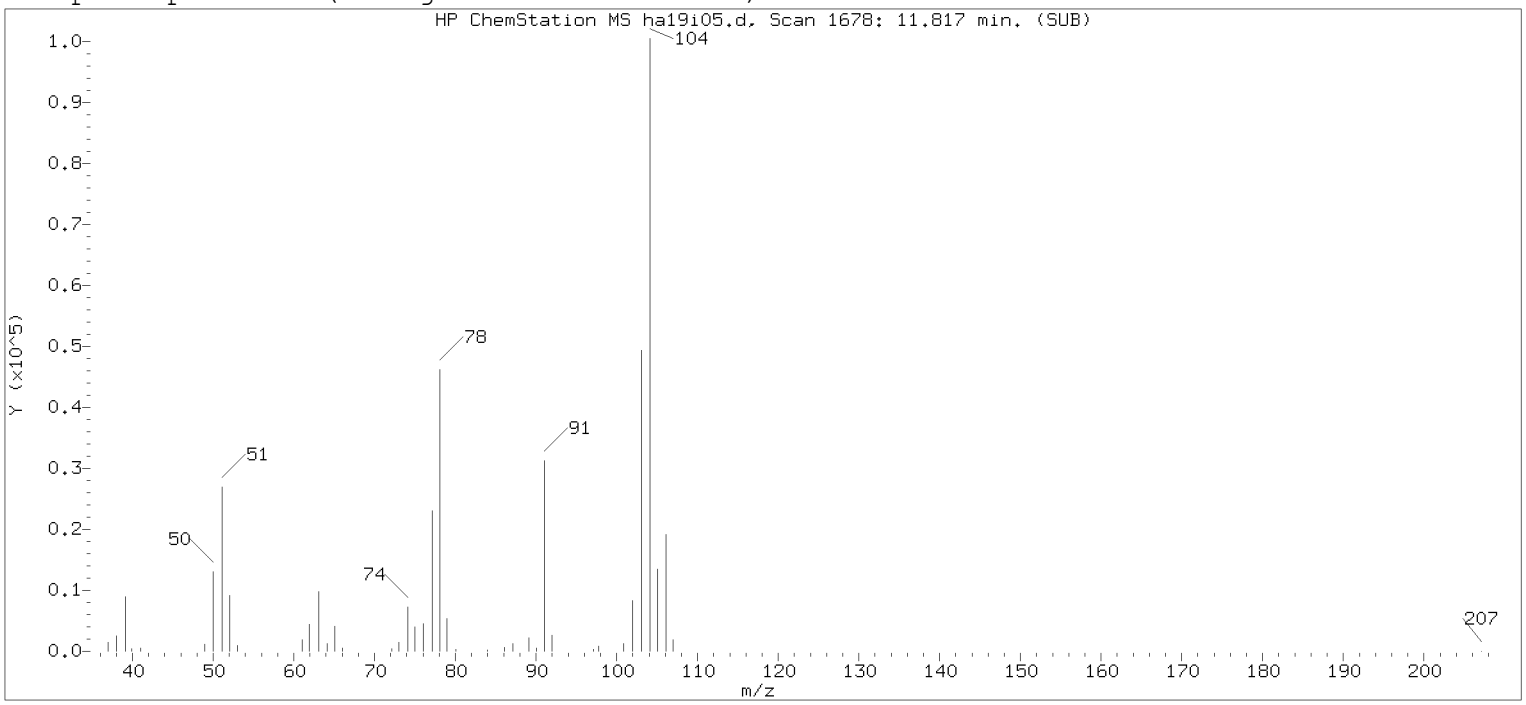
Compound Number : 106
Compound Name : Styrene
Scan Number : 1678
Retention Time (minutes): 11.817
Quant Ion : 104.00
Area (flag) : 185704M
On-Column Amount (ng) : 1.0339
Integration start scan : 1670 Integration stop scan: 1709
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

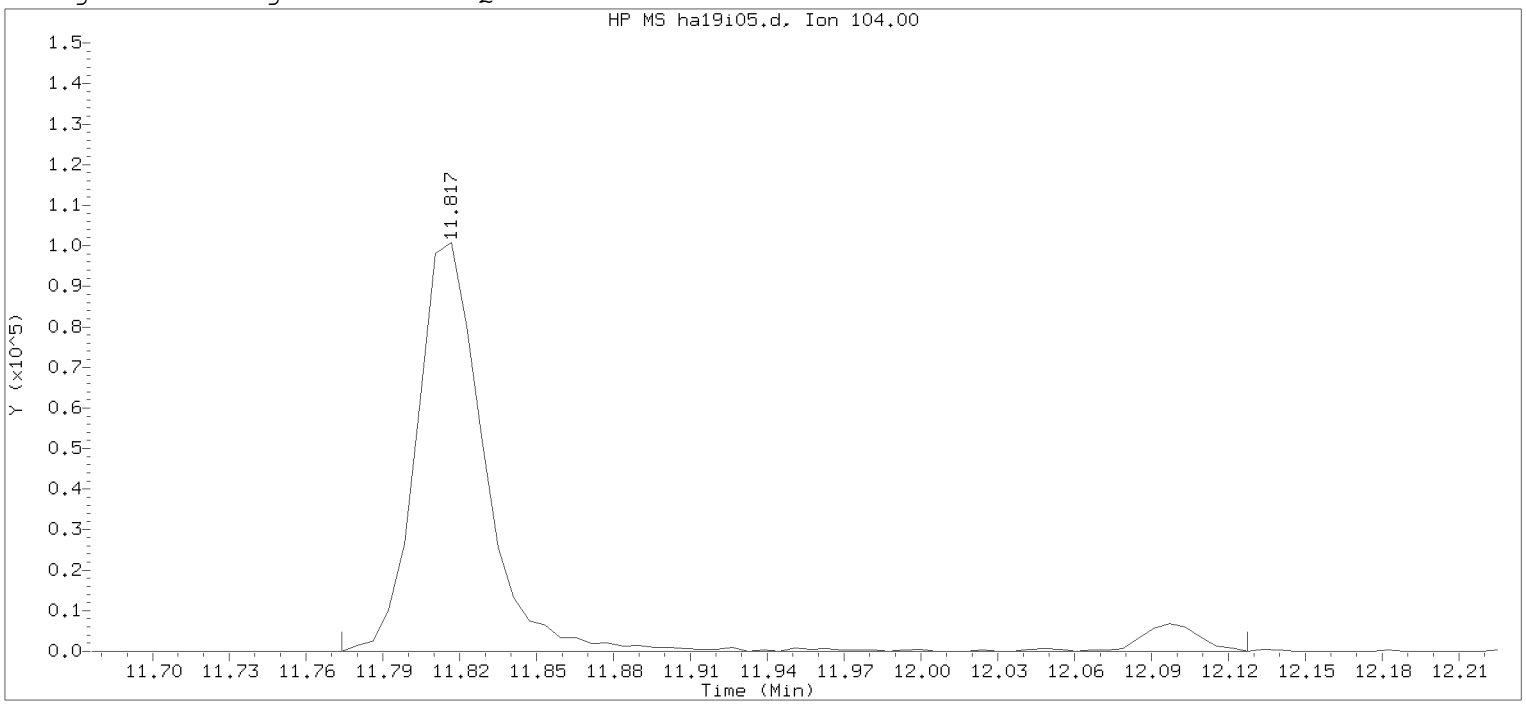
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

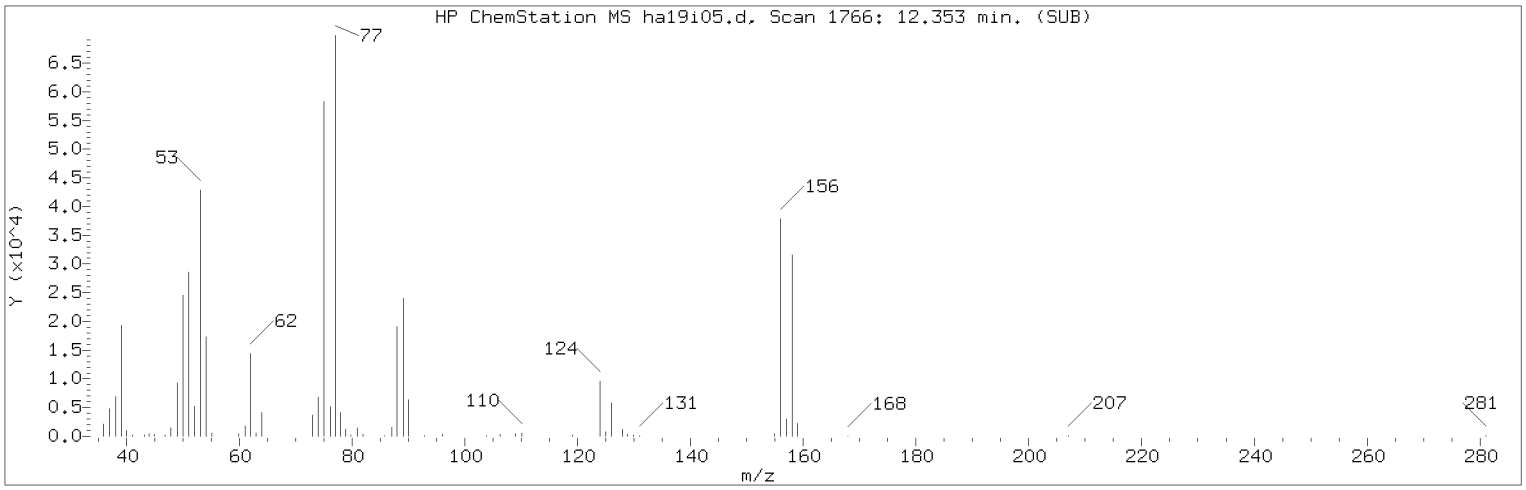
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

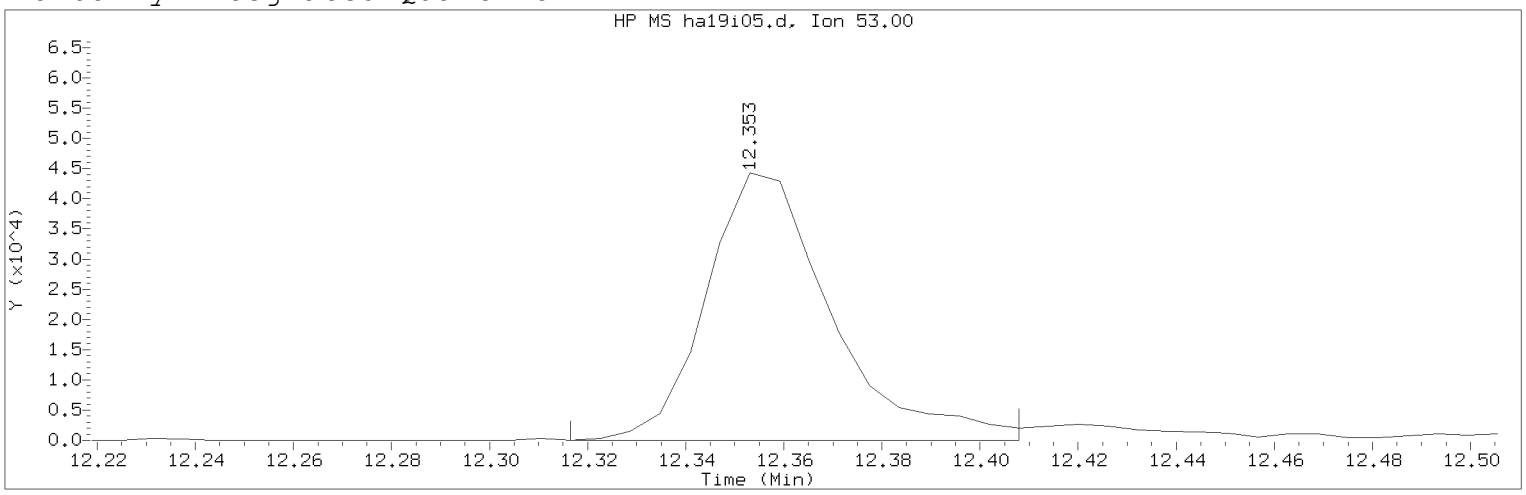
Compound Number : 106
Compound Name : Styrene
Scan Number : 1678
Retention Time (minutes): 11.817
Quant Ion : 104.00
Area : 196827
On-column Amount (ng) : 1.0162
Integration start scan : 1670 Integration stop scan: 1728
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

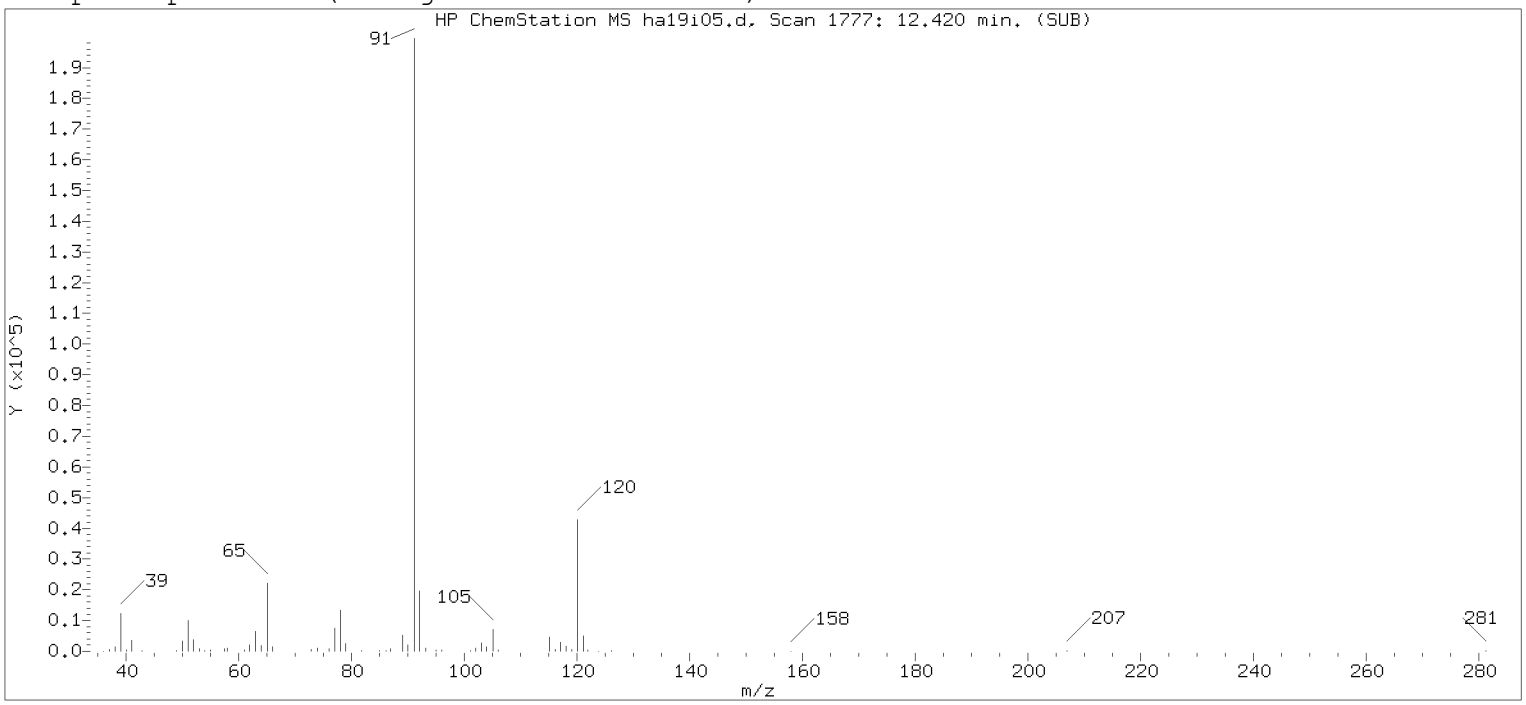
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 78326A
On-Column Amount (ng) : 9.5438
Integration start scan : 1759 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

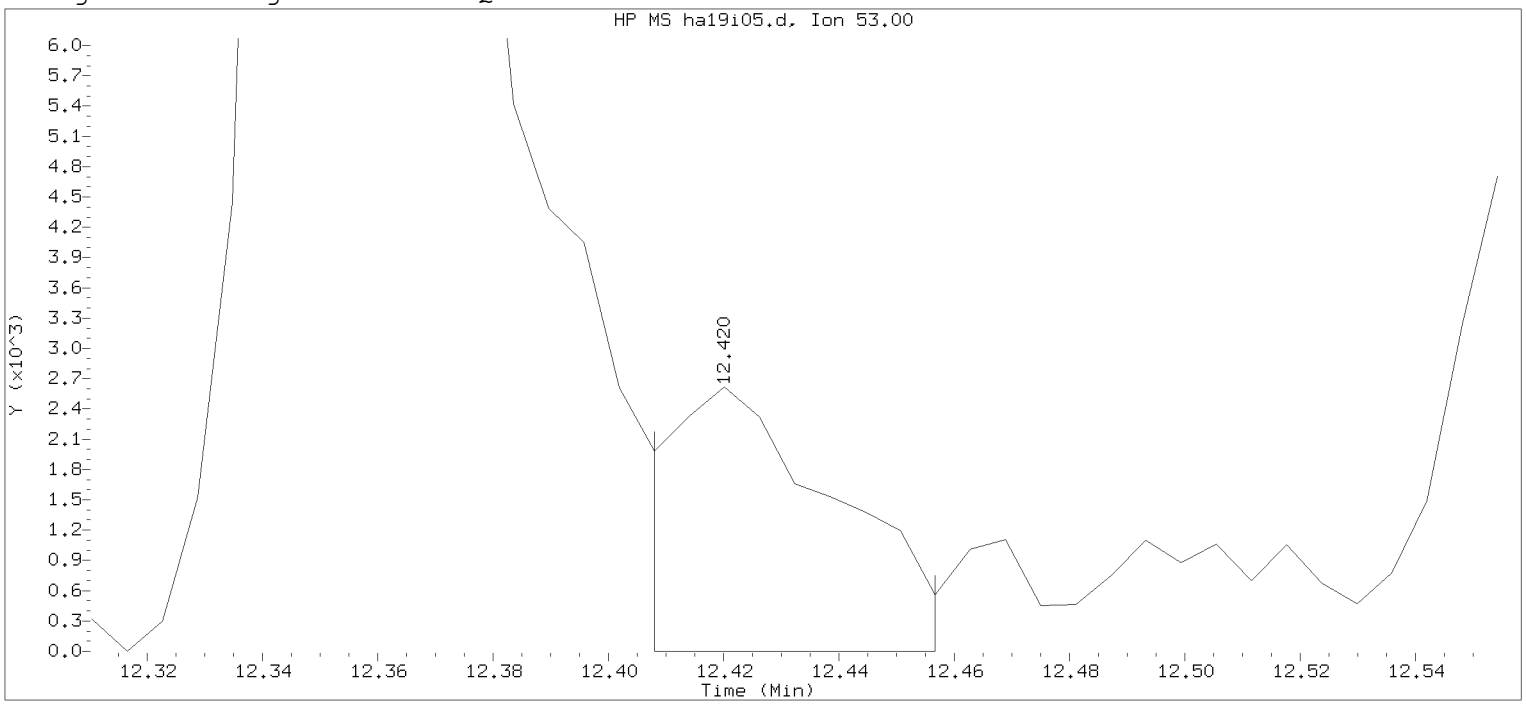
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

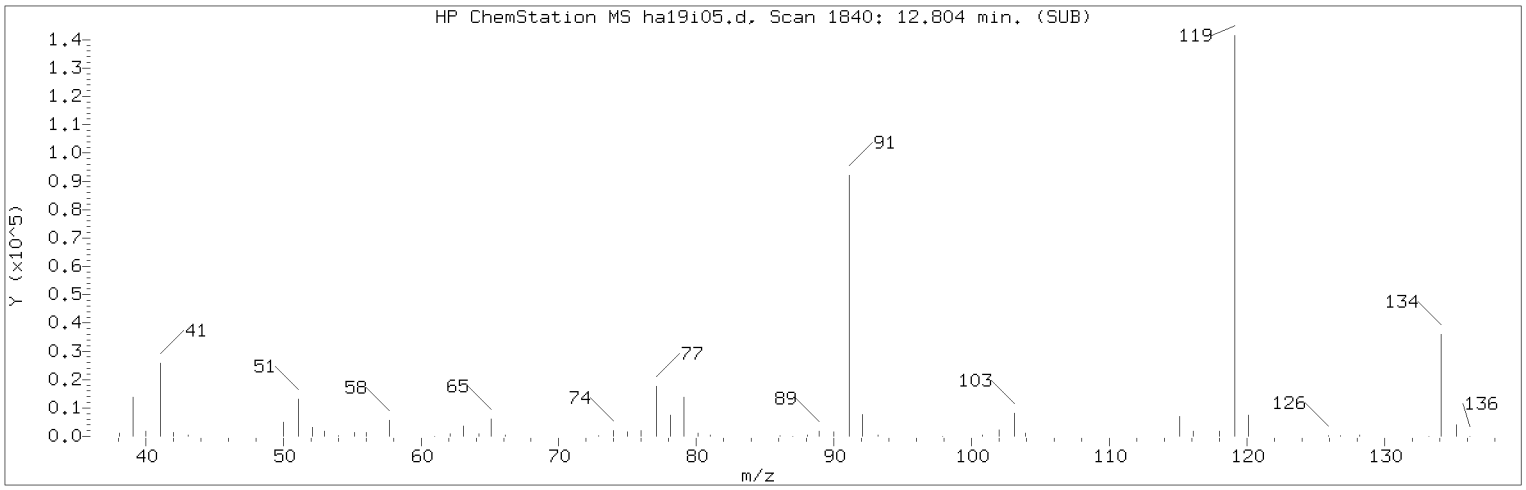
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

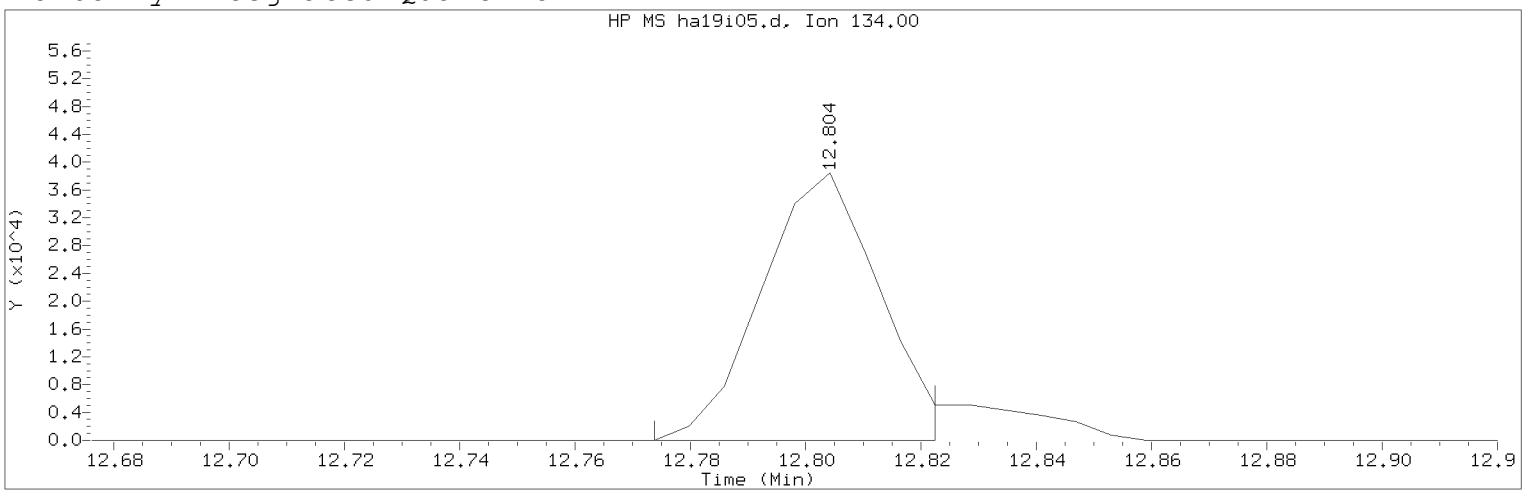
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1777
Retention Time (minutes): 12.420
Quant Ion : 53.00
Area : 5232
On-column Amount (ng) : 1.7690
Integration start scan : 1774 Integration stop scan: 1782
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

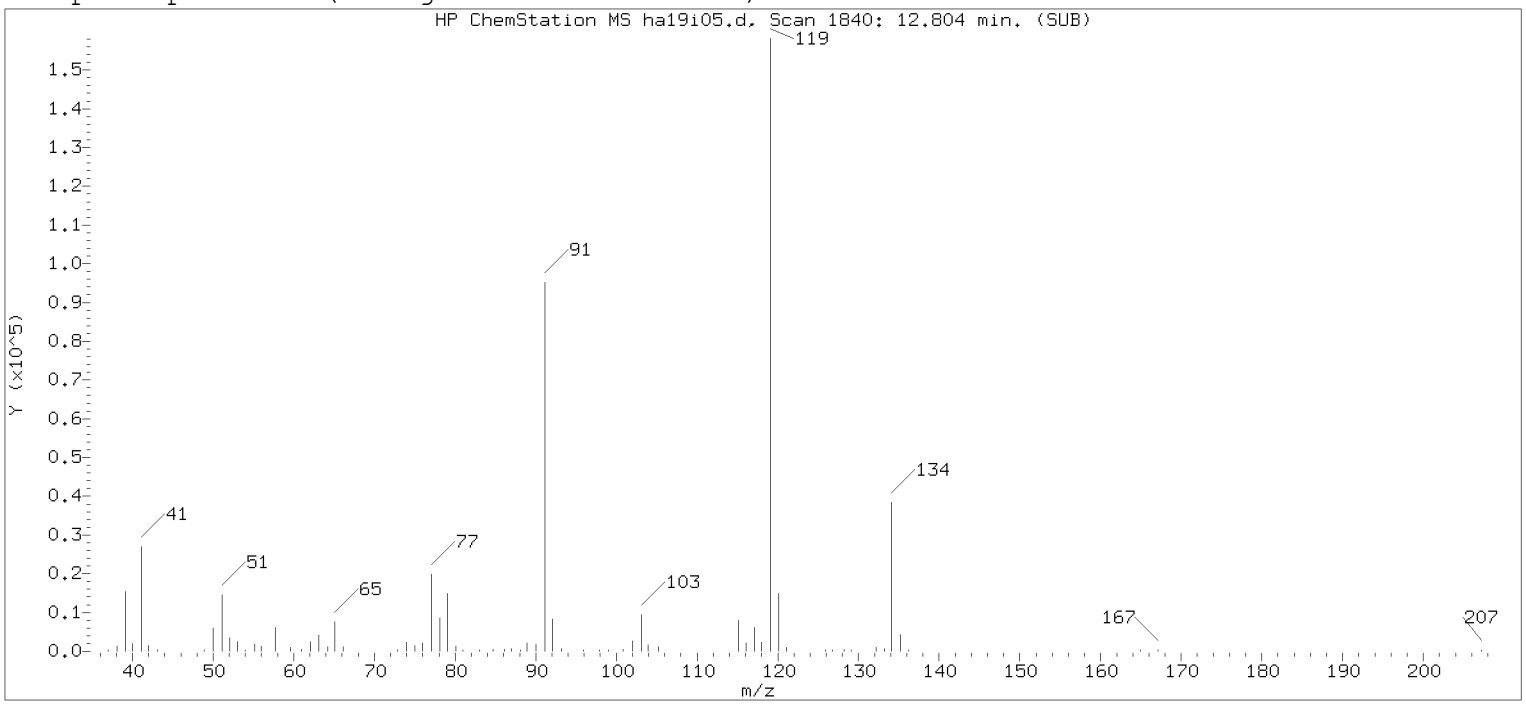
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 54746M
On-Column Amount (ng) : 0.9638
Integration start scan : 1834 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

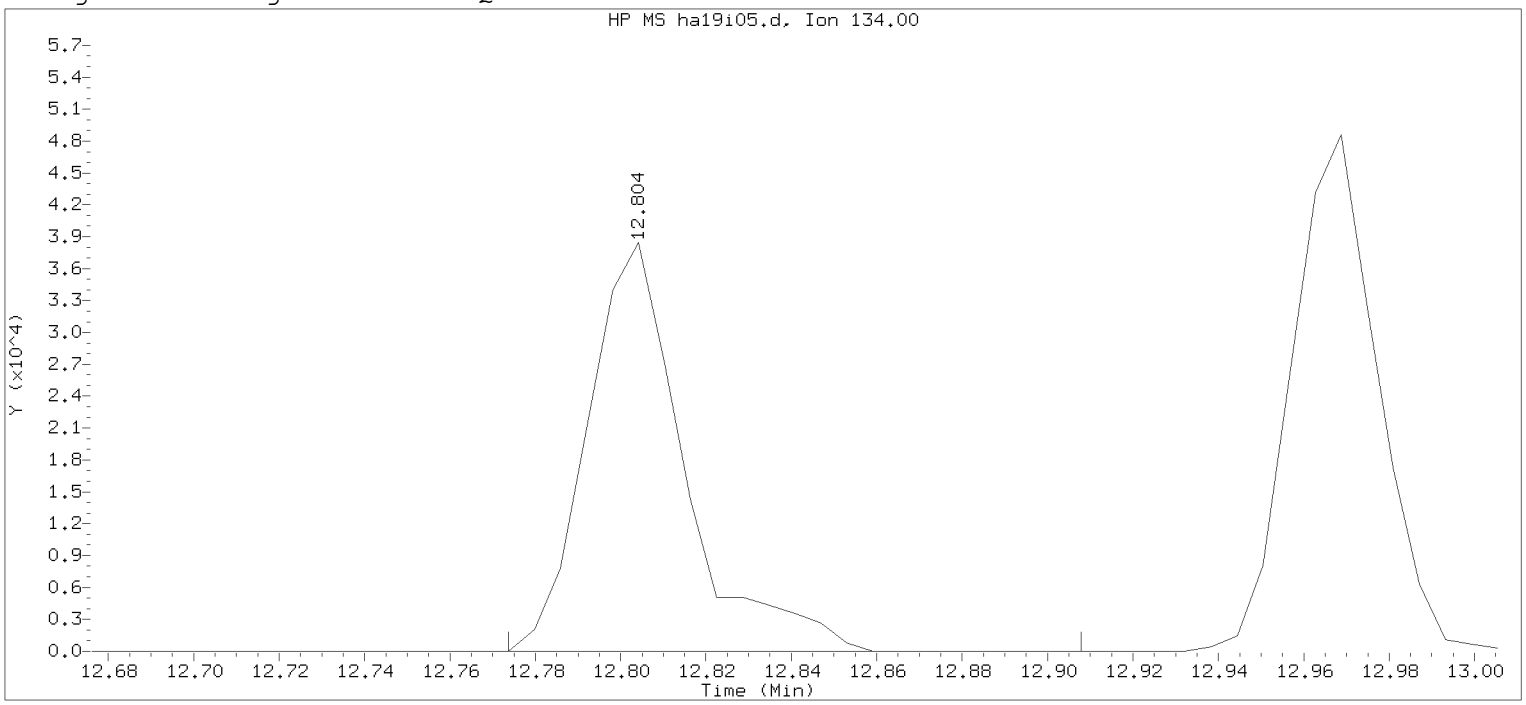
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



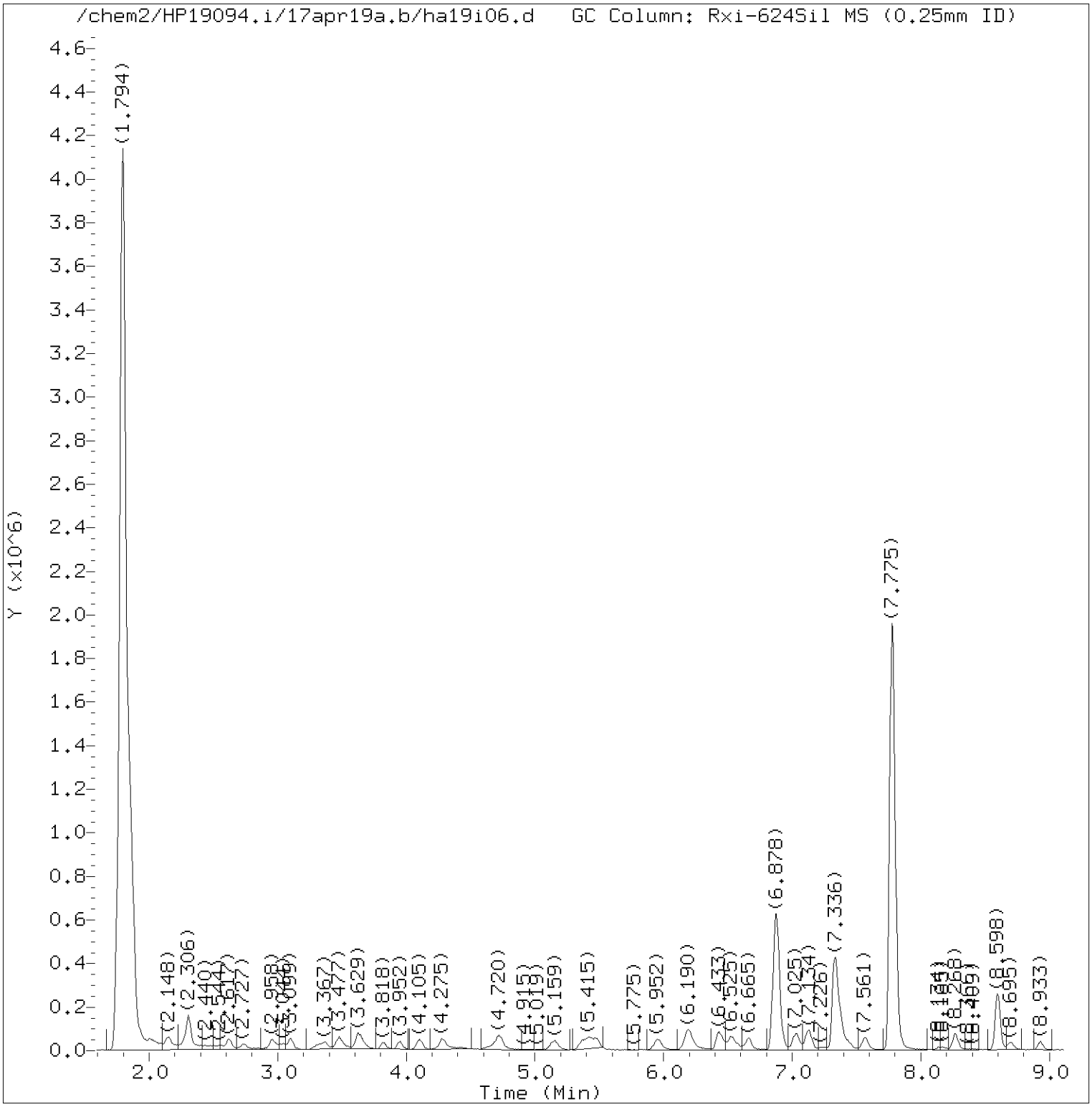
Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 60754
On-column Amount (ng) : 0.9902
Integration start scan : 1834 Integration stop scan: 1856
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito



Total Ion Chromatogram (TIC)

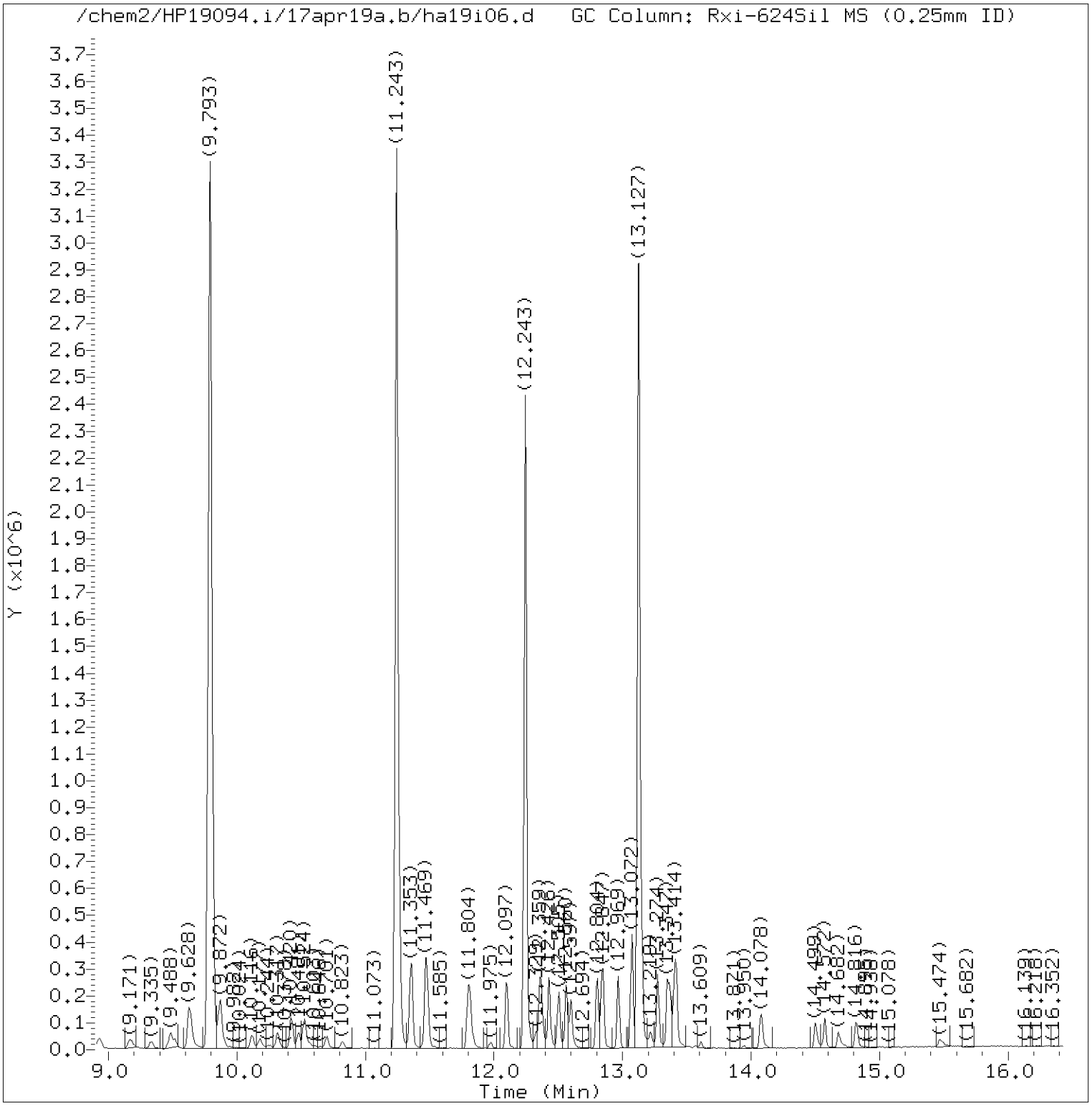
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.020	85	51596	0.473
2) Chloromethane	(2)	2.148	50	58545	0.527
5) Vinyl Chloride	(2)	2.288	62	49244	0.503
6) 1,3-Butadiene	(2)	2.306	39	82743	0.524
7) Bromomethane	(2)	2.623	94	30656	0.493
8) Chloroethane	(2)	2.727	64	29168	0.524
9) Dichlorofluoromethane	(2)	2.958	67	61625	0.473
10) Trichlorofluoromethane	(2)	3.044	101	54020	0.465
11) Ethyl ether	(2)	3.306	59	22023	0.485
12) Freon 123a	(2)	3.367	67	41324	0.463
13) Acrolein	(1)	3.477	56	131393	22.601
15) 1,1-Dichloroethene	(2)	3.623	96	28739	0.456
16) Freon 113	(2)	3.653	101	30900	0.457
14) Acetone	(1)	3.678	43	32388	4.861
17) Methyl Iodide	(2)	3.818	142	56460	0.484
18) Carbon Disulfide	(2)	3.952	76	82495	0.467
21) Methyl Acetate	(1)	4.074	43	13525M	0.565
22) Allyl Chloride	(2)	4.105	41	59536	0.493
23) Methylene Chloride	(2)	4.281	84	33472	0.495
26)*t-Butyl Alcohol-d10	(1)	4.342	65	75157	50.000
28) t-Butyl Alcohol	(1)	4.409	59	20596M	10.784
29) Acrylonitrile	(1)	4.635	53	20648	2.115
30) Methyl Tertiary Butyl Ether	(2)	4.708	73	56537	0.447
31) trans-1,2-Dichloroethene	(2)	4.720	96	32459	0.467
32) n-Hexane	(2)	5.153	57	44481M	0.401
33) 1,1-Dichloroethane	(2)	5.360	63	68216	0.494
34) di-Isopropyl Ether	(2)	5.421	45	110010	0.469
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	51910	0.441
37) Ethyl t-butyl ether	(2)	5.946	59	82948	0.456
40) 1,2-Dichloroethene (Total)	(2)		96	69104	0.940
38) 2-Butanone	(1)	6.159	43	69249	4.732
39) cis-1,2-Dichloroethene	(2)	6.183	96	36645	0.473
41) 2,2-Dichloropropane	(2)	6.202	77	45212	0.442
42) Propionitrile	(1)	6.244	54	33295	9.772
45) Methacrylonitrile	(1)	6.433	67	62980	4.387
47) Bromochloromethane	(2)	6.525	128	13954	0.470
48) Tetrahydrofuran	(1)	6.537	71	15759	4.310
49) Chloroform	(2)	6.665	83	63570	0.495

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	633930	10.034
50)$Dibromofluoromethane	(2)	6.878	111	650969	10.037
51) 1,1,1-Trichloroethane	(2)	6.903	97	53724	0.490
52) Cyclohexane	(2)	7.025	56	68966	0.494
52) Cyclohexane	(2)	7.037	84	42730	0.379
52) Cyclohexane	(2)	7.037	69	17349	0.439
55) 1,1-Dichloropropene	(2)	7.122	75	46872	0.452
54) Carbon Tetrachloride	(2)	7.141	117	41106	0.445
56) Isobutyl Alcohol	(1)	7.226	41	19813	24.940
57)$1,2-Dichloroethane-d4	(2)	7.330	102	103773	10.134
57)$1,2-Dichloroethane-d4	(2)	7.336	65	497994	10.056
57)$1,2-Dichloroethane-d4	(2)	7.330	104	61335	9.955
58) Benzene	(2)	7.384	78	143284	0.484
59) 1,2-Dichloroethane	(2)	7.445	62	35127	0.491
60) t-Amyl methyl ether	(2)	7.561	73	64314	0.436
63)*Fluorobenzene	(2)	7.775	96	2807038	10.000
62) n-Heptane	(2)	7.811	43	53238	0.417
65) n-Butanol	(1)	8.146	56	28373M	47.054
67) Trichloroethene	(2)	8.275	95	36862	0.476
70) 1,2-Dichloropropane	(2)	8.598	63	38889	0.501
69) Methylcyclohexane	(2)	8.598	83	57084	0.428
71) Methyl Methacrylate	(1)	8.677	69	10889	0.399
73) Dibromomethane	(2)	8.707	93	14876	0.498
72) 1,4-Dioxane	(1)	8.768	88	1496M	7.167
74) Bromodichloromethane	(2)	8.933	83	36661	0.448
76) 2-Nitropropane	(1)	9.171	41	36896	4.325
80) cis-1,3-Dichloropropene	(2)	9.476	75	40979	0.437
81) 4-Methyl-2-Pentanone	(1)	9.628	43	161786M	4.218
82)$Toluene-d8	(3)	9.793	98	2704235	10.242
82)$Toluene-d8	(3)	9.793	100	1745778	10.256
83) Toluene	(3)	9.872	92	85856	0.489
84) trans-1,3-Dichloropropene	(3)	10.116	75	32031	0.468
85) 1,3-Dichloropropene (total)	(3)		75	73010	0.904
86) Ethyl Methacrylate	(3)	10.177	69	23329	0.451
88) 1,1,2-Trichloroethane	(3)	10.323	97	19721	0.482
89) Tetrachloroethene	(3)	10.427	166	38516	0.471
90) 1,3-Dichloropropane	(3)	10.481	76	35303	0.488
91) 2-Hexanone	(1)	10.524	43	110495	4.094

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.701	129	22306	0.464
95) 1,2-Dibromoethane	(3)	10.823	107	19440	0.504
97)*Chlorobenzene-d5	(3)	11.243	117	1818984	10.000
98) Chlorobenzene	(3)	11.274	112	93850	0.488
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	31786	0.495
100) Ethylbenzene	(3)	11.359	91	158354	0.459
101) m+p-Xylene	(3)	11.475	106	122745	0.928
105) Xylene (Total)	(3)		106	182485	1.395
104) o-Xylene	(3)	11.798	106	59740	0.467
106) Styrene	(3)	11.816	104	82460	0.417
107) Bromoform	(3)	11.975	173	10327	0.424
108) Isopropylbenzene	(3)	12.097	105	146390	0.439
111)$4-Bromofluorobenzene	(3)	12.243	95	756904	9.947
111)$4-Bromofluorobenzene	(3)	12.243	174	659592	9.745
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	25459	0.527
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	33996A	3.421
114) Bromobenzene	(4)	12.365	156	37363	0.503
116) 1,2,3-Trichloropropane	(4)	12.383	110	6249	0.524
117) n-Propylbenzene	(4)	12.426	91	190164	0.471
119) 2-Chlorotoluene	(4)	12.505	126	38560	0.506
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	126072	0.461
122) 4-Chlorotoluene	(4)	12.597	126	38463	0.500
125) tert-Butylbenzene	(4)	12.804	134	29223	0.497
126) Pentachloroethane	(4)	12.835	167	20605	0.472
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	123814	0.452
128) sec-Butylbenzene	(4)	12.969	105	166632	0.465
131) 1,3-Dichlorobenzene	(4)	13.072	146	71803	0.489
132) p-Isopropyltoluene	(4)	13.078	119	128903	0.436
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	760024	10.000
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	57962	0.499
134) 1,4-Dichlorobenzene	(4)	13.146	146	76808	0.512
136) Benzyl Chloride	(4)	13.219	126	7034	0.441
138) n-Butylbenzene	(4)	13.371	92	56530	0.386
139) 1,2-Dichlorobenzene	(4)	13.402	146	63422	0.489
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	2263	0.398
145) 1,2,4-Trichlorobenzene	(4)	14.505	180	38879	0.465
146) Hexachlorobutadiene	(4)	14.572	225	18704	0.449
147) Naphthalene	(4)	14.682	128	57745	0.468

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

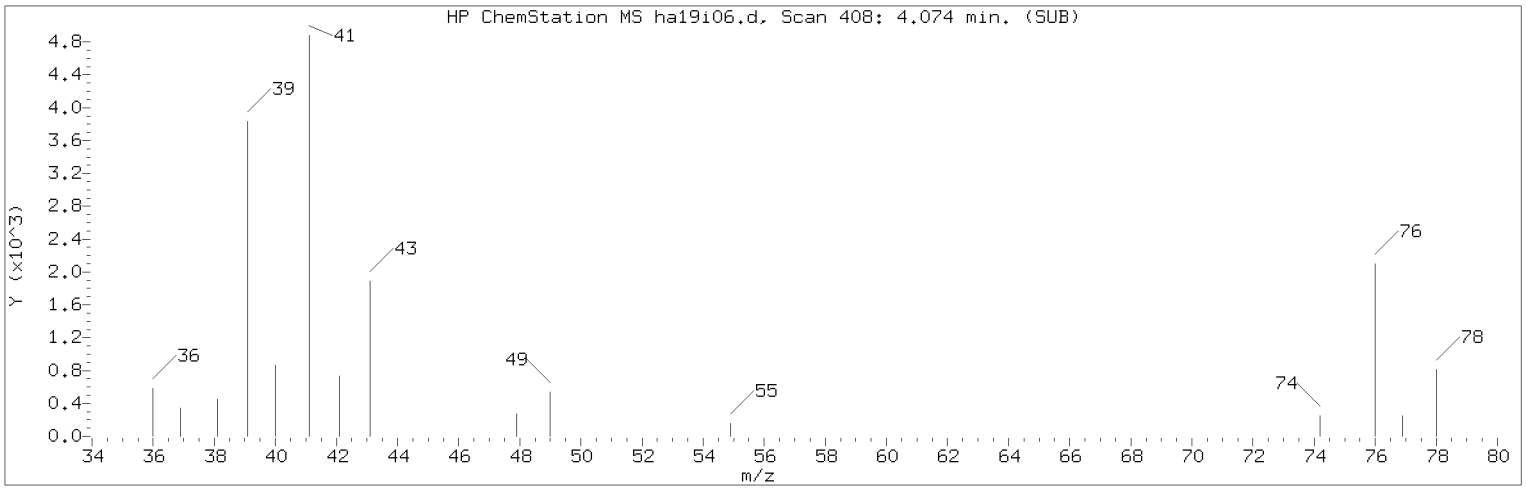
Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	32601M	0.472

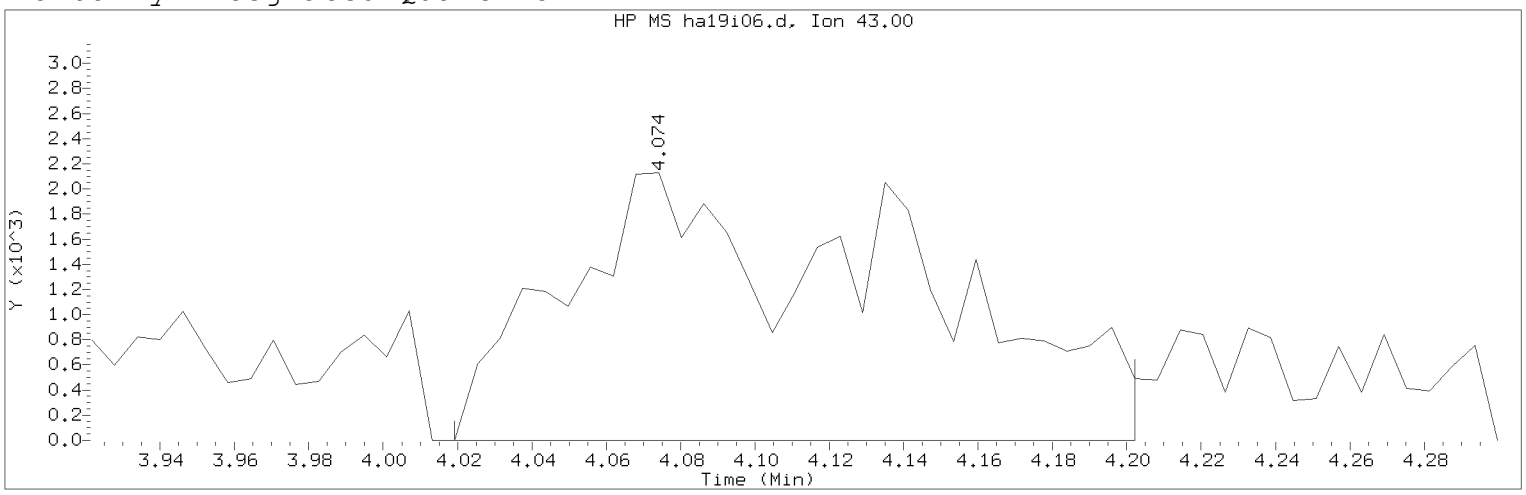
M = Compound was manually integrated.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

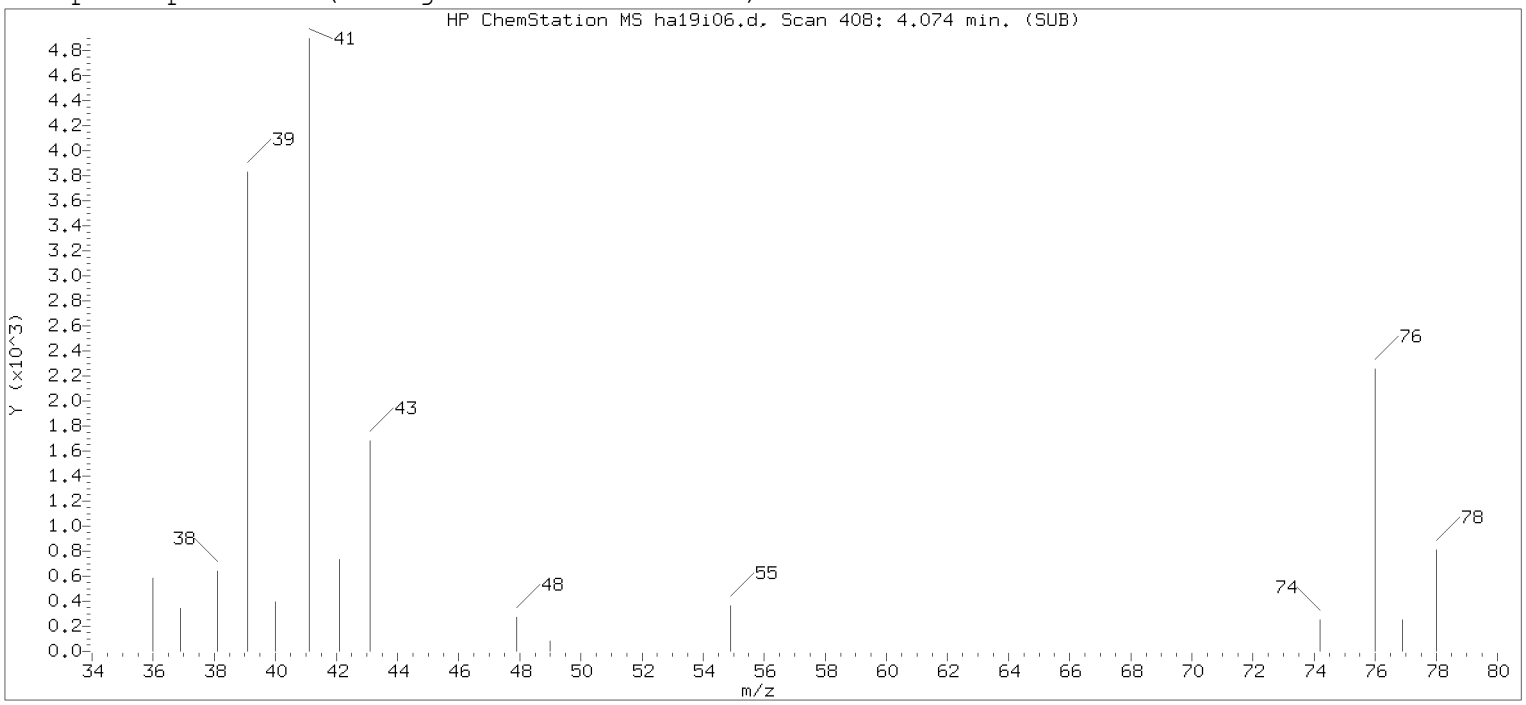
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 408
Retention Time (minutes): 4.074
Quant Ion : 43.00
Area (flag) : 13525M
On-Column Amount (ng) : 0.5645
Integration start scan : 398 Integration stop scan: 428
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

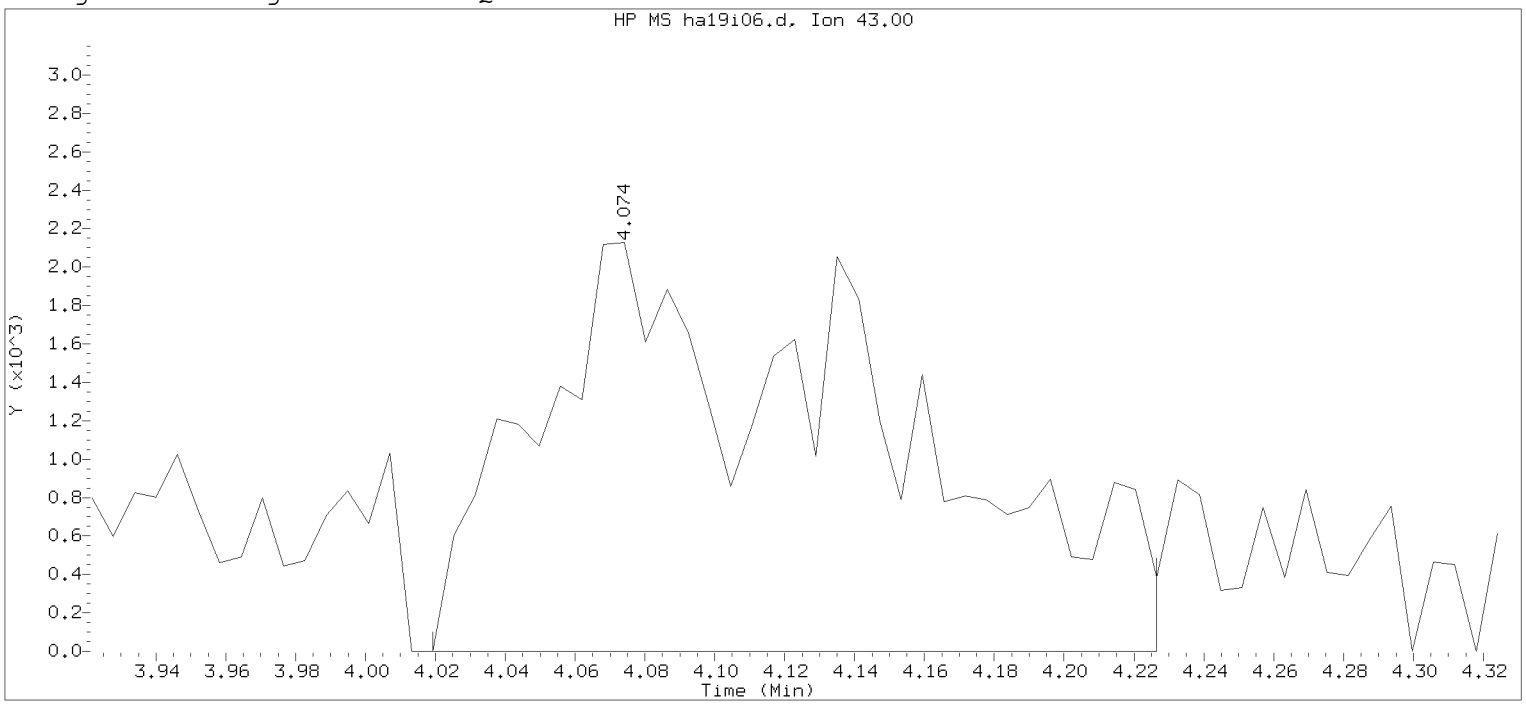
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

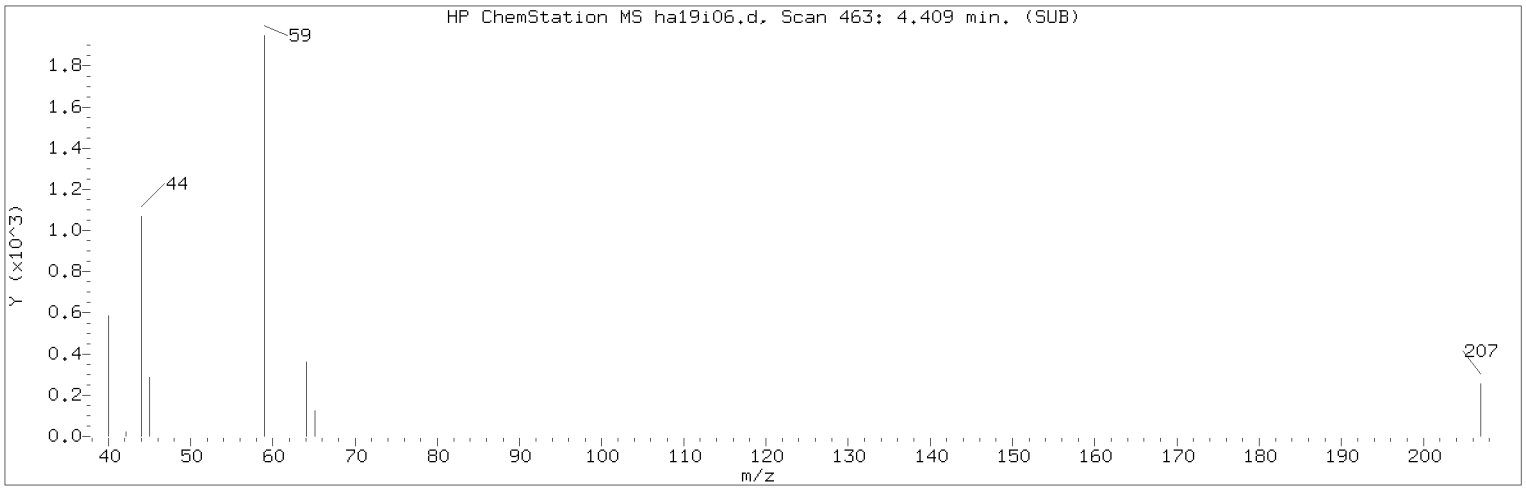
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

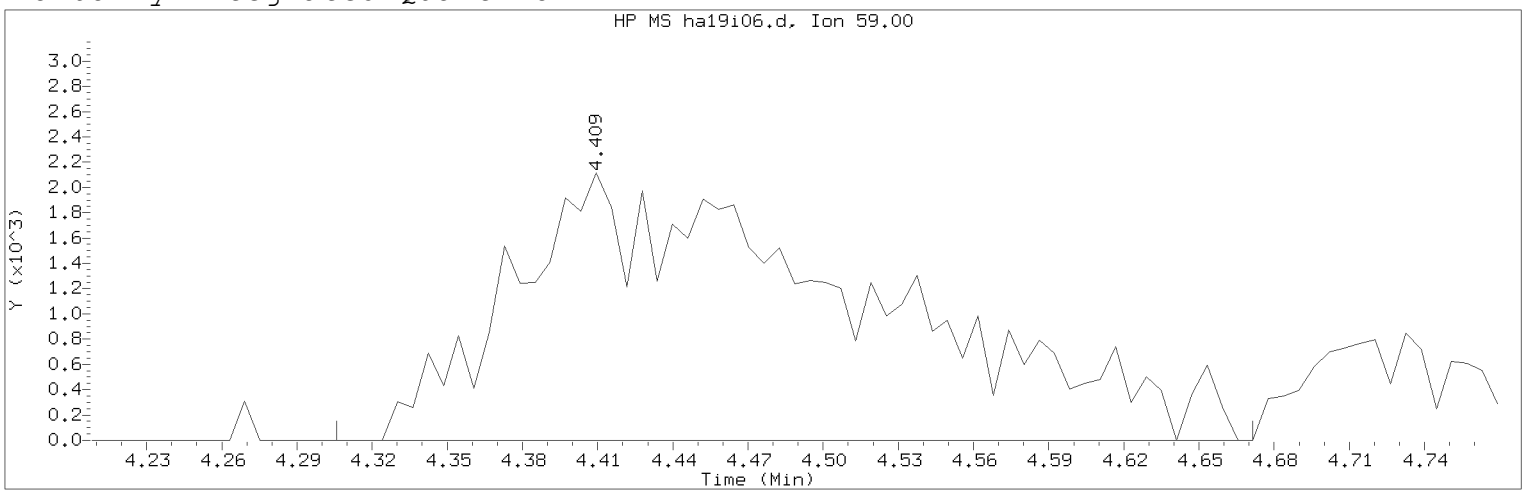
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 408
Retention Time (minutes): 4.074
Quant Ion : 43.00
Area : 14399
On-column Amount (ng) : 0.5615
Integration start scan : 398 Integration stop scan: 432
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

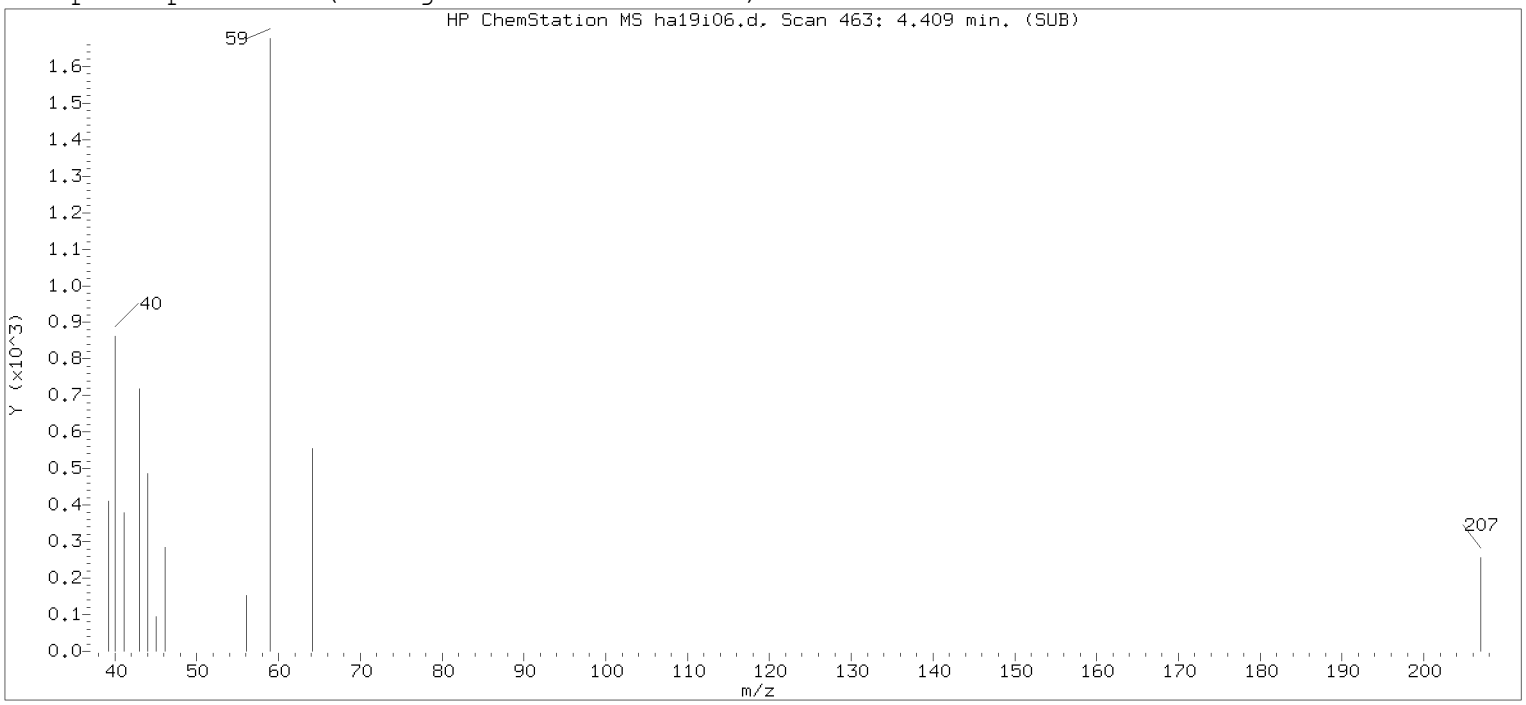
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 463
Retention Time (minutes): 4.409
Quant Ion : 59.00
Area (flag) : 20596M
On-Column Amount (ng) : 10.7836
Integration start scan : 445 Integration stop scan: 505
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

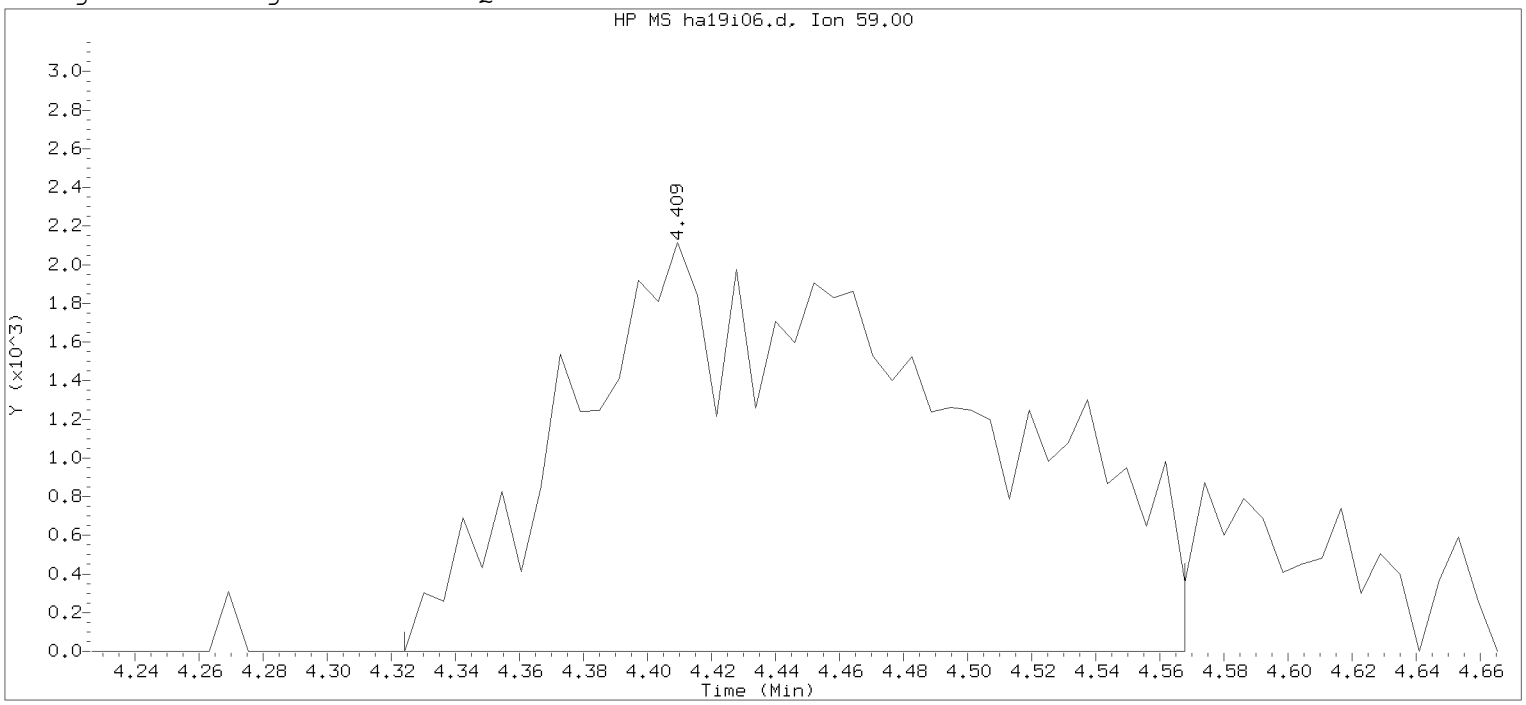
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

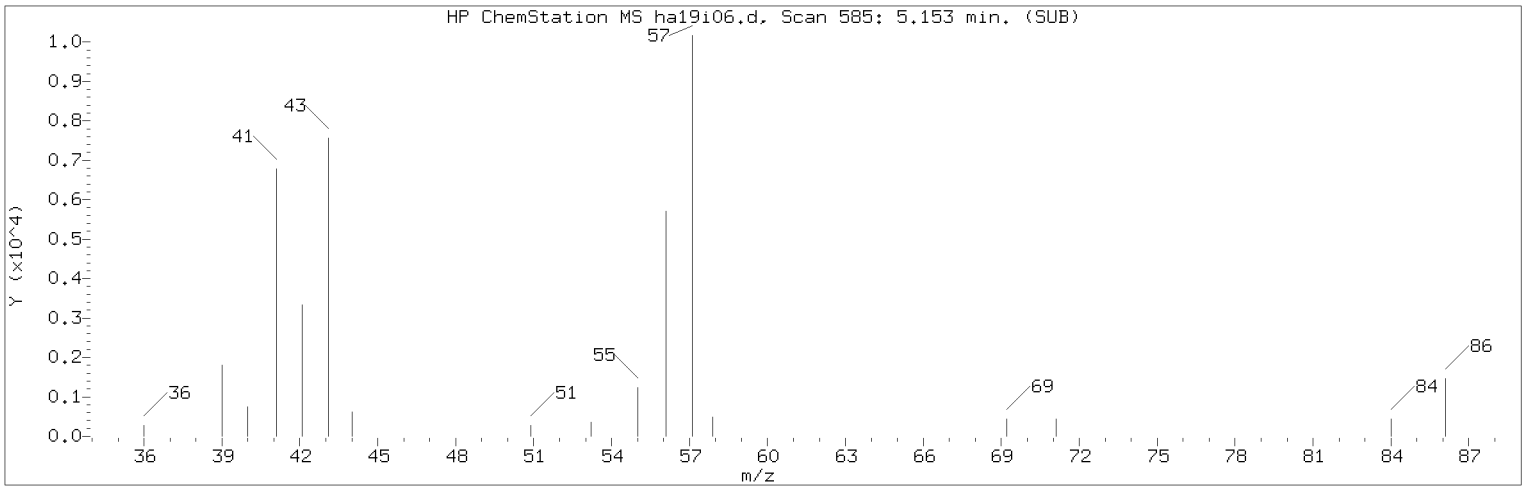
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

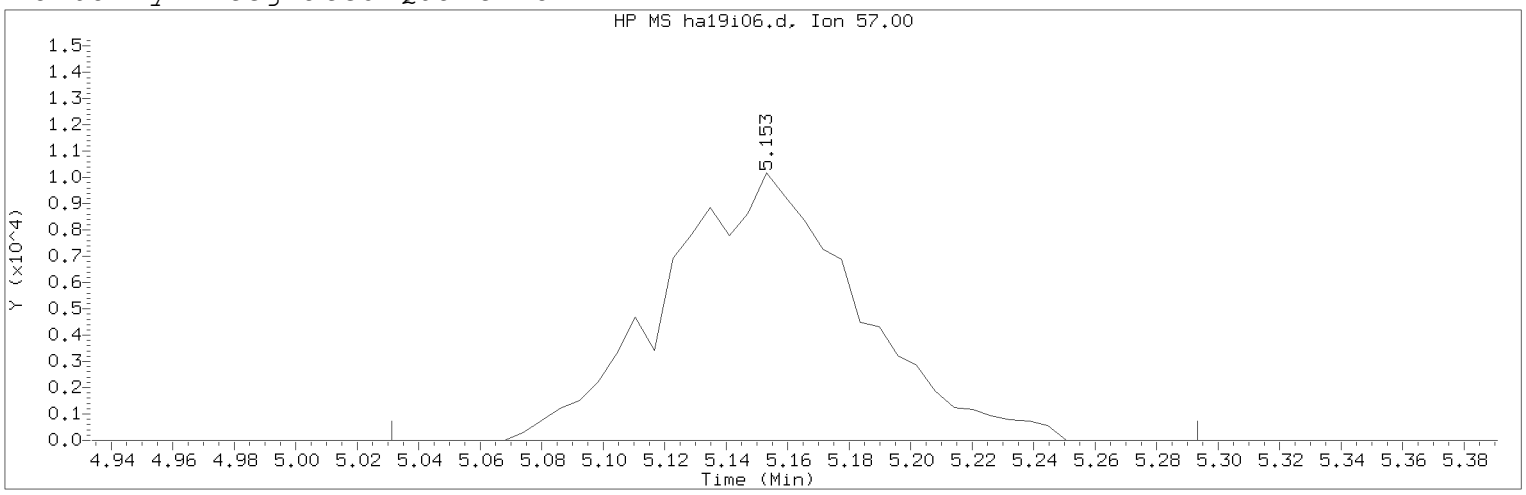
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 463
Retention Time (minutes): 4.409
Quant Ion : 59.00
Area : 17806
On-column Amount (ng) : 8.7314
Integration start scan : 448 Integration stop scan: 488
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

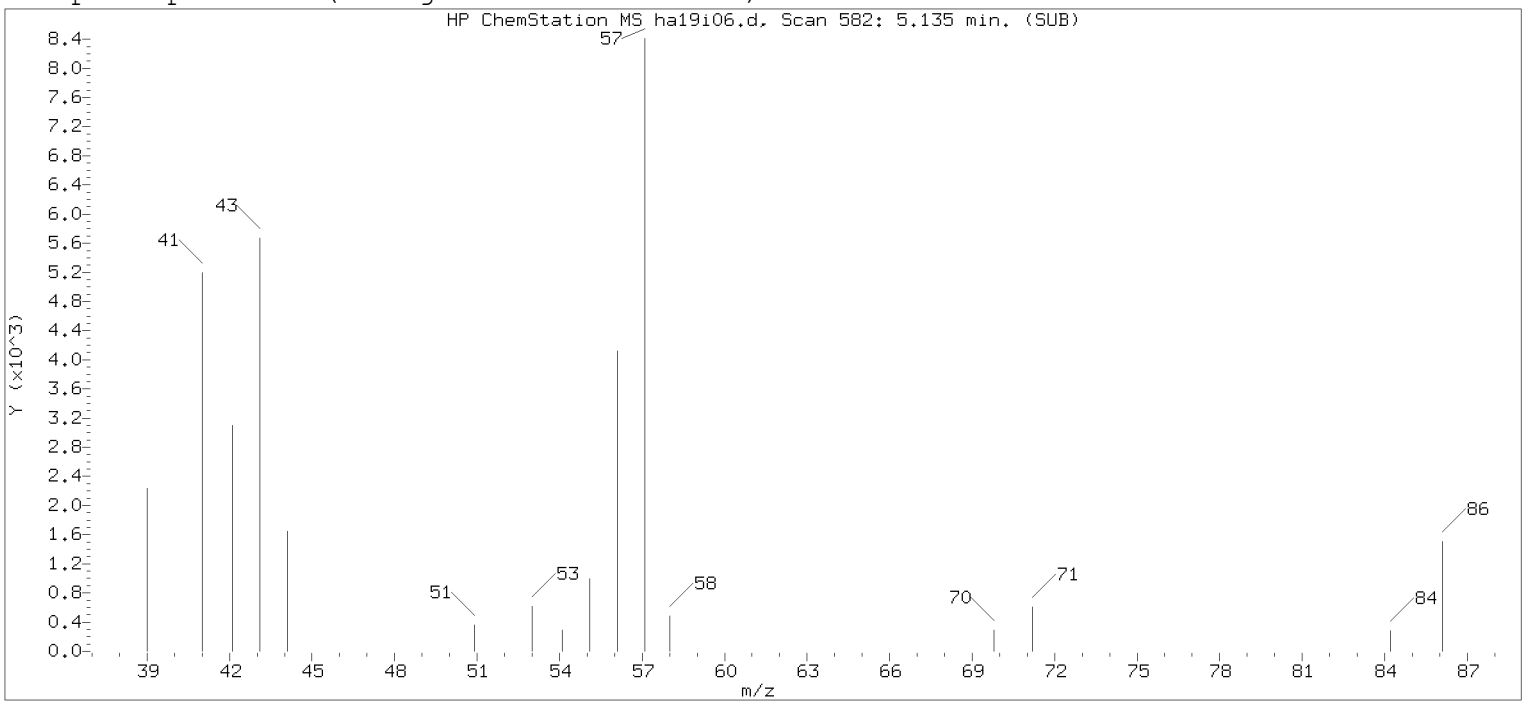
Compound Number : 32
Compound Name : n-Hexane
Scan Number : 585
Retention Time (minutes): 5.153
Quant Ion : 57.00
Area (flag) : 44481M
On-Column Amount (ng) : 0.4013
Integration start scan : 564 Integration stop scan: 607
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

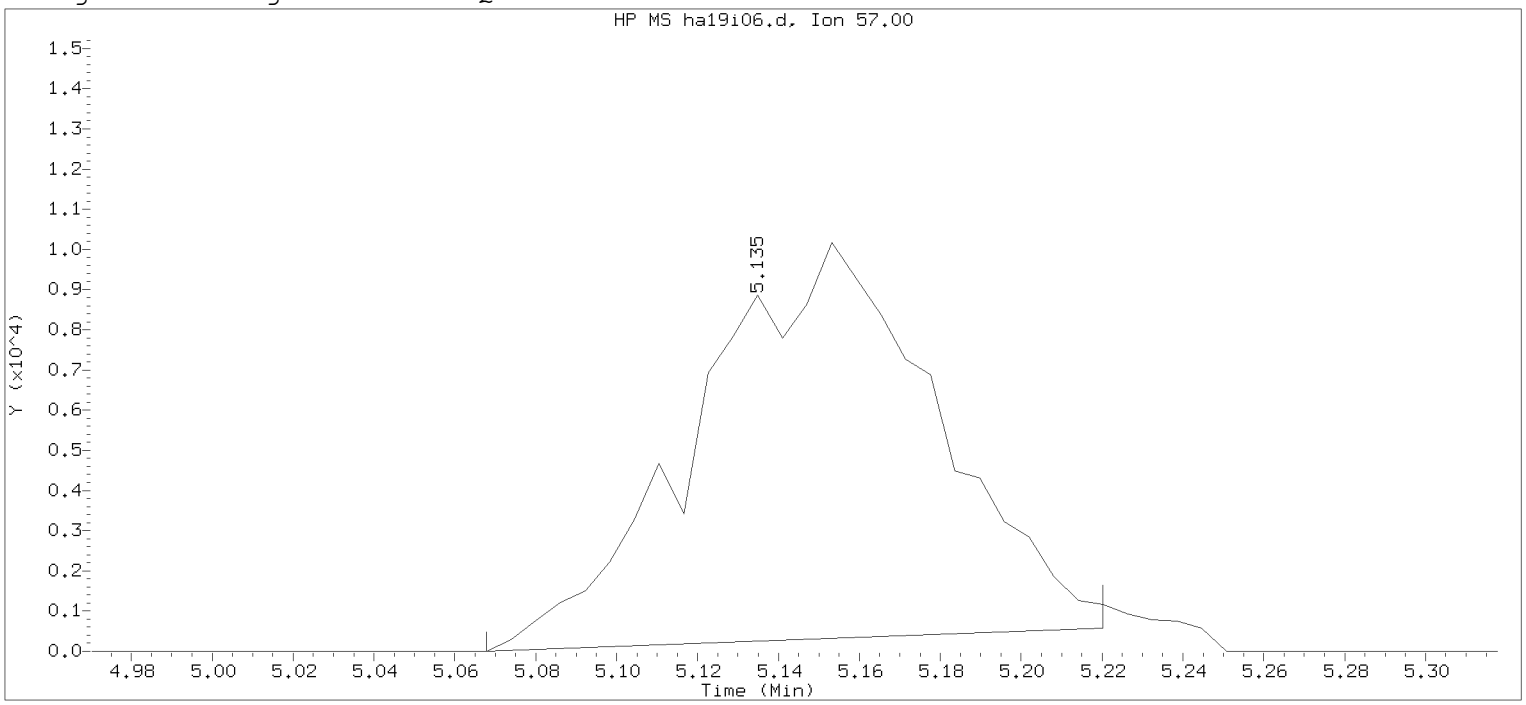
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

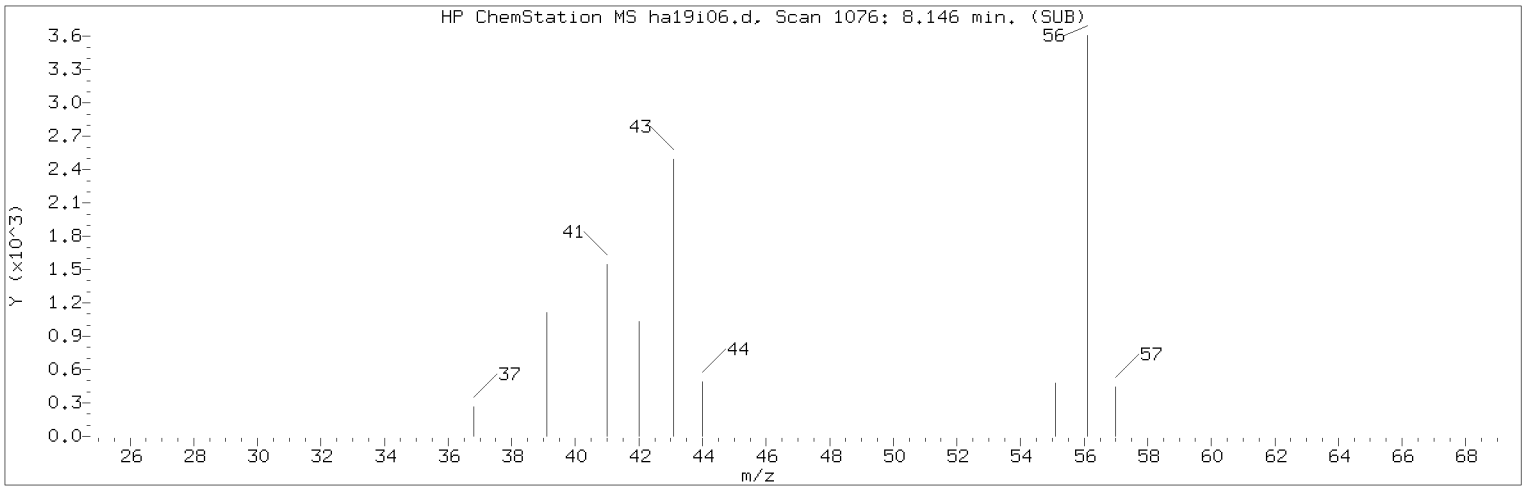
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

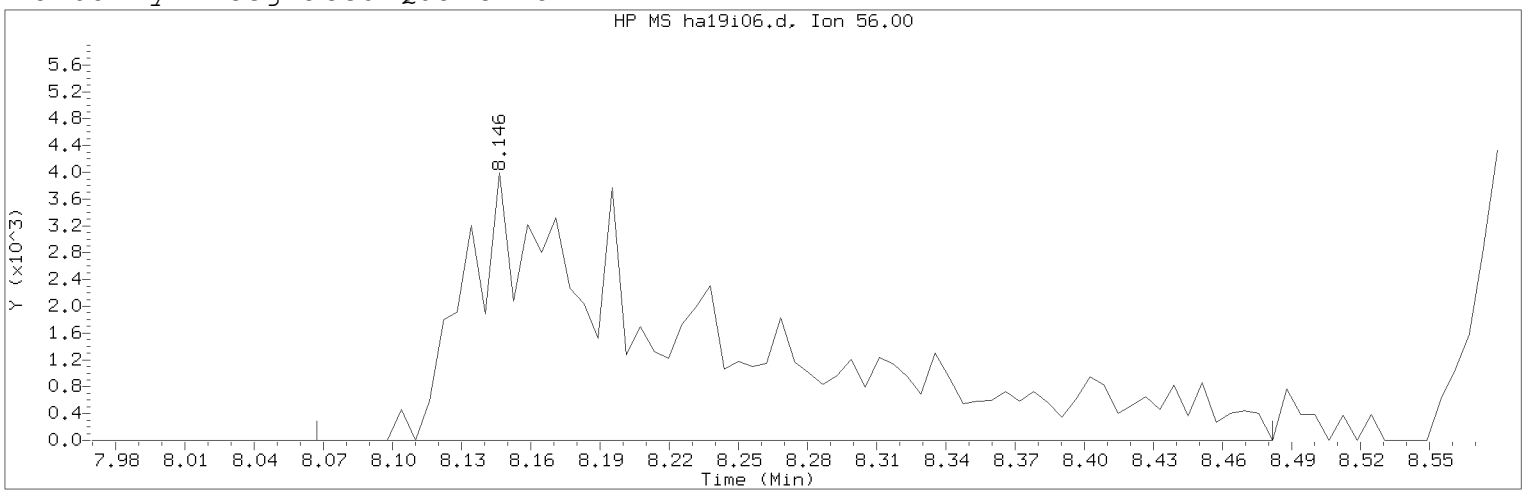
Compound Number : 32
Compound Name : n-Hexane
Scan Number : 582
Retention Time (minutes): 5.135
Quant Ion : 57.00
Area : 40507
On-column Amount (ng) : 0.3683
Integration start scan : 570 Integration stop scan: 595
Y at integration start : 0 Y at integration end: 582

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

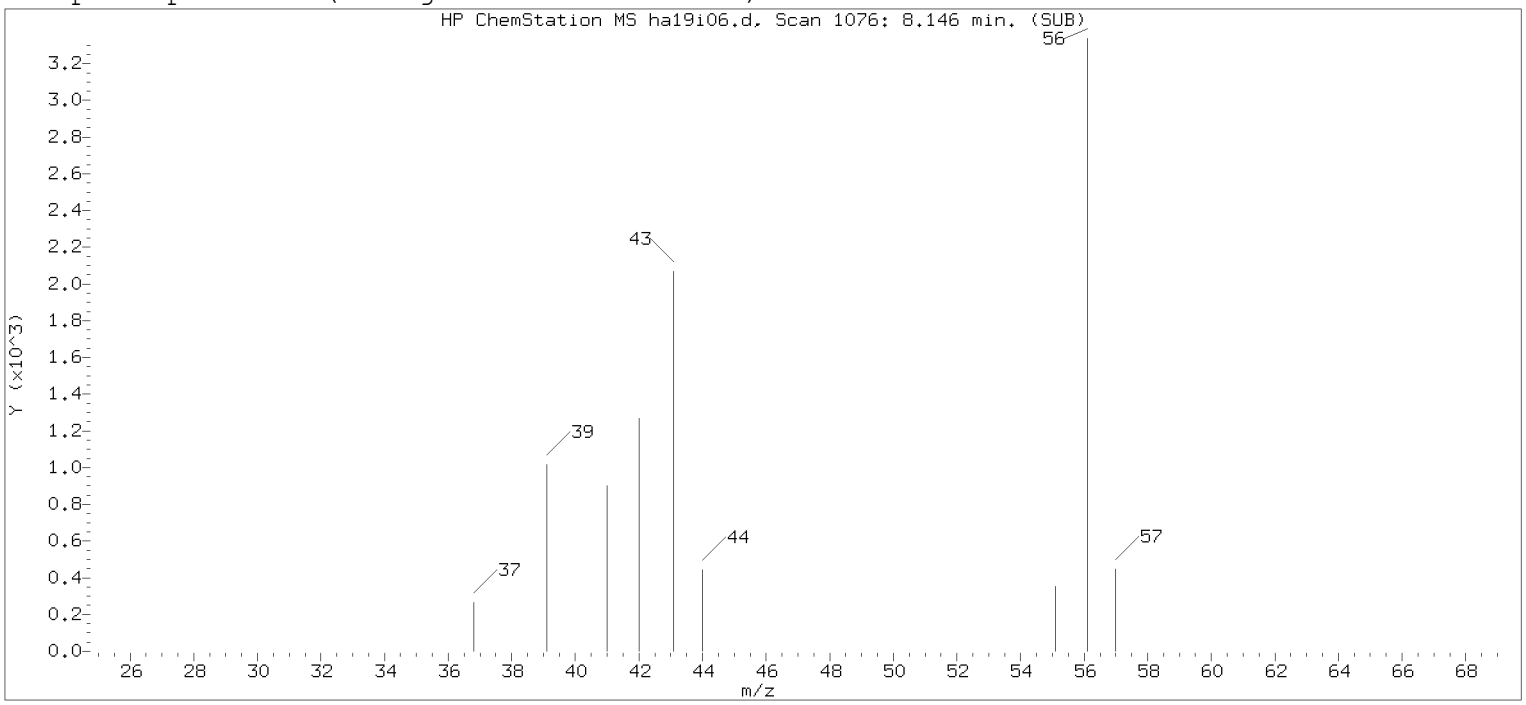
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1076
Retention Time (minutes): 8.146
Quant Ion : 56.00
Area (flag) : 28373M
On-Column Amount (ng) : 47.0544
Integration start scan : 1062 Integration stop scan: 1130
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

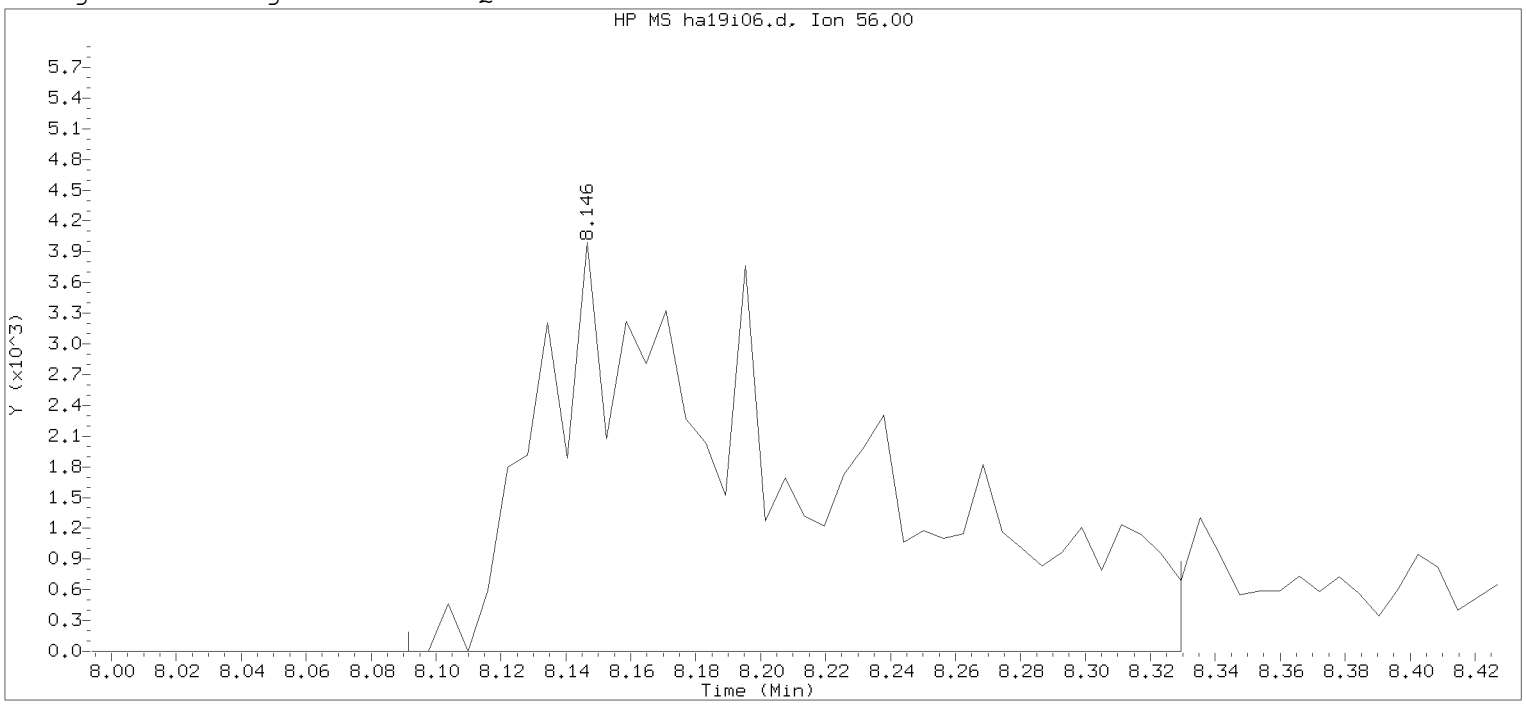
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

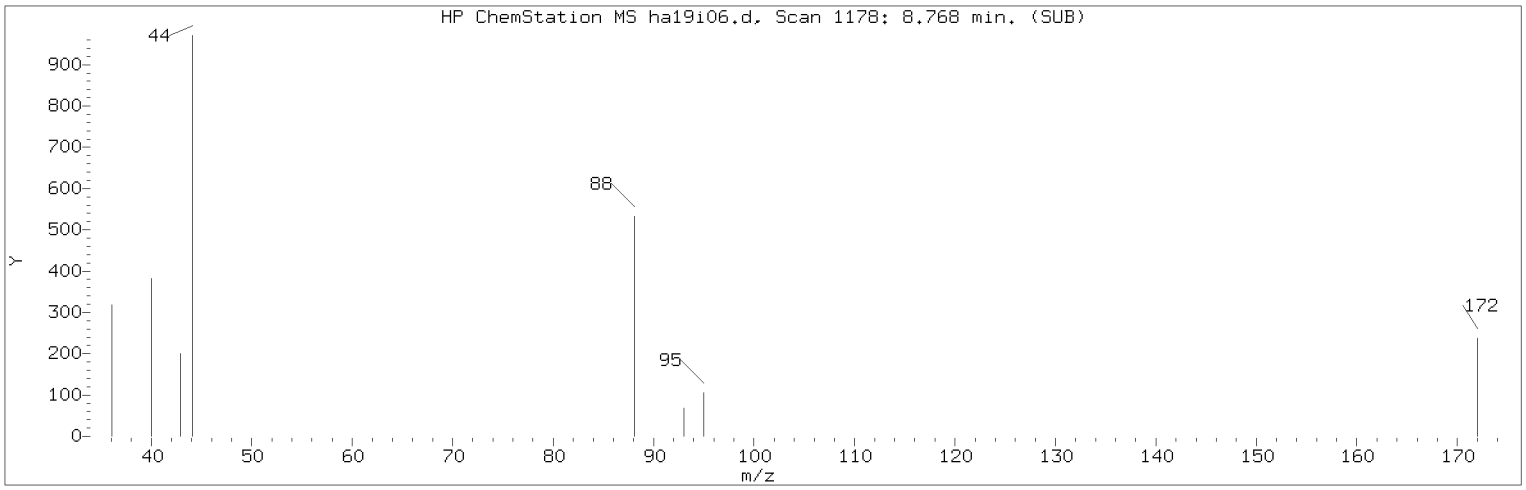
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

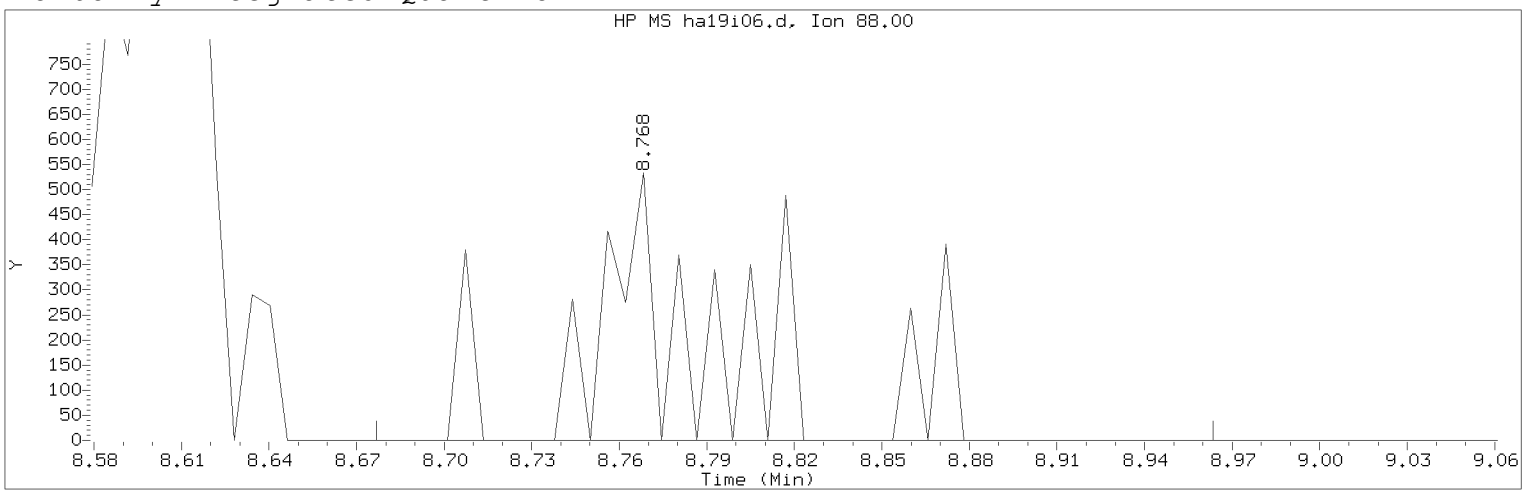
Compound Number	: 65		
Compound Name	: n-Butanol		
Scan Number	: 1076		
Retention Time (minutes)	: 8.146		
Quant Ion	: 56.00		
Area	: 22799		
On-column Amount (ng)	: 48.2577		
Integration start scan	: 1066	Integration stop scan:	1105
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

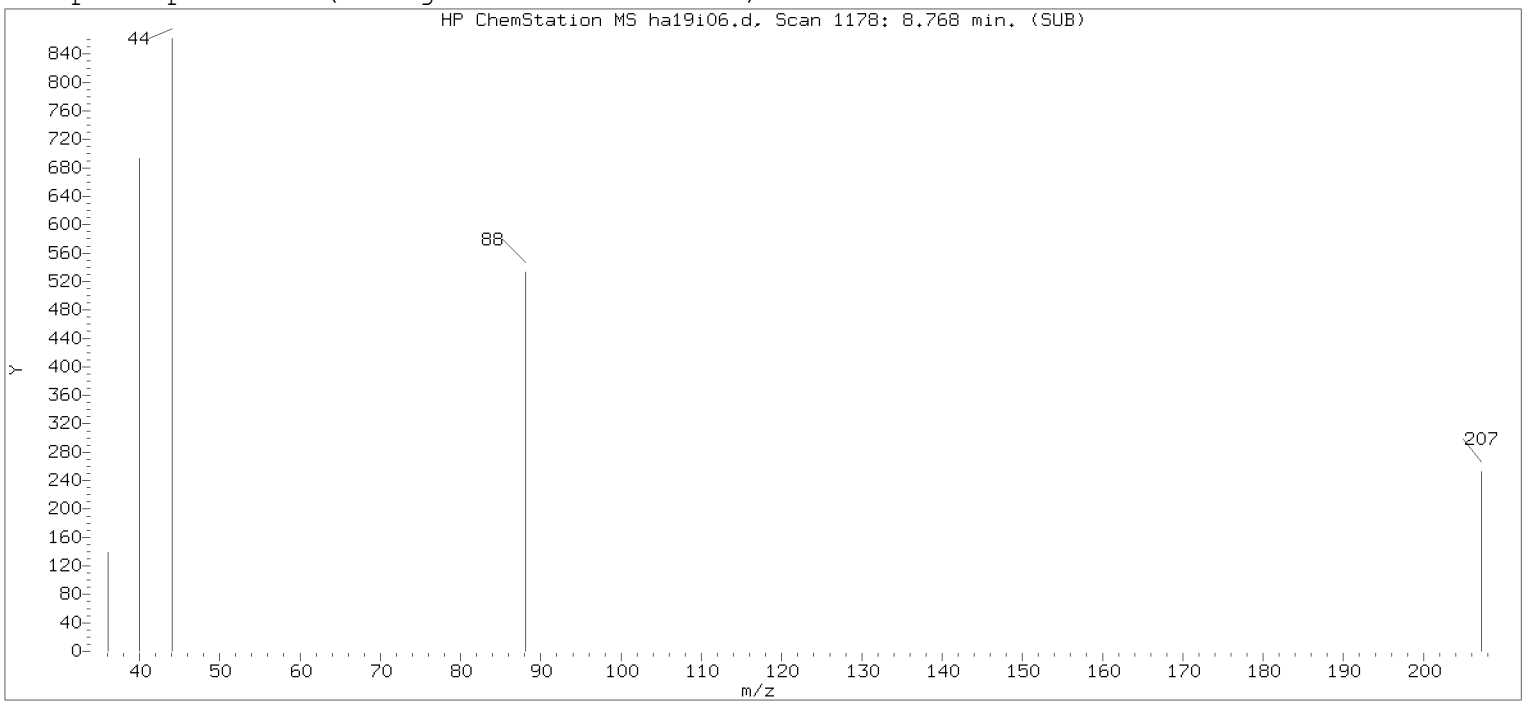
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1178
Retention Time (minutes): 8.768
Quant Ion : 88.00
Area (flag) : 1496M
On-Column Amount (ng) : 7.1667
Integration start scan : 1162 Integration stop scan: 1209
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

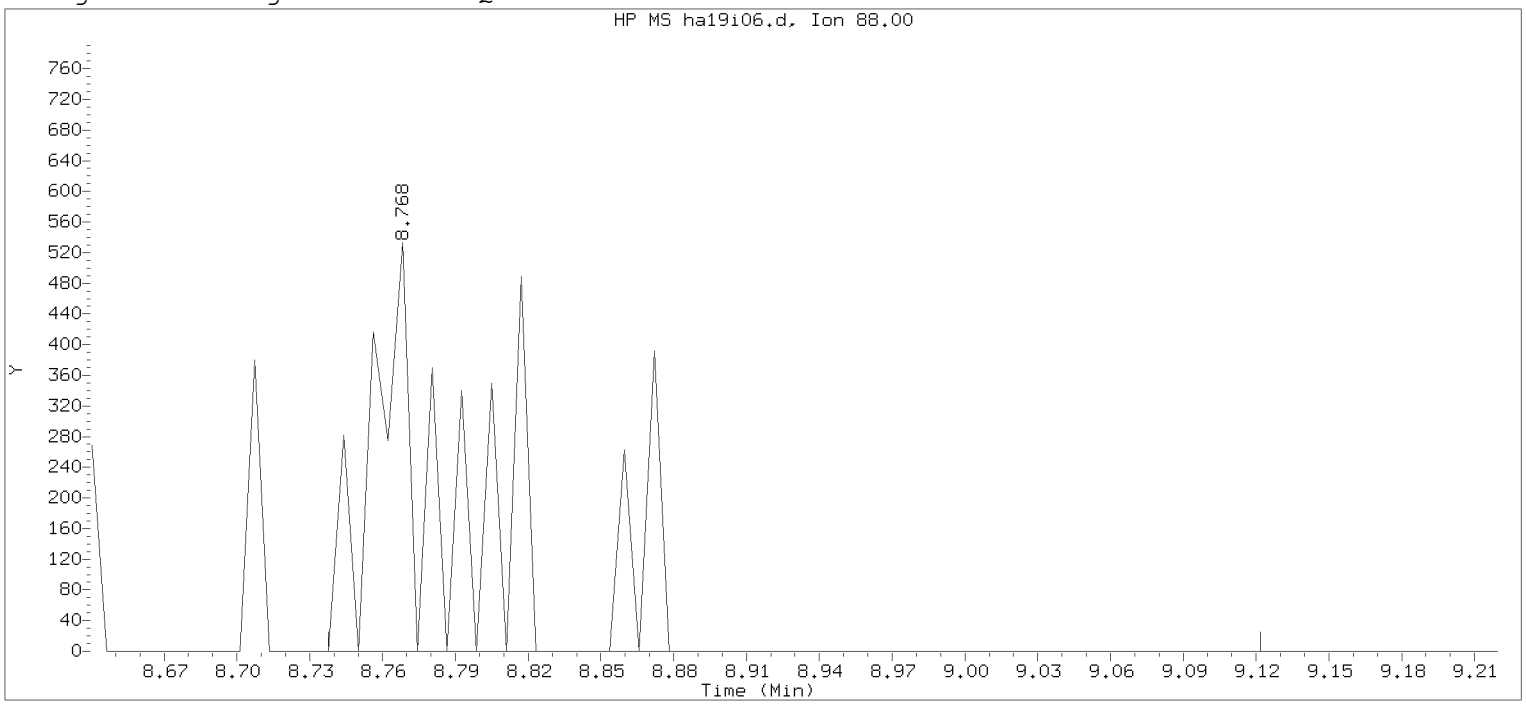
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

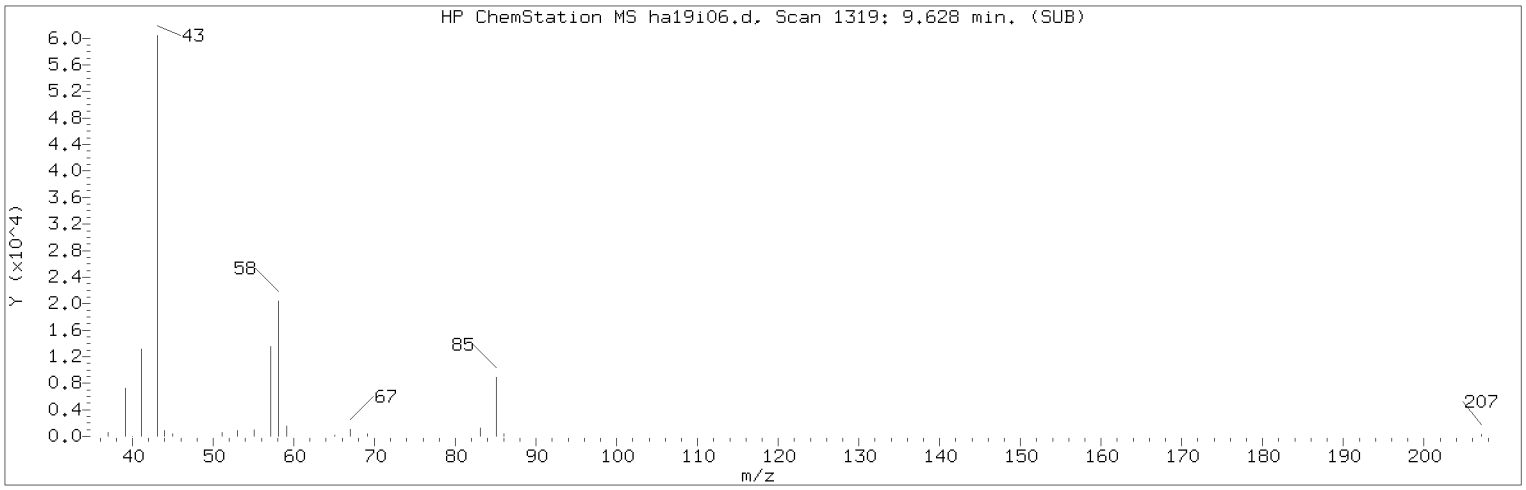
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

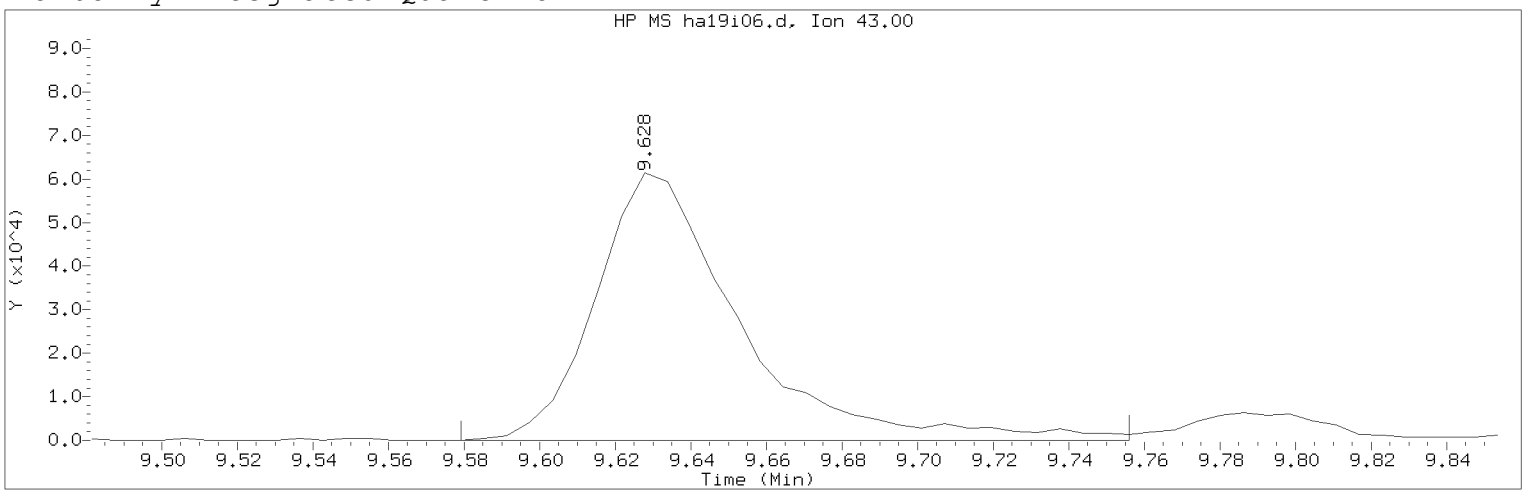
Compound Number	: 72		
Compound Name	: 1,4-Dioxane		
Scan Number	: 1178		
Retention Time (minutes)	: 8.768		
Quant Ion	: 88.00		
Area	: 1357		
On-column Amount (ng)	: 8.7560		
Integration start scan	: 1172	Integration stop scan:	1235
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

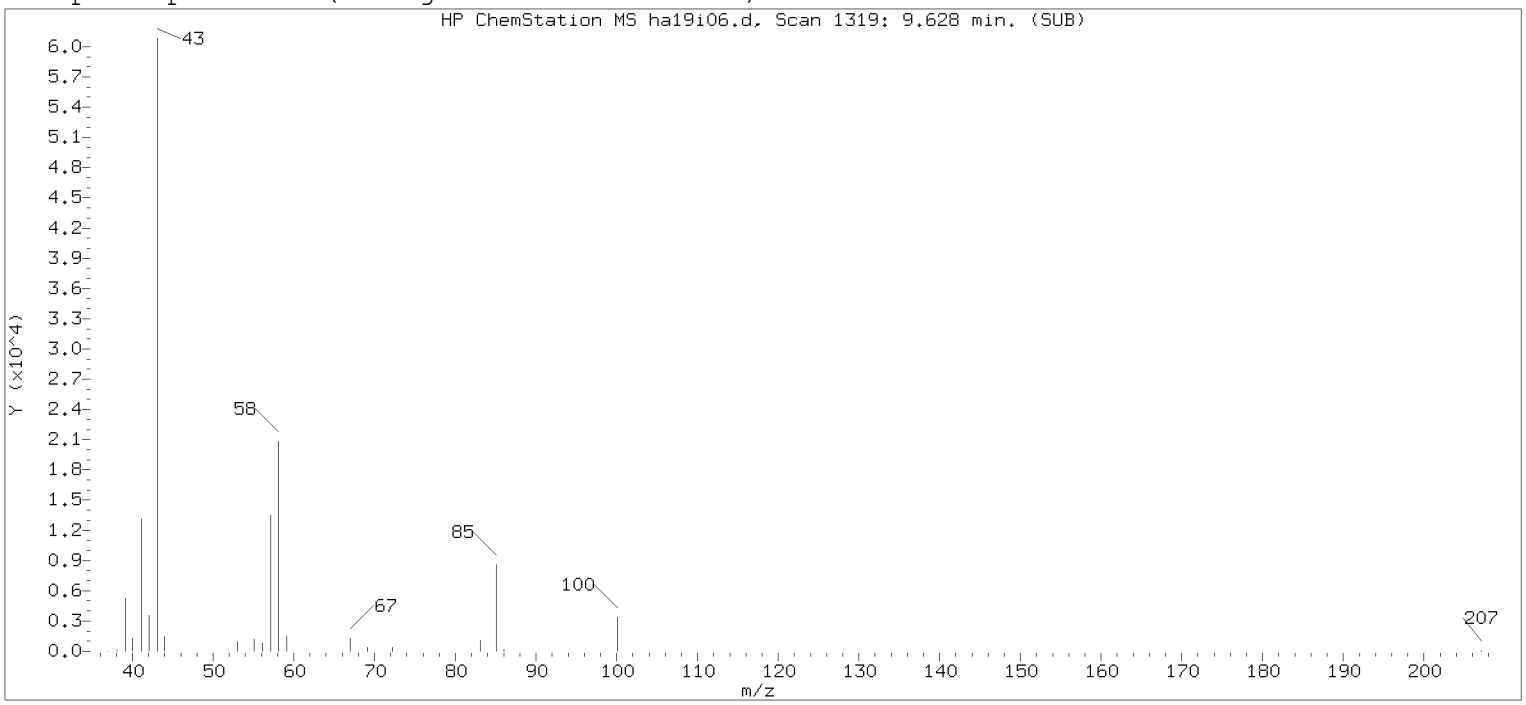
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area (flag) : 161786M
On-Column Amount (ng) : 4.2178
Integration start scan : 1310 Integration stop scan: 1339
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

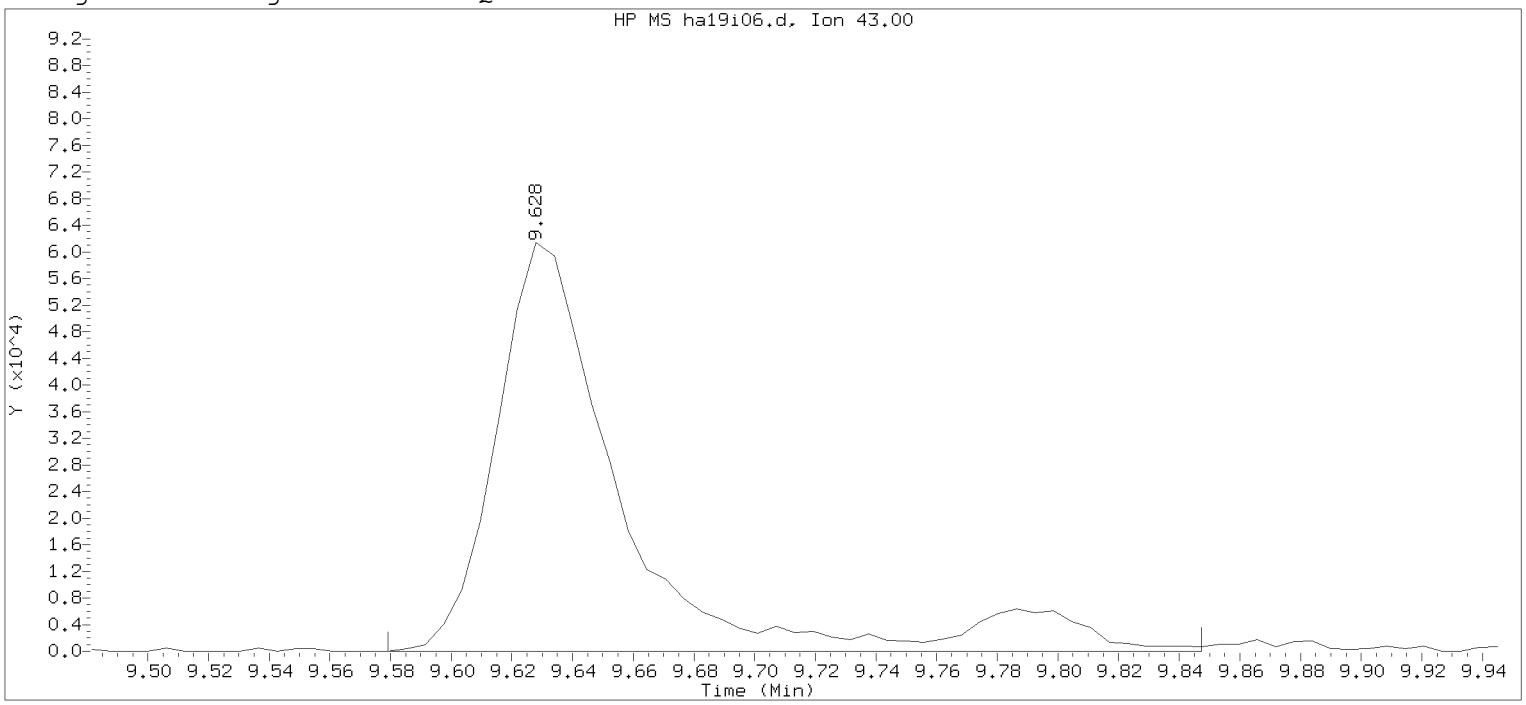
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

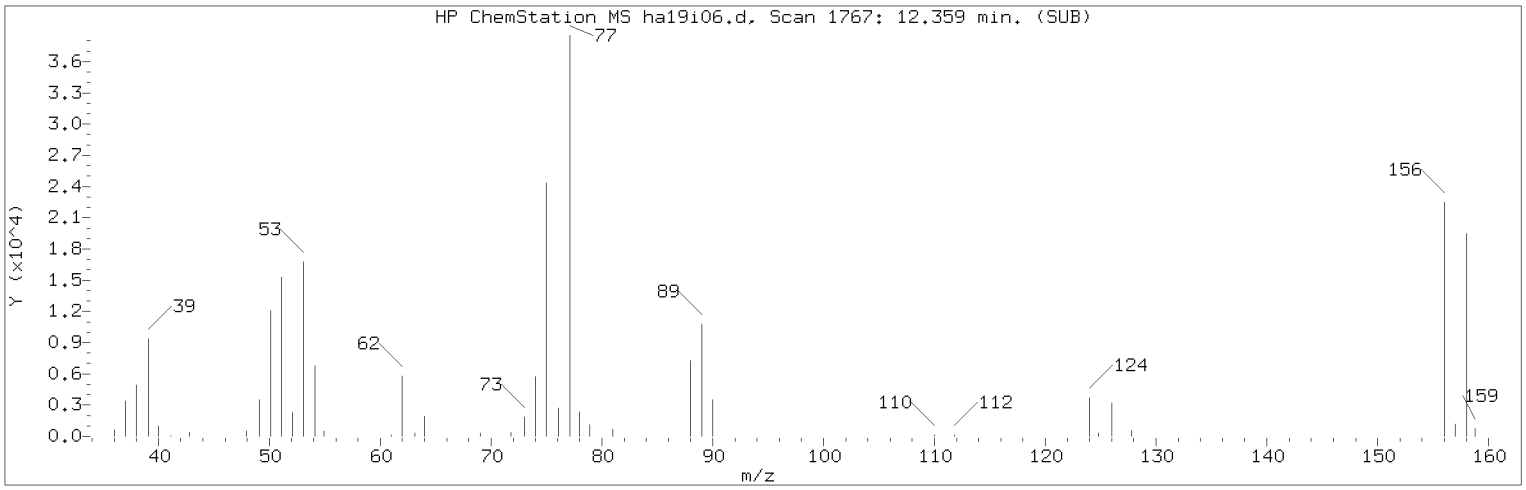
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

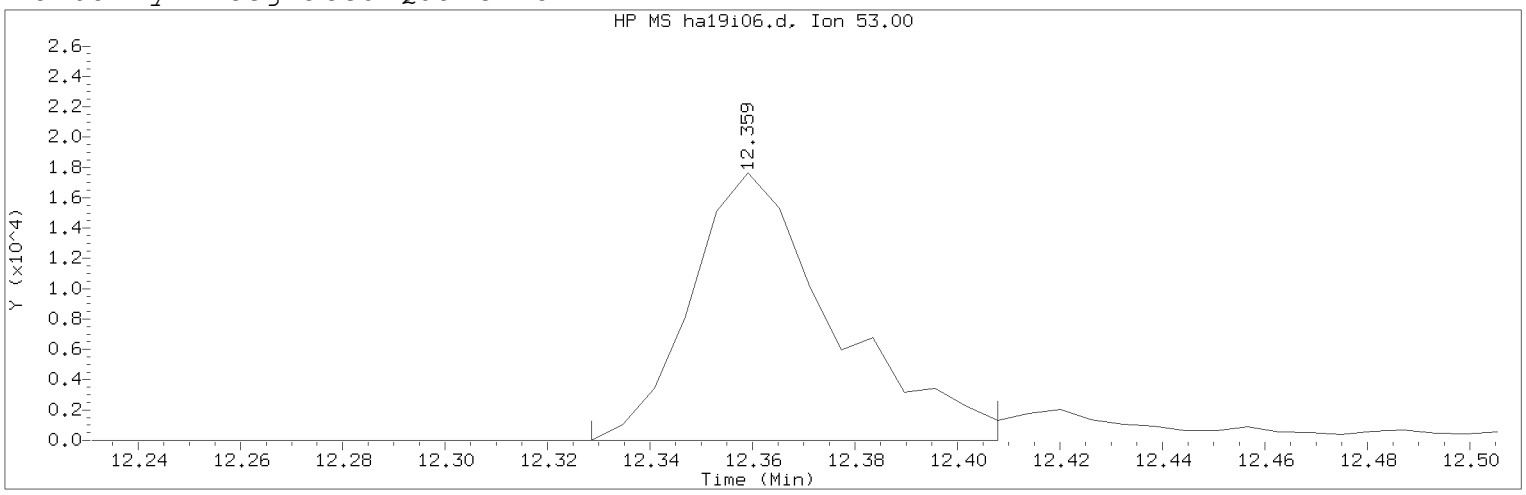
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area : 178480
On-column Amount (ng) : 5.3960
Integration start scan : 1310 Integration stop scan: 1354
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

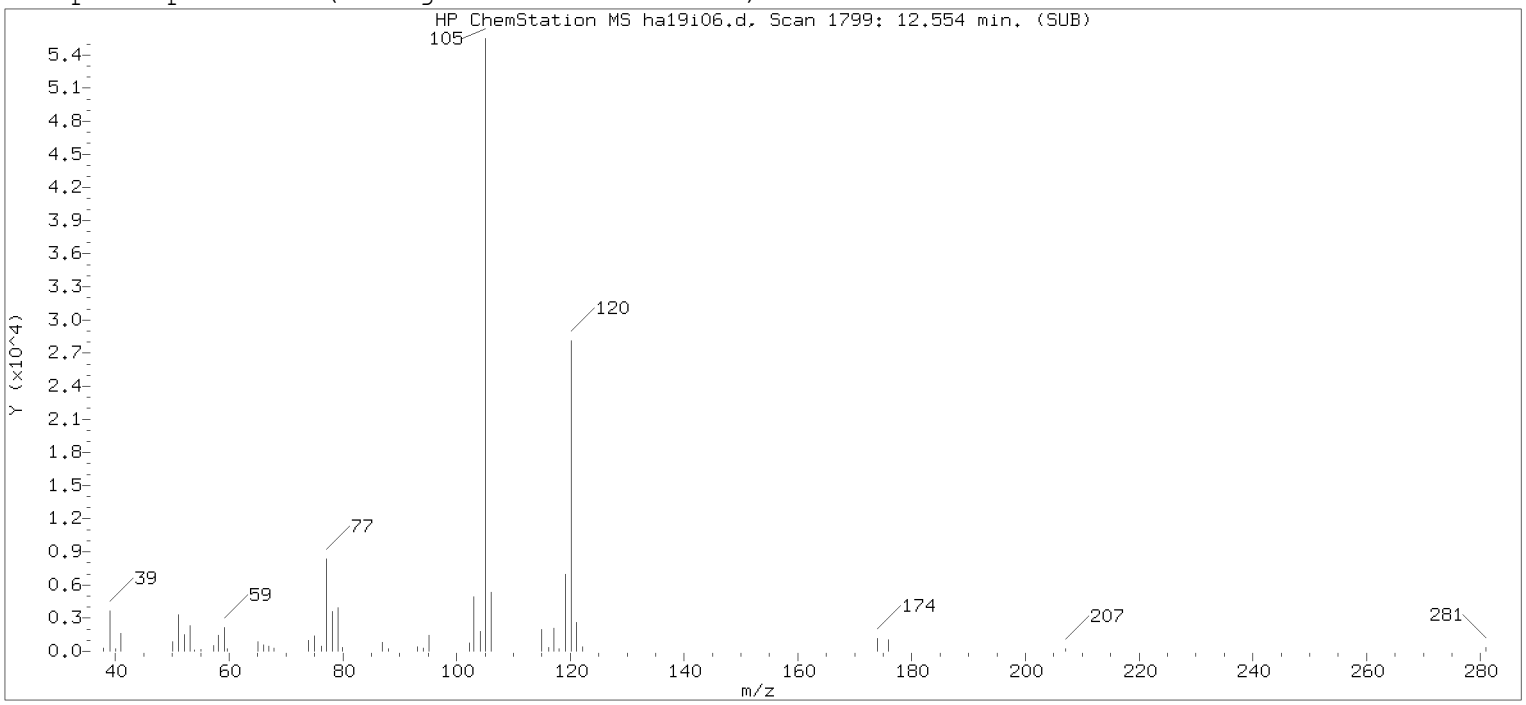
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1767
Retention Time (minutes): 12.359
Quant Ion : 53.00
Area (flag) : 33996A
On-Column Amount (ng) : 3.4211
Integration start scan : 1761 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

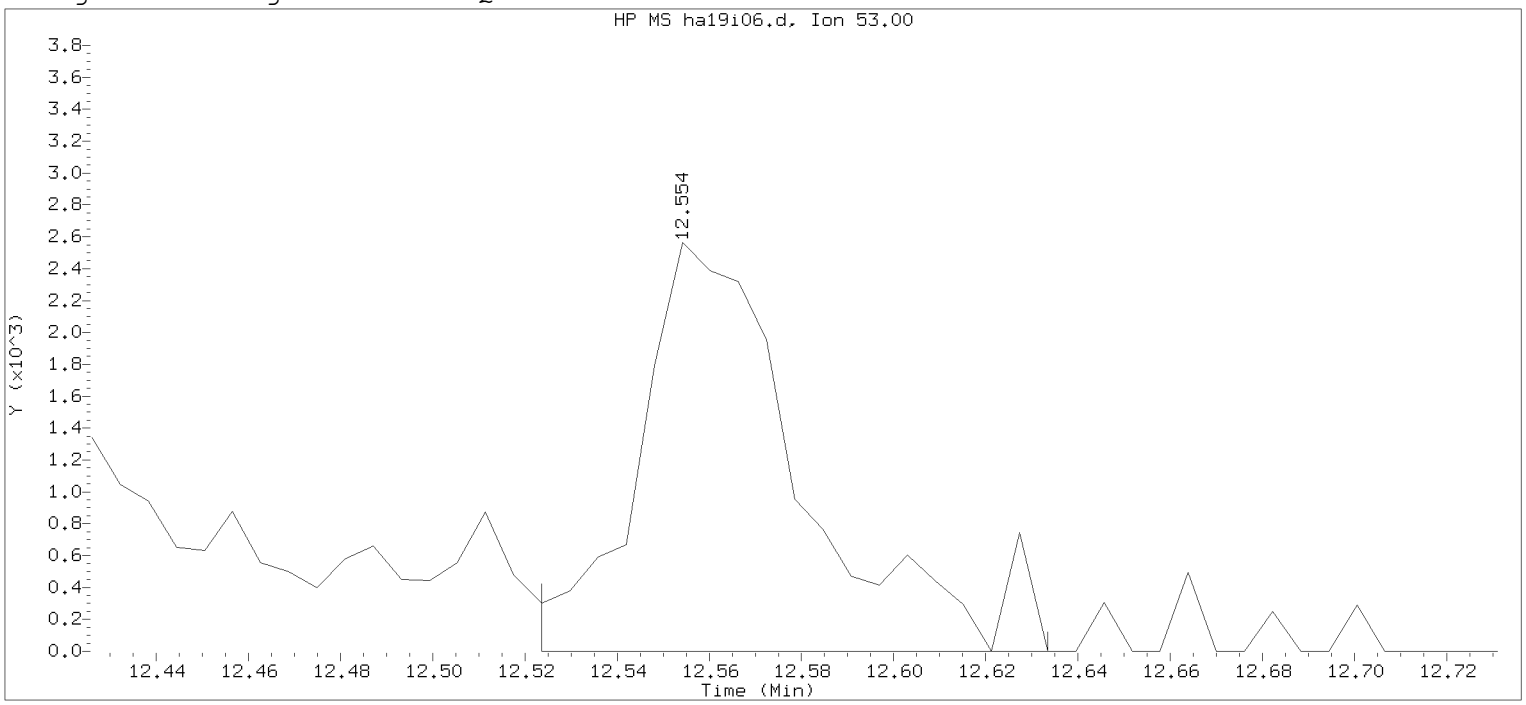
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

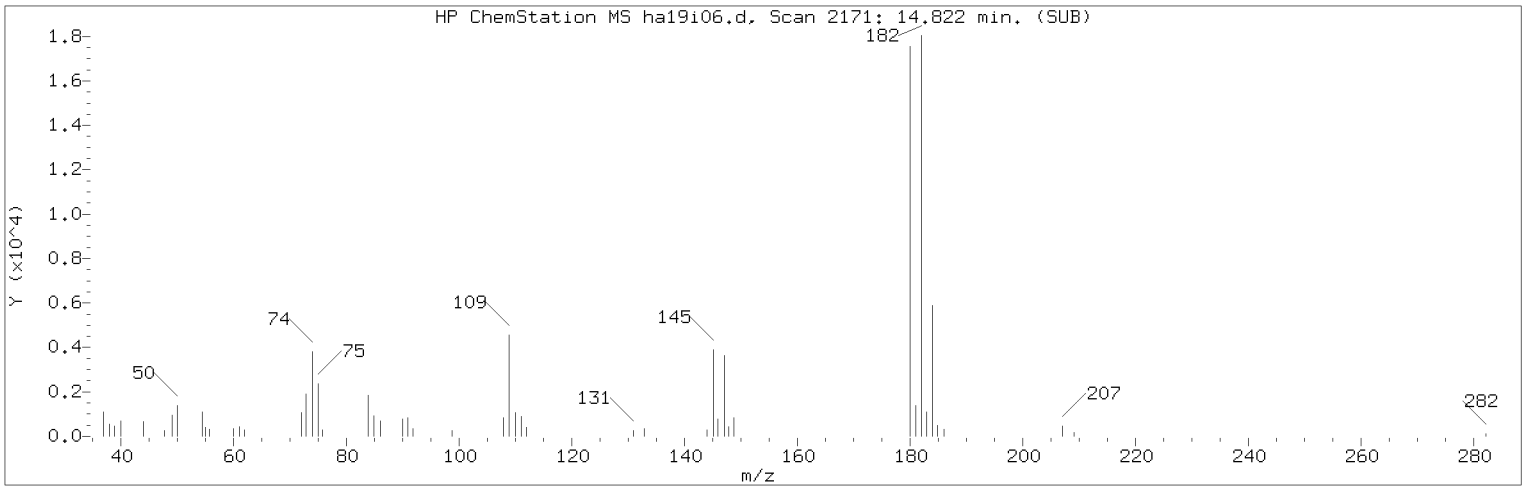
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

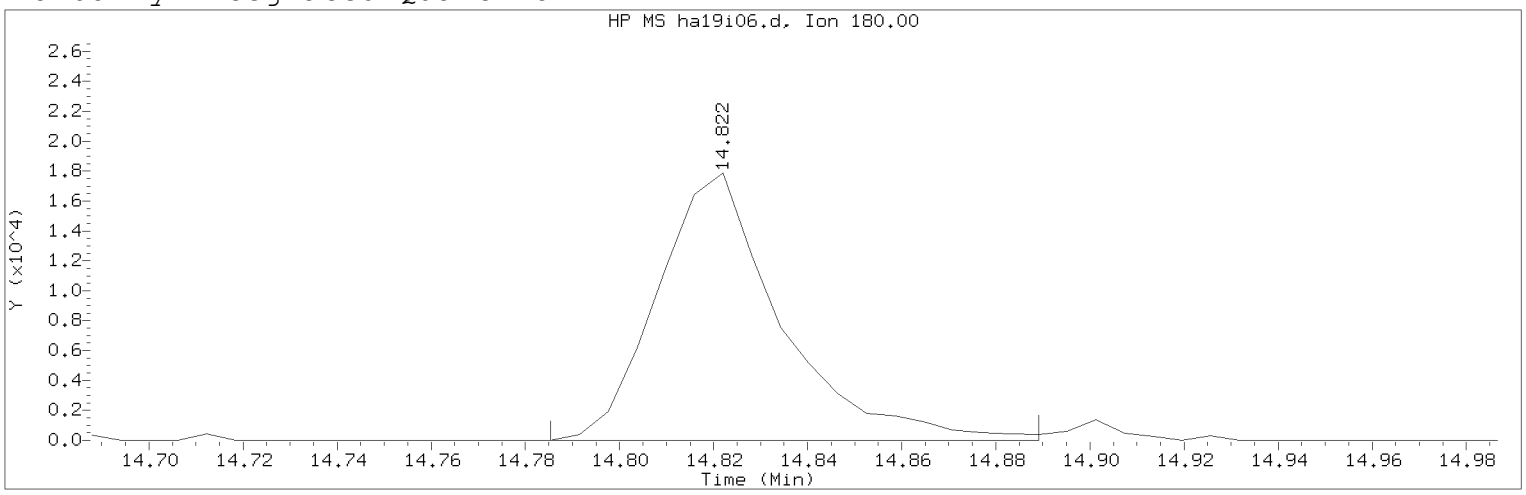
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1799
Retention Time (minutes): 12.554
Quant Ion : 53.00
Area : 6397
On-column Amount (ng) : 2.1520
Integration start scan : 1793 Integration stop scan: 1811
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

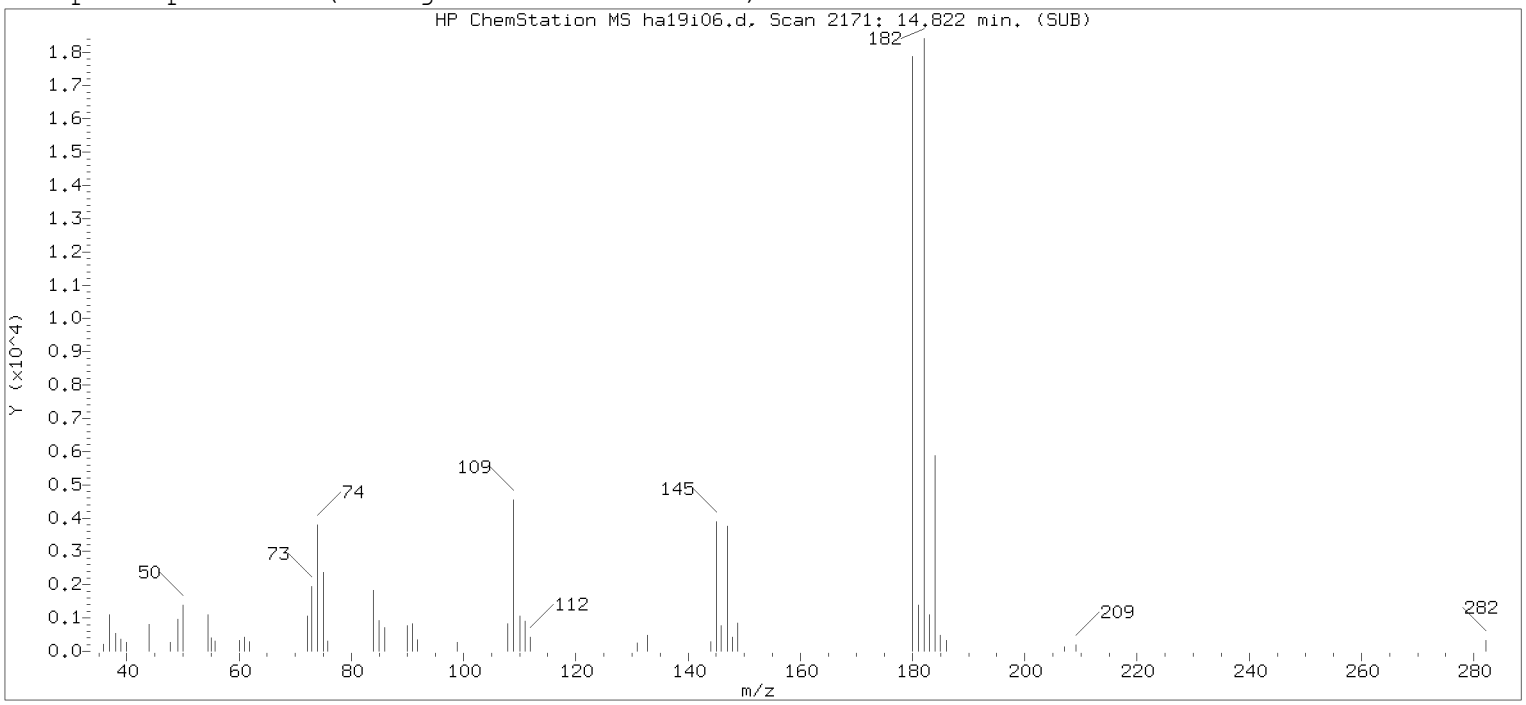
Compound Number : 148
Compound Name : 1,2,3-Trichlorobenzene
Scan Number : 2171
Retention Time (minutes): 14.822
Quant Ion : 180.00
Area (flag) : 32601M
On-Column Amount (ng) : 0.4716
Integration start scan : 2164 Integration stop scan: 2181
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

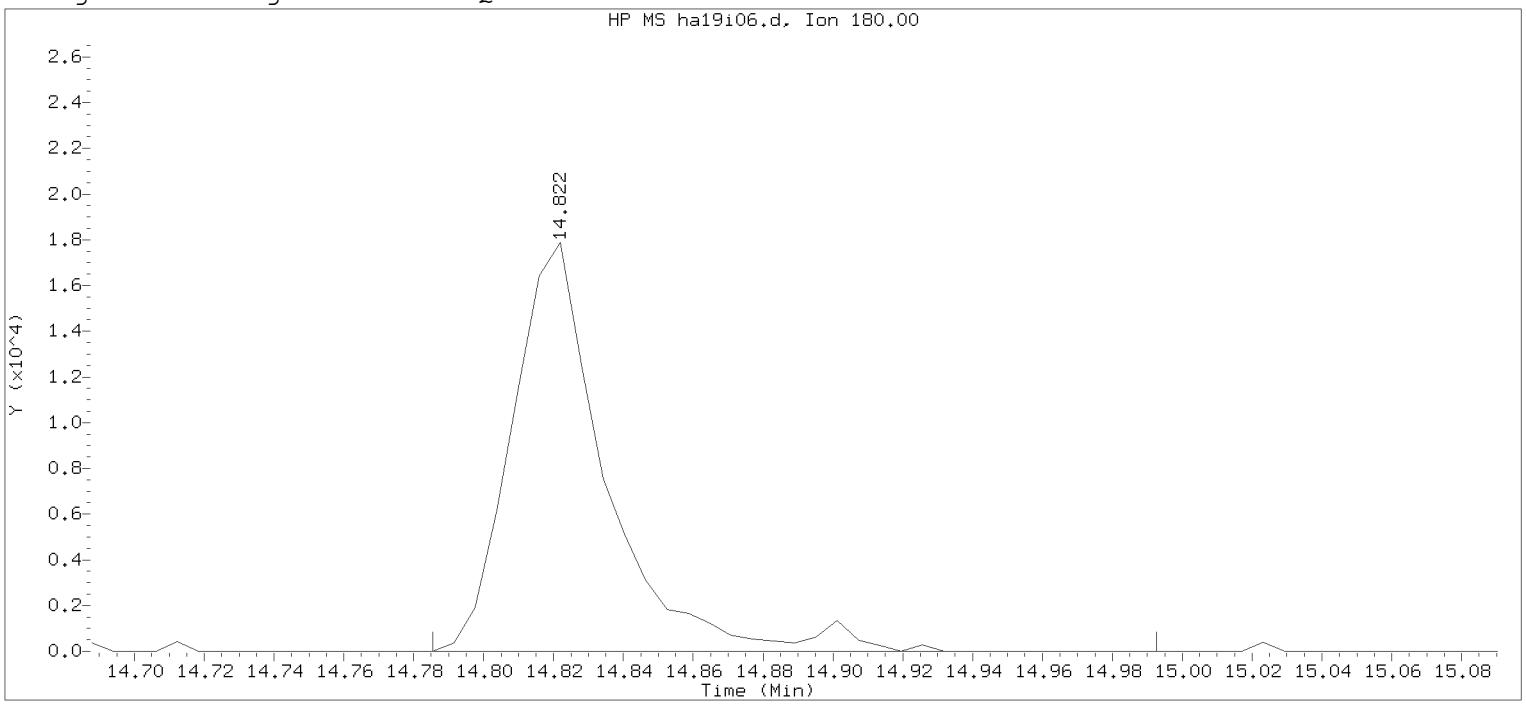
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



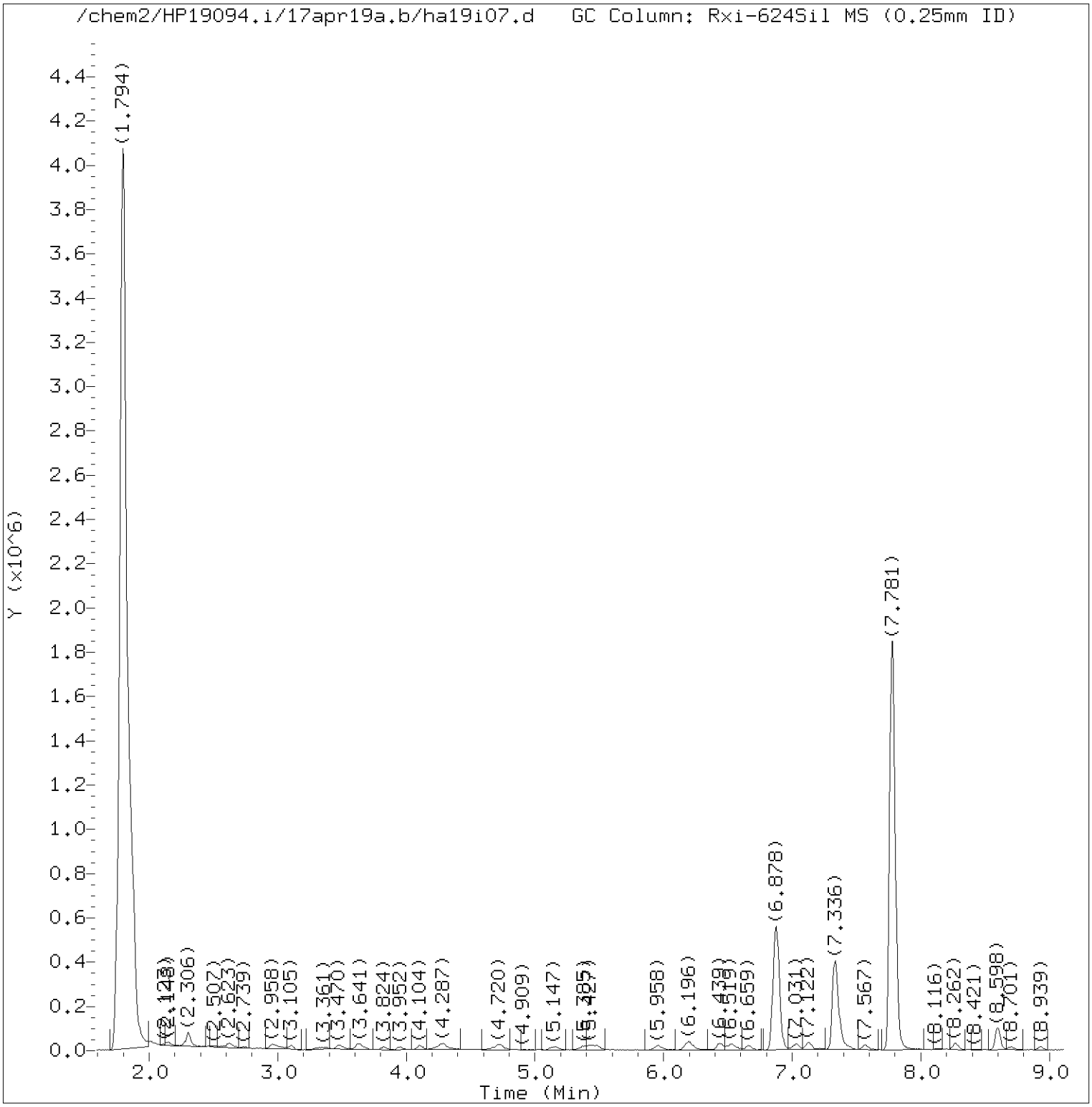
Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compound Number : 148
Compound Name : 1,2,3-Trichlorobenzene
Scan Number : 2171
Retention Time (minutes): 14.822
Quant Ion : 180.00
Area : 33697
On-column Amount (ng) : 0.4652
Integration start scan : 2164 Integration stop scan: 2198
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito



Total Ion Chromatogram (TIC)

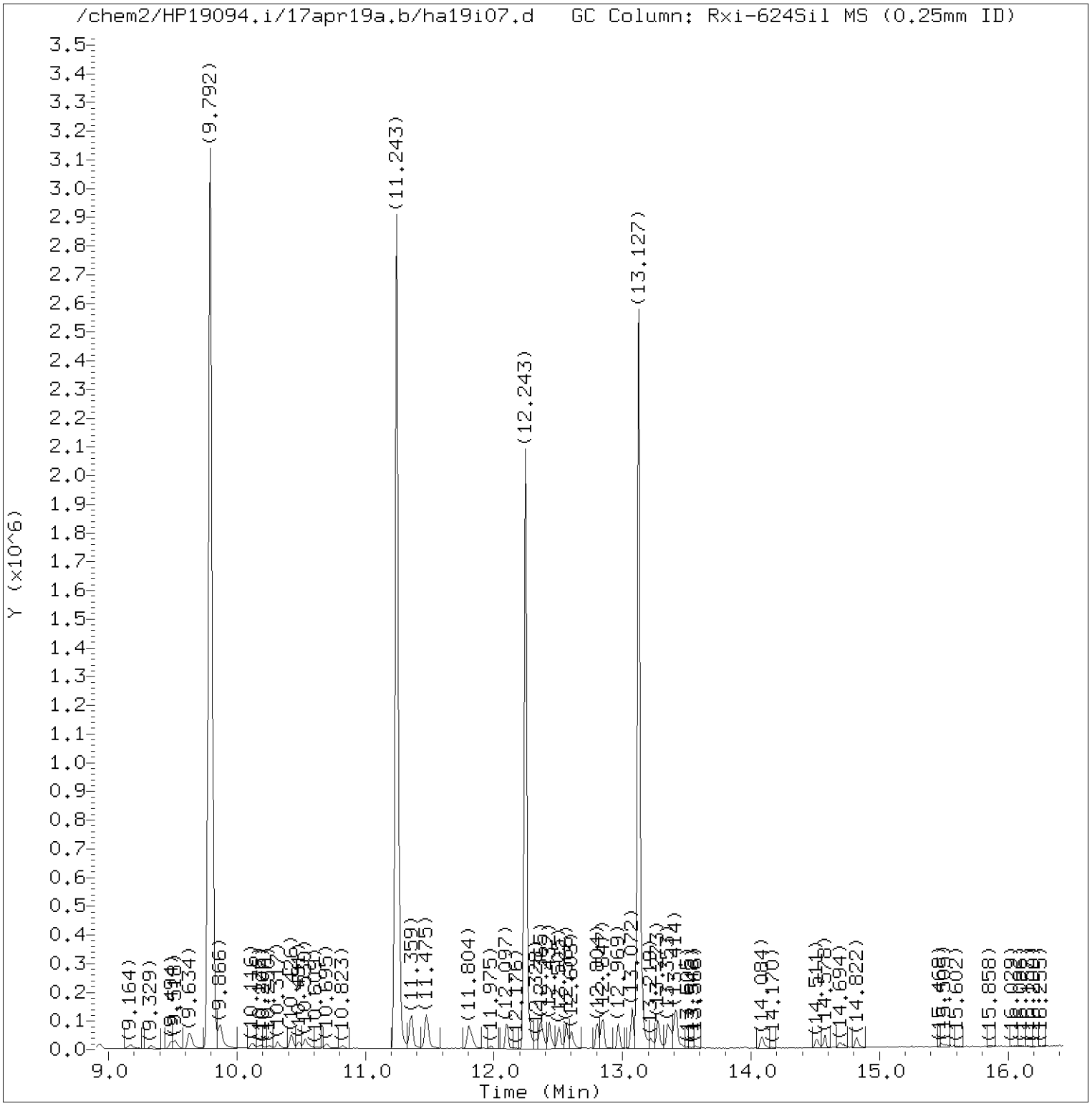
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.013	85	20246	0.196
2) Chloromethane	(2)	2.154	50	24937	0.230
5) Vinyl Chloride	(2)	2.294	62	21428	0.225
6) 1,3-Butadiene	(2)	2.312	39	29750	0.198
7) Bromomethane	(2)	2.623	94	12763	0.213
8) Chloroethane	(2)	2.733	64	12858	0.236
9) Dichlorofluoromethane	(2)	2.958	67	26975	0.215
10) Trichlorofluoromethane	(2)	3.001	101	21854	0.198
11) Ethyl ether	(2)	3.312	59	9318	0.213
12) Freon 123a	(2)	3.361	67	14711M	0.177
13) Acrolein	(1)	3.470	56	47366	9.004
15) 1,1-Dichloroethene	(2)	3.617	96	11046	0.186
16) Freon 113	(2)	3.641	101	10199	0.164
14) Acetone	(1)	3.647	43	18606M	2.921
17) Methyl Iodide	(2)	3.824	142	20954	0.190
18) Carbon Disulfide	(2)	3.946	76	31065	0.187
21) Methyl Acetate	(1)	4.044	43	3859	0.178
22) Allyl Chloride	(2)	4.104	41	23113	0.201
26)*t-Butyl Alcohol-d10	(1)	4.269	65	69135	50.000
23) Methylene Chloride	(2)	4.293	84	13412	0.207
28) t-Butyl Alcohol	(1)	4.367	59	6268M	3.624
29) Acrylonitrile	(1)	4.629	53	6386	0.742
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	21661	0.182
31) trans-1,2-Dichloroethene	(2)	4.739	96	12281	0.188
32) n-Hexane	(2)	5.135	57	13894	0.139
33) 1,1-Dichloroethane	(2)	5.366	63	22956	0.178
34) di-Isopropyl Ether	(2)	5.427	45	40075	0.182
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	18472	0.169
37) Ethyl t-butyl ether	(2)	5.952	59	29316	0.173
40) 1,2-Dichloroethene (Total)	(2)		96	26137	0.377
38) 2-Butanone	(1)	6.177	43	20357	1.567
39) cis-1,2-Dichloroethene	(2)	6.196	96	13856	0.190
41) 2,2-Dichloropropane	(2)	6.208	77	18757	0.194
42) Propionitrile	(1)	6.275	54	11215M	3.633
45) Methacrylonitrile	(1)	6.439	67	22223	1.722
47) Bromochloromethane	(2)	6.519	128	6531	0.226
48) Tetrahydrofuran	(1)	6.543	71	5077	1.564
49) Chloroform	(2)	6.659	83	24058	0.197

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.878	113	584209	9.758
50)$Dibromofluoromethane	(2)	6.878	111	601893	9.788
51) 1,1,1-Trichloroethane	(2)	6.909	97	20081	0.194
52) Cyclohexane	(2)	7.031	56	19710	0.154
52) Cyclohexane	(2)	7.043	84	15620M	0.159
52) Cyclohexane	(2)	7.025	69	5133	0.143
55) 1,1-Dichloropropene	(2)	7.122	75	16557	0.172
54) Carbon Tetrachloride	(2)	7.141	117	16436	0.189
56) Isobutyl Alcohol	(1)	7.214	41	8405	11.260
57)$1,2-Dichloroethane-d4	(2)	7.342	102	93064	9.613
57)$1,2-Dichloroethane-d4	(2)	7.336	65	471539	10.007
57)$1,2-Dichloroethane-d4	(2)	7.336	104	59004	10.056
58) Benzene	(2)	7.372	78	53395	0.191
59) 1,2-Dichloroethane	(2)	7.433	62	11962	0.179
60) t-Amyl methyl ether	(2)	7.567	73	24093	0.175
63)*Fluorobenzene	(2)	7.781	96	2670698	10.000
62) n-Heptane	(2)	7.811	43	19508	0.165
65) n-Butanol	(1)	8.146	56	10386M	18.897
67) Trichloroethene	(2)	8.262	95	15322	0.207
70) 1,2-Dichloropropane	(2)	8.585	63	13449	0.184
69) Methylcyclohexane	(2)	8.591	83	22748	0.182
72) 1,4-Dioxane	(1)	8.604	88	712	2.156
71) Methyl Methacrylate	(1)	8.671	69	2959M	0.125
73) Dibromomethane	(2)	8.713	93	5276	0.188
74) Bromodichloromethane	(2)	8.933	83	14508	0.188
76) 2-Nitropropane	(1)	9.164	41	14850	1.907
80) cis-1,3-Dichloropropene	(2)	9.488	75	14406	0.166
81) 4-Methyl-2-Pentanone	(1)	9.634	43	58585	1.702
82)$Toluene-d8	(3)	9.792	98	2536575	10.420
82)$Toluene-d8	(3)	9.792	100	1622755	10.352
83) Toluene	(3)	9.866	92	32248	0.200
84) trans-1,3-Dichloropropene	(3)	10.122	75	12482	0.199
85) 1,3-Dichloropropene (total)	(3)		75	26888	0.365
86) Ethyl Methacrylate	(3)	10.183	69	8110	0.175
88) 1,1,2-Trichloroethane	(3)	10.323	97	7397	0.198
89) Tetrachloroethene	(3)	10.426	166	14657	0.196
90) 1,3-Dichloropropane	(3)	10.481	76	14147	0.212
91) 2-Hexanone	(1)	10.530	43	41737	1.720

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	9151	0.207
95) 1,2-Dibromoethane	(3)	10.823	107	7111	0.201
97)*Chlorobenzene-d5	(3)	11.243	117	1665343	10.000
98) Chlorobenzene	(3)	11.268	112	34464	0.196
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	11214	0.192
100) Ethylbenzene	(3)	11.359	91	57644	0.185
101) m+p-Xylene	(3)	11.475	106	41138	0.347
105) Xylene (Total)	(3)		106	59980	0.513
104) o-Xylene	(3)	11.798	106	18842	0.166
106) Styrene	(3)	11.822	104	28140	0.160
107) Bromoform	(3)	11.975	173	4183	0.189
108) Isopropylbenzene	(3)	12.103	105	50541	0.170
111)$4-Bromofluorobenzene	(3)	12.243	95	661705	9.567
111)$4-Bromofluorobenzene	(3)	12.243	174	591325	9.605
113) 1,1,2,2-Tetrachloroethane	(4)	12.328	83	9493	0.219
114) Bromobenzene	(4)	12.359	156	13715	0.208
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	11684	1.278
116) 1,2,3-Trichloropropane	(4)	12.389	110	2540	0.234
117) n-Propylbenzene	(4)	12.432	91	66474	0.188
119) 2-Chlorotoluene	(4)	12.511	126	12768	0.191
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	42934	0.181
122) 4-Chlorotoluene	(4)	12.603	126	12397	0.185
125) tert-Butylbenzene	(4)	12.804	134	9993	0.194
126) Pentachloroethane	(4)	12.835	167	7770	0.201
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	41282	0.174
128) sec-Butylbenzene	(4)	12.969	105	53943	0.174
132) p-Isopropyltoluene	(4)	13.072	119	41832	0.165
131) 1,3-Dichlorobenzene	(4)	13.072	146	26095	0.201
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	671591	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	30420	0.225
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	22990	0.220
136) Benzyl Chloride	(4)	13.219	126	2226M	0.163
138) n-Butylbenzene	(4)	13.371	92	18856	0.151
139) 1,2-Dichlorobenzene	(4)	13.401	146	24037	0.208
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	866	0.170
145) 1,2,4-Trichlorobenzene	(4)	14.511	180	15367	0.207
146) Hexachlorobutadiene	(4)	14.572	225	7417	0.201
147) Naphthalene	(4)	14.688	128	22330	0.204

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

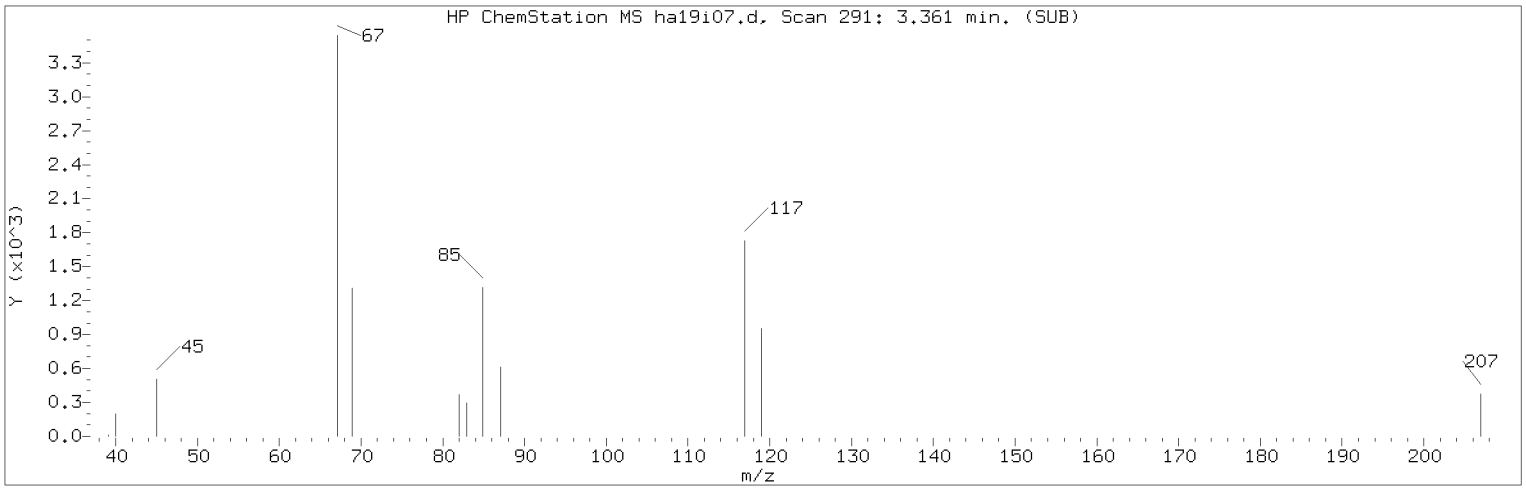
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

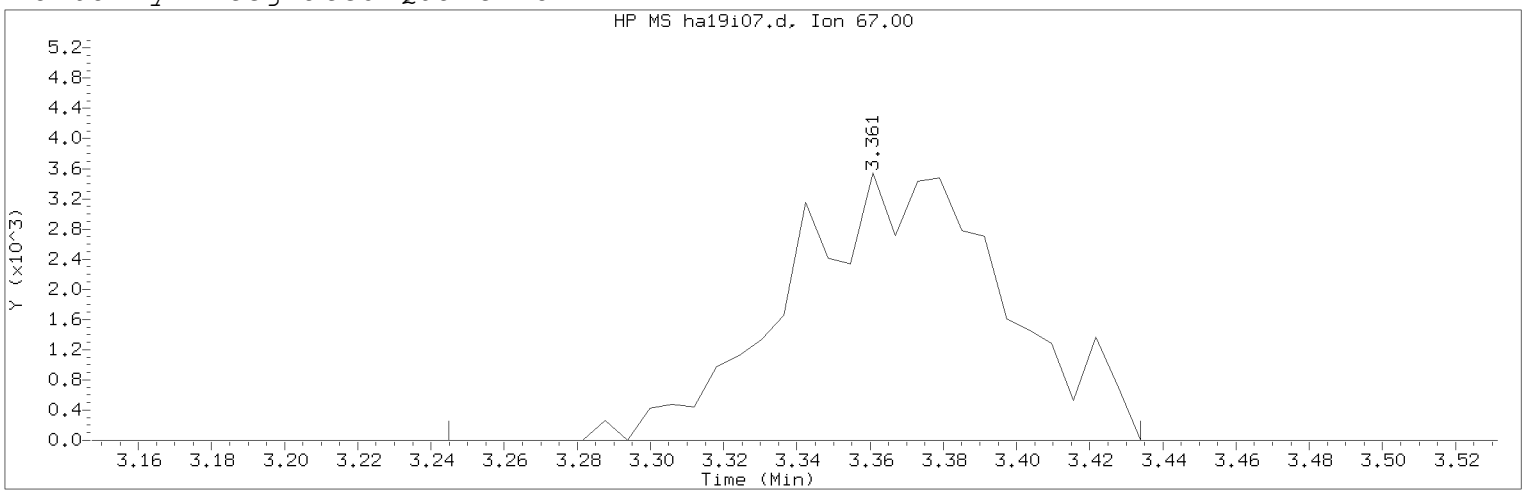
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	14668	0.233

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

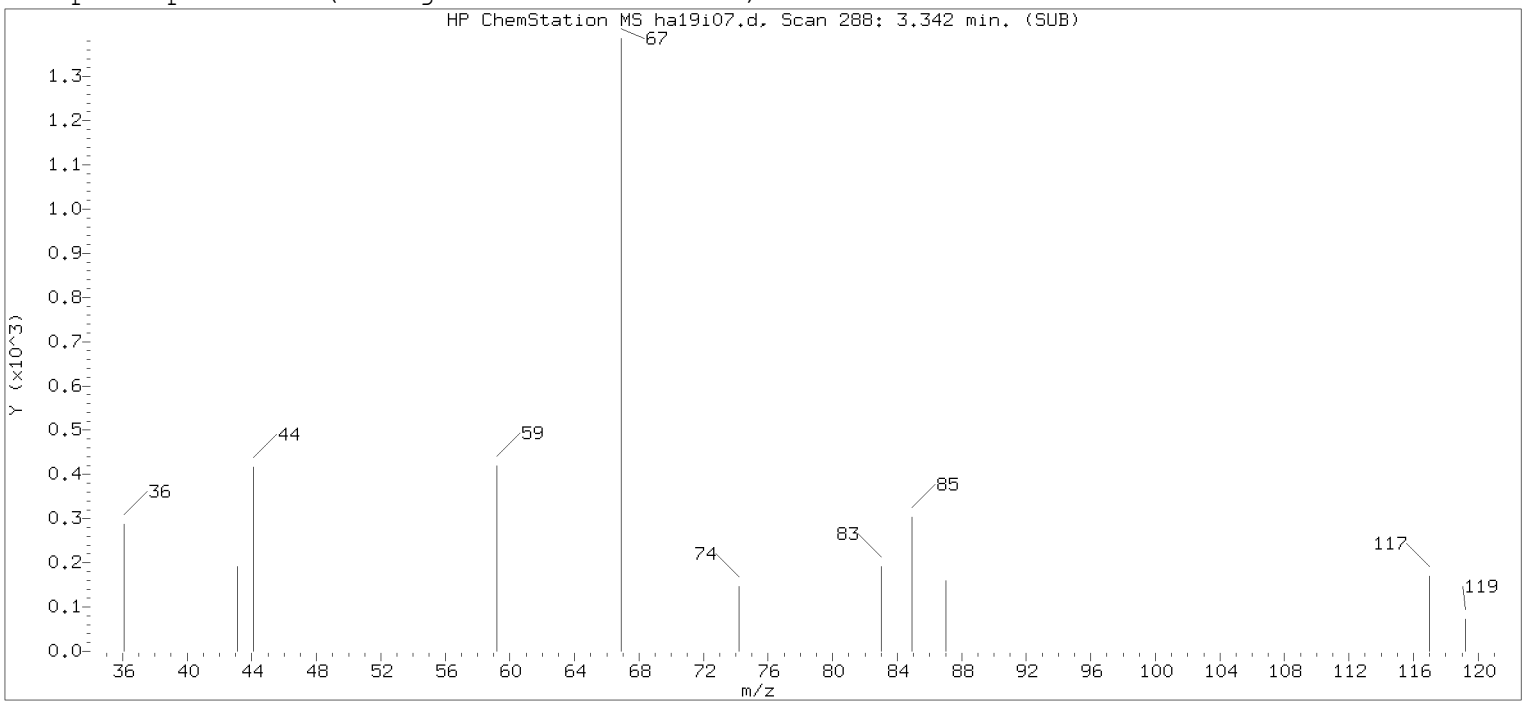
Compound Number : 12
Compound Name : Freon 123a
Scan Number : 291
Retention Time (minutes): 3.361
Quant Ion : 67.00
Area (flag) : 14711M
On-Column Amount (ng) : 0.1767
Integration start scan : 271 Integration stop scan: 302
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

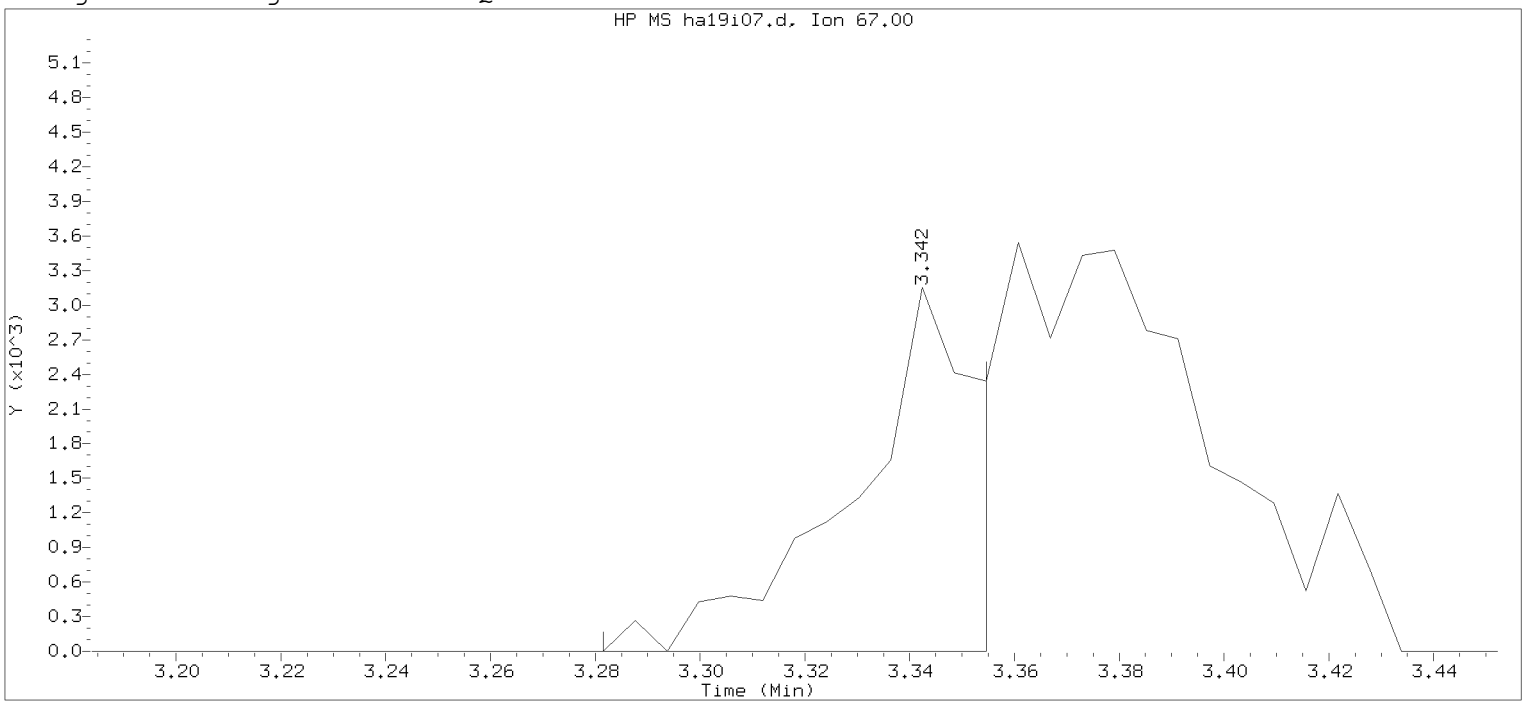
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

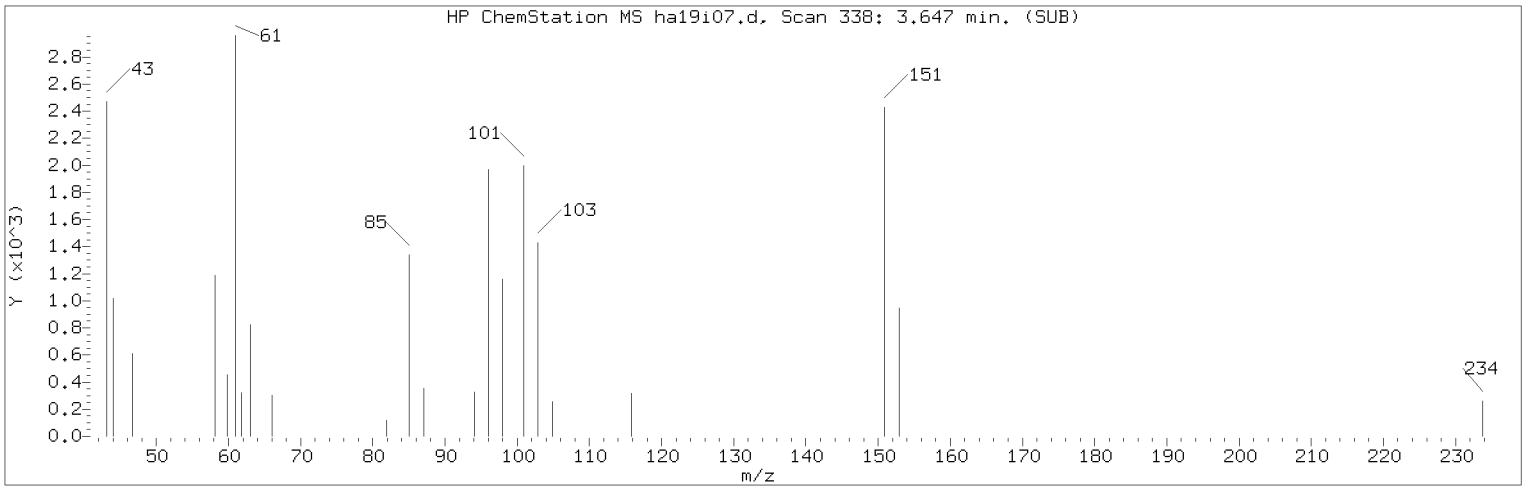
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

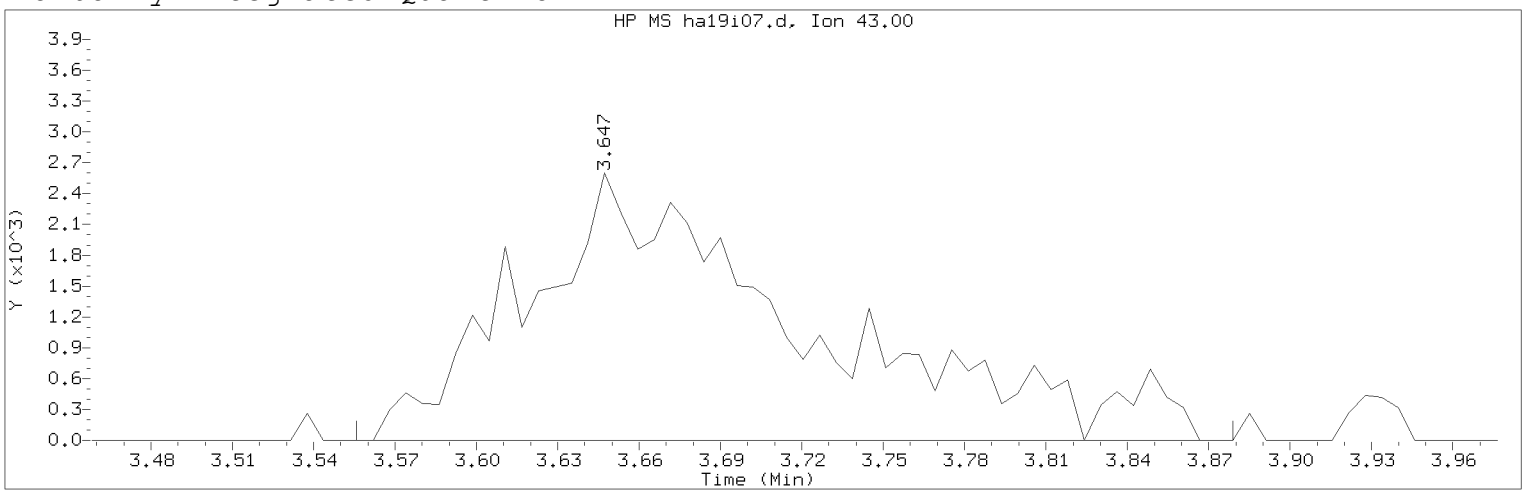
Compound Number : 12
Compound Name : Freon 123a
Scan Number : 288
Retention Time (minutes): 3.342
Quant Ion : 67.00
Area : 4919
On-column Amount (ng) : 0.0645
Integration start scan : 277 Integration stop scan: 289
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user name: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

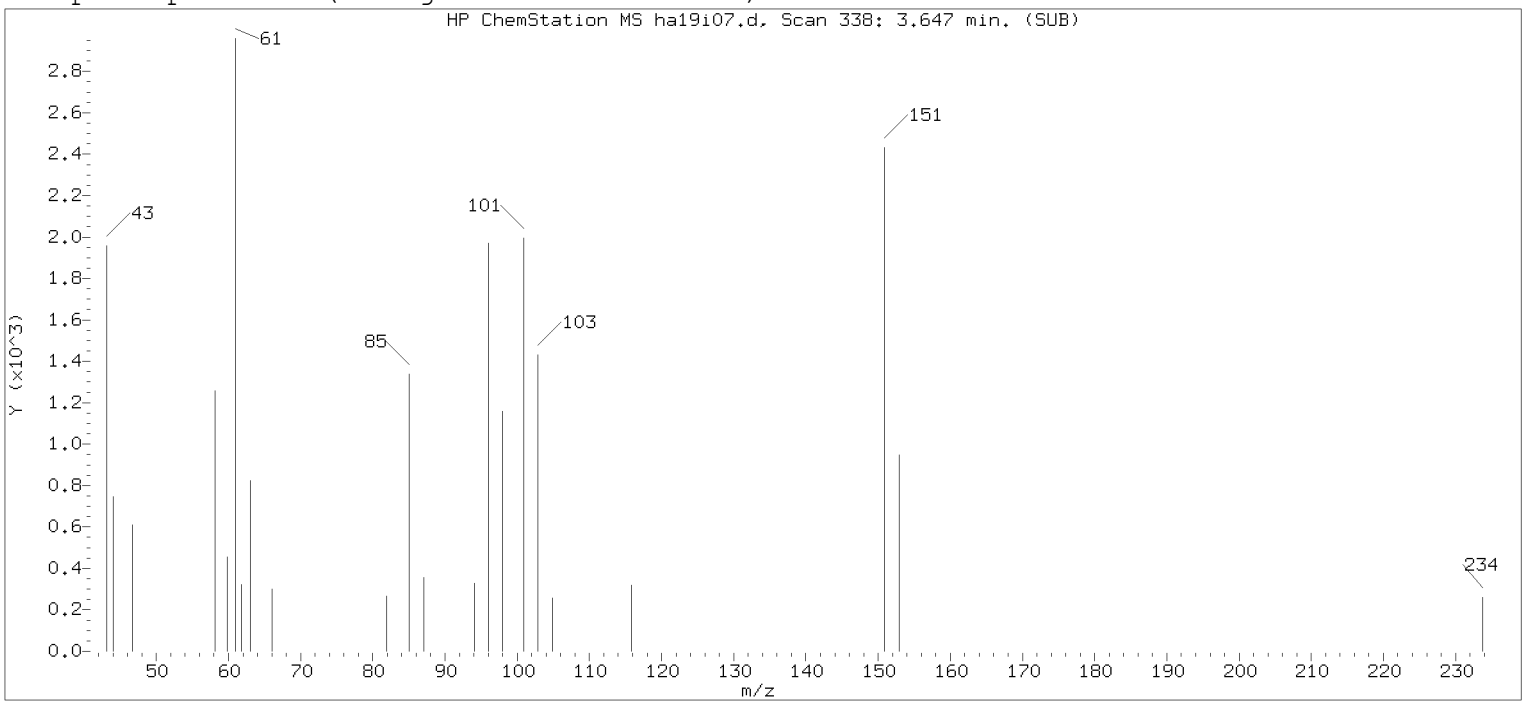
Compound Number : 14
Compound Name : Acetone
Scan Number : 338
Retention Time (minutes): 3.647
Quant Ion : 43.00
Area (flag) : 18606M
On-Column Amount (ng) : 2.9208
Integration start scan : 322 Integration stop scan: 375
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

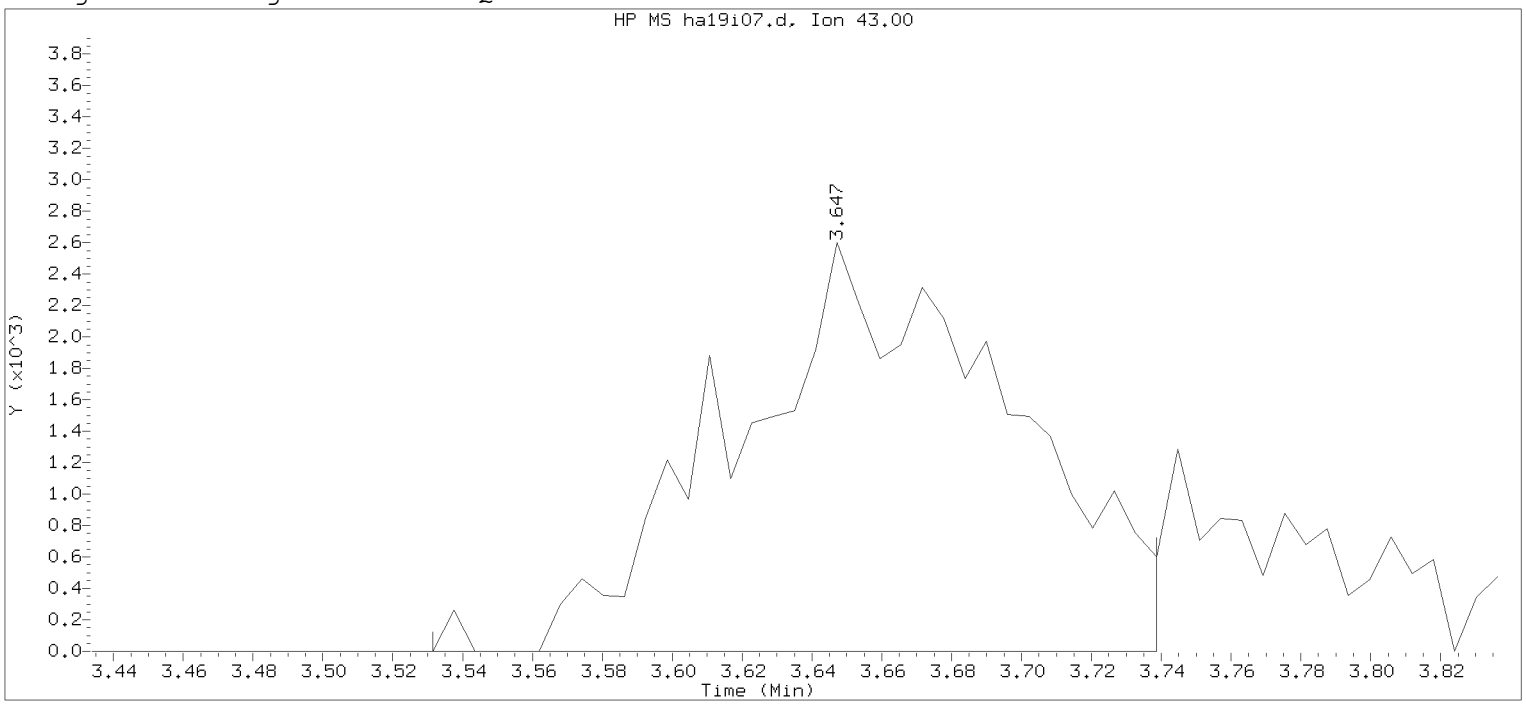
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

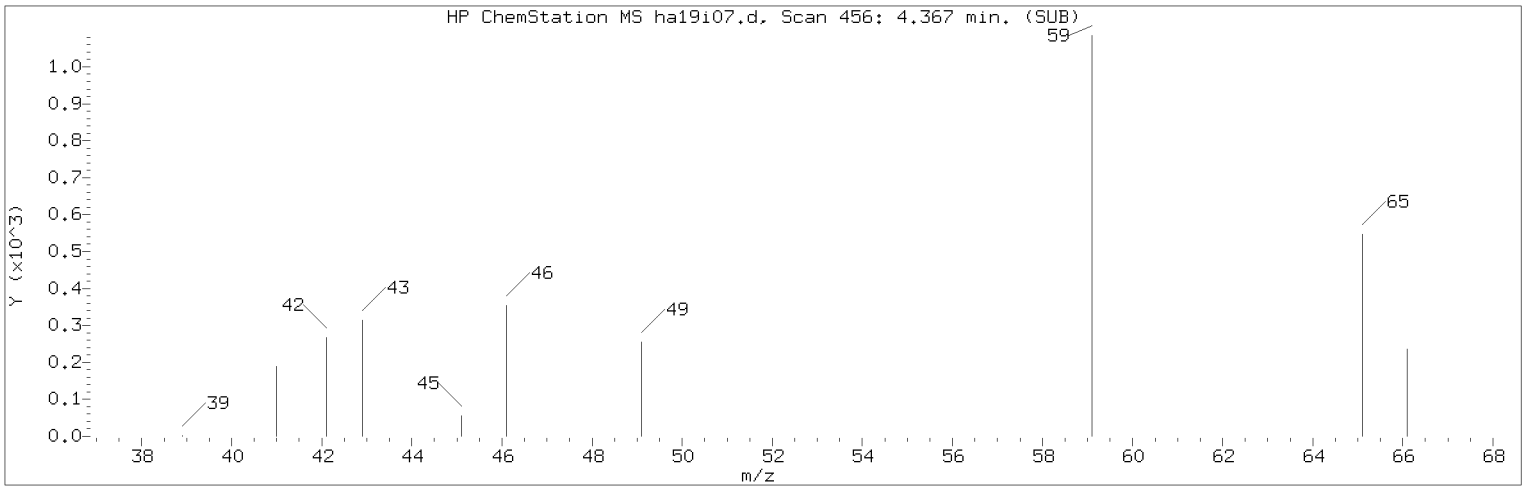
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

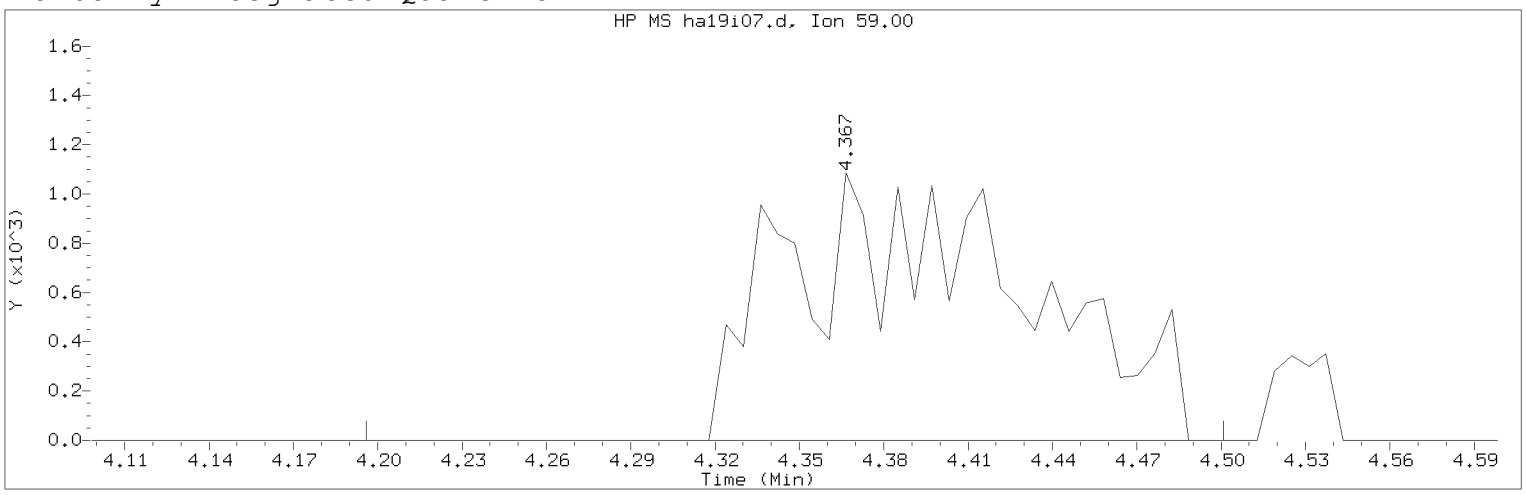
Compound Number : 14
Compound Name : Acetone
Scan Number : 338
Retention Time (minutes): 3.647
Quant Ion : 43.00
Area : 14311
On-column Amount (ng) : 2.2335
Integration start scan : 318 Integration stop scan: 352
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

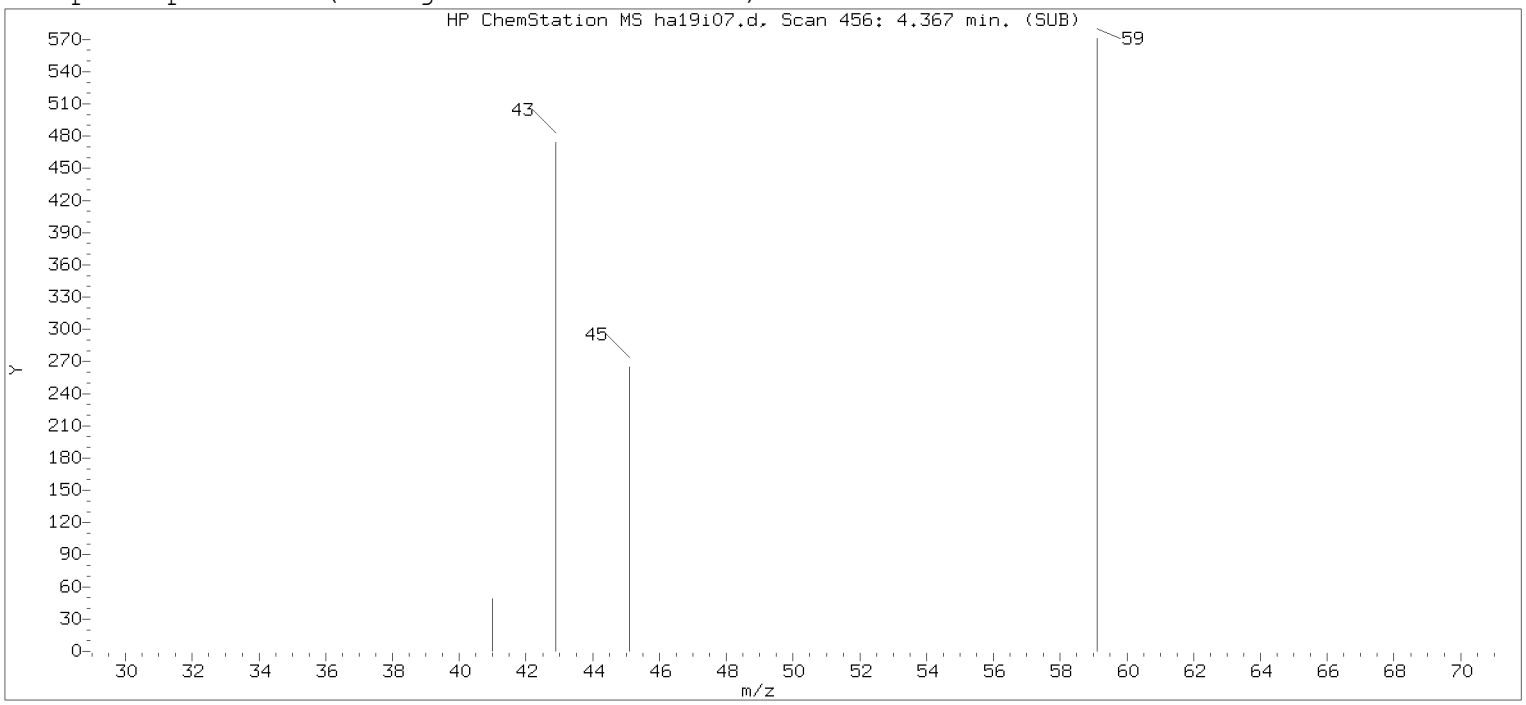
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 456
Retention Time (minutes): 4.367
Quant Ion : 59.00
Area (flag) : 6268M
On-Column Amount (ng) : 3.6236
Integration start scan : 427 Integration stop scan: 477
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

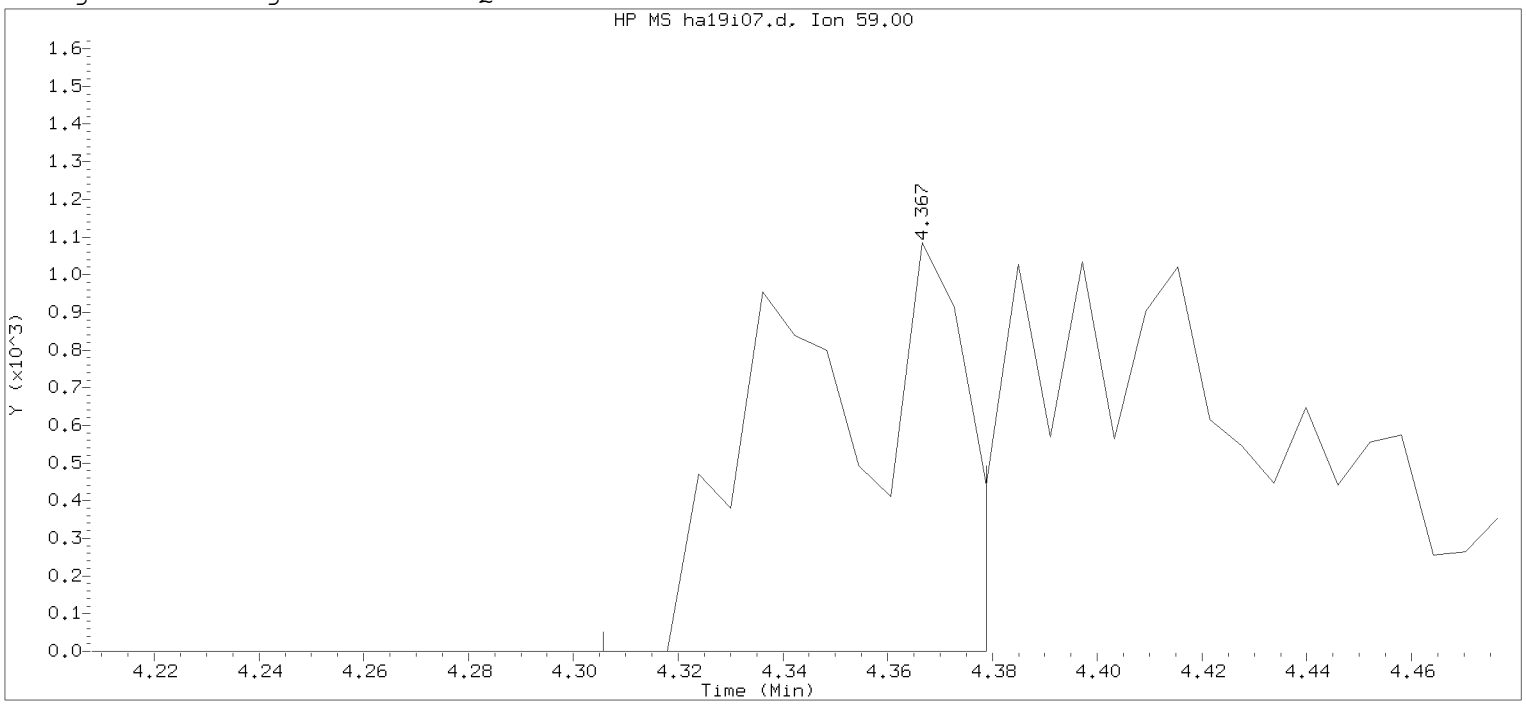
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

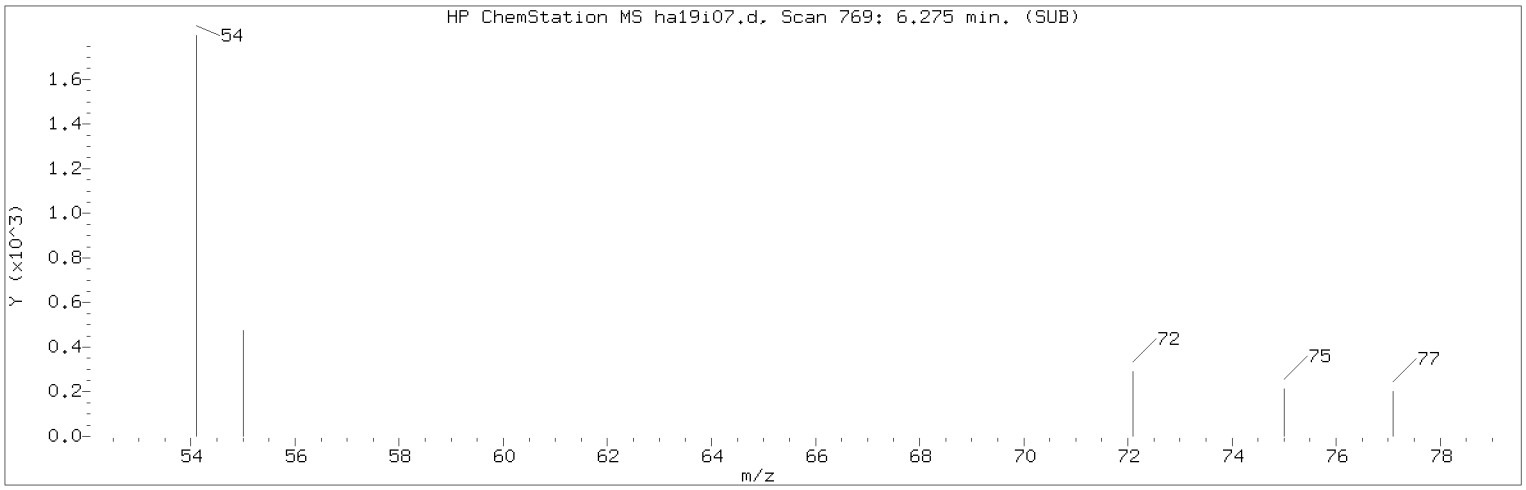
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

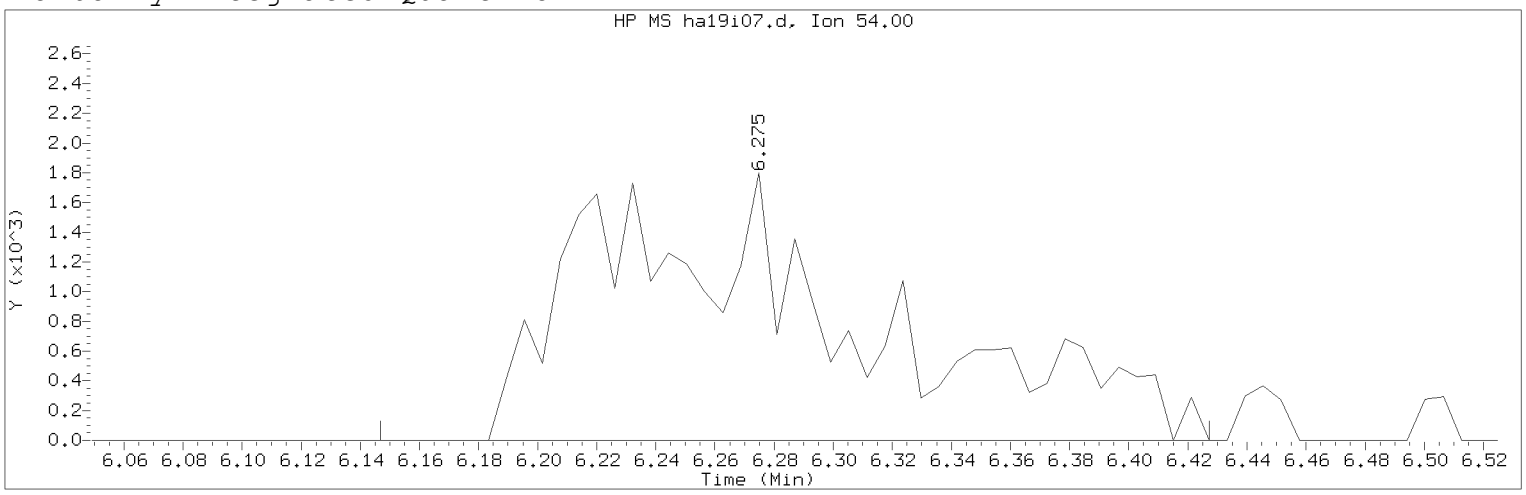
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 456
Retention Time (minutes): 4.367
Quant Ion : 59.00
Area : 2401
On-column Amount (ng) : 1.4320
Integration start scan : 445 Integration stop scan: 457
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@ae

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

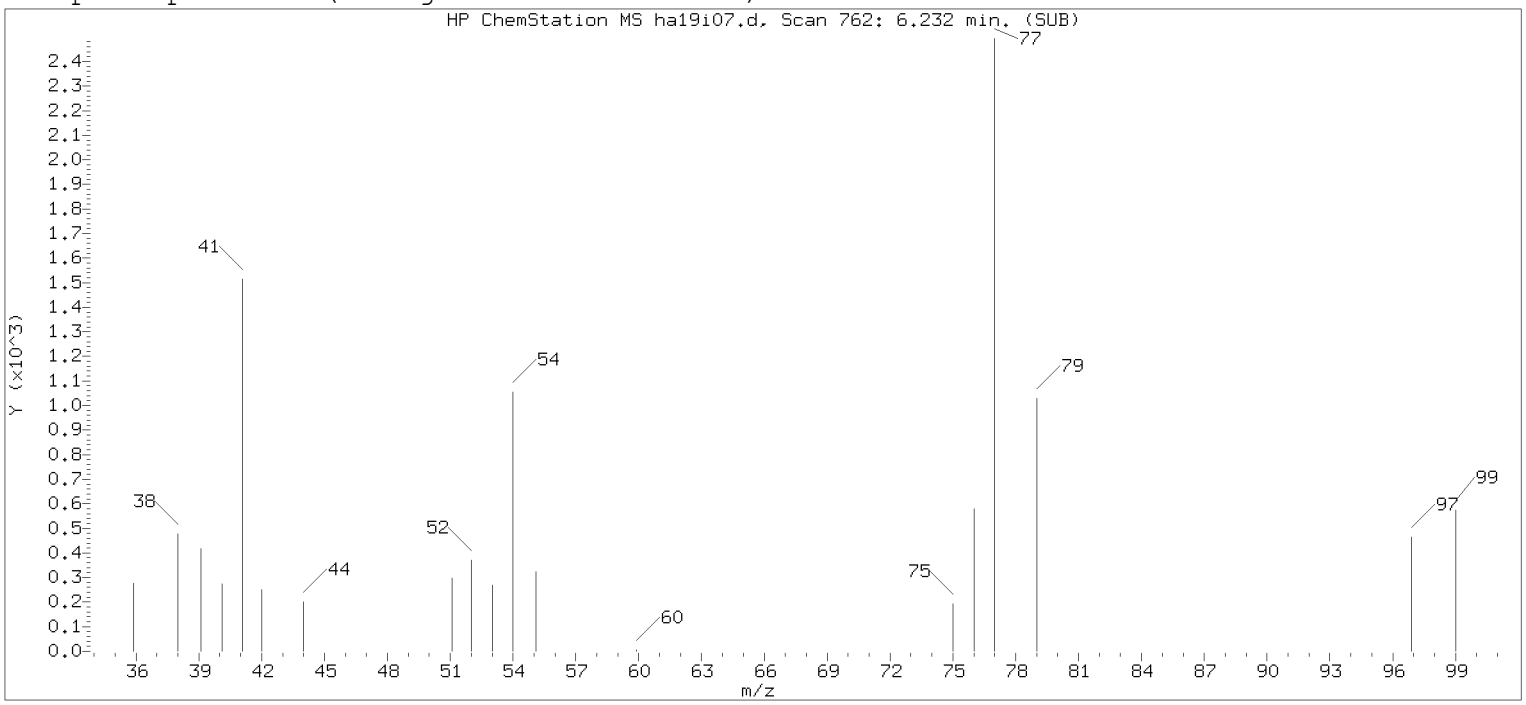
Compound Number : 42
Compound Name : Propionitrile
Scan Number : 769
Retention Time (minutes): 6.275
Quant Ion : 54.00
Area (flag) : 11215M
On-Column Amount (ng) : 3.6329
Integration start scan : 747 Integration stop scan: 793
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

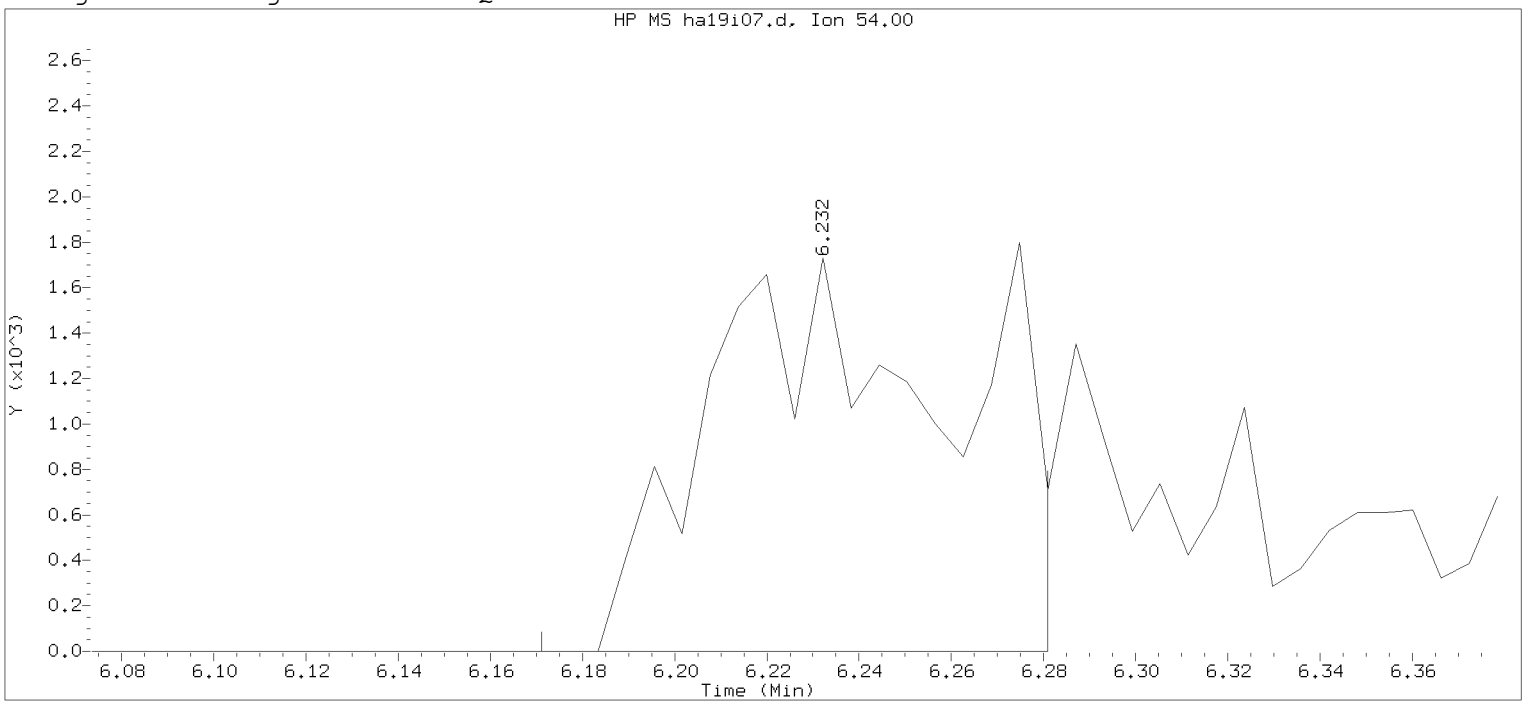
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

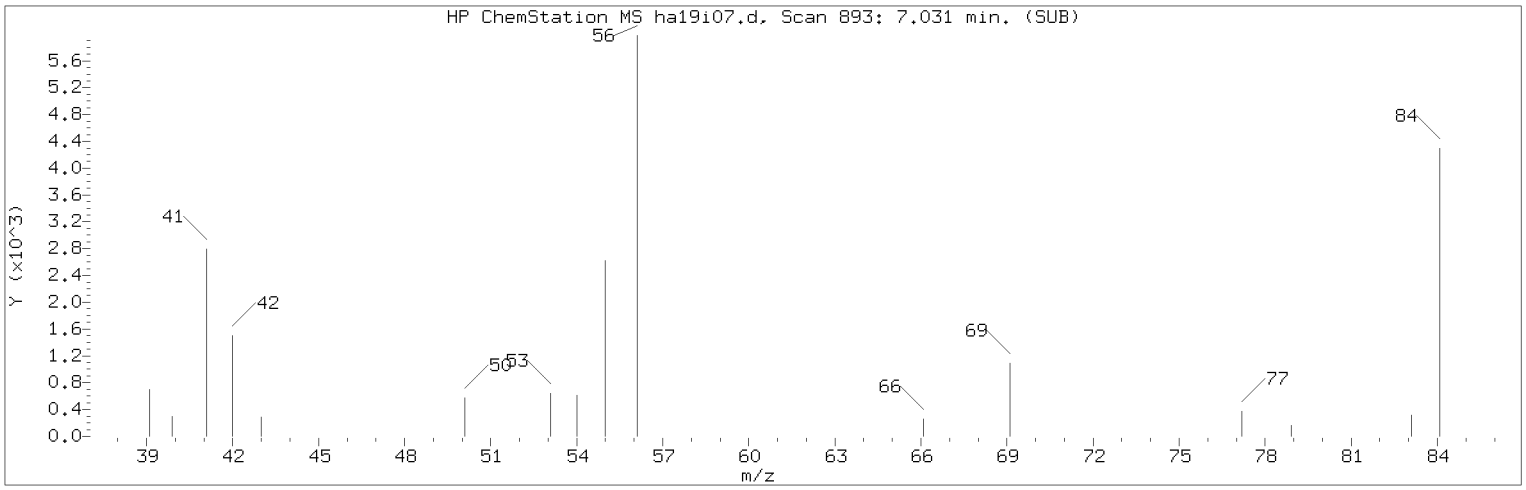
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

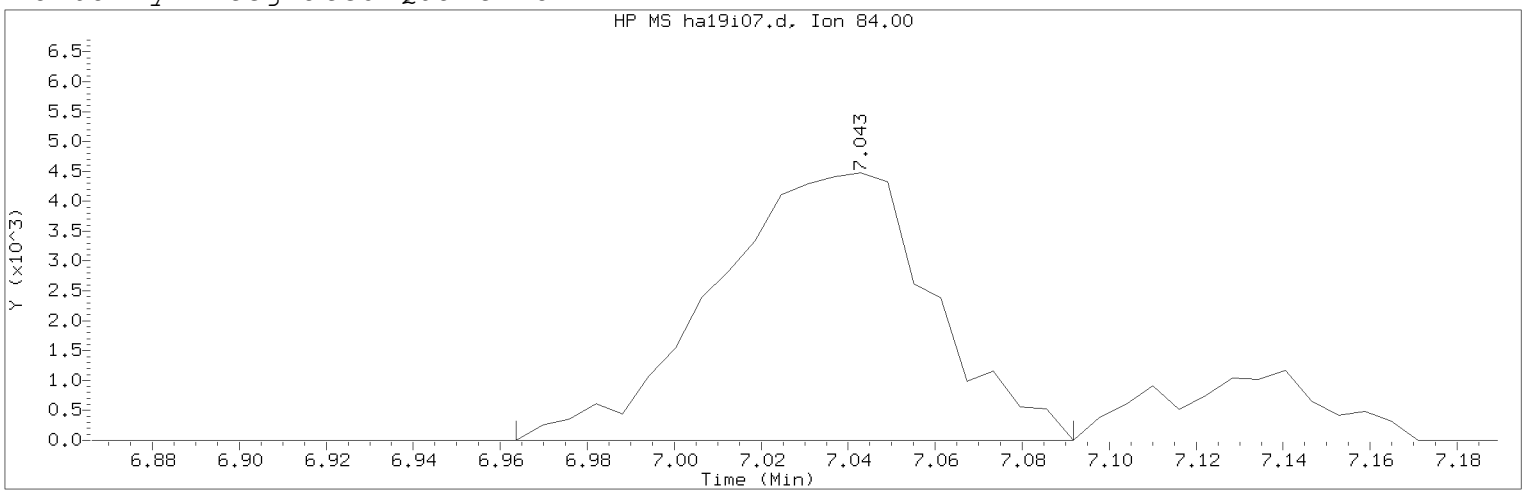
Compound Number : 42
Compound Name : Propionitrile
Scan Number : 762
Retention Time (minutes): 6.232
Quant Ion : 54.00
Area : 6433
On-column Amount (ng) : 2.1305
Integration start scan : 751 Integration stop scan: 769
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

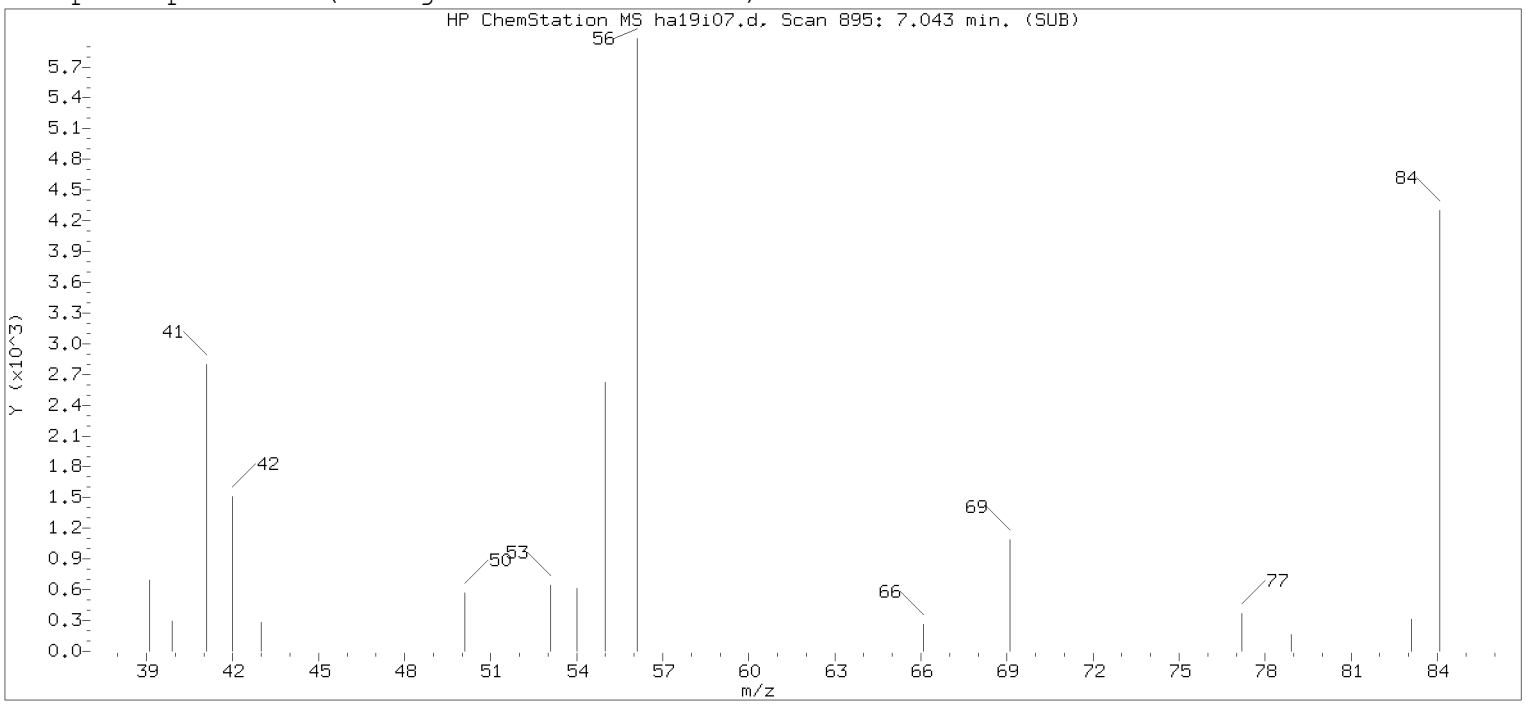
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 895
Retention Time (minutes): 7.043
Quant Ion : 84.00
Area (flag) : 15620M
On-Column Amount (ng) : 0.1589
Integration start scan : 881 Integration stop scan: 902
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

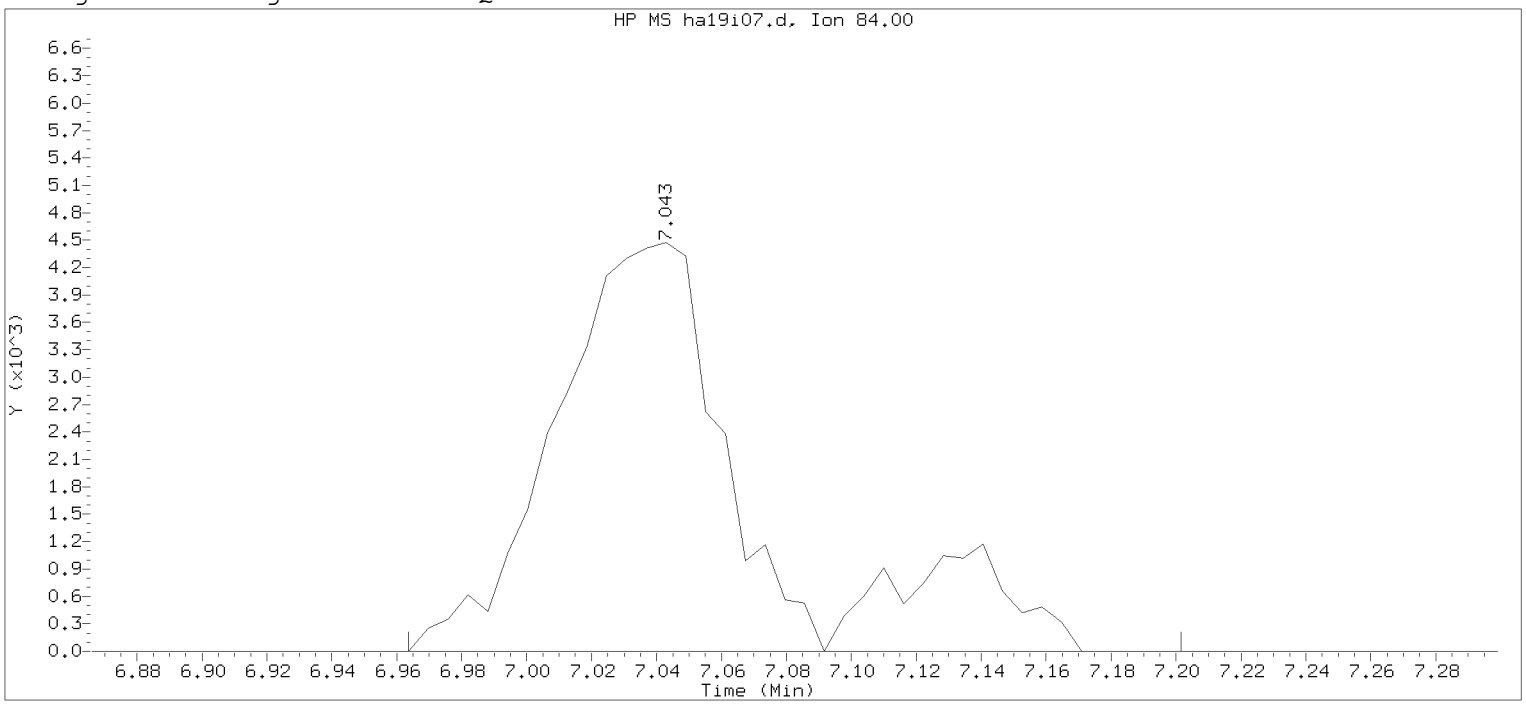
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

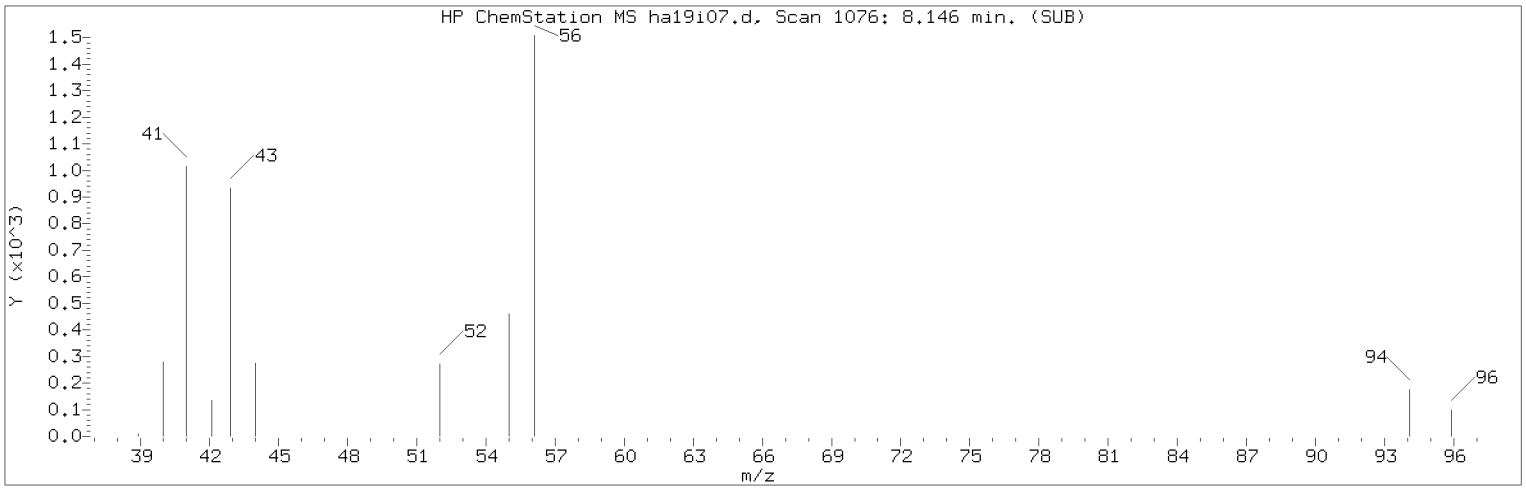
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

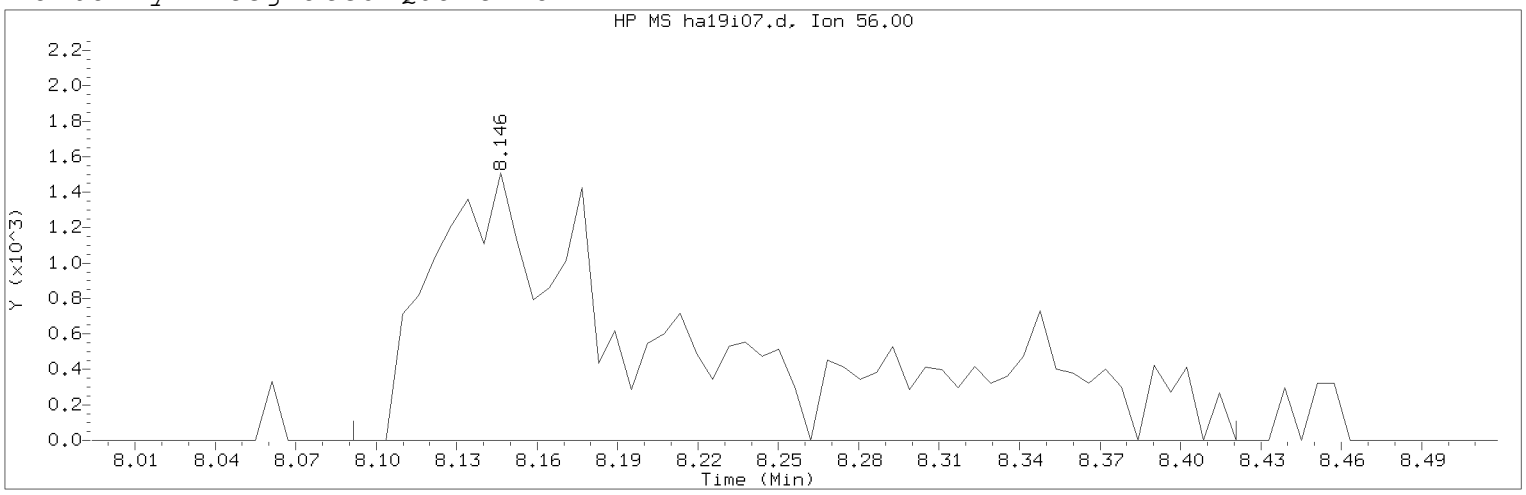
Compound Number	: 52		
Compound Name	: Cyclohexane		
Scan Number	: 895		
Retention Time (minutes)	: 7.043		
Quant Ion	: 84.00		
Area	: 18646		
On-column Amount (ng)	: 0.1773		
Integration start scan	: 881	Integration stop scan:	920
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

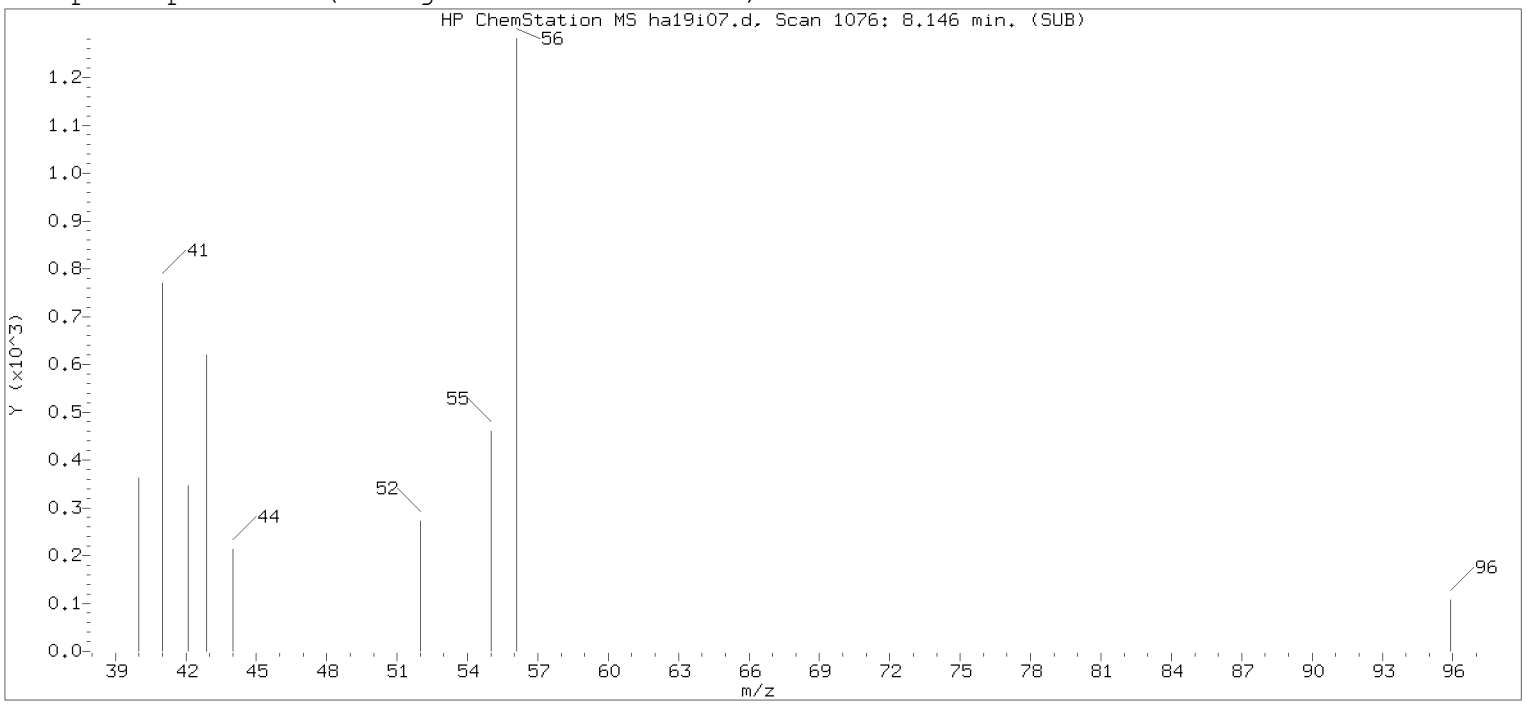
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1076
Retention Time (minutes): 8.146
Quant Ion : 56.00
Area (flag) : 10386M
On-Column Amount (ng) : 18.8968
Integration start scan : 1066 Integration stop scan: 1120
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

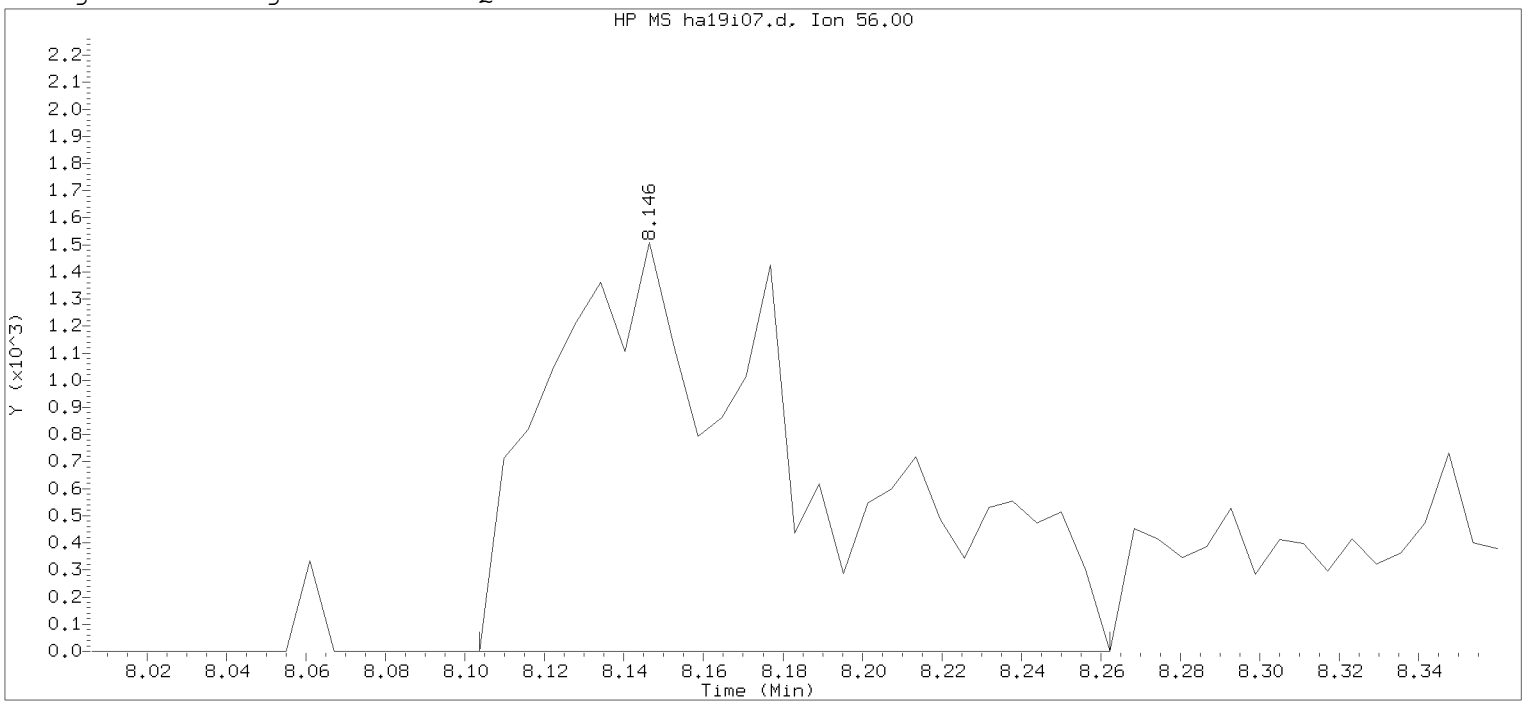
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

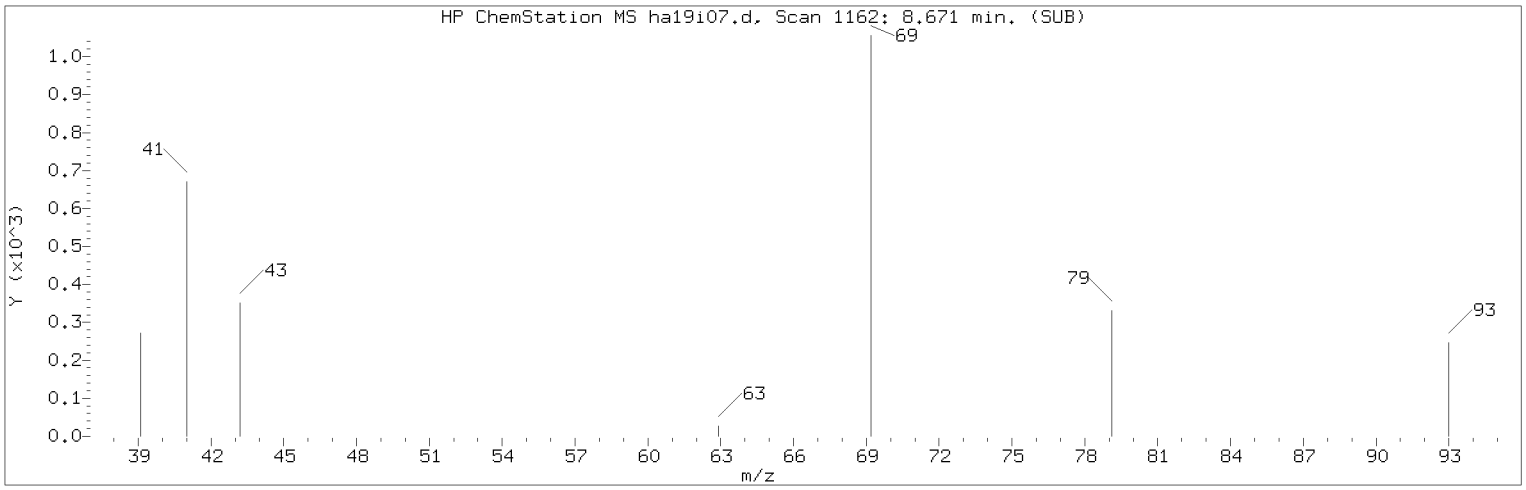
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

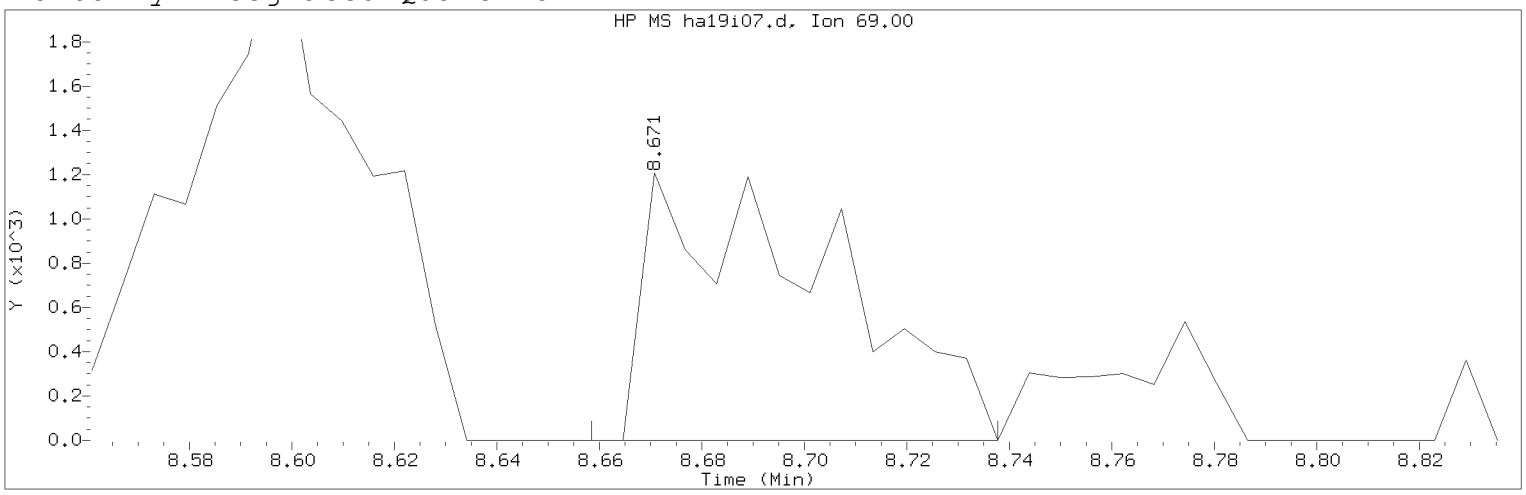
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1076
Retention Time (minutes): 8.146
Quant Ion : 56.00
Area : 7093
On-column Amount (ng) : 18.2964
Integration start scan : 1068 Integration stop scan: 1094
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@tetratech.com

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

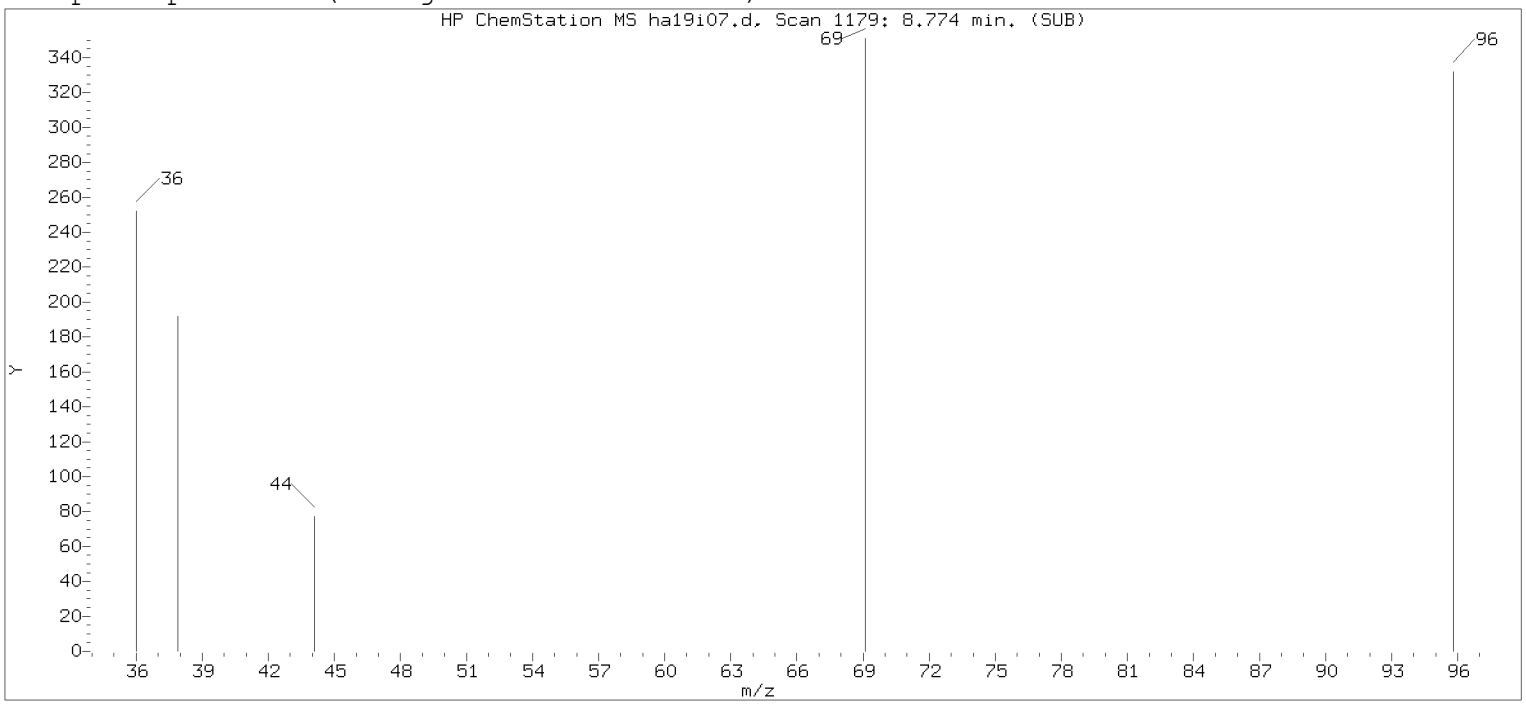
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1162
Retention Time (minutes): 8.671
Quant Ion : 69.00
Area (flag) : 2959M
On-Column Amount (ng) : 0.1253
Integration start scan : 1159 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

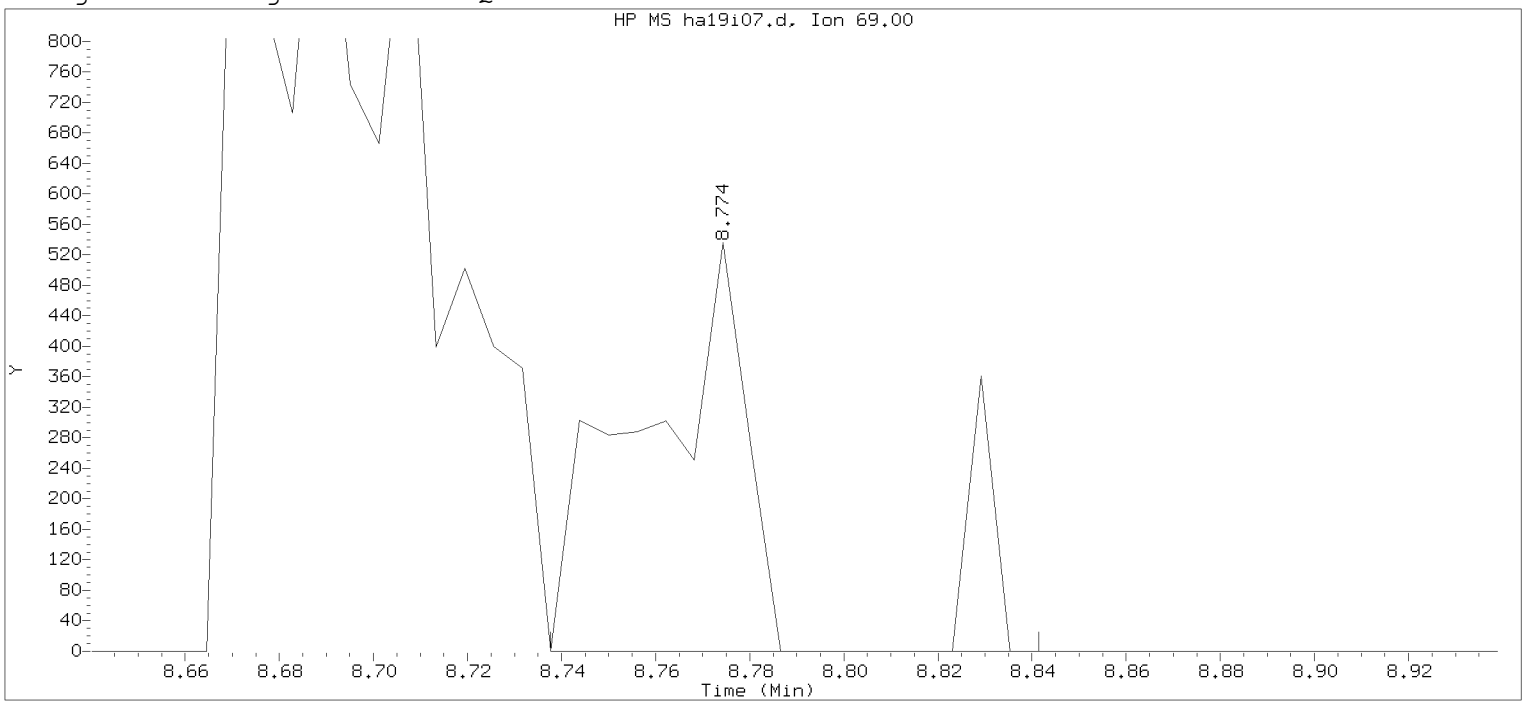
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

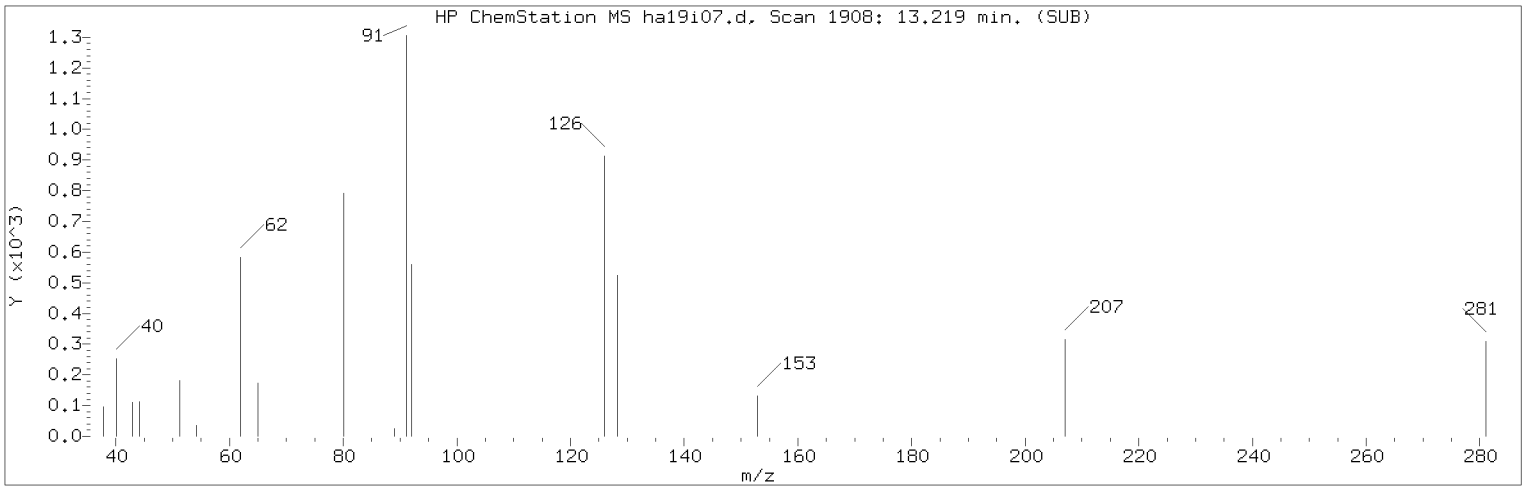
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

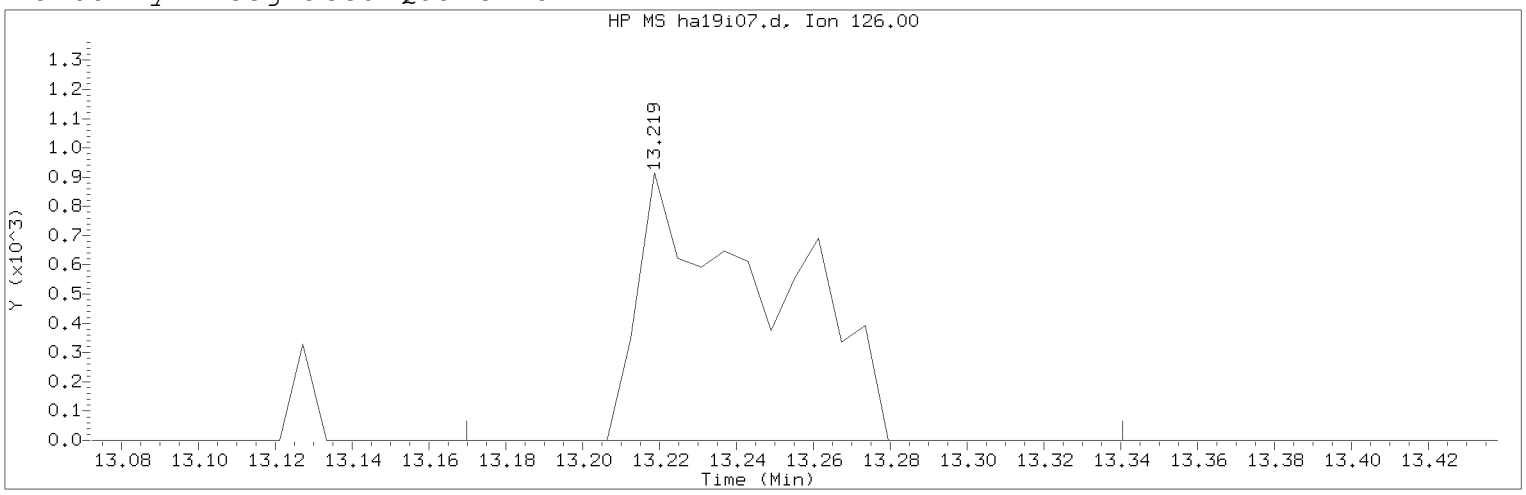
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1179
Retention Time (minutes): 8.774
Quant Ion : 69.00
Area : 945
On-column Amount (ng) : 0.0466
Integration start scan : 1172 Integration stop scan: 1189
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user name: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

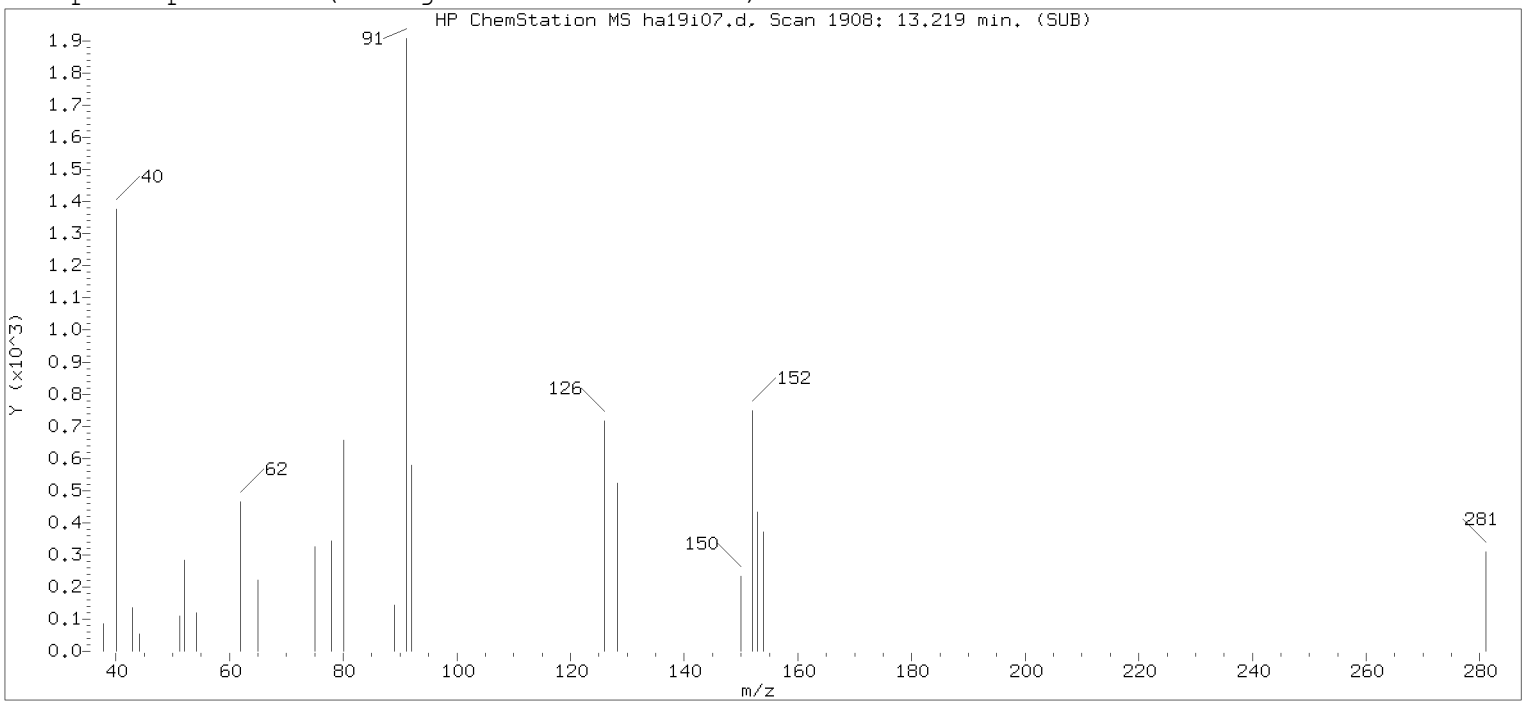
Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1908
Retention Time (minutes): 13.219
Quant Ion : 126.00
Area (flag) : 2226M
On-Column Amount (ng) : 0.1630
Integration start scan : 1899 Integration stop scan: 1927
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

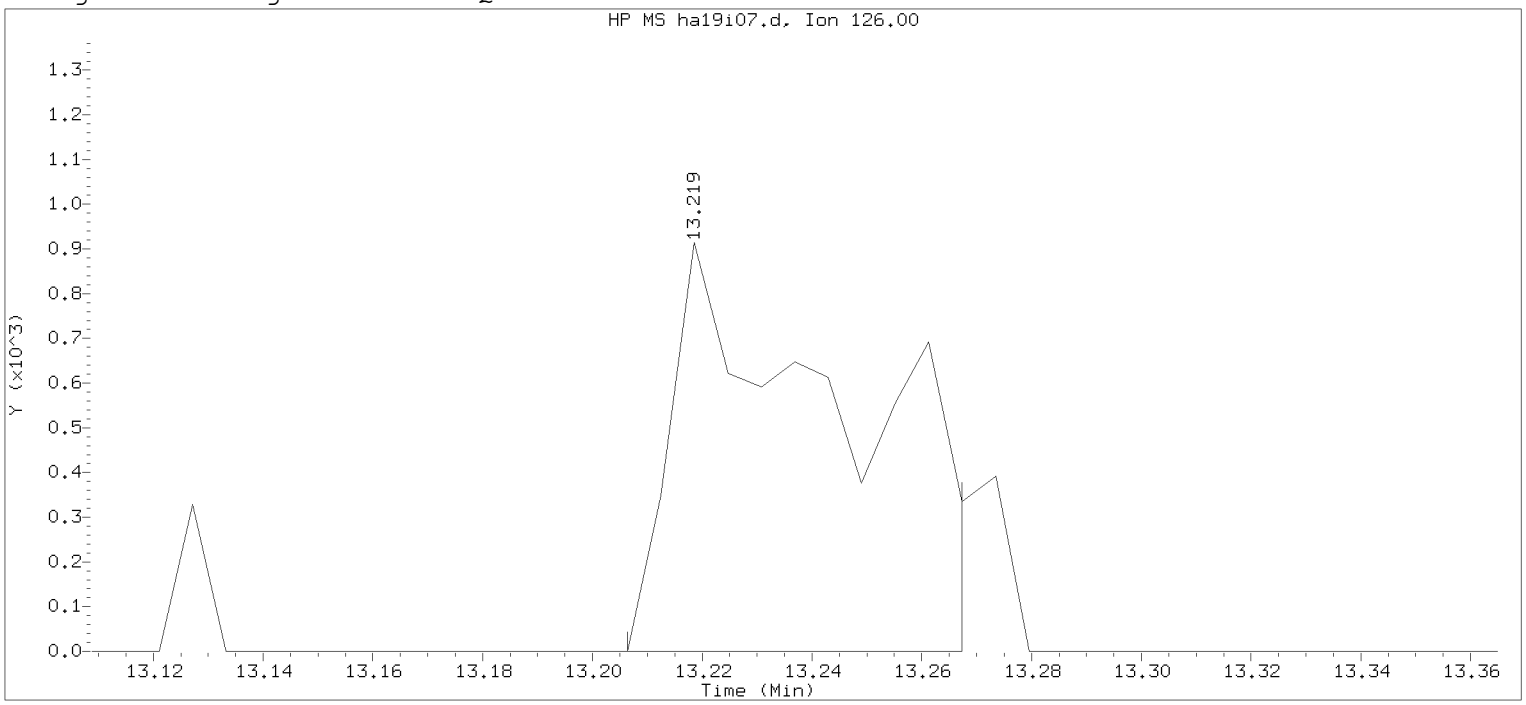
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



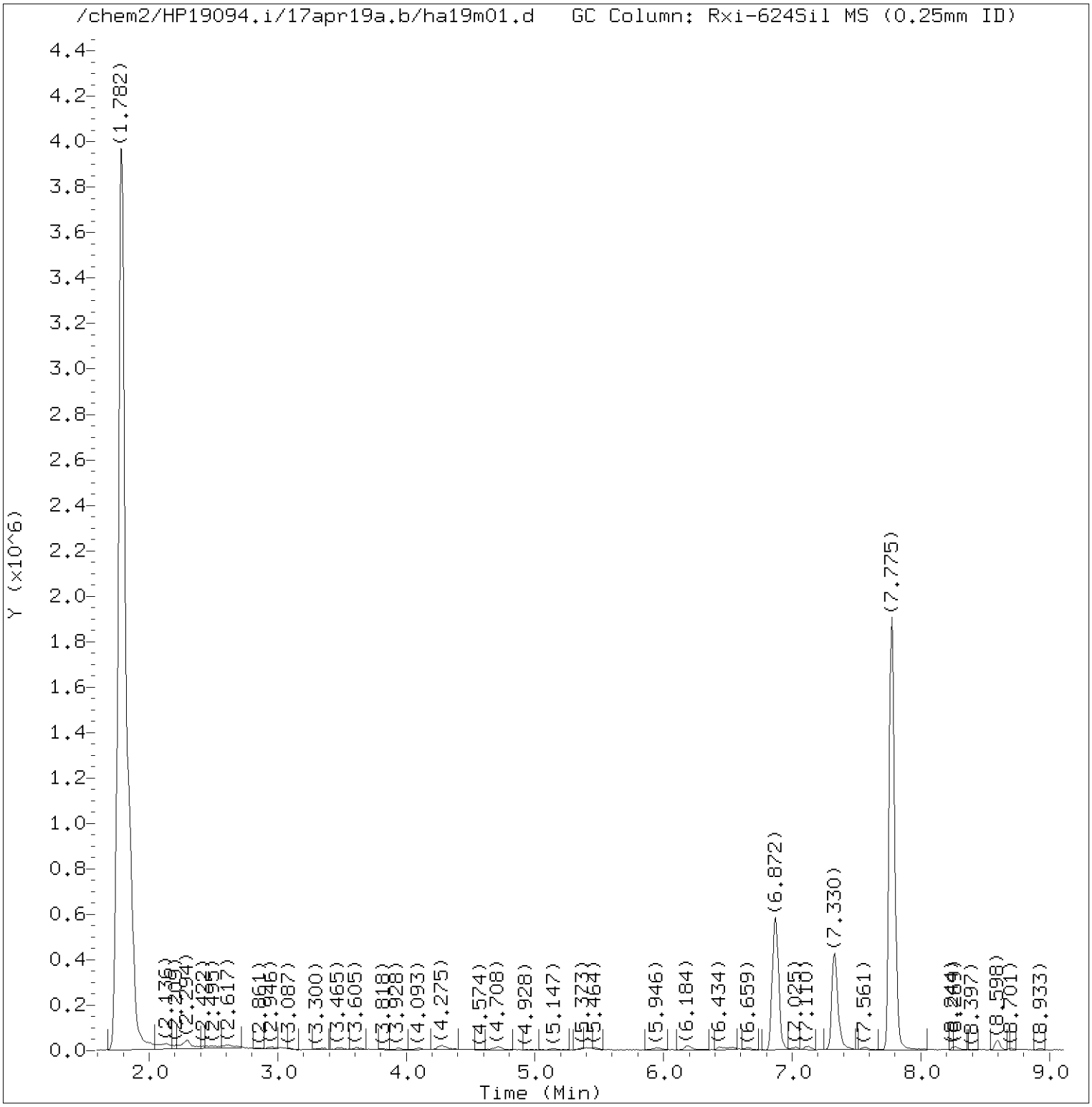
Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1908
Retention Time (minutes): 13.219
Quant Ion : 126.00
Area : 2022
On-column Amount (ng) : 0.1497
Integration start scan : 1905 Integration stop scan: 1915
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@ae



Total Ion Chromatogram (TIC)

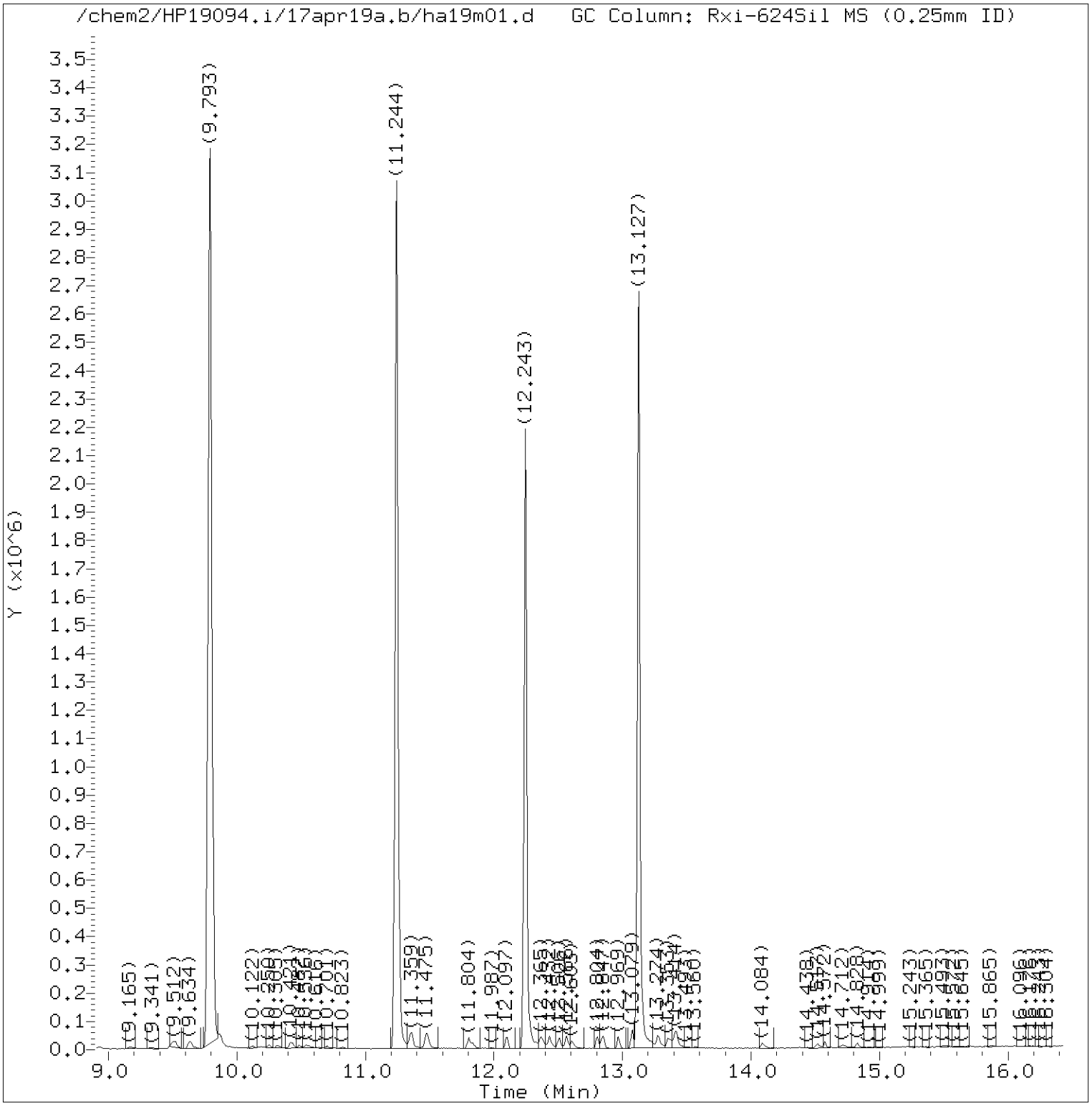
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.008	85	8201	0.078
2) Chloromethane	(2)	2.142	50	12796	0.117
5) Vinyl Chloride	(2)	2.276	62	9900	0.103
6) 1,3-Butadiene	(2)	2.288	39	14922M	0.098
7) Bromomethane	(2)	2.611	94	6265	0.104
8) Chloroethane	(2)	2.727	64	6479	0.117
9) Dichlorofluoromethane	(2)	2.946	67	12953	0.102
10) Trichlorofluoromethane	(2)	2.995	101	9056	0.081
11) Ethyl ether	(2)	3.300	59	3683	0.083
12) Freon 123a	(2)	3.349	67	7958	0.095
13) Acrolein	(1)	3.465	56	22999	4.861
15) 1,1-Dichloroethene	(2)	3.623	96	4983	0.083
16) Freon 113	(2)	3.654	101	3683	0.058
14) Acetone	(1)	3.678	43	8839	1.543
17) Methyl Iodide	(2)	3.812	142	10203	0.092
18) Carbon Disulfide	(2)	3.928	76	16658	0.099
21) Methyl Acetate	(1)	4.050	43	2632	0.135
22) Allyl Chloride	(2)	4.099	41	10861	0.093
26)*t-Butyl Alcohol-d10	(1)	4.257	65	62185	50.000
23) Methylene Chloride	(2)	4.275	84	6362	0.097
28) t-Butyl Alcohol	(1)	4.440	59	1085M	0.697
29) Acrylonitrile	(1)	4.659	53	2444	0.316
30) Methyl Tertiary Butyl Ether	(2)	4.672	73	10843	0.090
31) trans-1,2-Dichloroethene	(2)	4.714	96	6522	0.099
32) n-Hexane	(2)	5.135	57	4526	0.045
33) 1,1-Dichloroethane	(2)	5.348	63	12250	0.094
34) di-Isopropyl Ether	(2)	5.397	45	18886	0.085
35) 2-Chloro-1,3-Butadiene	(2)	5.464	53	8348	0.076
37) Ethyl t-butyl ether	(2)	5.946	59	14391	0.084
40) 1,2-Dichloroethene (Total)	(2)		96	13393	0.192
39) cis-1,2-Dichloroethene	(2)	6.184	96	6871	0.093
41) 2,2-Dichloropropane	(2)	6.196	77	8847	0.090
38) 2-Butanone	(1)	6.202	43	9435M	0.807
42) Propionitrile	(1)	6.281	54	3915	1.410
45) Methacrylonitrile	(1)	6.434	67	8829	0.760
47) Bromochloromethane	(2)	6.525	128	2664	0.091
48) Tetrahydrofuran	(1)	6.537	71	2632	0.902
49) Chloroform	(2)	6.653	83	11346	0.092

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	607526	10.033
51) 1,1,1-Trichloroethane	(2)	6.915	97	8731	0.083
52) Cyclohexane	(2)	7.025	56	6646	0.051
55) 1,1-Dichloropropene	(2)	7.129	75	7704	0.079
54) Carbon Tetrachloride	(2)	7.135	117	7080	0.080
56) Isobutyl Alcohol	(1)	7.244	41	2629	3.916
57)$1,2-Dichloroethane-d4	(2)	7.330	102	99434	10.155
58) Benzene	(2)	7.372	78	26951	0.095
59) 1,2-Dichloroethane	(2)	7.439	62	6145	0.091
60) t-Amyl methyl ether	(2)	7.543	73	10311	0.074
63)*Fluorobenzene	(2)	7.775	96	2701236	10.000
62) n-Heptane	(2)	7.817	43	7631	0.064
65) n-Butanol	(1)	8.183	56	2008	4.062
67) Trichloroethene	(2)	8.269	95	7294	0.097
69) Methylcyclohexane	(2)	8.598	83	6994	0.055
70) 1,2-Dichloropropane	(2)	8.610	63	6730	0.091
73) Dibromomethane	(2)	8.695	93	2415	0.085
71) Methyl Methacrylate	(1)	8.726	69	1082M	0.051
74) Bromodichloromethane	(2)	8.921	83	6611	0.085
76) 2-Nitropropane	(1)	9.171	41	6247M	0.892
80) cis-1,3-Dichloropropene	(2)	9.488	75	7006	0.080
81) 4-Methyl-2-Pentanone	(1)	9.634	43	24554M	0.793
82)$Toluene-d8	(3)	9.793	98	2606070	10.184
83) Toluene	(3)	9.860	92	16927	0.100
84) trans-1,3-Dichloropropene	(3)	10.122	75	4640	0.070
85) 1,3-Dichloropropene (total)	(3)		75	11646	0.150
86) Ethyl Methacrylate	(3)	10.183	69	3465	0.071
88) 1,1,2-Trichloroethane	(3)	10.305	97	3153	0.080
89) Tetrachloroethene	(3)	10.427	166	8038	0.102
90) 1,3-Dichloropropane	(3)	10.482	76	6565	0.093
91) 2-Hexanone	(1)	10.536	43	18988	0.870
93) Dibromochloromethane	(3)	10.701	129	3898	0.084
95) 1,2-Dibromoethane	(3)	10.823	107	3137	0.084
97)*Chlorobenzene-d5	(3)	11.244	117	1750659	10.000
98) Chlorobenzene	(3)	11.268	112	18125	0.098
99) 1,1,1,2-Tetrachloroethane	(3)	11.341	131	5842	0.095
100) Ethylbenzene	(3)	11.359	91	29608	0.090
101) m+p-Xylene	(3)	11.481	106	18449	0.148

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

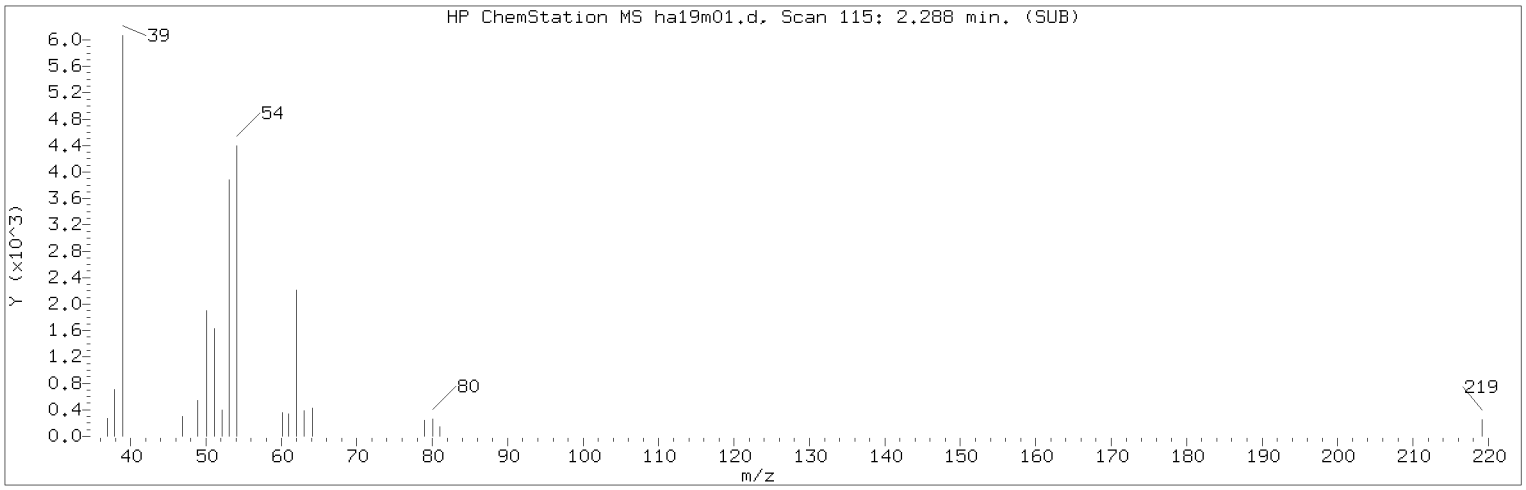
Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
105) Xylene (Total)	(3)		106	28171	0.229
104) o-Xylene	(3)	11.804	106	9722	0.081
106) Styrene	(3)	11.835	104	13219	0.072
107) Bromoform	(3)	11.981	173	1901	0.082
108) Isopropylbenzene	(3)	12.103	105	23140	0.074
111)$4-Bromofluorobenzene	(3)	12.243	95	701352	9.646
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	4990	0.108
114) Bromobenzene	(4)	12.365	156	6504	0.092
115) trans-1,4-Dichloro-2-butene	(1)	12.377	53	5163	0.628
116) 1,2,3-Trichloropropane	(4)	12.384	110	921	0.079
117) n-Propylbenzene	(4)	12.432	91	31628	0.084
119) 2-Chlorotoluene	(4)	12.512	126	6299	0.088
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	20509	0.081
122) 4-Chlorotoluene	(4)	12.615	126	6130M	0.085
125) tert-Butylbenzene	(4)	12.804	134	3719	0.067
126) Pentachloroethane	(4)	12.841	167	3697	0.090
127) 1,2,4-Trimethylbenzene	(4)	12.853	105	19625	0.077
128) sec-Butylbenzene	(4)	12.969	105	27217	0.082
131) 1,3-Dichlorobenzene	(4)	13.072	146	12155	0.087
132) p-Isopropyltoluene	(4)	13.079	119	19624	0.072
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	718732	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	14969	0.103
135) 1,2,3-Trimethylbenzene	(4)	13.158	120	10043	0.090
136) Benzyl Chloride	(4)	13.231	126	779	0.053
138) n-Butylbenzene	(4)	13.377	92	7816	0.059
139) 1,2-Dichlorobenzene	(4)	13.408	146	10743	0.087
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	393	0.086
145) 1,2,4-Trichlorobenzene	(4)	14.523	180	7514	0.094
146) Hexachlorobutadiene	(4)	14.572	225	3606	0.091
147) Naphthalene	(4)	14.700	128	10405	0.089
148) 1,2,3-Trichlorobenzene	(4)	14.828	180	7066	0.105

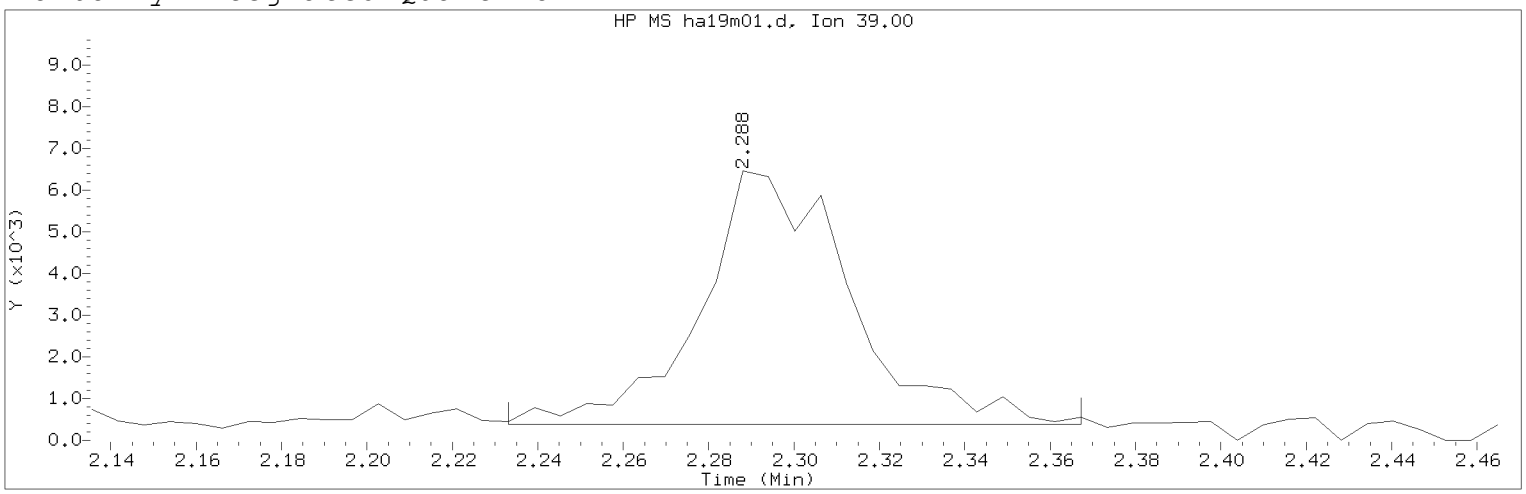
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

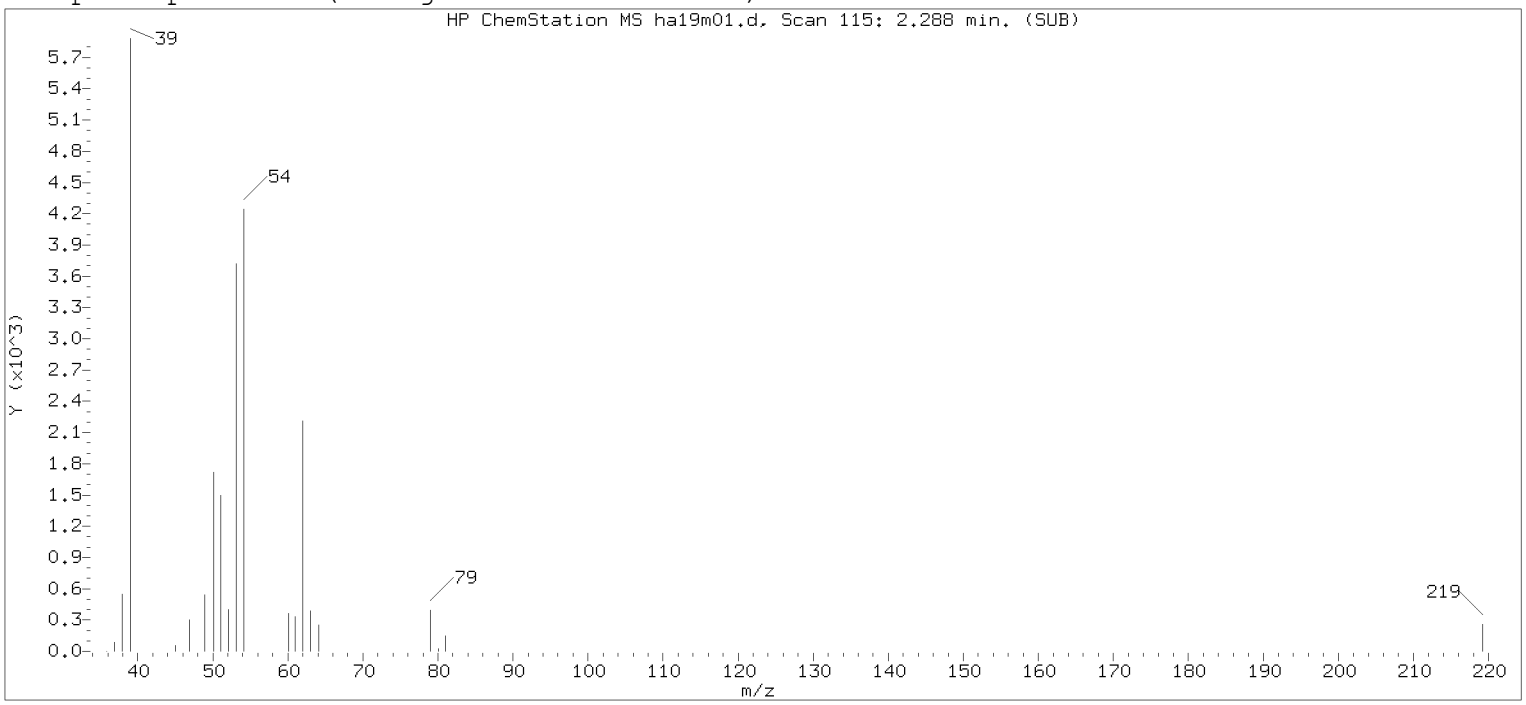
Compound Number : 6
Compound Name : 1,3-Butadiene
Scan Number : 115
Retention Time (minutes): 2.288
Quant Ion : 39.00
Area (flag) : 14922M
On-Column Amount (ng) : 0.0984
Integration start scan : 105 Integration stop scan: 127
Y at integration start : 384 Y at integration end: 384

Reason for manual integration: improper integration

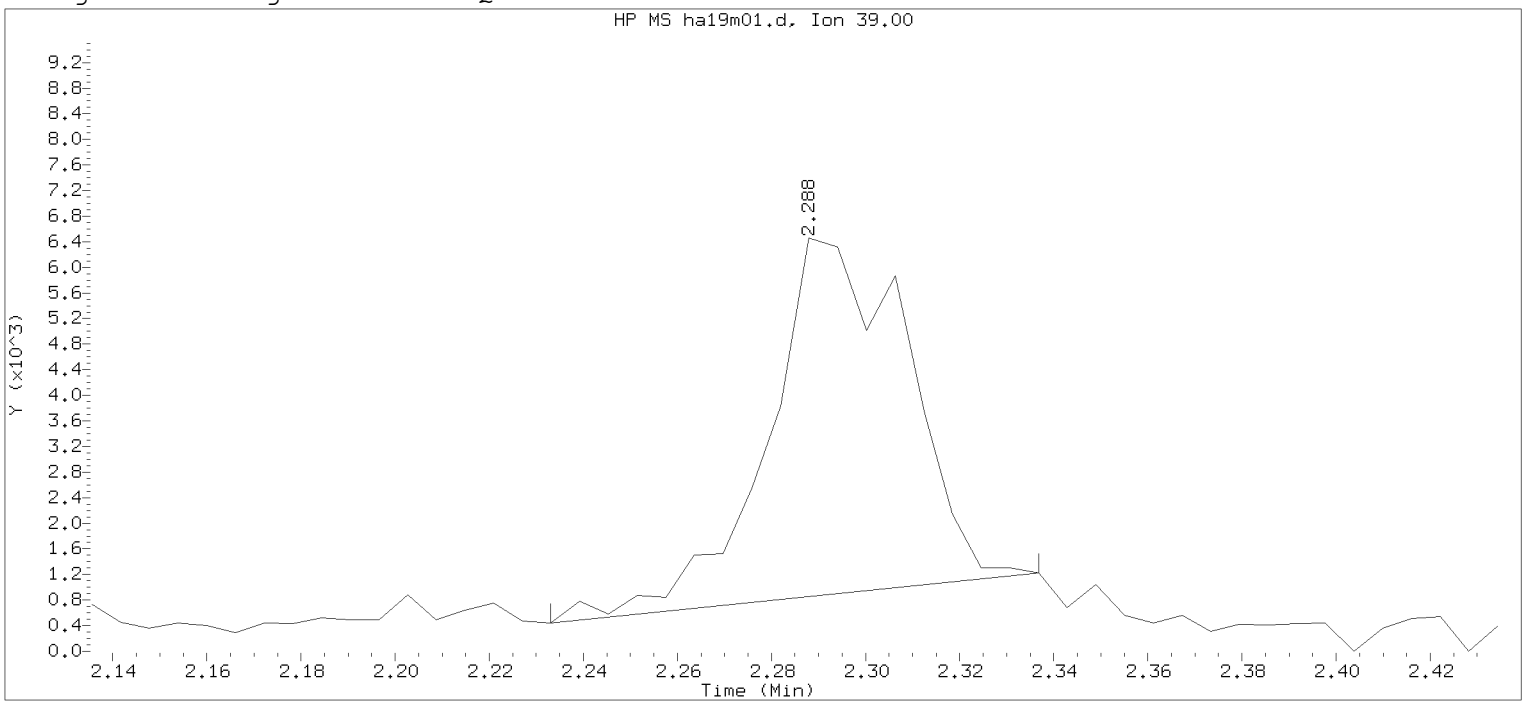
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

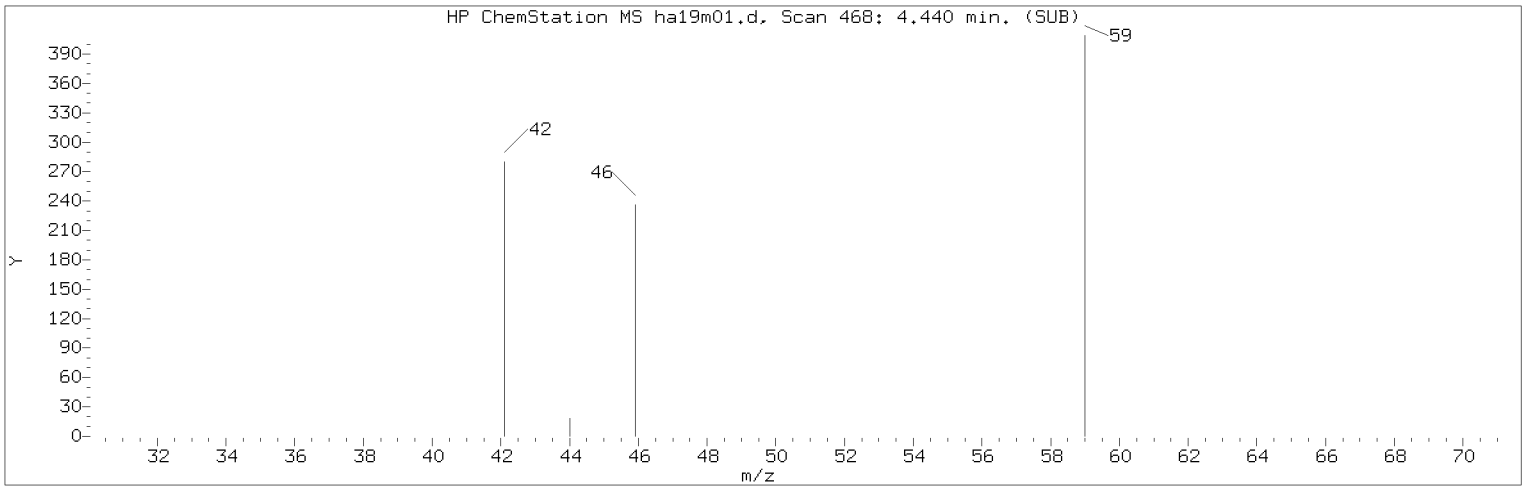
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

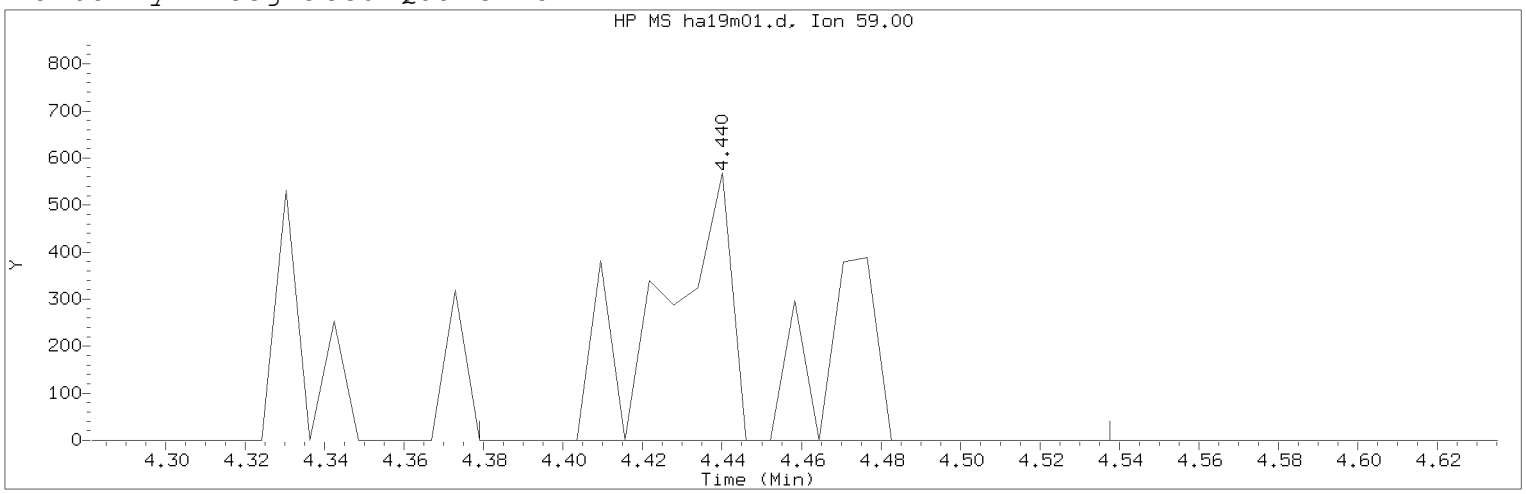
Compound Number : 6
Compound Name : 1,3-Butadiene
Scan Number : 115
Retention Time (minutes): 2.288
Quant Ion : 39.00
Area : 11455
On-column Amount (ng) : 0.0755
Integration start scan : 105 Integration stop scan: 122
Y at integration start : 444 Y at integration end: 1225

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

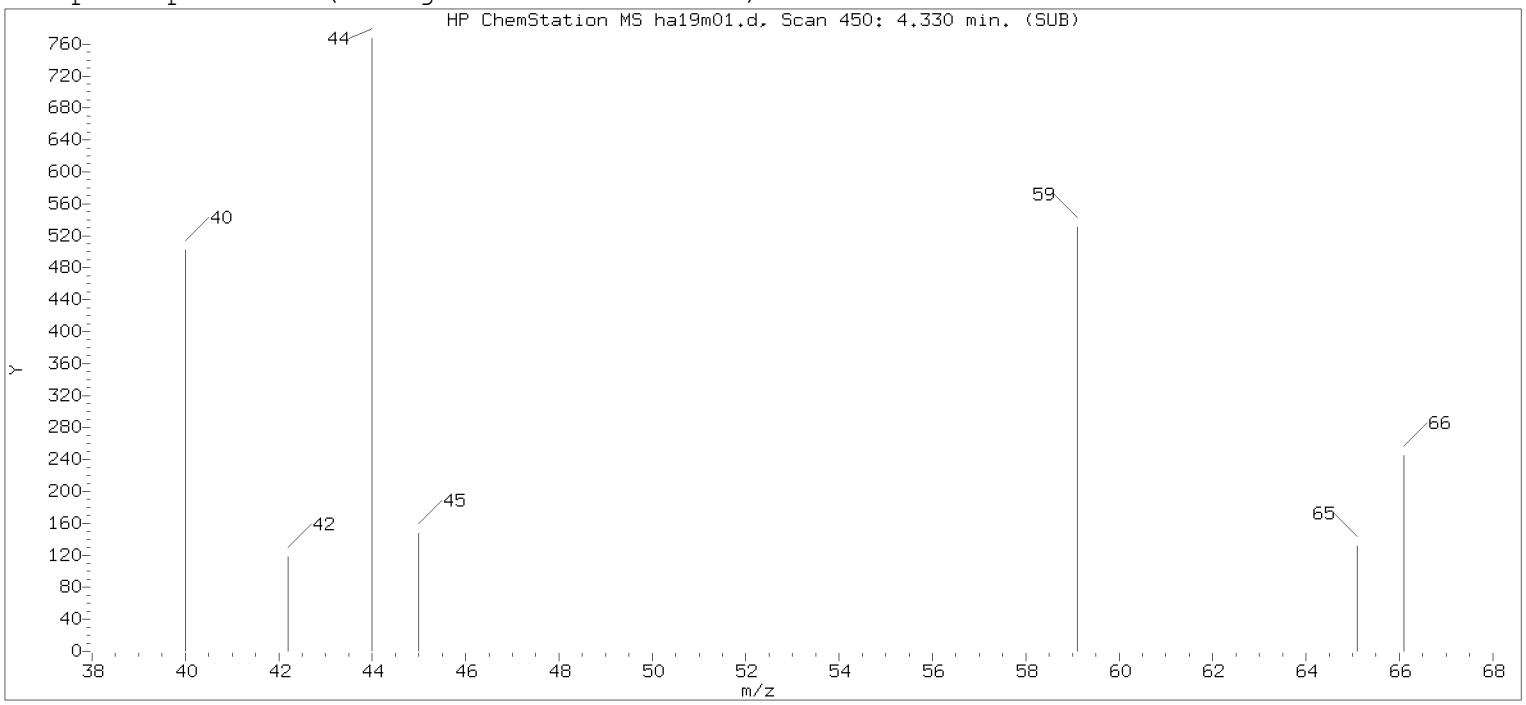
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 468
Retention Time (minutes): 4.440
Quant Ion : 59.00
Area (flag) : 1085M
On-Column Amount (ng) : 0.6974
Integration start scan : 457 Integration stop scan: 483
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

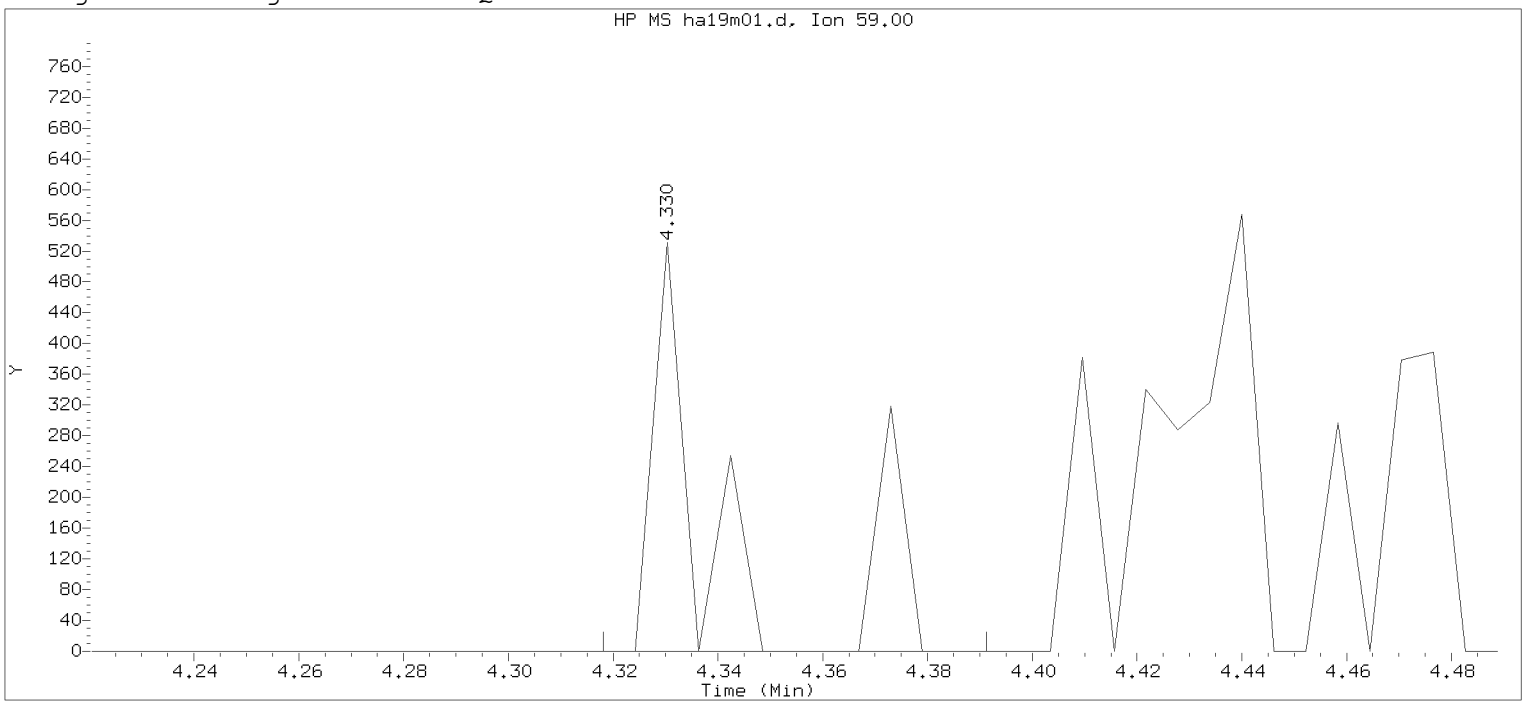
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

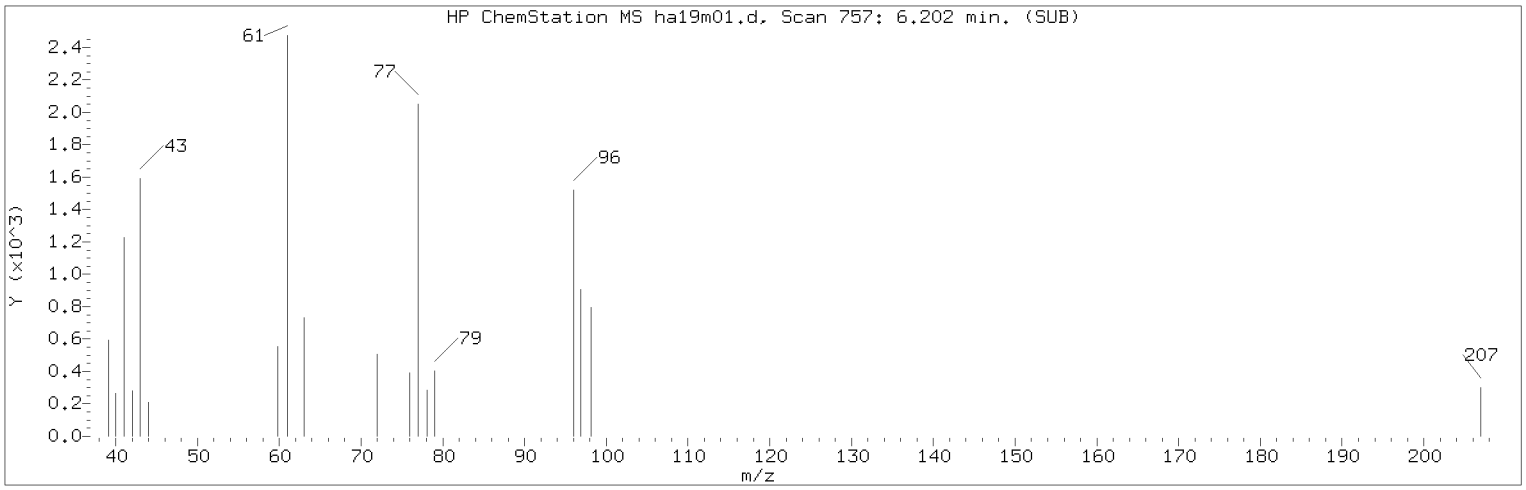
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

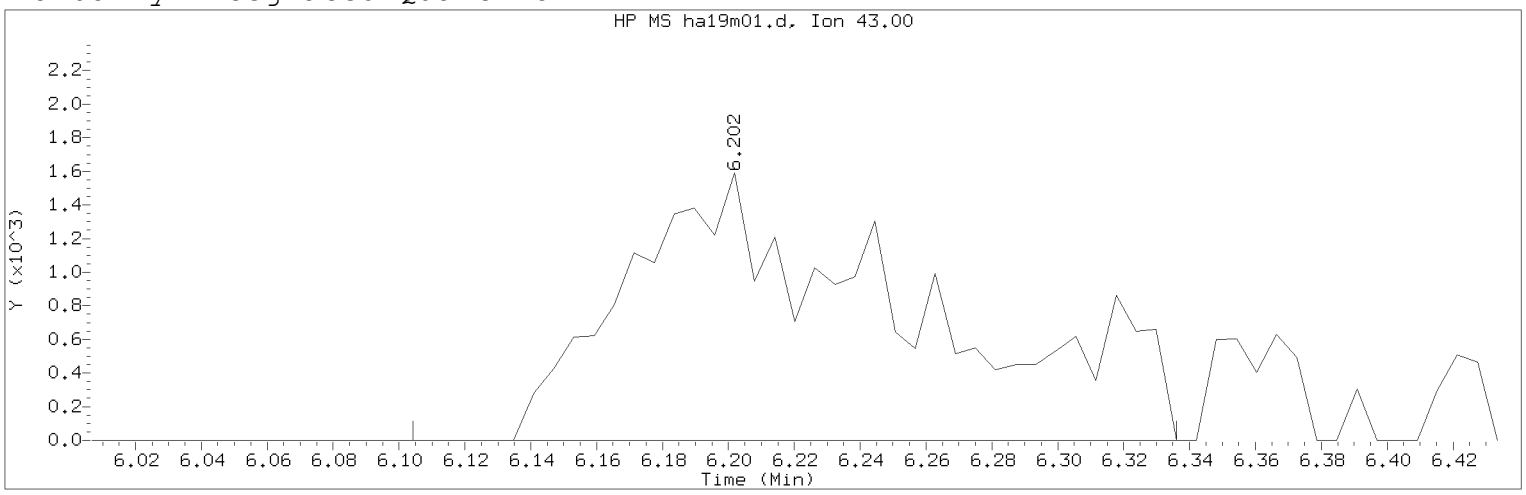
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 450
Retention Time (minutes): 4.330
Quant Ion : 59.00
Area : 403
On-column Amount (ng) : 0.2887
Integration start scan : 447 Integration stop scan: 459
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

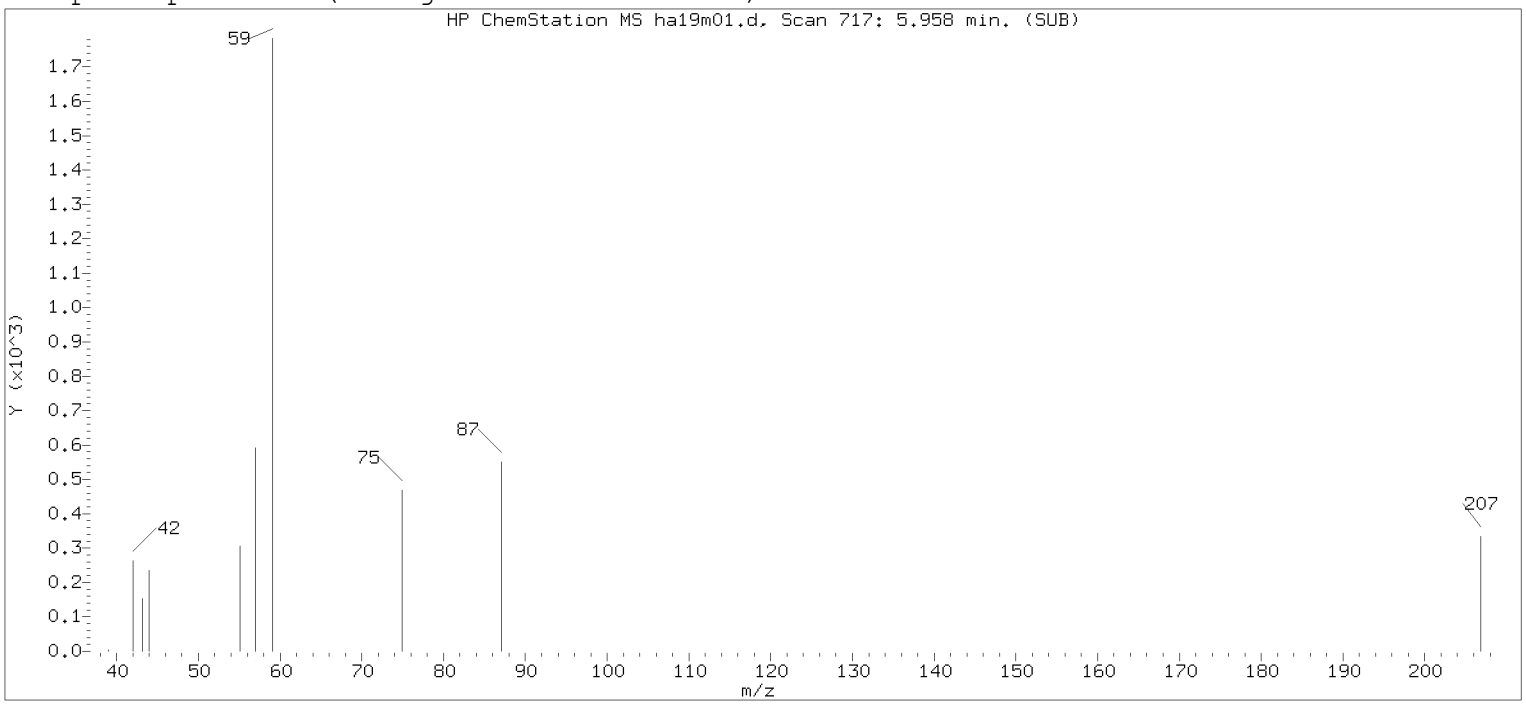
Compound Number : 38
Compound Name : 2-Butanone
Scan Number : 757
Retention Time (minutes): 6.202
Quant Ion : 43.00
Area (flag) : 9435M
On-Column Amount (ng) : 0.8073
Integration start scan : 740 Integration stop scan: 778
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

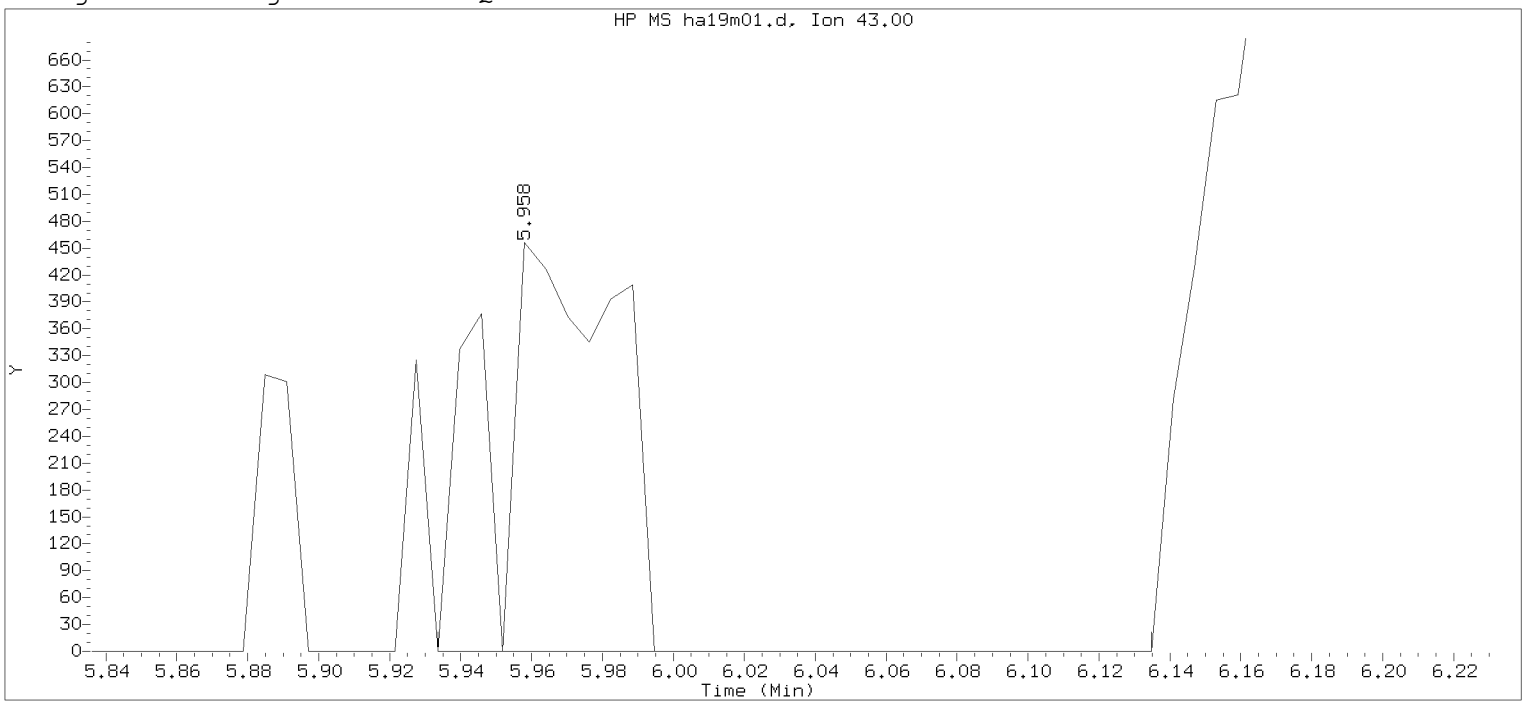
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

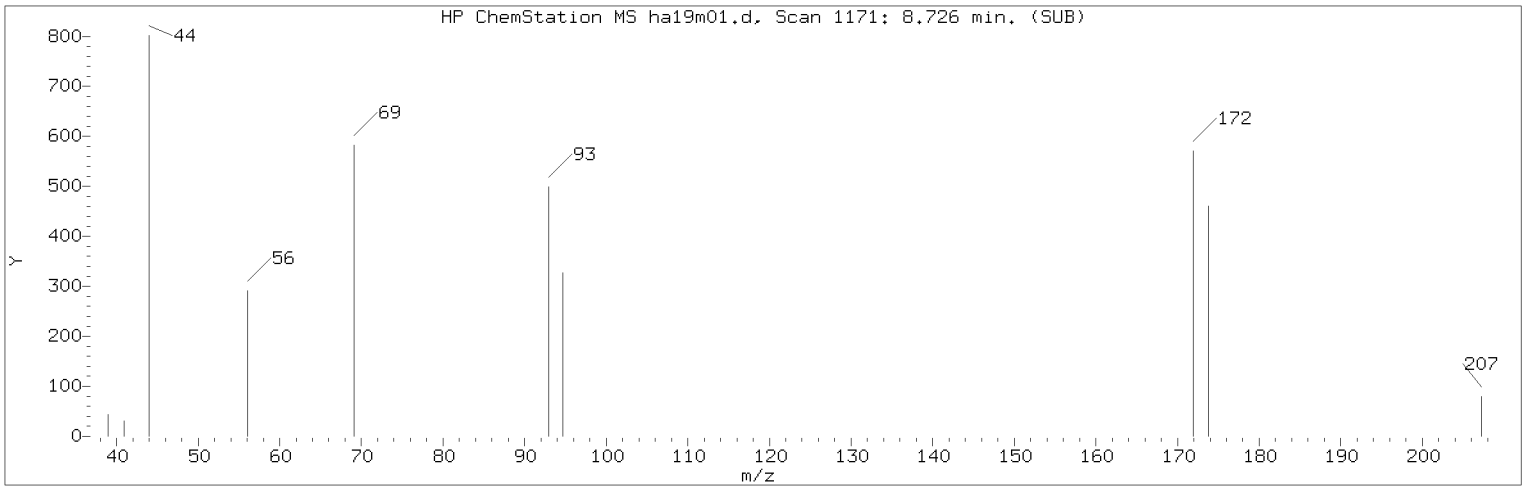
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

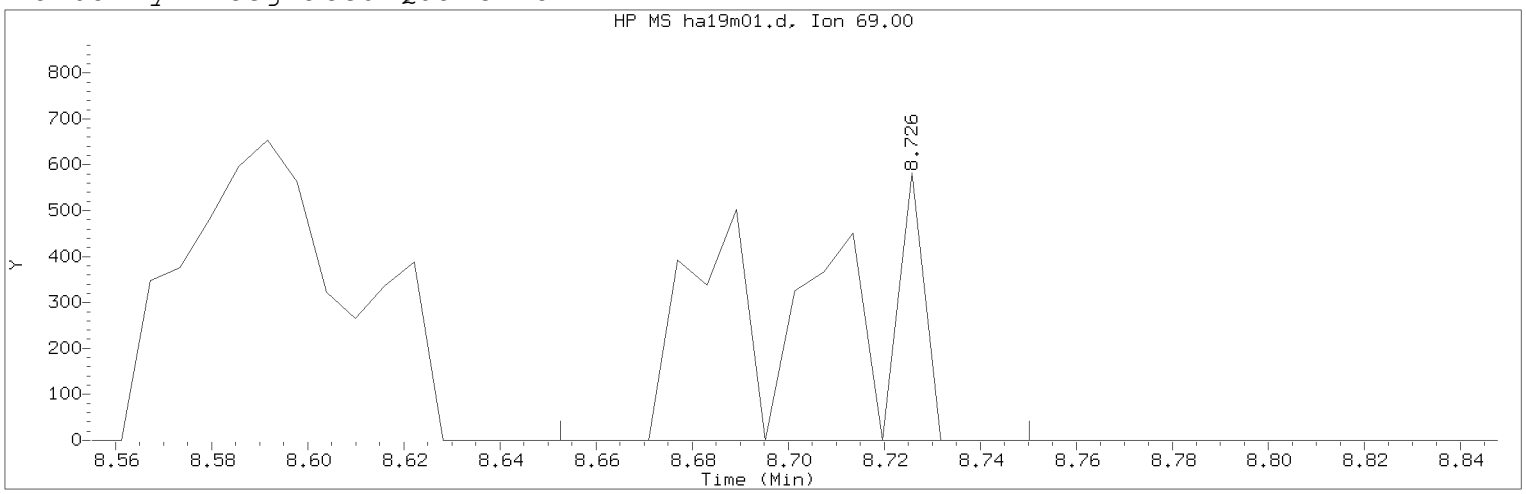
Compound Number	: 38		
Compound Name	: 2-Butanone		
Scan Number	: 717		
Retention Time (minutes)	: 5.958		
Quant Ion	: 43.00		
Area	: 1139		
On-column Amount (ng)	: 0.0975		
Integration start scan	: 712	Integration stop scan:	745
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

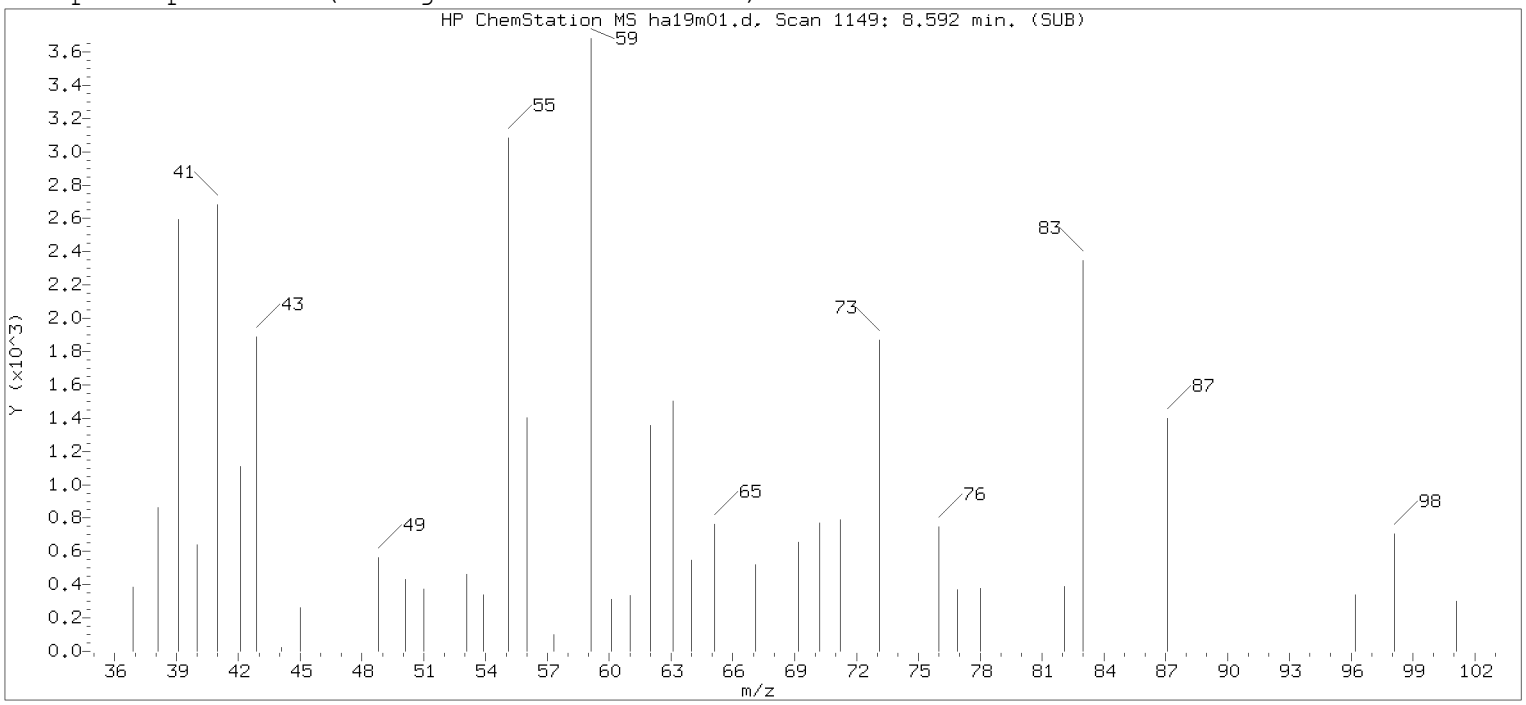
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1171
Retention Time (minutes): 8.726
Quant Ion : 69.00
Area (flag) : 1082M
On-Column Amount (ng) : 0.0509
Integration start scan : 1158 Integration stop scan: 1174
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

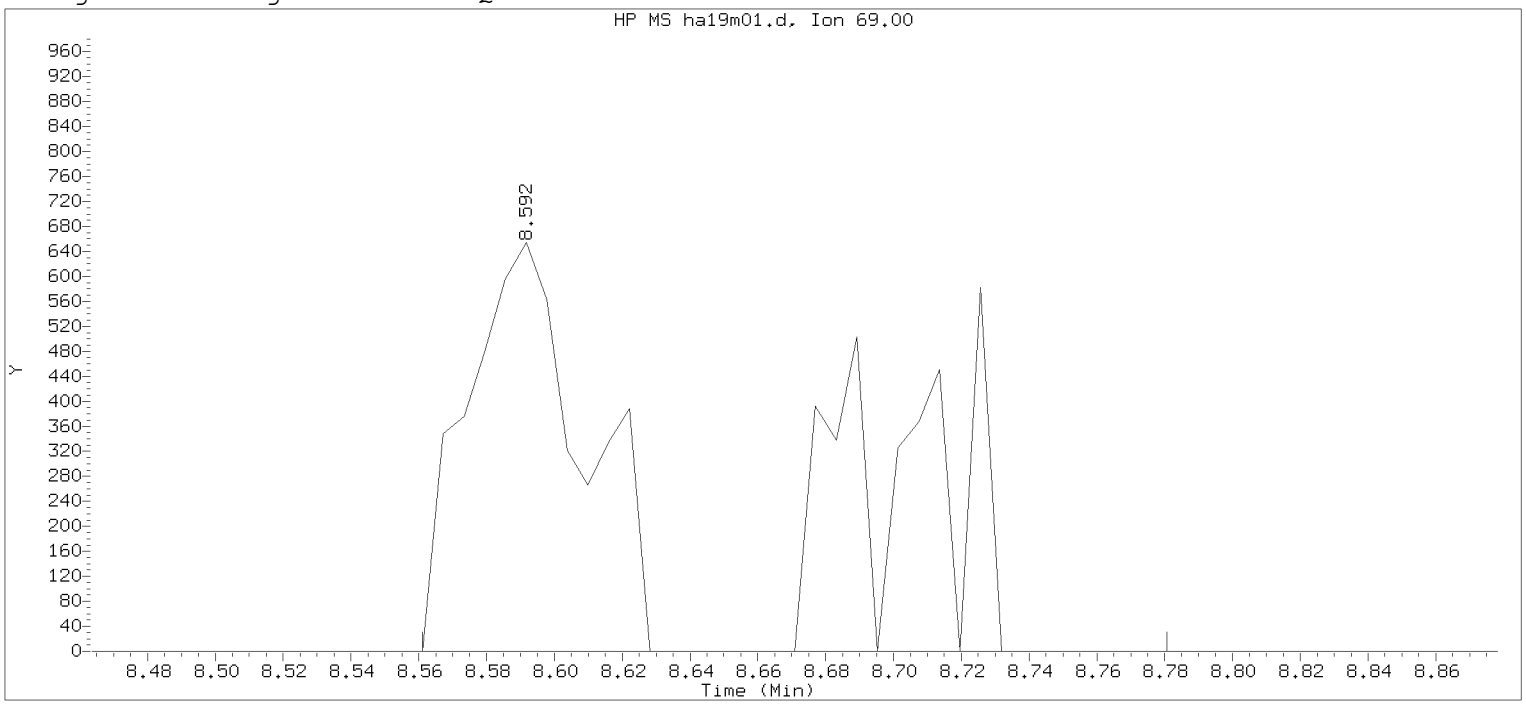
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

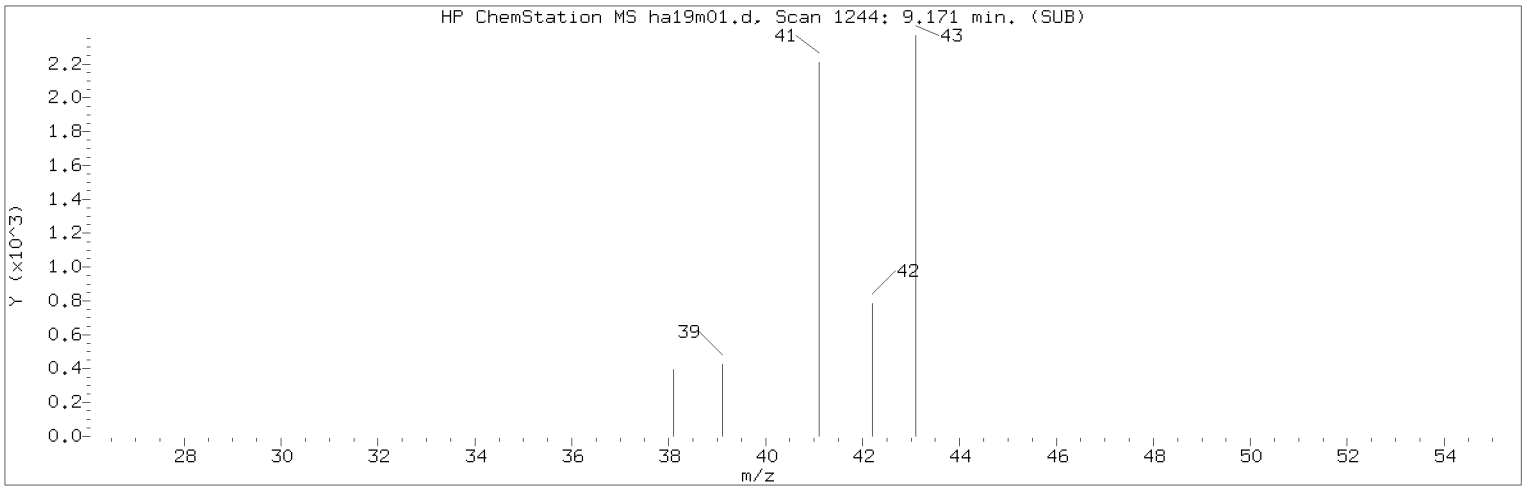
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

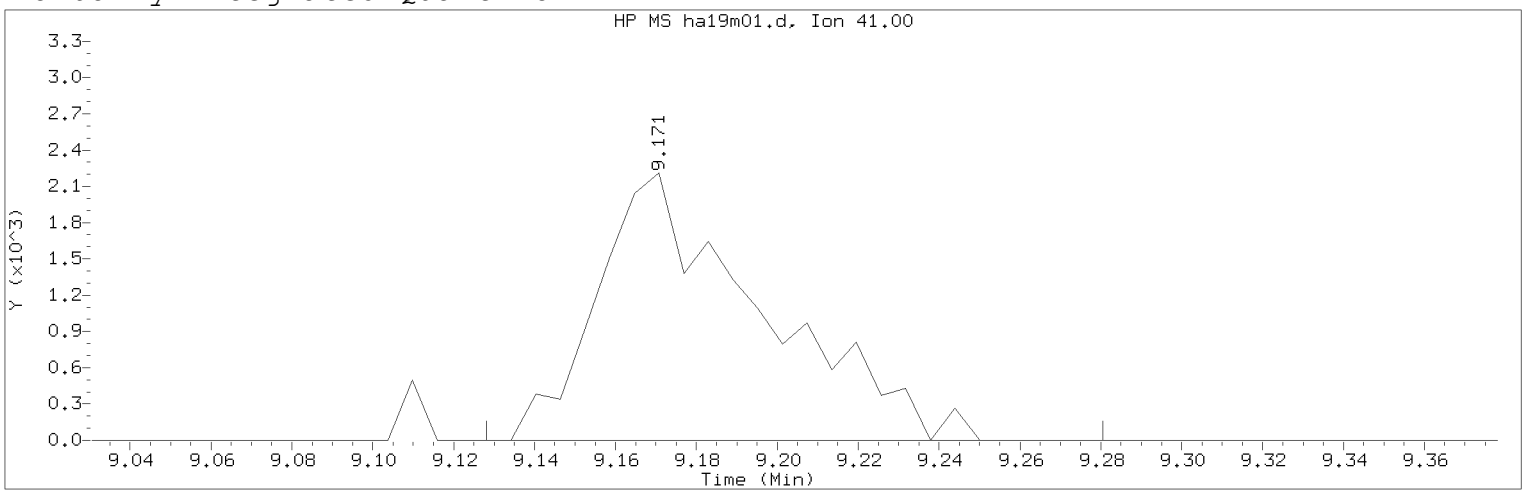
Compound Number	: 71		
Compound Name	: Methyl Methacrylate		
Scan Number	: 1149		
Retention Time (minutes)	: 8.592		
Quant Ion	: 69.00		
Area	: 2666		
On-column Amount (ng)	: 0.1337		
Integration start scan	: 1143	Integration stop scan:	1179
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

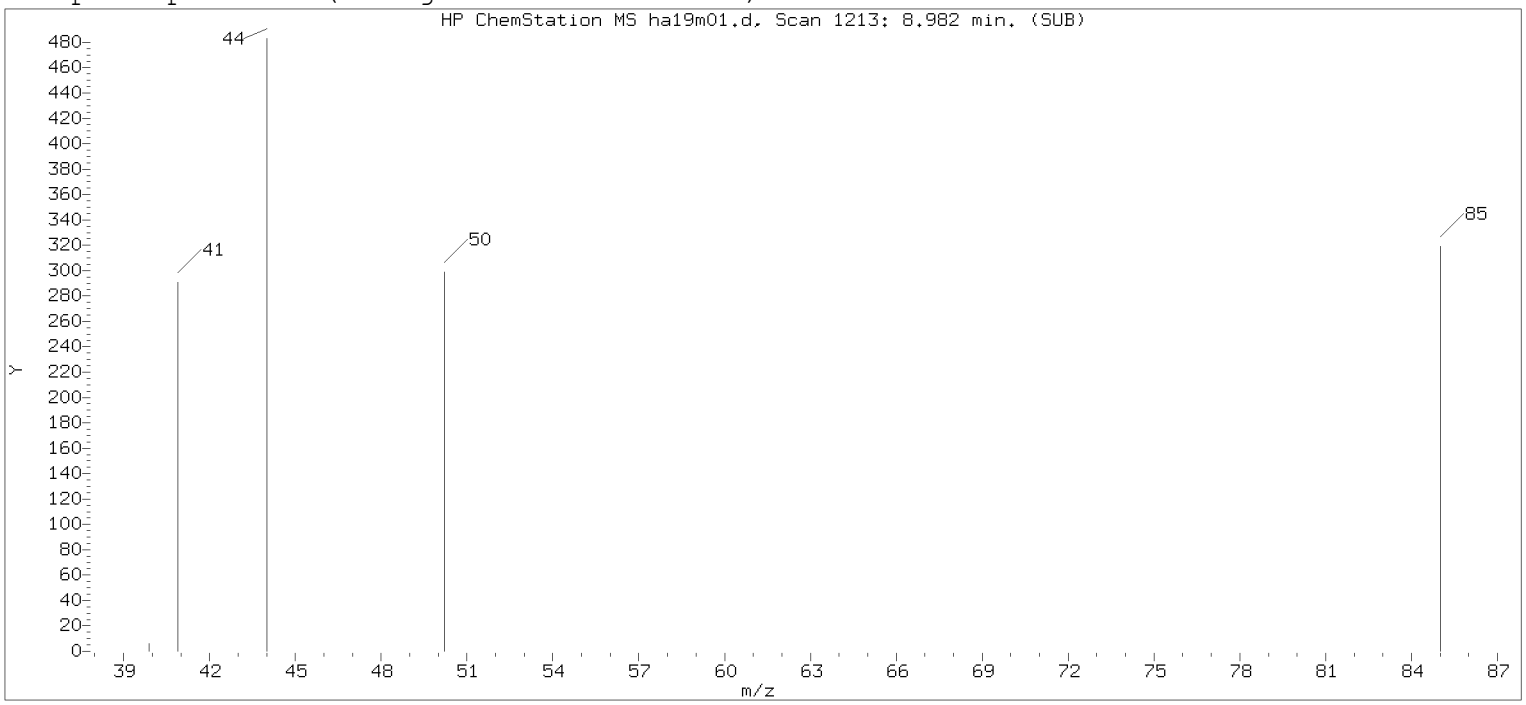
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1244
Retention Time (minutes): 9.171
Quant Ion : 41.00
Area (flag) : 6247M
On-Column Amount (ng) : 0.8918
Integration start scan : 1236 Integration stop scan: 1261
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

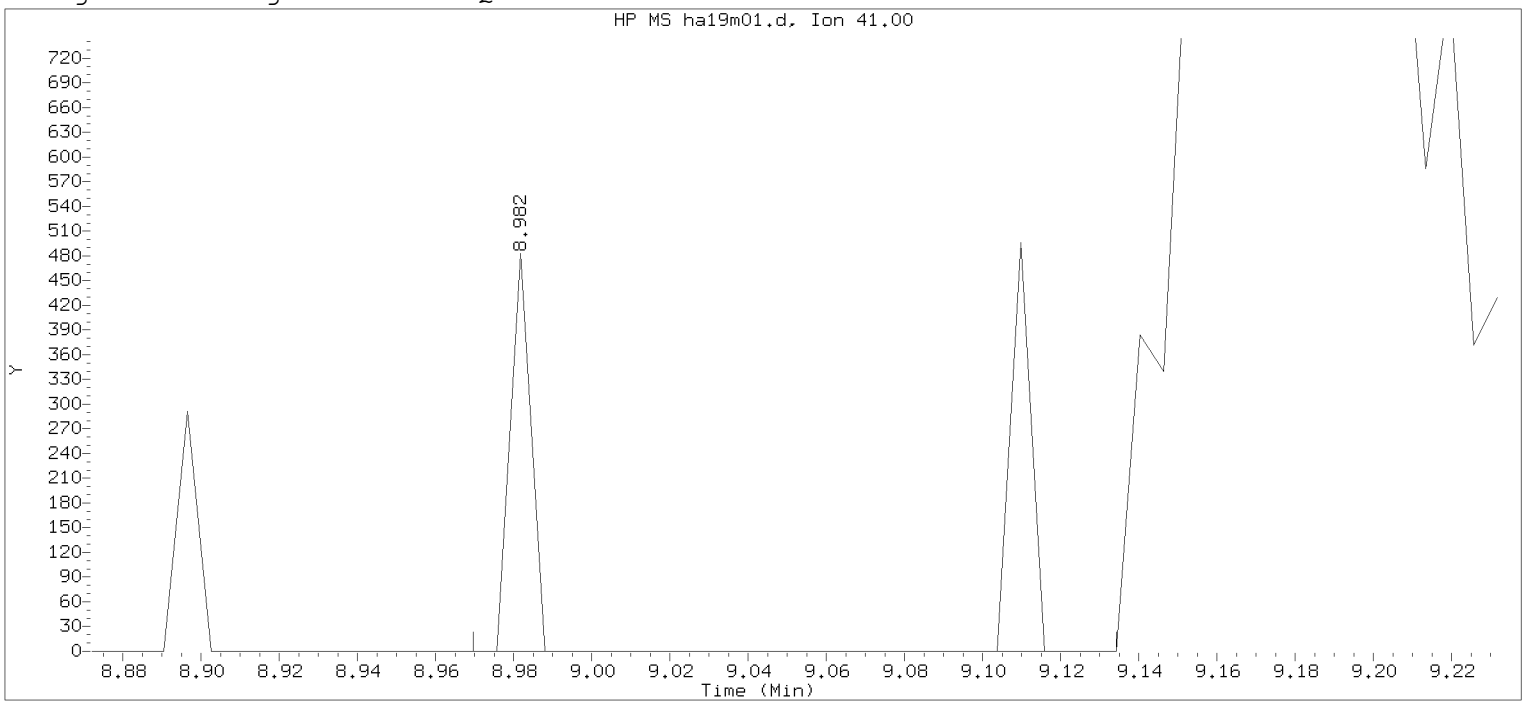
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

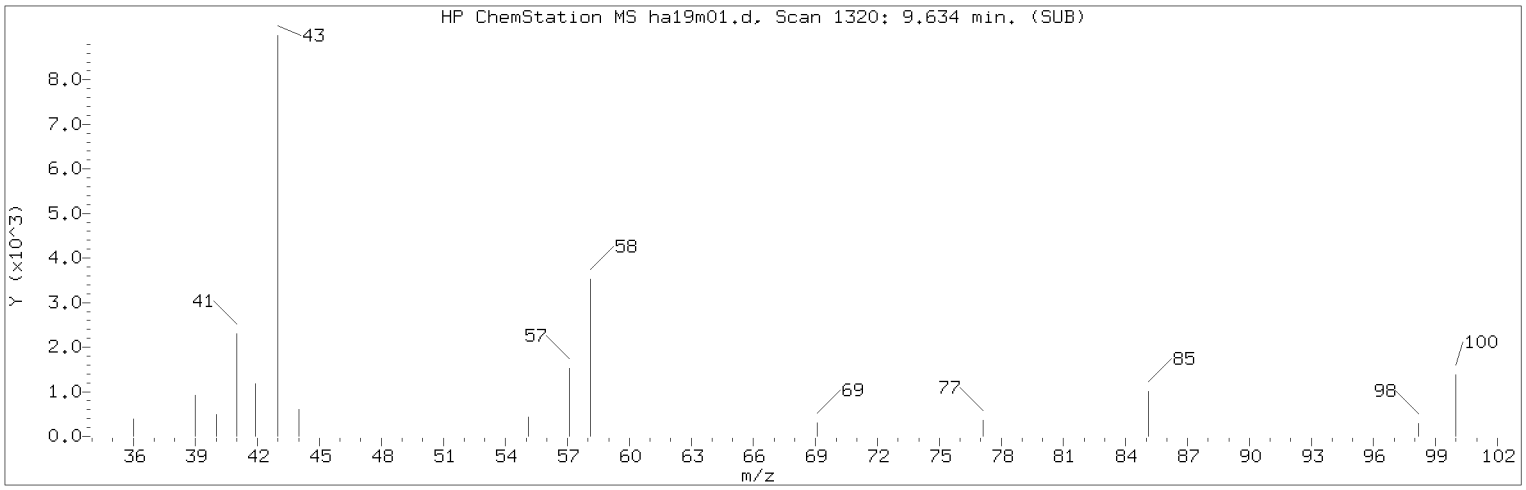
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

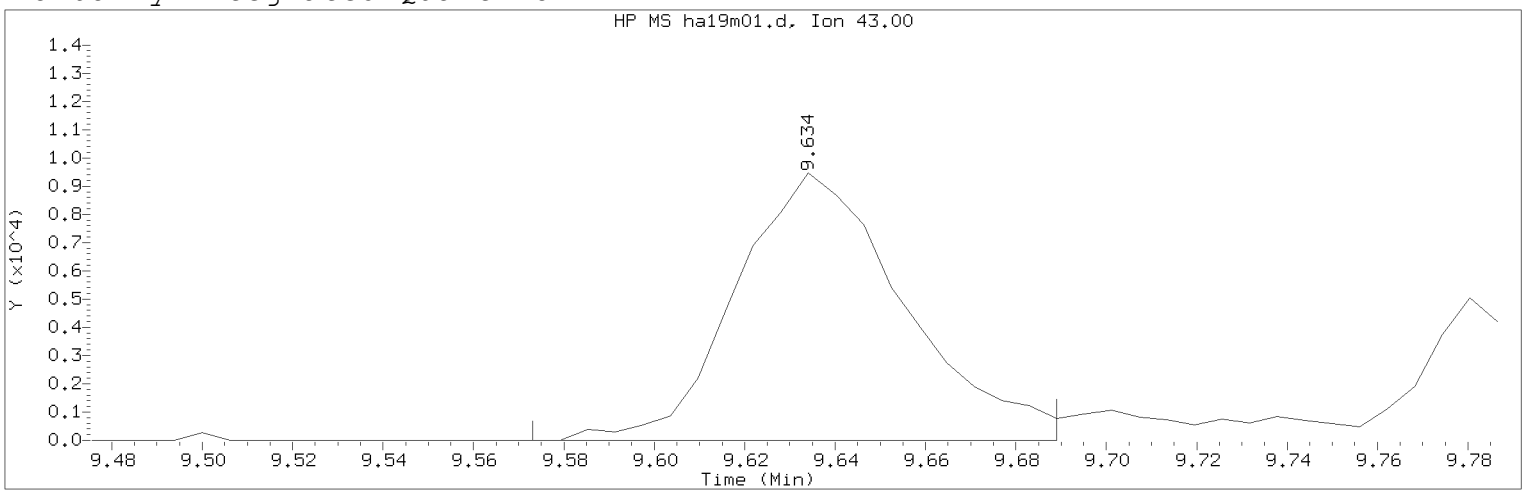
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1213
Retention Time (minutes): 8.982
Quant Ion : 41.00
Area : 358
On-column Amount (ng) : 0.0511
Integration start scan : 1210 Integration stop scan: 1237
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

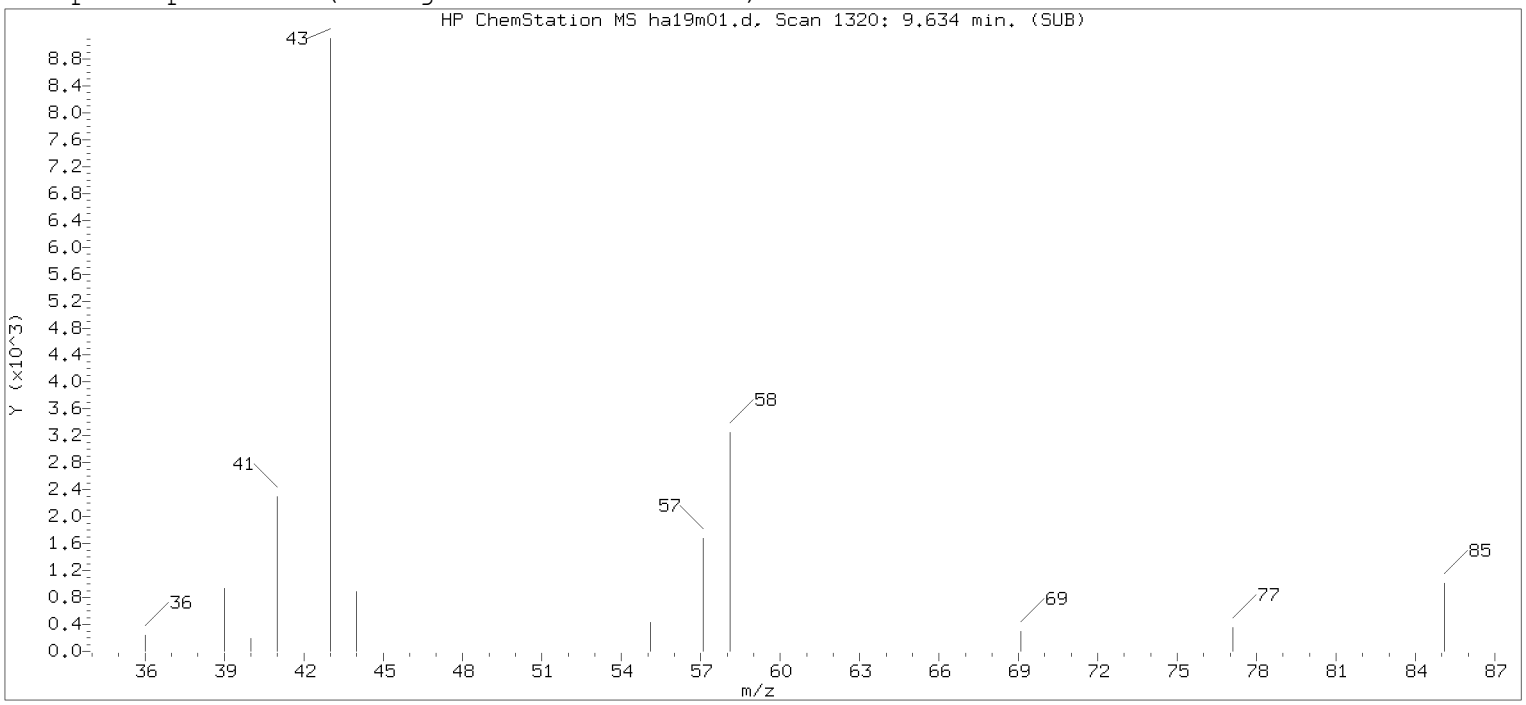
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1320
Retention Time (minutes): 9.634
Quant Ion : 43.00
Area (flag) : 24554M
On-Column Amount (ng) : 0.7929
Integration start scan : 1309 Integration stop scan: 1328
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

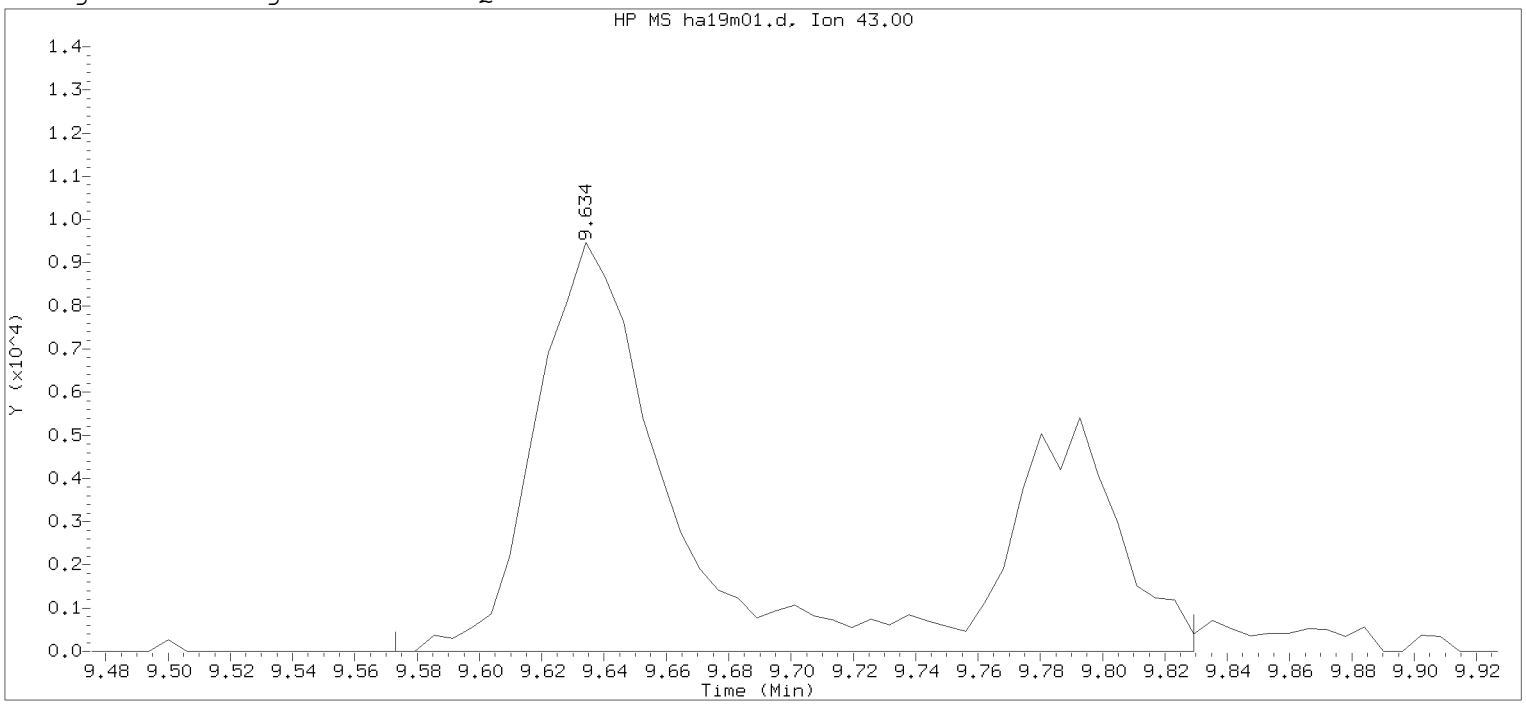
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

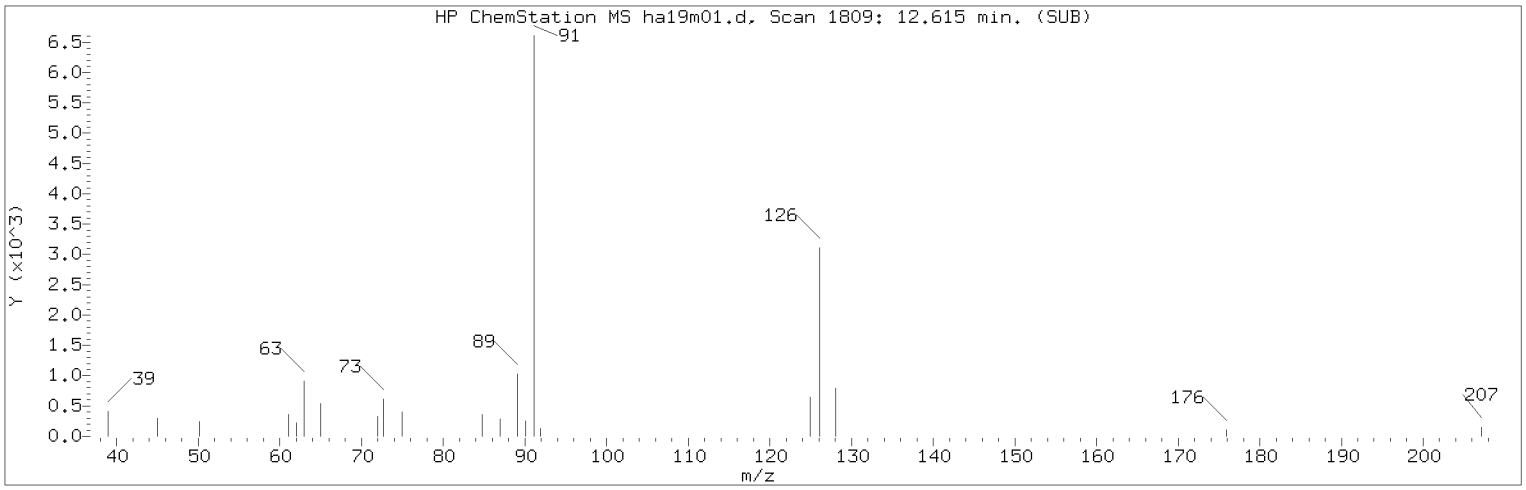
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

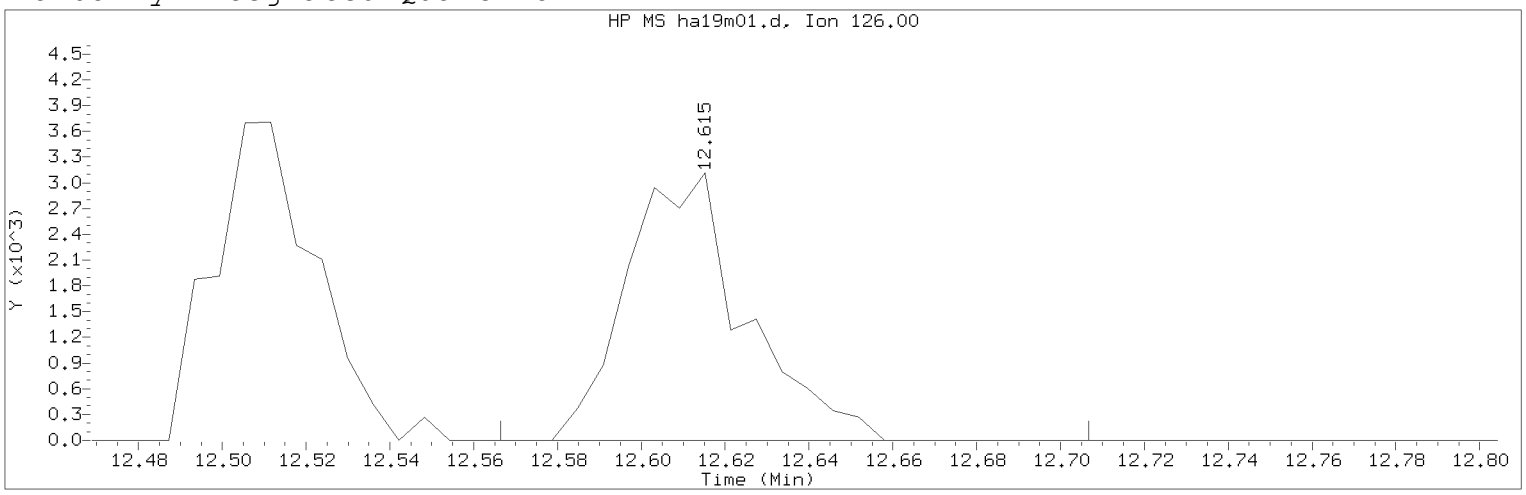
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1320
Retention Time (minutes): 9.634
Quant Ion : 43.00
Area : 39442
On-column Amount (ng) : 1.2576
Integration start scan : 1309 Integration stop scan: 1351
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

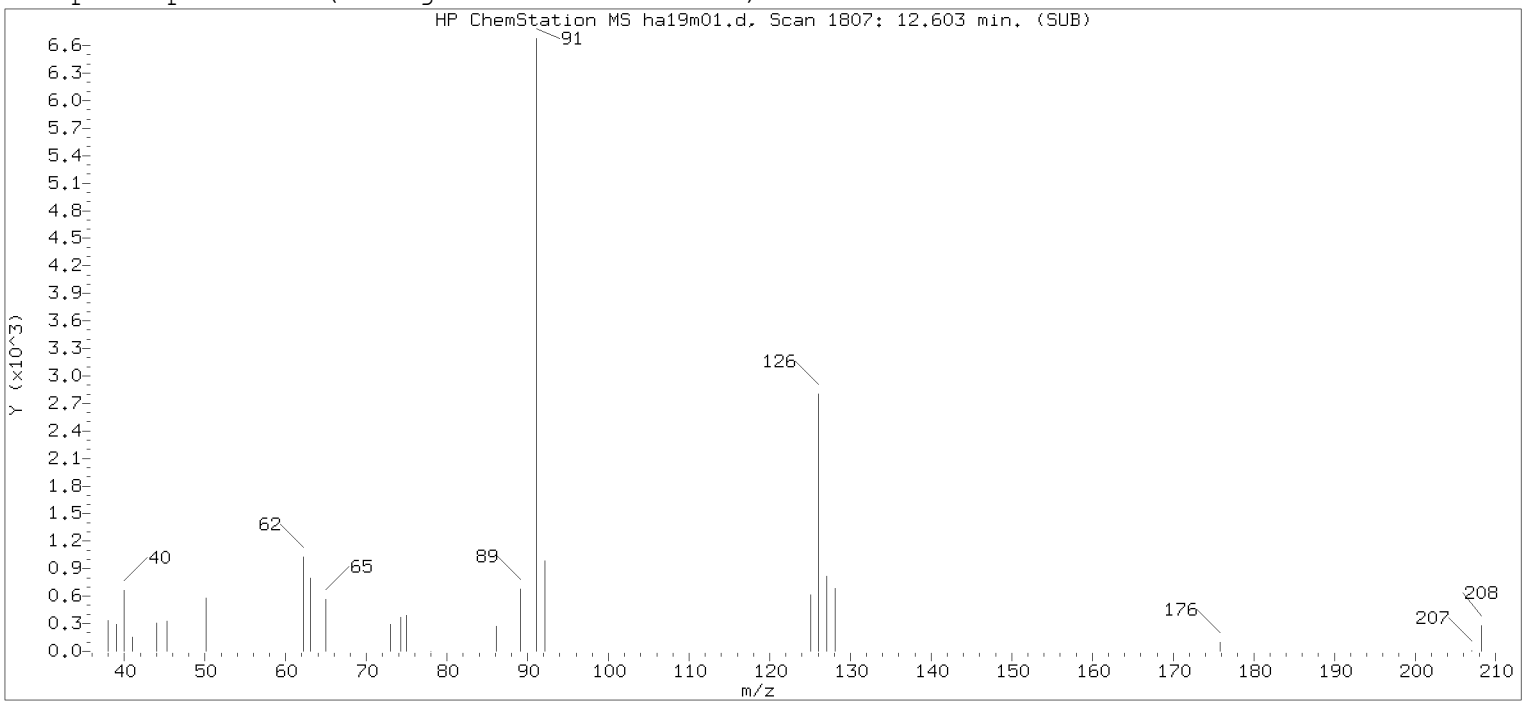
Compound Number : 122
Compound Name : 4-Chlorotoluene
Scan Number : 1809
Retention Time (minutes): 12.615
Quant Ion : 126.00
Area (flag) : 6130M
On-Column Amount (ng) : 0.0853
Integration start scan : 1800 Integration stop scan: 1823
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

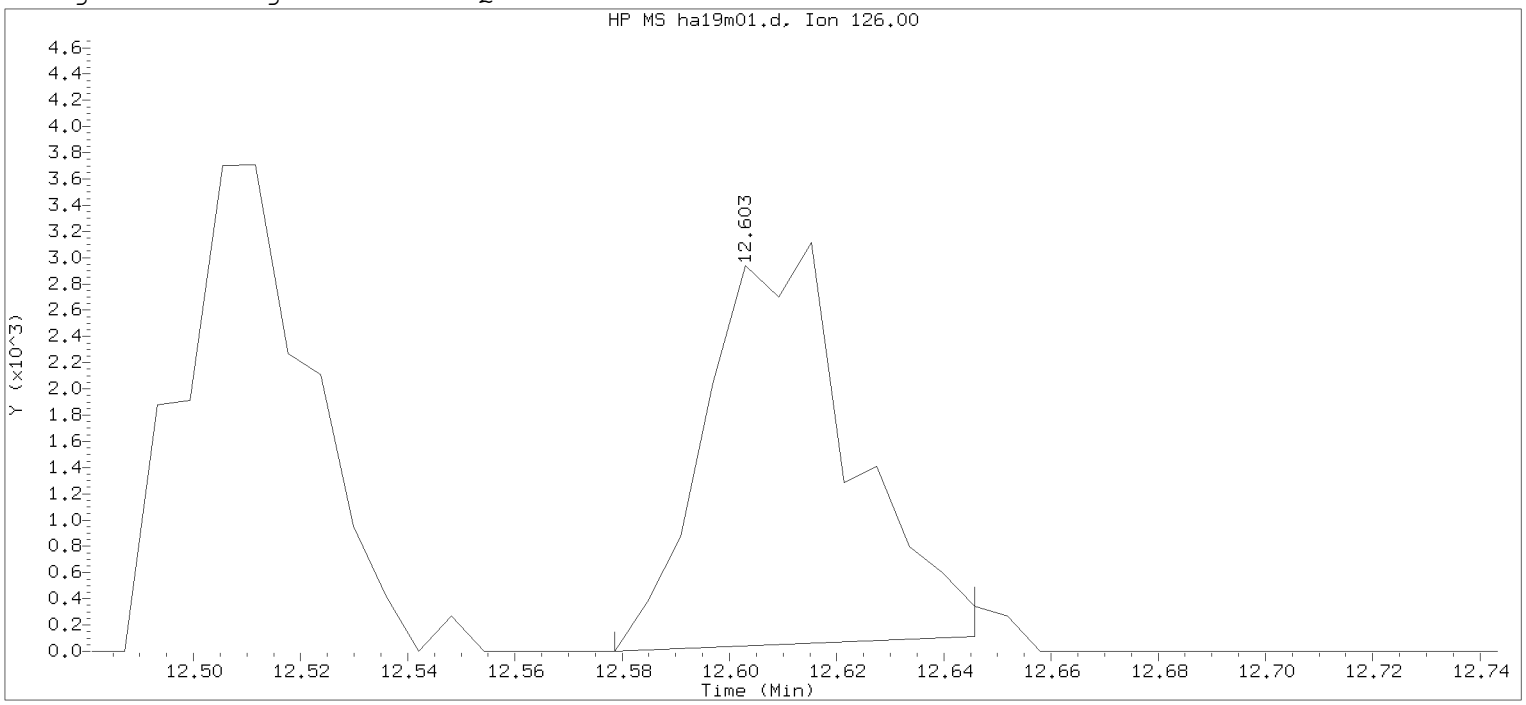
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



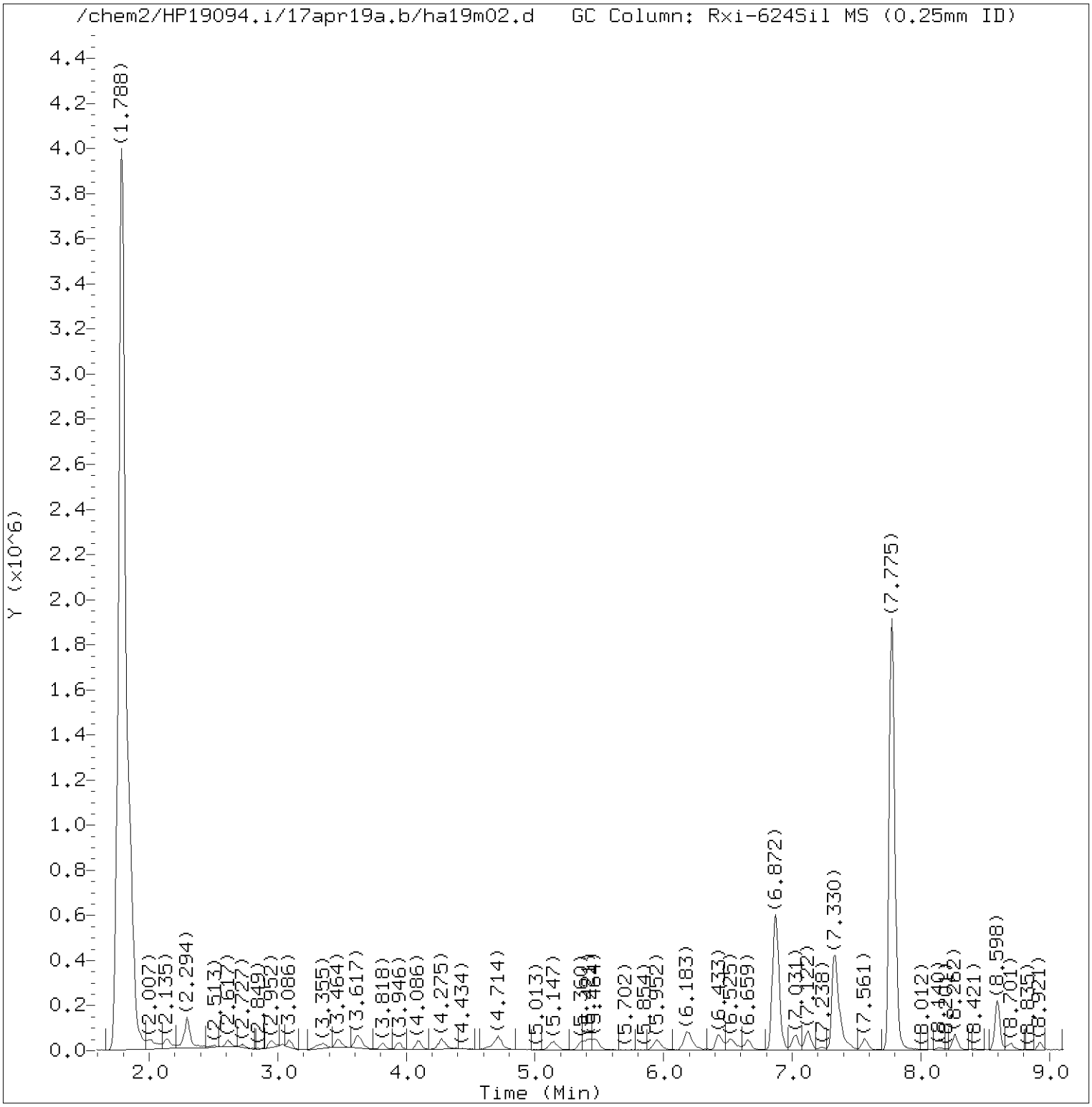
Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compound Number : 122
Compound Name : 4-Chlorotoluene
Scan Number : 1807
Retention Time (minutes): 12.603
Quant Ion : 126.00
Area : 5745
On-column Amount (ng) : 0.0799
Integration start scan : 1802 Integration stop scan: 1813
Y at integration start : 0 Y at integration end: 111

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user name: kevin.sposito



Total Ion Chromatogram (TIC)

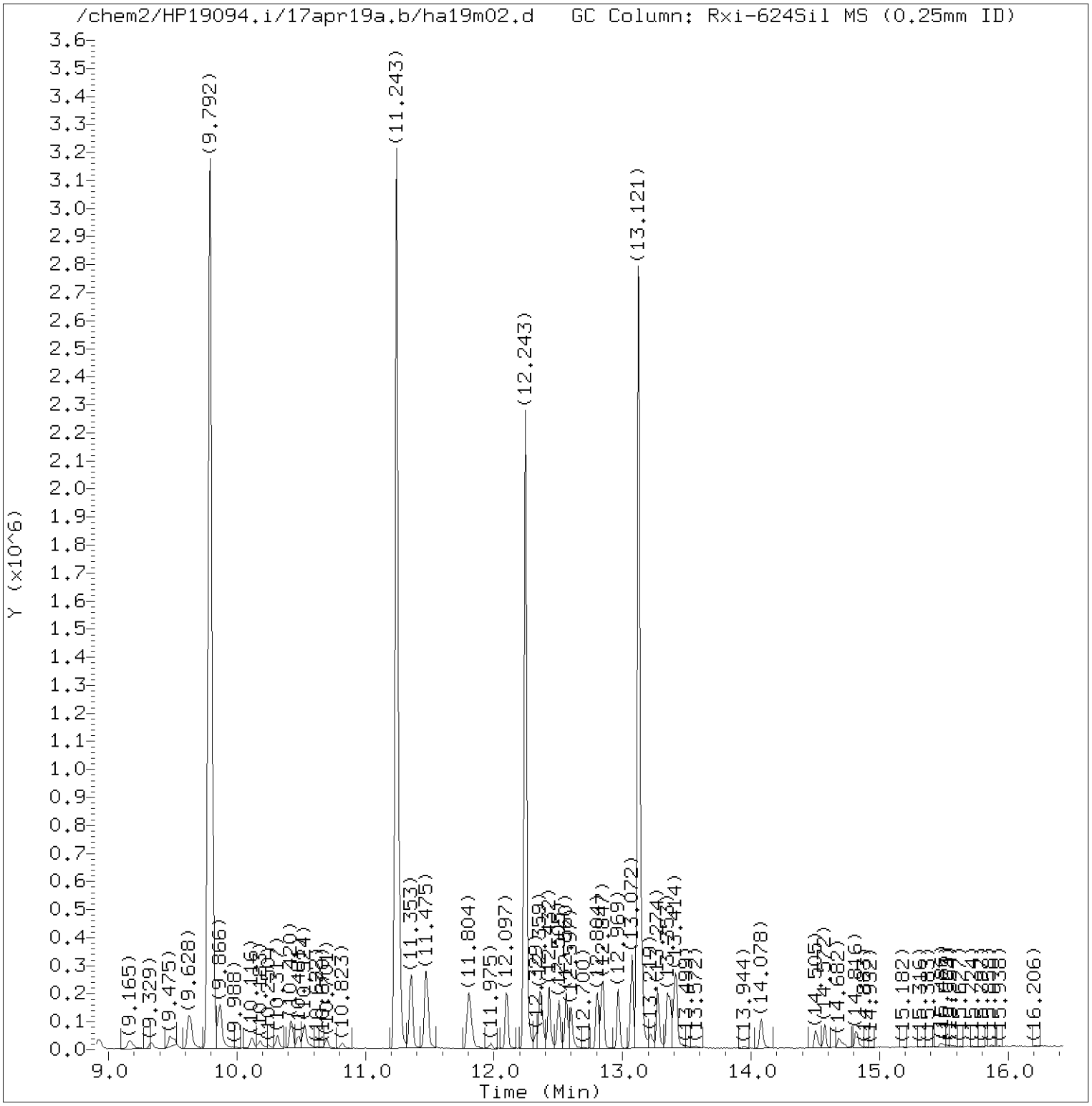
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

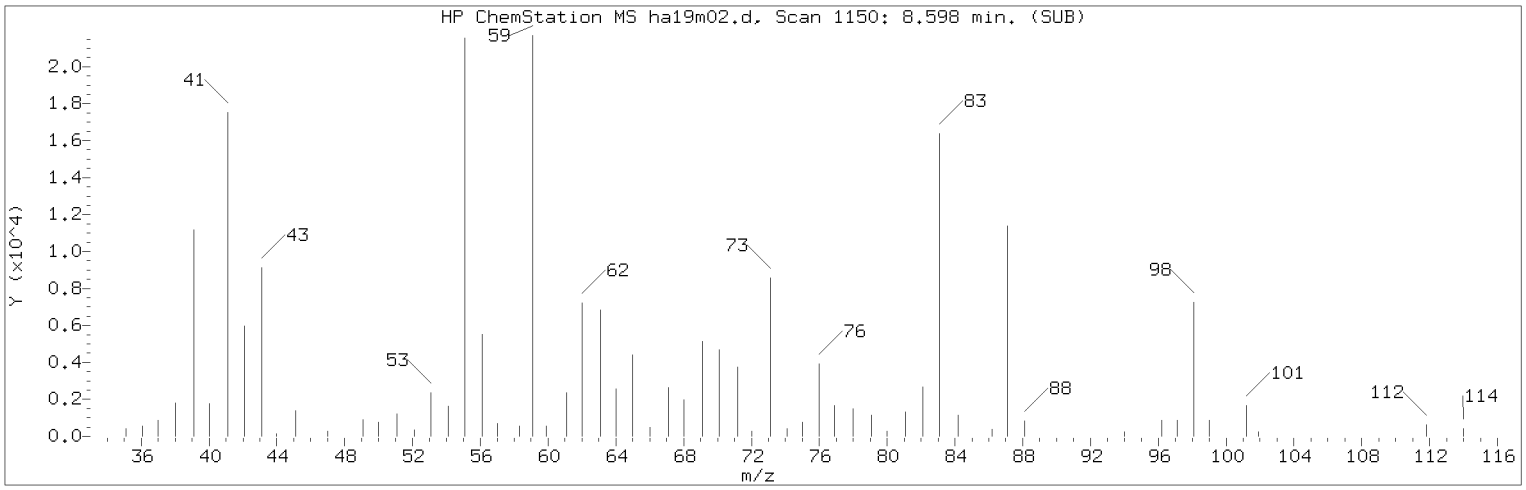
Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.300	65	56137	50.000
50)$Dibromofluoromethane	(2)	6.872	113	614234	10.125
57)$1,2-Dichloroethane-d4	(2)	7.323	102	100511	10.246
63)*Fluorobenzene	(2)	7.775	96	2706333	10.000
72) 1,4-Dioxane	(1)	8.598	88	2201M	17.242
82)$Toluene-d8	(3)	9.792	98	2610619	10.302
97)*Chlorobenzene-d5	(3)	11.243	117	1733515	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	715050	9.932
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	727953	10.000

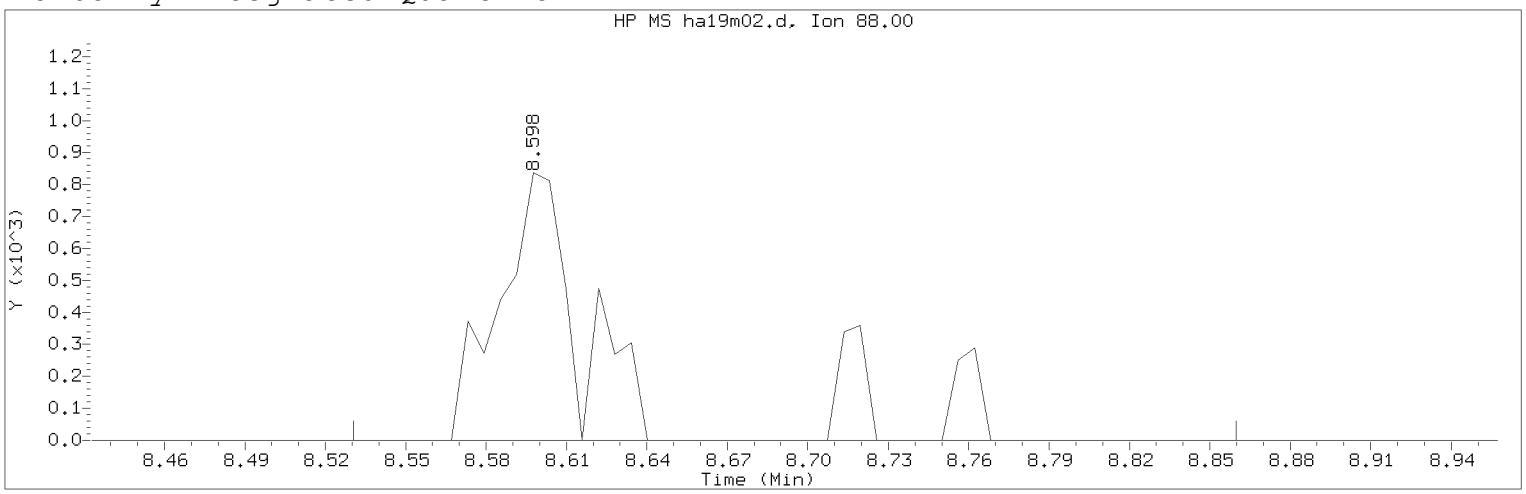
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

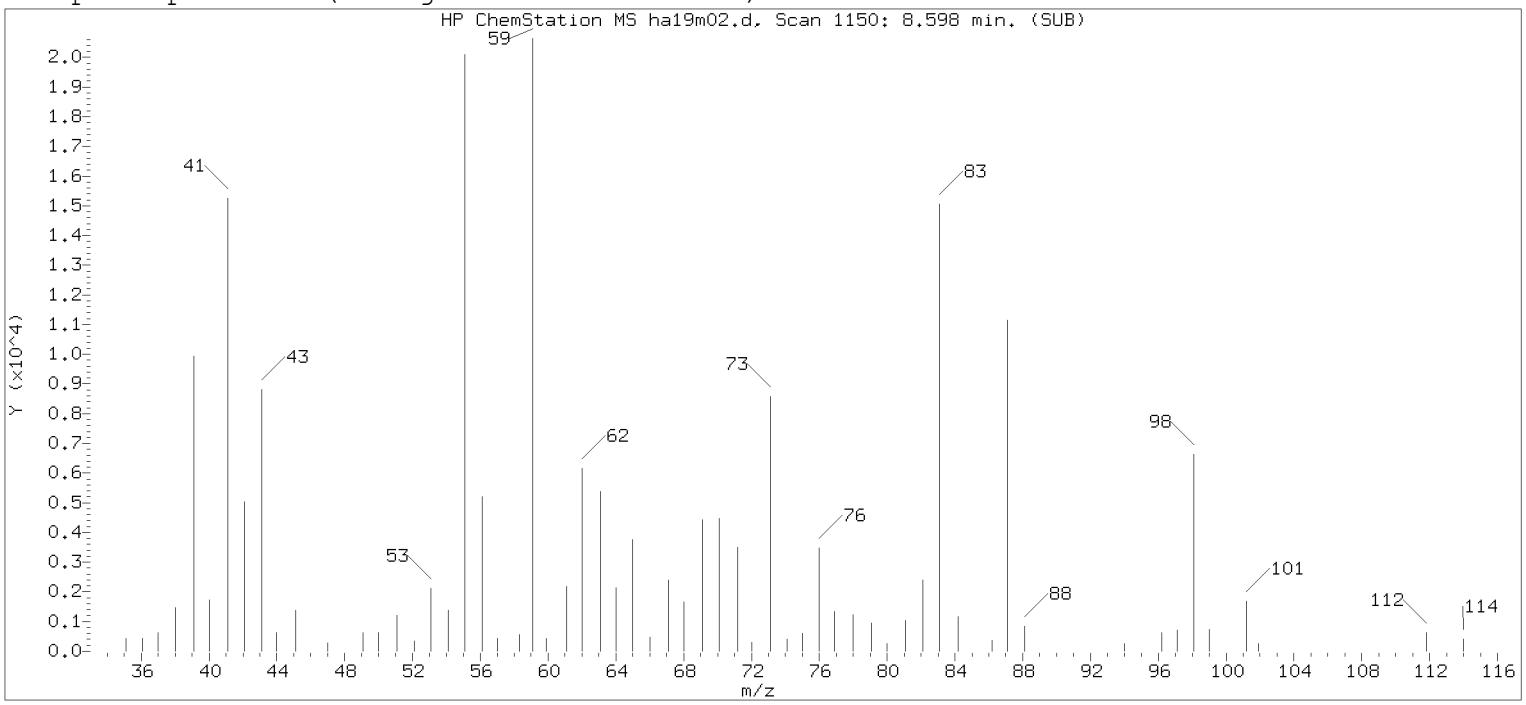
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area (flag) : 2201M
On-Column Amount (ng) : 17.2419
Integration start scan : 1138 Integration stop scan: 1192
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

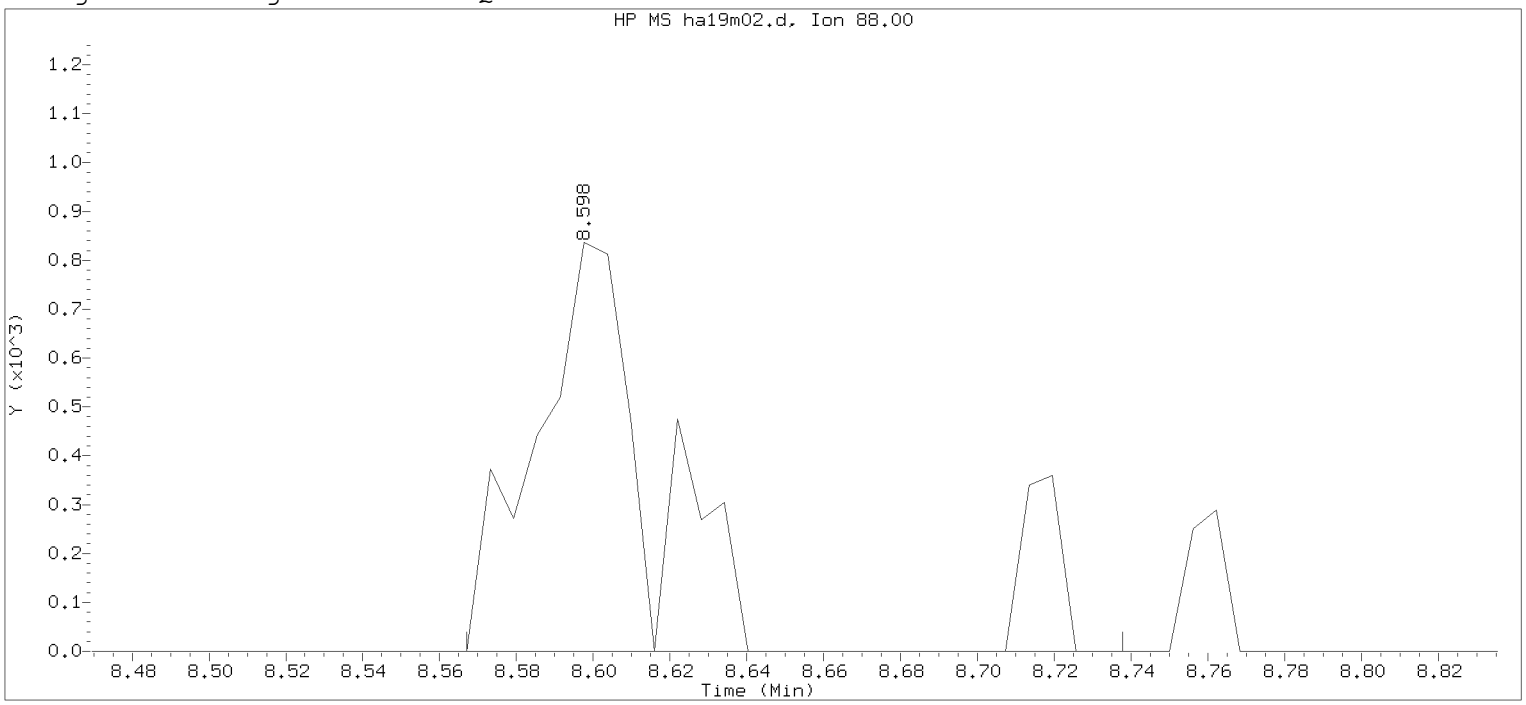
Analyst responsible for change: Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



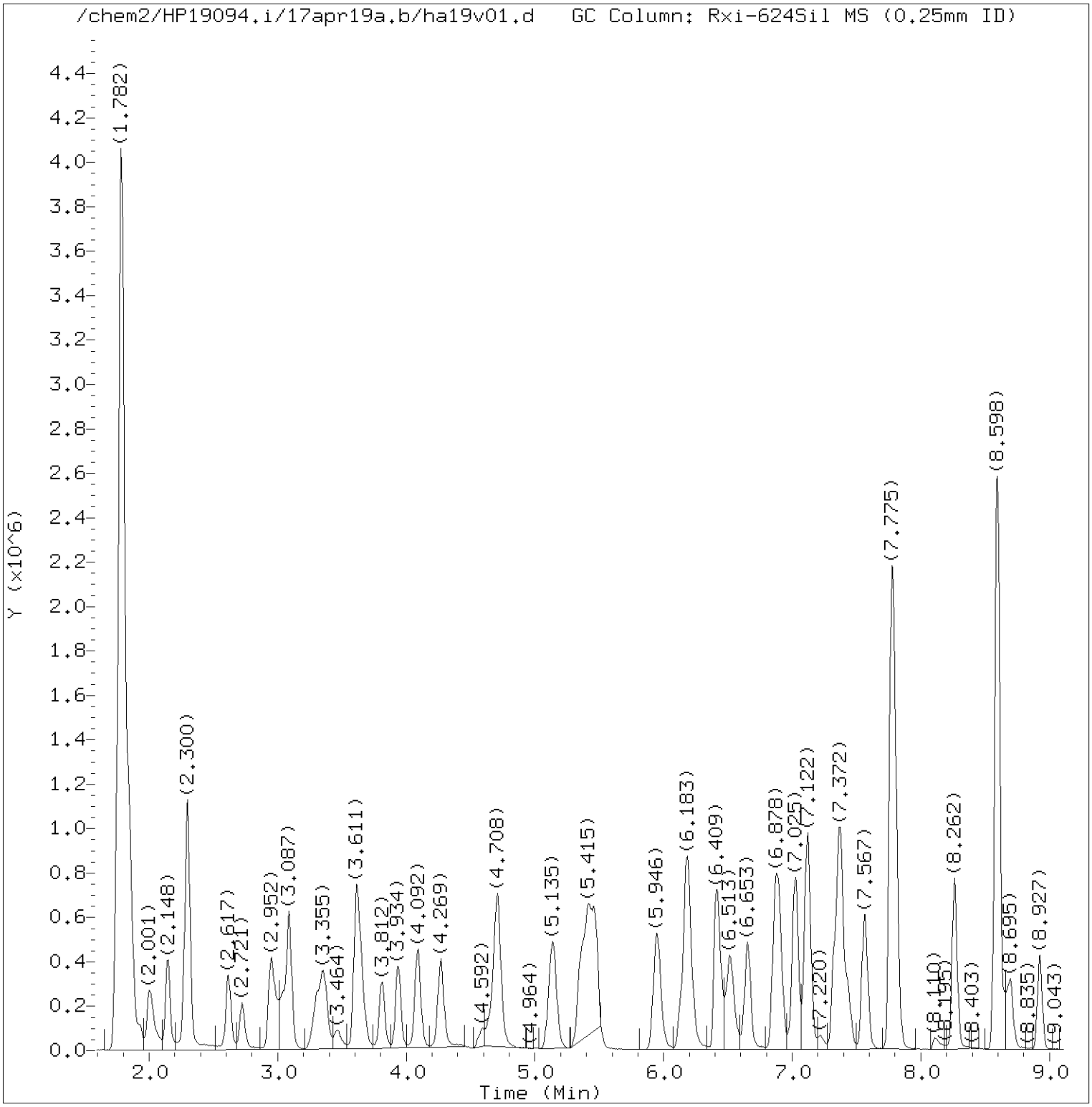
Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 14:59 Automation

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 2004
On-column Amount (ng) : 15.4065
Integration start scan : 1144 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 0

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user name: mkrause



Total Ion Chromatogram (TIC)

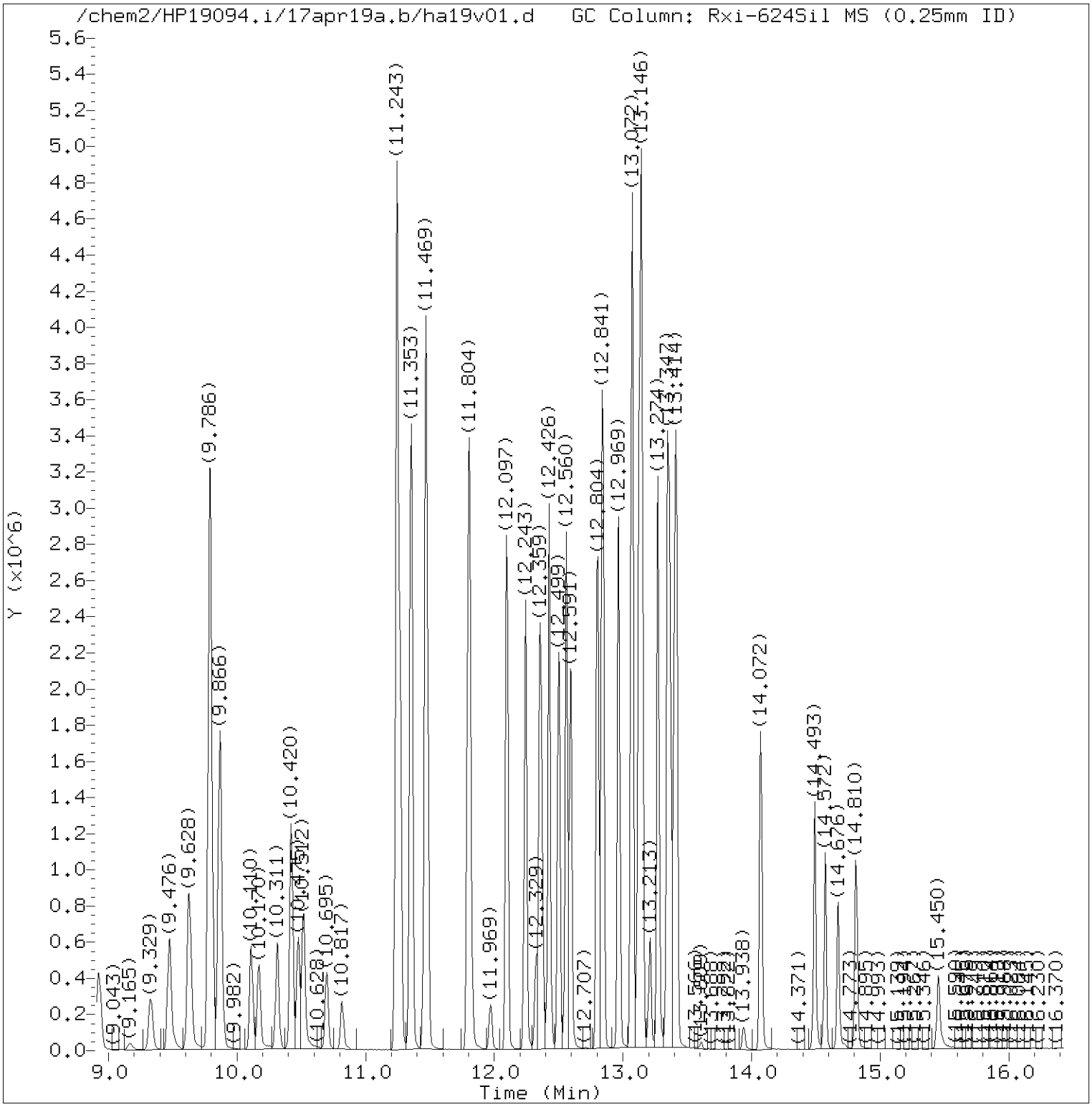
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.001	85	563011	5.308
2) Chloromethane	(2)	2.148	50	578444	5.194
5) Vinyl Chloride	(2)	2.282	62	500909	5.124
6) 1,3-Butadiene	(2)	2.300	39	633079	4.112
7) Bromomethane	(2)	2.617	94	323185	5.263
8) Chloroethane	(2)	2.721	64	272135	4.860
9) Dichlorofluoromethane	(2)	2.946	67	624740	4.849
10) Trichlorofluoromethane	(2)	3.032	101	556123	4.910
11) Ethyl ether	(2)	3.300	59	213655M	4.761
12) Freon 123a	(2)	3.355	67	446006	5.219
13) Acrolein	(1)	3.471	56	179786	36.009
15) 1,1-Dichloroethene	(2)	3.605	96	307542	5.056
16) Freon 113	(2)	3.641	101	327270	5.111
14) Acetone	(1)	3.641	43	206697	34.187
17) Methyl Iodide	(2)	3.812	142	562737	4.981
18) Carbon Disulfide	(2)	3.934	76	864141	5.063
21) Methyl Acetate	(1)	4.068	43	101283	4.930
22) Allyl Chloride	(2)	4.092	41	526149	4.457
26)*t-Butyl Alcohol-d10	(1)	4.257	65	65618M	50.000
23) Methylene Chloride	(2)	4.269	84	327256	4.926
28) t-Butyl Alcohol	(1)	4.422	59	69703M	42.456
29) Acrylonitrile	(1)	4.592	53	228043	27.911
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	633118	5.194
31) trans-1,2-Dichloroethene	(2)	4.708	96	342063	5.092
32) n-Hexane	(2)	5.135	57	514137	4.993
33) 1,1-Dichloroethane	(2)	5.354	63	662036	4.995
34) di-Isopropyl Ether	(2)	5.409	45	1194051	5.286
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	586459	5.237
37) Ethyl t-butyl ether	(2)	5.946	59	887440	5.110
40) 1,2-Dichloroethene (Total)	(2)		96	712881	10.037
38) 2-Butanone	(1)	6.122	43	486160	39.423
39) cis-1,2-Dichloroethene	(2)	6.177	96	370818	4.945
41) 2,2-Dichloropropane	(2)	6.196	77	490856	4.943
42) Propionitrile	(1)	6.208	54	97975	33.438
45) Methacrylonitrile	(1)	6.409	67	487503	39.795
47) Bromochloromethane	(2)	6.513	128	141182	4.762
48) Tetrahydrofuran	(1)	6.525	71	85029	27.601
49) Chloroform	(2)	6.653	83	613368	4.905

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.866	113	598765	9.742
51) 1,1,1-Trichloroethane	(2)	6.903	97	526746	4.946
52) Cyclohexane	(2)	7.025	56	640415	4.877
55) 1,1-Dichloropropene	(2)	7.116	75	476431	4.817
54) Carbon Tetrachloride	(2)	7.122	117	442505	4.949
56) Isobutyl Alcohol	(1)	7.226	41	75268M	106.240
57)$1,2-Dichloroethane-d4	(2)	7.317	102	96640	9.724
58) Benzene	(2)	7.372	78	1414274	4.924
59) 1,2-Dichloroethane	(2)	7.433	62	340036	4.952
60) t-Amyl methyl ether	(2)	7.567	73	728163	5.156
63)*Fluorobenzene	(2)	7.775	96	2741774	10.000
62) n-Heptane	(2)	7.799	43	575765	4.749
65) n-Butanol	(1)	8.110	56	106580M	204.311
67) Trichloroethene	(2)	8.262	95	374579	4.926
70) 1,2-Dichloropropane	(2)	8.585	63	375823	5.018
69) Methylcyclohexane	(2)	8.598	83	596840	4.646
71) Methyl Methacrylate	(1)	8.659	69	133421M	5.954
73) Dibromomethane	(2)	8.695	93	145895	5.053
72) 1,4-Dioxane	(1)	8.713	88	13854MA	106.938
74) Bromodichloromethane	(2)	8.927	83	394161	4.984
76) 2-Nitropropane	(1)	9.165	41	39085A	5.288
80) cis-1,3-Dichloropropene	(2)	9.476	75	442513	4.964
81) 4-Methyl-2-Pentanone	(1)	9.622	43	849519A	25.997
82)$Toluene-d8	(3)	9.793	98	2654233	10.329
83) Toluene	(3)	9.866	92	887106	5.224
84) trans-1,3-Dichloropropene	(3)	10.110	75	346271	5.235
85) 1,3-Dichloropropene (total)	(3)		75	788784	10.198
86) Ethyl Methacrylate	(3)	10.170	69	267539	5.468
88) 1,1,2-Trichloroethane	(3)	10.311	97	200345	5.079
89) Tetrachloroethene	(3)	10.420	166	411880	5.230
90) 1,3-Dichloropropane	(3)	10.475	76	367527	5.206
91) 2-Hexanone	(1)	10.512	43	594667	25.822
93) Dibromochloromethane	(3)	10.695	129	232377	4.971
95) 1,2-Dibromoethane	(3)	10.817	107	193073	5.176
97)*Chlorobenzene-d5	(3)	11.243	117	1757963	10.000
98) Chlorobenzene	(3)	11.268	112	935162	5.051
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	310848	5.042
100) Ethylbenzene	(3)	11.353	91	1700363	5.168

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

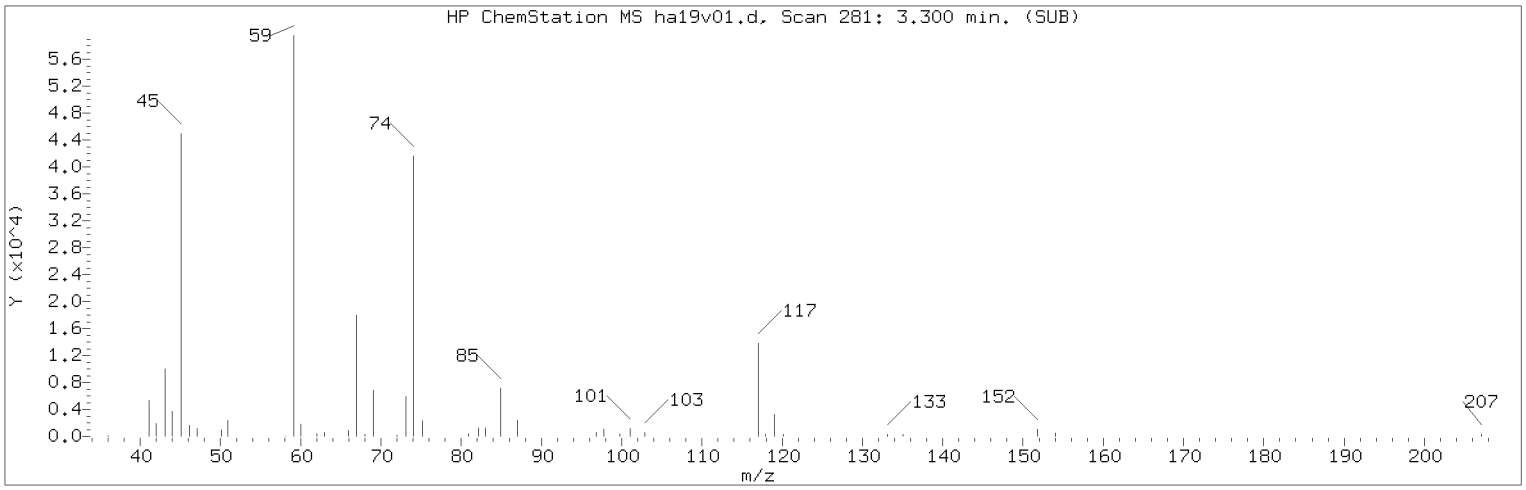
Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
101) m+p-Xylene	(3)	11.469	106	1319755	10.549
105) Xylene (Total)	(3)		106	1945056	15.753
104) o-Xylene	(3)	11.798	106	625301	5.204
106) Styrene	(3)	11.810	104	1008060	5.495
107) Bromoform	(3)	11.969	173	118111	5.059
108) Isopropylbenzene	(3)	12.097	105	1685793	5.362
111)$4-Bromofluorobenzene	(3)	12.243	95	734620	10.062
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	240295	4.911
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	215887	24.883
114) Bromobenzene	(4)	12.359	156	372979	4.999
116) 1,2,3-Trichloropropane	(4)	12.377	110	63233	5.166
117) n-Propylbenzene	(4)	12.426	91	2070313	5.190
119) 2-Chlorotoluene	(4)	12.505	126	384491	5.097
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	1400449	5.218
122) 4-Chlorotoluene	(4)	12.597	126	387082	5.105
125) tert-Butylbenzene	(4)	12.804	134	311249	5.339
126) Pentachloroethane	(4)	12.835	167	232955	5.349
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1403354	5.246
128) sec-Butylbenzene	(4)	12.969	105	1825078	5.218
131) 1,3-Dichlorobenzene	(4)	13.066	146	734703	5.012
132) p-Isopropyltoluene	(4)	13.072	119	1514018	5.290
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	758097	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	740069	4.845
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	630317	5.344
136) Benzyl Chloride	(4)	13.213	126	81548M	5.289
138) n-Butylbenzene	(4)	13.365	92	760910	5.414
139) 1,2-Dichlorobenzene	(4)	13.395	146	651502	5.004
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	25331	5.234
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	407028	4.849
146) Hexachlorobutadiene	(4)	14.572	225	184349	4.433
147) Naphthalene	(4)	14.676	128	613328	4.965
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	330585	4.661

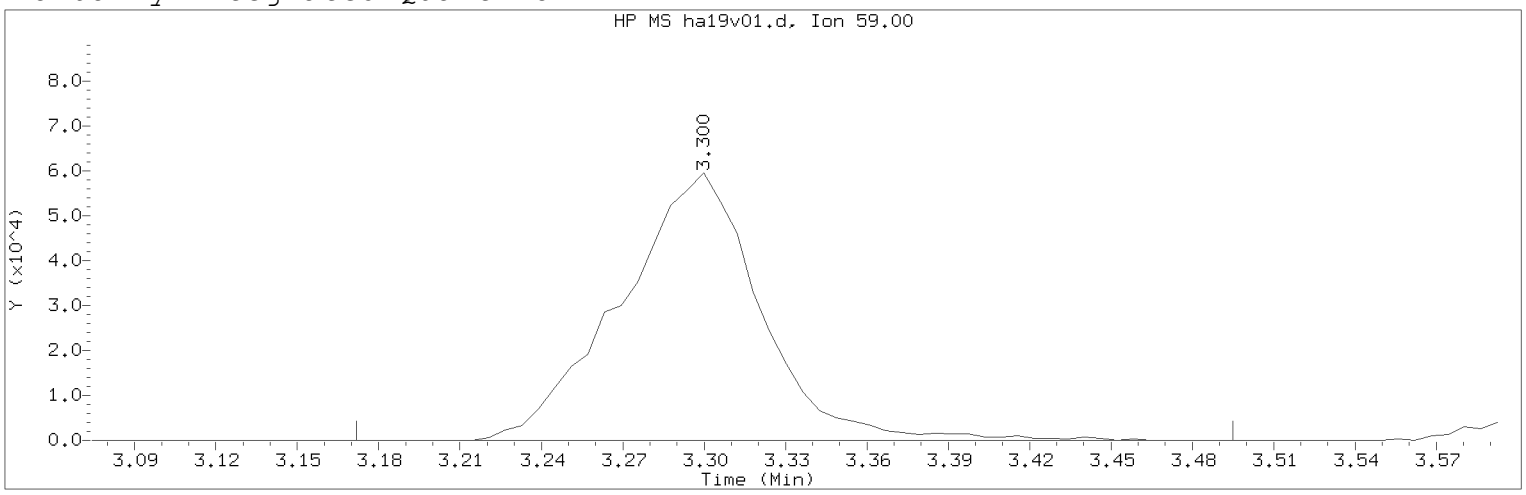
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

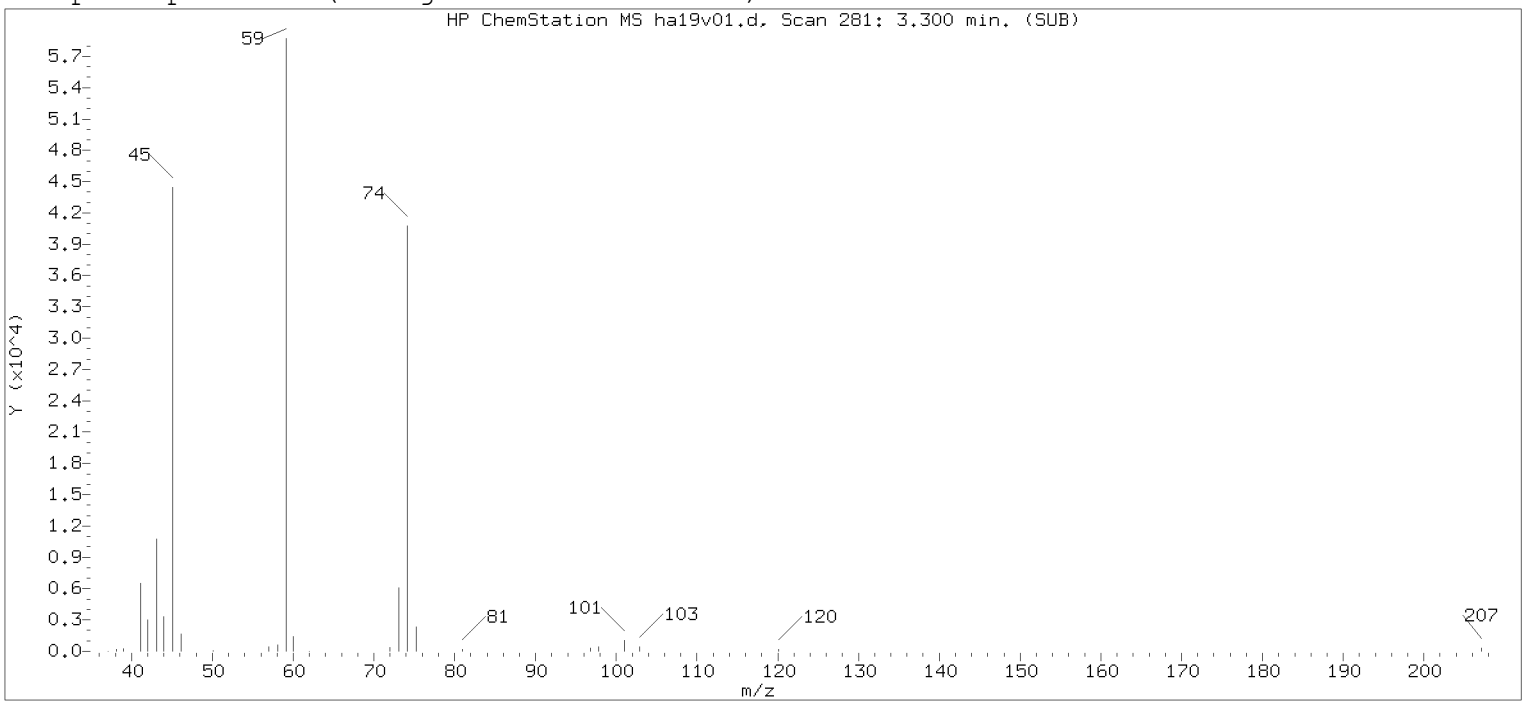
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Quant Ion : 59.00
Area (flag) : 213655M
On-Column Amount (ng) : 4.7610
Integration start scan : 259 Integration stop scan: 312
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

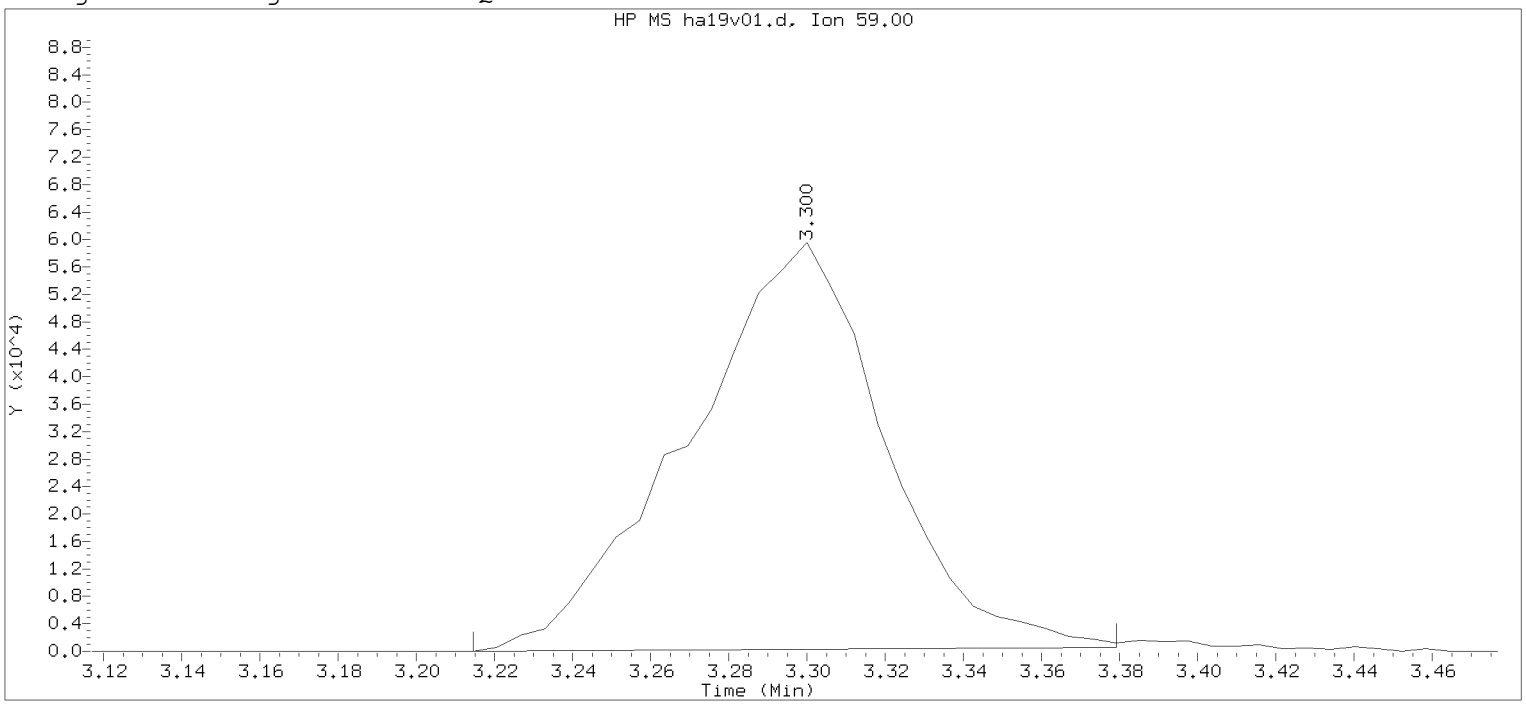
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

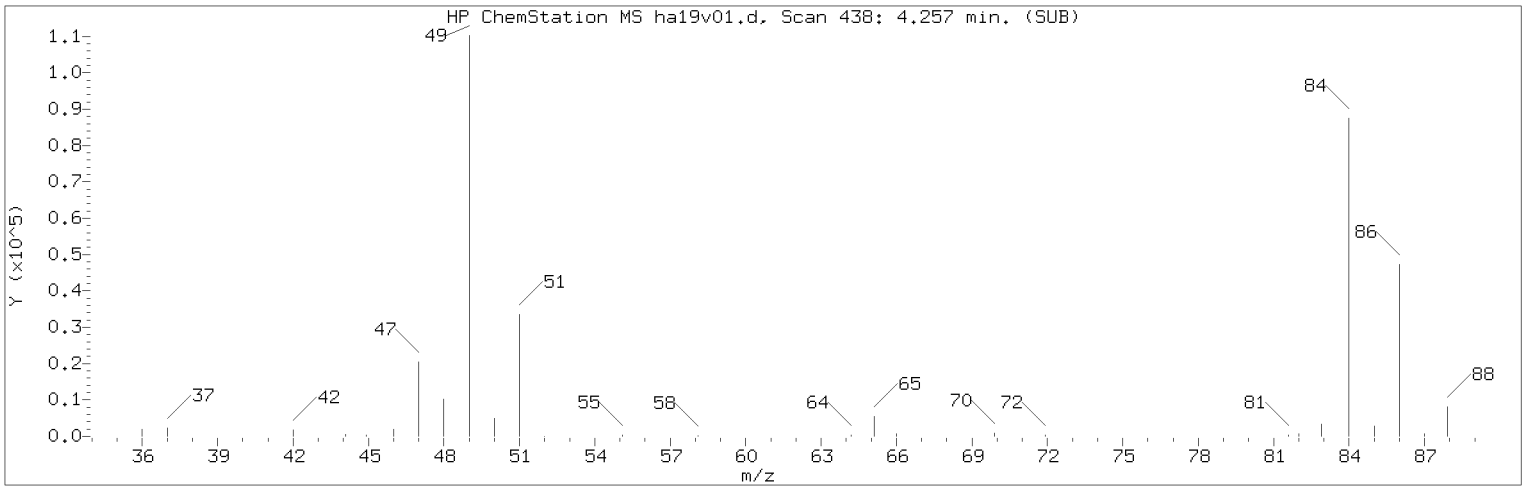
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

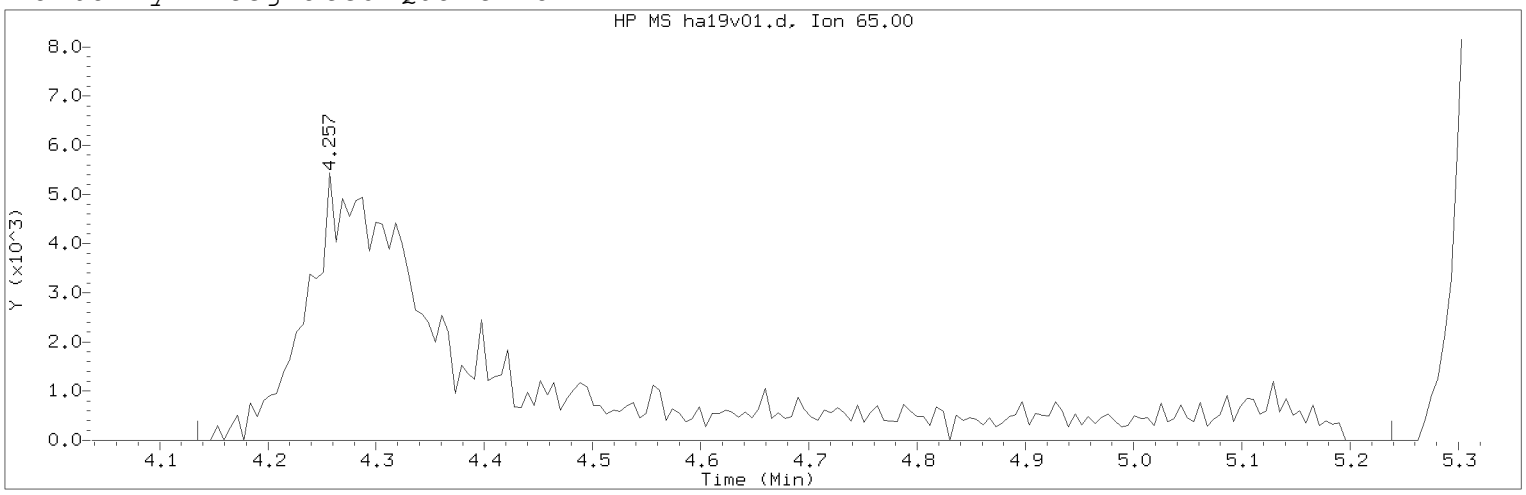
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Quant Ion : 59.00
Area : 207431
On-column Amount (ng) : 4.6224
Integration start scan : 266 Integration stop scan: 293
Y at integration start : 0 Y at integration end: 517

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

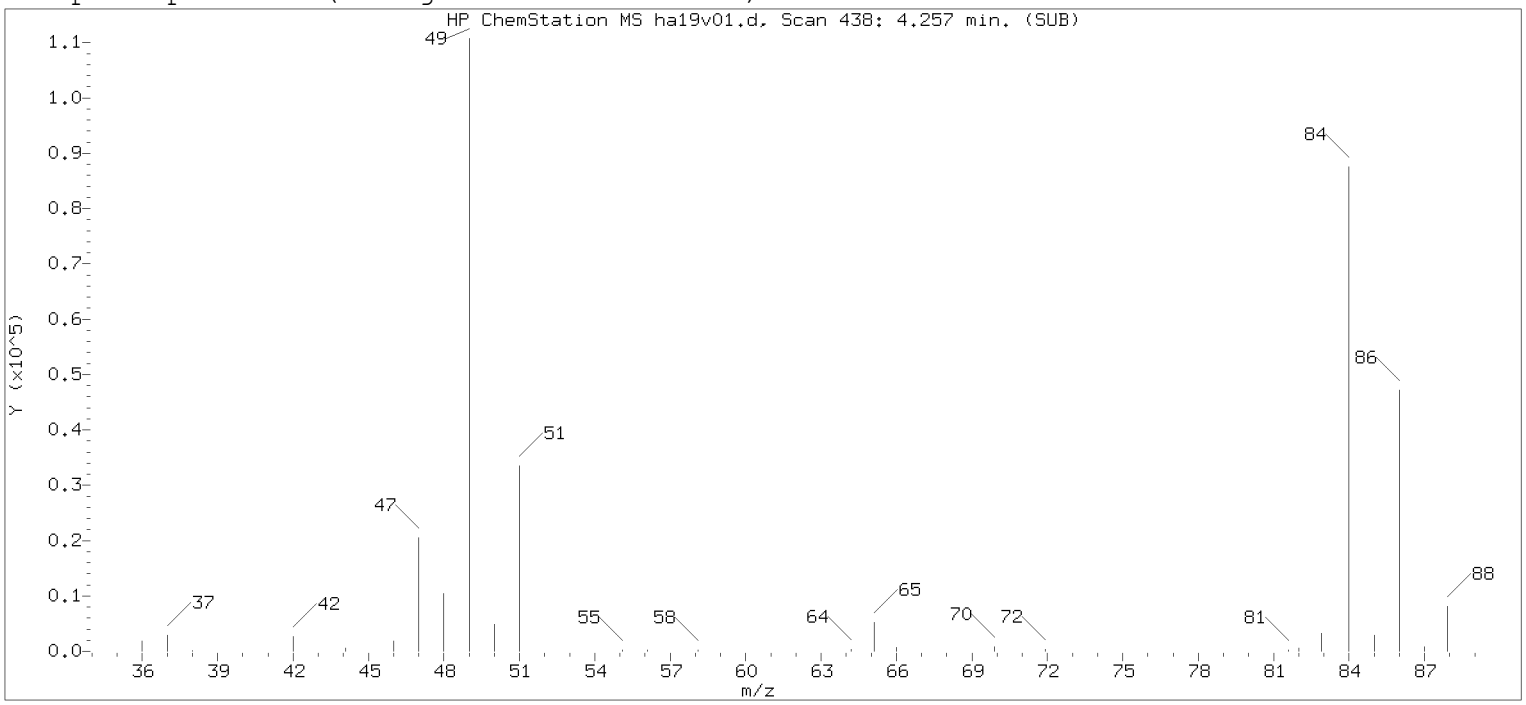
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 65618M
On-Column Amount (ng) : 50.0000
Integration start scan : 417 Integration stop scan: 598
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

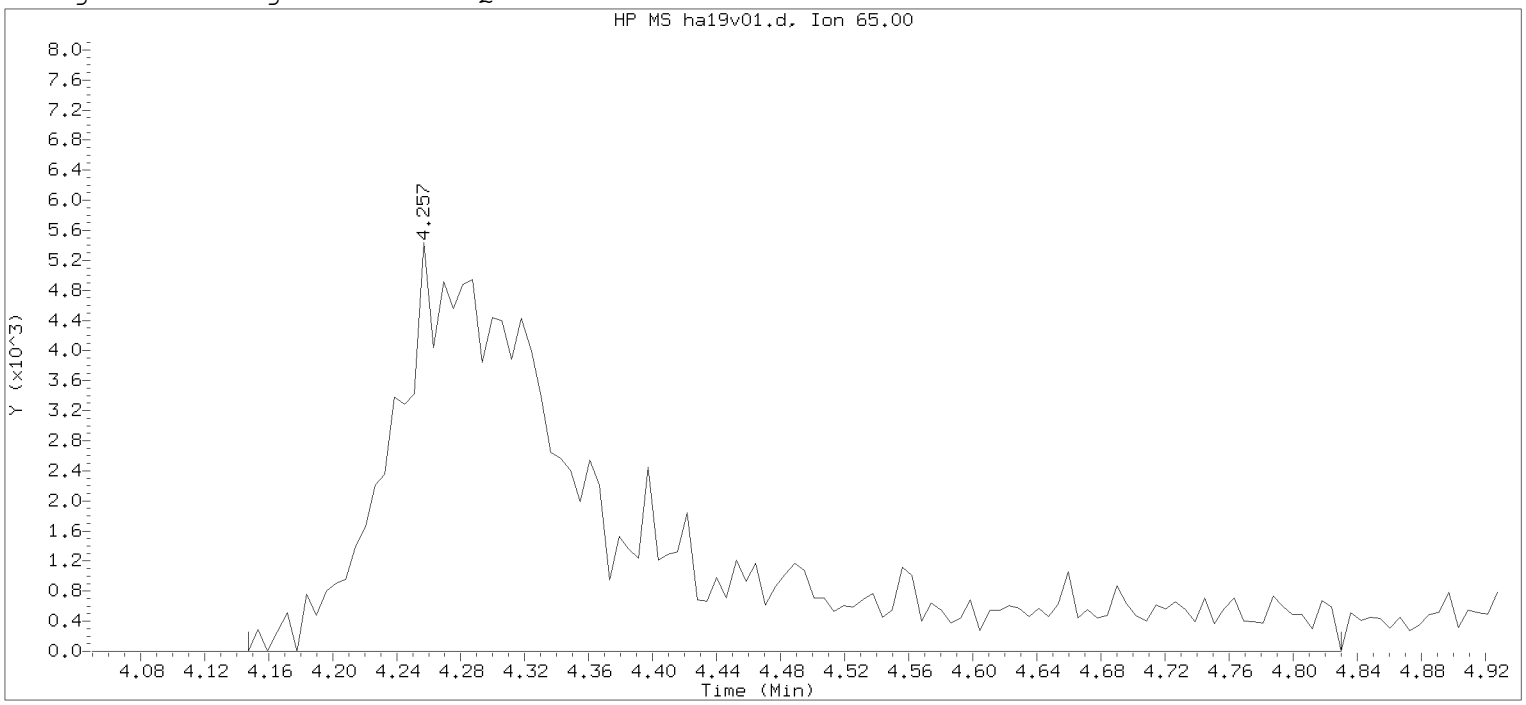
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

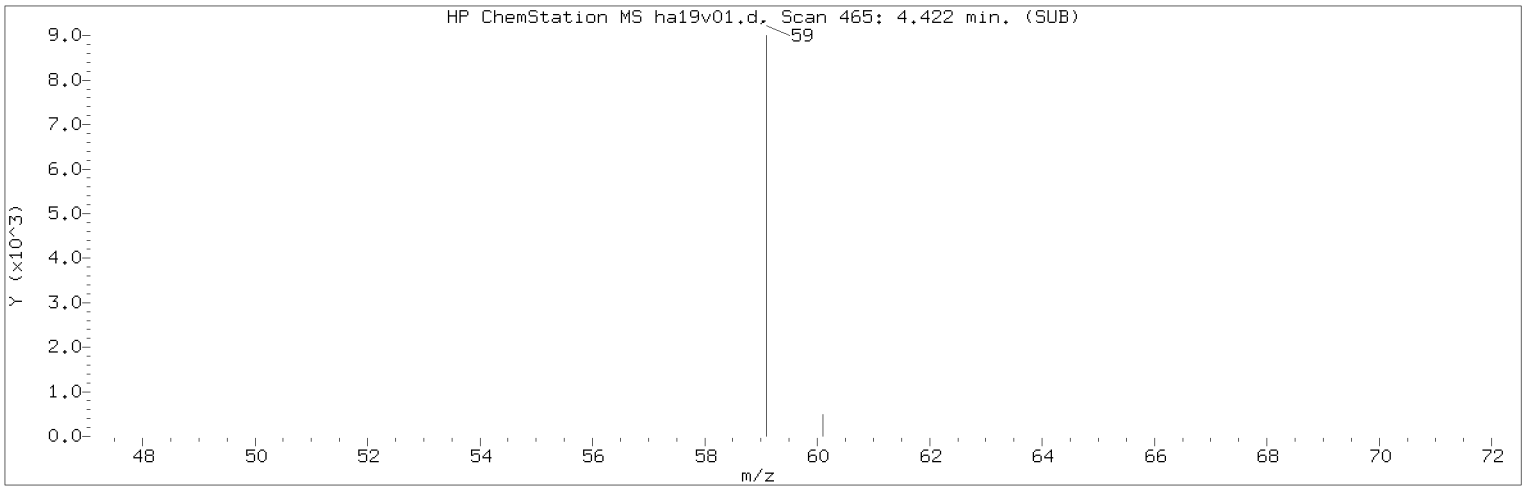
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

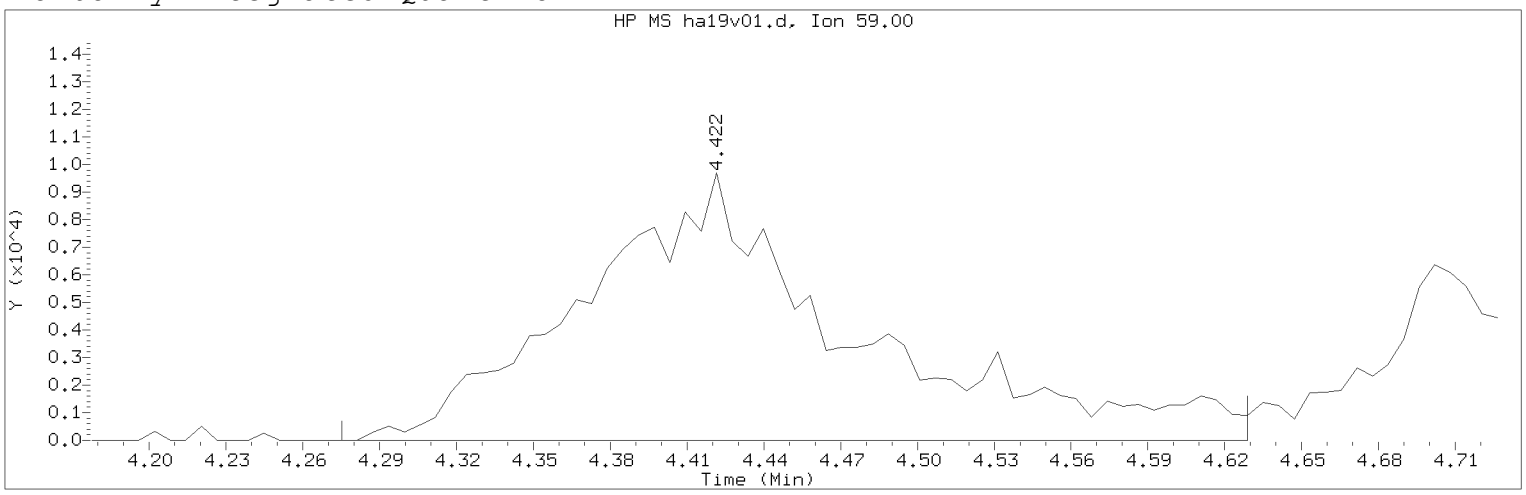
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 54672
On-column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 531
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

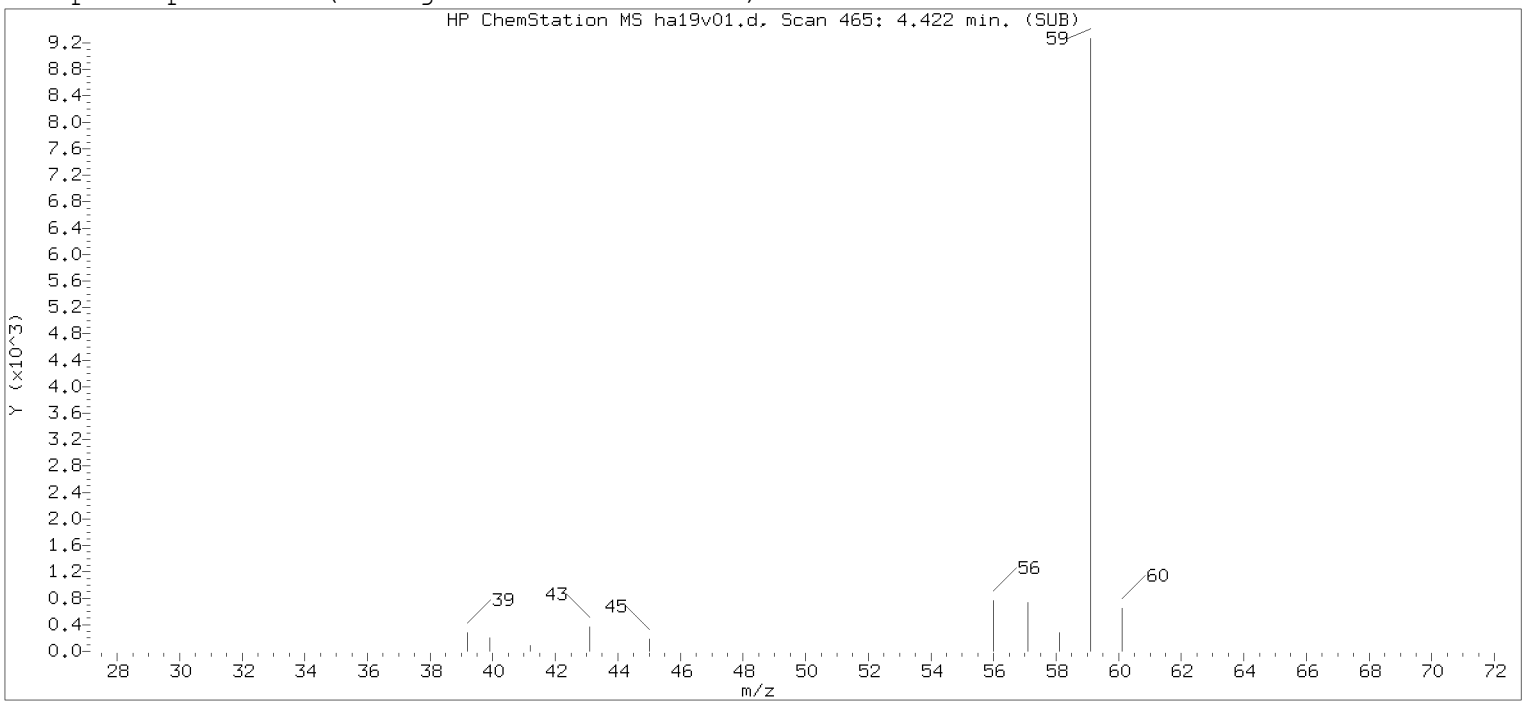
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 465
Retention Time (minutes): 4.422
Quant Ion : 59.00
Area (flag) : 69703M
On-Column Amount (ng) : 42.4558
Integration start scan : 440 Integration stop scan: 498
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

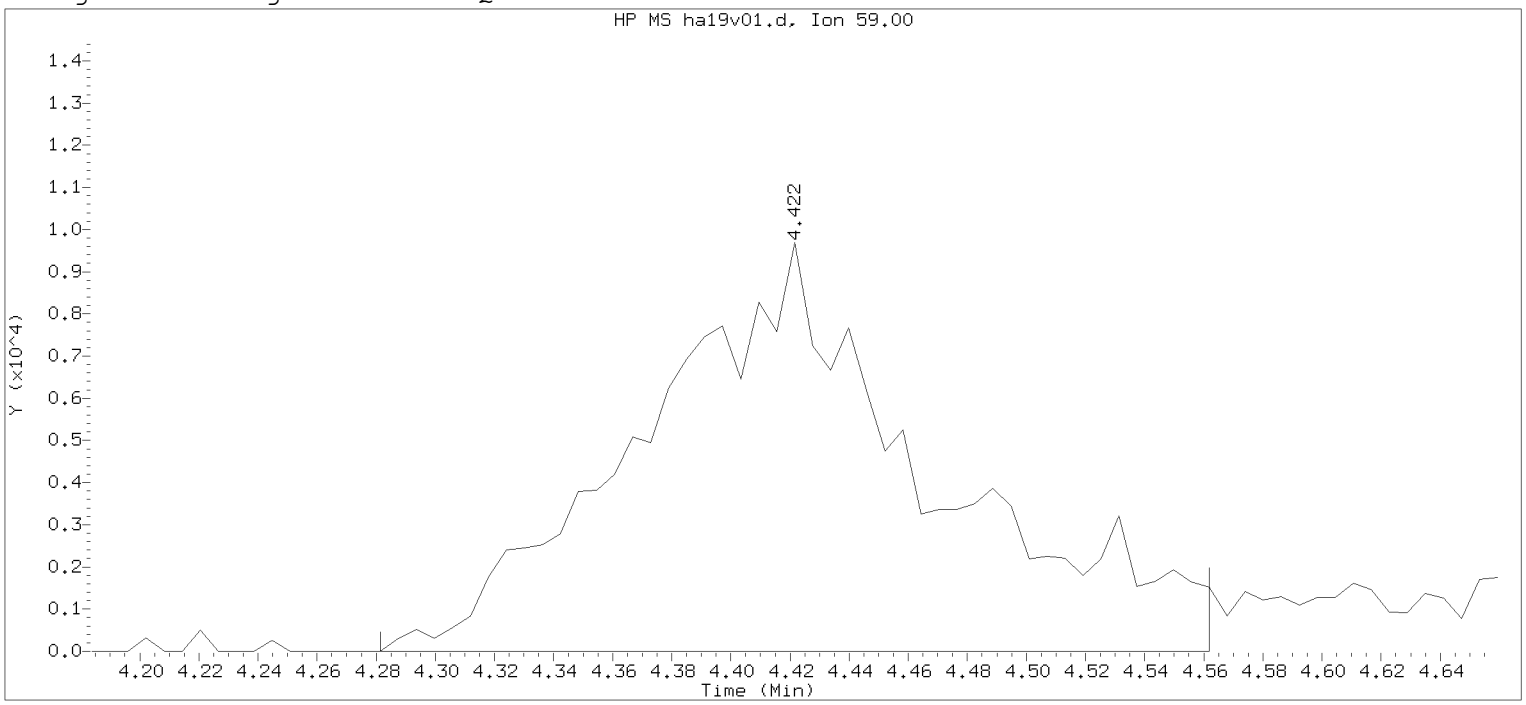
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

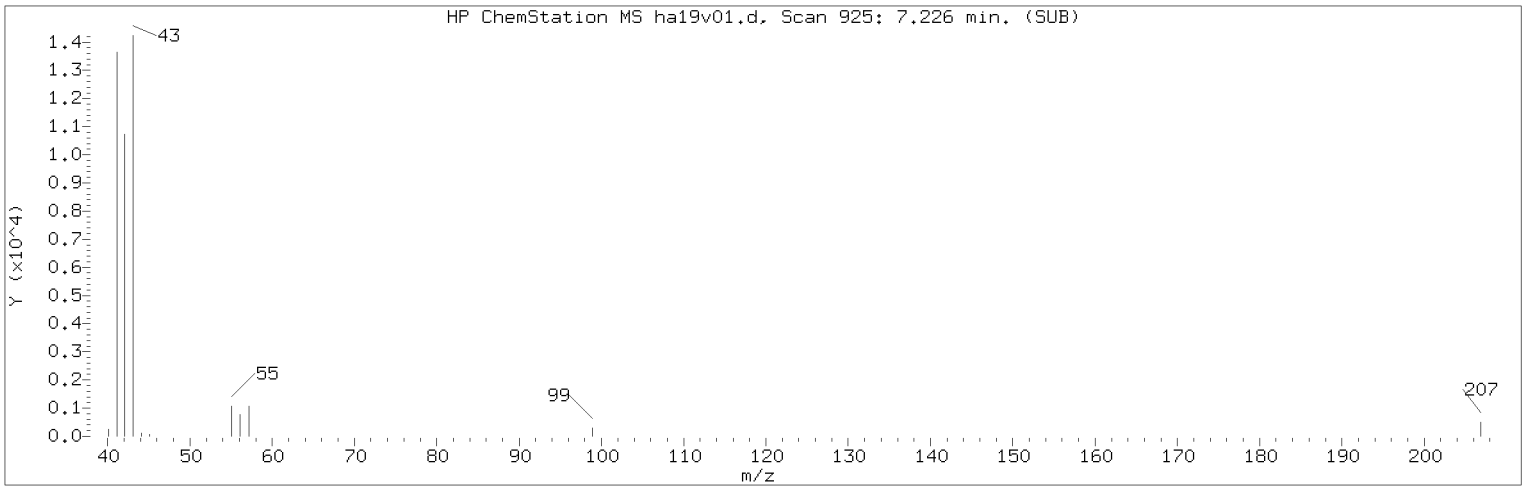
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

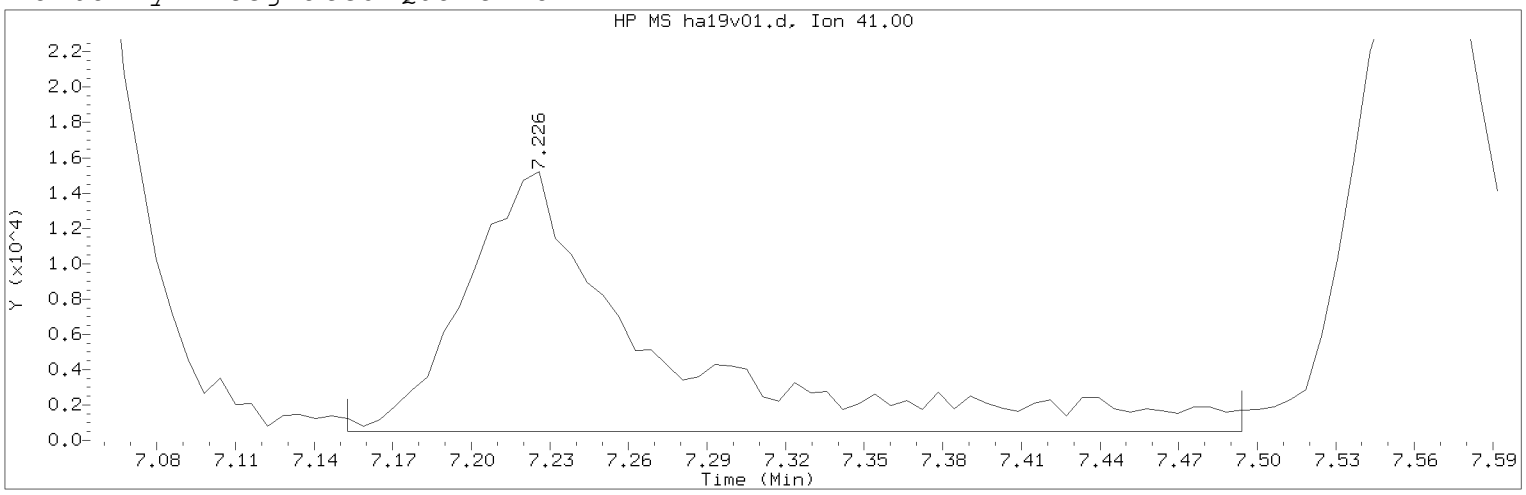
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 465
Retention Time (minutes): 4.422
Quant Ion : 59.00
Area : 64552
On-column Amount (ng) : 47.1900
Integration start scan : 441 Integration stop scan: 487
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

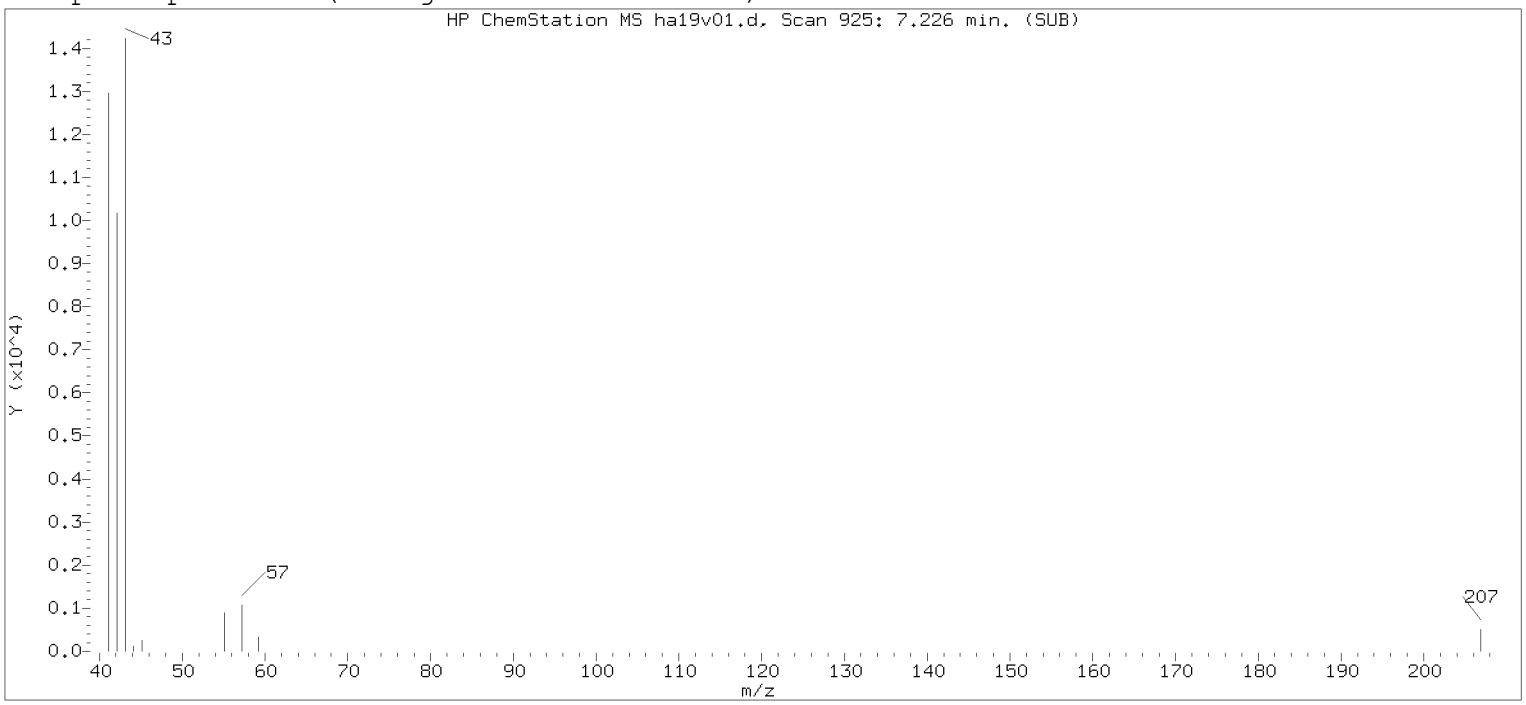
Compound Number : 56
Compound Name : Isobutyl Alcohol
Scan Number : 925
Retention Time (minutes): 7.226
Quant Ion : 41.00
Area (flag) : 75268M
On-Column Amount (ng) : 106.2399
Integration start scan : 912 Integration stop scan: 968
Y at integration start : 503 Y at integration end: 503

Reason for manual integration: improper integration

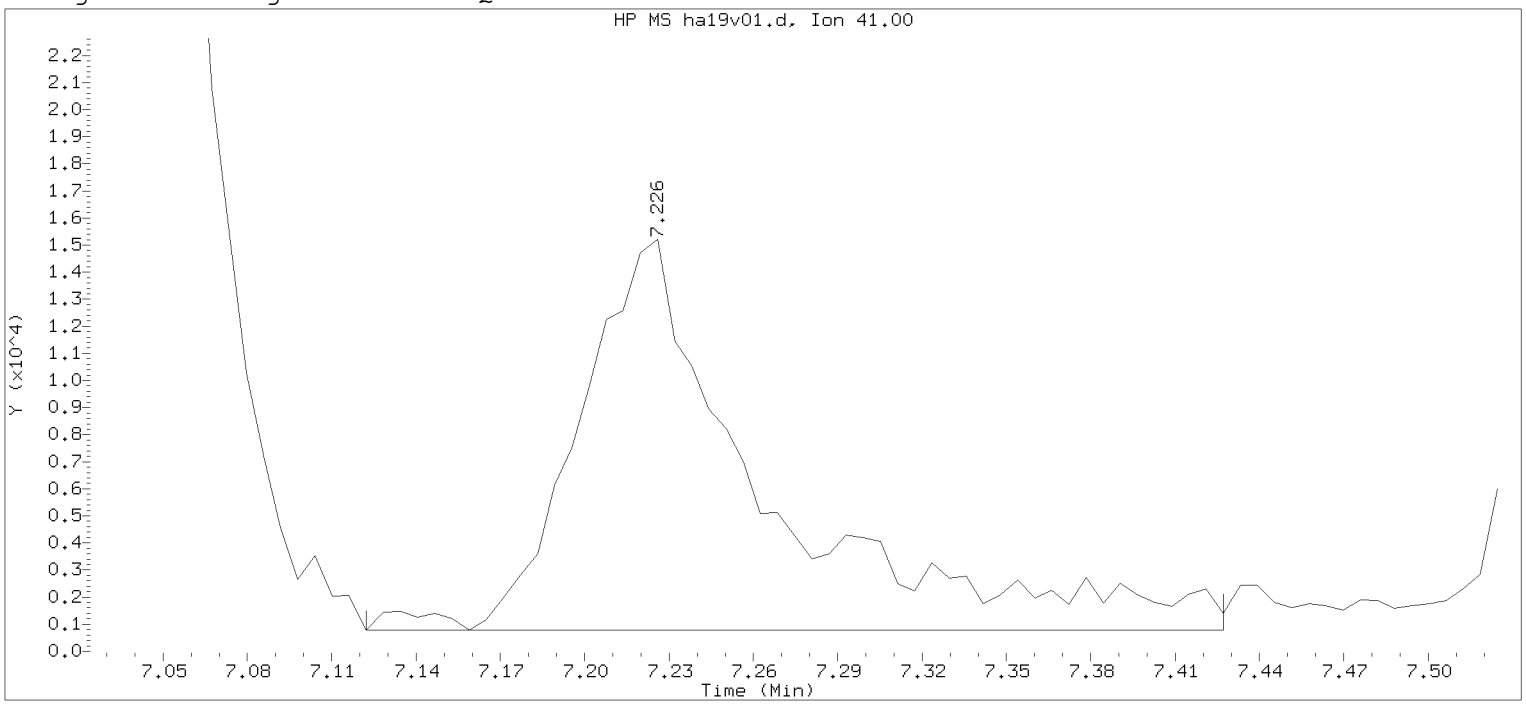
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

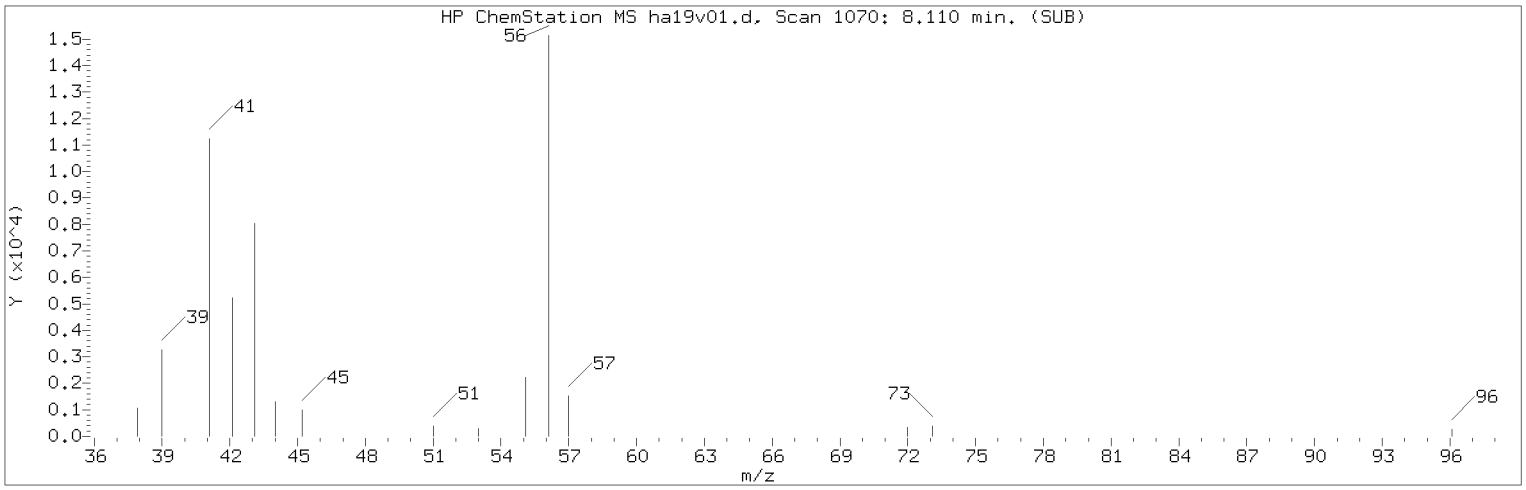
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

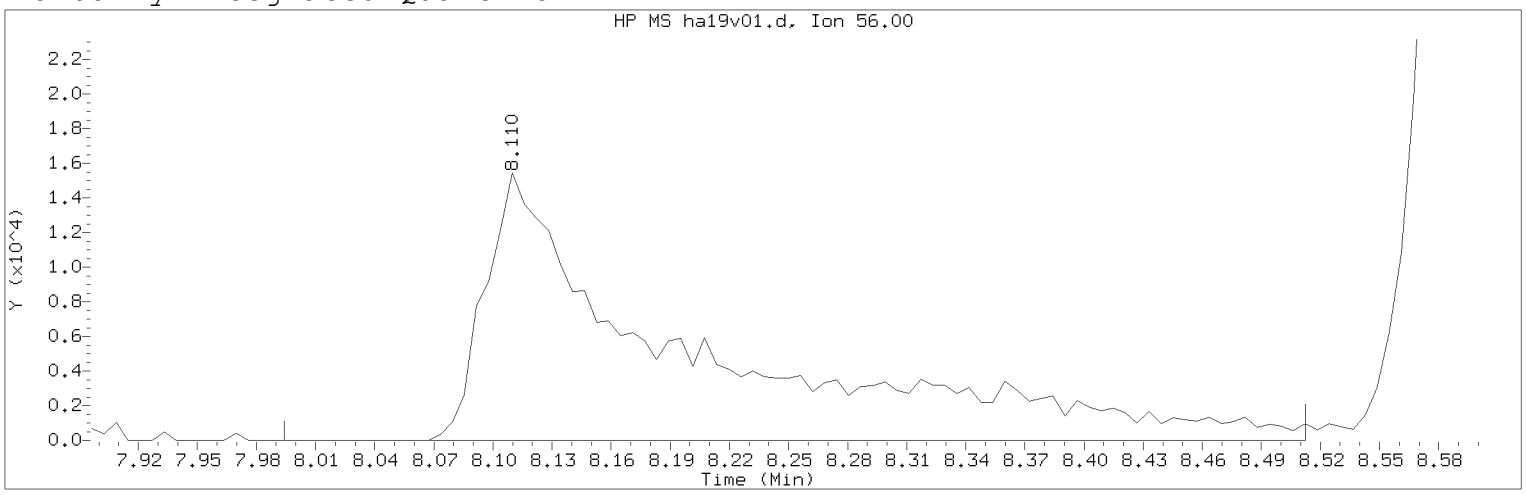
Compound Number : 56
Compound Name : Isobutyl Alcohol
Scan Number : 925
Retention Time (minutes): 7.226
Quant Ion : 41.00
Area : 65776
On-column Amount (ng) : 111.4287
Integration start scan : 907 Integration stop scan: 957
Y at integration start : 791 Y at integration end: 791

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

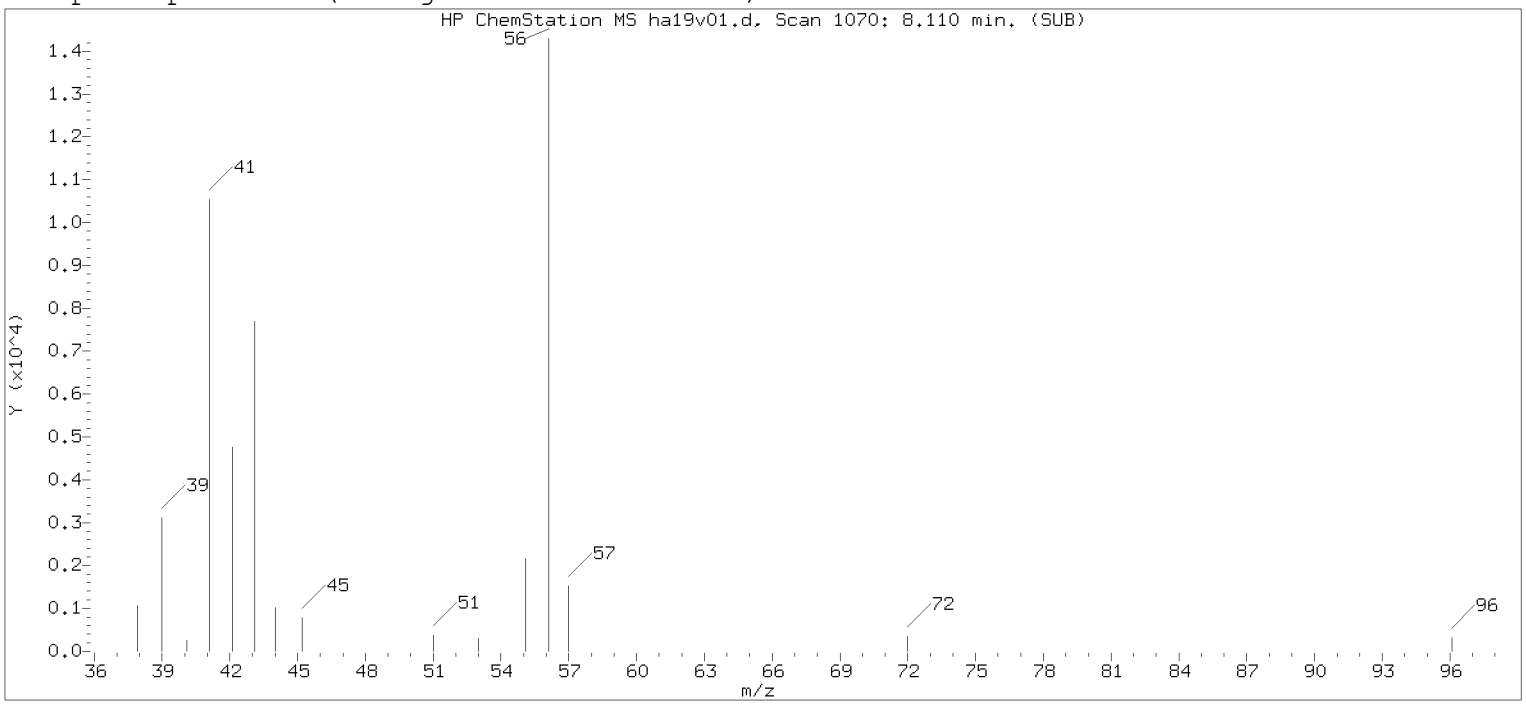
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1070
Retention Time (minutes): 8.110
Quant Ion : 56.00
Area (flag) : 106580M
On-Column Amount (ng) : 204.3109
Integration start scan : 1050 Integration stop scan: 1135
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

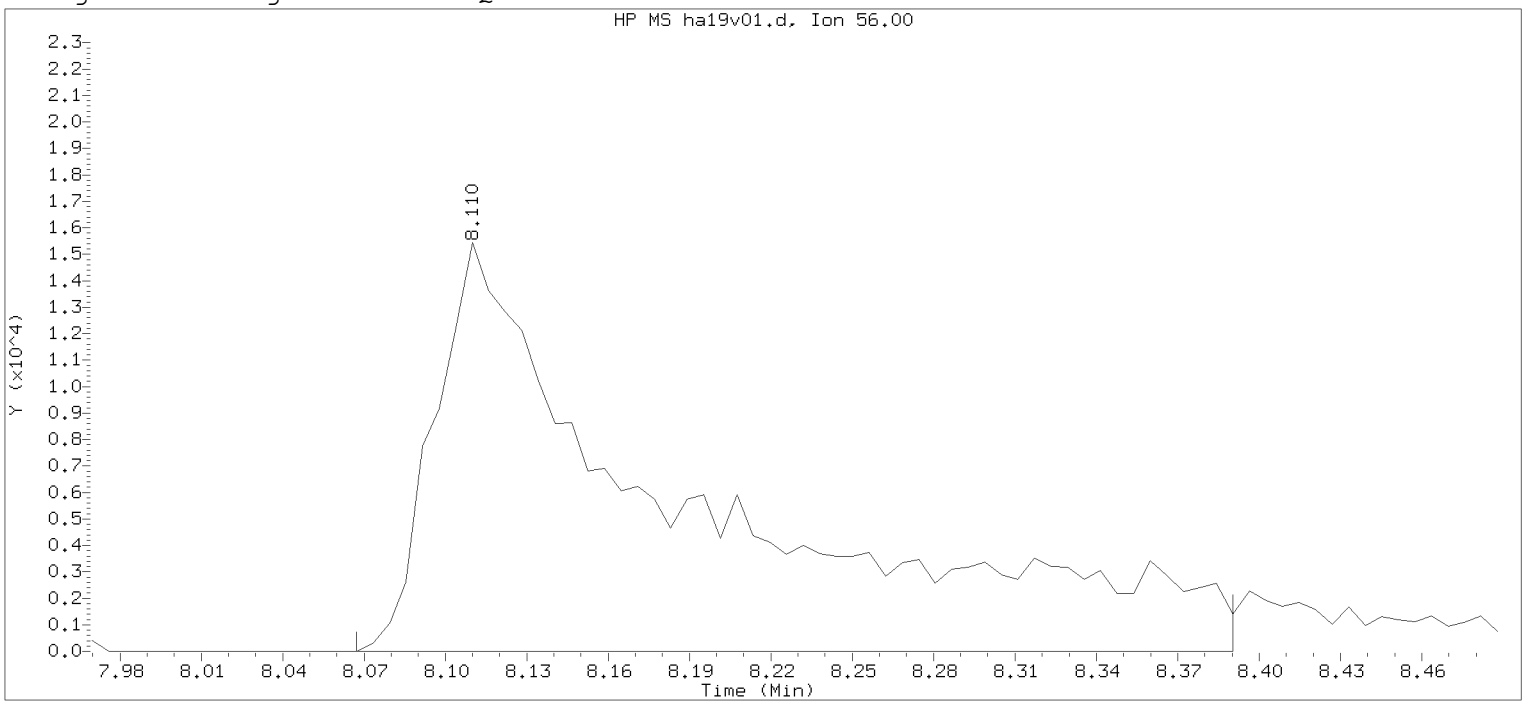
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

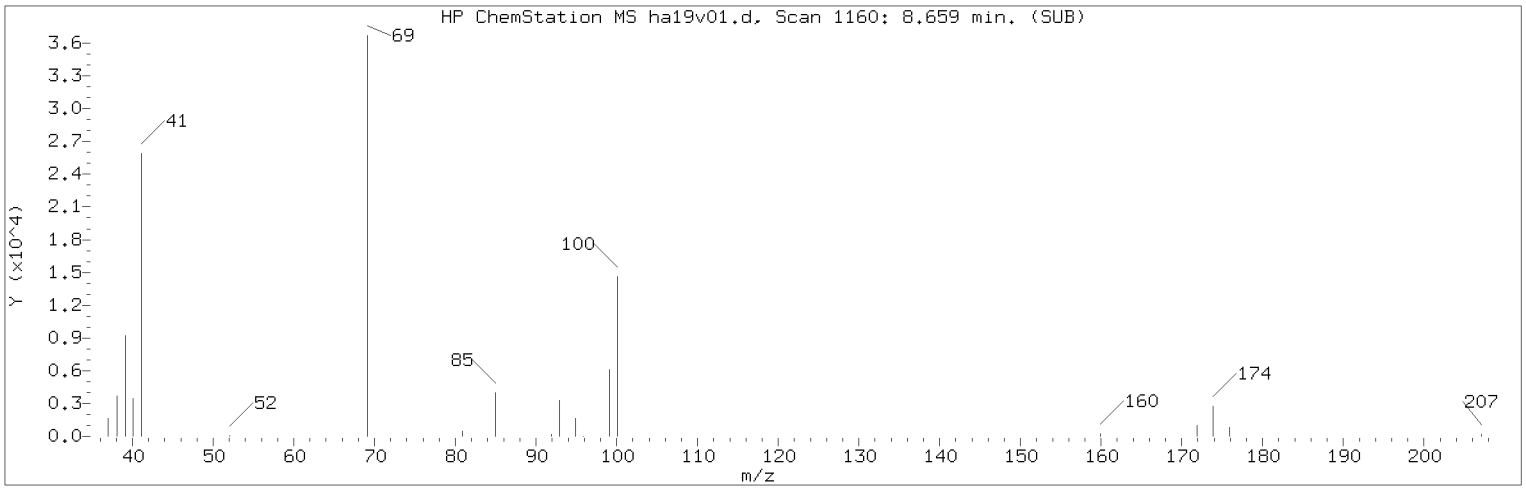
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

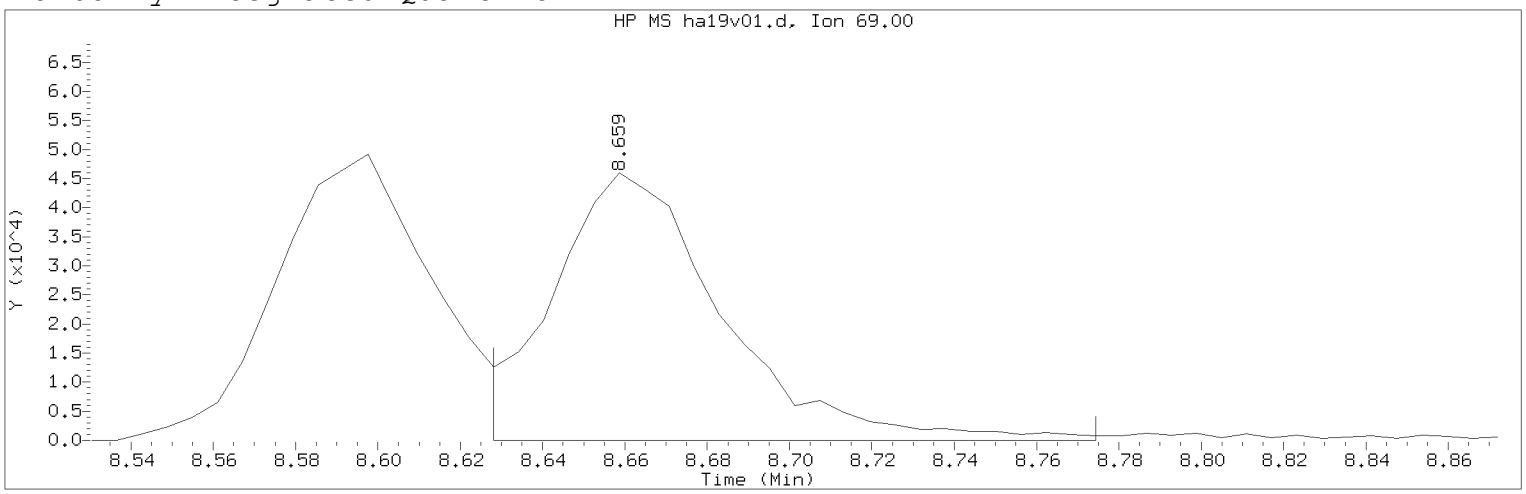
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1070
Retention Time (minutes): 8.110
Quant Ion : 56.00
Area : 97051
On-column Amount (ng) : 223.2892
Integration start scan : 1062 Integration stop scan: 1115
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

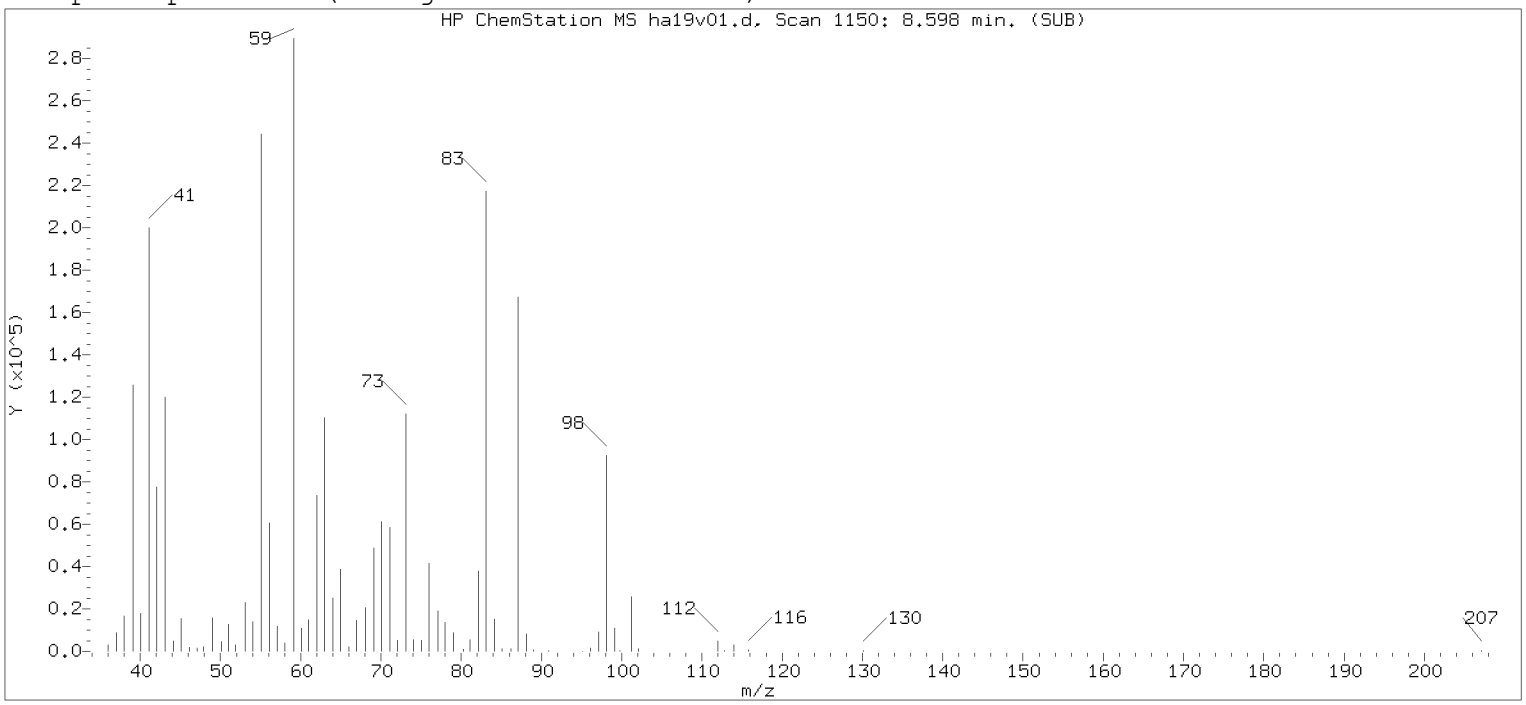
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 133421M
On-Column Amount (ng) : 5.9535
Integration start scan : 1154 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

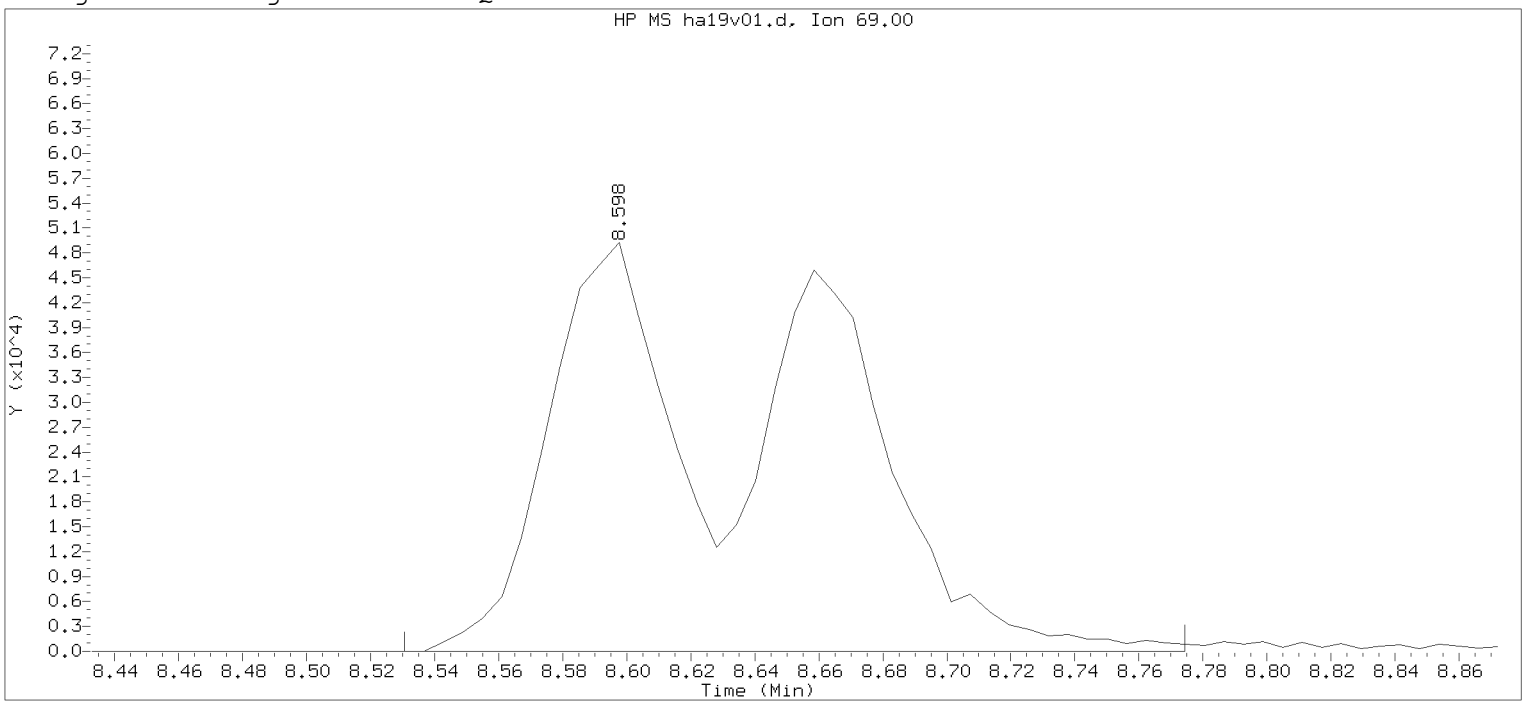
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

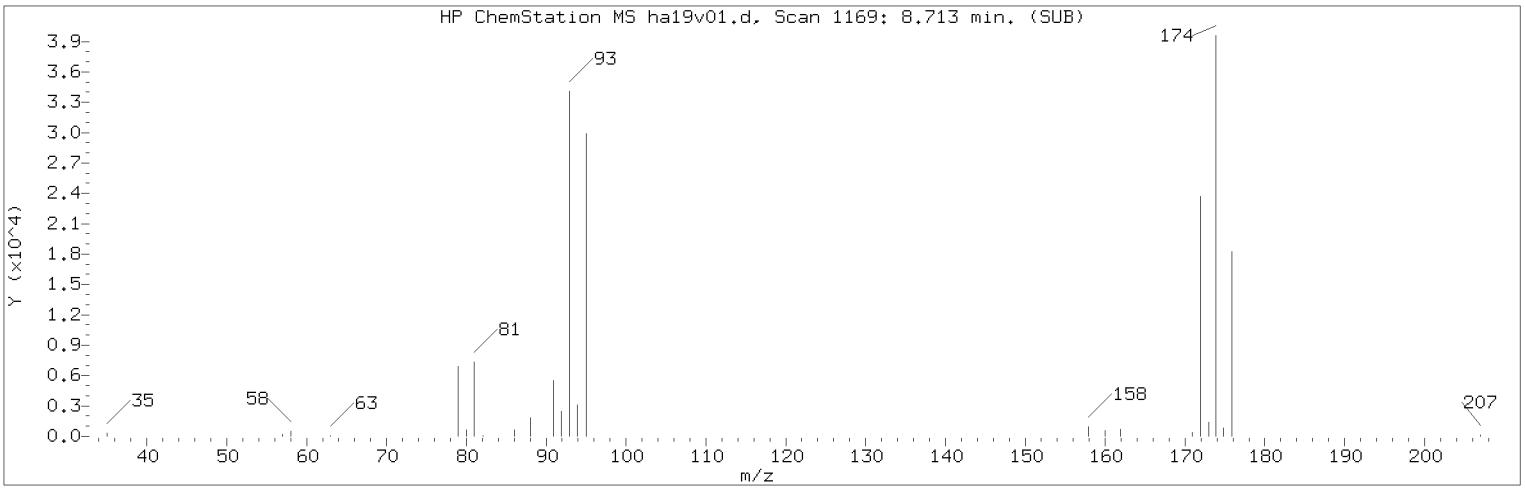
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

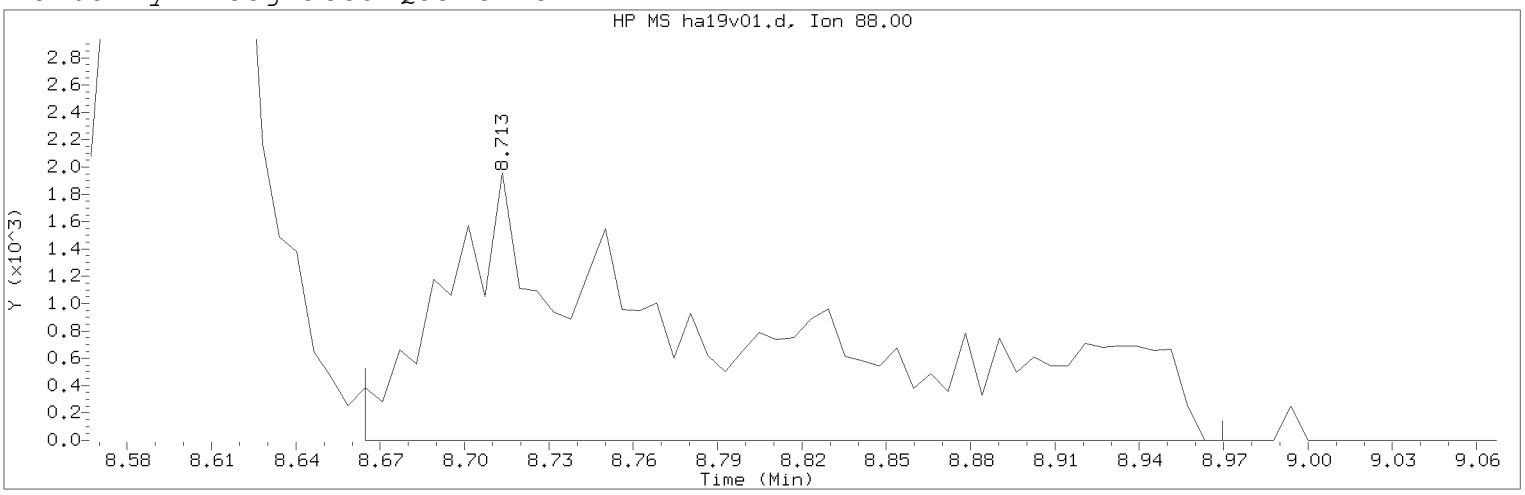
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 69.00
Area : 257555
On-column Amount (ng) : 13.7934
Integration start scan : 1138 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

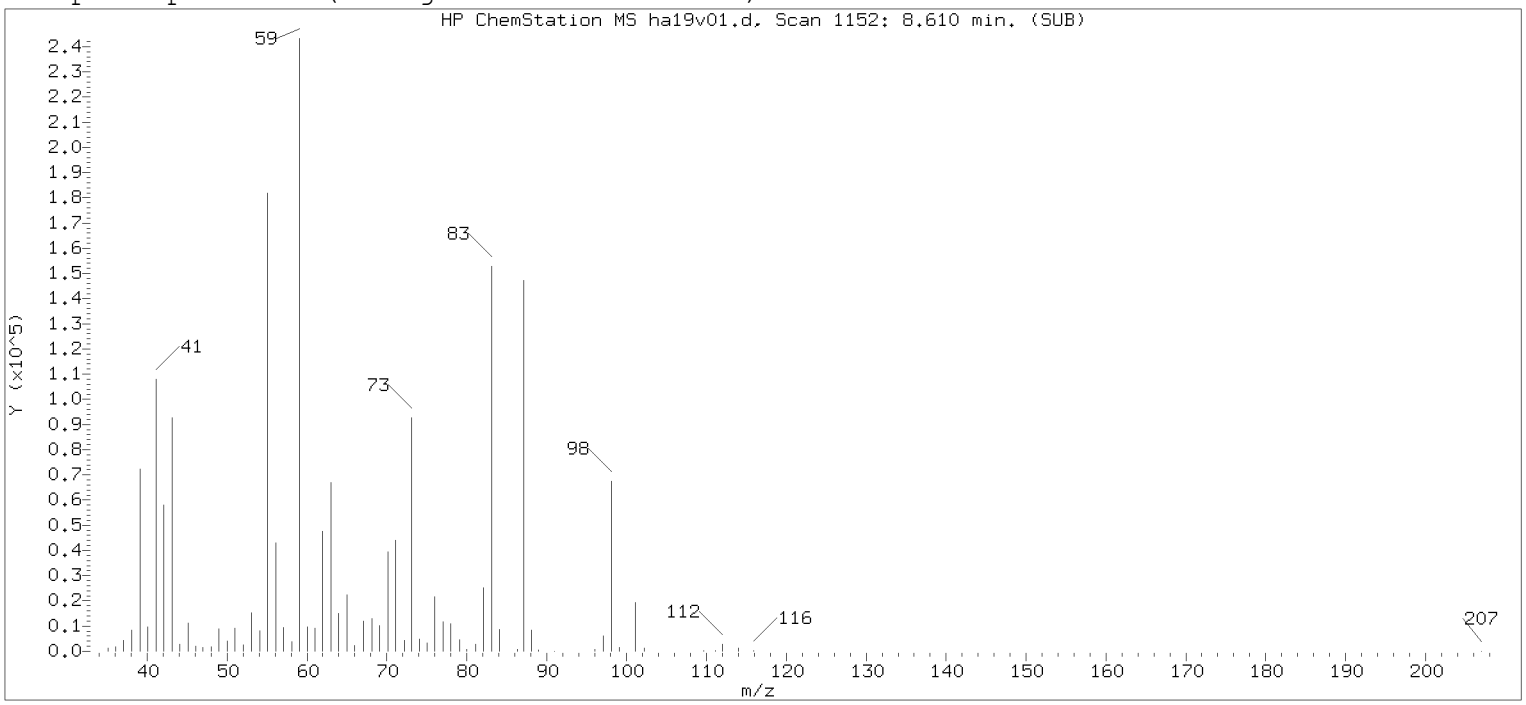
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1169
Retention Time (minutes): 8.713
Quant Ion : 88.00
Area (flag) : 13854MA
On-Column Amount (ng) : 106.9377
Integration start scan : 1160 Integration stop scan: 1210
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

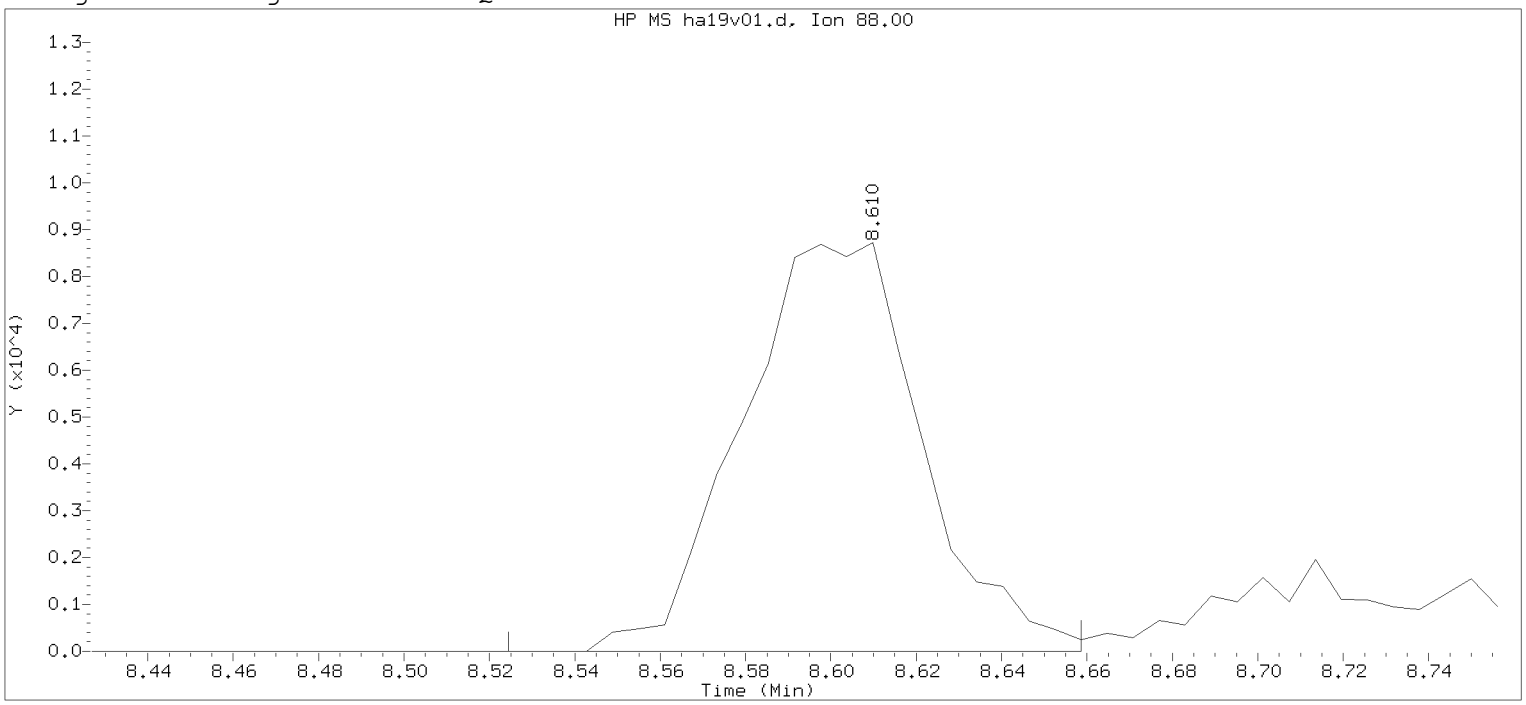
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

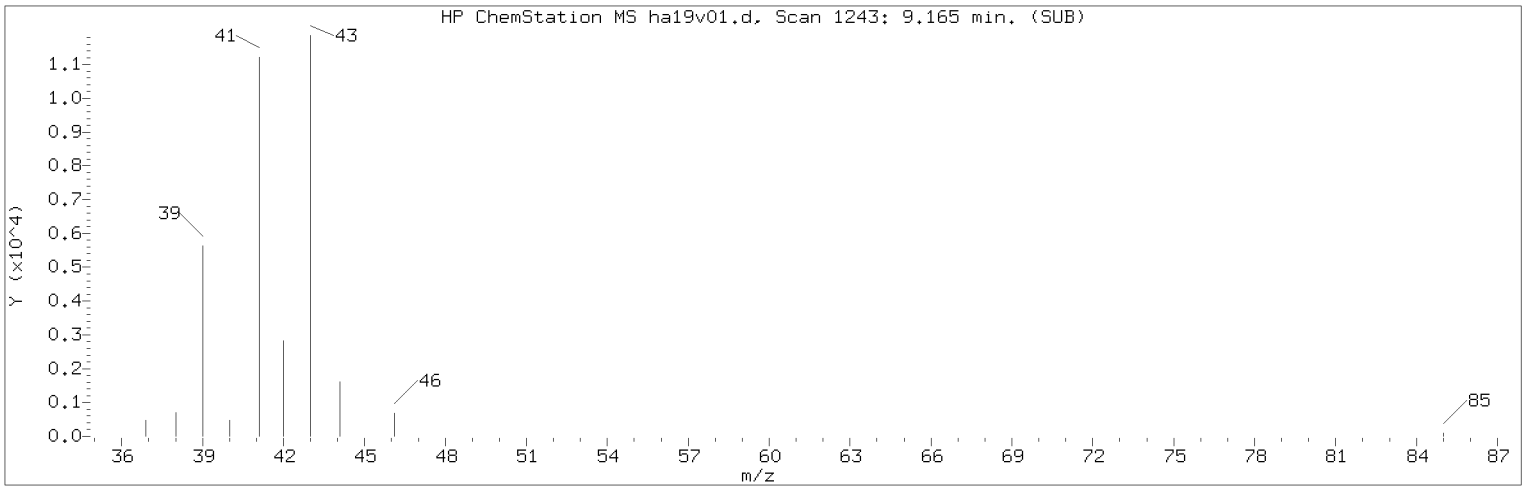
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

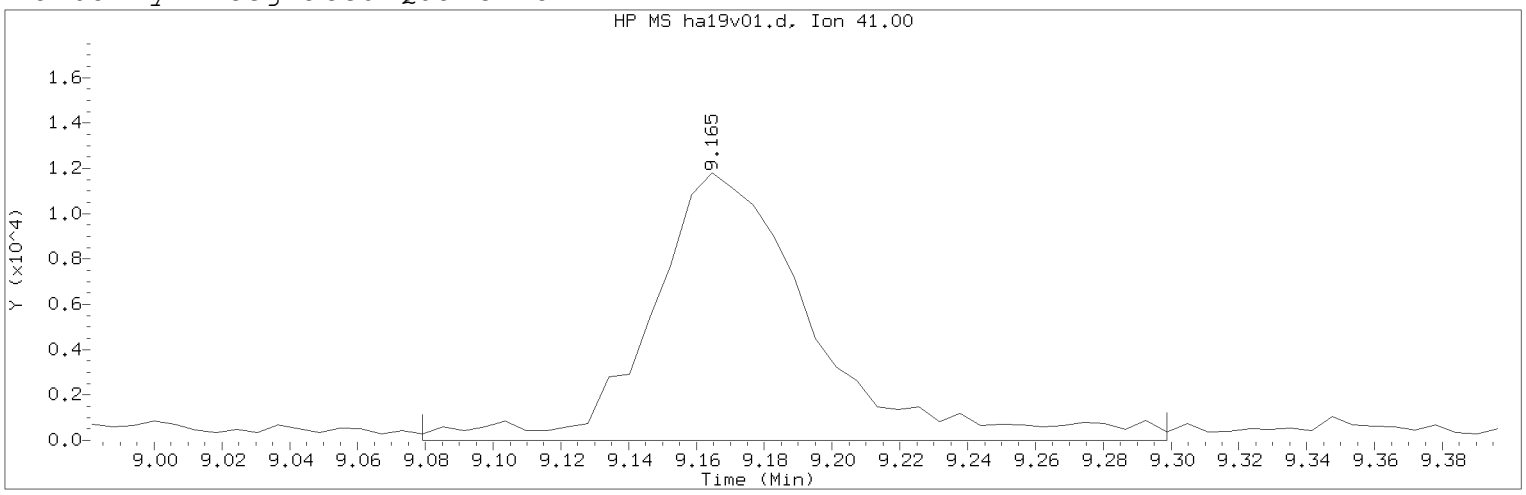
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1152
Retention Time (minutes): 8.610
Quant Ion : 88.00
Area : 25437
On-column Amount (ng) : 239.5816
Integration start scan : 1137 Integration stop scan: 1159
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

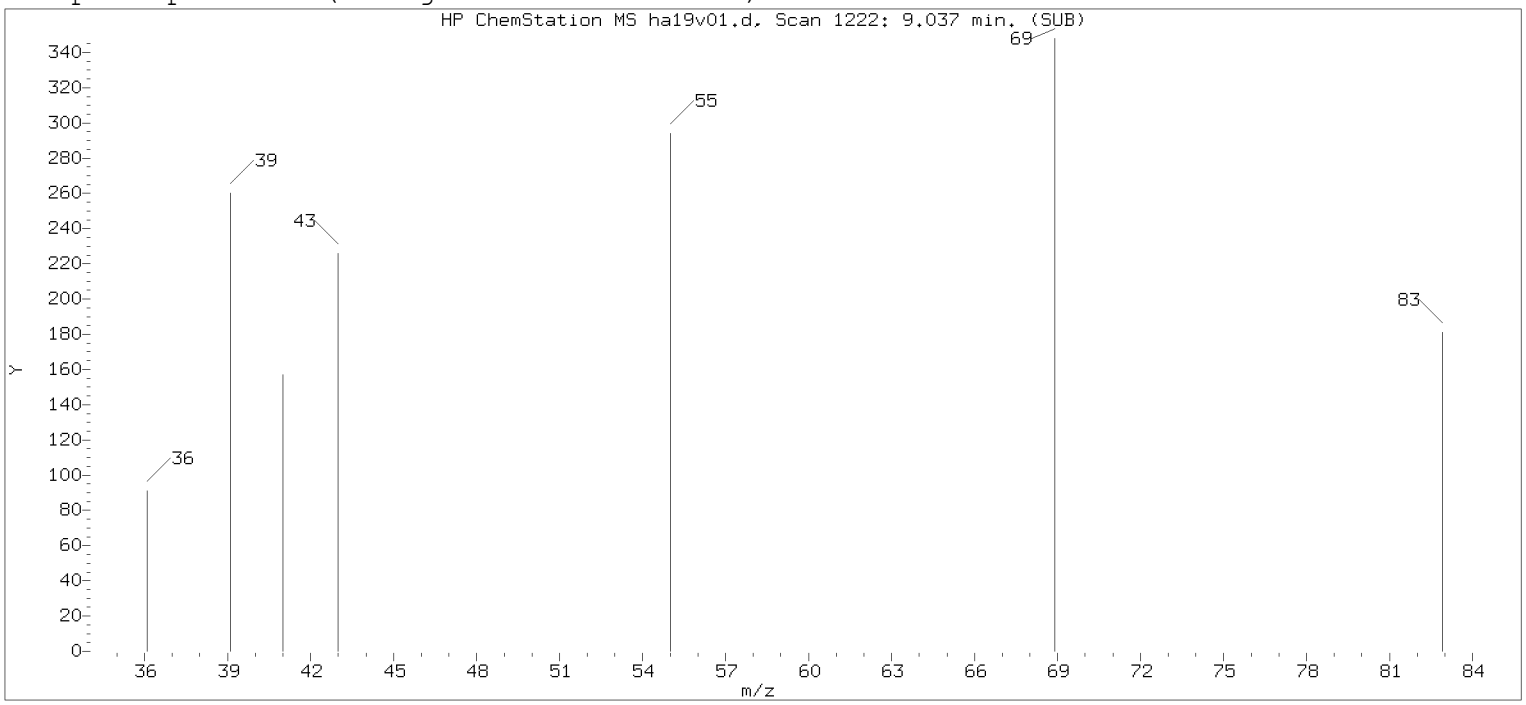
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1243
Retention Time (minutes): 9.165
Quant Ion : 41.00
Area (flag) : 39085A
On-Column Amount (ng) : 5.2879
Integration start scan : 1228 Integration stop scan: 1264
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

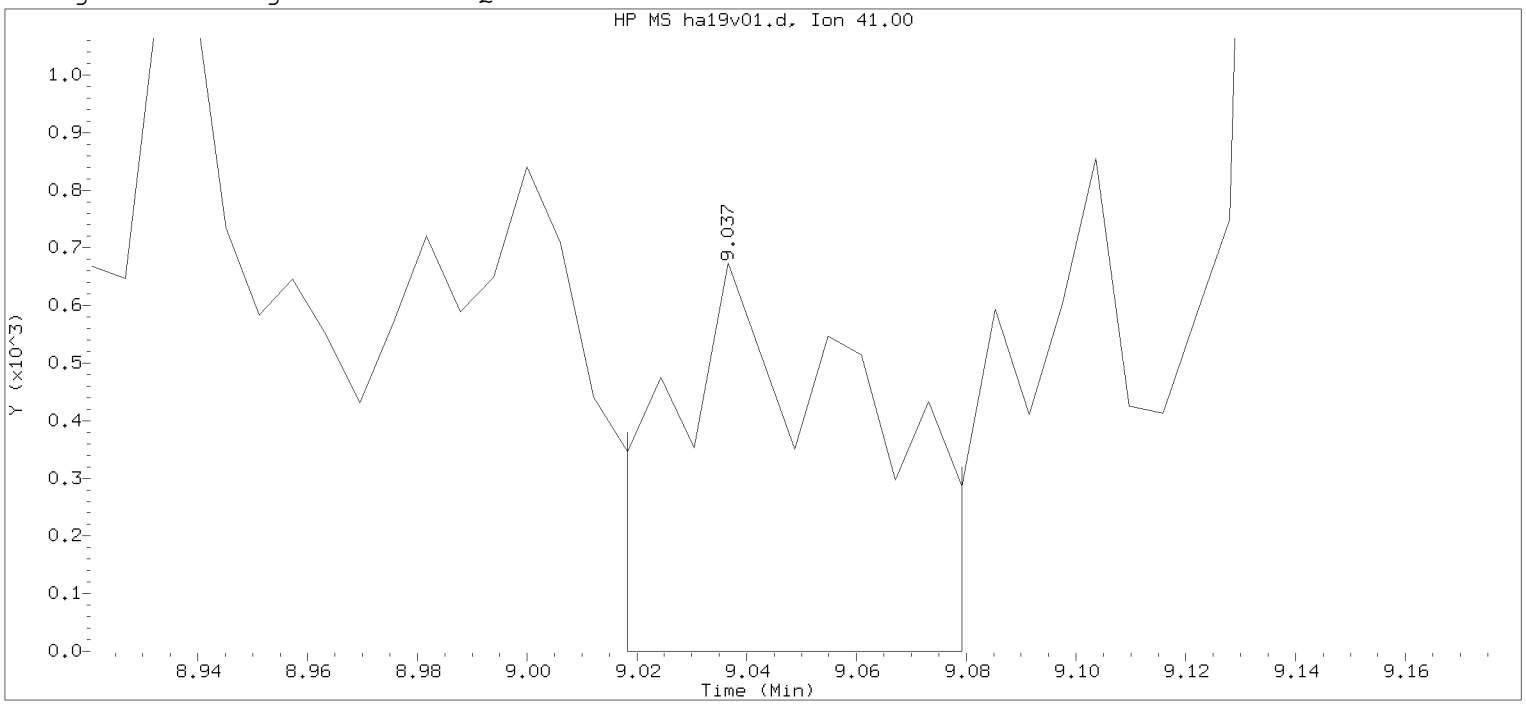
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

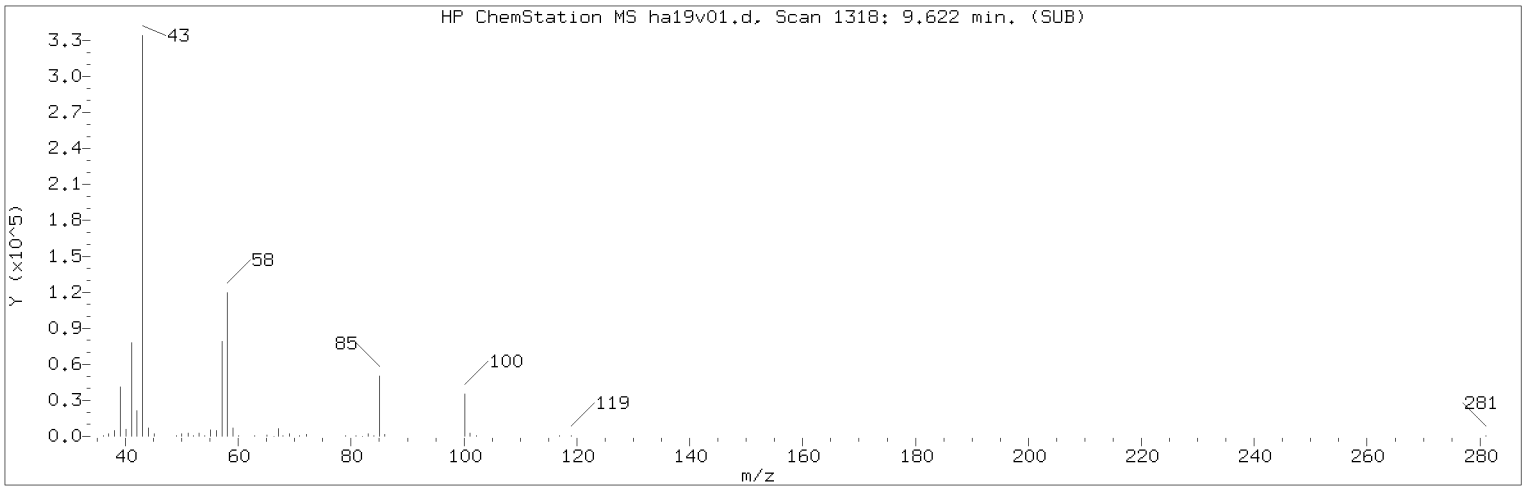
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

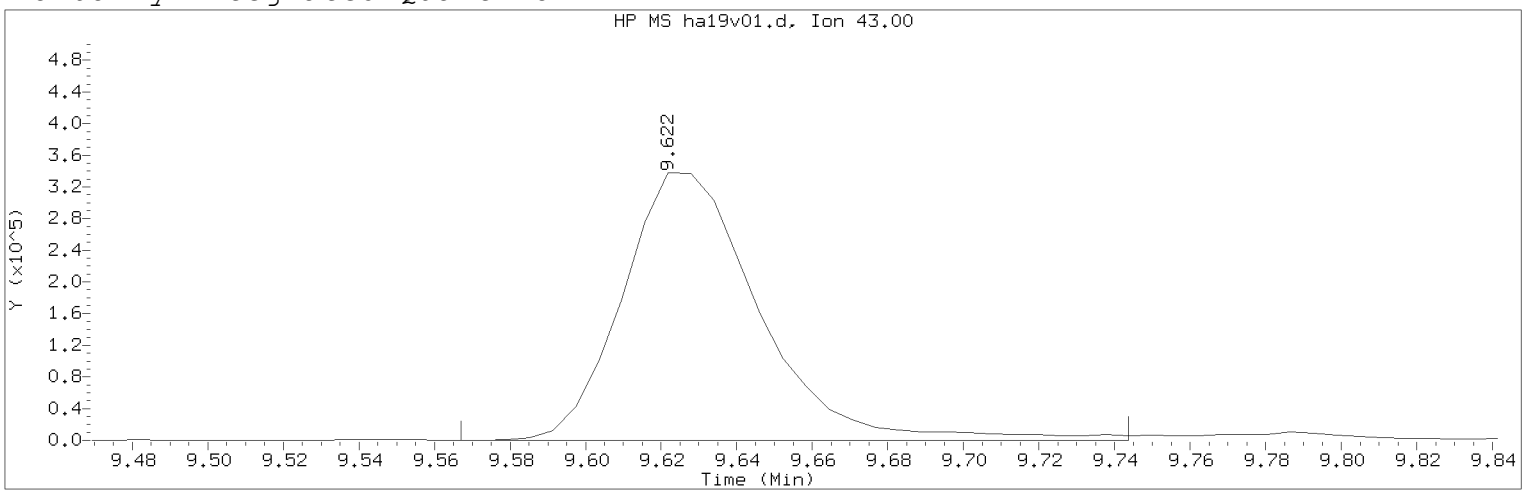
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1222
Retention Time (minutes): 9.037
Quant Ion : 41.00
Area : 1635
On-column Amount (ng) : 0.2656
Integration start scan : 1218 Integration stop scan: 1228
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

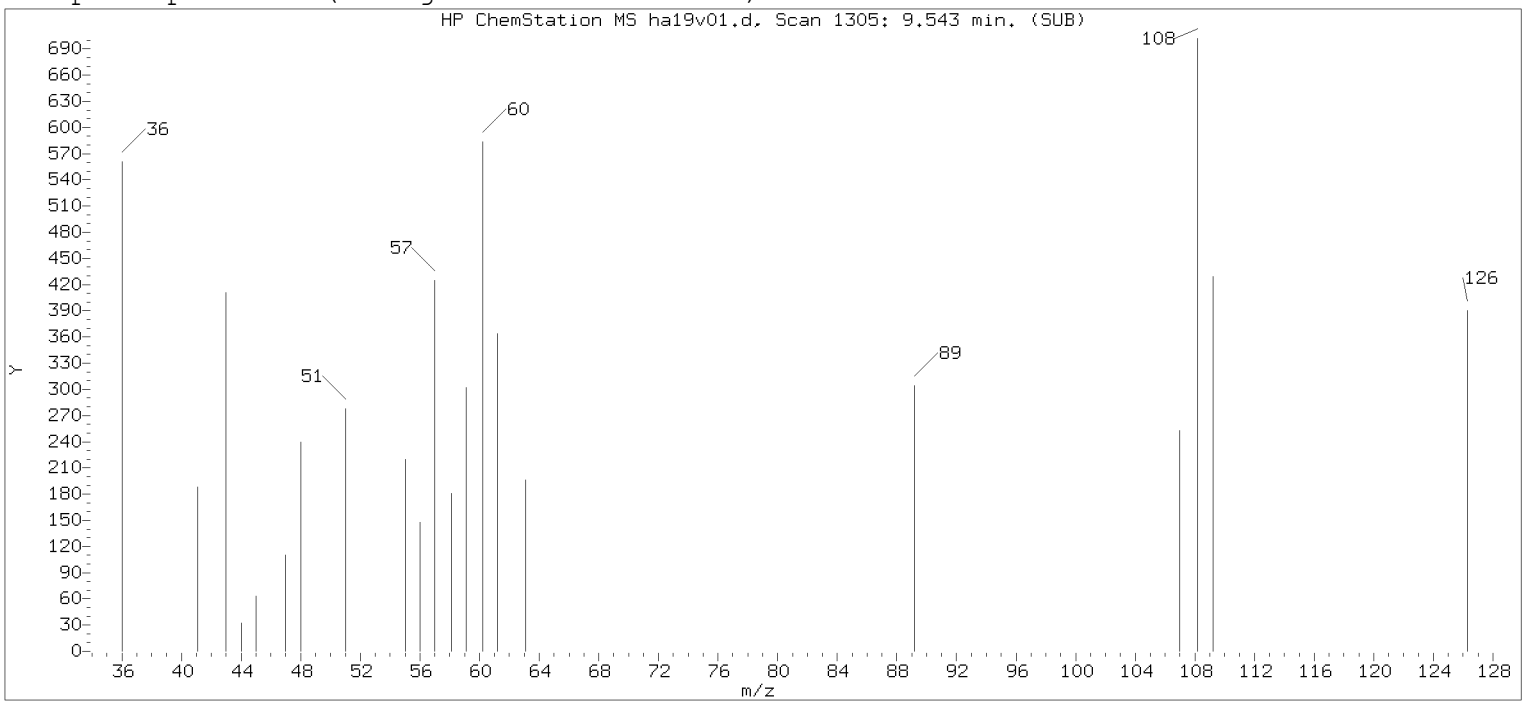
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1318
Retention Time (minutes): 9.622
Quant Ion : 43.00
Area (flag) : 849519A
On-Column Amount (ng) : 25.9972
Integration start scan : 1308 Integration stop scan: 1337
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

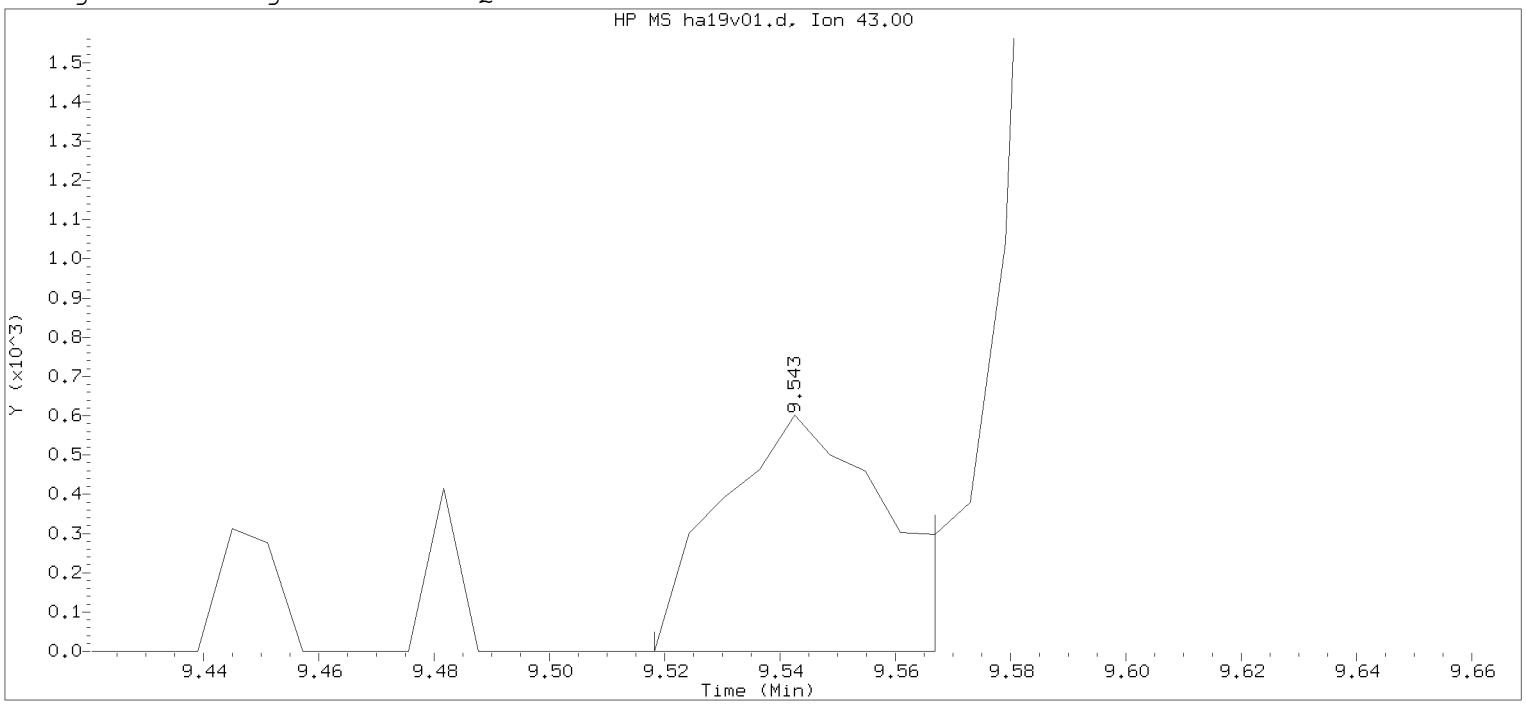
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

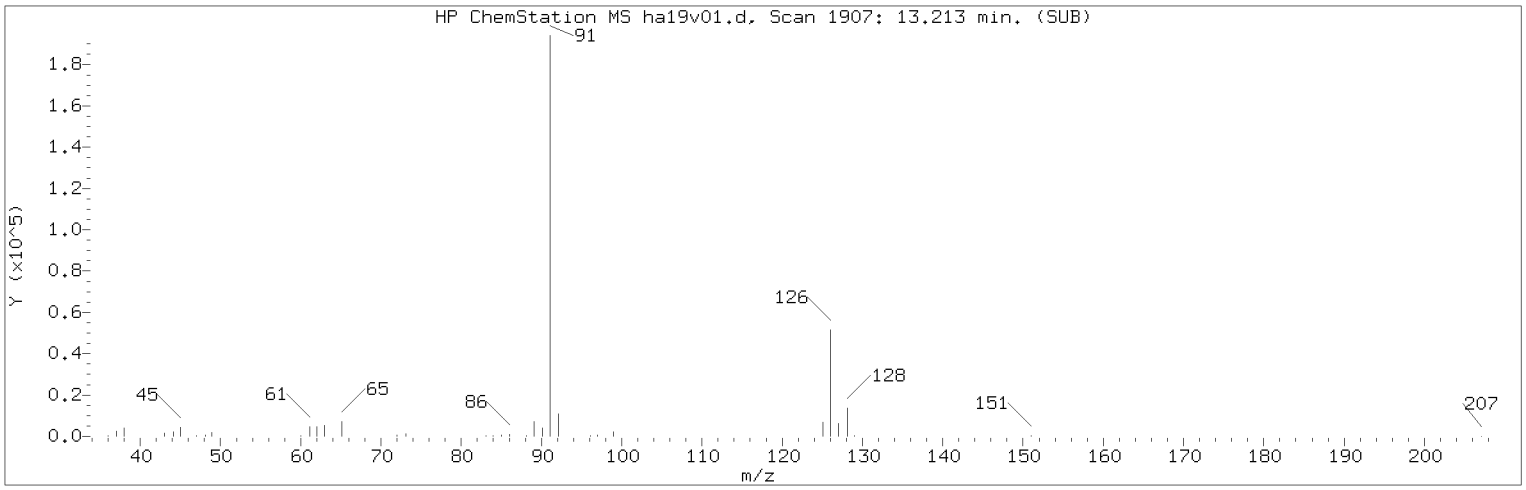
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

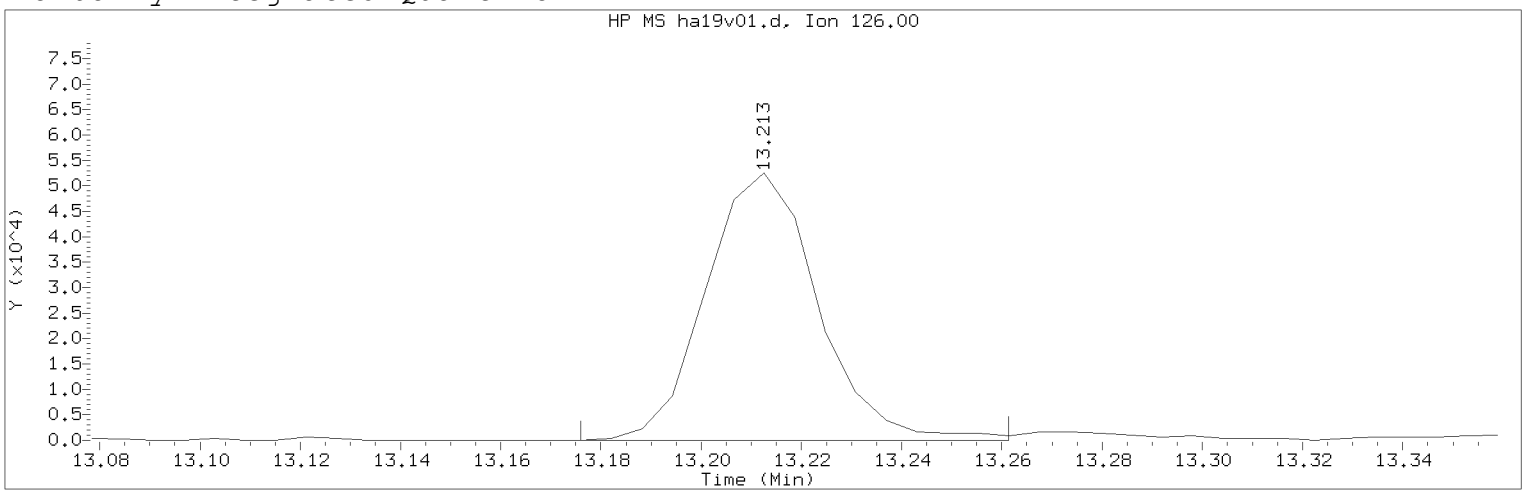
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1305
Retention Time (minutes): 9.543
Quant Ion : 43.00
Area : 1158
On-column Amount (ng) : 0.0425
Integration start scan : 1300 Integration stop scan: 1308
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

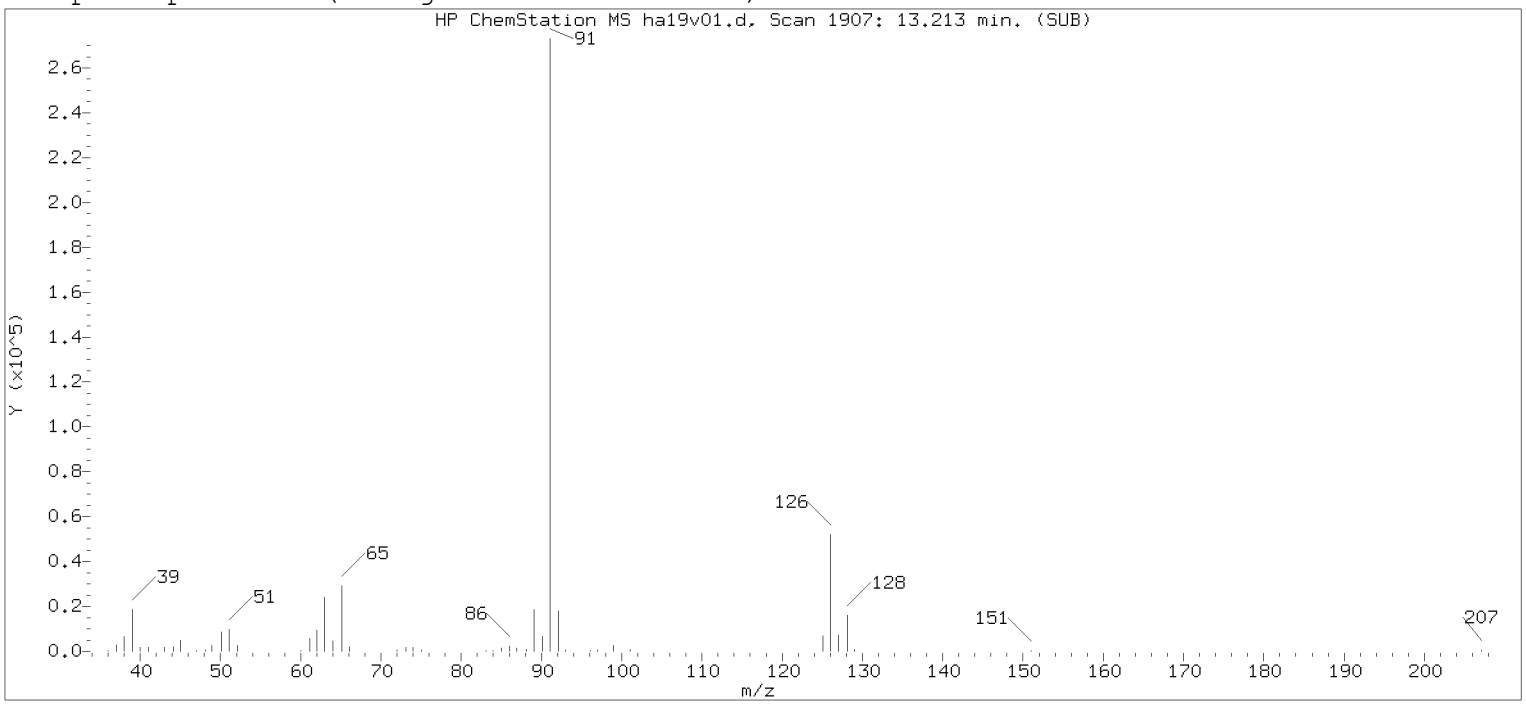
Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1907
Retention Time (minutes): 13.213
Quant Ion : 126.00
Area (flag) : 81548M
On-Column Amount (ng) : 5.2894
Integration start scan : 1900 Integration stop scan: 1914
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

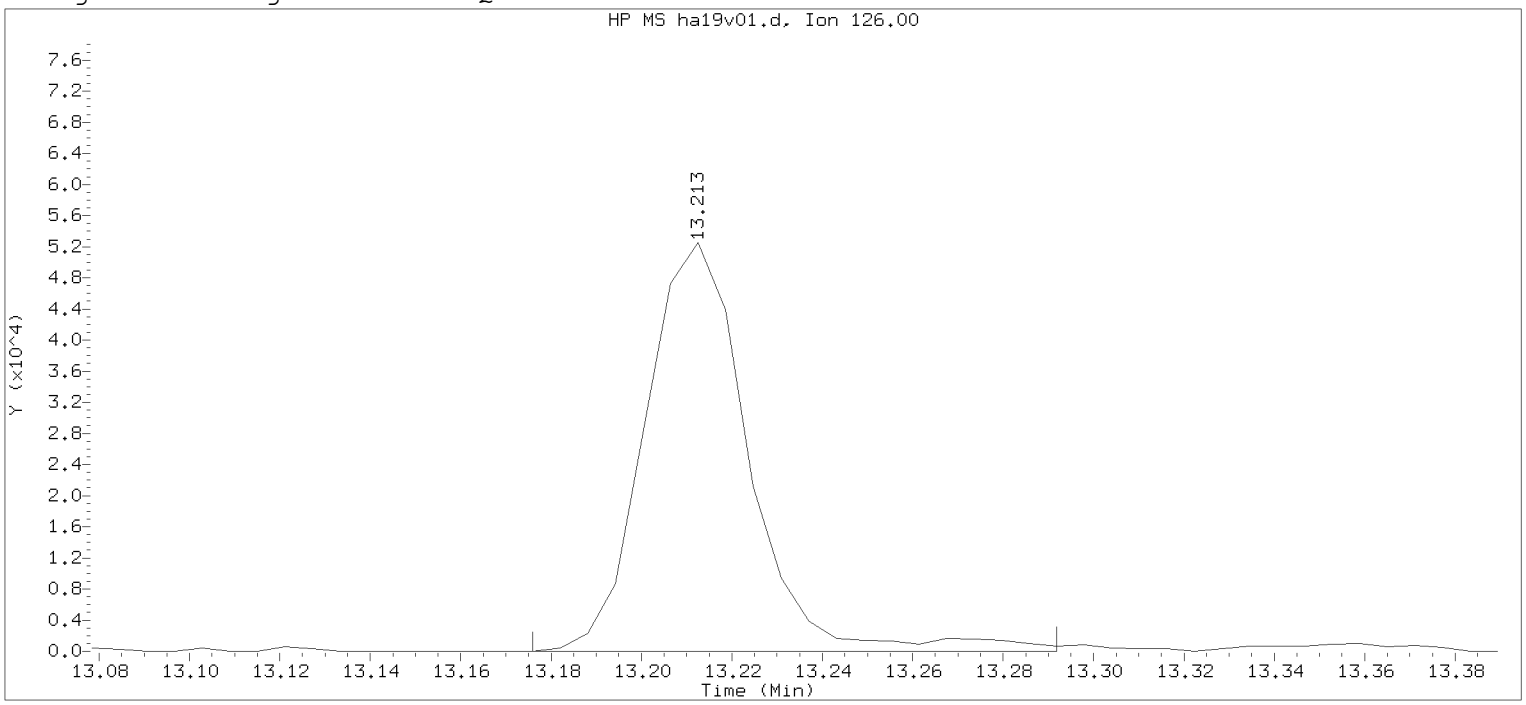
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1907
Retention Time (minutes): 13.213
Quant Ion : 126.00
Area : 83737
On-column Amount (ng) : 5.4314
Integration start scan : 1900 Integration stop scan: 1919
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kevin.sposito

Data File: /chem2/HP19094.i/17may30b.b/hy30t05.d

Date : 30-MAY-2017 10:54

Client ID: bfb 50ng

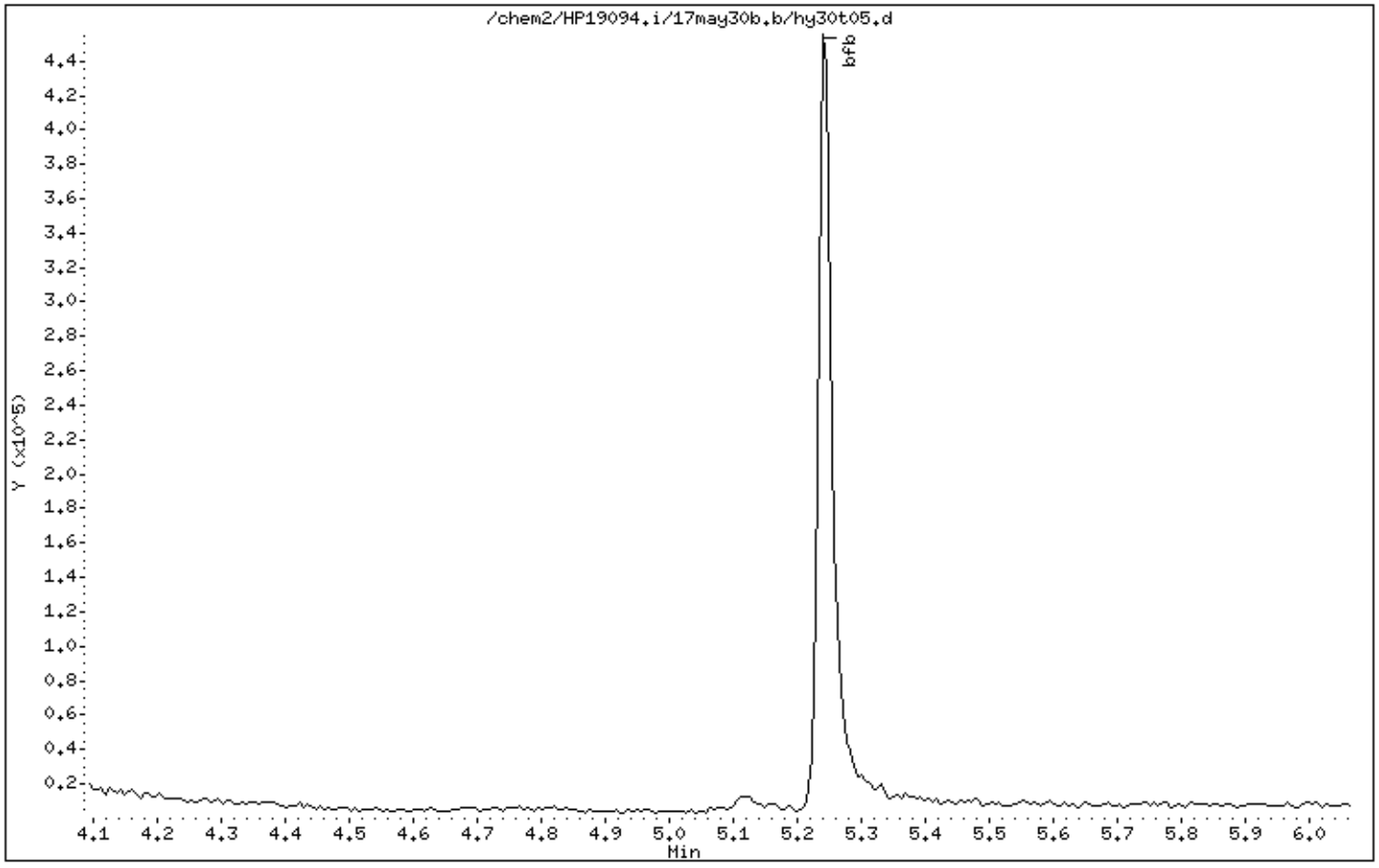
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:01.
Target 3.5 esignature user ID: kel01973

Data File: /chem2/HP19094.i/17may30b.b/hy30t05.d

Date : 30-MAY-2017 10:54

Client ID: bfb 50ng

Instrument: HP19094.i

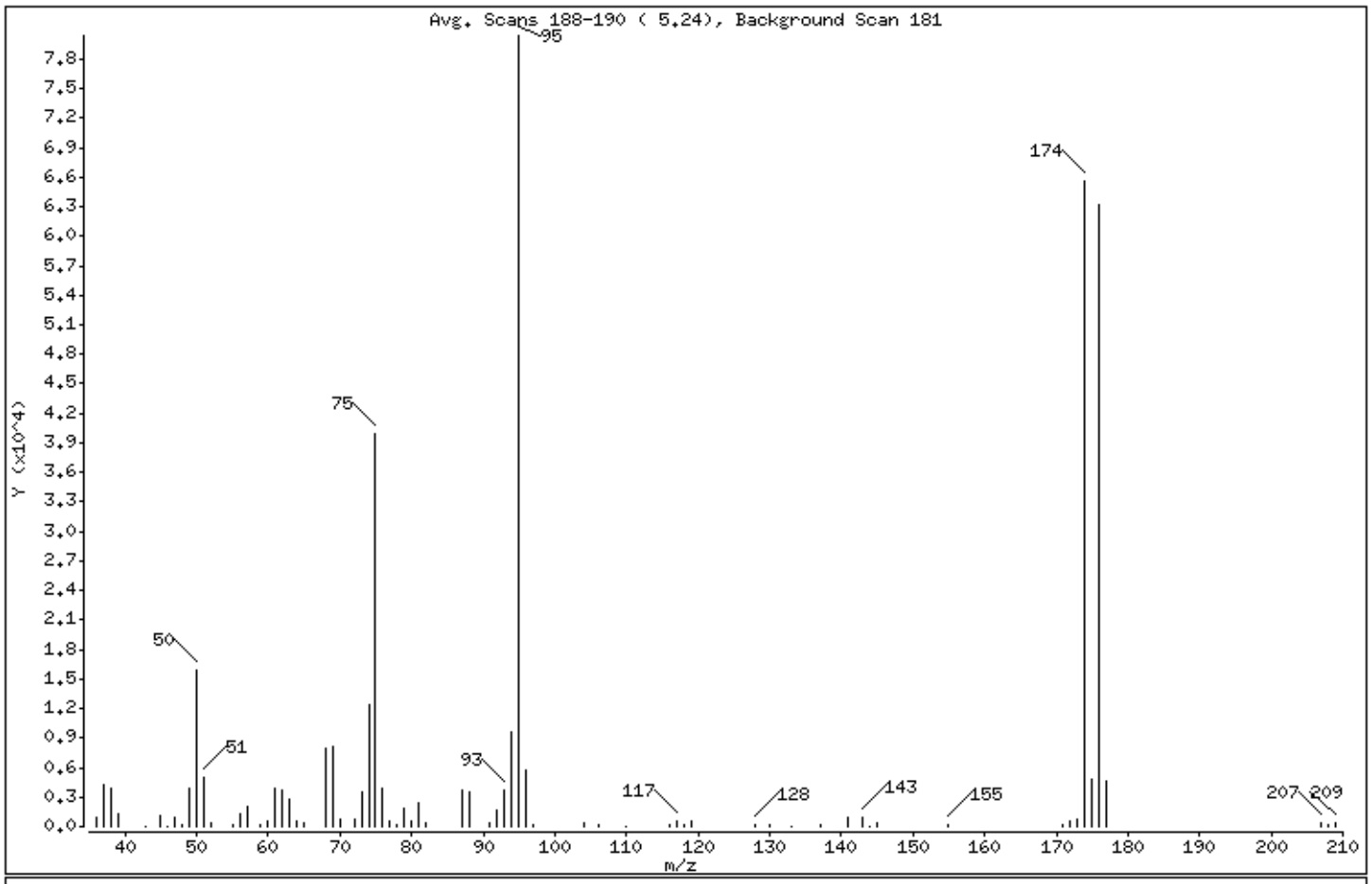
Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.87
75	30.00 - 60.00% of mass 95	49.74
96	5.00 - 9.00% of mass 95	7.10
173	Less than 2.00% of mass 174	0.91 (1.11)
174	50.00 - 100.00% of mass 95	81.63
175	5.00 - 9.00% of mass 174	5.97 (7.32)
176	95.00 - 101.00% of mass 174	78.68 (96.39)
177	5.00 - 9.00% of mass 176	5.71 (7.26)

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:01.
Target 3.5 esignature user ID: kel01973

Date : 30-MAY-2017 10:54

Client ID: bfb 50ng Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

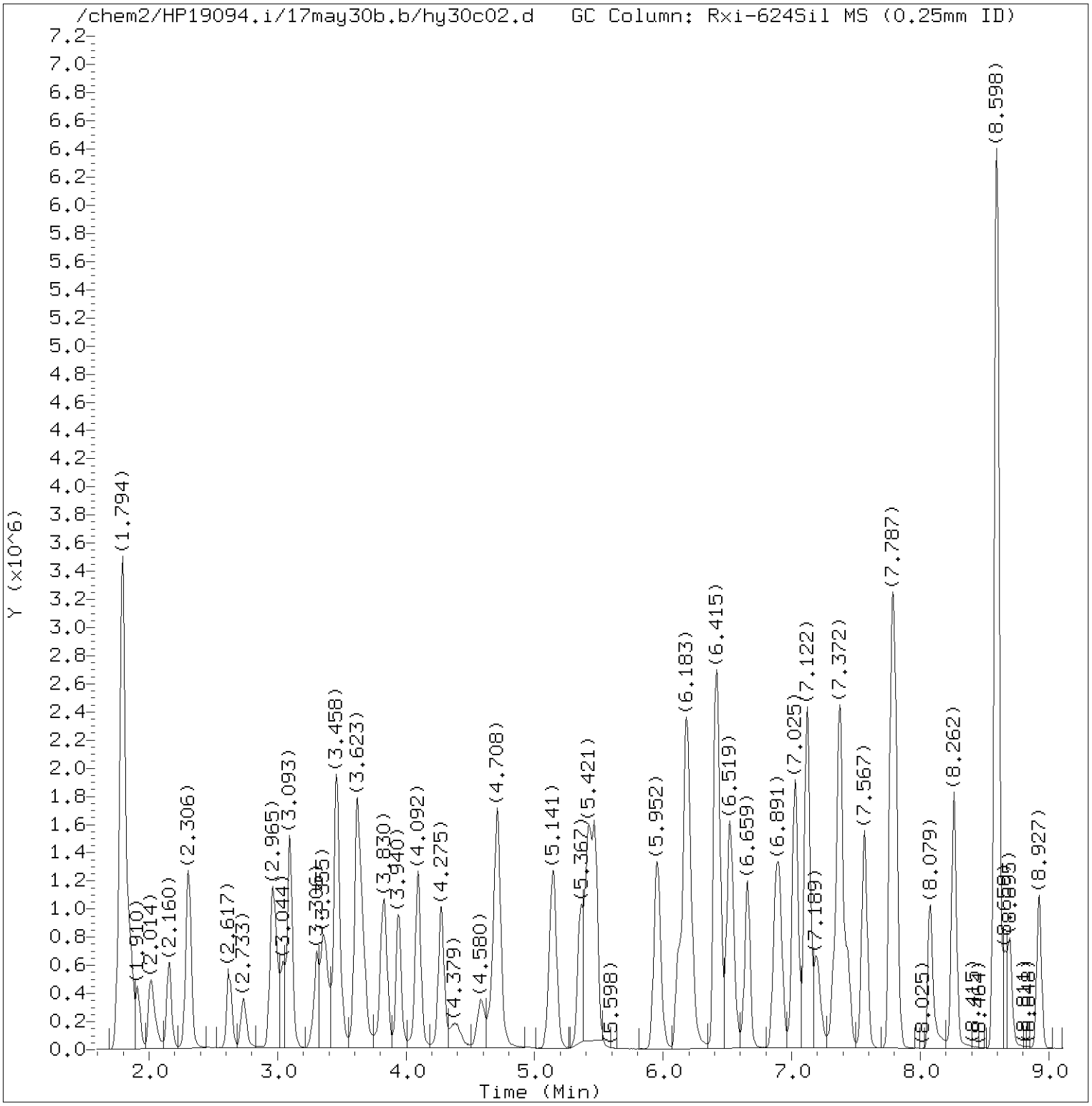
Operator: KEL01973

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: hy30t05.d
Spectrum: Avg. Scans 188-190 (5.24), Background Scan 181
Location of Maximum: 95.00
Number of points: 72

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	847	62.00	3756	88.00	3501	141.00	885
37.00	4222	63.00	2723	91.00	391	143.00	950
38.00	3867	64.00	522	92.00	1693	144.00	88
39.00	1351	65.00	342	93.00	3782	145.00	456
43.00	86	68.00	7892	94.00	9542	155.00	118
45.00	1041	69.00	8057	95.00	80376	171.00	101
46.00	85	70.00	772	96.00	5704	172.00	513
47.00	880	72.00	748	97.00	215	173.00	728
48.00	271	73.00	3531	104.00	281	174.00	65608
49.00	3847	74.00	12465	106.00	120	175.00	4802
50.00	15971	75.00	39976	110.00	85	176.00	63240
51.00	5029	76.00	3968	116.00	244	177.00	4590
52.00	300	77.00	630	117.00	644	207.00	318
55.00	219	78.00	195	118.00	95	208.00	101
56.00	1305	79.00	1918	119.00	583	209.00	312
57.00	2004	80.00	624	128.00	273		
59.00	162	81.00	2487	130.00	108		
60.00	636	82.00	402	133.00	91		
61.00	3962	87.00	3748	137.00	131		

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:01.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

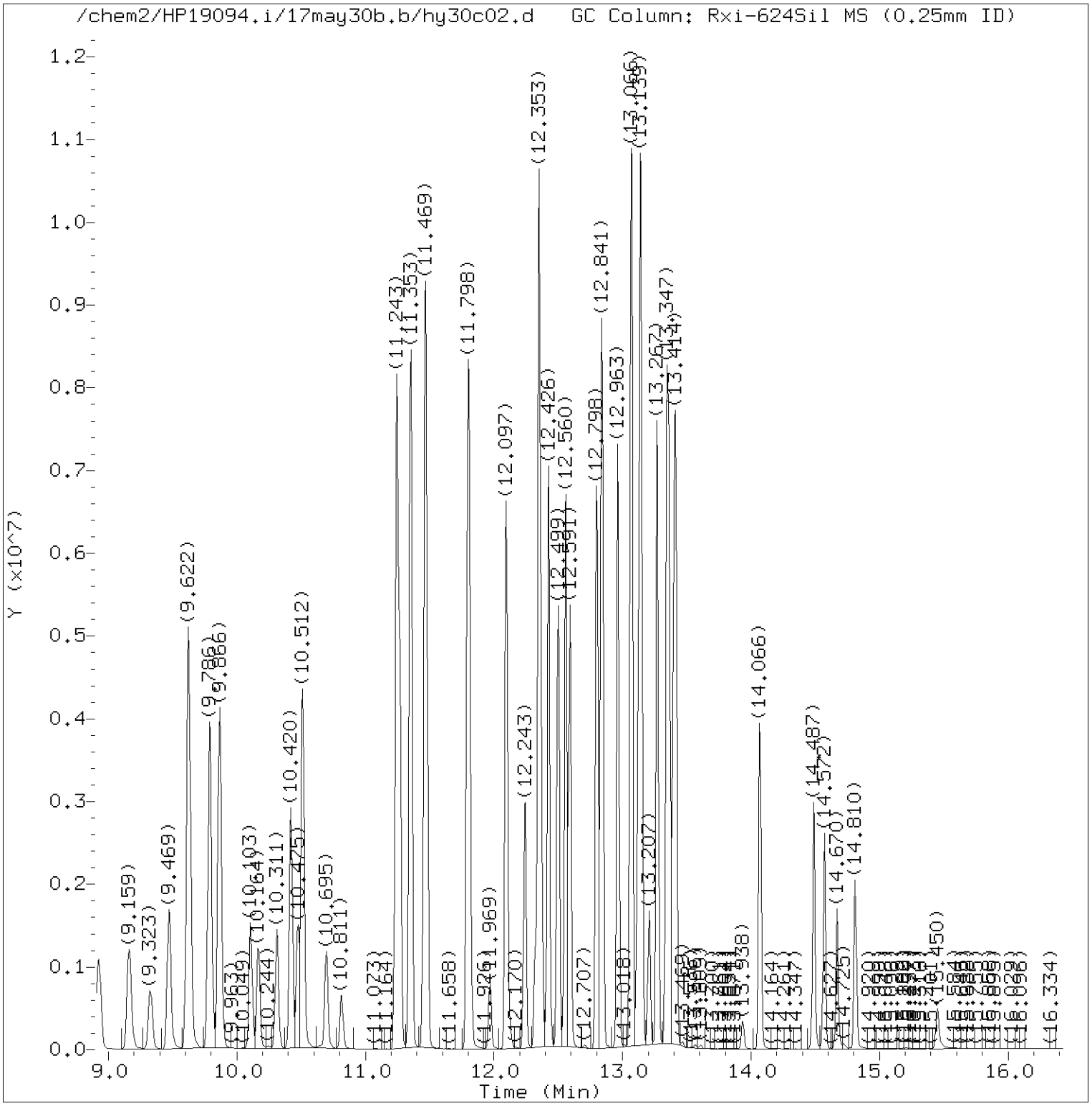
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	1084081	8.843
2) Chloromethane	(2)	2.160	50	967336	7.516
5) Vinyl Chloride	(2)	2.288	62	802746	7.105
6) 1,3-Butadiene	(2)	2.312	39	698450	3.925
7) Bromomethane	(2)	2.617	94	569308	8.022
8) Chloroethane	(2)	2.733	64	539358	8.334
9) Dichlorofluoromethane	(2)	2.959	67	1773170	11.907
10) Trichlorofluoromethane	(2)	3.038	101	1395781	10.663
11) Ethyl ether	(2)	3.306	59	540046	10.413
12) Freon 123a	(2)	3.361	67	1036226	10.491
13) Acrolein	(1)	3.458	56	3039953	354.287
15) 1,1-Dichloroethene	(2)	3.617	96	661431	9.408
14) Acetone	(1)	3.623	43	1045284	100.599
16) Freon 113	(2)	3.660	101	745100	10.069
17) Methyl Iodide	(2)	3.812	142	1317373	10.088
18) Carbon Disulfide	(2)	3.940	76	2074483	10.517
21) Methyl Acetate	(1)	4.056	43	297930	8.438
22) Allyl Chloride	(2)	4.092	41	1353923	9.924
26)*t-Butyl Alcohol-d10	(1)	4.257	65	112769	50.000
23) Methylene Chloride	(2)	4.269	84	753872	9.819
28) t-Butyl Alcohol	(1)	4.397	59	618277	219.130
29) Acrylonitrile	(1)	4.586	53	670804	47.774
30) Methyl Tertiary Butyl Ether	(2)	4.690	73	1489541	10.574
31) trans-1,2-Dichloroethene	(2)	4.708	96	764482	9.847
32) n-Hexane	(2)	5.141	57	1266309	10.640
33) 1,1-Dichloroethane	(2)	5.354	63	1515547M	9.893
34) di-Isopropyl Ether	(2)	5.415	45	2703792	10.357
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	1341890	10.368
37) Ethyl t-butyl ether	(2)	5.958	59	2077637	10.352
40) 1,2-Dichloroethene (Total)	(2)		96	1642991	19.984
38) 2-Butanone	(1)	6.116	43	1834595	86.566
42) Propionitrile	(1)	6.177	54	1015899	201.750
39) cis-1,2-Dichloroethene	(2)	6.177	96	878509	10.137
41) 2,2-Dichloropropane	(2)	6.202	77	1125959	9.811
45) Methacrylonitrile	(1)	6.415	67	1696269	80.571
47) Bromochloromethane	(2)	6.513	128	345703	10.089
48) Tetrahydrofuran	(1)	6.525	71	445700	84.184
49) Chloroform	(2)	6.659	83	1405105	9.722

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	727024	10.235
50)$Dibromofluoromethane	(2)	6.866	111	748930	10.265
51) 1,1,1-Trichloroethane	(2)	6.903	97	1145634	9.307
52) Cyclohexane	(2)	7.025	56	1544470	10.177
52) Cyclohexane	(2)	7.025	84	1211105	10.384
52) Cyclohexane	(2)	7.025	69	454120	10.664
55) 1,1-Dichloropropene	(2)	7.116	75	1175035	10.279
54) Carbon Tetrachloride	(2)	7.128	117	1032073	9.988
56) Isobutyl Alcohol	(1)	7.195	41	626329	514.414
57)$1,2-Dichloroethane-d4	(2)	7.330	102	115659	10.070
57)$1,2-Dichloroethane-d4	(2)	7.330	65	575143	10.287
57)$1,2-Dichloroethane-d4	(2)	7.330	104	76425	10.978
58) Benzene	(2)	7.372	78	3315785	9.988
59) 1,2-Dichloroethane	(2)	7.439	62	815745M	10.279
60) t-Amyl methyl ether	(2)	7.567	73	1723588	10.561
63)*Fluorobenzene	(2)	7.775	96	3168741	10.000
62) n-Heptane	(2)	7.805	43	1446846	10.326
65) n-Butanol	(1)	8.079	56	1032514	1151.715
67) Trichloroethene	(2)	8.262	95	849152	9.663
70) 1,2-Dichloropropane	(2)	8.585	63	873698	10.093
69) Methylcyclohexane	(2)	8.592	83	1495319	10.073
71) Methyl Methacrylate	(1)	8.659	69	323905M	8.410
72) 1,4-Dioxane	(1)	8.677	88	117997M	543.123
73) Dibromomethane	(2)	8.695	93	349319	10.468
74) Bromodichloromethane	(2)	8.927	83	974458	10.662
76) 2-Nitropropane	(1)	9.159	41	1042096	82.038
80) cis-1,3-Dichloropropene	(2)	9.469	75	1181510	11.467
81) 4-Methyl-2-Pentanone	(1)	9.622	43	4604926	81.999
82)$Toluene-d8	(3)	9.786	98	3137085	9.926
82)$Toluene-d8	(3)	9.786	100	2025728	9.953
83) Toluene	(3)	9.866	92	2055680	9.843
84) trans-1,3-Dichloropropene	(3)	10.103	75	882878	10.851
86) Ethyl Methacrylate	(3)	10.164	69	672179	11.169
85) 1,3-Dichloropropene (total)	(3)		75	2064388	22.318
88) 1,1,2-Trichloroethane	(3)	10.311	97	491524	10.131
89) Tetrachloroethene	(3)	10.420	166	938482	9.689
90) 1,3-Dichloropropane	(3)	10.475	76	890154	10.252
91) 2-Hexanone	(1)	10.512	43	3081838M	77.867

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	623810	10.850
95) 1,2-Dibromoethane	(3)	10.817	107	463809	10.109
97)*Chlorobenzene-d5	(3)	11.237	117	2162187	10.000
98) Chlorobenzene	(3)	11.268	112	2236919	9.823
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	757150	9.986
100) Ethylbenzene	(3)	11.353	91	4070146	10.057
101) m+p-Xylene	(3)	11.469	106	3117498	20.260
105) Xylene (Total)	(3)		106	4639876	30.556
104) o-Xylene	(3)	11.792	106	1522378	10.301
106) Styrene	(3)	11.810	104	2419470	10.722
107) Bromoform	(3)	11.969	173	344373	11.993
108) Isopropylbenzene	(3)	12.097	105	3973429	10.275
111)$4-Bromofluorobenzene	(3)	12.237	95	913036	10.167
111)$4-Bromofluorobenzene	(3)	12.243	174	786142	9.836
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	593037M	9.907
115) trans-1,4-Dichloro-2-butene	(1)	12.347	53	1433938	96.172
114) Bromobenzene	(4)	12.359	156	880930	9.651
116) 1,2,3-Trichloropropane	(4)	12.377	110	142681	9.527
117) n-Propylbenzene	(4)	12.426	91	4902250	10.045
119) 2-Chlorotoluene	(4)	12.499	126	931601	10.094
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	3323648	10.121
122) 4-Chlorotoluene	(4)	12.591	126	938965	10.122
125) tert-Butylbenzene	(4)	12.798	134	702647M	9.852
126) Pentachloroethane	(4)	12.835	167	548931	10.303
127) 1,2,4-Trimethylbenzene	(4)	12.841	105	3369664	10.295
128) sec-Butylbenzene	(4)	12.963	105	4344834	10.153
131) 1,3-Dichlorobenzene	(4)	13.066	146	1732194	9.659
132) p-Isopropyltoluene	(4)	13.072	119	3656146	10.441
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	927495	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	1707301	9.136
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	1435049	9.945
136) Benzyl Chloride	(4)	13.207	126	215979	11.450
138) n-Butylbenzene	(4)	13.365	92	1856677	10.798
139) 1,2-Dichlorobenzene	(4)	13.396	146	1517513	9.527
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	66446	7.988
145) 1,2,4-Trichlorobenzene	(4)	14.487	180	859121	8.365
146) Hexachlorobutadiene	(4)	14.572	225	441152	8.671
147) Naphthalene	(4)	14.670	128	1205920	7.979

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

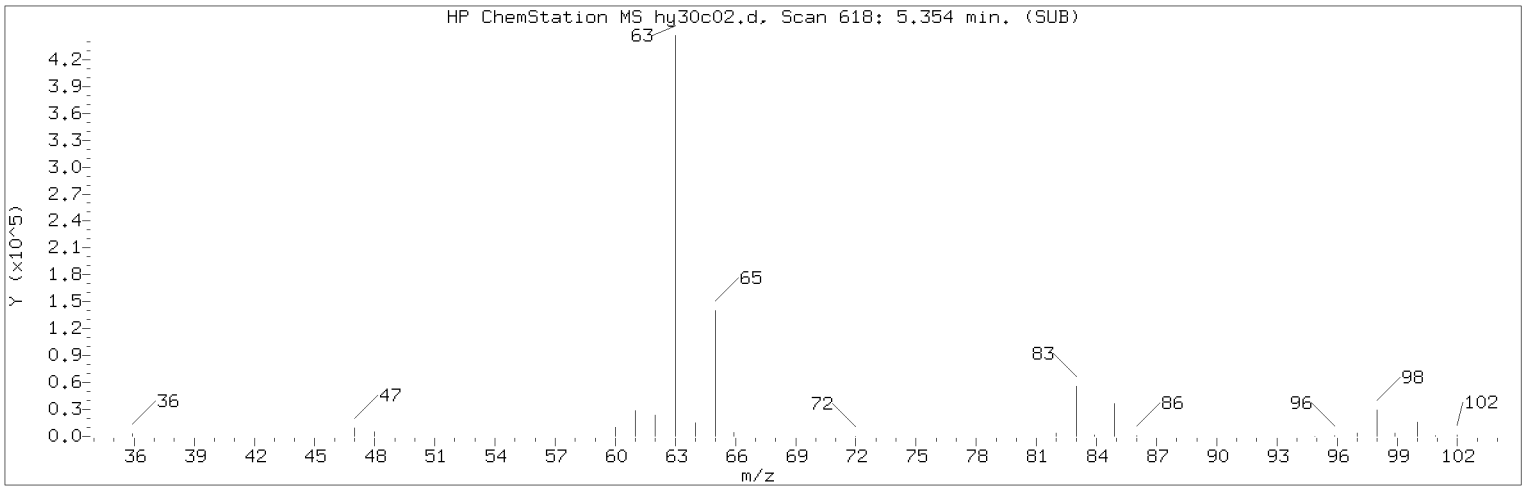
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

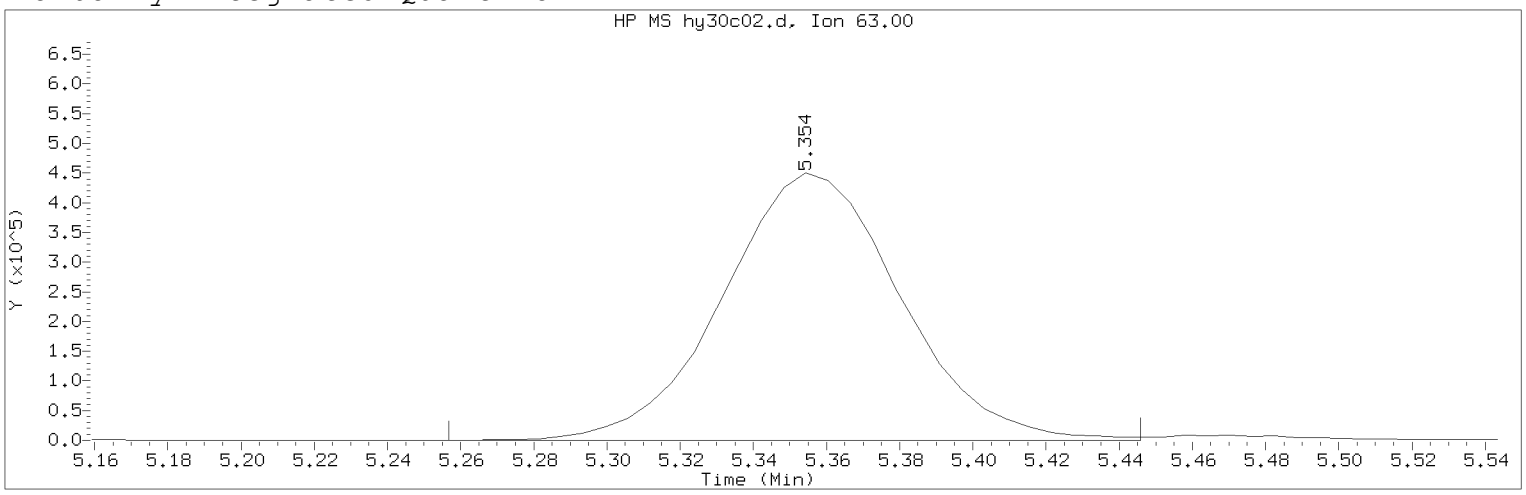
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	597277	6.883

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

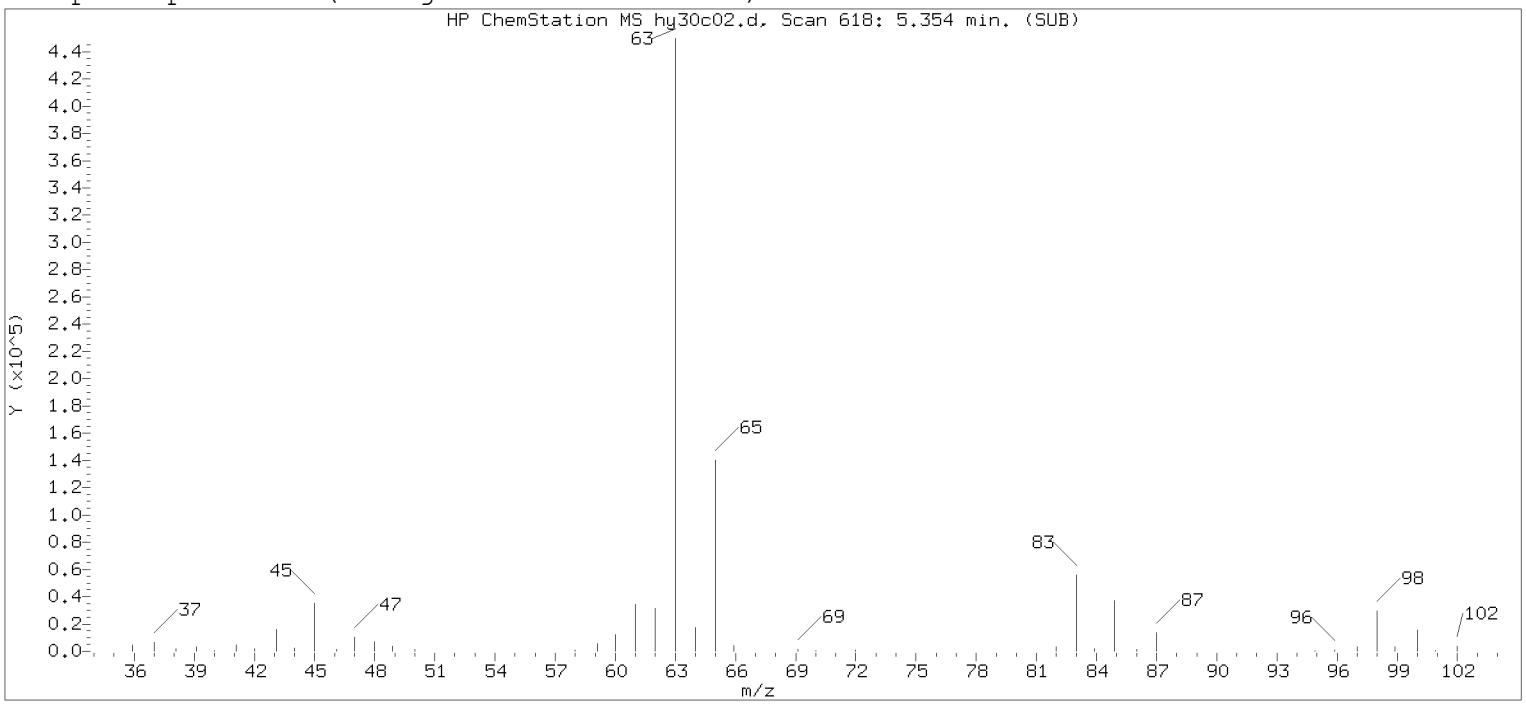
Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 618
Retention Time (minutes): 5.354
Quant Ion : 63.00
Area (flag) : 1515547M
On-Column Amount (ng) : 9.8930
Integration start scan : 601 Integration stop scan: 632
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

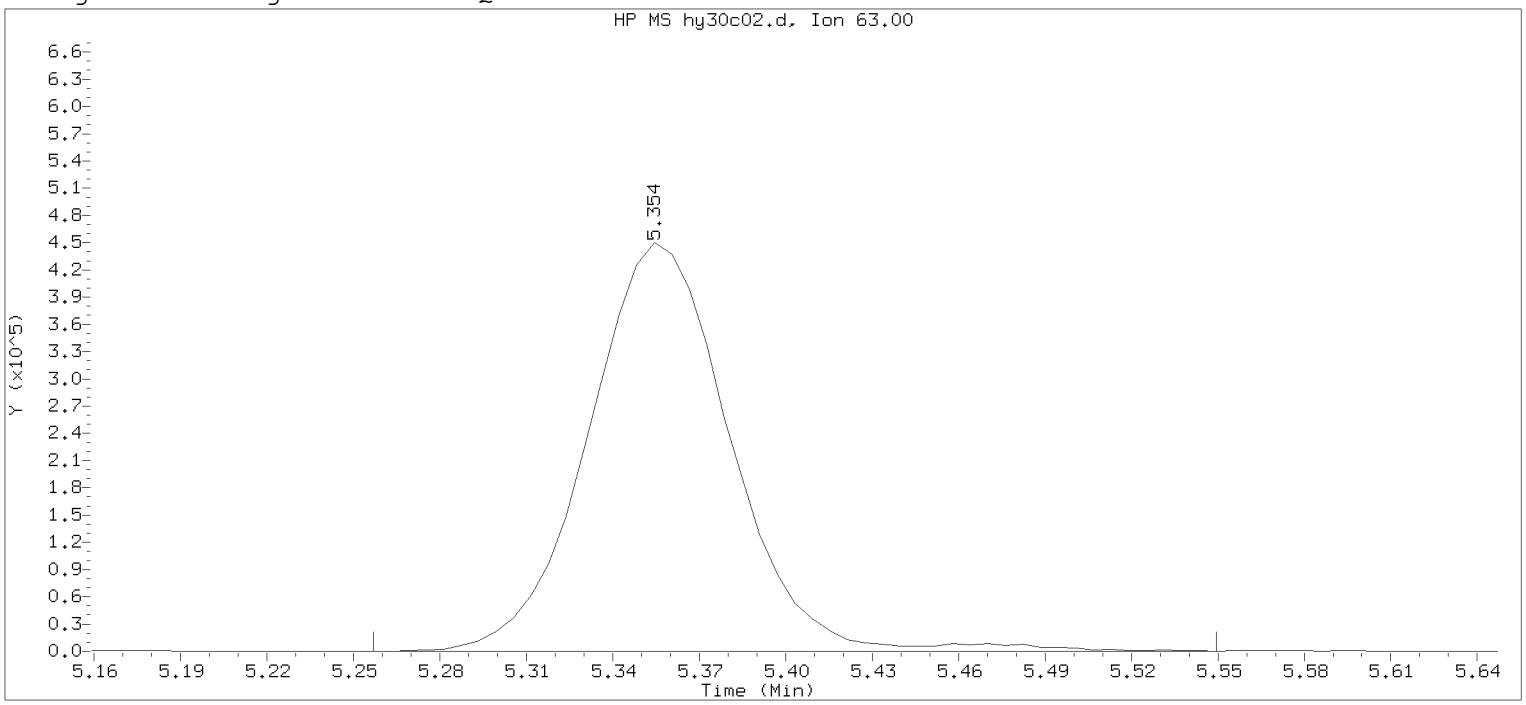
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

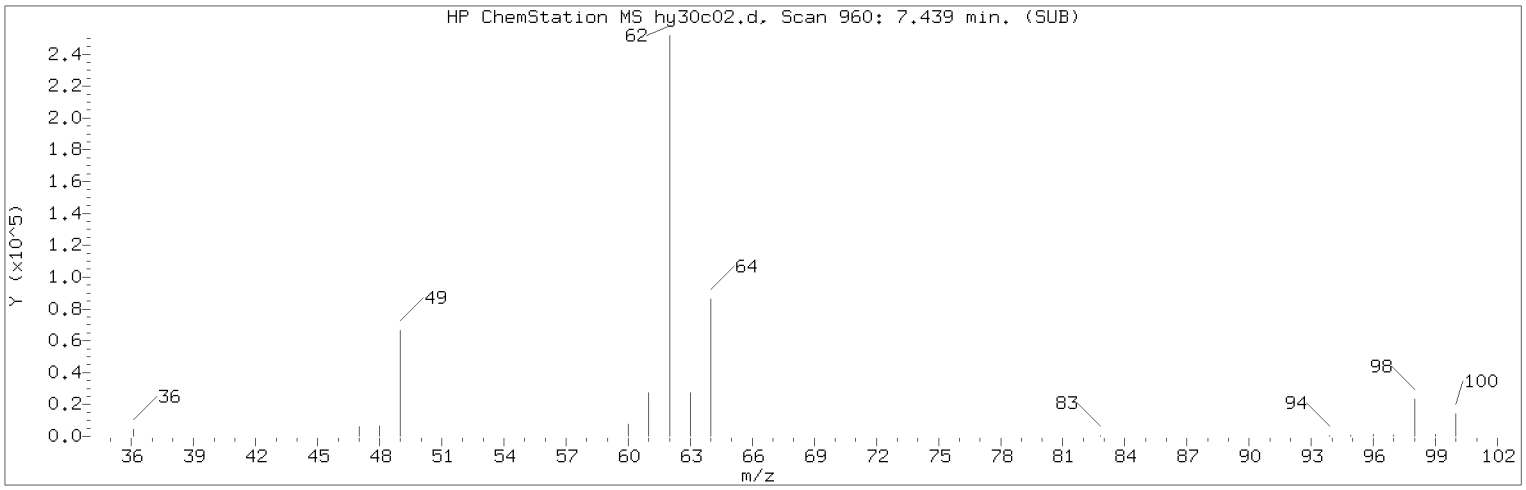
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

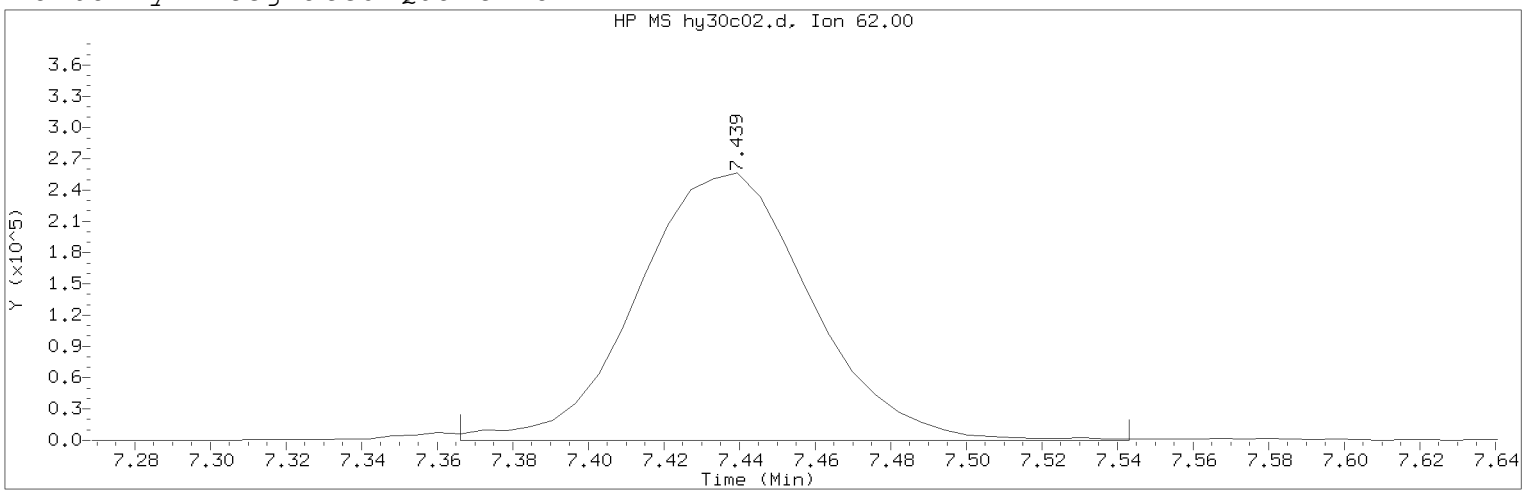
Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 618
Retention Time (minutes): 5.354
Quant Ion : 63.00
Area : 1538786
On-column Amount (ng) : 10.0447
Integration start scan : 601 Integration stop scan: 649
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kelegerlotz

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

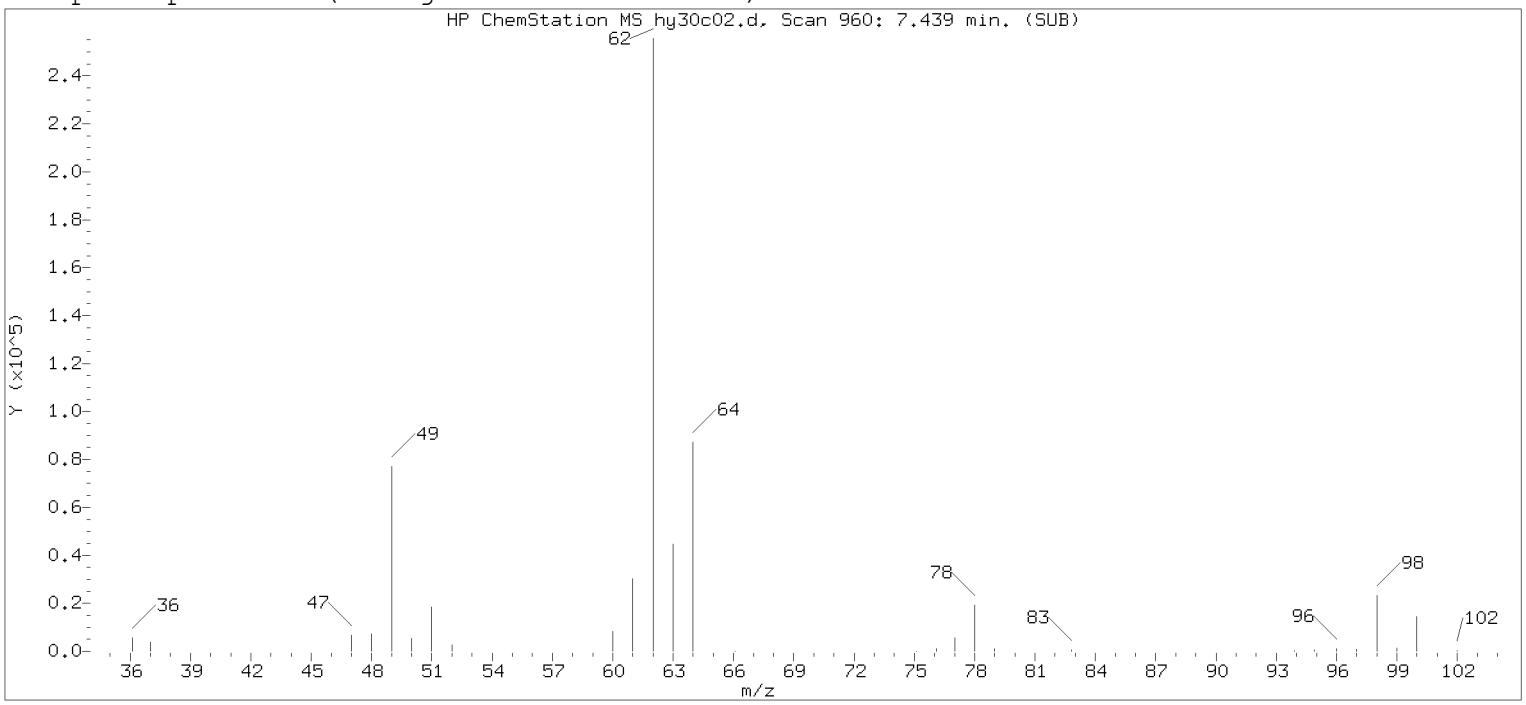
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 960
Retention Time (minutes): 7.439
Quant Ion : 62.00
Area (flag) : 815745M
On-Column Amount (ng) : 10.2789
Integration start scan : 947 Integration stop scan: 976
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

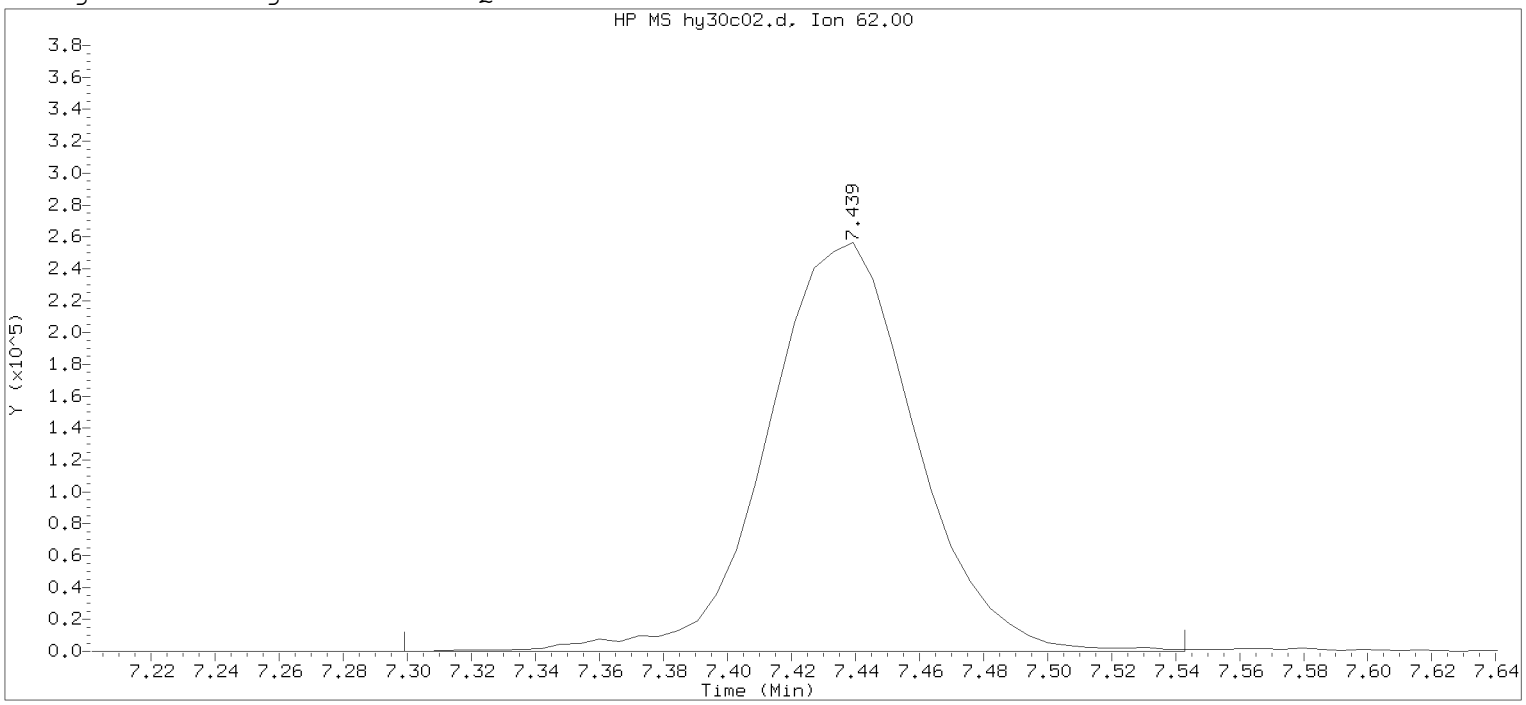
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

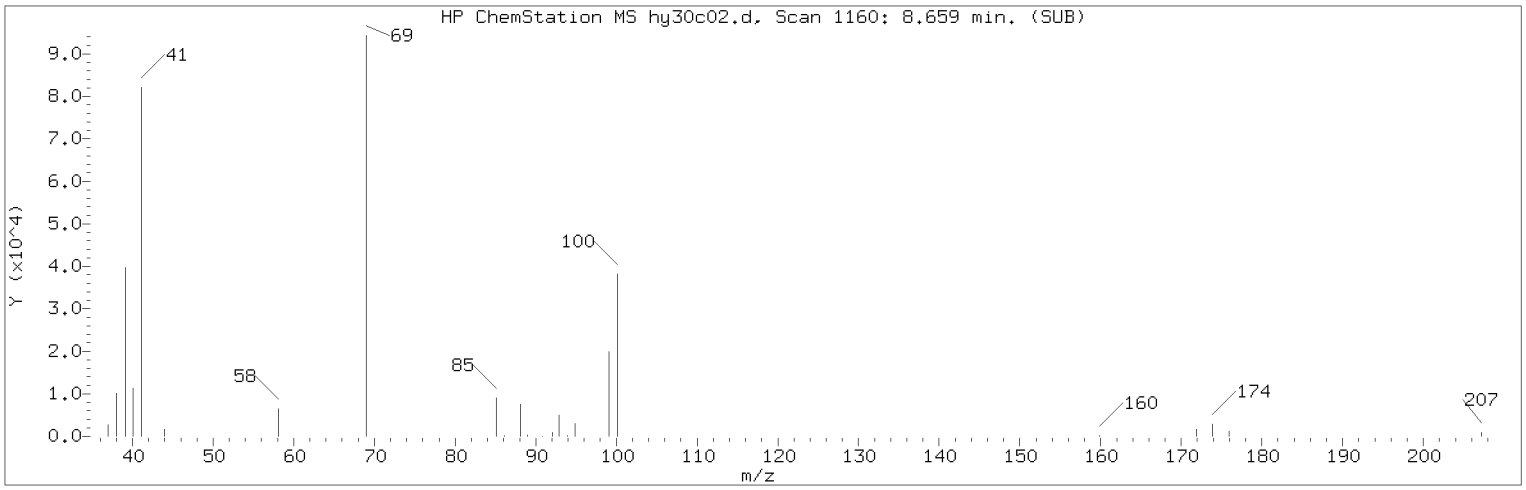
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

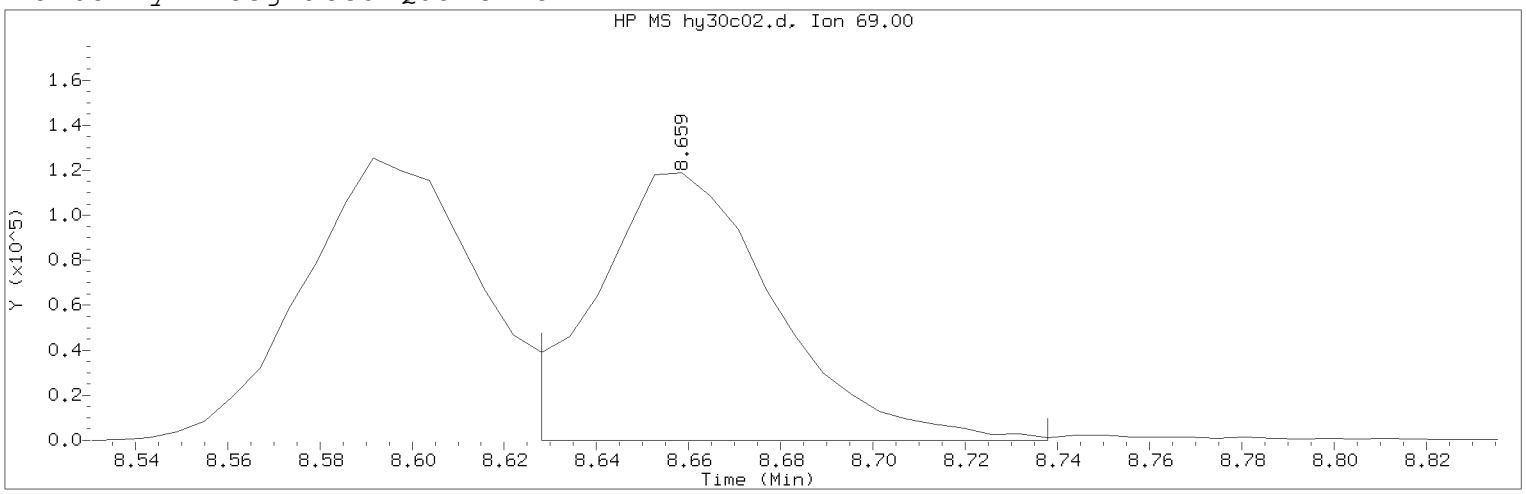
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 960
Retention Time (minutes): 7.439
Quant Ion : 62.00
Area : 823593
On-column Amount (ng) : 10.3778
Integration start scan : 936 Integration stop scan: 976
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

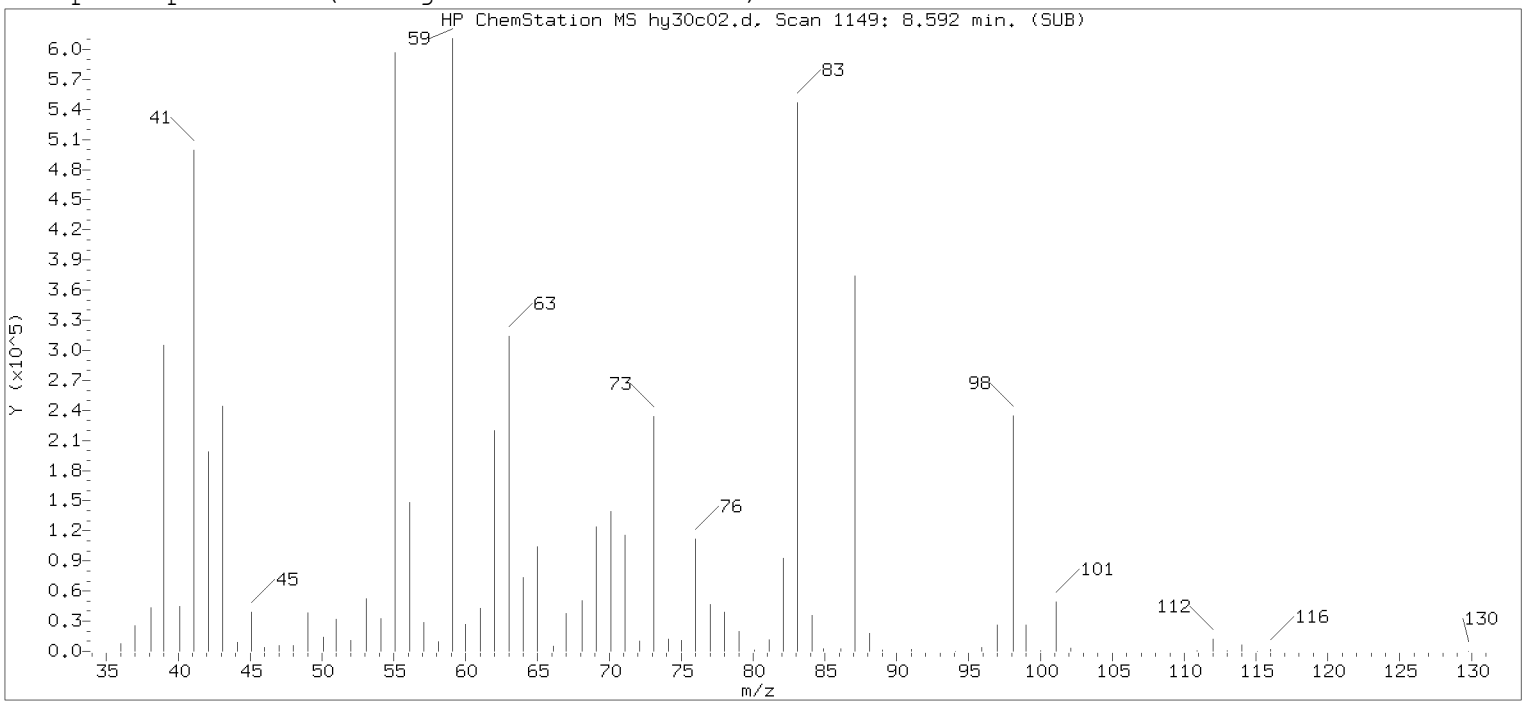
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 323905M
On-Column Amount (ng) : 8.4101
Integration start scan : 1154 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

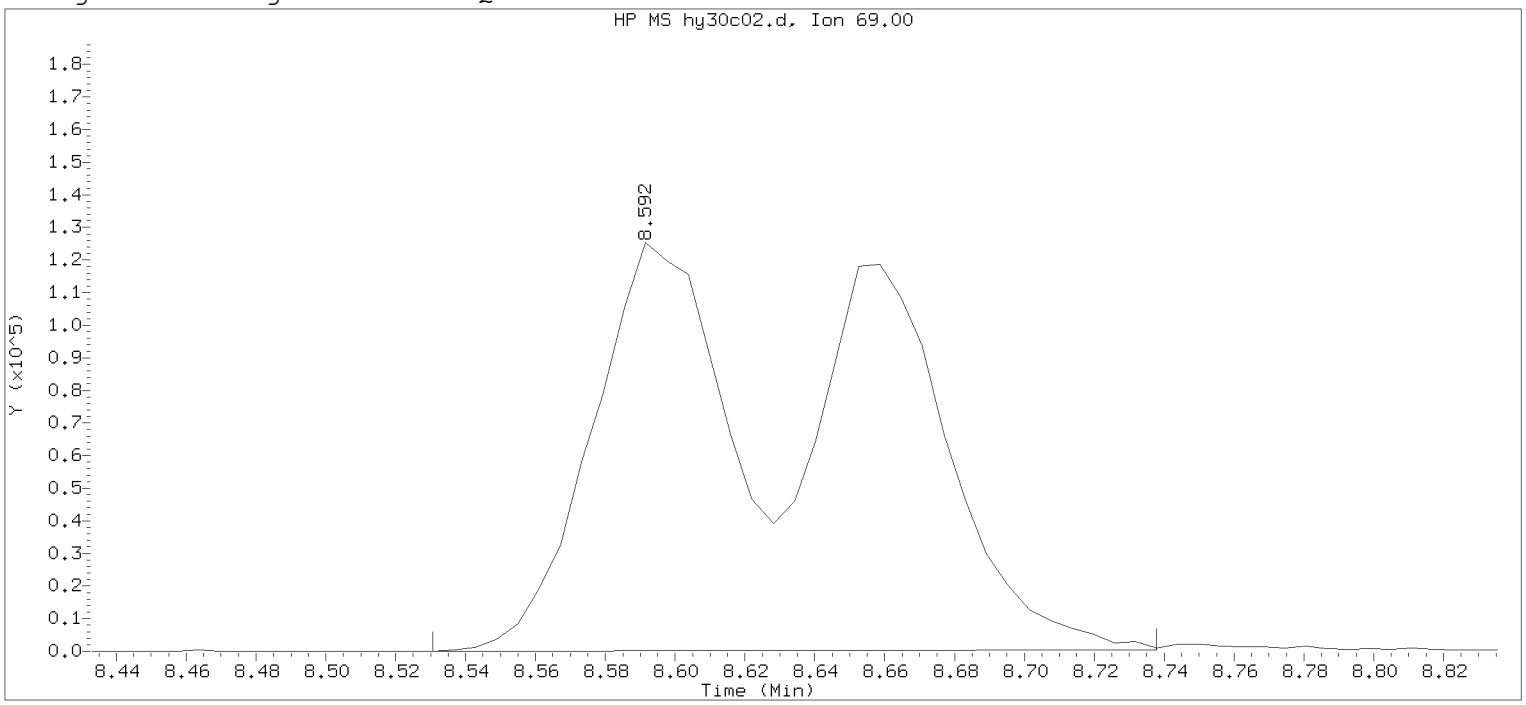
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

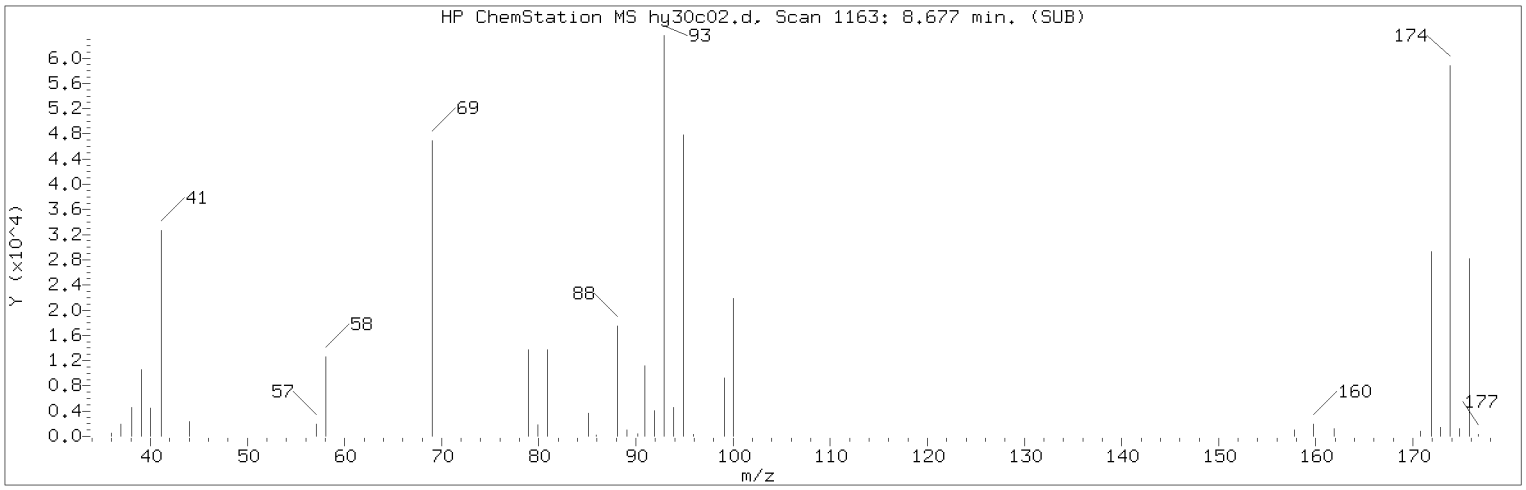
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

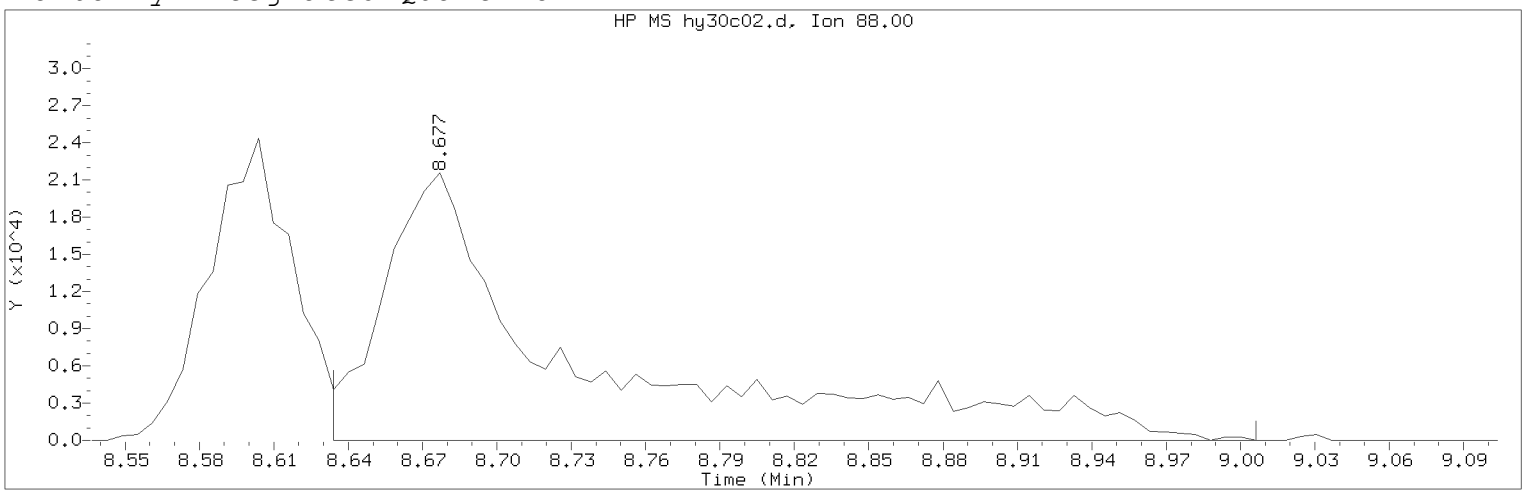
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1149
Retention Time (minutes): 8.592
Quant Ion : 69.00
Area : 640554
On-column Amount (ng) : 16.6317
Integration start scan : 1138 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 393

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kelegerlotz

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

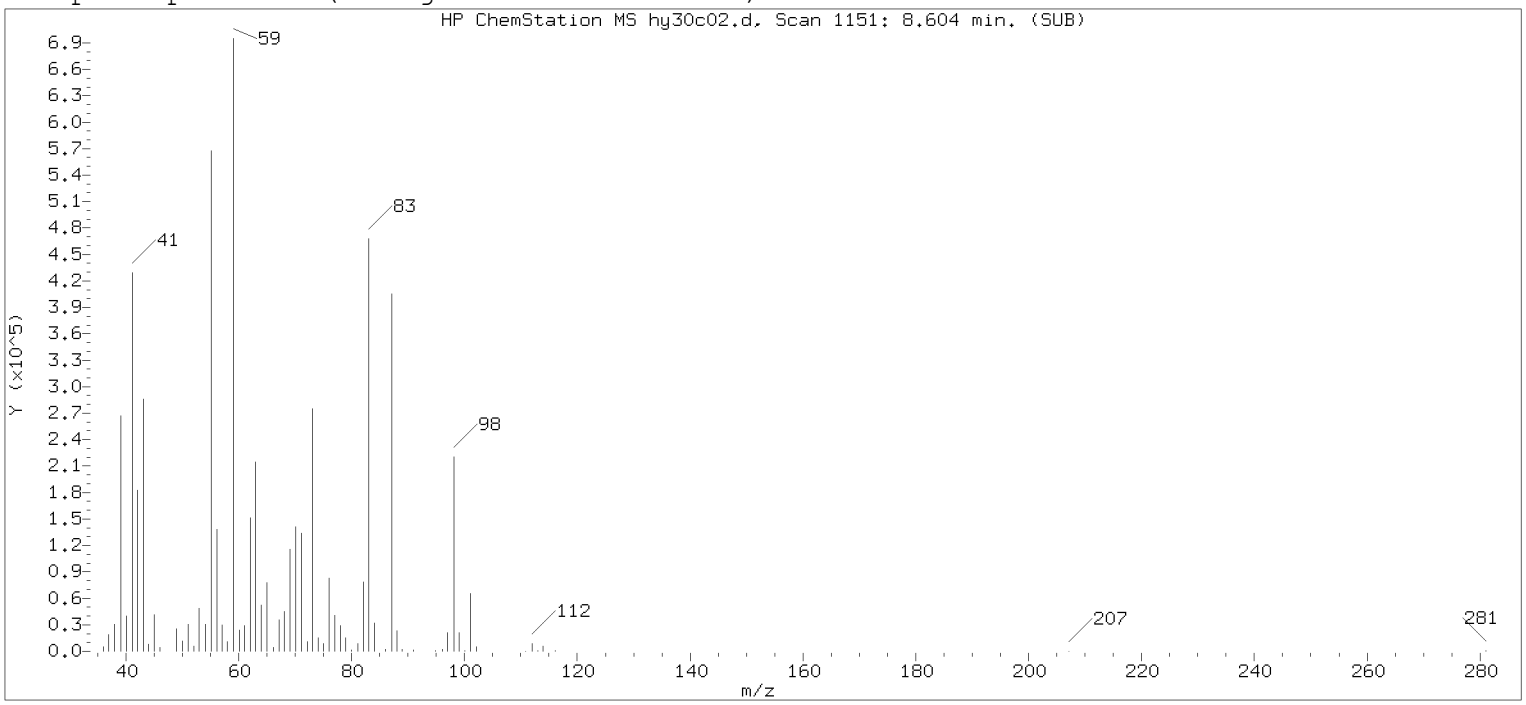
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1163
Retention Time (minutes): 8.677
Quant Ion : 88.00
Area (flag) : 117997M
On-Column Amount (ng) : 543.1226
Integration start scan : 1155 Integration stop scan: 1216
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

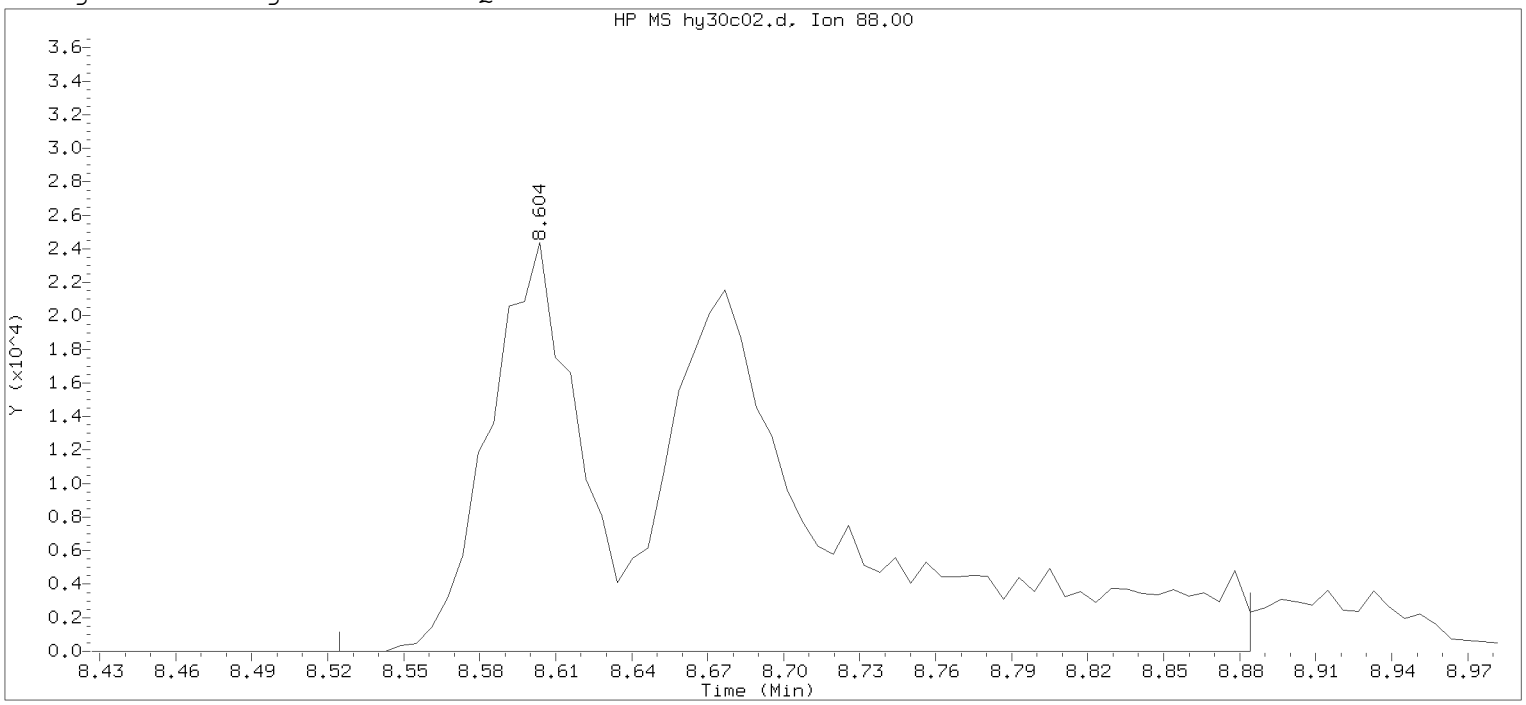
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

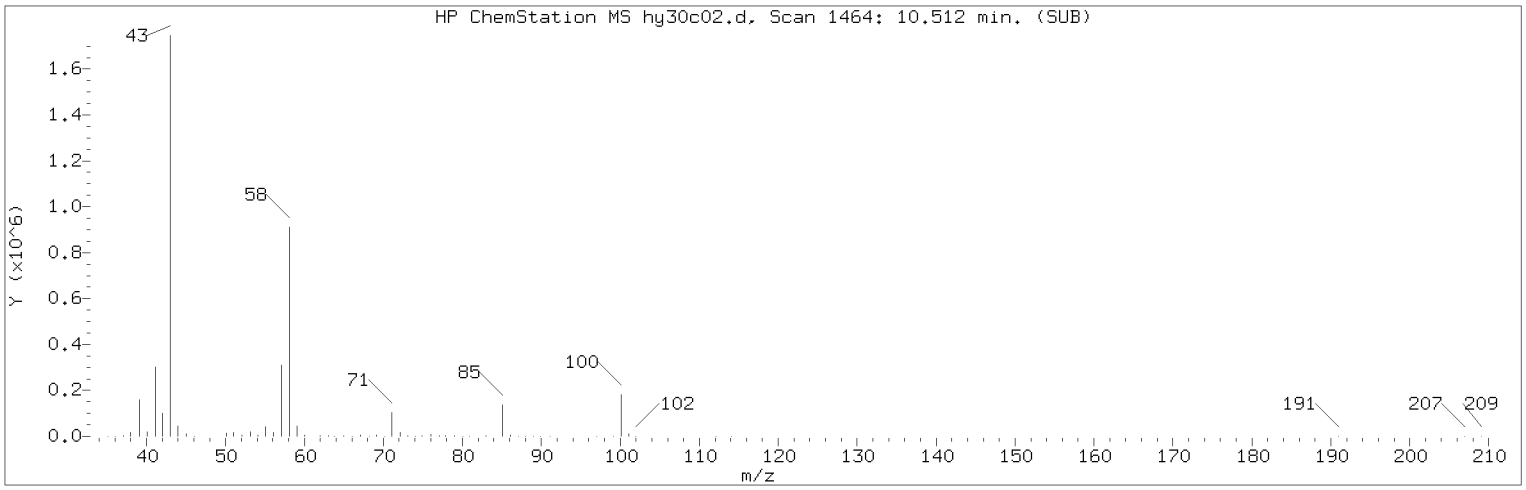
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

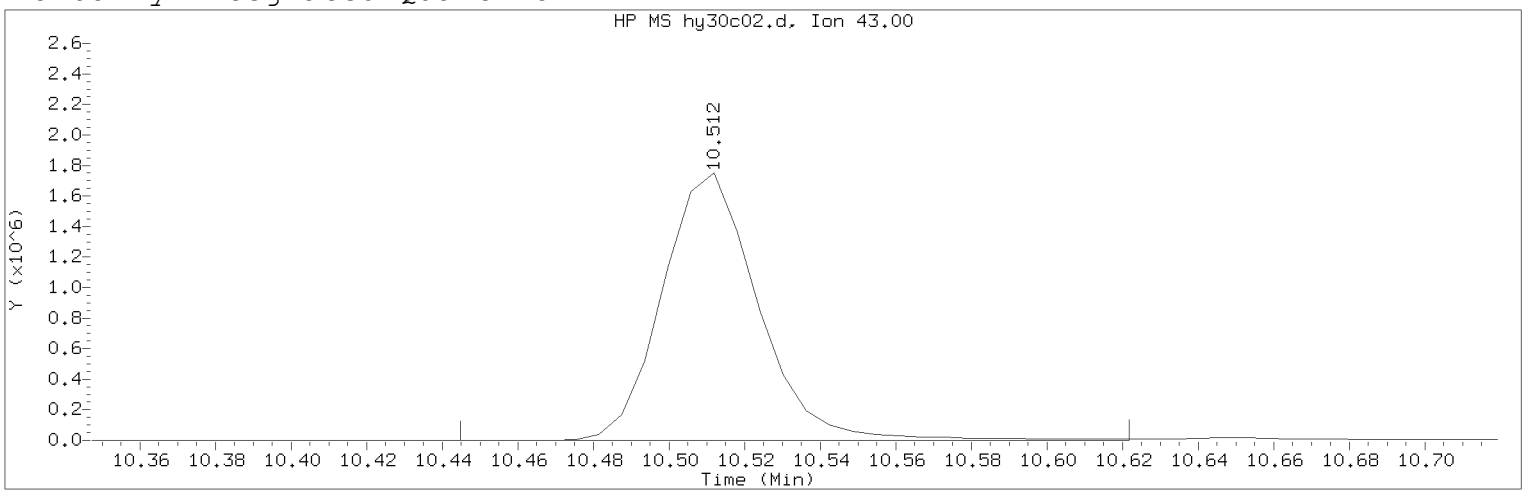
Compound Number	: 72		
Compound Name	: 1,4-Dioxane		
Scan Number	: 1151		
Retention Time (minutes)	: 8.604		
Quant Ion	: 88.00		
Area	: 161473		
On-column Amount (ng)	: 744.6848		
Integration start scan	: 1137	Integration stop scan:	1196
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kkoch Page 301

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

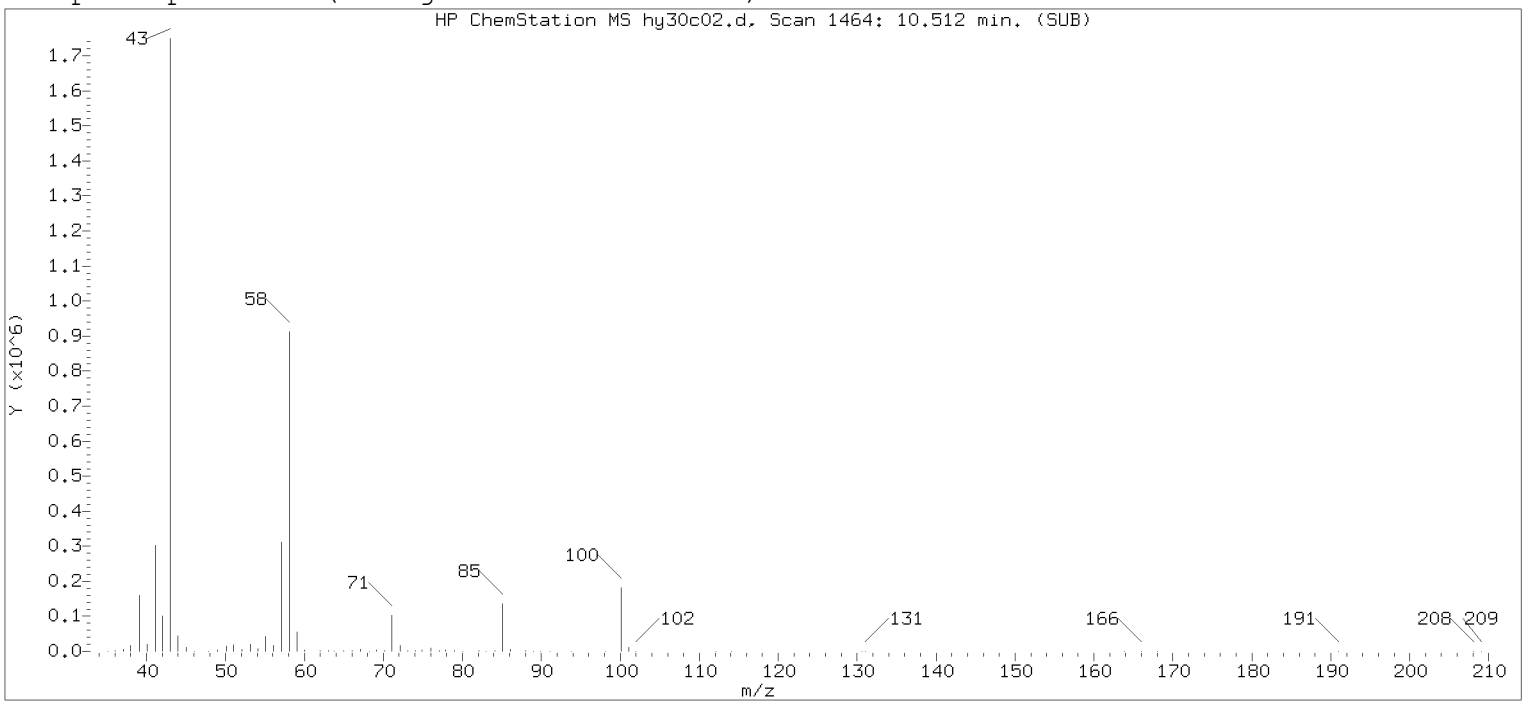
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1464
Retention Time (minutes): 10.512
Quant Ion : 43.00
Area (flag) : 3081838M
On-Column Amount (ng) : 77.8673
Integration start scan : 1452 Integration stop scan: 1481
Y at integration start : 114 Y at integration end: 114

Reason for manual integration: improper integration

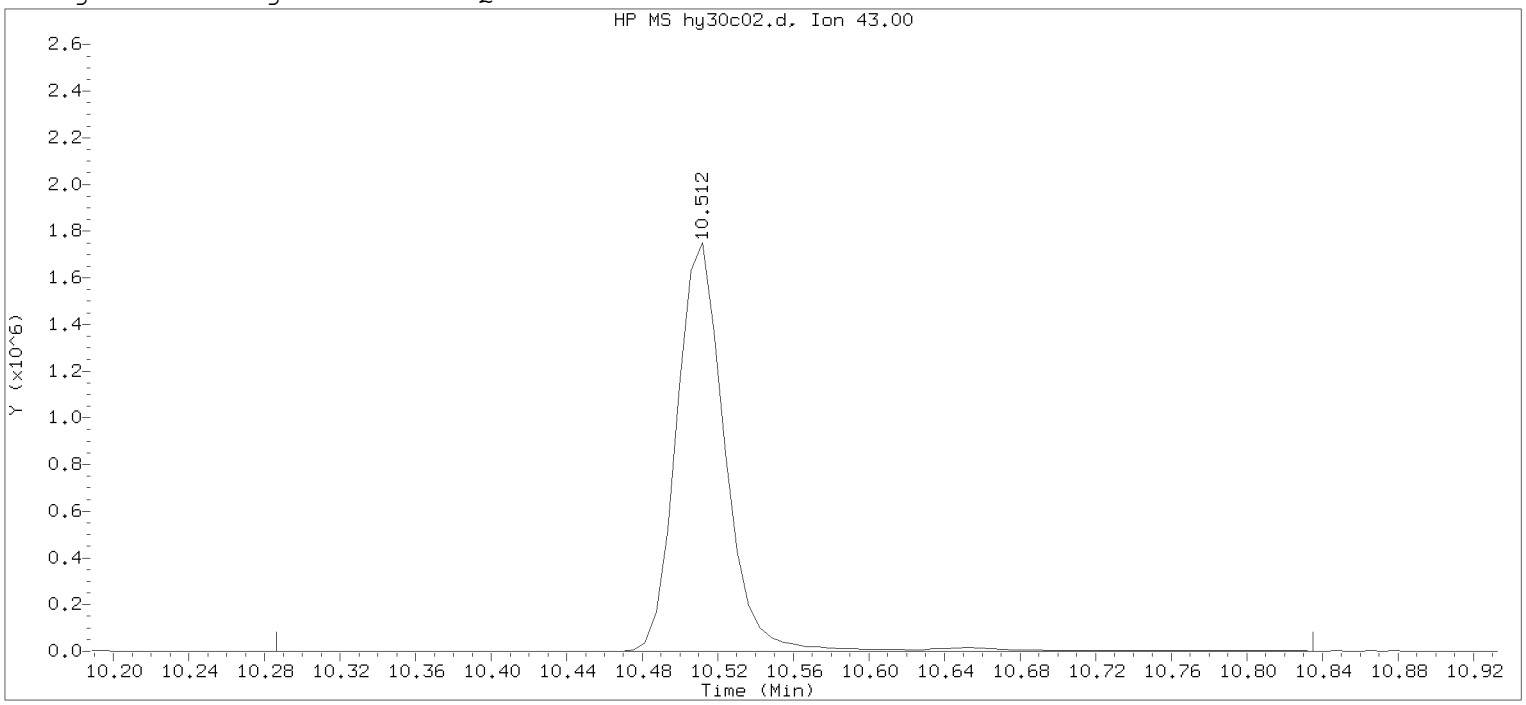
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

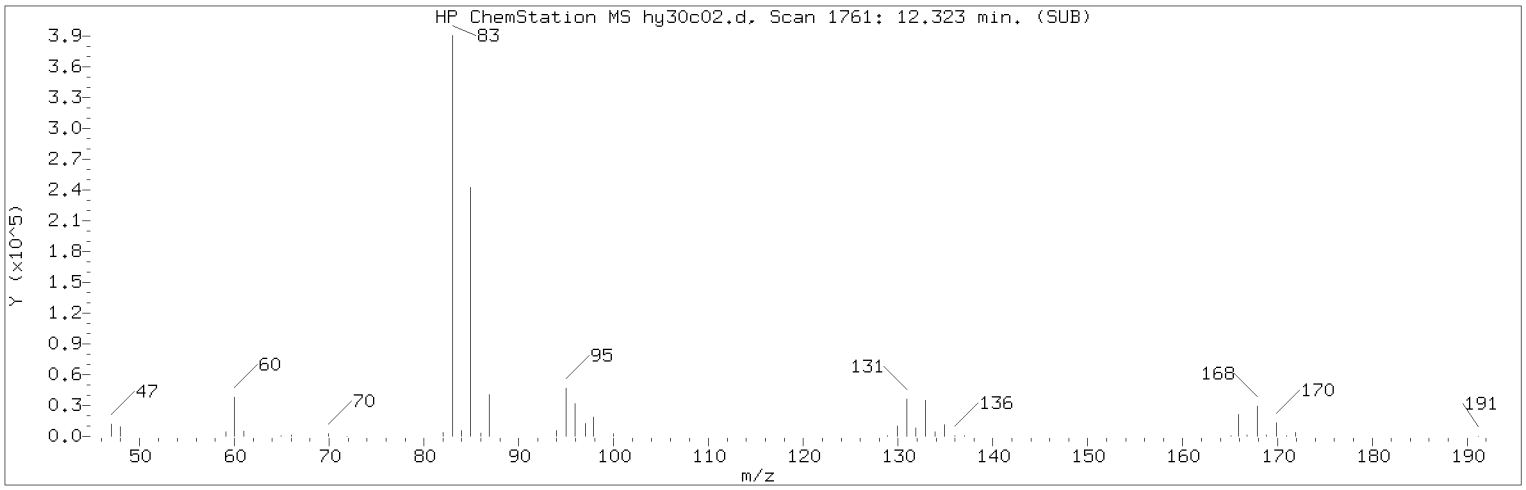
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

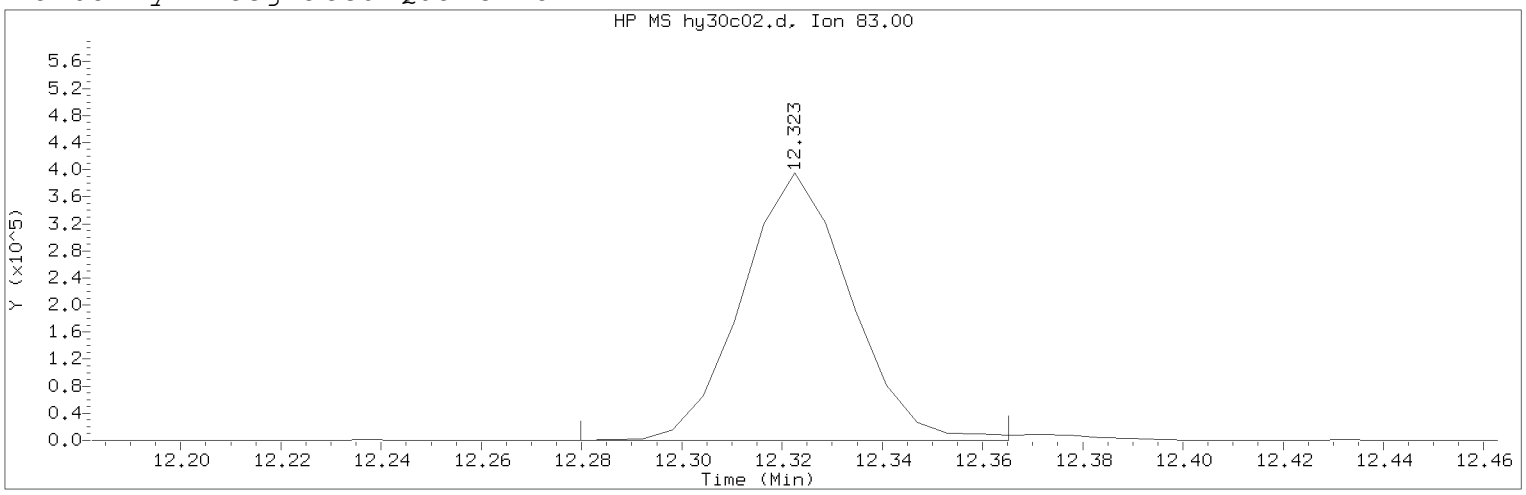
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1464
Retention Time (minutes): 10.512
Quant Ion : 43.00
Area : 3149261
On-column Amount (ng) : 79.5704
Integration start scan : 1426 Integration stop scan: 1516
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

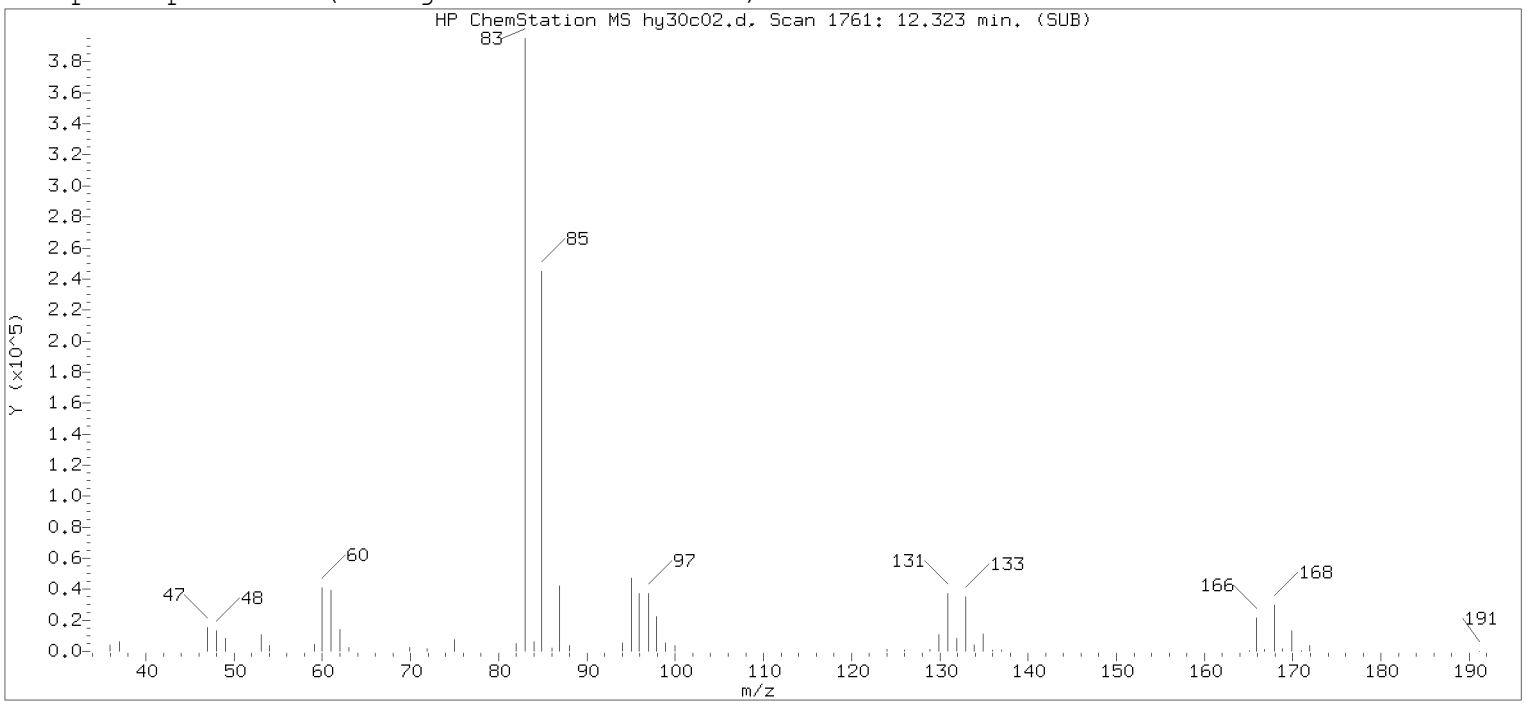
Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1761
Retention Time (minutes): 12.323
Quant Ion : 83.00
Area (flag) : 593037M
On-Column Amount (ng) : 9.9070
Integration start scan : 1753 Integration stop scan: 1767
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

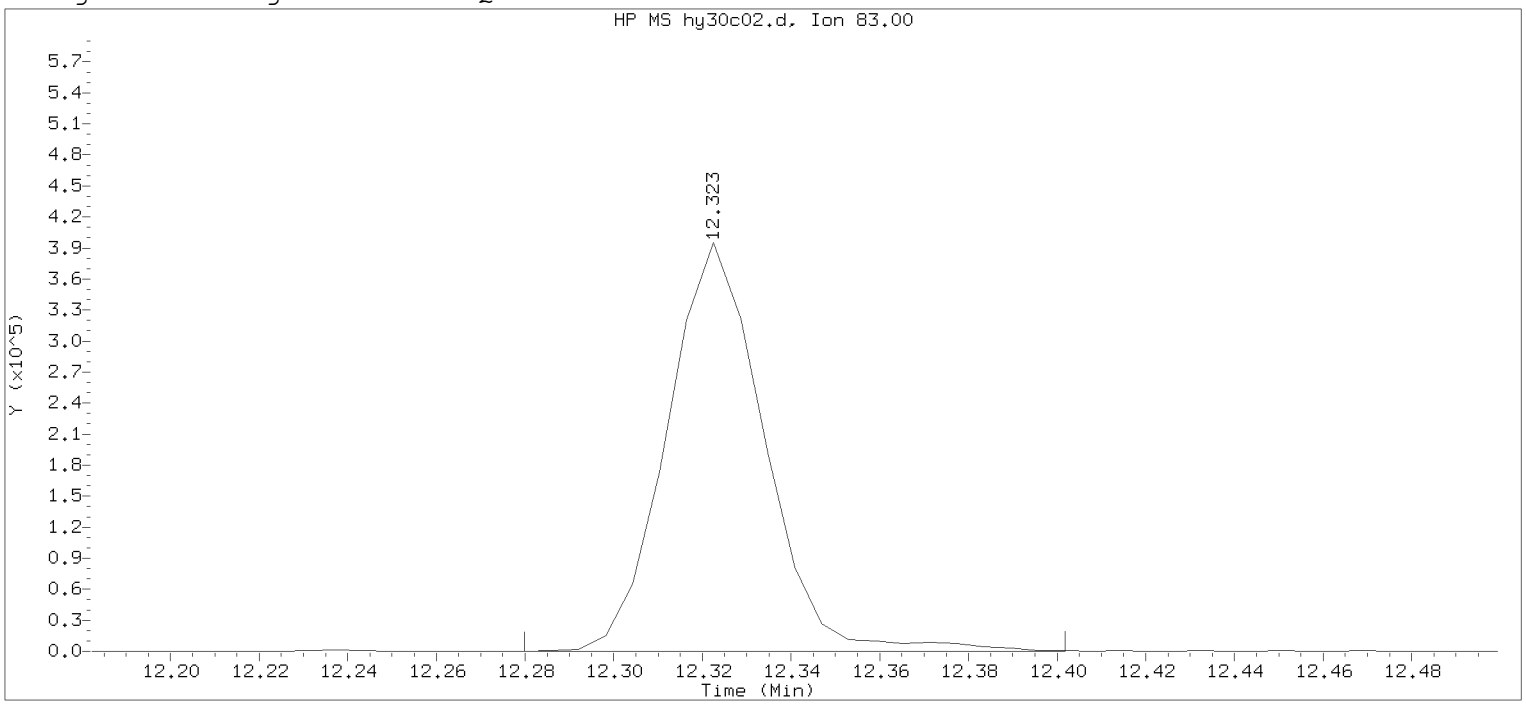
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

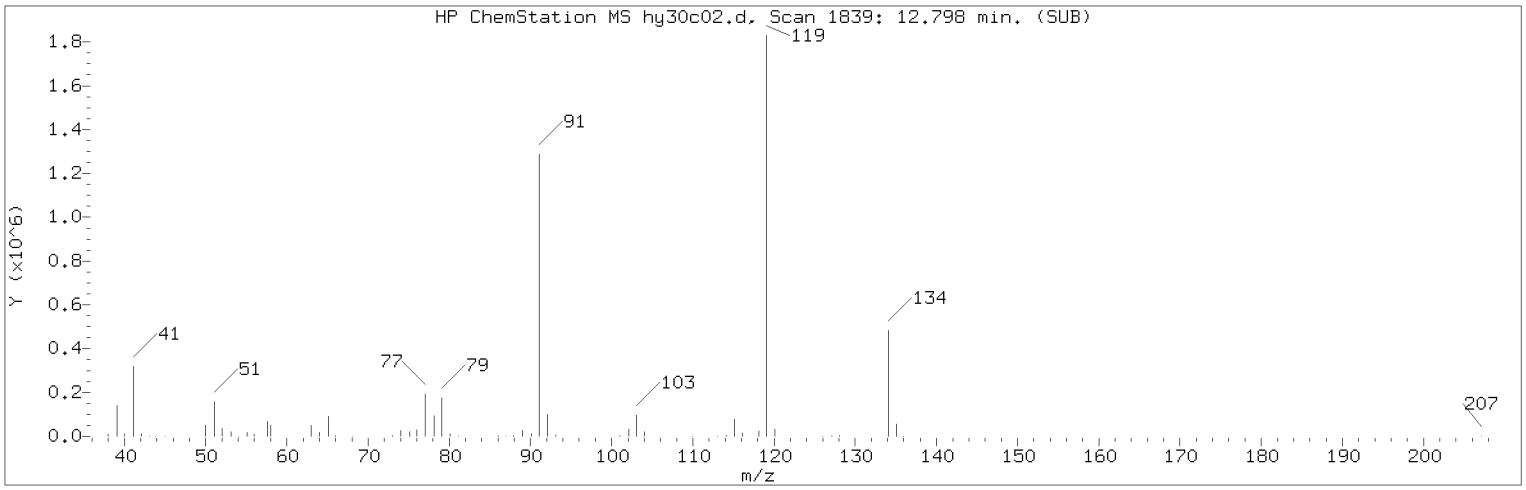
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

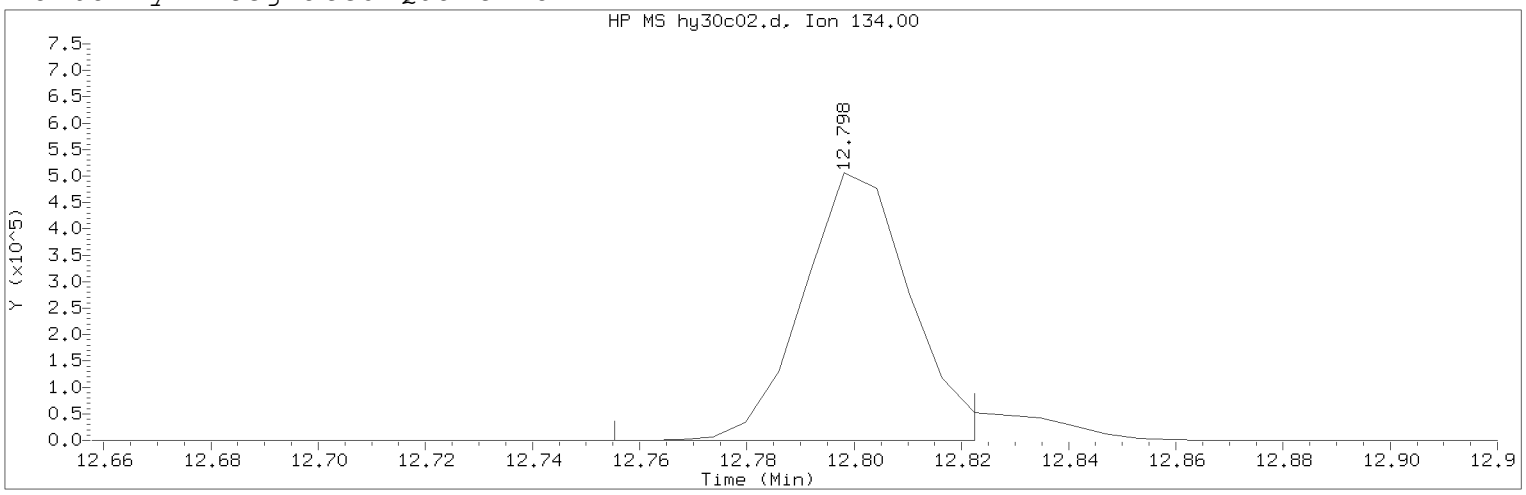
Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1761
Retention Time (minutes): 12.323
Quant Ion : 83.00
Area : 601896
On-column Amount (ng) : 10.0550
Integration start scan : 1753 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

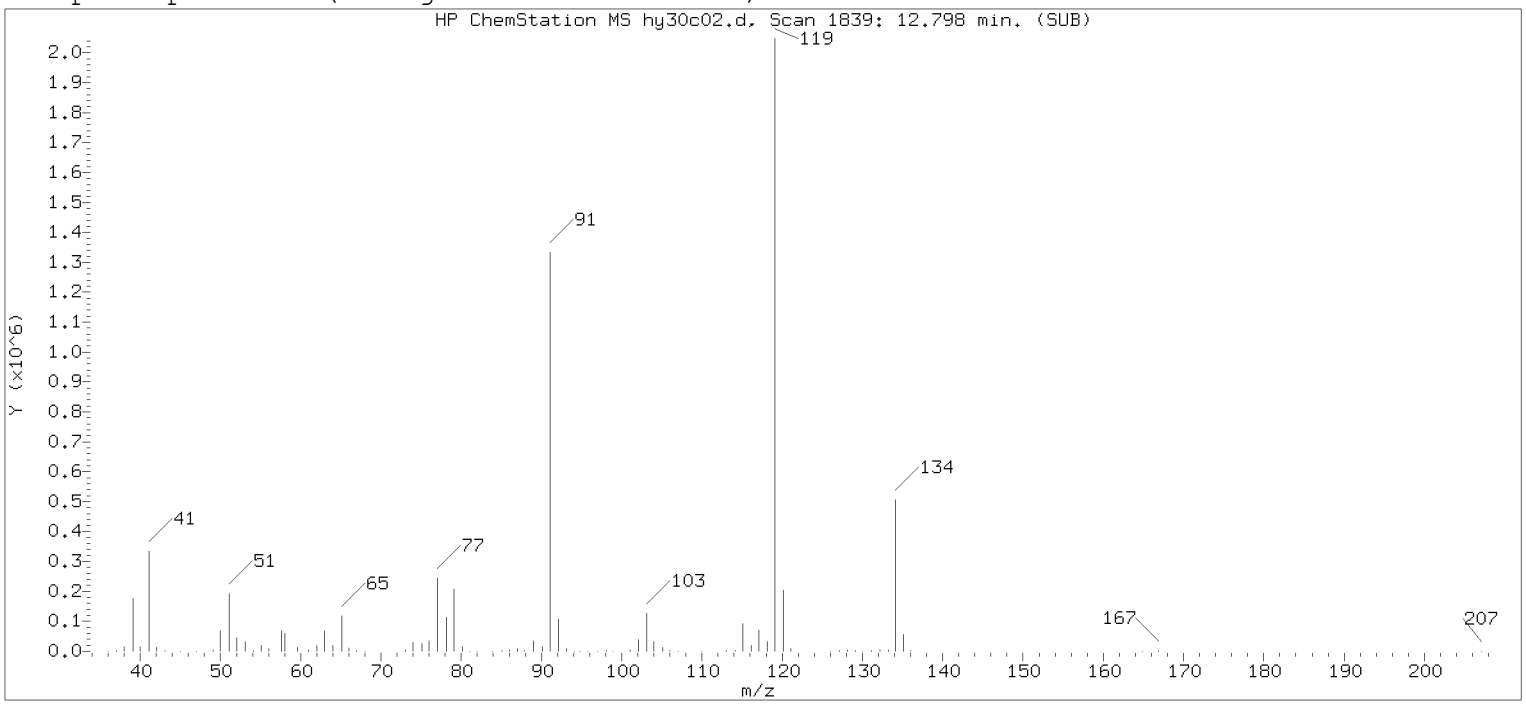
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1839
Retention Time (minutes): 12.798
Quant Ion : 134.00
Area (flag) : 702647M
On-Column Amount (ng) : 9.8521
Integration start scan : 1831 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

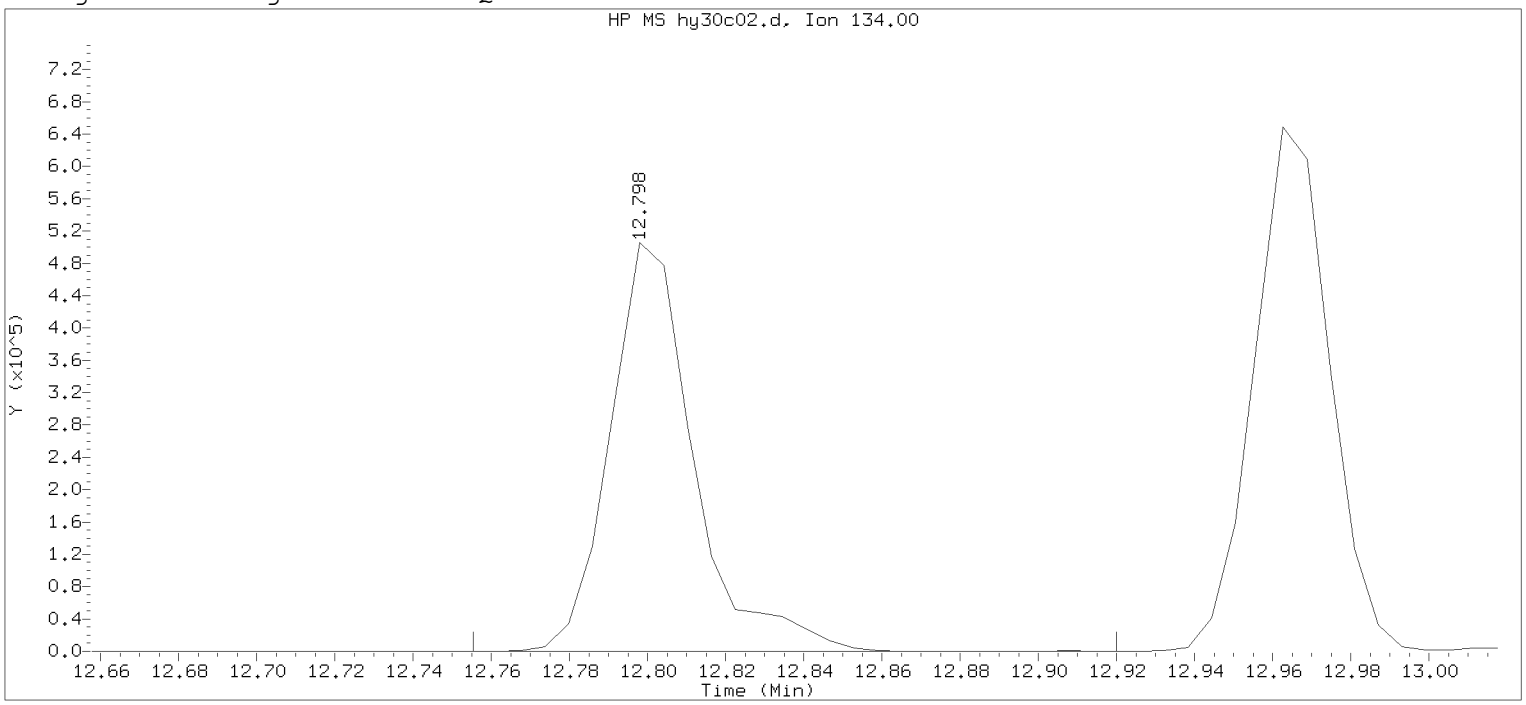
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1839
Retention Time (minutes): 12.798
Quant Ion : 134.00
Area : 752574
On-column Amount (ng) : 10.5521
Integration start scan : 1831 Integration stop scan: 1858
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user kel01973 Page 307

Raw QC Data

Volatiles by GC/MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may30b.b/hy30b01a.d Injection date and time: **30-MAY-2017 13:29**
Data file Sample Info. Line: VBLKH20;VBLKH20;1;3;;;DRAPERJK;;; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 13:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.006)	437	65	104077M (-8)	50.00	
63) Fluorobenzene	7.774(0.000)	1015	96	2948234 (-7)	10.00	
97) Chlorobenzene-d5	11.243(-0.006)	1584	117	1881725 (-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(-0.006)	1893	152	709158 (-24)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872(0.000)	113	674277	10.202	102%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(-0.001)	102	115105	10.771	108%		74 - 113
82) Toluene-d8	(3)	9.792(0.000)	98	2880135	10.471	105%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	729163	9.330	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)			Not Detected					0.3	1
5) Vinyl Chloride	(2)			Not Detected					0.1	1
11) Ethyl ether	(2)			Not Detected					0.4	12
15) 1,1-Dichloroethene	(2)			Not Detected					0.4	1
14) Acetone	(1)			Not Detected					3	10
23) Methylene Chloride	(2)			Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)			Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)			Not Detected					0.1	1
38) 2-Butanone	(1)			Not Detected					1	10
49) Chloroform	(2)			Not Detected					0.1	1
59) 1,2-Dichloroethane	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.2	1
83) Toluene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.2	3

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:36. Target 3.5 esignature user ID: kel01973

Data file: /chem2/HP19094.i/17may30b.b/hy30b01a.d Injection date and time: **30-MAY-2017 13:29**
Data file Sample Info. Line: VBLKH20;VBLKH20;1;3;;;DRAPERJK;;; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 13:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE

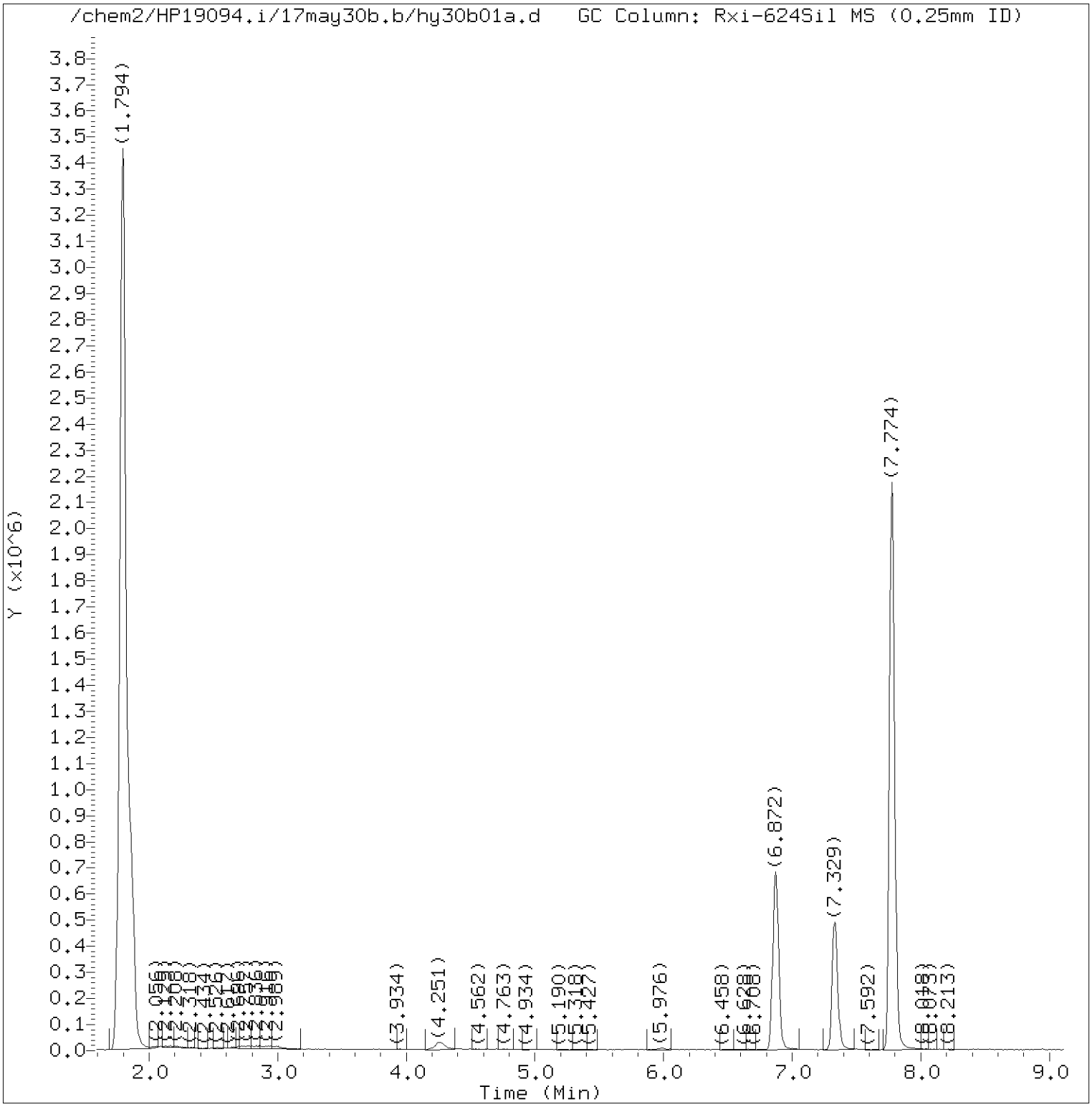
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:36. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

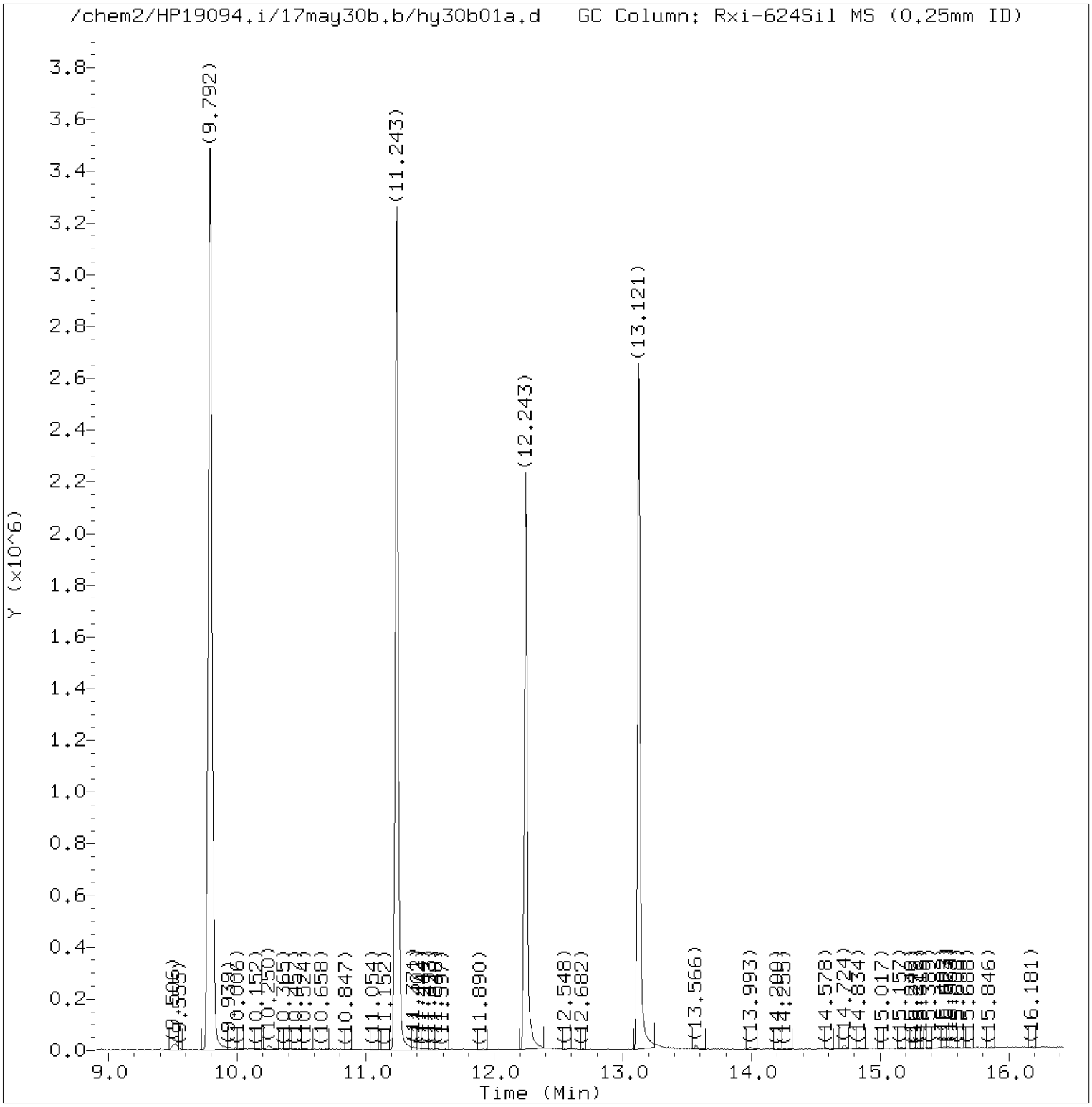
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Sample Name: VBLKH20 Lab Sample ID: VBLKH20

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:36.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Sample Name: VBLKH20 Lab Sample ID: VBLKH20

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:36.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

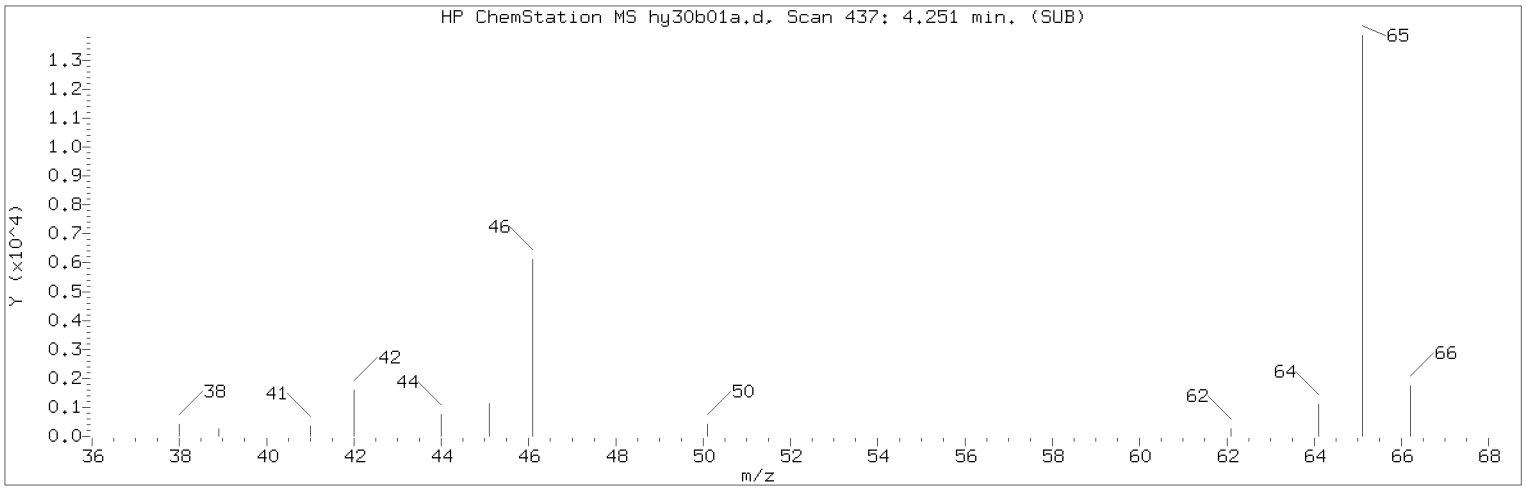
Sample Name: VBLKH20 Lab Sample ID: VBLKH20

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.251	65	104077M	50.000
50)$Dibromofluoromethane	(2)	6.872	113	674277	10.202
57)$1,2-Dichloroethane-d4	(2)	7.336	102	115105	10.771
63)*Fluorobenzene	(2)	7.774	96	2948234	10.000
82)$Toluene-d8	(3)	9.792	98	2880135	10.471
97)*Chlorobenzene-d5	(3)	11.243	117	1881725	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	729163	9.330
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	709158	10.000

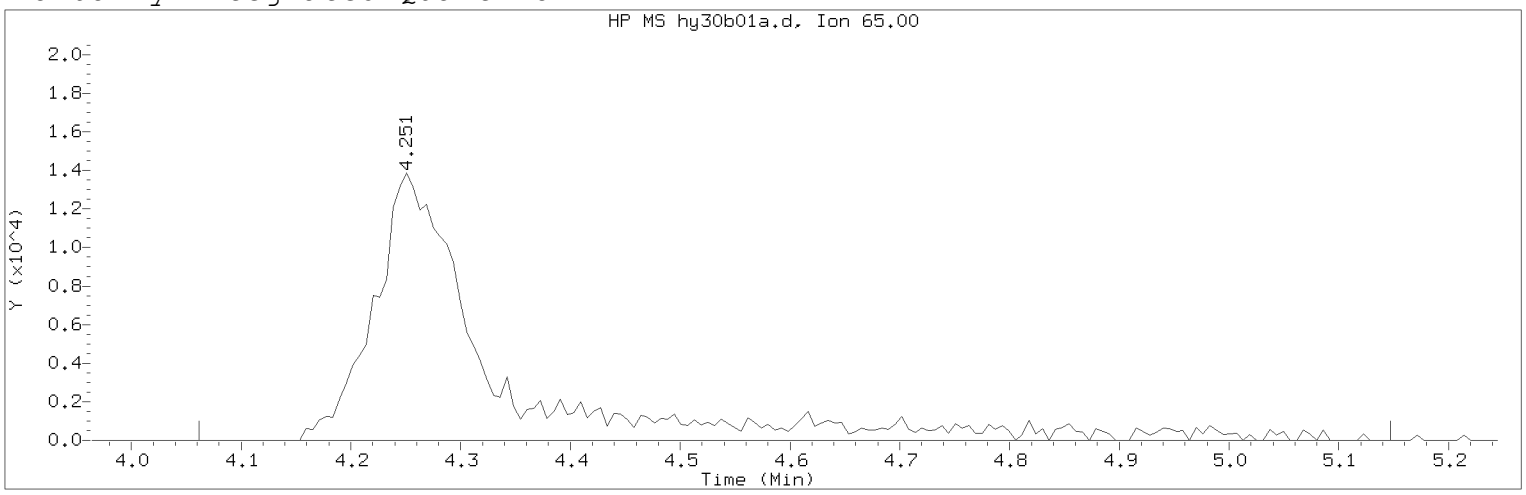
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:36.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Sample Name: VBLKH20 Lab Sample ID: VBLKH20

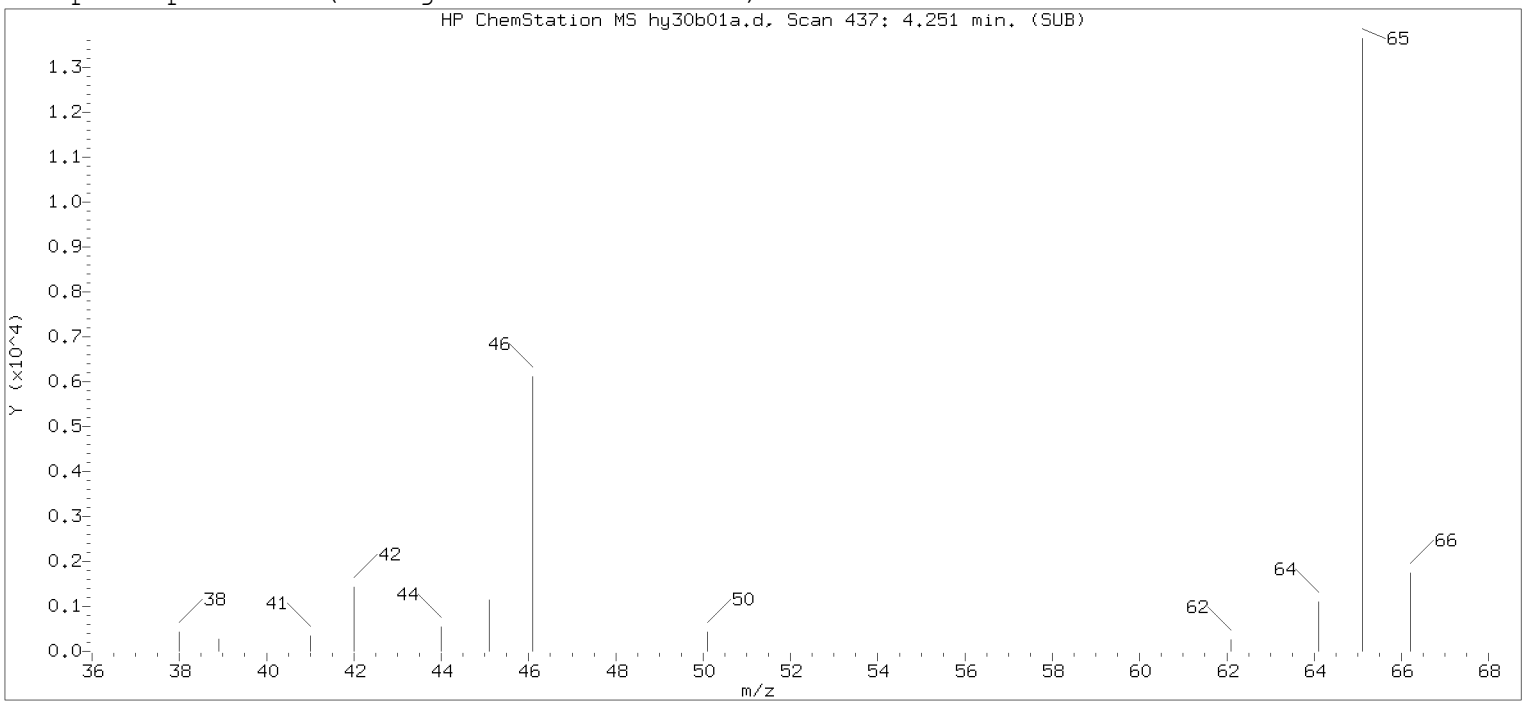
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area (flag) : 104077M
On-Column Amount (ng) : 50.0000
Integration start scan : 405 Integration stop scan: 583
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

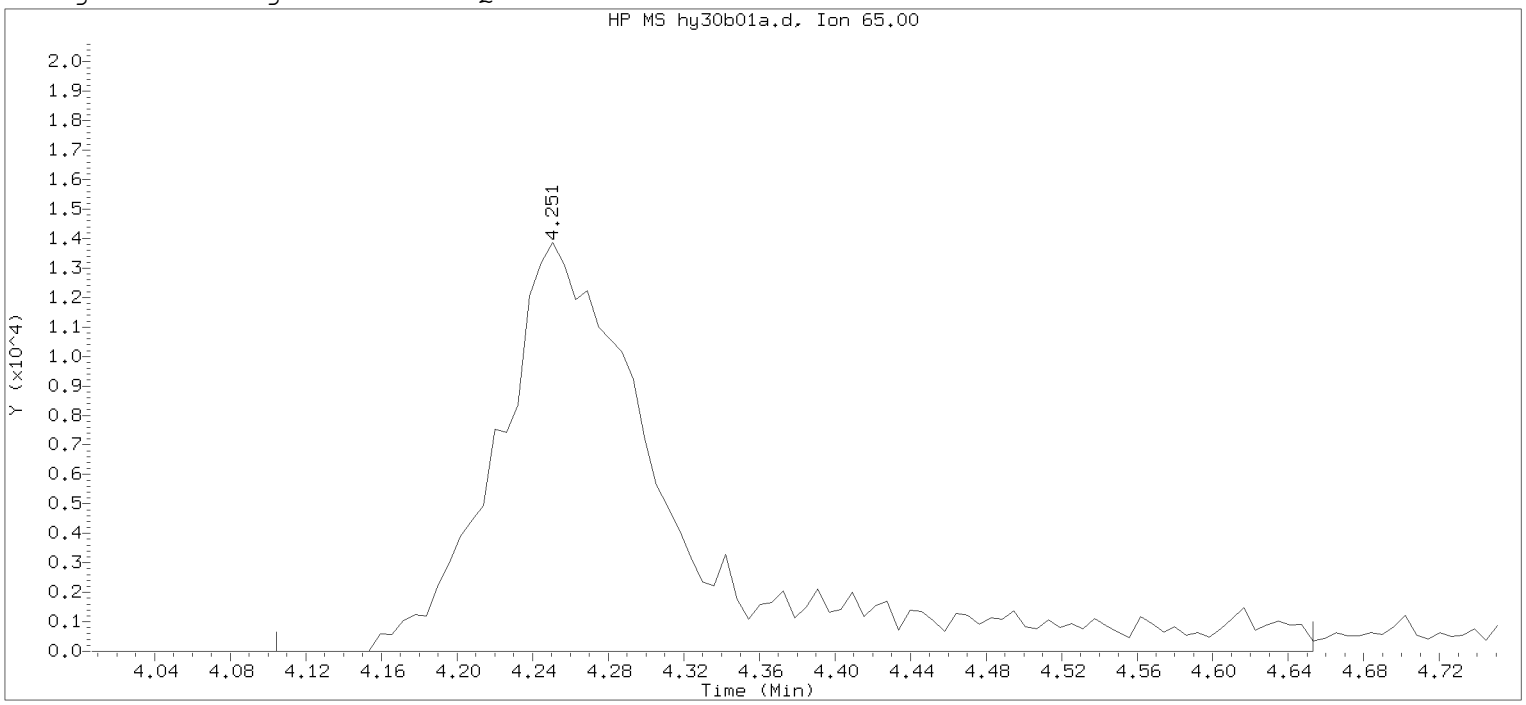
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:36.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Sample Name: VBLKH20 Lab Sample ID: VBLKH20

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area : 92307
On-column Amount (ng) : 50.0000
Integration start scan : 412 Integration stop scan: 502
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:36.
Target 3.5 esignature user name: kelegerlotz

AE862MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9006009MS

Data file: /chem2/HP19094.i/17may30b.b/hy30s13.d Injection date and time: **30-MAY-2017 16:18**
Data file Sample Info. Line: AE862MS;9006009MS;1;3;MS;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502**
Date, time and analyst ID of latest file update: 30-May-2017 16:40 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257	(0.000)	438	65	101194M	(-10)	50.00	
63) Fluorobenzene	7.774	(0.000)	1015	96	3034057	(-4)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1971695	(-9)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	834939	(-10)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(0.000)	113	682538	10.035	100%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.323	(0.001)	102	111983M	10.183	102%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	3008191	10.437	104%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	824921	10.074	101%		78 - 110

M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)	2.007	(0.000)	85	578393	4.927	4.93			0.3	1
5) Vinyl Chloride	(2)	2.282	(0.000)	62	627198	5.798	5.80			0.1	1
11) Ethyl ether	(2)	3.294	(0.001)	59	240923	4.851	4.85		J	0.4	12
15) 1,1-Dichloroethene	(2)	3.611	(0.000)	96	342282	5.085	5.08			0.4	1
14) Acetone	(1)	3.623	(0.000)	43	359838	38.592	38.59			3	10
23) Methylene Chloride	(2)	4.269	(0.000)	84	366305	4.983	4.98			0.2	1
31) trans-1,2-Dichloroethene	(2)	4.708	(0.000)	96	384010	5.166	5.17			0.8	1
39) cis-1,2-Dichloroethene	(2)	6.177	(0.000)	96	421221	5.076	5.08			0.1	1
38) 2-Butanone	(1)	6.122	(-0.001)	43	674399	35.461	35.46			1	10
49) Chloroform	(2)	6.653	(0.000)	83	3644327	26.334	26.33		E	0.1	1
59) 1,2-Dichloroethane	(2)	7.433	(0.000)	62	388329	5.110	5.11			0.1	1
67) Trichloroethene	(2)	8.262	(-0.000)	95	418601	4.975	4.97			0.2	1
83) Toluene	(3)	9.866	(0.000)	92	996469	5.232	5.23			0.1	1
101) m+p-Xylene	(3)	11.469	(0.000)	106	1524671	10.866	10.87			0.1	0.5
104) o-Xylene	(3)	11.798	(0.000)	106	703024	5.217	5.22			0.1	0.5
105) Xylene (Total)	(3)			106	2227695	16.082	16.08			0.2	3

E = Compound concentration above calibration range.

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:40. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s13.d Injection date and time: **30-MAY-2017 16:18**
Data file Sample Info. Line: AE862MS;9006009MS;1;3;MS;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502**
Date, time and analyst ID of latest file update: 30-May-2017 16:40 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

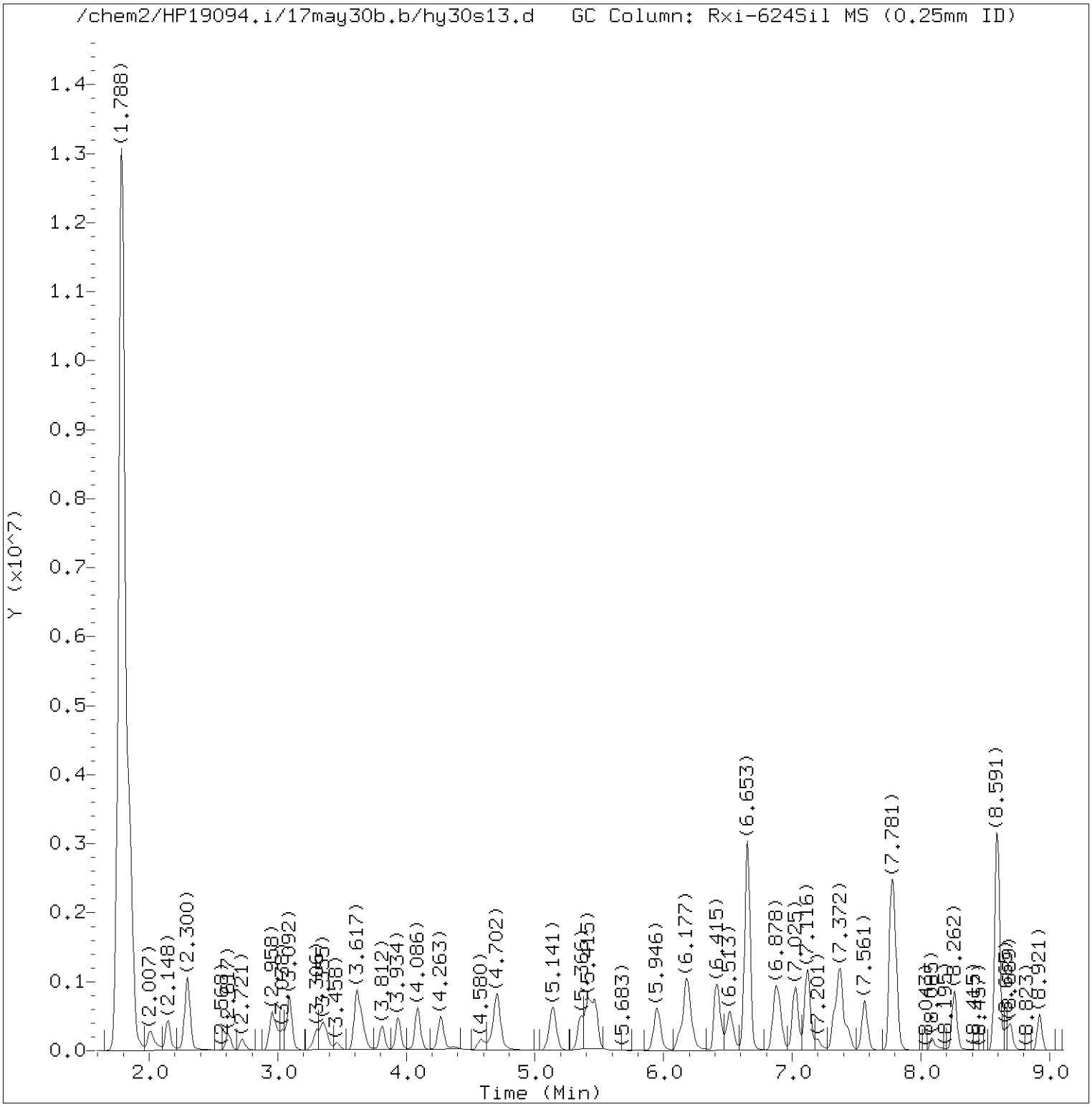
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:40. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

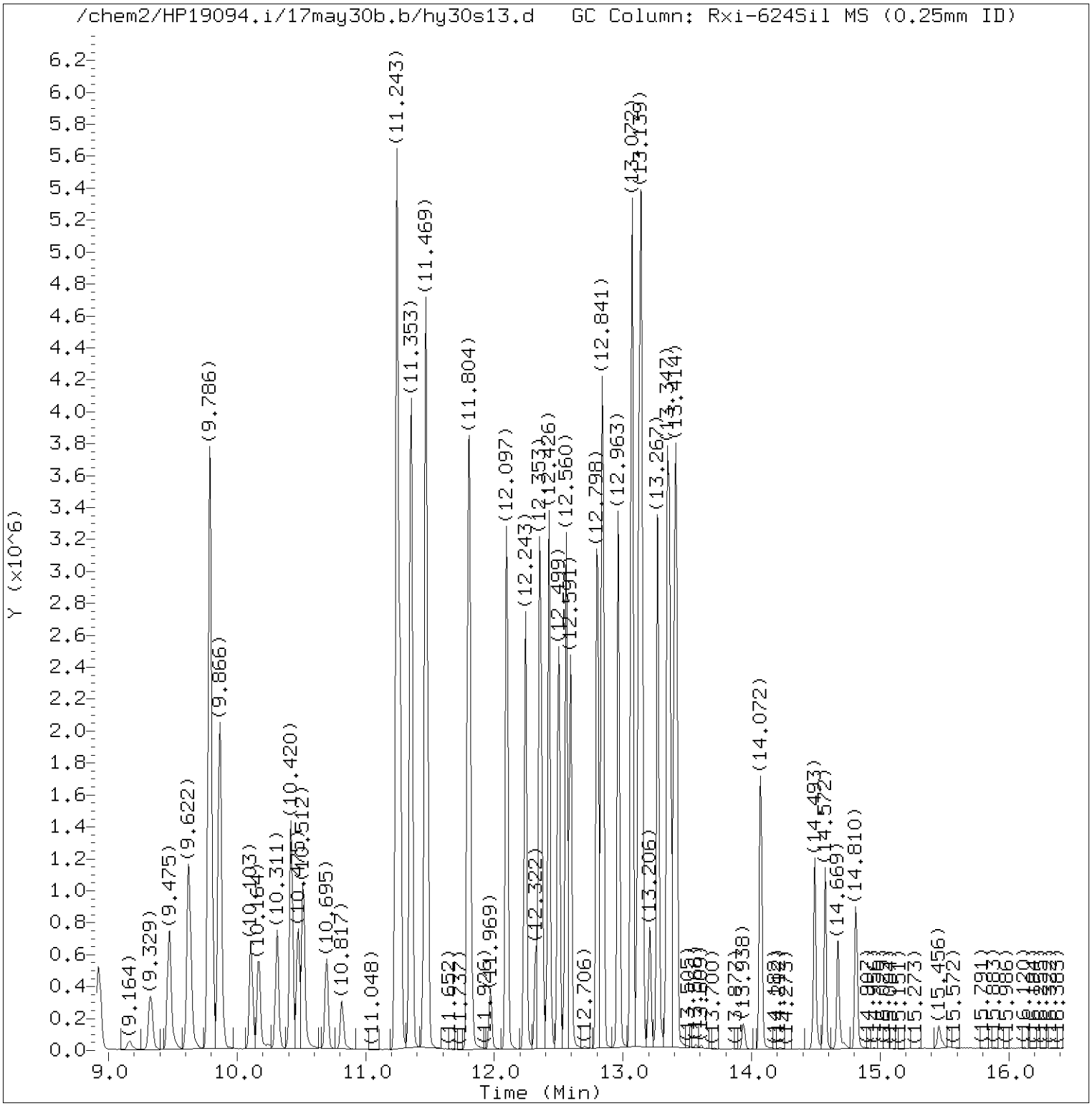
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s13.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:40 sej02002

Sample Name: AE862MS Lab Sample ID: 9006009MS

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:40.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s13.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:40 sej02002

Sample Name: AE862MS Lab Sample ID: 9006009MS

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:40.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s13.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:40 sej02002

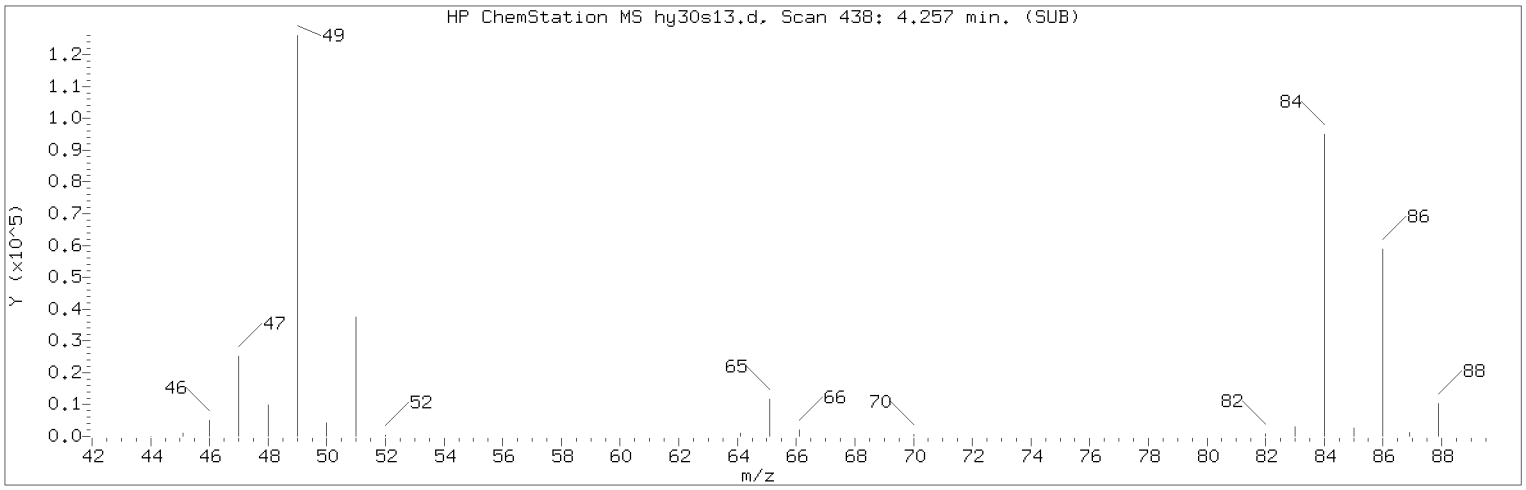
Sample Name: AE862MS Lab Sample ID: 9006009MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	578393	4.927
5) Vinyl Chloride	(2)	2.282	62	627198	5.798
11) Ethyl ether	(2)	3.294	59	240923	4.851
15) 1,1-Dichloroethene	(2)	3.611	96	342282	5.085
14) Acetone	(1)	3.623	43	359838	38.592
26)*t-Butyl Alcohol-d10	(1)	4.257	65	101194M	50.000
23) Methylene Chloride	(2)	4.269	84	366305	4.983
31) trans-1,2-Dichloroethene	(2)	4.708	96	384010	5.166
38) 2-Butanone	(1)	6.122	43	674399	35.461
39) cis-1,2-Dichloroethene	(2)	6.177	96	421221	5.076
49) Chloroform	(2)	6.653	83	3644327	26.334
50)$Dibromofluoromethane	(2)	6.872	113	682538	10.035
57)$1,2-Dichloroethane-d4	(2)	7.323	102	111983M	10.183
59) 1,2-Dichloroethane	(2)	7.433	62	388329	5.110
63)*Fluorobenzene	(2)	7.774	96	3034057	10.000
67) Trichloroethene	(2)	8.262	95	418601	4.975
82)$Toluene-d8	(3)	9.786	98	3008191	10.437
83) Toluene	(3)	9.866	92	996469	5.232
97)*Chlorobenzene-d5	(3)	11.243	117	1971695	10.000
101) m+p-Xylene	(3)	11.469	106	1524671	10.866
105) Xylene (Total)	(3)		106	2227695	16.082
104) o-Xylene	(3)	11.798	106	703024	5.217
111)$4-Bromofluorobenzene	(3)	12.243	95	824921	10.074
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	834939	10.000

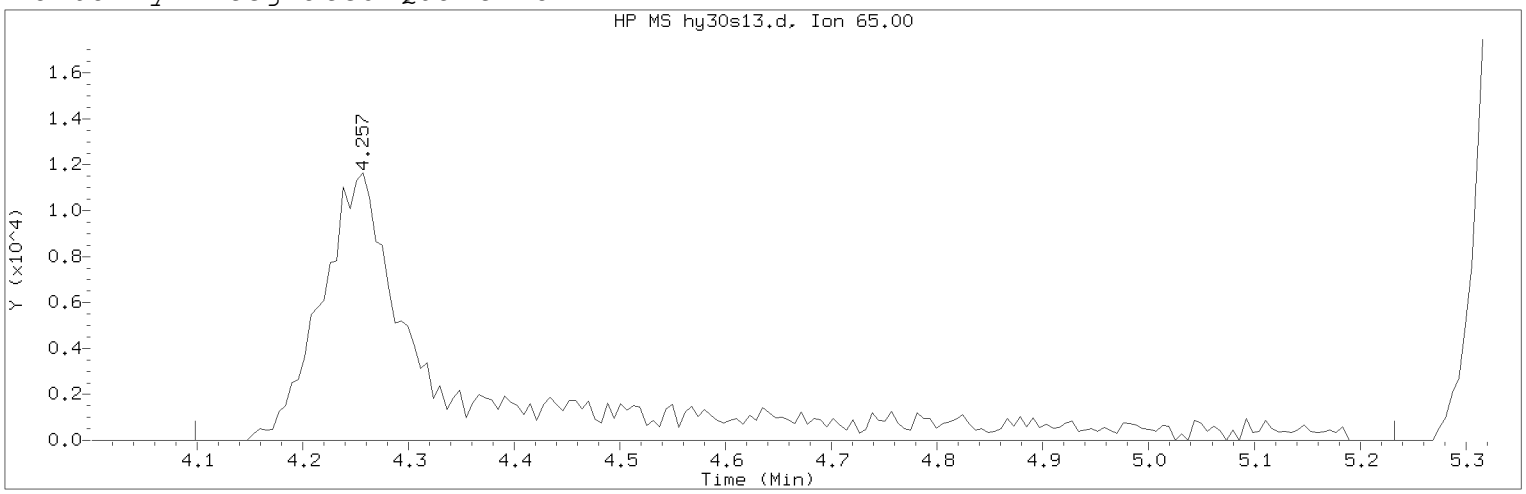
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:40.
Target 3.5 esignature user ID: sej02002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s13.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:40 sej02002

Sample Name: AE862MS Lab Sample ID: 9006009MS

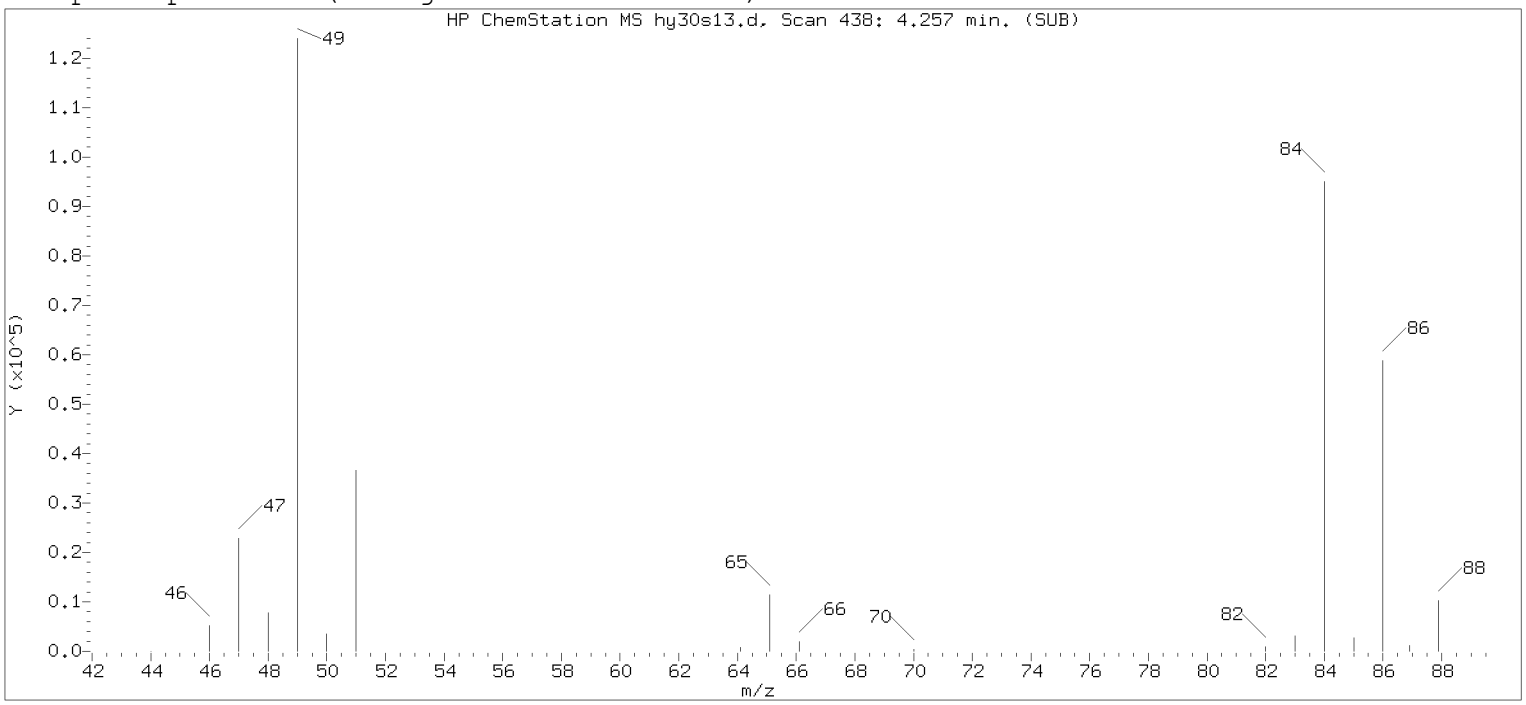
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 101194M
On-Column Amount (ng) : 50.0000
Integration start scan : 411 Integration stop scan: 597
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

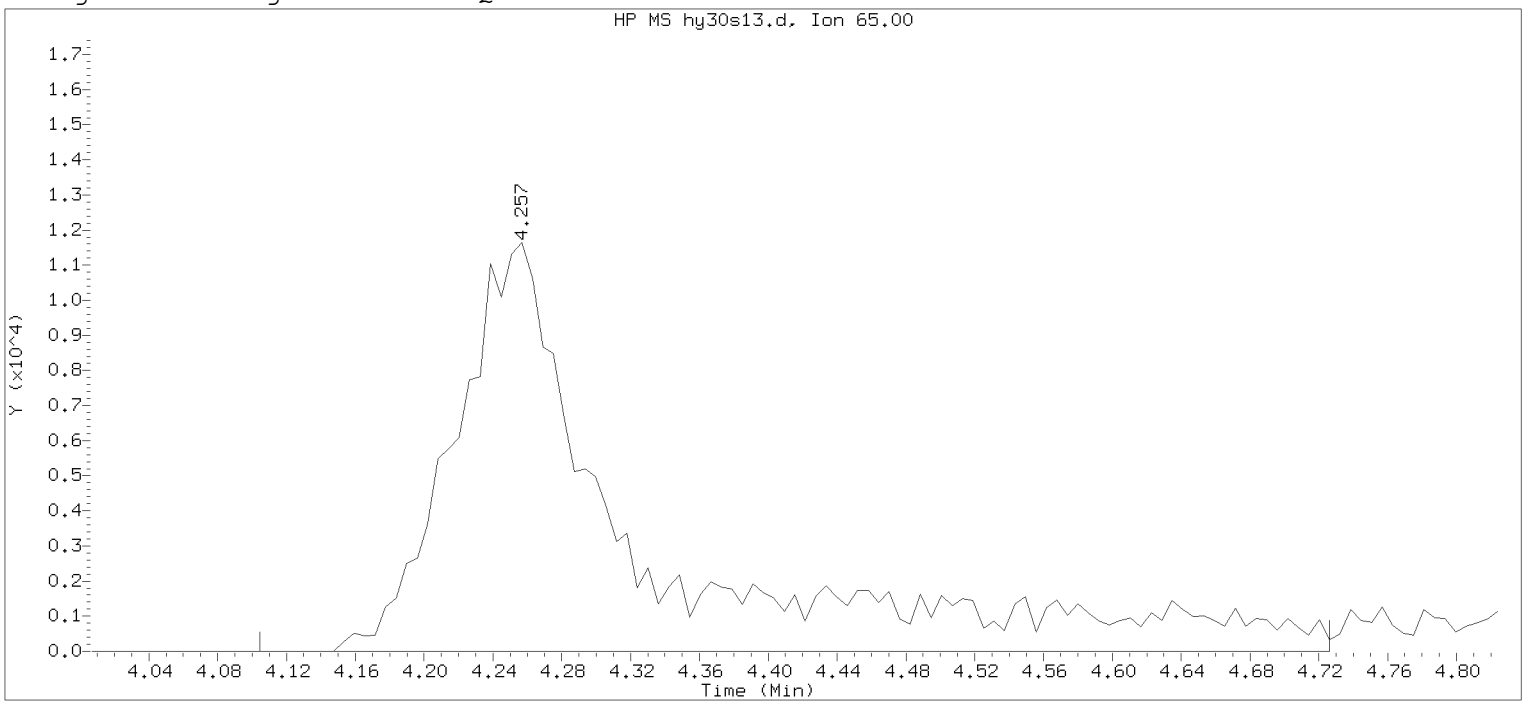
Analyst responsible for change: Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:40.
Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s13.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:18 Analyst ID: kel01973

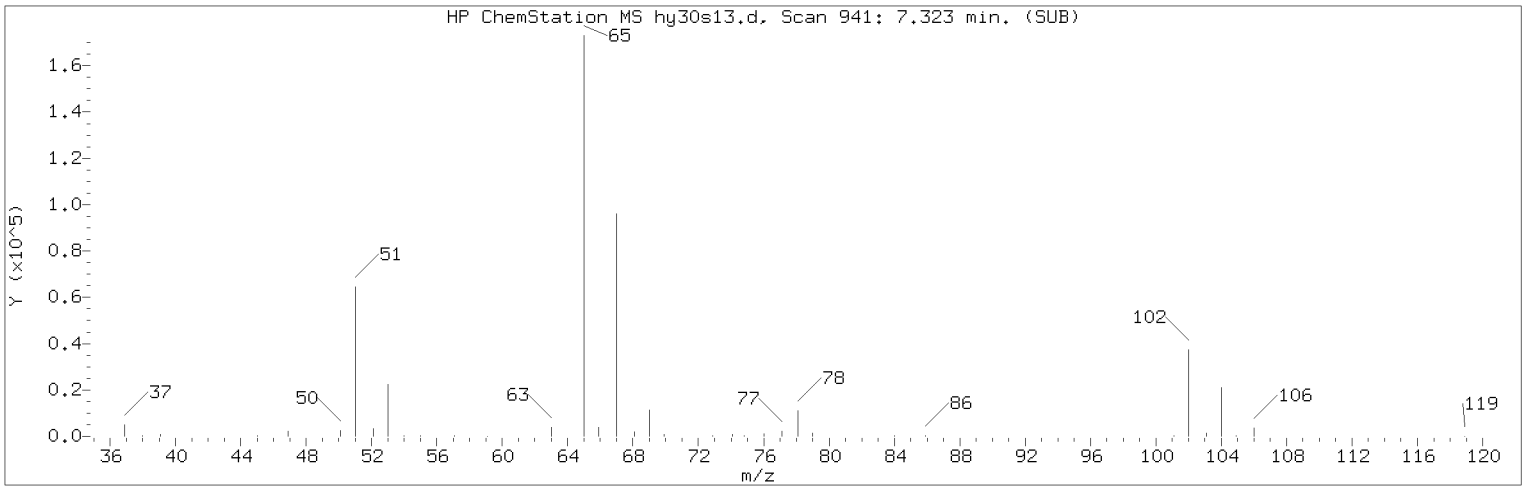
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:36 Automation

Sample Name: AE862MS Lab Sample ID: 9006009MS

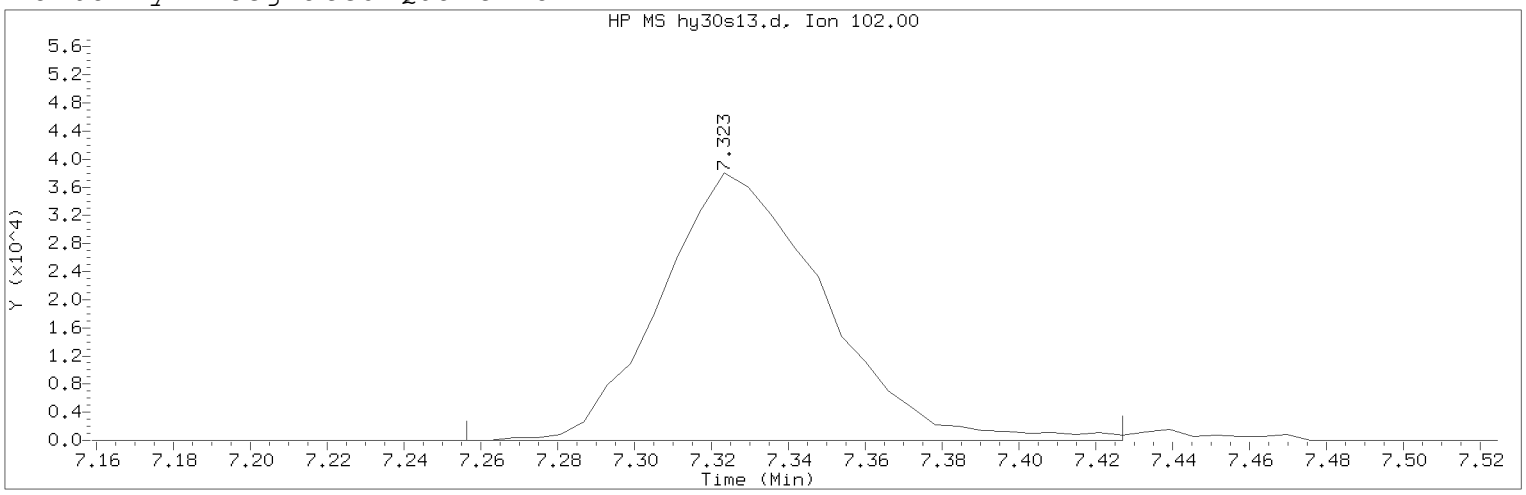
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 85135
On-column Amount (ng) : 50.0000
Integration start scan : 412 Integration stop scan: 514
Y at integration start : 0 Y at integration end: 0

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:40.
Target 3.5 esignature user ass[illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s13.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:40 sej02002

Sample Name: AE862MS Lab Sample ID: 9006009MS

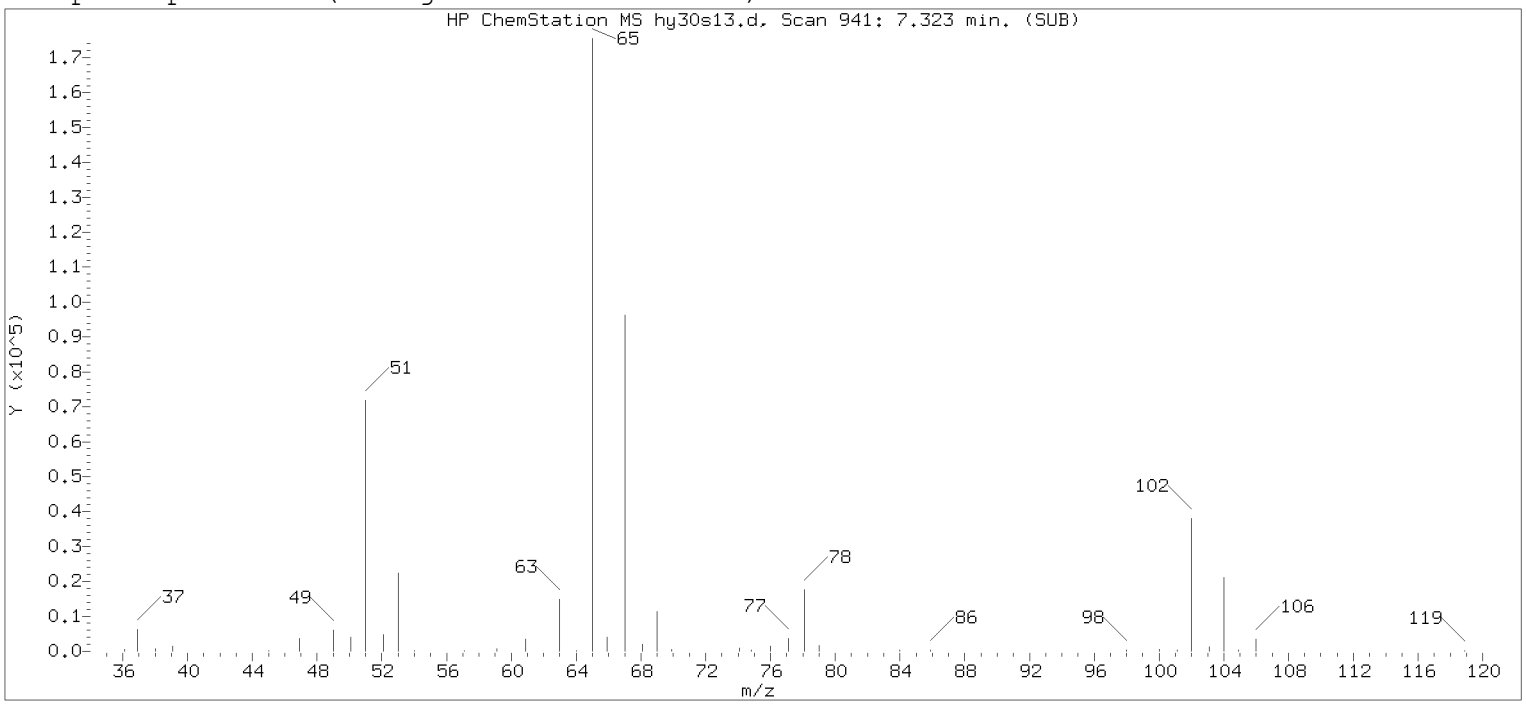
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 941
Retention Time (minutes): 7.323
Quant Ion : 102.00
Area (flag) : 111983M
On-Column Amount (ng) : 10.1825
Integration start scan : 929 Integration stop scan: 957
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

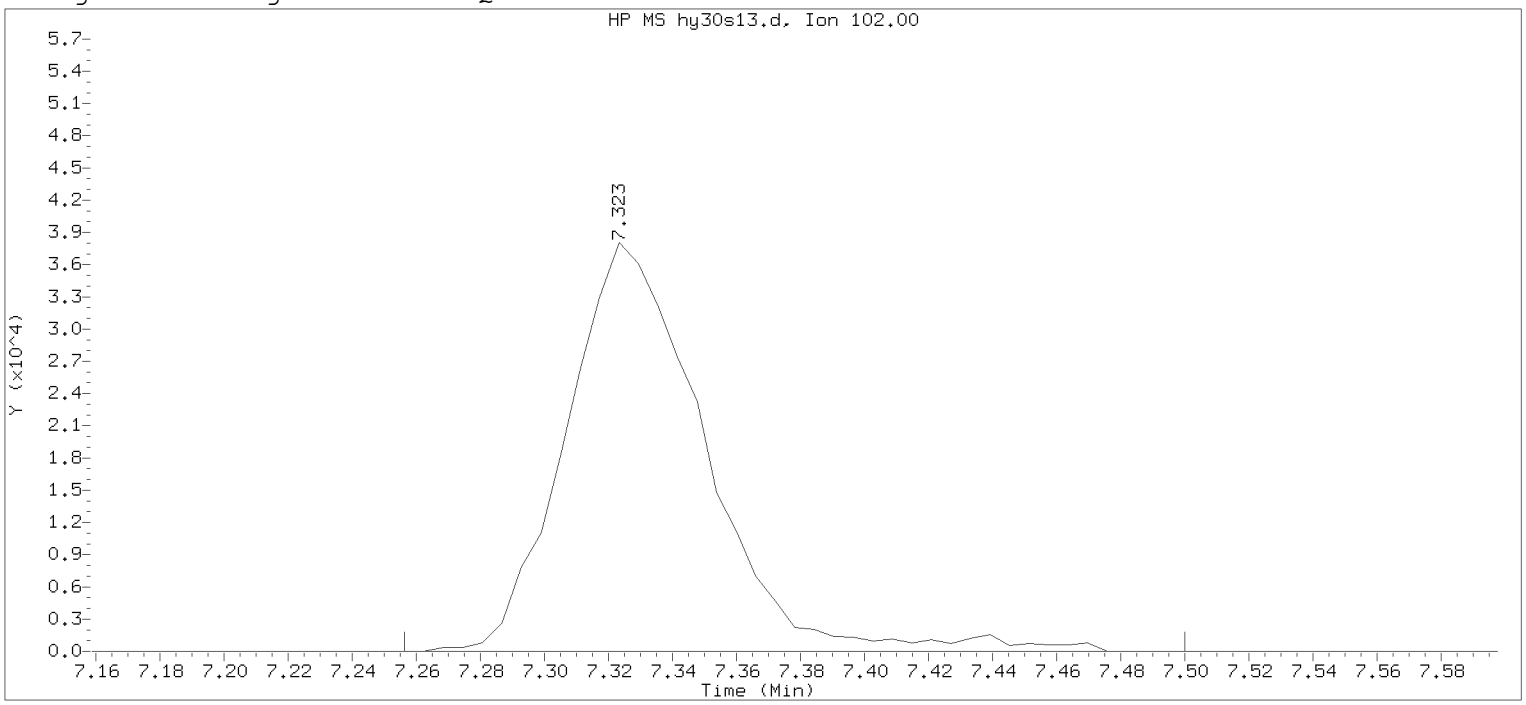
Analyst responsible for change: Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:40.
Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s13.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:36 Automation

Sample Name: AE862MS Lab Sample ID: 9006009MS

Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 941
Retention Time (minutes): 7.323
Quant Ion : 102.00
Area : 114143
On-column Amount (ng) : 10.3789
Integration start scan : 929 Integration stop scan: 969
Y at integration start : 0 Y at integration end: 0

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:40.
Target 3.5 esignature user name: sjohnson

AE862MSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

9006010MSD

Data file: /chem2/HP19094.i/17may30b.b/hy30s14.d Injection date and time: **30-MAY-2017 16:38**
Data file Sample Info. Line: AE862MSD;9006010MSD;1;3;MSD;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171**
Date, time and analyst ID of latest file update: 30-May-2017 16:58 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263	(-0.006)	439	65	106105	(-6)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	3088070	(-3)	10.00	
97) Chlorobenzene-d5	11.244	(-0.006)	1584	117	2000798	(-7)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	828376	(-11)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(0.000)	113	699665	10.107	101%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	112917M	10.088	101%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2996952	10.247	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	830621	9.996	100%		78 - 110

M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)	2.014	(-0.000)	85	582385	4.874	4.87			0.3	1
5) Vinyl Chloride	(2)	2.282	(0.000)	62	575096	5.223	5.22			0.1	1
11) Ethyl ether	(2)	3.300	(0.000)	59	251805	4.982	4.98		J	0.4	12
15) 1,1-Dichloroethene	(2)	3.617	(-0.000)	96	368993	5.386	5.39			0.4	1
14) Acetone	(1)	3.623	(0.001)	43	377262	38.588	38.59			3	10
23) Methylene Chloride	(2)	4.275	(-0.000)	84	385220	5.149	5.15			0.2	1
31) trans-1,2-Dichloroethene	(2)	4.714	(-0.000)	96	406730	5.376	5.38			0.8	1
39) cis-1,2-Dichloroethene	(2)	6.177	(-0.000)	96	447563	5.299	5.30			0.1	1
38) 2-Butanone	(1)	6.116	(0.002)	43	686330	34.419	34.42			1	10
49) Chloroform	(2)	6.653	(0.000)	83	3746896	26.602	26.60		E	0.1	1
59) 1,2-Dichloroethane	(2)	7.433	(0.000)	62	417296	5.396	5.40			0.1	1
67) Trichloroethene	(2)	8.262	(-0.000)	95	440172	5.140	5.14			0.2	1
83) Toluene	(3)	9.866	(0.000)	92	1078123	5.579	5.58			0.1	1
101) m+p-Xylene	(3)	11.469	(0.000)	106	1630766	11.453	11.45			0.1	0.5
104) o-Xylene	(3)	11.798	(0.000)	106	764739	5.592	5.59			0.1	0.5
105) Xylene (Total)	(3)			106	2395505	17.045	17.04			0.2	3

E = Compound concentration above calibration range.

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:58. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s14.d Injection date and time: **30-MAY-2017 16:38**
Data file Sample Info. Line: AE862MSD;9006010MSD;1;3;MSD;RAE86;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171**
Date, time and analyst ID of latest file update: 30-May-2017 16:58 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

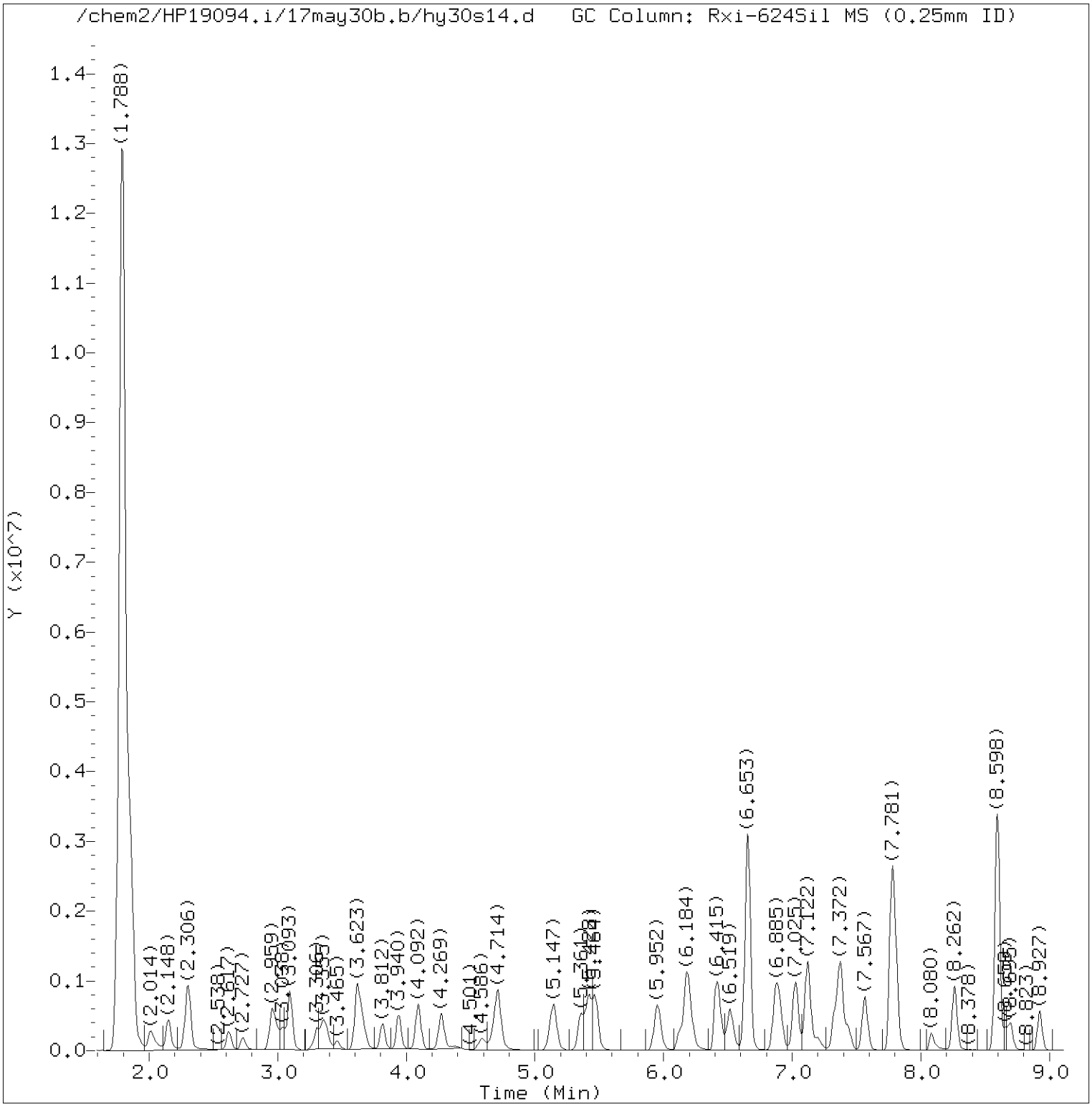
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:58. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

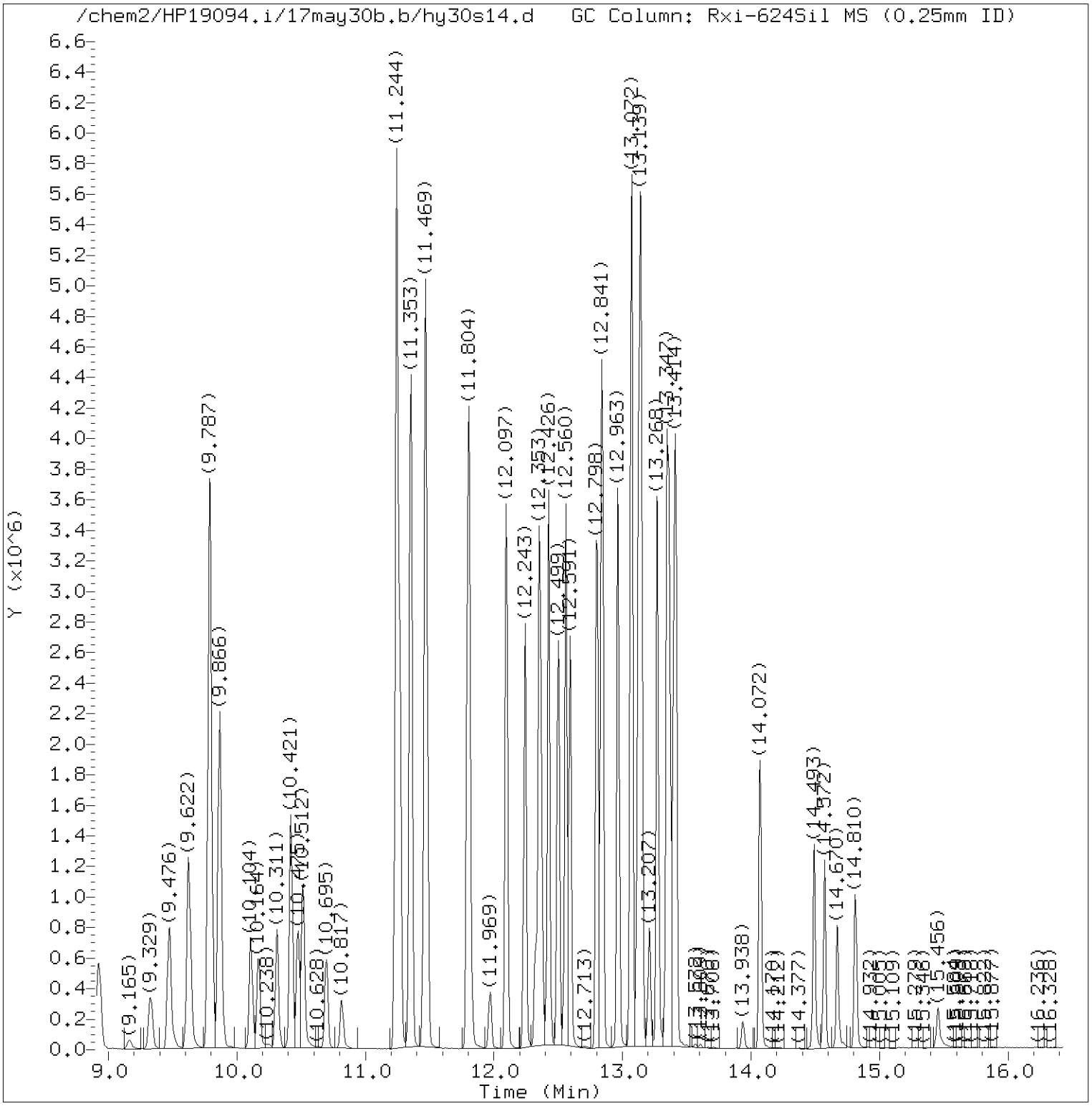
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s14.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:38 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:58 sej02002

Sample Name: AE862MSD Lab Sample ID: 9006010MSD

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:58.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s14.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:38 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:58 sej02002

Sample Name: AE862MSD Lab Sample ID: 9006010MSD

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:58.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s14.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:38 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:58 sej02002

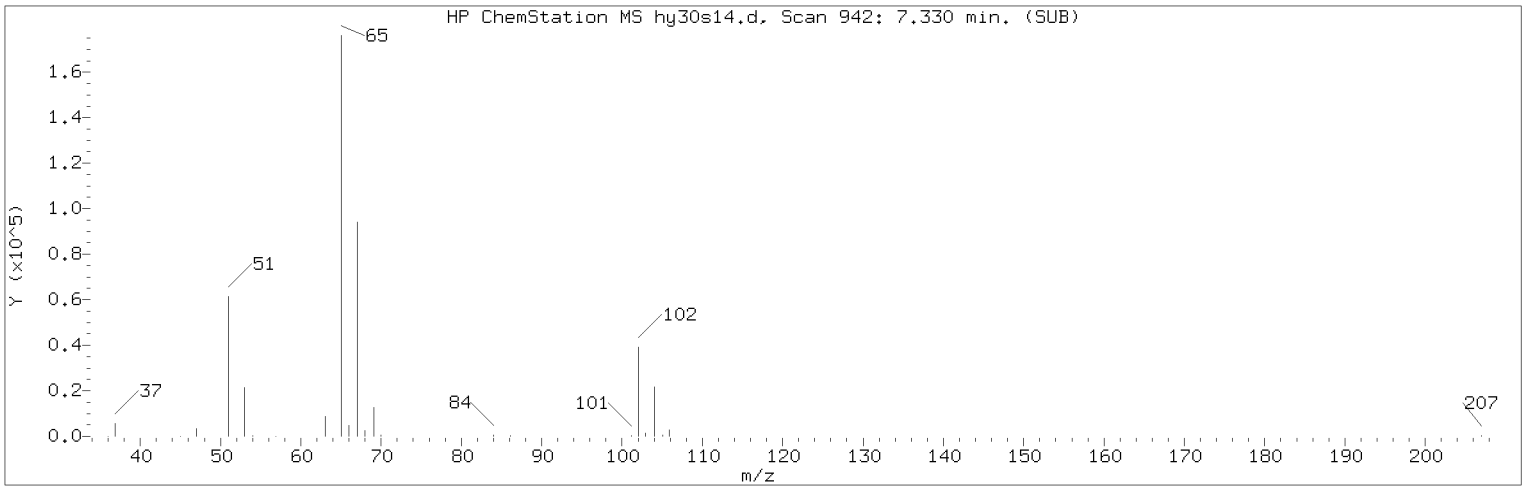
Sample Name: AE862MSD Lab Sample ID: 9006010MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	582385	4.874
5) Vinyl Chloride	(2)	2.282	62	575096	5.223
11) Ethyl ether	(2)	3.300	59	251805	4.982
15) 1,1-Dichloroethene	(2)	3.617	96	368993	5.386
14) Acetone	(1)	3.623	43	377262	38.588
26)*t-Butyl Alcohol-d10	(1)	4.263	65	106105	50.000
23) Methylene Chloride	(2)	4.275	84	385220	5.149
31) trans-1,2-Dichloroethene	(2)	4.714	96	406730	5.376
38) 2-Butanone	(1)	6.116	43	686330	34.419
39) cis-1,2-Dichloroethene	(2)	6.177	96	447563	5.299
49) Chloroform	(2)	6.653	83	3746896	26.602
50)$Dibromofluoromethane	(2)	6.872	113	699665	10.107
57)$1,2-Dichloroethane-d4	(2)	7.330	102	112917M	10.088
59) 1,2-Dichloroethane	(2)	7.433	62	417296	5.396
63)*Fluorobenzene	(2)	7.775	96	3088070	10.000
67) Trichloroethene	(2)	8.262	95	440172	5.140
82)$Toluene-d8	(3)	9.793	98	2996952	10.247
83) Toluene	(3)	9.866	92	1078123	5.579
97)*Chlorobenzene-d5	(3)	11.244	117	2000798	10.000
101) m+p-Xylene	(3)	11.469	106	1630766	11.453
105) Xylene (Total)	(3)		106	2395505	17.045
104) o-Xylene	(3)	11.798	106	764739	5.592
111)$4-Bromofluorobenzene	(3)	12.243	95	830621	9.996
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	828376	10.000

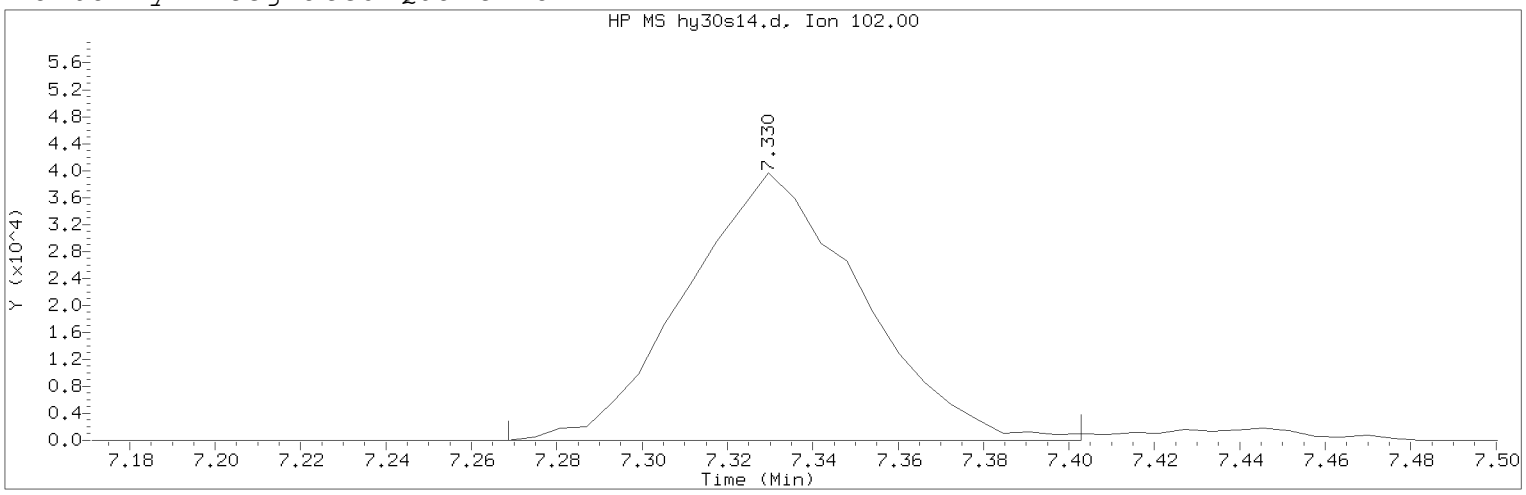
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:58.
Target 3.5 esignature user ID: sej02002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s14.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:38 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:58 sej02002

Sample Name: AE862MSD Lab Sample ID: 9006010MSD

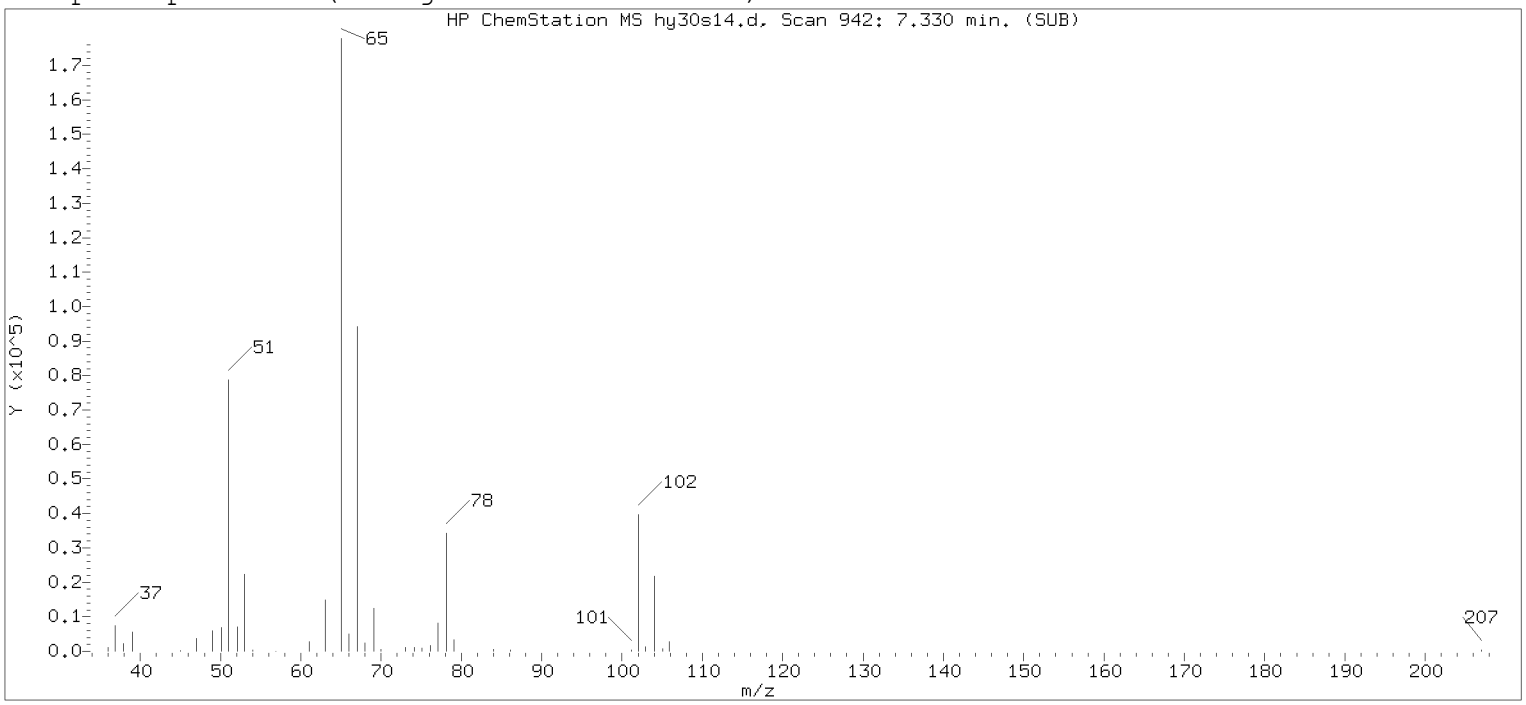
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 942
Retention Time (minutes): 7.330
Quant Ion : 102.00
Area (flag) : 112917M
On-Column Amount (ng) : 10.0879
Integration start scan : 931 Integration stop scan: 953
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

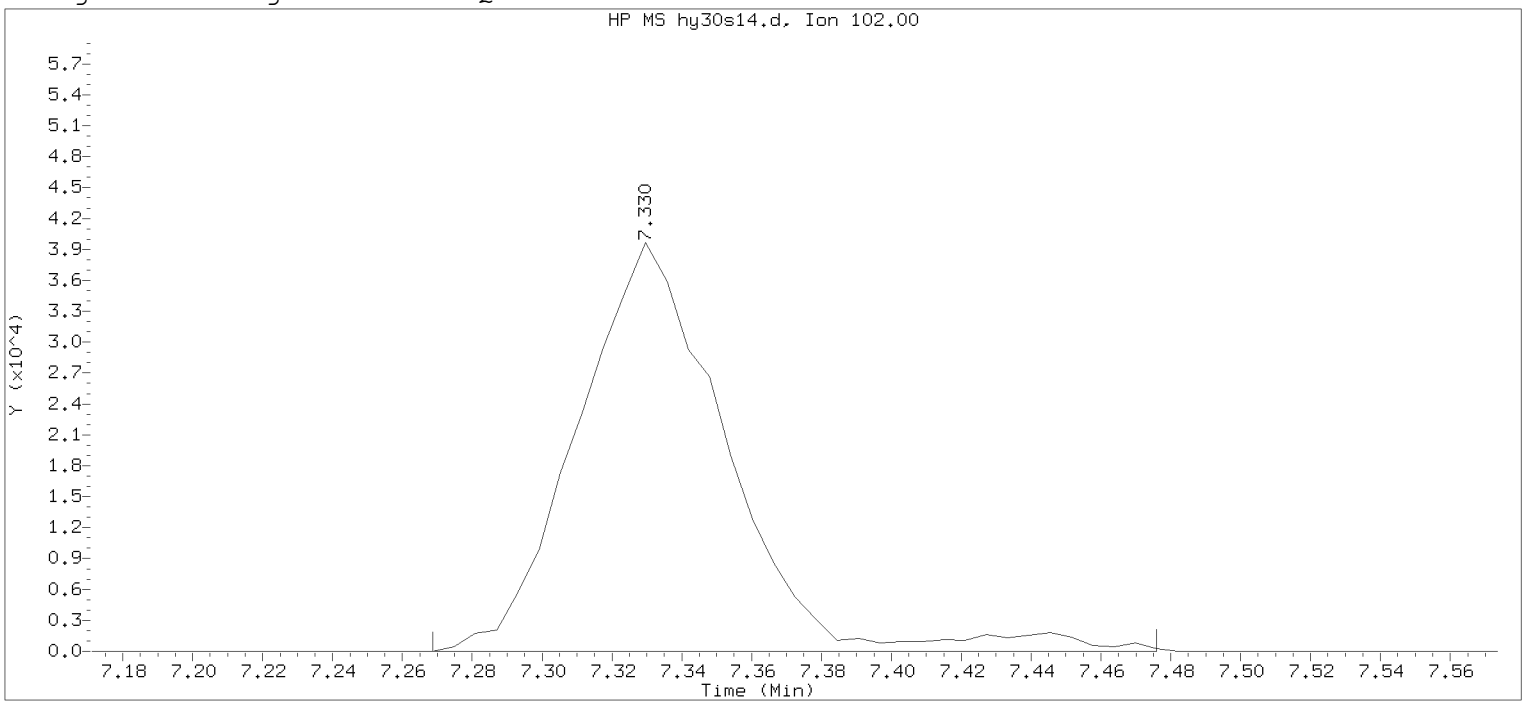
Analyst responsible for change: Digitally signed by Sara E. Johnson
on 05/30/2017 at 16:58.
Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s14.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 16:38 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 16:57 Automation

Sample Name: AE862MSD Lab Sample ID: 9006010MSD

Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 942
Retention Time (minutes): 7.330
Quant Ion : 102.00
Area : 117553
On-column Amount (ng) : 10.5020
Integration start scan : 931 Integration stop scan: 965
Y at integration start : 0 Y at integration end: 0

Digitally signed by Sara E. Johnson on 05/30/2017 at 16:58.
Target 3.5 esignature user assigned 05/30/2017

Data file: /chem2/HP19094.i/17may30b.b/hy30l03a.d Injection date and time: **30-MAY-2017 12:07**
Data file Sample Info. Line: LCSH20;LCSH20;1;3;LCS;;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 13:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.000)	438	65	111851 (-1)	50.00	
63) Fluorobenzene	7.775(0.000)	1015	96	3183814 (0)	10.00	
97) Chlorobenzene-d5	11.243(-0.006)	1584	117	2124586 (-2)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	907114 (-2)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866(0.001)	113	729777	10.225	102%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330(0.000)	102	122157	10.585	106%		74 - 113
82) Toluene-d8	(3)	9.786(0.000)	98	3155517	10.161	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	897029	10.166	102%		78 - 110

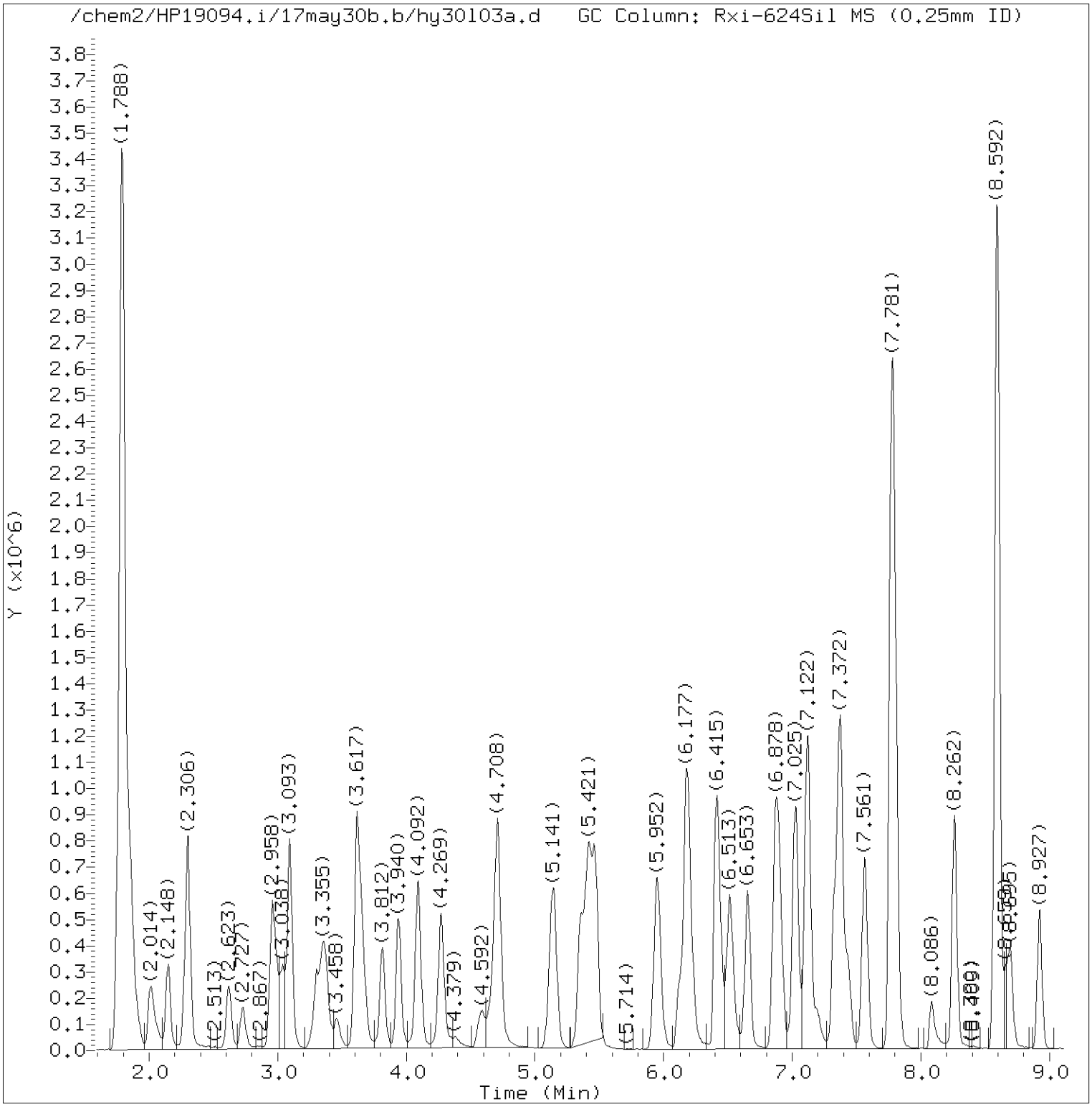
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.014(-0.000)	85	525597	4.267	4.27			0.3	1
5) Vinyl Chloride	(2)	2.282(0.000)	62	463808	4.086	4.09			0.1	1
11) Ethyl ether	(2)	3.300(0.000)	59	240117	4.608	4.61		J	0.4	12
15) 1,1-Dichloroethene	(2)	3.611(0.000)	96	365198	5.170	5.17			0.4	1
14) Acetone	(1)	3.629(-0.001)	43	337516	32.749	32.75			3	10
23) Methylene Chloride	(2)	4.269(0.000)	84	389474	5.049	5.05			0.2	1
31) trans-1,2-Dichloroethene	(2)	4.708(-0.000)	96	401896	5.152	5.15			0.8	1
39) cis-1,2-Dichloroethene	(2)	6.177(0.000)	96	446882	5.132	5.13			0.1	1
38) 2-Butanone	(1)	6.122(-0.001)	43	652205	31.027	31.03			1	10
49) Chloroform	(2)	6.653(0.000)	83	709437	4.885	4.89			0.1	1
59) 1,2-Dichloroethane	(2)	7.433(0.000)	62	411302M	5.158	5.16			0.1	1
67) Trichloroethene	(2)	8.262(-0.000)	95	421162	4.770	4.77			0.2	1
83) Toluene	(3)	9.866(0.000)	92	1036365	5.050	5.05			0.1	1
101) m+p-Xylene	(3)	11.469(0.000)	106	1566118	10.358	10.36			0.1	0.5
104) o-Xylene	(3)	11.798(0.000)	106	730896	5.033	5.03			0.1	0.5
105) Xylene (Total)	(3)		106	2297014	15.391	15.39			0.2	3

M = Compound was manually integrated.

Total number of targets = 16

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:37. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

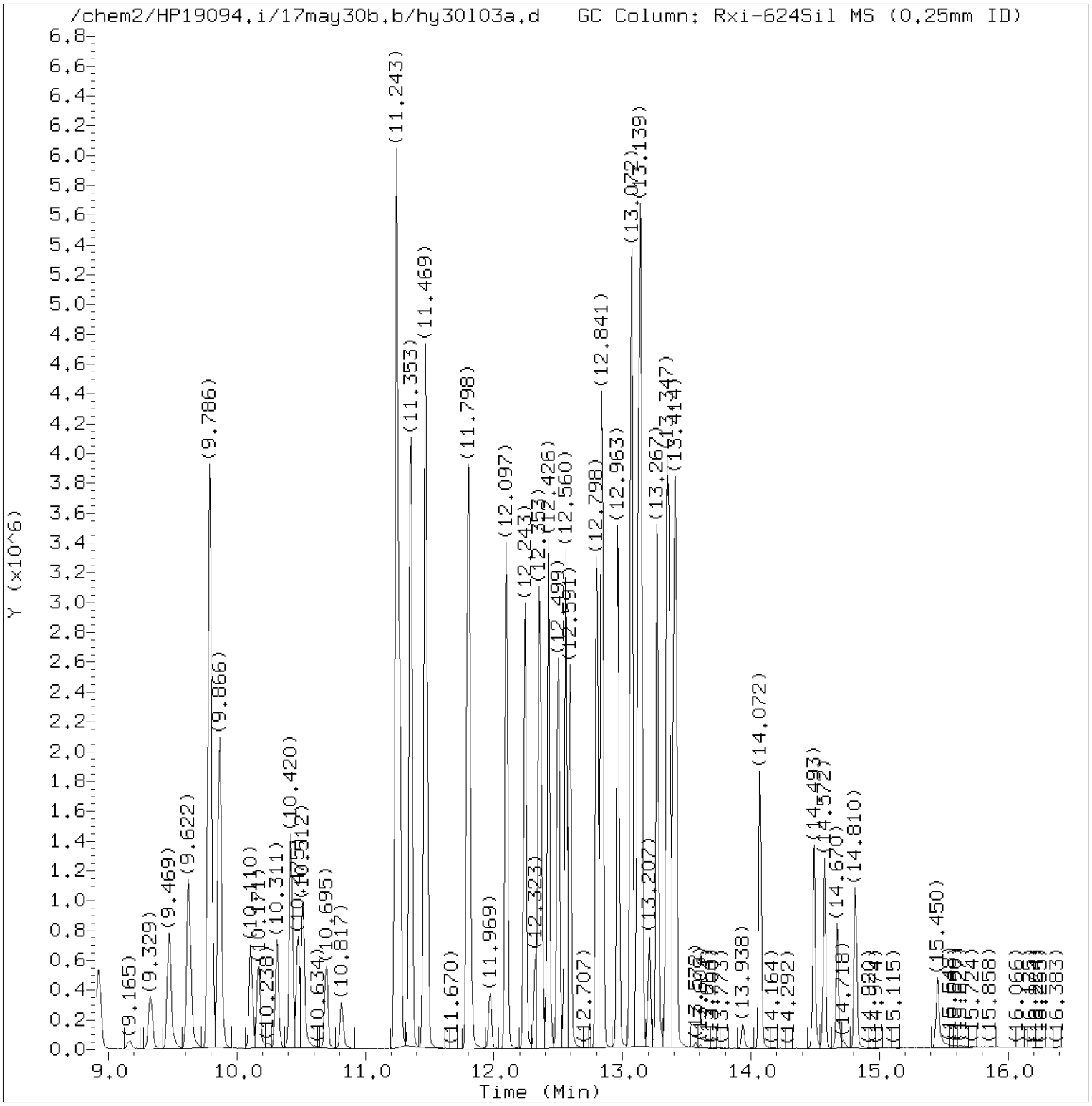
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30l03a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

Sample Name: LCSH20 Lab Sample ID: LCSH20

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:37.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30l03a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

Sample Name: LCSH20 Lab Sample ID: LCSH20

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:37.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30l03a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

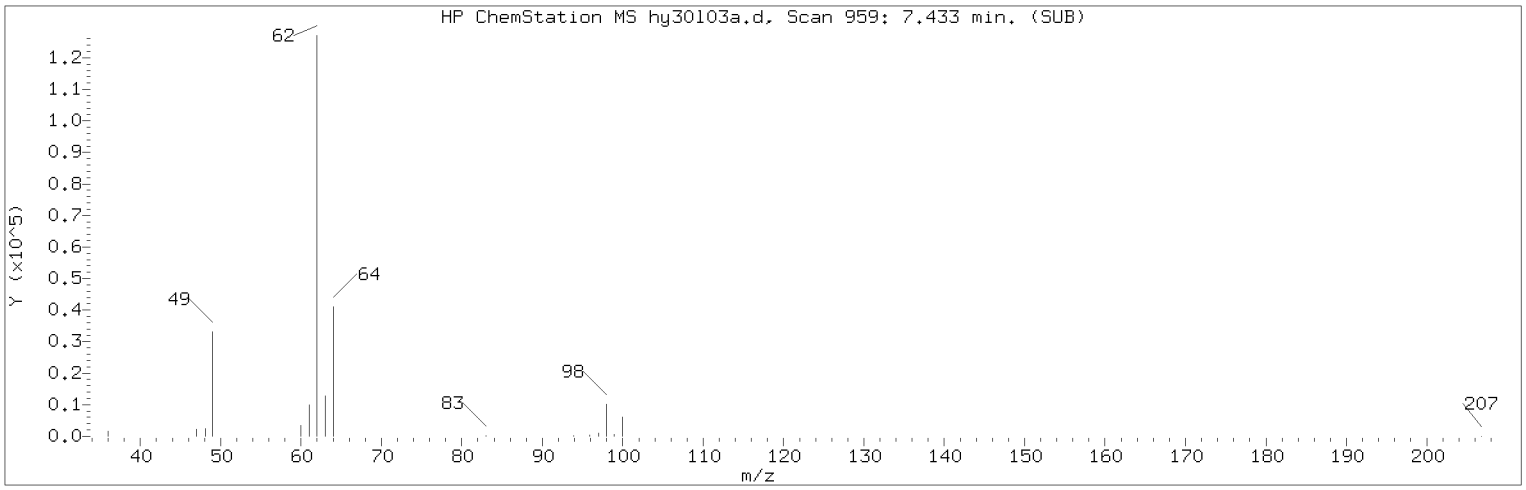
Sample Name: LCSH20 Lab Sample ID: LCSH20

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	525597	4.267
5) Vinyl Chloride	(2)	2.282	62	463808	4.086
11) Ethyl ether	(2)	3.300	59	240117	4.608
15) 1,1-Dichloroethene	(2)	3.611	96	365198	5.170
14) Acetone	(1)	3.629	43	337516	32.749
26)*t-Butyl Alcohol-d10	(1)	4.257	65	111851	50.000
23) Methylene Chloride	(2)	4.269	84	389474	5.049
31) trans-1,2-Dichloroethene	(2)	4.708	96	401896	5.152
38) 2-Butanone	(1)	6.123	43	652205	31.027
39) cis-1,2-Dichloroethene	(2)	6.177	96	446882	5.132
49) Chloroform	(2)	6.653	83	709437	4.885
50)$Dibromofluoromethane	(2)	6.866	113	729777	10.225
57)$1,2-Dichloroethane-d4	(2)	7.330	102	122157	10.585
59) 1,2-Dichloroethane	(2)	7.433	62	411302M	5.158
63)*Fluorobenzene	(2)	7.775	96	3183814	10.000
67) Trichloroethene	(2)	8.262	95	421162	4.770
82)$Toluene-d8	(3)	9.786	98	3155517	10.161
83) Toluene	(3)	9.866	92	1036365	5.050
97)*Chlorobenzene-d5	(3)	11.243	117	2124586	10.000
101) m+p-Xylene	(3)	11.469	106	1566118	10.358
105) Xylene (Total)	(3)		106	2297014	15.391
104) o-Xylene	(3)	11.798	106	730896	5.033
111)$4-Bromofluorobenzene	(3)	12.243	95	897029	10.166
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	907114	10.000

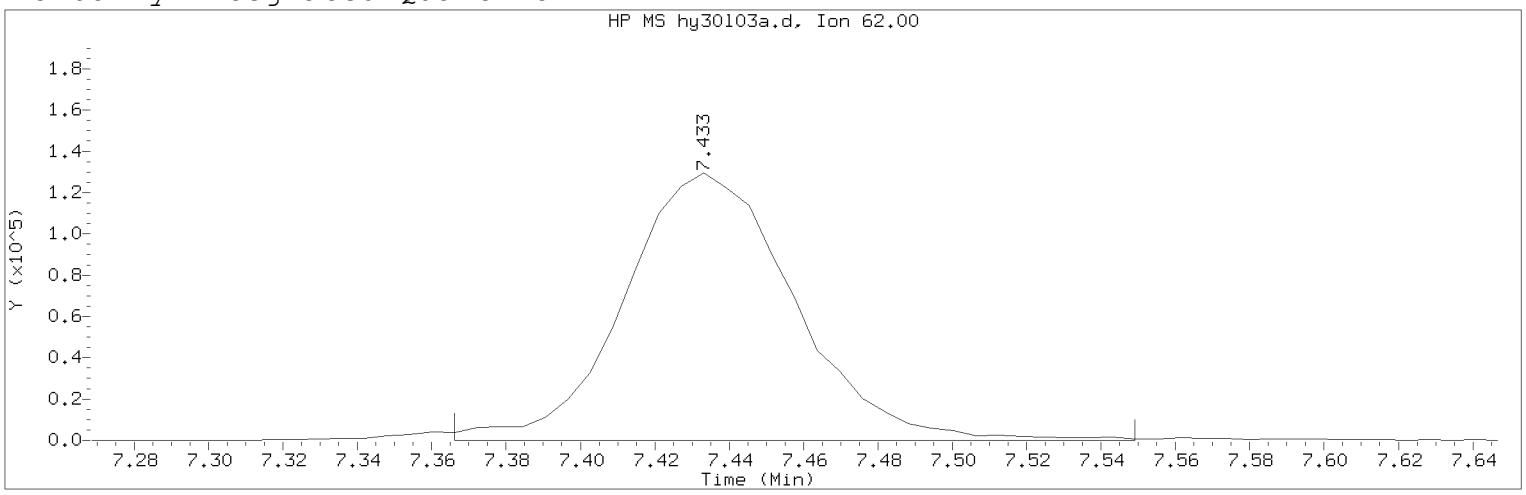
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:37.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30103a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

Sample Name: LCSH20 Lab Sample ID: LCSH20

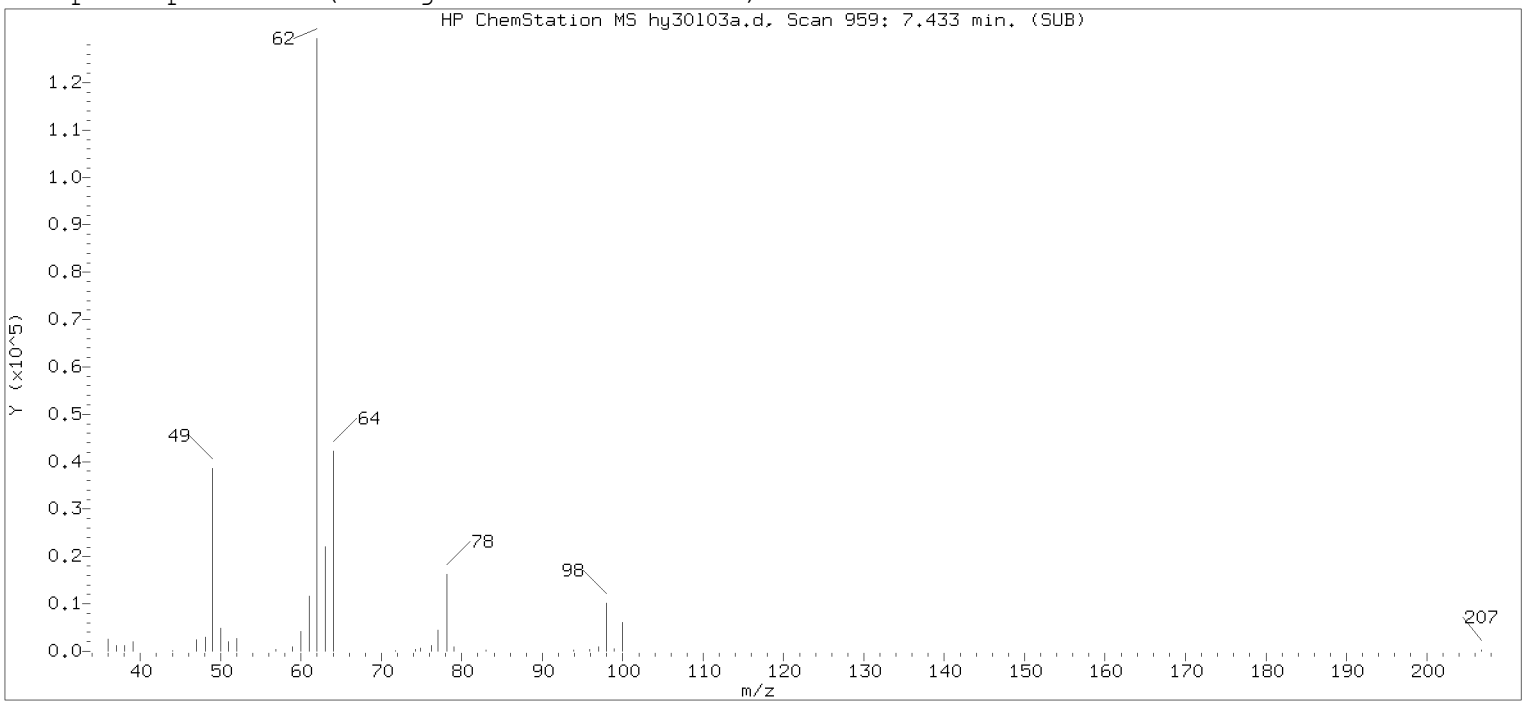
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 959
Retention Time (minutes): 7.433
Quant Ion : 62.00
Area (flag) : 411302M
On-Column Amount (ng) : 5.1581
Integration start scan : 947 Integration stop scan: 977
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

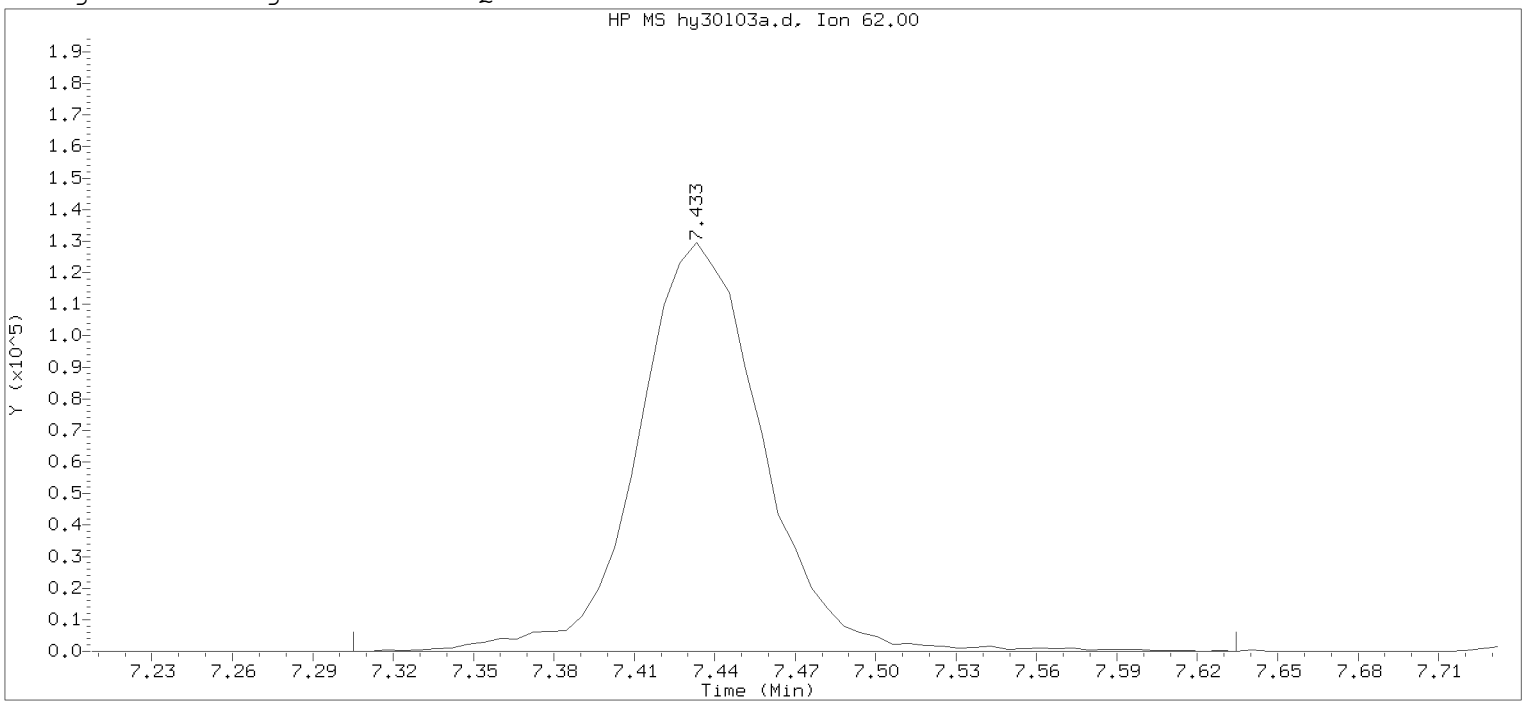
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:37.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30103a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 12:41
Date, time and analyst ID of latest file update: 30-May-2017 12:41 kel01973

Sample Name: LCSH20 Lab Sample ID: LCSH20

Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 959
Retention Time (minutes): 7.433
Quant Ion : 62.00
Area : 418393
On-column Amount (ng) : 5.2471
Integration start scan : 937 Integration stop scan: 991
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:37.
Target 3.5 esignature user name: kel01973

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE86

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9006008	5W7B	X		1	Unspiked
9006009	5W7B Matrix Spike	X		1	Matrix Spike
9006010	5W7B Matrix Spike Dup	X		1	Matrix Spike Duplicate

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Semivolatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE86

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
SVOAs 8270D MINI	17143WAF026	SBLKWF143	05/24/2017 10:12:00
		143WFLCS	05/24/2017 10:40:00
		9006008 UNSPK	05/24/2017 18:29:00
		9006009 MS	05/24/2017 18:57:00
		9006010 MSD	05/24/2017 19:25:00

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: RAE86
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

17143WAF026 / SBLKWF143 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Nitrobenzene	05/24/17	N.D.	ug/l	0.8	10
2-Nitroaniline	05/24/17	N.D.	ug/l	0.7	10
2,6-Dinitrotoluene	05/24/17	N.D.	ug/l	0.7	10
2,4-Dinitrotoluene	05/24/17	N.D.	ug/l	0.6	10
Diethylphthalate	05/24/17	N.D.	ug/l	0.5	10
4-Nitroaniline	05/24/17	N.D.	ug/l	1	20
bis(2-Ethylhexyl)phthalate	05/24/17	N.D.	ug/l	2	6

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: RAE86
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

17143WAF026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWF143	77	41 - 112	80	29 - 119	88	38 - 125
143WFLCS	79	41 - 112	80	29 - 119	85	38 - 125
9006008 UNSPK	80	41 - 112	77	29 - 119	87	38 - 125
9006009 MS	77	41 - 112	75	29 - 119	81	38 - 125
9006010 MSD	76	41 - 112	76	29 - 119	74	38 - 125

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 9006008 MS: 9006009 MSD: 9006010 **Analyte**	Batch: **17143WAF026** (Sample number(s): 9006008-9006010)								
	Spike Added ug/l MS/MSD	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Nitrobenzene	50.2 / 50.81	N.D.	41.58	42.51	83	84	53-119	2	30
2-Nitroaniline	50.2 / 50.81	N.D.	40.84	42.74	81	84	74-121	5	30
2,6-Dinitrotoluene	50.2 / 50.81	N.D.	41.52	43.89	83	86	80-120	6	30
2,4-Dinitrotoluene	50.2 / 50.81	N.D.	42.57	43.23	85	85	76-122	2	30
Diethylphthalate	50.2 / 50.81	N.D.	34.65	35.99	69	71	47-122	4	30
4-Nitroaniline	50.2 / 50.81	N.D.	42.31	43.39	84	85	57-114	3	30
bis(2-Ethylhexyl)phthalate	50.2 / 50.81	N.D.	45.77	43.94	91	86	64-126	4	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: RAE86
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 143WFLCS	Batch: **17143WAF026** (Sample number(s): 9006008-9006010)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Nitrobenzene	50	43.49	NA	87	NA	53-119	NA	NA
2-Nitroaniline	50	40.79	NA	82	NA	74-121	NA	NA
2,6-Dinitrotoluene	50	44.26	NA	89	NA	80-120	NA	NA
2,4-Dinitrotoluene	50	44.06	NA	88	NA	76-122	NA	NA
Diethylphthalate	50	40.11	NA	80	NA	47-122	NA	NA
4-Nitroaniline	50	43.46	NA	87	NA	57-114	NA	NA
bis(2-Ethylhexyl)phthalate	50	46.89	NA	94	NA	64-126	NA	NA

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0160a.d DFTPP Injection Date: 05/05/17

Instrument ID: HP19760 DFTPP Injection Time: 17:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	44.2
68	Less than 2.0% of mass 69	0.85 (1.94)1
69	Mass 69 relative abundance	43.7
70	Less than 2.0% of mass 69	0.18 (0.42)1
127	10.0 - 80.00% of mass 198	43.7
197	Less than 2.0% of mass 198	0.98
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.49
275	10.0 - 60.0% of mass 198	21.0
365	Greater than 1.00% of mass 198	2.21
441	Present, and less than mass 443	8.17
442	Greater than 50.00% of mass 198	50.1
443	15.00 - 24.00% of mass 442	9.32 (18.6)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD1107 - SSTD7.5	de0161.d	05/05/17	18:05
02	RVSTD1107 - SSTD.125	de0162.d	05/05/17	18:46
03	RVSTD1107 - SSTD30	de0163.d	05/05/17	19:14
04	RVSTD1107 - SSTD20	de0164.d	05/05/17	19:42
05	RVSTD1107 - SSTD12.5	de0165.d	05/05/17	20:10
06	RVSTD1107 - SSTD3.75	de0166.d	05/05/17	20:37
07	RVSTD1107 - SSTD1.25	de0167.d	05/05/17	21:05
08	RVSTD1107 - SSTD.25	de0168.d	05/05/17	21:33
09	MDLSTD1107 - SSTD0.125	de0169.d	05/05/17	22:01
10	PAHMDL1107 - SSTD0.025	de0170.d	05/05/17	22:28
11	RVICV1147 - SSTD12.5	de0171.d	05/05/17	22:56
12	RVBASICV0637 - SSTD12.5	de0172.d	05/05/17	23:24
13	BACID1087 - SSTD025	de0173.d	05/05/17	23:52

FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0640.d DFTPP Injection Date: 05/24/17

Instrument ID: HP19760 DFTPP Injection Time: 09:18

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	48.4
68	Less than 2.0% of mass 69	0.67 (1.46)1
69	Mass 69 relative abundance	46.1
70	Less than 2.0% of mass 69	0.21 (0.45)1
127	10.0 - 80.00% of mass 198	44.0
197	Less than 2.0% of mass 198	0.91
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.33
275	10.0 - 60.0% of mass 198	23.4
365	Greater than 1.00% of mass 198	2.29
441	Present, and less than mass 443	9.42
442	Greater than 50.00% of mass 198	57.7
443	15.00 - 24.00% of mass 442	10.6 (18.4)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	rvSTD1107 - SSTD7.5	de0641.d	05/24/17	09:32
02	SBLKWF143	de0642.d	05/24/17	10:12
03	143WFLCS	de0643.d	05/24/17	10:40
04	SBLKWB143	de0644.d	05/24/17	11:07
05	143WBLCS	de0645.d	05/24/17	11:35
06	9004649	de0646.d	05/24/17	12:03
07	9004650MS	de0647.d	05/24/17	12:30
08	9004651MSD	de0648.d	05/24/17	12:58
09	9004641	de0650.d	05/24/17	13:53
10	9004642	de0651.d	05/24/17	14:21
11	9004643	de0652.d	05/24/17	14:49
12	9004644	de0653.d	05/24/17	15:16
13	9004652	de0654.d	05/24/17	15:44
14	STD1107	de0655.d	05/24/17	16:12
15	8996725RE	de0656.d	05/24/17	16:39
16	8999397	de0657.d	05/24/17	17:07
17	9002699	de0658.d	05/24/17	17:34
18	9002700	de0659.d	05/24/17	18:02

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0640.d DFTPP Injection Date: 05/24/17

Instrument ID: HP19760 DFTPP Injection Time: 09:18

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	48.4
68	Less than 2.0% of mass 69	0.67 (1.46)1
69	Mass 69 relative abundance	46.1
70	Less than 2.0% of mass 69	0.21 (0.45)1
127	10.0 - 80.00% of mass 198	44.0
197	Less than 2.0% of mass 198	0.91
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.33
275	10.0 - 60.0% of mass 198	23.4
365	Greater than 1.00% of mass 198	2.29
441	Present, and less than mass 443	9.42
442	Greater than 50.00% of mass 198	57.7
443	15.00 - 24.00% of mass 442	10.6 (18.4)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	9006008	de0660.d	05/24/17	18:29
20	9006009MS	de0661.d	05/24/17	18:57
21	9006010MSD	de0662.d	05/24/17	19:25

FORM V SV

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.780	0.734	0.744	0.694	0.712	0.723	0.731	4	AVG
N-Nitrosodimethylamine			1.171	1.190	1.202	1.142	1.164	1.185	1.176	2	AVG
Pyridine			2.061	1.877	1.983	1.867	1.855	1.931	1.929	4	AVG
2-Picoline			1.954	2.014	2.023	1.927	1.945	1.956	1.970	2	AVG
N-Nitrosomethylethylamine			0.811	0.862	0.866	0.838	0.834	0.833	0.841	2	AVG
Methyl methanesulfonate			0.929	0.992	0.985	0.956	0.952	0.957	0.962	2	AVG
N-Nitrosodiethylamine		0.719	0.776	0.804	0.807	0.786	0.789	0.785	0.781	4	AVG
Ethyl methanesulfonate		0.839	0.840	0.882	0.852	0.834	0.824	0.833	0.843	2	AVG
Benzaldehyde			1.491	1.447	1.614	1.515	1.425	1.230	1.454	9	AVG
Phenol		2.600	2.377	2.447	2.404	2.322	2.293	2.255	2.385	5	AVG
Aniline		3.044	2.755	2.921	2.809	2.733	2.718	2.641	2.803	5	AVG
a-methylstyrene			1.698	1.740	1.797	1.747	1.708	1.610	1.717	4	AVG
bis(2-Chloroethyl)ether		1.960	1.736	1.852	1.776	1.714	1.712	1.654	1.772	6	AVG
2-Chlorophenol		1.655	1.518	1.641	1.548	1.535	1.514	1.464	1.554	4	AVG
1,3-Dichlorobenzene		1.809	1.718	1.728	1.693	1.646	1.619	1.567	1.683	5	AVG
1,4-Dichlorobenzene		1.954	1.691	1.780	1.699	1.667	1.655	1.593	1.720	7	AVG
Benzyl alcohol			1.096	1.106	1.159	1.132	1.103	1.056	1.108	3	AVG
1,2-Dichlorobenzene		1.840	1.608	1.676	1.604	1.580	1.546	1.488	1.620	7	AVG
Indene			2.974	3.043	3.153	3.082	3.017	2.867	3.023	3	AVG
2-Methylphenol		1.597	1.482	1.609	1.552	1.518	1.489	1.447	1.528	4	AVG
2,2'-oxybis(1-Chloropropane)		3.165	2.531	2.665	2.665	2.475	2.435	2.392	2.618	10	AVG
bis(2-Chloroisopropyl)ether		3.165	2.531	2.665	2.665	2.475	2.435	2.392	2.618	10	AVG
N-Nitrosopyrrolidine		0.901	0.819	0.901	0.870	0.859	0.840	0.835	0.861	4	AVG
Acetophenone		2.053	2.311	2.227	2.397	2.450	2.347	2.302	2.298	6	AVG
4-Methylphenol		1.960	1.735	1.856	1.764	1.715	1.669	1.606	1.758	7	AVG
Total Cresols		1.778	1.608	1.733	1.658	1.616	1.579	1.527	1.643	5	AVG
N-Nitroso-di-n-propylamine		1.592	1.374	1.442	1.388	1.342	1.298	1.266	1.386	8	AVG
N-Nitrosomorpholine			1.174	1.286	1.216	1.164	1.136	1.101	1.179	5	AVG
o-Toluidine		2.922	2.651	2.854	2.728	2.636	2.590	2.473	2.693	6	AVG
Hexachloroethane			0.706	0.740	0.714	0.703	0.696	0.668	0.704	3	AVG
Nitrobenzene		0.556	0.509	0.540	0.524	0.518	0.509	0.498	0.522	4	AVG
N-Nitrosopiperidine		0.212	0.193	0.217	0.210	0.203	0.205	0.203	0.206	4	AVG
Isophorone		0.938	0.837	0.941	0.900	0.877	0.880	0.876	0.893	4	AVG
2-Nitrophenol		0.213	0.183	0.218	0.206	0.207	0.210	0.206	0.206	5	AVG
2,4-Dimethylphenol		0.471	0.422	0.474	0.441	0.437	0.436	0.430	0.444	5	AVG
O,O,O-Triethylphosphorothioat			0.204	0.224	0.210	0.210	0.208	0.203	0.210	4	AVG
bis(2-Chloroethoxy)methane		0.646	0.545	0.593	0.572	0.545	0.559	0.533	0.571	7	AVG
Benzoic acid			0.163	0.250	0.284	0.339	0.347	0.351	0.289	25	1STDEG
1,2,3,4-Tetrahydronaphthalene			0.642	0.666	0.671	0.668	0.656	0.629	0.655	3	AVG
2,4-Dichlorophenol		0.331	0.315	0.345	0.336	0.326	0.328	0.321	0.329	3	AVG
1,2,4-Trichlorobenzene		0.425	0.380	0.404	0.379	0.378	0.374	0.369	0.387	5	AVG
Naphthalene	1.370	1.275	1.154	1.235	1.144	1.140	1.136	1.102	1.194	8	AVG
4-Chloroaniline		0.523	0.457	0.508	0.479	0.480	0.476	0.466	0.484	5	AVG
2,6-Dichlorophenol		0.345	0.318	0.345	0.325	0.319	0.320	0.311	0.326	4	AVG
Hexachloropropene			0.247	0.279	0.256	0.265	0.263	0.257	0.261	4	AVG
Hexachlorobutadiene		0.234	0.226	0.246	0.223	0.226	0.225	0.220	0.229	4	AVG
Quinoline			0.713	0.789	0.742	0.731	0.724	0.706	0.734	4	AVG
Caprolactam			0.099	0.099	0.103	0.108	0.104	0.102	0.103	3	AVG
N-Nitrosodi-n-butylamine			0.336	0.355	0.344	0.339	0.412	0.409	0.366	10	AVG
4-Chloro-3-methylphenol		0.384	0.358	0.395	0.377	0.374	0.372	0.364	0.375	3	AVG
Safrole			0.289	0.314	0.299	0.301	0.295	0.290	0.298	3	AVG
2-Methylnaphthalene	0.865	0.810	0.748	0.807	0.765	0.762	0.759	0.740	0.782	5	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1-Methylnaphthalene	0.800	0.776	0.691	0.743	0.700	0.693	0.683	0.668	0.719	7	AVG
Hexachlorocyclopentadiene			0.294	0.347	0.343	0.348	0.361	0.353	0.341	7	AVG
1,2,4,5-Tetrachlorobenzene		0.801	0.703	0.740	0.695	0.689	0.695	0.686	0.715	6	AVG
cis-Isosafrole			0.538	0.582	0.554	0.562	0.567	0.560	0.561	3	AVG
2,4,6-Trichlorophenol		0.421	0.410	0.461	0.441	0.437	0.444	0.436	0.436	4	AVG
2,4,5-Trichlorophenol		0.481	0.457	0.491	0.475	0.464	0.463	0.462	0.470	3	AVG
trans-Isosafrole			0.565	0.625	0.592	0.585	0.597	0.596	0.594	3	AVG
Isosafrole			0.561	0.618	0.586	0.581	0.592	0.590	0.588	3	AVG
1,1'-Biphenyl		1.370	1.544	1.423	1.533	1.574	1.535	1.506	1.498	5	AVG
2-Chloronaphthalene		1.458	1.261	1.291	1.201	1.248	1.175	1.192	1.261	8	AVG
1-Chloronaphthalene		1.354	1.152	1.238	1.216	1.129	1.209	1.129	1.204	7	AVG
Diphenyl ether		0.985	0.878	0.907	0.849	0.862	0.857	0.839	0.883	6	AVG
2-Nitroaniline		0.407	0.363	0.422	0.387	0.393	0.383	0.387	0.392	5	AVG
1,4-Naphthoquinone			0.486	0.555	0.535	0.528	0.525	0.517	0.524	4	AVG
1,4-Dinitrobenzene			0.184	0.217	0.207	0.209	0.209	0.212	0.206	6	AVG
Dimethylphthalate			1.460	1.552	1.452	1.443	1.432	1.403	1.457	3	AVG
1,3-Dinitrobenzene			0.212	0.239	0.225	0.225	0.229	0.229	0.227	4	AVG
2,6-Dinitrotoluene		0.333	0.305	0.342	0.317	0.321	0.317	0.319	0.322	4	AVG
Acenaphthylene	1.929	1.936	1.789	1.895	1.825	1.804	1.805	1.777	1.845	3	AVG
3-Nitroaniline		0.306	0.312	0.357	0.332	0.341	0.342	0.343	0.333	5	AVG
Acenaphthene	1.413	1.478	1.299	1.379	1.311	1.315	1.288	1.259	1.343	6	AVG
2,4-Dinitrophenol				0.171	0.171	0.186	0.201	0.210	0.188	9	AVG
4-Nitrophenol				0.248	0.237	0.247	0.249	0.252	0.246	2	AVG
Pentachlorobenzene		0.626	0.563	0.602	0.564	0.575	0.561	0.551	0.578	5	AVG
2,4-Dinitrotoluene			0.399	0.448	0.432	0.435	0.446	0.441	0.433	4	AVG
2,4_2,6-Dinitrotoluenes		0.373	0.352	0.395	0.375	0.378	0.382	0.380	0.376	3	AVG
Dibenzofuran		2.084	1.801	1.940	1.780	1.781	1.745	1.705	1.834	7	AVG
1-Naphthylamine				1.333	1.281	1.295	1.297	1.298	1.301	1	AVG
2,3,4,6-Tetrachlorophenol		0.331	0.327	0.363	0.356	0.361	0.371	0.370	0.354	5	AVG
2-Naphthylamine				1.336	1.280	1.284	1.291	1.255	1.289	2	AVG
Diethylphthalate			1.358	1.455	1.418	1.418	1.417	1.417	1.414	2	AVG
Thionazin			0.277	0.291	0.283	0.282	0.280	0.273	0.281	2	AVG
Fluorene	1.651	1.571	1.415	1.518	1.423	1.407	1.397	1.388	1.471	7	AVG
4-Chlorophenyl-phenylether		0.775	0.731	0.751	0.710	0.693	0.685	0.669	0.716	5	AVG
5-Nitro-o-toluidine		0.462	0.377	0.411	0.395	0.395	0.402	0.392	0.405	7	AVG
4-Nitroaniline		0.317	0.320	0.347	0.336	0.333	0.335	0.334	0.332	3	AVG
4,6-Dinitro-2-methylphenol				0.135	0.131	0.132	0.139	0.137	0.135	3	AVG
N-Nitrosodiphenylamine (1)		0.686	0.606	0.654	0.623	0.590	0.596	0.585	0.620	6	AVG
NDPA as diphenylamine		0.686	0.606	0.654	0.623	0.590	0.596	0.585	0.620	6	AVG
1,2-Diphenylhydrazine		0.969	0.866	0.915	0.887	0.838	0.834	0.822	0.876	6	AVG
Tetraethyldithiopyrophosphate			0.138	0.150	0.147	0.140	0.142	0.139	0.143	3	AVG
1,3,5-Trinitrobenzene				0.088	0.084	0.085	0.089	0.089	0.087	3	AVG
Diallate (peak 1)			0.370	0.403	0.393	0.369	0.370	0.367	0.379	4	AVG
Phorate		0.577	0.531	0.590	0.581	0.551	0.558	0.553	0.563	4	AVG
Phenacetin		0.383	0.390	0.448	0.432	0.410	0.417	0.409	0.413	5	AVG
4-Bromophenyl-phenylether		0.229	0.212	0.227	0.211	0.206	0.204	0.200	0.213	5	AVG
Diallate (peak 2)			0.298	0.332	0.315	0.294	0.302	0.300	0.307	5	AVG
Diallate trans/cis			0.358	0.391	0.380	0.356	0.358	0.355	0.366	4	AVG
Hexachlorobenzene	0.255	0.251	0.218	0.228	0.219	0.203	0.209	0.208	0.224	9	AVG
Dimethoate			0.345	0.389	0.385	0.357	0.356	0.343	0.363	5	AVG
Atrazine			0.204	0.193	0.198	0.207	0.200	0.173	0.196	6	AVG
Pentachlorophenol			0.092	0.126	0.128	0.128	0.132	0.133	0.123	13	AVG

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

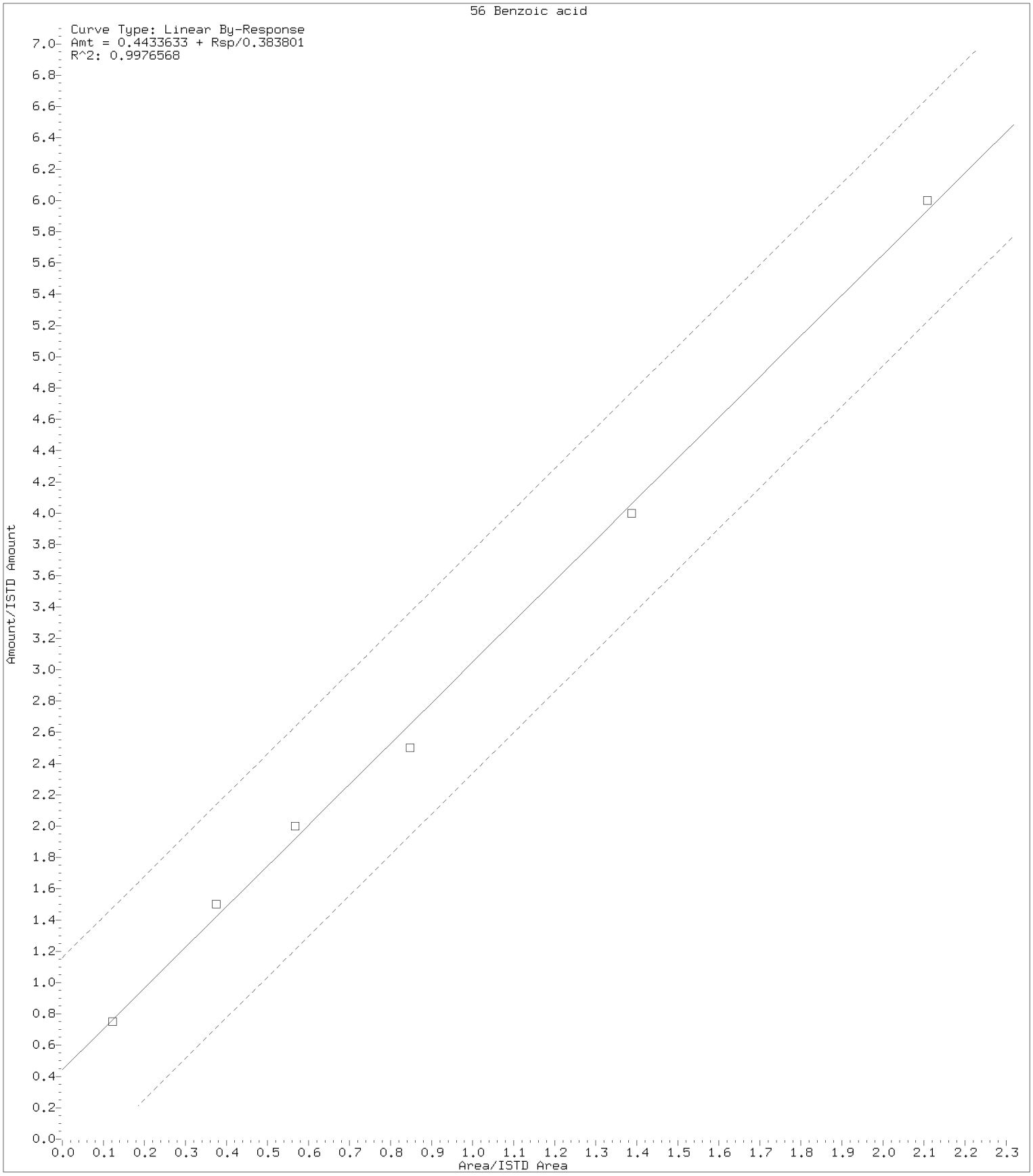
Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
4-Aminobiphenyl		0.726	0.683	0.736	0.701	0.671	0.668	0.635	0.688	5	AVG
Pentachloronitrobenzene			0.090	0.105	0.099	0.096	0.100	0.097	0.098	5	AVG
Pronamide		0.351	0.381	0.367	0.357	0.362	0.350	0.357	4	AVG	
Dinoseb			0.162	0.210	0.212	0.217	0.221	0.220	0.207	11	AVG
Phenanthrene	1.255	1.240	1.067	1.153	1.099	1.053	1.048	1.026	1.118	8	AVG
Anthracene	1.229	1.132	1.073	1.171	1.119	1.064	1.070	1.045	1.113	6	AVG
Carbazole		1.101	0.981	1.086	1.053	1.005	1.015	0.992	1.033	5	AVG
Methyl parathion			0.249	0.295	0.295	0.280	0.280	0.275	0.279	6	AVG
Di-n-butylphthalate			1.201	1.345	1.333	1.256	1.274	1.250	1.276	4	AVG
Parathion			0.156	0.187	0.187	0.177	0.181	0.180	0.178	6	AVG
4-Nitroquinoline-1-oxide				0.099	0.108	0.119	0.129	0.129	0.117	11	AVG
Octachlorostyrene			0.086	0.084	0.084	0.085	0.086	0.082	0.084	2	AVG
Isodrin		0.159	0.129	0.140	0.133	0.130	0.131	0.127	0.135	8	AVG
Fluoranthene	1.377	1.303	1.208	1.317	1.297	1.230	1.264	1.241	1.280	4	AVG
Benzidine				0.731	0.688	0.658	0.634	0.597	0.661	8	AVG
Pyrene	1.273	1.233	1.091	1.167	1.100	1.081	1.080	1.058	1.135	7	AVG
p-Dimethylaminoazobenzene		0.177	0.150	0.187	0.185	0.188	0.191	0.188	0.181	8	AVG
Chlorobenzilate			0.318	0.353	0.333	0.335	0.337	0.327	0.334	3	AVG
3,3'-Dimethylbenzidine			0.667	0.774	0.773	0.734	0.730	0.720	0.733	5	AVG
Butylbenzylphthalate			0.488	0.530	0.509	0.501	0.498	0.490	0.502	3	AVG
2-Acetylaminofluorene			0.389	0.489	0.464	0.476	0.493	0.497	0.468	9	AVG
3,3'-Dichlorobenzidine			0.378	0.434	0.417	0.410	0.414	0.408	0.410	4	AVG
4,4'-Methylenebis(2-chloroani				0.240	0.220	0.218	0.217	0.215	0.222	5	AVG
Benzo(a)anthracene	1.159	1.074	1.048	1.149	1.078	1.075	1.072	1.052	1.088	4	AVG
Chrysene	1.084	1.073	0.992	1.076	1.006	0.999	1.000	0.969	1.025	4	AVG
bis(2-Ethylhexyl)phthalate			0.705	0.786	0.763	0.745	0.760	0.754	0.752	4	AVG
6-Methylchrysene			0.683	0.746	0.738	0.725	0.749	0.737	0.730	3	AVG
Di-n-octylphthalate			1.502	1.726	1.673	1.651	1.641	1.616	1.634	5	AVG
Benzo(b)fluoranthene	1.503	1.427	1.241	1.390	1.331	1.357	1.313	1.335	1.362	6	AVG
7,12-Dimethylbenz[a]anthracen		0.496	0.501	0.594	0.560	0.578	0.572	0.571	0.553	7	AVG
Benzo(k)fluoranthene	1.422	1.363	1.248	1.363	1.296	1.280	1.288	1.219	1.310	5	AVG
Benzo(a)pyrene	1.335	1.263	1.159	1.296	1.259	1.268	1.249	1.239	1.259	4	AVG
3-Methylcholanthrene		0.537	0.513	0.595	0.564	0.588	0.567	0.556	0.560	5	AVG
Dibenz(a,h)acridine			0.831	0.966	0.938	0.927	0.897	0.878	0.906	5	AVG
Dibenz(a,j)acridine			0.797	0.976	0.917	0.930	0.871	0.841	0.889	7	AVG
Indeno(1,2,3-cd)pyrene	1.155	1.226	1.177	1.377	1.279	1.288	1.213	1.154	1.234	6	AVG
Dibenz(a,h)anthracene	0.891	0.962	0.988	1.177	1.069	1.114	1.029	0.980	1.026	9	AVG
Benzo(g,h,i)perylene	0.981	1.030	0.998	1.135	1.035	1.033	0.959	0.903	1.009	7	AVG
Total PAHs	1.227	1.180	1.062	1.154	1.069	1.070	1.028	1.005	1.099	7	AVG
2-Fluorophenol		1.605	1.529	1.585	1.581	1.523	1.522	1.515	1.551	2	AVG
Phenol-d6		2.216	2.065	2.200	2.142	2.055	2.036	2.023	2.105	4	AVG
Nitrobenzene-d5		0.565	0.501	0.540	0.516	0.506	0.502	0.497	0.518	5	AVG
2-Fluorobiphenyl		1.722	1.525	1.592	1.533	1.520	1.513	1.474	1.554	5	AVG
2,4,6-Tribromophenol		0.171	0.174	0.196	0.185	0.191	0.194	0.191	0.186	5	AVG
Terphenyl-d14		0.796	0.718	0.767	0.737	0.714	0.709	0.695	0.734	5	AVG
								Average %RSD	5		

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.



Digitally signed by Brandon H. Smith on 05/07/2017 at 21:12.
Target 3.5 esignature user ID: bhs10208

Internal Standard
Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may05b.b/de0161.d SSTD7.5
/chem/HP19760.i/17may05b.b/de0162.d SSTD0.125
/chem/HP19760.i/17may05b.b/de0163.d SSTD030
/chem/HP19760.i/17may05b.b/de0164.d SSTD020
/chem/HP19760.i/17may05b.b/de0165.d SSTD12.5
/chem/HP19760.i/17may05b.b/de0166.d SSTD3.75
/chem/HP19760.i/17may05b.b/de0167.d SSTD1.25
/chem/HP19760.i/17may05b.b/de0168.d SSTD0.25

Area Summary

File ID:

Internal Standard Name	de0161.d	de0162.d	de0163.d	de0164.d	de0165.d	de0166.d	de0167.d	de0168.d	Avg. Area	%RSD	In Spec
1,4-Dichlorobenzene-d4	195284	184070	182912	175545	177612	187395	178509	181346	182834	3	Yes
Naphthalene-d8	747503	711760	678696	659112	673993	707489	684219	693503	694534	4	Yes
Acenaphthene-d10	426791	412178	378528	372722	386093	412952	390234	392347	396481	5	Yes
Phenanthrene-d10	816291	786368	754842	740261	770671	789256	755491	745727	769863	3	Yes
Pyrene-d10	993842	934540	904399	888165	906909	943049	895421	891777	919763	4	Yes
Perylene-d12	828843	712054	769596	757991	749691	768390	720620	694492	750210	6	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	de0161.d	de0162.d	de0163.d	de0164.d	de0165.d	de0166.d	de0167.d	de0168.d	Avg. RT
1,4-Dichlorobenzene-d4	6.728	6.722	6.728	6.728	6.728	6.728	6.722	6.722	6.726
Naphthalene-d8	8.657	8.657	8.663	8.663	8.657	8.657	8.657	8.657	8.658
Acenaphthene-d10	11.449	11.443	11.449	11.449	11.449	11.443	11.443	11.443	11.446
Phenanthrene-d10	13.337	13.337	13.343	13.337	13.337	13.337	13.332	13.332	13.337
Pyrene-d10	15.290	15.290	15.296	15.296	15.290	15.290	15.290	15.284	15.291
Perylene-d12	19.761	19.755	19.766	19.760	19.761	19.755	19.755	19.755	19.758

Comments:_____

_____

Report generated on 05/07/2017 at 21:25

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS | LAB CODE: LANCAS | INSTRUMENT: HP19760

Method: SW-846 8270D MINI | File ID: de0171.d

ICV SAMPLE ID: RVICV1147 | BATCH: 17MAY05B026 | Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	11.22	-10	30	YES
N-Nitrosodimethylamine	12.50	12.01	-4	30	YES
Pyridine	12.50	11.81	-6	30	YES
2-Picoline	12.50	12.25	-2	30	YES
N-Nitrosomethylethylamine	12.50	11.48	-8	30	YES
Methyl methanesulfonate	12.50	12.22	-2	30	YES
N-Nitrosodiethylamine	12.50	11.86	-5	30	YES
Ethyl methanesulfonate	12.50	11.61	-7	30	YES
Phenol	12.50	12.13	-3	30	YES
Aniline	12.50	11.06	-12	30	YES
bis(2-Chloroethyl)ether	12.50	11.96	-4	30	YES
2-Chlorophenol	12.50	12.10	-3	30	YES
1,3-Dichlorobenzene	12.50	12.30	-2	30	YES
1,4-Dichlorobenzene	12.50	12.29	-2	30	YES
Benzyl alcohol	12.50	12.03	-4	30	YES
1,2-Dichlorobenzene	12.50	12.28	-2	30	YES
Indene	12.50	11.70	-6	30	YES
2-Methylphenol	12.50	12.09	-3	30	YES
2,2'-oxybis(1-Chloropropane	12.50	11.75	-6	30	YES
bis(2-Chloroisopropyl)ether	12.50	11.75	-6	30	YES
N-Nitrosopyrrolidine	12.50	11.54	-8	30	YES
Acetophenone	12.50	12.47	0	30	YES
4-Methylphenol	12.50	11.69	-7	30	YES
N-Nitroso-di-n-propylamine	12.50	11.93	-5	30	YES
N-Nitrosomorpholine	12.50	11.79	-6	30	YES
o-Toluidine	12.50	11.63	-7	30	YES
Total Cresols	25.00	23.78	-5	30	YES
Hexachloroethane	12.50	11.92	-5	30	YES
Nitrobenzene	12.50	12.53	0	30	YES
N-Nitrosopiperidine	12.50	11.84	-5	30	YES
Isophorone	12.50	12.49	0	30	YES
2-Nitrophenol	12.50	12.60	1	30	YES
2,4-Dimethylphenol	12.50	9.86	-21	30	YES
bis(2-Chloroethoxy)methane	12.50	12.97	4	30	YES
Benzoic acid	25.00	17.65	-29	30	YES
O,O,O-Triethylphosphorothio	12.50	12.24	-2	30	YES
2,4-Dichlorophenol	12.50	12.78	2	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	12.50	12.65	1	30	YES
Naphthalene	12.50	12.25	-2	30	YES
4-Chloroaniline	12.50	12.11	-3	30	YES
2,6-Dichlorophenol	12.50	11.96	-4	30	YES
Hexachloropropene	12.50	13.01	4	30	YES
Hexachlorobutadiene	12.50	12.54	0	30	YES
Quinoline	12.50	12.29	-2	30	YES
N-Nitrosodi-n-butylamine	12.50	11.14	-11	30	YES
4-Chloro-3-methylphenol	12.50	12.53	0	30	YES
Safrole	12.50	12.11	-3	30	YES
2-Methylnaphthalene	12.50	12.33	-1	30	YES
1-Methylnaphthalene	12.50	12.41	-1	30	YES
Hexachlorocyclopentadiene	25.00	24.24	-3	30	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.19	-2	30	YES
cis-Isosafrole	1.50	1.53	2	30	YES
2,4,6-Trichlorophenol	12.50	12.98	4	30	YES
2,4,5-Trichlorophenol	12.50	12.60	1	30	YES
trans-Isosafrole	11.00	11.49	4	30	YES
1,1'-Biphenyl	12.50	13.29	6	30	YES
2-Chloronaphthalene	12.50	12.88	3	30	YES
Isosafrole	12.50	13.01	4	30	YES
1-Chloronaphthalene	12.50	11.65	-7	30	YES
Diphenyl ether	12.50	12.23	-2	30	YES
2-Nitroaniline	12.50	12.46	0	30	YES
1,4-Naphthoquinone	15.63	15.35	-2	30	YES
1,4-Dinitrobenzene	12.50	12.40	-1	30	YES
Dimethylphthalate	12.50	12.36	-1	30	YES
1,3-Dinitrobenzene	12.50	12.37	-1	30	YES
2,6-Dinitrotoluene	12.50	12.29	-2	30	YES
Acenaphthylene	12.50	12.31	-1	30	YES
3-Nitroaniline	12.50	12.41	-1	30	YES
Acenaphthene	12.50	12.60	1	30	YES
2,4-Dinitrophenol	25.00	26.25	5	30	YES
4-Nitrophenol	12.50	12.57	1	30	YES
Pentachlorobenzene	12.50	11.87	-5	30	YES
2,4-Dinitrotoluene	12.50	12.38	-1	30	YES
Dibenzofuran	12.50	12.29	-2	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	25.00	24.68	-1	30	YES
1-Naphthylamine	25.00	22.06	-12	30	YES
2,3,4,6-Tetrachlorophenol	12.50	12.82	3	30	YES
2-Naphthylamine	25.00	21.28	-15	30	YES
Diethylphthalate	12.50	12.74	2	30	YES
Thionazin	12.50	12.42	-1	30	YES
Fluorene	12.50	12.12	-3	30	YES
4-Chlorophenyl-phenylether	12.50	12.33	-1	30	YES
5-Nitro-o-toluidine	12.50	11.93	-5	30	YES
4-Nitroaniline	12.50	12.29	-2	30	YES
4,6-Dinitro-2-methylphenol	12.50	12.16	-3	30	YES
N-Nitrosodiphenylamine	12.50	12.41	-1	30	YES
NDPA as diphenylamine	12.50	12.41	-1	30	YES
1,2-Diphenylhydrazine	12.50	12.57	1	30	YES
Tetraethyldithiopyrophospha	12.50	12.04	-4	30	YES
1,3,5-Trinitrobenzene	12.50	12.01	-4	30	YES
Diallate (peak 1)	9.38	8.65	-8	30	YES
Phorate	12.50	12.18	-3	30	YES
Phenacetin	12.50	12.28	-2	30	YES
4-Bromophenyl-phenylether	12.50	12.46	0	30	YES
Diallate (peak 2)	3.13	3.50	12	30	YES
Hexachlorobenzene	12.50	11.70	-6	30	YES
Diallate trans/cis	12.50	12.15	-3	30	YES
Dimethoate	12.50	11.96	-4	30	YES
Pentachlorophenol	12.50	14.04	12	30	YES
4-Aminobiphenyl	12.50	14.37	15	30	YES
Pentachloronitrobenzene	12.50	12.31	-2	30	YES
Pronamide	12.50	12.51	0	30	YES
Dinoseb	12.50	12.57	1	30	YES
Phenanthrene	12.50	11.94	-4	30	YES
Anthracene	12.50	12.20	-2	30	YES
Carbazole	12.50	12.53	0	30	YES
Methyl parathion	12.50	12.20	-2	30	YES
Di-n-butylphthalate	12.50	12.79	2	30	YES
Parathion	12.50	12.99	4	30	YES
4-Nitroquinoline-1-oxide	150.00	180.32	20	30	YES
Isodrin	12.50	11.97	-4	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	12.50	12.27	-2	30	YES
Benzidine	62.50	57.60	-8	30	YES
Pyrene	12.50	12.02	-4	30	YES
p-Dimethylaminoazobenzene	12.50	14.54	16	30	YES
Chlorobenzilate	12.50	13.21	6	30	YES
3,3'-Dimethylbenzidine	25.00	23.10	-8	30	YES
Butylbenzylphthalate	12.50	12.87	3	30	YES
2-Acetylaminofluorene	12.50	12.23	-2	30	YES
3,3'-Dichlorobenzidine	12.50	11.92	-5	30	YES
Benzo(a)anthracene	12.50	12.70	2	30	YES
Chrysene	12.50	12.77	2	30	YES
4,4'-Methylenebis(2-chloroa	12.50	12.44	0	30	YES
bis(2-Ethylhexyl)phthalate	12.50	12.95	4	30	YES
6-Methylchrysene	12.50	12.21	-2	30	YES
Di-n-octylphthalate	12.50	12.74	2	30	YES
Benzo(b)fluoranthene	12.50	12.35	-1	30	YES
7,12-Dimethylbenz[a]anthrac	12.50	13.20	6	30	YES
Benzo(k)fluoranthene	12.50	12.15	-3	30	YES
Benzo(a)pyrene	12.50	12.14	-3	30	YES
3-Methylcholanthrene	12.50	13.54	8	30	YES
Dibenz(a,h)acridine	12.50	12.50	0	30	YES
Dibenz(a,j)acridine	12.50	12.64	1	30	YES
Indeno(1,2,3-cd)pyrene	12.50	12.90	3	30	YES
Dibenz(a,h)anthracene	12.50	13.31	6	30	YES
Benzo(g,h,i)perylene	12.50	12.54	0	30	YES
Total PAHs	225.00	223.30	-1	30	YES

NC = Could not calculate

Comments: _____

^

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0172.d

ICV SAMPLE ID: RVBASICV0637 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	12.84	3	30	YES
Caprolactam	12.50	12.18	-3	30	YES
Atrazine	12.50	13.49	8	30	YES

NC = Could not calculate

Comments: _____

^

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS | LAB CODE: LANCAS | INSTRUMENT: HP19760

Method: SW-846 8270D MINI | File ID: de0173.d

ICV SAMPLE ID: BACID1087 | BATCH: 17MAY05B026 | Sample Name: SSTD025

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzoic acid	25.00	16.20	-35	30	NO *

NC = Could not calculate

Comments: _____

_____* non-CCC, OK if greater than 20% D_____

_____

^

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/24/17 Time: 09:32

Lab File ID: de0641.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.731	0.740	7.590	7.5	1
N-Nitrosodimethylamine	1.176	1.226	7.820	7.5	4
Pyridine	1.929	1.902	7.390	7.5	-1
2-Picoline	1.970	1.987	7.570	7.5	1
N-Nitrosomethylethylamine	0.841	0.821	7.330	7.5	-2
Methyl methanesulfonate	0.962	0.992	7.740	7.5	3
N-Nitrosodiethylamine	0.781	0.770	7.400	7.5	-1
Ethyl methanesulfonate	0.843	0.827	7.350	7.5	-2
Benzaldehyde	1.454	1.563	8.060	7.5	7
Phenol	2.385	2.395	7.530	7.5	0
Aniline	2.803	2.778	7.430	7.5	-1
a-methylstyrene	1.717	1.780	7.780	7.5	4
bis(2-Chloroethyl)ether	1.772	1.752	7.420	7.5	-1
2-Chlorophenol	1.554	1.522	7.350	7.5	-2
1,3-Dichlorobenzene	1.683	1.656	7.380	7.5	-2
1,4-Dichlorobenzene	1.720	1.668	7.280	7.5	-3
Benzyl alcohol	1.109	1.038	7.020	7.5	-6
1,2-Dichlorobenzene	1.620	1.591	7.360	7.5	-2
Indene	3.023	3.100	7.690	7.5	3
2-Methylphenol	1.528	1.524	7.480	7.5	0
2,2'-oxybis(1-Chloropropane)	2.618	2.708	7.760	7.5	3
bis(2-Chloroisopropyl)ether	2.618	2.708	7.760	7.5	3
N-Nitrosopyrrolidine	0.861	0.806	7.030	7.5	-6
Acetophenone	2.298	2.312	7.550	7.5	1
4-Methylphenol	1.758	1.729	7.380	7.5	-2
Total Cresols	1.643	1.627	14.860	15.0	-1
N-Nitroso-di-n-propylamine	1.386	1.332	7.210	7.5	-4
N-Nitrosomorpholine	1.179	1.220	7.760	7.5	3
o-Toluidine	2.693	2.667	7.430	7.5	-1
Hexachloroethane	0.704	0.711	7.570	7.5	1
Nitrobenzene	0.522	0.538	7.740	7.5	3
N-Nitrosopiperidine	0.206	0.203	7.400	7.5	-1
Isophorone	0.893	0.905	7.610	7.5	1
2-Nitrophenol	0.206	0.199	7.230	7.5	-4
2,4-Dimethylphenol	0.444	0.433	7.310	7.5	-3
O,O,O-Triethylphosphorothioate	0.210	0.201	7.190	7.5	-4

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/24/17 Time: 09:32

Lab File ID: de0641.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.571	0.560	7.360	7.5	-2
Benzoic acid	0.289	0.243	8.560	10.0	-14
1,2,3,4-Tetrahydronaphthalene	0.655	0.671	7.670	7.5	2
2,4-Dichlorophenol	0.329	0.328	7.480	7.5	0
1,2,4-Trichlorobenzene	0.387	0.376	7.280	7.5	-3
Naphthalene	1.194	1.150	7.220	7.5	-4
4-Chloroaniline	0.484	0.482	7.460	7.5	0
2,6-Dichlorophenol	0.326	0.321	7.380	7.5	-2
Hexachloropropene	0.261	0.246	7.060	7.5	-6
Hexachlorobutadiene	0.229	0.219	7.190	7.5	-4
Quinoline	0.734	0.736	7.520	7.5	0
Caprolactam	0.103	0.099	7.210	7.5	-4
N-Nitrosodi-n-butylamine	0.366	0.332	6.810	7.5	-9
4-Chloro-3-methylphenol	0.375	0.368	7.350	7.5	-2
Safrole	0.298	0.288	7.260	7.5	-3
2-Methylnaphthalene	0.782	0.768	7.370	7.5	-2
1-Methylnaphthalene	0.719	0.698	7.280	7.5	-3
Hexachlorocyclopentadiene	0.341	0.315	6.920	7.5	-8
1,2,4,5-Tetrachlorobenzene	0.715	0.711	7.460	7.5	-1
cis-Isosafrole	0.561	0.545	1.240	1.3	-3
2,4,6-Trichlorophenol	0.436	0.434	7.470	7.5	0
2,4,5-Trichlorophenol	0.470	0.463	7.380	7.5	-2
trans-Isosafrole	0.594	0.591	6.200	6.2	0
Isosafrole	0.588	0.583	7.440	7.5	-1
1,1'-Biphenyl	1.498	1.575	7.880	7.5	5
2-Chloronaphthalene	1.261	1.213	7.220	7.5	-4
1-Chloronaphthalene	1.204	1.216	7.580	7.5	1
Diphenyl ether	0.883	0.856	7.270	7.5	-3
2-Nitroaniline	0.392	0.359	6.870	7.5	-8
1,4-Naphthoquinone	0.524	0.537	7.680	7.5	2
1,4-Dinitrobenzene	0.206	0.192	6.990	7.5	-7
Dimethylphthalate	1.457	1.436	7.390	7.5	-1
1,3-Dinitrobenzene	0.227	0.215	7.120	7.5	-5
2,6-Dinitrotoluene	0.322	0.312	7.260	7.5	-3
Acenaphthylene	1.845	1.836	7.470	7.5	0
3-Nitroaniline	0.333	0.323	7.260	7.5	-3

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/24/17 Time: 09:32

Lab File ID: de0641.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.343	1.316	7.350	7.5	-2
2,4-Dinitrophenol	0.188	0.154	8.200	10.0	-18
4-Nitrophenol	0.246	0.215	6.550	7.5	-13
Pentachlorobenzene	0.578	0.569	7.380	7.5	-2
2,4-Dinitrotoluene	0.433	0.416	7.190	7.5	-4
2,4_2,6-Dinitrotoluenes	0.376	0.364	14.450	15.0	-4
Dibenzofuran	1.834	1.791	7.330	7.5	-2
1-Naphthylamine	1.301	1.239	7.140	7.5	-5
2,3,4,6-Tetrachlorophenol	0.354	0.349	7.380	7.5	-2
2-Naphthylamine	1.289	1.227	7.140	7.5	-5
Diethylphthalate	1.414	1.387	7.360	7.5	-2
Thionazin	0.281	0.270	7.190	7.5	-4
Fluorene	1.471	1.429	7.290	7.5	-3
4-Chlorophenyl-phenylether	0.716	0.710	7.430	7.5	-1
5-Nitro-o-toluidine	0.405	0.375	6.940	7.5	-7
4-Nitroaniline	0.332	0.324	7.320	7.5	-2
4,6-Dinitro-2-methylphenol	0.135	0.125	6.940	7.5	-7
N-Nitrosodiphenylamine (1)	0.620	0.631	7.630	7.5	2
NDPA as diphenylamine	0.620	0.631	7.630	7.5	2
1,2-Diphenylhydrazine	0.876	0.935	8.000	7.5	7
Tetraethyldithiopyrophosphate	0.143	0.139	7.330	7.5	-2
1,3,5-Trinitrobenzene	0.087	0.078	6.710	7.5	-10
Diallate (peak 1)	0.379	0.393	6.470	6.2	4
Phorate	0.563	0.581	7.730	7.5	3
Phenacetin	0.413	0.405	7.350	7.5	-2
4-Bromophenyl-phenylether	0.213	0.213	7.500	7.5	0
Diallate (peak 2)	0.307	0.308	1.280	1.3	0
Diallate trans/cis	0.366	0.379	7.750	7.5	3
Hexachlorobenzene	0.224	0.215	7.180	7.5	-4
Dimethoate	0.363	0.365	7.560	7.5	1
Atrazine	0.196	0.199	7.610	7.5	1
Pentachlorophenol	0.123	0.126	7.650	7.5	2
4-Aminobiphenyl	0.688	0.685	7.460	7.5	-1
Pentachloronitrobenzene	0.098	0.092	7.070	7.5	-6
Pronamide	0.357	0.347	7.300	7.5	-3
Dinoseb	0.207	0.193	7.010	7.5	-7

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/24/17 Time: 09:32

Lab File ID: de0641.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.118	1.094	7.340	7.5	-2
Anthracene	1.113	1.113	7.500	7.5	0
Carbazole	1.033	1.048	7.610	7.5	1
Methyl parathion	0.279	0.271	7.280	7.5	-3
Di-n-butylphthalate	1.276	1.252	7.360	7.5	-2
Parathion	0.178	0.173	7.280	7.5	-3
4-Nitroquinoline-1-oxide	0.117	0.071	4.550	7.5	-39
Octachlorostyrene	0.084	0.080	7.150	7.5	-5
Isodrin	0.135	0.127	7.020	7.5	-6
Fluoranthene	1.280	1.268	7.430	7.5	-1
Benzidine	0.661	0.642	21.840	22.5	-3
Pyrene	1.135	1.106	7.310	7.5	-3
p-Dimethylaminoazobenzene	0.181	0.167	6.940	7.5	-7
Chlorobenzilate	0.334	0.307	6.890	7.5	-8
3,3'-Dimethylbenzidine	0.733	0.645	6.600	7.5	-12
Butylbenzylphthalate	0.502	0.485	7.240	7.5	-4
2-Acetylaminofluorene	0.468	0.402	6.440	7.5	-14
3,3'-Dichlorobenzidine	0.410	0.384	7.020	7.5	-6
4,4'-Methylenebis(2-chloroanil	0.222	0.203	6.860	7.5	-8
Benzo(a)anthracene	1.088	1.043	7.190	7.5	-4
Chrysene	1.025	0.990	7.240	7.5	-3
bis(2-Ethylhexyl)phthalate	0.752	0.718	7.160	7.5	-5
6-Methylchrysene	0.730	0.690	7.090	7.5	-5
Di-n-octylphthalate	1.635	1.554	7.130	7.5	-5
Benzo(b)fluoranthene	1.362	1.294	7.130	7.5	-5
7,12-Dimethylbenz[a]anthracene	0.553	0.539	7.310	7.5	-2
Benzo(k)fluoranthene	1.310	1.356	7.770	7.5	4
Benzo(a)pyrene	1.258	1.260	7.510	7.5	0
3-Methylcholanthrene	0.560	0.527	7.060	7.5	-6
Dibenz(a,h)acridine	0.906	0.896	7.420	7.5	-1
Dibenz(a,j)acridine	0.889	0.924	7.790	7.5	4
Indeno(1,2,3-cd)pyrene	1.234	1.329	8.080	7.5	8
Dibenz(a,h)anthracene	1.026	1.091	7.970	7.5	6
Benzo(g,h,i)perylene	1.010	1.099	8.170	7.5	9
Total PAHs	1.099	1.112	134.590	135.0	0
2-Fluorophenol	1.551	1.557	15.050	15.0	0

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/24/17 Time: 09:32

Lab File ID: de0641.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.105	2.105	15.000	15.0	0
Nitrobenzene-d5	0.518	0.520	15.040	15.0	0
2-Fluorobiphenyl	1.554	1.538	14.840	15.0	-1
2,4,6-Tribromophenol	0.186	0.175	14.130	15.0	-6
Terphenyl-d14	0.734	0.730	14.920	15.0	-1
			Average %Drift:		4

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may05b.b/de0161.d **
/chem/HP19760.i/17may05b.b/de0162.d
/chem/HP19760.i/17may05b.b/de0163.d
/chem/HP19760.i/17may05b.b/de0164.d
/chem/HP19760.i/17may05b.b/de0165.d
/chem/HP19760.i/17may05b.b/de0166.d
/chem/HP19760.i/17may05b.b/de0167.d
/chem/HP19760.i/17may05b.b/de0168.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP19760.i/17may24.b/de0641.d

Area Summary

File ID:

Internal Standard Name	de0641.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	176464	195284	97642	390568	Yes
Naphthalene-d8	655919	747503	373752	1495006	Yes
Acenaphthene-d10	371985	426791	213396	853582	Yes
Phenanthrene-d10	696488	816291	408146	1632582	Yes
Pyrene-d10	834676	993842	496921	1987684	Yes
Perylene-d12	672532	828843	414422	1657686	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	de0641.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	6.488	6.728	No
Naphthalene-d8	8.423	8.657	No
Acenaphthene-d10	11.215	11.449	No
Phenanthrene-d10	13.132	13.337	No
Pyrene-d10	15.044	15.290	No
Perylene-d12	19.462	19.761	No

A "No" indicates the retention time is greater than 10 seconds from the RT of the referenced standard.

Comments: ★ Column Maintenance. KnK 25316 5.24.17

Report generated on 05/24/2017 at 10:04

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0641.d Date Analyzed: 05/24/17

Instrument ID: HP19760 Time Analyzed: 09:32

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	176464	6.488	655919	8.423	371985	11.215
UPPER LIMIT	352928	6.988	1311838	8.923	743970	11.715
LOWER LIMIT	88232	5.988	327960	7.923	185993	10.715
LLI SAMPLE NO.						
01 SBLKWF143	132757	6.488	504547	8.423	275003	11.209
02 143WFLCS	144316	6.494	533680	8.423	295901	11.215
03 SBLKWB143	136865	6.488	518351	8.423	283503	11.209
04 143WBLCS	140908	6.494	524893	8.423	292080	11.215
05 9004649	139751	6.488	530571	8.423	289272	11.209
06 9004650MS	135725	6.494	495179	8.423	272636	11.215
07 9004651MSD	138562	6.494	522462	8.423	292572	11.209
08 9004641	141004	6.488	526840	8.423	294412	11.209
09 9004642	143421	6.488	543798	8.423	293598	11.209
10 9004643	139562	6.488	525967	8.423	293895	11.209
11 9004644	136601	6.488	518784	8.423	280012	11.209
12 9004652	144034	6.488	544922	8.423	298388	11.209
13 STD1107	187155	6.494	683057	8.429	390379	11.215
14 8996725RE	142863	6.488	529632	8.423	294263	11.209
15 8999397	141543	6.488	529084	8.423	295075	11.209
16 9002699	142996	6.488	536088	8.423	291202	11.209
17 9002700	137847	6.488	523470	8.423	284347	11.209

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0641.d Date Analyzed: 05/24/17

Instrument ID: HP19760 Time Analyzed: 09:32

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	696488	13.132	834676	15.044	672532	19.462
UPPER LIMIT	1392976	13.632	1669352	15.544	1345064	19.962
LOWER LIMIT	348244	12.632	417338	14.544	336266	18.962
LLI SAMPLE NO.						
01 SBLKWF143	519248	13.133	596463	15.038	432518	19.462
02 143WFLCS	553368	13.132	664825	15.044	552244	19.468
03 SBLKWB143	532078	13.127	624886	15.038	470677	19.462
04 143WBLCS	522984	13.132	662455	15.044	551133	19.468
05 9004649	544247	13.132	627563	15.038	473007	19.462
06 9004650MS	509392	13.133	627204	15.044	517792	19.468
07 9004651MSD	535108	13.132	661623	15.038	535505	19.462
08 9004641	552993	13.133	628707	15.039	465803	19.462
09 9004642	544488	13.133	642430	15.039	502630	19.462
10 9004643	550486	13.132	629184	15.038	469840	19.462
11 9004644	520168	13.127	609008	15.038	492218	19.462
12 9004652	566517	13.132	648828	15.038	498329	19.462
13 STD1107	729378	13.132	892289	15.044	746461	19.468
14 8996725RE	556759	13.132	635617	15.038	470836	19.462
15 8999397	553868	13.127	632425	15.038	461368	19.462
16 9002699	548670	13.127	625477	15.039	471432	19.463
17 9002700	537009	13.127	620229	15.038	457492	19.462

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0641.d Date Analyzed: 05/24/17

Instrument ID: HP19760 Time Analyzed: 09:32

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	176464	6.488	655919	8.423	371985	11.215
UPPER LIMIT	352928	6.988	1311838	8.923	743970	11.715
LOWER LIMIT	88232	5.988	327960	7.923	185993	10.715
LLI SAMPLE NO.						
18 9006008	139123	6.488	529771	8.423	284909	11.209
19 9006009MS	138876	6.494	519369	8.423	284115	11.215
20 9006010MSD	136598	6.494	511613	8.423	285809	11.215

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0641.d Date Analyzed: 05/24/17

Instrument ID: HP19760 Time Analyzed: 09:32

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	696488	13.132	834676	15.044	672532	19.462
	UPPER LIMIT	1392976	13.632	1669352	15.544	1345064	19.962
	LOWER LIMIT	348244	12.632	417338	14.544	336266	18.962
	LLI SAMPLE NO.						
18	9006008	542258	13.127	624986	15.039	482349	19.462
19	9006009MS	527018	13.133	633182	15.044	536817	19.462
20	9006010MSD	534410	13.132	641722	15.044	523339	19.462

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

14241: SVOAs 8270D MINI Analyte Name	Default MDL	Default LOQ	Units
Nitrobenzene	0.8	10	ug/l
2-Nitroaniline	0.7	10	ug/l
2,6-Dinitrotoluene	0.7	10	ug/l
2,4-Dinitrotoluene	0.6	10	ug/l
Diethylphthalate	0.5	10	ug/l
4-Nitroaniline	1	20	ug/l
bis(2-Ethylhexyl)phthalate	2	6	ug/l

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may24.b/de0660.d
Injection date and time: **24-MAY-2017 18:29**
Data file Sample Info. Line: AE862;9006008;1;0;SAMPLE;;DRRAAP;
Instrument ID: **HP19760.i** Batch: **17143WAF**
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Blank Data file reference: **/chem/HP19760.i/17may24.b/de0642.d**

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 05-JUN-2017 15:09
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may24.b/de0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.488(0.000)	858	152	139123 (-21)	5.00	
65) Naphthalene-d8	8.423(0.000)	1190	136	529771 (-19)	5.00	
113) Acenaphthene-d10	11.209(0.006)	1668	164	284909 (-23)	5.00	
153) Phenanthrene-d10	13.127(0.006)	1997	188	542258 (-22)	5.00	
175) Pyrene-d10	15.039(0.006)	2325	212	624986 (-25)	5.00	
213) Perylene-d12	19.462(0.000)	3084	264	482349 (-28)	5.00	

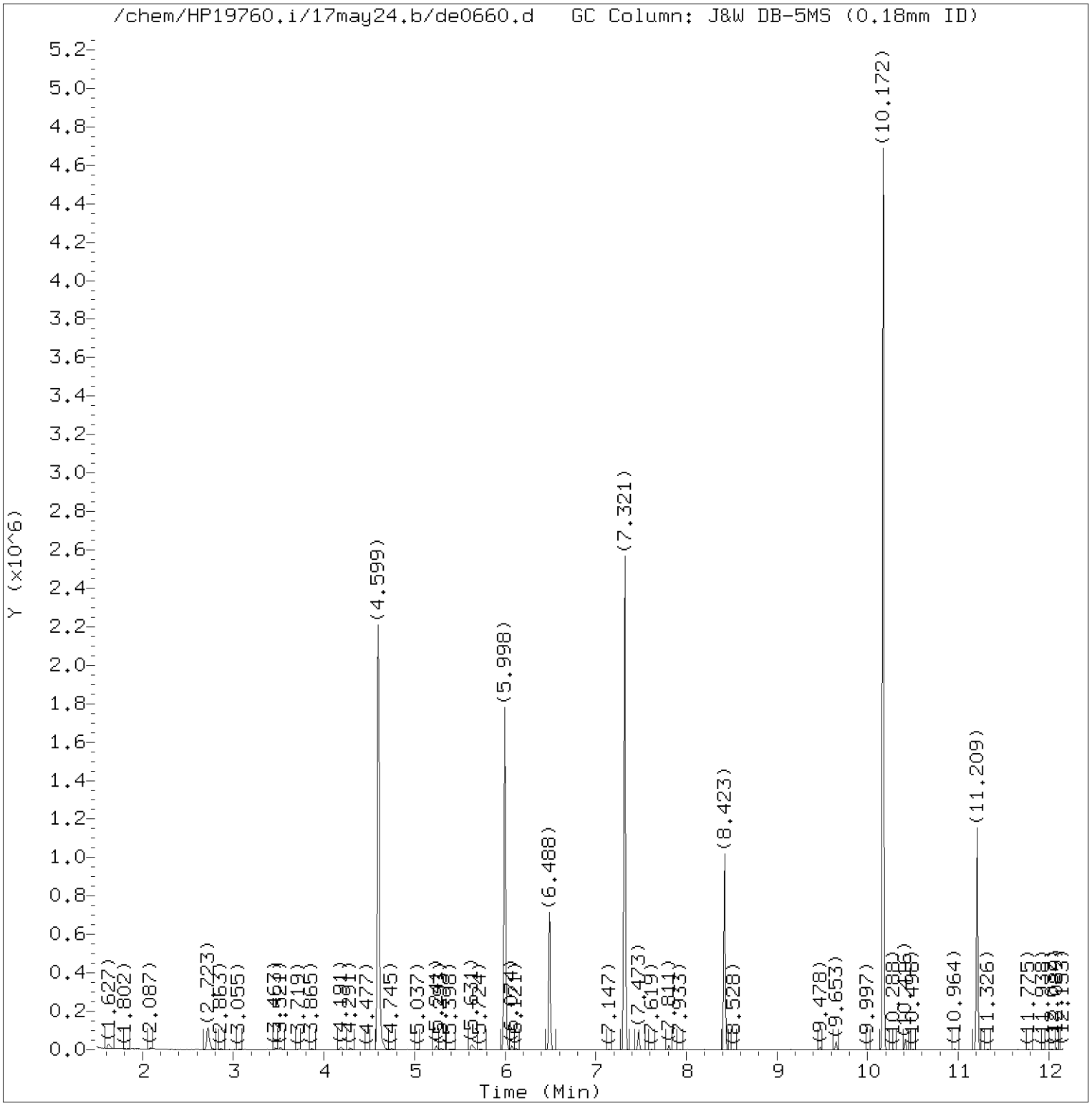
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.321(0.000)	82	1058300	19.276	77%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.172(0.000)	172	1774140	20.033	80%		41 - 112
179) Terphenyl-d14	(5)	15.359(0.000)	244	2001967	21.828	87%		38 - 125

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)			Not Detected					0.2
100) 2-Nitroaniline	(3)			Not Detected					0.2
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.2
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.2
124) Diethylphthalate	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.3
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.4

Total number of targets = 7

Digitally signed by Edward Monborne on 06/05/2017 at 15:10. Target 3.5 esignature user ID: em10340

Secondary review performed and digitally signed by Mark A. Ratcliff on 06/06/2017 at 13:22. PARALLAX ID: mar00486



Total Ion Chromatogram (TIC)

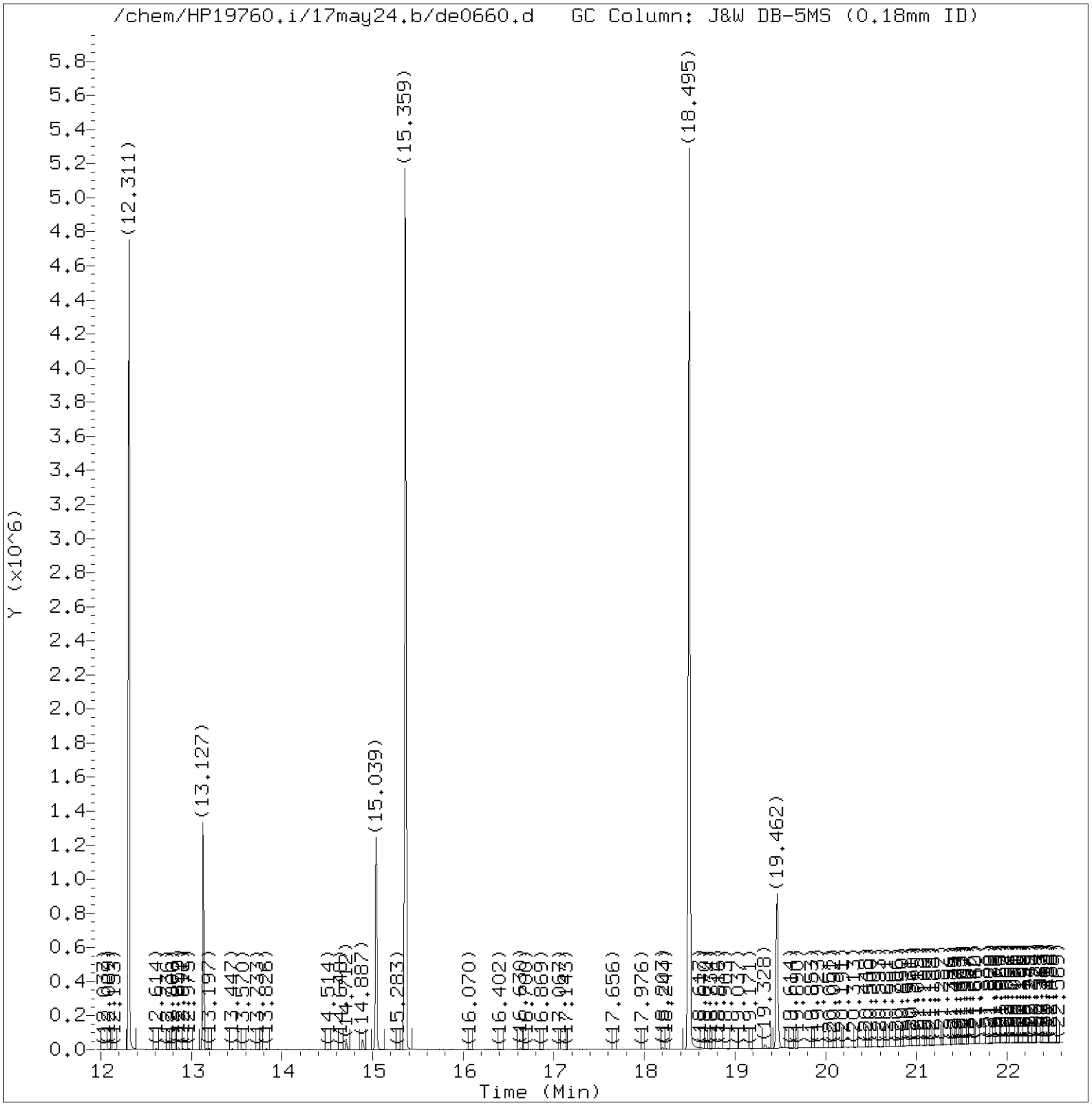
Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0660.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 18:29 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862 Lab Sample ID: 9006008

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0660.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 18:29 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862 Lab Sample ID: 9006008

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0660.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 18:29 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862 Lab Sample ID: 9006008

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.488	152	139123	5.000
44)$Nitrobenzene-d5	(2)	7.321	82	1058300	19.276
65)*Naphthalene-d8	(2)	8.423	136	529771	5.000
93)$2-Fluorobiphenyl	(3)	10.172	172	1774140	20.033
113)*Acenaphthene-d10	(3)	11.209	164	284909	5.000
153)*Phenanthrene-d10	(4)	13.127	188	542258	5.000
175)*Pyrene-d10	(5)	15.039	212	624986	5.000
179)$Terphenyl-d14	(5)	15.359	244	2001967	21.828
213)*Perylene-d12	(6)	19.462	264	482349	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - D:\data\17may05b\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
em10340	DE0160.D	RVDFTPP0877	05/05/2017	17:31		
em10340	DE0160a.D	RVDFTPP0877	05/05/2017	17:51		
em10340	DE0161.D	RVSTD1107	05/05/2017	18:05		
em10340	DE0162.D	RVSTD1107	05/05/2017	18:46		
em10340	DE0163.D	RVSTD1107	05/05/2017	19:14		
em10340	DE0164.D	RVSTD1107	05/05/2017	19:42		
em10340	DE0165.D	RVSTD1107	05/05/2017	20:10		
em10340	DE0166.D	RVSTD1107	05/05/2017	20:37		
em10340	DE0167.D	RVSTD1107	05/05/2017	21:05		
em10340	DE0168.D	RVSTD1107	05/05/2017	21:33		
em10340	DE0169.D	MDLSTD1107	05/05/2017	22:01		
em10340	DE0170.D	PAHMDL1107	05/05/2017	22:28		
em10340	DE0171.D	RVICV1147	05/05/2017	22:56		
em10340	DE0172.D	RVBASICV0637	05/05/2017	23:24		
em10340	DE0173.D	BACID1087	05/05/2017	23:52		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - D:\data\17may24\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	DE0640.D	rvDFTPP1247	05/24/2017	09:18		
ceb05247	DE0641.D	rvSTD1107	05/24/2017	09:32		
ceb05247	DE0642.D	SBLKWF143	05/24/2017	10:12	17143WAF	
ceb05247	DE0643.D	143WFLCS	05/24/2017	10:40	17143WAF	
ceb05247	DE0644.D	SBLKWB143	05/24/2017	11:07	17143WAB	
ceb05247	DE0645.D	143WBLCS	05/24/2017	11:35	17143WAB	
ceb05247	DE0646.D	9004649	05/24/2017	12:03	17143WAB	
ceb05247	DE0647.D	9004650	05/24/2017	12:30	17143WAB	
ceb05247	DE0648.D	9004651	05/24/2017	12:58	17143WAB	
ceb05247	DE0649.D	9004640	05/24/2017	13:26	17143WAB	
ceb05247	DE0650.D	9004641	05/24/2017	13:53	17143WAB	
ceb05247	DE0651.D	9004642	05/24/2017	14:21	17143WAB	
ceb05247	DE0652.D	9004643	05/24/2017	14:49	17143WAB	
ceb05247	DE0653.D	9004644	05/24/2017	15:16	17143WAB	
ceb05247	DE0654.D	9004652	05/24/2017	15:44	17143WAB	
ceb05247	DE0655.D	STD1107	05/24/2017	16:12		
ceb05247	DE0656.D	8996725RE	05/24/2017	16:39	17142WAZ	
ceb05247	DE0657.D	8999397	05/24/2017	17:07	17142WAZ	
ceb05247	DE0658.D	9002699	05/24/2017	17:34	17142WAZ	
ceb05247	DE0659.D	9002700	05/24/2017	18:02	17142WAZ	
ceb05247	DE0660.D	9006008	05/24/2017	18:29	17143WAF	
ceb05247	DE0661.D	9006009	05/24/2017	18:57	17143WAF	
ceb05247	DE0662.D	9006010	05/24/2017	19:25	17143WAF	

Data File: /chem/HP19760.i/17may05b.b/de0160a.d

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5

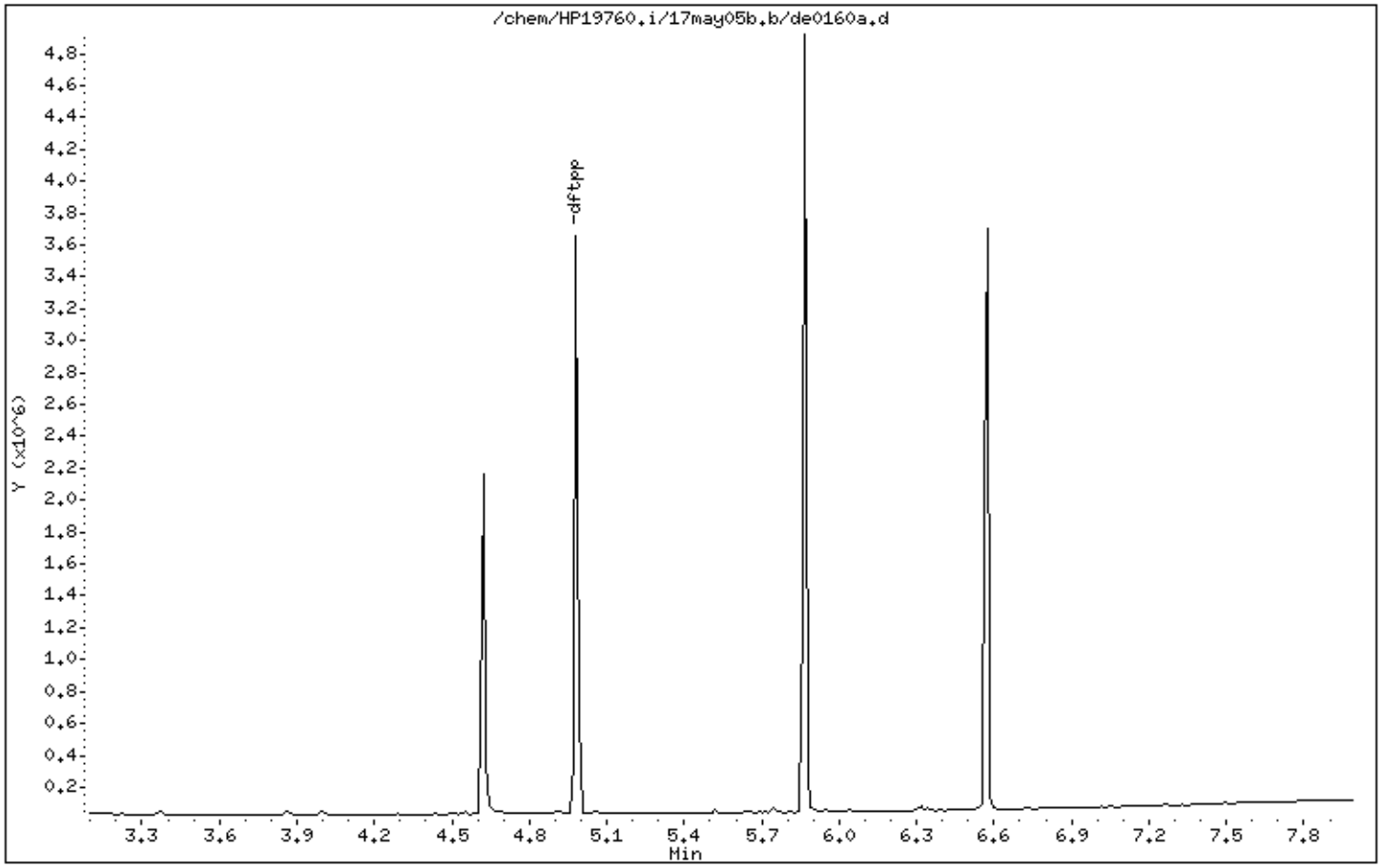
Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP19760.i/17may05b.b/de0160a.d

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5

Instrument: HP19760.i

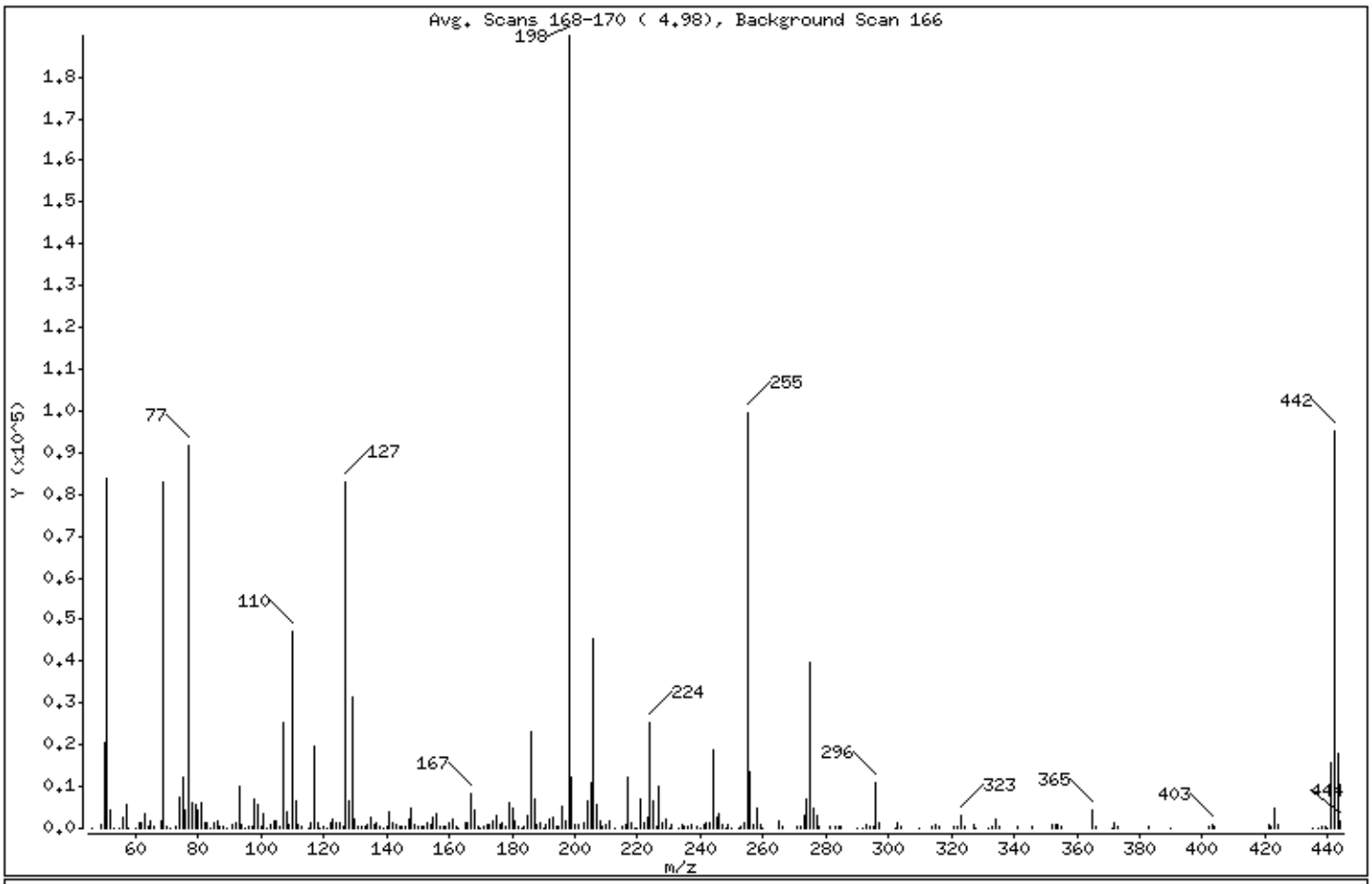
Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	44.24
68	Less than 2.00% of mass 69	0.85 (1.94)
69	Mass 69 relative abundance	43.71
70	Less than 2.00% of mass 69	0.18 (0.42)
127	10.00 - 80.00% of mass 198	43.70
197	Less than 2.00% of mass 198	0.98
199	5.00 - 9.00% of mass 198	6.49
275	10.00 - 60.00% of mass 198	21.01
365	Greater than 1.00% of mass 198	2.21
441	0.01 - 24.00% of mass 442	8.17 (16.31)
442	50.00 - 99.99% of mass 198	50.06
443	15.00 - 24.00% of mass 442	9.32 (18.61)

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS Column diameter: 0.18

Data File: de0160a.d

Spectrum: Avg. Scans 168-170 (4.98), Background Scan 166

Location of Maximum: 198.00

Number of points: 267

m/z	Y	m/z	Y	m/z	Y	m/z	Y
46.00	100	121.00	125	189.00	1482	266.00	395
49.00	759	122.00	1462	190.00	181	271.00	314
50.00	20656	123.00	2397	191.00	675	272.00	315
51.00	84016	124.00	1248	192.00	2045	273.00	2858
52.00	4370	125.00	1221	193.00	2581	274.00	7121
53.00	143	126.00	598	194.00	474	275.00	39896
55.00	127	127.00	83000	195.00	299	276.00	4779
56.00	2436	128.00	6406	196.00	5361	277.00	3184
57.00	5721	129.00	31488	197.00	1857	278.00	466
58.00	74	130.00	2238	198.00	189888	281.00	276
60.00	128	131.00	652	199.00	12328	283.00	318
61.00	1128	132.00	255	200.00	981	284.00	270
62.00	1223	133.00	297	201.00	745	285.00	641
63.00	3461	134.00	961	203.00	1408	290.00	100
64.00	616	135.00	2648	204.00	6633	292.00	137
65.00	1589	136.00	977	205.00	11076	293.00	735
66.00	275	137.00	1366	206.00	45504	294.00	271
68.00	1610	138.00	261	207.00	5595	295.00	357
69.00	83016	139.00	121	208.00	1746	296.00	10958
70.00	349	140.00	276	209.00	587	297.00	1505
71.00	161	141.00	3840	210.00	948	302.00	135
73.00	433	142.00	1295	211.00	1647	303.00	1195
74.00	7469	143.00	1062	213.00	79	304.00	305
75.00	12322	144.00	282	215.00	450	310.00	95
76.00	4517	145.00	310	216.00	957	314.00	533
77.00	91864	146.00	489	217.00	12341	315.00	1088
78.00	6207	147.00	2104	218.00	1493	316.00	520
79.00	5539	148.00	4649	219.00	129	321.00	356
80.00	4289	149.00	1076	220.00	216	322.00	228
81.00	6255	150.00	264	221.00	6794	323.00	3062
82.00	1463	151.00	559	222.00	1441	324.00	609
83.00	1191	152.00	246	223.00	2632	327.00	832
84.00	67	153.00	1481	224.00	25176	328.00	189
85.00	1217	154.00	863	225.00	6607	332.00	213
86.00	1881	155.00	2577	226.00	622	333.00	349

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS Column diameter: 0.18

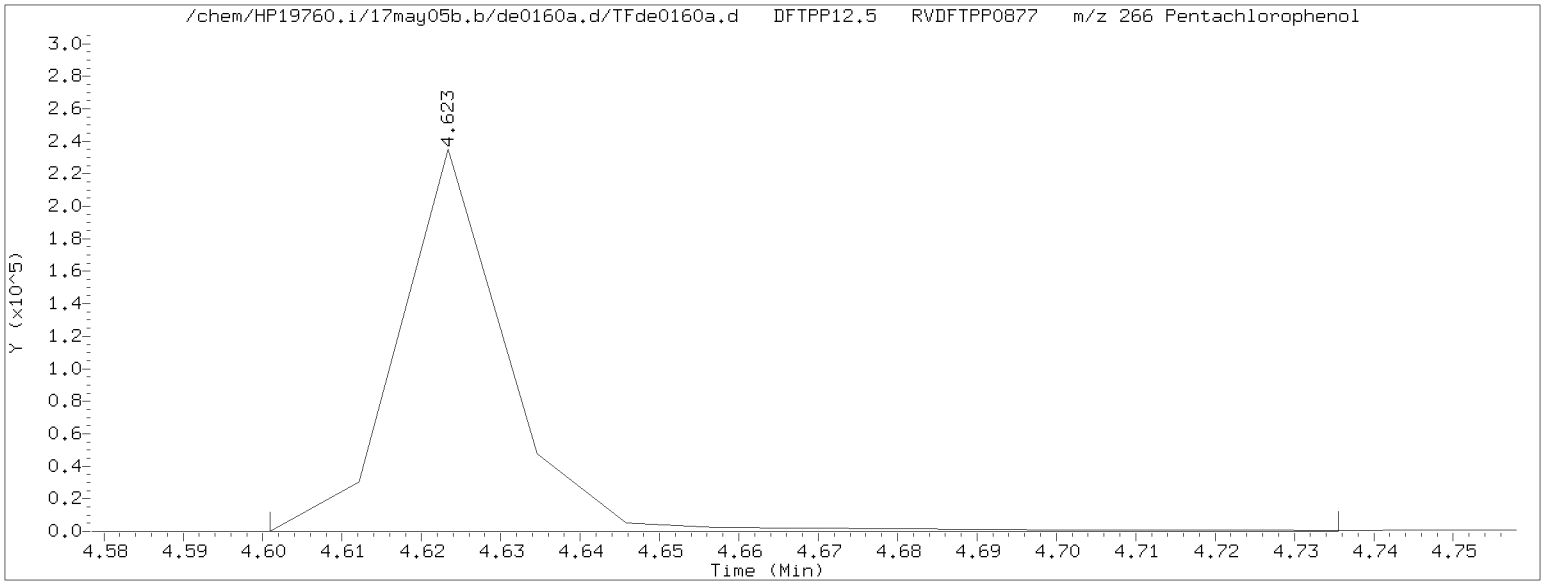
Data File: de0160a.d
Spectrum: Avg. Scans 168-170 (4.98), Background Scan 166
Location of Maximum: 198.00
Number of points: 267

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	493	156.00	3555	227.00	9953	334.00	1995
88.00	252	157.00	489	228.00	1403	335.00	550
89.00	165	158.00	486	229.00	2084	341.00	365
91.00	1077	159.00	367	230.00	211	346.00	485
92.00	1503	160.00	1242	231.00	1009	352.00	789
93.00	9874	161.00	2037	233.00	133	353.00	683
94.00	698	162.00	495	234.00	776	354.00	990
95.00	210	163.00	106	235.00	505	355.00	287
96.00	383	165.00	1299	236.00	384	365.00	4195
97.00	360	166.00	1383	237.00	698	366.00	531
98.00	7113	167.00	8508	239.00	410	371.00	165
99.00	5491	168.00	4225	240.00	208	372.00	1410
100.00	361	169.00	653	241.00	697	373.00	330
101.00	3311	170.00	188	242.00	1254	383.00	356
102.00	156	171.00	603	243.00	1415	390.00	218
103.00	961	172.00	668	244.00	18984	402.00	575
104.00	1774	173.00	916	245.00	2826	403.00	808
105.00	1745	174.00	1732	246.00	3413	404.00	282
106.00	520	175.00	3238	247.00	799	421.00	876
107.00	25424	176.00	682	248.00	147	422.00	640
108.00	3838	177.00	1475	249.00	664	423.00	4827
109.00	815	178.00	472	250.00	85	424.00	984
110.00	47048	179.00	6117	252.00	187	435.00	100
111.00	6739	180.00	4592	253.00	526	437.00	86
112.00	1061	181.00	1930	254.00	1136	438.00	522
113.00	540	182.00	341	255.00	99360	439.00	421
115.00	110	183.00	162	256.00	13378	440.00	192
116.00	1437	184.00	452	257.00	1061	441.00	15509
117.00	19624	185.00	2913	258.00	4965	442.00	95064
118.00	1332	186.00	23256	259.00	672	443.00	17688
119.00	138	187.00	6779	260.00	139	444.00	1633
120.00	278	188.00	677	265.00	1938		

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Assessment of GC Column Performance and Injection Port Inertness for

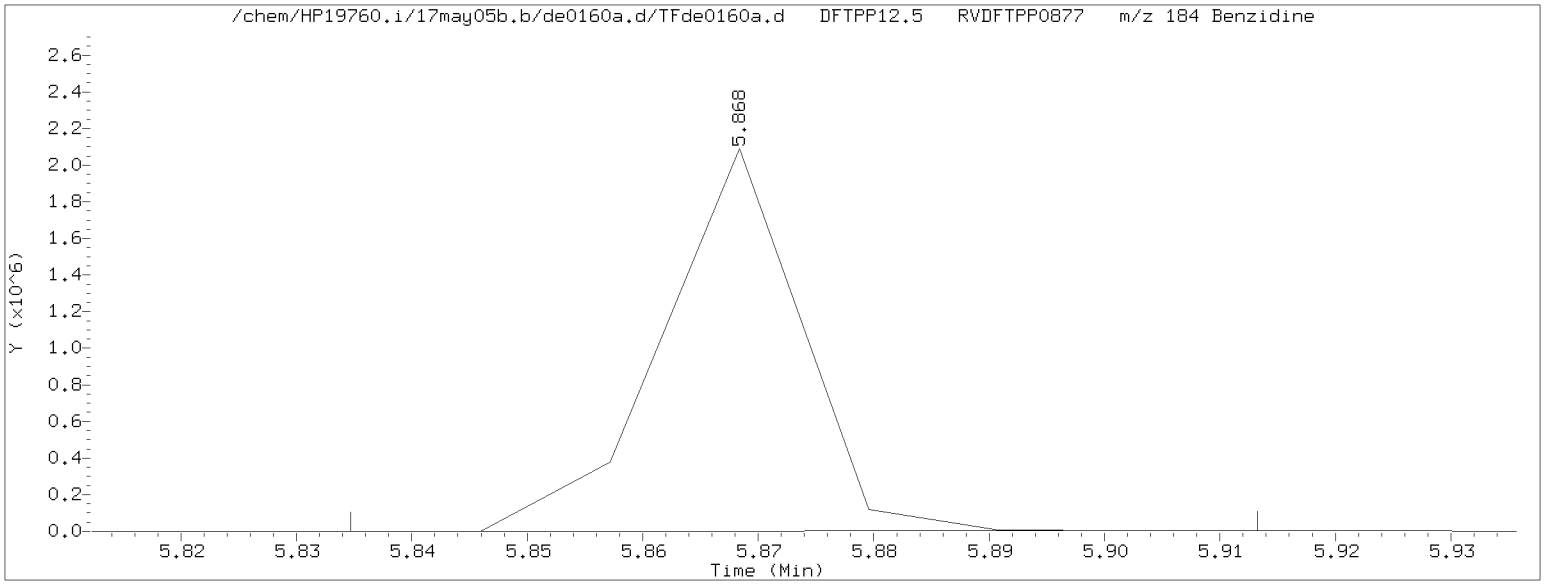
Instrument ID: HP19760.i Injection Date: 05-MAY-2017 17:51 Operator: em10340



Pentachlorophenol EICP peak height = 235200 EICP peak height at 10% = 23520 Pentachlorophenol EICP area = 221109

Pentachlorophenol EICP peak apex (min.) = 4.623
RT at 10% of front half of EICP (min.) = 4.610 'Front' peak width (min.) = 0.0137000000
RT at 10% of back half of EICP (min.) = 4.641 'Tailing' peak width (min.) = 0.0176000000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0176000000}{0.0137000000} = 1.285$$



Benzidine EICP peak height = 2087743 EICP peak height at 5% = 104387 Benzidine EICP area = 1745996

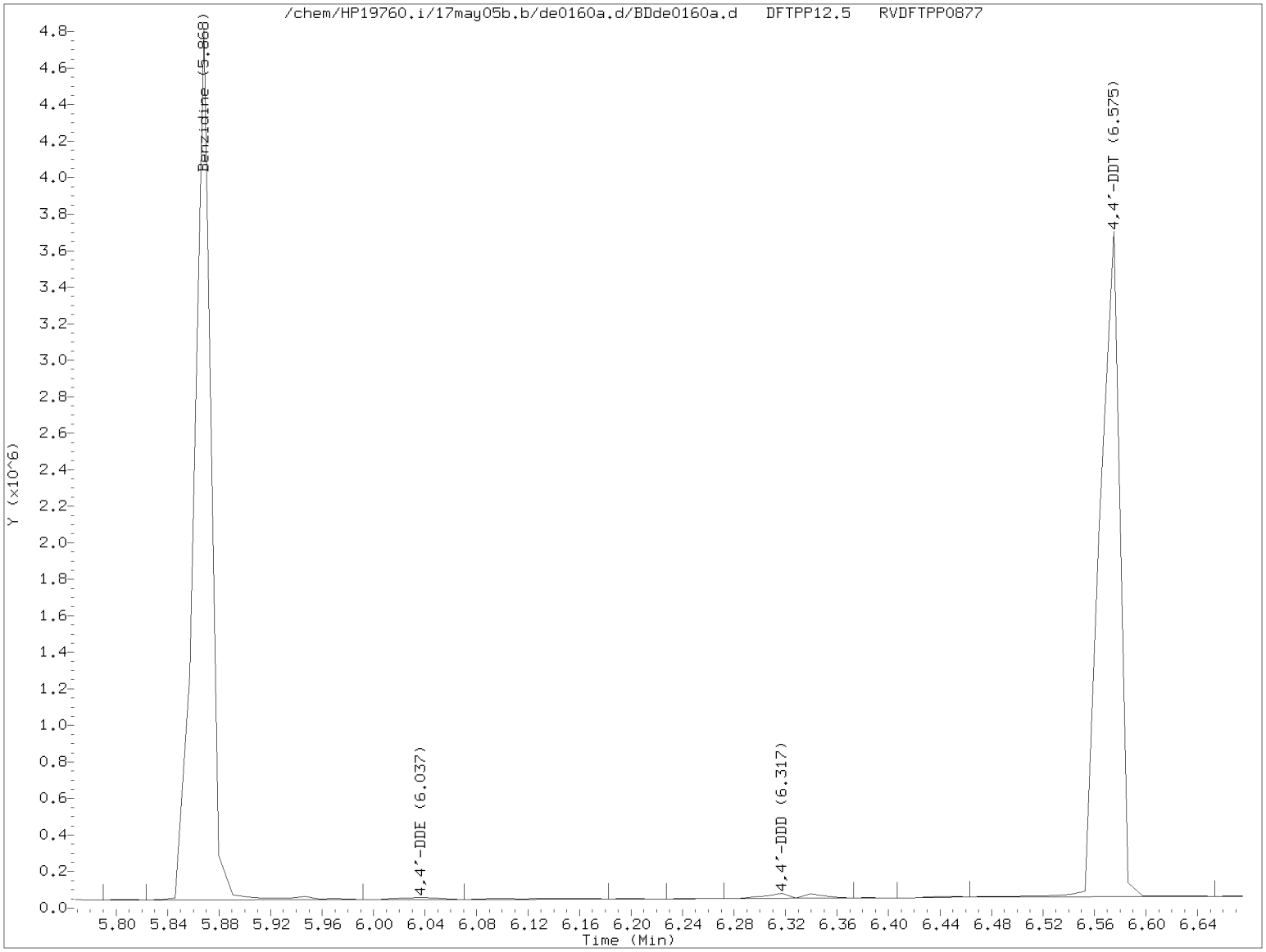
Benzidine EICP peak apex (min.) = 5.868
RT at 5% of front half of EICP (min.) = 5.849 'Front' peak width (min.) = 0.0193333333
RT at 5% of back half of EICP (min.) = 5.881 'Tailing' peak width (min.) = 0.0125666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0125666667}{0.0193333333} = 0.650$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP19760.i Injection Date: 05-MAY-2017 17:51 Operator: em10340

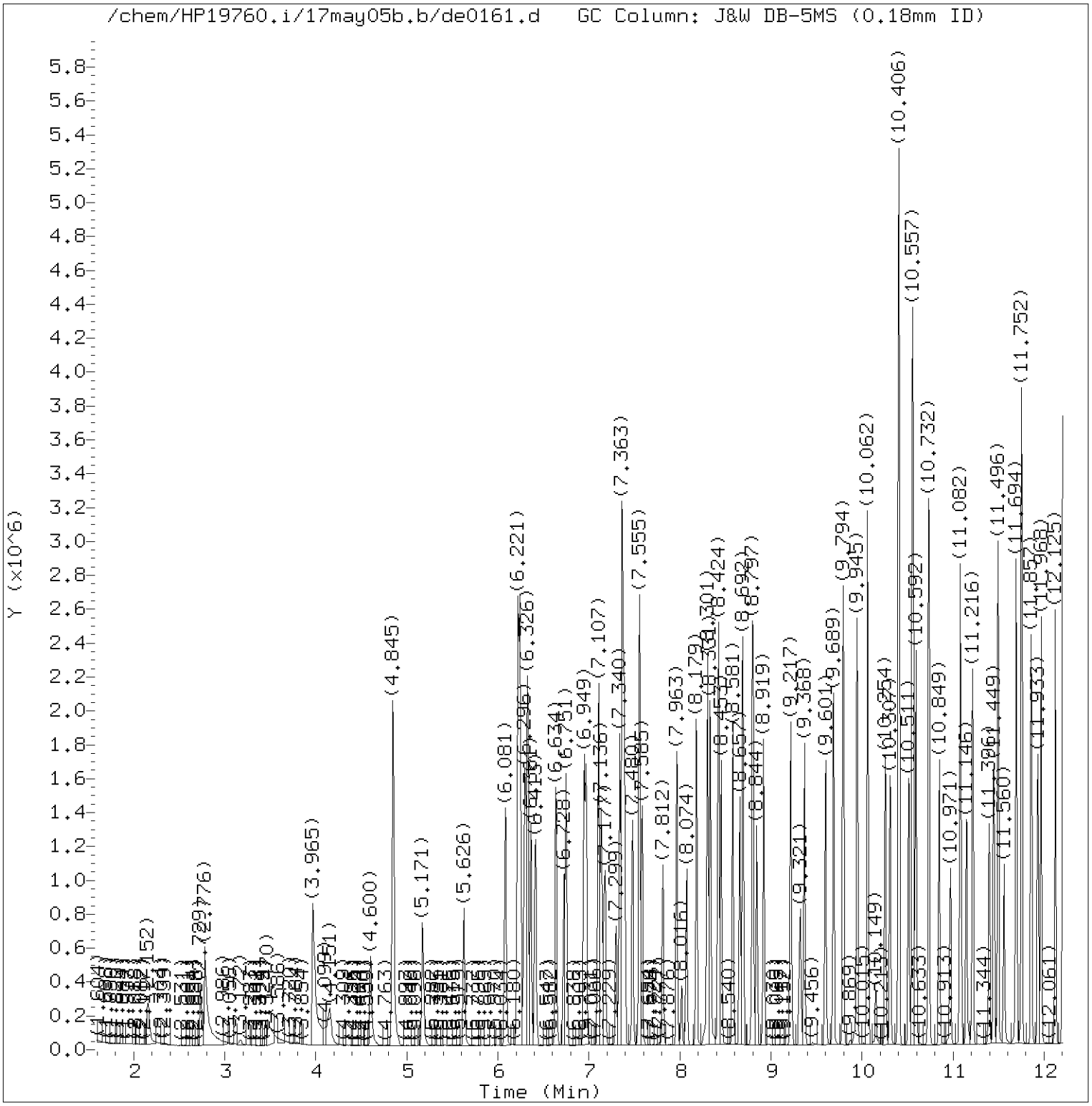


$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{26057 + 63477}{26057 + 63477 + 3924403} \times 100 = 2.2$$

printed on 05/05/2017 at 18:00

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

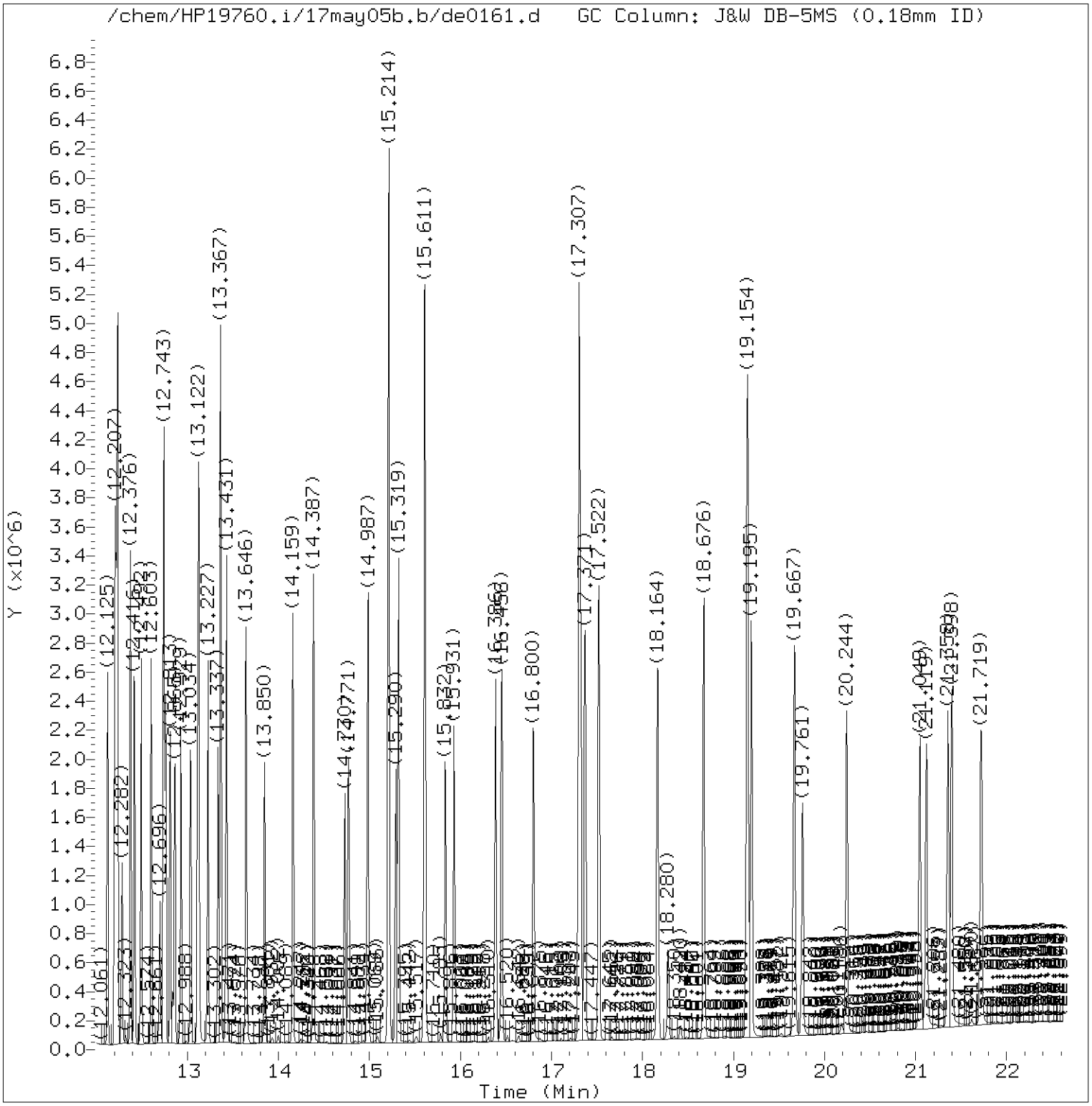
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.158	88	217886M	7.500
4) N-Nitrosodimethylamine	(1)	2.729	74	351990M	7.500
5) Pyridine	(1)	2.776	79	581008M	7.500
7) 2-Picoline	(1)	3.965	93	592704	7.500
8) N-Nitrosomethylethylamine	(1)	4.151	88	253782	7.500
9) Methyl methanesulfonate	(1)	4.600	80	288513	7.500
11)$2-Fluorophenol	(1)	4.845	112	925961	15.000
13) N-Nitrosodiethylamine	(1)	5.171	102	236312	7.500
15) Ethyl methanesulfonate	(1)	5.626	109	249489	7.500
42) Total Cresols	(1)			971287	15.000
16) Benzaldehyde	(1)	6.081	77	472734	7.500
17)$Phenol-d6	(1)	6.221	99	1255041	15.000
18) Phenol	(1)	6.238	94	704193	7.500
19) Aniline	(1)	6.244	93	822826	7.500
20) a-methylstyrene	(1)	6.326	118	526277	7.500
22) bis(2-Chloroethyl)ether	(1)	6.361	93	520371	7.500
23) 2-Chlorophenol	(1)	6.413	128	453306	7.500
24) 1,3-Dichlorobenzene	(1)	6.634	146	496006	7.500
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	195284	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	497540	7.500
27) Benzyl alcohol	(1)	6.949	108	339410	7.500
28) 1,2-Dichlorobenzene	(1)	6.967	146	469963	7.500
30) Indene	(1)	7.107	115	923559	7.500
31) 2-Methylphenol	(1)	7.136	108	454702	7.500
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	780613	7.500
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	780613	7.500
35) N-Nitrosopyrrolidine	(1)	7.299	100	254775	7.500
36) Acetophenone	(1)	7.340	105	702240	7.500
39) N-Nitrosomorpholine	(1)	7.363	56	356052	7.500
38) N-Nitroso-di-n-propylamine	(1)	7.363	70	406577	7.500
37) 4-Methylphenol	(1)	7.369	108	516585	7.500
97) Isosafrole	(3)			375078	7.500
40) o-Toluidine	(1)	7.392	106	799092	7.500
43) Hexachloroethane	(1)	7.480	117	209151	7.500
44)$Nitrobenzene-d5	(2)	7.555	82	1156104	15.000
45) Nitrobenzene	(2)	7.585	77	587009	7.500
48) N-Nitrosopiperidine	(2)	7.812	114	235961	7.500
50) Isophorone	(2)	7.963	82	1008916	7.500
120) 2,4_2,6-Dinitrotoluenes	(3)			479738	15.000
51) 2-Nitrophenol	(2)	8.074	139	230540	7.500

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	494378	7.500
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	235207	7.500
56) Benzoic acid	(2)	8.331	105	424547	10.000
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	641209	7.500
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	752900	7.500
60) 2,4-Dichlorophenol	(2)	8.453	162	376601	7.500
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	424687	7.500
65)*Naphthalene-d8	(2)	8.657	136	747503	5.000
66) Naphthalene	(2)	8.692	128	1283271	7.500
146) Diallate trans/cis	(4)			465353	7.500
67) 4-Chloroaniline	(2)	8.797	127	537120	7.500
68) 2,6-Dichlorophenol	(2)	8.803	162	364471	7.500
69) Hexachloropropene	(2)	8.844	213	286948	7.500
71) Hexachlorobutadiene	(2)	8.919	225	250390	7.500
75) Quinoline	(2)	9.217	129	832154	7.500
76) Caprolactam	(2)	9.321	113	115823	7.500
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	385201	7.500
80) 4-Chloro-3-methylphenol	(2)	9.601	107	422395	7.500
82) Safrole	(2)	9.689	162	335163	7.500
83) 2-Methylnaphthalene	(2)	9.794	142	858017	7.500
84) 1-Methylnaphthalene	(2)	9.945	142	784341	7.500
85) Hexachlorocyclopentadiene	(3)	10.062	237	219272	7.500
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	444966	7.500
88) cis-Isosafrole	(3)	10.155	162	60338	1.275
90) 2,4,6-Trichlorophenol	(3)	10.254	196	282174	7.500
92) 2,4,5-Trichlorophenol	(3)	10.307	196	304073	7.500
93)$2-Fluorobiphenyl	(3)	10.406	172	1962969	15.000
94) trans-Isosafrole	(3)	10.516	162	314740	6.225
95) 1,1'-Biphenyl	(3)	10.551	154	981544	7.500
96) 2-Chloronaphthalene	(3)	10.563	162	768784	7.500
98) 1-Chloronaphthalene	(3)	10.592	162	778615	7.500
99) Diphenyl ether	(3)	10.732	170	543313	7.500
100) 2-Nitroaniline	(3)	10.738	138	248042	7.500
104) 1,4-Naphthoquinone	(3)	10.849	158	342423	7.500
105) 1,4-Dinitrobenzene	(3)	10.971	168	132431	7.500
106) Dimethylphthalate	(3)	11.082	163	929320	7.500
107) 1,3-Dinitrobenzene	(3)	11.088	168	144357	7.500
108) 2,6-Dinitrotoluene	(3)	11.152	165	203204	7.500
109) Acenaphthylene	(3)	11.216	152	1168618	7.500
112) 3-Nitroaniline	(3)	11.396	138	212437	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	426791	5.000
114) Acenaphthene	(3)	11.496	153	839098	7.500
115) 2,4-Dinitrophenol	(3)	11.560	184	145785	10.000
117) Pentachlorobenzene	(3)	11.694	250	361369	7.500
116) 4-Nitrophenol	(3)	11.694	109	151517	7.500
119) Dibenzofuran	(3)	11.752	168	1139432	7.500
118) 2,4-Dinitrotoluene	(3)	11.758	165	276534	7.500
121) 1-Naphthylamine	(3)	11.857	143	820074	7.500
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	227826	7.500
123) 2-Naphthylamine	(3)	11.968	143	819134	7.500
124) Diethylphthalate	(3)	12.125	149	908026	7.500
126) Fluorene	(3)	12.207	166	911177	7.500
125) Thionazin	(3)	12.218	107	181337	7.500
128) 5-Nitro-o-toluidine	(3)	12.230	152	253188	7.500
129) 4-Nitroaniline	(3)	12.236	138	215302	7.500
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	454709	7.500
130) 4,6-Dinitro-2-methylphenol	(4)	12.282	198	159859	7.500
131) N-Nitrosodiphenylamine	(4)	12.376	169	762708	7.500
132) NDPA as diphenylamine	(4)	12.376	169	762708	7.500
134) 1,2-Diphenylhydrazine	(4)	12.416	77	1086178	7.500
135)$2,4,6-Tribromophenol	(3)	12.492	330	237139	15.000
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	179986	7.500
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	103032	7.500
140) Diallate (peak 1)	(4)	12.737	86	399692	6.225
141) Phorate	(4)	12.743	75	711822	7.500
142) Phenacetin	(4)	12.760	108	528458	7.500
143) 4-Bromophenyl-phenylether	(4)	12.813	248	258788	7.500
144) Diallate (peak 2)	(4)	12.836	86	65661	1.275
145) Hexachlorobenzene	(4)	12.865	284	268625	7.500
147) Dimethoate	(4)	12.929	87	471557	7.500
148) Atrazine	(4)	13.040	200	242535	7.500
149) Pentachlorophenol	(4)	13.110	266	156770	7.500
150) 4-Aminobiphenyl	(4)	13.122	169	858439	7.500
151) Pentachloronitrobenzene	(4)	13.128	237	121505	7.500
152) Pronamide	(4)	13.227	173	448991	7.500
153)*Phenanthrene-d10	(4)	13.337	188	816291	5.000
154) Dinoseb	(4)	13.367	211	259031	7.500
155) Phenanthrene	(4)	13.367	178	1345932	7.500
157) Anthracene	(4)	13.431	178	1369933	7.500
163) Carbazole	(4)	13.646	167	1289182	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

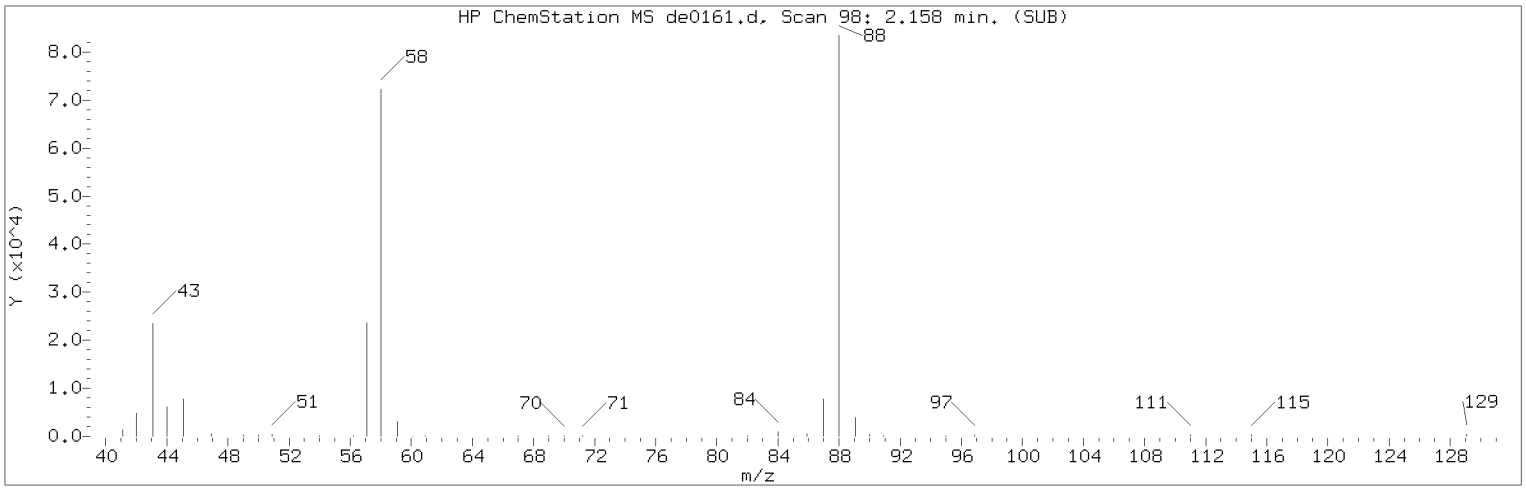
Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	361464	7.500
165) Di-n-butylphthalate	(4)	14.159	149	1632237	7.500
168) 4-Nitroquinoline-1-oxide	(4)	14.387	190	131959	7.500
167) Parathion	(4)	14.387	109	229411	7.500
169) Octachlorostyrene	(4)	14.730	308	103162	7.500
171) Isodrin	(4)	14.771	193	162581	7.500
173) Fluoranthene	(4)	14.987	202	1587811	7.500
222) Total PAHs	(6)			23931170	135.000
174) Benzidine	(5)	15.214	184	3075818	22.500
175)*Pyrene-d10	(5)	15.290	212	993842	5.000
177) Pyrene	(5)	15.319	202	1639475	7.500
179)$Terphenyl-d14	(5)	15.611	244	2197508	15.000
182) p-Dimethylaminoazobenzene	(5)	15.838	225	275422	7.500
185) Chlorobenzilate	(5)	15.931	139	496663	7.500
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	1152796	7.500
188) Butylbenzylphthalate	(5)	16.456	149	758553	7.500
191) 2-Acetylaminofluorene	(5)	16.800	181	692458	7.500
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	622168	7.500
195) Benzo(a)anthracene	(5)	17.307	228	1607390	7.500
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	328245	7.500
196) Chrysene	(5)	17.371	228	1499167	7.500
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1136783	7.500
203) 6-Methylchrysene	(5)	18.169	242	1100348	7.500
205) Di-n-octylphthalate	(6)	18.676	149	2079814	7.500
206) Benzo(b)fluoranthene	(6)	19.149	252	1654288	7.500
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	696349	7.500
208) Benzo(k)fluoranthene	(6)	19.195	252	1611697	7.500
211) Benzo(a)pyrene	(6)	19.667	252	1565551	7.500
213)*Perylene-d12	(6)	19.761	264	828843	5.000
215) 3-Methylcholanthrene	(6)	20.244	268	701224	7.500
217) Dibenz(a,h)acridine	(6)	21.049	279	1165593	7.500
218) Dibenz(a,j)acridine	(6)	21.119	279	1140517	7.500
219) Indeno(1,2,3-cd)pyrene	(6)	21.358	276	1589797	7.500
220) Dibenz(a,h)anthracene	(6)	21.398	278	1328454	7.500
221) Benzo(g,h,i)perylene	(6)	21.725	276	1287153	7.500

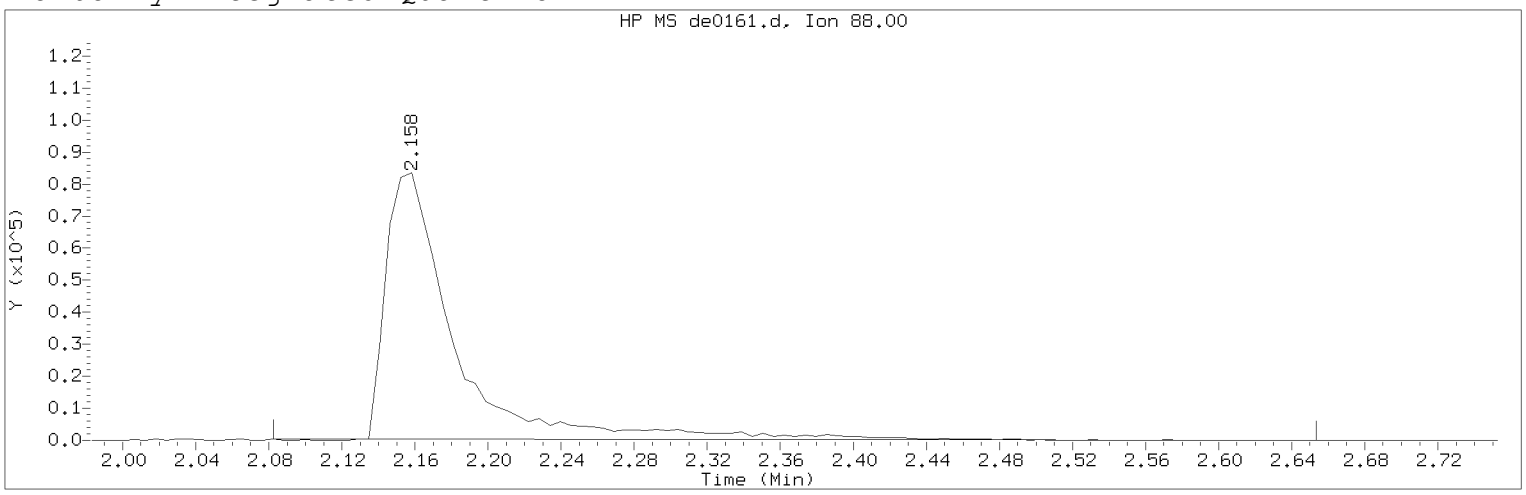
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

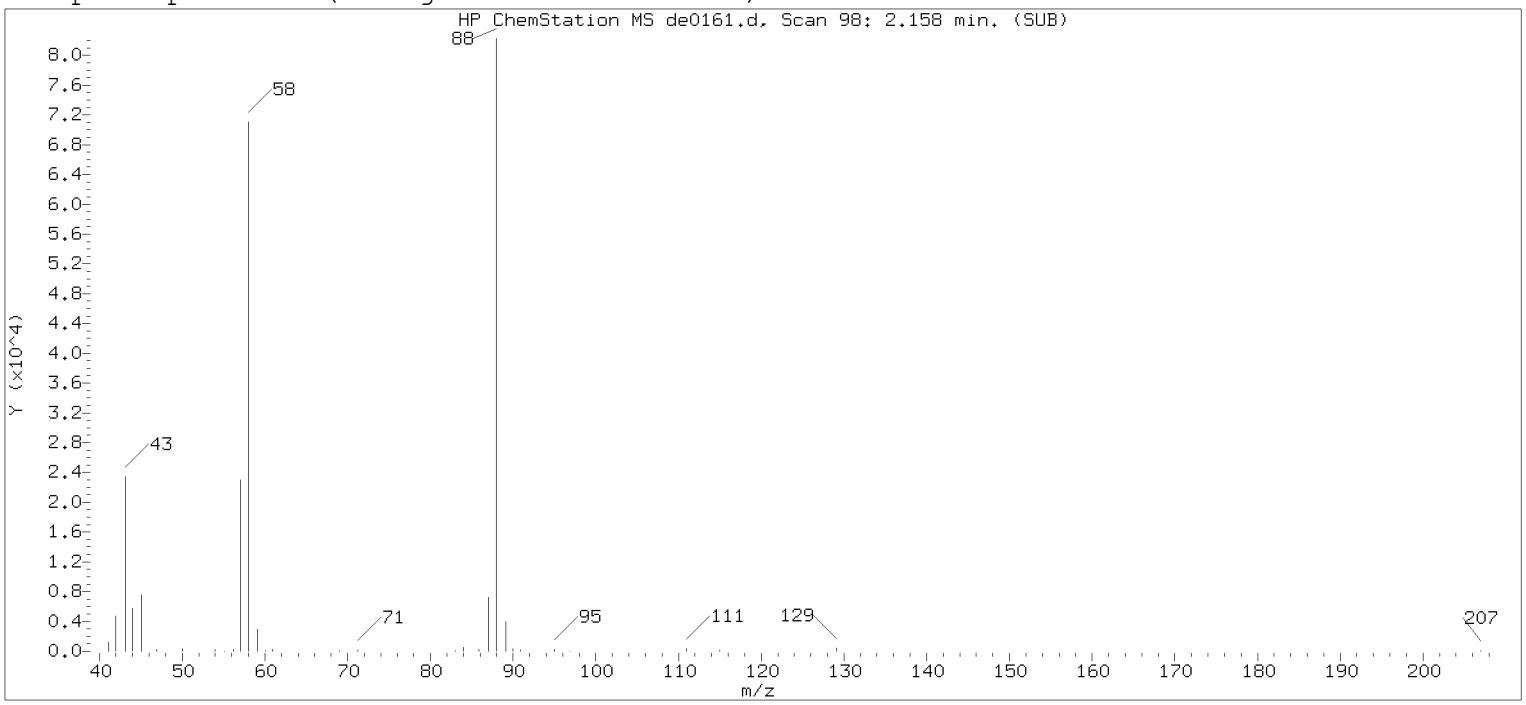
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 98
Retention Time (minutes) : 2.158
Quant Ion : 88.00
Area (flag) : 217886M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 84 Integration stop scan: 182
Y at integration start : 322 Y at integration end: 0

Reason for manual integration: improper integration

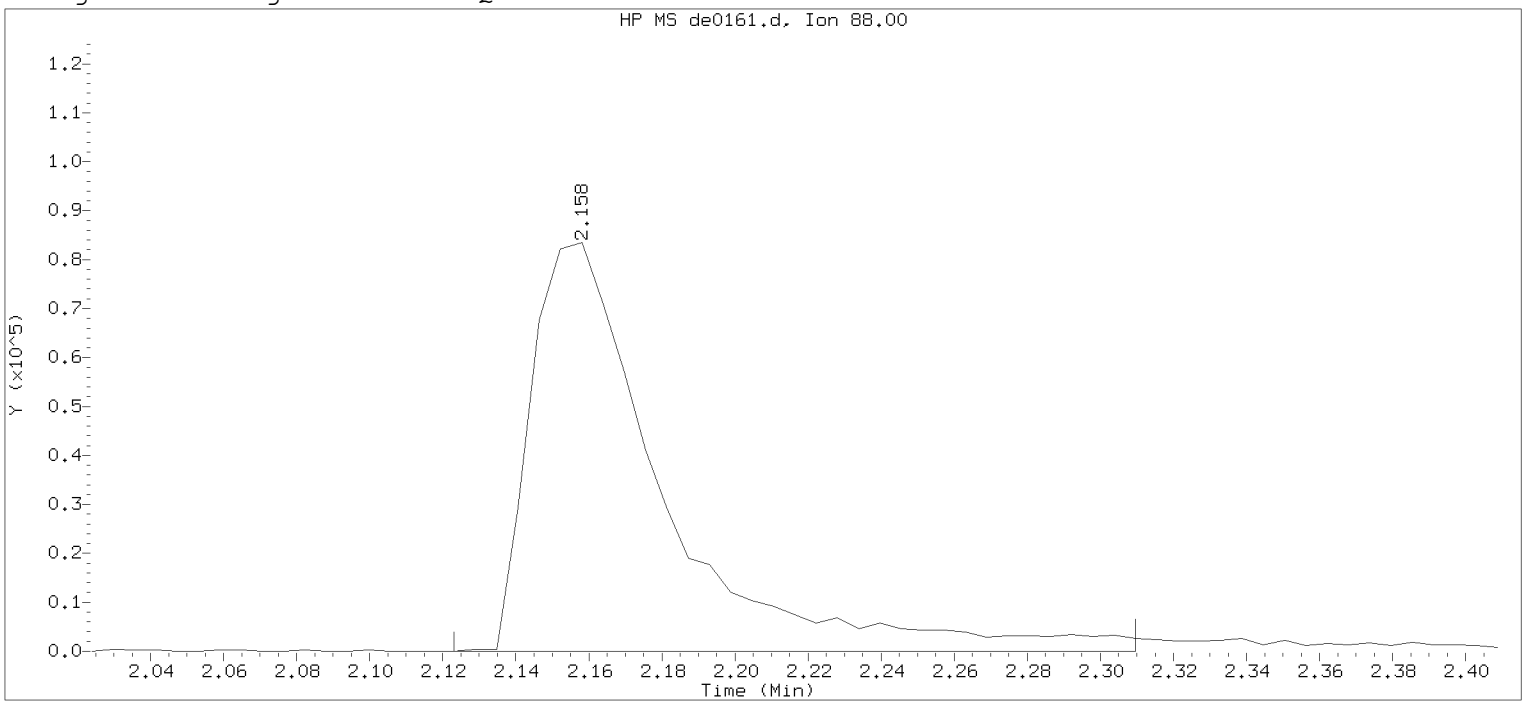
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

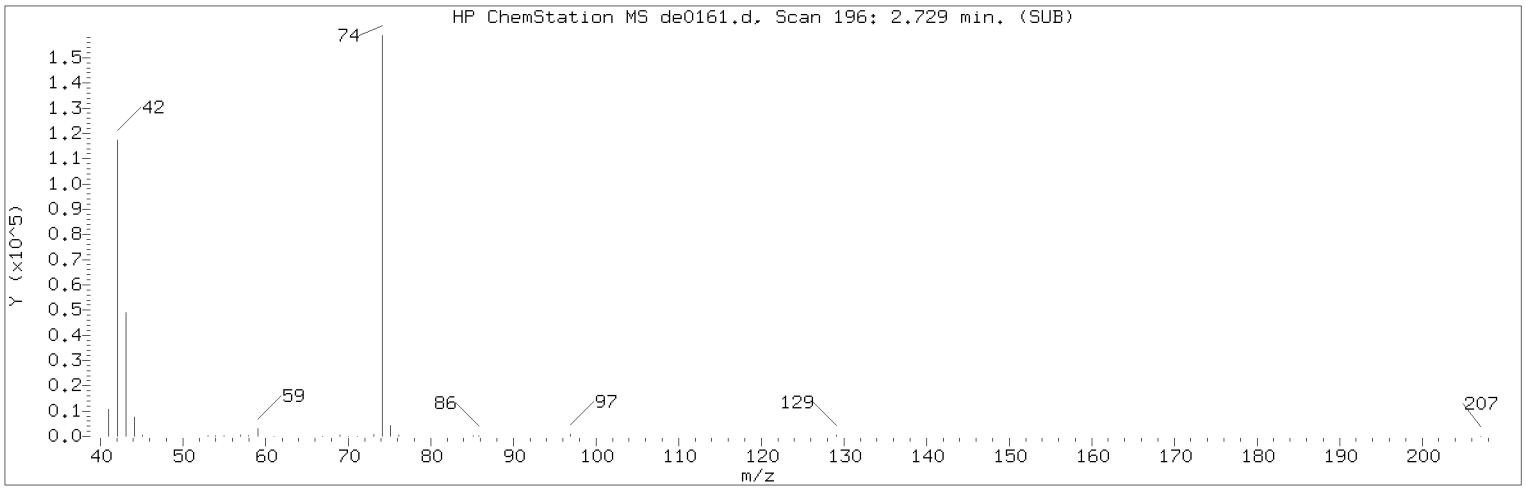
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

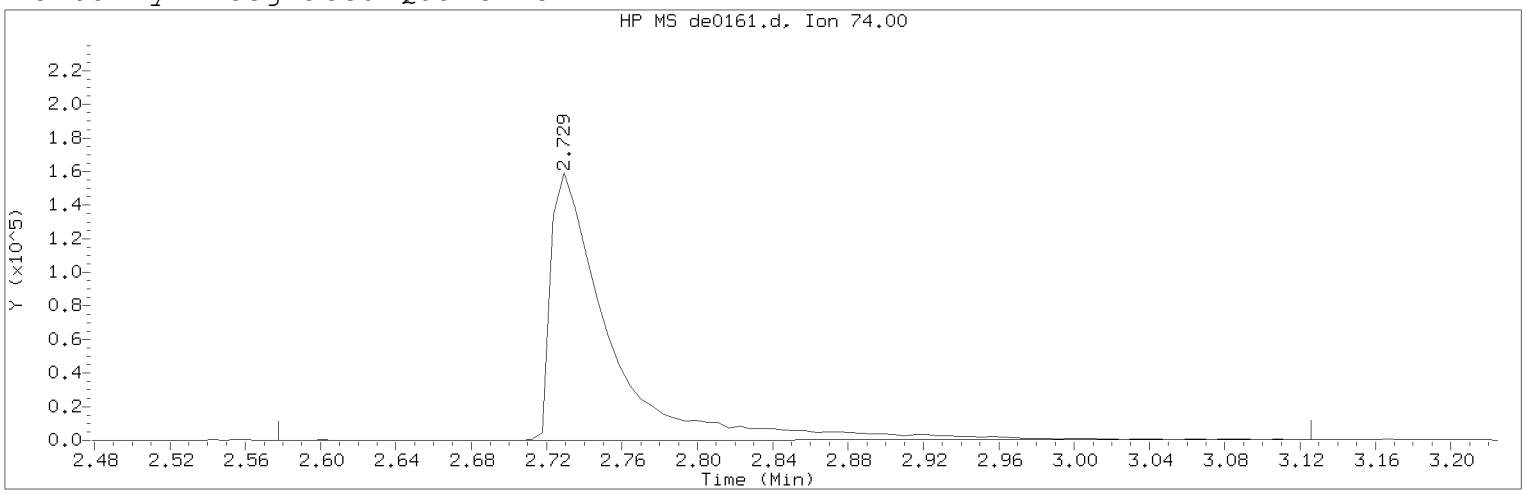
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 98		
Retention Time (minutes)	: 2.158		
Quant Ion	: 88.00		
Area	: 210118		
On-column Amount (ng/ul)	: 7.0164		
Integration start scan	: 91	Integration stop scan:	123
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bsmith0393

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

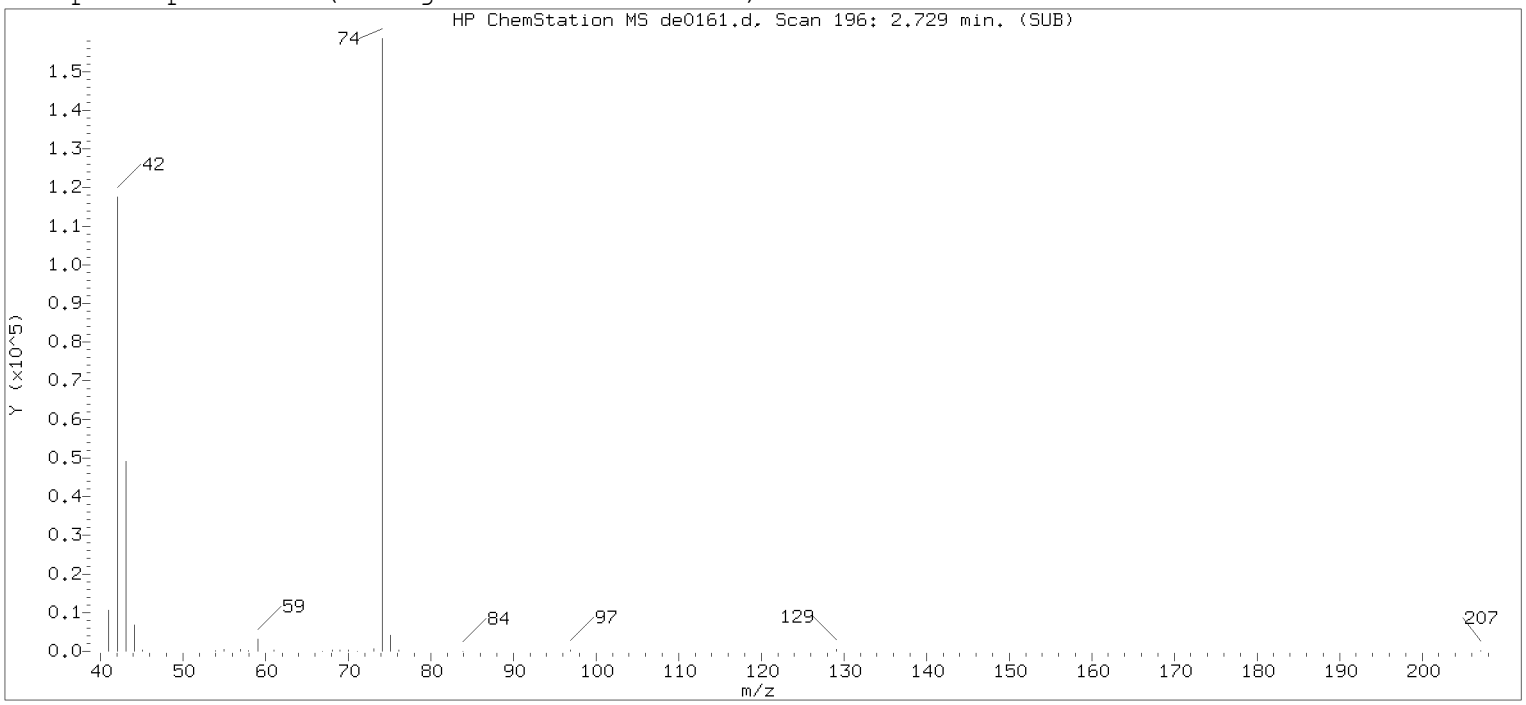
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 196
Retention Time (minutes) : 2.729
Quant Ion : 74.00
Area (flag) : 351990M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 169 Integration stop scan: 263
Y at integration start : 0 Y at integration end: 390

Reason for manual integration: improper integration

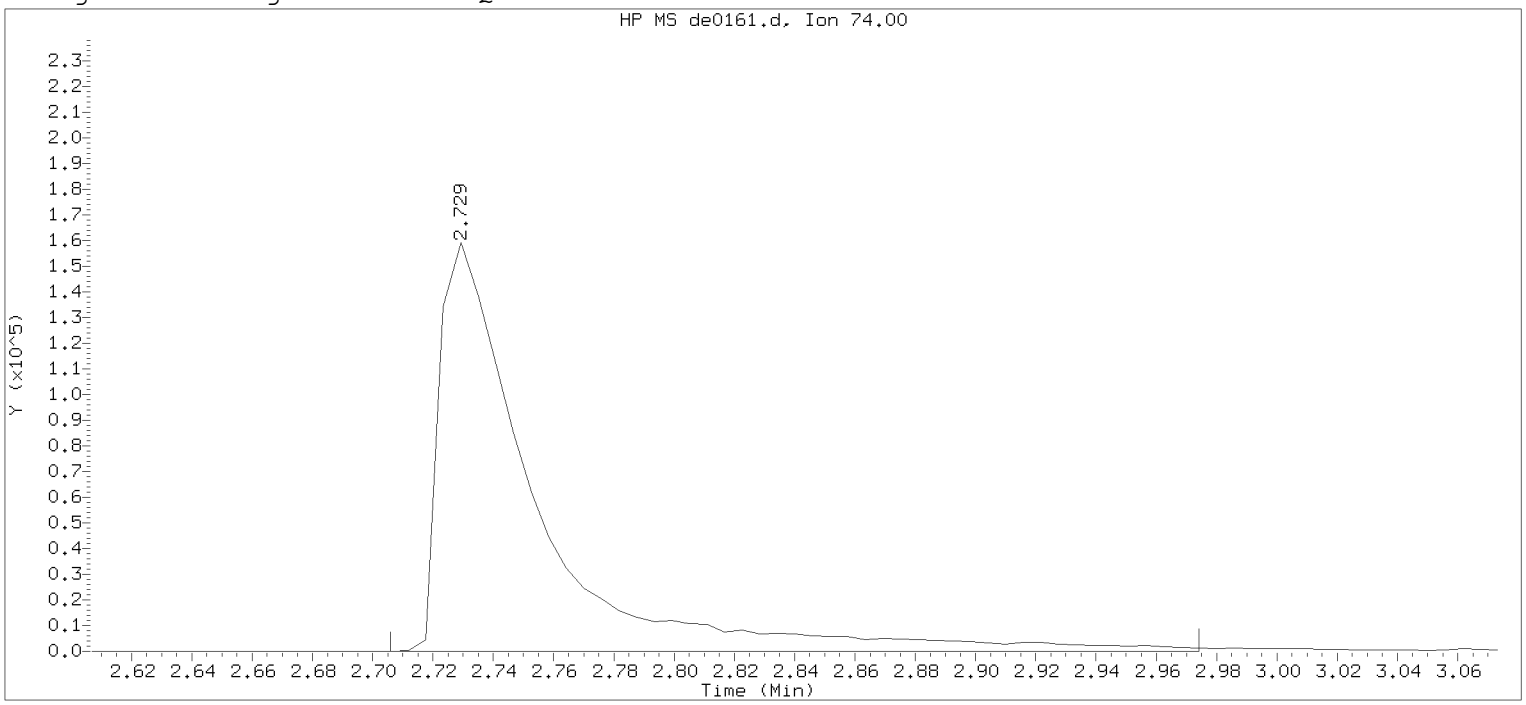
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

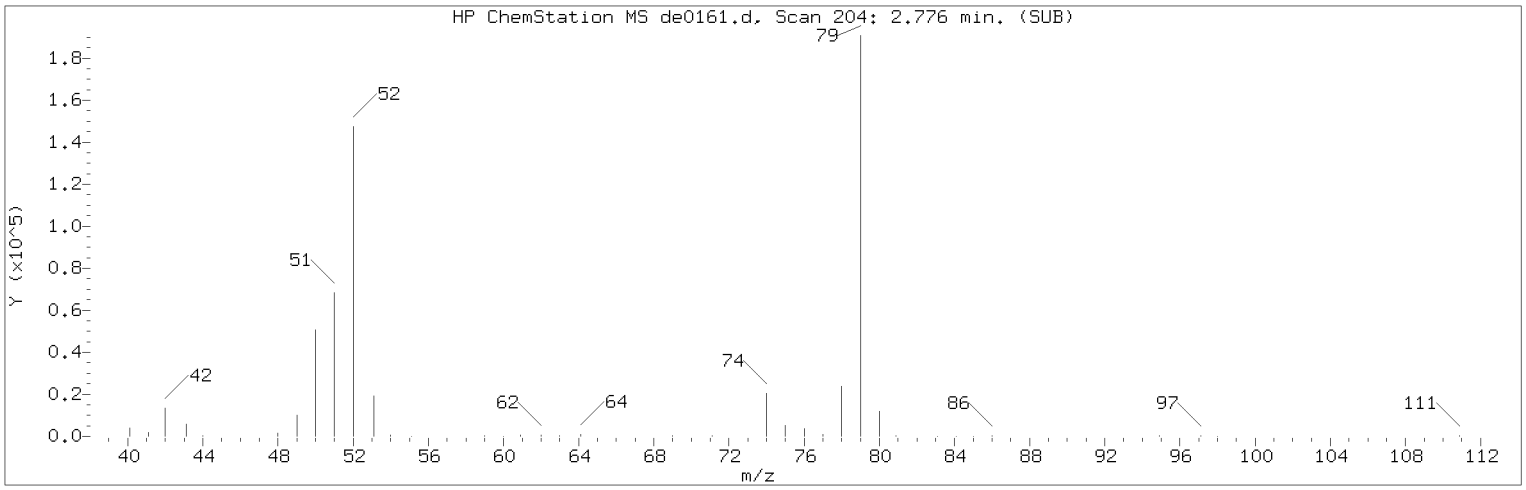
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

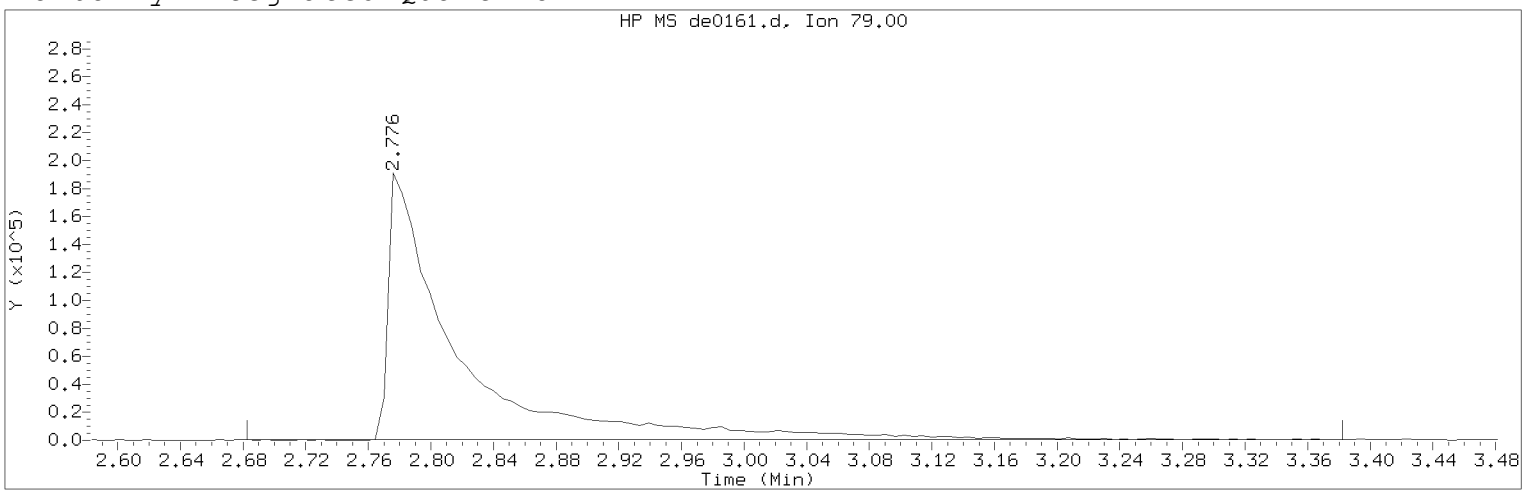
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 196		
Retention Time (minutes)	: 2.729		
Quant Ion	: 74.00		
Area	: 351950		
On-column Amount (ng/ul)	: 7.4087		
Integration start scan	: 191	Integration stop scan:	237
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bsmith0395

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

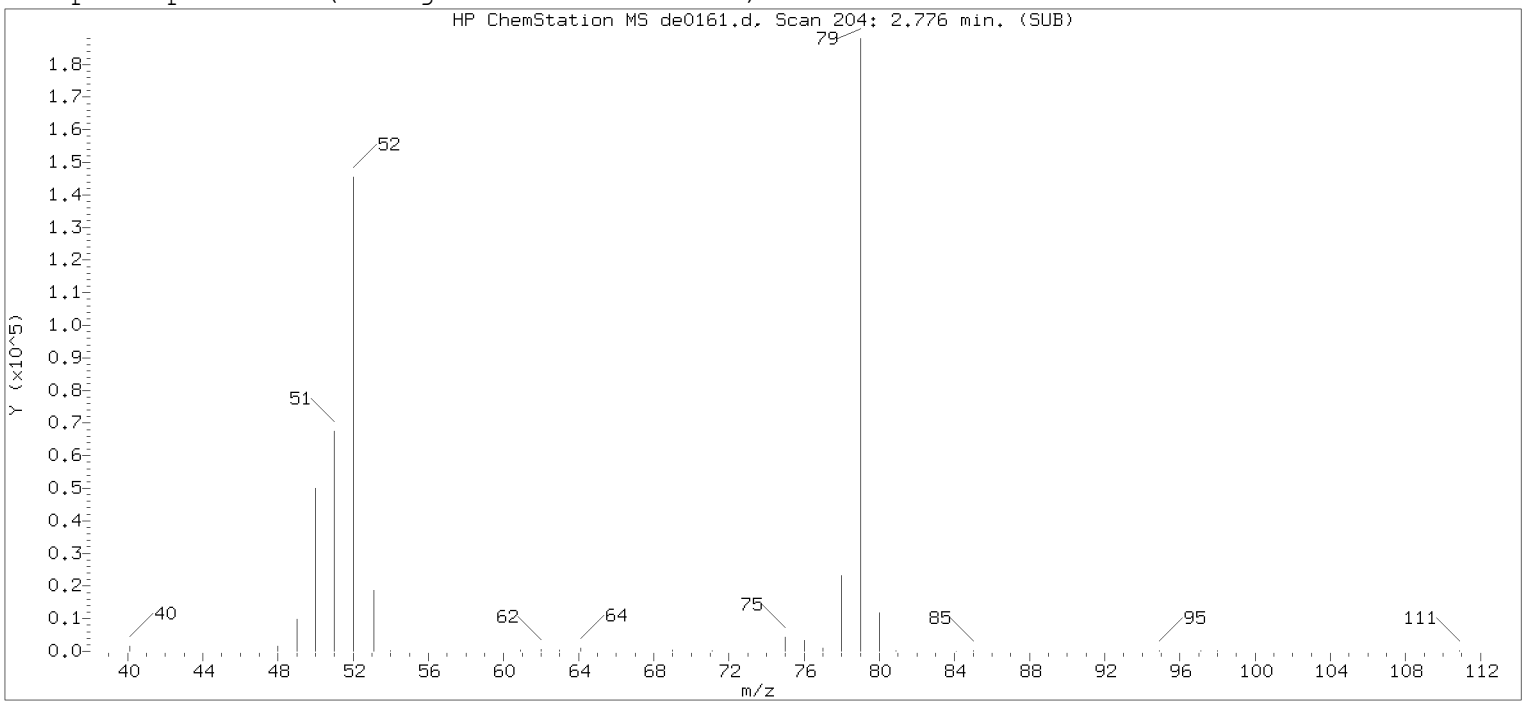
Compound Number : 5
Compound Name : Pyridine
Scan Number : 204
Retention Time (minutes) : 2.776
Quant Ion : 79.00
Area (flag) : 581008M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 187 Integration stop scan: 307
Y at integration start : 390 Y at integration end: 335

Reason for manual integration: improper integration

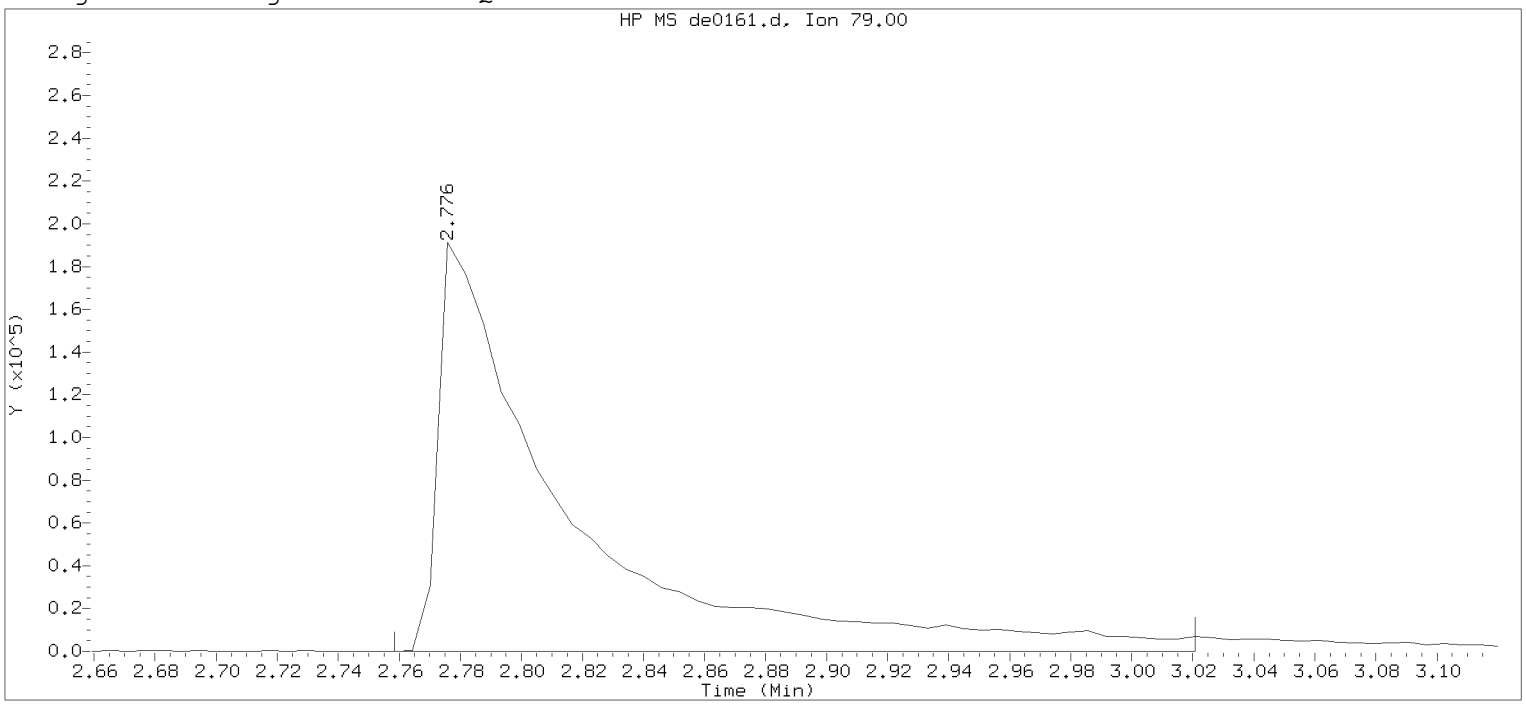
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



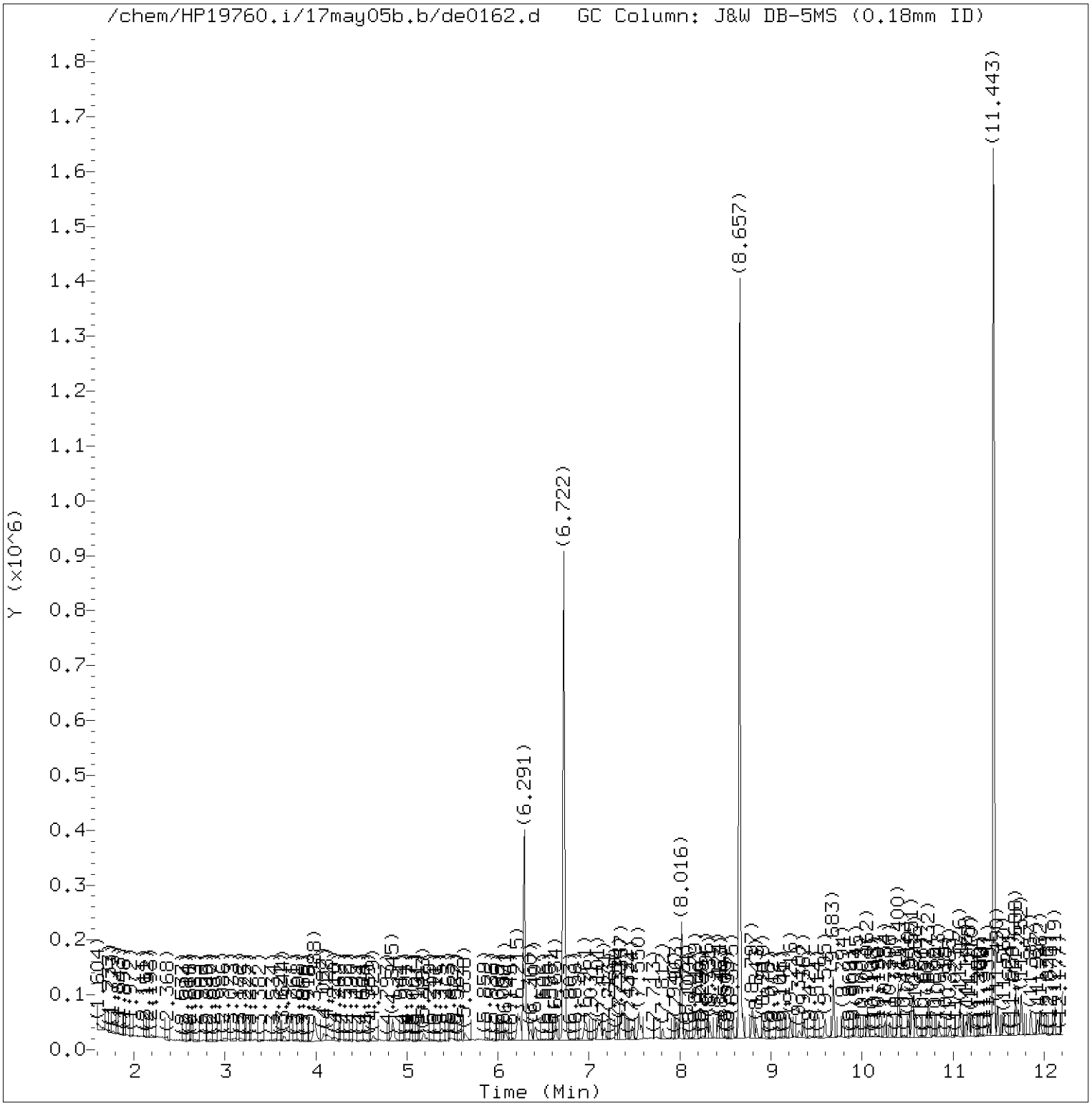
Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 204		
Retention Time (minutes)	: 2.776		
Quant Ion	: 79.00		
Area	: 552604		
On-column Amount (ng/ul)	: 6.8157		
Integration start scan	: 200	Integration stop scan:	245
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhsmith



Total Ion Chromatogram (TIC)

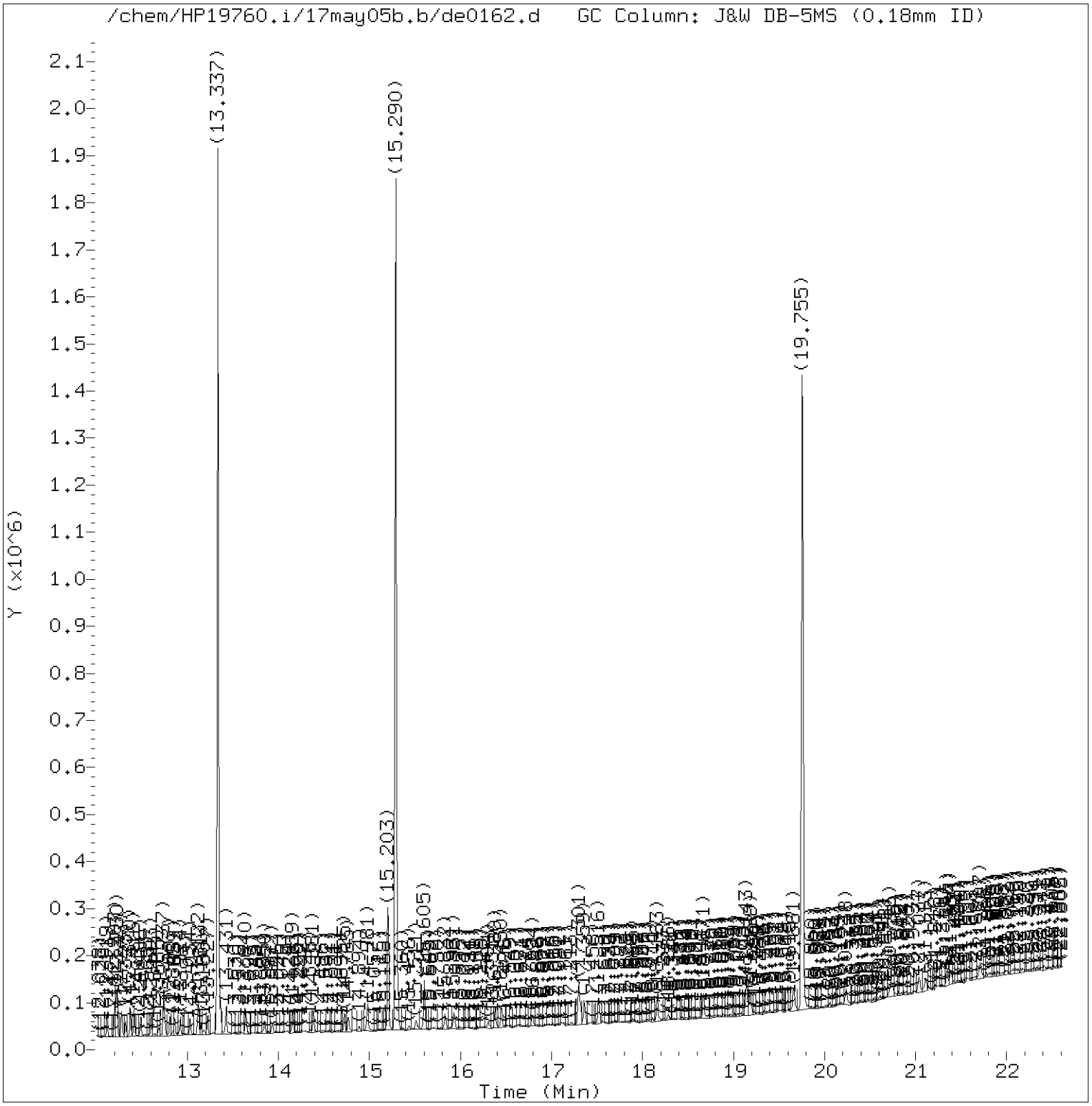
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.199	88	3016	0.110
5) Pyridine	(1)	2.648	79	1109	0.015
4) N-Nitrosodimethylamine	(1)	2.840	74	5014	0.113
7) 2-Picoline	(1)	4.081	93	8644	0.116
9) Methyl methanesulfonate	(1)	4.629	80	5186	0.143
11)$2-Fluorophenol	(1)	4.845	112	16653	0.286
13) N-Nitrosodiethylamine	(1)	5.183	102	3693	0.124
15) Ethyl methanesulfonate	(1)	5.638	109	4606	0.147
42) Total Cresols	(1)			16906	0.276
16) Benzaldehyde	(1)	6.081	77	7179	0.121
17)$Phenol-d6	(1)	6.215	99	21487	0.272
18) Phenol	(1)	6.238	94	13534	0.153
19) Aniline	(1)	6.244	93	15143	0.146
20) a-methylstyrene	(1)	6.325	118	6859	0.104
22) bis(2-Chloroethyl)ether	(1)	6.360	93	9801	0.150
23) 2-Chlorophenol	(1)	6.407	128	8295	0.146
24) 1,3-Dichlorobenzene	(1)	6.634	146	8596	0.138
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	184070	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	9962	0.159
27) Benzyl alcohol	(1)	6.943	108	4617	0.108
28) 1,2-Dichlorobenzene	(1)	6.967	146	8492	0.144
30) Indene	(1)	7.101	115	12234	0.105
31) 2-Methylphenol	(1)	7.130	108	7639	0.134
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.171	45	16087	0.164
34) bis(2-Chloroisopropyl)ether	(1)	7.171	45	16087	0.164
35) N-Nitrosopyrrolidine	(1)	7.299	100	4130	0.129
36) Acetophenone	(1)	7.334	105	10091	0.114
39) N-Nitrosomorpholine	(1)	7.340	56	7472	0.167
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	8785	0.172
37) 4-Methylphenol	(1)	7.363	108	9267	0.143
97) Isosafrole	(3)			6646	0.137
40) o-Toluidine	(1)	7.386	106	15362	0.153
43) Hexachloroethane	(1)	7.480	117	3516	0.134
44)$Nitrobenzene-d5	(2)	7.550	82	21722	0.296
45) Nitrobenzene	(2)	7.579	77	10684	0.143
48) N-Nitrosopiperidine	(2)	7.812	114	3872	0.129
50) Isophorone	(2)	7.963	82	18349	0.143
120) 2,4_2,6-Dinitrotoluenes	(3)			7378	0.242
51) 2-Nitrophenol	(2)	8.074	139	3580	0.122
53) 2,4-Dimethylphenol	(2)	8.179	107	9564	0.152

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	4265	0.143
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	11473	0.141
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	9793	0.102
56) Benzoic acid	(2)	8.424	105	1372	0.034
60) 2,4-Dichlorophenol	(2)	8.453	162	6882	0.144
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	7552	0.140
65)*Naphthalene-d8	(2)	8.657	136	711760	5.000
66) Naphthalene	(2)	8.686	128	24380	0.136
146) Diallate trans/cis	(4)			8949	0.150
67) 4-Chloroaniline	(2)	8.791	127	9976	0.146
68) 2,6-Dichlorophenol	(2)	8.803	162	6624	0.143
69) Hexachloropropene	(2)	8.843	213	5061	0.139
71) Hexachlorobutadiene	(2)	8.919	225	4291	0.135
75) Quinoline	(2)	9.216	129	15903	0.151
76) Caprolactam	(2)	9.304	113	1411	0.096
77) N-Nitrosodi-n-butylamine	(2)	9.362	84	6235	0.127
80) 4-Chloro-3-methylphenol	(2)	9.595	107	7768	0.145
82) Safrole	(2)	9.683	162	5749	0.135
83) 2-Methylnaphthalene	(2)	9.794	142	15389	0.133
84) 1-Methylnaphthalene	(2)	9.945	142	14243	0.133
85) Hexachlorocyclopentadiene	(3)	10.062	237	3096	0.110
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	8623	0.150
88) cis-Isosafrole	(3)	10.149	162	862	0.019
90) 2,4,6-Trichlorophenol	(3)	10.254	196	4908	0.135
92) 2,4,5-Trichlorophenol	(3)	10.306	196	4894	0.125
93)$2-Fluorobiphenyl	(3)	10.400	172	35608	0.282
94) trans-Isosafrole	(3)	10.510	162	5784	0.118
95) 1,1'-Biphenyl	(3)	10.551	154	14813	0.117
96) 2-Chloronaphthalene	(3)	10.557	162	14413	0.146
98) 1-Chloronaphthalene	(3)	10.586	162	13412	0.134
100) 2-Nitroaniline	(3)	10.732	138	4629	0.145
99) Diphenyl ether	(3)	10.732	170	9668	0.138
104) 1,4-Naphthoquinone	(3)	10.843	158	5377	0.122
105) 1,4-Dinitrobenzene	(3)	10.971	168	1773	0.104
106) Dimethylphthalate	(3)	11.076	163	17682	0.148
107) 1,3-Dinitrobenzene	(3)	11.082	168	2509	0.135
108) 2,6-Dinitrotoluene	(3)	11.146	165	3409	0.130
109) Acenaphthylene	(3)	11.216	152	19873	0.128
112) 3-Nitroaniline	(3)	11.391	138	3523	0.129
113)*Acenaphthene-d10	(3)	11.443	164	412178	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
114) Acenaphthene	(3)	11.490	153	14564	0.130
115) 2,4-Dinitrophenol	(3)	11.560	184	5189	0.369
116) 4-Nitrophenol	(3)	11.688	109	8199	0.420
117) Pentachlorobenzene	(3)	11.694	250	6833	0.147
118) 2,4-Dinitrotoluene	(3)	11.752	165	3969	0.111
119) Dibenzofuran	(3)	11.752	168	21528	0.147
121) 1-Naphthylamine	(3)	11.857	143	13904	0.132
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	3900	0.133
123) 2-Naphthylamine	(3)	11.962	143	14594	0.138
124) Diethylphthalate	(3)	12.119	149	16142	0.138
126) Fluorene	(3)	12.201	166	17017	0.134
125) Thionazin	(3)	12.212	107	3694	0.158
128) 5-Nitro-o-toluidine	(3)	12.224	152	4158	0.128
129) 4-Nitroaniline	(3)	12.224	138	3608	0.130
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	8376	0.143
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	6611	0.322
132) NDPA as diphenylamine	(4)	12.376	169	14731	0.150
131) N-Nitrosodiphenylamine	(4)	12.376	169	14731	0.150
134) 1,2-Diphenylhydrazine	(4)	12.416	77	20885	0.150
135)$2,4,6-Tribromophenol	(3)	12.492	330	4292	0.281
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	4070	0.176
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	1457	0.110
140) Diallate (peak 1)	(4)	12.737	86	7556	0.122
141) Phorate	(4)	12.743	75	11488	0.126
142) Phenacetin	(4)	12.749	108	8040	0.118
143) 4-Bromophenyl-phenylether	(4)	12.813	248	4576	0.138
144) Diallate (peak 2)	(4)	12.836	86	1393	0.028
145) Hexachlorobenzene	(4)	12.859	284	5015	0.134
147) Dimethoate	(4)	12.924	87	7924	0.131
148) Atrazine	(4)	13.034	200	4038	0.130
149) Pentachlorophenol	(4)	13.110	266	1279	0.064
150) 4-Aminobiphenyl	(4)	13.122	169	14503	0.132
151) Pentachloronitrobenzene	(4)	13.122	237	1900	0.122
152) Pronamide	(4)	13.227	173	7101	0.123
153)*Phenanthrene-d10	(4)	13.337	188	786368	5.000
155) Phenanthrene	(4)	13.361	178	24668	0.133
154) Dinoseb	(4)	13.366	211	2485	0.075
157) Anthracene	(4)	13.431	178	24167	0.131
163) Carbazole	(4)	13.640	167	22374	0.135
164) Methyl parathion	(4)	13.850	109	5294	0.114

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

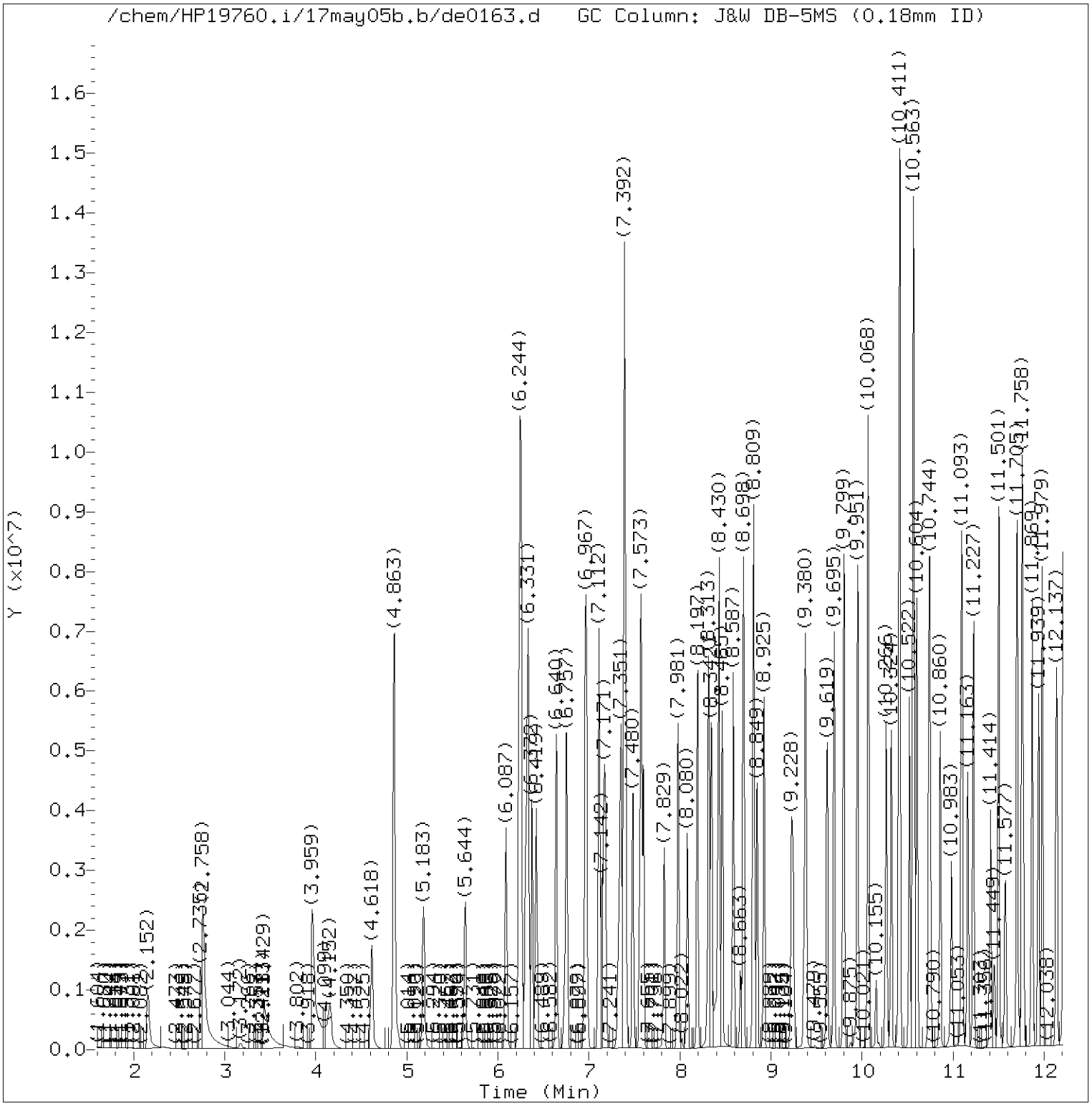
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.159	149	27373	0.131
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	1280	0.076
167) Parathion	(4)	14.386	109	3208	0.109
171) Isodrin	(4)	14.771	193	3146	0.151
173) Fluoranthene	(4)	14.981	202	27079	0.129
222) Total PAHs	(6)			393255	2.327
174) Benzidine	(5)	15.203	184	118035	0.918
175)*Pyrene-d10	(5)	15.290	212	934540	5.000
177) Pyrene	(5)	15.319	202	29731	0.134
179)$Terphenyl-d14	(5)	15.605	244	37368	0.271
182) p-Dimethylaminoazobenzene	(5)	15.832	225	4185	0.121
185) Chlorobenzilate	(5)	15.931	139	8327	0.134
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	17817	0.123
188) Butylbenzylphthalate	(5)	16.450	149	12752	0.134
191) 2-Acetylaminofluorene	(5)	16.794	181	7152	0.082
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	9876	0.127
195) Benzo(a)anthracene	(5)	17.301	228	27081	0.130
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	5149	0.125
196) Chrysene	(5)	17.359	228	25334	0.130
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	18747	0.132
203) 6-Methylchrysene	(5)	18.163	242	17654	0.128
205) Di-n-octylphthalate	(6)	18.671	149	30790	0.129
206) Benzo(b)fluoranthene	(6)	19.143	252	26747	0.133
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.148	256	9768	0.122
208) Benzo(k)fluoranthene	(6)	19.183	252	25321	0.131
211) Benzo(a)pyrene	(6)	19.661	252	23767	0.129
213)*Perylene-d12	(6)	19.755	264	712054	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	10033	0.125
217) Dibenz(a,h)acridine	(6)	21.037	279	15162	0.114
218) Dibenz(a,j)acridine	(6)	21.113	279	12886	0.099
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	20568	0.119
220) Dibenz(a,h)anthracene	(6)	21.387	278	15855	0.114
221) Benzo(g,h,i)perylene	(6)	21.707	276	17471	0.122

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

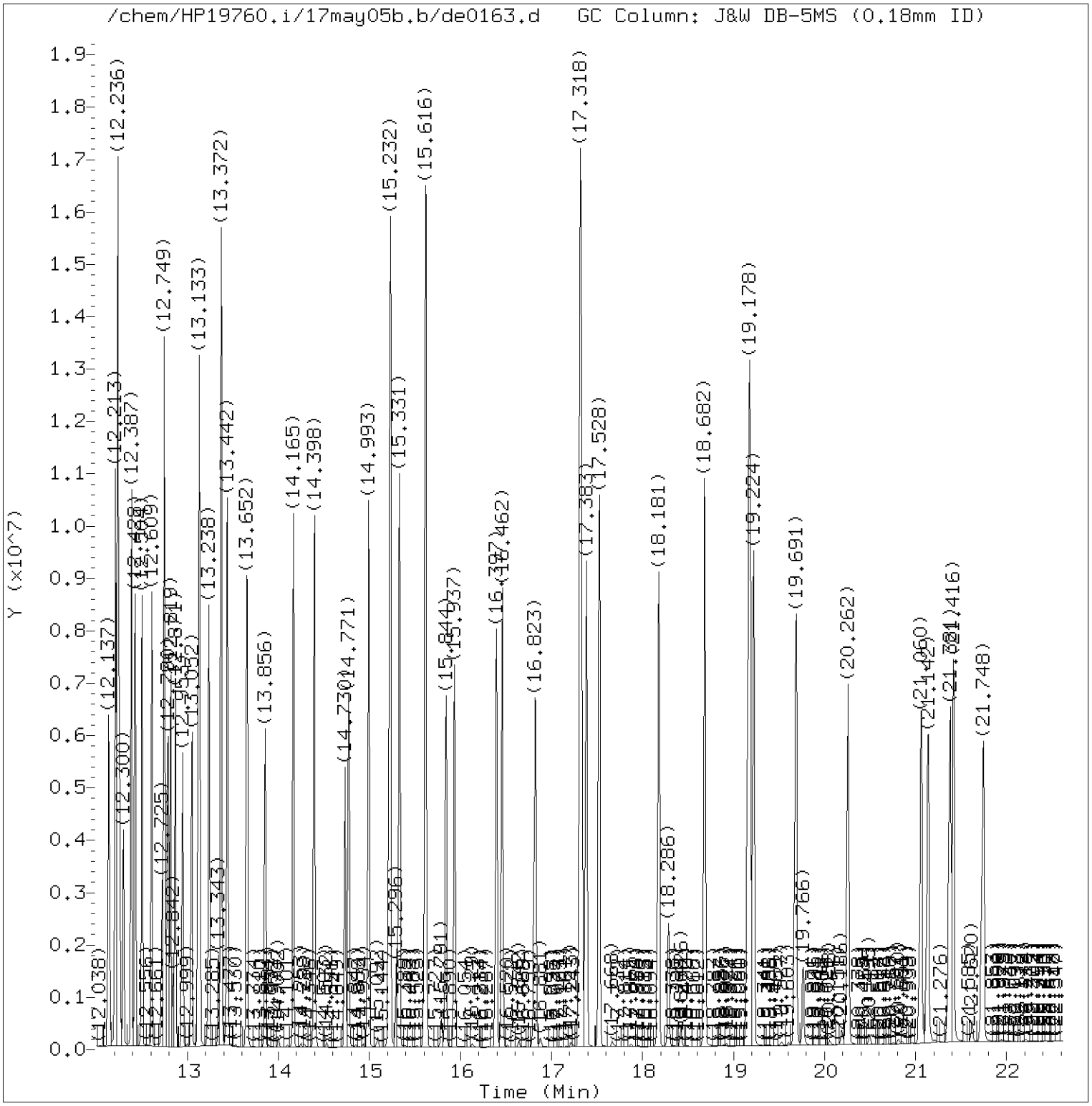
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.152	88	793528	29.575
4) N-Nitrosodimethylamine	(1)	2.735	74	1300310	29.789
5) Pyridine	(1)	2.758	79	2119756	29.602
7) 2-Picoline	(1)	3.959	93	2146665	29.492
8) N-Nitrosomethylethylamine	(1)	4.157	88	914429	29.415
9) Methyl methanesulfonate	(1)	4.618	80	1050057	29.565
11)$2-Fluorophenol	(1)	4.863	112	3325343	58.730
13) N-Nitrosodiethylamine	(1)	5.183	102	861679	29.593
15) Ethyl methanesulfonate	(1)	5.644	109	913740	29.659
42) Total Cresols	(1)			3351248	57.550
16) Benzaldehyde	(1)	6.087	77	1350005	25.952
17)$Phenol-d6	(1)	6.238	99	4441173	58.288
18) Phenol	(1)	6.256	94	2474485	29.039
19) Aniline	(1)	6.256	93	2897915	29.073
20) a-methylstyrene	(1)	6.331	118	1767463	28.361
22) bis(2-Chloroethyl)ether	(1)	6.372	93	1815386	28.930
23) 2-Chlorophenol	(1)	6.419	128	1606800	29.169
24) 1,3-Dichlorobenzene	(1)	6.640	146	1720142	28.842
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	182912	5.000
26) 1,4-Dichlorobenzene	(1)	6.757	146	1748255	29.038
27) Benzyl alcohol	(1)	6.961	108	1158468	28.603
28) 1,2-Dichlorobenzene	(1)	6.973	146	1632713	28.868
30) Indene	(1)	7.112	115	3145957	28.573
31) 2-Methylphenol	(1)	7.142	108	1588475	28.951
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.182	45	2625541	28.383
34) bis(2-Chloroisopropyl)ether	(1)	7.182	45	2625541	28.383
35) N-Nitrosopyrrolidine	(1)	7.328	100	916196	29.385
36) Acetophenone	(1)	7.351	105	2526830	29.394
97) Isosafrole	(3)			1340427	30.110
38) N-Nitroso-di-n-propylamine	(1)	7.386	70	1389462	28.622
37) 4-Methylphenol	(1)	7.386	108	1762773	28.599
39) N-Nitrosomorpholine	(1)	7.392	56	1207856	28.511
40) o-Toluidine	(1)	7.404	106	2713962	28.529
43) Hexachloroethane	(1)	7.480	117	732996	28.999
44)$Nitrobenzene-d5	(2)	7.573	82	4048771	58.909
45) Nitrobenzene	(2)	7.596	77	2029621	29.263
48) N-Nitrosopiperidine	(2)	7.829	114	824917	29.428
50) Isophorone	(2)	7.981	82	3565998	29.593
120) 2,4_2,6-Dinitrotoluenes	(3)			1726338	60.393
51) 2-Nitrophenol	(2)	8.080	139	838260	30.018

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.197	107	1752657	29.638
57) O,O,O-Triethylphosphorothioate	(2)	8.313	198	826529	29.506
55) bis(2-Chloroethoxy)methane	(2)	8.342	93	2171585	28.952
56) Benzoic acid	(2)	8.418	105	1430416	33.178
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.430	104	2561838	29.023
60) 2,4-Dichlorophenol	(2)	8.465	162	1307148	29.320
62) 1,2,4-Trichlorobenzene	(2)	8.587	180	1501782	29.600
65)*Naphthalene-d8	(2)	8.663	136	678696	5.000
66) Naphthalene	(2)	8.698	128	4488958	27.429
146) Diallate trans/cis	(4)			1608677	28.994
67) 4-Chloroaniline	(2)	8.809	127	1899663	29.602
68) 2,6-Dichlorophenol	(2)	8.814	162	1264924	29.319
69) Hexachloropropene	(2)	8.849	213	1045223	30.044
71) Hexachlorobutadiene	(2)	8.925	225	896159	29.781
75) Quinoline	(2)	9.228	129	2873587	29.244
77) N-Nitrosodi-n-butylamine	(2)	9.380	84	1664716	32.602
76) Caprolactam	(2)	9.386	113	416272A	29.843
80) 4-Chloro-3-methylphenol	(2)	9.619	107	1483044	29.493
82) Safrole	(2)	9.695	162	1180281	29.537
83) 2-Methylnaphthalene	(2)	9.799	142	3012146	28.092
84) 1-Methylnaphthalene	(2)	9.951	142	2721468	27.740
85) Hexachlorocyclopentadiene	(3)	10.068	237	802520	30.467
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.068	216	1557757	29.801
88) cis-Isosafrole	(3)	10.155	162	216382	5.128
90) 2,4,6-Trichlorophenol	(3)	10.266	196	990683	29.844
92) 2,4,5-Trichlorophenol	(3)	10.324	196	1049407	29.586
93)$2-Fluorobiphenyl	(3)	10.417	172	6695121	58.819
94) trans-Isosafrole	(3)	10.522	162	1124045	24.983
95) 1,1'-Biphenyl	(3)	10.563	154	3420269	29.731
96) 2-Chloronaphthalene	(3)	10.575	162	2707129	29.888
98) 1-Chloronaphthalene	(3)	10.604	162	2564402	28.886
99) Diphenyl ether	(3)	10.738	170	1906591	29.836
100) 2-Nitroaniline	(3)	10.750	138	878717	29.979
104) 1,4-Naphthoquinone	(3)	10.860	158	1175088	29.501
105) 1,4-Dinitrobenzene	(3)	10.983	168	481831	30.379
106) Dimethylphthalate	(3)	11.093	163	3186137	29.487
107) 1,3-Dinitrobenzene	(3)	11.099	168	519924	30.227
108) 2,6-Dinitrotoluene	(3)	11.163	165	725215	30.090
109) Acenaphthylene	(3)	11.227	152	4035958	28.916
112) 3-Nitroaniline	(3)	11.414	138	779308	30.502

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	378528	5.000
114) Acenaphthene	(3)	11.507	153	2858744	28.443
115) 2,4-Dinitrophenol	(3)	11.577	184	477651	33.111
117) Pentachlorobenzene	(3)	11.705	250	1252441	29.650
116) 4-Nitrophenol	(3)	11.705	109	571211	30.911
119) Dibenzofuran	(3)	11.758	168	3871691	29.353
118) 2,4-Dinitrotoluene	(3)	11.775	165	1001123	30.304
121) 1-Naphthylamine	(3)	11.869	143	2948314	30.200
122) 2,3,4,6-Tetrachlorophenol	(3)	11.939	232	840764	30.592
123) 2-Naphthylamine	(3)	11.979	143	2850034	29.708
124) Diethylphthalate	(3)	12.137	149	3219229	29.990
126) Fluorene	(3)	12.213	166	3152534	27.993
125) Thionazin	(3)	12.230	107	620789	29.465
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	1519861	29.107
128) 5-Nitro-o-toluidine	(3)	12.247	152	889321	29.851
129) 4-Nitroaniline	(3)	12.259	138	758229A	29.890
130) 4,6-Dinitro-2-methylphenol	(4)	12.300	198	620426	30.721
131) N-Nitrosodiphenylamine	(4)	12.387	169	2648332	29.052
132) NDPA as diphenylamine	(4)	12.387	169	2648332	29.052
134) 1,2-Diphenylhydrazine	(4)	12.428	77	3725073	28.866
135)$2,4,6-Tribromophenol	(3)	12.504	330	865838	60.863
137) Tetraethyldithiopyrophosphate	(4)	12.609	97	629982	29.172
139) 1,3,5-Trinitrobenzene	(4)	12.725	213	405195	30.919
140) Diallate (peak 1)	(4)	12.743	86	1377836	24.023
141) Phorate	(4)	12.749	75	2504892	29.252
142) Phenacetin	(4)	12.790	108	1853592	29.203
143) 4-Bromophenyl-phenylether	(4)	12.819	248	906457	29.183
144) Diallate (peak 2)	(4)	12.842	86	230841	4.970
145) Hexachlorobenzene	(4)	12.871	284	944090	27.471
147) Dimethoate	(4)	12.953	87	1554529	28.275
148) Atrazine	(4)	13.052	200	784709	27.995
149) Pentachlorophenol	(4)	13.122	266	603468	30.598
150) 4-Aminobiphenyl	(4)	13.133	169	2874879	28.511
151) Pentachloronitrobenzene	(4)	13.133	237	440096	29.685
152) Pronamide	(4)	13.238	173	1585973	29.309
153)*Phenanthrene-d10	(4)	13.343	188	754842	5.000
154) Dinoseb	(4)	13.372	211	998429	30.618
155) Phenanthrene	(4)	13.378	178	4647525	27.322
157) Anthracene	(4)	13.442	178	4733210	27.719
163) Carbazole	(4)	13.658	167	4494763	29.113

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

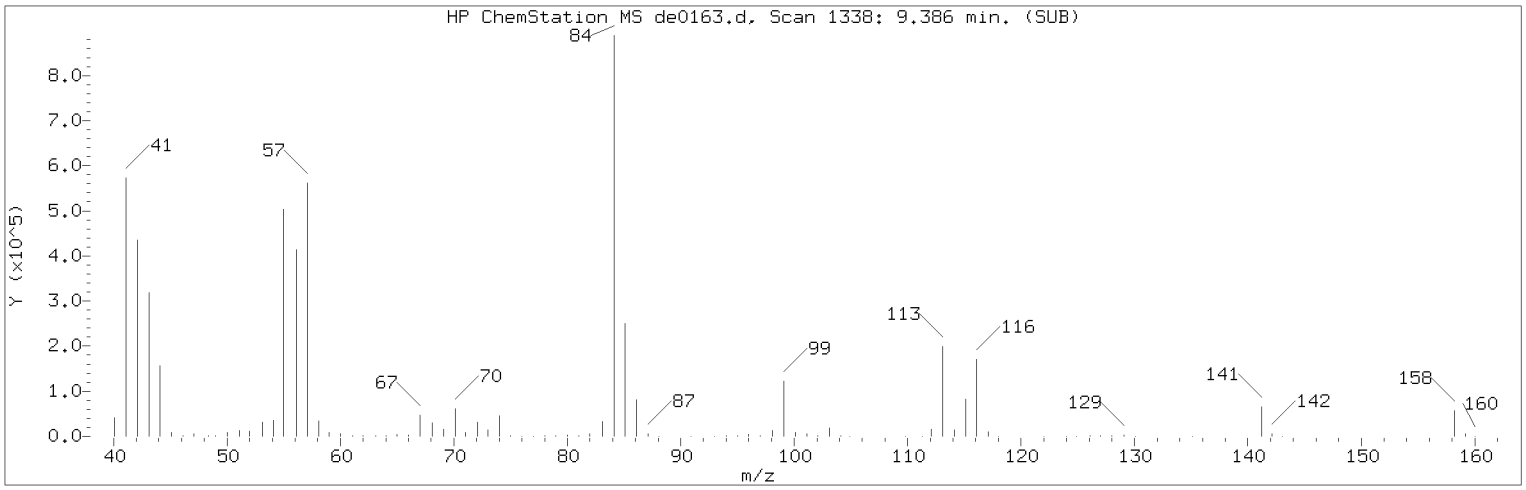
Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.856	109	1247564	28.962
165) Di-n-butylphthalate	(4)	14.165	149	5659107	29.030
167) Parathion	(4)	14.392	109	814621	29.388
168) 4-Nitroquinoline-1-oxide	(4)	14.398	190	583411	32.668
169) Octachlorostyrene	(4)	14.736	308	370103	29.542
171) Isodrin	(4)	14.771	193	575326	29.336
173) Fluoranthene	(4)	14.993	202	5620102	28.526
222) Total PAHs	(6)			83517774	509.803
174) Benzidine	(5)	15.232	184	9722532	83.660
175)*Pyrene-d10	(5)	15.296	212	904399	5.000
177) Pyrene	(5)	15.331	202	5739431	27.753
179)$Terphenyl-d14	(5)	15.616	244	7542771	58.239
182) p-Dimethylaminoazobenzene	(5)	15.844	225	1017464	30.222
185) Chlorobenzilate	(5)	15.937	139	1775254	29.727
187) 3,3'-Dimethylbenzidine	(5)	16.397	212	3909632	28.939
188) Butylbenzylphthalate	(5)	16.462	149	2656490	29.420
191) 2-Acetylaminofluorene	(5)	16.829	181	2697123	31.015
193) 3,3'-Dichlorobenzidine	(5)	17.318	252	2215528	29.671
195) Benzo(a)anthracene	(5)	17.318	228	5707574	28.780
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.336	231	1167516	29.653
196) Chrysene	(5)	17.388	228	5258873	28.512
199) bis(2-Ethylhexyl)phthalate	(5)	17.528	149	4091635	29.831
203) 6-Methylchrysene	(5)	18.181	242	3997613	29.971
205) Di-n-octylphthalate	(6)	18.682	149	7460076	29.477
206) Benzo(b)fluoranthene	(6)	19.172	252	6165889	28.830
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.178	256	2636716	30.290
208) Benzo(k)fluoranthene	(6)	19.224	252	5628527	27.860
211) Benzo(a)pyrene	(6)	19.691	252	5720405	29.087
213)*Perylene-d12	(6)	19.766	264	769596	5.000
215) 3-Methylcholanthrene	(6)	20.262	268	2566037	29.777
217) Dibenz(a,h)acridine	(6)	21.066	279	4055142	29.020
218) Dibenz(a,j)acridine	(6)	21.142	279	3883306	28.697
219) Indeno(1,2,3-cd)pyrene	(6)	21.381	276	5330830	28.953
220) Dibenz(a,h)anthracene	(6)	21.416	278	4523753	30.002
221) Benzo(g,h,i)perylene	(6)	21.748	276	4171847	27.845

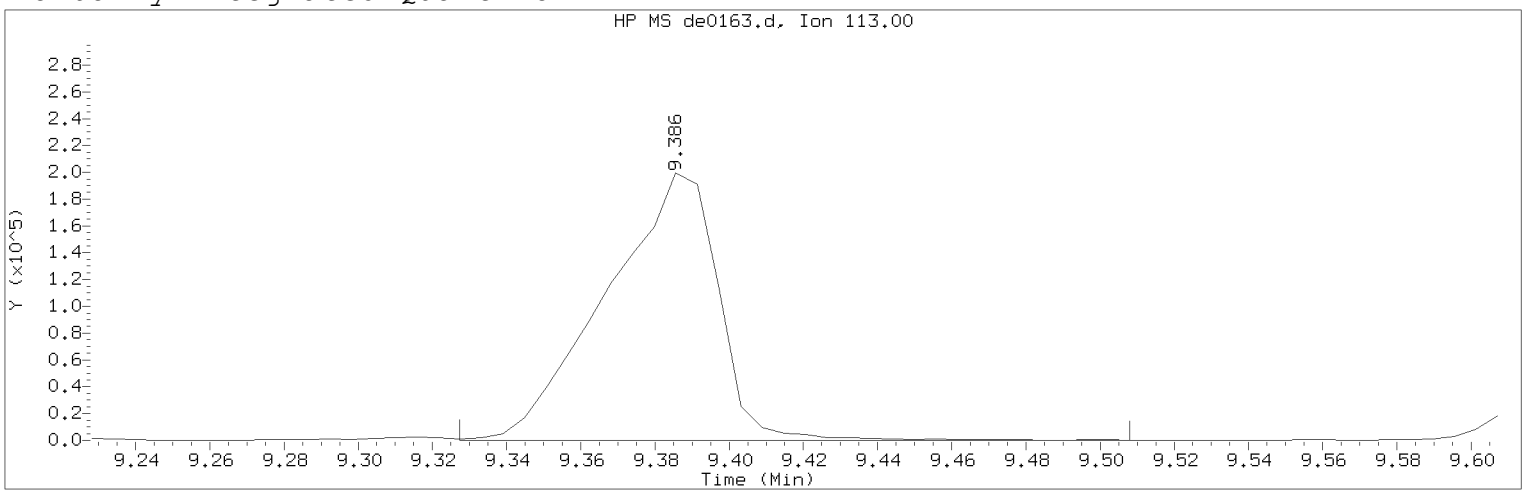
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

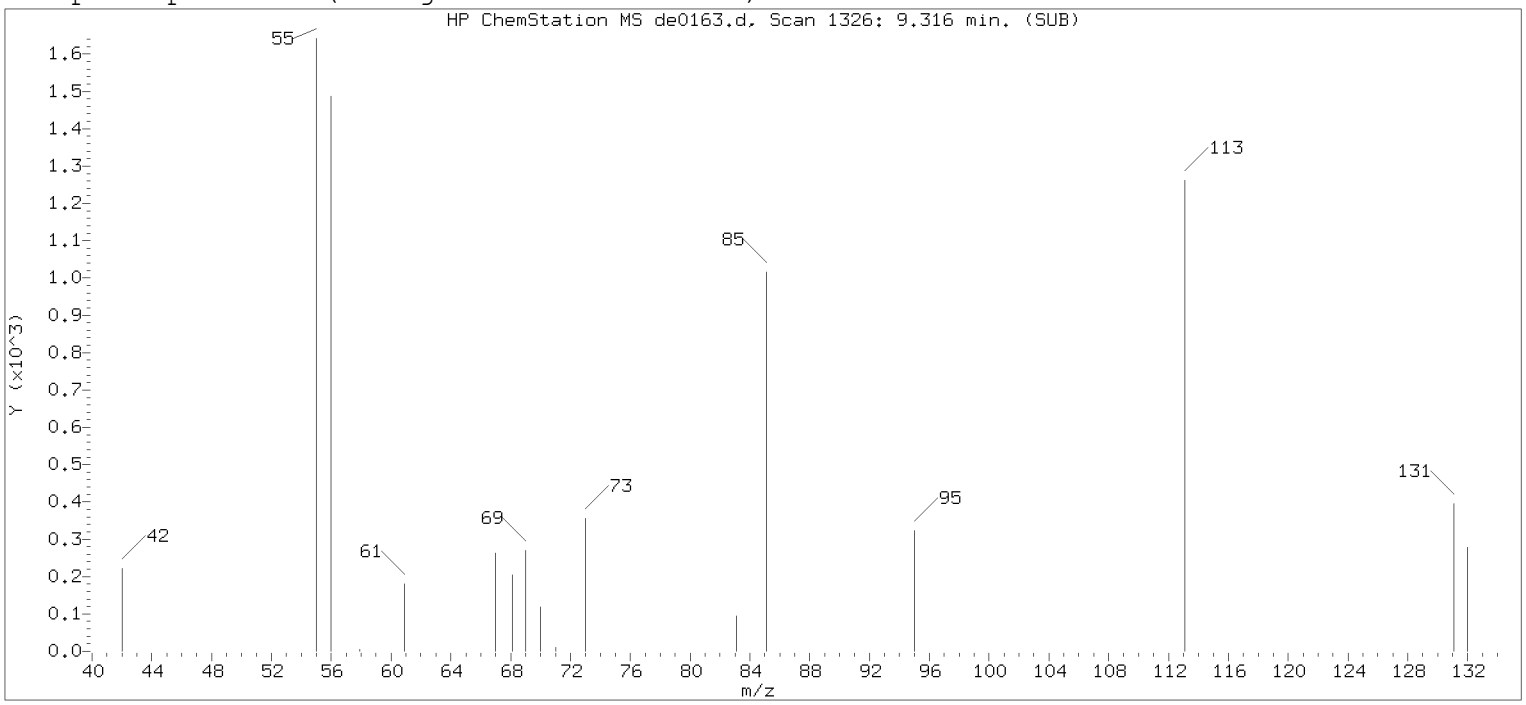
Compound Number : 76
Compound Name : Caprolactam
Scan Number : 1338
Retention Time (minutes) : 9.386
Quant Ion : 113.00
Area (flag) : 416272A
On-Column Amount (ng/ul) : 29.8432
Integration start scan : 1327 Integration stop scan: 1358
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

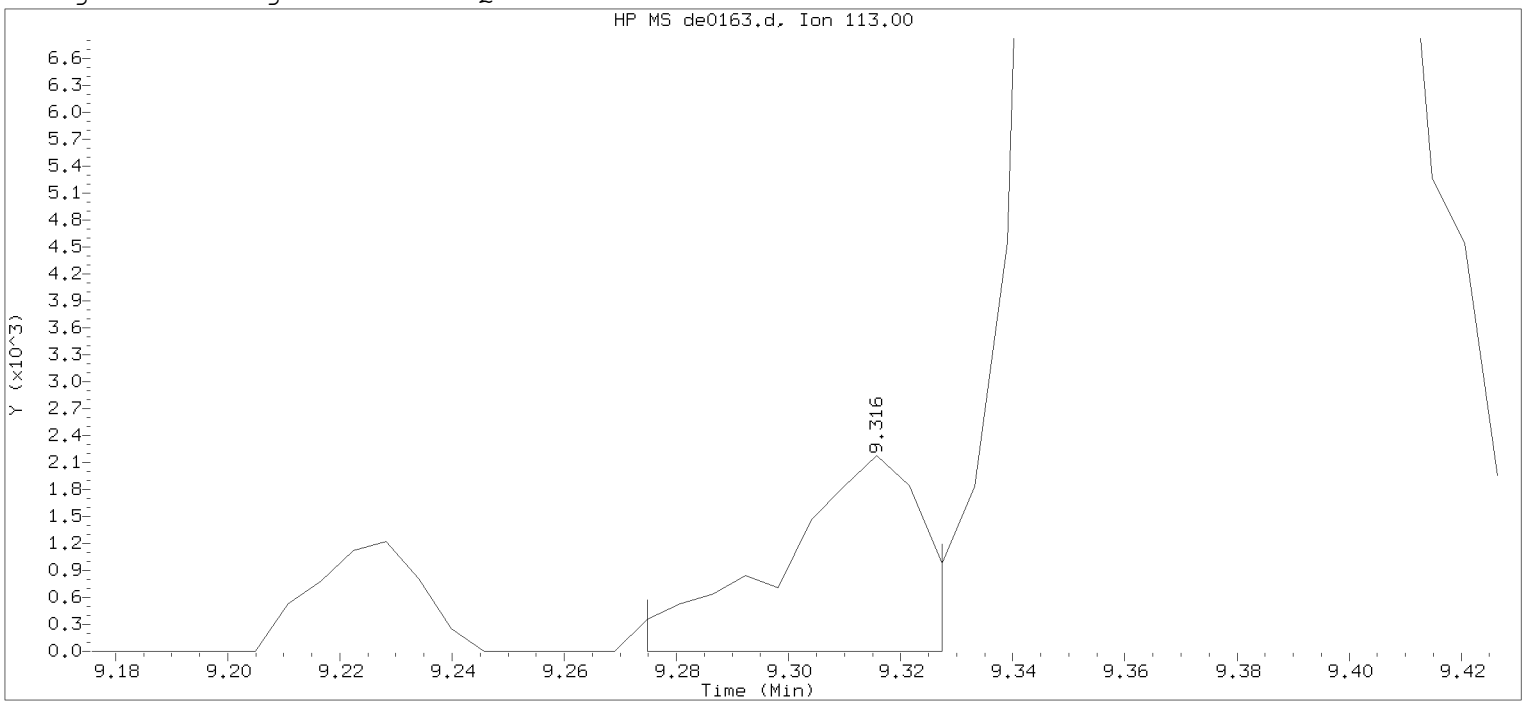
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

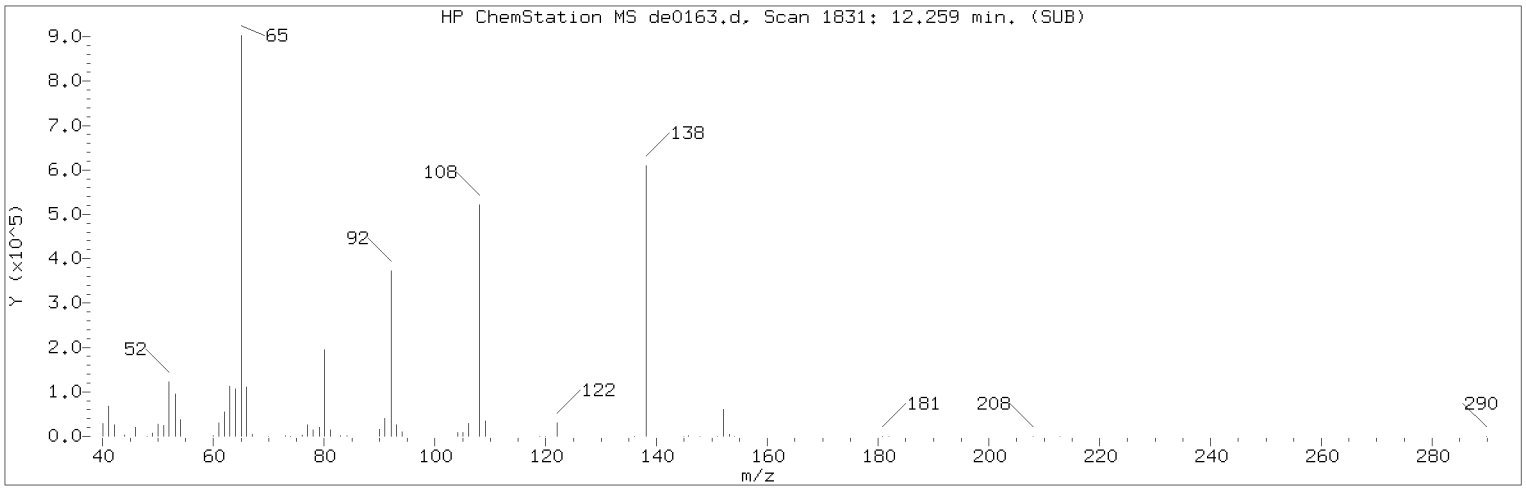
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 19:37
Date, time and analyst ID of latest file update: 05-May-2017 19:37 Automation

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

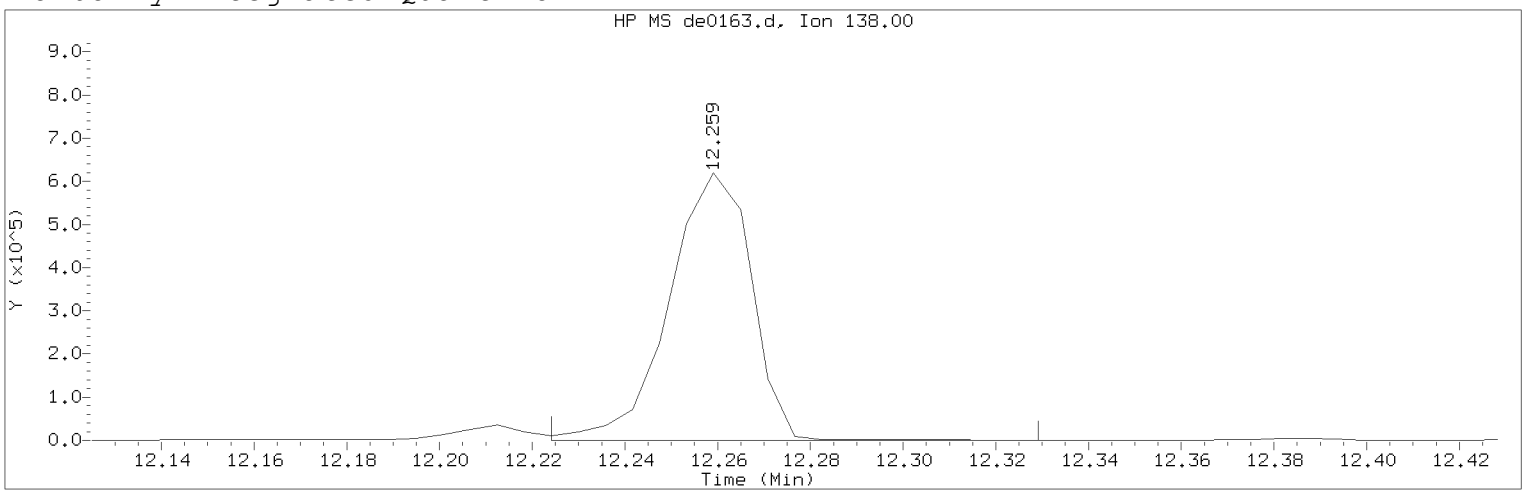
Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1326		
Retention Time (minutes)	: 9.316		
Quant Ion	: 113.00		
Area	: 3739		
On-column Amount (ng/ul)	: 0.3433		
Integration start scan	: 1318	Integration stop scan:	1327
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bsmith0411

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

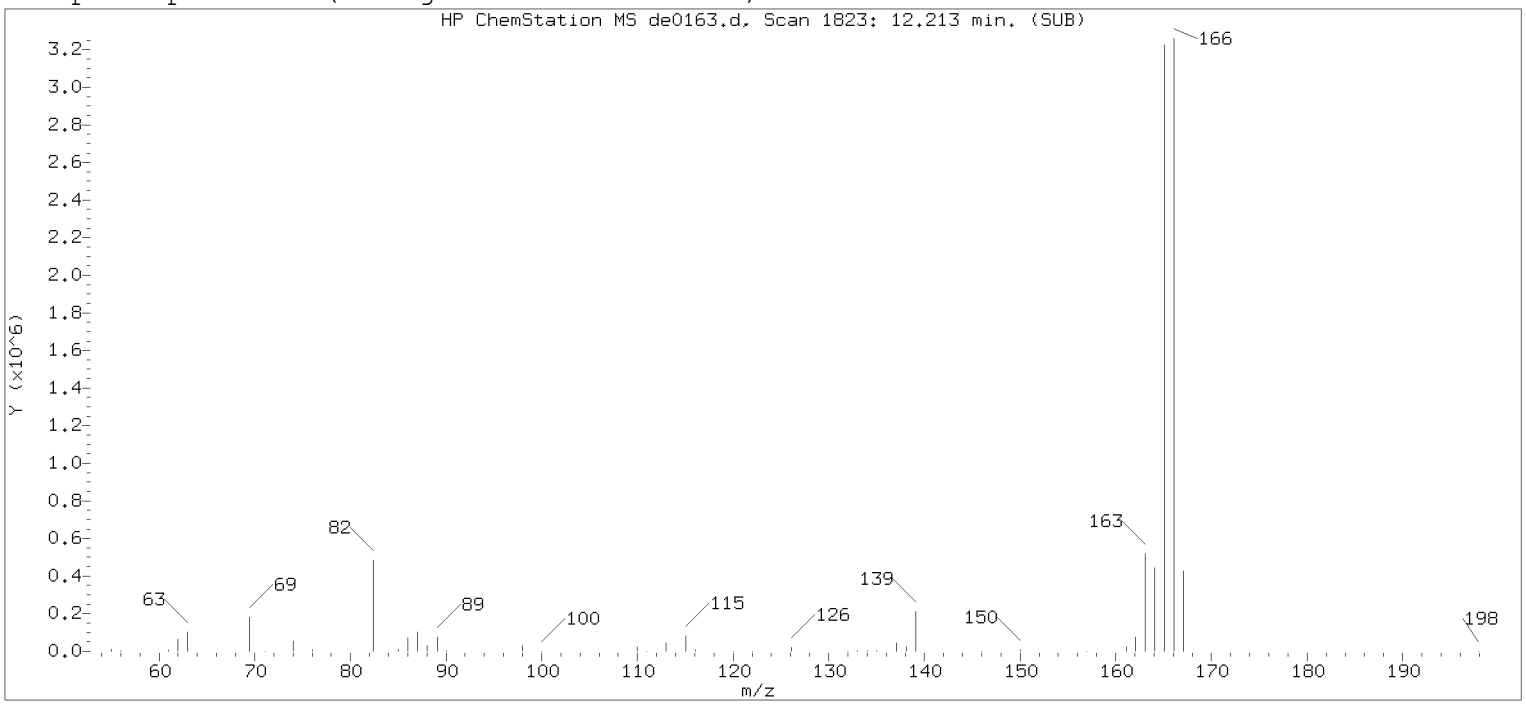
Compound Number : 129
Compound Name : 4-Nitroaniline
Scan Number : 1831
Retention Time (minutes) : 12.259
Quant Ion : 138.00
Area (flag) : 758229A
On-Column Amount (ng/ul) : 29.8898
Integration start scan : 1824 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

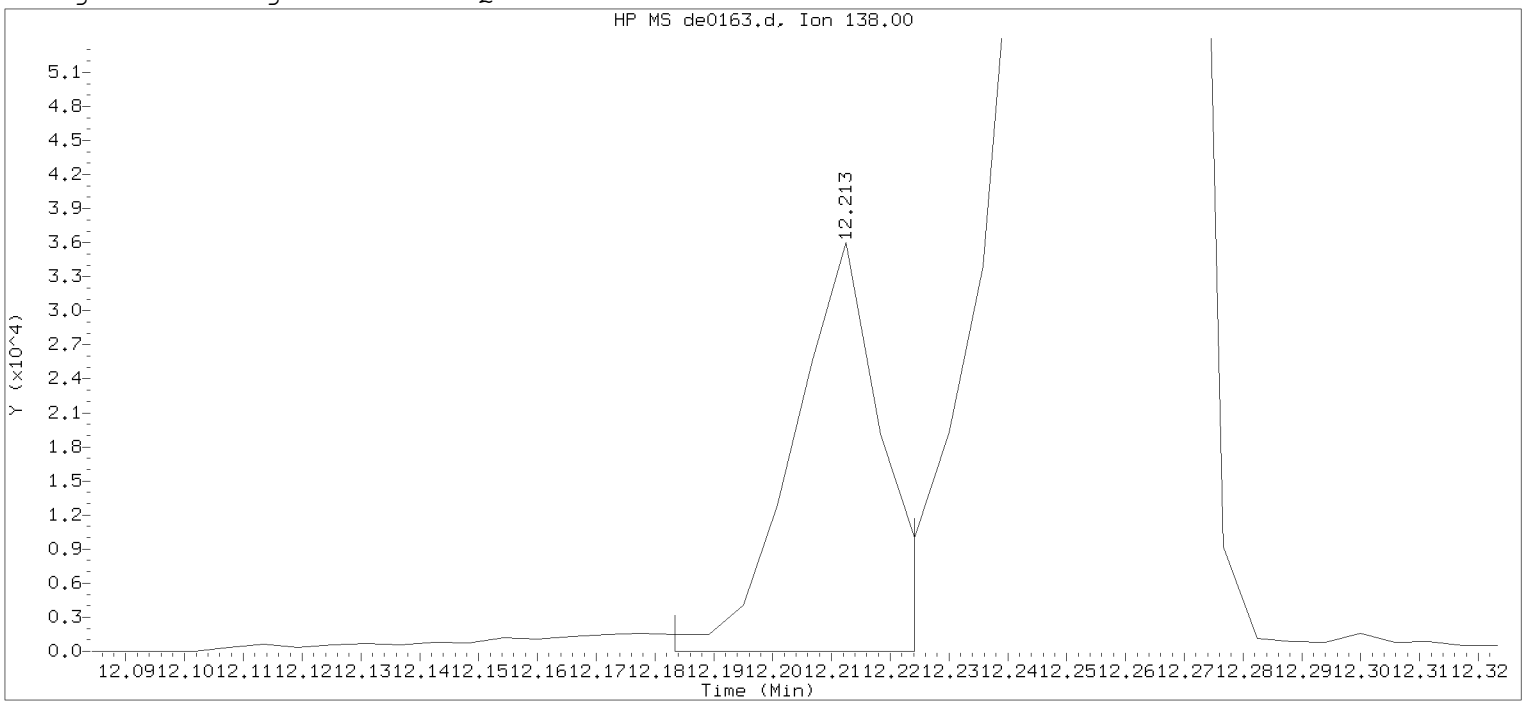
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



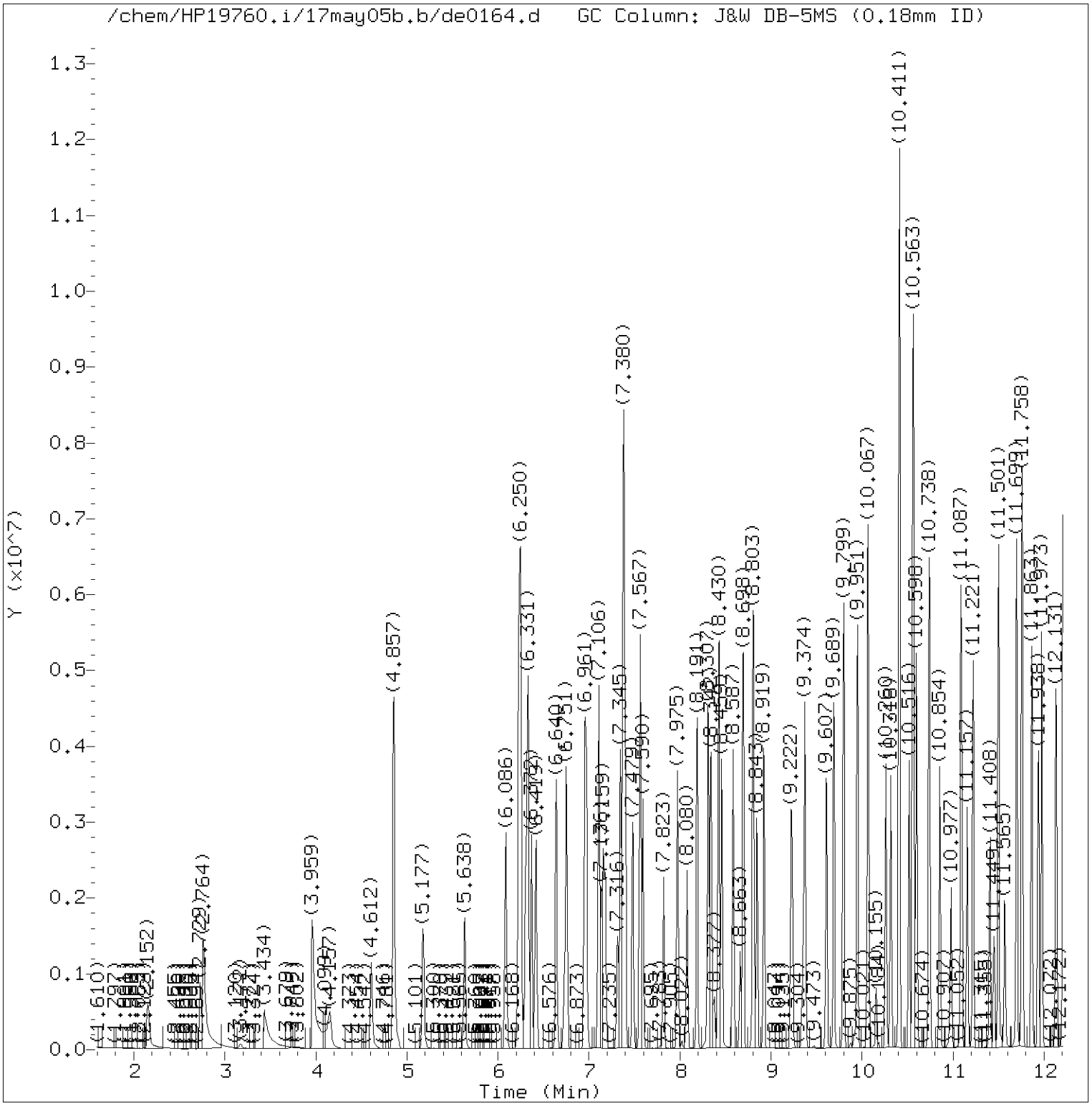
Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 19:37
Date, time and analyst ID of latest file update: 05-May-2017 19:37 Automation

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compound Number	: 129		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1823		
Retention Time (minutes)	: 12.213		
Quant Ion	: 138.00		
Area	: 36651		
On-column Amount (ng/ul)	: 1.5999		
Integration start scan	: 1817	Integration stop scan:	1824
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: BHSmith



Total Ion Chromatogram (TIC)

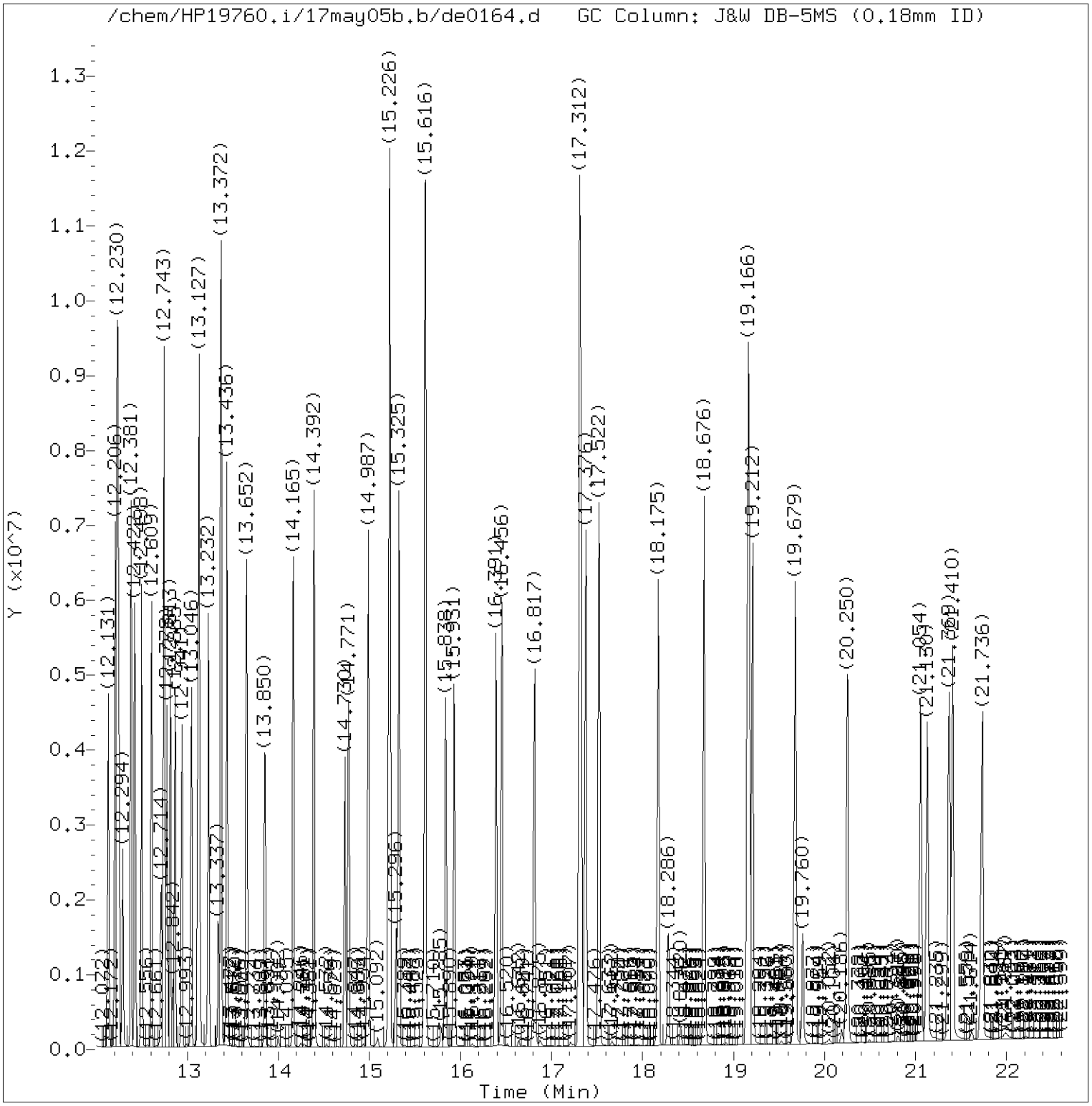
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.152	88	499773	19.602
4) N-Nitrosodimethylamine	(1)	2.729	74	817510	19.673
5) Pyridine	(1)	2.764	79	1302804	19.292
7) 2-Picoline	(1)	3.959	93	1365837	19.699
8) N-Nitrosomethylethylamine	(1)	4.157	88	585530	19.749
9) Methyl methanesulfonate	(1)	4.612	80	668225	19.734
11)$2-Fluorophenol	(1)	4.857	112	2136914	39.547
13) N-Nitrosodiethylamine	(1)	5.177	102	554185	19.887
15) Ethyl methanesulfonate	(1)	5.638	109	578353	19.705
42) Total Cresols	(1)			2217765	39.781
16) Benzaldehyde	(1)	6.086	77	1000340	20.025
17)$Phenol-d6	(1)	6.232	99	2859183	39.395
18) Phenol	(1)	6.250	94	1609755	19.788
19) Aniline	(1)	6.250	93	1908767	19.969
20) a-methylstyrene	(1)	6.331	118	1199445	20.036
22) bis(2-Chloroethyl)ether	(1)	6.372	93	1201919	19.972
23) 2-Chlorophenol	(1)	6.419	128	1063451	20.077
24) 1,3-Dichlorobenzene	(1)	6.640	146	1137023	19.909
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	175545	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	1162342	20.077
27) Benzyl alcohol	(1)	6.955	108	774216	19.945
28) 1,2-Dichlorobenzene	(1)	6.972	146	1085540	19.999
30) Indene	(1)	7.106	115	2118352	20.031
31) 2-Methylphenol	(1)	7.136	108	1045719	19.906
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	1709868	19.501
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	1709868	19.501
35) N-Nitrosopyrrolidine	(1)	7.316	100	589861	19.807
36) Acetophenone	(1)	7.345	105	1647776	19.982
38) N-Nitroso-di-n-propylamine	(1)	7.375	70	911679	19.710
37) 4-Methylphenol	(1)	7.380	108	1172046	19.875
39) N-Nitrosomorpholine	(1)	7.380	56	797868	19.748
97) Isosafrole	(3)			882831	20.094
40) o-Toluidine	(1)	7.398	106	1818375	19.944
43) Hexachloroethane	(1)	7.479	117	488646	20.095
44)$Nitrobenzene-d5	(2)	7.567	82	2649332	39.795
45) Nitrobenzene	(2)	7.590	77	1340781	19.937
48) N-Nitrosopiperidine	(2)	7.823	114	540765	19.910
50) Isophorone	(2)	7.975	82	2319208	19.878
120) 2,4_2,6-Dinitrotoluenes	(3)			1137571	40.240
51) 2-Nitrophenol	(2)	8.080	139	554742	20.301

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.191	107	1150053	20.017
57) O,O,O-Triethylphosphorothioate	(2)	8.313	198	547066	20.073
55) bis(2-Chloroethoxy)methane	(2)	8.342	93	1474892	20.165
56) Benzoic acid	(2)	8.383	105	914701	21.194
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.430	104	1730206	20.122
60) 2,4-Dichlorophenol	(2)	8.459	162	865770	19.998
62) 1,2,4-Trichlorobenzene	(2)	8.587	180	985589	20.002
65)*Naphthalene-d8	(2)	8.663	136	659112	5.000
66) Naphthalene	(2)	8.698	128	2995374	19.122
146) Diallate trans/cis	(4)			1060230	19.653
67) 4-Chloroaniline	(2)	8.803	127	1255297	20.095
68) 2,6-Dichlorophenol	(2)	8.814	162	842392	20.070
69) Hexachloropropene	(2)	8.843	213	694228	20.362
71) Hexachlorobutadiene	(2)	8.919	225	592960	20.193
75) Quinoline	(2)	9.228	129	1909982	20.010
76) Caprolactam	(2)	9.368	113	275492	20.224
77) N-Nitrosodi-n-butylamine	(2)	9.374	84	1085277	21.219
80) 4-Chloro-3-methylphenol	(2)	9.607	107	981559	20.066
82) Safrole	(2)	9.689	162	778281	20.037
83) 2-Methylnaphthalene	(2)	9.799	142	2000905	19.406
84) 1-Methylnaphthalene	(2)	9.951	142	1801261	19.168
85) Hexachlorocyclopentadiene	(3)	10.067	237	538219	20.495
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.067	216	1035685	20.081
88) cis-Isosafrole	(3)	10.155	162	143609	3.437
90) 2,4,6-Trichlorophenol	(3)	10.260	196	662522	20.179
92) 2,4,5-Trichlorophenol	(3)	10.318	196	689651	19.830
93)$2-Fluorobiphenyl	(3)	10.411	172	4511190	40.166
94) trans-Isosafrole	(3)	10.516	162	739222	16.657
95) 1,1'-Biphenyl	(3)	10.557	154	2288399	20.134
96) 2-Chloronaphthalene	(3)	10.569	162	1751895	19.761
98) 1-Chloronaphthalene	(3)	10.598	162	1803006	20.413
99) Diphenyl ether	(3)	10.738	170	1277659	20.203
100) 2-Nitroaniline	(3)	10.749	138	571458	19.866
104) 1,4-Naphthoquinone	(3)	10.854	158	782141	19.961
105) 1,4-Dinitrobenzene	(3)	10.977	168	311855	19.979
106) Dimethylphthalate	(3)	11.087	163	2135010	20.045
107) 1,3-Dinitrobenzene	(3)	11.093	168	341242	20.098
108) 2,6-Dinitrotoluene	(3)	11.157	165	473183	19.959
109) Acenaphthylene	(3)	11.221	152	2691041	19.684
112) 3-Nitroaniline	(3)	11.408	138	509287	20.162

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	372722	5.000
114) Acenaphthene	(3)	11.501	153	1920724	19.553
115) 2,4-Dinitrophenol	(3)	11.571	184	299736	20.721
117) Pentachlorobenzene	(3)	11.699	250	836912	20.081
116) 4-Nitrophenol	(3)	11.699	109	371186	20.265
119) Dibenzofuran	(3)	11.758	168	2601395	20.020
118) 2,4-Dinitrotoluene	(3)	11.764	165	664388	20.281
121) 1-Naphthylamine	(3)	11.863	143	1934215	20.080
122) 2,3,4,6-Tetrachlorophenol	(3)	11.938	232	553805	20.307
123) 2-Naphthylamine	(3)	11.973	143	1924199	20.245
124) Diethylphthalate	(3)	12.131	149	2112026	19.988
126) Fluorene	(3)	12.206	166	2083391	19.077
125) Thionazin	(3)	12.224	107	416856	20.063
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	1020699	19.901
128) 5-Nitro-o-toluidine	(3)	12.241	152	598678	20.270
129) 4-Nitroaniline	(3)	12.247	138	499400	19.996
130) 4,6-Dinitro-2-methylphenol	(4)	12.294	198	412676	20.550
131) N-Nitrosodiphenylamine	(4)	12.381	169	1764200	19.822
132) NDPA as diphenylamine	(4)	12.381	169	1764200	19.822
134) 1,2-Diphenylhydrazine	(4)	12.422	77	2469175	19.671
135)$2,4,6-Tribromophenol	(3)	12.498	330	579467	40.901
137) Tetraethyldithiopyrophosphate	(4)	12.609	97	420231	19.895
139) 1,3,5-Trinitrobenzene	(4)	12.714	213	264709	20.394
140) Diallate (peak 1)	(4)	12.743	86	908351	16.297
141) Phorate	(4)	12.749	75	1652853	19.787
142) Phenacetin	(4)	12.778	108	1233586	19.878
143) 4-Bromophenyl-phenylether	(4)	12.813	248	603769	19.880
144) Diallate (peak 2)	(4)	12.842	86	151879	3.356
145) Hexachlorobenzene	(4)	12.865	284	618079	18.728
147) Dimethoate	(4)	12.941	87	1054882	19.708
148) Atrazine	(4)	13.046	200	592789	21.017
149) Pentachlorophenol	(4)	13.116	266	390217	20.116
150) 4-Aminobiphenyl	(4)	13.127	169	1977503	19.998
151) Pentachloronitrobenzene	(4)	13.133	237	295828	20.230
152) Pronamide	(4)	13.232	173	1072440	20.139
153)*Phenanthrene-d10	(4)	13.337	188	740261	5.000
154) Dinoseb	(4)	13.366	211	655161	20.322
155) Phenanthrene	(4)	13.372	178	3103236	18.934
157) Anthracene	(4)	13.436	178	3169418	19.184
163) Carbazole	(4)	13.652	167	3005567	19.900

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

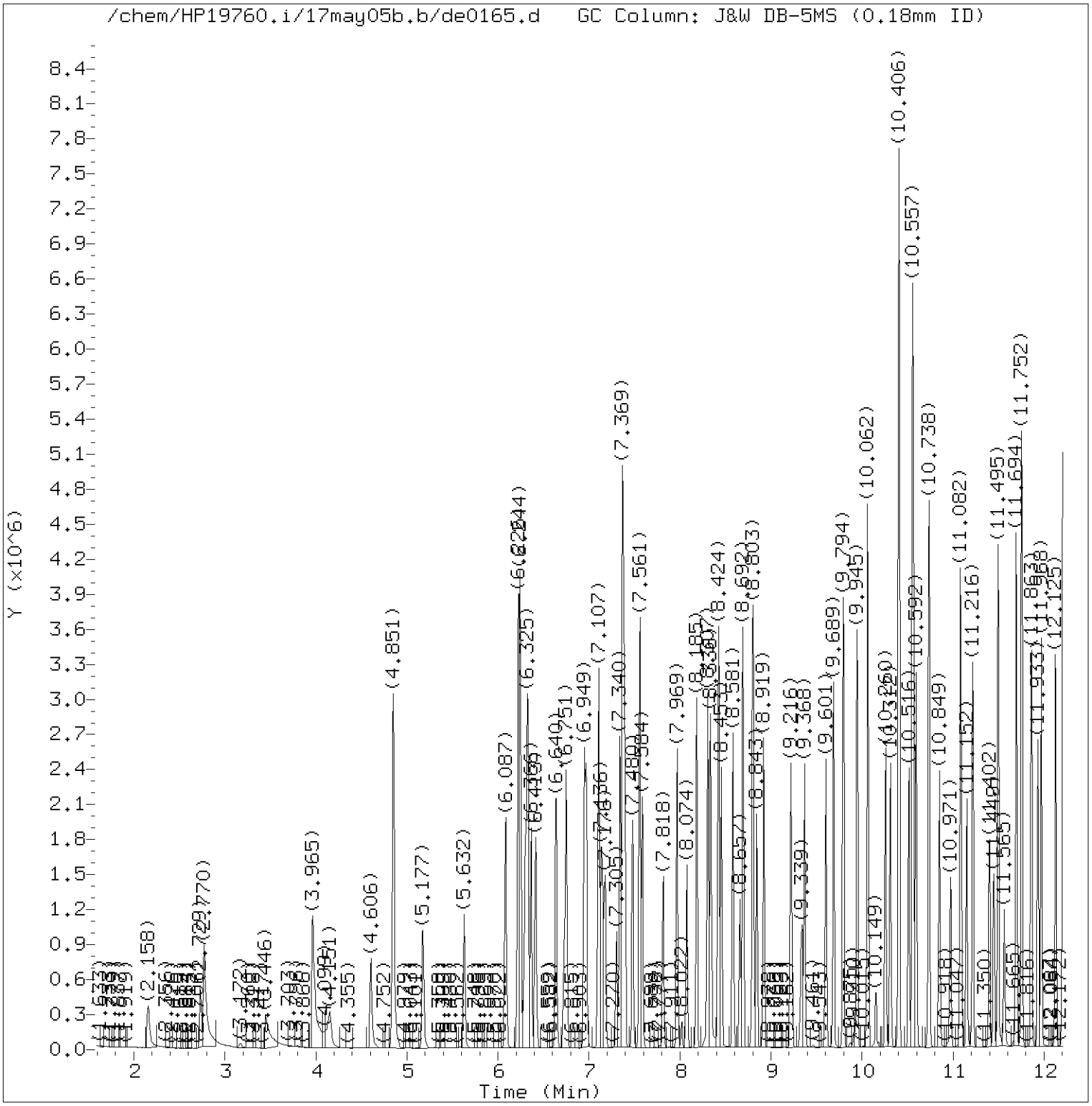
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	830481	19.771
165) Di-n-butylphthalate	(4)	14.165	149	3773284	19.824
167) Parathion	(4)	14.392	109	535446	19.797
168) 4-Nitroquinoline-1-oxide	(4)	14.398	190	381654	21.160
169) Octachlorostyrene	(4)	14.730	308	253343	20.409
171) Isodrin	(4)	14.771	193	387552	20.100
173) Fluoranthene	(4)	14.993	202	3743219	19.526
222) Total PAHs	(6)			56087122	351.469
174) Benzidine	(5)	15.226	184	6756062	59.462
175)*Pyrene-d10	(5)	15.296	212	888165	5.000
177) Pyrene	(5)	15.325	202	3835717	19.153
179)$Terphenyl-d14	(5)	15.616	244	5039015	39.745
182) p-Dimethylaminoazobenzene	(5)	15.838	225	678318	20.341
185) Chlorobenzilate	(5)	15.931	139	1195560	20.256
187) 3,3'-Dimethylbenzidine	(5)	16.391	212	2594257	19.700
188) Butylbenzylphthalate	(5)	16.456	149	1767497	19.955
191) 2-Acetylaminofluorene	(5)	16.817	181	1750977	20.333
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	1471530	20.045
195) Benzo(a)anthracene	(5)	17.312	228	3808750	19.666
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.330	231	771435	19.968
196) Chrysene	(5)	17.376	228	3553966	19.714
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	2701366	20.037
203) 6-Methylchrysene	(5)	18.175	242	2662526	20.217
205) Di-n-octylphthalate	(6)	18.676	149	4974250	19.971
206) Benzo(b)fluoranthene	(6)	19.160	252	3982166	19.167
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.172	256	1734196	20.151
208) Benzo(k)fluoranthene	(6)	19.212	252	3906199	19.722
211) Benzo(a)pyrene	(6)	19.679	252	3786204	19.658
213)*Perylene-d12	(6)	19.760	264	757991	5.000
215) 3-Methylcholanthrene	(6)	20.250	268	1720398	20.179
217) Dibenz(a,h)acridine	(6)	21.054	279	2720690	19.845
218) Dibenz(a,j)acridine	(6)	21.130	279	2642290	19.883
219) Indeno(1,2,3-cd)pyrene	(6)	21.369	276	3677724	20.210
220) Dibenz(a,h)anthracene	(6)	21.410	278	3119498	20.745
221) Benzo(g,h,i)perylene	(6)	21.736	276	2908329	19.781

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

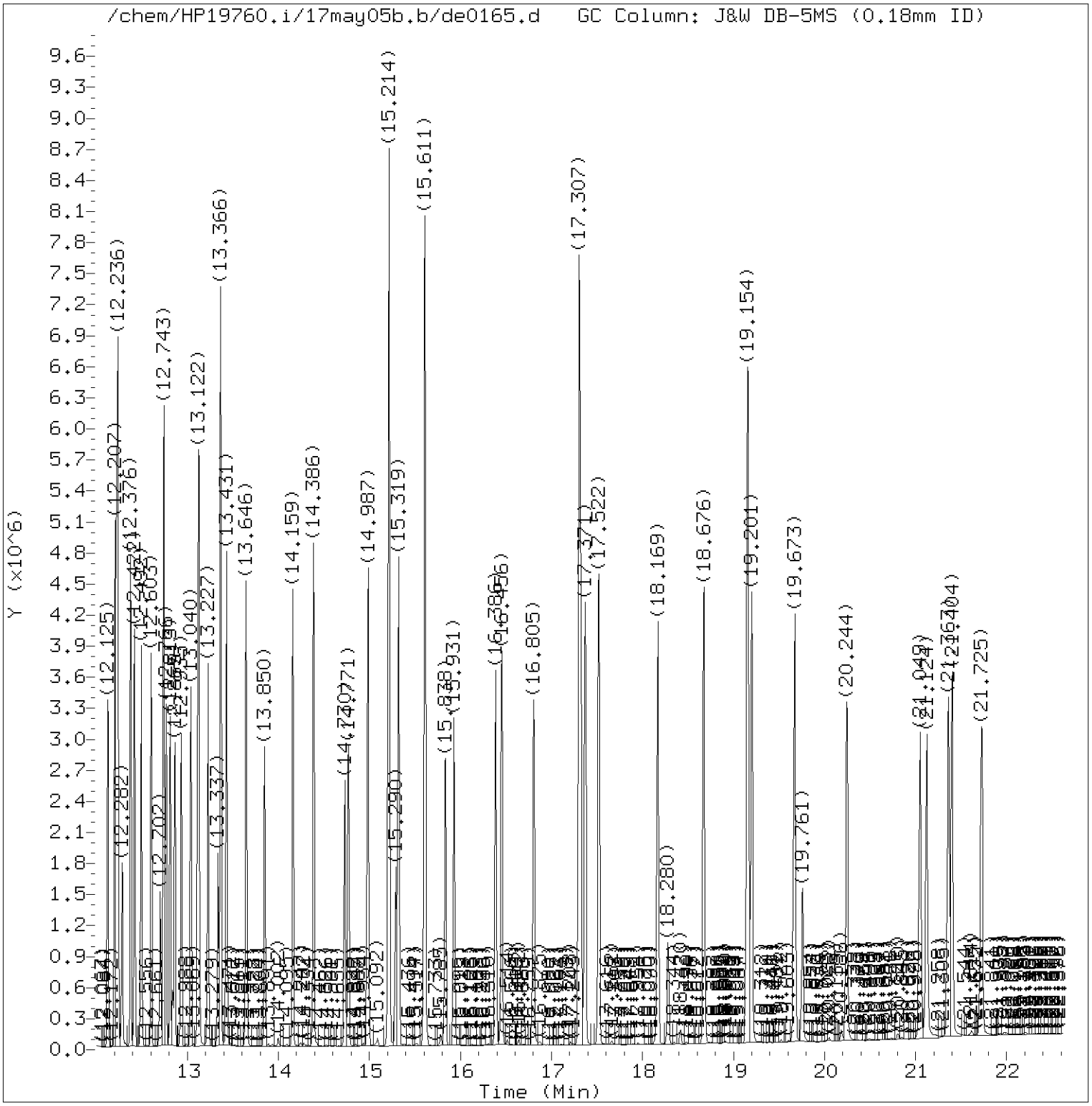
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.158	88	307952	12.073
4) N-Nitrosodimethylamine	(1)	2.729	74	506984	12.166
5) Pyridine	(1)	2.770	79	828839	12.221
7) 2-Picoline	(1)	3.965	93	855608	12.271
8) N-Nitrosomethylethylamine	(1)	4.151	88	371889	12.423
9) Methyl methanesulfonate	(1)	4.606	80	424675	12.422
11)$2-Fluorophenol	(1)	4.851	112	1352639	24.806
13) N-Nitrosodiethylamine	(1)	5.177	102	349008	12.409
15) Ethyl methanesulfonate	(1)	5.632	109	370477	12.482
42) Total Cresols	(1)			1435360	25.329
16) Benzaldehyde	(1)	6.087	77	672860	13.100
17)$Phenol-d6	(1)	6.226	99	1825281	24.893
18) Phenol	(1)	6.244	94	1031132	12.521
19) Aniline	(1)	6.250	93	1213348	12.534
20) a-methylstyrene	(1)	6.331	118	775763	12.730
22) bis(2-Chloroethyl)ether	(1)	6.366	93	761273	12.502
23) 2-Chlorophenol	(1)	6.413	128	681654	12.664
24) 1,3-Dichlorobenzene	(1)	6.640	146	730936	12.612
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	177612	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	739994	12.600
27) Benzyl alcohol	(1)	6.949	108	502563	12.721
28) 1,2-Dichlorobenzene	(1)	6.972	146	701396	12.703
30) Indene	(1)	7.107	115	1368378	12.716
31) 2-Methylphenol	(1)	7.136	108	674037	12.635
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	1099014	12.416
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	1099014	12.416
35) N-Nitrosopyrrolidine	(1)	7.305	100	381256	12.615
36) Acetophenone	(1)	7.340	105	1087707	12.898
39) N-Nitrosomorpholine	(1)	7.369	56	516679	12.604
38) N-Nitroso-di-n-propylamine	(1)	7.369	70	595823	12.673
37) 4-Methylphenol	(1)	7.375	108	761323	12.694
97) Isosafrole	(3)			560728	12.366
40) o-Toluidine	(1)	7.392	106	1170350	12.640
43) Hexachloroethane	(1)	7.480	117	311952	12.634
44)$Nitrobenzene-d5	(2)	7.561	82	1706553	25.051
45) Nitrobenzene	(2)	7.584	77	872235	12.637
48) N-Nitrosopiperidine	(2)	7.818	114	341864	12.356
50) Isophorone	(2)	7.969	82	1477928	12.416
120) 2,4_2,6-Dinitrotoluenes	(3)			730243	25.005
51) 2-Nitrophenol	(2)	8.074	139	348194	12.471

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.185	107	735577	12.515
57) O,O,O-Triethylphosphorothioate	(2)	8.307	198	354031	12.652
55) bis(2-Chloroethoxy)methane	(2)	8.336	93	918561	12.335
56) Benzoic acid	(2)	8.348	105	570932M	12.825
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	1125811	12.727
60) 2,4-Dichlorophenol	(2)	8.453	162	549097	12.427
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	636234	12.595
65)*Naphthalene-d8	(2)	8.657	136	673993	5.000
66) Naphthalene	(2)	8.692	128	1920136	12.087
146) Diallate trans/cis	(4)			686662	12.287
67) 4-Chloroaniline	(2)	8.797	127	808190	12.613
68) 2,6-Dichlorophenol	(2)	8.809	162	537688	12.521
69) Hexachloropropene	(2)	8.843	213	446839	12.736
71) Hexachlorobutadiene	(2)	8.919	225	380864	12.637
75) Quinoline	(2)	9.222	129	1231186	12.585
76) Caprolactam	(2)	9.339	113	181435	12.890
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	570519	11.267
80) 4-Chloro-3-methylphenol	(2)	9.601	107	630781	12.583
82) Safrole	(2)	9.689	162	506487	12.688
83) 2-Methylnaphthalene	(2)	9.794	142	1284353	12.244
84) 1-Methylnaphthalene	(2)	9.945	142	1167419	12.217
85) Hexachlorocyclopentadiene	(3)	10.062	237	336334	12.398
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	664729	12.457
88) cis-Isosafrole	(3)	10.155	162	92208	2.129
90) 2,4,6-Trichlorophenol	(3)	10.260	196	421951	12.430
92) 2,4,5-Trichlorophenol	(3)	10.312	196	448077	12.453
93)$2-Fluorobiphenyl	(3)	10.406	172	2933662	25.162
94) trans-Isosafrole	(3)	10.516	162	468520	10.237
95) 1,1'-Biphenyl	(3)	10.557	154	1519074	12.799
96) 2-Chloronaphthalene	(3)	10.563	162	1204654	12.957
98) 1-Chloronaphthalene	(3)	10.592	162	1089521	12.051
99) Diphenyl ether	(3)	10.732	170	831739	12.647
100) 2-Nitroaniline	(3)	10.744	138	379277	12.671
104) 1,4-Naphthoquinone	(3)	10.849	158	509349	12.537
105) 1,4-Dinitrobenzene	(3)	10.971	168	201539	12.473
106) Dimethylphthalate	(3)	11.082	163	1392653	12.591
107) 1,3-Dinitrobenzene	(3)	11.088	168	217636	12.405
108) 2,6-Dinitrotoluene	(3)	11.152	165	309979	12.591
109) Acenaphthylene	(3)	11.216	152	1741110	12.335
112) 3-Nitroaniline	(3)	11.402	138	328838	12.550

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	386093	5.000
114) Acenaphthene	(3)	11.495	153	1268989	12.477
115) 2,4-Dinitrophenol	(3)	11.565	184	179540	12.107
117) Pentachlorobenzene	(3)	11.694	250	555105	12.767
116) 4-Nitrophenol	(3)	11.694	109	238081	12.536
119) Dibenzofuran	(3)	11.752	168	1719327	12.704
118) 2,4-Dinitrotoluene	(3)	11.758	165	420264	12.413
121) 1-Naphthylamine	(3)	11.863	143	1249642	12.518
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	348714	12.383
123) 2-Naphthylamine	(3)	11.968	143	1239485	12.567
124) Diethylphthalate	(3)	12.125	149	1368929	12.505
126) Fluorene	(3)	12.207	166	1357631	12.097
125) Thionazin	(3)	12.218	107	272391	12.616
128) 5-Nitro-o-toluidine	(3)	12.236	152	381588	12.479
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	669350	12.574
129) 4-Nitroaniline	(3)	12.242	138	321300	12.439
130) 4,6-Dinitro-2-methylphenol	(4)	12.288	198	255220	12.280
131) N-Nitrosodiphenylamine	(4)	12.376	169	1136731	12.325
132) NDPA as diphenylamine	(4)	12.376	169	1136731	12.325
134) 1,2-Diphenylhydrazine	(4)	12.422	77	1614721	12.392
135)$2,4,6-Tribromophenol	(3)	12.498	330	369164	25.116
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	270087	12.336
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	164308	12.243
140) Diallate (peak 1)	(4)	12.737	86	590332	10.223
141) Phorate	(4)	12.743	75	1061155	12.275
142) Phenacetin	(4)	12.766	108	789605	12.290
143) 4-Bromophenyl-phenylether	(4)	12.813	248	397529	12.555
144) Diallate (peak 2)	(4)	12.836	86	96330	2.064
145) Hexachlorobenzene	(4)	12.865	284	391741	11.605
147) Dimethoate	(4)	12.935	87	687981	12.384
148) Atrazine	(4)	13.040	200	398144	13.278
149) Pentachlorophenol	(4)	13.116	266	247223	12.305
150) 4-Aminobiphenyl	(4)	13.122	169	1292085	12.538
151) Pentachloronitrobenzene	(4)	13.128	237	184595	12.217
152) Pronamide	(4)	13.227	173	687763	12.429
153)*Phenanthrene-d10	(4)	13.337	188	770671	5.000
154) Dinoseb	(4)	13.366	211	417594	12.456
155) Phenanthrene	(4)	13.366	178	2028174	12.004
157) Anthracene	(4)	13.431	178	2049960	12.030
163) Carbazole	(4)	13.646	167	1936836	12.363

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

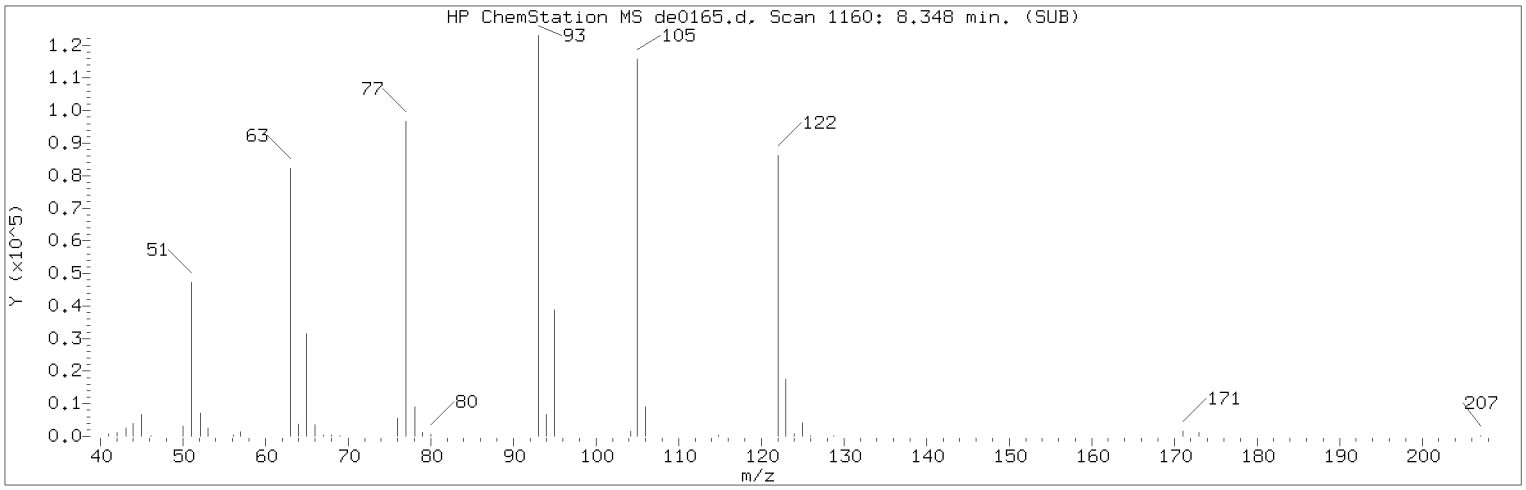
Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	539771	12.382
165) Di-n-butylphthalate	(4)	14.159	149	2419497	12.281
168) 4-Nitroquinoline-1-oxide	(4)	14.386	190	230060	12.313
167) Parathion	(4)	14.386	109	341740	12.225
169) Octachlorostyrene	(4)	14.730	308	162909	12.579
171) Isodrin	(4)	14.771	193	250111	12.470
173) Fluoranthene	(4)	14.987	202	2370401	11.997
222) Total PAHs	(6)			36099312	223.520
174) Benzidine	(5)	15.220	184	4475286	38.300
175)*Pyrene-d10	(5)	15.290	212	906909	5.000
177) Pyrene	(5)	15.319	202	2451768	12.088
179)$Terphenyl-d14	(5)	15.611	244	3236552	25.000
182) p-Dimethylaminoazobenzene	(5)	15.838	225	425681	12.501
185) Chlorobenzilate	(5)	15.931	139	760453	12.588
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	1663269	12.402
188) Butylbenzylphthalate	(5)	16.456	149	1136047	12.546
191) 2-Acetylaminofluorene	(5)	16.805	181	1079748	12.334
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	928515	12.415
195) Benzo(a)anthracene	(5)	17.312	228	2438046	12.362
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	493870	12.514
196) Chrysene	(5)	17.371	228	2265021	12.343
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1689671	12.330
203) 6-Methylchrysene	(5)	18.169	242	1642967	12.287
205) Di-n-octylphthalate	(6)	18.676	149	3093882	12.544
206) Benzo(b)fluoranthene	(6)	19.154	252	2543309	12.402
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	1083375	12.670
208) Benzo(k)fluoranthene	(6)	19.201	252	2399384	12.298
211) Benzo(a)pyrene	(6)	19.673	252	2375960	12.478
213)*Perylene-d12	(6)	19.761	264	749691	5.000
215) 3-Methylcholanthrene	(6)	20.250	268	1102111	12.923
217) Dibenz(a,h)acridine	(6)	21.049	279	1737973	12.736
218) Dibenz(a,j)acridine	(6)	21.124	279	1743045	13.063
219) Indeno(1,2,3-cd)pyrene	(6)	21.363	276	2413759	13.218
220) Dibenz(a,h)anthracene	(6)	21.404	278	2087591	13.699
221) Benzo(g,h,i)perylene	(6)	21.731	276	1936301	13.144

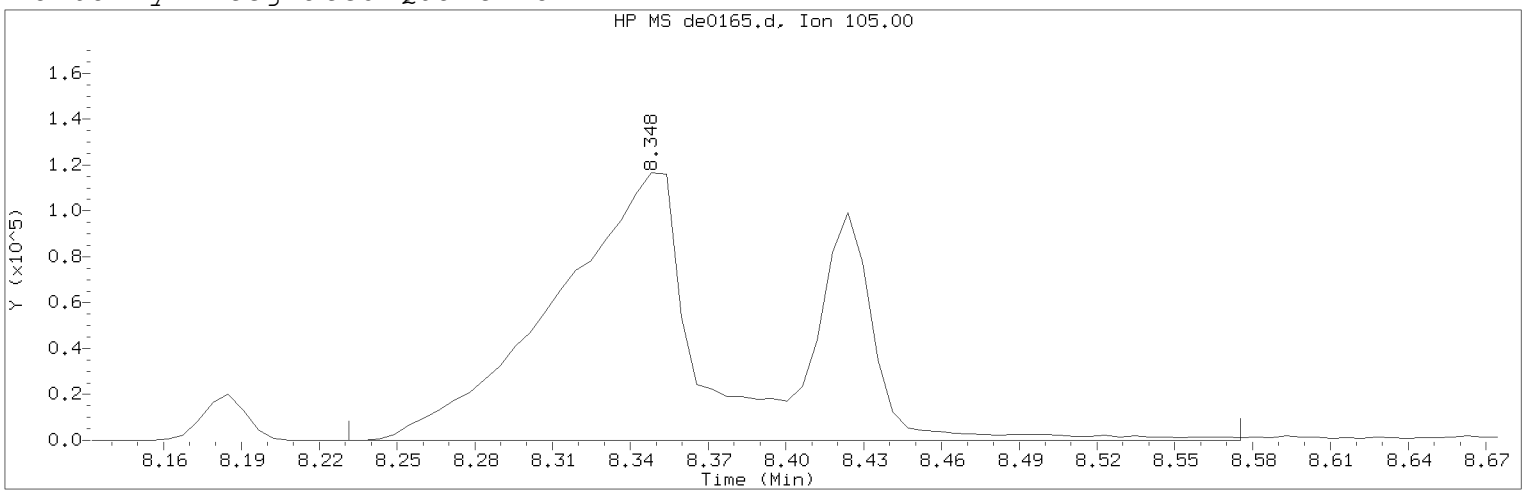
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

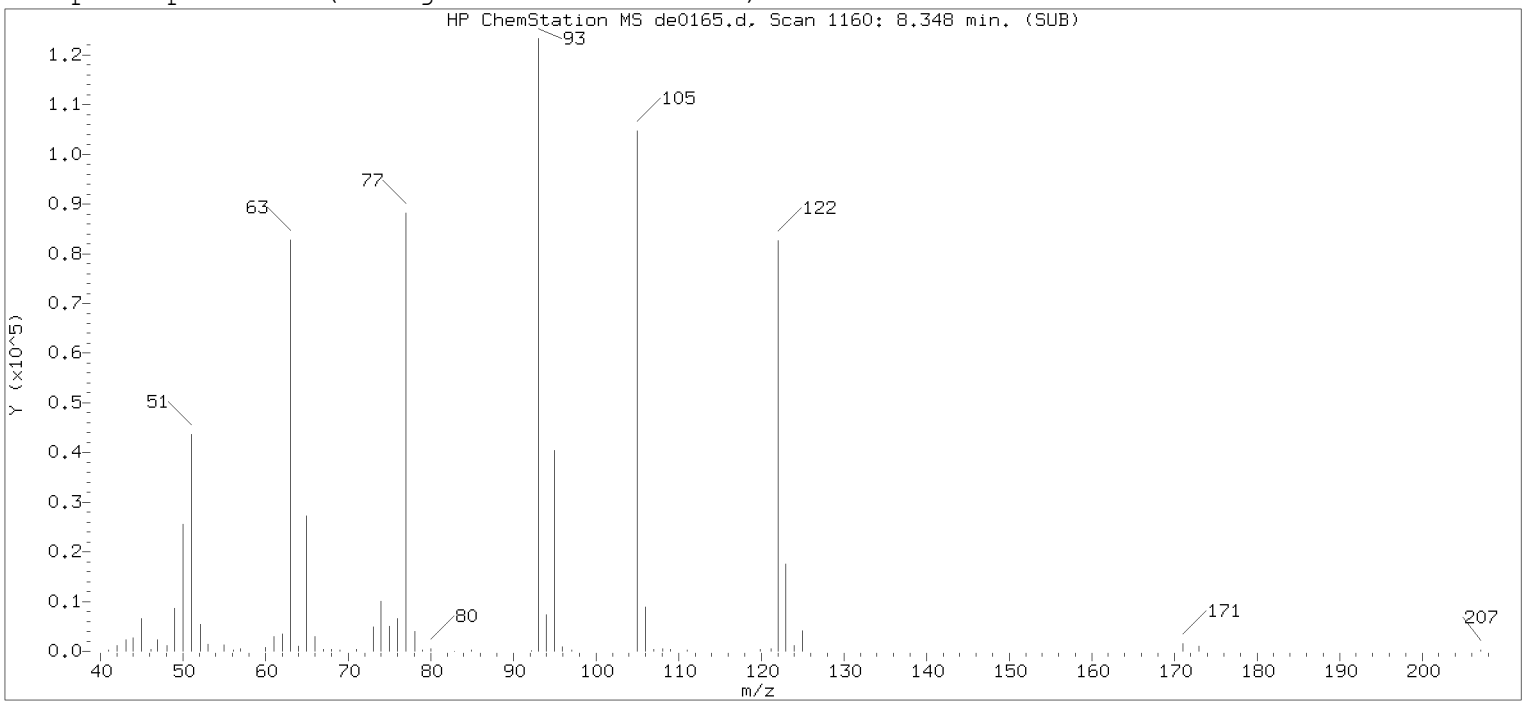
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1160
Retention Time (minutes) : 8.348
Quant Ion : 105.00
Area (flag) : 570932M
On-Column Amount (ng/ul) : 12.8247
Integration start scan : 1139 Integration stop scan: 1198
Y at integration start : -9 Y at integration end: -9

Reason for manual integration: improper integration

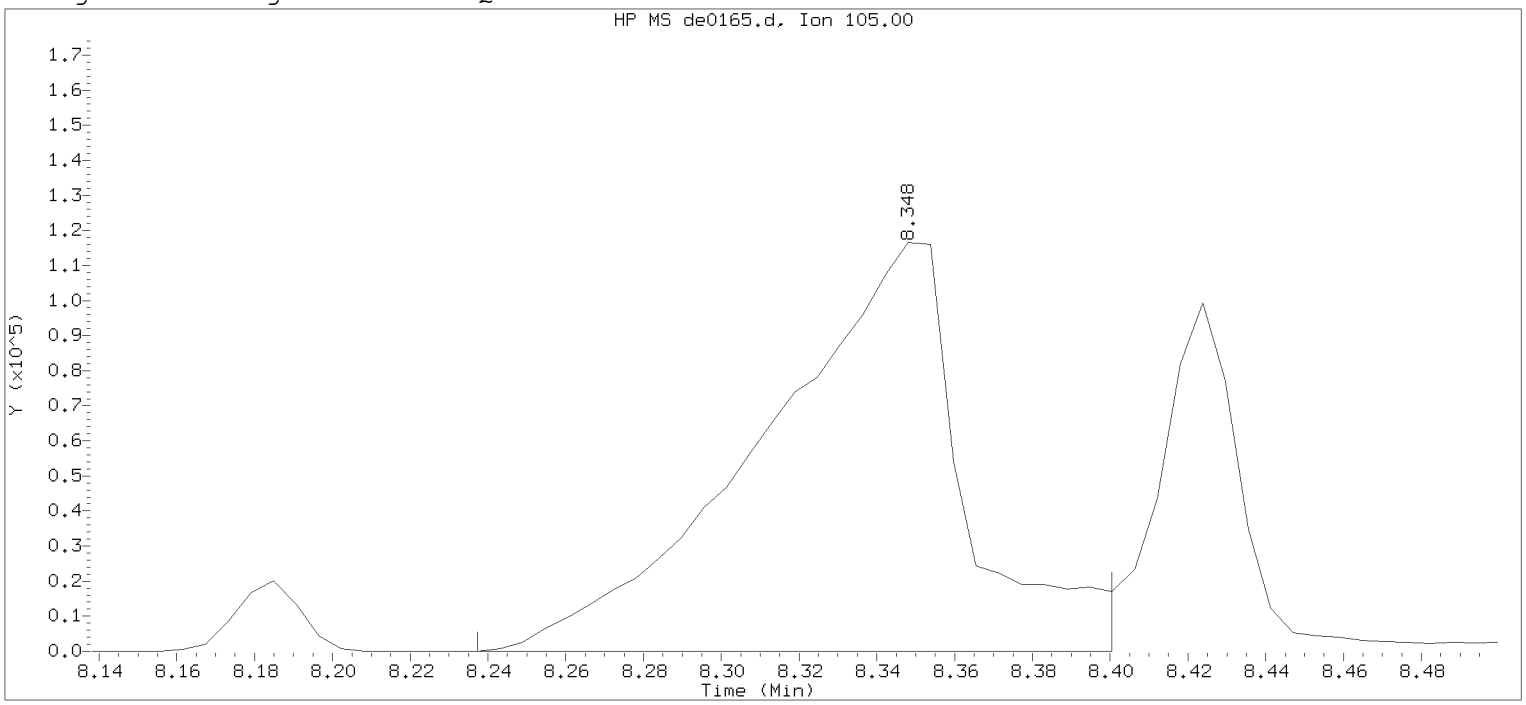
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



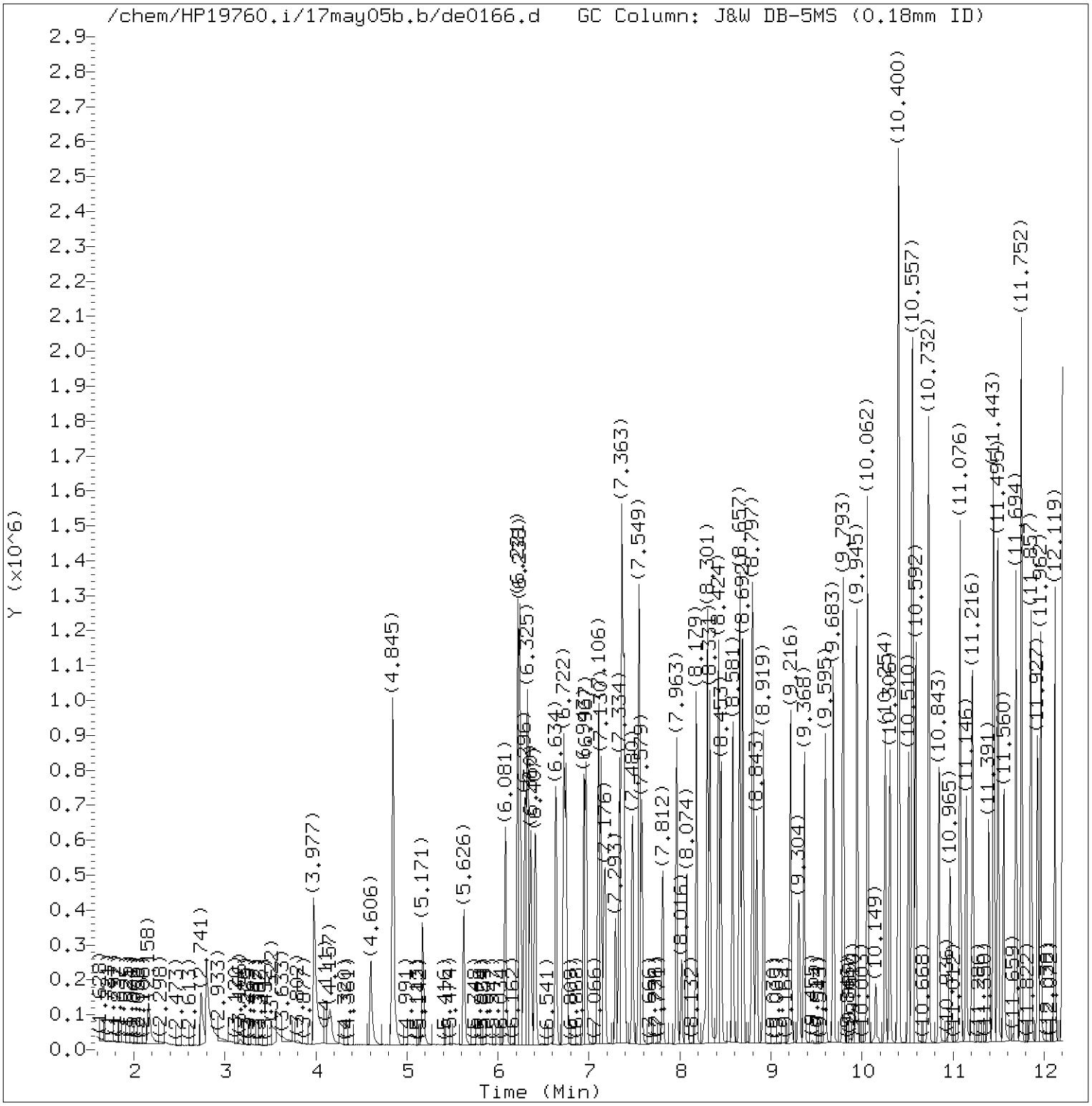
Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 20:33
Date, time and analyst ID of latest file update: 05-May-2017 20:33 Automation

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1160		
Retention Time (minutes)	: 8.348		
Quant Ion	: 105.00		
Area	: 419226		
On-column Amount (ng/ul)	: 10.8202		
Integration start scan	: 1140	Integration stop scan:	1168
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0427



Total Ion Chromatogram (TIC)

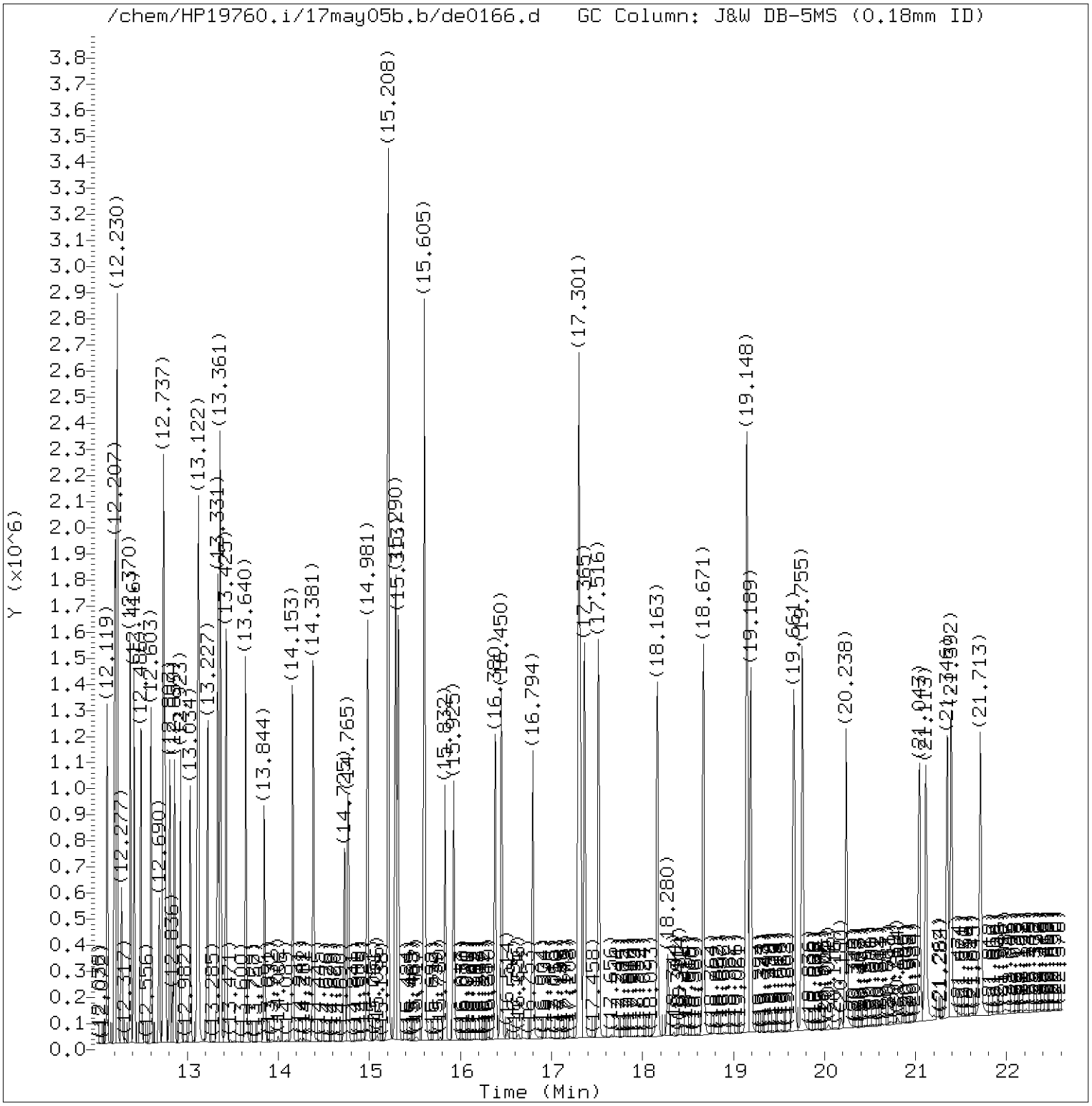
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.164	88	103223	3.818
4) N-Nitrosodimethylamine	(1)	2.741	74	167248	3.793
5) Pyridine	(1)	2.793	79	263779	3.699
7) 2-Picoline	(1)	3.977	93	282996	3.827
8) N-Nitrosomethylethylamine	(1)	4.157	88	121123	3.818
9) Methyl methanesulfonate	(1)	4.606	80	139467	3.843
11)$2-Fluorophenol	(1)	4.845	112	445453	7.693
13) N-Nitrosodiethylamine	(1)	5.171	102	112932	3.794
15) Ethyl methanesulfonate	(1)	5.626	109	123896	3.913
42) Total Cresols	(1)			487102	8.005
16) Benzaldehyde	(1)	6.081	77	203376	3.752
17)$Phenol-d6	(1)	6.215	99	618357	7.889
18) Phenol	(1)	6.238	94	343889	3.914
19) Aniline	(1)	6.244	93	410499	3.962
20) a-methylstyrene	(1)	6.325	118	244503	3.792
22) bis(2-Chloroethyl)ether	(1)	6.360	93	260353	3.988
23) 2-Chlorophenol	(1)	6.413	128	230609	3.994
24) 1,3-Dichlorobenzene	(1)	6.634	146	242876	3.925
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	187395	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	250137	3.976
27) Benzyl alcohol	(1)	6.943	108	155418	3.733
28) 1,2-Dichlorobenzene	(1)	6.967	146	235622	3.982
30) Indene	(1)	7.106	115	427718	3.764
31) 2-Methylphenol	(1)	7.130	108	226201	3.962
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	374582	3.956
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	374582	3.956
35) N-Nitrosopyrrolidine	(1)	7.293	100	126698	3.927
36) Acetophenone	(1)	7.334	105	313049	3.562
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	202641	4.013
39) N-Nitrosomorpholine	(1)	7.363	56	180694	4.085
37) 4-Methylphenol	(1)	7.369	108	260901	4.043
97) Isosafrole	(3)			191291	3.903
40) o-Toluidine	(1)	7.386	106	401103	4.029
43) Hexachloroethane	(1)	7.480	117	103987	3.941
44)$Nitrobenzene-d5	(2)	7.549	82	573385	7.909
45) Nitrobenzene	(2)	7.579	77	286339	3.910
48) N-Nitrosopiperidine	(2)	7.812	114	114914	3.914
50) Isophorone	(2)	7.963	82	499419	3.945
120) 2,4_2,6-Dinitrotoluenes	(3)			244667	7.780
51) 2-Nitrophenol	(2)	8.074	139	115526	3.902

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	251368	4.005
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	118935	3.986
56) Benzoic acid	(2)	8.325	105	265161M	5.965
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	314881	3.969
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	353285	3.794
60) 2,4-Dichlorophenol	(2)	8.453	162	183110	3.907
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	214370	3.981
65)*Naphthalene-d8	(2)	8.657	136	707489	5.000
66) Naphthalene	(2)	8.692	128	655147	3.898
146) Diallate trans/cis	(4)			231428	3.984
67) 4-Chloroaniline	(2)	8.791	127	269387	3.951
68) 2,6-Dichlorophenol	(2)	8.803	162	182892	3.992
69) Hexachloropropene	(2)	8.843	213	147974	3.961
71) Hexachlorobutadiene	(2)	8.919	225	130372	4.041
75) Quinoline	(2)	9.216	129	418695	4.007
76) Caprolactam	(2)	9.304	113	52684	3.601
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	188187	3.580
80) 4-Chloro-3-methylphenol	(2)	9.595	107	209614	3.934
82) Safrole	(2)	9.683	162	166811	3.932
83) 2-Methylnaphthalene	(2)	9.793	142	428272	3.865
84) 1-Methylnaphthalene	(2)	9.945	142	394133	3.898
85) Hexachlorocyclopentadiene	(3)	10.062	237	107322	3.709
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	229180	3.959
88) cis-Isosafrole	(3)	10.155	162	30635	0.656
90) 2,4,6-Trichlorophenol	(3)	10.254	196	142694	3.893
92) 2,4,5-Trichlorophenol	(3)	10.306	196	152140	3.911
93)$2-Fluorobiphenyl	(3)	10.400	172	986070	7.822
94) trans-Isosafrole	(3)	10.510	162	160656	3.247
95) 1,1'-Biphenyl	(3)	10.551	154	440678	3.524
96) 2-Chloronaphthalene	(3)	10.557	162	399863	3.964
98) 1-Chloronaphthalene	(3)	10.592	162	383527	3.921
100) 2-Nitroaniline	(3)	10.732	138	130752	4.012
99) Diphenyl ether	(3)	10.732	170	281042	3.944
104) 1,4-Naphthoquinone	(3)	10.848	158	171744	3.910
105) 1,4-Dinitrobenzene	(3)	10.965	168	67079	3.854
106) Dimethylphthalate	(3)	11.076	163	480627	3.996
107) 1,3-Dinitrobenzene	(3)	11.082	168	74141	3.909
108) 2,6-Dinitrotoluene	(3)	11.146	165	105947	3.966
109) Acenaphthylene	(3)	11.216	152	586768	3.863
112) 3-Nitroaniline	(3)	11.391	138	110545	3.904

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	412952	5.000
114) Acenaphthene	(3)	11.495	153	427185	3.896
115) 2,4-Dinitrophenol	(3)	11.560	184	105969	6.830
116) 4-Nitrophenol	(3)	11.688	109	76764	3.773
117) Pentachlorobenzene	(3)	11.694	250	186424	3.954
119) Dibenzofuran	(3)	11.752	168	600895	4.064
118) 2,4-Dinitrotoluene	(3)	11.752	165	138720	3.814
121) 1-Naphthylamine	(3)	11.857	143	412992	3.844
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	112537	3.739
123) 2-Naphthylamine	(3)	11.962	143	413862	3.887
124) Diethylphthalate	(3)	12.119	149	450525	3.828
126) Fluorene	(3)	12.201	166	470186	3.888
125) Thionazin	(3)	12.212	107	90268	3.876
128) 5-Nitro-o-toluidine	(3)	12.224	152	127286	3.863
129) 4-Nitroaniline	(3)	12.230	138	107417	3.860
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	232739	4.015
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	79749	3.747
132) NDPA as diphenylamine	(4)	12.376	169	387414	4.026
131) N-Nitrosodiphenylamine	(4)	12.376	169	387414	4.026
134) 1,2-Diphenylhydrazine	(4)	12.416	77	541568	3.993
135)$2,4,6-Tribromophenol	(3)	12.492	330	121575	7.686
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	88660	3.911
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	51979	3.775
140) Diallate (peak 1)	(4)	12.737	86	197970	3.298
141) Phorate	(4)	12.743	75	349373	3.905
142) Phenacetin	(4)	12.754	108	265054	3.969
143) 4-Bromophenyl-phenylether	(4)	12.807	248	134199	4.054
144) Diallate (peak 2)	(4)	12.836	86	33458	0.687
145) Hexachlorobenzene	(4)	12.859	284	134961	3.878
147) Dimethoate	(4)	12.923	87	230326	3.985
148) Atrazine	(4)	13.034	200	114541	3.734
149) Pentachlorophenol	(4)	13.110	266	74321	3.639
151) Pentachloronitrobenzene	(4)	13.122	237	62062	3.956
150) 4-Aminobiphenyl	(4)	13.122	169	435492	4.045
152) Pronamide	(4)	13.227	173	225370	3.929
153)*Phenanthrene-d10	(4)	13.337	188	789256	5.000
155) Phenanthrene	(4)	13.361	178	682566	3.911
154) Dinoseb	(4)	13.361	211	124396	3.648
157) Anthracene	(4)	13.425	178	692951	3.932
163) Carbazole	(4)	13.640	167	642945	3.953

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

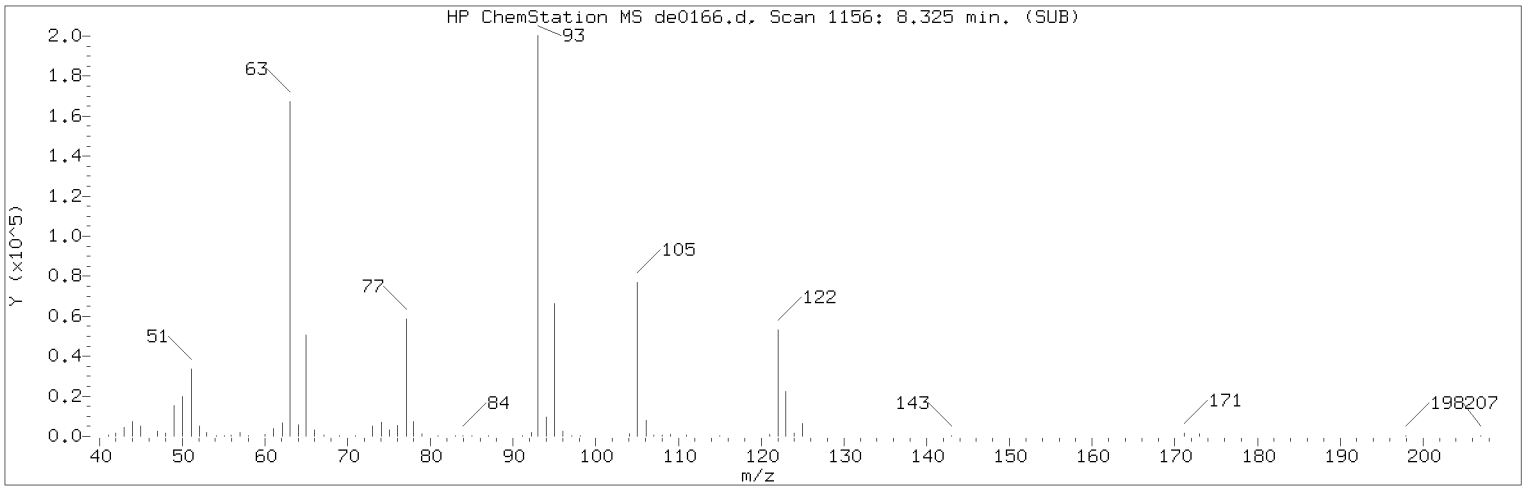
Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.844	109	174859	3.882
165) Di-n-butylphthalate	(4)	14.153	149	796038	3.905
167) Parathion	(4)	14.386	109	110691	3.843
168) 4-Nitroquinoline-1-oxide	(4)	14.386	190	58810	3.188
169) Octachlorostyrene	(4)	14.730	308	49680	3.747
171) Isodrin	(4)	14.765	193	83028	3.980
173) Fluoranthene	(4)	14.981	202	779480	3.835
222) Total PAHs	(6)			11974872	70.859
174) Benzidine	(5)	15.208	184	1550675	12.428
175)*Pyrene-d10	(5)	15.290	212	943049	5.000
177) Pyrene	(5)	15.313	202	825312	3.885
179)$Terphenyl-d14	(5)	15.605	244	1085159	7.942
182) p-Dimethylaminoazobenzene	(5)	15.832	225	132059	3.734
185) Chlorobenzilate	(5)	15.925	139	249530	3.926
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	547107	3.887
188) Butylbenzylphthalate	(5)	16.450	149	375206	3.935
191) 2-Acetylaminofluorene	(5)	16.794	181	345627	3.787
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	306685	3.903
195) Benzo(a)anthracene	(5)	17.301	228	812336	3.924
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	169705	4.052
196) Chrysene	(5)	17.365	228	761010	3.946
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	556235	3.872
203) 6-Methylchrysene	(5)	18.163	242	527662	3.786
205) Di-n-octylphthalate	(6)	18.671	149	994415	3.896
206) Benzo(b)fluoranthene	(6)	19.143	252	801014	3.801
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.148	256	342188	3.873
208) Benzo(k)fluoranthene	(6)	19.189	252	785449	3.897
211) Benzo(a)pyrene	(6)	19.661	252	746886	3.814
213)*Perylene-d12	(6)	19.755	264	768390	5.000
215) 3-Methylcholanthrene	(6)	20.238	268	342799	3.886
217) Dibenz(a,h)acridine	(6)	21.043	279	556640	3.932
218) Dibenz(a,j)acridine	(6)	21.113	279	562722	4.036
219) Indeno(1,2,3-cd)pyrene	(6)	21.352	276	793622	4.150
220) Dibenz(a,h)anthracene	(6)	21.392	278	678208	4.231
221) Benzo(g,h,i)perylene	(6)	21.713	276	654347	4.224

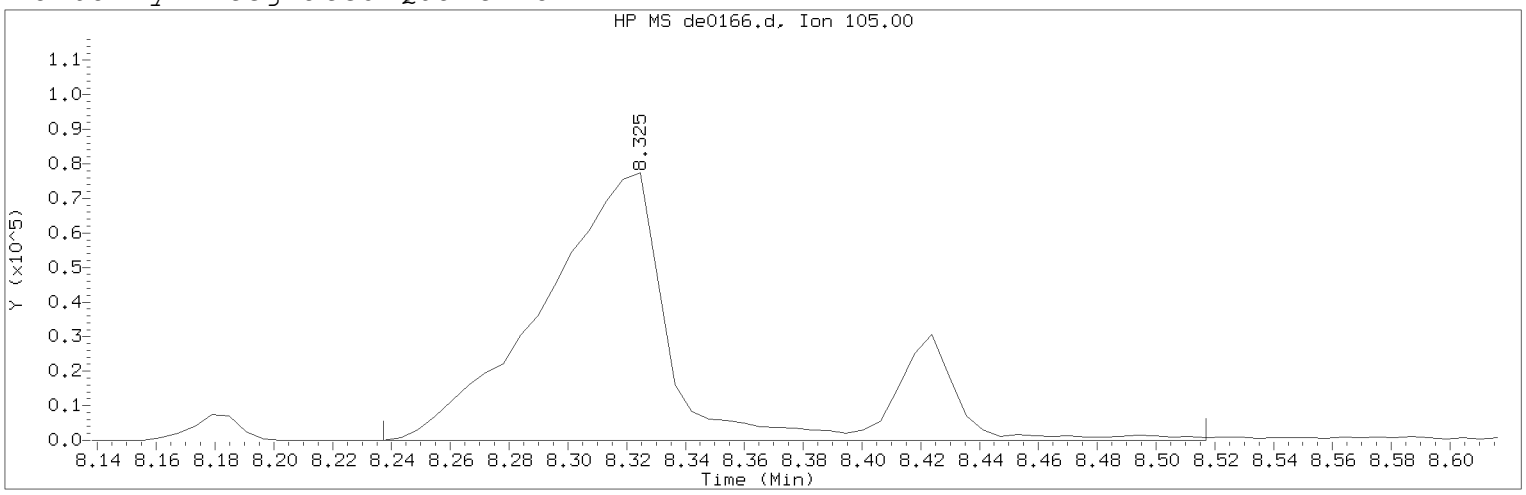
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

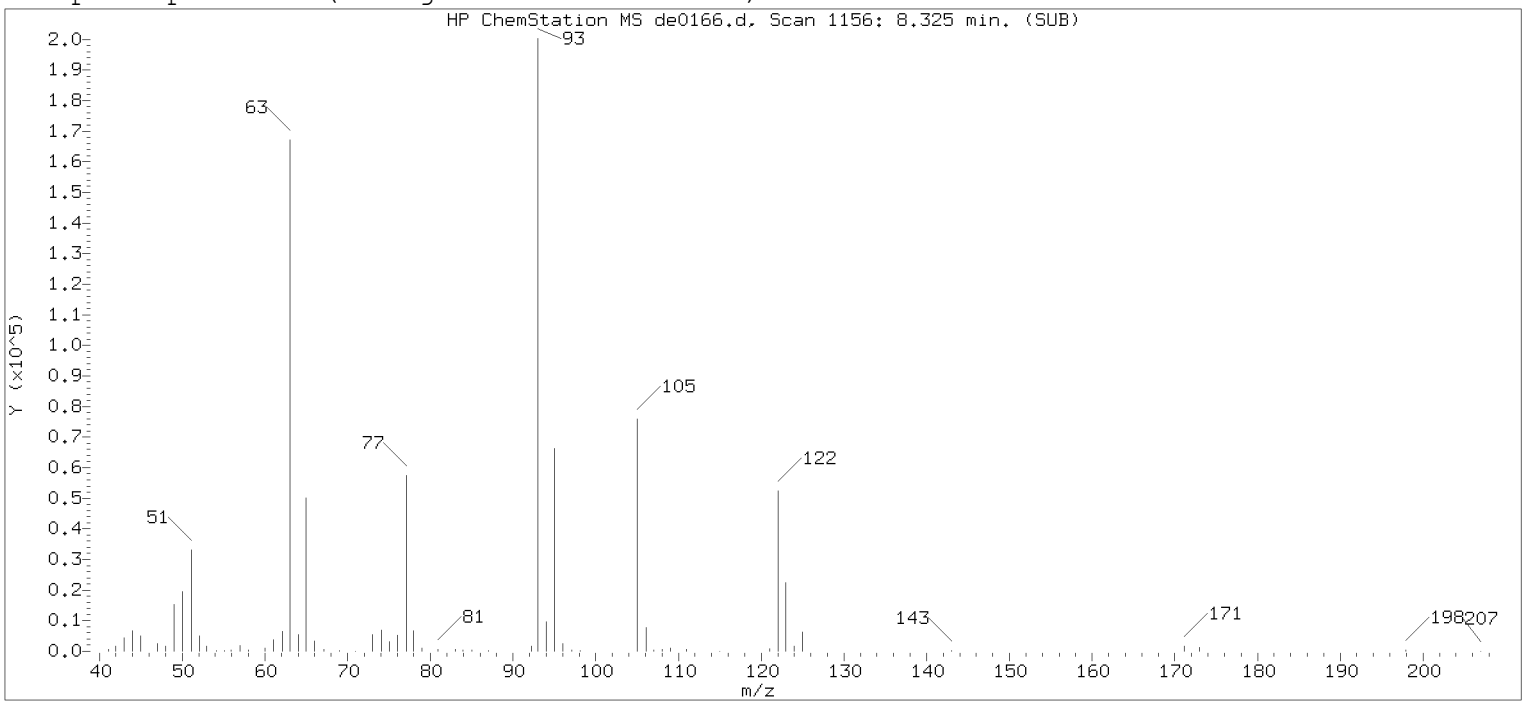
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1156
Retention Time (minutes) : 8.325
Quant Ion : 105.00
Area (flag) : 265161M
On-Column Amount (ng/ul) : 5.9647
Integration start scan : 1140 Integration stop scan: 1188
Y at integration start : 4 Y at integration end: 4

Reason for manual integration: improper integration

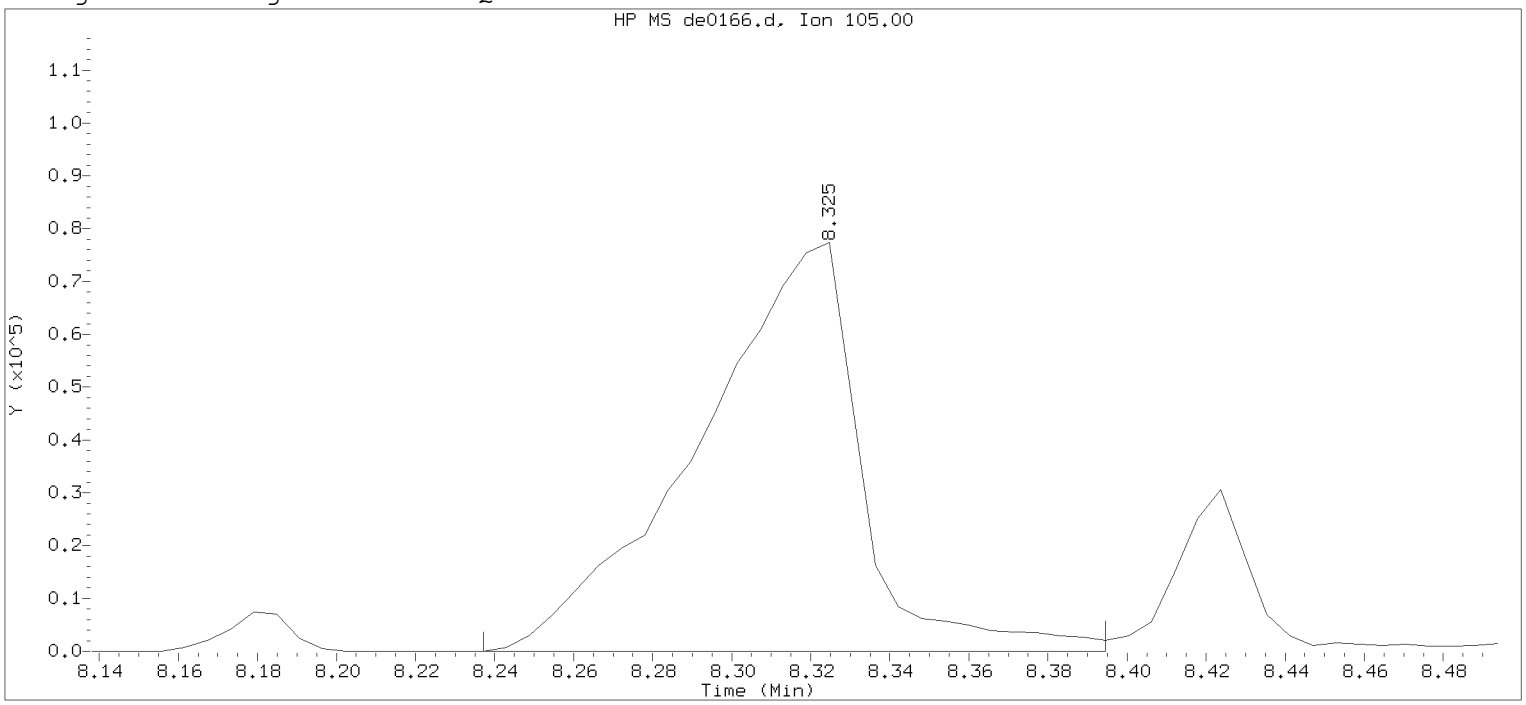
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



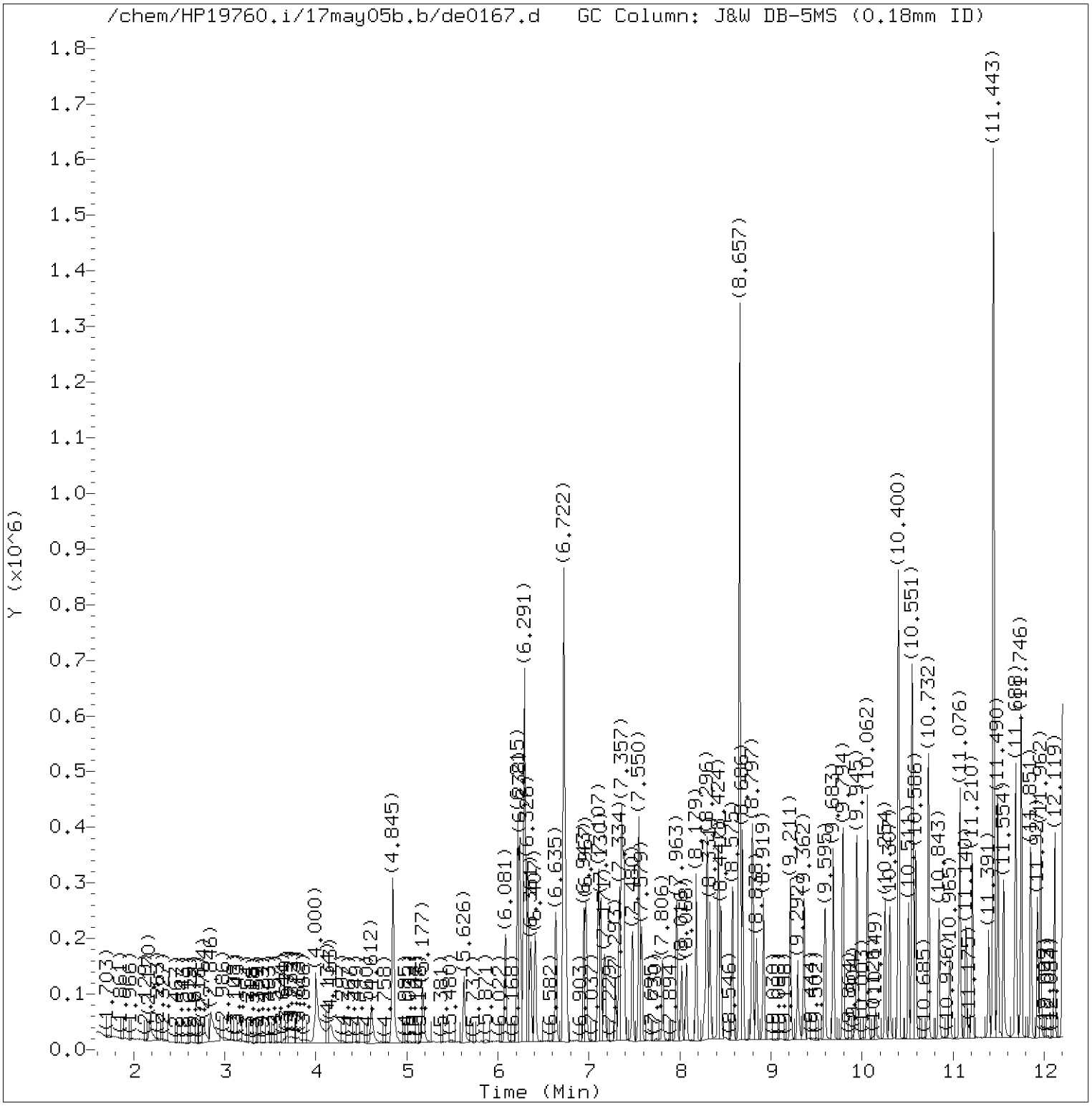
Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:00
Date, time and analyst ID of latest file update: 05-May-2017 21:00 Automation

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1156		
Retention Time (minutes)	: 8.325		
Quant Ion	: 105.00		
Area	: 221906		
On-column Amount (ng/ul)	: 5.6582		
Integration start scan	: 1140	Integration stop scan:	1167
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0435



Total Ion Chromatogram (TIC)

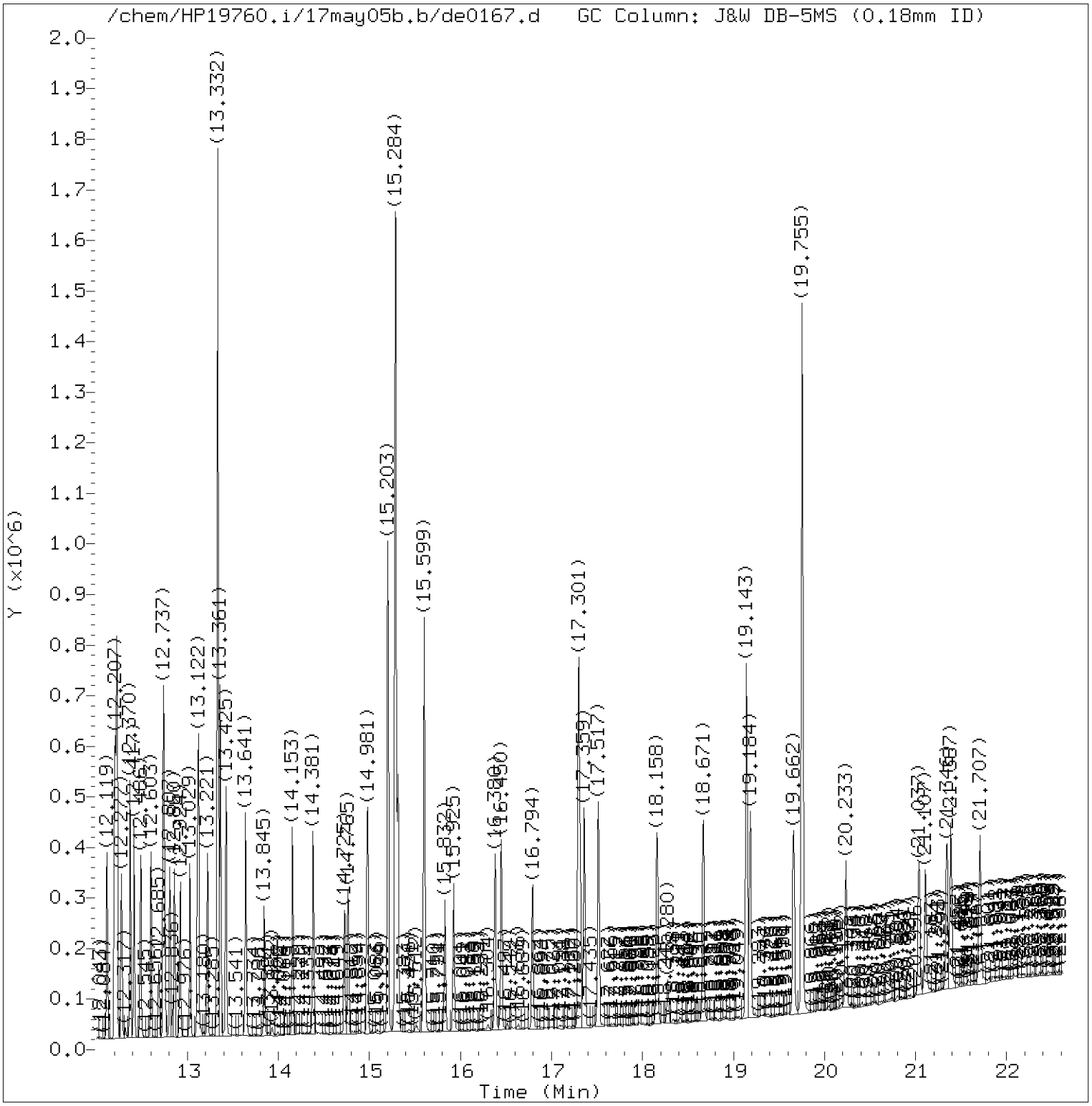
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.170	88	34814M	1.334
4) N-Nitrosodimethylamine	(1)	2.764	74	52272M	1.245
5) Pyridine	(1)	2.846	79	91972M	1.335
7) 2-Picoline	(1)	4.000	93	87204M	1.240
8) N-Nitrosomethylethylamine	(1)	4.163	88	36190	1.206
9) Methyl methanesulfonate	(1)	4.612	80	41467M	1.208
11)$2-Fluorophenol	(1)	4.845	112	136462	2.478
13) N-Nitrosodiethylamine	(1)	5.172	102	34644	1.227
15) Ethyl methanesulfonate	(1)	5.626	109	37493	1.244
42) Total Cresols	(1)			143548	2.479
16) Benzaldehyde	(1)	6.081	77	66544	1.282
17)$Phenol-d6	(1)	6.215	99	184338	2.474
18) Phenol	(1)	6.232	94	106070	1.265
19) Aniline	(1)	6.244	93	122935	1.246
20) a-methylstyrene	(1)	6.326	118	75766	1.236
22) bis(2-Chloroethyl)ether	(1)	6.361	93	77466	1.246
23) 2-Chlorophenol	(1)	6.407	128	67737	1.235
24) 1,3-Dichlorobenzene	(1)	6.635	146	76664	1.292
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	178509	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	75470	1.258
27) Benzyl alcohol	(1)	6.943	108	48928	1.236
28) 1,2-Dichlorobenzene	(1)	6.967	146	71779	1.269
30) Indene	(1)	7.107	115	132737	1.230
31) 2-Methylphenol	(1)	7.130	108	66133	1.222
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.171	45	112949	1.252
34) bis(2-Chloroisopropyl)ether	(1)	7.171	45	112949	1.252
35) N-Nitrosopyrrolidine	(1)	7.293	100	36533	1.198
36) Acetophenone	(1)	7.334	105	103121	1.235
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	61337	1.271
39) N-Nitrosomorpholine	(1)	7.363	56	52406	1.245
37) 4-Methylphenol	(1)	7.369	108	77415	1.258
97) Isosafrole	(3)			54705	1.192
40) o-Toluidine	(1)	7.386	106	118323	1.248
43) Hexachloroethane	(1)	7.480	117	31506	1.253
44)$Nitrobenzene-d5	(2)	7.550	82	171240	2.452
45) Nitrobenzene	(2)	7.579	77	87105	1.233
48) N-Nitrosopiperidine	(2)	7.812	114	32947	1.174
50) Isophorone	(2)	7.963	82	143165	1.182
120) 2,4_2,6-Dinitrotoluenes	(3)			68706	2.342
51) 2-Nitrophenol	(2)	8.074	139	31381	1.119

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	72140	1.198
56) Benzoic acid	(2)	8.290	105	83803M	2.119
57) O,O,O-Triethylphosphorothioate	(2)	8.296	198	34830	1.214
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	93264	1.221
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	109821	1.224
60) 2,4-Dichlorophenol	(2)	8.447	162	53944	1.200
62) 1,2,4-Trichlorobenzene	(2)	8.575	180	64931	1.247
65)*Naphthalene-d8	(2)	8.657	136	684219	5.000
66) Naphthalene	(2)	8.686	128	197361	1.219
146) Diallate trans/cis	(4)			67557	1.220
67) 4-Chloroaniline	(2)	8.791	127	78195	1.196
68) 2,6-Dichlorophenol	(2)	8.803	162	54458	1.232
69) Hexachloropropene	(2)	8.838	213	42290	1.183
71) Hexachlorobutadiene	(2)	8.919	225	38657	1.241
75) Quinoline	(2)	9.211	129	121896	1.213
76) Caprolactam	(2)	9.292	113	16919	1.204
77) N-Nitrosodi-n-butylamine	(2)	9.362	84	57417	1.148
80) 4-Chloro-3-methylphenol	(2)	9.595	107	61170	1.197
82) Safrole	(2)	9.683	162	49402	1.212
83) 2-Methylnaphthalene	(2)	9.794	142	127925	1.202
84) 1-Methylnaphthalene	(2)	9.945	142	118247	1.215
85) Hexachlorocyclopentadiene	(3)	10.062	237	28707	1.079
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	68550	1.253
88) cis-Isosafrole	(3)	10.149	162	8926	0.204
90) 2,4,6-Trichlorophenol	(3)	10.254	196	40002	1.170
92) 2,4,5-Trichlorophenol	(3)	10.307	196	44625	1.220
93)$2-Fluorobiphenyl	(3)	10.400	172	297586	2.498
94) trans-Isosafrole	(3)	10.511	162	45779	0.988
95) 1,1'-Biphenyl	(3)	10.551	154	150655	1.271
96) 2-Chloronaphthalene	(3)	10.557	162	122994	1.283
98) 1-Chloronaphthalene	(3)	10.586	162	112409	1.222
100) 2-Nitroaniline	(3)	10.732	138	35373	1.164
99) Diphenyl ether	(3)	10.732	170	85689	1.269
104) 1,4-Naphthoquinone	(3)	10.843	158	47366	1.158
105) 1,4-Dinitrobenzene	(3)	10.965	168	17903	1.113
106) Dimethylphthalate	(3)	11.076	163	142397	1.252
107) 1,3-Dinitrobenzene	(3)	11.076	168	20676	1.169
108) 2,6-Dinitrotoluene	(3)	11.146	165	29798	1.191
109) Acenaphthylene	(3)	11.210	152	174565	1.221
112) 3-Nitroaniline	(3)	11.391	138	30455	1.155

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	390234	5.000
114) Acenaphthene	(3)	11.490	153	126726	1.227
115) 2,4-Dinitrophenol	(3)	11.554	184	40582	2.768
116) 4-Nitrophenol	(3)	11.682	109	40588	2.111
117) Pentachlorobenzene	(3)	11.694	250	54958	1.236
119) Dibenzofuran	(3)	11.746	168	175704	1.256
118) 2,4-Dinitrotoluene	(3)	11.752	165	38908	1.150
121) 1-Naphthylamine	(3)	11.857	143	120752	1.189
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	31914	1.142
123) 2-Naphthylamine	(3)	11.962	143	123721	1.230
124) Diethylphthalate	(3)	12.119	149	132482	1.201
126) Fluorene	(3)	12.201	166	138026	1.214
125) Thionazin	(3)	12.213	107	27053	1.233
128) 5-Nitro-o-toluidine	(3)	12.224	152	36766	1.192
129) 4-Nitroaniline	(3)	12.224	138	31225	1.197
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	71333	1.293
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	41471	2.036
132) NDPA as diphenylamine	(4)	12.370	169	114538	1.245
131) N-Nitrosodiphenylamine	(4)	12.370	169	114538	1.245
134) 1,2-Diphenylhydrazine	(4)	12.417	77	163637	1.259
135)$2,4,6-Tribromophenol	(3)	12.492	330	33887	2.303
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	26148	1.212
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	12766	0.969
140) Diallate (peak 1)	(4)	12.737	86	57985	1.014
141) Phorate	(4)	12.737	75	100225	1.183
142) Phenacetin	(4)	12.749	108	73724	1.168
143) 4-Bromophenyl-phenylether	(4)	12.807	248	40037	1.261
144) Diallate (peak 2)	(4)	12.836	86	9572	0.206
145) Hexachlorobenzene	(4)	12.860	284	41232	1.239
147) Dimethoate	(4)	12.924	87	65206	1.190
148) Atrazine	(4)	13.029	200	38460	1.299
149) Pentachlorophenol	(4)	13.110	266	17418	0.936
151) Pentachloronitrobenzene	(4)	13.122	237	16975	1.149
150) 4-Aminobiphenyl	(4)	13.122	169	128934	1.251
152) Pronamide	(4)	13.221	173	62496	1.156
153)*Phenanthrene-d10	(4)	13.332	188	755491	5.000
155) Phenanthrene	(4)	13.361	178	201512	1.212
154) Dinoseb	(4)	13.361	211	30538	0.976
157) Anthracene	(4)	13.425	178	202591	1.208
163) Carbazole	(4)	13.641	167	185203	1.199

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

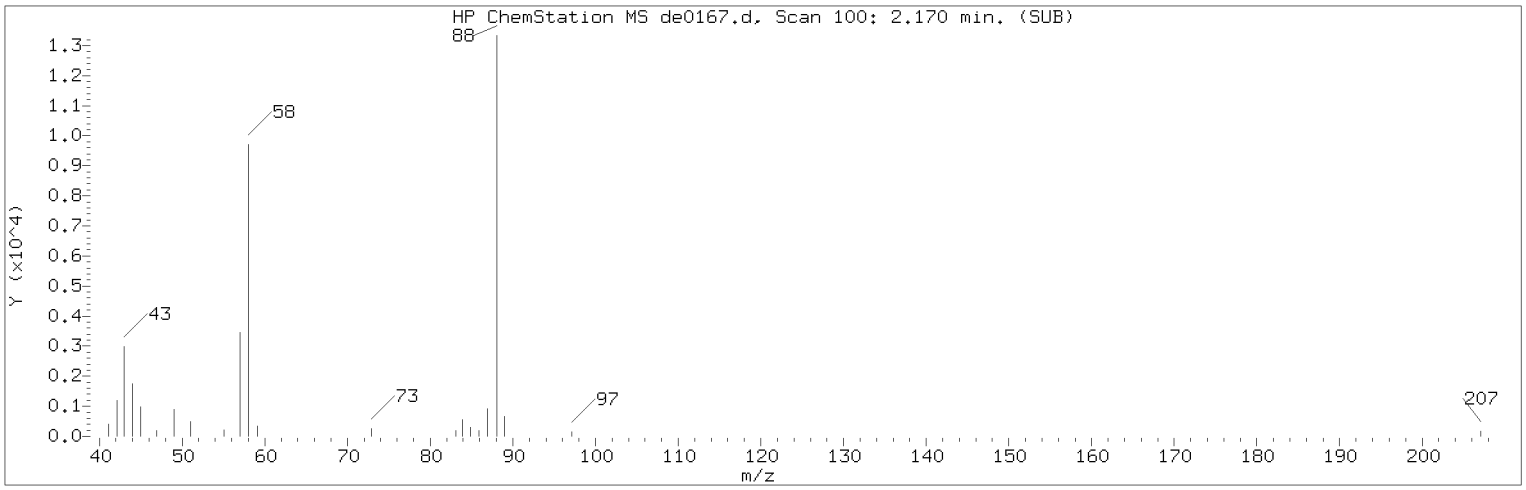
Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.845	109	47000	1.114
165) Di-n-butylphthalate	(4)	14.153	149	226753	1.176
167) Parathion	(4)	14.381	109	29483	1.096
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	12228	0.693
169) Octachlorostyrene	(4)	14.730	308	16196	1.272
171) Isodrin	(4)	14.765	193	24293	1.222
173) Fluoranthene	(4)	14.981	202	228106	1.183
222) Total PAHs	(6)			3443029	21.656
174) Benzidine	(5)	15.203	184	439208	3.707
175)*Pyrene-d10	(5)	15.290	212	895421	5.000
177) Pyrene	(5)	15.313	202	244176	1.216
179)$Terphenyl-d14	(5)	15.605	244	321670	2.483
182) p-Dimethylaminoazobenzene	(5)	15.832	225	33641	1.036
185) Chlorobenzilate	(5)	15.925	139	71213	1.191
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	149343	1.138
188) Butylbenzylphthalate	(5)	16.450	149	109150	1.213
191) 2-Acetylaminofluorene	(5)	16.794	181	86996	1.038
193) 3,3'-Dichlorobenzidine	(5)	17.295	252	84520	1.151
195) Benzo(a)anthracene	(5)	17.301	228	234613	1.201
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	45643	1.148
196) Chrysene	(5)	17.359	228	222108	1.218
199) bis(2-Ethylhexyl)phthalate	(5)	17.517	149	157772	1.171
203) 6-Methylchrysene	(5)	18.158	242	152855	1.170
205) Di-n-octylphthalate	(6)	18.671	149	270511	1.148
206) Benzo(b)fluoranthene	(6)	19.143	252	223483	1.146
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.149	256	90203	1.112
208) Benzo(k)fluoranthene	(6)	19.184	252	224847	1.198
211) Benzo(a)pyrene	(6)	19.662	252	208878	1.152
213)*Perylene-d12	(6)	19.755	264	720620	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	92496	1.138
217) Dibenz(a,h)acridine	(6)	21.037	279	149674	1.146
218) Dibenz(a,j)acridine	(6)	21.107	279	143636	1.121
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	212039	1.191
220) Dibenz(a,h)anthracene	(6)	21.387	278	178028	1.193
221) Benzo(g,h,i)perylene	(6)	21.707	276	179798	1.239

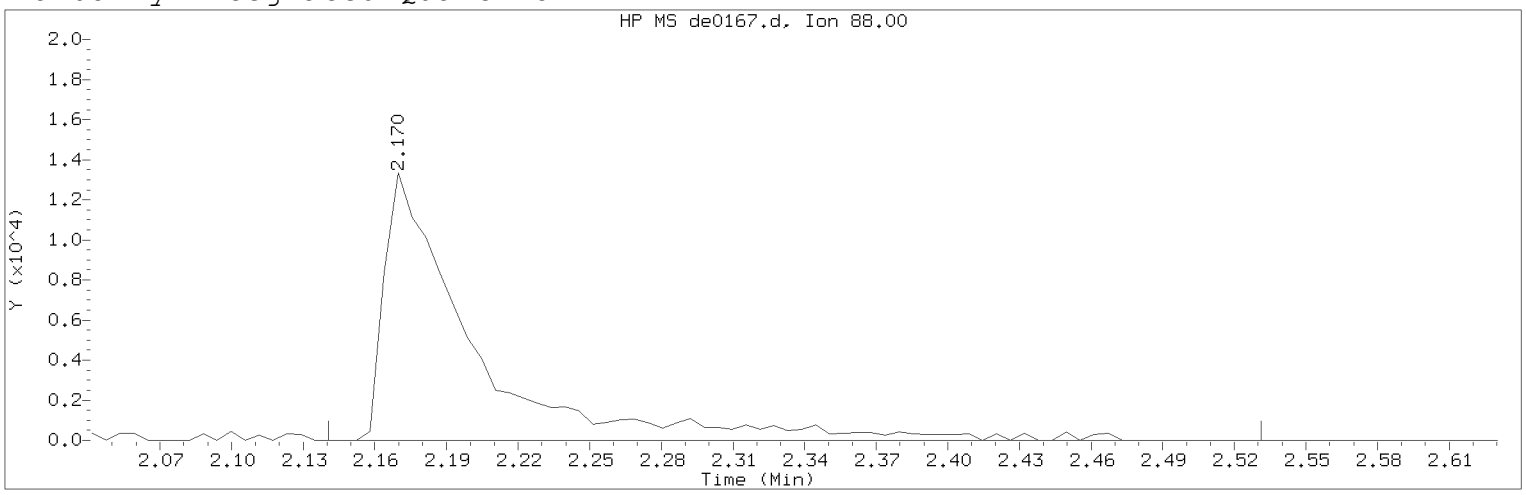
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

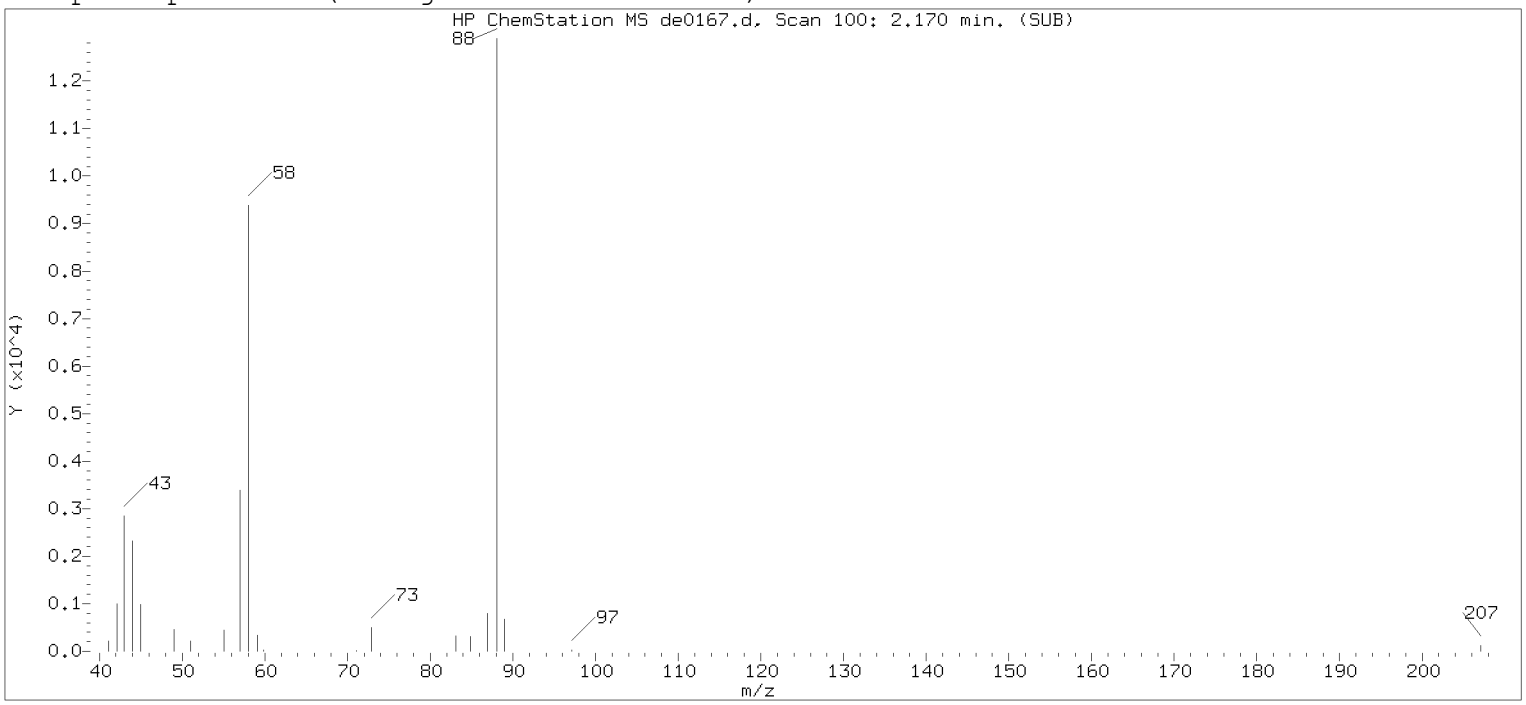
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 100
Retention Time (minutes) : 2.170
Quant Ion : 88.00
Area (flag) : 34814M
On-Column Amount (ng/ul) : 1.3338
Integration start scan : 94 Integration stop scan: 161
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

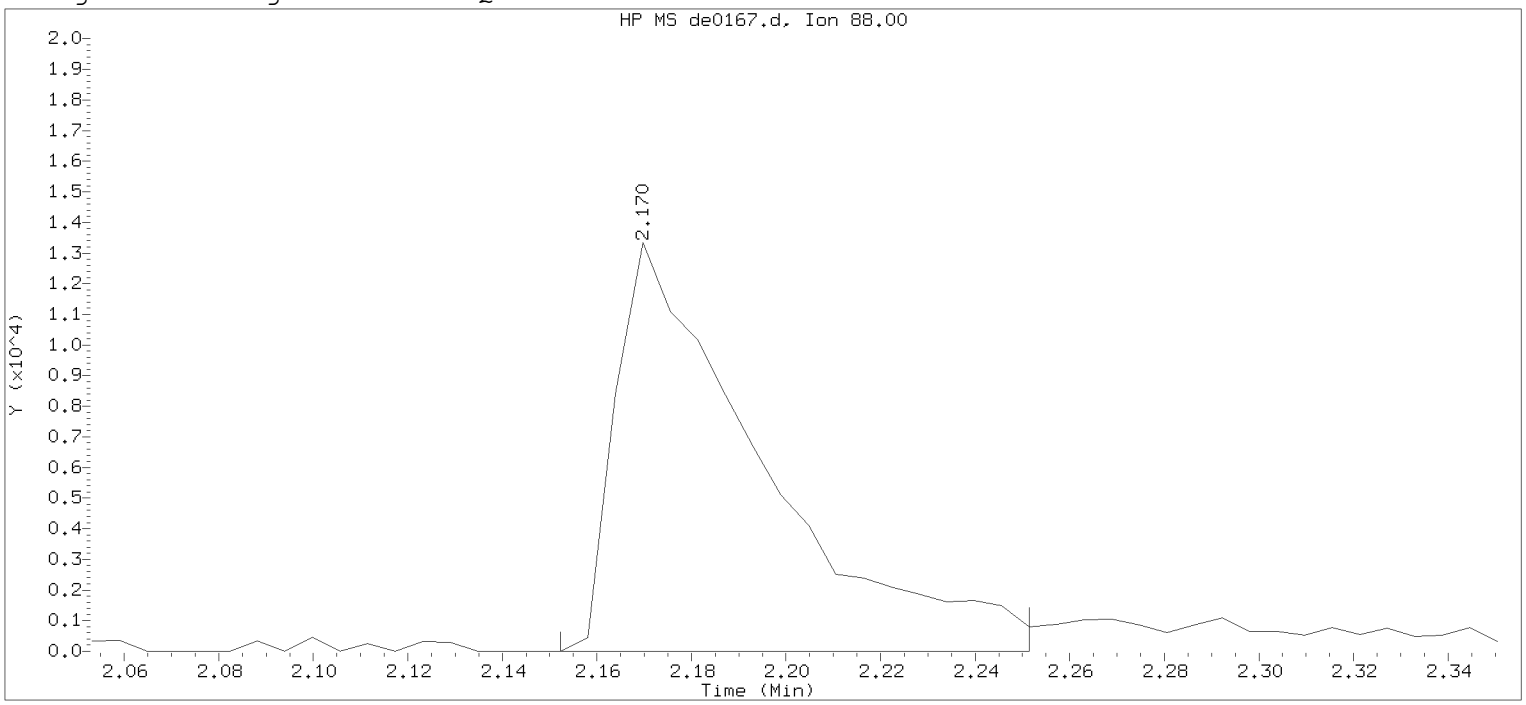
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

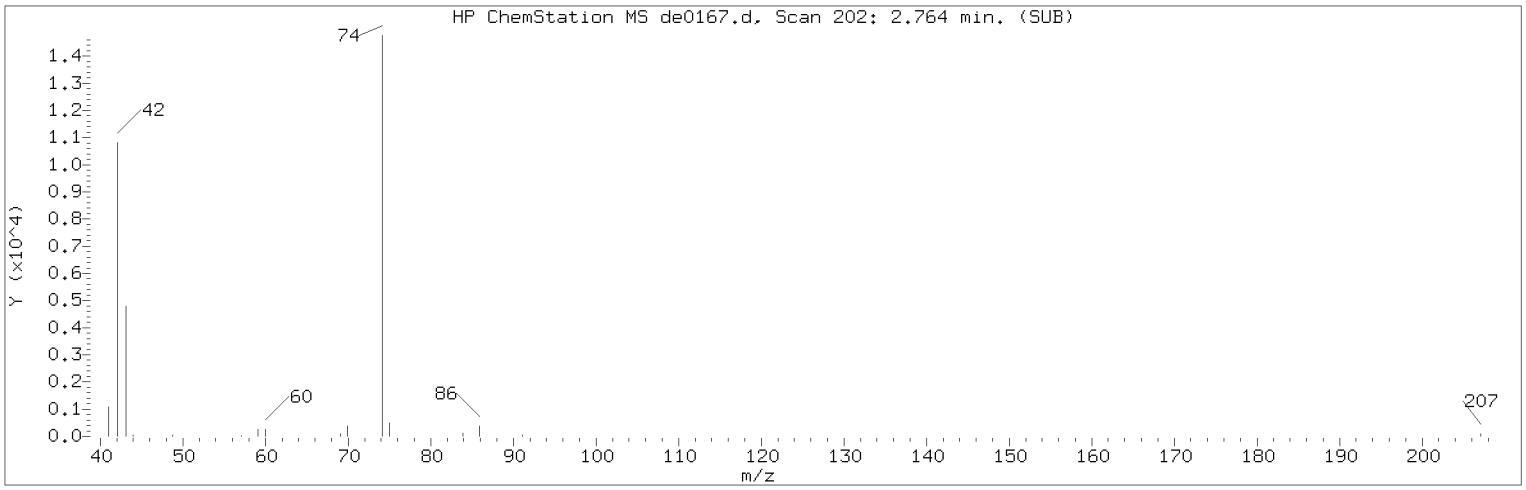
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

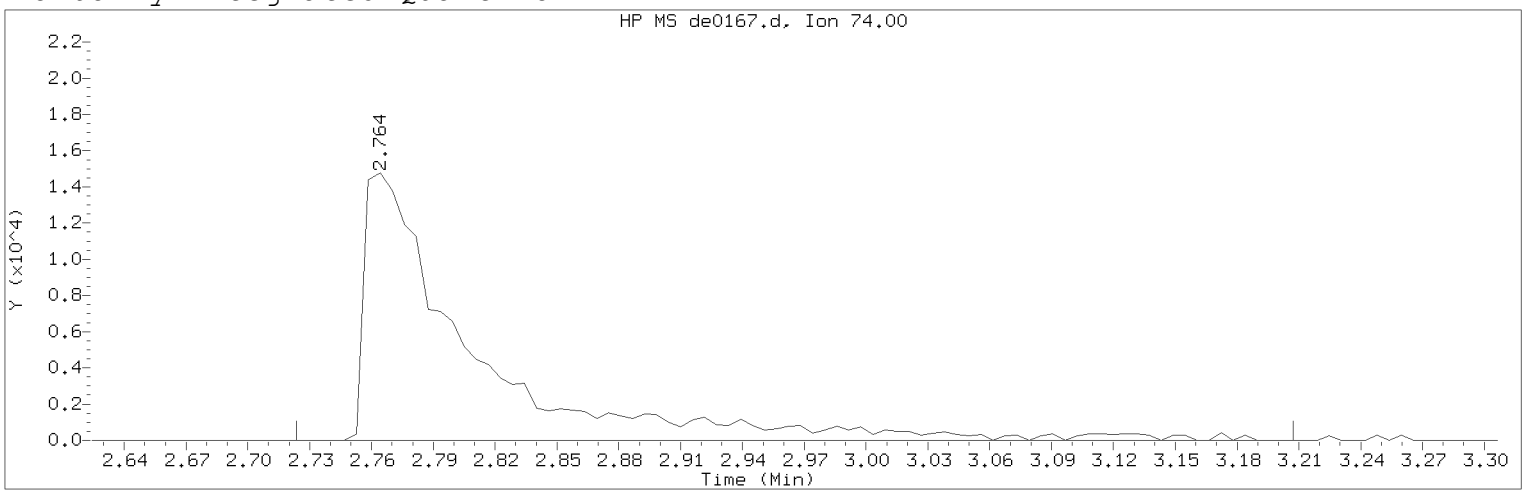
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 100		
Retention Time (minutes)	: 2.170		
Quant Ion	: 88.00		
Area	: 28566		
On-column Amount (ng/ul)	: 1.1275		
Integration start scan	: 96	Integration stop scan:	113
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

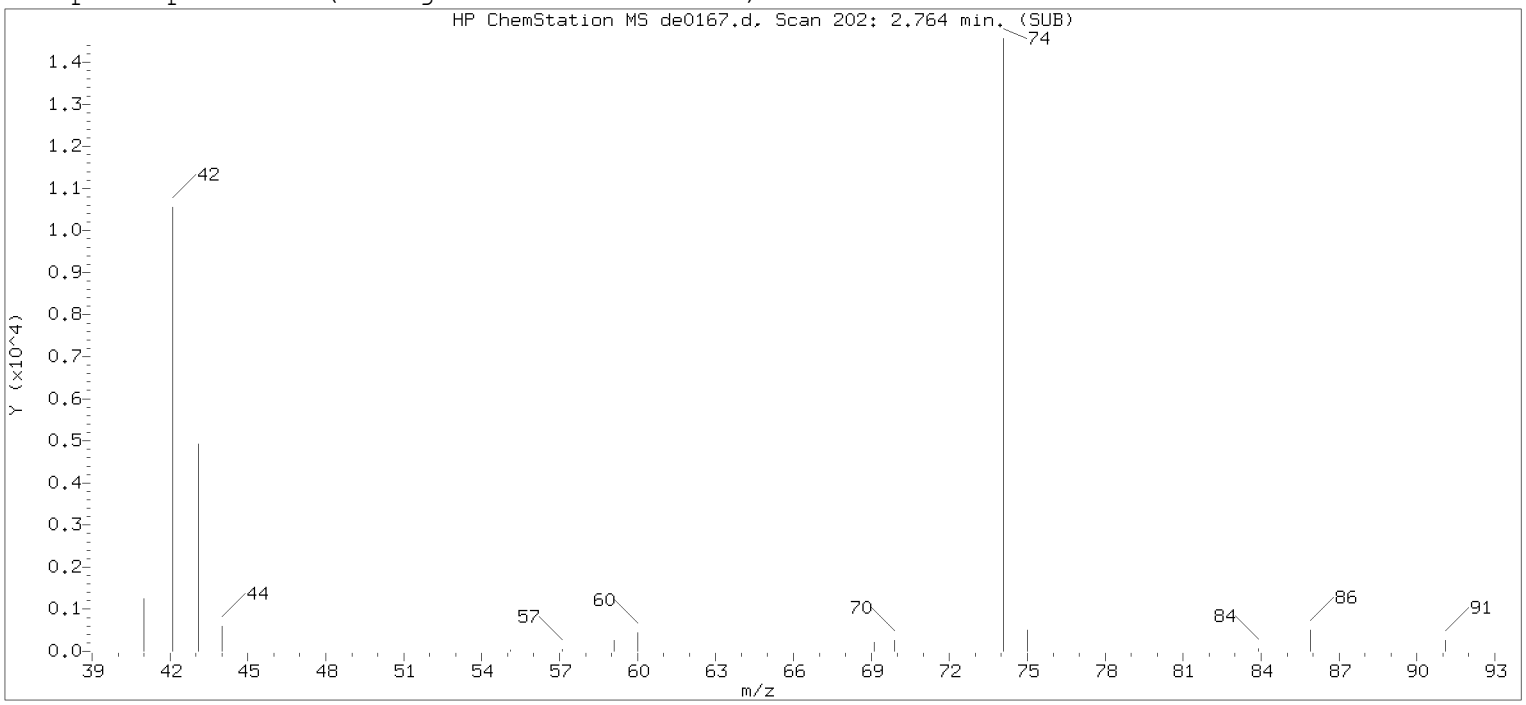
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 202
Retention Time (minutes) : 2.764
Quant Ion : 74.00
Area (flag) : 52272M
On-Column Amount (ng/ul) : 1.2454
Integration start scan : 194 Integration stop scan: 277
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

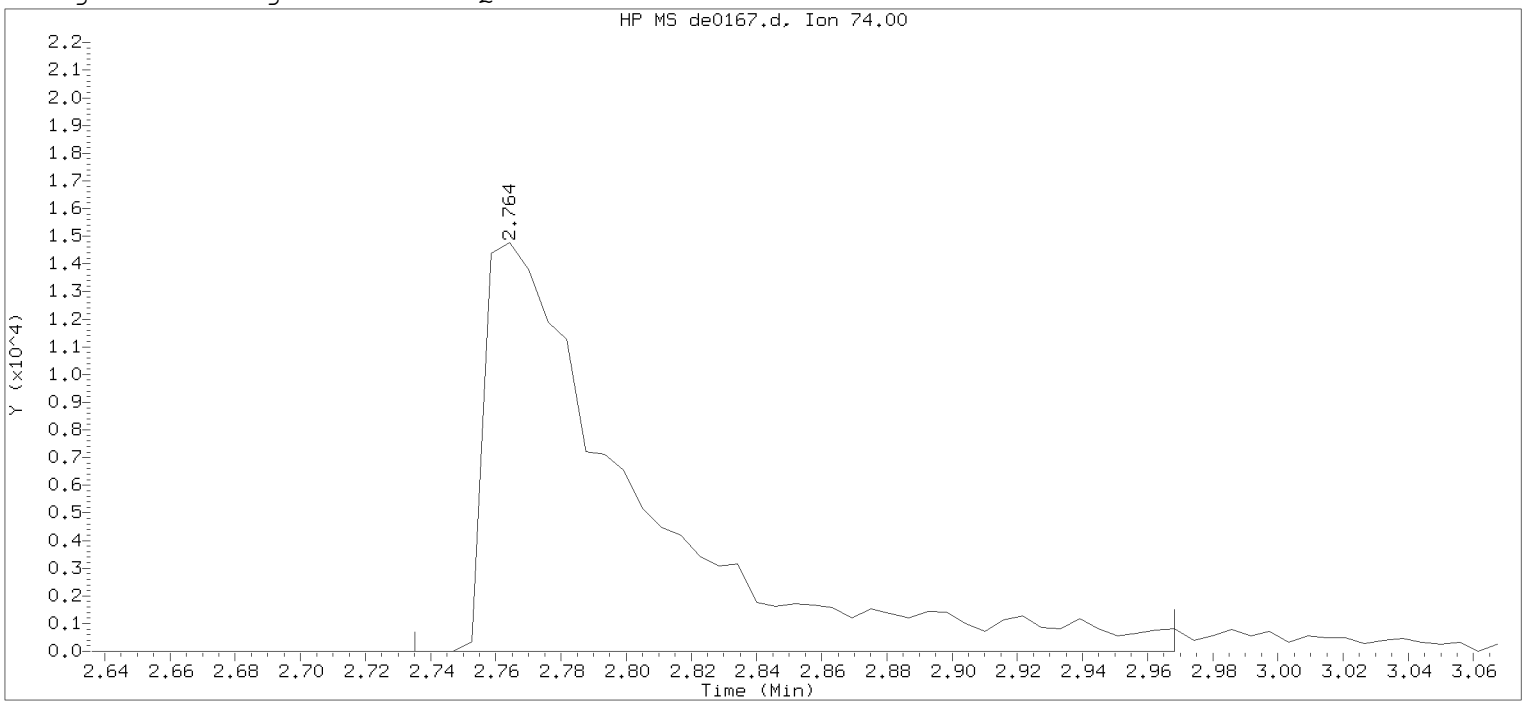
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

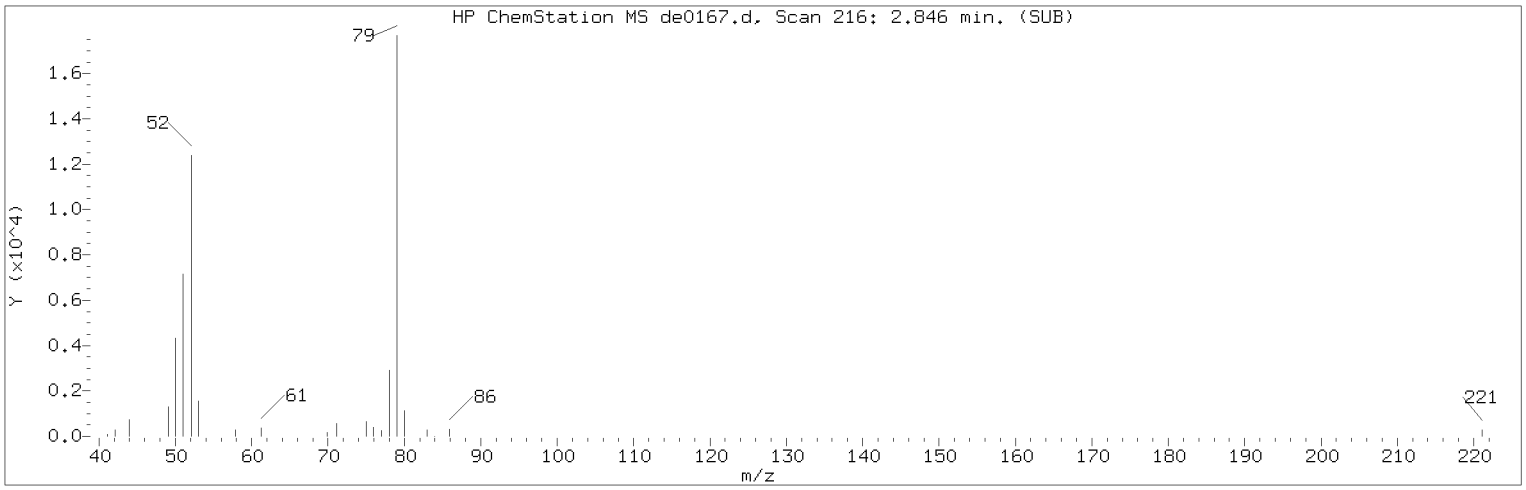
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

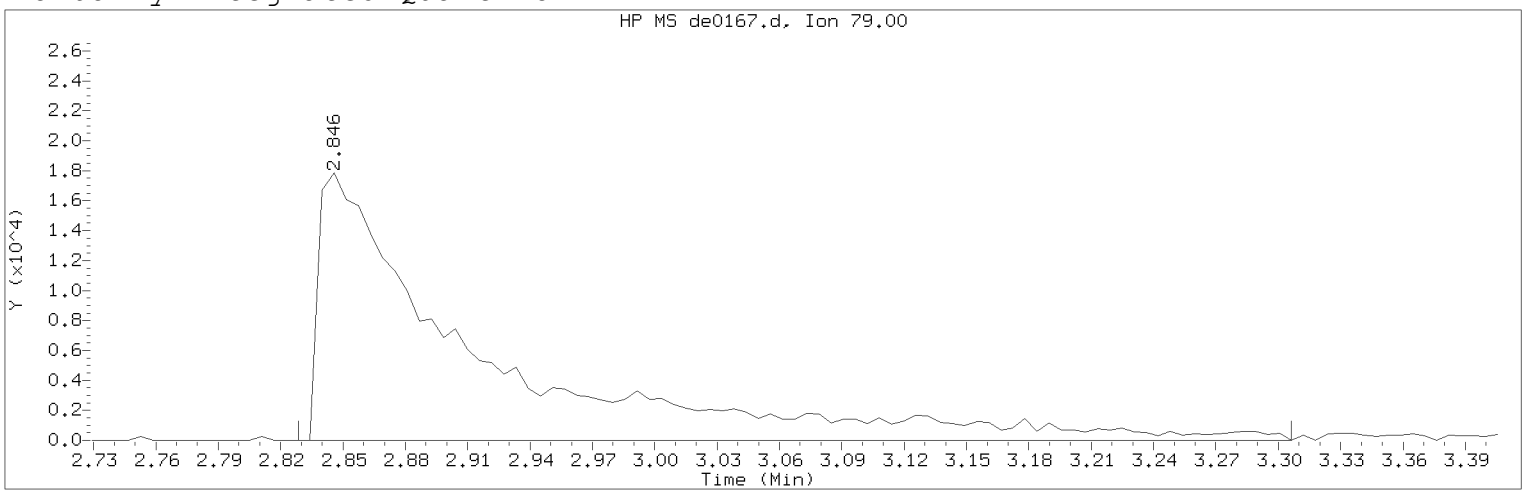
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 202		
Retention Time (minutes)	: 2.764		
Quant Ion	: 74.00		
Area	: 48070		
On-column Amount (ng/ul)	: 1.1636		
Integration start scan	: 196	Integration stop scan:	236
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0445

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

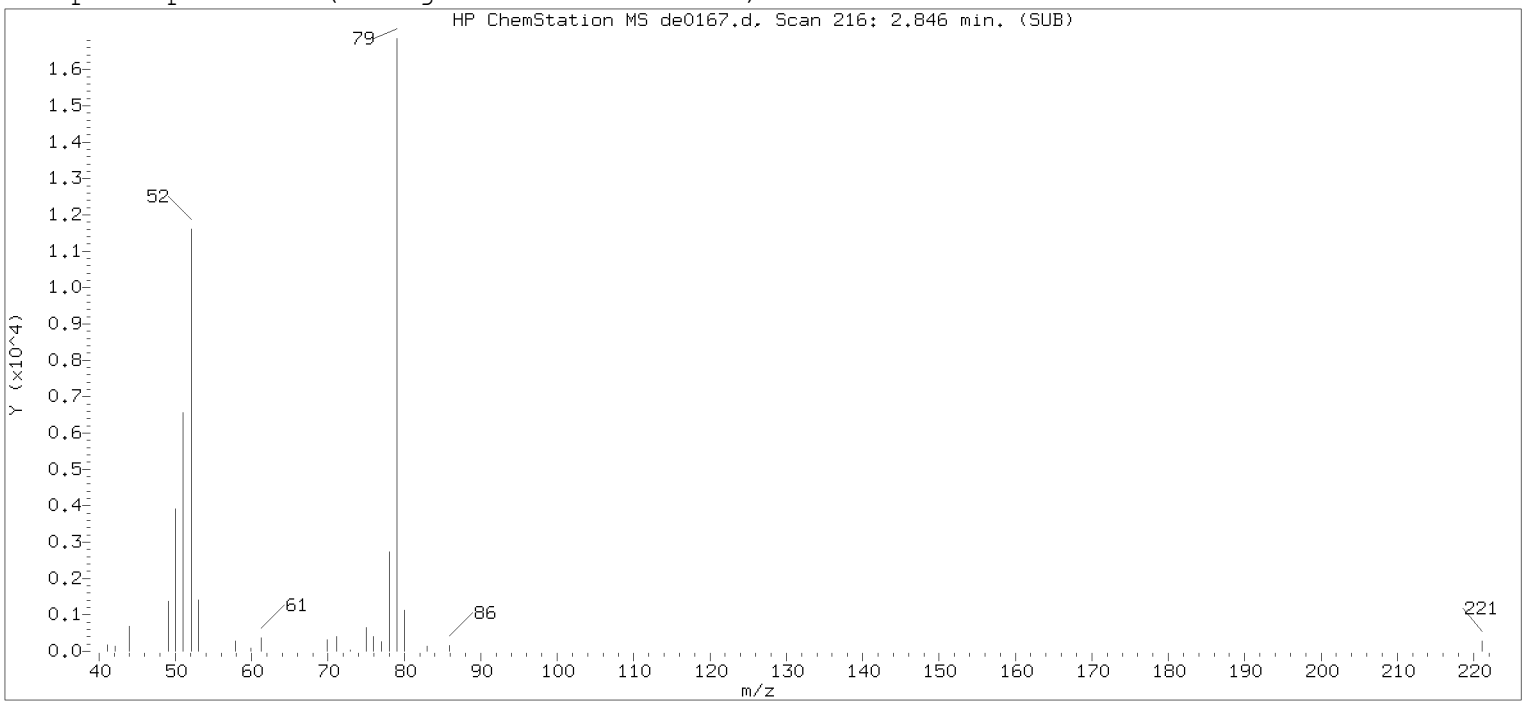
Compound Number : 5
Compound Name : Pyridine
Scan Number : 216
Retention Time (minutes) : 2.846
Quant Ion : 79.00
Area (flag) : 91972M
On-Column Amount (ng/ul) : 1.3354
Integration start scan : 212 Integration stop scan: 294
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

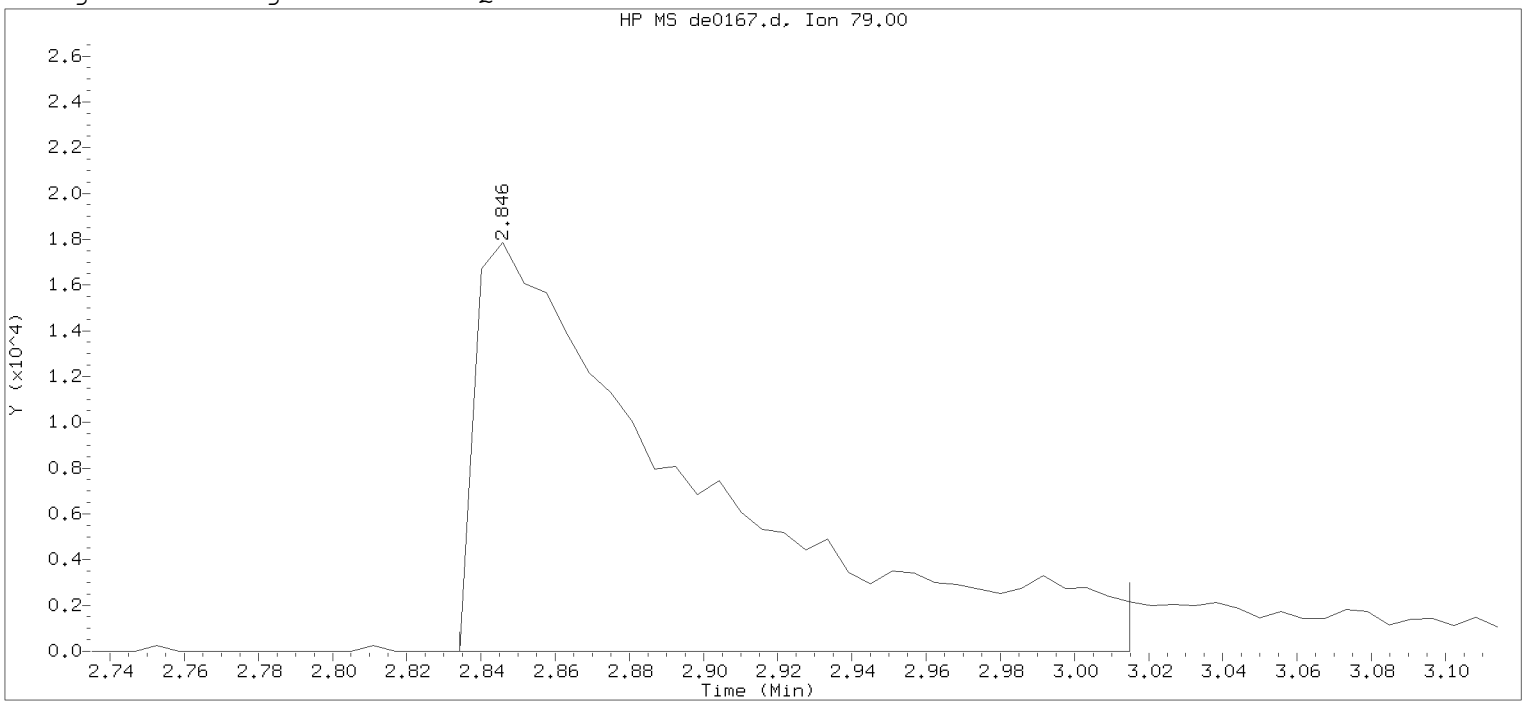
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

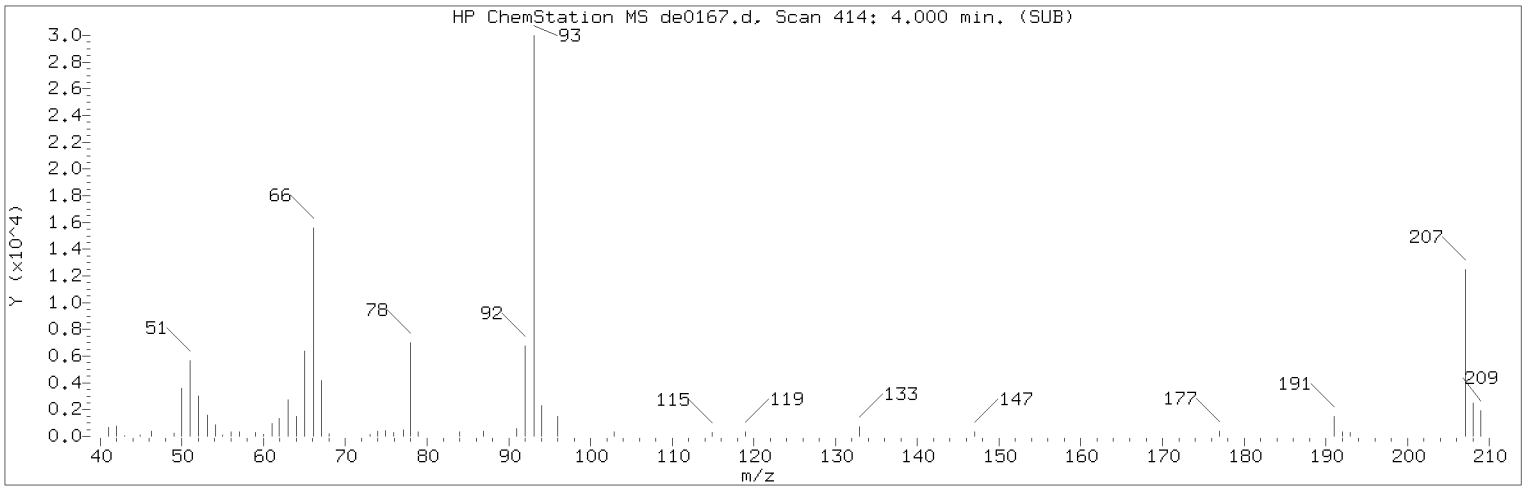
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

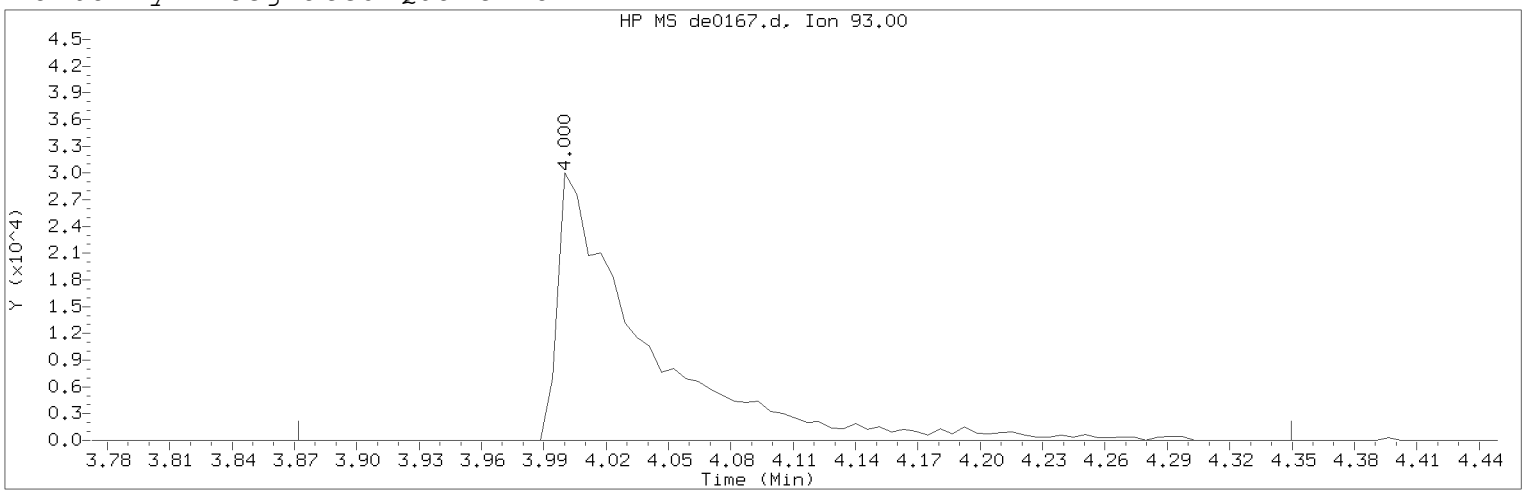
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 216		
Retention Time (minutes)	: 2.846		
Quant Ion	: 79.00		
Area	: 73200		
On-column Amount (ng/ul)	: 1.1054		
Integration start scan	: 213	Integration stop scan:	244
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ab 10247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

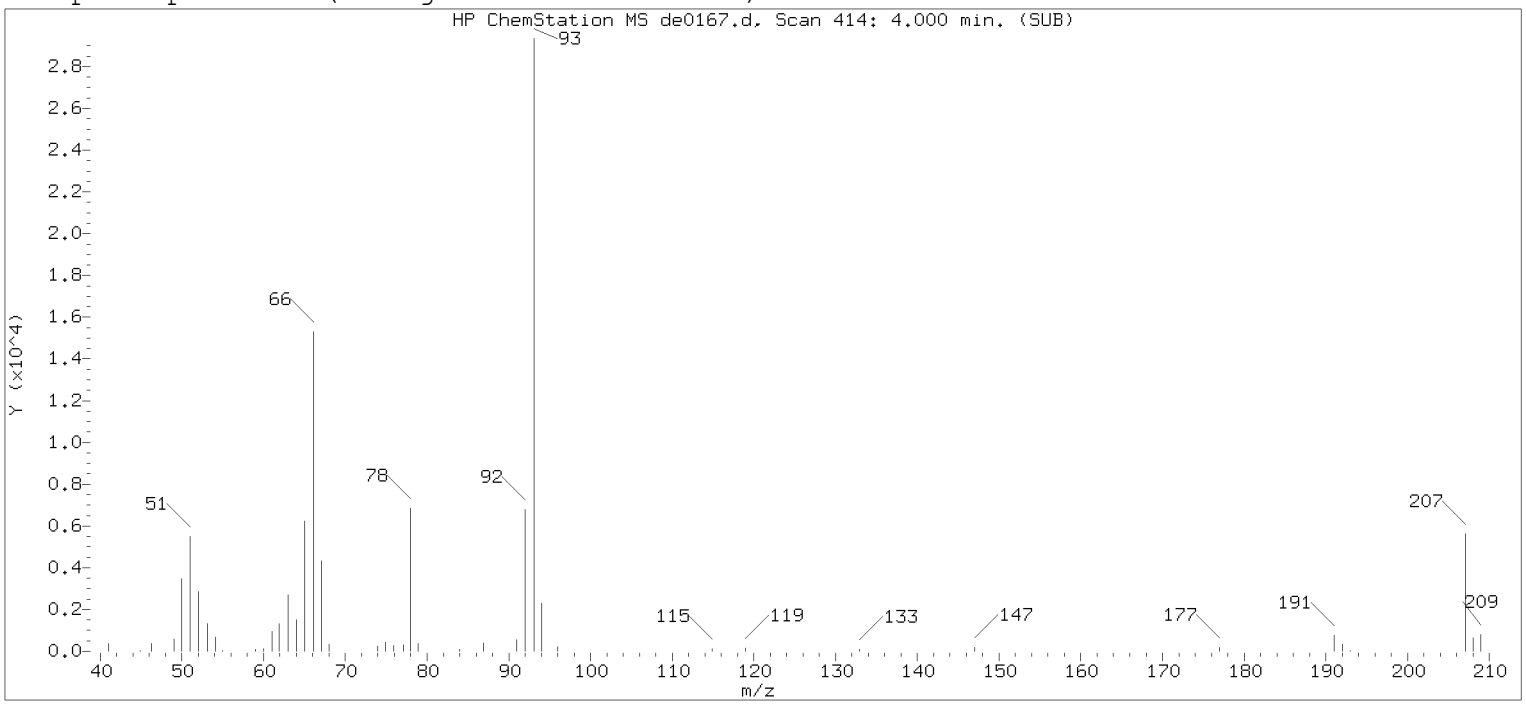
Compound Number : 7
Compound Name : 2-Picoline
Scan Number : 414
Retention Time (minutes) : 4.000
Quant Ion : 93.00
Area (flag) : 87204M
On-Column Amount (ng/ul) : 1.2400
Integration start scan : 391 Integration stop scan: 473
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

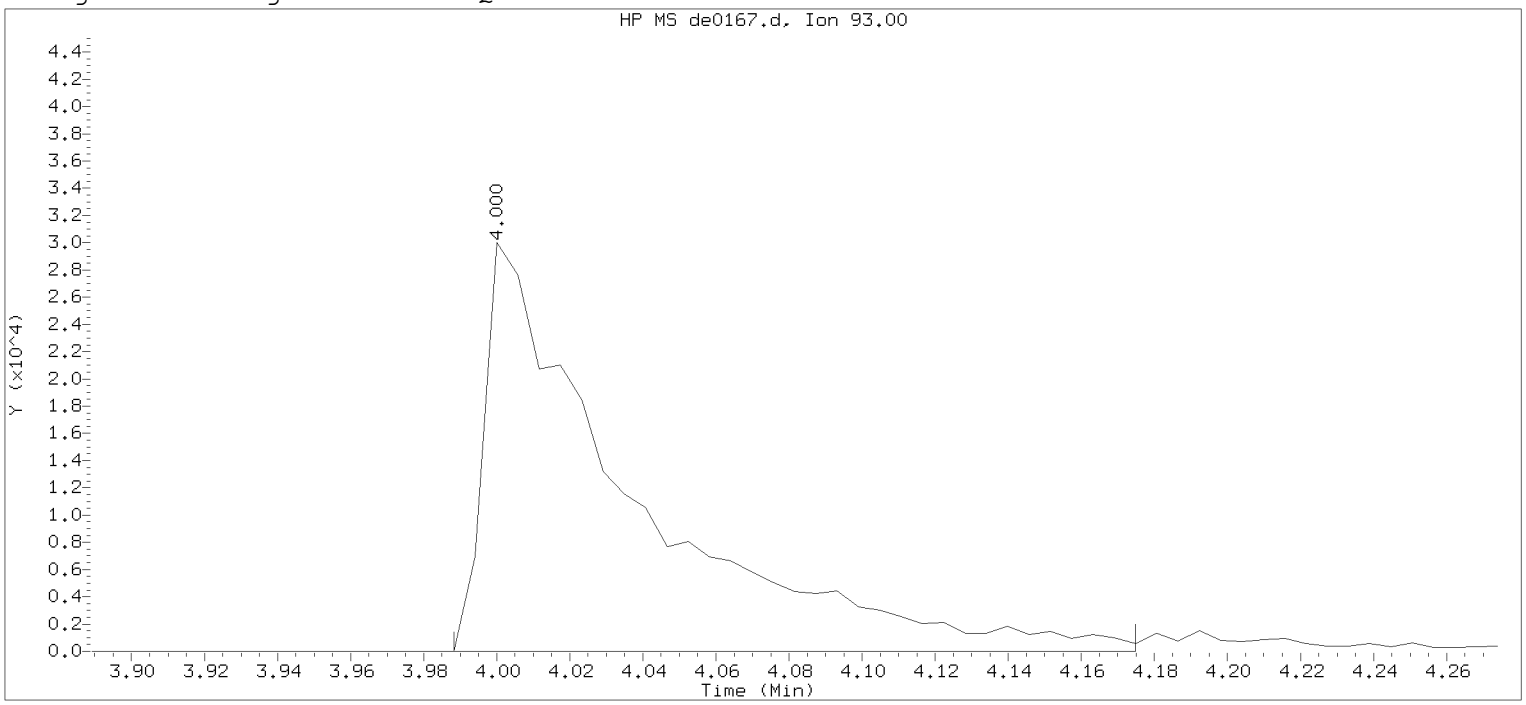
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

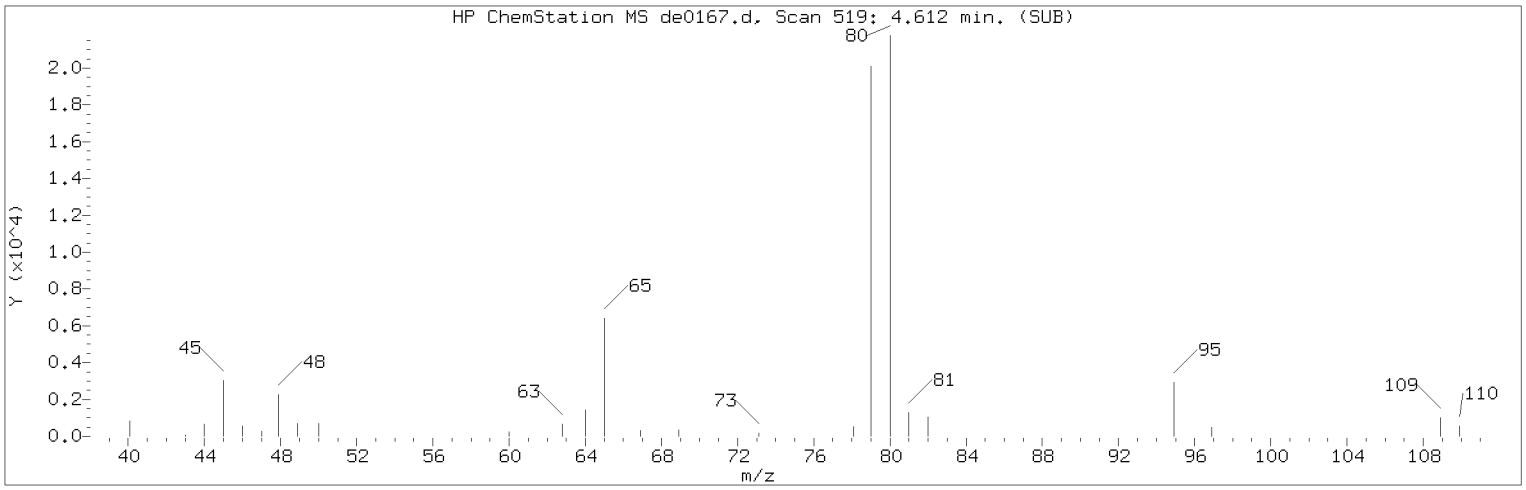
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

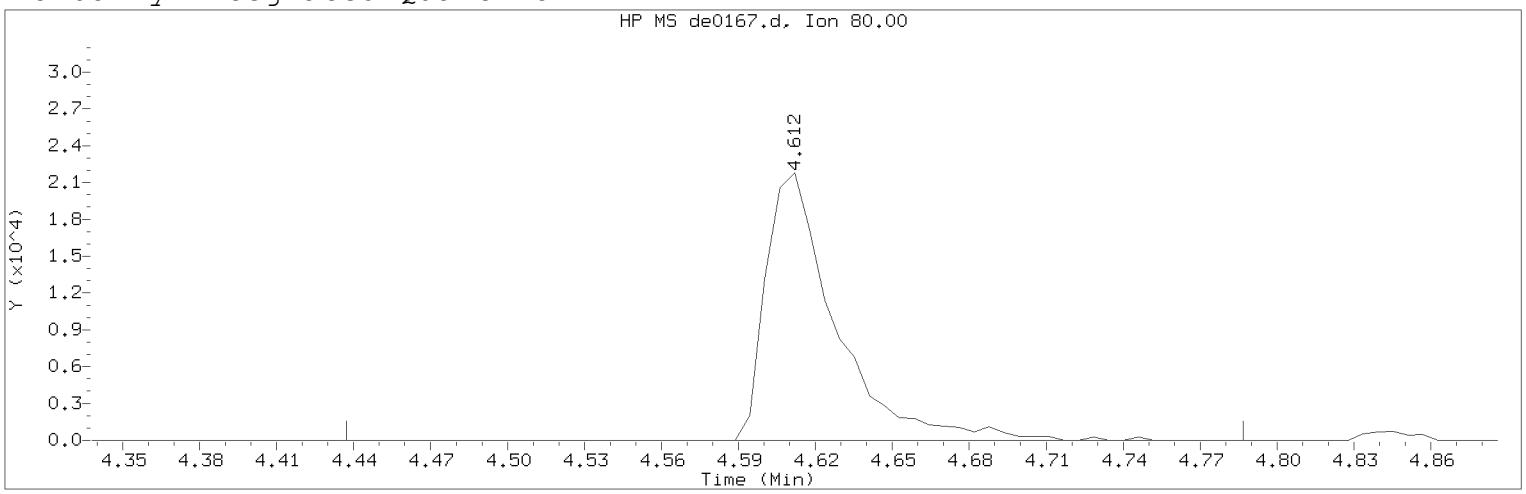
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 414		
Retention Time (minutes)	: 4.000		
Quant Ion	: 93.00		
Area	: 82801		
On-column Amount (ng/ul)	: 1.1907		
Integration start scan	: 411	Integration stop scan:	443
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0249

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

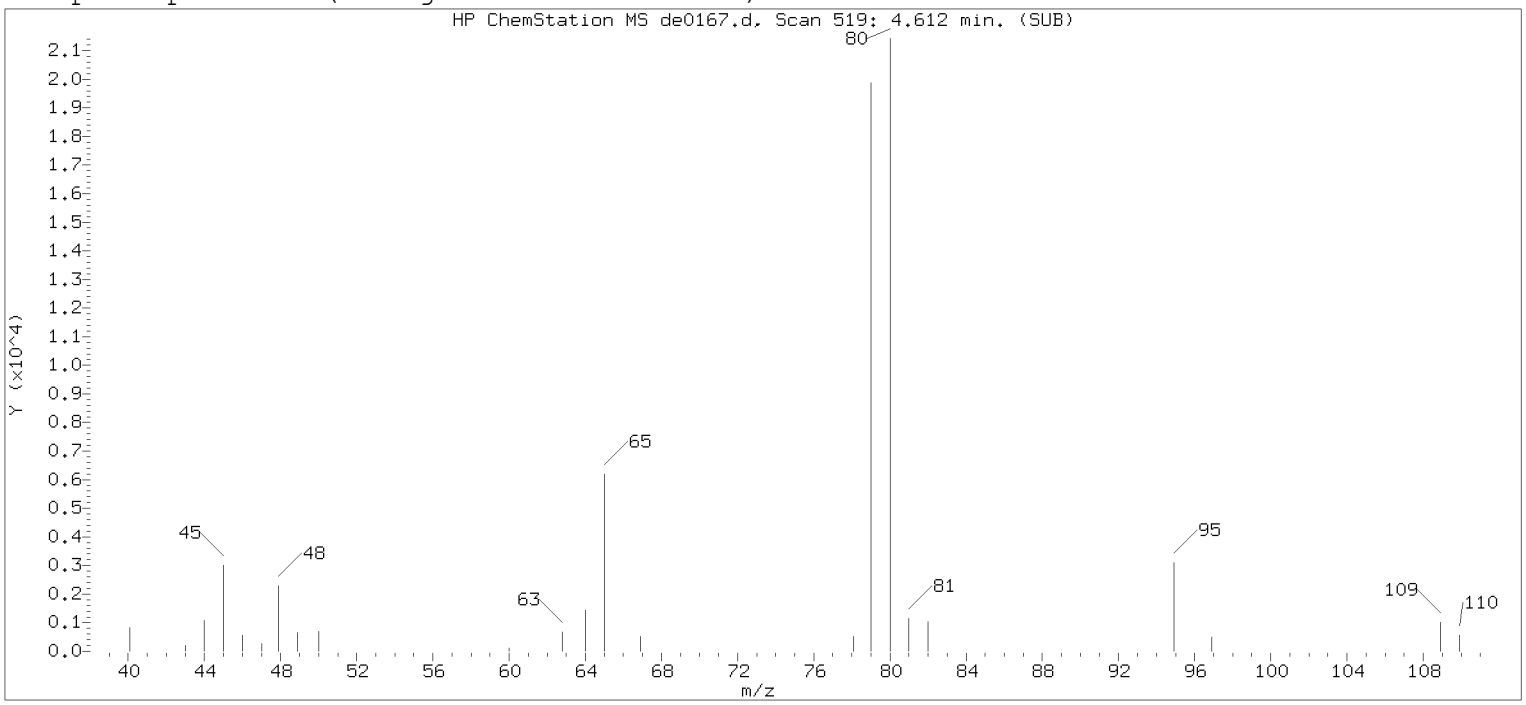
Compound Number : 9
Compound Name : Methyl methanesulfonate
Scan Number : 519
Retention Time (minutes) : 4.612
Quant Ion : 80.00
Area (flag) : 41467M
On-Column Amount (ng/ul) : 1.2075
Integration start scan : 488 Integration stop scan: 548
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

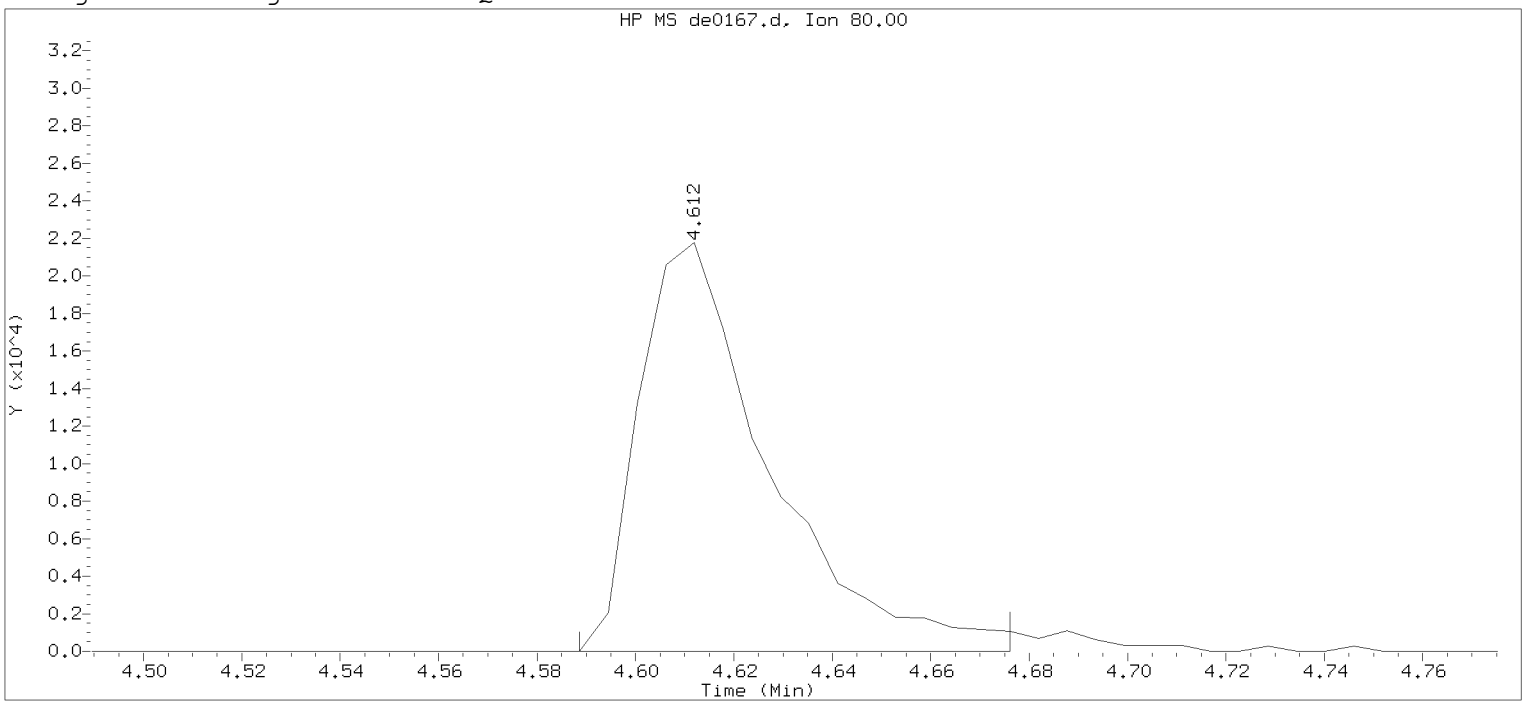
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

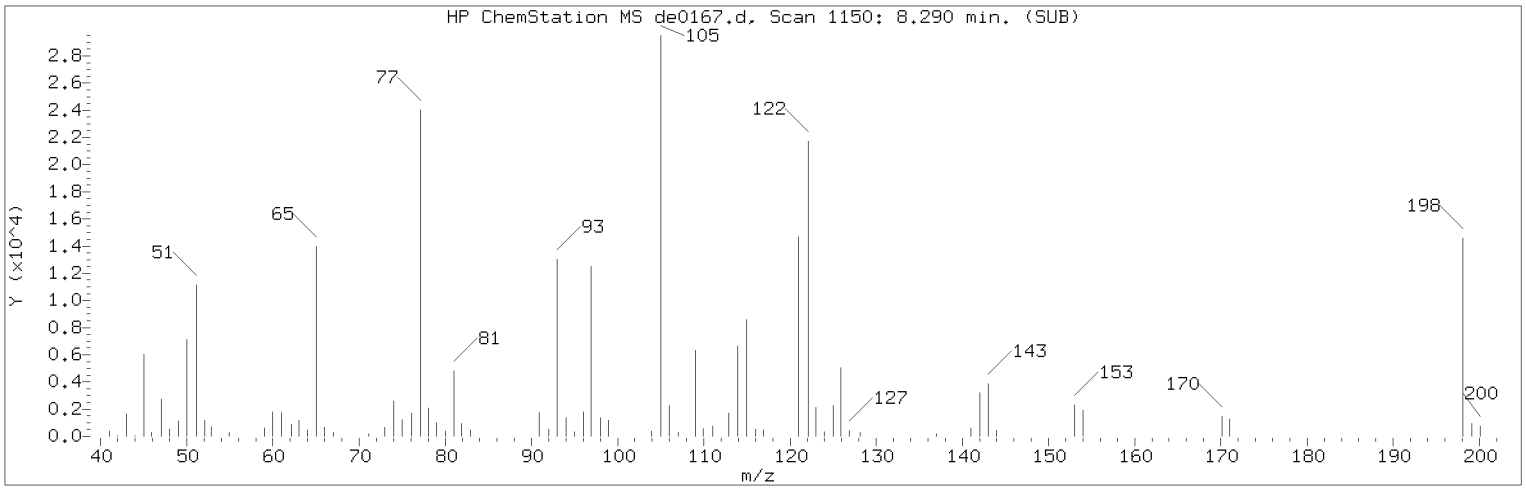
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

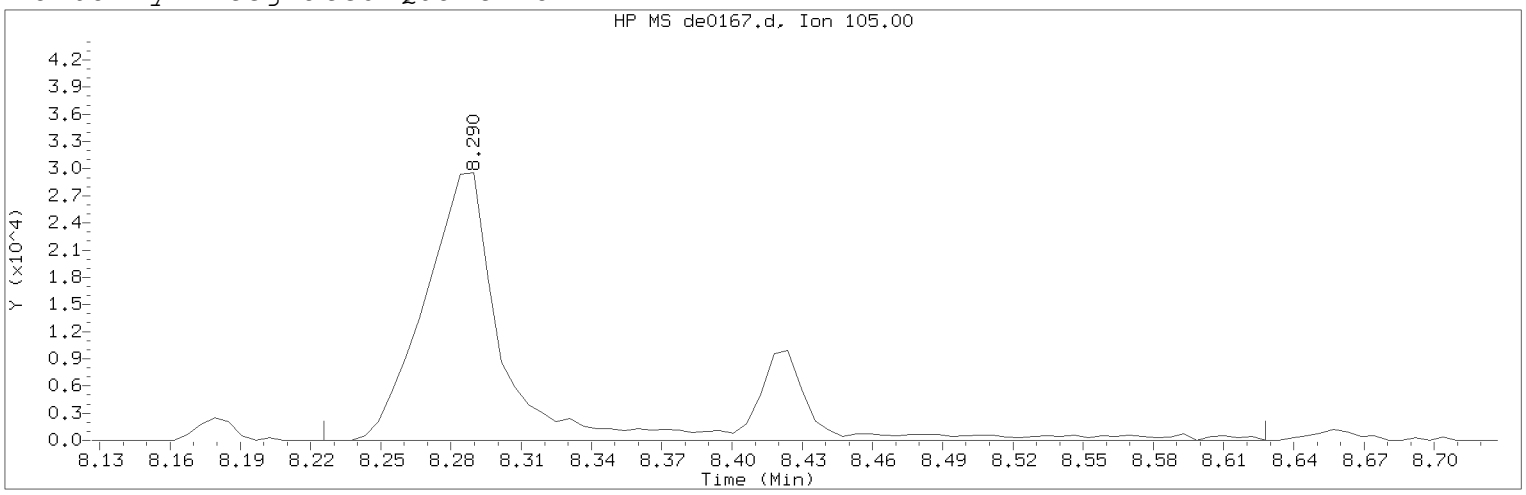
Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 519		
Retention Time (minutes)	: 4.612		
Quant Ion	: 80.00		
Area	: 39934		
On-column Amount (ng/ul)	: 1.1664		
Integration start scan	: 514	Integration stop scan:	529
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0451

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

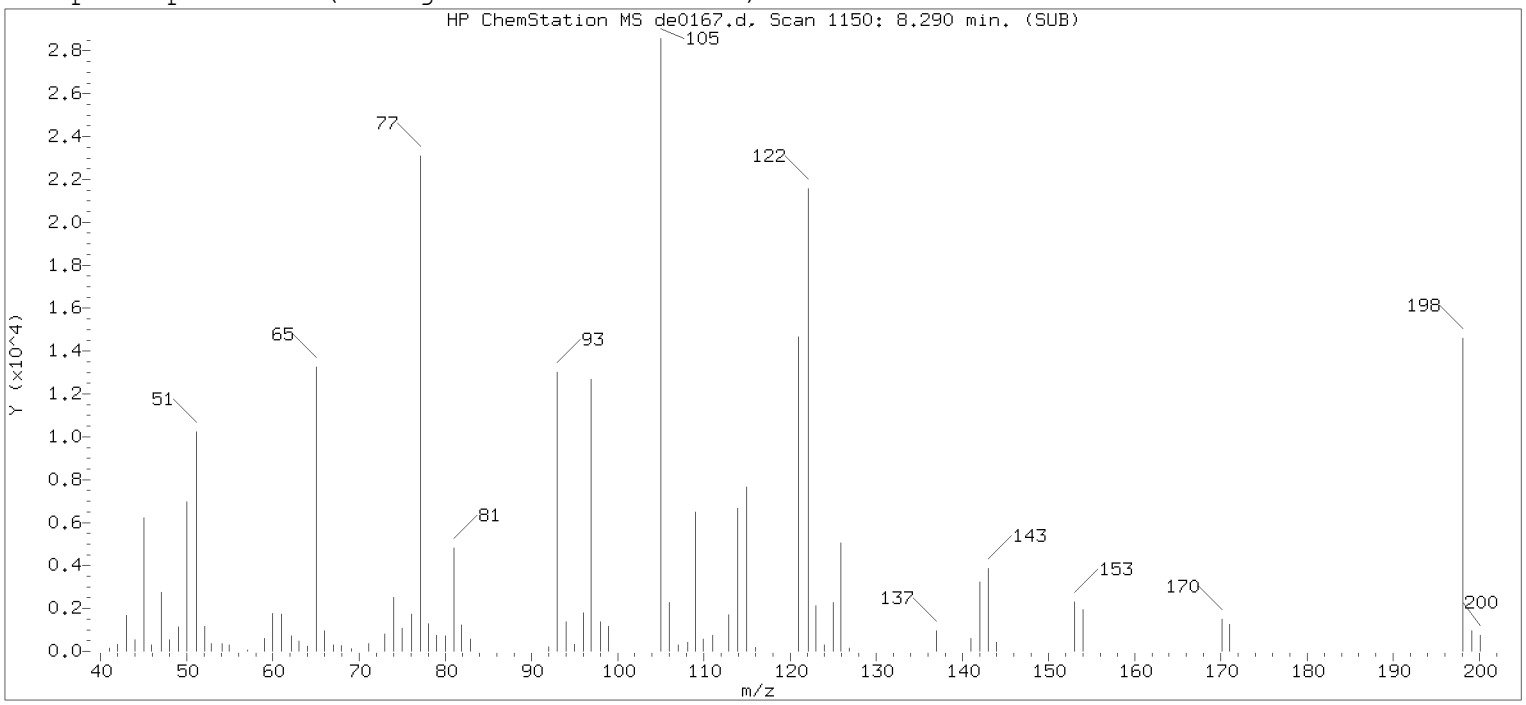
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1150
Retention Time (minutes) : 8.290
Quant Ion : 105.00
Area (flag) : 83803M
On-Column Amount (ng/ul) : 2.1188
Integration start scan : 1138 Integration stop scan: 1207
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

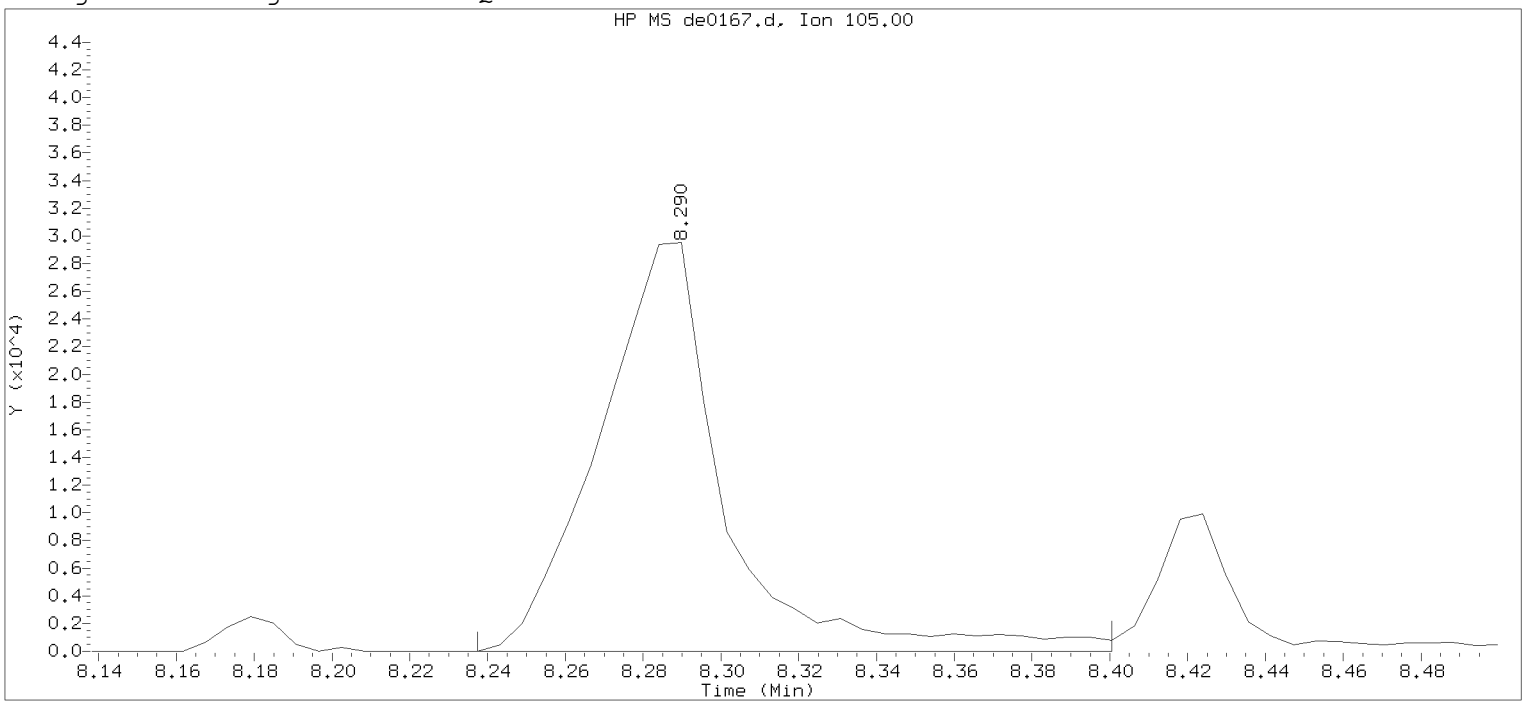
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



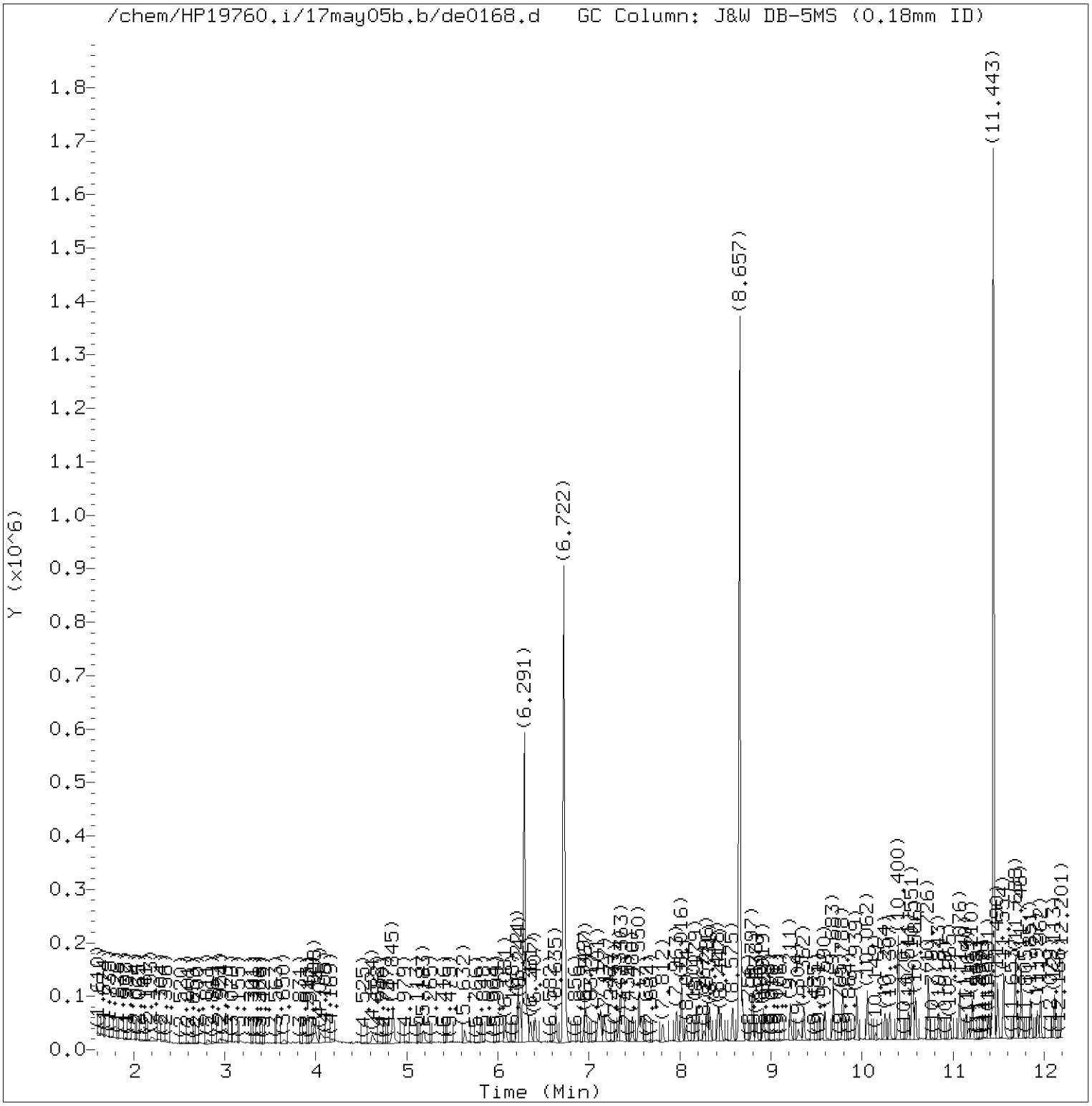
Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1150		
Retention Time (minutes)	: 8.290		
Quant Ion	: 105.00		
Area	: 66303		
On-column Amount (ng/ul)	: 1.8332		
Integration start scan	: 1140	Integration stop scan:	1168
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0453



Total Ion Chromatogram (TIC)

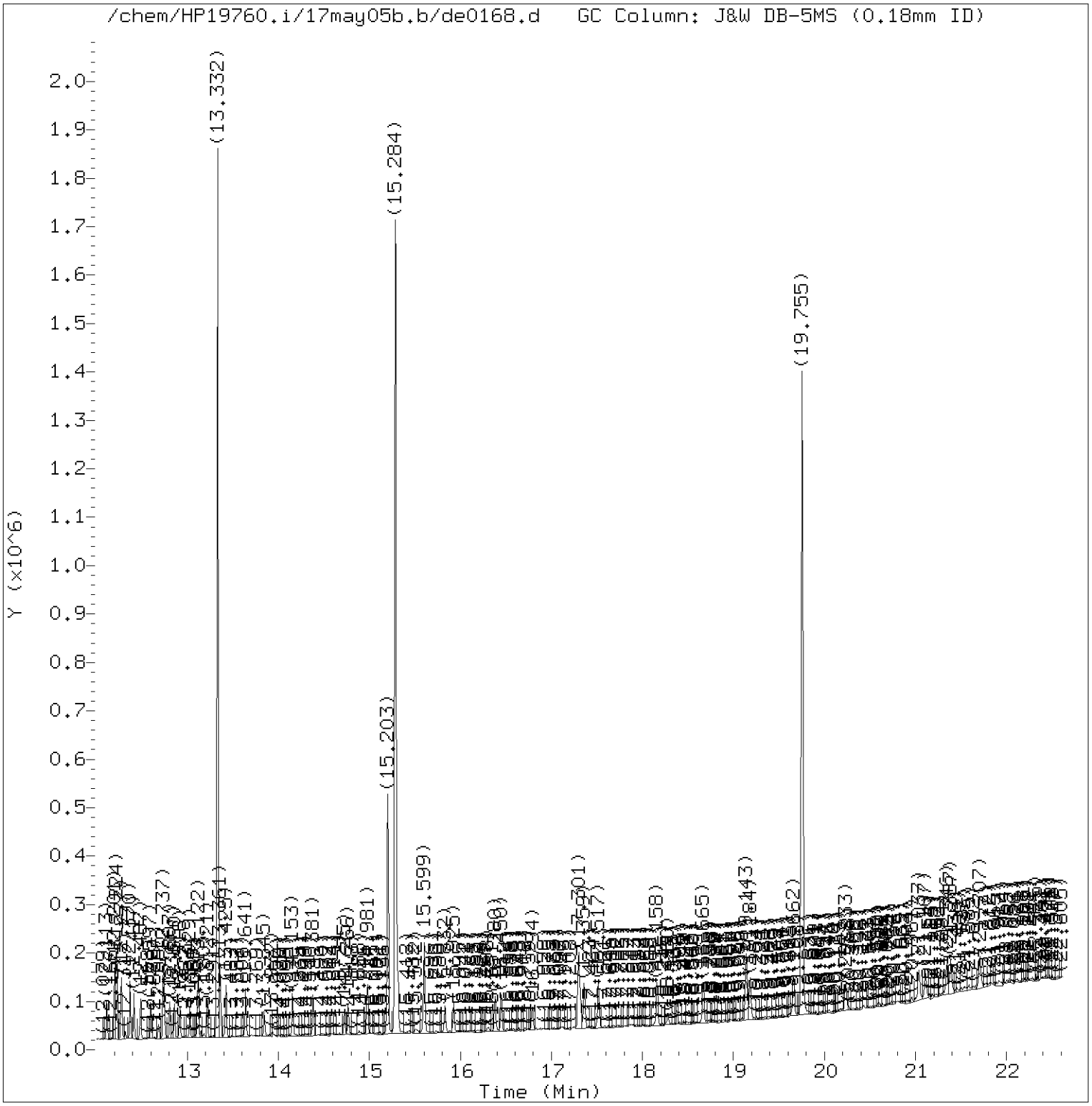
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.193	88	9149M	0.345
4) N-Nitrosodimethylamine	(1)	2.817	74	11498M	0.270
5) Pyridine	(1)	2.951	79	22304M	0.319
7) 2-Picoline	(1)	4.047	93	20774M	0.291
8) N-Nitrosomethylethylamine	(1)	4.192	88	8659M	0.284
9) Methyl methanesulfonate	(1)	4.624	80	9329M	0.267
11)$2-Fluorophenol	(1)	4.845	112	29109	0.517
13) N-Nitrosodiethylamine	(1)	5.183	102	6517	0.230
15) Ethyl methanesulfonate	(1)	5.632	109	7611	0.249
42) Total Cresols	(1)			32250	0.540
16) Benzaldehyde	(1)	6.081	77	12631	0.240
17)$Phenol-d6	(1)	6.215	99	40190	0.526
18) Phenol	(1)	6.238	94	23573	0.272
19) Aniline	(1)	6.244	93	27598	0.271
20) a-methylstyrene	(1)	6.326	118	12818	0.206
22) bis(2-Chloroethyl)ether	(1)	6.361	93	17770	0.276
23) 2-Chlorophenol	(1)	6.407	128	15010	0.266
24) 1,3-Dichlorobenzene	(1)	6.635	146	16400	0.269
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	181346	5.000
26) 1,4-Dichlorobenzene	(1)	6.745	146	17721	0.284
27) Benzyl alcohol	(1)	6.949	108	8305	0.207
28) 1,2-Dichlorobenzene	(1)	6.967	146	16682	0.284
30) Indene	(1)	7.101	115	23689	0.216
31) 2-Methylphenol	(1)	7.124	108	14478	0.261
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	28695	0.302
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	28695	0.302
35) N-Nitrosopyrrolidine	(1)	7.293	100	8166	0.262
36) Acetophenone	(1)	7.334	105	18618	0.223
38) N-Nitroso-di-n-propylamine	(1)	7.351	70	14435	0.287
39) N-Nitrosomorpholine	(1)	7.363	56	13602	0.318
37) 4-Methylphenol	(1)	7.363	108	17772	0.279
97) Isosafrole	(3)			12336	0.267
40) o-Toluidine	(1)	7.386	106	26493	0.271
43) Hexachloroethane	(1)	7.480	117	6753	0.264
44)$Nitrobenzene-d5	(2)	7.550	82	39171	0.545
45) Nitrobenzene	(2)	7.579	77	19293	0.267
48) N-Nitrosopiperidine	(2)	7.806	114	7366	0.258
50) Isophorone	(2)	7.963	82	32516	0.263
120) 2,4_2,6-Dinitrotoluenes	(3)			14618	0.496
51) 2-Nitrophenol	(2)	8.068	139	7389	0.258

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	16347	0.265
56) Benzoic acid	(2)	8.267	105	11608	0.290
57) O,O,O-Triethylphosphorothioate	(2)	8.302	198	7851	0.270
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	22414	0.283
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.418	104	19785	0.218
60) 2,4-Dichlorophenol	(2)	8.453	162	11473	0.251
62) 1,2,4-Trichlorobenzene	(2)	8.575	180	14754	0.275
65)*Naphthalene-d8	(2)	8.657	136	693503	5.000
66) Naphthalene	(2)	8.686	128	44200	0.267
146) Diallate trans/cis	(4)			15190	0.277
67) 4-Chloroaniline	(2)	8.791	127	18144	0.270
68) 2,6-Dichlorophenol	(2)	8.803	162	11971	0.265
69) Hexachloropropene	(2)	8.844	213	8918	0.246
71) Hexachlorobutadiene	(2)	8.919	225	8117	0.256
75) Quinoline	(2)	9.211	129	29164	0.286
76) Caprolactam	(2)	9.304	113	2614	0.184
77) N-Nitrosodi-n-butylamine	(2)	9.362	84	12847	0.253
80) 4-Chloro-3-methylphenol	(2)	9.590	107	13312	0.256
82) Safrole	(2)	9.683	162	10801	0.261
83) 2-Methylnaphthalene	(2)	9.788	142	28099	0.259
84) 1-Methylnaphthalene	(2)	9.939	142	26915	0.270
85) Hexachlorocyclopentadiene	(3)	10.062	237	5697	0.213
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	15708	0.280
88) cis-Isosafrole	(3)	10.149	162	1953	0.044
90) 2,4,6-Trichlorophenol	(3)	10.254	196	8253	0.241
92) 2,4,5-Trichlorophenol	(3)	10.307	196	9440	0.256
93)$2-Fluorobiphenyl	(3)	10.400	172	67580	0.554
94) trans-Isosafrole	(3)	10.511	162	10383	0.223
95) 1,1'-Biphenyl	(3)	10.551	154	26872	0.229
96) 2-Chloronaphthalene	(3)	10.557	162	28598	0.289
98) 1-Chloronaphthalene	(3)	10.586	162	26567	0.281
99) Diphenyl ether	(3)	10.726	170	19330	0.279
100) 2-Nitroaniline	(3)	10.732	138	7986	0.260
104) 1,4-Naphthoquinone	(3)	10.843	158	10120	0.246
105) 1,4-Dinitrobenzene	(3)	10.965	168	3933	0.243
106) Dimethylphthalate	(3)	11.070	163	32114	0.281
107) 1,3-Dinitrobenzene	(3)	11.082	168	4039	0.227
108) 2,6-Dinitrotoluene	(3)	11.146	165	6532	0.258
109) Acenaphthylene	(3)	11.210	152	37972	0.262
112) 3-Nitroaniline	(3)	11.391	138	5994	0.229

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bbs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	392347	5.000
114) Acenaphthene	(3)	11.490	153	28998	0.275
115) 2,4-Dinitrophenol	(3)	11.554	184	15768	1.070
116) 4-Nitrophenol	(3)	11.682	109	17071	0.883
117) Pentachlorobenzene	(3)	11.694	250	12285	0.271
119) Dibenzofuran	(3)	11.746	168	40888	0.284
118) 2,4-Dinitrotoluene	(3)	11.752	165	8086	0.238
121) 1-Naphthylamine	(3)	11.851	143	25674	0.252
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	6496	0.234
123) 2-Naphthylamine	(3)	11.962	143	26526	0.262
124) Diethylphthalate	(3)	12.113	149	29250	0.264
126) Fluorene	(3)	12.201	166	30820	0.267
125) Thionazin	(3)	12.213	107	5497	0.249
128) 5-Nitro-o-toluidine	(3)	12.224	152	9069	0.285
129) 4-Nitroaniline	(3)	12.224	138	6210	0.239
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	15205	0.270
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	15902	0.791
132) NDPA as diphenylamine	(4)	12.370	169	25587	0.277
131) N-Nitrosodiphenylamine	(4)	12.370	169	25587	0.277
134) 1,2-Diphenylhydrazine	(4)	12.417	77	36141	0.277
135)$2,4,6-Tribromophenol	(3)	12.487	330	6722	0.460
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	6007	0.282
139) 1,3,5-Trinitrobenzene	(4)	12.685	213	2363	0.182
140) Diallate (peak 1)	(4)	12.731	86	13260	0.235
141) Phorate	(4)	12.737	75	21529	0.256
142) Phenacetin	(4)	12.749	108	14290	0.232
143) 4-Bromophenyl-phenylether	(4)	12.807	248	8531	0.269
144) Diallate (peak 2)	(4)	12.836	86	1930	0.042
145) Hexachlorobenzene	(4)	12.860	284	9367	0.280
147) Dimethoate	(4)	12.918	87	13240	0.245
148) Atrazine	(4)	13.029	200	7024	0.240
149) Pentachlorophenol	(4)	13.110	266	2914	0.159
150) 4-Aminobiphenyl	(4)	13.116	169	27077	0.264
151) Pentachloronitrobenzene	(4)	13.122	237	3617	0.248
152) Pronamide	(4)	13.221	173	13087	0.246
153)*Phenanthrene-d10	(4)	13.332	188	745727	5.000
155) Phenanthrene	(4)	13.361	178	46246	0.277
154) Dinoseb	(4)	13.361	211	5050	0.164
157) Anthracene	(4)	13.425	178	42191	0.254
163) Carbazole	(4)	13.641	167	41040	0.266

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

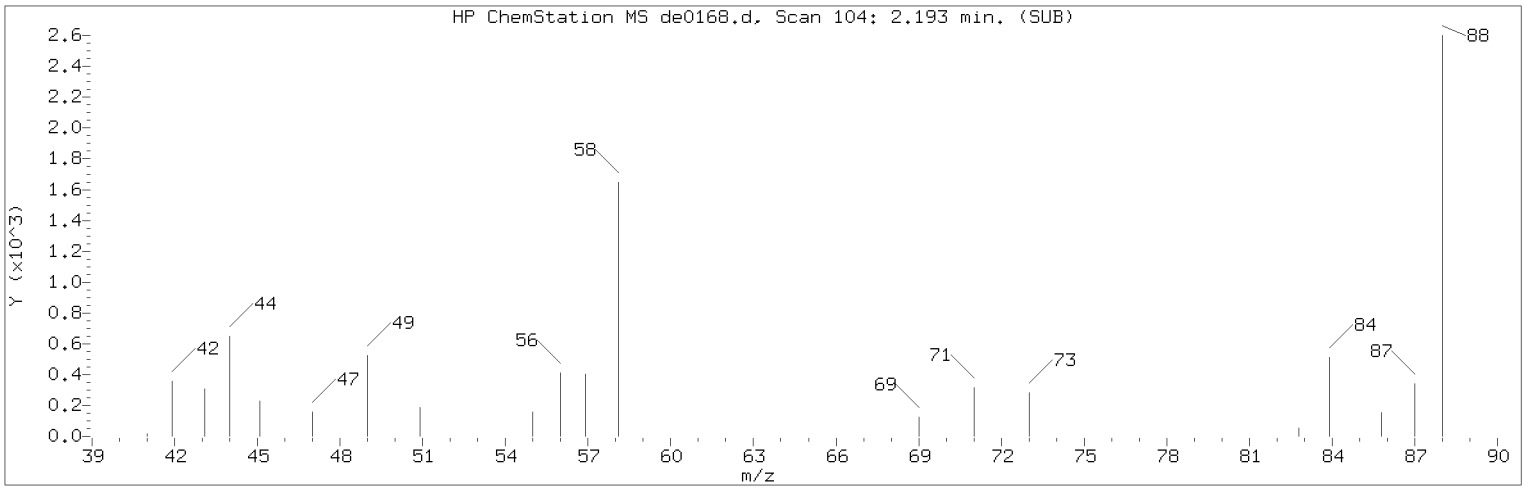
Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.845	109	9017	0.216
165) Di-n-butylphthalate	(4)	14.153	149	50157	0.263
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	2002	0.115
167) Parathion	(4)	14.387	109	5597	0.211
169) Octachlorostyrene	(4)	14.731	308	2697	0.215
171) Isodrin	(4)	14.766	193	5932	0.294
173) Fluoranthene	(4)	14.981	202	48595	0.255
222) Total PAHs	(6)			737244	4.677
174) Benzidine	(5)	15.203	184	224066	1.899
175)*Pyrene-d10	(5)	15.284	212	891777	5.000
177) Pyrene	(5)	15.313	202	54987	0.272
179)$Terphenyl-d14	(5)	15.599	244	70949	0.542
182) p-Dimethylaminoazobenzene	(5)	15.832	225	7908	0.245
185) Chlorobenzilate	(5)	15.925	139	15185	0.255
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	32076	0.245
188) Butylbenzylphthalate	(5)	16.450	149	21654	0.242
191) 2-Acetylaminofluorene	(5)	16.788	181	16695	0.200
193) 3,3'-Dichlorobenzidine	(5)	17.295	252	18571	0.254
195) Benzo(a)anthracene	(5)	17.301	228	47888	0.247
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	9355	0.236
196) Chrysene	(5)	17.359	228	47823	0.262
199) bis(2-Ethylhexyl)phthalate	(5)	17.517	149	31754	0.237
203) 6-Methylchrysene	(5)	18.158	242	33295	0.256
205) Di-n-octylphthalate	(6)	18.671	149	54481	0.240
206) Benzo(b)fluoranthene	(6)	19.137	252	49558	0.262
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.143	256	17213	0.224
208) Benzo(k)fluoranthene	(6)	19.184	252	47338	0.260
211) Benzo(a)pyrene	(6)	19.662	252	43864	0.251
213)*Perylene-d12	(6)	19.755	264	694492	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	18654	0.240
217) Dibenz(a,h)acridine	(6)	21.037	279	29430	0.234
218) Dibenz(a,j)acridine	(6)	21.107	279	25993	0.211
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	42573	0.248
220) Dibenz(a,h)anthracene	(6)	21.387	278	33412	0.234
221) Benzo(g,h,i)perylene	(6)	21.707	276	35765	0.255

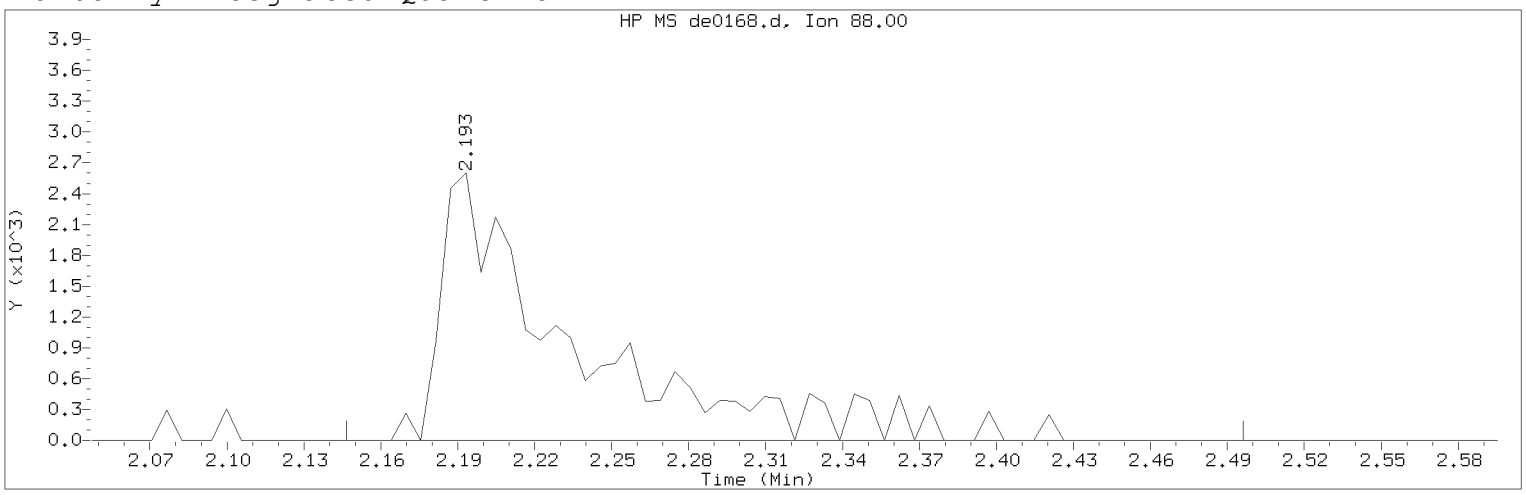
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

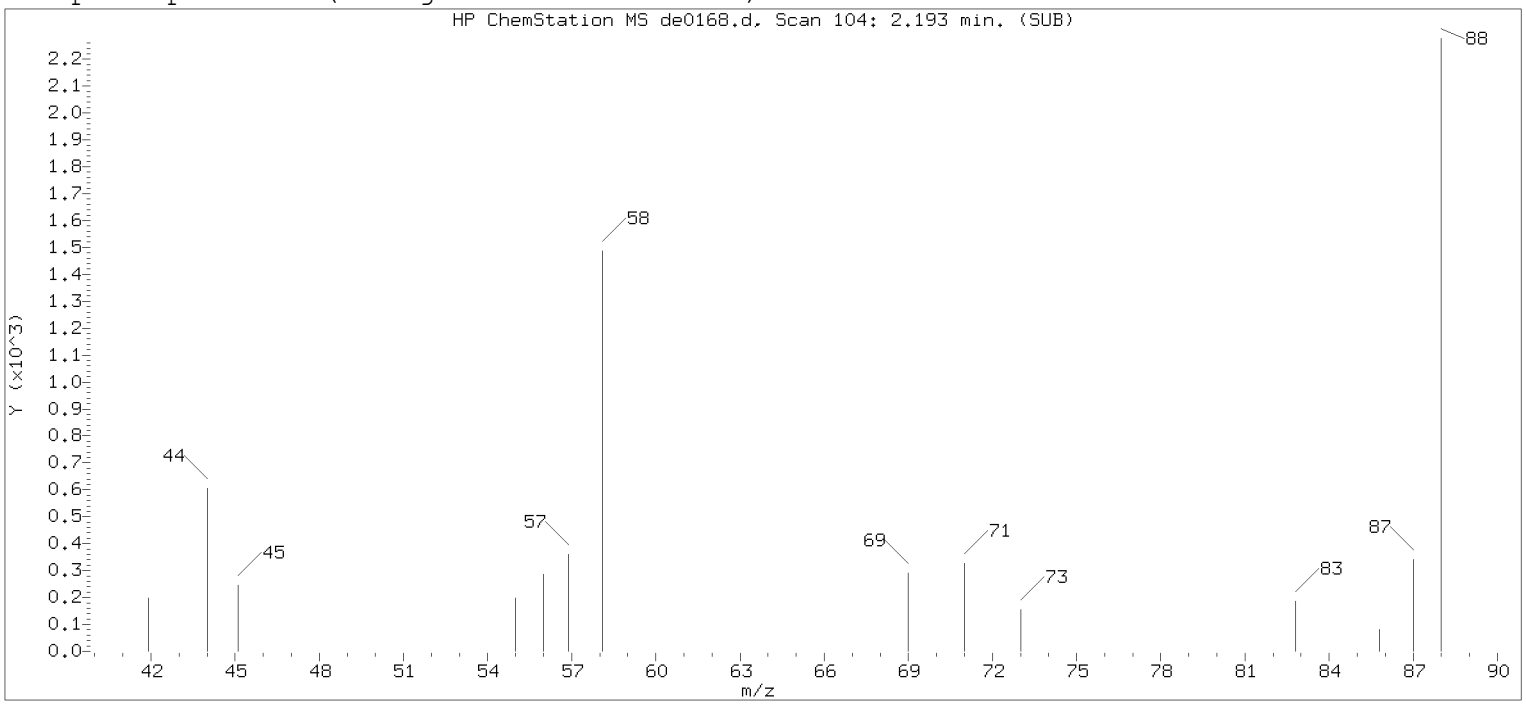
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 104
Retention Time (minutes) : 2.193
Quant Ion : 88.00
Area (flag) : 9149M
On-Column Amount (ng/ul) : 0.3450
Integration start scan : 95 Integration stop scan: 155
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

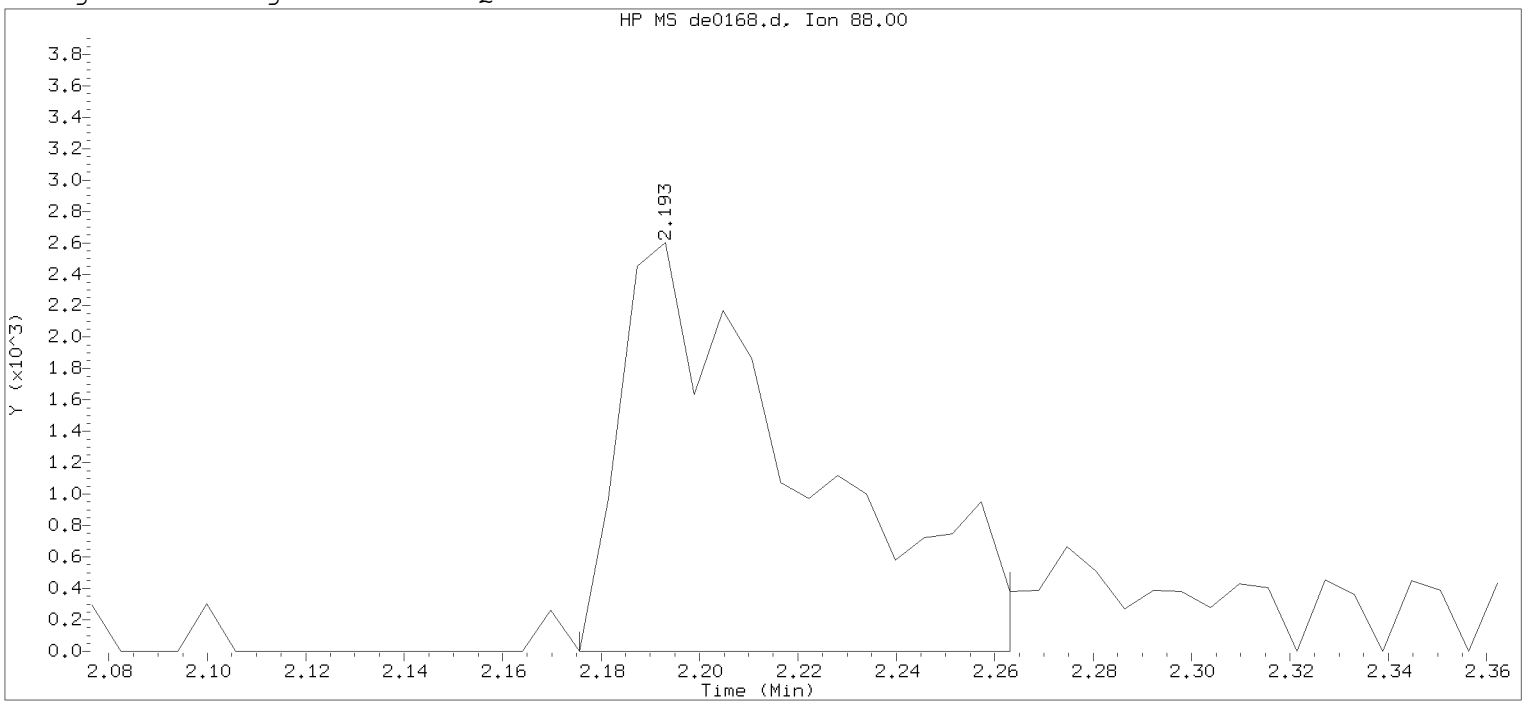
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

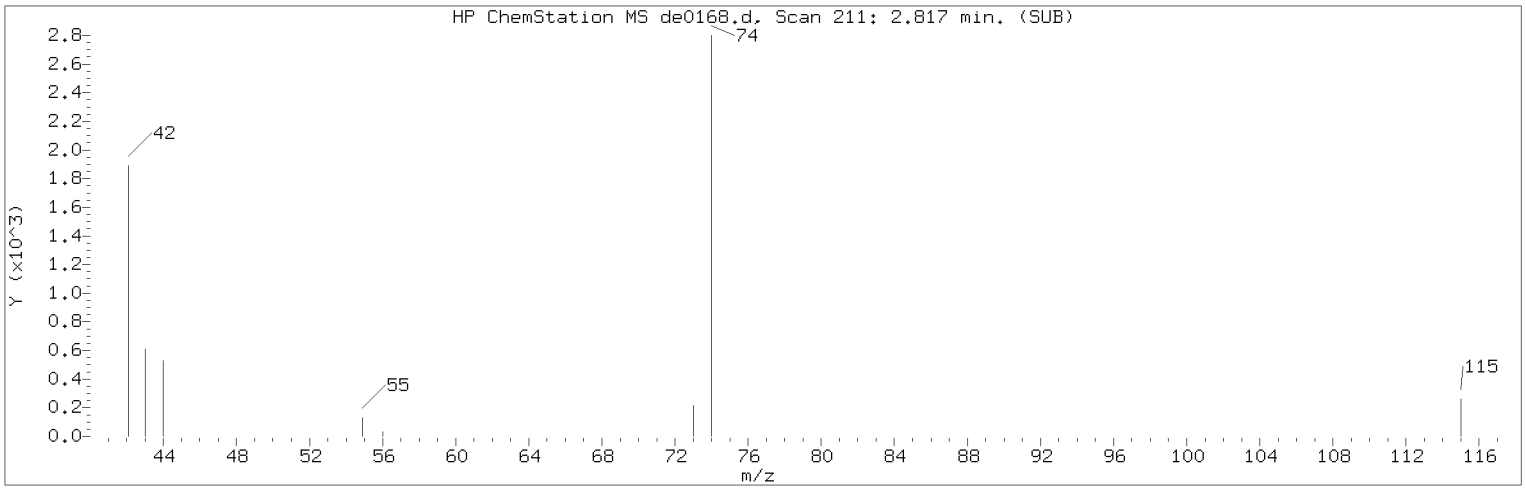
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

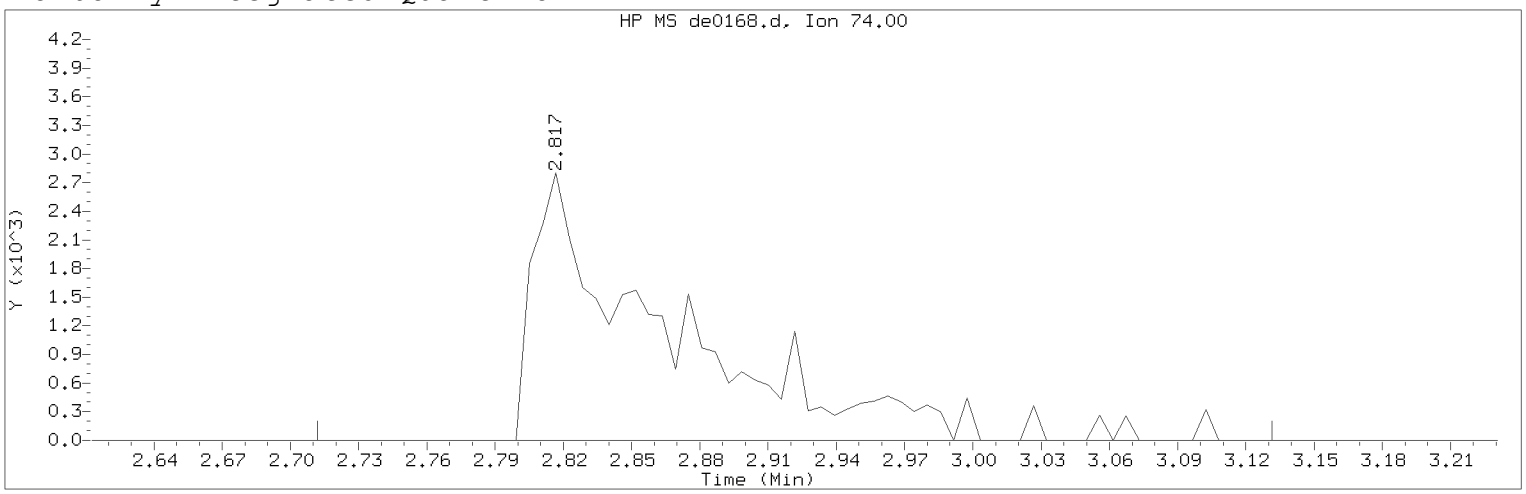
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 104		
Retention Time (minutes)	: 2.193		
Quant Ion	: 88.00		
Area	: 6659		
On-column Amount (ng/ul)	: 0.2505		
Integration start scan	: 100	Integration stop scan:	115
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0461

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

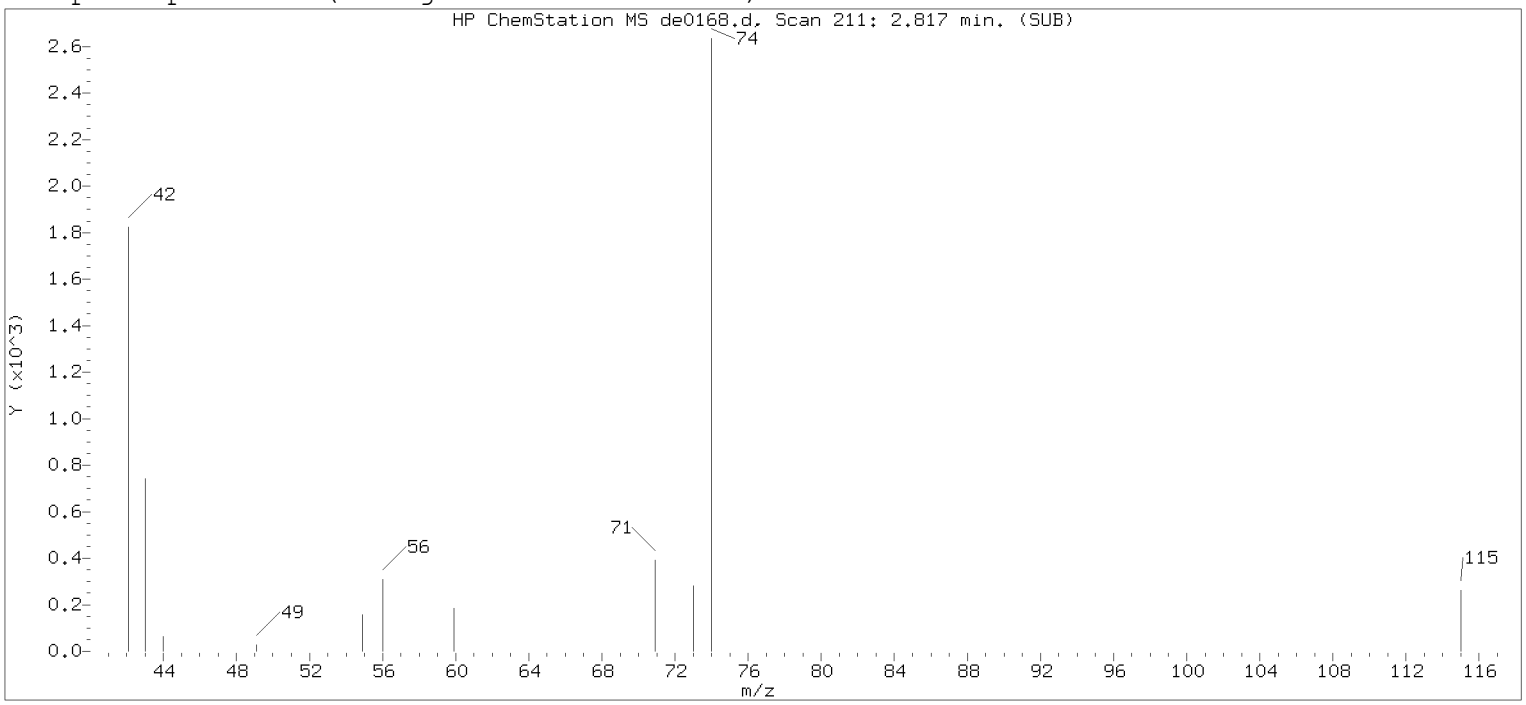
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 211
Retention Time (minutes) : 2.817
Quant Ion : 74.00
Area (flag) : 11498M
On-Column Amount (ng/ul) : 0.2697
Integration start scan : 192 Integration stop scan: 264
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

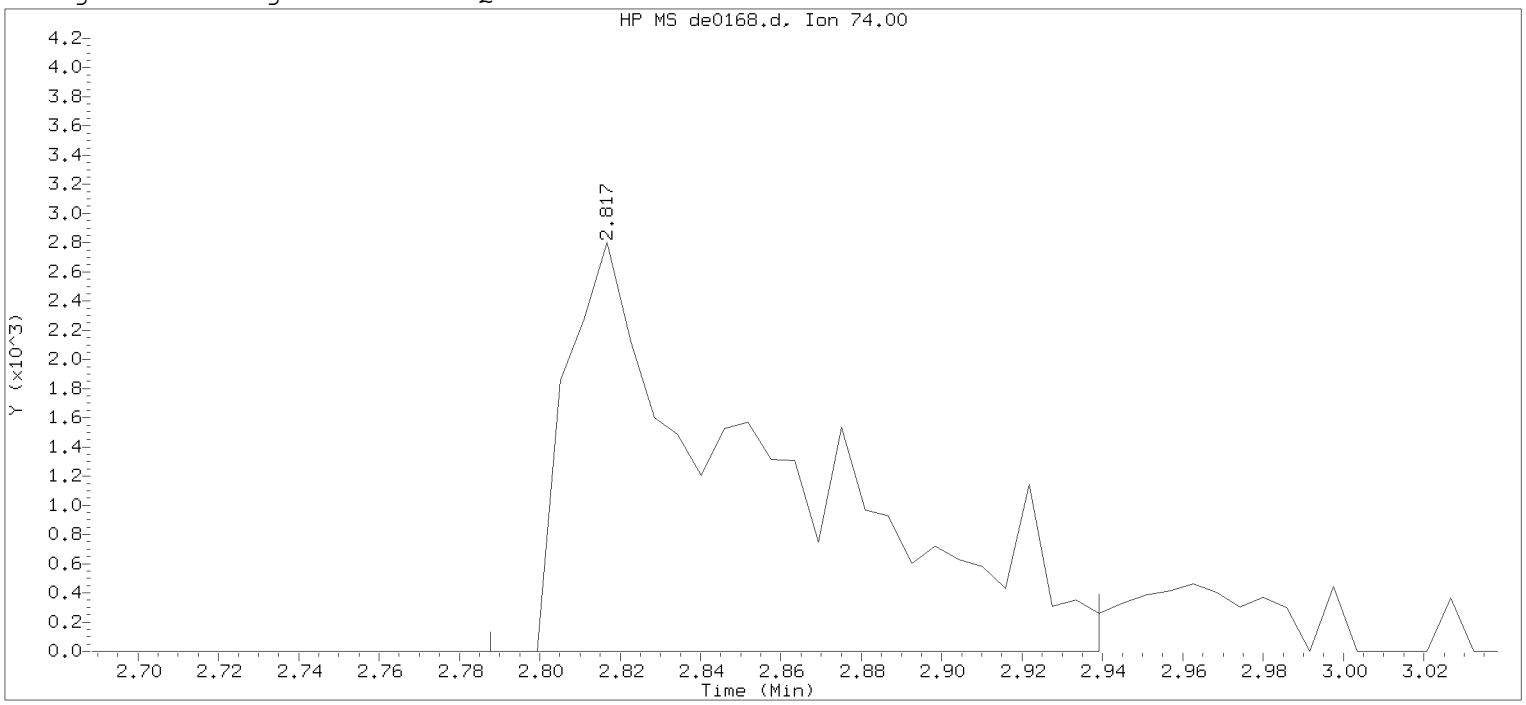
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

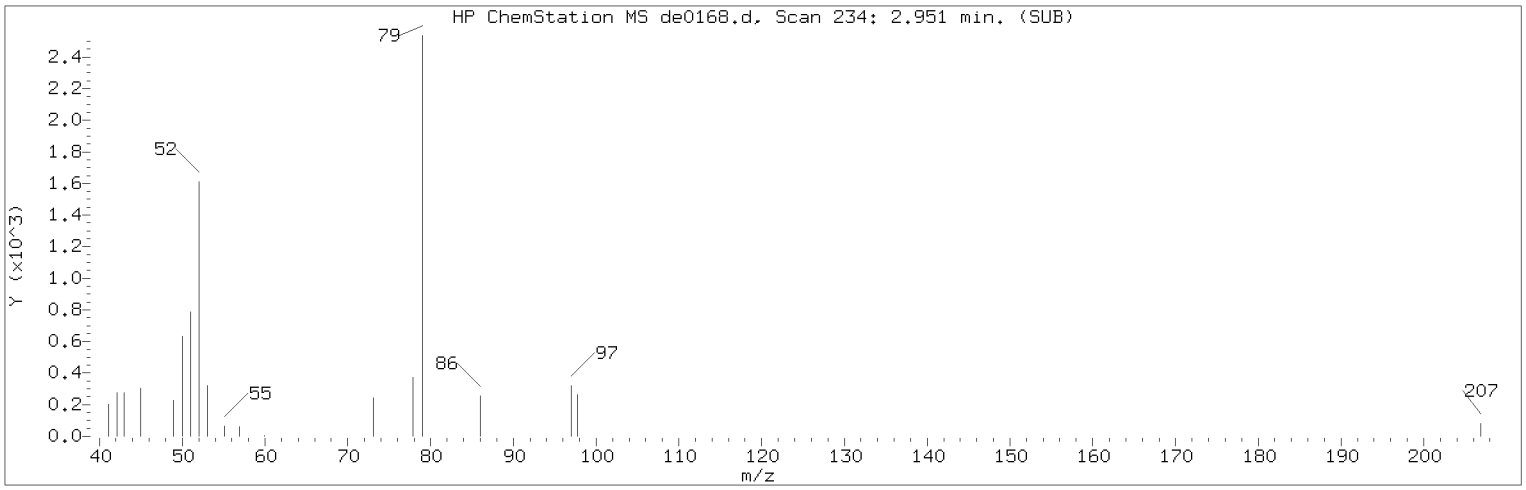
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

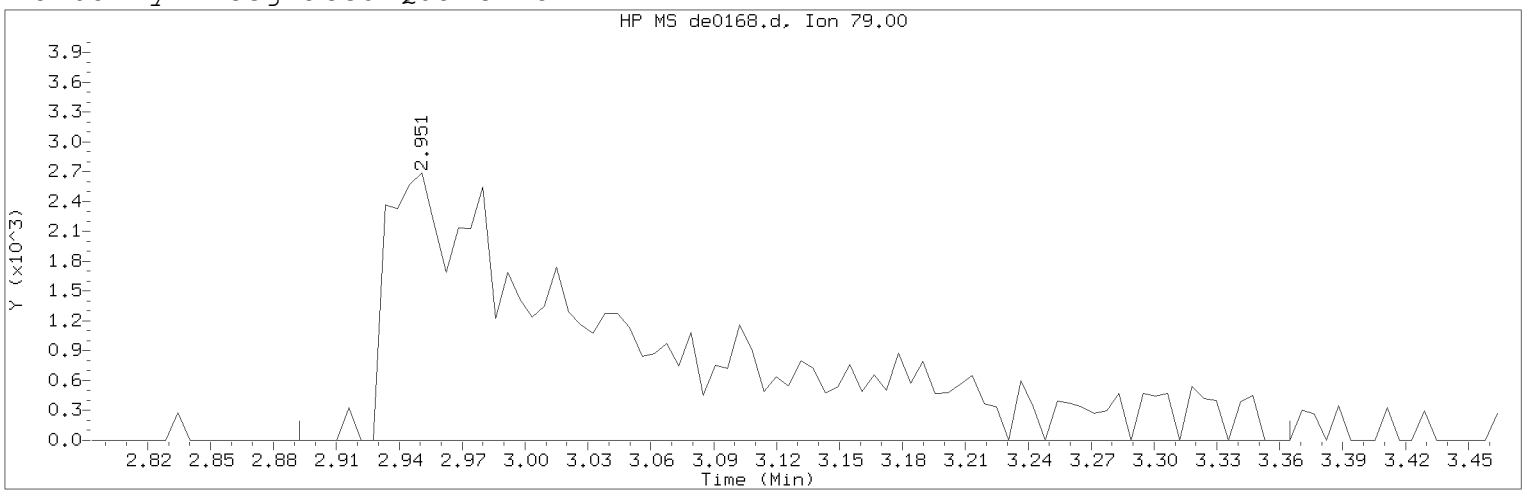
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 211		
Retention Time (minutes)	: 2.817		
Quant Ion	: 74.00		
Area	: 9837		
On-column Amount (ng/ul)	: 0.2313		
Integration start scan	: 205	Integration stop scan:	231
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0463

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

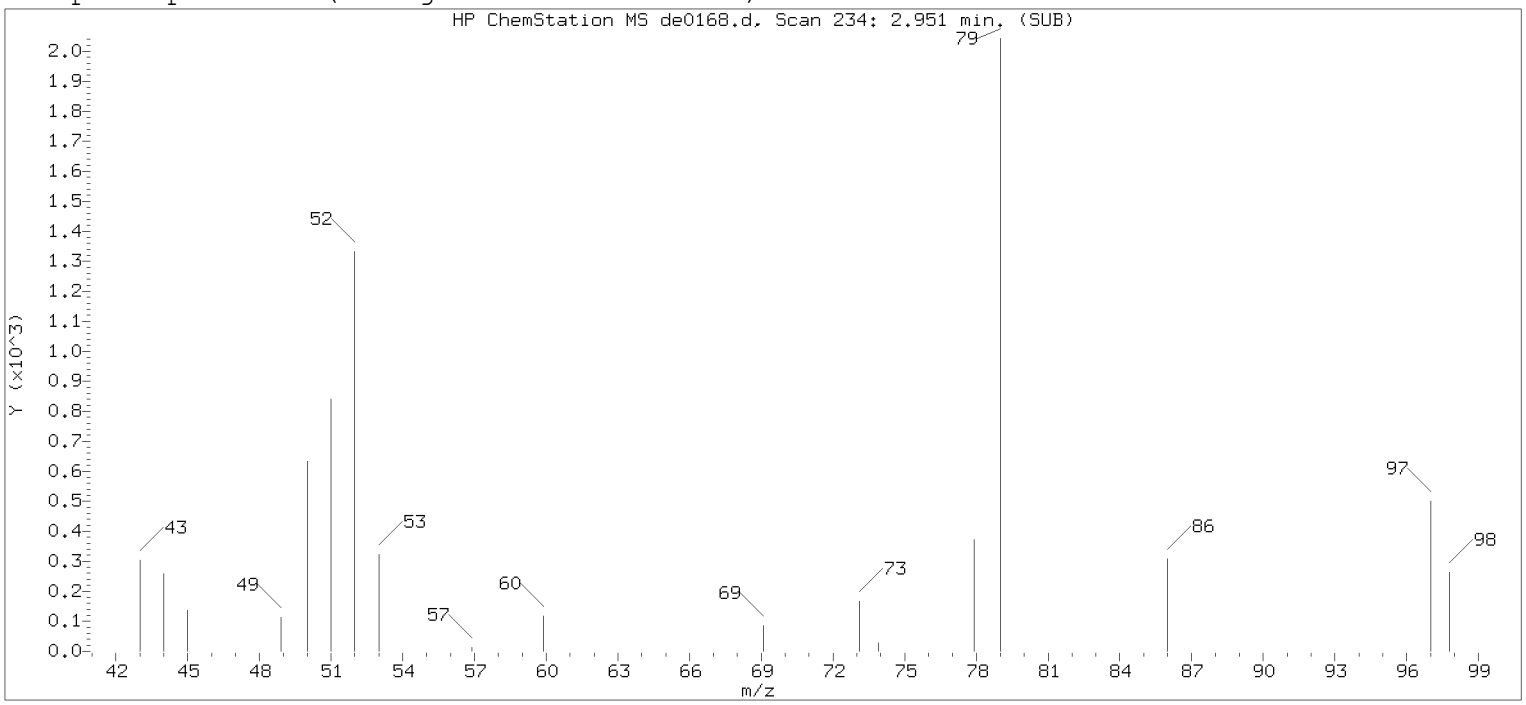
Compound Number : 5
Compound Name : Pyridine
Scan Number : 234
Retention Time (minutes) : 2.951
Quant Ion : 79.00
Area (flag) : 22304M
On-Column Amount (ng/ul) : 0.3188
Integration start scan : 223 Integration stop scan: 304
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

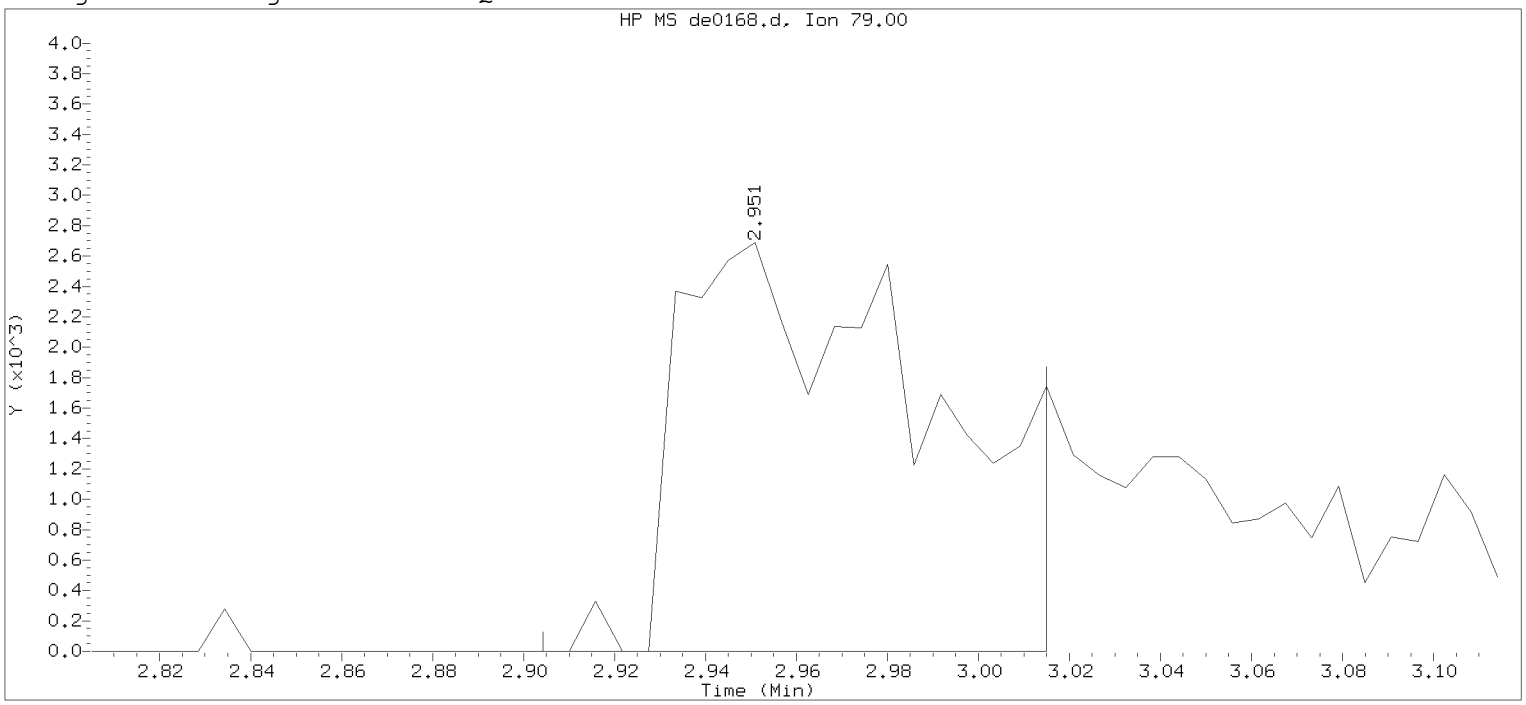
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

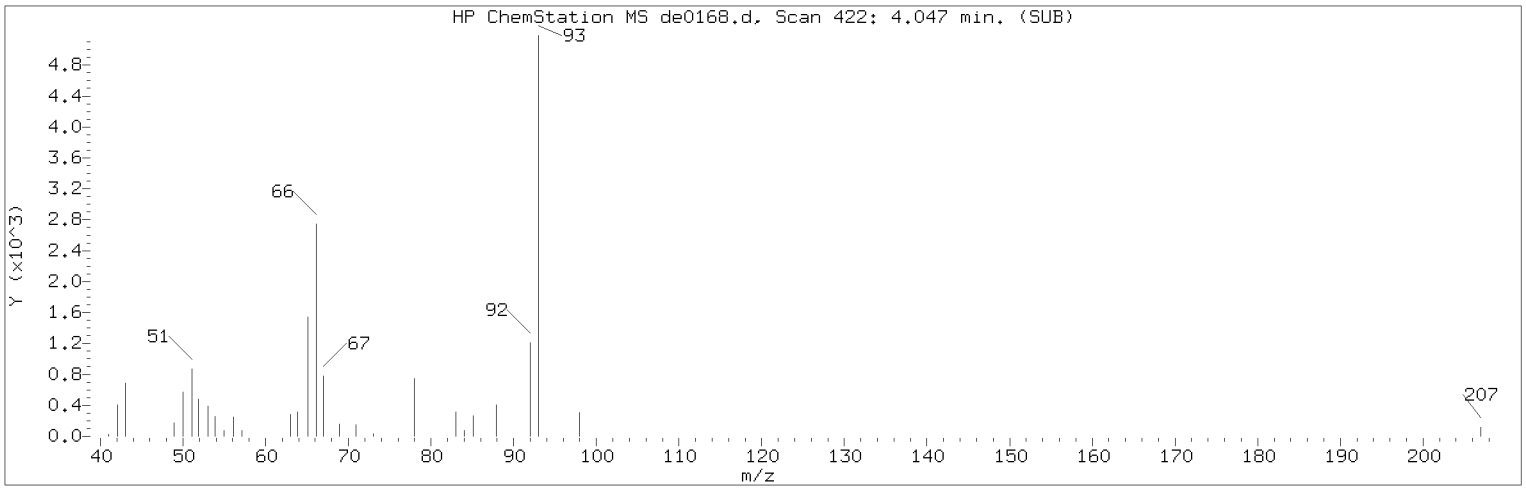
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

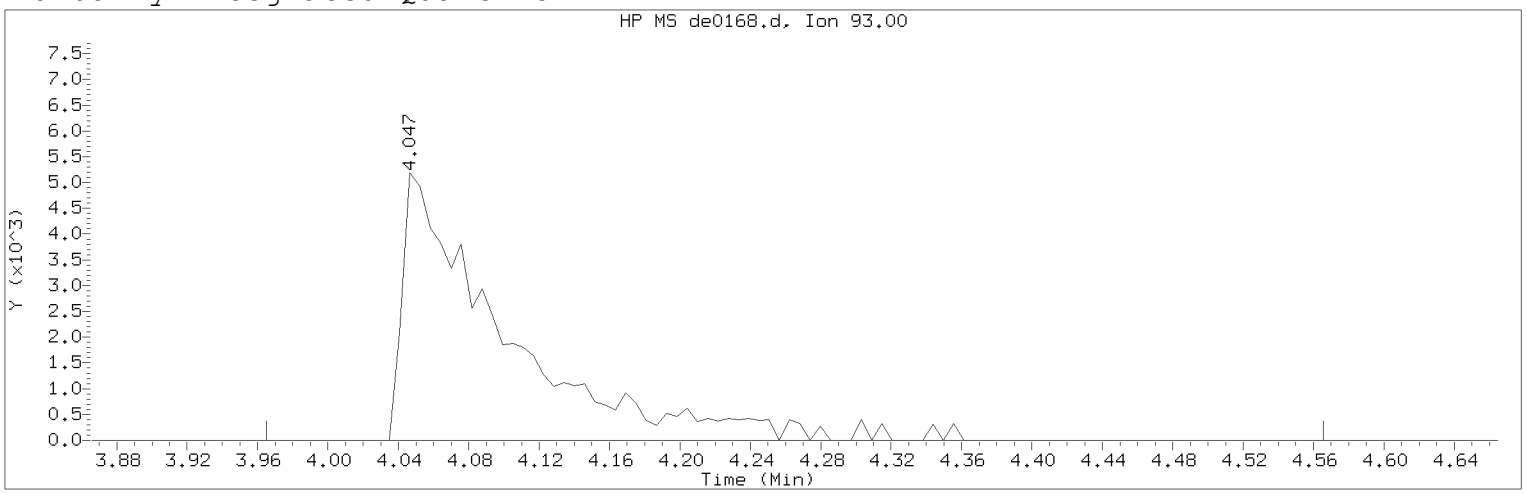
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 234		
Retention Time (minutes)	: 2.951		
Quant Ion	: 79.00		
Area	: 10053		
On-column Amount (ng/ul)	: 0.1440		
Integration start scan	: 225	Integration stop scan:	244
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0465

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

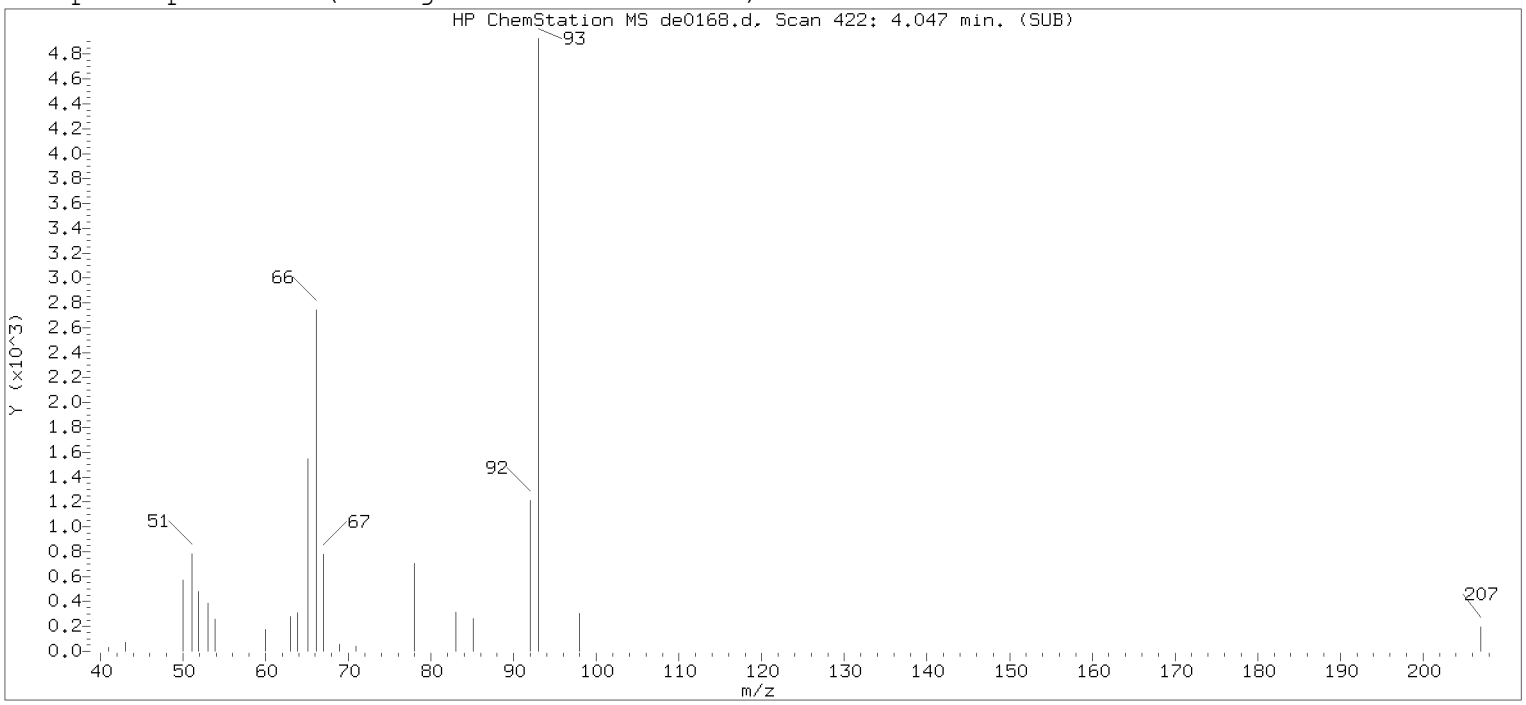
Compound Number : 7
Compound Name : 2-Picoline
Scan Number : 422
Retention Time (minutes) : 4.047
Quant Ion : 93.00
Area (flag) : 20774M
On-Column Amount (ng/ul) : 0.2908
Integration start scan : 407 Integration stop scan: 510
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

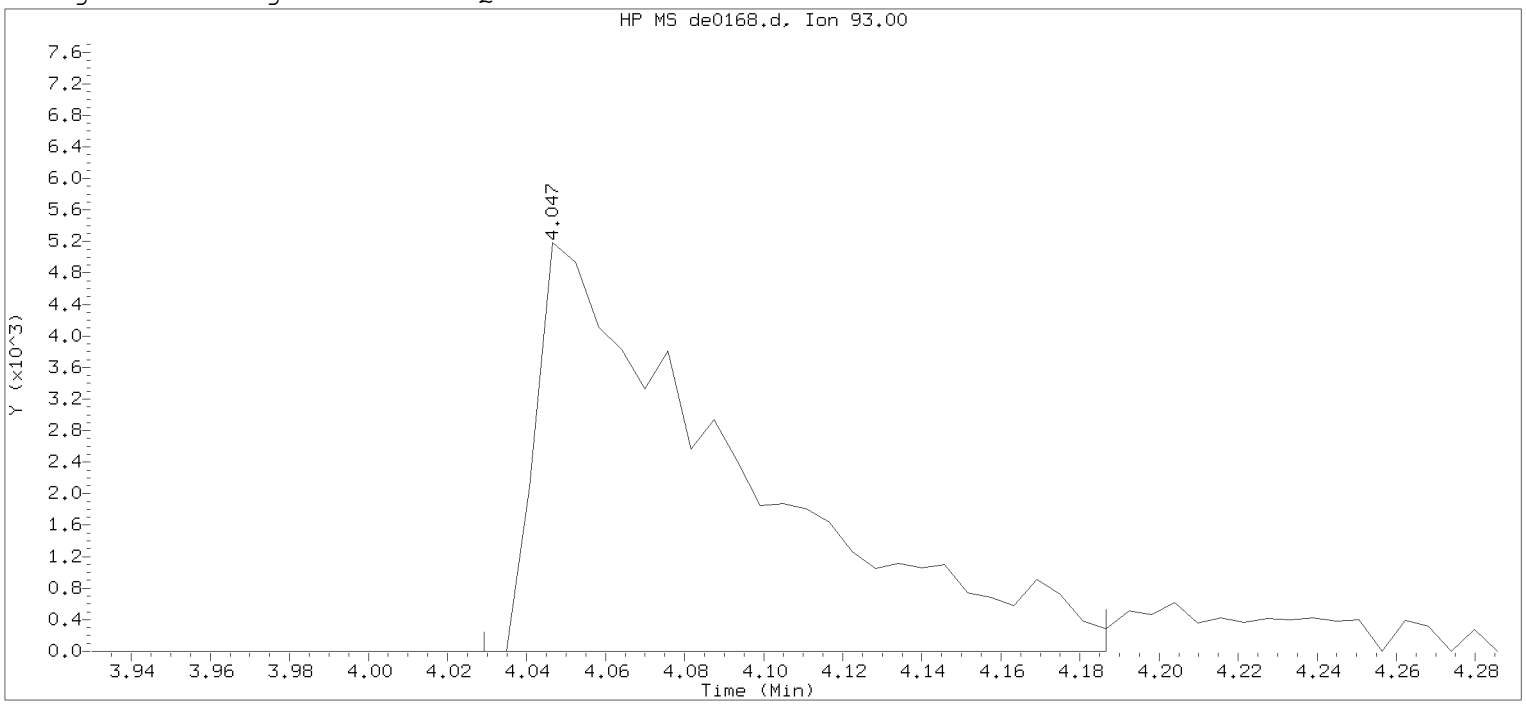
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

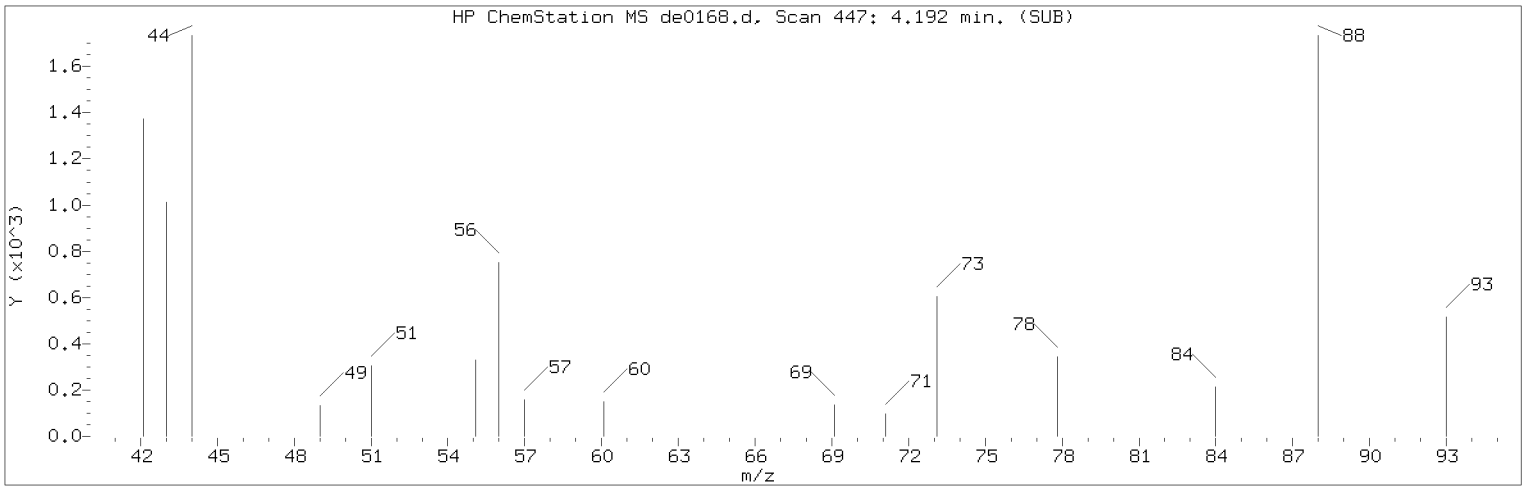
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

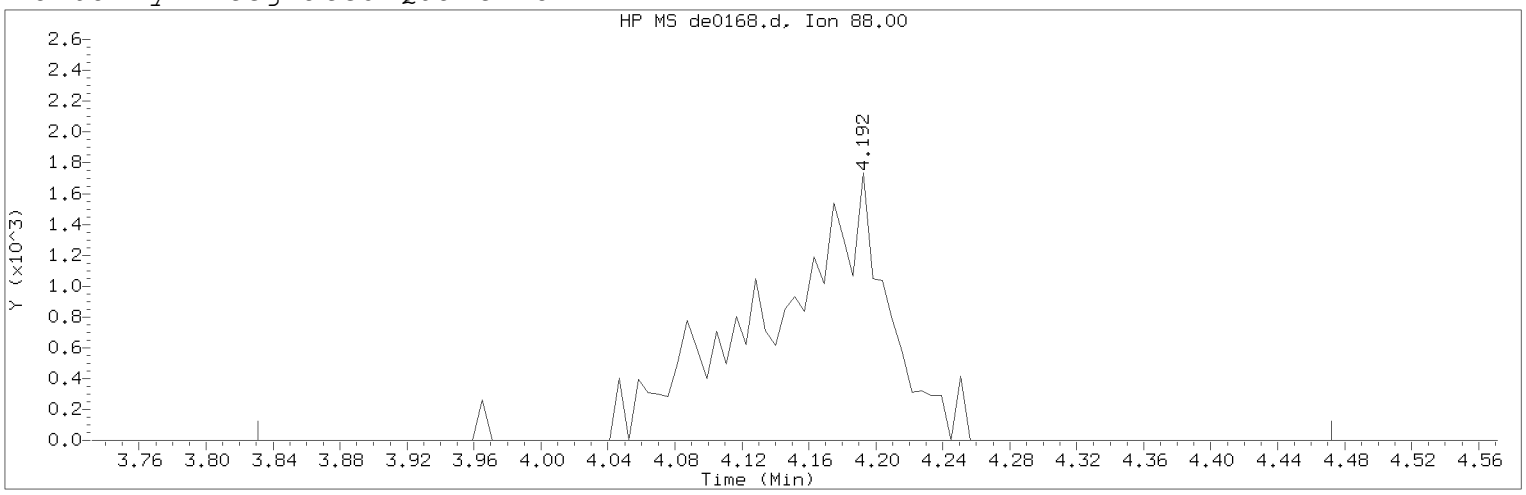
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 422		
Retention Time (minutes)	: 4.047		
Quant Ion	: 93.00		
Area	: 18233		
On-column Amount (ng/ul)	: 0.2559		
Integration start scan	: 418	Integration stop scan:	445
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ab [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

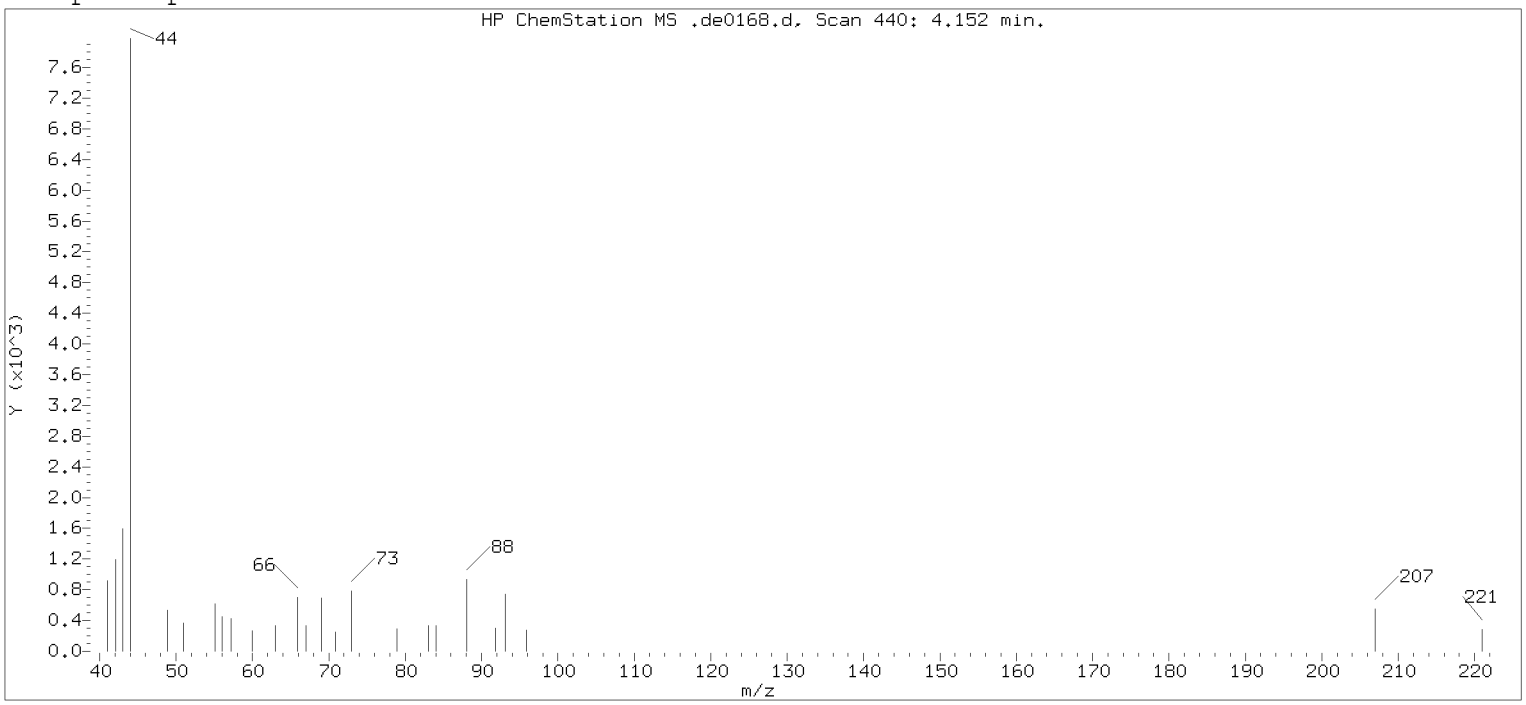
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 447
Retention Time (minutes) : 4.192
Quant Ion : 88.00
Area (flag) : 8659M
On-Column Amount (ng/ul) : 0.2840
Integration start scan : 384 Integration stop scan: 494
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

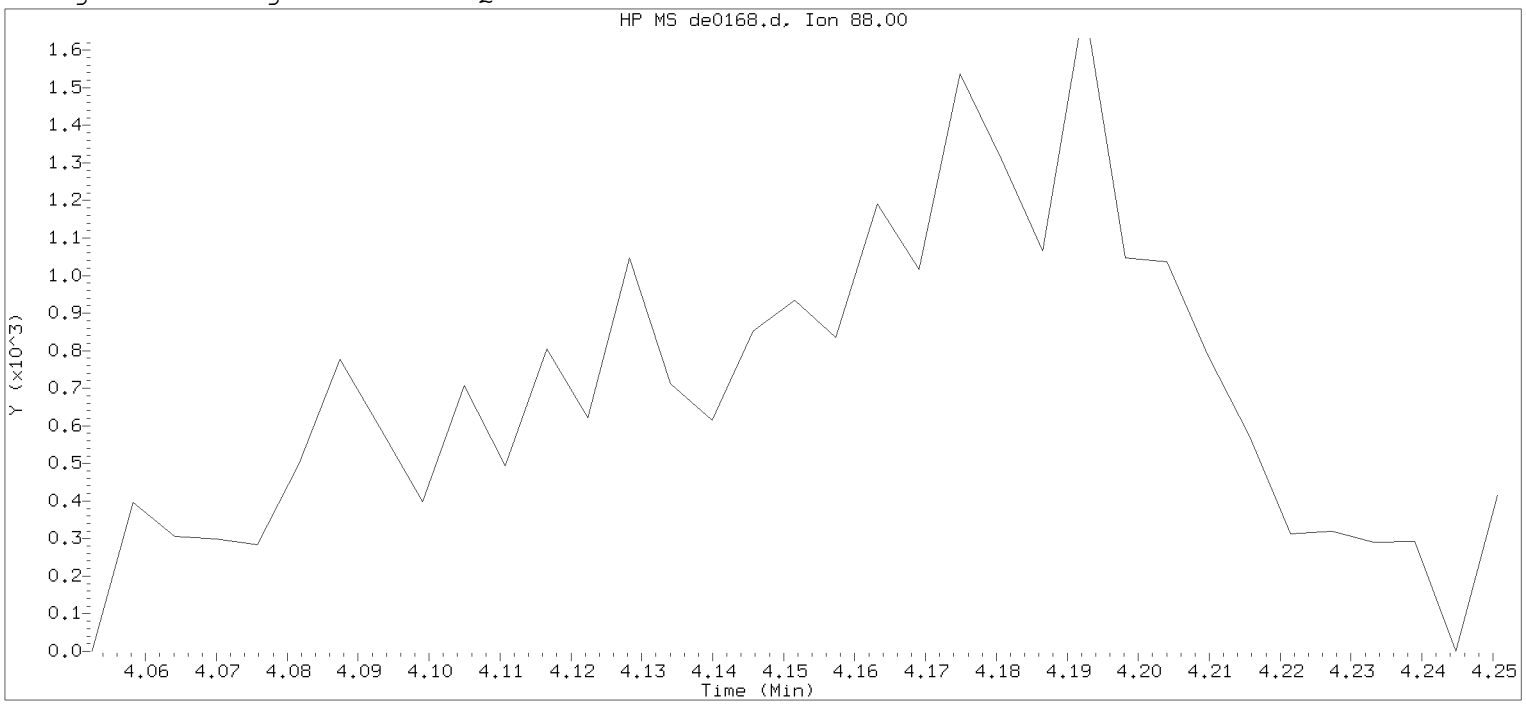
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

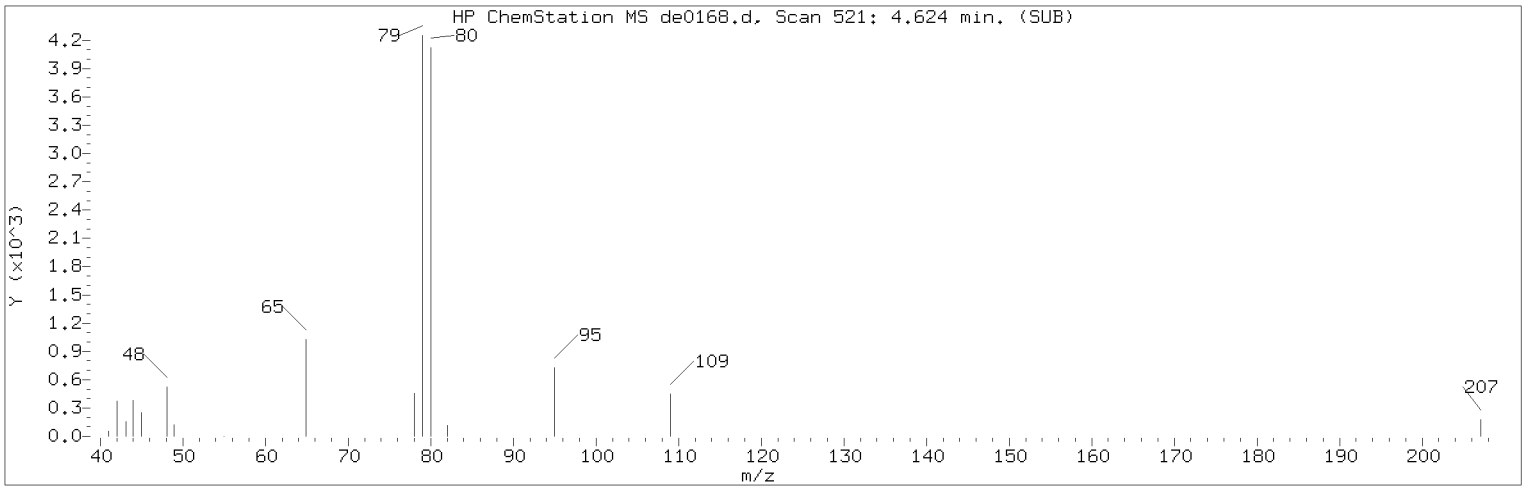
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

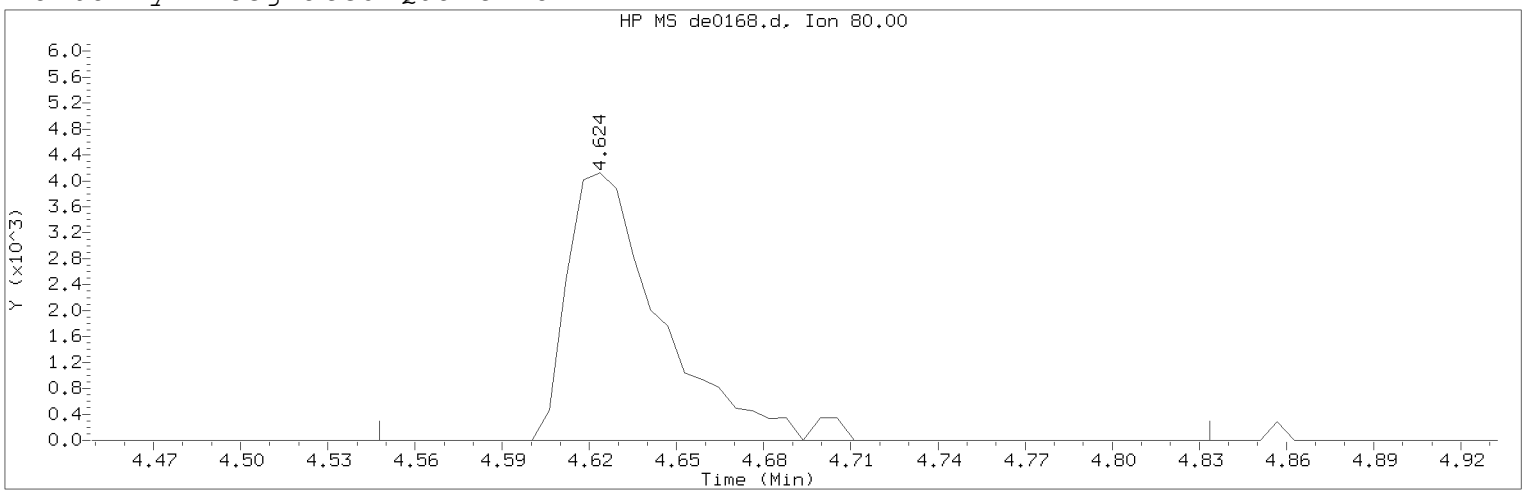
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.151
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: 10469

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

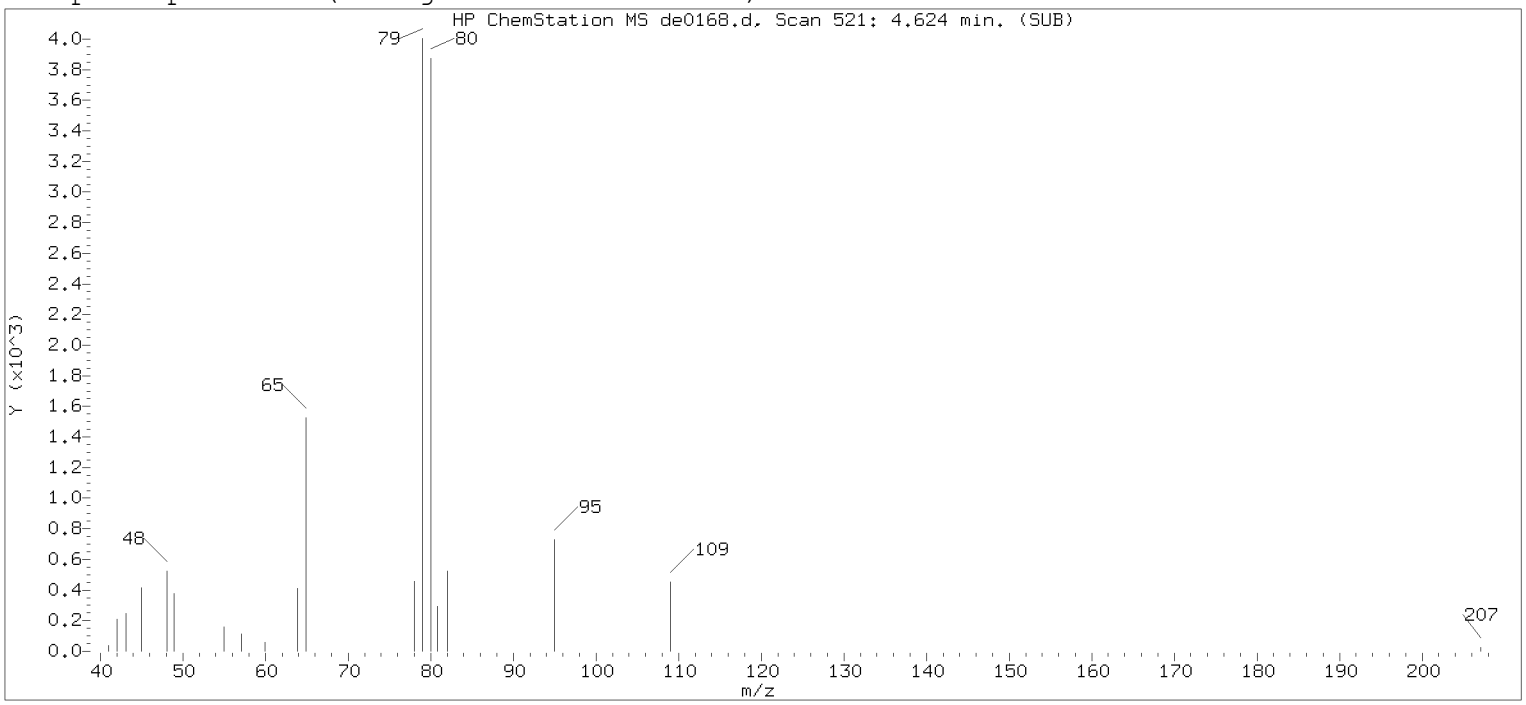
Compound Number : 9
Compound Name : Methyl methanesulfonate
Scan Number : 521
Retention Time (minutes) : 4.624
Quant Ion : 80.00
Area (flag) : 9329M
On-Column Amount (ng/ul) : 0.2674
Integration start scan : 507 Integration stop scan: 556
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

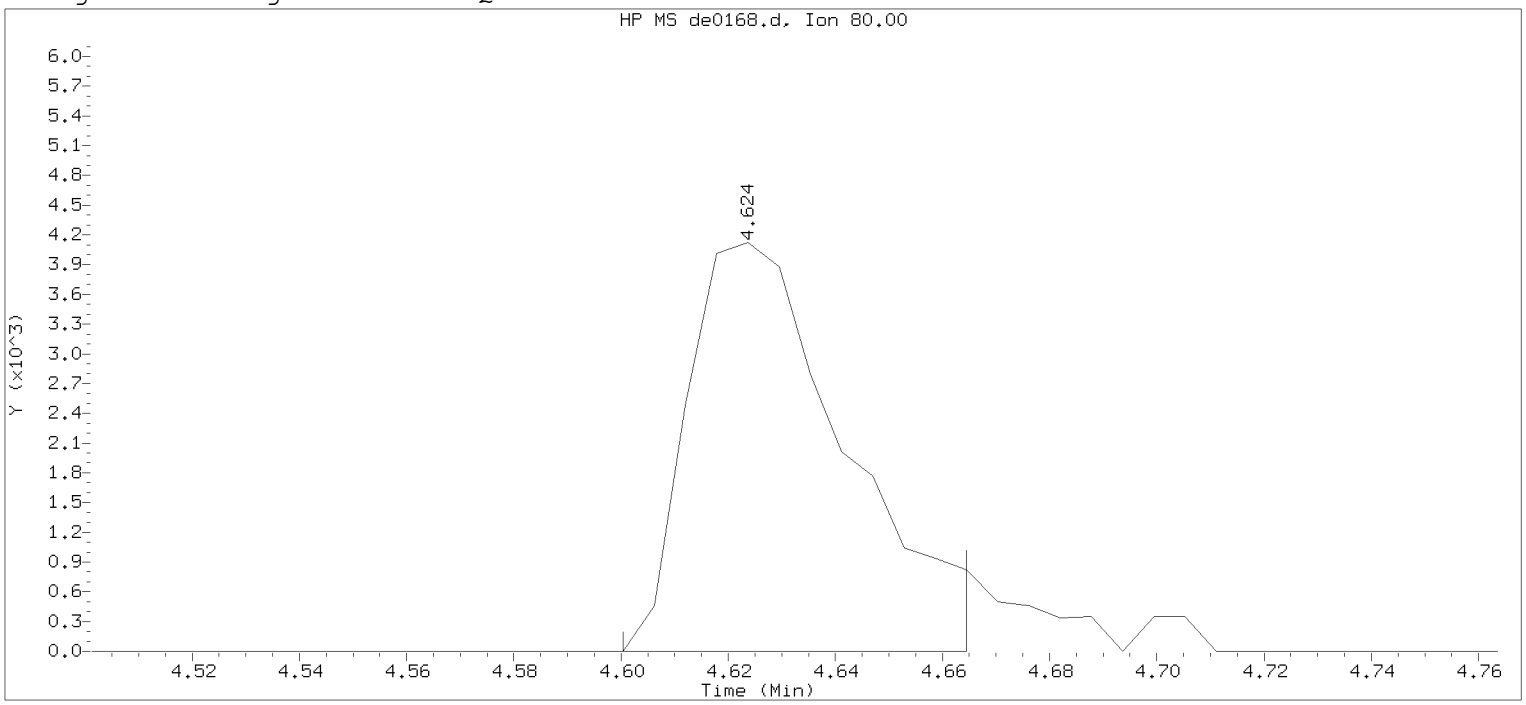
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



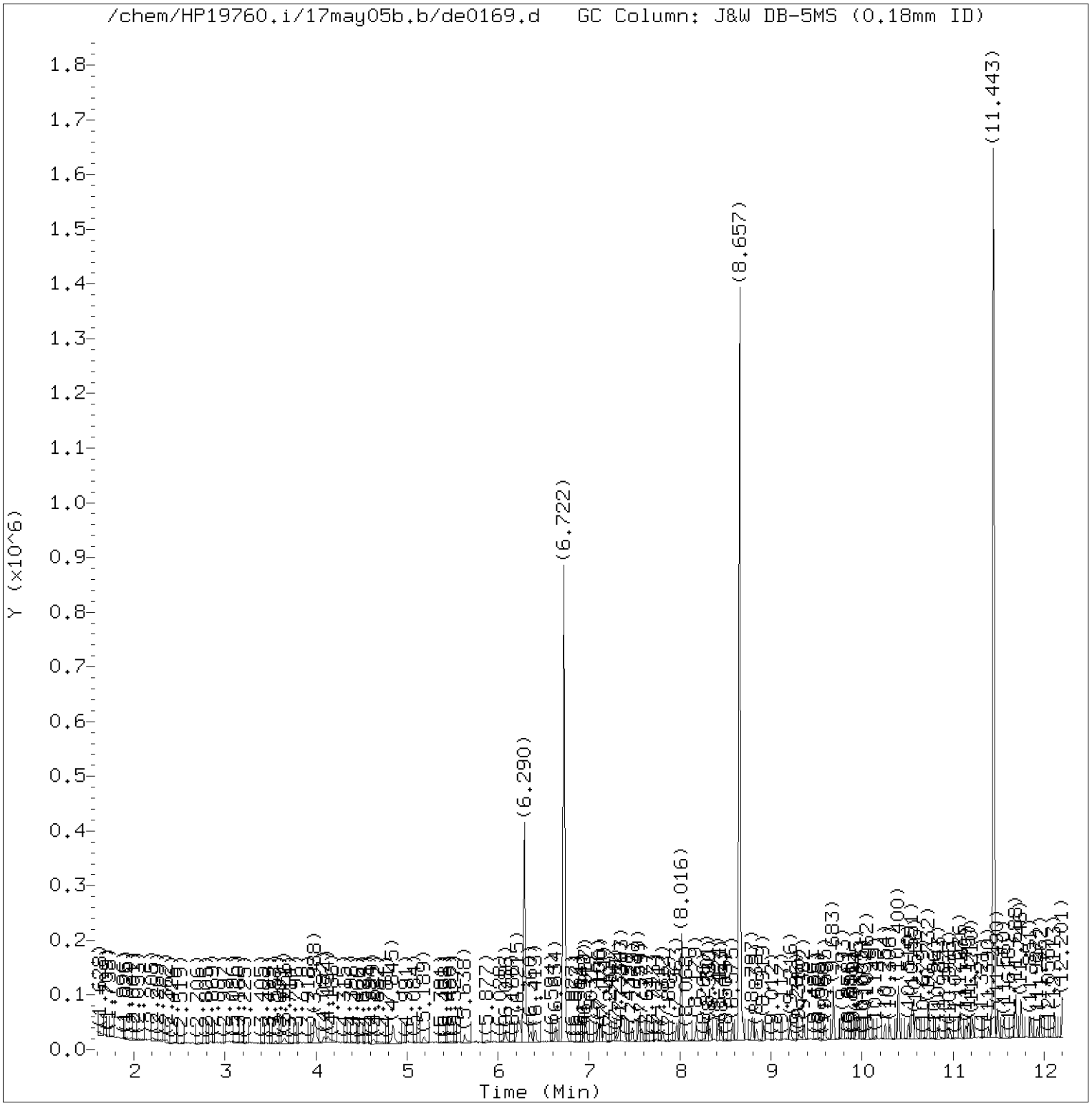
Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 521		
Retention Time (minutes)	: 4.624		
Quant Ion	: 80.00		
Area	: 8366		
On-column Amount (ng/ul)	: 0.2391		
Integration start scan	: 516	Integration stop scan:	527
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSmith



Total Ion Chromatogram (TIC)

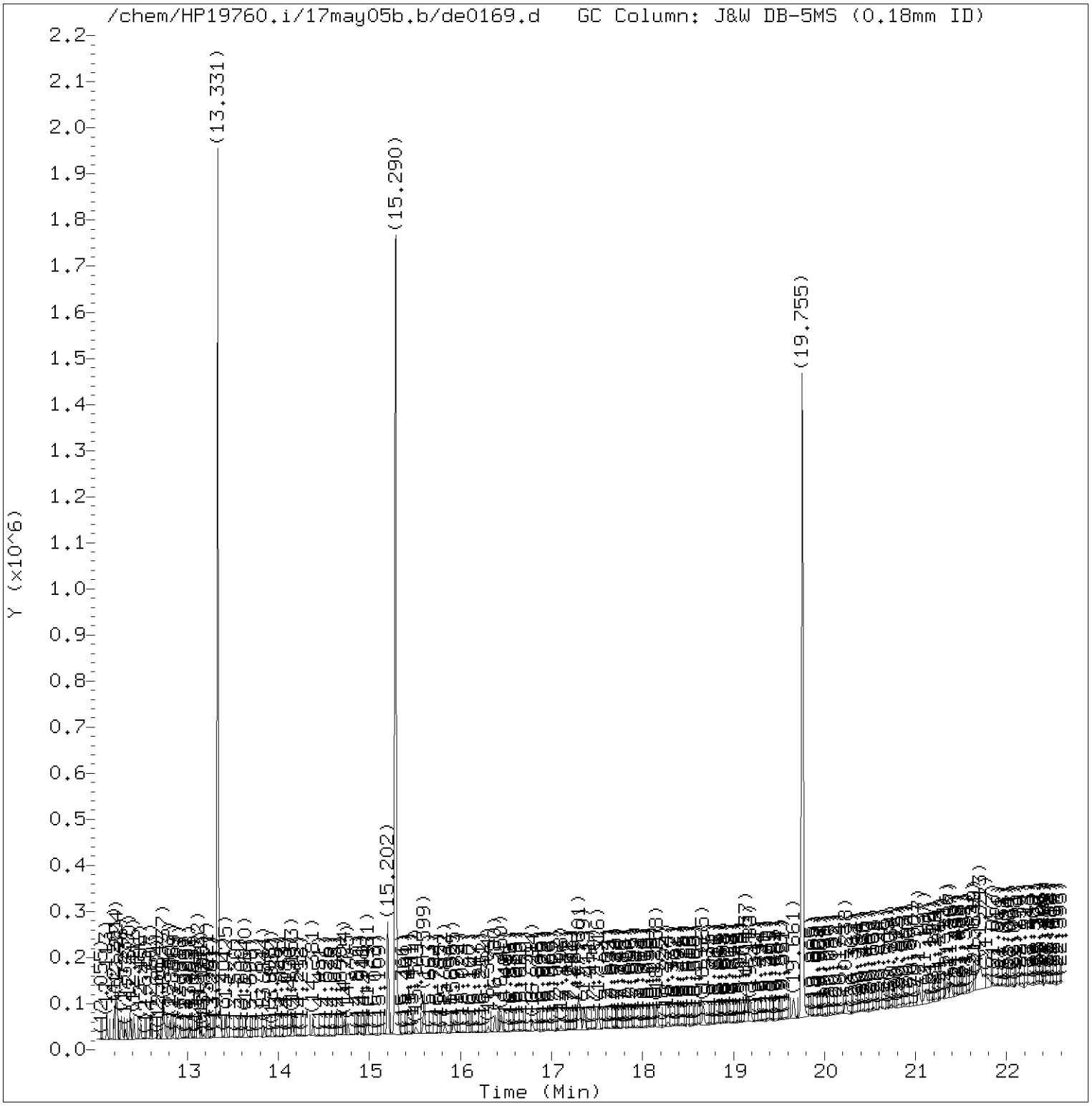
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.210	88	4144M	0.151
4) N-Nitrosodimethylamine	(1)	2.869	74	4894	0.111
5) Pyridine	(1)	3.009	79	13108M	0.181
7) 2-Picoline	(1)	4.087	93	9261	0.125
8) N-Nitrosomethylethylamine	(1)	4.204	88	3797M	0.120
9) Methyl methanesulfonate	(1)	4.629	80	3926	0.109
11)$2-Fluorophenol	(1)	4.845	112	15227	0.261
13) N-Nitrosodiethylamine	(1)	5.183	102	3805	0.130
15) Ethyl methanesulfonate	(1)	5.638	109	4358	0.138
42) Total Cresols	(1)			16162	0.261
16) Benzaldehyde	(1)	6.086	77	6440	0.118
17)$Phenol-d6	(1)	6.215	99	21222	0.268
18) Phenol	(1)	6.238	94	11906	0.133
19) Aniline	(1)	6.244	93	13804	0.131
20) a-methylstyrene	(1)	6.325	118	6707	0.104
22) bis(2-Chloroethyl)ether	(1)	6.360	93	9390	0.141
23) 2-Chlorophenol	(1)	6.413	128	7589	0.130
24) 1,3-Dichlorobenzene	(1)	6.640	146	8685	0.137
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	187845	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	8784	0.136
27) Benzyl alcohol	(1)	6.949	108	4113	0.099
28) 1,2-Dichlorobenzene	(1)	6.967	146	8149	0.134
30) Indene	(1)	7.106	115	12031	0.106
31) 2-Methylphenol	(1)	7.130	108	7163	0.125
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.159	45	14162	0.144
34) bis(2-Chloroisopropyl)ether	(1)	7.159	45	14162	0.144
35) N-Nitrosopyrrolidine	(1)	7.299	100	4081	0.126
36) Acetophenone	(1)	7.334	105	10103	0.117
38) N-Nitroso-di-n-propylamine	(1)	7.351	70	6949	0.133
39) N-Nitrosomorpholine	(1)	7.363	56	7276	0.164
37) 4-Methylphenol	(1)	7.369	108	8999	0.136
97) Isosafrole	(3)			5999	0.126
40) o-Toluidine	(1)	7.386	106	13299	0.131
43) Hexachloroethane	(1)	7.474	117	3386	0.128
44)$Nitrobenzene-d5	(2)	7.549	82	19368	0.263
45) Nitrobenzene	(2)	7.579	77	10052	0.135
48) N-Nitrosopiperidine	(2)	7.812	114	3983	0.136
50) Isophorone	(2)	7.963	82	17538	0.138
120) 2,4_2,6-Dinitrotoluenes	(3)			6765	0.222
51) 2-Nitrophenol	(2)	8.068	139	3635	0.124

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	7994	0.127
56) Benzoic acid	(2)	8.261	105	2246	2.258
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	3948	0.132
55) bis(2-Chloroethoxy)methane	(2)	8.330	93	10326	0.127
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.418	104	9575	0.103
60) 2,4-Dichlorophenol	(2)	8.447	162	6448	0.138
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	7928	0.144
65)*Naphthalene-d8	(2)	8.657	136	710787	5.000
146) Diallate trans/cis	(4)			7497	0.130
67) 4-Chloroaniline	(2)	8.791	127	9491	0.138
68) 2,6-Dichlorophenol	(2)	8.803	162	5712	0.123
69) Hexachloropropene	(2)	8.838	213	5009	0.135
71) Hexachlorobutadiene	(2)	8.919	225	4741	0.146
75) Quinoline	(2)	9.216	129	15782	0.151
76) Caprolactam	(2)	9.310	113	1242	0.085
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	6633	0.128
80) 4-Chloro-3-methylphenol	(2)	9.595	107	6563	0.123
82) Safrole	(2)	9.683	162	5361	0.127
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	7707	0.133
85) Hexachlorocyclopentadiene	(3)	10.062	237	3038	0.110
88) cis-Isosafrole	(3)	10.149	162	841	0.019
90) 2,4,6-Trichlorophenol	(3)	10.254	196	3984	0.113
92) 2,4,5-Trichlorophenol	(3)	10.306	196	4252	0.112
93)$2-Fluorobiphenyl	(3)	10.400	172	34812	0.277
94) trans-Isosafrole	(3)	10.510	162	5158	0.107
95) 1,1'-Biphenyl	(3)	10.551	154	15002	0.124
96) 2-Chloronaphthalene	(3)	10.557	162	13319	0.131
98) 1-Chloronaphthalene	(3)	10.586	162	12874	0.132
100) 2-Nitroaniline	(3)	10.732	138	3889	0.123
99) Diphenyl ether	(3)	10.732	170	10321	0.145
104) 1,4-Naphthoquinone	(3)	10.843	158	4667	0.110
105) 1,4-Dinitrobenzene	(3)	10.965	168	1710	0.102
106) Dimethylphthalate	(3)	11.076	163	15356	0.130
107) 1,3-Dinitrobenzene	(3)	11.082	168	2028	0.111
108) 2,6-Dinitrotoluene	(3)	11.146	165	2989	0.115
112) 3-Nitroaniline	(3)	11.390	138	3274	0.121
113)*Acenaphthene-d10	(3)	11.443	164	404578	5.000
115) 2,4-Dinitrophenol	(3)	11.560	184	5567	0.366
116) 4-Nitrophenol	(3)	11.682	109	7343	0.368
117) Pentachlorobenzene	(3)	11.694	250	5945	0.127

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
119) Dibenzofuran	(3)	11.746	168	19211	0.129
118) 2,4-Dinitrotoluene	(3)	11.752	165	3776	0.108
121) 1-Naphthylamine	(3)	11.851	143	12328	0.117
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	3065	0.107
123) 2-Naphthylamine	(3)	11.962	143	13630	0.131
124) Diethylphthalate	(3)	12.113	149	15855	0.139
125) Thionazin	(3)	12.212	107	2940	0.129
128) 5-Nitro-o-toluidine	(3)	12.218	152	3503	0.107
129) 4-Nitroaniline	(3)	12.224	138	2910	0.108
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	8588	0.148
130) 4,6-Dinitro-2-methylphenol	(4)	12.276	198	6487	0.307
131) N-Nitrosodiphenylamine	(4)	12.370	169	12428	0.128
132) NDPA as diphenylamine	(4)	12.370	169	12428	0.128
134) 1,2-Diphenylhydrazine	(4)	12.416	77	18174	0.132
135)$2,4,6-Tribromophenol	(3)	12.486	330	3877	0.257
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	3291	0.147
139) 1,3,5-Trinitrobenzene	(4)	12.684	213	1115	0.081
141) Phorate	(4)	12.737	75	11019	0.125
140) Diallate (peak 1)	(4)	12.737	86	6469	0.109
142) Phenacetin	(4)	12.749	108	7335	0.113
143) 4-Bromophenyl-phenylether	(4)	12.807	248	4925	0.147
144) Diallate (peak 2)	(4)	12.836	86	1028	0.021
147) Dimethoate	(4)	12.918	87	6542	0.115
148) Atrazine	(4)	13.028	200	3233	0.105
149) Pentachlorophenol	(4)	13.110	266	890	0.046
150) 4-Aminobiphenyl	(4)	13.122	169	13660	0.126
151) Pentachloronitrobenzene	(4)	13.122	237	2179	0.142
152) Pronamide	(4)	13.221	173	6213	0.111
153)*Phenanthrene-d10	(4)	13.331	188	784836	5.000
154) Dinoseb	(4)	13.361	211	2069	0.064
163) Carbazole	(4)	13.640	167	20710	0.128
164) Methyl parathion	(4)	13.844	109	4489	0.102
165) Di-n-butylphthalate	(4)	14.153	149	24830	0.124
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	1072	0.058
167) Parathion	(4)	14.381	109	2601	0.093
169) Octachlorostyrene	(4)	14.730	308	1376	0.104
171) Isodrin	(4)	14.771	193	3124	0.147
174) Benzidine	(5)	15.202	184	108184	0.876
175)*Pyrene-d10	(5)	15.290	212	933299	5.000
179)$Terphenyl-d14	(5)	15.605	244	36023	0.263

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

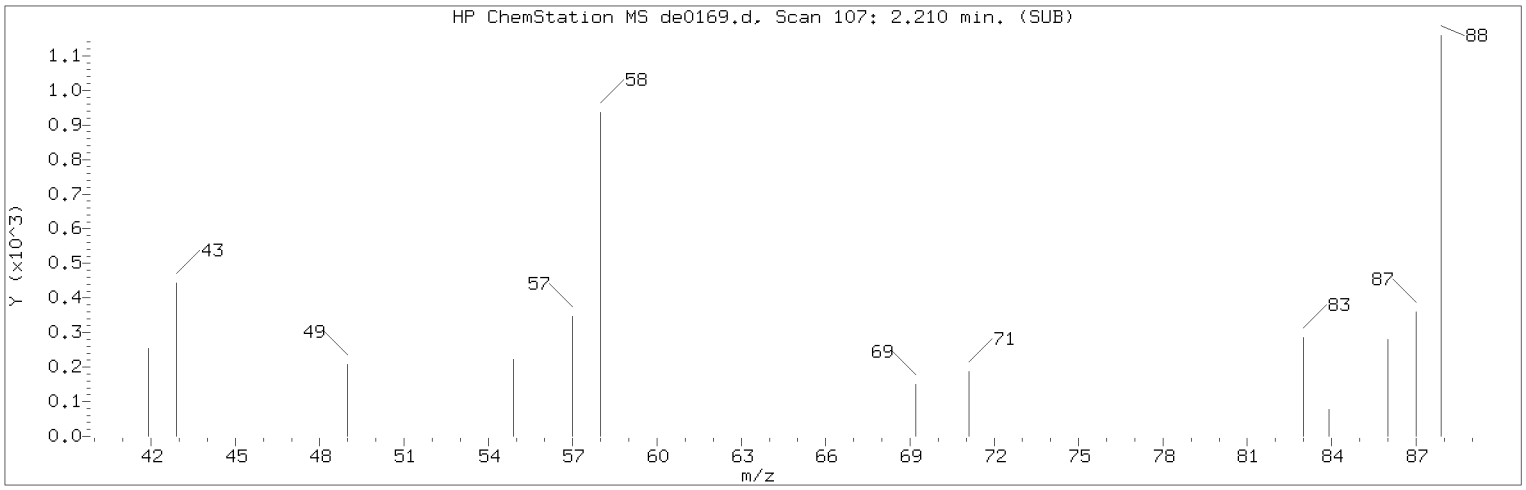
Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	15.832	225	3419	0.101
185) Chlorobenzilate	(5)	15.925	139	7473	0.120
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	15708	0.115
188) Butylbenzylphthalate	(5)	16.450	149	10451	0.111
191) 2-Acetylaminofluorene	(5)	16.794	181	6717	0.077
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	8768	0.115
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	4535	0.109
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	16003	0.114
203) 6-Methylchrysene	(5)	18.158	242	16465	0.121
205) Di-n-octylphthalate	(6)	18.670	149	26218	0.110
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.143	256	8696	0.108
213)*Perylene-d12	(6)	19.755	264	730227	5.000
215) 3-Methylcholanthrene	(6)	20.238	268	9771	0.119
217) Dibenz(a,h)acridine	(6)	21.037	279	14595	0.110
218) Dibenz(a,j)acridine	(6)	21.107	279	12940	0.100

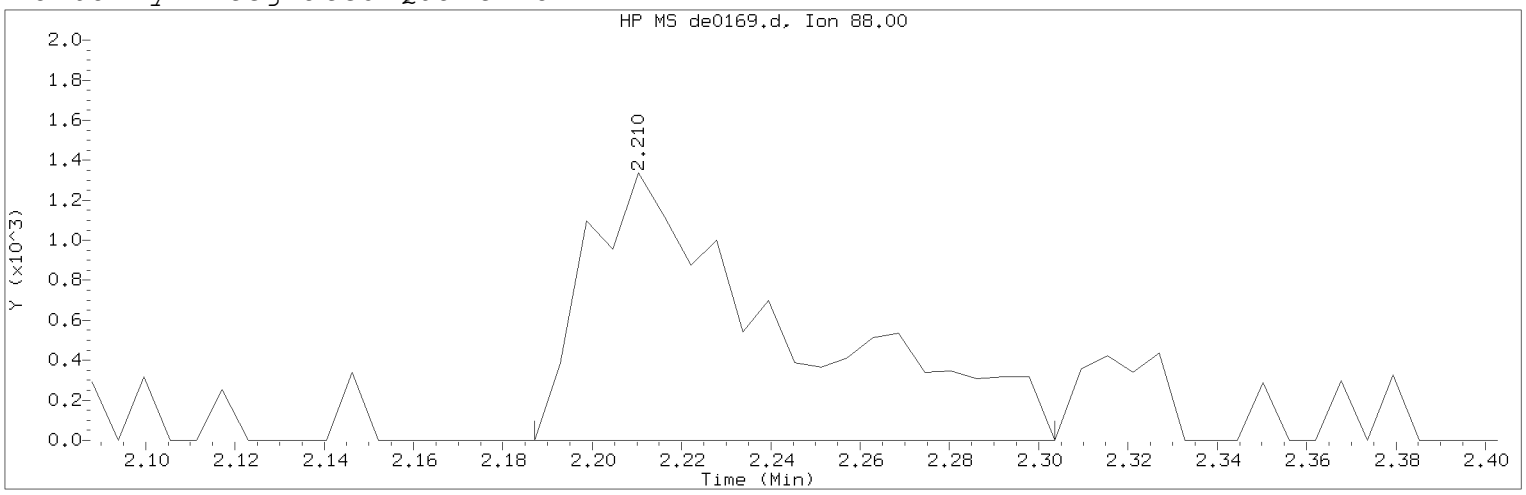
* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

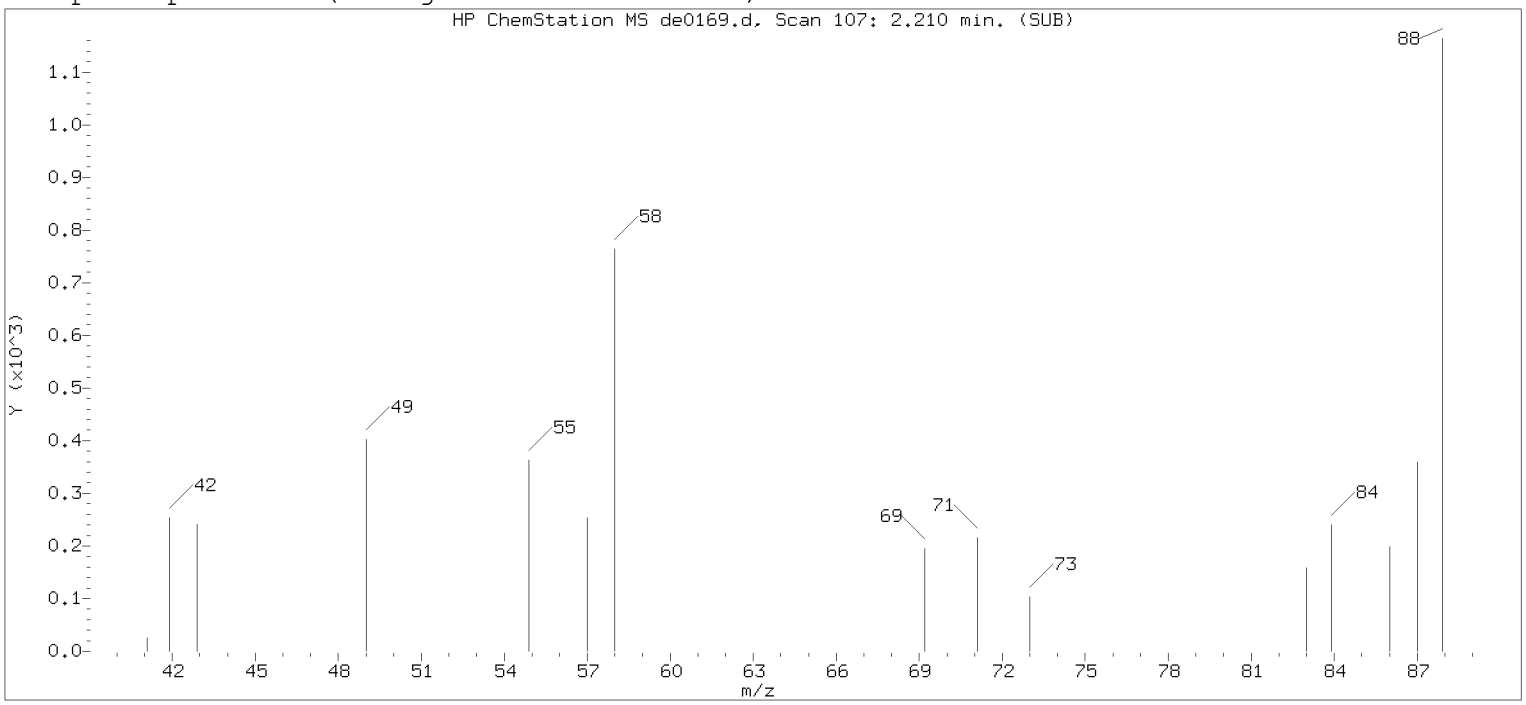
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 107
Retention Time (minutes) : 2.210
Quant Ion : 88.00
Area (flag) : 4144M
On-Column Amount (ng/ul) : 0.1509
Integration start scan : 102 Integration stop scan: 122
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

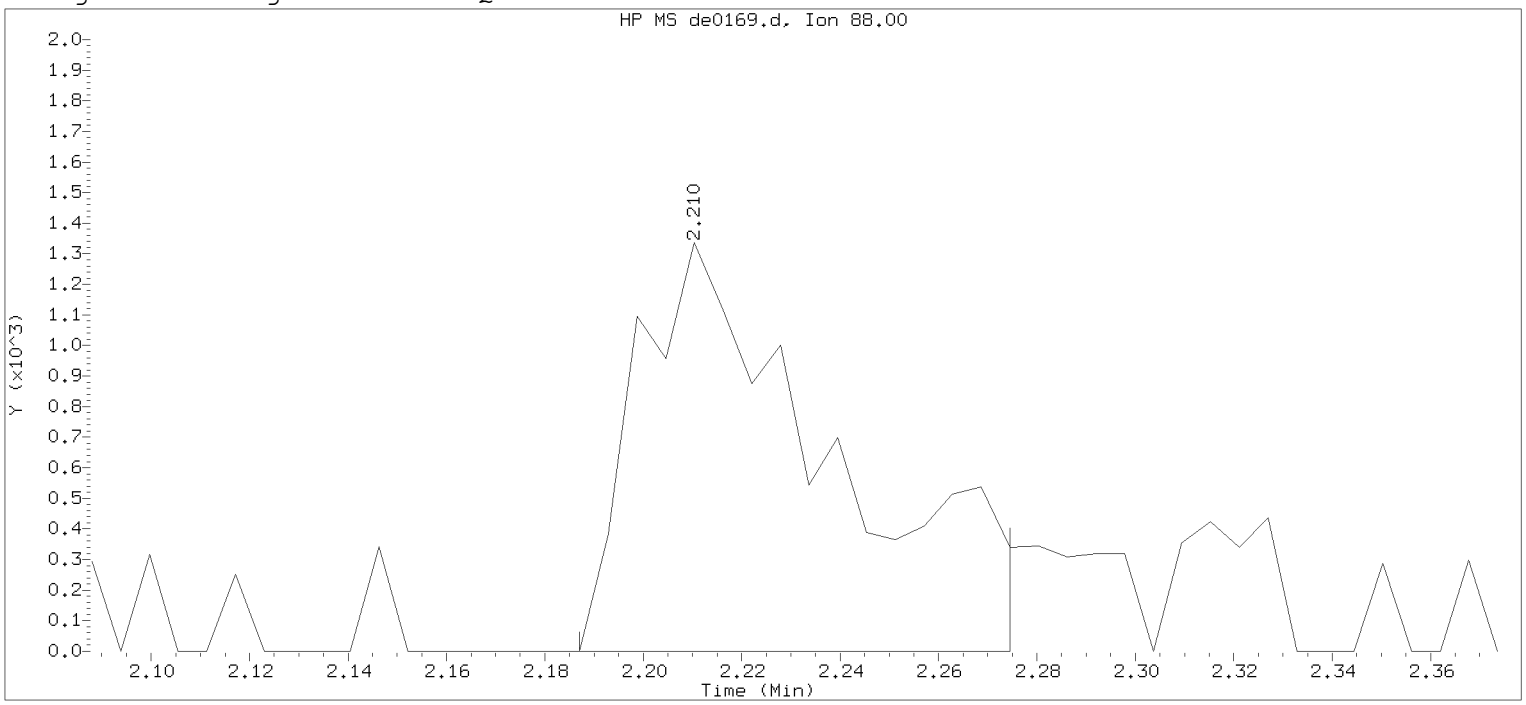
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

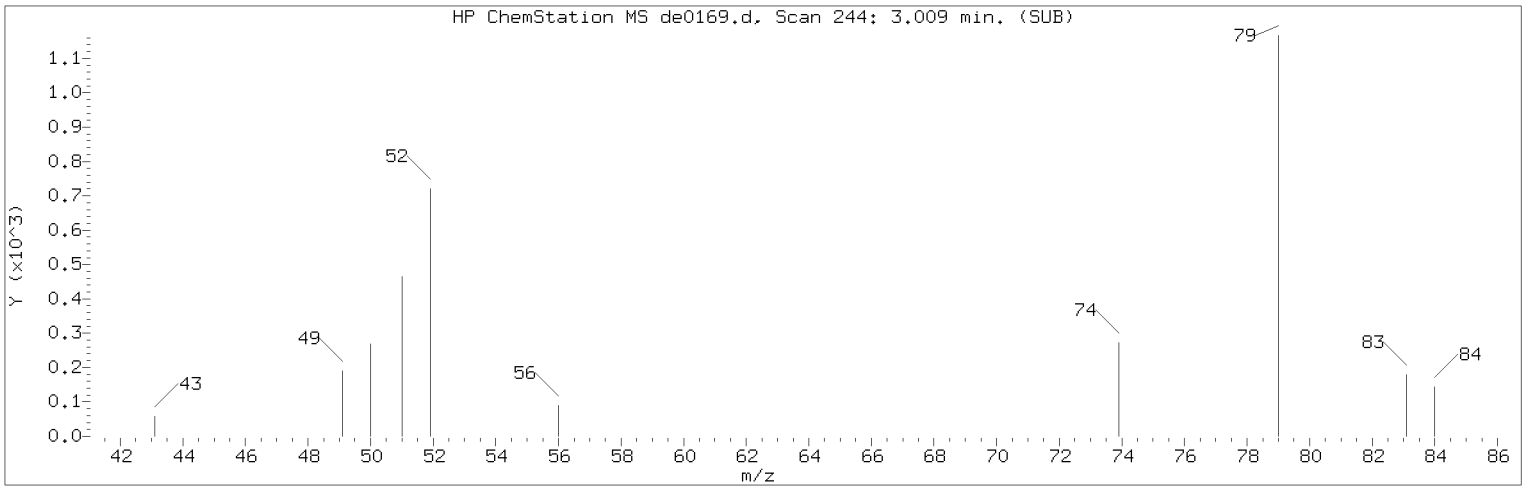
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

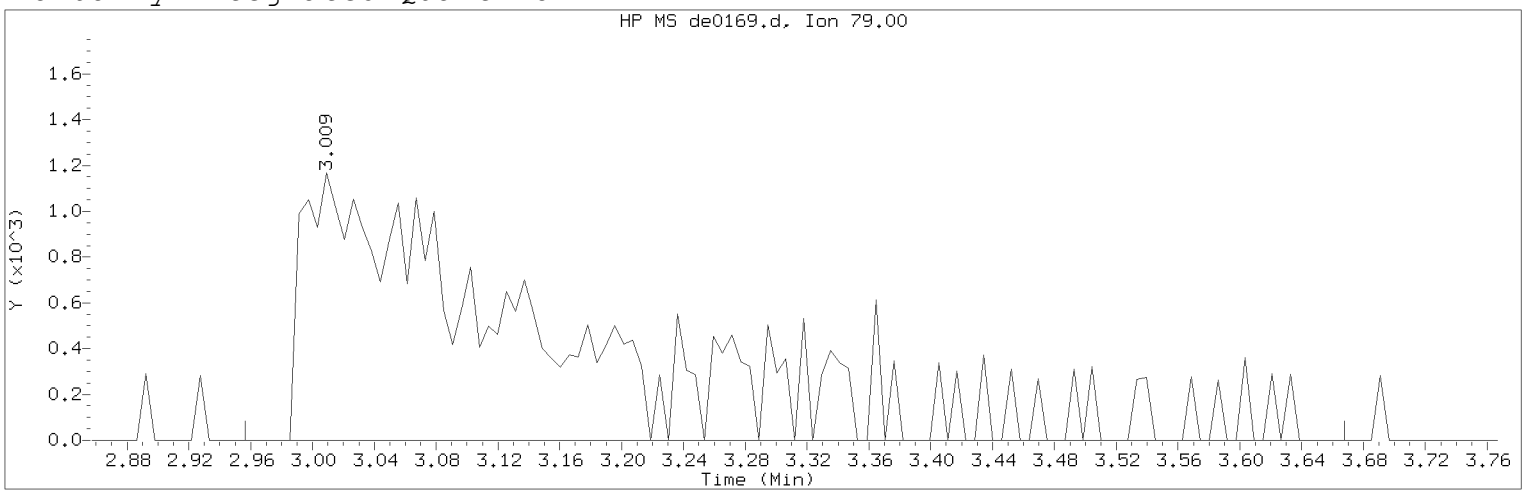
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 107		
Retention Time (minutes)	: 2.210		
Quant Ion	: 88.00		
Area	: 3633		
On-column Amount (ng/ul)	: 0.1323		
Integration start scan	: 102	Integration stop scan:	117
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

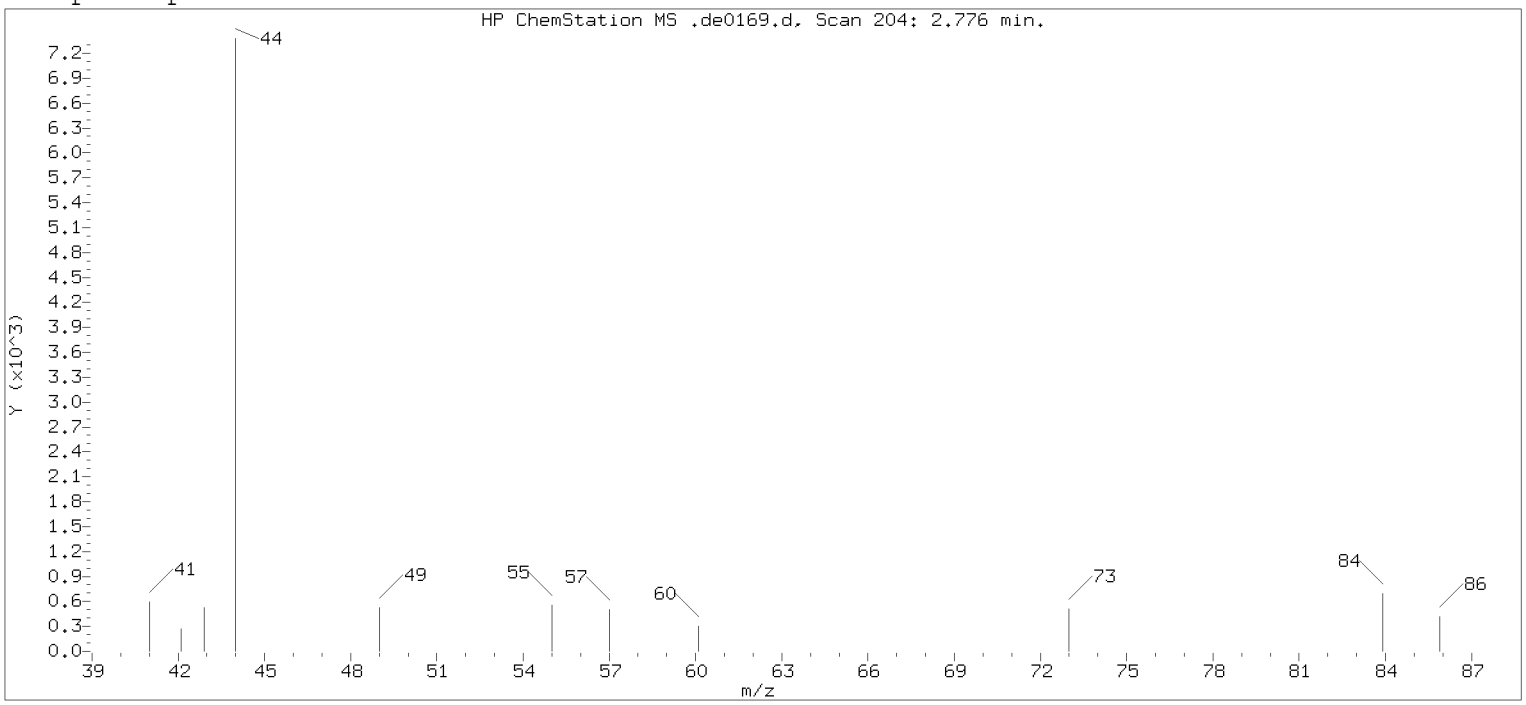
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 244		
Retention Time (minutes)	: 3.009		
Quant Ion	: 79.00		
Area (flag)	: 13108M		
On-Column Amount (ng/ul)	: 0.1809		
Integration start scan	: 234	Integration stop scan:	356
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

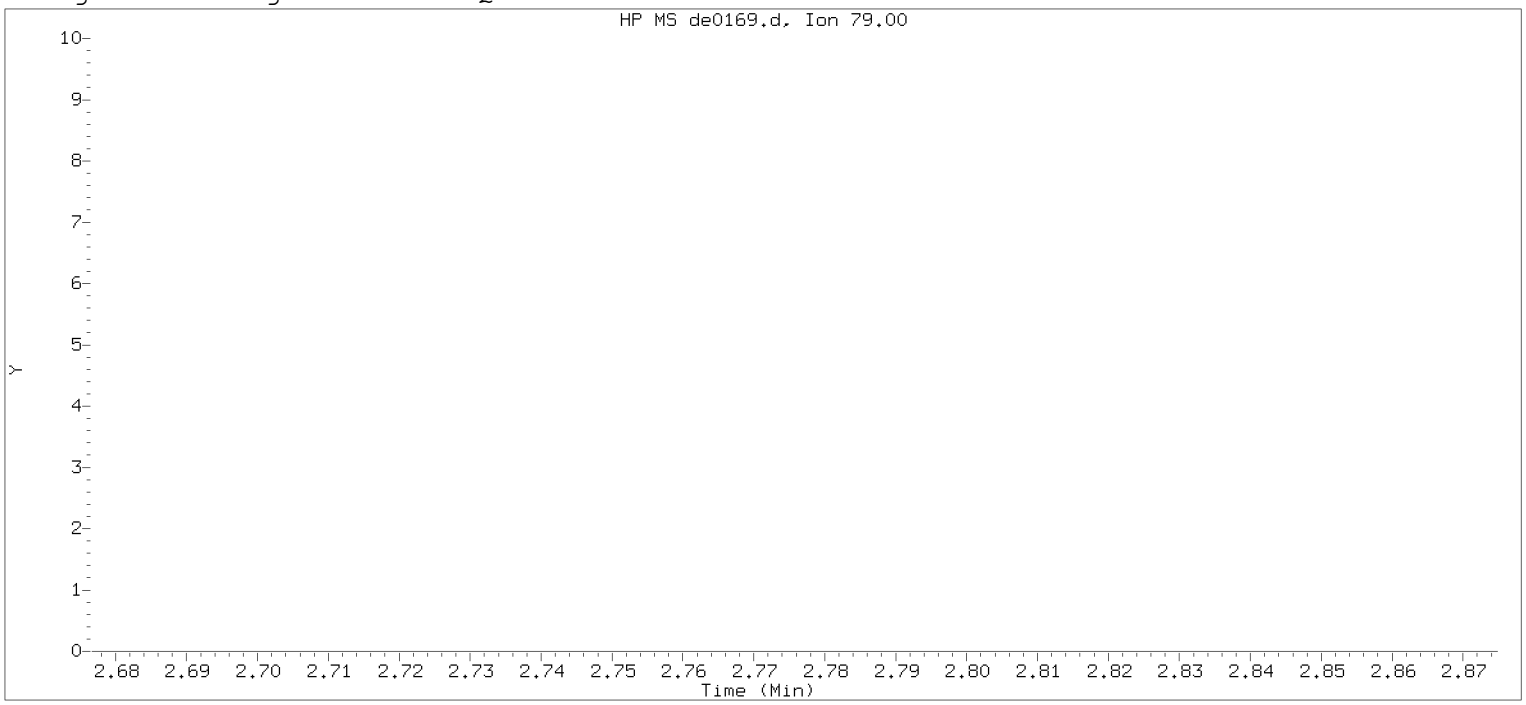
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

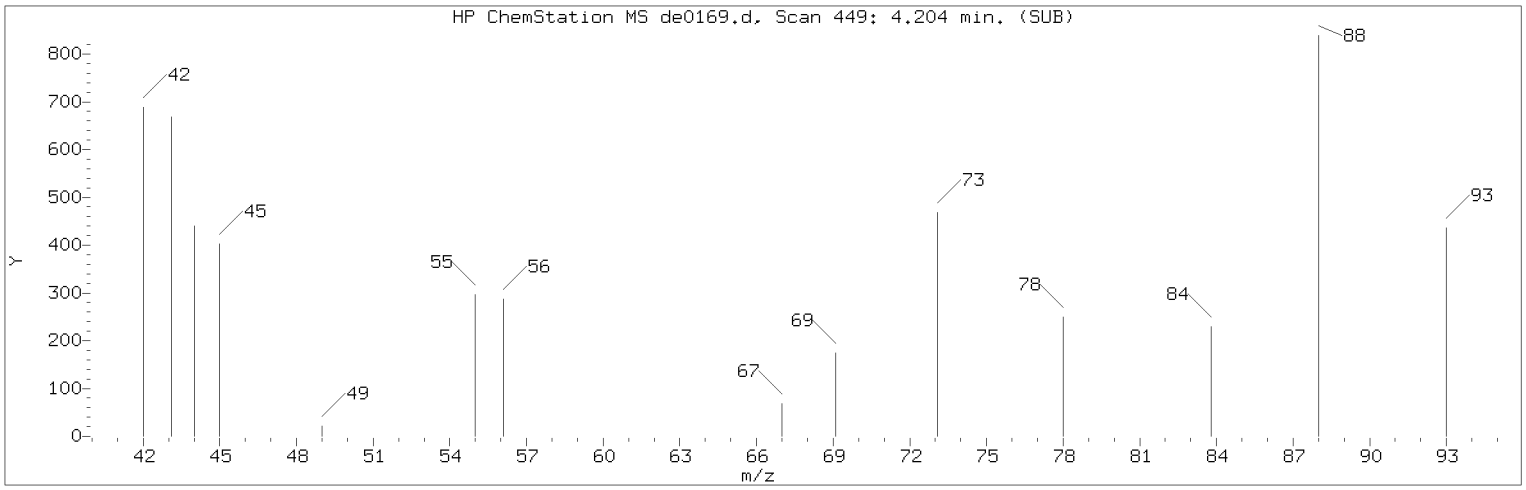
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

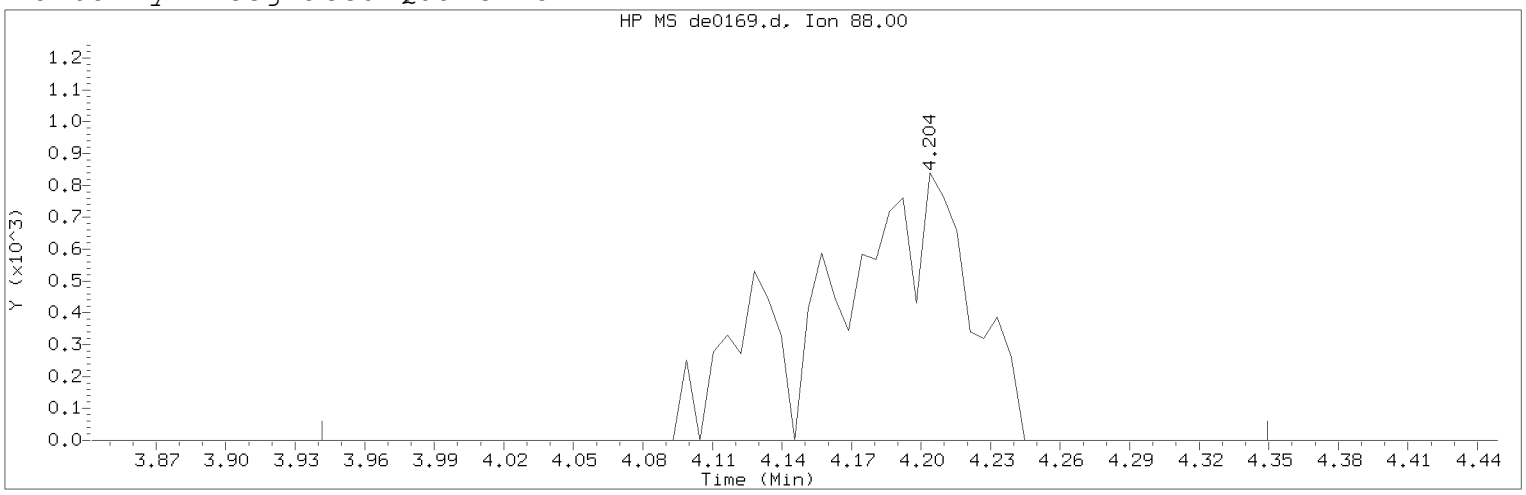
Compound Number : 5
Compound Name : Pyridine
Expected RT (minutes) : 2.776
Quant Ion : 79.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0481

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

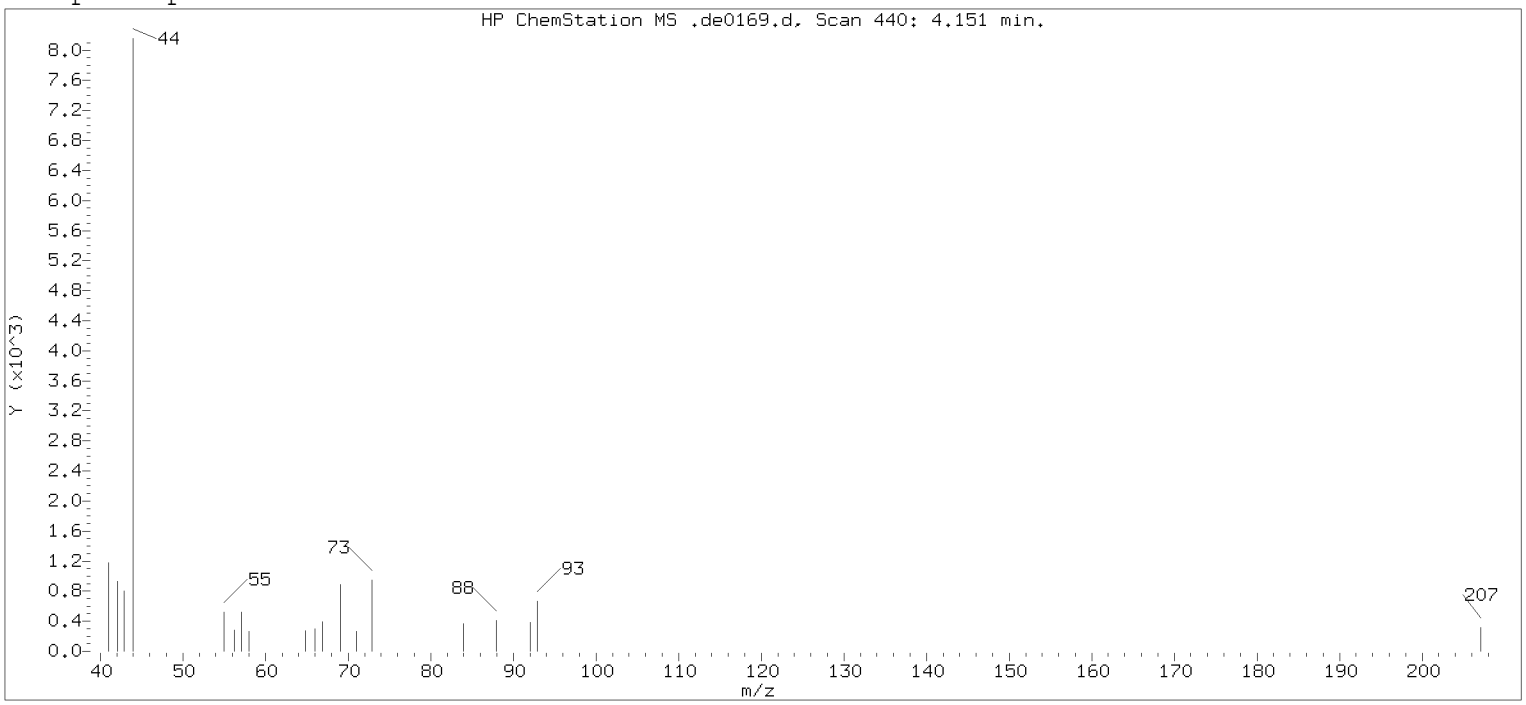
Compound Number	: 8		
Compound Name	: N-Nitrosomethylethylamine		
Scan Number	: 449		
Retention Time (minutes)	: 4.204		
Quant Ion	: 88.00		
Area (flag)	: 3797M		
On-Column Amount (ng/ul)	: 0.1202		
Integration start scan	: 403	Integration stop scan:	473
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion

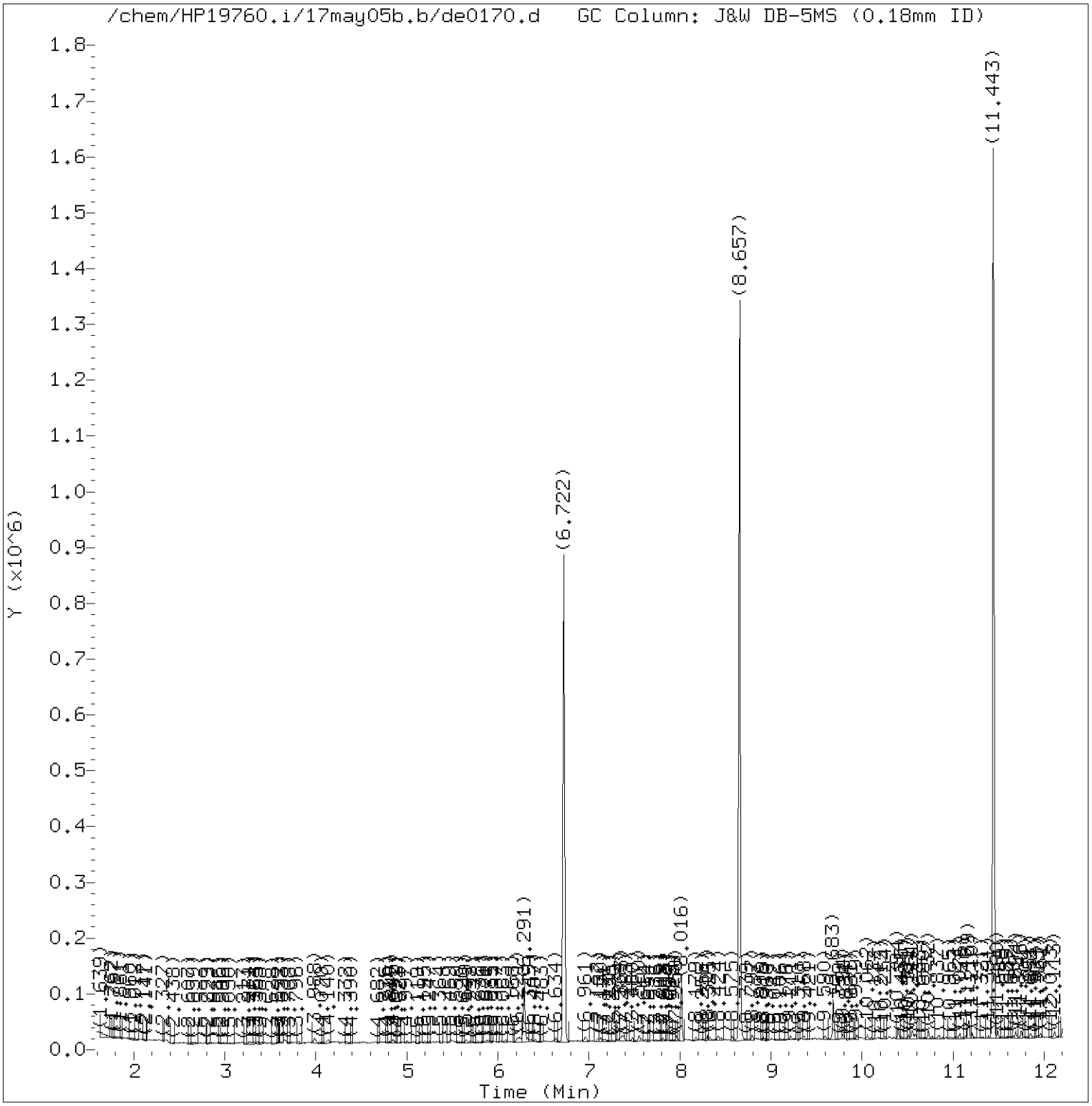
Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.151
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0483



Total Ion Chromatogram (TIC)

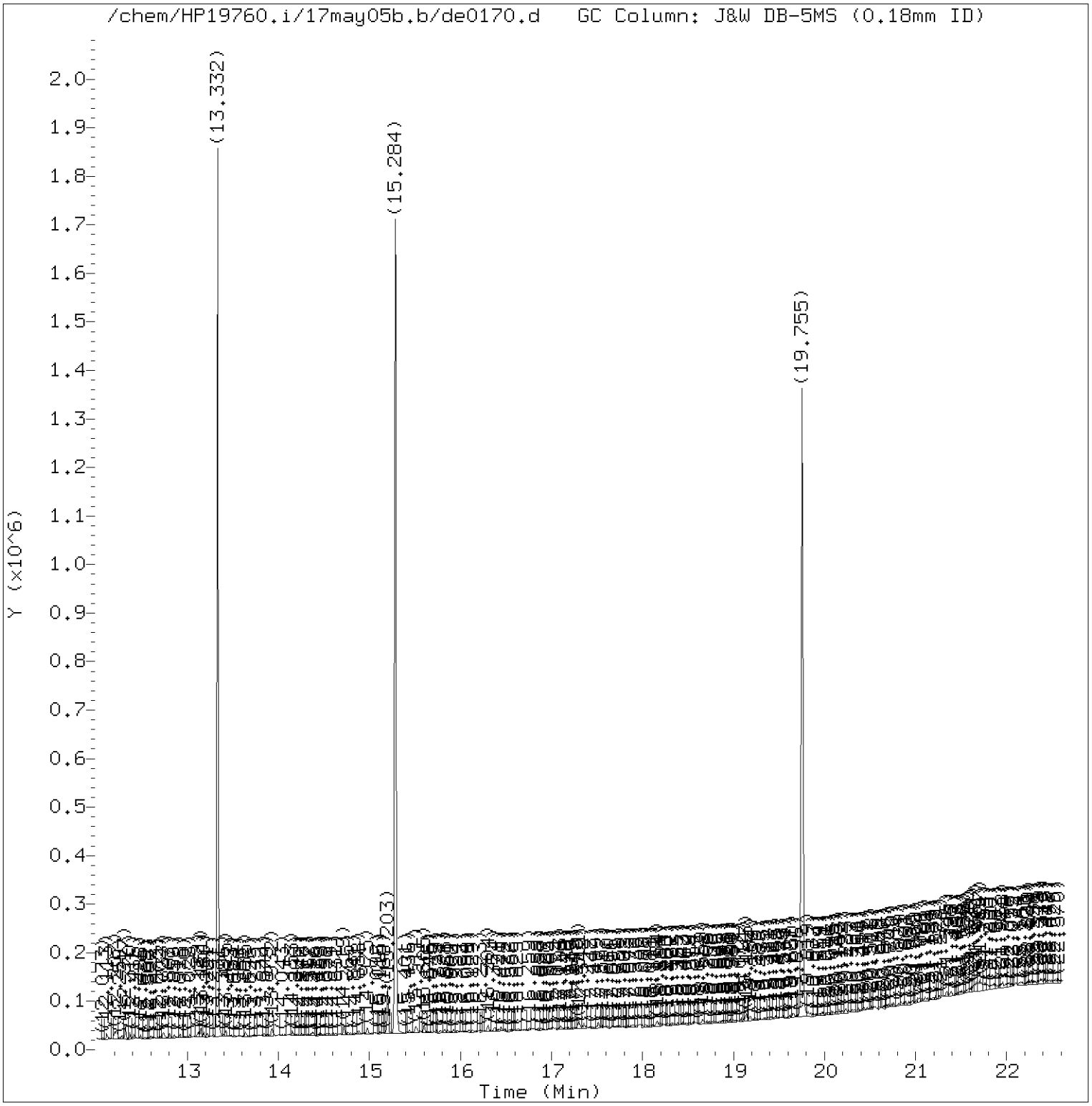
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

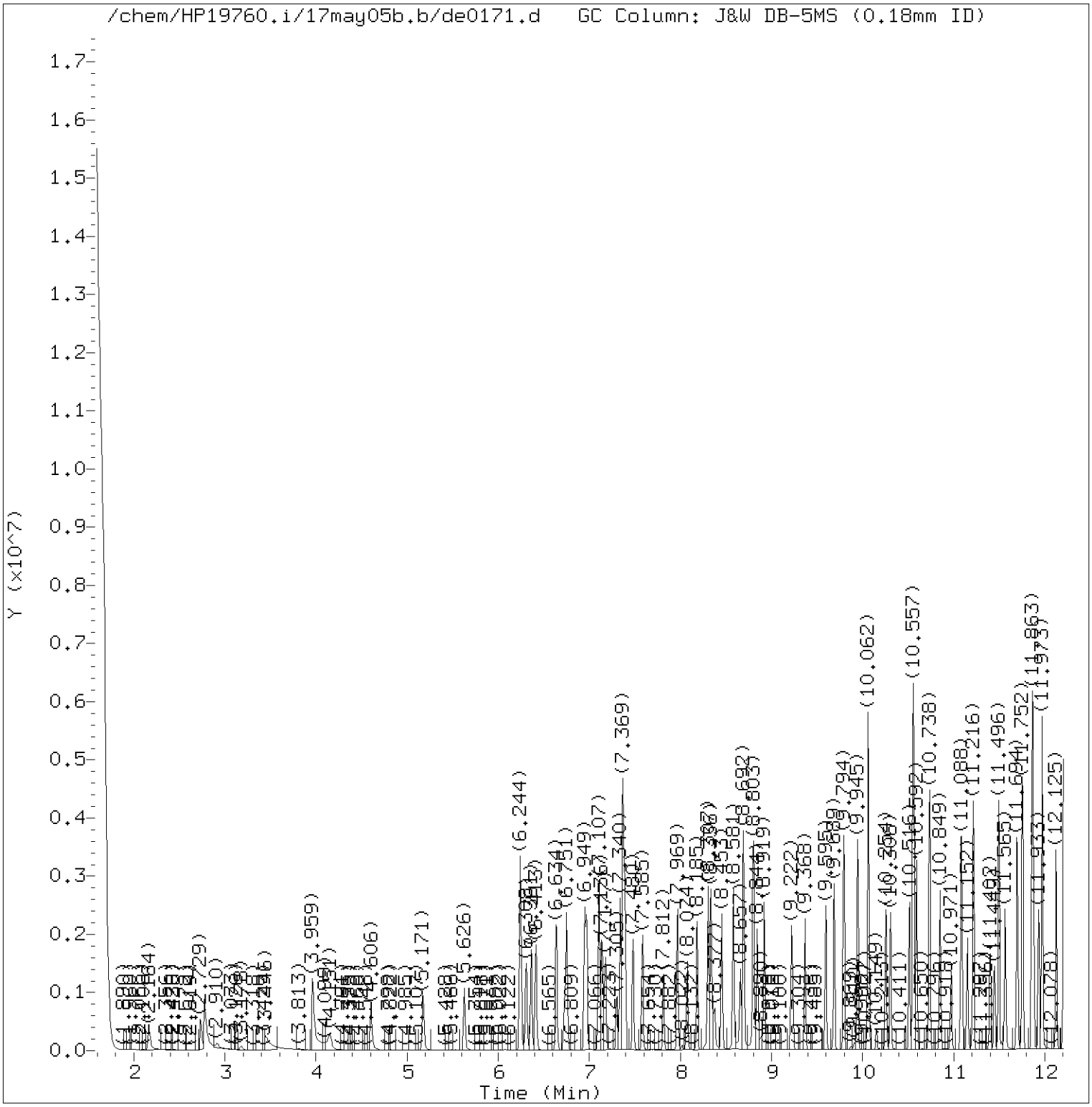
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	179192	5.000
44)$Nitrobenzene-d5	(2)	7.550	82	4793	0.067
65)*Naphthalene-d8	(2)	8.657	136	690119	5.000
66) Naphthalene	(2)	8.686	128	4768	0.029
83) 2-Methylnaphthalene	(2)	9.788	142	3007	0.028
84) 1-Methylnaphthalene	(2)	9.939	142	2859	0.029
93)$2-Fluorobiphenyl	(3)	10.400	172	7596	0.062
109) Acenaphthylene	(3)	11.210	152	3657	0.025
113)*Acenaphthene-d10	(3)	11.443	164	392493	5.000
114) Acenaphthene	(3)	11.490	153	3199	0.030
126) Fluorene	(3)	12.201	166	3512	0.030
145) Hexachlorobenzene	(4)	12.859	284	938	0.028
153)*Phenanthrene-d10	(4)	13.332	188	735590	5.000
155) Phenanthrene	(4)	13.361	178	4945	0.030
157) Anthracene	(4)	13.425	178	4728	0.029
173) Fluoranthene	(4)	14.981	202	4864	0.026
222) Total PAHs	(6)			77015	0.497
175)*Pyrene-d10	(5)	15.284	212	879792	5.000
177) Pyrene	(5)	15.313	202	5972	0.030
179)$Terphenyl-d14	(5)	15.605	244	7429	0.058
195) Benzo(a)anthracene	(5)	17.301	228	4919	0.026
196) Chrysene	(5)	17.359	228	4820	0.027
206) Benzo(b)fluoranthene	(6)	19.137	252	4687	0.025
208) Benzo(k)fluoranthene	(6)	19.184	252	4390	0.025
211) Benzo(a)pyrene	(6)	19.656	252	6710	0.040
213)*Perylene-d12	(6)	19.755	264	674780	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	3506	0.021
220) Dibenz(a,h)anthracene	(6)	21.381	278	2959	0.021
221) Benzo(g,h,i)perylene	(6)	21.707	276	3513	0.026

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

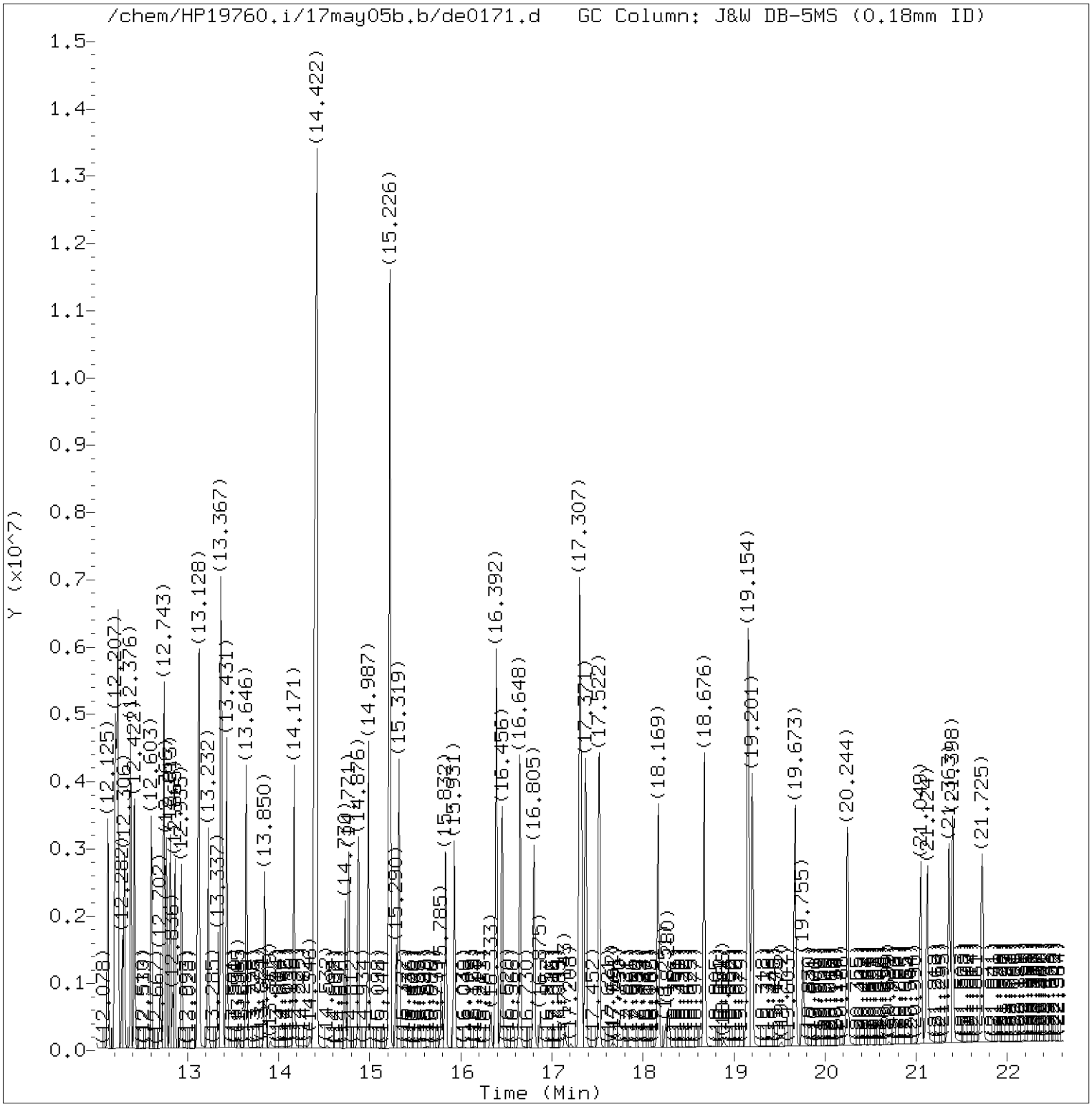
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.164	88	286467	11.221
4) N-Nitrosodimethylamine	(1)	2.729	74	493118	12.012
5) Pyridine	(1)	2.776	79	795551	11.810
7) 2-Picoline	(1)	3.959	93	842387	12.247
8) N-Nitrosomethylethylamine	(1)	4.157	88	336872	11.476
9) Methyl methanesulfonate	(1)	4.606	80	410504	12.222
13) N-Nitrosodiethylamine	(1)	5.177	102	323476	11.864
15) Ethyl methanesulfonate	(1)	5.632	109	341981	11.613
42) Total Cresols	(1)	5.660	100	1362544	23.780
18) Phenol	(1)	6.238	94	1010546	12.133
19) Aniline	(1)	6.244	93	1082011	11.055
22) bis(2-Chloroethyl)ether	(1)	6.361	93	740079	11.960
23) 2-Chlorophenol	(1)	6.413	128	656584	12.103
24) 1,3-Dichlorobenzene	(1)	6.634	146	722849	12.300
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	174596	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	737871	12.287
27) Benzyl alcohol	(1)	6.949	108	465564	12.028
28) 1,2-Dichlorobenzene	(1)	6.973	146	694875	12.281
30) Indene	(1)	7.107	115	1234850	11.700
31) 2-Methylphenol	(1)	7.136	108	645147	12.092
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	1074534	11.753
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	1074534	11.753
35) N-Nitrosopyrrolidine	(1)	7.305	100	346907	11.544
36) Acetophenone	(1)	7.340	105	1000576	12.468
38) N-Nitroso-di-n-propylamine	(1)	7.363	70	577447	11.931
39) N-Nitrosomorpholine	(1)	7.369	56	485592	11.792
37) 4-Methylphenol	(1)	7.375	108	717397	11.688
97) Isosafrole	(3)	7.383	162	559531	13.014
40) o-Toluidine	(1)	7.392	106	1093466	11.627
43) Hexachloroethane	(1)	7.480	117	293182	11.920
45) Nitrobenzene	(2)	7.585	77	831866	12.529
48) N-Nitrosopiperidine	(2)	7.818	114	310544	11.845
50) Isophorone	(2)	7.969	82	1418082	12.488
120) 2,4_2,6-Dinitrotoluenes	(3)	8.050	165	680188	24.675
51) 2-Nitrophenol	(2)	8.074	139	330300	12.597
53) 2,4-Dimethylphenol	(2)	8.185	107	557597	9.862
57) O,O,O-Triethylphosphorothioate	(2)	8.307	198	326490	12.239
55) bis(2-Chloroethoxy)methane	(2)	8.336	93	941319	12.966
56) Benzoic acid	(2)	8.377	105	753692	17.653
60) 2,4-Dichlorophenol	(2)	8.453	162	534920	12.784

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	622637	12.651
65)*Naphthalene-d8	(2)	8.657	136	636078	5.000
66) Naphthalene	(2)	8.692	128	1861272	12.249
146) Diallate trans/cis	(4)	8.775	86	616612	12.147
67) 4-Chloroaniline	(2)	8.797	127	745873	12.109
68) 2,6-Dichlorophenol	(2)	8.809	162	496019	11.957
69) Hexachloropropene	(2)	8.844	213	432213	13.007
71) Hexachlorobutadiene	(2)	8.919	225	364731	12.542
75) Quinoline	(2)	9.222	129	1147470	12.287
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	517937	11.140
80) 4-Chloro-3-methylphenol	(2)	9.595	107	597332	12.525
82) Safrole	(2)	9.689	162	459140	12.113
83) 2-Methylnaphthalene	(2)	9.794	142	1226550	12.329
84) 1-Methylnaphthalene	(2)	9.945	142	1135967	12.414
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	636050	12.194
85) Hexachlorocyclopentadiene	(3)	10.062	237	602758	24.240
88) cis-Isosafrole	(3)	10.149	162	62420	1.527
90) 2,4,6-Trichlorophenol	(3)	10.254	196	412531	12.985
92) 2,4,5-Trichlorophenol	(3)	10.306	196	432420	12.604
94) trans-Isosafrole	(3)	10.516	162	497111	11.486
95) 1,1'-Biphenyl	(3)	10.551	154	1450958	13.285
96) 2-Chloronaphthalene	(3)	10.563	162	1184091	12.880
98) 1-Chloronaphthalene	(3)	10.592	162	1023204	11.655
99) Diphenyl ether	(3)	10.732	170	787145	12.232
100) 2-Nitroaniline	(3)	10.744	138	355977	12.461
104) 1,4-Naphthoquinone	(3)	10.849	158	586501	15.347
105) 1,4-Dinitrobenzene	(3)	10.971	168	186371	12.397
106) Dimethylphthalate	(3)	11.082	163	1313414	12.364
107) 1,3-Dinitrobenzene	(3)	11.088	168	204452	12.369
108) 2,6-Dinitrotoluene	(3)	11.152	165	288836	12.292
109) Acenaphthylene	(3)	11.216	152	1656681	12.315
112) 3-Nitroaniline	(3)	11.402	138	301465	12.411
113)*Acenaphthene-d10	(3)	11.449	164	364584	5.000
114) Acenaphthene	(3)	11.496	153	1233435	12.597
115) 2,4-Dinitrophenol	(3)	11.565	184	359554	26.250
116) 4-Nitrophenol	(3)	11.694	109	225796	12.571
117) Pentachlorobenzene	(3)	11.700	250	499800	11.865
119) Dibenzofuran	(3)	11.752	168	1643220	12.289
118) 2,4-Dinitrotoluene	(3)	11.764	165	391352	12.383
121) 1-Naphthylamine	(3)	11.863	143	2092863	22.063

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	331111	12.815
123) 2-Naphthylamine	(3)	11.973	143	2000222	21.280
124) Diethylphthalate	(3)	12.125	149	1313402	12.740
126) Fluorene	(3)	12.207	166	1300150	12.119
125) Thionazin	(3)	12.218	107	254570	12.416
128) 5-Nitro-o-toluidine	(3)	12.236	152	352342	11.935
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	644065	12.328
129) 4-Nitroaniline	(3)	12.242	138	297292	12.294
130) 4,6-Dinitro-2-methylphenol	(4)	12.288	198	232418	12.155
131) N-Nitrosodiphenylamine	(4)	12.376	169	1091421	12.411
132) NDPA as diphenylamine	(4)	12.376	169	1091421	12.411
134) 1,2-Diphenylhydrazine	(4)	12.422	77	1562208	12.574
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	243739	12.040
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	148541	12.008
140) Diallate (peak 1)	(4)	12.737	86	464318	8.648
141) Phorate	(4)	12.743	75	972710	12.180
142) Phenacetin	(4)	12.766	108	718901	12.284
143) 4-Bromophenyl-phenylether	(4)	12.813	248	375922	12.459
144) Diallate (peak 2)	(4)	12.836	86	152294	3.498
145) Hexachlorobenzene	(4)	12.865	284	371828	11.701
147) Dimethoate	(4)	12.935	87	615207	11.961
149) Pentachlorophenol	(4)	13.116	266	245239	14.037
150) 4-Aminobiphenyl	(4)	13.128	169	1403113	14.371
151) Pentachloronitrobenzene	(4)	13.128	237	170761	12.310
152) Pronamide	(4)	13.232	173	633360	12.511
153)*Phenanthrene-d10	(4)	13.337	188	709116	5.000
154) Dinoseb	(4)	13.367	211	369067	12.573
155) Phenanthrene	(4)	13.367	178	1893347	11.945
157) Anthracene	(4)	13.431	178	1925453	12.200
163) Carbazole	(4)	13.646	167	1836834	12.534
164) Methyl parathion	(4)	13.850	109	482998	12.195
165) Di-n-butylphthalate	(4)	14.171	149	2315070	12.789
167) Parathion	(4)	14.392	109	328130	12.992
168) 4-Nitroquinoline-1-oxide	(4)	14.422	190	2988203	180.320
171) Isodrin	(4)	14.771	193	230026	11.970
173) Fluoranthene	(4)	14.987	202	2226577	12.268
222) Total PAHs	(6)	15.000	100	33857908	223.300
174) Benzidine	(5)	15.226	184	6337940	57.599
175)*Pyrene-d10	(5)	15.290	212	831669	5.000
177) Pyrene	(5)	15.319	202	2269547	12.019

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

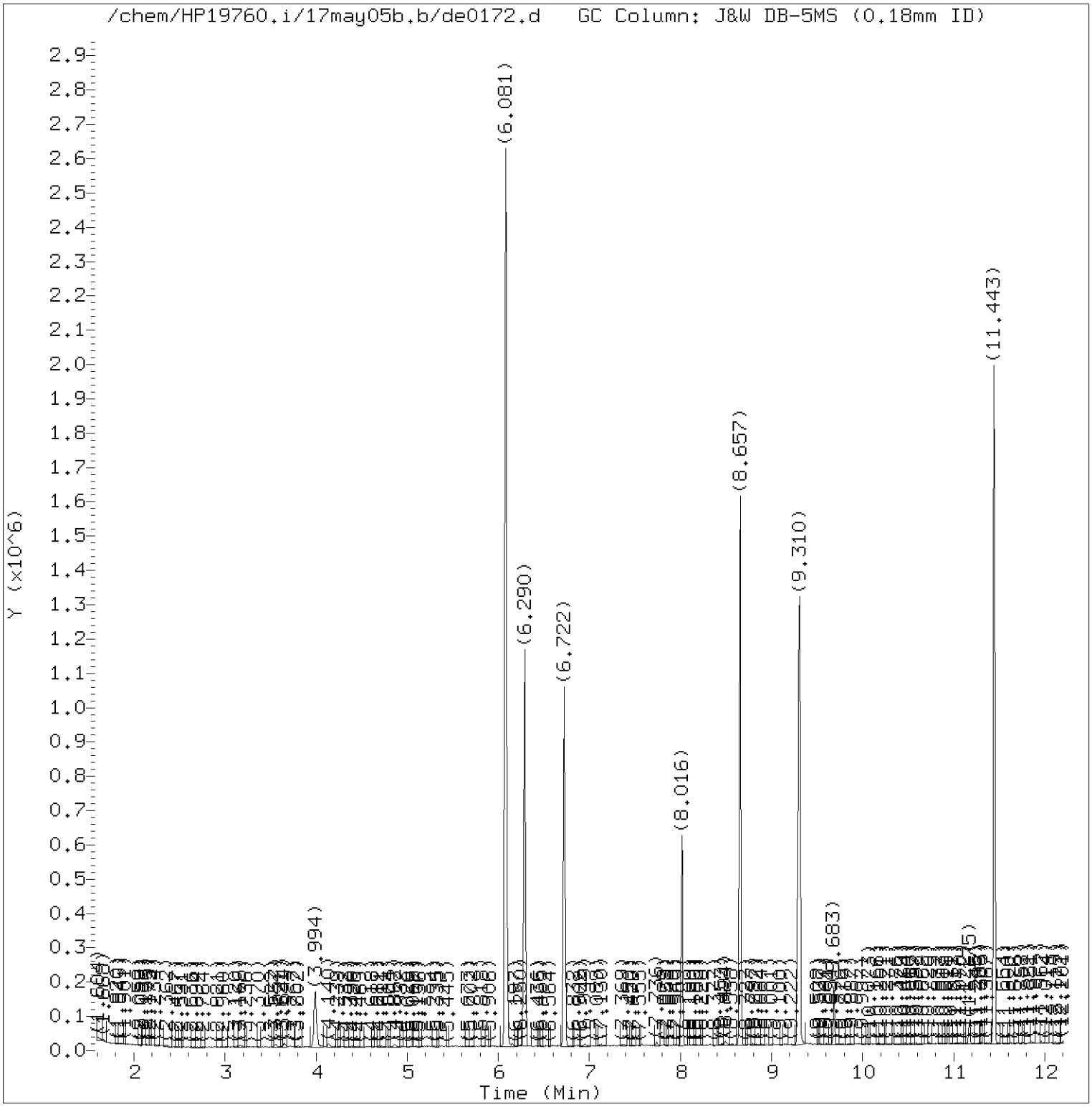
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icval1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	15.838	225	437213	14.542
185) Chlorobenzilate	(5)	15.931	139	733328	13.205
187) 3,3'-Dimethylbenzidine	(5)	16.392	212	2816547	23.100
188) Butylbenzylphthalate	(5)	16.456	149	1076053	12.874
191) 2-Acetylaminofluorene	(5)	16.805	181	952285	12.234
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	813346	11.924
195) Benzo(a)anthracene	(5)	17.307	228	2298359	12.696
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	459554	12.442
196) Chrysene	(5)	17.371	228	2176689	12.768
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1620720	12.953
203) 6-Methylchrysene	(5)	18.169	242	1481718	12.209
205) Di-n-octylphthalate	(6)	18.676	149	2919786	12.739
206) Benzo(b)fluoranthene	(6)	19.149	252	2358323	12.347
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	1023626	13.199
208) Benzo(k)fluoranthene	(6)	19.201	252	2231840	12.149
211) Benzo(a)pyrene	(6)	19.673	252	2143043	12.143
213)*Perylene-d12	(6)	19.761	264	701134	5.000
215) 3-Methylcholanthrene	(6)	20.244	268	1063335	13.539
217) Dibenz(a,h)acridine	(6)	21.049	279	1588090	12.498
218) Dibenz(a,j)acridine	(6)	21.124	279	1575964	12.643
219) Indeno(1,2,3-cd)pyrene	(6)	21.363	276	2231087	12.897
220) Dibenz(a,h)anthracene	(6)	21.398	278	1915052	13.309
221) Benzo(g,h,i)perylene	(6)	21.725	276	1774536	12.536

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

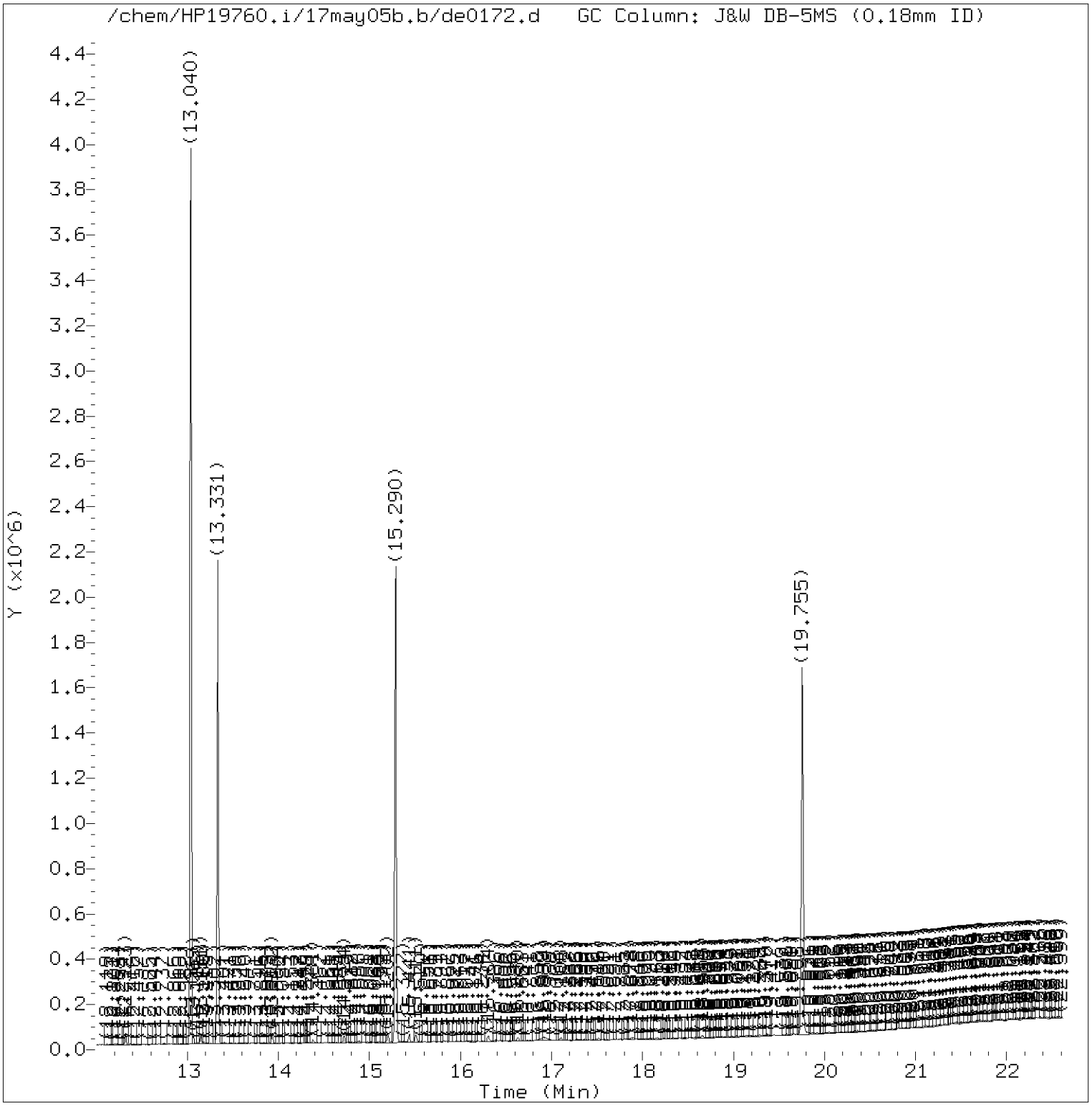
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

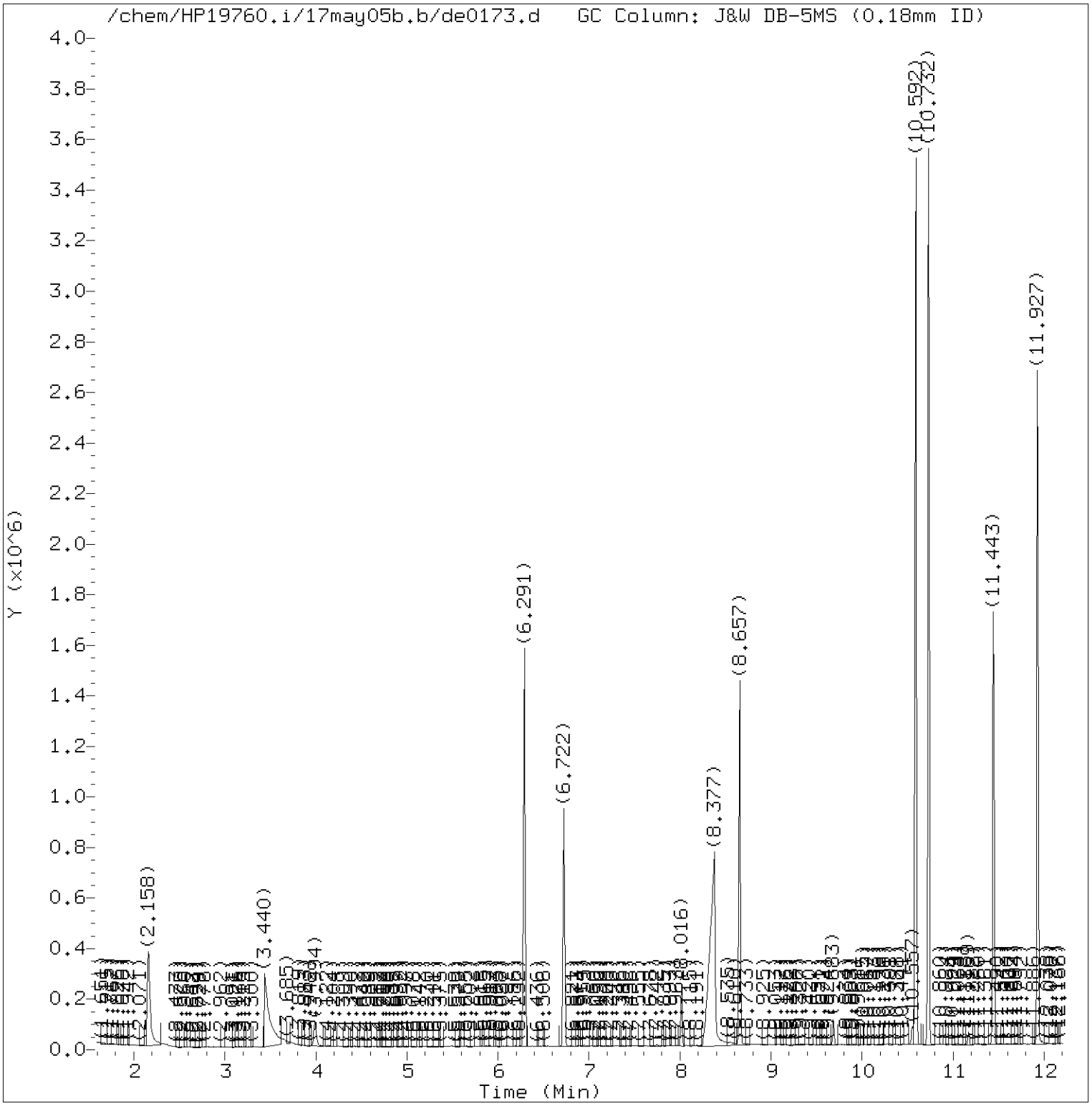
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
16) Benzaldehyde	(1)	6.081	77	850488	12.837
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	227886	5.000
65)*Naphthalene-d8	(2)	8.657	136	836562	5.000
76) Caprolactam	(2)	9.310	113	209229	12.183
113)*Acenaphthene-d10	(3)	11.443	164	478137	5.000
148) Atrazine	(4)	13.040	200	488478	13.489
153)*Phenanthrene-d10	(4)	13.337	188	924312	5.000
175)*Pyrene-d10	(5)	15.290	212	1107203	5.000
213)*Perylene-d12	(6)	19.755	264	861987	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

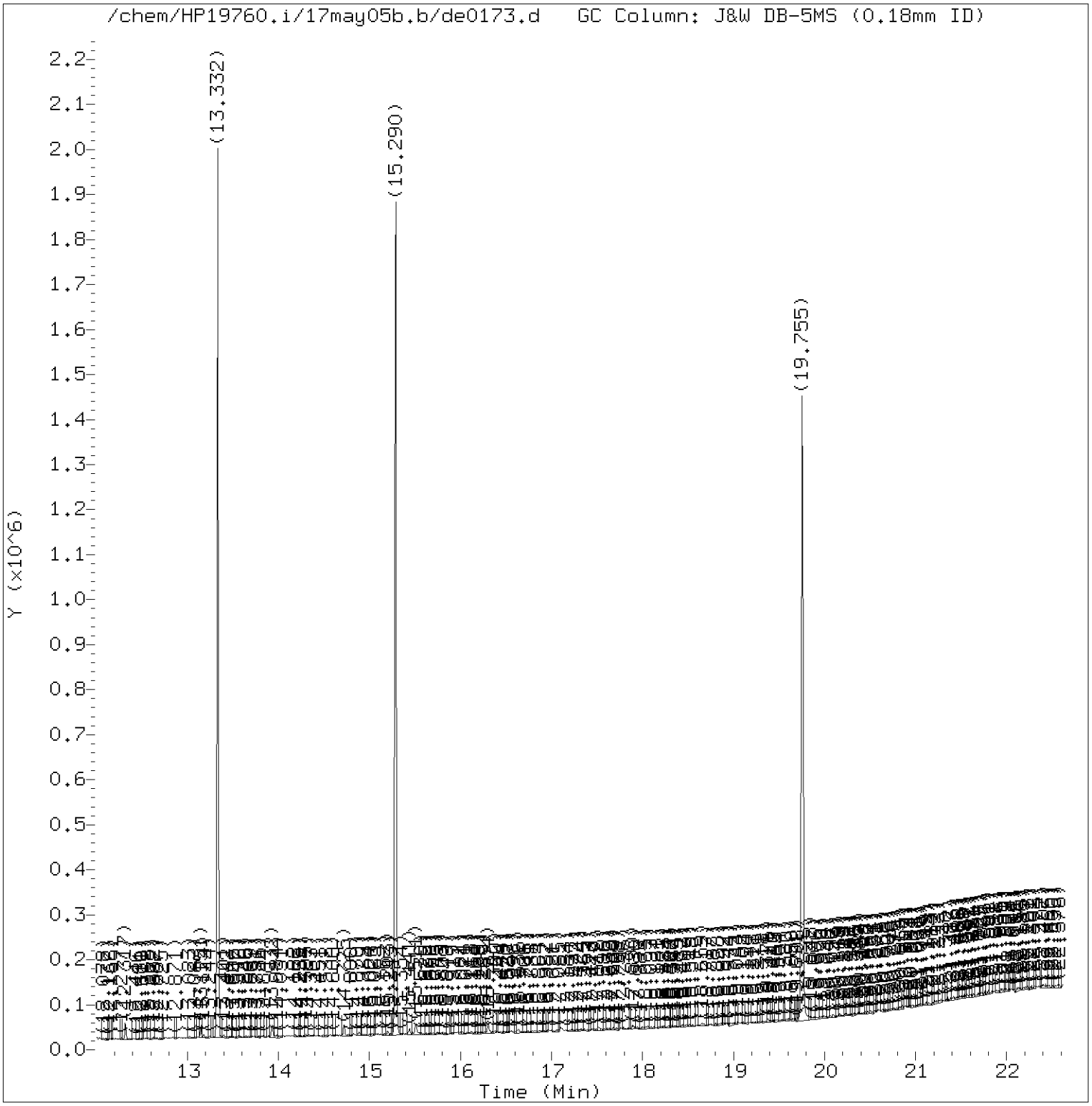
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	195592	5.000
56) Benzoic acid	(2)	8.377	105	792981	16.203
65)*Naphthalene-d8	(2)	8.657	136	738642	5.000
113)*Acenaphthene-d10	(3)	11.443	164	419970	5.000
153)*Phenanthrene-d10	(4)	13.332	188	811786	5.000
175)*Pyrene-d10	(5)	15.290	212	959935	5.000
213)*Perylene-d12	(6)	19.755	264	736778	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP19760.i/17may24.b/de0640.d

Date : 24-MAY-2017 09:18

Client ID: DFTPP12.5

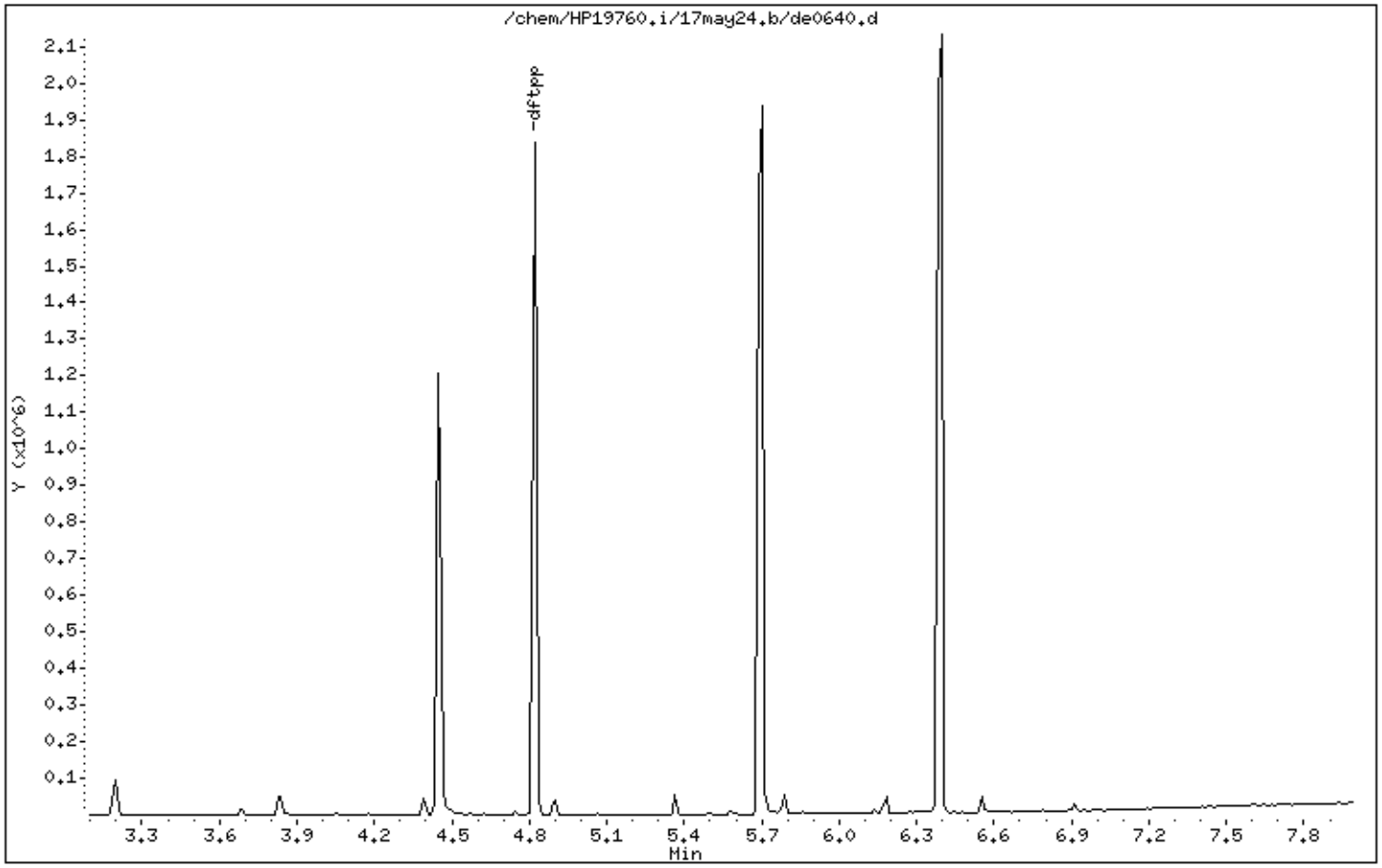
Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP19760.i/17may24.b/de0640.d

Date : 24-MAY-2017 09:18

Client ID: DFTPP12.5

Instrument: HP19760.i

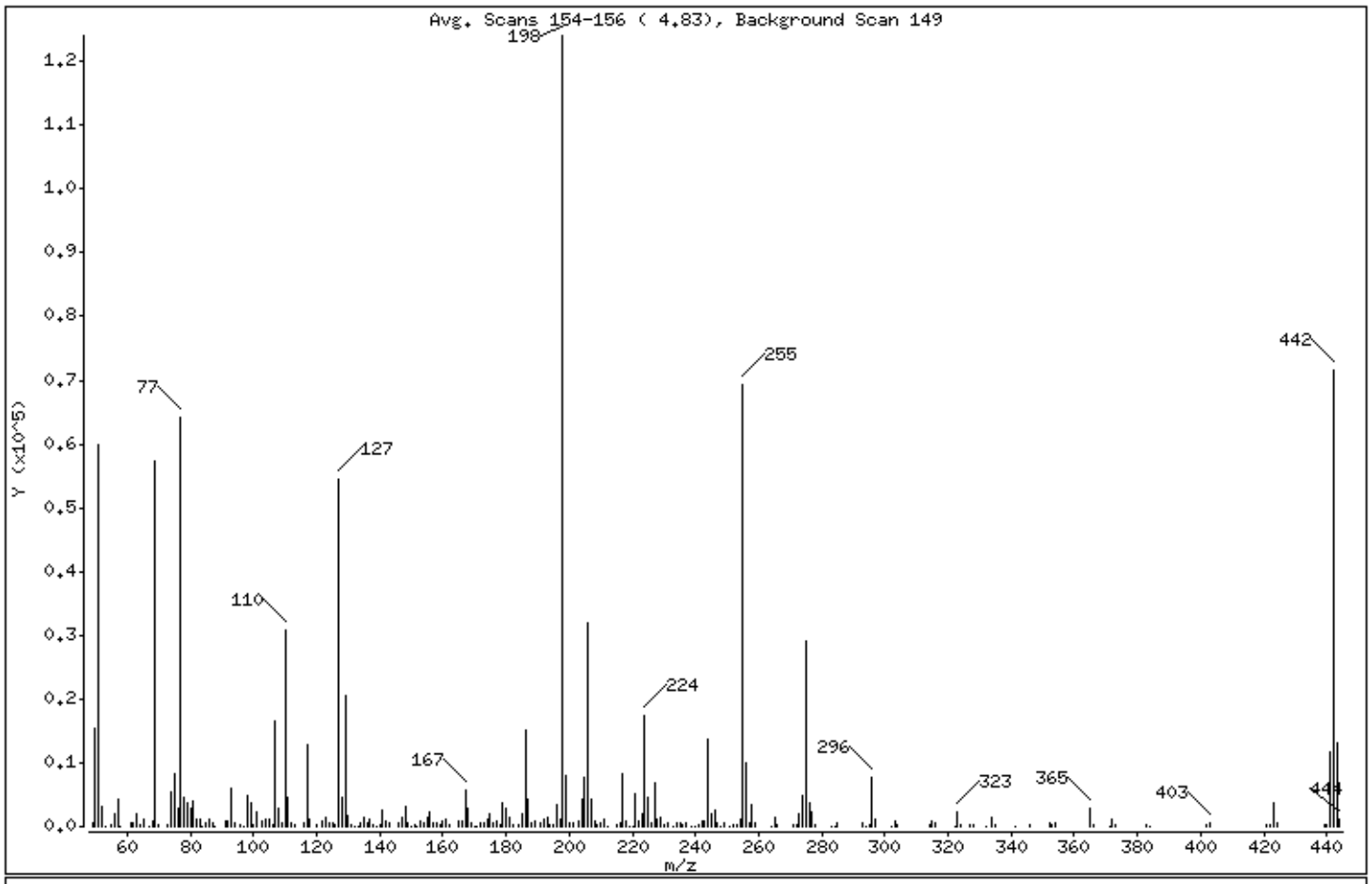
Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	48.39
68	Less than 2.00% of mass 69	0.67 (1.46)
69	Mass 69 relative abundance	46.14
70	Less than 2.00% of mass 69	0.21 (0.45)
127	10.00 - 80.00% of mass 198	43.95
197	Less than 2.00% of mass 198	0.91
199	5.00 - 9.00% of mass 198	6.33
275	10.00 - 60.00% of mass 198	23.41
365	Greater than 1.00% of mass 198	2.29
441	0.01 - 24.00% of mass 442	9.42 (16.33)
442	50.00 - 99.99% of mass 198	57.69
443	15.00 - 24.00% of mass 442	10.62 (18.42)

Digitally signed by Catherine E. Bachman on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP19760.i/17may24.b/de0640.d

Date : 24-MAY-2017 09:18

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: de0640.d
Spectrum: Avg. Scans 154-156 (4.83), Background Scan 149
Location of Maximum: 198.00
Number of points: 242

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	434	124.00	669	191.00	614	258.00	3548
50.00	15409	125.00	697	192.00	1280	259.00	662
51.00	60024	126.00	319	193.00	1537	264.00	129
52.00	3231	127.00	54520	194.00	355	265.00	1427
53.00	139	128.00	4450	195.00	213	266.00	234
55.00	344	129.00	20512	196.00	3512	271.00	147
56.00	1965	130.00	1806	197.00	1125	272.00	175
57.00	4287	131.00	407	198.00	124048	273.00	2075
58.00	93	132.00	89	199.00	7852	274.00	4983
61.00	665	133.00	89	200.00	632	275.00	29032
62.00	688	134.00	566	201.00	495	276.00	3658
63.00	2095	135.00	1562	203.00	926	277.00	2339
64.00	354	136.00	685	204.00	4340	278.00	384
65.00	1225	137.00	1107	205.00	7710	283.00	124
67.00	105	138.00	193	206.00	32024	284.00	105
68.00	835	139.00	97	207.00	4285	285.00	538
69.00	57240	140.00	242	208.00	996	293.00	606
70.00	260	141.00	2612	209.00	320	294.00	98
73.00	267	142.00	726	210.00	455	295.00	188
74.00	5342	143.00	599	211.00	1112	296.00	7724
75.00	8397	146.00	483	212.00	105	297.00	1048
76.00	2981	147.00	1352	215.00	396	302.00	84
77.00	64144	148.00	3068	216.00	680	303.00	796
78.00	4529	149.00	673	217.00	8382	304.00	153
79.00	3819	150.00	112	218.00	986	314.00	336
80.00	2901	151.00	411	219.00	83	315.00	725
81.00	3917	152.00	95	220.00	120	316.00	514
82.00	1040	153.00	747	221.00	5025	322.00	85
83.00	1113	154.00	580	222.00	977	323.00	2263
84.00	85	155.00	1483	223.00	1883	324.00	240
85.00	669	156.00	2233	224.00	17304	327.00	412
86.00	1139	157.00	463	225.00	4464	328.00	213
87.00	525	158.00	457	226.00	554	332.00	94
88.00	92	159.00	320	227.00	6905	334.00	1351
91.00	934	160.00	772	228.00	1016	335.00	378

Digitally signed by Catherine E. Bachman on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Date : 24-MAY-2017 09:18

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

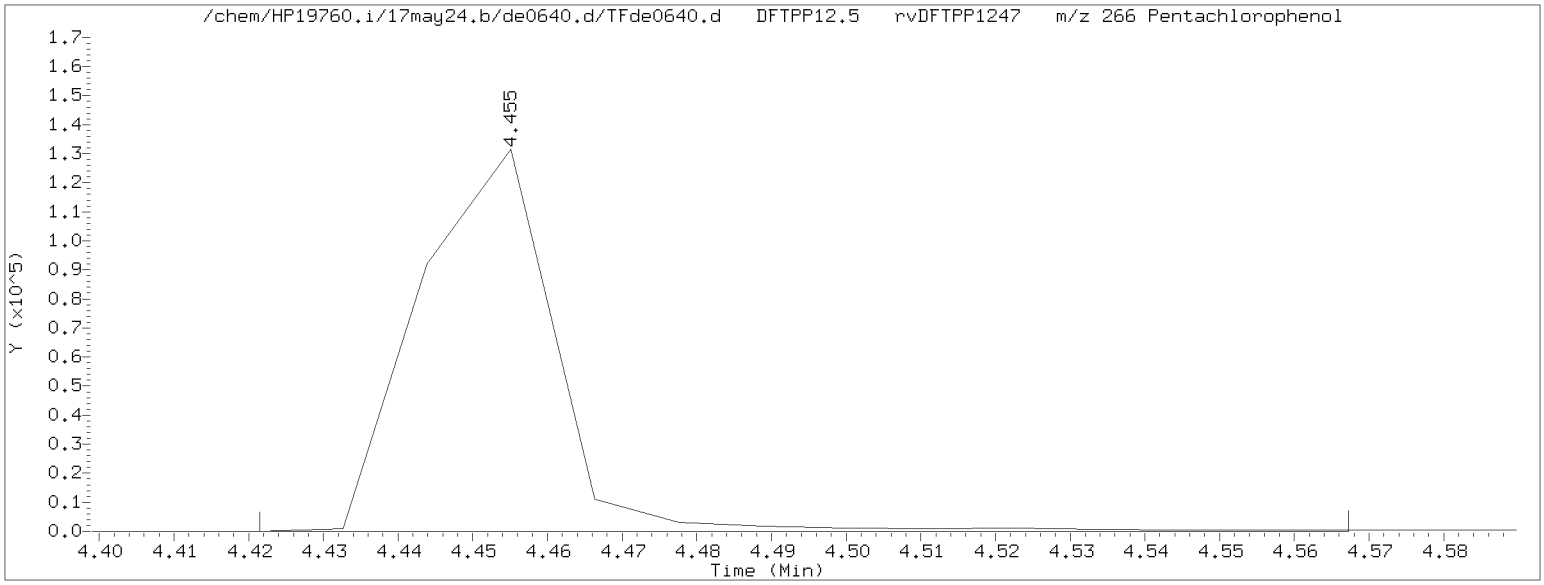
Data File: de0640.d
Spectrum: Avg. Scans 154-156 (4.83), Background Scan 149
Location of Maximum: 198.00
Number of points: 242

m/z	Y	m/z	Y	m/z	Y	m/z	Y
92.00	957	161.00	1141	229.00	1436	341.00	98
93.00	6066	162.00	351	230.00	143	346.00	394
94.00	467	165.00	960	231.00	568	352.00	654
96.00	327	166.00	885	233.00	100	353.00	252
97.00	103	167.00	5586	234.00	469	354.00	438
98.00	4719	168.00	2914	235.00	460	365.00	2835
99.00	3840	169.00	501	236.00	321	366.00	332
100.00	374	170.00	119	237.00	685	371.00	118
101.00	2250	171.00	111	239.00	139	372.00	1209
103.00	714	172.00	497	240.00	114	373.00	282
104.00	1256	173.00	568	241.00	329	383.00	148
105.00	1220	174.00	1139	242.00	975	384.00	90
106.00	384	175.00	2125	243.00	967	402.00	301
107.00	16472	176.00	584	244.00	13587	403.00	496
108.00	2735	177.00	893	245.00	1985	421.00	403
109.00	495	178.00	276	246.00	2548	422.00	374
110.00	30688	179.00	3848	247.00	582	423.00	3785
111.00	4617	180.00	2760	248.00	117	424.00	692
112.00	517	181.00	1511	249.00	521	439.00	151
113.00	178	182.00	209	251.00	109	440.00	257
116.00	686	184.00	354	252.00	158	441.00	11684
117.00	12946	185.00	1916	253.00	391	442.00	71568
118.00	1108	186.00	15133	254.00	1037	443.00	13180
120.00	229	187.00	4334	255.00	69376	444.00	1250
122.00	935	188.00	513	256.00	10004		
123.00	1409	189.00	832	257.00	641		

Digitally signed by Catherine E. Bachman on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

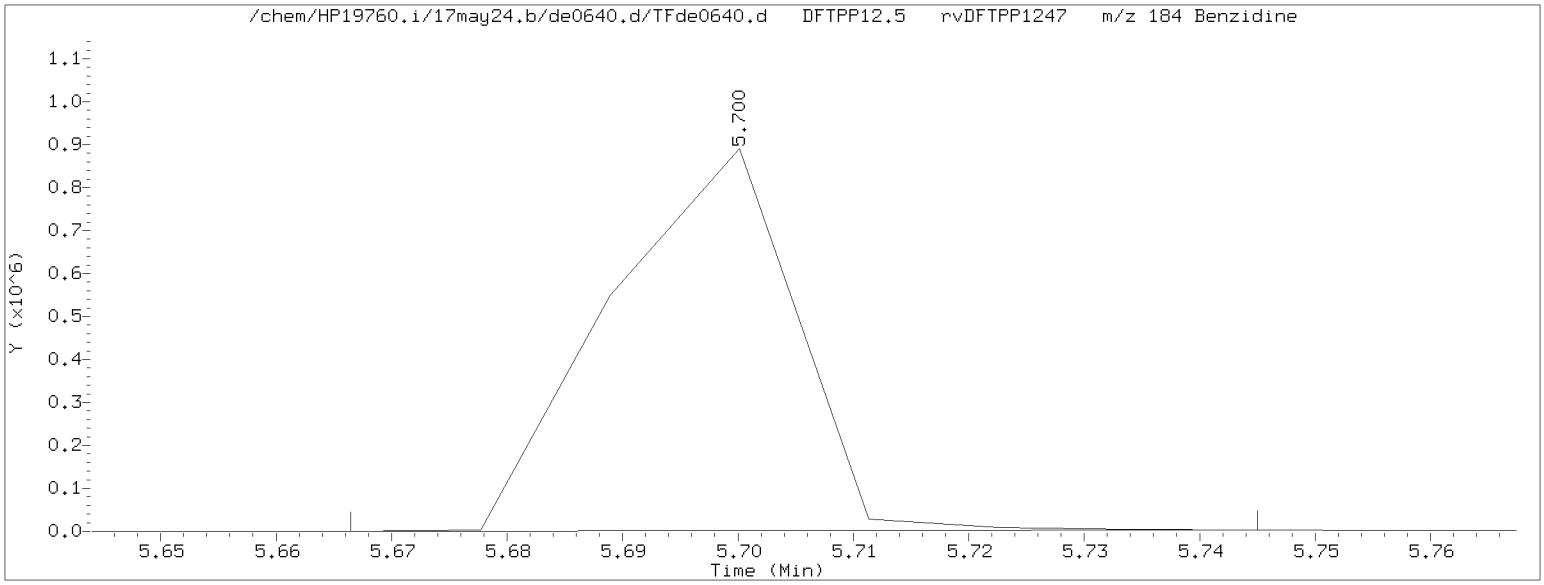
Instrument ID: HP19760.i Injection Date: 24-MAY-2017 09:18 Operator: ceb05247



Pentachlorophenol EICP peak height = 131584 EICP peak height at 10% = 13158 Pentachlorophenol EICP area = 165057

Pentachlorophenol EICP peak apex (min.) = 4.455
RT at 5% of front half of EICP (min.) = 4.433 'Front' peak width (min.) = 0.0217000000
RT at 5% of back half of EICP (min.) = 4.473 'Tailing' peak width (min.) = 0.0174166667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0174166667}{0.0217000000} = 0.803$$



Benzidine EICP peak height = 889690 EICP peak height at 2.5% = 22242 Benzidine EICP area = 993034

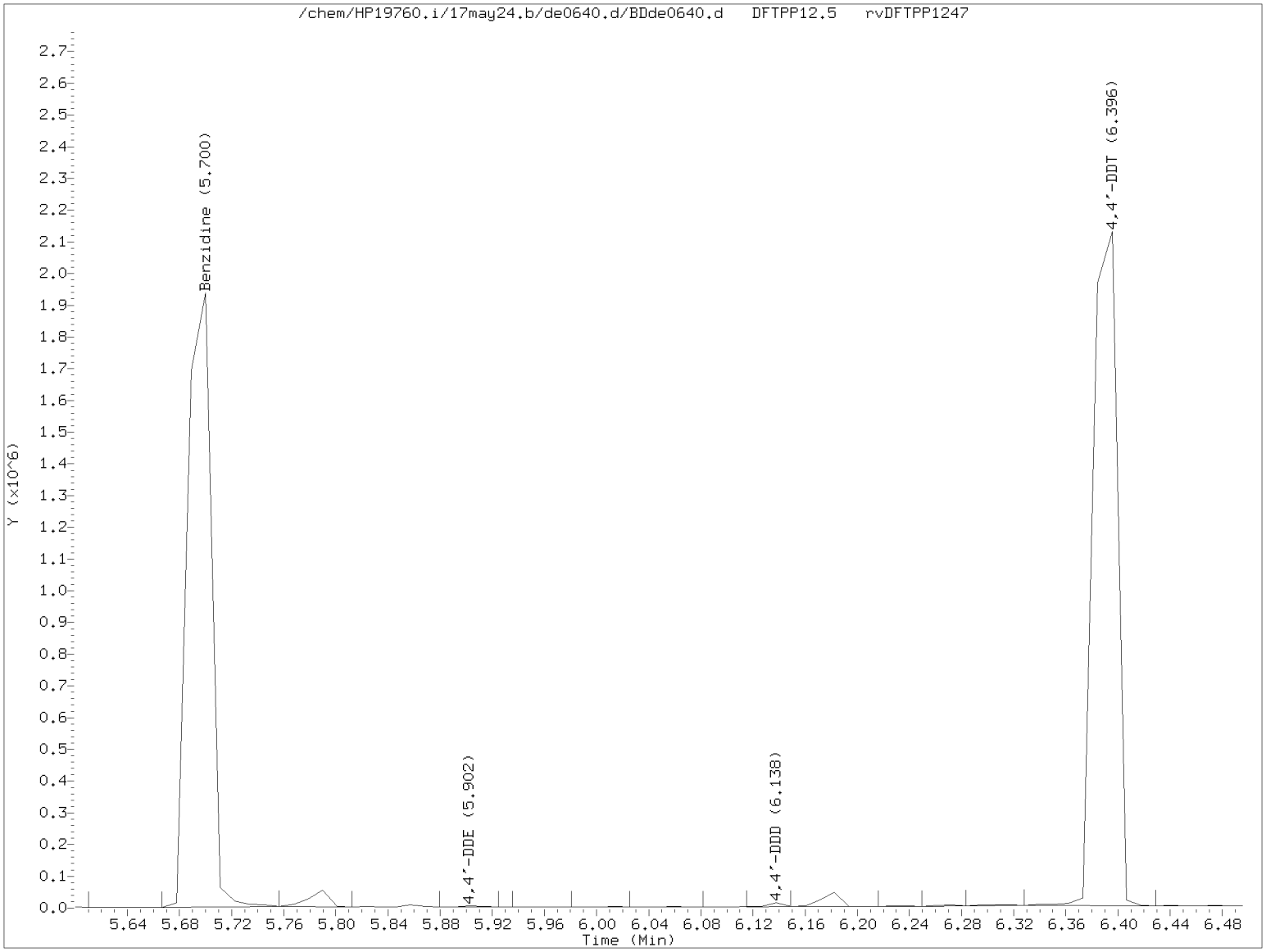
Benzidine EICP peak apex (min.) = 5.700
RT at 2.5% of front half of EICP (min.) = 5.678 'Front' peak width (min.) = 0.0220166667
RT at 2.5% of back half of EICP (min.) = 5.714 'Tailing' peak width (min.) = 0.0140666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0140666667}{0.0220166667} = 0.639$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:10. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

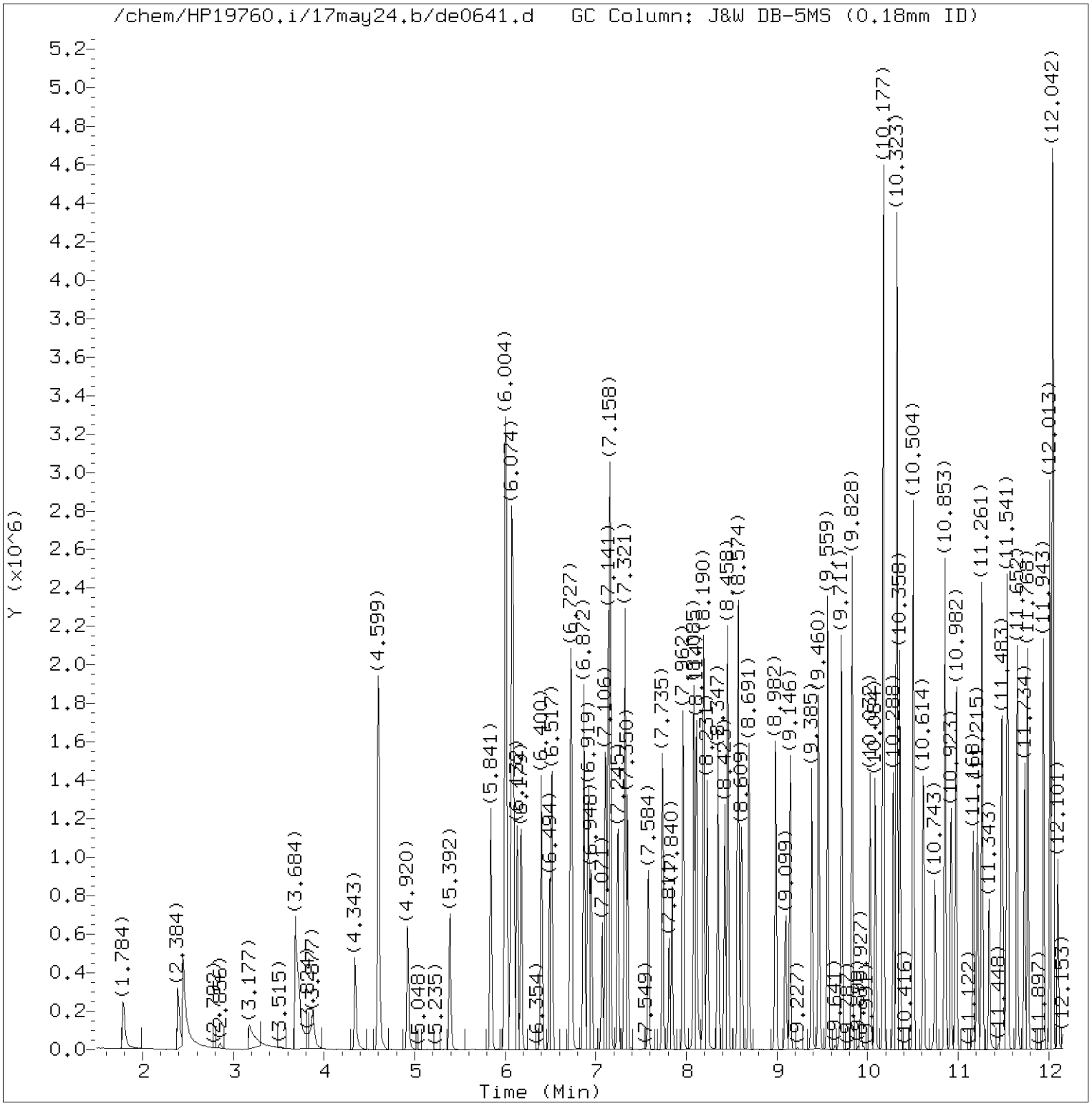
Instrument ID: HP19760.i Injection Date: 24-MAY-2017 09:18 Operator: ceb05247



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{4382 + 8752}{4382 + 8752 + 2793370} \times 100 = 0.5$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:10. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

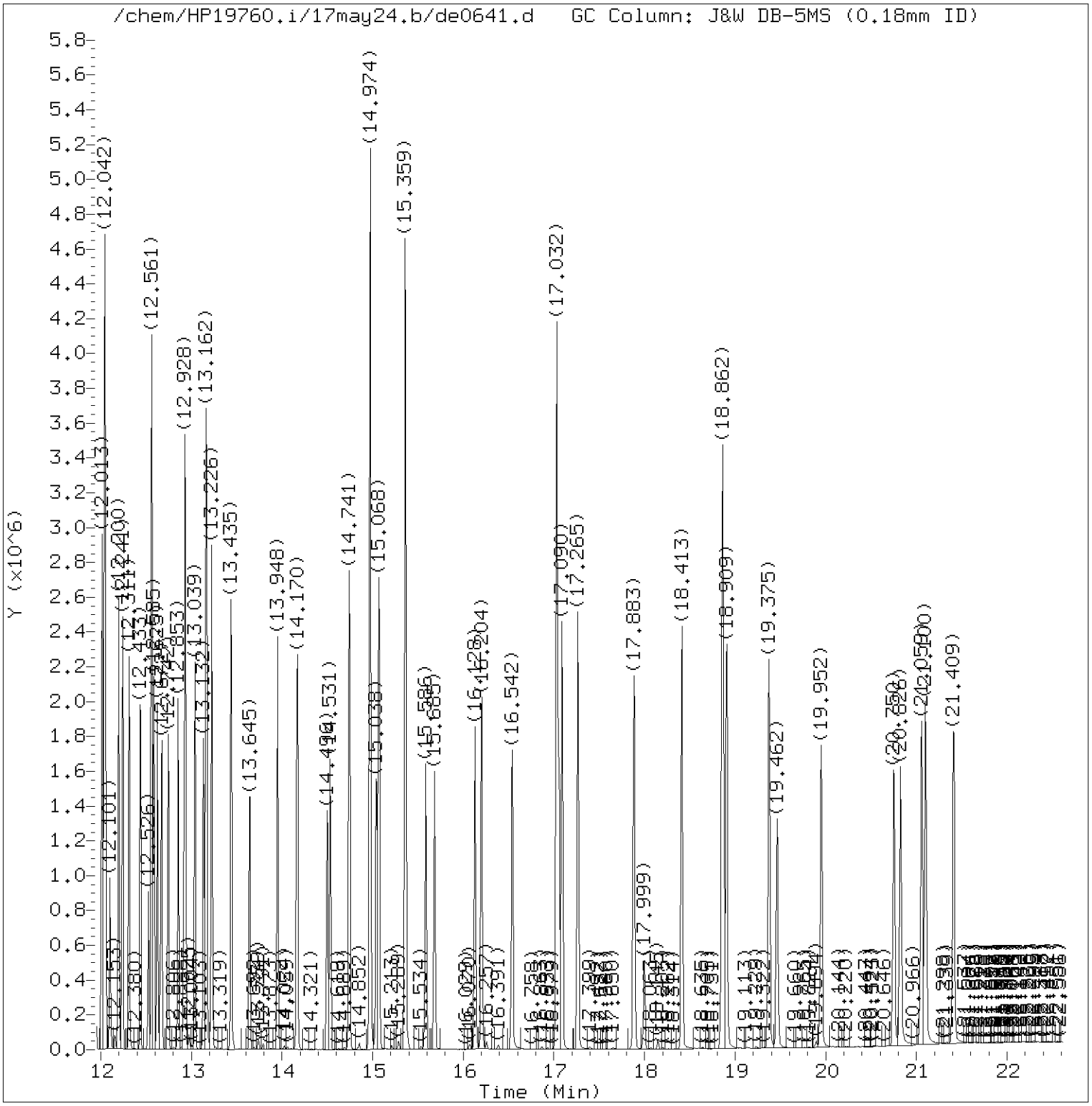
Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0641.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 09:32 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: all1
Calibration date and time: 24-MAY-2017 10:04
Date, time and analyst ID of latest file update: 24-May-2017 10:04 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Digitally signed by Catherine E. Bachman
on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0641.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 09:32 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: all1
Calibration date and time: 24-MAY-2017 10:04
Date, time and analyst ID of latest file update: 24-May-2017 10:04 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Digitally signed by Catherine E. Bachman
on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0641.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 09:32 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: all1
Calibration date and time: 24-MAY-2017 10:04
Date, time and analyst ID of latest file update: 24-May-2017 10:04 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.790	88	195761	7.587
4) N-Nitrosodimethylamine	(1)	2.384	74	324516	7.821
5) Pyridine	(1)	2.443	79	503415	7.394
7) 2-Picoline	(1)	3.684	93	525929	7.565
8) N-Nitrosomethylethylamine	(1)	3.882	88	217442	7.329
9) Methyl methanesulfonate	(1)	4.343	80	262598	7.735
11)$2-Fluorophenol	(1)	4.599	112	824086	15.052
13) N-Nitrosodiethylamine	(1)	4.926	102	203843	7.397
15) Ethyl methanesulfonate	(1)	5.392	109	218799	7.351
42) Total Cresols	(1)			861129	14.859
16) Benzaldehyde	(1)	5.841	77	413639	8.062
17)$Phenol-d6	(1)	5.998	99	1114287	14.996
19) Aniline	(1)	6.010	93	735207	7.432
18) Phenol	(1)	6.016	94	634027	7.532
20) a-methylstyrene	(1)	6.091	118	471069	7.775
22) bis(2-Chloroethyl)ether	(1)	6.132	93	463806	7.416
23) 2-Chlorophenol	(1)	6.179	128	402840	7.347
24) 1,3-Dichlorobenzene	(1)	6.400	146	438391	7.381
25)*1,4-Dichlorobenzene-d4	(1)	6.488	152	176464	5.000
26) 1,4-Dichlorobenzene	(1)	6.517	146	441640	7.276
27) Benzyl alcohol	(1)	6.721	108	274672	7.021
28) 1,2-Dichlorobenzene	(1)	6.733	146	421112	7.364
30) Indene	(1)	6.872	115	820582	7.692
31) 2-Methylphenol	(1)	6.919	108	403417	7.481
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.948	45	716721	7.756
34) bis(2-Chloroisopropyl)ether	(1)	6.948	45	716721	7.756
35) N-Nitrosopyrrolidine	(1)	7.071	100	213375	7.025
36) Acetophenone	(1)	7.106	105	612098	7.547
38) N-Nitroso-di-n-propylamine	(1)	7.135	70	352635	7.209
39) N-Nitrosomorpholine	(1)	7.141	56	322808	7.756
40) o-Toluidine	(1)	7.158	106	706075	7.428
37) 4-Methylphenol	(1)	7.158	108	457712	7.378
43) Hexachloroethane	(1)	7.245	117	188291	7.574
44)$Nitrobenzene-d5	(2)	7.321	82	1022326	15.040
45) Nitrobenzene	(2)	7.350	77	529710	7.737
97) Isosafrole	(3)			325347	7.437
48) N-Nitrosopiperidine	(2)	7.584	114	200093	7.401
50) Isophorone	(2)	7.735	82	890889	7.608
51) 2-Nitrophenol	(2)	7.846	139	195549	7.232
53) 2,4-Dimethylphenol	(2)	7.962	107	425997	7.307

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0641.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 09:32 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: all1
Calibration date and time: 24-MAY-2017 10:04
Date, time and analyst ID of latest file update: 24-May-2017 10:04 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			405940	14.451
57) O,O,O-Triethylphosphorothioate	(2)	8.085	198	197904	7.195
55) bis(2-Chloroethoxy)methane	(2)	8.114	93	551065	7.361
56) Benzoic acid	(2)	8.126	105	319316	8.559
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.190	104	659714	7.672
60) 2,4-Dichlorophenol	(2)	8.231	162	322723	7.479
62) 1,2,4-Trichlorobenzene	(2)	8.353	180	369491	7.281
65)*Naphthalene-d8	(2)	8.423	136	655919	5.000
66) Naphthalene	(2)	8.458	128	1131766	7.223
67) 4-Chloroaniline	(2)	8.569	127	474073	7.463
68) 2,6-Dichlorophenol	(2)	8.580	162	315665	7.379
69) Hexachloropropene	(2)	8.609	213	242051	7.064
71) Hexachlorobutadiene	(2)	8.691	225	215527	7.187
146) Diallate trans/cis	(4)			395888	7.750
75) Quinoline	(2)	8.982	129	724510	7.523
76) Caprolactam	(2)	9.099	113	97119	7.212
77) N-Nitrosodi-n-butylamine	(2)	9.146	84	326529	6.810
80) 4-Chloro-3-methylphenol	(2)	9.385	107	361694	7.355
82) Safrole	(2)	9.460	162	283808	7.261
83) 2-Methylnaphthalene	(2)	9.559	142	756023	7.369
84) 1-Methylnaphthalene	(2)	9.711	142	686522	7.275
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.833	216	396868	7.457
85) Hexachlorocyclopentadiene	(3)	9.833	237	175627	6.922
88) cis-Isosafrole	(3)	9.927	162	51704	1.240
90) 2,4,6-Trichlorophenol	(3)	10.032	196	242302	7.475
92) 2,4,5-Trichlorophenol	(3)	10.084	196	258248	7.377
93)$2-Fluorobiphenyl	(3)	10.177	172	1715877	14.840
94) trans-Isosafrole	(3)	10.288	162	273643	6.197
95) 1,1'-Biphenyl	(3)	10.323	154	878588	7.884
96) 2-Chloronaphthalene	(3)	10.329	162	676958	7.217
98) 1-Chloronaphthalene	(3)	10.358	162	678651	7.576
99) Diphenyl ether	(3)	10.504	170	477575	7.273
100) 2-Nitroaniline	(3)	10.510	138	200195	6.868
104) 1,4-Naphthoquinone	(3)	10.620	158	299369	7.678
105) 1,4-Dinitrobenzene	(3)	10.743	168	107224	6.990
106) Dimethylphthalate	(3)	10.853	163	801308	7.393
107) 1,3-Dinitrobenzene	(3)	10.859	168	120013	7.116
108) 2,6-Dinitrotoluene	(3)	10.923	165	174035	7.259
109) Acenaphthylene	(3)	10.982	152	1024697	7.466
112) 3-Nitroaniline	(3)	11.168	138	179995	7.263

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0641.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 09:32 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: all1
Calibration date and time: 24-MAY-2017 10:04
Date, time and analyst ID of latest file update: 24-May-2017 10:04 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.215	164	371985	5.000
114) Acenaphthene	(3)	11.261	153	734459	7.352
115) 2,4-Dinitrophenol	(3)	11.343	184	114632	8.203
117) Pentachlorobenzene	(3)	11.483	250	317363	7.384
116) 4-Nitrophenol	(3)	11.495	109	120065	6.551
119) Dibenzofuran	(3)	11.535	168	999398	7.326
118) 2,4-Dinitrotoluene	(3)	11.553	165	231905	7.192
121) 1-Naphthylamine	(3)	11.652	143	691159	7.141
122) 2,3,4,6-Tetrachlorophenol	(3)	11.734	232	194543	7.380
123) 2-Naphthylamine	(3)	11.768	143	684849	7.141
124) Diethylphthalate	(3)	11.943	149	774044	7.359
126) Fluorene	(3)	12.013	166	797529	7.286
125) Thionazin	(3)	12.037	107	150457	7.192
128) 5-Nitro-o-toluidine	(3)	12.042	152	209168	6.944
127) 4-Chlorophenyl-phenylether	(3)	12.048	204	396169	7.432
129) 4-Nitroaniline	(3)	12.054	138	180576	7.319
130) 4,6-Dinitro-2-methylphenol	(4)	12.101	198	130376	6.942
131) N-Nitrosodiphenylamine	(4)	12.200	169	658803	7.627
132) NDPA as diphenylamine	(4)	12.200	169	658803	7.627
134) 1,2-Diphenylhydrazine	(4)	12.241	77	976473	8.002
135)$2,4,6-Tribromophenol	(3)	12.311	330	195638	14.131
137) Tetraethyldithiopyrophosphate	(4)	12.433	97	145714	7.329
139) 1,3,5-Trinitrobenzene	(4)	12.526	213	81560	6.713
140) Diallate (peak 1)	(4)	12.555	86	341135	6.469
141) Phorate	(4)	12.561	75	606495	7.732
142) Phenacetin	(4)	12.585	108	422691	7.353
143) 4-Bromophenyl-phenylether	(4)	12.625	248	222329	7.502
144) Diallate (peak 2)	(4)	12.654	86	54753	1.281
145) Hexachlorobenzene	(4)	12.672	284	224203	7.183
147) Dimethoate	(4)	12.742	87	381730	7.556
148) Atrazine	(4)	12.853	200	207711	7.612
149) Pentachlorophenol	(4)	12.917	266	131343	7.654
150) 4-Aminobiphenyl	(4)	12.928	169	715599	7.462
151) Pentachloronitrobenzene	(4)	12.928	237	96308	7.069
152) Pronamide	(4)	13.039	173	362724	7.295
153)*Phenanthrene-d10	(4)	13.132	188	696488	5.000
155) Phenanthrene	(4)	13.162	178	1142635	7.339
154) Dinoseb	(4)	13.167	211	202136	7.011
157) Anthracene	(4)	13.226	178	1162406	7.499
163) Carbazole	(4)	13.435	167	1094662	7.605

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0641.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 09:32 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: all1
Calibration date and time: 24-MAY-2017 10:04
Date, time and analyst ID of latest file update: 24-May-2017 10:04 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.645	109	283357	7.284
165) Di-n-butylphthalate	(4)	13.948	149	1308504	7.360
168) 4-Nitroquinoline-1-oxide	(4)	14.164	190	74133	4.555
167) Parathion	(4)	14.170	109	180638	7.282
169) Octachlorostyrene	(4)	14.502	308	83983	7.152
171) Isodrin	(4)	14.531	193	132520	7.021
173) Fluoranthene	(4)	14.741	202	1324385	7.430
174) Benzidine	(5)	14.974	184	2411365	21.836
222) Total PAHs	(6)			20184839	134.593
175)*Pyrene-d10	(5)	15.044	212	834676	5.000
177) Pyrene	(5)	15.068	202	1384675	7.307
179)$Terphenyl-d14	(5)	15.359	244	1827015	14.916
182) p-Dimethylaminoazobenzene	(5)	15.586	225	209541	6.944
185) Chlorobenzilate	(5)	15.680	139	383913	6.888
187) 3,3'-Dimethylbenzidine	(5)	16.128	212	807956	6.603
188) Butylbenzylphthalate	(5)	16.204	149	607040	7.236
191) 2-Acetylaminofluorene	(5)	16.542	181	503017	6.439
193) 3,3'-Dichlorobenzidine	(5)	17.032	252	480352	7.017
195) Benzo(a)anthracene	(5)	17.032	228	1306090	7.189
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.055	231	254392	6.863
196) Chrysene	(5)	17.090	228	1238872	7.241
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	149	898847	7.158
203) 6-Methylchrysene	(5)	17.883	242	863448	7.089
205) Di-n-octylphthalate	(6)	18.413	149	1567591	7.130
206) Benzo(b)fluoranthene	(6)	18.856	252	1305451	7.126
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.868	256	544102	7.314
208) Benzo(k)fluoranthene	(6)	18.909	252	1368307	7.765
211) Benzo(a)pyrene	(6)	19.375	252	1270964	7.508
213)*Perylene-d12	(6)	19.462	264	672532	5.000
215) 3-Methylcholanthrene	(6)	19.952	268	531626	7.057
217) Dibenz(a,h)acridine	(6)	20.756	279	903865	7.416
218) Dibenz(a,j)acridine	(6)	20.826	279	931659	7.792
219) Indeno(1,2,3-cd)pyrene	(6)	21.059	276	1340836	8.080
220) Dibenz(a,h)anthracene	(6)	21.100	278	1100302	7.972
221) Benzo(g,h,i)perylene	(6)	21.415	276	1108920	8.167

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/24/2017 at 10:05.
Target 3.5 esignature user ID: ceb05247

Raw QC Data

Semivolatiles by GC/MS

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may24.b/de0642.d Injection date and time: **24-MAY-2017 10:12**
Data file Sample Info. Line: SBLKWF143;SBLKWF143;1;3;BLANK;;DRRAAP; Instrument ID: **HP19760.i** Batch: **17143WAF**
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Blank Data file reference: **/chem/HP19760.i/17may24.b/de0642.d**

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 05-JUN-2017 15:09
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may24.b/de0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.488	(0.000)	858	152	132757	(-25)	5.00	
65) Naphthalene-d8	8.423	(0.000)	1190	136	504547	(-23)	5.00	
113) Acenaphthene-d10	11.209	(0.006)	1668	164	275003	(-26)	5.00	
153) Phenanthrene-d10	13.133	(0.000)	1998	188	519248	(-25)	5.00	
175) Pyrene-d10	15.038	(0.006)	2325	212	596463	(-29)	5.00	
213) Perylene-d12	19.462	(0.000)	3084	264	432518	(-36)	5.00	

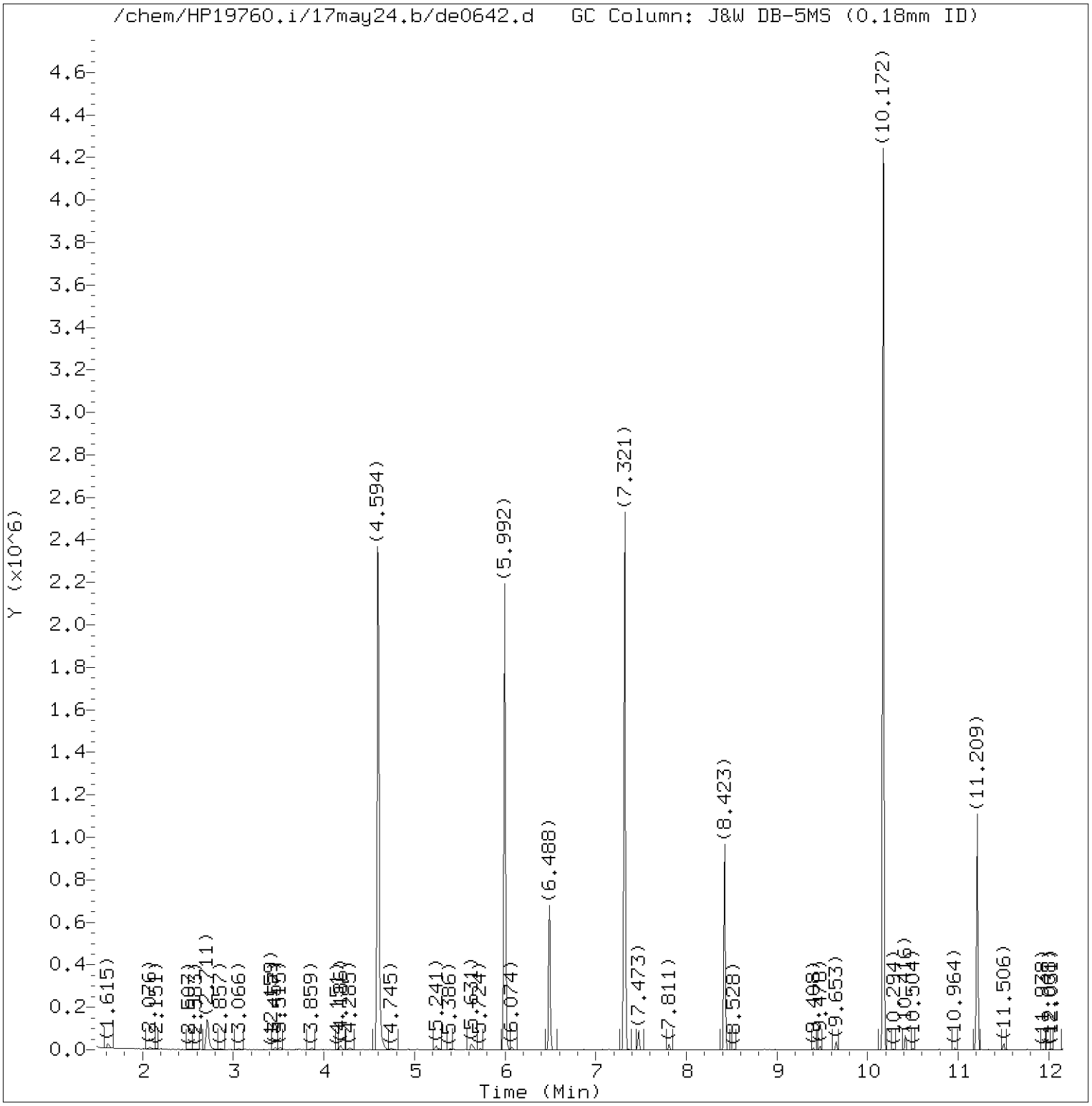
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.321	(0.000)	82	1045932	20.003	80%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.177	(0.000)	172	1653706	19.346	77%		41 - 112
179) Terphenyl-d14	(5)	15.365	(-0.001)	244	1932303	22.076	88%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)				Not Detected					0.2
100) 2-Nitroaniline	(3)				Not Detected					0.2
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.2
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.2
124) Diethylphthalate	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.3
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.4

Total number of targets = 7

Digitally signed by Edward Monborne on 06/05/2017 at 15:10. Target 3.5 esignature user ID: em10340

Secondary review performed and digitally signed by Mark A. Ratcliff on 06/06/2017 at 13:21. PARALLAX ID: mar00486



Total Ion Chromatogram (TIC)

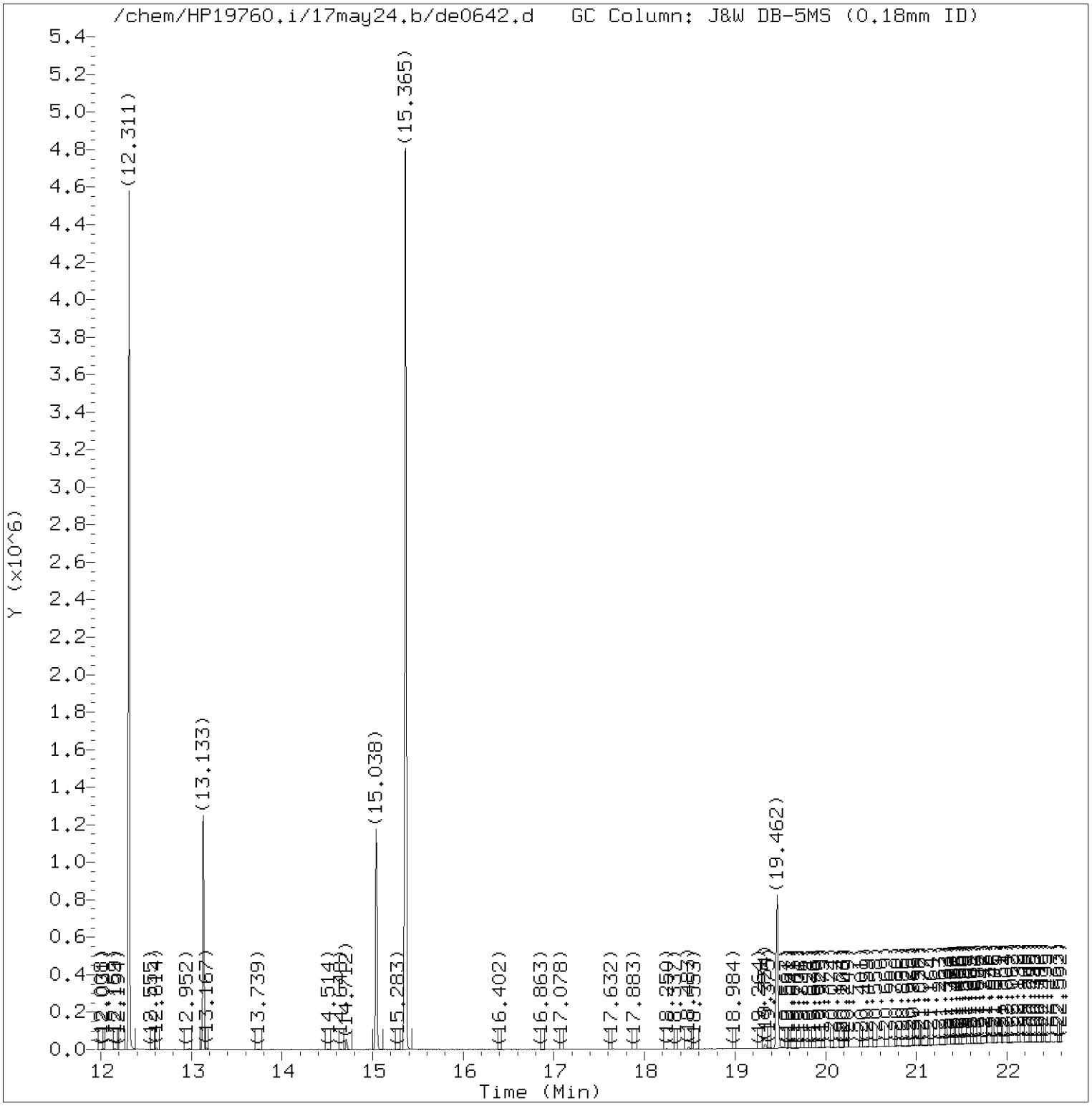
Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0642.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 10:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: SBLKWF143 Lab Sample ID: SBLKWF143

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0642.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 10:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: SBLKWF143 Lab Sample ID: SBLKWF143

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0642.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 10:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: SBLKWF143 Lab Sample ID: SBLKWF143

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.488	152	132757	5.000
44)$Nitrobenzene-d5	(2)	7.321	82	1045932	20.003
65)*Naphthalene-d8	(2)	8.423	136	504547	5.000
93)$2-Fluorobiphenyl	(3)	10.177	172	1653706	19.346
113)*Acenaphthene-d10	(3)	11.209	164	275003	5.000
153)*Phenanthrene-d10	(4)	13.133	188	519248	5.000
175)*Pyrene-d10	(5)	15.038	212	596463	5.000
179)$Terphenyl-d14	(5)	15.365	244	1932303	22.076
213)*Perylene-d12	(6)	19.462	264	432518	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340

Data file: /chem/HP19760.i/17may24.b/de0661.d Injection date and time: **24-MAY-2017 18:57**
Data file Sample Info. Line: AE862MS;9006009;1;3;MS;;DRRAAP; Instrument ID: **HP19760.i** Batch: **17143WAF**
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Blank Data file reference: **/chem/HP19760.i/17may24.b/de0642.d**

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 05-JUN-2017 15:09
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may24.b/de0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.494	(-0.006)	859	152	138876	(-21)	5.00	
65) Naphthalene-d8	8.423	(0.000)	1190	136	519369	(-21)	5.00	
113) Acenaphthene-d10	11.215	(0.000)	1669	164	284115	(-24)	5.00	
153) Phenanthrene-d10	13.133	(0.000)	1998	188	527018	(-24)	5.00	
175) Pyrene-d10	15.044	(0.000)	2326	212	633182	(-24)	5.00	
213) Perylene-d12	19.462	(0.000)	3084	264	536817	(-20)	5.00	

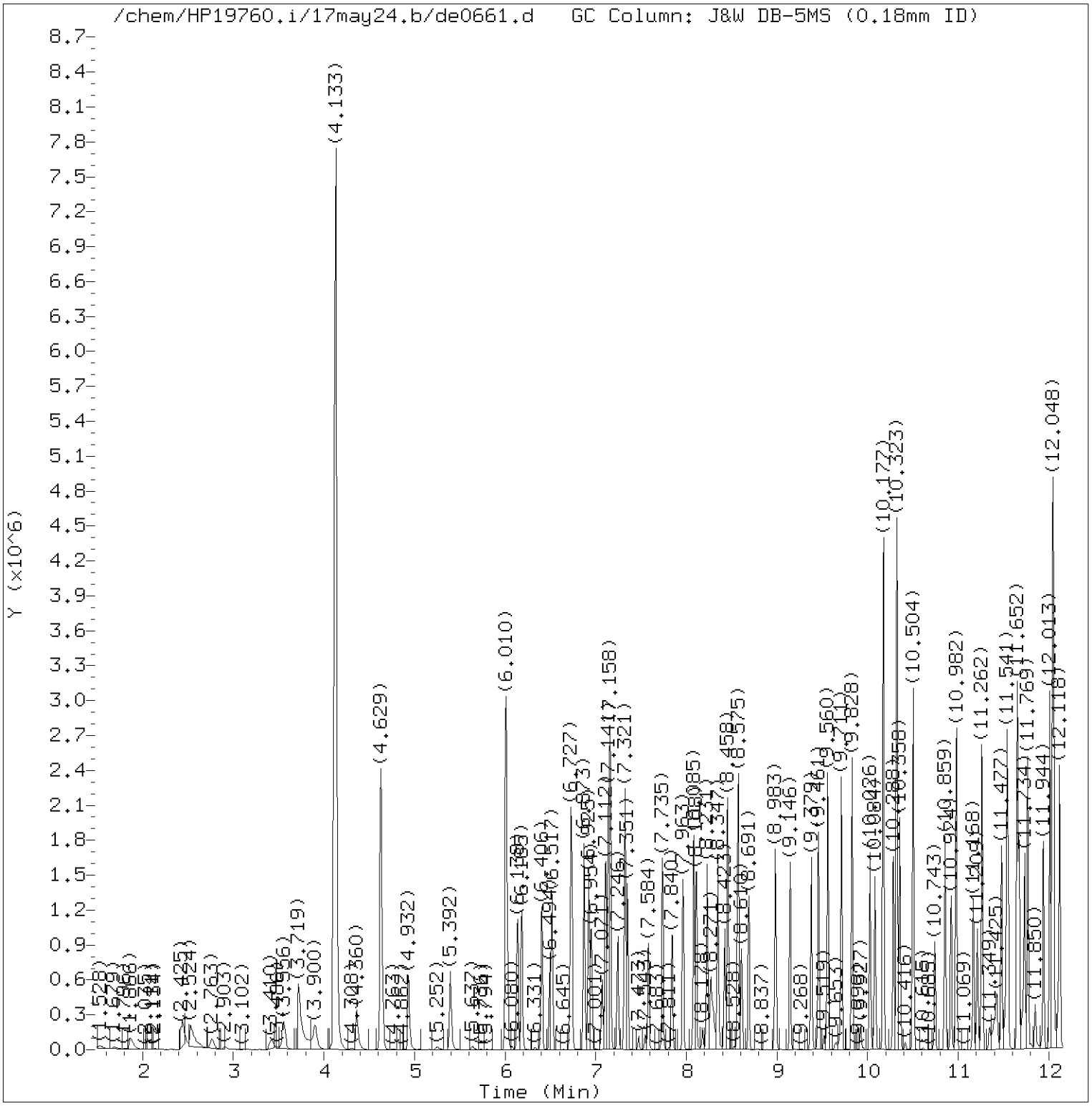
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.321	(0.000)	82	1012142	18.805	75%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.177	(0.000)	172	1692841	19.169	77%		41 - 112
179) Terphenyl-d14	(5)	15.359	(0.000)	244	1874217	20.171	81%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)	7.350	(-0.000)	77	561276	10.353	41.58			0.2
100) 2-Nitroaniline	(3)	10.510	(0.000)	138	226374	10.169	40.84			0.2
108) 2,6-Dinitrotoluene	(3)	10.924	(0.000)	165	189316	10.339	41.52			0.2
118) 2,4-Dinitrotoluene	(3)	11.553	(0.000)	165	261027	10.599	42.57			0.2
124) Diethylphthalate	(3)	11.944	(0.000)	149	693087	8.627	34.65			0.1
129) 4-Nitroaniline	(3)	12.054	(0.000)	138	198531	10.535	42.31			0.3
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	(0.000)	149	1085716	11.397	45.77			0.4

Total number of targets = 7

Digitally signed by Edward Monborne on 06/05/2017 at 15:10. Target 3.5 esignature user ID: em10340

Secondary review performed and digitally signed by Mark A. Ratcliff on 06/06/2017 at 13:24. PARALLAX ID: mar00486



Total Ion Chromatogram (TIC)

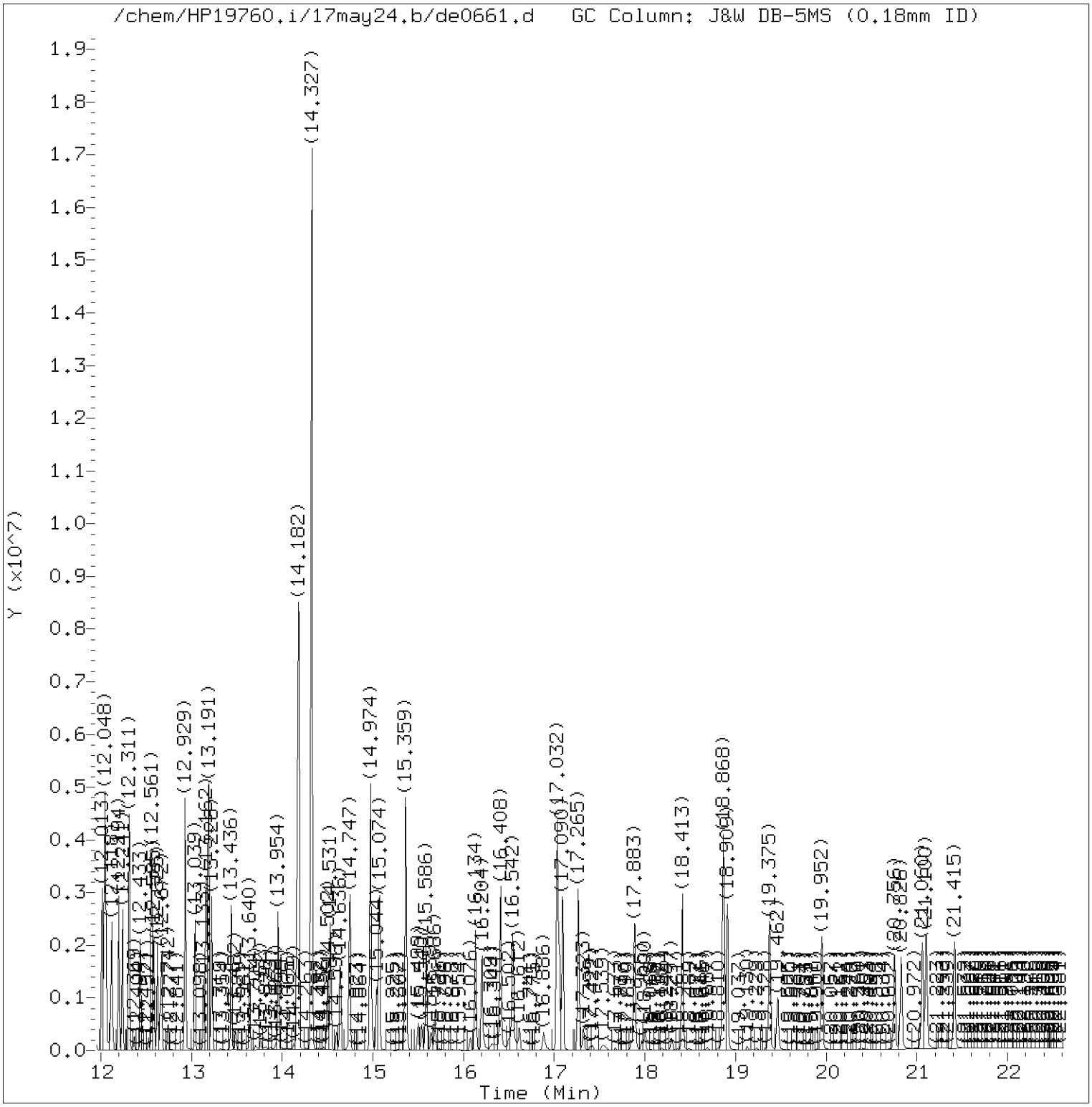
Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0661.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 18:57 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862MS Lab Sample ID: 9006009

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0661.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 18:57 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862MS Lab Sample ID: 9006009

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0661.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 18:57 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862MS Lab Sample ID: 9006009

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.494	152	138876	5.000
44)$Nitrobenzene-d5	(2)	7.321	82	1012142	18.805
45) Nitrobenzene	(2)	7.351	77	561276	10.353
65)*Naphthalene-d8	(2)	8.423	136	519369	5.000
93)$2-Fluorobiphenyl	(3)	10.177	172	1692841	19.169
100) 2-Nitroaniline	(3)	10.510	138	226374	10.169
108) 2,6-Dinitrotoluene	(3)	10.924	165	189316	10.339
113)*Acenaphthene-d10	(3)	11.215	164	284115	5.000
118) 2,4-Dinitrotoluene	(3)	11.553	165	261027	10.599
124) Diethylphthalate	(3)	11.944	149	693087	8.627
129) 4-Nitroaniline	(3)	12.054	138	198531	10.535
153)*Phenanthrene-d10	(4)	13.133	188	527018	5.000
175)*Pyrene-d10	(5)	15.044	212	633182	5.000
179)$Terphenyl-d14	(5)	15.359	244	1874217	20.171
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	149	1085716	11.397
213)*Perylene-d12	(6)	19.462	264	536817	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may24.b/de0662.d
Data file Sample Info. Line: AE862MSD;9006010;1;3;MSD;;DRRAAP;
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Injection date and time: **24-MAY-2017 19:25**
Instrument ID: **HP19760.i** Batch: **17143WAF**

Blank Data file reference: **/chem/HP19760.i/17may24.b/de0642.d**

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 05-JUN-2017 15:09
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may24.b/de0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.494	(-0.006)	859	152	136598	(-23)	5.00	
65) Naphthalene-d8	8.423	(0.000)	1190	136	511613	(-22)	5.00	
113) Acenaphthene-d10	11.215	(0.000)	1669	164	285809	(-23)	5.00	
153) Phenanthrene-d10	13.132	(0.000)	1998	188	534410	(-23)	5.00	
175) Pyrene-d10	15.044	(0.000)	2326	212	641722	(-23)	5.00	
213) Perylene-d12	19.462	(0.000)	3084	264	523339	(-22)	5.00	

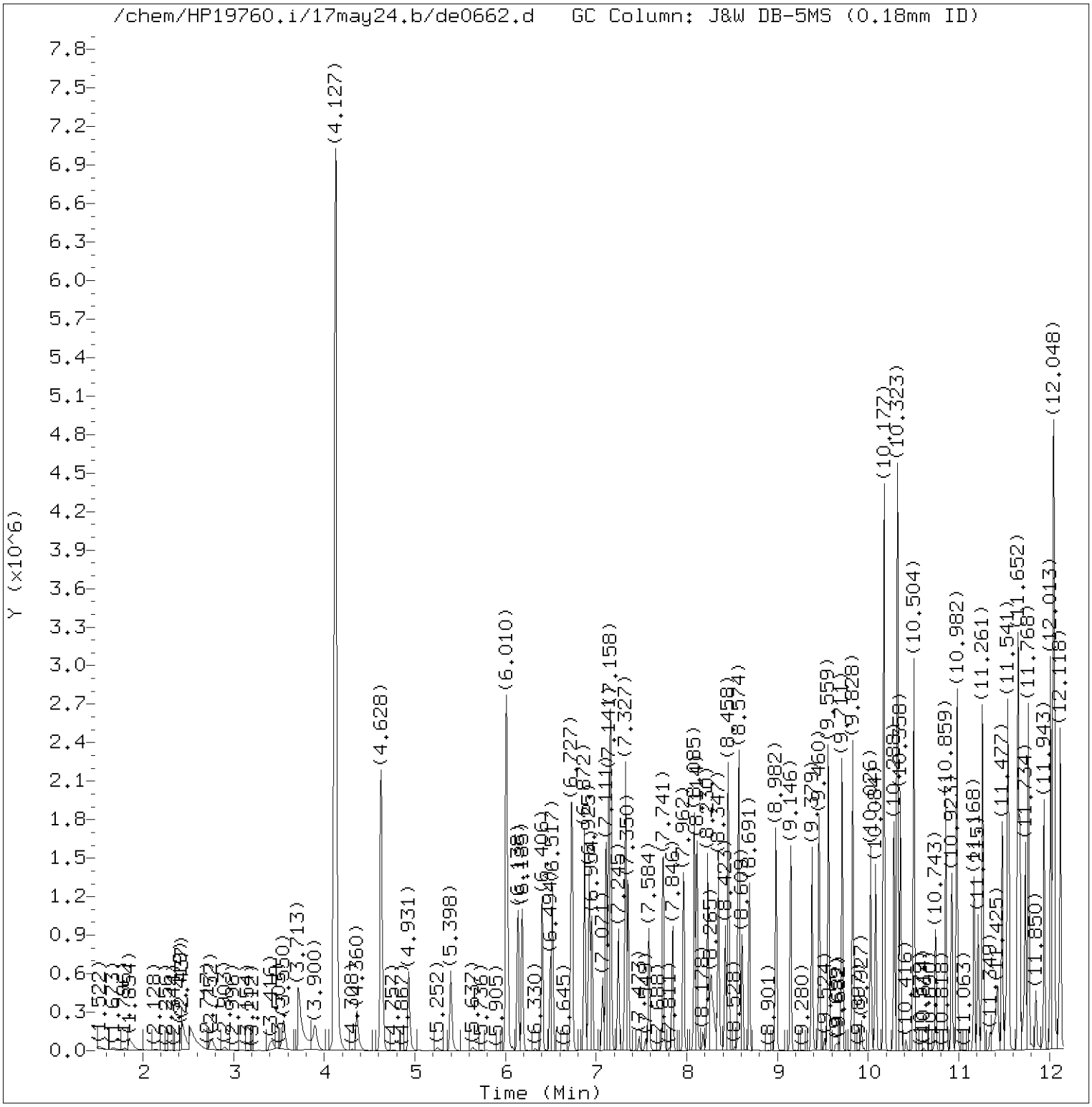
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.327	(-0.001)	82	1011115	19.070	76%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.177	(0.000)	172	1692986	19.057	76%		41 - 112
179) Terphenyl-d14	(5)	15.365	(0.000)	244	1738253	18.458	74%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)	7.350	(0.000)	77	558492	10.458	42.51			0.2
100) 2-Nitroaniline	(3)	10.510	(0.000)	138	235442	10.513	42.74			0.2
108) 2,6-Dinitrotoluene	(3)	10.923	(0.000)	165	198890	10.797	43.89			0.2
118) 2,4-Dinitrotoluene	(3)	11.553	(0.000)	165	263476	10.635	43.23			0.2
124) Diethylphthalate	(3)	11.943	(0.000)	149	715642	8.855	35.99			0.1
129) 4-Nitroaniline	(3)	12.054	(0.000)	138	202336	10.673	43.39			0.3
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	(0.000)	149	1043646	10.810	43.94			0.4

Total number of targets = 7

Digitally signed by Edward Monborne on 06/05/2017 at 15:11. Target 3.5 esignature user ID: em10340

Secondary review performed and digitally signed by Mark A. Ratcliff on 06/06/2017 at 13:24. PARALLAX ID: mar00486



Total Ion Chromatogram (TIC)

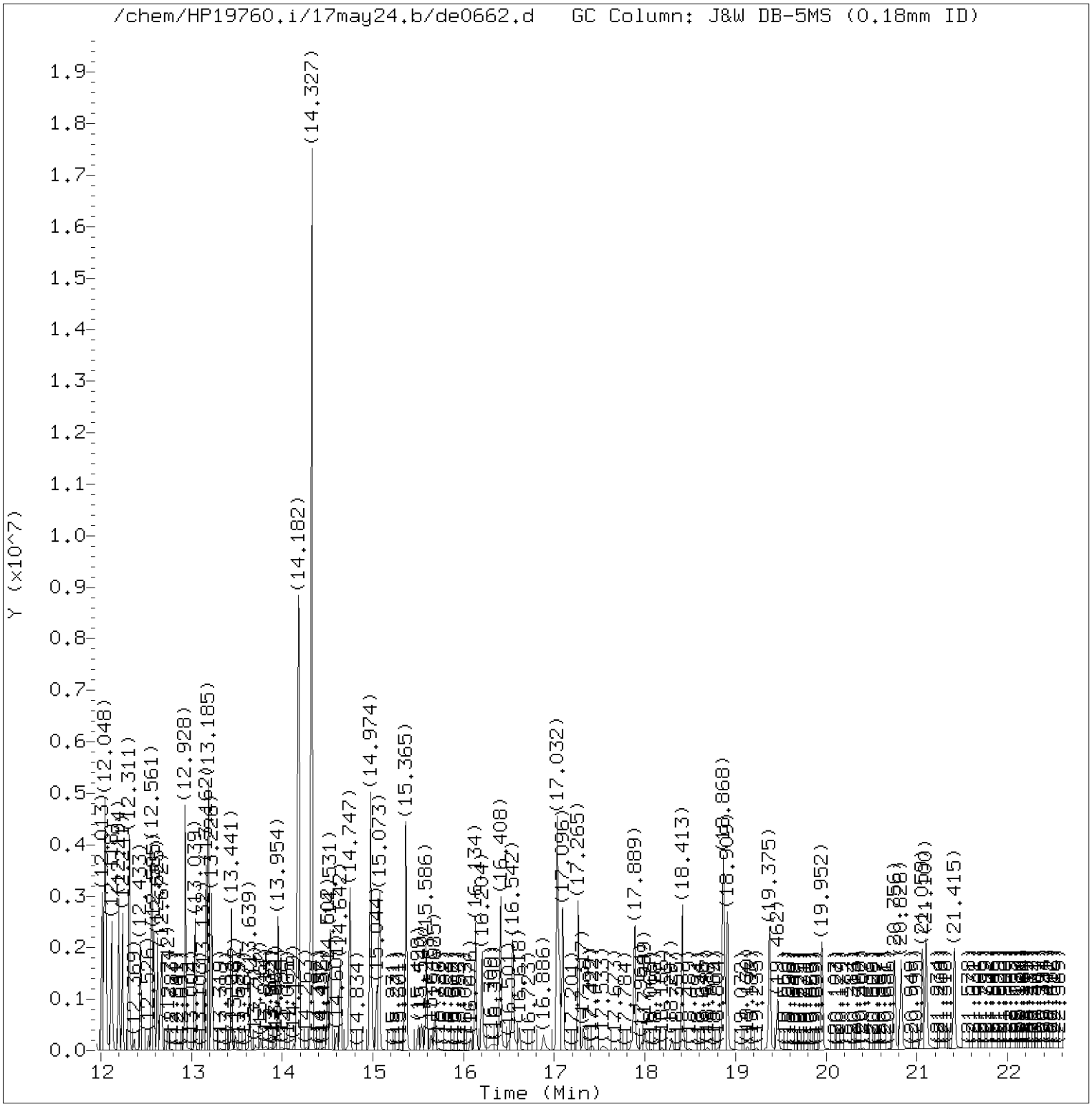
Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0662.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 19:25 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862MSD Lab Sample ID: 9006010

Digitally signed by Edward Monborne
on 06/05/2017 at 15:11.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0662.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 19:25 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862MSD Lab Sample ID: 9006010

Digitally signed by Edward Monborne
on 06/05/2017 at 15:11.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0662.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 19:25 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: AE862MSD Lab Sample ID: 9006010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.494	152	136598	5.000
44)$Nitrobenzene-d5	(2)	7.327	82	1011115	19.070
45) Nitrobenzene	(2)	7.350	77	558492	10.458
65)*Naphthalene-d8	(2)	8.423	136	511613	5.000
93)$2-Fluorobiphenyl	(3)	10.177	172	1692986	19.057
100) 2-Nitroaniline	(3)	10.509	138	235442	10.513
108) 2,6-Dinitrotoluene	(3)	10.923	165	198890	10.797
113)*Acenaphthene-d10	(3)	11.215	164	285809	5.000
118) 2,4-Dinitrotoluene	(3)	11.553	165	263476	10.635
124) Diethylphthalate	(3)	11.943	149	715642	8.855
129) 4-Nitroaniline	(3)	12.054	138	202336	10.673
153)*Phenanthrene-d10	(4)	13.132	188	534410	5.000
175)*Pyrene-d10	(5)	15.044	212	641722	5.000
179)$Terphenyl-d14	(5)	15.365	244	1738253	18.458
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	149	1043646	10.810
213)*Perylene-d12	(6)	19.462	264	523339	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 06/05/2017 at 15:11.
Target 3.5 esignature user ID: em10340

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

143WFLCS

Data file: /chem/HP19760.i/17may24.b/de0643.d
Data file Sample Info. Line: 143WFLCS;143WFLCS;1;3;LCS;;DRRAAP;
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Injection date and time: **24-MAY-2017 10:40**
Instrument ID: **HP19760.i** Batch: **17143WAF**

Blank Data file reference: **/chem/HP19760.i/17may24.b/de0642.d**

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 05-JUN-2017 15:09
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may24.b/de0641.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.494	(-0.006)	859	152	144316	(-18)	5.00	
65) Naphthalene-d8	8.423	(0.000)	1190	136	533680	(-19)	5.00	
113) Acenaphthene-d10	11.215	(0.000)	1669	164	295901	(-20)	5.00	
153) Phenanthrene-d10	13.132	(0.000)	1998	188	553368	(-21)	5.00	
175) Pyrene-d10	15.044	(0.000)	2326	212	664825	(-20)	5.00	
213) Perylene-d12	19.468	(-0.006)	3085	264	552244	(-18)	5.00	

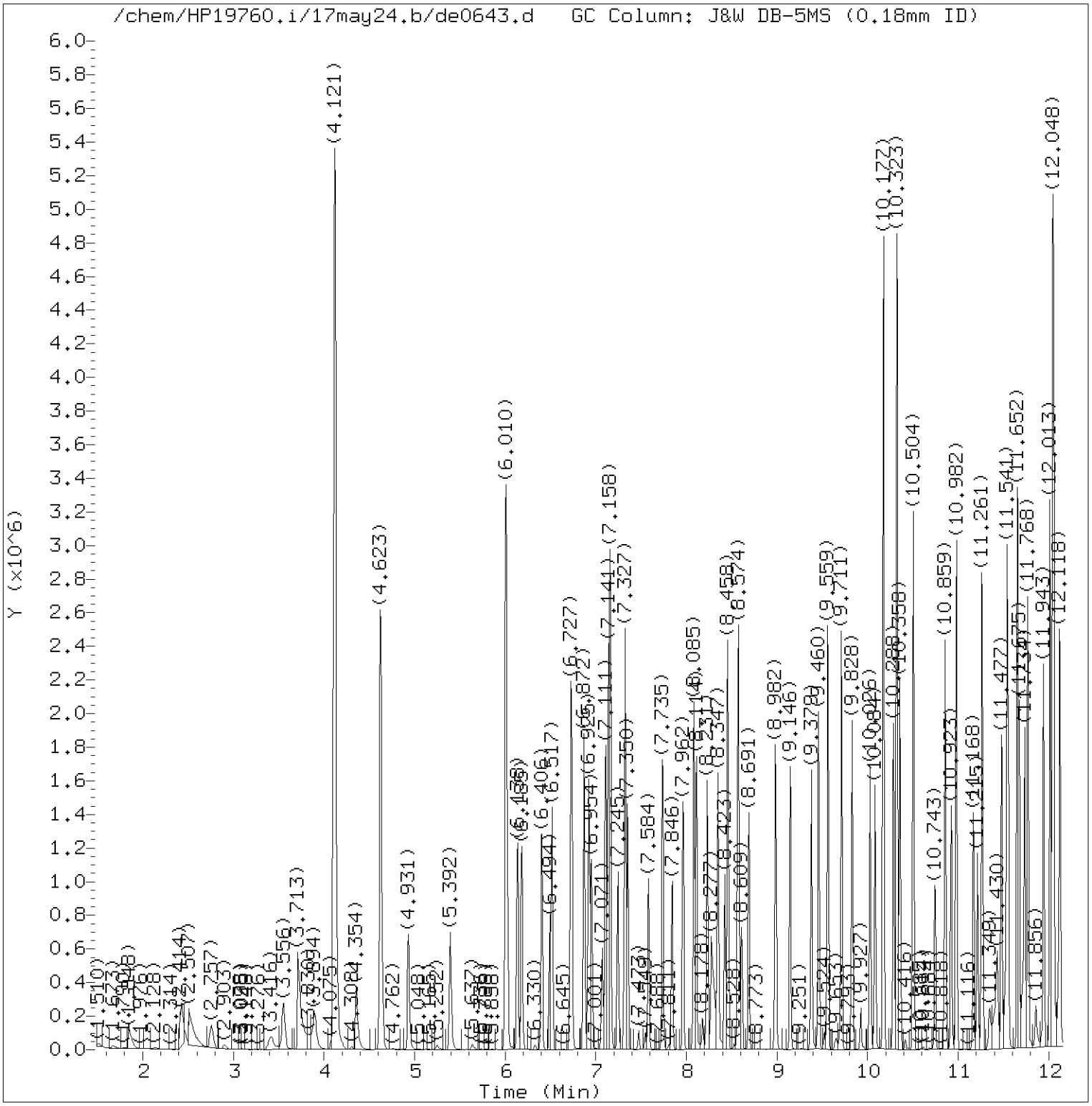
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.327	(-0.001)	82	1100147	19.892	80%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.177	(0.000)	172	1822734	19.818	79%		41 - 112
179) Terphenyl-d14	(5)	15.365	(0.000)	244	2080315	21.323	85%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)	7.350	(0.000)	77	605734	10.874	43.49			0.2
100) 2-Nitroaniline	(3)	10.510	(0.000)	138	236437	10.198	40.79			0.2
108) 2,6-Dinitrotoluene	(3)	10.923	(0.000)	165	211024	11.065	44.26			0.2
118) 2,4-Dinitrotoluene	(3)	11.553	(0.000)	165	282530	11.015	44.06			0.2
124) Diethylphthalate	(3)	11.943	(0.000)	149	839096	10.028	40.11			0.1
129) 4-Nitroaniline	(3)	12.054	(0.000)	138	213245	10.865	43.46			0.3
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	(0.000)	149	1172600	11.724	46.89			0.4

Total number of targets = 7

Digitally signed by Edward Monborne on 06/05/2017 at 15:10. Target 3.5 esignature user ID: em10340

Secondary review performed and digitally signed by Mark A. Ratcliff on 06/06/2017 at 13:21. PARALLAX ID: mar00486



Total Ion Chromatogram (TIC)

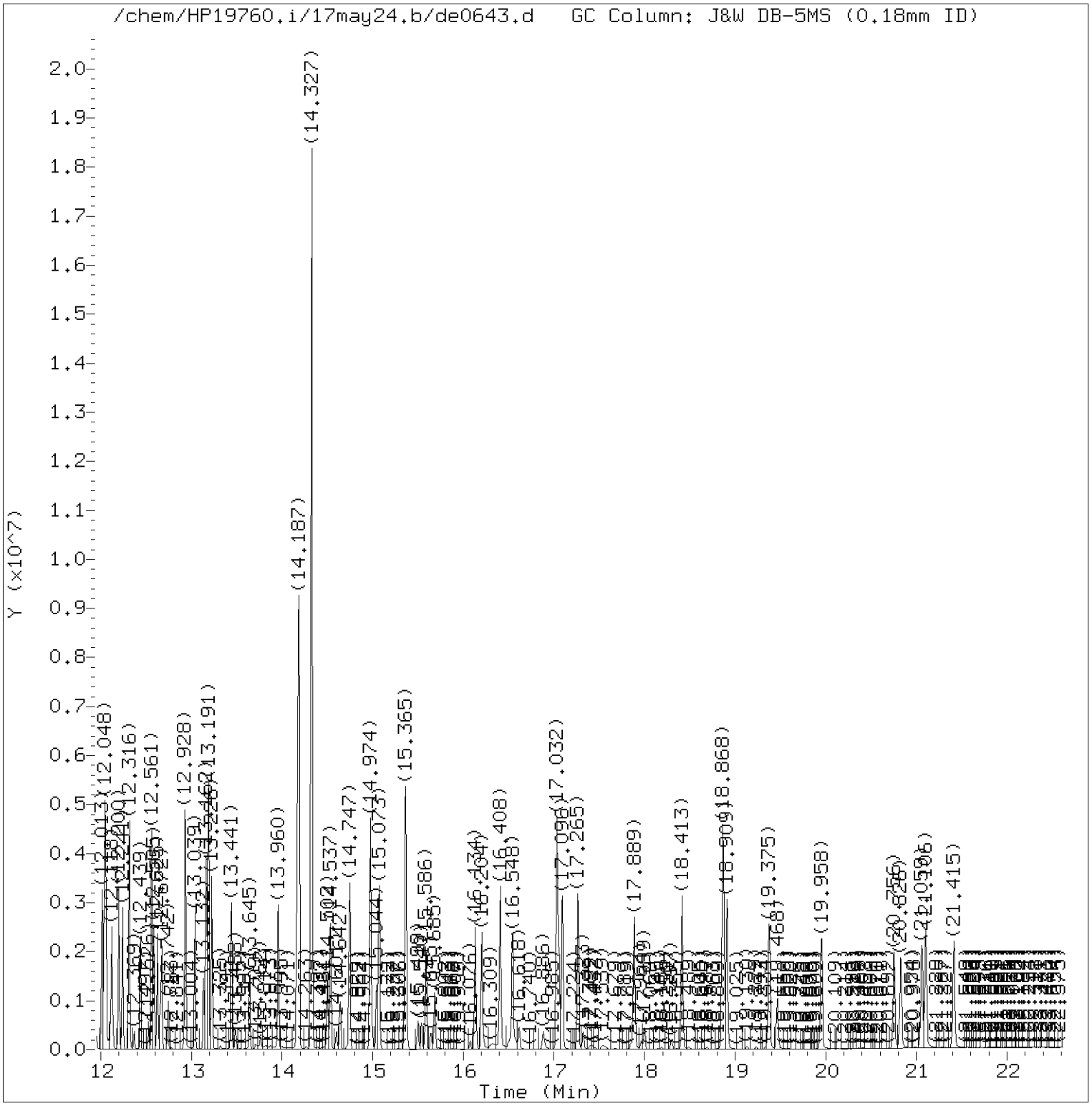
Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0643.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 10:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: 143WFLCS Lab Sample ID: 143WFLCS

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0643.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 10:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: 143WFLCS Lab Sample ID: 143WFLCS

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may24.b/de0643.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 10:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may24.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 05-JUN-2017 15:09
Date, time and analyst ID of latest file update: 05-Jun-2017 15:09 em10340

Sample Name: 143WFLCS Lab Sample ID: 143WFLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.494	152	144316	5.000
44)$Nitrobenzene-d5	(2)	7.327	82	1100147	19.892
45) Nitrobenzene	(2)	7.350	77	605734	10.874
65)*Naphthalene-d8	(2)	8.423	136	533680	5.000
93)$2-Fluorobiphenyl	(3)	10.177	172	1822734	19.818
100) 2-Nitroaniline	(3)	10.509	138	236437	10.198
108) 2,6-Dinitrotoluene	(3)	10.923	165	211024	11.065
113)*Acenaphthene-d10	(3)	11.215	164	295901	5.000
118) 2,4-Dinitrotoluene	(3)	11.553	165	282530	11.015
124) Diethylphthalate	(3)	11.943	149	839096	10.028
129) 4-Nitroaniline	(3)	12.054	138	213245	10.865
153)*Phenanthrene-d10	(4)	13.132	188	553368	5.000
175)*Pyrene-d10	(5)	15.044	212	664825	5.000
179)$Terphenyl-d14	(5)	15.365	244	2080315	21.323
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	149	1172600	11.724
213)*Perylene-d12	(6)	19.468	264	552244	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 06/05/2017 at 15:10.
Target 3.5 esignature user ID: em10340

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

5-24-17

Organic Extraction Batchlog Assigned to: 12385 Christine Gleim Reviewed by: KnK25316 Start Date: 5-23-17 Start time: 16:40

17143WAF026 Tech 1: CG12385 Tech 2: KWO217

Dept: 26 Prep Analysis: 11010 8270D BNA Extraction SVOAs 8270D MINI

QC	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
9006009MS	AE862	249	~~SS1712926A~~ (8)	1.0	MS1713526B MS1713826A	1.0 1.0	1	✓	✓	153A	clear
9006010MSD	AE862	246	~~SS1712926A~~ (8)	↓	MS1713526B MS1713826A	1.0 1.0	1	✓	✓	153A	↓
BLANKA	SBLKWF143	250	~~SS1712926A~~ (8)	↓	—	—	1	✓	✓	—	tap water
LCSA	143WFLCS	250	~~SS1712926A~~ (8)	↓	MS1713526B MS1713826A	1.0 1.0	1	✓	✓	L	↓

Solvent Used	Lot No.
10N NaOH	4701F35
Methylene Chloride	170933
Sodium Sulfate	171391A
Sulfuric Acid	166942

Spike Solutions: Witness:_____

MS1713826A APPIX #1 MINI SPIKE

MS1713526B MINI SEP. LCS SPIKE #1

~~SS1712926A~~ (8) MINI SEP. BNA SURROGATE

(8) SS1714326A KWO217 5/23/17

Sample #	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
1 9006008BKG	AE862	247	~~SS1712926A~~ (8)	1.0	1	✓	✓	153A	clear	14241	22228	06/02/2017	N

N/A KWO217 5/23/17

(3A) MISTD1317 KnK25316 5-24-17

Bench# 9	Bench# 7	Bench#			
Rack ID:	—	Work Station	tumble	Micro Temp 100?	✓
Internal Standard	~~122~~ (3) ~~RUSTD~~ (3A) KnK25316 5-24-17	Balance #	~~255~~ 29996 (3) KWO217 5/23/17		

DF = Dilution Factor FV = Final Volume Page 1 of 1

R-VAP ID 2	90 C	R-VAP ID	C	~~R-VAP ID~~	~~C~~			
S-bath ID	C	S-bath ID	C	~~N-Evap~~	~~C~~	~~M-vap~~	C	17143WAF026

Documented temps are NIST corrected.

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Type I Data Package

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Project: RAAP - Radford, VA - HWMU-5
Groundwater and Water Samples
Collected on 05/22/17

SDG# RAE88

GROUP	SAMPLE NUMBERS
1804692	9009414-9009419

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman

Dana M. Kauffman
Manager

Date: **06/29/2017**

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Table of Contents for SDG# RAE88

1. Sample Reference List 3
2. Preservation Data 4
3. Methodology Summary/Reference 5
4. Analysis Reports / Field Chain of Custody 6
5. Volatiles by GC/MS Data 25
   a. Case Narrative/Conformance Summary 26
   b. Quality Control and Calibration Summary Forms 29
   c. Sample Data 53
   d. Standards Data 102
   e. Raw QC Data 332
6. Semivolatiles by GC/MS Data 346
   a. Case Narrative/Conformance Summary 347
   b. Quality Control and Calibration Summary Forms 350
   c. Sample Data 379
   d. Standards Data 409
   e. Raw QC Data 546
   f. Extraction/Distillation/Digestion Logs 555

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Reference List for SDG Number RAE88
with a Data Package Type of I

11200 - Draper Aden Associates, Inc.
Project: RAAP - Radford, VA - HWMU-5

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9009414	5W5B	05/22/2017 09:15	05/23/2017 09:40
9009415	5WC21	05/22/2017 11:40	05/23/2017 09:40
9009416	5WDUP	05/22/2017 11:50	05/23/2017 09:40
9009417	5WC22	05/22/2017 10:10	05/23/2017 09:40
9009418	5WC23	05/22/2017 10:55	05/23/2017 09:40
9009419	Trip Blank 2	05/22/2017 00:00	05/23/2017 09:40

eurofins | Lancaster Laboratories

Sample pH Log

SDG: RAE88

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #	Record Date	Employee
9009414	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002
9009415	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002
9009416	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002
9009417	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:50PM	2002
9009418	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:51PM	2002
9009419	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/30/2017 9:16:51PM	2002

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030C, May 2003.

11996 VOCs- 25ml Water by 8260C

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS), SW-846 Method 8260C, August 2006.

11010 8270D BNA Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at both a pH of 11 and 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, Rev 3, December 1996

14241 SVOAs 8270D MINI

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270D, February 2007.

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Report Date: June 05, 2017

Project: RAAP - Radford, VA - HWMU-5

Submittal Date: 05/23/2017
Group Number: 1804692
SDG: RAE88
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
5W5B Grab Groundwater	9009414
5WC21 Grab Groundwater	9009415
5WDUP Grab Groundwater	9009416
5WC22 Grab Groundwater	9009417
5WC23 Grab Groundwater	9009418
Trip Blank 2 Water	9009419

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Draper Aden Associates, Inc.	Attn: Kathy Olsen
Electronic Copy To	Draper Aden Associates, Inc.	Attn: Janet Frazier

Respectfully Submitted,

Barbara Weyandt

Barbara A. Weyandt
Specialist

(717) 556-7264

Project Name: RAAP - Radford, VA - HWMU-5
LL Group #: 1804692

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 9009414, 9009415, 9009416, 9009417, 9009418, 9009419

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Batch #: H171502AA (Sample number(s): 9009414-9009419 UNSPK: P6008)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Chloroform

Sample Description: 5W5B Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9009414
LL Group # 1804692
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 09:15 by KC

Submitted: 05/23/2017 09:40
Reported: 06/05/2017 12:55

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8801 SDG#: RAE88-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**	**ug/l**	**ug/l**	
11996	Acetone	67-64-1	N.D.	3.0	10	1
11996	2-Butanone	78-93-3	N.D.	1.0	10	1
11996	Chloroform	67-66-3	4.0	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.	0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Ethyl ether	60-29-7	N.D.	0.4	12	1
11996	Methylene Chloride	75-09-2	N.D.	0.2	1.0	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
14241	Diethylphthalate	84-66-2	N.D.	0.51	10	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.	0.61	10	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.	0.71	10	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	1.5	6.1	1
14241	2-Nitroaniline	88-74-4	N.D.	0.71	10	1
14241	4-Nitroaniline	100-01-6	N.D.	1.3	20	1
14241	Nitrobenzene	98-95-3	N.D.	0.81	10	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 19:01	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 19:01	Kerri E Legerlotz	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAX026	05/28/2017 08:55	Anthony P Bauer	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAX026	05/24/2017 08:00	Osvaldo R Sanchez	1

*=This limit was used in the evaluation of the final result

Sample Description: 5WC21 Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9009415
LL Group # 1804692
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 11:40 by KC

Submitted: 05/23/2017 09:40
Reported: 06/05/2017 12:55

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8802 SDG#: RAE88-02

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Chloroform	67-66-3	11		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.		0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.		0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.8	1.0	1
11996	Ethyl ether	60-29-7	0.9	J	0.4	12	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Toluene	108-88-3	N.D.		0.1	1.0	1
11996	Trichloroethene	79-01-6	2.4		0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.		0.1	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	**ug/l**	
14241	Diethylphthalate	84-66-2	N.D.		0.50	10	1
14241	2,4-Dinitrotoluene	121-14-2	0.9	J	0.60	10	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.		0.70	10	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		1.5	6.0	1
14241	2-Nitroaniline	88-74-4	0.8	J	0.70	10	1
14241	4-Nitroaniline	100-01-6	N.D.		1.3	20	1
14241	Nitrobenzene	98-95-3	N.D.		0.80	10	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 19:21	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 19:21	Kerri E Legerlotz	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAX026	05/28/2017 09:22	Anthony P Bauer	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAX026	05/24/2017 08:00	Osvaldo R Sanchez	1

*=This limit was used in the evaluation of the final result

Sample Description: 5WDUP Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9009416
LL Group # 1804692
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 11:50 by KC

Submitted: 05/23/2017 09:40
Reported: 06/05/2017 12:55

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8803 SDG#: RAE88-03FD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Chloroform	67-66-3	11		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.		0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.		0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.8	1.0	1
11996	Ethyl ether	60-29-7	1.2	J	0.4	12	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Toluene	108-88-3	N.D.		0.1	1.0	1
11996	Trichloroethene	79-01-6	2.4		0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.		0.1	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	**ug/l**	
14241	Diethylphthalate	84-66-2	N.D.		0.51	10	1
14241	2,4-Dinitrotoluene	121-14-2	0.9	J	0.61	10	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.		0.71	10	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		1.5	6.1	1
14241	2-Nitroaniline	88-74-4	N.D.		0.71	10	1
14241	4-Nitroaniline	100-01-6	N.D.		1.3	20	1
14241	Nitrobenzene	98-95-3	N.D.		0.81	10	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 19:42	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 19:42	Kerri E Legerlotz	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAX026	05/28/2017 09:50	Anthony P Bauer	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAX026	05/24/2017 08:00	Osvaldo R Sanchez	1

*=This limit was used in the evaluation of the final result

Sample Description: 5WC22 Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9009417
LL Group # 1804692
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 10:10 by KC

Submitted: 05/23/2017 09:40
Reported: 06/05/2017 12:55

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8804 SDG#: RAE88-04

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Chloroform	67-66-3	1	J	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.		0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.		0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.8	1.0	1
11996	Ethyl ether	60-29-7	3.4	J	0.4	12	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Toluene	108-88-3	N.D.		0.1	1.0	1
11996	Trichloroethene	79-01-6	2.9		0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.		0.1	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	**ug/l**	
14241	Diethylphthalate	84-66-2	N.D.		0.51	10	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.		0.61	10	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.		0.71	10	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		1.5	6.1	1
14241	2-Nitroaniline	88-74-4	2	J	0.71	10	1
14241	4-Nitroaniline	100-01-6	N.D.		1.3	20	1
14241	Nitrobenzene	98-95-3	0.9	J	0.81	10	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 20:02	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 20:02	Kerri E Legerlotz	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAX026	05/28/2017 10:18	Anthony P Bauer	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAX026	05/24/2017 08:00	Osvaldo R Sanchez	1

*=This limit was used in the evaluation of the final result

Sample Description: 5WC23 Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9009418
LL Group # 1804692
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 10:55 by KC

Submitted: 05/23/2017 09:40
Reported: 06/05/2017 12:55

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8805 SDG#: RAE88-05

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Chloroform	67-66-3	1.0		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.		0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.		0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.8	1.0	1
11996	Ethyl ether	60-29-7	11	J	0.4	12	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Toluene	108-88-3	N.D.		0.1	1.0	1
11996	Trichloroethene	79-01-6	4.3		0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.		0.1	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	**ug/l**	
14241	Diethylphthalate	84-66-2	N.D.		0.50	10	1
14241	2,4-Dinitrotoluene	121-14-2	0.6	J	0.60	10	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.		0.70	10	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		1.5	6.0	1
14241	2-Nitroaniline	88-74-4	2	J	0.70	10	1
14241	4-Nitroaniline	100-01-6	N.D.		1.3	20	1
14241	Nitrobenzene	98-95-3	0.9	J	0.80	10	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 20:22	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 20:22	Kerri E Legerlotz	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAX026	05/28/2017 10:45	Anthony P Bauer	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAX026	05/24/2017 08:00	Osvaldo R Sanchez	1

*=This limit was used in the evaluation of the final result

Sample Description: Trip Blank 2 Water
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP - Radford, VA - HWMU-5

LL Sample # WW 9009419
LL Group # 1804692
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017

Submitted: 05/23/2017 09:40
Reported: 06/05/2017 12:55

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8806 SDG#: RAE88-06TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Acetone	67-64-1	N.D.	3.0	10	1
11996	2-Butanone	78-93-3	N.D.	1.0	10	1
11996	Chloroform	67-66-3	N.D.	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.	0.3	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.	0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.	0.4	1.0	1
11996	cis-1,2-Dichloroethene	156-59-2	N.D.	0.1	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.8	1.0	1
11996	Ethyl ether	60-29-7	N.D.	0.4	12	1
11996	Methylene Chloride	75-09-2	N.D.	0.2	1.0	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Vinyl Chloride	75-01-4	N.D.	0.1	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	RAAP Unit 5 "J" and "K" lists	SW-846 8260C	1	H171502AA	05/30/2017 18:41	Kerri E Legerlotz	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171502AA	05/30/2017 18:41	Kerri E Legerlotz	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804692
Reported: 06/05/2017 12:55

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: H171502AA	Sample number(s): 9009414-9009419		
Acetone	N.D.	3.0	10
2-Butanone	N.D.	1.0	10
Chloroform	N.D.	0.1	1.0
Dichlorodifluoromethane	N.D.	0.3	1.0
1,2-Dichloroethane	N.D.	0.1	1.0
1,1-Dichloroethene	N.D.	0.4	1.0
cis-1,2-Dichloroethene	N.D.	0.1	1.0
trans-1,2-Dichloroethene	N.D.	0.8	1.0
Ethyl ether	N.D.	0.4	12
Methylene Chloride	N.D.	0.2	1.0
Toluene	N.D.	0.1	1.0
Trichloroethene	N.D.	0.2	1.0
Vinyl Chloride	N.D.	0.1	1.0
Xylene (Total)	N.D.	0.2	3.0
Batch number: 17142WAX026	Sample number(s): 9009414-9009418		
Diethylphthalate	N.D.	0.50	10
2,4-Dinitrotoluene	N.D.	0.60	10
2,6-Dinitrotoluene	N.D.	0.70	10
bis(2-Ethylhexyl)phthalate	N.D.	1.5	6.0
2-Nitroaniline	N.D.	0.70	10
4-Nitroaniline	N.D.	1.3	20
Nitrobenzene	N.D.	0.80	10

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: H171502AA	Sample number(s): 9009414-9009419								
Acetone	37.5	32.75			87		60-133		
2-Butanone	37.5	31.03			83		57-144		
Chloroform	5.00	4.89			98		80-120		
Dichlorodifluoromethane	5.00	4.27			85		26-144		
1,2-Dichloroethane	5.00	5.16			103		72-127		
1,1-Dichloroethene	5.00	5.17			103		76-120		
cis-1,2-Dichloroethene	5.00	5.13			103		80-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804692
Reported: 06/05/2017 12:55

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
trans-1,2-Dichloroethene	5.00	5.15			103		80-120		
Ethyl ether	5.00	4.61			92		71-120		
Methylene Chloride	5.00	5.05			101		80-120		
Toluene	5.00	5.05			101		80-120		
Trichloroethene	5.00	4.77			95		80-120		
Vinyl Chloride	5.00	4.09			82		62-128		
Xylene (Total)	15	15.39			103		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17142WAX026	Sample number(s): 9009414-9009418								
Diethylphthalate	50	45.06			90		47-122		
2,4-Dinitrotoluene	50	45.45			91		76-122		
2,6-Dinitrotoluene	50	44.79			90		80-120		
bis(2-Ethylhexyl)phthalate	50	46.83			94		64-126		
2-Nitroaniline	50	44.54			89		74-121		
4-Nitroaniline	50	41.91			84		57-114		
Nitrobenzene	50	43.86			88		53-119		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: H171502AA	Sample number(s): 9009414-9009419 UNSPK: P006008									
Acetone	N.D.	37.5	38.59	37.5	38.59	103	103	60-133	0	30
2-Butanone	N.D.	37.5	35.46	37.5	34.42	95	92	57-144	3	30
Chloroform	22.63	5.00	26.33	5.00	26.6	74 (2)	80 (2)	80-120	1	30
Dichlorodifluoromethane	N.D.	5.00	4.93	5.00	4.87	99	97	26-144	1	30
1,2-Dichloroethane	N.D.	5.00	5.11	5.00	5.40	102	108	72-127	5	30
1,1-Dichloroethene	N.D.	5.00	5.08	5.00	5.39	102	108	76-120	6	30
cis-1,2-Dichloroethene	N.D.	5.00	5.08	5.00	5.30	102	106	80-120	4	30
trans-1,2-Dichloroethene	N.D.	5.00	5.17	5.00	5.38	103	108	80-120	4	30
Ethyl ether	N.D.	5.00	4.85	5.00	4.98	97	100	71-120	3	30
Methylene Chloride	N.D.	5.00	4.98	5.00	5.15	100	103	80-120	3	30
Toluene	N.D.	5.00	5.23	5.00	5.58	105	112	80-120	6	30
Trichloroethene	N.D.	5.00	4.97	5.00	5.14	99	103	80-120	3	30
Vinyl Chloride	N.D.	5.00	5.80	5.00	5.22	116	104	62-128	10	30
Xylene (Total)	N.D.	15	16.08	15	17.04	107	114	80-120	6	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 17142WAX026	Sample number(s): 9009414-9009418 UNSPK: P42WXUS									
Diethylphthalate	N.D.	50.2	45.65	50.2	48.57	91	97	47-122	6	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804692
Reported: 06/05/2017 12:55

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4-Dinitrotoluene	N.D.	50.2	44.89	50.2	48.66	89	97	76-122	8	30
2,6-Dinitrotoluene	N.D.	50.2	44.81	50.2	46.44	89	93	80-120	4	30
bis(2-Ethylhexyl)phthalate	N.D.	50.2	45.33	50.2	47.5	90	95	64-126	5	30
2-Nitroaniline	N.D.	50.2	43.95	50.2	46.49	88	93	74-121	6	30
4-Nitroaniline	N.D.	50.2	41.63	50.2	44.6	83	89	57-114	7	30
Nitrobenzene	N.D.	50.2	44.51	50.2	45.07	89	90	53-119	1	30

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: RAAP Unit 5 "J" and "K" lists
Batch number: H171502AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9009414	106	106	102	95
9009415	107	105	103	95
9009416	104	103	104	93
9009417	104	106	103	96
9009418	103	105	103	92
9009419	104	104	101	95
Blank	102	108	105	93
LCS	102	106	102	102
MS	100	102	104	101
MSD	101	101	102	100
Limits:	77-114	74-113	77-110	78-110

Analysis Name: SVOAs 8270D MINI
Batch number: 17142WAX026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9009414	72	74	79
9009415	75	77	83
9009416	69	70	78
9009417	69	72	71
9009418	73	76	76
Blank	72	70	73
LCS	80	81	80
MS	81	81	79
MSD	82	85	83
Limits:	29-119	41-112	38-125

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804692
Reported: 06/05/2017 12:55

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11200/1804692/9009414-19

CHAIN OF CUSTODY RECORD

3/24/17 OK JVE

Laboratory: Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barb Weyandt, Manager/ (717) 656-2300

Client: Draper Aden Associates **Attn:** 0 **Address:** 0 0 **Phone:** 0 **Fax:** 0 **Fax:** 0	**Consultant:** Draper Aden Associates **Attn:** Janet C. Frazier **Address:** 2206 South Main Street Blacksburg, Virginia 24060 **Phone:** (540) 552-0444 **Fax:** (540) 552-0291	**Sample Site:** RFAAP, Radford, Virginia **Location:** HWMU5 **Event:** 2 Qtr 2017 Corrective Action Annual Monitoring Event **DAA JN:** B03204-17A **Lab JN:**	**Project Specific (PS) or Batch (B) QC:** **Sample Collection for Project Complete?** YES UPS **Carrier:** 1Z 75Y-02X-Y0-5695-1879 **Tracking Number:**		

Box 1: Matrix
SW Surface Water; GW Groundwater; L Leachate; S Soil; T Trip Blank; E Equipment Blank; P Product; O Other

Box 2: Preservative
A HCL; B HNO_3; C H_2SO_4; D $Na_2S_2O_3$; E NaOH; F ZnAc; G Other (Specify); H None

Box 3: Filtered/Unfiltered
F Filtered; U Unfiltered

Box 4: Sample Type
G Grab; C Composite

Box 5: Sample Container Type
P Plastic; V VOA; AG Amber Glass; CG Clear Glass

Invoice
Copy to Consultant: YES
Bill: CLIENT OTHER _____
Preserved and shipped on Ice: YES

Box 4 - Sample Type	G	G	G	G
Box 3 - Filtered/Unfiltered	U	U	U	U
Required pH of Sample	<2	<2	<2	
Box 2 - Preservative	A	B	B	H
Box 5 - Sample Container Type	3-40ml V	1-500ml P	1-500ml P	2-250mL AG

Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles	8260C/5030C 25 ml purge Appendix J Analyte List	8260C/5030C 25 ml purge Appendix K Analyte List	(Metals-Total) 6020A(3020A)/ 7470A	Cobalt only-Total 6020A/3020A	8270D/3510C (Semivolatiles)	
5W8B	5/17	1155	GW	4	X			X		shipped 5/19/17 upgradient monitoring well
5W5B	5/22	0915	GW	6	X	X	X		X	
5W7B	5/17	1335	GW	18	X	X	X		X	shipped 5/19/17 USE FOR QC
5WC21	5/22	1140	GW	6	X	X	X		X	
5WDUP	5/22	1150	GW	6	X	X	X		X	
5WC22	5/22	1010	GW	5	X	X	X		X	
5WC23	5/22	1055	GW	6	X	X	X		X	
5W12A	5/17	1250	GW	4	X			X		shipped 5/19/17 plume well
Trip Blank 1	5/17	—	T	2	X	X				
Trip Blank 2	5/22	—	T	2	X	X				

GENERAL NOTES:
1. See attached analyte list.
2. Report permit required LOQ/MDL or lab MDL if higher than permit MDL. Report Results to MDL with "J" Flags.
3. VELAP accreditation required.
4. Project specific MDL/QL's attached.
5. Cobalt = QL = 5ug/L / DL = 1ug/L

JVE 3/24/17

Clients Special Instructions: level 1 with edd.

Received by lab in Good Condition _____ Yes _____ No Custody Seal Intact _____ Yes _____ No Temperature upon arrival _____ Received on Ice _____ Yes _____ No
Describe problems, if any:

Sampler Name (Print): KEN CODDINGTON	Date: 5/17/17	#1 Relinquished by (Signature):	Date: 5/22/17	#2 Relinquished by (Signature):	Date:	Sample Storage Time Requested:	
Sampler Signature:	Time: 0800	Company Name: DAA	Time: 1700	Company Name:	Time:		
Sampler Name (Print): Iain McGregor	Date: 5/17/17	#1 Received by (Signature):	Date:	#2 Received by (Signature):	Date: 5/23/17	30 DYS ORG/6 MTHS INORG	
Sampler Signature:	Time: 0800	Company Name:	Time:	Company Name: ELLE	Time: 0940		

1/5 JVE 3/24/17

11200/1804692/9009414-19

ANALYTICAL METHOD: 8260C/5030C
TYPE METHOD: GCMS
CLASS: VOLATILE

Appendix – J Target Analyte List

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL*
1.	Trichloroethene	79-01-6	1	0.177
2.	1,1-Dichloroethene	75-35-4	1	0.44
3.	Cis-1,2-Dichloroethene	156-59-2	1	0.1
4.	Trans-1,2-Dichloroethene	156-60-5	1	0.8
5.	Vinyl Chloride	75-01-4	1	0.1

Note: *Report current lab MDL if higher.

25 ml purge volume

.t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-5\hwmu5 - coc rev 2010\hwmu 5 - appendix j cap target analyte list - rev 2015.doc

ANALYTICAL METHOD: 8260C/5030C
TYPE METHOD: GCMS
CLASS: VOLATILE

Appendix – K Target Analyte List

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL (µg/l)
1.	Acetone	67-64-1	10	3
2.	Chloroform (trichloromethane)	67-66-3	1	0.1
3.	2-butanone (methyl ethyl ketone - MEK)	78-93-3	10	1
4.	1,2-dichloroethane	107-06-2	1	0.147
5.	Methylene chloride (Dichloromethane)	75-09-2	1	0.182
6.	Toluene (methyl benzene)	108-88-3	1	0.1
7.	Xylenes (total)	1330-20-7	3	0.208
8.	Diethyl ether	60-29-7	12	0.39
9.	Dichlorodifluoromethane	75-71-8	1	0.28

Note.
2Q2010 is the first event under corrective action monitoring. Analyte list and monitoring wells sampled have changed from previous event.

Final Report must list the project required QLs and MDLs listed above. Report results between the project required QL and MDL as estimated value.

Rev 07-2014 permit mod. JCF

25 ml purge volume

√ VOA ⌀
√ QL/DL ⌀/C

.t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-5\hwmu5 - coc rev 2010\hwmu 5 - appendix k cap target analtye list - rev 2015.doc

11200 | 1804692 | 9009414-19

ANALYTICAL METHOD: 8270D
TYPE METHOD: GCMS
CLASS: SEMIVOLATILE

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL (µg/l)
1.	Bis(2-ethylhexyl)phthalate	117-81-7	6	1.5
2.	Diethyl phthalate	84-66-2	10	0.5
3.	2,4-dinitrotoluene	121-14-2	10	0.6
4.	2,6-dinitrotoluene	606-20-2	10	0.7
5.	2-Nitroaniline (o-Nitroaniline)	88-74-4	10	0.7
6.	4-Nitroaniline (p-Nitroaniline)	100-01-6	20	1.3
7.	Nitrobenzene	98-95-3	10	0.8

Final Report must list the project required QLs listed above. Report results between the project required QL and MDL noted above as estimated value.

Note: # 5-7 added on Jan 2004 due To 4Q2003 detection. JCF 0104

✓ VERAP
✓ QL/DL

Reviewed:
Revised and updated 1/15/2004 JCF.
Revised and updated 10/1/06.
Reviewed 4 Q 2006 -3/23/2017 3:41 PM
10/9/2007 JCF – 2007 switched to semiannual monitoring 2/4 Q.
Revised and updated 2/12/2010 kfc
QLs and MDLs noted above reflect permit modification data Nov 5, 2009. Checked 2015JCF

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 184413

Group Number(s): 1804692

Client: DRAPER ADEN

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	05/23/2017 9:40
Number of Packages:	1	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Evelyn Shank (12390) at 12:56 on 05/23/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.0	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	none detected
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Volatiles by GC/MS Data

Case Narrative/Conformance Summary

Volatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE88

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9009414	5W5B	X		1	
9009415	5WC21	X		1	
9009416	5WDUP	X		1	Field Duplicate Sample
9009417	5WC22	X		1	
9009418	5WC23	X		1	
9009419	Trip Blank 2	X		1	Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE88

GC/MS Volatiles

Fraction: Volatiles by GC/MS

SAMPLE ANALYSIS:

(Sample number(s): 9009414-9009419: Analysis: 11996)
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Volatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Volatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE88

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
RAAP Unit 5 "J" and "K" lists	H171502AA	VBLKH20	05/30/2017 13:29:00
		LCSH20	05/30/2017 12:07:00
		9009414	05/30/2017 19:01:00
		9009415	05/30/2017 19:21:00
		9009416	05/30/2017 19:42:00
		9009417	05/30/2017 20:02:00
		9009418	05/30/2017 20:22:00
		9009419	05/30/2017 18:41:00

Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: RAE88
Matrix: LIQUID

Fraction: Volatiles by GC/MS

H171502AA / VBLKH20 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	05/30/17	N.D.	ug/l	0.3	1.0
Vinyl Chloride	05/30/17	N.D.	ug/l	0.1	1.0
Ethyl ether	05/30/17	N.D.	ug/l	0.4	12
1,1-Dichloroethene	05/30/17	N.D.	ug/l	0.4	1.0
Acetone	05/30/17	N.D.	ug/l	3.0	10
Methylene Chloride	05/30/17	N.D.	ug/l	0.2	1.0
trans-1,2-Dichloroethene	05/30/17	N.D.	ug/l	0.8	1.0
2-Butanone	05/30/17	N.D.	ug/l	1.0	10
cis-1,2-Dichloroethene	05/30/17	N.D.	ug/l	0.1	1.0
Chloroform	05/30/17	N.D.	ug/l	0.1	1.0
1,2-Dichloroethane	05/30/17	N.D.	ug/l	0.1	1.0
Trichloroethene	05/30/17	N.D.	ug/l	0.2	1.0
Toluene	05/30/17	N.D.	ug/l	0.1	1.0
Xylene (Total)	05/30/17	N.D.	ug/l	0.2	3.0

eurofins | Lancaster Laboratories Environmental

Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: RAE88
Matrix: LIQUID

Fraction: Volatiles by GC/MS

H171502AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKH20	108	74 - 113	93	78 - 110	102	77 - 114	105	77 - 110
LCSH20	106	74 - 113	102	78 - 110	102	77 - 114	102	77 - 110
9009414	106	74 - 113	95	78 - 110	106	77 - 114	102	77 - 110
9009415	105	74 - 113	95	78 - 110	107	77 - 114	103	77 - 110
9009416	103	74 - 113	93	78 - 110	104	77 - 114	104	77 - 110
9009417	106	74 - 113	96	78 - 110	104	77 - 114	103	77 - 110
9009418	105	74 - 113	92	78 - 110	103	77 - 114	103	77 - 110
9009419	104	74 - 113	95	78 - 110	104	77 - 114	101	77 - 110

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: RAE88
Matrix: LIQUID

GC/MS Volatiles

Fraction: Volatiles by GC/MS

LCS: LCSH20	Batch: **H171502AA** (Sample number(s): 9009414-9009419)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Dichlorodifluoromethane	5.00	4.27	NA	85	NA	26-144	NA	NA
Vinyl Chloride	5.00	4.09	NA	82	NA	62-128	NA	NA
Ethyl ether	5.00	4.61	NA	92	NA	71-120	NA	NA
1,1-Dichloroethene	5.00	5.17	NA	103	NA	76-120	NA	NA
Acetone	37.5	32.75	NA	87	NA	60-133	NA	NA
Methylene Chloride	5.00	5.05	NA	101	NA	80-120	NA	NA
trans-1,2-Dichloroethene	5.00	5.15	NA	103	NA	80-120	NA	NA
2-Butanone	37.5	31.03	NA	83	NA	57-144	NA	NA
cis-1,2-Dichloroethene	5.00	5.13	NA	103	NA	80-120	NA	NA
Chloroform	5.00	4.89	NA	98	NA	80-120	NA	NA
1,2-Dichloroethane	5.00	5.16	NA	103	NA	72-127	NA	NA
Trichloroethene	5.00	4.77	NA	95	NA	80-120	NA	NA
Toluene	5.00	5.05	NA	101	NA	80-120	NA	NA
Xylene (Total)	15	15.39	NA	103	NA	80-120	NA	NA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE88___

Lab File ID: ha19t01.d BFB Injection Date: 04/19/17

Instrument ID: HP19094 BFB Injection Time: 11:06

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.19
75	30.0 - 60.0% of mass 95	48.18
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.59
173	Less than 2.0% of mass 174	1.43 (1.70)1
174	Greater than 50.0% of mass 95	84.20
175	5.0 - 9.0% of mass 174	6.43 (7.64)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.40 (100.241
177	5.0 - 9.0% of mass 176	5.99 (7.09)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD25	ha19i01.d	04/19/17	11:58
02	VSTD10	ha19i02.d	04/19/17	12:18
03	VSTD5	ha19i03.d	04/19/17	12:39
04	VSTD2	ha19i04.d	04/19/17	12:59
05	VSTD1	ha19i05.d	04/19/17	13:19
06	VSTD.5	ha19i06.d	04/19/17	13:40
07	VSTD.2	ha19i07.d	04/19/17	14:00
08	MDL0.1 - MDL0.1	ha19m01.d	04/19/17	14:21
09	MDL0.4 - MDL0.4	ha19m02.d	04/19/17	14:41
10	LCSHLG	ha19v01.d	04/19/17	15:01
11	VSTD25	ha19i11.d	04/19/17	16:03
12	VSTD10	ha19i12.d	04/19/17	16:23
13	VSTD5	ha19i13.d	04/19/17	16:43
14	VSTD2	ha19i14.d	04/19/17	17:03
15	VSTD1	ha19i15.d	04/19/17	17:24
16	VSTD.5	ha19i16.d	04/19/17	17:44
17	VSTD.2	ha19i17.d	04/19/17	18:05
18	MDL0.1 - MDL0.1	ha19m11.d	04/19/17	18:25
19	LCSHSM	ha19v11.d	04/19/17	18:45
20	LCDHSM	ha19v12.d	04/19/17	19:06
21	VBLK99	ha19b01.d	04/19/17	19:52
22	8929590	ha19s07.d	04/19/17	20:26

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE88___

Lab File ID: ha19t01.d BFB Injection Date: 04/19/17

Instrument ID: HP19094 BFB Injection Time: 11:06

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.19
75	30.0 - 60.0% of mass 95	48.18
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.59
173	Less than 2.0% of mass 174	1.43 (1.70)1
174	Greater than 50.0% of mass 95	84.20
175	5.0 - 9.0% of mass 174	6.43 (7.64)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.40 (100.241
177	5.0 - 9.0% of mass 176	5.99 (7.09)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8929590MS	ha19s19.d	04/19/17	20:46
24	8929590MSD	ha19s18.d	04/19/17	21:07
25	8929588	ha19s04.d	04/19/17	21:47
26	8929589	ha19s05.d	04/19/17	22:08
27	8929612	ha19s06.d	04/19/17	22:28

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE88___

Lab File ID: hy30t05.d BFB Injection Date: 05/30/17

Instrument ID: HP19094 BFB Injection Time: 10:54

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.87
75	30.0 - 60.0% of mass 95	49.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.10
173	Less than 2.0% of mass 174	0.91 (1.11)1
174	Greater than 50.0% of mass 95	81.63
175	5.0 - 9.0% of mass 174	5.97 (7.32)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.68 (96.39)1
177	5.0 - 9.0% of mass 176	5.71 (7.26)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD10	hy30c02.d	05/30/17	11:47
02	LCSH20	hy30l03a.d	05/30/17	12:07
03	LCSH21	hy30l03b.d	05/30/17	12:07
04	LCDH21	hy30l04b.d	05/30/17	12:27
05	LCSH19	hy30l04.d	05/30/17	12:27
06	MDLH19 - MDLH19	hy30m01.d	05/30/17	12:48
07	MDLH20 - MDLH20	hy30m01a.d	05/30/17	12:48
08	MDLH21 - MDLH21	hy30m01b.d	05/30/17	12:48
09	VBLKH19	hy30b01.d	05/30/17	13:29
10	VBLKH20	hy30b01a.d	05/30/17	13:29
11	VBLKH21	hy30b01b.d	05/30/17	13:29
12	9002049	hy30s01.d	05/30/17	14:14
13	9002047	hy30s02.d	05/30/17	14:34
14	9002045	hy30s03.d	05/30/17	14:57
15	9002045DL	hy30s04.d	05/30/17	15:17
16	9006012	hy30s11.d	05/30/17	15:37
17	9006008	hy30s12.d	05/30/17	15:58
18	9006009MS	hy30s13.d	05/30/17	16:18
19	9006010MSD	hy30s14.d	05/30/17	16:38
20	9002047MS	hy30s05.d	05/30/17	16:59
21	9002047MSD	hy30s06.d	05/30/17	17:19
22	SECC010	hy30s07.d	05/30/17	17:40

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE88___

Lab File ID: hy30t05.d BFB Injection Date: 05/30/17

Instrument ID: HP19094 BFB Injection Time: 10:54

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.87
75	30.0 - 60.0% of mass 95	49.74
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.10
173	Less than 2.0% of mass 174	0.91 (1.11)1
174	Greater than 50.0% of mass 95	81.63
175	5.0 - 9.0% of mass 174	5.97 (7.32)1
176	Greater than 95.0%, but less than 101.0% of mass 174	78.68 (96.39)1
177	5.0 - 9.0% of mass 176	5.71 (7.26)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	9006007	hy30s15.d	05/30/17	18:00
24	9006011	hy30s16.d	05/30/17	18:20
25	9009419	hy30s17.d	05/30/17	18:41
26	9009414	hy30s18.d	05/30/17	19:01
27	9009415	hy30s19.d	05/30/17	19:21
28	9009416	hy30s20.d	05/30/17	19:42
29	9009417	hy30s21.d	05/30/17	20:02
30	9009418	hy30s22.d	05/30/17	20:22
31	9000067DL2	hy30s31.d	05/30/17	20:43
32	9002901	hy30s32.d	05/30/17	21:03
33	9002906DL	hy30s33.d	05/30/17	21:24
34	9002907DL	hy30s34.d	05/30/17	21:44
35	9002908DL	hy30s35.d	05/30/17	22:04

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	#0.3790	0.3676	0.4365	0.4046	0.3679	0.3741	0.3785	0.3869	7	AVG #
Chloromethane	#0.4669	0.4171	0.4256	0.4252	0.3795	0.3814	0.3476	0.4062	10	AVG #
Vinyl Chloride	#0.4012	0.3509	0.3781	0.3763	0.3232	0.3328	0.3334	0.3565	8	AVG #
1,3-Butadiene	0.5570	0.5895	0.6000	0.6500	0.5387	0.5213	0.4747	0.5616	10	AVG
Bromomethane	#0.2389	0.2184	0.2406	0.2363	0.2097	0.2127	0.2110	0.2239	6	AVG #
Chloroethane	#0.2407	0.2078	0.2089	0.2039	0.1951	0.1879	0.1853	0.2042	9	AVG #
Dichlorofluoromethane	0.5050	0.4391	0.5094	0.4860	0.4647	0.4557	0.4298	0.4699	7	AVG
Trichlorofluoromethane	#0.4091	0.3849	0.4556	0.4196	0.4150	0.4133	0.3943	0.4131	5	AVG #
Ethyl ether	0.1744	0.1569	0.1798	0.1582	0.1652	0.1618	0.1494	0.1637	6	AVG
Freon 123a	0.2754	0.2944	0.3351	0.3381	0.3299	0.3150	0.2940	0.3117	8	AVG
Acrolein	3.4256	3.4965	4.0410	3.7566	4.0013	4.0701	3.8401	3.8045	7	AVG
1,1-Dichloroethene	#0.2068	0.2048	0.2314	0.2387	0.2269	0.2225	0.2220	0.2219	6	AVG #
Freon 113	#0.1909	0.2202	0.2523	0.2497	0.2454	0.2368	0.2393	0.2335	9	AVG #
Acetone	#	4.3094	4.9932	4.4615	4.4826	4.7235	4.6721	4.6070	5	AVG #
Methyl Iodide	0.3923	0.4023	0.4192	0.4325	0.4232	0.4077	0.4074	0.4121	3	AVG
Carbon Disulfide	#0.5816	0.5878	0.6352	0.6625	0.6273	0.6260	0.6371	0.6225	5	AVG #
Allyl Chloride	0.4327	0.4242	0.4477	0.4218	0.4308	0.4250	0.4316	0.4306	2	AVG
Methyl Acetate	#13.955	17.996	19.433	13.022	15.227	15.269	14.683	15.655	14	AVG #
Methylene Chloride	#0.2511	0.2385	0.2429	0.2465	0.2447	0.2350	0.2373	0.2423	2	AVG #
t-Butyl Alcohol	1.1333	1.3702	1.2241	1.3424	1.0524	1.2867	1.3480	1.2510	10	AVG
Acrylonitrile	4.6185	5.4946	6.7993	6.5230	6.4918	6.9619	6.6907	6.2257	14	AVG
trans-1,2-Dichloroethene	#0.2299	0.2313	0.2489	0.2570	0.2576	0.2454	0.2450	0.2450	5	AVG #
Methyl Tertiary Butyl Ether	#0.4055	0.4028	0.4407	0.4793	0.4654	0.4632	0.4548	0.4445	7	AVG #
n-Hexane	0.2601	0.3169	0.3765	0.4172	0.4197	0.4135	0.4252	0.3756	17	AVG
1,1-Dichloroethane	#0.4298	0.4860	0.5004	0.5192	0.4996	0.4684	0.4807	0.4834	6	AVG #
di-Isopropyl Ether	0.7503	0.7838	0.8125	0.8746	0.8559	0.8406	0.8495	0.8239	5	AVG
2-Chloro-1,3-Butadiene	0.3458	0.3699	0.4119	0.4432	0.4336	0.4233	0.4314	0.4085	9	AVG
Ethyl t-butyl ether	0.5488	0.5910	0.6320	0.6734	0.6718	0.6617	0.6551	0.6334	7	AVG
cis-1,2-Dichloroethene	#0.2594	0.2611	0.2791	0.2927	0.2749	0.2727	0.2745	0.2735	4	AVG #
2,2-Dichloropropane	0.3512	0.3221	0.3740	0.3888	0.3715	0.3631	0.3647	0.3622	6	AVG
2-Butanone	#7.3613	9.2139	9.5004	9.9612	10.022	10.303	9.4141	9.3967	10	AVG #
Propionitrile	2.0277	2.2150	2.1810	2.2539	2.3400	2.3260	2.2848	2.2326	5	AVG
Methacrylonitrile	8.0361	8.3798	9.8842	9.6450	9.8894	10.315	9.1928	9.3346	9	AVG
Bromochloromethane	0.1223	0.0994	0.1141	0.1068	0.1027	0.1048	0.1070	0.1081	7	AVG
Tetrahydrofuran	1.8359	2.0968	2.5157	2.4948	2.6178	2.5843	2.2868	2.3474	12	AVG
Chloroform	#0.4504	0.4529	0.4564	0.4819	0.4580	0.4465	0.4467	0.4561	3	AVG #
1,1,1-Trichloroethane	#0.3760	0.3828	0.3896	0.4134	0.3935	0.3816	0.3824	0.3884	3	AVG #
Cyclohexane	#0.3690	0.4914	0.4808	0.5104	0.5059	0.4902	0.5046	0.4789	10	AVG #
Cyclohexane(2)	#0.2924	0.3044	0.3866	0.4052	0.3993	0.3950	0.3935	0.3681	13	AVG #
Cyclohexane(3)	#0.0961	0.1236	0.1372	0.1450	0.1474	0.1442	0.1472	0.1344	14	AVG #
1,1-Dichloropropene	0.3100	0.3340	0.3671	0.3946	0.3759	0.3694	0.3745	0.3608	8	AVG
Carbon Tetrachloride	#0.3077	0.2929	0.3357	0.3562	0.3361	0.3236	0.3306	0.3261	6	AVG #
Isobutyl Alcohol	0.6079	0.5272	0.5648	0.5468	0.5031	0.4836	0.5456	0.5398	8	AVG
Benzene	#0.9996	1.0209	1.0627	1.1116	1.0718	1.0302	1.0368	1.0476	4	AVG #
1,2-Dichloroethane	#0.2239	0.2503	0.2618	0.2600	0.2592	0.2487	0.2493	0.2504	5	AVG #
t-Amyl methyl ether	0.4511	0.4582	0.5172	0.5543	0.5472	0.5381	0.5392	0.5150	8	AVG
n-Heptane	0.3652	0.3793	0.4533	0.4740	0.4738	0.4688	0.4807	0.4422	11	AVG
n-Butanol	0.3756	0.3775	0.3257	0.4161	0.4125	0.4191	0.4561	0.3975	11	AVG
Trichloroethene	#0.2869	0.2626	0.2847	0.2858	0.2788	0.2715	0.2710	0.2773	3	AVG #
Methylcyclohexane	#0.4259	0.4067	0.4800	0.4826	0.4968	0.4884	0.4992	0.4685	8	AVG #
1,2-Dichloropropane	#0.2518	0.2771	0.2743	0.2887	0.2769	0.2731	0.2705	0.2732	4	AVG #
Methyl Methacrylate	10.700	14.488	17.862	18.557	19.107	20.292	18.528	17.076	20	AVG

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
Dibromomethane	0.0988	0.1060	0.1052	0.1094	0.1068	0.1058	0.1051	0.1053	3	AVG
1,4-Dioxane		0.0398	0.1001	0.1150	0.1047	0.0926	0.0960	0.0914	29	2NDDEG
Bromodichloromethane	#0.2716	0.2612	0.2906	0.3066	0.2967	0.2913	0.3011	0.2884	6	AVG #
2-Nitropropane	5.3699	4.9092	5.9435	5.7512	5.9604	5.9943	5.4962	5.6321	7	AVG
cis-1,3-Dichloropropene	#0.2697	0.2920	0.3135	0.3485	0.3414	0.3479	0.3631	0.3252	11	AVG #
4-Methyl-2-Pentanone	#21.185	21.526	26.100	25.938	27.194	27.828	24.526	24.899	11	AVG #
Toluene	#0.9682	0.9440	1.0434	0.9799	0.9895	0.9264	0.9101	0.9659	5	AVG #
trans-1,3-Dichloropropene	#0.3748	0.3522	0.3790	0.3666	0.3890	0.3843	0.3883	0.3763	4	AVG #
Ethyl Methacrylate	0.2435	0.2565	0.2637	0.2913	0.3024	0.2964	0.2946	0.2783	8	AVG
1,1,2-Trichloroethane	#0.2221	0.2168	0.2404	0.2284	0.2281	0.2205	0.2144	0.2244	4	AVG #
Tetrachloroethene	#0.4401	0.4235	0.4841	0.4646	0.4578	0.4351	0.4307	0.4480	5	AVG #
1,3-Dichloropropane	0.4247	0.3882	0.4169	0.4054	0.4036	0.3903	0.3819	0.4016	4	AVG
2-Hexanone	#15.093	14.702	18.615	19.535	18.504	19.226	17.165	17.548	11	AVG #
Dibromochloromethane	#0.2747	0.2453	0.2673	0.2780	0.2678	0.2623	0.2659	0.2659	4	AVG #
1,2-Dibromoethane	#0.2135	0.2137	0.2141	0.2253	0.2117	0.2055	0.2015	0.2122	4	AVG #
Chlorobenzene	#1.0347	1.0319	1.1182	1.1247	1.0580	1.0087	0.9964	1.0532	5	AVG #
1,1,1,2-Tetrachloroethane	0.3367	0.3495	0.3743	0.3700	0.3505	0.3354	0.3383	0.3507	5	AVG
Ethylbenzene	#1.7307	1.7411	1.9723	2.0265	1.9369	1.8562	1.8383	1.8717	6	AVG #
m+p-Xylene	#0.6176	0.6748	0.7638	0.7779	0.7373	0.7076	0.7029	0.7117	8	AVG #
o-Xylene	#0.5657	0.6568	0.7079	0.7545	0.7182	0.6919	0.6894	0.6835	9	AVG #
Styrene	#0.8449	0.9067	1.0789	1.1676	1.1231	1.0897	1.0945	1.0436	11	AVG #
Bromoform	#0.1256	0.1135	0.1279	0.1476	0.1339	0.1375	0.1435	0.1328	9	AVG #
Isopropylbenzene	#1.5174	1.6096	1.8688	1.9681	1.8994	1.8371	1.8196	1.7886	9	AVG #
1,1,2,2-Tetrachloroethane	#0.7068	0.6700	0.6639	0.6621	0.6447	0.6054	0.5650	0.6454	7	AVG #
Bromobenzene	1.0211	0.9832	1.0400	1.0475	0.9833	0.9154	0.8981	0.9841	6	AVG
trans-1,4-Dichloro-2-butene		4.5233	6.3094	6.9130	6.8134	7.6912	7.4154	6.6109	17	AVG
1,2,3-Trichloropropane	0.1891	0.1644	0.1625	0.1678	0.1591	0.1469	0.1405	0.1615	10	AVG
n-Propylbenzene	4.9490	5.0042	5.4282	5.7670	5.5222	5.1475	5.0145	5.2618	6	AVG
2-Chlorotoluene	0.9506	1.0147	1.0064	1.0695	1.0420	0.9425	0.9398	0.9951	5	AVG
1,3,5-Trimethylbenzene	3.1964	3.3176	3.7152	3.8908	3.7334	3.4951	3.4349	3.5405	7	AVG
4-Chlorotoluene	0.9230	1.0122	1.0458	1.0924	1.0175	0.9665	0.9440	1.0002	6	AVG
tert-Butylbenzene	0.7440	0.7690	0.7411	0.8560	0.7975	0.7354	0.7396	0.7689	6	AVG
Pentachloroethane	0.5785	0.5422	0.6362	0.5675	0.5765	0.5639	0.5565	0.5745	5	AVG
1,2,4-Trimethylbenzene	3.0734	3.2582	3.6550	3.9181	3.7557	3.5488	3.4936	3.5290	8	AVG
sec-Butylbenzene	4.0161	4.3849	4.6870	5.0446	4.9279	4.6543	4.5839	4.6141	7	AVG
1,3-Dichlorobenzene	#1.9428	1.8895	1.9971	2.0353	1.9652	1.8519	1.8526	1.9335	4	AVG #
p-Isopropyltoluene	3.1144	3.3921	3.8359	4.2226	4.0933	3.8862	3.8836	3.7754	10	AVG
1,4-Dichlorobenzene	#2.2648	2.0212	2.1379	2.1105	1.9446	1.8348	1.7909	2.0150	8	AVG #
1,2,3-Trimethylbenzene	1.7116	1.5253	1.6900	1.5618	1.5056	1.4584	1.4373	1.5557	7	AVG
Benzyl Chloride	0.1657	0.1851	0.1884	0.2234	0.2211	0.2171	0.2228	0.2034	11	AVG
n-Butylbenzene	1.4038	1.4876	1.8295	2.1320	2.1020	1.9986	2.0234	1.8539	16	AVG
1,2-Dichlorobenzene	#1.7896	1.6689	1.8100	1.8311	1.7400	1.6076	1.5741	1.7173	6	AVG #
1,2-Dibromo-3-chloropropane	#3.1316	3.0110	3.3115	4.0366	3.9823	4.3932	3.9506	3.6881	14	AVG #
1,2,4-Trichlorobenzene	#1.1441	1.0231	1.0982	1.1527	1.1162	1.1156	1.1017	1.1074	4	AVG #
Hexachlorobutadiene	0.5522	0.4922	0.5114	0.5909	0.5443	0.5600	0.5885	0.5485	7	AVG
Naphthalene	1.6625	1.5196	1.6072	1.7110	1.7211	1.6352	1.5504	1.6295	5	AVG
1,2,3-Trichlorobenzene	1.0920	0.8579	0.9377	1.0013	0.9292	0.8906	0.8407	0.9356	9	AVG
Dibromofluoromethane	0.2187	0.2258	0.2172	0.2245	0.2240	0.2286	0.2304	0.2242	2	AVG
Dibromofluoromethane(2)	0.2254	0.2319	0.2221	0.2278	0.2306	0.2360	0.2379	0.2302	2	AVG
1,2-Dichloroethane-d4	0.0348	0.0370	0.0360	0.0350	0.0369	0.0364	0.0377	0.0362	3	AVG
1,2-Dichloroethane-d4(2)	0.1766	0.1774	0.1756	0.1761	0.1709	0.1789	0.1797	0.1764	2	AVG

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

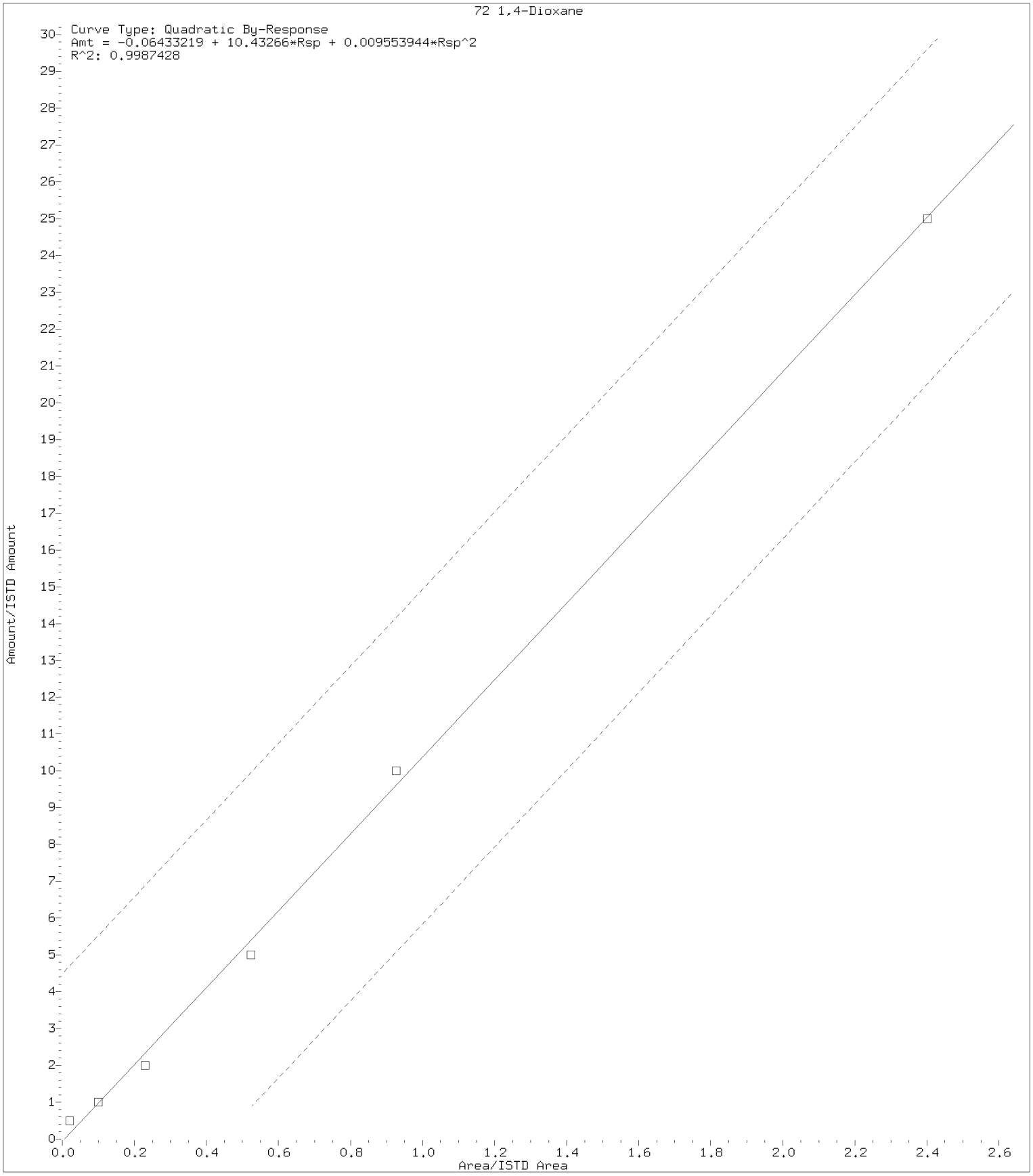
LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
1,2-Dichloroethane-d4(3)	0.0221	0.0218	0.0223	0.0197	0.0222	0.0224	0.0233	0.0220	5	AVG
Toluene-d8	1.5232	1.4867	1.5528	1.3963	1.4522	1.4241	1.3972	1.4618	4	AVG
Toluene-d8(2)	0.9744	0.9598	0.9978	0.8961	0.9367	0.9171	0.9071	0.9413	4	AVG
4-Bromofluorobenzene	0.3973	0.4161	0.4142	0.4209	0.4143	0.4202	0.4243	0.4153	2	AVG
4-Bromofluorobenzene(2)	0.3551	0.3626	0.3720	0.3726	0.3681	0.3778	0.3794	0.3697	2	AVG

Average %RSD 7

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

FORM VI VOA



Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:28.
Target 3.5 esignature user ID: kas02648

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP19094.i/17apr19a.b/ha19i01.d	VSTD025
/chem2/HP19094.i/17apr19a.b/ha19i02.d	VSTD010
/chem2/HP19094.i/17apr19a.b/ha19i03.d	VSTD005
/chem2/HP19094.i/17apr19a.b/ha19i04.d	VSTD002
/chem2/HP19094.i/17apr19a.b/ha19i05.d	VSTD001
/chem2/HP19094.i/17apr19a.b/ha19i06.d	VSTD0.5
/chem2/HP19094.i/17apr19a.b/ha19i07.d	VSTD0.2

Area Summary

File ID:

Internal Standard Name	ha19i01.d	ha19i02.d	ha19i03.d	ha19i04.d	ha19i05.d	ha19i06.d	ha19i07.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	74228	67885	71762	68028	62071	75157	69135	69752	6	Yes
Fluorobenzene	2800014	2863672	2875093	2655800	2788645	2807038	2670698	2780137	3	Yes
Chlorobenzene-d5	1967440	1964158	1916028	1854966	1721164	1818984	1665343	1844012	6	Yes
1,4-Dichlorobenzene-d4	879364	868838	817140	790252	738701	760024	671591	789416	9	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	ha19i01.d	ha19i02.d	ha19i03.d	ha19i04.d	ha19i05.d	ha19i06.d	ha19i07.d	Avg. RT
t-Butyl Alcohol-d10	4.239	4.299	4.306	4.257	4.300	4.342	4.269	4.287
Fluorobenzene	7.781	7.781	7.774	7.775	7.775	7.775	7.781	7.777
Chlorobenzene-d5	11.244	11.243	11.243	11.243	11.244	11.243	11.243	11.243
1,4-Dichlorobenzene-d4	13.121	13.121	13.121	13.121	13.127	13.121	13.127	13.123

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 04/20/2017 at 09:58.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.3869	0.4107	5.31	5	6	#
# Chloromethane	0.4062	0.4219	5.19	5	4	#
# Vinyl Chloride	0.3565	0.3654	5.12	5	2	#
1,3-Butadiene	0.5616	0.4618	4.11	5	-18	
# Bromomethane	0.2239	0.2357	5.26	5	5	#
# Chloroethane	0.2042	0.1985	4.86	5	-3	#
Dichlorofluoromethane	0.4699	0.4557	4.85	5	-3	
# Trichlorofluoromethane	0.4131	0.4057	4.91	5	-2	#
Ethyl ether	0.1637	0.1559	4.76	5	-5	
Freon 123a	0.3117	0.3253	5.22	5	4	
Acrolein	3.8045	3.6532	36.01	37.5	-4	
# 1,1-Dichloroethene	0.2219	0.2243	5.06	5	1	#
# Freon 113	0.2335	0.2387	5.11	5	2	#
# Acetone	4.6070	4.2000	34.19	37.5	-9	#
Methyl Iodide	0.4121	0.4105	4.98	5	0	
# Carbon Disulfide	0.6225	0.6304	5.06	5	1	#
Allyl Chloride	0.4306	0.3838	4.46	5	-11	
# Methyl Acetate	15.6550	15.4352	4.93	5	-1	#
# Methylene Chloride	0.2423	0.2387	4.93	5	-1	#
t-Butyl Alcohol	1.2510	1.0623	42.46	50	-15	
Acrylonitrile	6.2257	6.9506	27.91	25	12	
# trans-1,2-Dichloroethene	0.2450	0.2495	5.09	5	2	#
# Methyl Tertiary Butyl Ether	0.4445	0.4618	5.19	5	4	#
n-Hexane	0.3756	0.3750	4.99	5	0	
# 1,1-Dichloroethane	0.4834	0.4829	4.99	5	0	#
di-Isopropyl Ether	0.8239	0.8710	5.29	5	6	
2-Chloro-1,3-Butadiene	0.4085	0.4278	5.24	5	5	
Ethyl t-butyl ether	0.6334	0.6473	5.11	5	2	
# cis-1,2-Dichloroethene	0.2735	0.2705	4.95	5	-1	#
2,2-Dichloropropane	0.3622	0.3581	4.94	5	-1	
# 2-Butanone	9.3967	9.8786	39.42	37.5	5	#
Propionitrile	2.2326	1.9908	33.44	37.5	-11	
Methacrylonitrile	9.3346	9.9059	39.79	37.5	6	
Bromochloromethane	0.1081	0.1030	4.76	5	-5	
Tetrahydrofuran	2.3474	2.5916	27.60	25	10	
# Chloroform	0.4561	0.4474	4.90	5	-2	#

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# 1,1,1-Trichloroethane	0.3884	0.3842	4.95	5	-1	#
# Cyclohexane	0.4789	0.4672	4.88	5	-2	#
1,1-Dichloropropene	0.3608	0.3475	4.82	5	-4	
# Carbon Tetrachloride	0.3261	0.3228	4.95	5	-1	#
Isobutyl Alcohol	0.5398	0.4588	106.24	125	-15	
# Benzene	1.0476	1.0316	4.92	5	-2	#
# 1,2-Dichloroethane	0.2504	0.2480	4.95	5	-1	#
t-Amyl methyl ether	0.5150	0.5312	5.16	5	3	
n-Heptane	0.4422	0.4200	4.75	5	-5	
n-Butanol	0.3975	0.3248	204.31	250	-18	
# Trichloroethene	0.2773	0.2732	4.93	5	-1	#
# Methylcyclohexane	0.4685	0.4354	4.65	5	-7	#
# 1,2-Dichloropropane	0.2732	0.2741	5.02	5	0	#
Methyl Methacrylate	17.076	20.3330	5.95	5	19	
Dibromomethane	0.1053	0.1064	5.05	5	1	
1,4-Dioxane	0.0914	0.0845	106.94	125	-14	
# Bromodichloromethane	0.2884	0.2875	4.98	5	0	#
2-Nitropropane	5.6321	5.9564	5.29	5	6	
# cis-1,3-Dichloropropene	0.3252	0.3228	4.96	5	-1	#
# 4-Methyl-2-Pentanone	24.899	025.8929	26.00	25	4	#
# Toluene	0.9659	1.0092	5.22	5	4	#
# trans-1,3-Dichloropropene	0.3763	0.3939	5.23	5	5	#
Ethyl Methacrylate	0.2783	0.3044	5.47	5	9	
# 1,1,2-Trichloroethane	0.2244	0.2279	5.08	5	2	#
# Tetrachloroethene	0.4480	0.4686	5.23	5	5	#
1,3-Dichloropropane	0.4016	0.4181	5.21	5	4	
# 2-Hexanone	17.548	018.1251	25.82	25	3	#
# Dibromochloromethane	0.2659	0.2644	4.97	5	-1	#
# 1,2-Dibromoethane	0.2122	0.2197	5.18	5	4	#
# Chlorobenzene	1.0532	1.0639	5.05	5	1	#
1,1,1,2-Tetrachloroethane	0.3507	0.3536	5.04	5	1	
# Ethylbenzene	1.8717	1.9345	5.17	5	3	#
# m+p-Xylene	0.7117	0.7507	10.55	10	5	#
# o-Xylene	0.6835	0.7114	5.20	5	4	#
# Styrene	1.0436	1.1469	5.49	5	10	#
# Bromoform	0.1328	0.1344	5.06	5	1	#

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

	COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
#	Isopropylbenzene	1.7886	1.9179	5.36	5	7	#
#	1,1,2,2-Tetrachloroethane	0.6454	0.6339	4.91	5	-2	#
	Bromobenzene	0.9841	0.9840	5.00	5	0	
	trans-1,4-Dichloro-2-butene	6.6109	6.5801	24.88	25	0	
	1,2,3-Trichloropropane	0.1615	0.1668	5.17	5	3	
	n-Propylbenzene	5.2618	5.4619	5.19	5	4	
	2-Chlorotoluene	0.9951	1.0144	5.10	5	2	
	1,3,5-Trimethylbenzene	3.5405	3.6946	5.22	5	4	
	4-Chlorotoluene	1.0002	1.0212	5.11	5	2	
	tert-Butylbenzene	0.7689	0.8211	5.34	5	7	
	Pentachloroethane	0.5745	0.6146	5.35	5	7	
	1,2,4-Trimethylbenzene	3.5290	3.7023	5.25	5	5	
	sec-Butylbenzene	4.6141	4.8149	5.22	5	4	
#	1,3-Dichlorobenzene	1.9335	1.9383	5.01	5	0	#
	p-Isopropyltoluene	3.7754	3.9943	5.29	5	6	
#	1,4-Dichlorobenzene	2.0150	1.9524	4.84	5	-3	#
	1,2,3-Trimethylbenzene	1.5557	1.6629	5.34	5	7	
	Benzyl Chloride	0.2034	0.2151	5.29	5	6	
	n-Butylbenzene	1.8539	2.0074	5.41	5	8	
#	1,2-Dichlorobenzene	1.7173	1.7188	5.00	5	0	#
#	1,2-Dibromo-3-chloropropane	3.6881	3.8604	5.23	5	5	#
#	1,2,4-Trichlorobenzene	1.1074	1.0738	4.85	5	-3	#
	Hexachlorobutadiene	0.5485	0.4863	4.43	5	-11	
	Naphthalene	1.6295	1.6181	4.96	5	-1	
	1,2,3-Trichlorobenzene	0.9356	0.8721	4.66	5	-7	

Average %Drift 5

Compounds with required minimum RRF.
Maximum % Drift = 30 %

^

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP19094.i/17apr19a.b/ha19i07.d
/chem2/HP19094.i/17apr19a.b/ha19i06.d
/chem2/HP19094.i/17apr19a.b/ha19i05.d
/chem2/HP19094.i/17apr19a.b/ha19i04.d
/chem2/HP19094.i/17apr19a.b/ha19i03.d
/chem2/HP19094.i/17apr19a.b/ha19i02.d
/chem2/HP19094.i/17apr19a.b/ha19i01.d

File /chem2/HP19094.i/17apr19a.b/ha19i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP19094.i/17may30b.b/hy30c02.d

RT Summary

Internal Standard Name	File ID: hy30c02.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.257	4.299	Yes
Fluorobenzene	7.775	7.781	Yes
Chlorobenzene-d5	11.237	11.243	Yes
1,4-Dichlorobenzene-d4	13.121	13.121	Yes

A "No" indicates the retention time is greater than 10 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: hy30c02.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	112769	67885	33942	135770	Yes
Fluorobenzene	3168741	2863672	1431836	5727344	Yes
Chlorobenzene-d5	2162187	1964158	982079	3928316	Yes
1,4-Dichlorobenzene-d4	927495	868838	434419	1737676	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/30/17 Time: 11:47

Lab File ID: hy30c02.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.3869	0.3421	8.84	10	-12	#
# Chloromethane	0.4062	0.3053	7.52	10	-25	#<-
# Vinyl Chloride	0.3565	0.2533	7.11	10	-29	#<-
1,3-Butadiene	0.5616	0.2204	3.92	10	-61	<-
# Bromomethane	0.2239	0.1797	8.02	10	-20	#
# Chloroethane	0.2042	0.1702	8.33	10	-17	#
Dichlorofluoromethane	0.4699	0.5596	11.91	10	19	
# Trichlorofluoromethane	0.4131	0.4405	10.66	10	7	#
Ethyl ether	0.1637	0.1704	10.41	10	4	
Freon 123a	0.3117	0.3270	10.49	10	5	
Acrolein	3.8045	2.6957	354.29	500	-29	<-
# 1,1-Dichloroethene	0.2219	0.2087	9.41	10	-6	#
# Freon 113	0.2335	0.2351	10.07	10	1	#
# Acetone	4.6070	4.6346	100.60	100	1	#
Methyl Iodide	0.4121	0.4157	10.09	10	1	
# Carbon Disulfide	0.6225	0.6547	10.52	10	5	#
Allyl Chloride	0.4306	0.4273	9.92	10	-1	
# Methyl Acetate	15.6550	13.2097	8.44	10	-16	#
# Methylene Chloride	0.2423	0.2379	9.82	10	-2	#
t-Butyl Alcohol	1.2510	1.3707	219.13	200	10	
Acrylonitrile	6.2257	5.9485	47.77	50	-4	
# trans-1,2-Dichloroethene	0.2450	0.2413	9.85	10	-2	#
# Methyl Tertiary Butyl Ether	0.4445	0.4701	10.57	10	6	#
n-Hexane	0.3756	0.3996	10.64	10	6	
# 1,1-Dichloroethane	0.4834	0.4783	9.89	10	-1	#
di-Isopropyl Ether	0.8239	0.8533	10.36	10	4	
2-Chloro-1,3-Butadiene	0.4085	0.4235	10.37	10	4	
Ethyl t-butyl ether	0.6334	0.6557	10.35	10	4	
# cis-1,2-Dichloroethene	0.2735	0.2772	10.14	10	1	#
2,2-Dichloropropane	0.3622	0.3553	9.81	10	-2	
# 2-Butanone	9.3967	8.1343	86.57	100	-13	#
Propionitrile	2.2326	2.2522	201.75	200	1	
Methacrylonitrile	9.3346	7.5210	80.57	100	-19	
Bromochloromethane	0.1081	0.1091	10.09	10	1	
Tetrahydrofuran	2.3474	1.9762	84.18	100	-16	
# Chloroform	0.4561	0.4434	9.72	10	-3	#

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/30/17 Time: 11:47

Lab File ID: hy30c02.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# 1,1,1-Trichloroethane	0.3884	0.3615	9.31	10	-7	#
# Cyclohexane	0.4789	0.4874	10.18	10	2	#
# Cyclohexane(2)	0.3681	0.3822	10.38	10	4	#
# Cyclohexane(3)	0.1344	0.1433	10.66	10	7	#
1,1-Dichloropropene	0.3608	0.3708	10.28	10	3	
# Carbon Tetrachloride	0.3261	0.3257	9.99	10	0	#
Isobutyl Alcohol	0.5398	0.5554	514.41	500	3	
# Benzene	1.0476	1.0464	9.99	10	0	#
# 1,2-Dichloroethane	0.2504	0.2574	10.28	10	3	#
t-Amyl methyl ether	0.5150	0.5439	10.56	10	6	
n-Heptane	0.4422	0.4566	10.33	10	3	
n-Butanol	0.3975	0.4578	1151.72	1000	15	
# Trichloroethene	0.2773	0.2680	9.66	10	-3	#
# Methylcyclohexane	0.4685	0.4719	10.07	10	1	#
# 1,2-Dichloropropane	0.2732	0.2757	10.09	10	1	#
Methyl Methacrylate	17.076	14.3614	8.41	10	-16	
Dibromomethane	0.1053	0.1102	10.47	10	5	
1,4-Dioxane	0.0914	0.1046	543.12	500	9	
# Bromodichloromethane	0.2884	0.3075	10.66	10	7	#
2-Nitropropane	5.6321	4.6205	82.04	100	-18	
# cis-1,3-Dichloropropene	0.3252	0.3729	11.47	10	15	#
# 4-Methyl-2-Pentanone	24.899	20.4175	82.00	100	-18	#
# Toluene	0.9659	0.9507	9.84	10	-2	#
# trans-1,3-Dichloropropene	0.3763	0.4083	10.85	10	9	#
Ethyl Methacrylate	0.2783	0.3109	11.17	10	12	
# 1,1,2-Trichloroethane	0.2244	0.2273	10.13	10	1	#
# Tetrachloroethene	0.4480	0.4340	9.69	10	-3	#
1,3-Dichloropropane	0.4016	0.4117	10.25	10	3	
# 2-Hexanone	17.548	13.6644	77.87	100	-22	#<-
# Dibromochloromethane	0.2659	0.2885	10.85	10	9	#
# 1,2-Dibromoethane	0.2122	0.2145	10.11	10	1	#
# Chlorobenzene	1.0532	1.0346	9.82	10	-2	#
1,1,1,2-Tetrachloroethane	0.3507	0.3502	9.99	10	0	
# Ethylbenzene	1.8717	1.8824	10.06	10	1	#
# m+p-Xylene	0.7117	0.7209	20.26	20	1	#
# o-Xylene	0.6835	0.7041	10.30	10	3	#

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/30/17 Time: 11:47

Lab File ID: hy30c02.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# Styrene	1.0436	1.1190	10.72	10	7	#
# Bromoform	0.1328	0.1593	11.99	10	20	#
# Isopropylbenzene	1.7886	1.8377	10.27	10	3	#
# 1,1,2,2-Tetrachloroethane	0.6454	0.6394	9.91	10	-1	#
Bromobenzene	0.9841	0.9498	9.65	10	-3	
trans-1,4-Dichloro-2-butene	6.6109	6.3579	96.17	100	-4	
1,2,3-Trichloropropane	0.1615	0.1538	9.53	10	-5	
n-Propylbenzene	5.2618	5.2855	10.04	10	0	
2-Chlorotoluene	0.9951	1.0044	10.09	10	1	
1,3,5-Trimethylbenzene	3.5405	3.5835	10.12	10	1	
4-Chlorotoluene	1.0002	1.0124	10.12	10	1	
tert-Butylbenzene	0.7689	0.7576	9.85	10	-1	
Pentachloroethane	0.5745	0.5918	10.30	10	3	
1,2,4-Trimethylbenzene	3.5290	3.6331	10.29	10	3	
sec-Butylbenzene	4.6141	4.6845	10.15	10	2	
# 1,3-Dichlorobenzene	1.9335	1.8676	9.66	10	-3	#
p-Isopropyltoluene	3.7754	3.9420	10.44	10	4	
# 1,4-Dichlorobenzene	2.0150	1.8408	9.14	10	-9	#
1,2,3-Trimethylbenzene	1.5557	1.5472	9.95	10	-1	
Benzyl Chloride	0.2034	0.2329	11.45	10	15	
n-Butylbenzene	1.8539	2.0018	10.80	10	8	
# 1,2-Dichlorobenzene	1.7173	1.6361	9.53	10	-5	#
# 1,2-Dibromo-3-chloropropane	3.6881	2.9461	7.99	10	-20	#
# 1,2,4-Trichlorobenzene	1.1074	0.9263	8.36	10	-16	#
Hexachlorobutadiene	0.5485	0.4756	8.67	10	-13	
Naphthalene	1.6295	1.3002	7.98	10	-20	
1,2,3-Trichlorobenzene	0.9356	0.6440	6.88	10	-31	<-
Dibromofluoromethane	0.2242	0.2294	10.24	10	2	
Dibromofluoromethane(2)	0.2302	0.2363	10.27	10	3	
1,2-Dichloroethane-d4	0.0362	0.0365	10.07	10	1	
1,2-Dichloroethane-d4(2)	0.1764	0.1815	10.29	10	3	
1,2-Dichloroethane-d4(3)	0.0220	0.0241	10.98	10	10	
Toluene-d8	1.4618	1.4509	9.93	10	-1	
Toluene-d8(2)	0.9413	0.9369	9.95	10	0	
4-Bromofluorobenzene	0.4153	0.4223	10.17	10	2	

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/30/17 Time: 11:47

Lab File ID: hy30c02.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
4-Bromofluorobenzene(2)	0.3697	0.3636	9.84	10	-2

Average %Drift 7

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE88___

Lab File ID (Standard): hy30c02.d Date Analyzed: 05/30/17

Instrument ID: HP19094 Time Analyzed: 11:47

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	112769	4.257	3168741	7.775	2162187	11.237	927495	13.121
UPPER LIMIT	225538	4.757	6337482	8.275	4324374	11.737	1854990	13.621
LOWER LIMIT	56384	3.757	1584370	7.275	1081094	10.737	463748	12.621
LAB SAMPLE ID								
01 LCSH20	111851	4.257	3183814	7.775	2124586	11.243	907114	13.121
02 LCSH21	111851	4.257	3183814	7.775	2124586	11.243	907114	13.121
03 LCSH19	111574	4.275	3139393	7.774	2054038	11.243	855655	13.121
04 LCDH21	107208	4.275	3139393	7.774	2054038	11.243	855655	13.121
05 MDLH19 - MD	99367	4.263	3036649	7.775	1959774	11.243	769054	13.121
06 MDLH20 - MD	99707	4.263	3036649	7.775	1959774	11.243	769054	13.121
07 MDLH21 - MD	99367	4.263	3036649	7.775	1959774	11.243	769054	13.121
08 VBLKH19	104268	4.251	2948234	7.774	1881725	11.243	709158	13.127
09 VBLKH20	104077	4.251	2948234	7.774	1881725	11.243	709158	13.127
10 VBLKH21	104268	4.251	2948234	7.774	1881725	11.243	709158	13.127
11 9002049	117858	4.263	2857500	7.775	1801020	11.243	703820	13.127
12 9002047	99530	4.263	2884858	7.775	1859108	11.244	710369	13.127
13 9002045	83483	4.257	2960545	7.775	1985573	11.244	766852	13.121
14 9002045DL	96185	4.245	2898914	7.775	1939588	11.244	749432	13.121
15 9006012	97416	4.269	2873913	7.774	1901999	11.243	727544	13.121
16 9006008	90342	4.251	2882547	7.768	1901442	11.243	735577	13.127
17 9006009MS	101194	4.257	3034057	7.774	1971695	11.243	834939	13.121
18 9006010MSD	106105	4.263	3088070	7.775	2000798	11.244	828376	13.121
19 9002047MS	95675	4.263	3085706	7.775	1984744	11.243	830568	13.121
20 9002047MSD	84920	4.263	3111489	7.775	1991110	11.237	826554	13.121
21 SECC010	102325	4.251	3137393	7.768	2021446	11.237	842314	13.121
22 9006007	102410	4.275	2963700	7.775	1871564	11.244	736153	13.127

IS1 (TBA)=t-Butyl Alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE88___

Lab File ID (Standard): hy30c02.d Date Analyzed: 05/30/17

Instrument ID: HP19094 Time Analyzed: 11:47

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	112769	4.257	3168741	7.775	2162187	11.237	927495	13.121
UPPER LIMIT	225538	4.757	6337482	8.275	4324374	11.737	1854990	13.621
LOWER LIMIT	56384	3.757	1584370	7.275	1081094	10.737	463748	12.621
LAB SAMPLE ID								
23 9006011	93131	4.269	2962238	7.775	1935797	11.243	744615	13.121
24 9009419	94458	4.251	2974503	7.781	1947181	11.244	740587	13.121
25 9009414	82533	4.251	2924338	7.775	1907055	11.238	747447	13.121
26 9009415	93001	4.257	2854729	7.775	1869770	11.244	714902	13.121
27 9009416	80360	4.251	2867004	7.775	1833089	11.243	705576	13.121
28 9009417	98923	4.263	2859156	7.775	1832956	11.243	707968	13.121
29 9009418	92158	4.263	2816012	7.774	1805912	11.243	692813	13.121
30 9000067DL2	99313	4.239	2800610	7.768	1828238	11.237	713978	13.127
31 9002901	95985	4.251	2870374	7.775	1803429	11.243	699307	13.121
32 9002906DL	84258	4.251	2824024	7.774	1808881	11.243	684186	13.121
33 9002907DL	92556	4.245	2791357	7.775	1849204	11.244	707606	13.121
34 9002908DL	87400	4.263	2796864	7.774	1776709	11.243	677870	13.121

IS1 (TBA)=t-Butyl Alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

Sample Data

Volatiles by GC/MS

Fraction: Volatiles by GC/MS

11996: RAAP Unit 5 "J" and "K" lists Analyte Name	Default MDL	Default LOQ	Units
Dichlorodifluoromethane	0.3	1.0	ug/l
Vinyl Chloride	0.1	1.0	ug/l
Ethyl ether	0.4	12	ug/l
1,1-Dichloroethene	0.4	1.0	ug/l
Acetone	3.0	10	ug/l
Methylene Chloride	0.2	1.0	ug/l
trans-1,2-Dichloroethene	0.8	1.0	ug/l
2-Butanone	1.0	10	ug/l
cis-1,2-Dichloroethene	0.1	1.0	ug/l
Chloroform	0.1	1.0	ug/l
1,2-Dichloroethane	0.1	1.0	ug/l
Trichloroethene	0.2	1.0	ug/l
Toluene	0.1	1.0	ug/l
Xylene (Total)	0.2	3.0	ug/l

R8801 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 9009414

Data file: /chem2/HP19094.i/17may30b.b/hy30s18.d Injection date and time: **30-MAY-2017 19:01**
Data file Sample Info. Line: R8801;9009414;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 19:19 Automation

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274, 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.006)	437	65	82533	(-27)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2924338	(-8)	10.00	
97) Chlorobenzene-d5	11.238	(0.000)	1583	117	1907055	(-12)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	747447	(-19)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.873	(0.000)	113	691991	10.556	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	112252	10.590	106%		74 - 113
82) Toluene-d8	(3)	9.787	(0.000)	98	2838913	10.184	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(-0.001)	95	749634	9.465	95%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.3	1
5) Vinyl Chloride	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)				Not Detected					0.4	12
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
14) Acetone	(1)				Not Detected					3	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
49) Chloroform	(2)	6.653	(0.000)	83	538544	4.038	4.04			0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1
83) Toluene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:51. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s18.d Injection date and time: **30-MAY-2017 19:01**
Data file Sample Info. Line: R8801;9009414;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 19:19 Automation

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

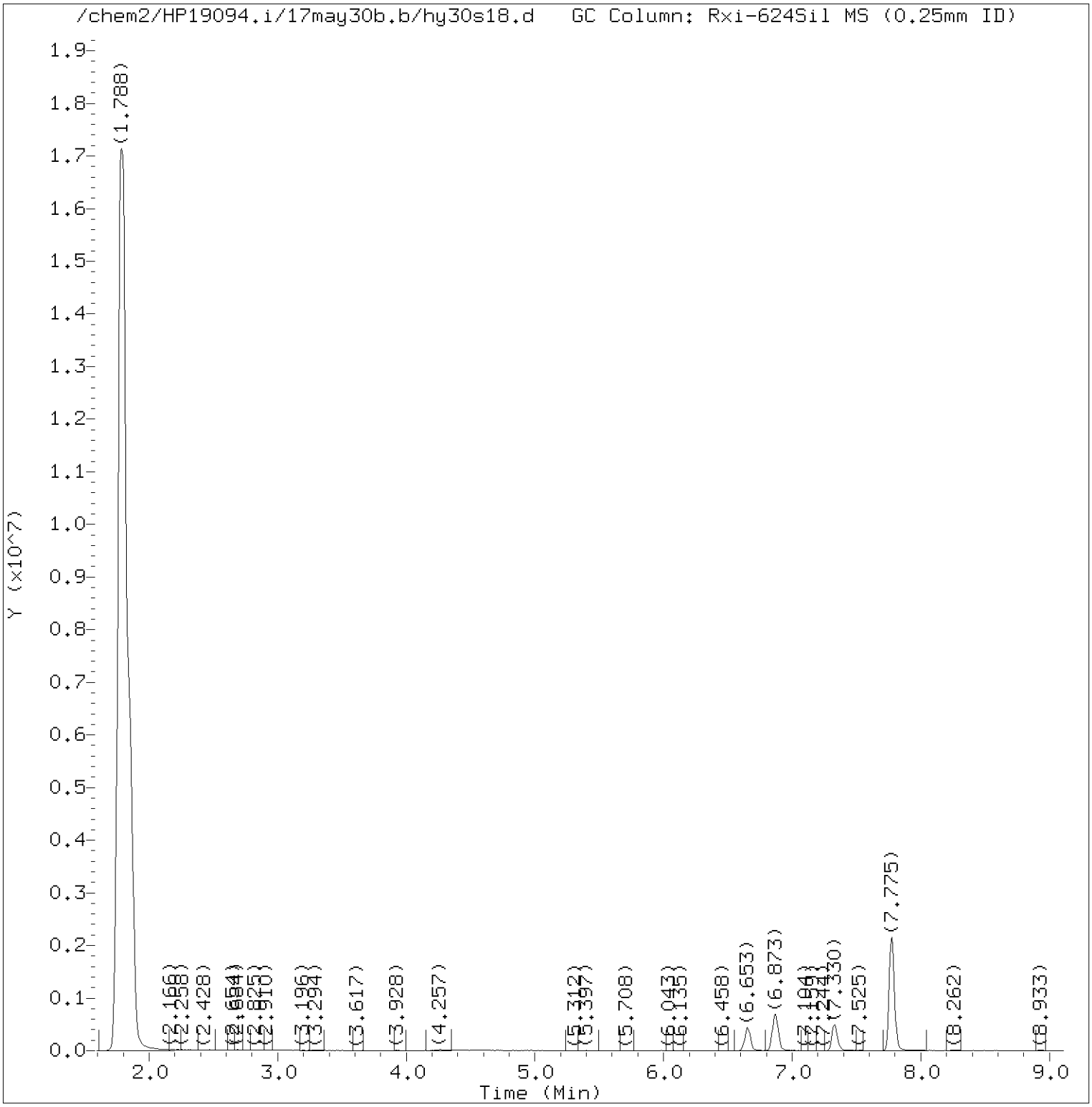
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:51. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

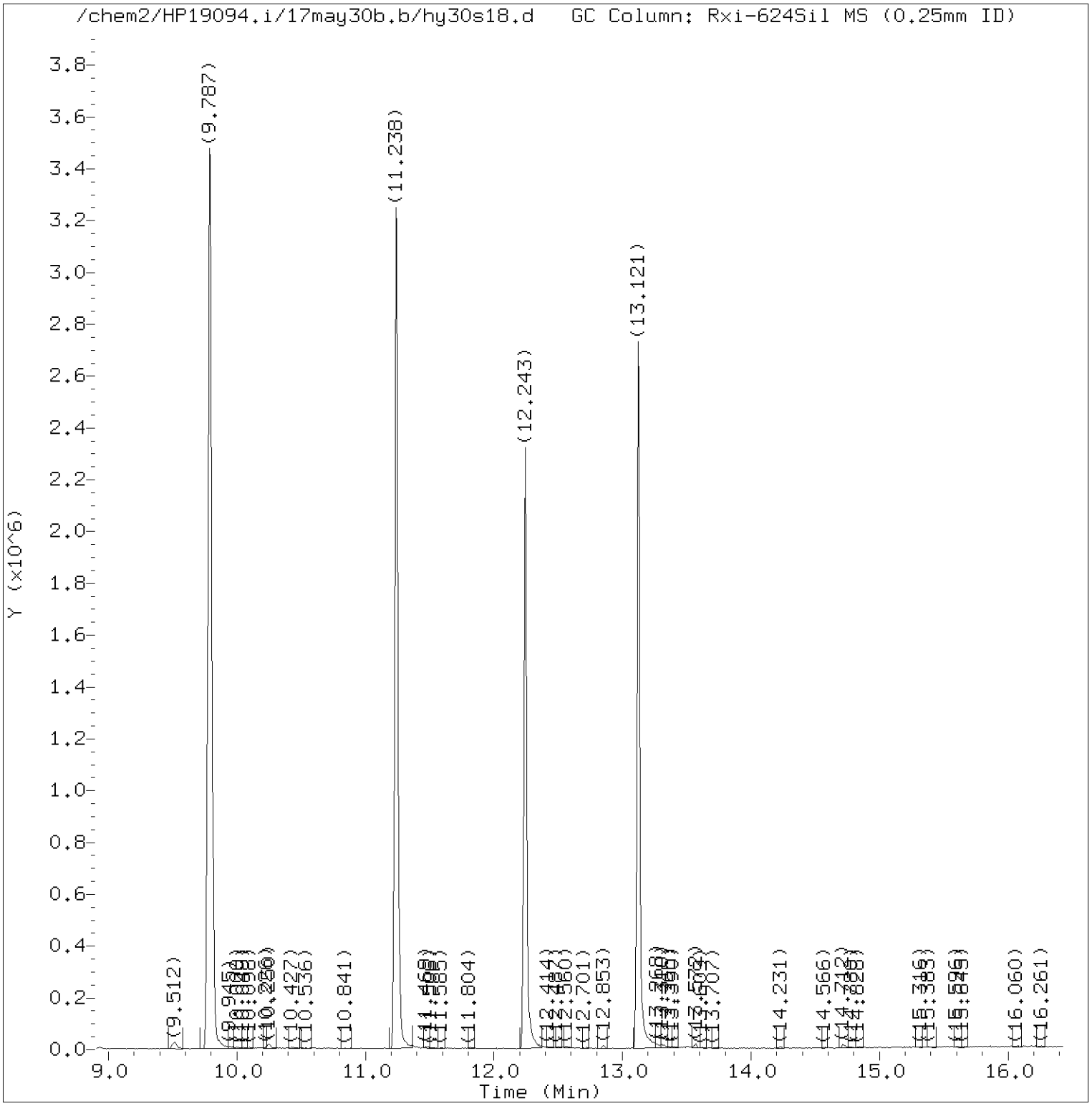
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s18.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:19 Automation

Sample Name: R8801 Lab Sample ID: 9009414

Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s18.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:19 Automation

Sample Name: R8801 Lab Sample ID: 9009414

Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s18.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:19 Automation

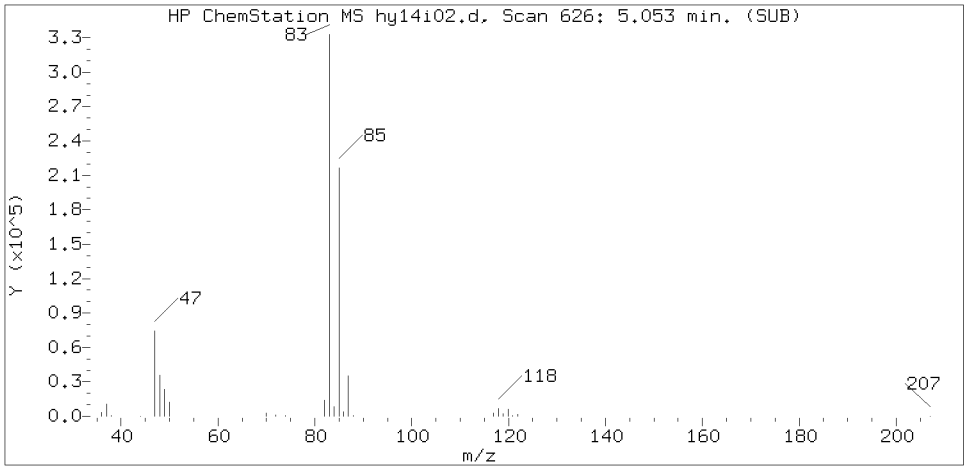
Sample Name: R8801 Lab Sample ID: 9009414

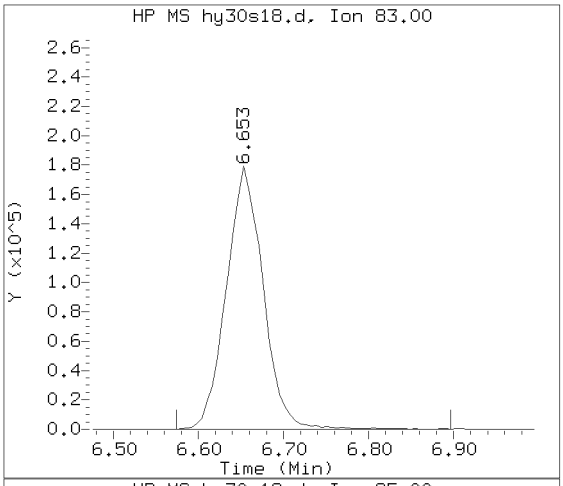
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.251	65	82533	50.000
49) Chloroform	(2)	6.653	83	538544	4.038
50)$Dibromofluoromethane	(2)	6.873	113	691991	10.556
57)$1,2-Dichloroethane-d4	(2)	7.330	102	112252	10.590
63)*Fluorobenzene	(2)	7.775	96	2924338	10.000
82)$Toluene-d8	(3)	9.787	98	2838913	10.184
97)*Chlorobenzene-d5	(3)	11.238	117	1907055	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	749634	9.465
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	747447	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

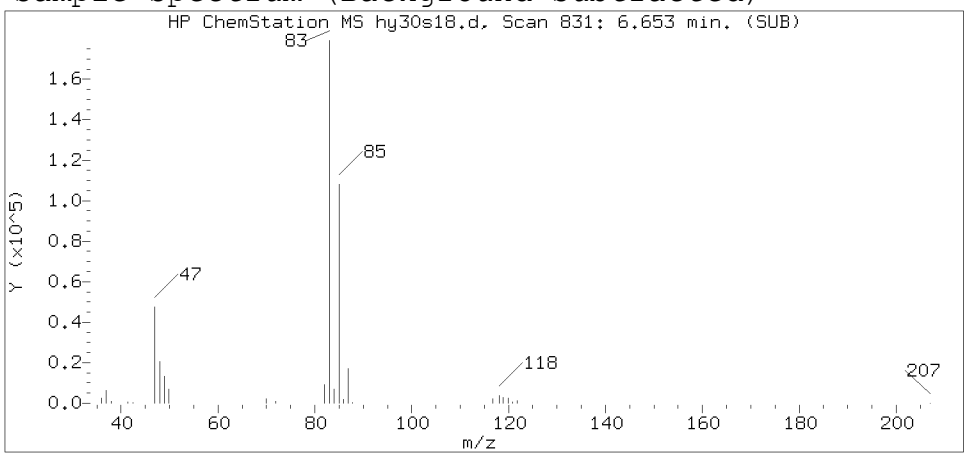
Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002

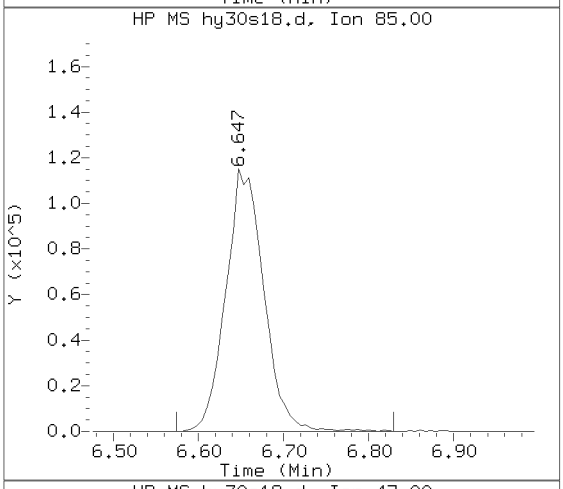
Reference Standard Spectrum for Chloroform



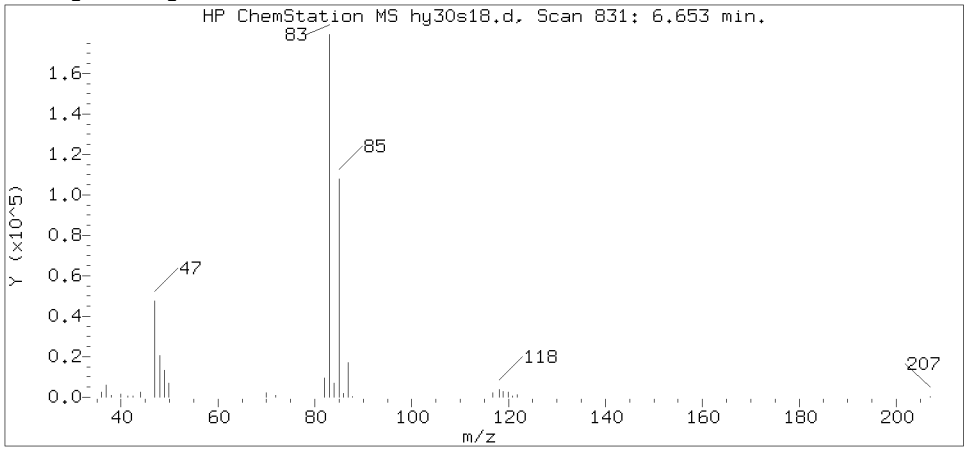


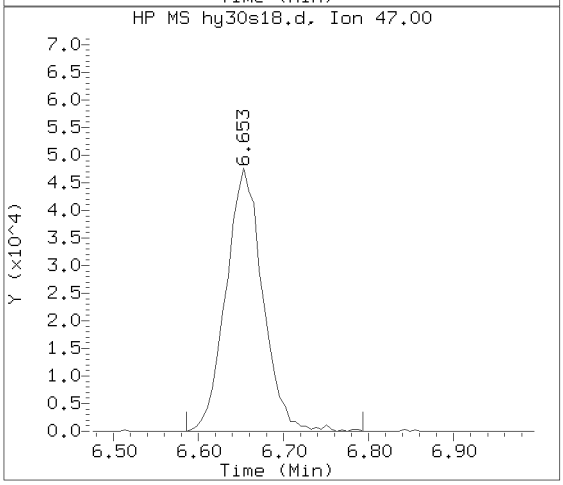
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s18.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:19 Automation

Sample Name: R8801 Lab Sample ID: 9009414

Compound Number	: 49
Compound Name	: Chloroform
Scan Number	: 831
Retention Time (minutes)	: 6.653
Relative Retention Time	: 0.00078
Quant Ion	: 83.00
Area (flag)	: 538544
On-Column Amount (ng)	: 4.0376

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002

R8802 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 9009415

Data file: /chem2/HP19094.i/17may30b.b/hy30s19.d Injection date and time: **30-MAY-2017 19:21**
Data file Sample Info. Line: R8802;9009415;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 19:51 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274, 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257	(0.000)	438	65	93001	(-18)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2854729	(-10)	10.00	
97) Chlorobenzene-d5	11.244	(-0.006)	1584	117	1869770	(-14)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	714902	(-23)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(0.000)	113	681808	10.654	107%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.324	(0.001)	102	109090	10.543	105%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2808393	10.275	103%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	739969	9.529	95%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.3	1
5) Vinyl Chloride	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)	3.306	(-0.000)	59	44116	0.944	0.94		J	0.4	12
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
14) Acetone	(1)				Not Detected					3	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
49) Chloroform	(2)	6.659	(-0.000)	83	1381493	10.610	10.61			0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)	8.268	(-0.000)	95	187182	2.364	2.36			0.2	1
83) Toluene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:51. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s19.d Injection date and time: **30-MAY-2017 19:21**
Data file Sample Info. Line: R8802;9009415;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 19:51 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

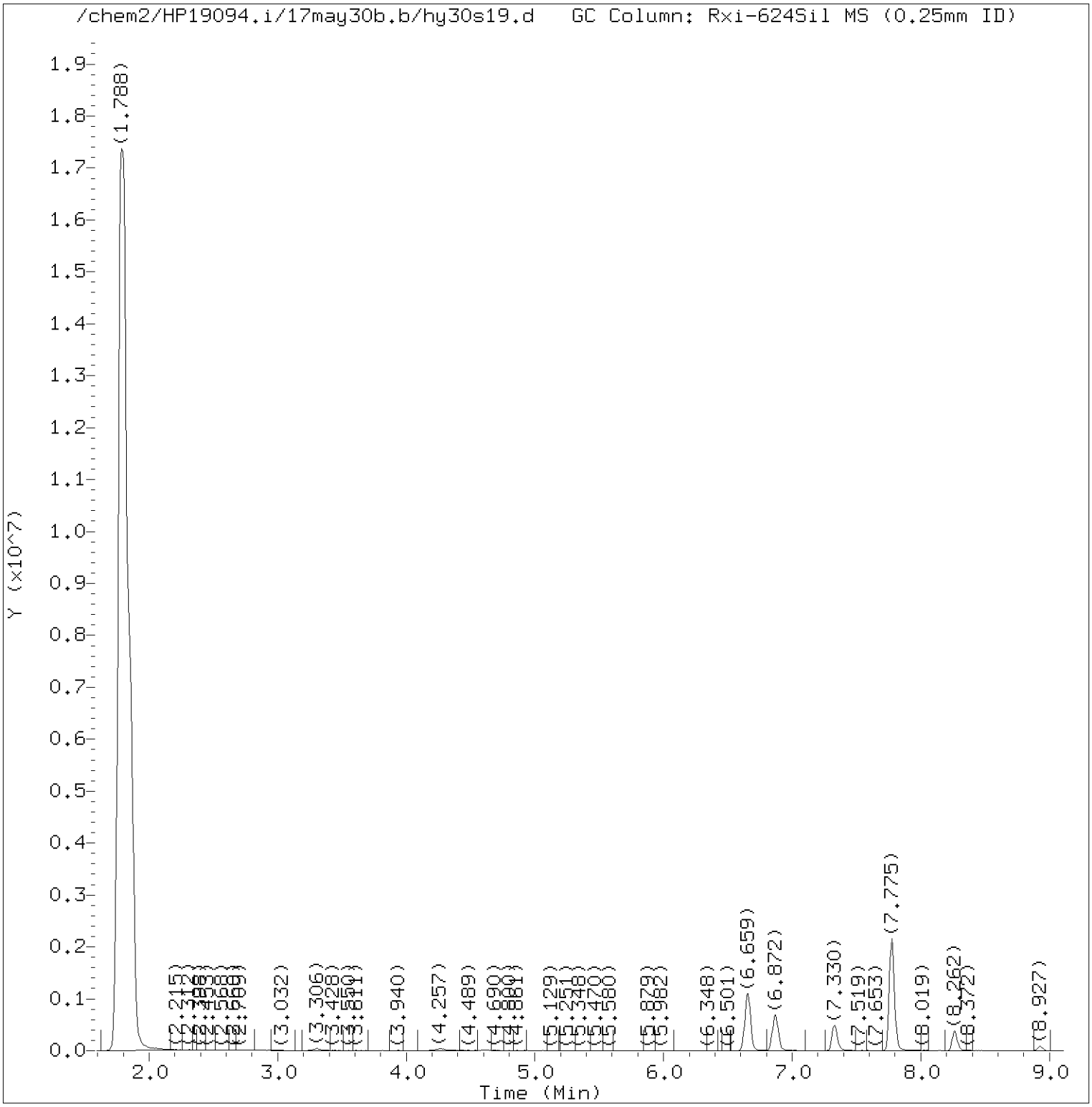
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:51. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

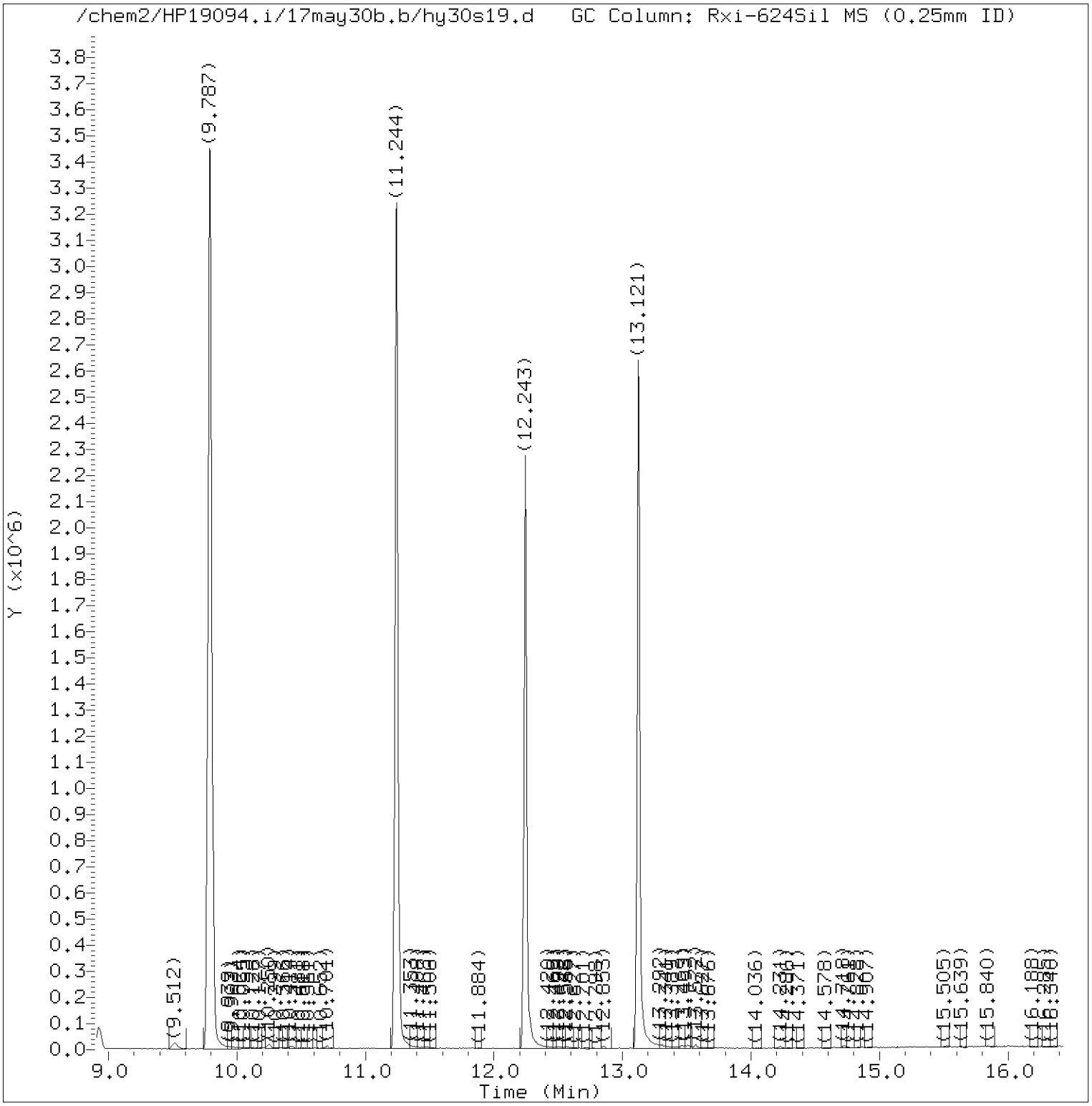
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s19.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:51 sej02002

Sample Name: R8802 Lab Sample ID: 9009415

Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s19.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:51 sej02002

Sample Name: R8802 Lab Sample ID: 9009415

Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s19.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:51 sej02002

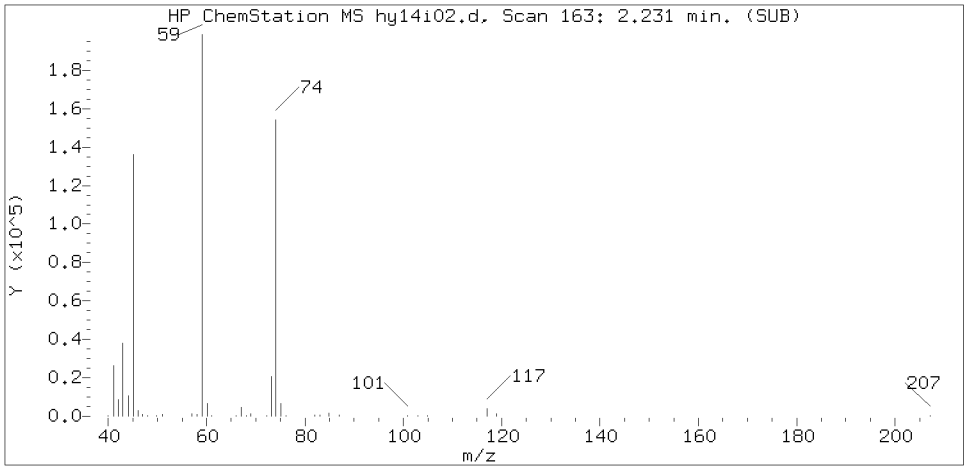
Sample Name: R8802 Lab Sample ID: 9009415

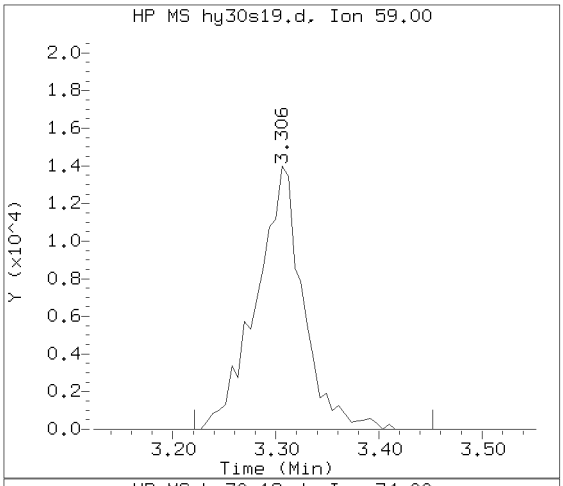
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
11) Ethyl ether	(2)	3.306	59	44116	0.944
26)*t-Butyl Alcohol-d10	(1)	4.257	65	93001	50.000
49) Chloroform	(2)	6.659	83	1381493	10.610
50)$Dibromofluoromethane	(2)	6.872	113	681808	10.654
57)$1,2-Dichloroethane-d4	(2)	7.324	102	109090	10.543
63)*Fluorobenzene	(2)	7.775	96	2854729	10.000
67) Trichloroethene	(2)	8.268	95	187182	2.364
82)$Toluene-d8	(3)	9.793	98	2808393	10.275
97)*Chlorobenzene-d5	(3)	11.244	117	1869770	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	739969	9.529
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	714902	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

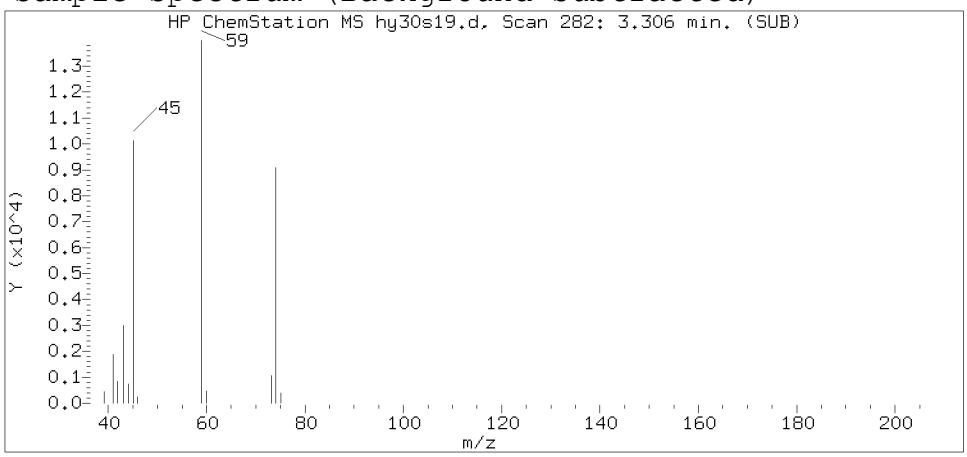
Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002

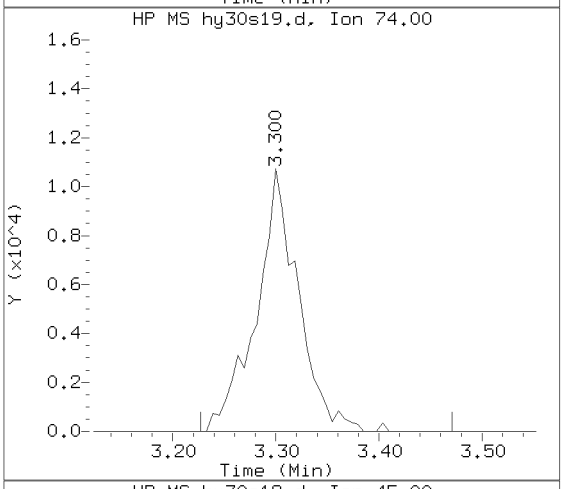
Reference Standard Spectrum for Ethyl ether



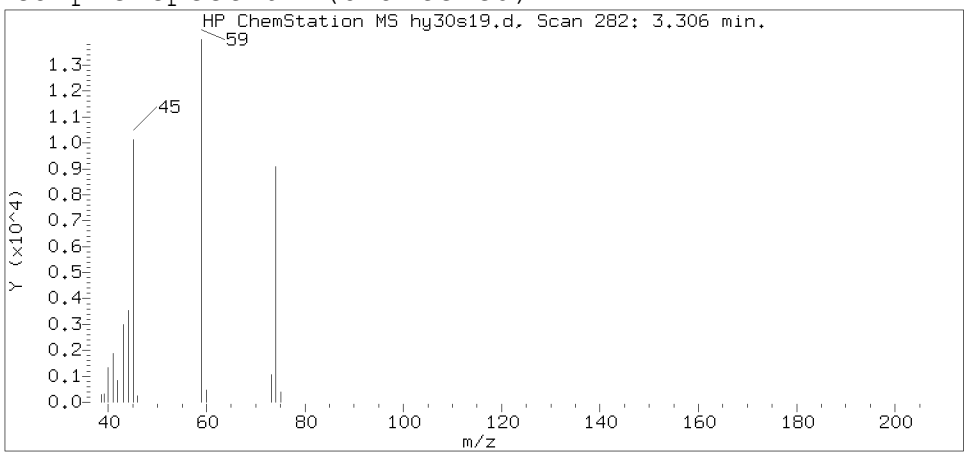


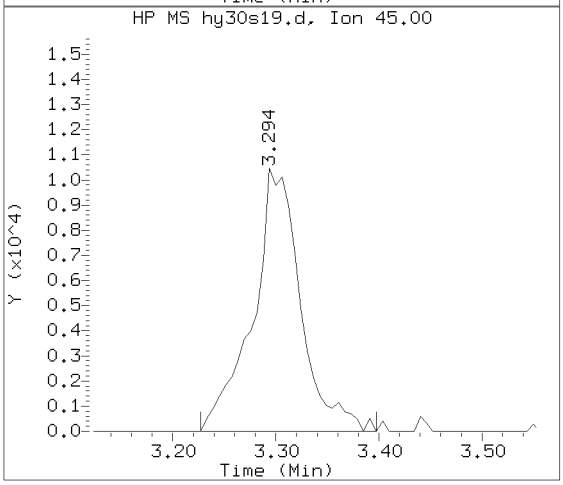
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s19.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:21 Analyst ID: kel01973

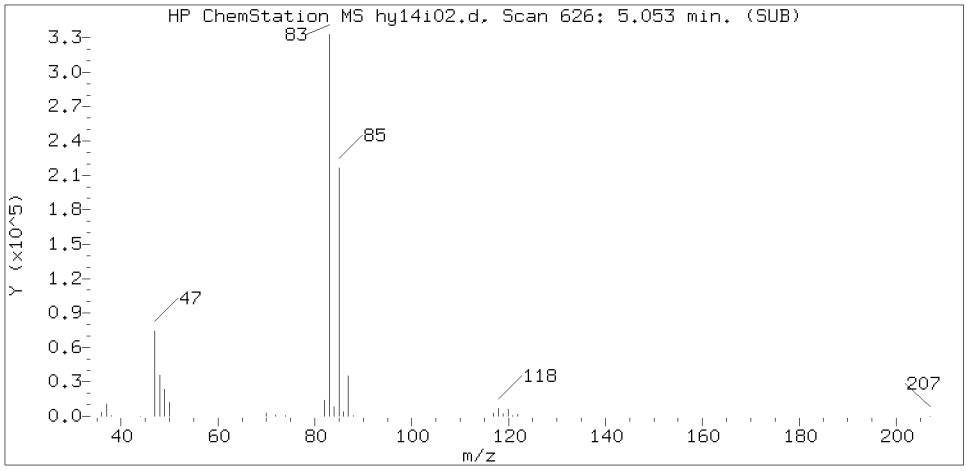
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:51 sej02002

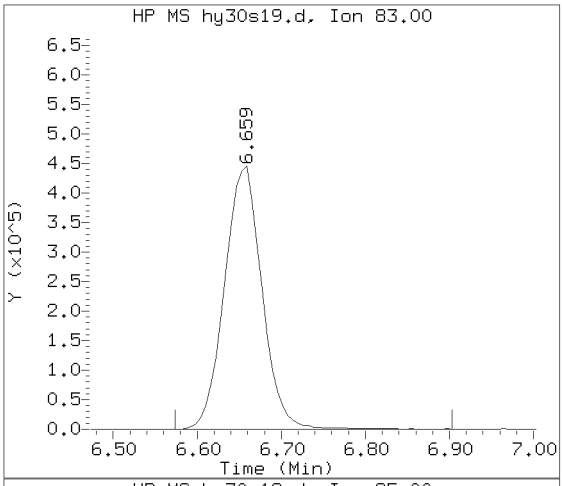
Sample Name: R8802 Lab Sample ID: 9009415

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 282
Retention Time (minutes): 3.306
Relative Retention Time :-0.00000
Quant Ion : 59.00
Area (flag) : 44116
On-Column Amount (ng) : 0.9442

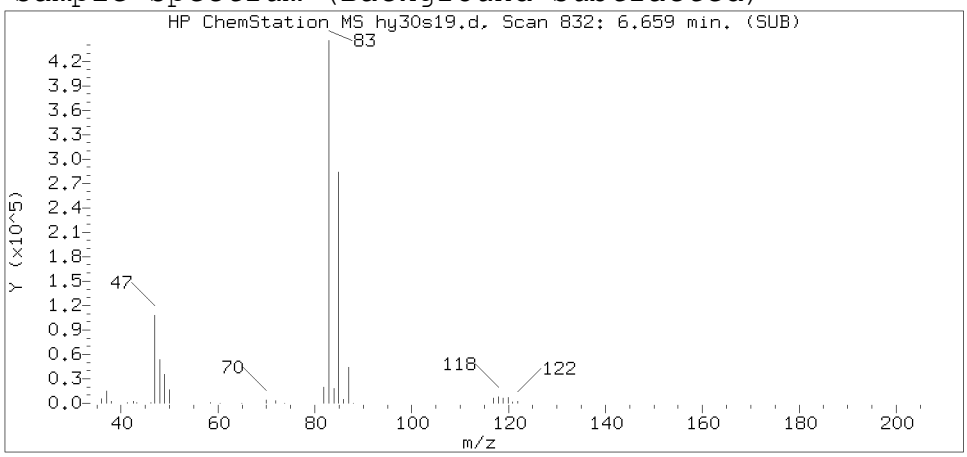
Digitally signed by Sara E. Johnson on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002

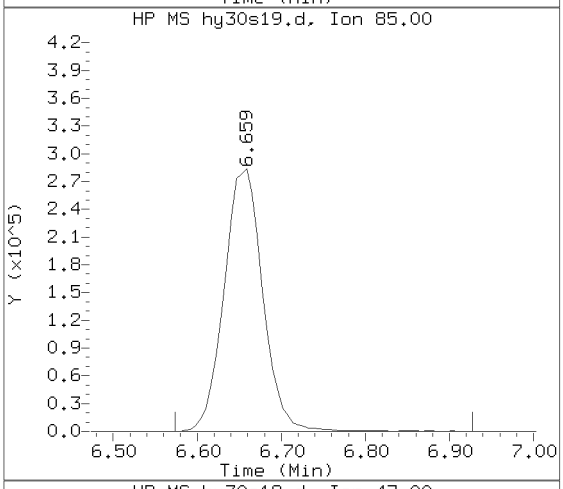
Reference Standard Spectrum for Chloroform



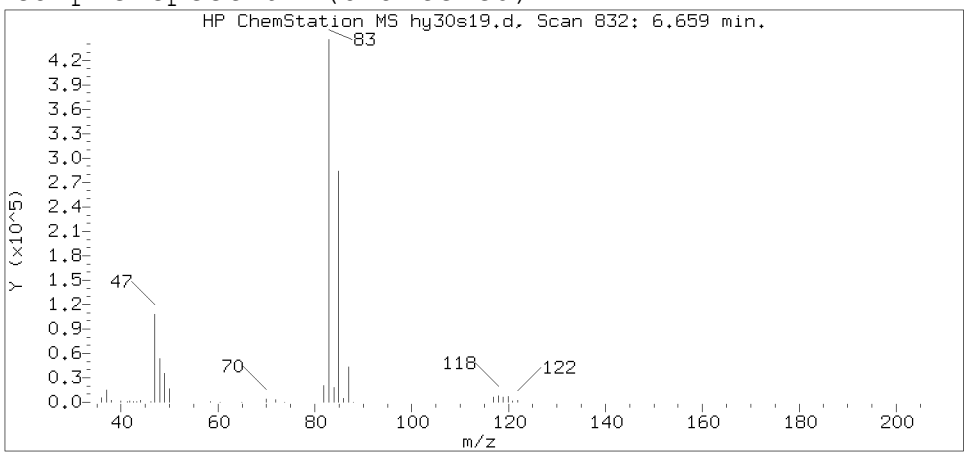


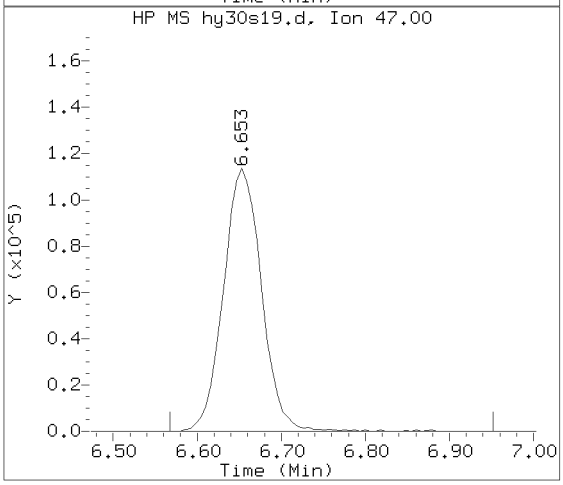
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s19.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:21 Analyst ID: kel01973

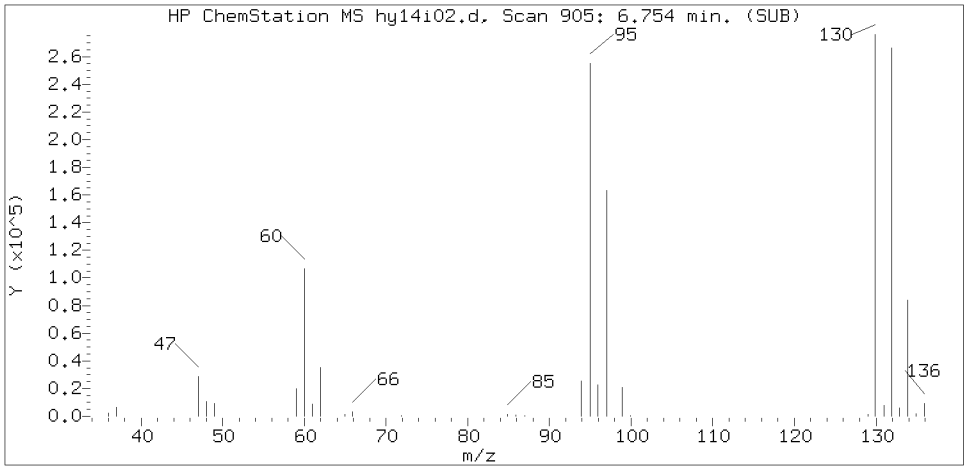
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:51 sej02002

Sample Name: R8802 Lab Sample ID: 9009415

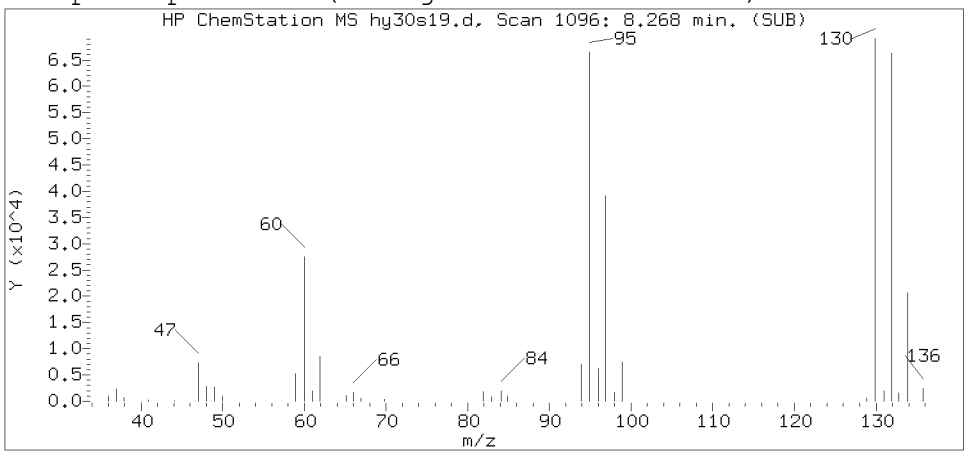
Compound Number : 49
Compound Name : Chloroform
Scan Number : 832
Retention Time (minutes): 6.659
Relative Retention Time :-0.00000
Quant Ion : 83.00
Area (flag) : 1381493
On-Column Amount (ng) : 10.6098

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002

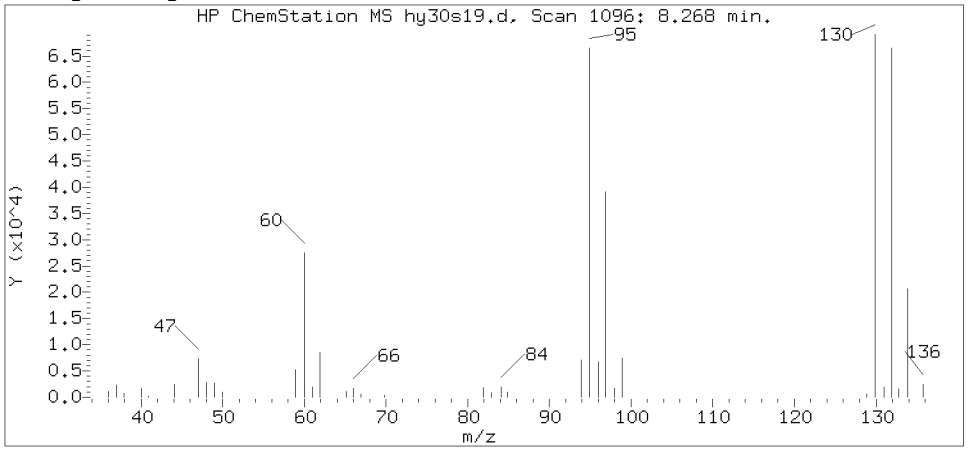
Reference Standard Spectrum for Trichloroethene

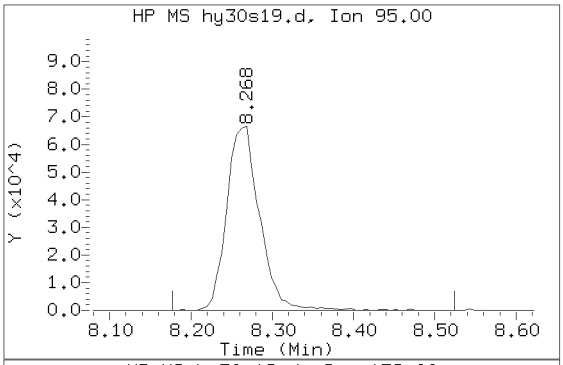


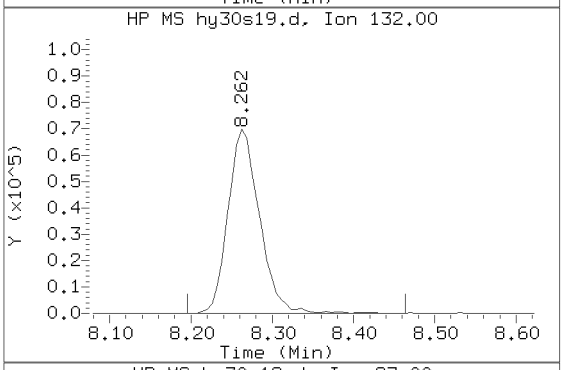
Sample Spectrum (Background Subtracted)

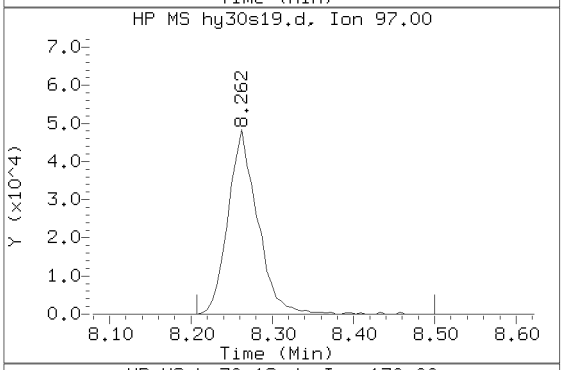


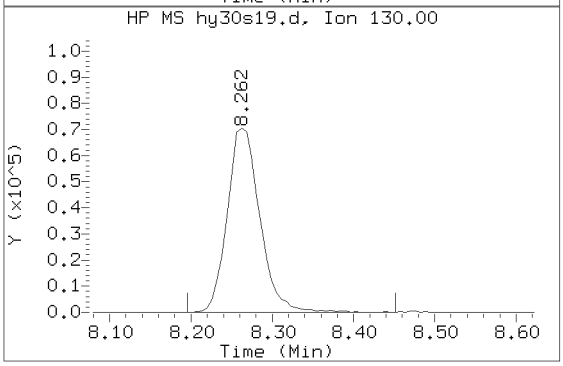
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may30b.b/hy30s19.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:51 sej02002

Sample Name: R8802 Lab Sample ID: 9009415

Compound Number	: 67
Compound Name	: Trichloroethene
Scan Number	: 1096
Retention Time (minutes)	: 8.268
Relative Retention Time	:-0.00078
Quant Ion	: 95.00
Area (flag)	: 187182
On-Column Amount (ng)	: 2.3643

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:51.
Target 3.5 esignature user ID: sej02002

R8803 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 9009416

Data file: /chem2/HP19094.i/17may30b.b/hy30s20.d Injection date and time: **30-MAY-2017 19:42**
Data file Sample Info. Line: R8803;9009416;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 20:32 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274, 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.006)	437	65	80360	(-29)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2867004	(-10)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1833089	(-15)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	705576	(-24)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.001)	113	665326	10.352	104%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.323	(0.001)	102	106884	10.285	103%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2779237	10.372	104%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	710203	9.329	93%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.3	1
5) Vinyl Chloride	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)	3.306	(0.000)	59	56276	1.199	1.20		J	0.4	12
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
14) Acetone	(1)				Not Detected					3	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
49) Chloroform	(2)	6.653	(0.000)	83	1387191	10.608	10.61			0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)	8.262	(-0.000)	95	189398	2.382	2.38			0.2	1
83) Toluene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:32. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s20.d Injection date and time: **30-MAY-2017 19:42**
Data file Sample Info. Line: R8803;9009416;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 20:32 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE

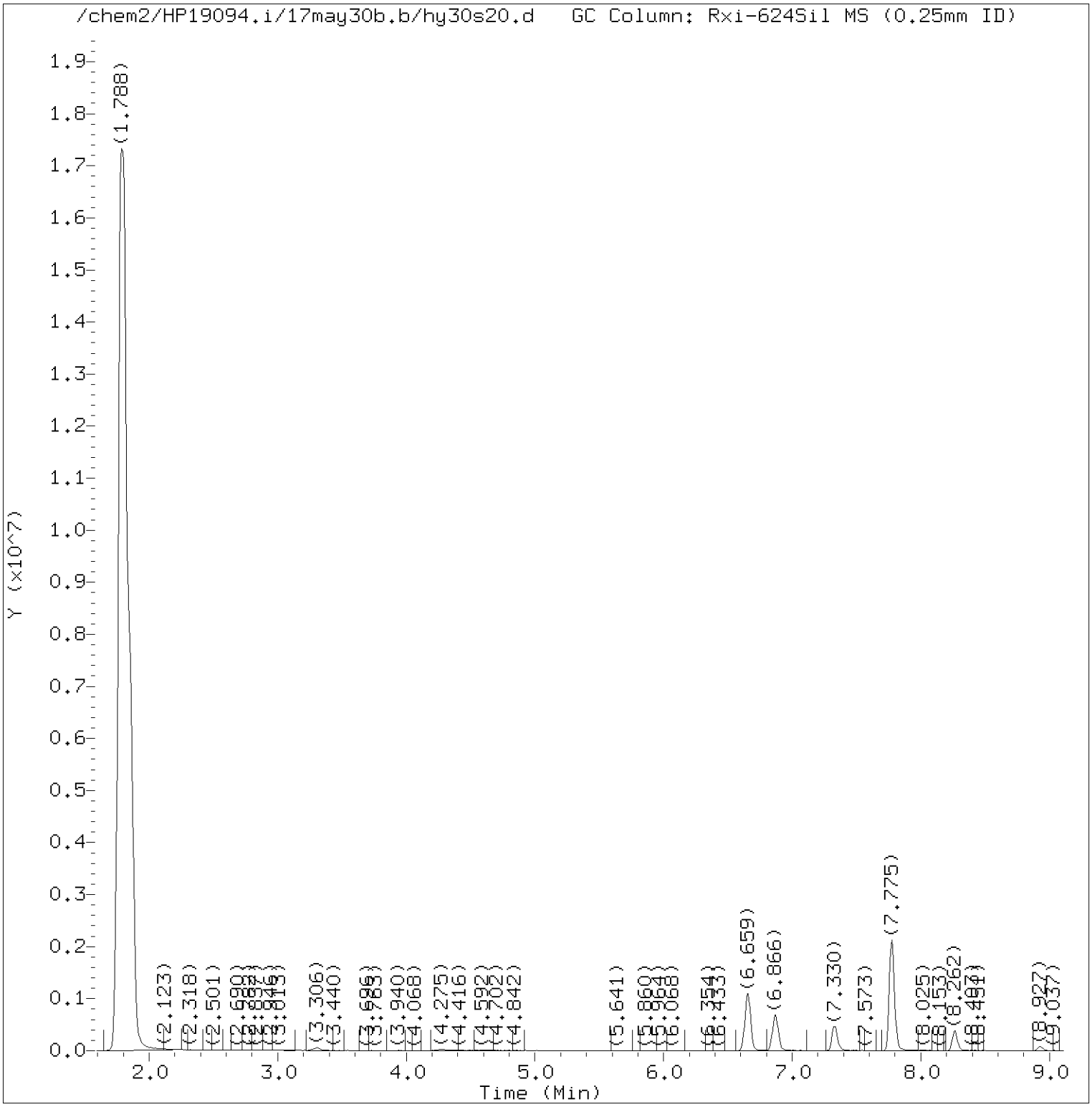
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:32. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

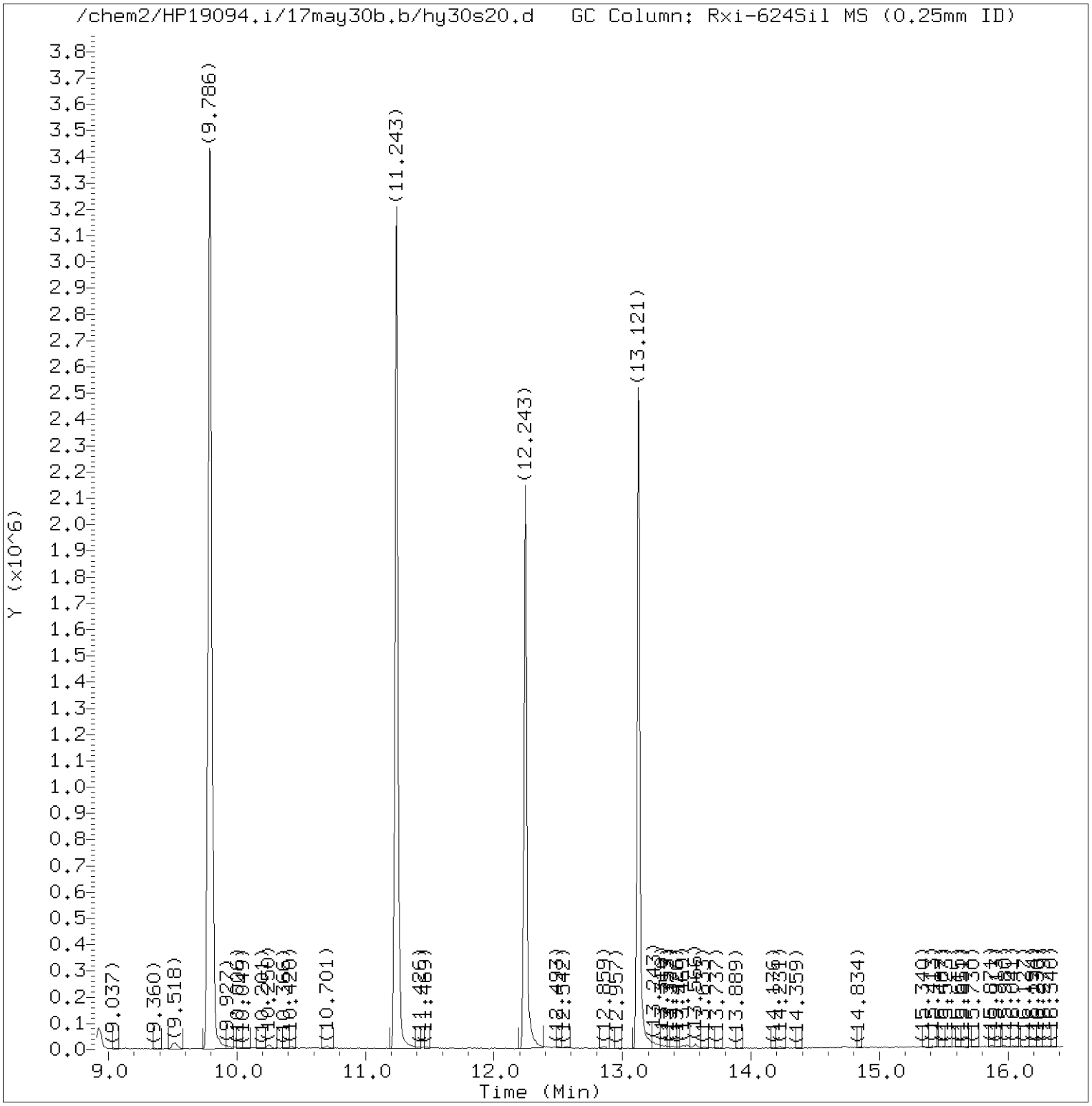
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s20.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:42 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:32 sej02002

Sample Name: R8803 Lab Sample ID: 9009416

Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:32.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s20.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:42 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:32 sej02002

Sample Name: R8803 Lab Sample ID: 9009416

Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:32.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s20.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:42 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:32 sej02002

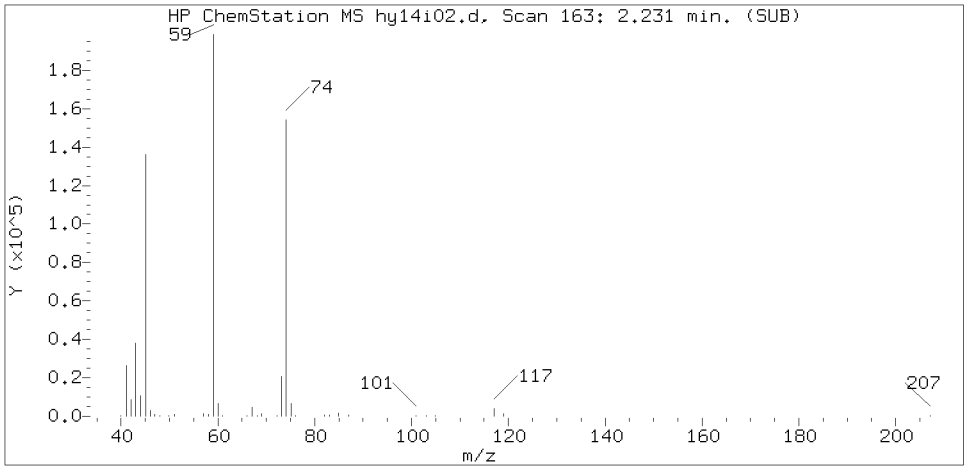
Sample Name: R8803 Lab Sample ID: 9009416

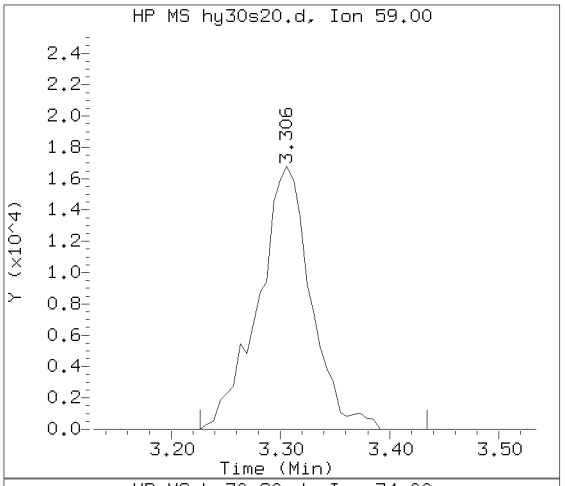
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
11) Ethyl ether	(2)	3.306	59	56276	1.199
26)*t-Butyl Alcohol-d10	(1)	4.251	65	80360	50.000
49) Chloroform	(2)	6.653	83	1387191	10.608
50)$Dibromofluoromethane	(2)	6.866	113	665326	10.352
57)$1,2-Dichloroethane-d4	(2)	7.323	102	106884	10.285
63)*Fluorobenzene	(2)	7.775	96	2867004	10.000
67) Trichloroethene	(2)	8.262	95	189398	2.382
82)$Toluene-d8	(3)	9.793	98	2779237	10.372
97)*Chlorobenzene-d5	(3)	11.243	117	1833089	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	710203	9.329
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	705576	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

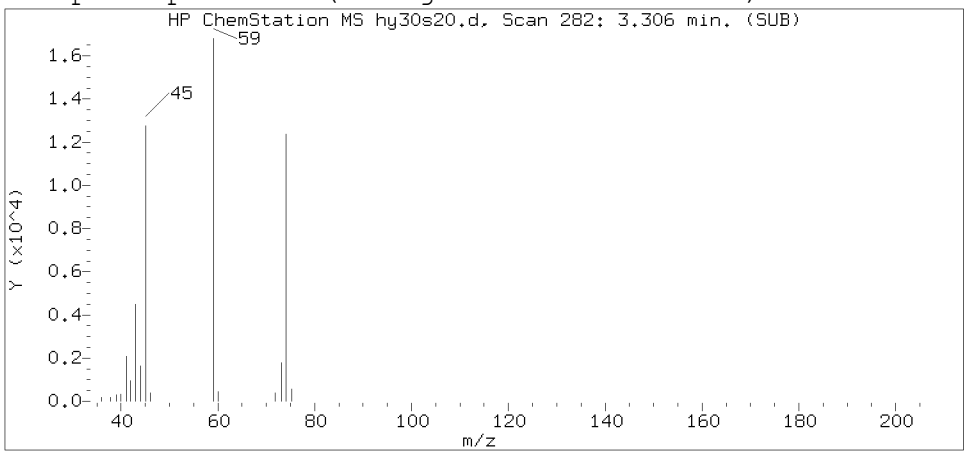
Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:32.
Target 3.5 esignature user ID: sej02002

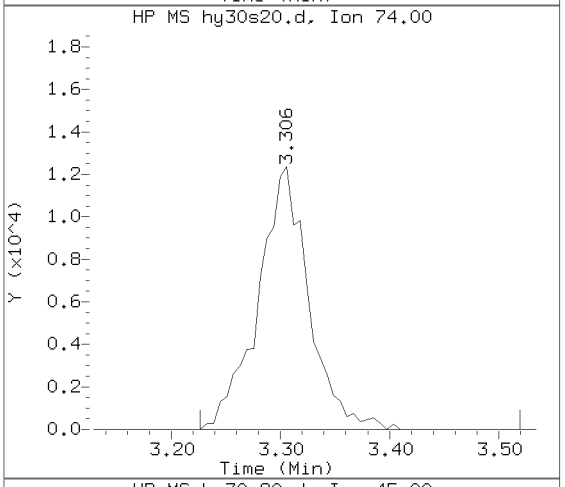
Reference Standard Spectrum for Ethyl ether



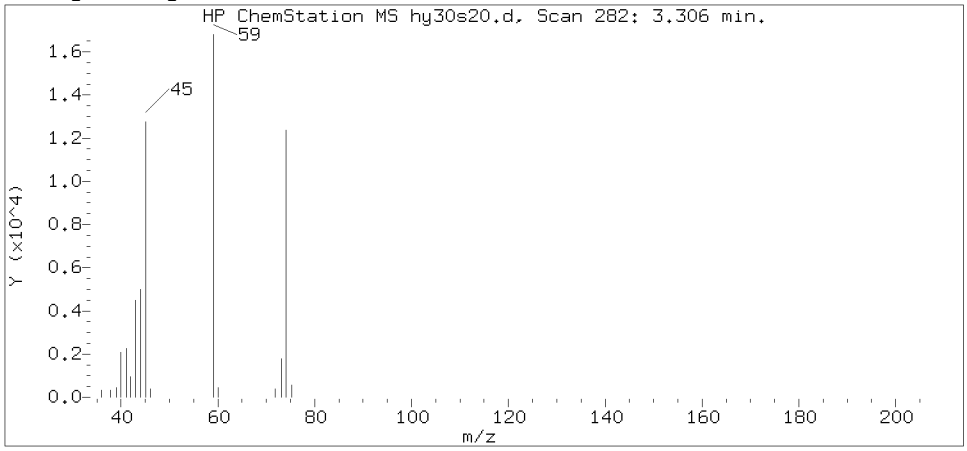


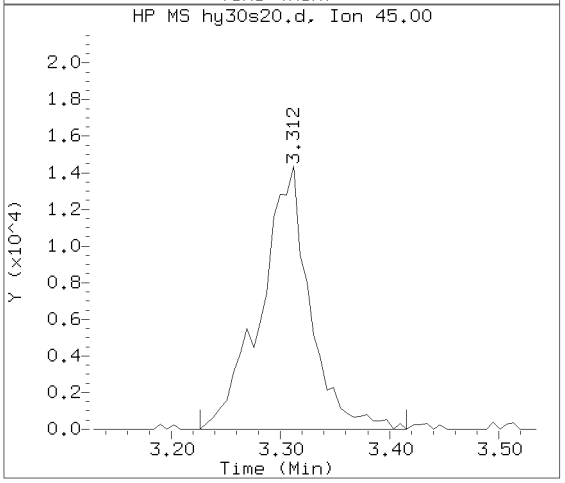
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s20.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:42 Analyst ID: kel01973

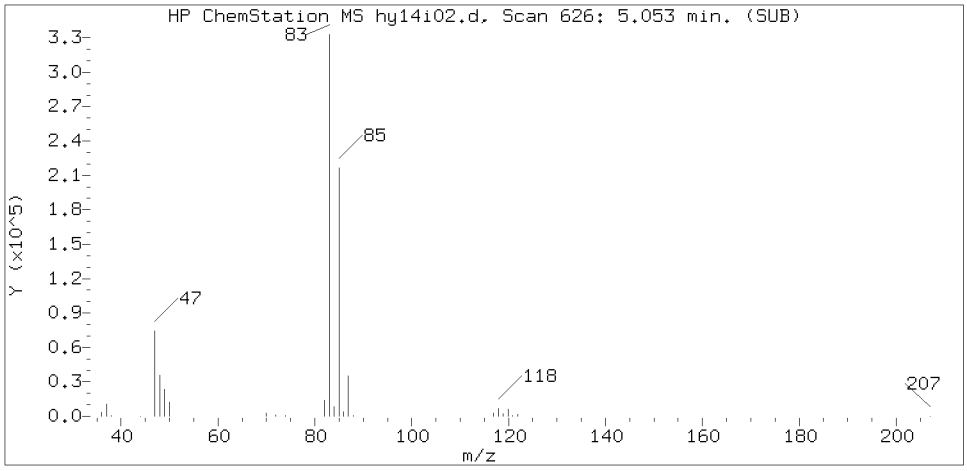
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:32 sej02002

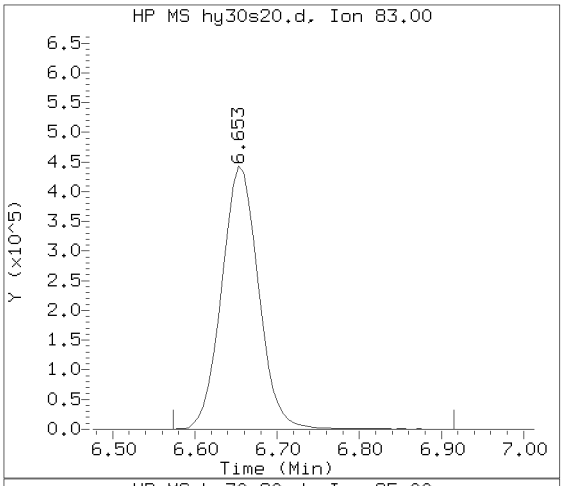
Sample Name: R8803 Lab Sample ID: 9009416

Compound Number	: 11
Compound Name	: Ethyl ether
Scan Number	: 282
Retention Time (minutes)	: 3.306
Relative Retention Time	: 0.00000
Quant Ion	: 59.00
Area (flag)	: 56276
On-Column Amount (ng)	: 1.1993

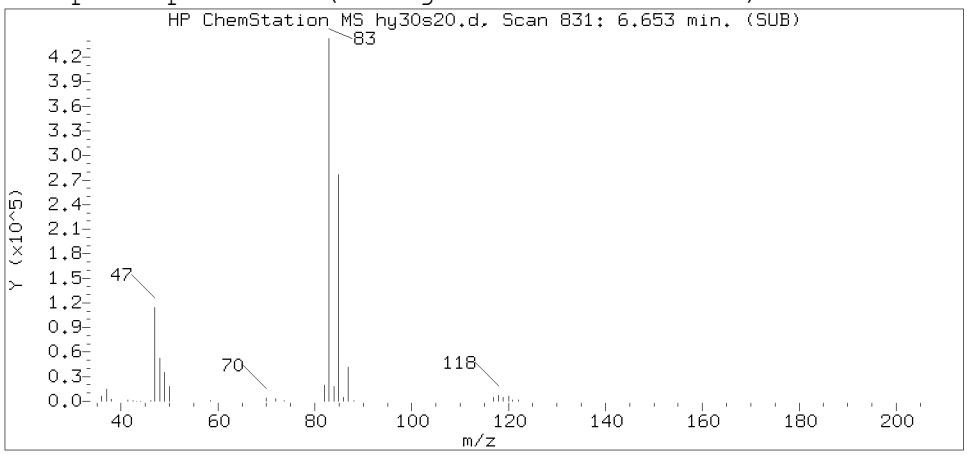
Digitally signed by Sara E. Johnson on 05/30/2017 at 20:32.
Target 3.5 esignature user ID: sej02092

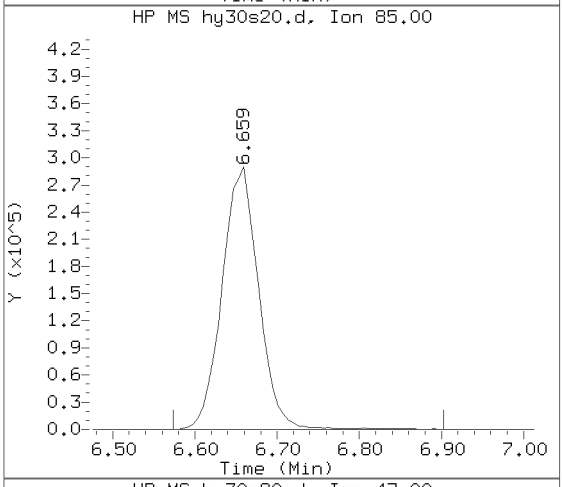
Reference Standard Spectrum for Chloroform



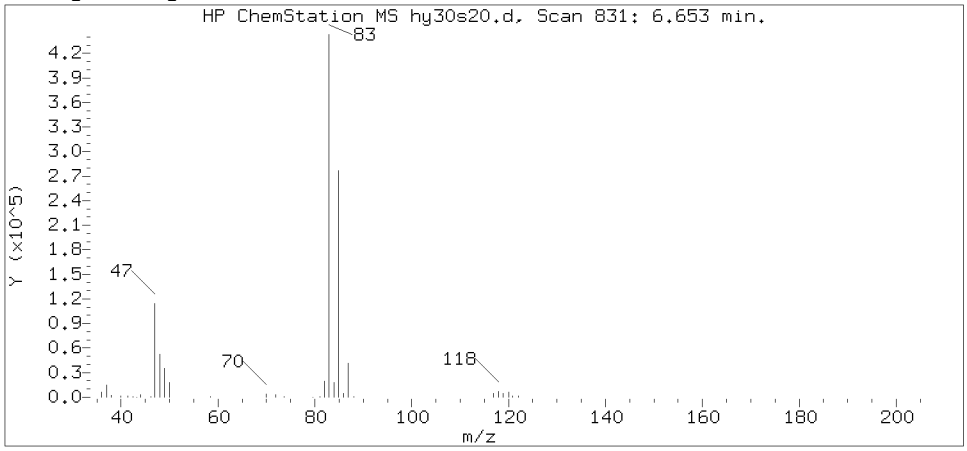


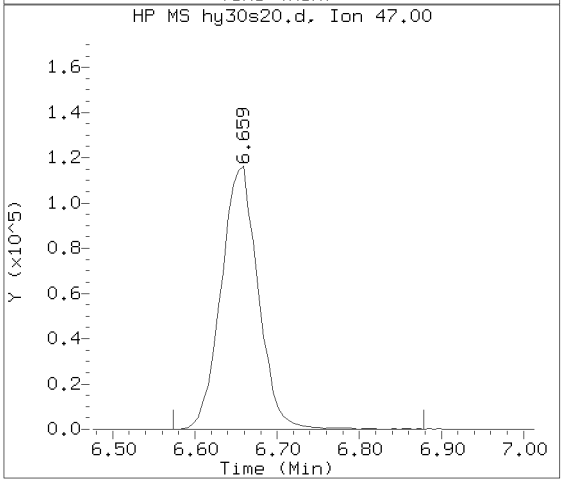
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s20.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:42 Analyst ID: kel01973

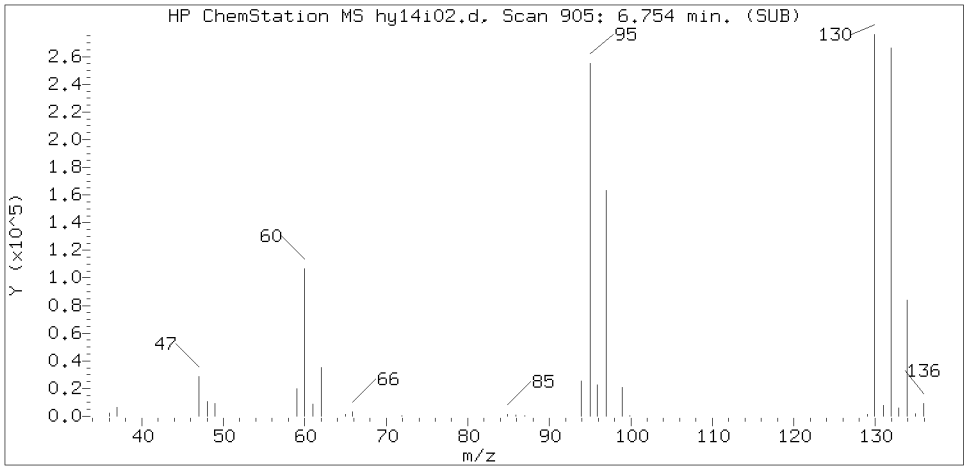
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:32 sej02002

Sample Name: R8803 Lab Sample ID: 9009416

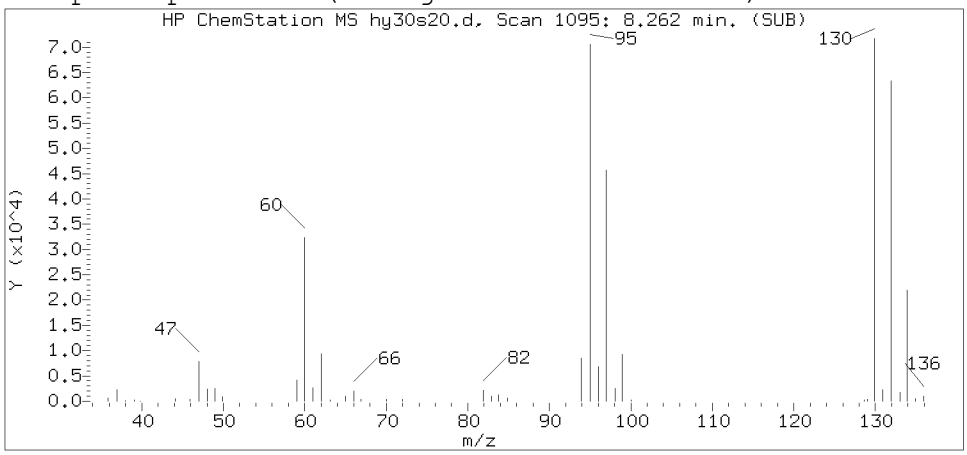
Compound Number	: 49
Compound Name	: Chloroform
Scan Number	: 831
Retention Time (minutes)	: 6.653
Relative Retention Time	: 0.00078
Quant Ion	: 83.00
Area (flag)	: 1387191
On-Column Amount (ng)	: 10.6080

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:32.
Target 3.5 esignature user ID: sej02002

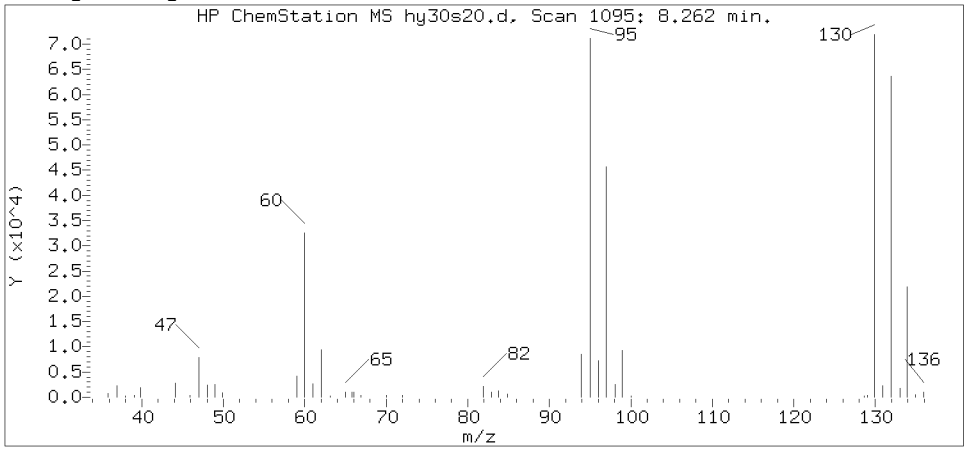
Reference Standard Spectrum for Trichloroethene

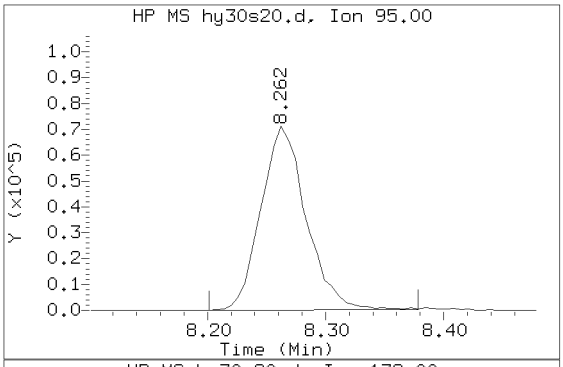


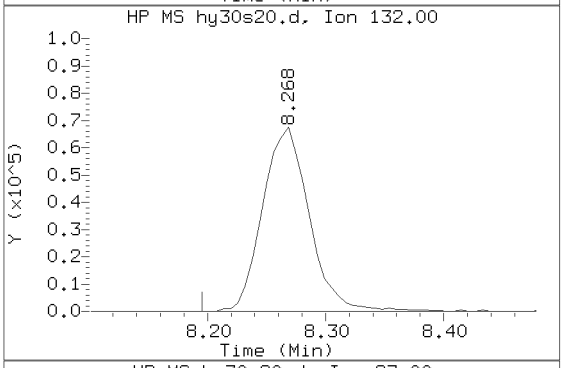
Sample Spectrum (Background Subtracted)

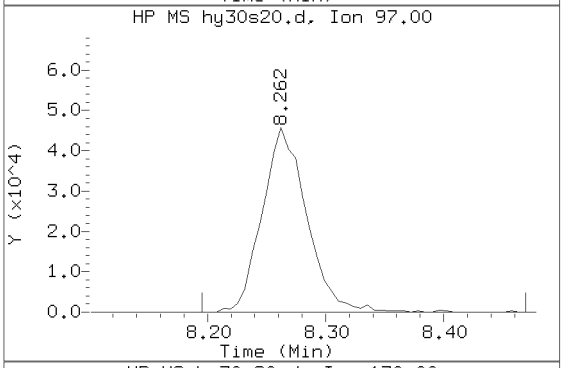


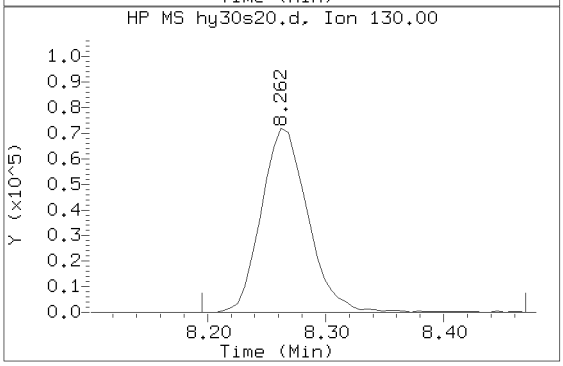
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may30b.b/hy30s20.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 19:42 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:32 sej02002

Sample Name: R8803 Lab Sample ID: 9009416

Compound Number	: 67
Compound Name	: Trichloroethene
Scan Number	: 1095
Retention Time (minutes)	: 8.262
Relative Retention Time	:-0.00000
Quant Ion	: 95.00
Area (flag)	: 189398
On-Column Amount (ng)	: 2.3820

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:32.
Target 3.5 esignature user ID: sej02092

R8804 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 9009417

Data file: /chem2/HP19094.i/17may30b.b/hy30s21.d Injection date and time: **30-MAY-2017 20:02**
Data file Sample Info. Line: R8804;9009417;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274, 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263	(-0.006)	439	65	98923M	(-12)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2859156	(-10)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1832956	(-15)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	707968	(-24)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.001)	113	668957	10.437	104%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	109786	10.593	106%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	2766119	10.324	103%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	727954	9.562	96%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)				Not Detected					0.3	1
5) Vinyl Chloride	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)	3.300	(0.000)	59	161023	3.441	3.44		J	0.4	12
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
14) Acetone	(1)				Not Detected					3	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
49) Chloroform	(2)	6.659	(0.000)	83	130290	0.999	1.00		J	0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)	8.262	(-0.000)	95	227489	2.869	2.87			0.2	1
83) Toluene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:33. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s21.d Injection date and time: **30-MAY-2017 20:02**
Data file Sample Info. Line: R8804;9009417;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE

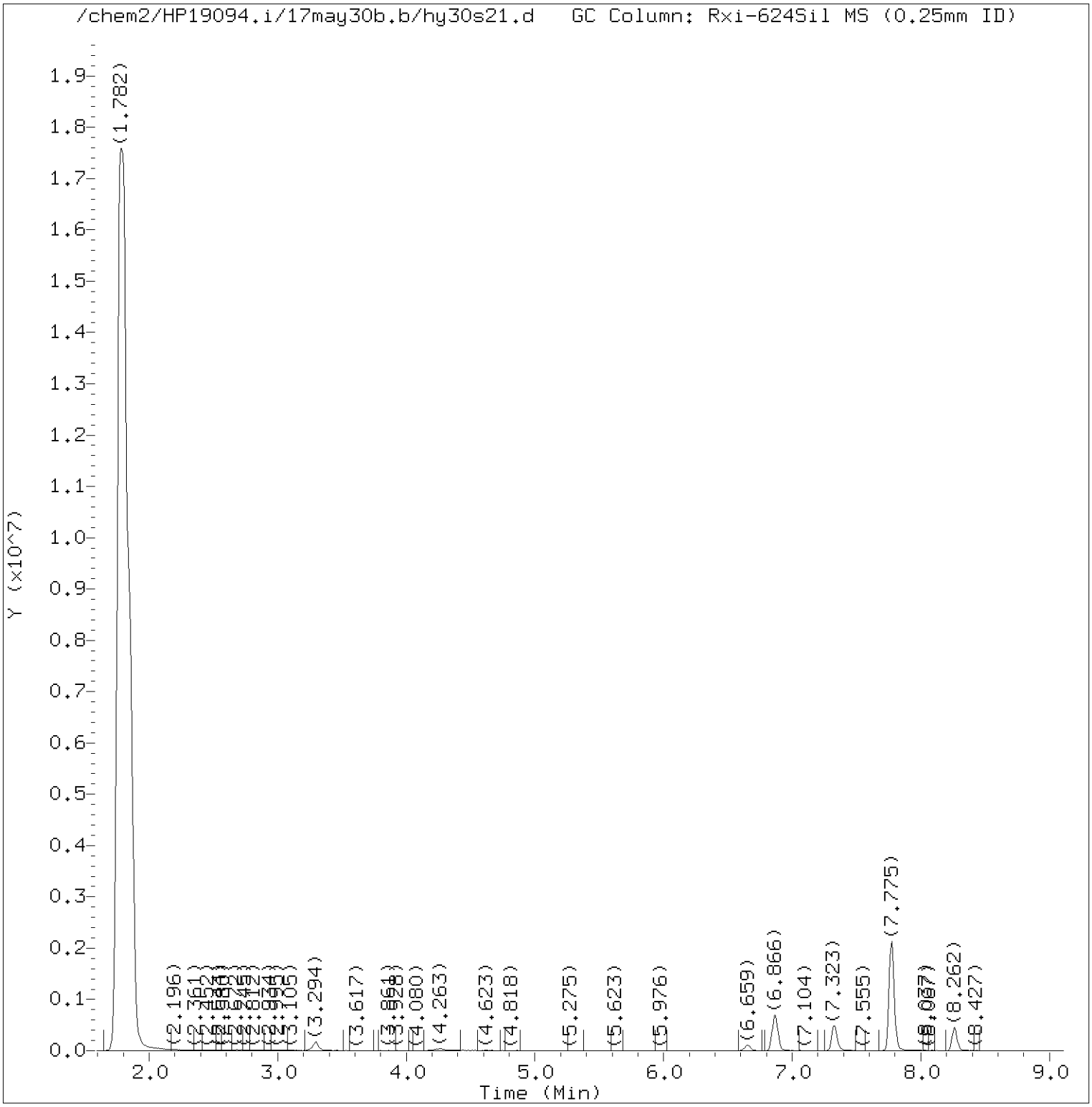
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:33. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

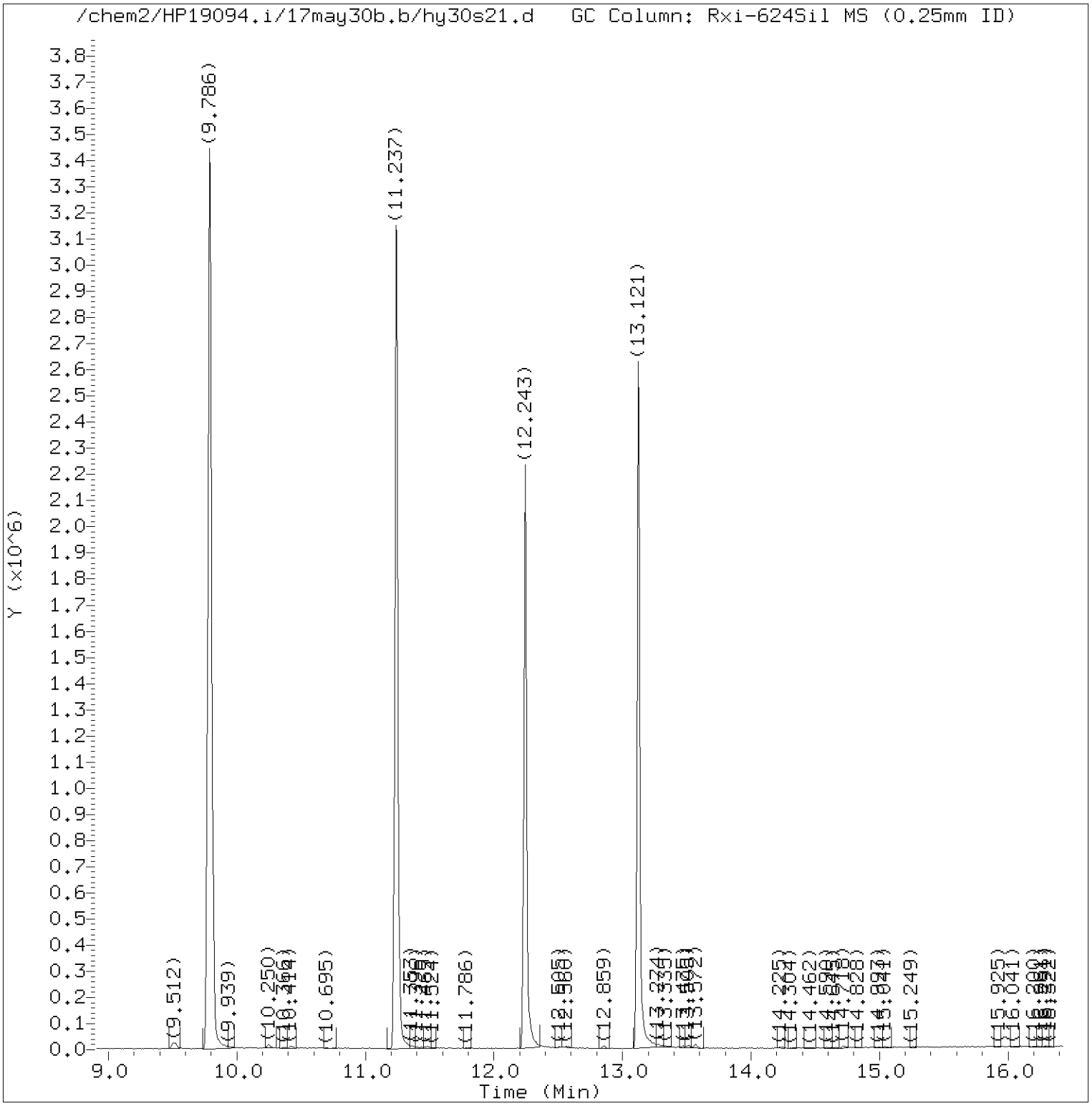
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s21.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:02 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

Sample Name: R8804 Lab Sample ID: 9009417

Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:33.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s21.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:02 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

Sample Name: R8804 Lab Sample ID: 9009417

Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:33.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s21.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:02 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

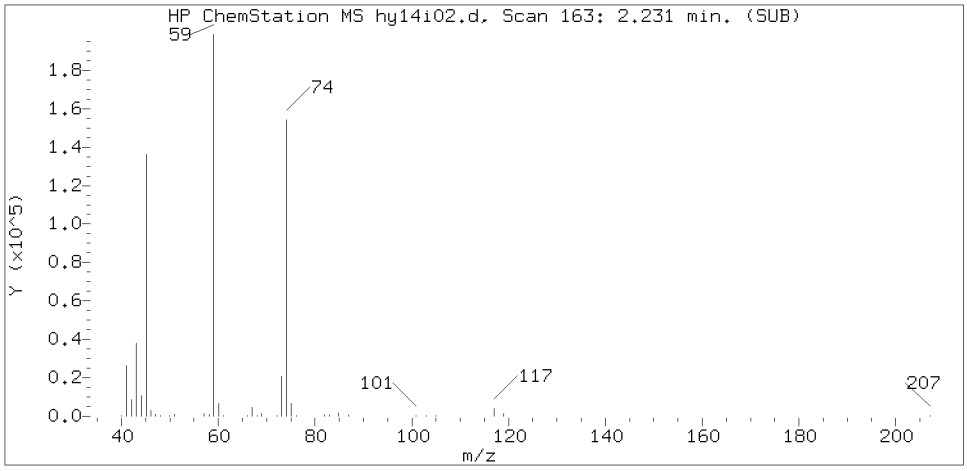
Sample Name: R8804 Lab Sample ID: 9009417

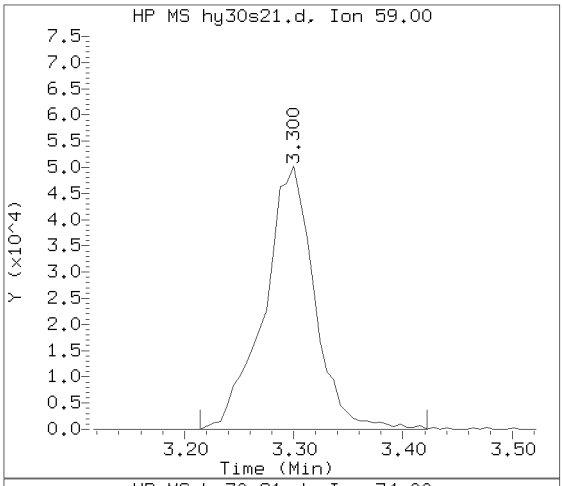
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
11) Ethyl ether	(2)	3.300	59	161023	3.441
26)*t-Butyl Alcohol-d10	(1)	4.263	65	98923M	50.000
49) Chloroform	(2)	6.659	83	130290	0.999
50)$Dibromofluoromethane	(2)	6.866	113	668957	10.437
57)$1,2-Dichloroethane-d4	(2)	7.330	102	109786	10.593
63)*Fluorobenzene	(2)	7.775	96	2859156	10.000
67) Trichloroethene	(2)	8.262	95	227489	2.869
82)$Toluene-d8	(3)	9.786	98	2766119	10.324
97)*Chlorobenzene-d5	(3)	11.243	117	1832956	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	727954	9.562
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	707968	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

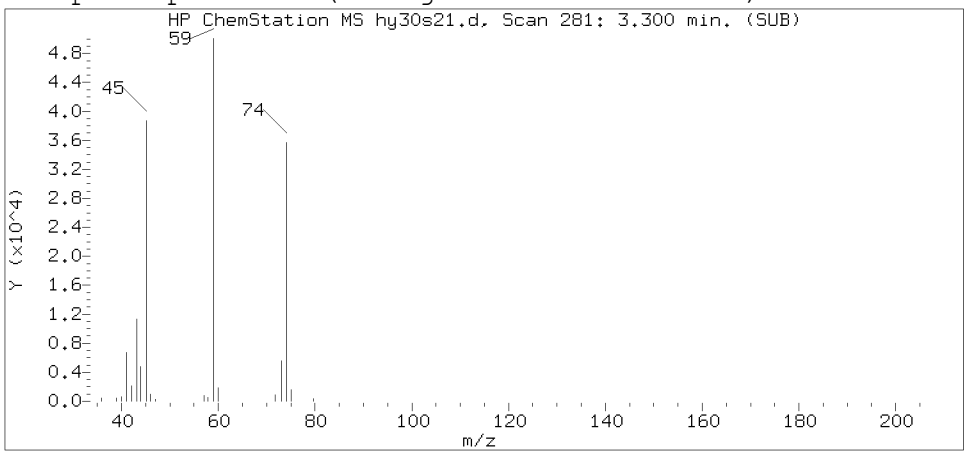
Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:33.
Target 3.5 esignature user ID: sej02002

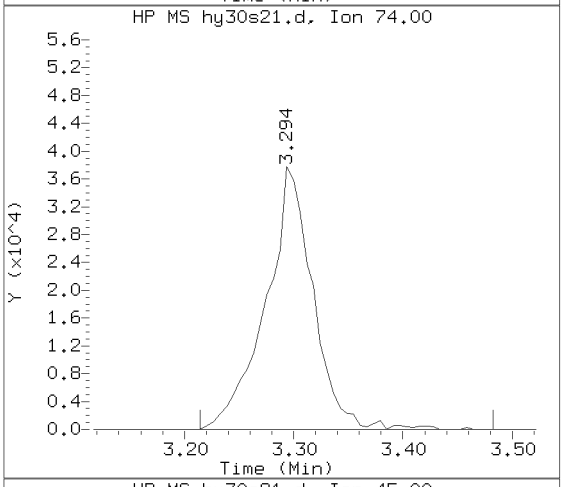
Reference Standard Spectrum for Ethyl ether



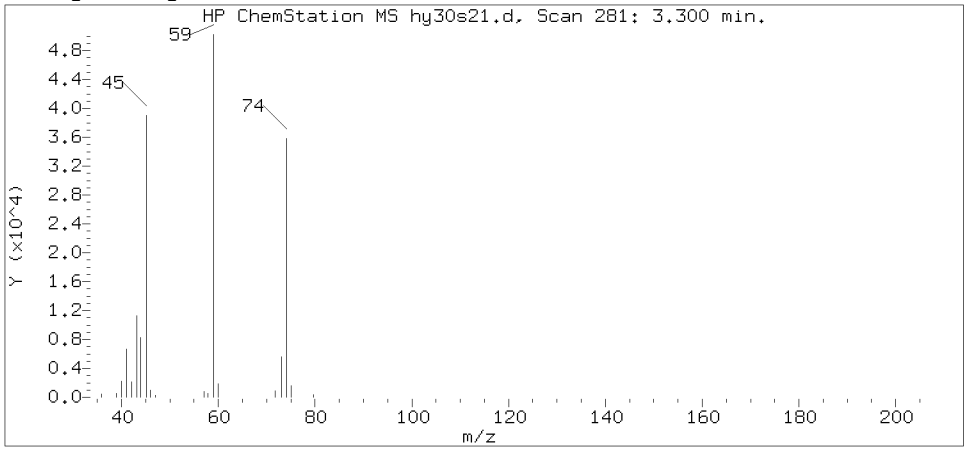


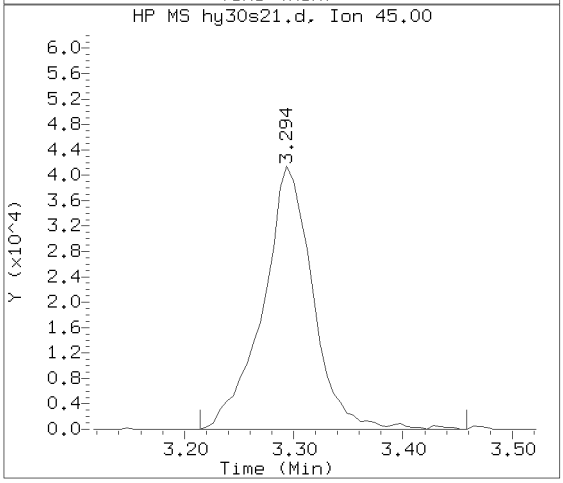
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s21.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:02 Analyst ID: kel01973

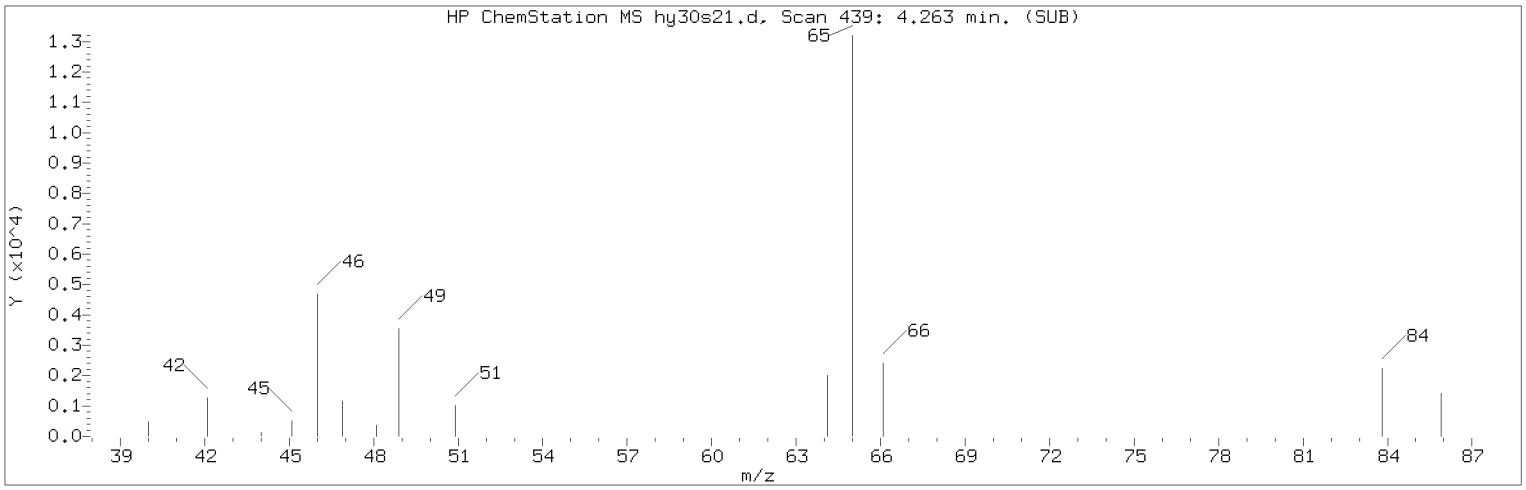
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

Sample Name: R8804 Lab Sample ID: 9009417

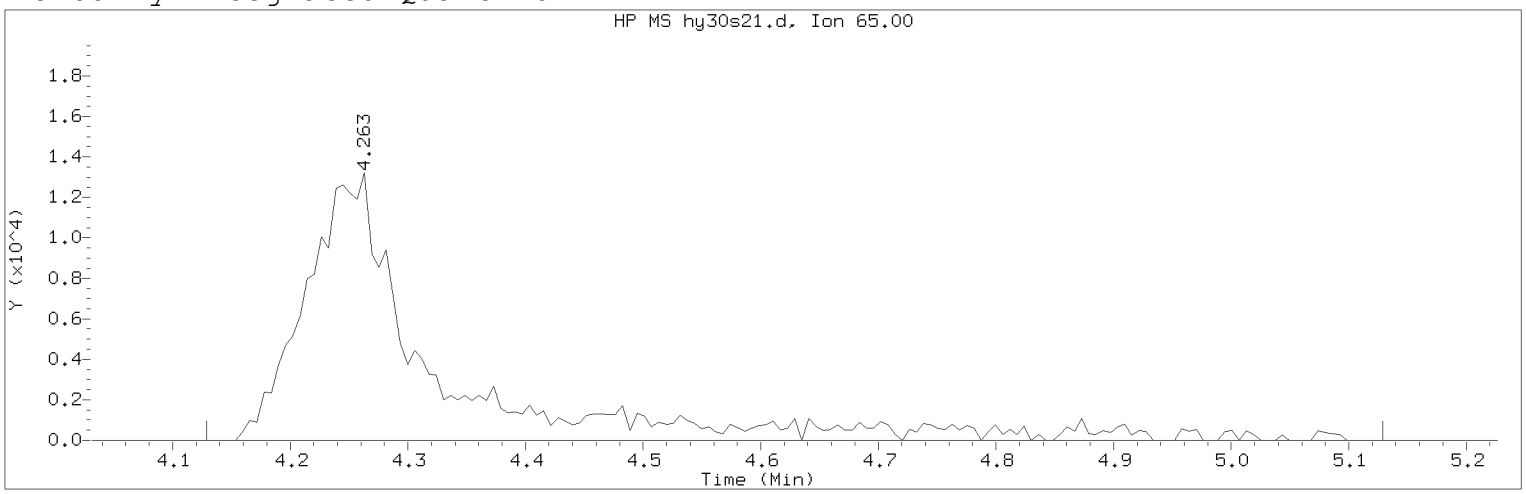
Compound Number	: 11
Compound Name	: Ethyl ether
Scan Number	: 281
Retention Time (minutes)	: 3.300
Relative Retention Time	: 0.00079
Quant Ion	: 59.00
Area (flag)	: 161023
On-Column Amount (ng)	: 3.4409

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:33.
Target 3.5 esignature user ID: sej02002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s21.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:02 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

Sample Name: R8804 Lab Sample ID: 9009417

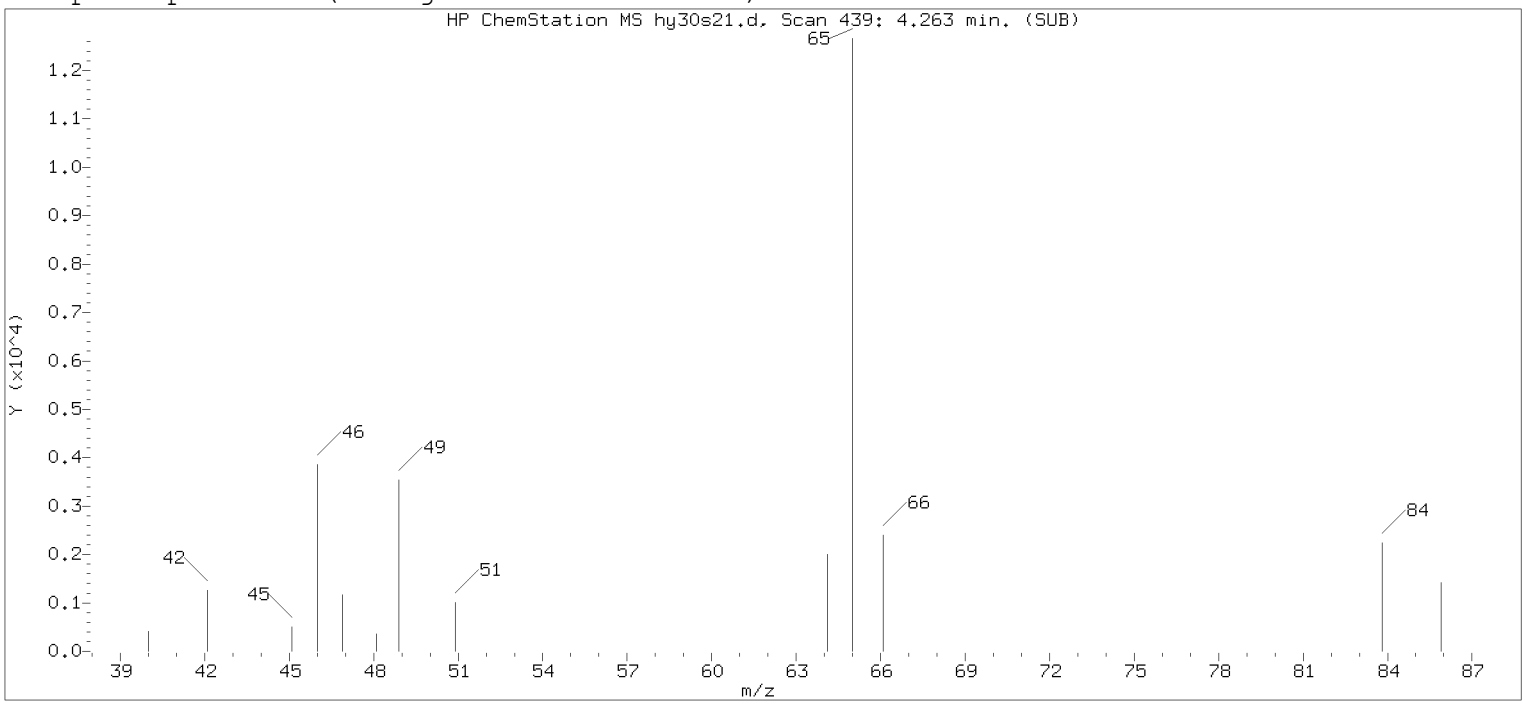
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 439
Retention Time (minutes): 4.263
Quant Ion : 65.00
Area (flag) : 98923M
On-Column Amount (ng) : 50.0000
Integration start scan : 416 Integration stop scan: 580
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

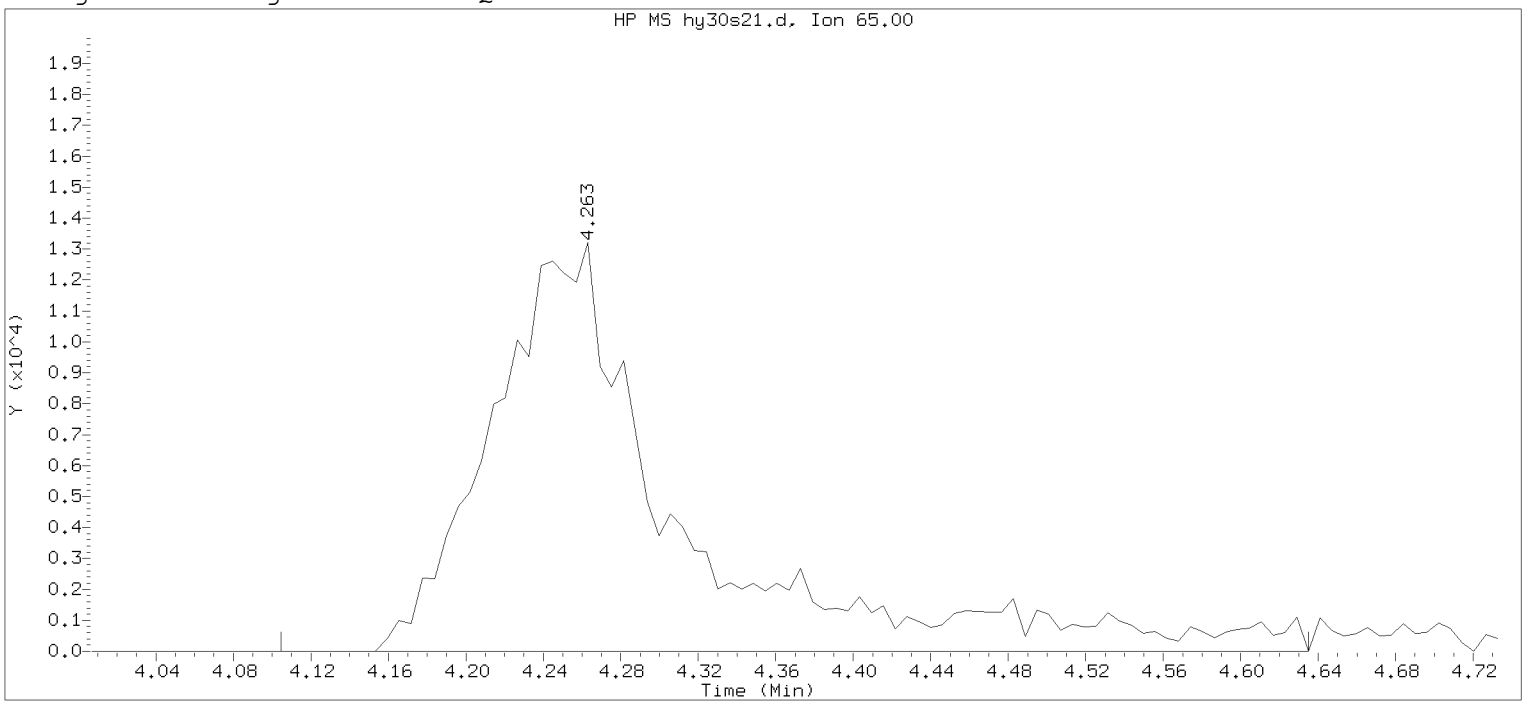
Analyst responsible for change: Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:33.
Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s21.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:02 Analyst ID: kel01973

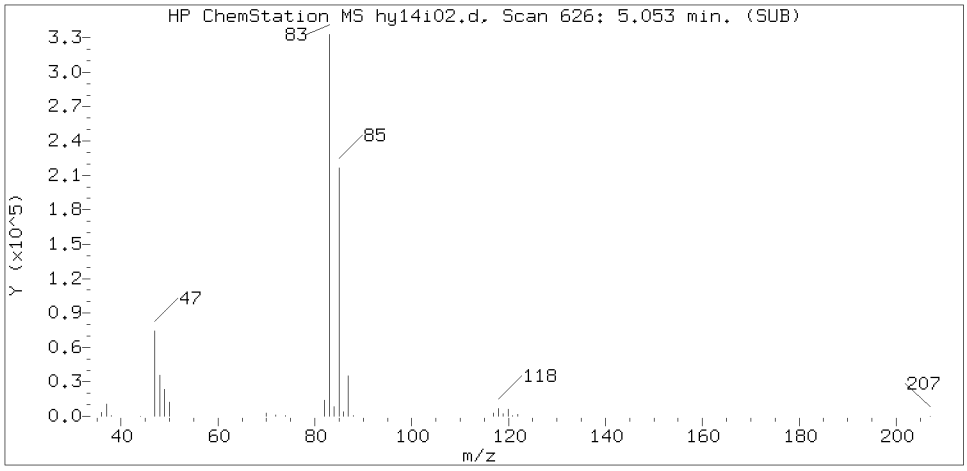
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:20 Automation

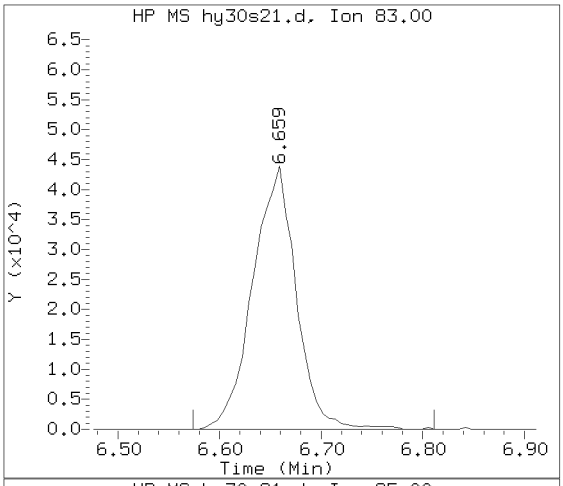
Sample Name: R8804 Lab Sample ID: 9009417

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 439		
Retention Time (minutes)	: 4.263		
Quant Ion	: 65.00		
Area	: 88108		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 412	Integration stop scan:	499
Y at integration start	: 0	Y at integration end:	0

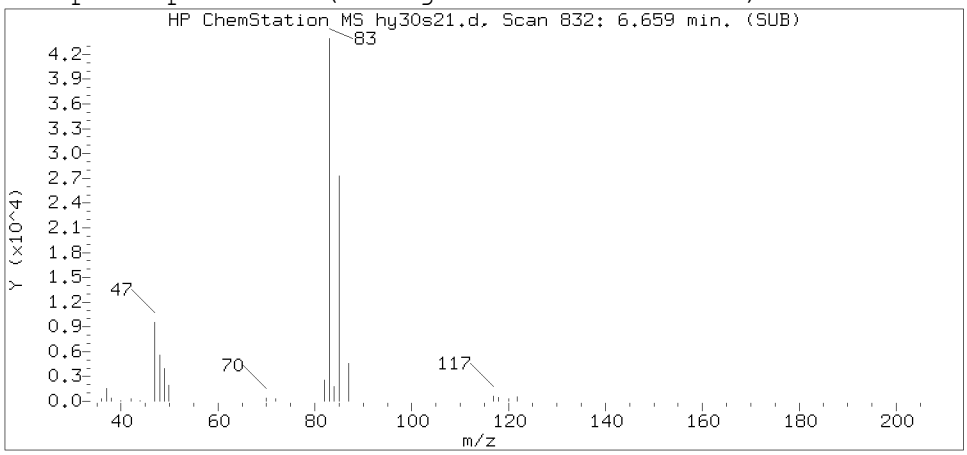
Digitally signed by Sara E. Johnson on 05/30/2017 at 20:33.
Target 3.5 esignature user Sara E. Johnson

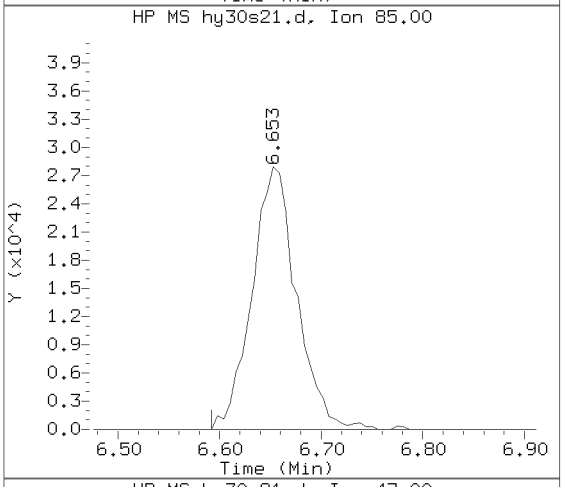
Reference Standard Spectrum for Chloroform



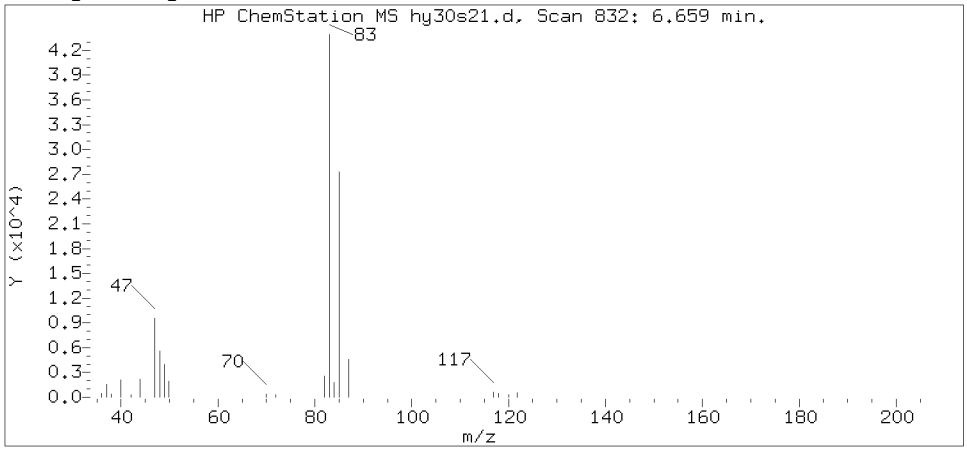


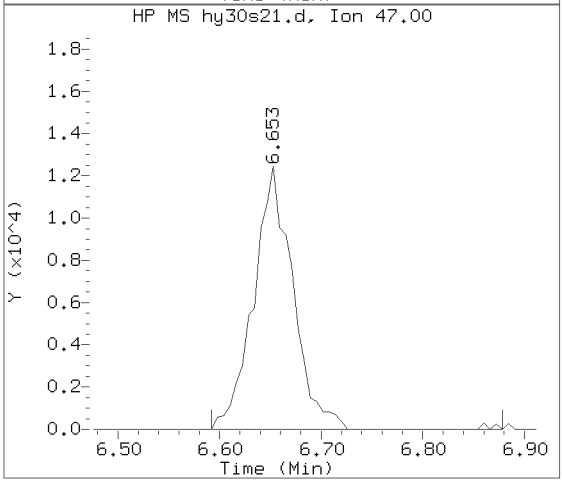
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s21.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:02 Analyst ID: kel01973

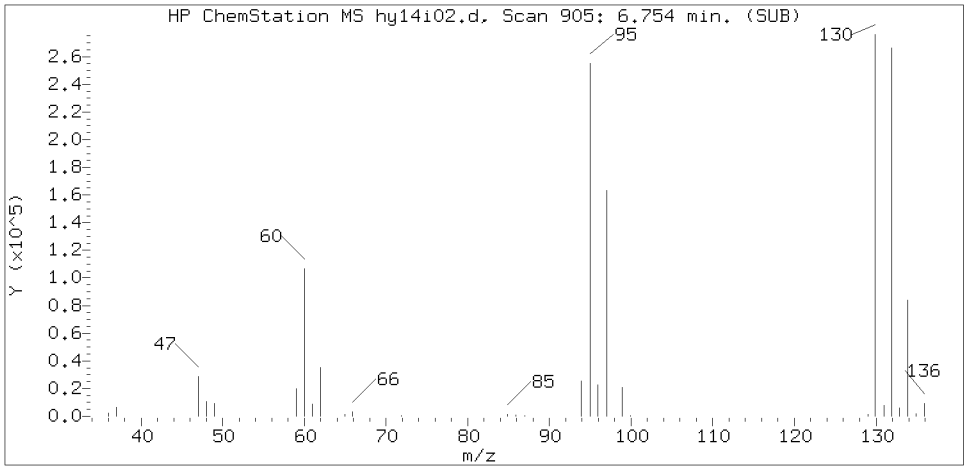
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

Sample Name: R8804 Lab Sample ID: 9009417

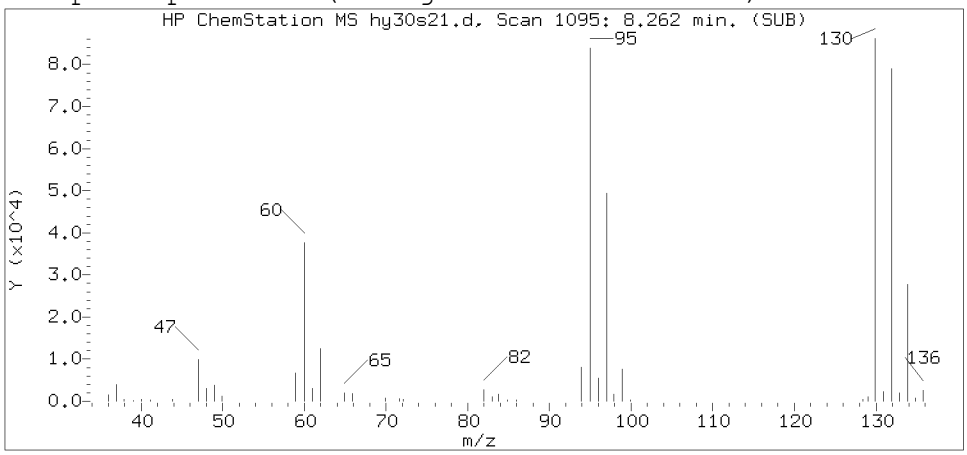
Compound Number	: 49
Compound Name	: Chloroform
Scan Number	: 832
Retention Time (minutes)	: 6.659
Relative Retention Time	: 0.00000
Quant Ion	: 83.00
Area (flag)	: 130290
On-Column Amount (ng)	: 0.9991

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:33.
Target 3.5 esignature user ID: sej02002

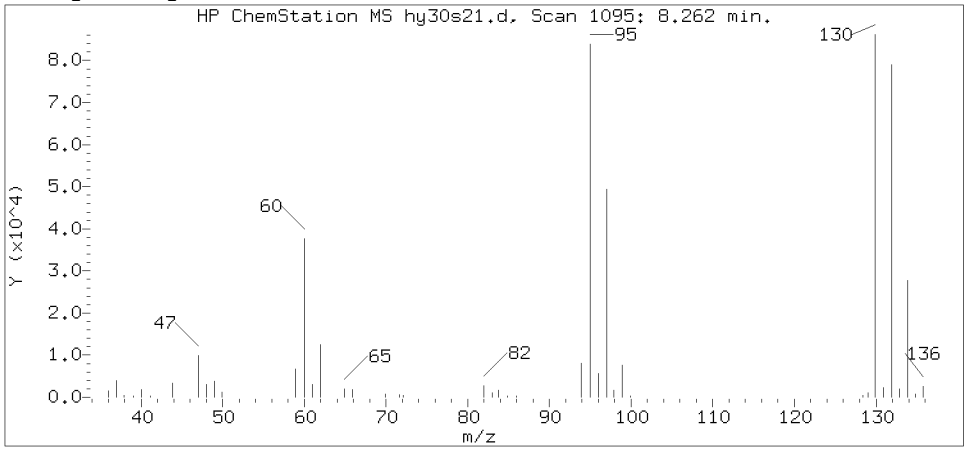
Reference Standard Spectrum for Trichloroethene

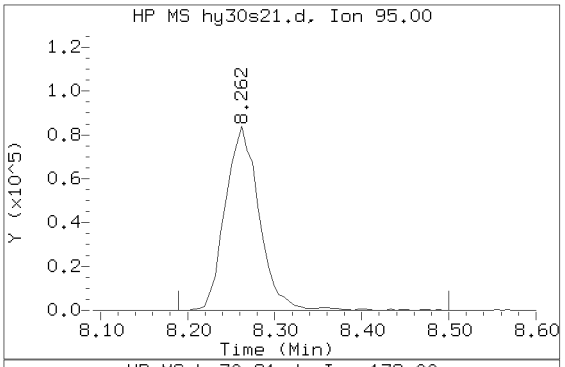


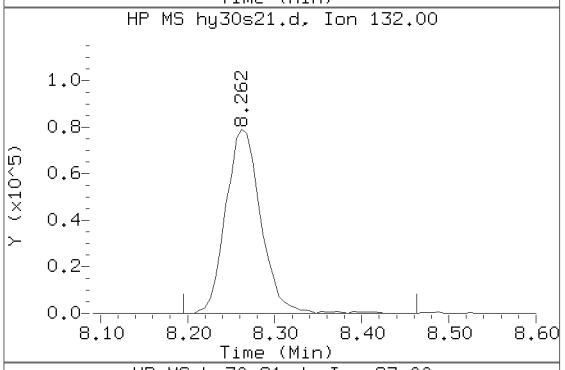
Sample Spectrum (Background Subtracted)

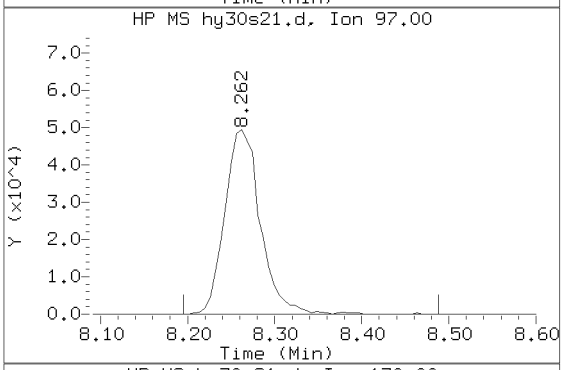


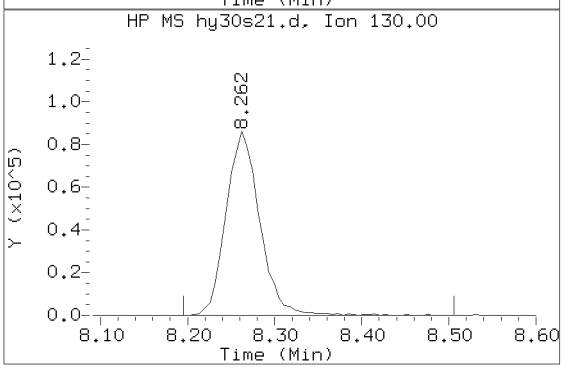
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may30b.b/hy30s21.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:02 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:33 sej02002

Sample Name: R8804 Lab Sample ID: 9009417

Compound Number	: 67
Compound Name	: Trichloroethene
Scan Number	: 1095
Retention Time (minutes)	: 8.262
Relative Retention Time	:-0.00000
Quant Ion	: 95.00
Area (flag)	: 227489
On-Column Amount (ng)	: 2.8689

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:33.
Target 3.5 esignature user ID: sej02002

R8805 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 9009418

Data file: /chem2/HP19094.i/17may30b.b/hy30s22.d Injection date and time: **30-MAY-2017 20:22**
Data file Sample Info. Line: R8805;9009418;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274, 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263	(-0.006)	439	65	92158M	(-18)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2816012	(-11)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1805912	(-16)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	692813	(-25)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(0.000)	113	652328	10.334	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	107144	10.497	105%		74 - 113
82) Toluene-d8	(3)	9.792	(0.000)	98	2726184	10.327	103%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	692452	9.232	92%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)				Not Detected					0.3	1
5) Vinyl Chloride	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)	3.306	(0.000)	59	504182	10.939	10.94		J	0.4	12
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
14) Acetone	(1)				Not Detected					3	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
49) Chloroform	(2)	6.659	(-0.000)	83	130250	1.014	1.01			0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)	8.262	(-0.000)	95	338299	4.332	4.33			0.2	1
83) Toluene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:58. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s22.d Injection date and time: **30-MAY-2017 20:22**
Data file Sample Info. Line: R8805;9009418;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

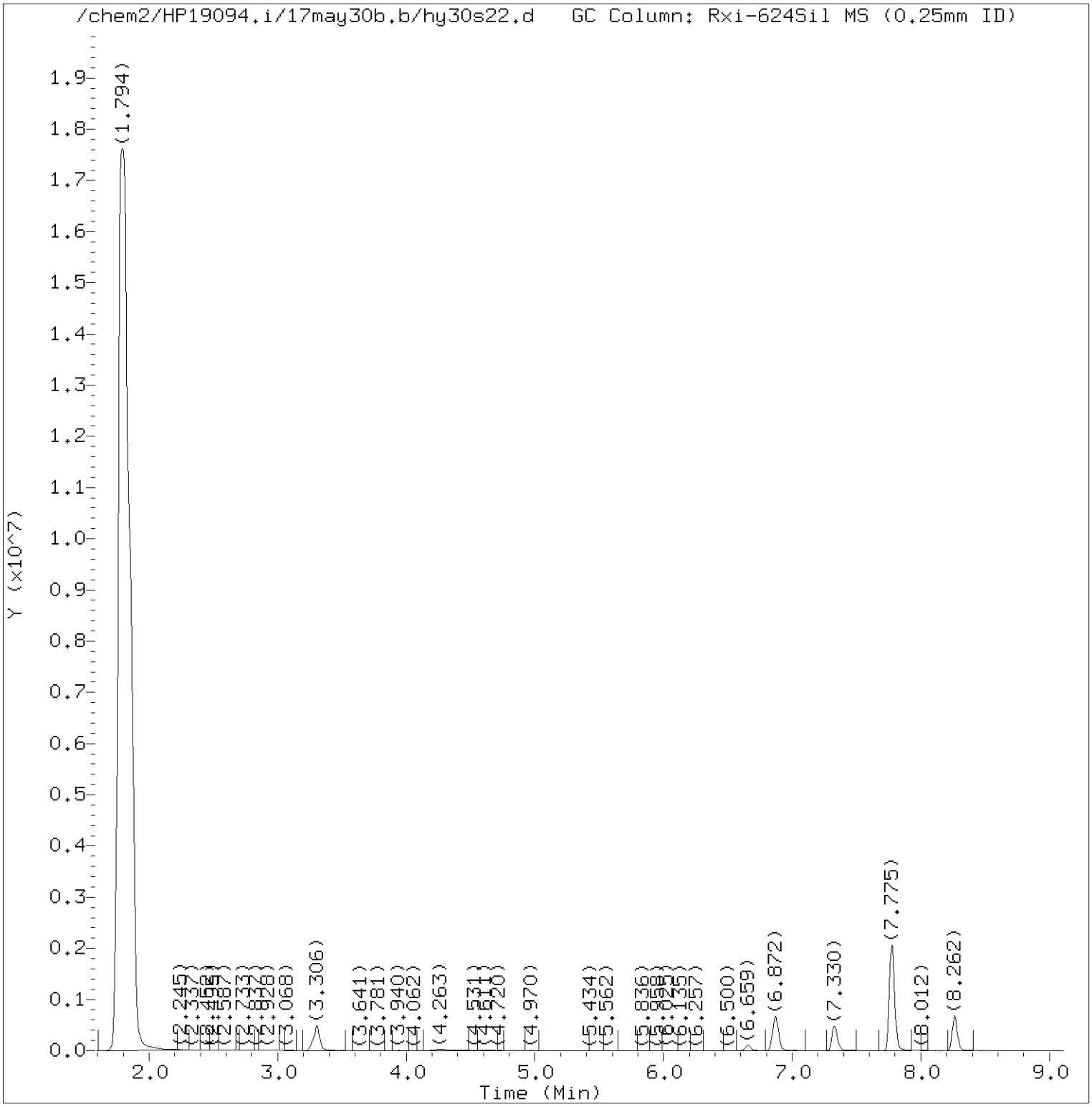
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:58. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

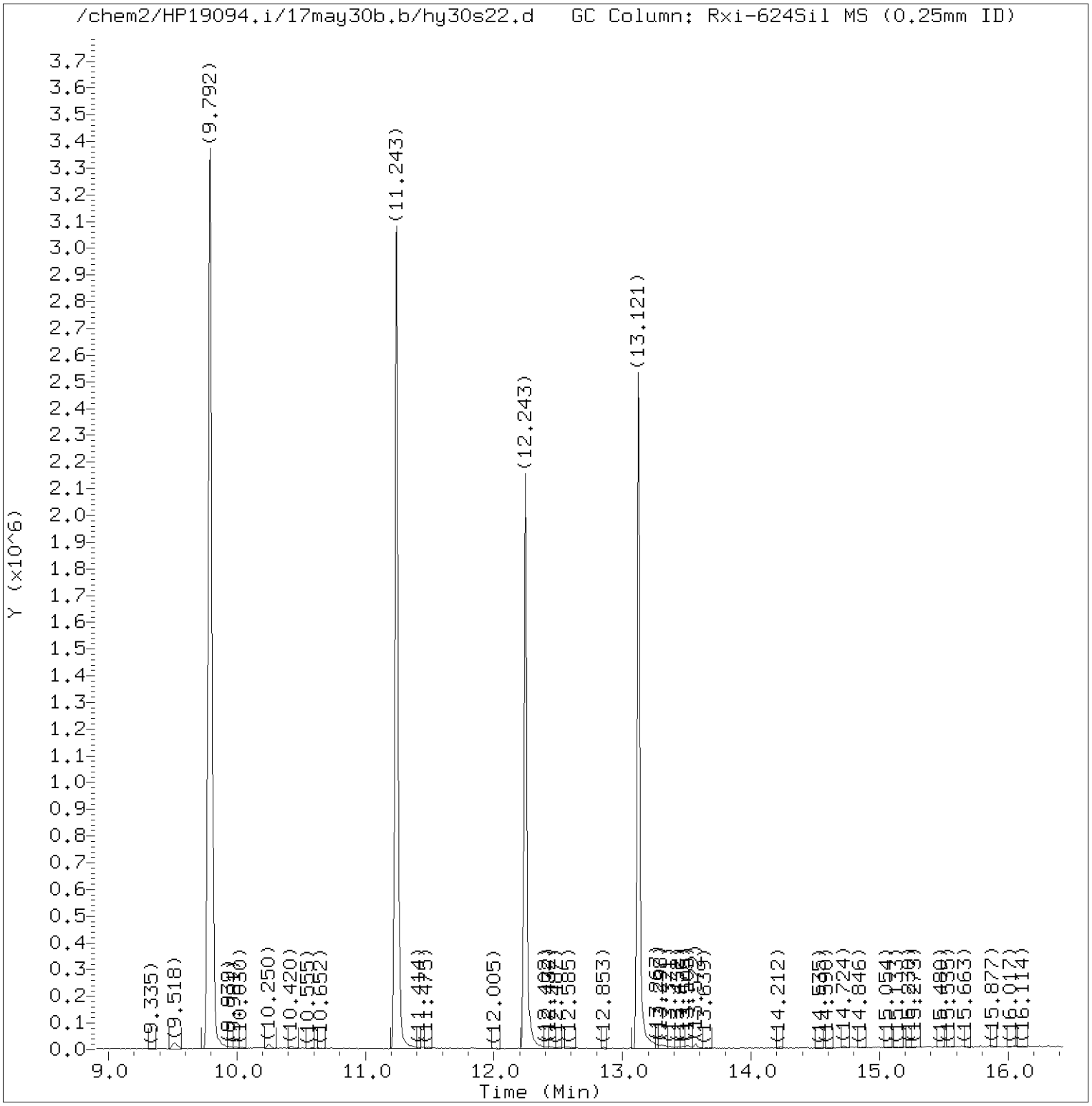
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s22.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:22 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

Sample Name: R8805 Lab Sample ID: 9009418

Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:58.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s22.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:22 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

Sample Name: R8805 Lab Sample ID: 9009418

Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:58.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s22.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:22 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

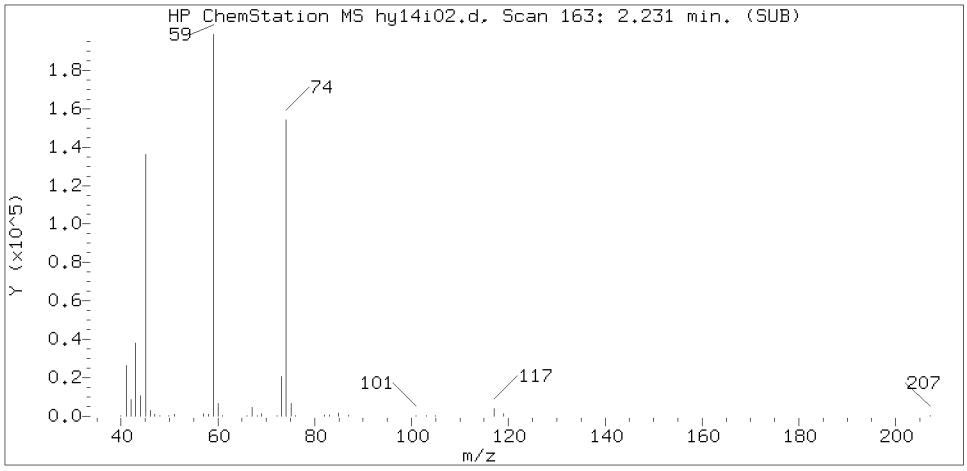
Sample Name: R8805 Lab Sample ID: 9009418

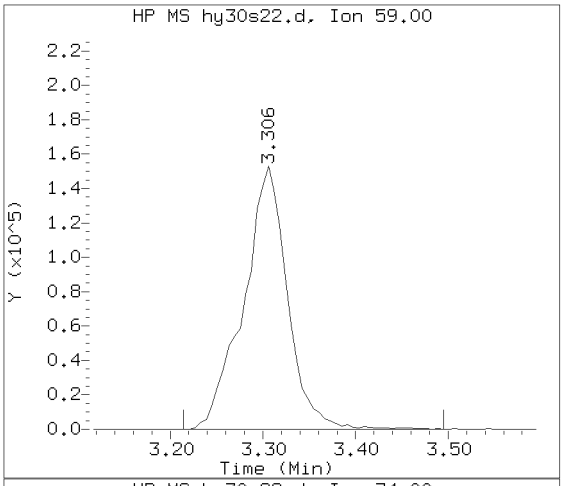
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
11) Ethyl ether	(2)	3.306	59	504182	10.939
26)*t-Butyl Alcohol-d10	(1)	4.263	65	92158M	50.000
49) Chloroform	(2)	6.659	83	130250	1.014
50)$Dibromofluoromethane	(2)	6.872	113	652328	10.334
57)$1,2-Dichloroethane-d4	(2)	7.330	102	107144	10.497
63)*Fluorobenzene	(2)	7.775	96	2816012	10.000
67) Trichloroethene	(2)	8.262	95	338299	4.332
82)$Toluene-d8	(3)	9.792	98	2726184	10.327
97)*Chlorobenzene-d5	(3)	11.243	117	1805912	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	692452	9.232
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	692813	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

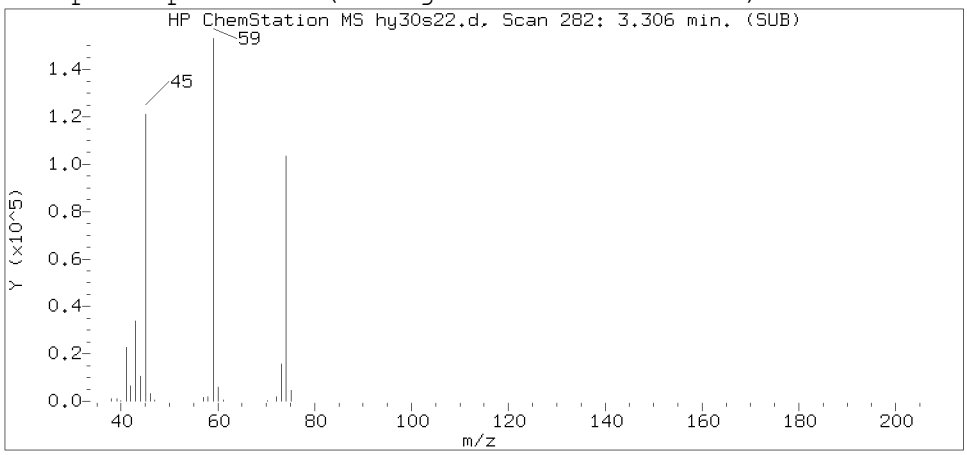
Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:58.
Target 3.5 esignature user ID: sej02002

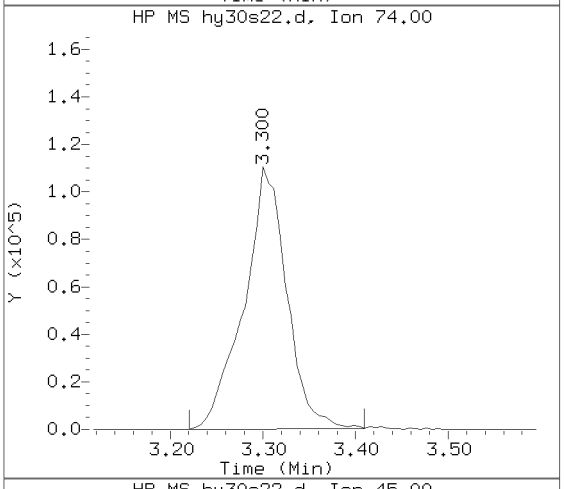
Reference Standard Spectrum for Ethyl ether



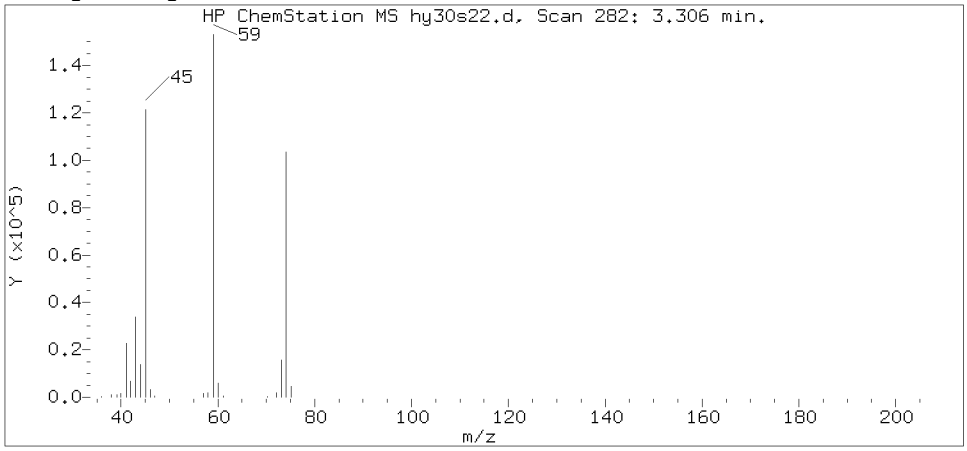


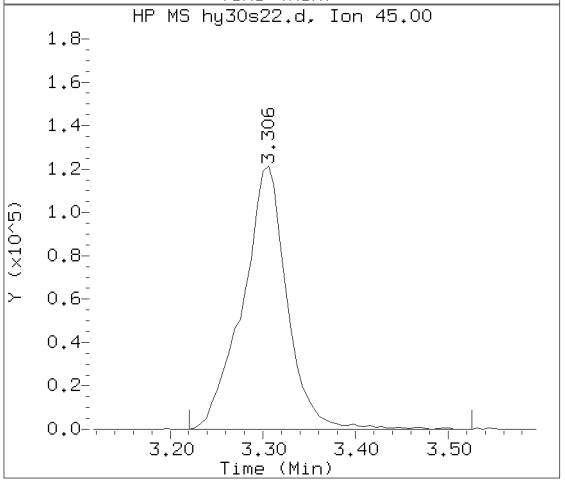
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s22.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:22 Analyst ID: kel01973

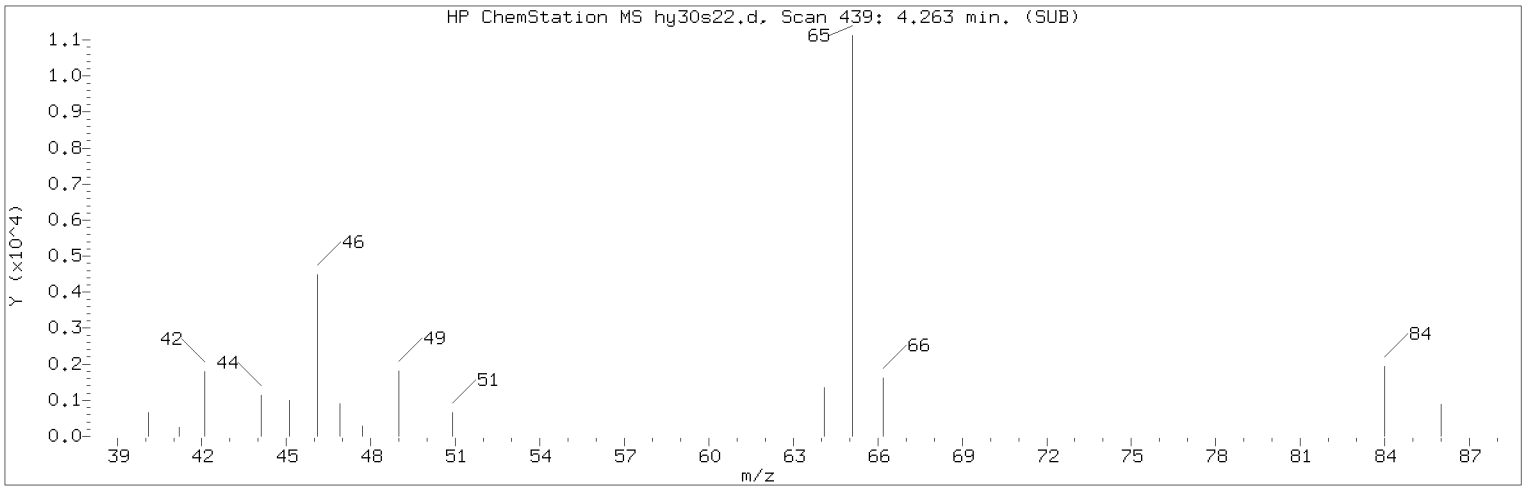
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

Sample Name: R8805 Lab Sample ID: 9009418

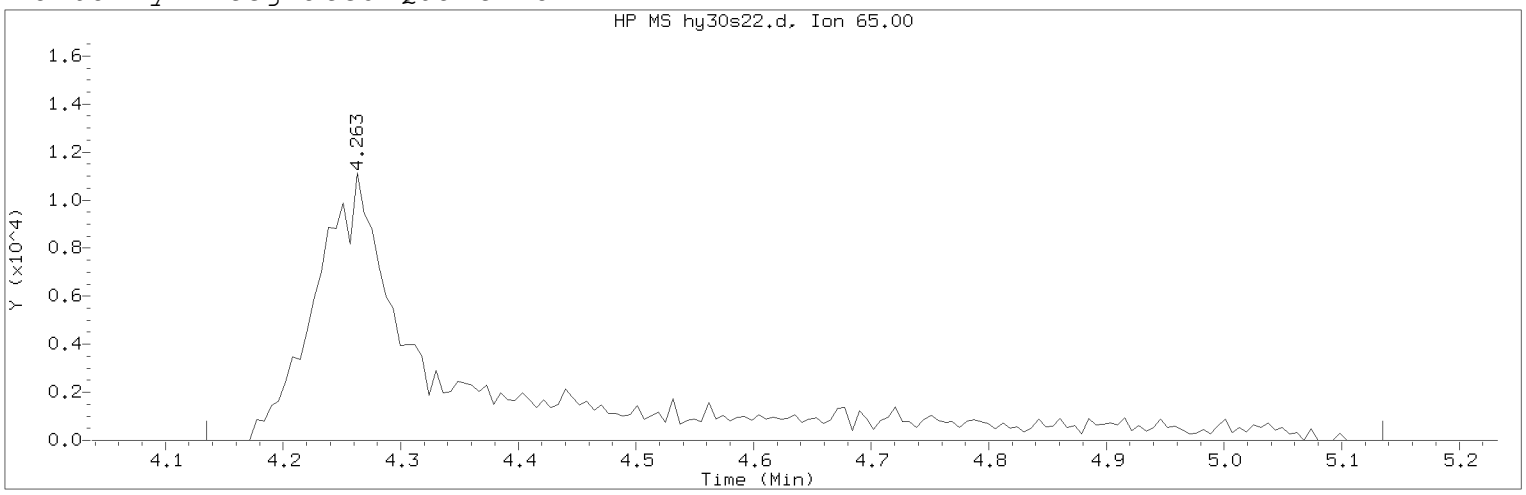
Compound Number	: 11
Compound Name	: Ethyl ether
Scan Number	: 282
Retention Time (minutes)	: 3.306
Relative Retention Time	: 0.00000
Quant Ion	: 59.00
Area (flag)	: 504182
On-Column Amount (ng)	: 10.9389

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:58.
Target 3.5 esignature user ID: sej02002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s22.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:22 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

Sample Name: R8805 Lab Sample ID: 9009418

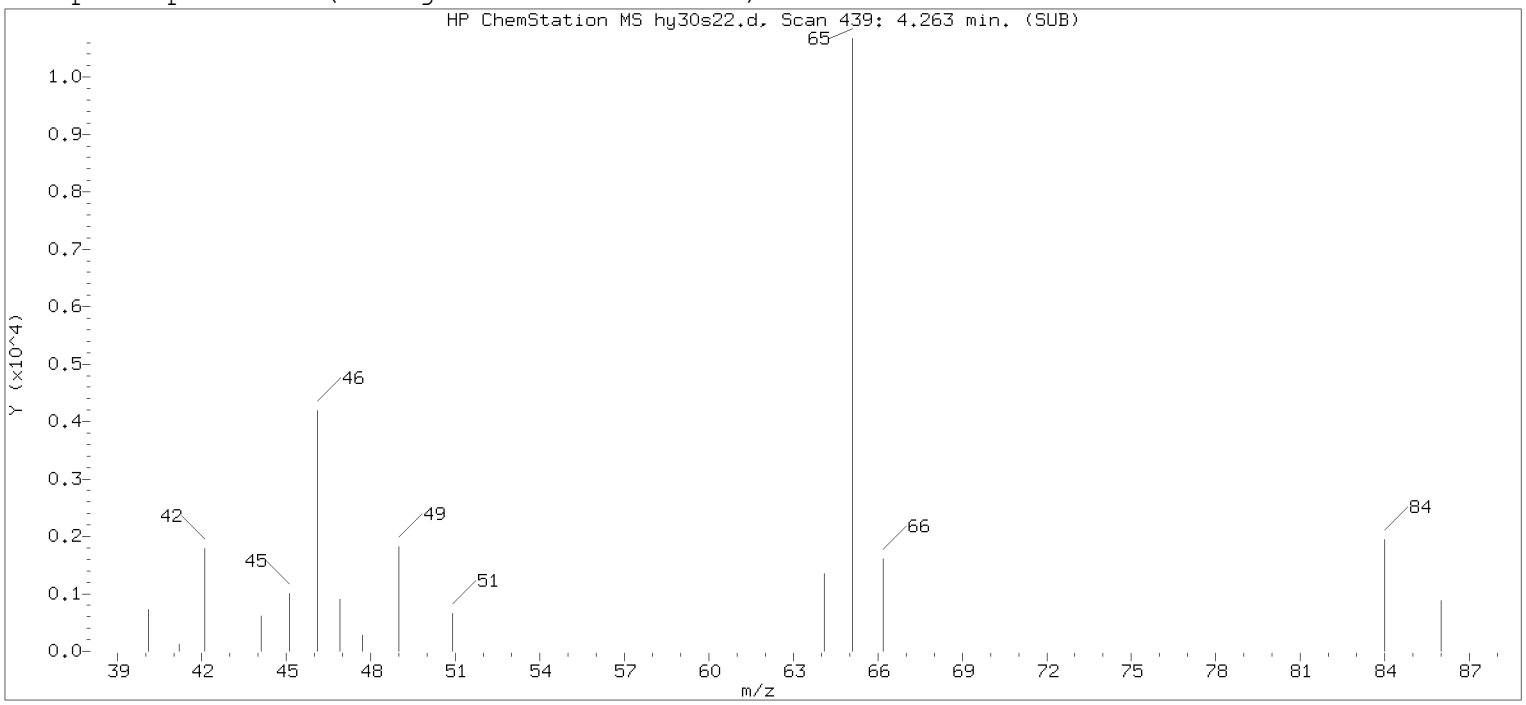
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 439
Retention Time (minutes): 4.263
Quant Ion : 65.00
Area (flag) : 92158M
On-Column Amount (ng) : 50.0000
Integration start scan : 417 Integration stop scan: 581
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

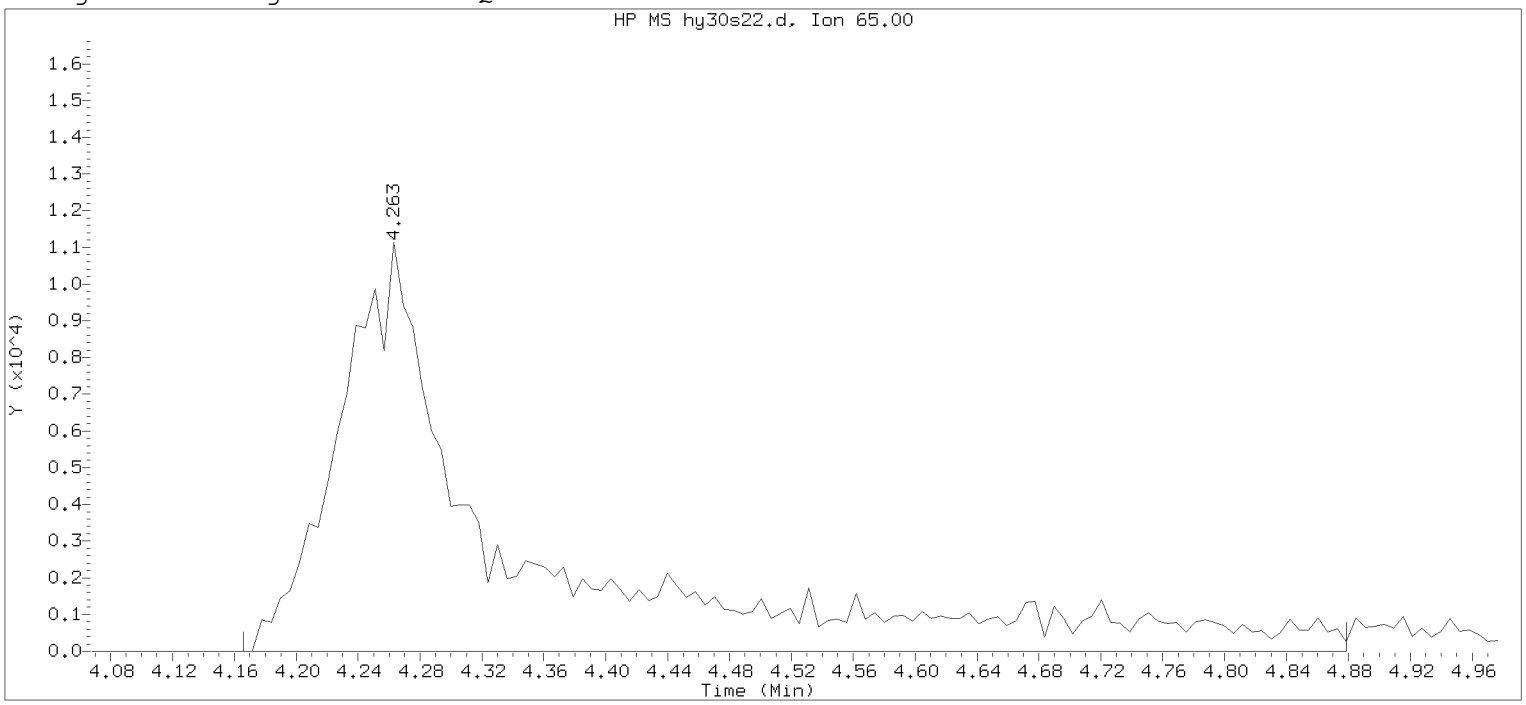
Analyst responsible for change: Digitally signed by Sara E. Johnson
on 05/30/2017 at 20:58.
Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30s22.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:22 Analyst ID: kel01973

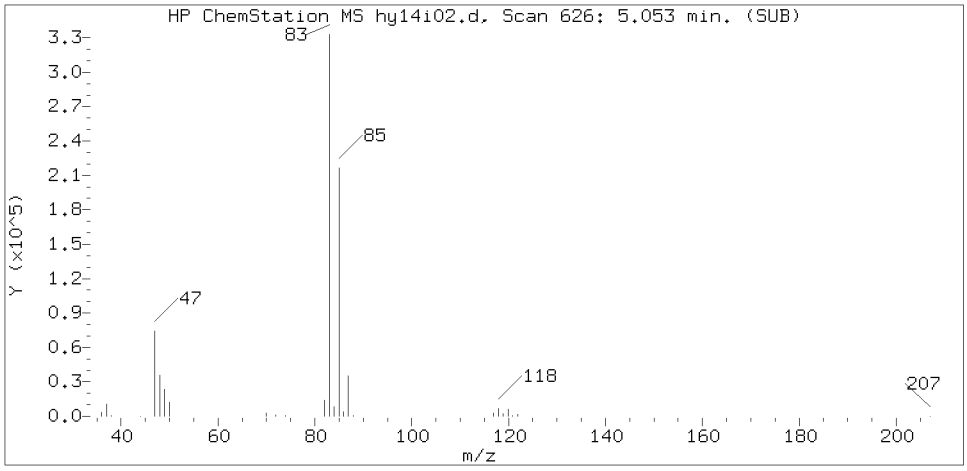
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:40 Automation

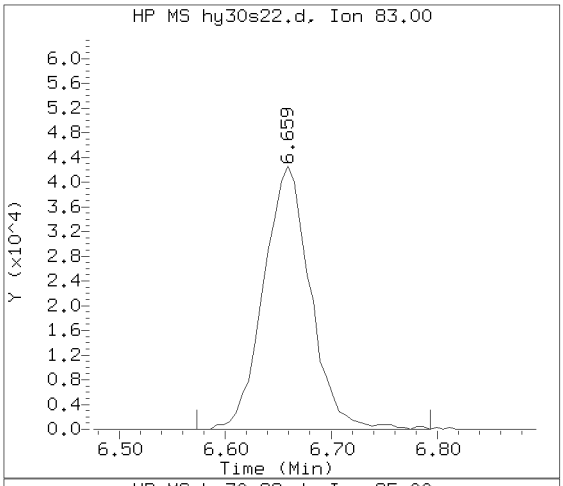
Sample Name: R8805 Lab Sample ID: 9009418

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 439		
Retention Time (minutes)	: 4.263		
Quant Ion	: 65.00		
Area	: 85856		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 422	Integration stop scan:	539
Y at integration start	: 0	Y at integration end:	0

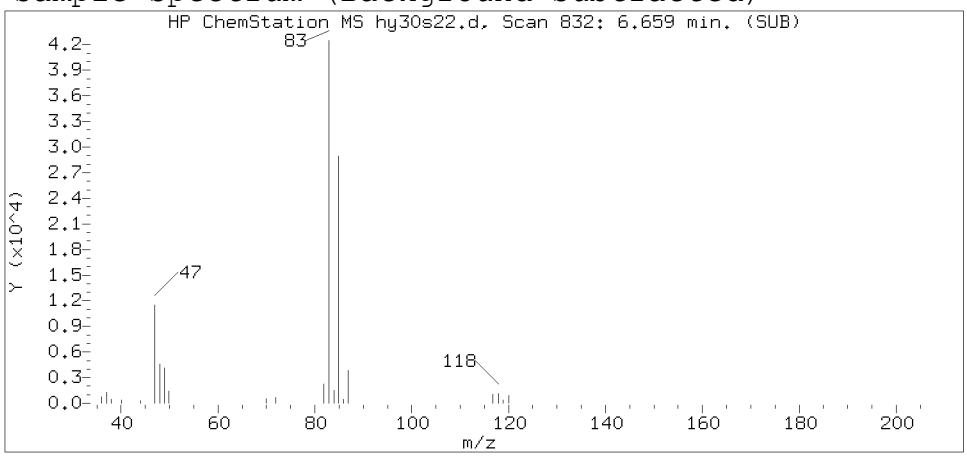
Digitally signed by Sara E. Johnson on 05/30/2017 at 20:58.
Target 3.5 esignature user Reason: I am the

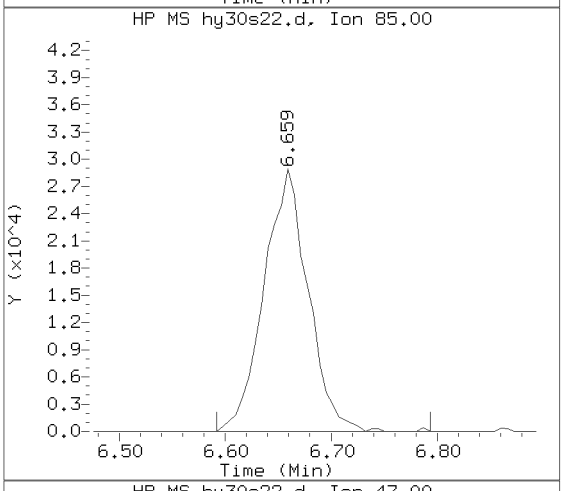
Reference Standard Spectrum for Chloroform



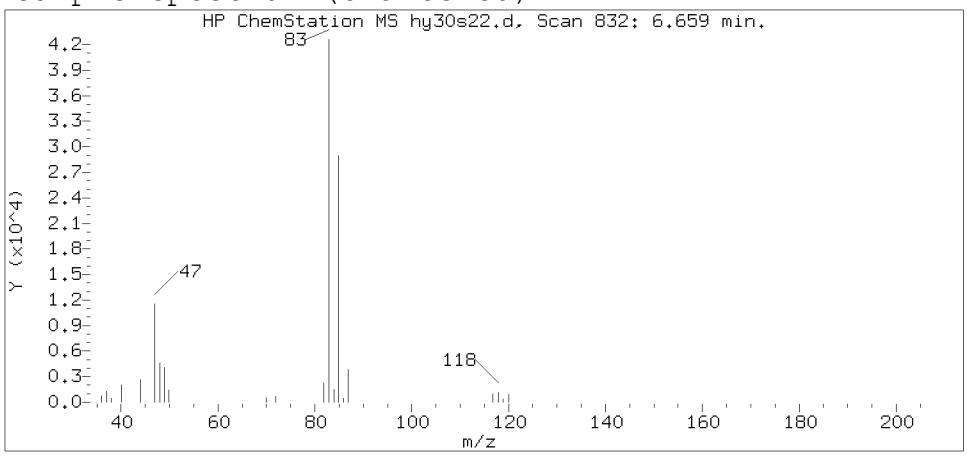


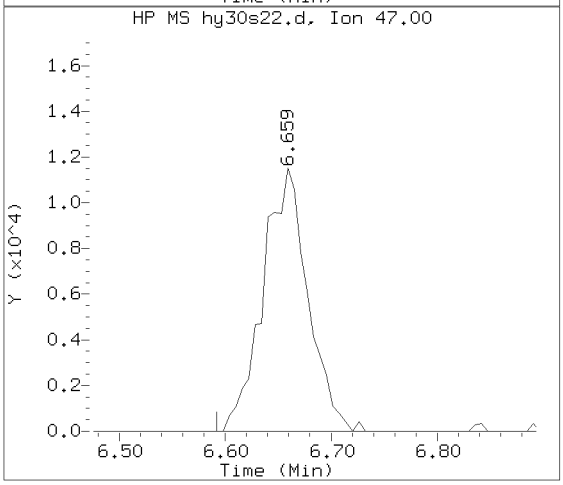
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may30b.b/hy30s22.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:22 Analyst ID: kel01973

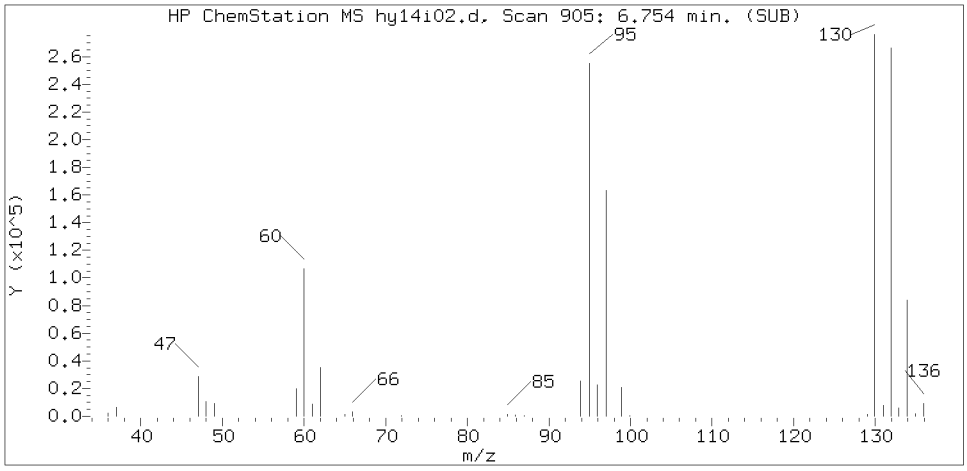
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

Sample Name: R8805 Lab Sample ID: 9009418

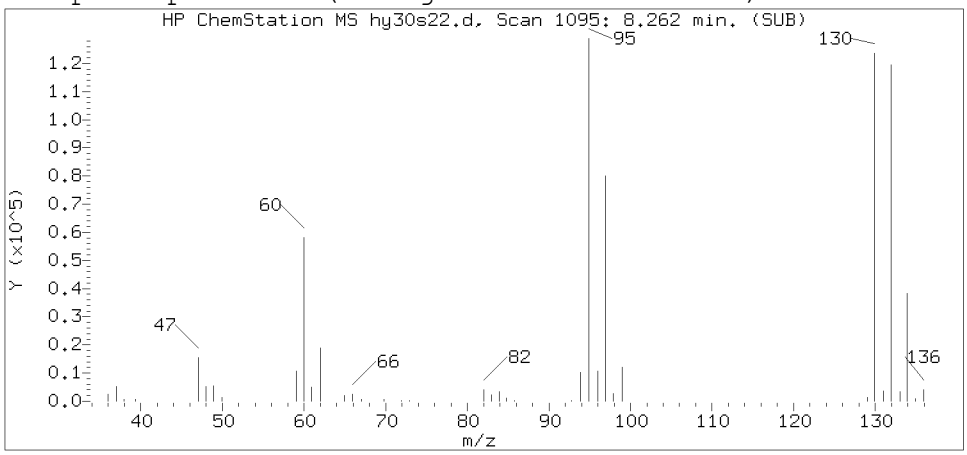
Compound Number : 49
Compound Name : Chloroform
Scan Number : 832
Retention Time (minutes): 6.659
Relative Retention Time :-0.00000
Quant Ion : 83.00
Area (flag) : 130250
On-Column Amount (ng) : 1.0141

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:58.
Target 3.5 esignature user ID: sej02002

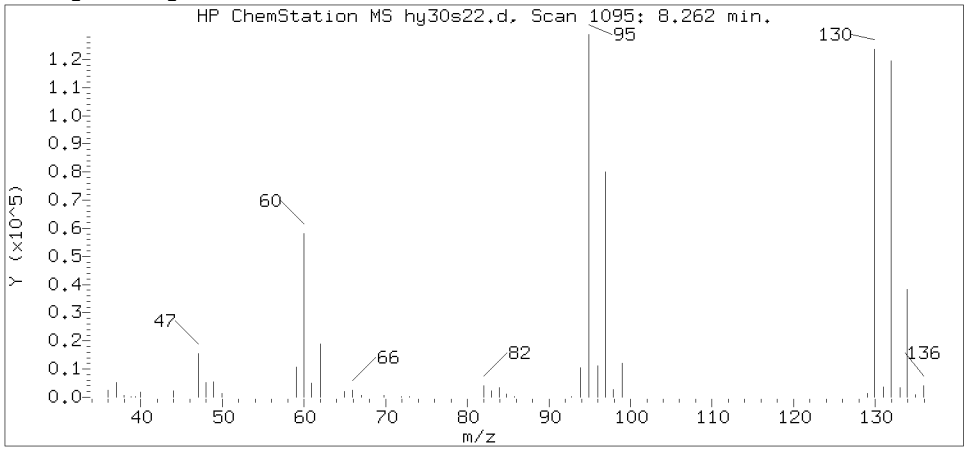
Reference Standard Spectrum for Trichloroethene

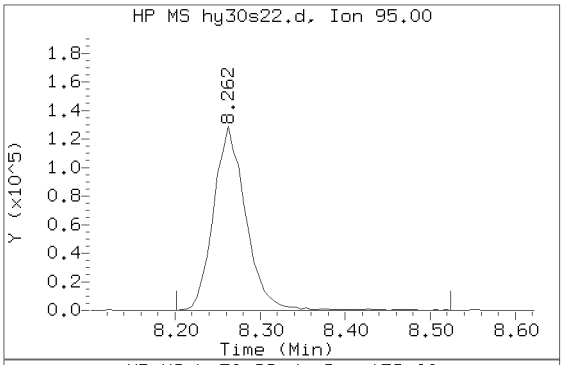


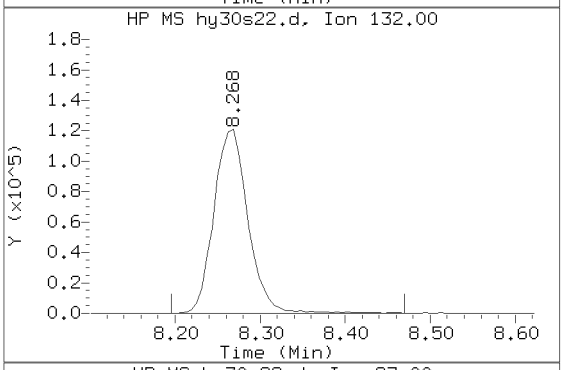
Sample Spectrum (Background Subtracted)

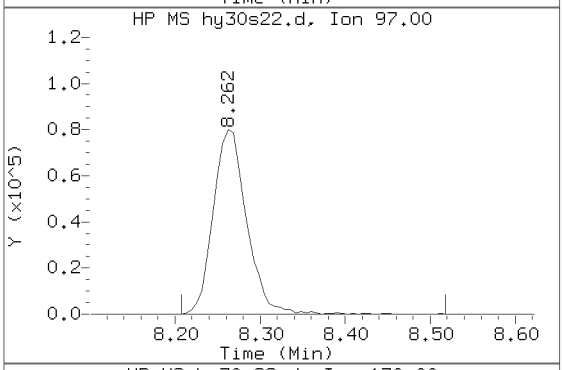


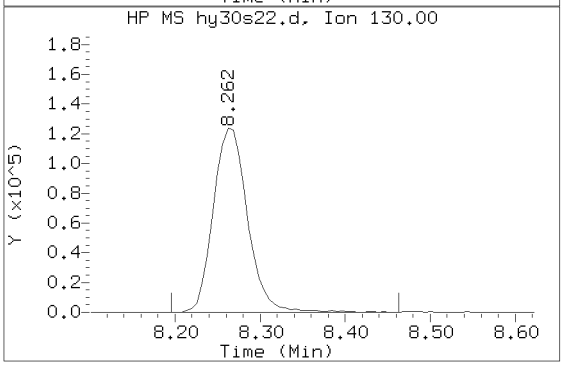
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may30b.b/hy30s22.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 20:22 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 20:57 sej02002

Sample Name: R8805 Lab Sample ID: 9009418

Compound Number	: 67
Compound Name	: Trichloroethene
Scan Number	: 1095
Retention Time (minutes)	: 8.262
Relative Retention Time	:-0.00000
Quant Ion	: 95.00
Area (flag)	: 338299
On-Column Amount (ng)	: 4.3318

Digitally signed by Sara E. Johnson on 05/30/2017 at 20:58.
Target 3.5 esignature user ID: sej02002

R8806 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 9009419

Data file: /chem2/HP19094.i/17may30b.b/hy30s17.d Injection date and time: **30-MAY-2017 18:41**
Data file Sample Info. Line: R8806;9009419;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 19:50 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274, 9145

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.006)	437	65	94458	(-16)	50.00	
63) Fluorobenzene	7.781	(-0.006)	1016	96	2974503	(-6)	10.00	
97) Chlorobenzene-d5	11.244	(-0.006)	1584	117	1947181	(-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	740587	(-20)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(0.001)	113	695749	10.434	104%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336	(0.000)	102	111710	10.361	104%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2875858	10.104	101%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	771017	9.534	95%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.3	1
5) Vinyl Chloride	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)				Not Detected					0.4	12
15) 1,1-Dichloroethene	(2)				Not Detected					0.4	1
14) Acetone	(1)				Not Detected					3	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
49) Chloroform	(2)				Not Detected					0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1
83) Toluene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:50. Target 3.5 esignature user ID: sej02002

Data file: /chem2/HP19094.i/17may30b.b/hy30s17.d Injection date and time: **30-MAY-2017 18:41**
Data file Sample Info. Line: R8806;9009419;1;0;;RAE88;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 19:50 sej02002

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **12026**
Calibration date and time (Last Method Edit): 30-MAY-2017 14:43
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE

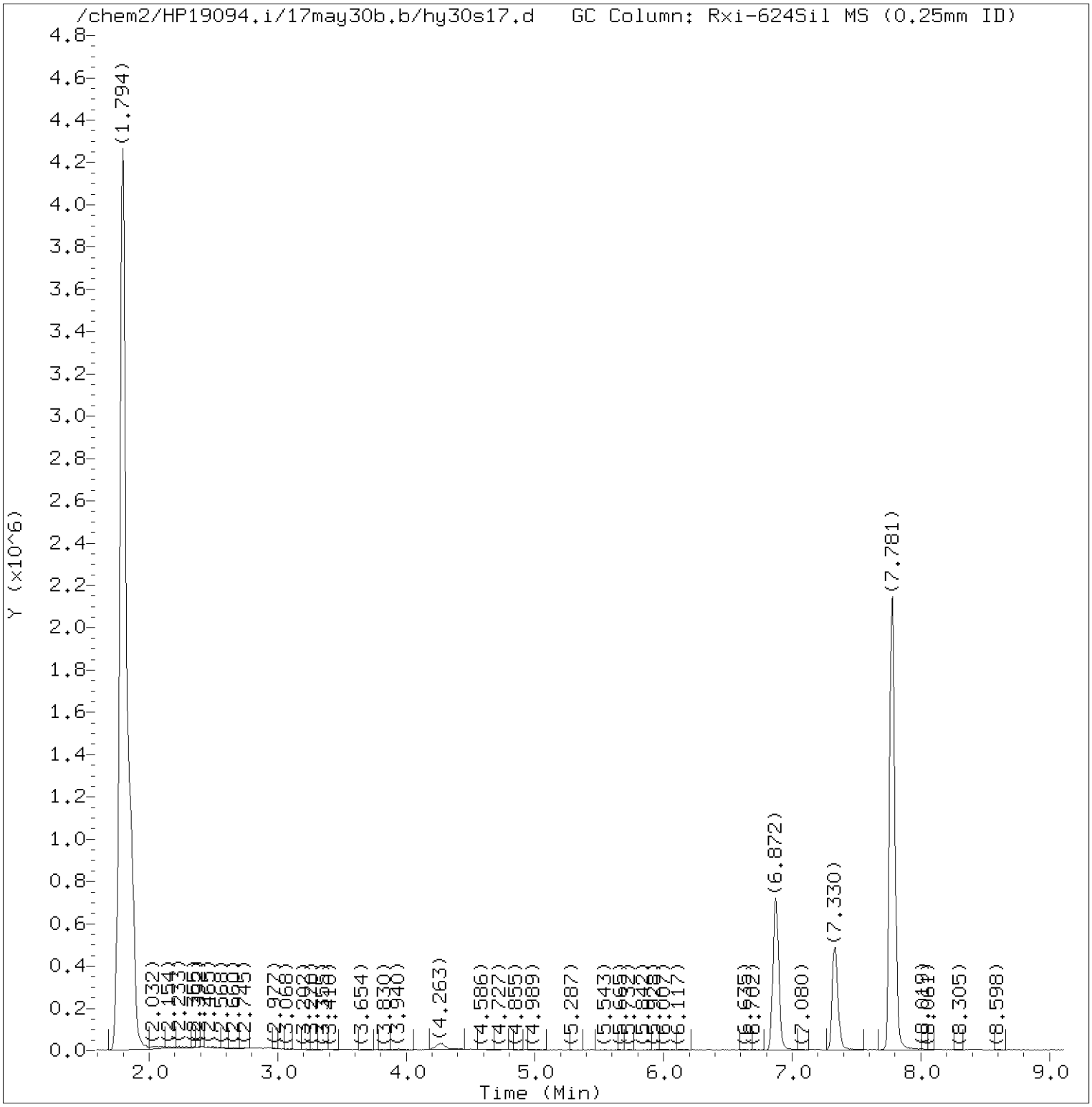
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Sara E. Johnson on 05/30/2017 at 19:50. Target 3.5 esignature user ID: sej02002

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:38. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

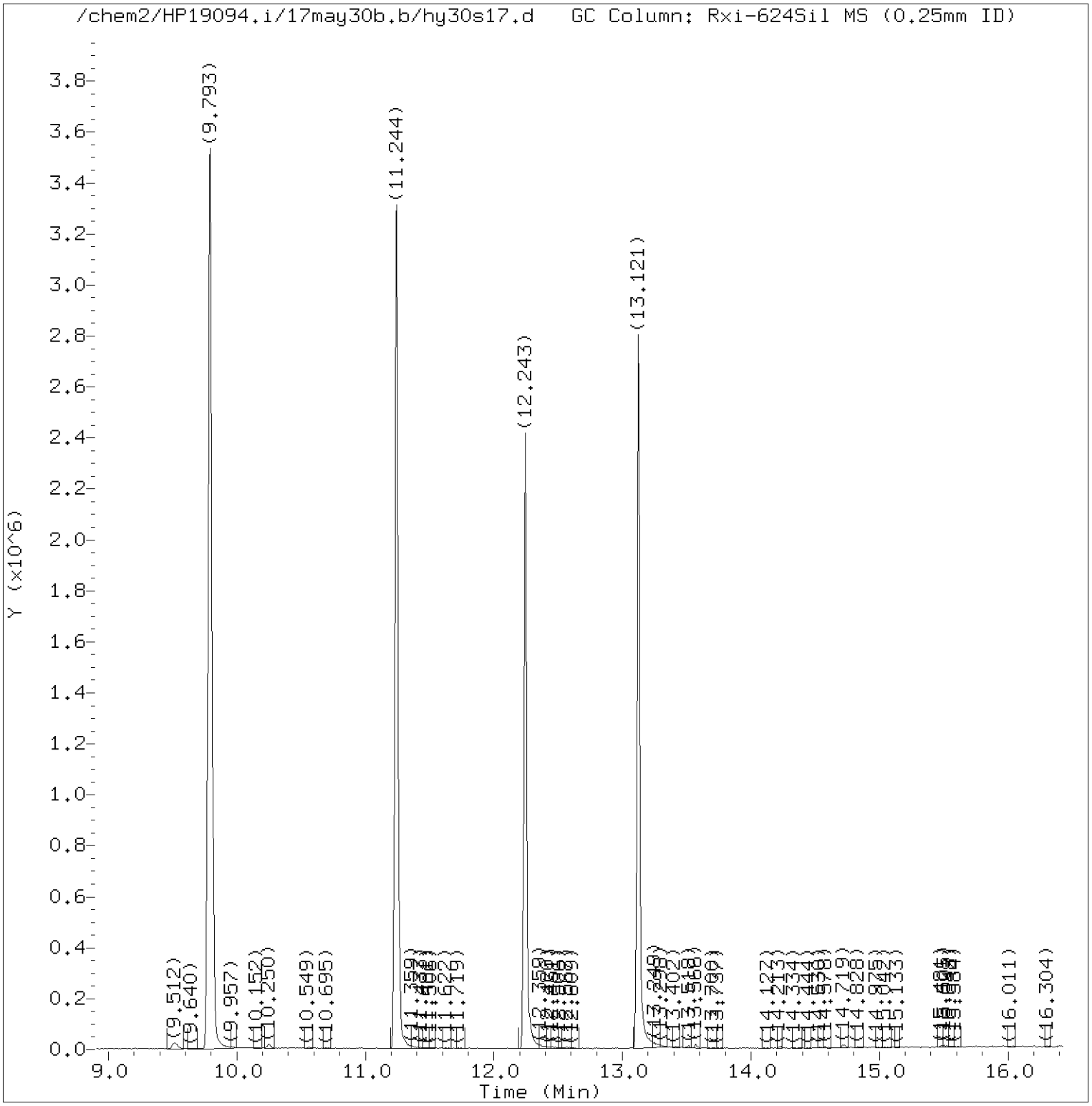
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s17.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:50 sej02002

Sample Name: R8806 Lab Sample ID: 9009419

Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:50.
Target 3.5 esignature user ID: sej02002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s17.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:50 sej02002

Sample Name: R8806 Lab Sample ID: 9009419

Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:50.
Target 3.5 esignature user ID: sej02002

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30s17.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 18:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 12026
Calibration date and time: 30-MAY-2017 14:43
Date, time and analyst ID of latest file update: 30-May-2017 19:50 sej02002

Sample Name: R8806 Lab Sample ID: 9009419

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.251	65	94458	50.000
50)$Dibromofluoromethane	(2)	6.872	113	695749	10.434
57)$1,2-Dichloroethane-d4	(2)	7.336	102	111710	10.361
63)*Fluorobenzene	(2)	7.781	96	2974503	10.000
82)$Toluene-d8	(3)	9.793	98	2875858	10.104
97)*Chlorobenzene-d5	(3)	11.244	117	1947181	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	771017	9.534
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	740587	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Sara E. Johnson
on 05/30/2017 at 19:50.
Target 3.5 esignature user ID: sej02002

Standards Data

Volatiles by GC/MS

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - D:\DATA\17APR19A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KEL01973	ha19t01.D	bfb 02-20-17	04/19/2017	11:06		
kel01973	HA19X05.D	blk	04/19/2017	11:38		
kel01973	HA19i01.D	VSTD025	04/19/2017	11:58		
kel01973	HA19i02.D	VSTD010	04/19/2017	12:18		
kel01973	HA19i03.D	VSTD005	04/19/2017	12:39		
kel01973	HA19i04.D	VSTD002	04/19/2017	12:59		
kel01973	HA19i05.D	VSTD001	04/19/2017	13:19		
kel01973	HA19i06.D	VSTD0.5	04/19/2017	13:40		
kel01973	HA19i07.D	VSTD0.2	04/19/2017	14:00		
kel01973	HA19m01.D	MDL0.1	04/19/2017	14:21		
kel01973	HA19m02.D	MDL0.4	04/19/2017	14:41		
kel01973	HA19v01.D	LCSHLG	04/19/2017	15:01		
kel01973	HA19X06.D	blk	04/19/2017	15:22		
kel01973	HA19i11.D	VSTD025	04/19/2017	16:03		
kel01973	HA19i12.D	VSTD010	04/19/2017	16:23		
kel01973	HA19i13.D	VSTD005	04/19/2017	16:43		
kel01973	HA19i14.D	VSTD002	04/19/2017	17:03		
kel01973	HA19i15.D	VSTD001	04/19/2017	17:24		
kel01973	HA19i16.D	VSTD0.5	04/19/2017	17:44		
kel01973	HA19i17.D	VSTD0.2	04/19/2017	18:05		
kel01973	HA19m11.D	MDL0.1	04/19/2017	18:25		
kel01973	HA19v11.D	LCSHSM	04/19/2017	18:45		
kel01973	HA19v12.D	LCDHSM	04/19/2017	19:06		
kel01973	HA19X99.D	VBLK99	04/19/2017	19:32		
kel01973	HA19B01.D	VBLK99	04/19/2017	19:52		
MSK07970	HA19S07.D	8929590	04/19/2017	20:26	H171091AA	
MSK07970	HA19S19.D	8929590MS	04/19/2017	20:46	H171091AA	
MSK07970	HA19S18.D	8929590MSD	04/19/2017	21:07	H171091AA	
MSK07970	HA19X80.D	VBLKH91	04/19/2017	21:27	H171091AA	
MSK07970	HA19S04.D	8929588	04/19/2017	21:47	H171091AA	
MSK07970	HA19S05.D	8929589	04/19/2017	22:08	H171091AA	
MSK07970	HA19S06.D	8929612	04/19/2017	22:28	H171091AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - D:\DATA\17MAY30B\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KEL01973	hy30t02.D	bfb 02-20-17	05/30/2017	09:46		
KEL01973	hy30t03.D	bfb 02-20-17	05/30/2017	10:15		
KEL01973	hy30t04.D	bfb 02-20-17	05/30/2017	10:39		
KEL01973	hy30t05.D	bfb 02-20-17	05/30/2017	10:54		
kel01973	HY30X02.D	BLK	05/30/2017	11:06	H171501AA	
kel01973	HY30X03.D	BLK	05/30/2017	11:26	H171501AA	
kel01973	HY30C02.D	VSTD010	05/30/2017	11:47	H171501AA	
kel01973	HY30L03.D	LCSH19	05/30/2017	12:07	H171501AA	
kel01973	HY30L04.D	LCDH19	05/30/2017	12:27	H171501AA	
kel01973	HY30M01.D	MDLH19	05/30/2017	12:48	H171501AA	
kel01973	HY30B00.D	VBLKH19	05/30/2017	13:08	H171501AA	
kel01973	HY30B01.D	VBLKH19	05/30/2017	13:29	H171501AA	
kel01973	HY30S01.D	9002049	05/30/2017	14:14	H171501AA	
kel01973	HY30S02.D	9002047	05/30/2017	14:34	H171501AA	
kel01973	HY30S03.D	9002045	05/30/2017	14:57	H171501AA	5
kel01973	HY30S04.D	9002045DL	05/30/2017	15:17	H171501AA	50
kel01973	HY30S11.D	9006012	05/30/2017	15:37	H171502AA	
kel01973	HY30S12.D	9006008	05/30/2017	15:58	H171502AA	
kel01973	HY30S13.D	9006009MS	05/30/2017	16:18	H171502AA	
kel01973	HY30S14.D	9006010MSD	05/30/2017	16:38	H171502AA	
kel01973	HY30S05.D	9002047MS	05/30/2017	16:59	H171501AA	
kel01973	HY30S06.D	9002047MSD	05/30/2017	17:19	H171501AA	
kel01973	HY30S07.D	SECC010	05/30/2017	17:40	H171501AA	
kel01973	HY30S15.D	9006007	05/30/2017	18:00	H171502AA	
kel01973	HY30S16.D	9006011	05/30/2017	18:20	H171502AA	
kel01973	HY30S17.D	9009419	05/30/2017	18:41	H171502AA	
kel01973	HY30S18.D	9009414	05/30/2017	19:01	H171502AA	
kel01973	HY30S19.D	9009415	05/30/2017	19:21	H171502AA	
kel01973	HY30S20.D	9009416	05/30/2017	19:42	H171502AA	
kel01973	HY30S21.D	9009417	05/30/2017	20:02	H171502AA	
kel01973	HY30S22.D	9009418	05/30/2017	20:22	H171502AA	
kel01973	HY30S31.D	9000067DL2	05/30/2017	20:43	H171503AA	200
kel01973	HY30S32.D	9002901	05/30/2017	21:03	H171503AA	5
kel01973	HY30S33.D	9002906DL	05/30/2017	21:24	H171503AA	10
kel01973	HY30S34.D	9002907DL	05/30/2017	21:44	H171503AA	10
kel01973	HY30S35.D	9002908DL	05/30/2017	22:04	H171503AA	10

Data File: /chem2/HP19094.i/17apr19a.b/ha19t01.d

Date : 19-APR-2017 11:06

Client ID: bfb 50ng

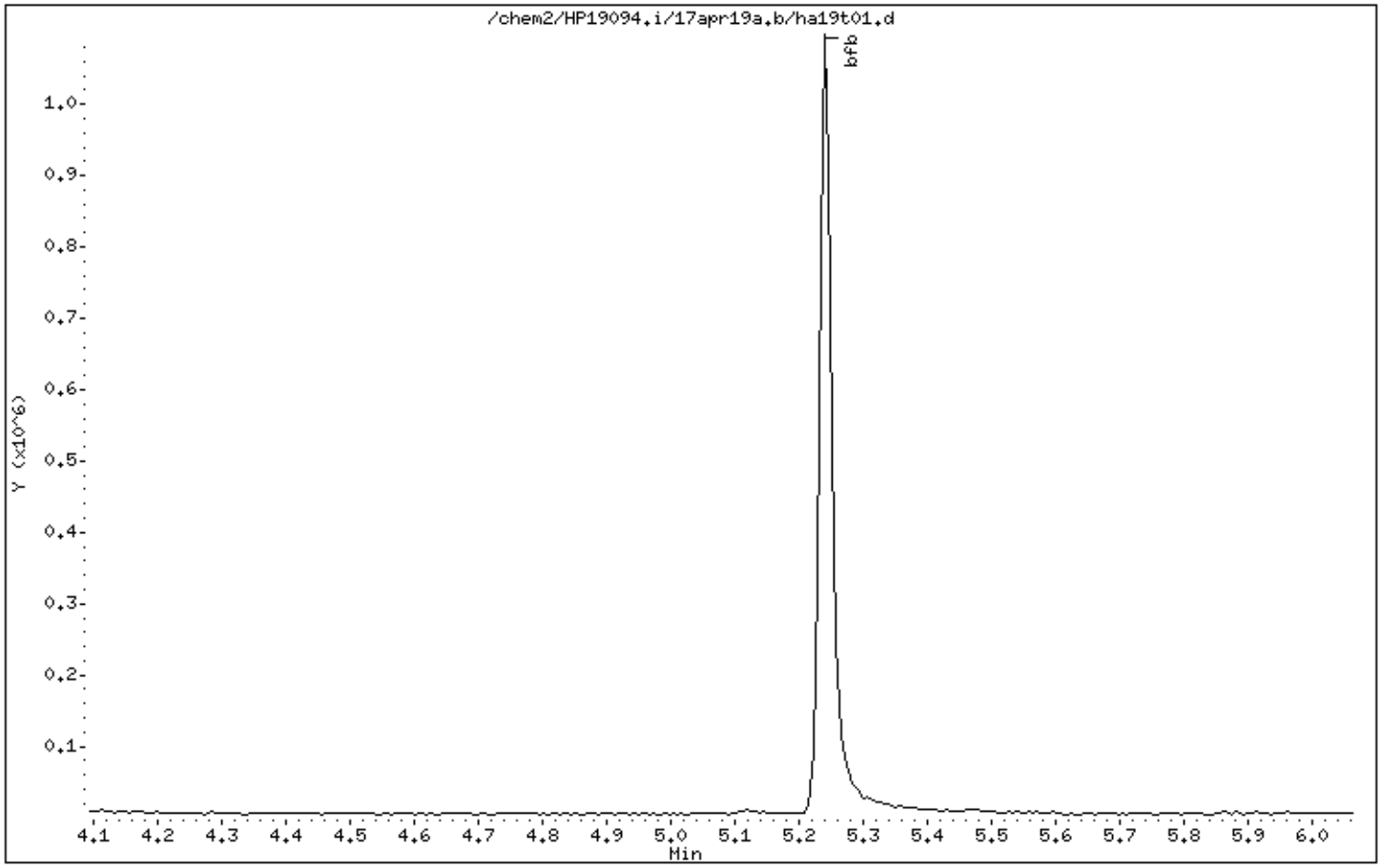
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Data File: /chem2/HP19094.i/17apr19a.b/ha19t01.d

Date : 19-APR-2017 11:06

Client ID: bfb 50ng

Instrument: HP19094.i

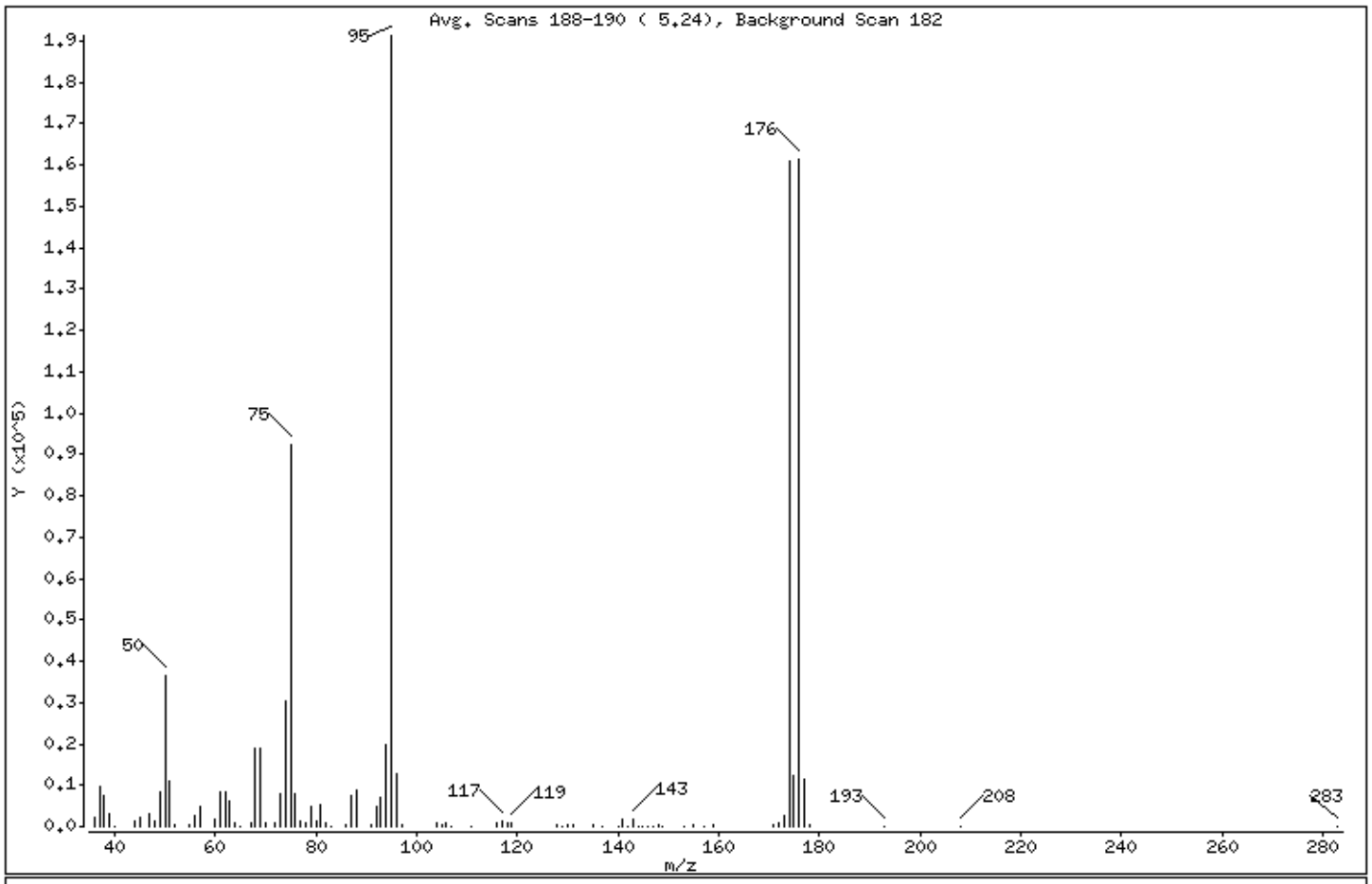
Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.19
75	30.00 - 60.00% of mass 95	48.18
96	5.00 - 9.00% of mass 95	6.59
173	Less than 2.00% of mass 174	1.43 (1.70)
174	50.00 - 100.00% of mass 95	84.20
175	5.00 - 9.00% of mass 174	6.43 (7.64)
176	95.00 - 101.00% of mass 174	84.40 (100.24)
177	5.00 - 9.00% of mass 176	5.99 (7.09)

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Data File: /chem2/HP19094.i/17apr19a.b/ha19t01.d

Date : 19-APR-2017 11:06

Client ID: bfb 50ng

Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

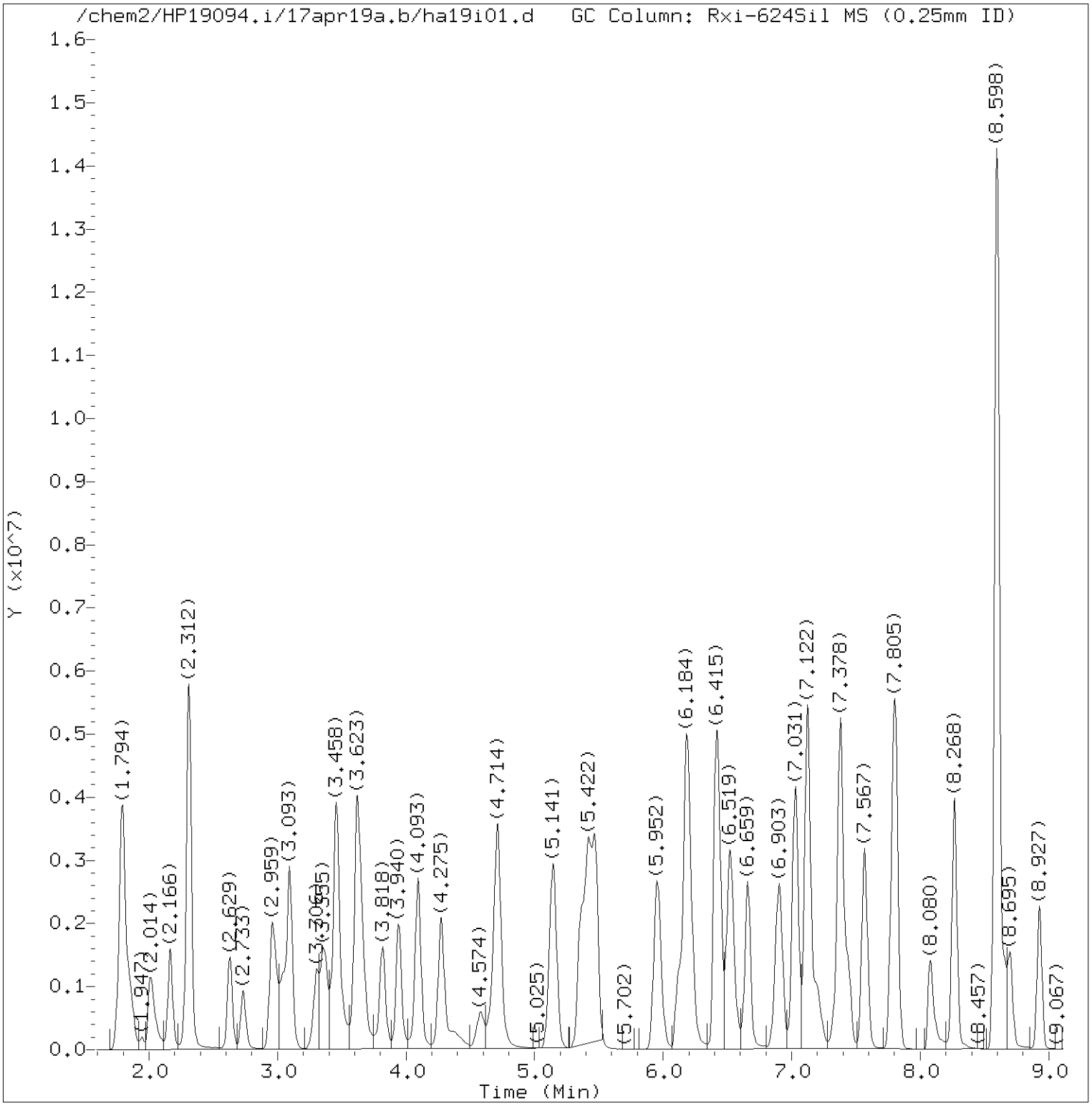
Column phase: Rxi-624Sil MS

Column diameter: 0.25

Data File: ha19t01.d
Spectrum: Avg. Scans 188-190 (5.24), Background Scan 182
Location of Maximum: 95.00
Number of points: 88

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2122	68.00	18720	96.00	12603	146.00	192
37.00	9859	69.00	18992	97.00	520	147.00	99
38.00	7436	70.00	1067	104.00	685	148.00	408
39.00	3175	72.00	876	105.00	297	149.00	88
40.00	31	73.00	7875	106.00	731	153.00	96
44.00	1284	74.00	30256	107.00	198	155.00	284
45.00	2109	75.00	92152	111.00	89	157.00	166
47.00	2890	76.00	7894	116.00	724	159.00	266
48.00	1285	77.00	1471	117.00	1285	171.00	251
49.00	8413	78.00	827	118.00	828	172.00	823
50.00	36704	79.00	4964	119.00	946	173.00	2735
51.00	10836	80.00	1398	128.00	474	174.00	161024
52.00	612	81.00	5345	129.00	129	175.00	12302
55.00	450	82.00	893	130.00	626	176.00	161408
56.00	2425	83.00	90	131.00	474	177.00	11451
57.00	4881	86.00	233	135.00	287	178.00	262
60.00	1660	87.00	7546	137.00	175	193.00	161
61.00	8506	88.00	8585	140.00	115	208.00	97
62.00	8266	91.00	637	141.00	1566	283.00	89
63.00	6087	92.00	4822	142.00	205		
64.00	881	93.00	6954	143.00	1753		
65.00	195	94.00	19696	144.00	105		
67.00	764	95.00	191296	145.00	94		

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

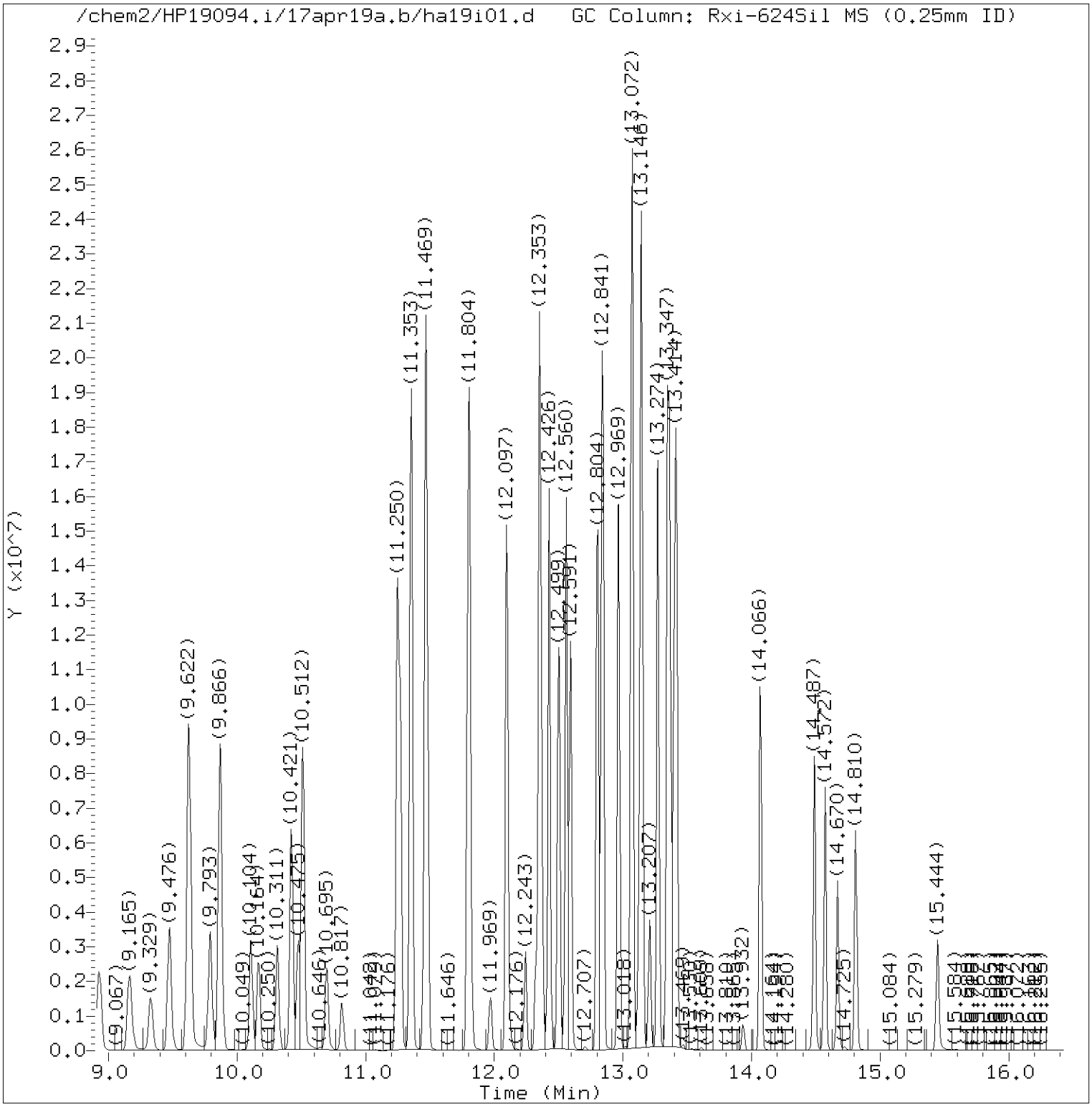
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	2649406	25.000
2) Chloromethane	(2)	2.166	50	2433080	25.000
5) Vinyl Chloride	(2)	2.300	62	2334062	25.000
6) 1,3-Butadiene	(2)	2.312	39	3323098	25.000
7) Bromomethane	(2)	2.629	94	1476891	25.000
8) Chloroethane	(2)	2.733	64	1297243	25.000
9) Dichlorofluoromethane	(2)	2.959	67	3008718	25.000
10) Trichlorofluoromethane	(2)	3.038	101	2760447	25.000
11) Ethyl ether	(2)	3.300	59	1045475	25.000
12) Freon 123a	(2)	3.355	67	2057887	25.000
13) Acrolein	(1)	3.458	56	7126059	1250.000
14) Acetone	(1)	3.617	43	1734007	250.000
15) 1,1-Dichloroethene	(2)	3.617	96	1554167	25.000
16) Freon 113	(2)	3.654	101	1675402	25.000
17) Methyl Iodide	(2)	3.818	142	2852117	25.000
18) Carbon Disulfide	(2)	3.940	76	4459925	25.000
21) Methyl Acetate	(1)	4.056	43	544949M	25.000
22) Allyl Chloride	(2)	4.093	41	3021369	25.000
26)*t-Butyl Alcohol-d10	(1)	4.239	65	74228M	50.000
23) Methylene Chloride	(2)	4.269	84	1661117	25.000
28) t-Butyl Alcohol	(1)	4.373	59	1000559	500.000
29) Acrylonitrile	(1)	4.586	53	1241592	125.000
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	3183865	25.000
31) trans-1,2-Dichloroethene	(2)	4.714	96	1714790	25.000
32) n-Hexane	(2)	5.141	57	2976724	25.000
33) 1,1-Dichloroethane	(2)	5.361	63	3365203	25.000
34) di-Isopropyl Ether	(2)	5.422	45	5946779	25.000
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	3019942	25.000
37) Ethyl t-butyl ether	(2)	5.952	59	4585618	25.000
40) 1,2-Dichloroethene (Total)	(2)		96	3636317	50.000
38) 2-Butanone	(1)	6.123	43	3493953	250.000
39) cis-1,2-Dichloroethene	(2)	6.177	96	1921527	25.000
42) Propionitrile	(1)	6.190	54	1695961	500.000
41) 2,2-Dichloropropane	(2)	6.208	77	2552729	25.000
45) Methacrylonitrile	(1)	6.421	67	3411828	250.000
47) Bromochloromethane	(2)	6.519	128	748713	25.000
48) Tetrahydrofuran	(1)	6.531	71	848708	250.000
49) Chloroform	(2)	6.659	83	3127249	25.000

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	645156	10.000
50)$Dibromofluoromethane	(2)	6.872	111	666179	10.000
51) 1,1,1-Trichloroethane	(2)	6.903	97	2676943	25.000
52) Cyclohexane	(2)	7.031	56	3532511	25.000
52) Cyclohexane	(2)	7.031	84	2754792	25.000
52) Cyclohexane	(2)	7.031	69	1030104	25.000
55) 1,1-Dichloropropene	(2)	7.122	75	2621557	25.000
54) Carbon Tetrachloride	(2)	7.135	117	2313974	25.000
56) Isobutyl Alcohol	(1)	7.202	41	1012416	1250.000
57)$1,2-Dichloroethane-d4	(2)	7.336	102	105495M	10.000
57)$1,2-Dichloroethane-d4	(2)	7.330	65	503219	10.000
57)$1,2-Dichloroethane-d4	(2)	7.336	104	65108	10.000
58) Benzene	(2)	7.378	78	7257611	25.000
59) 1,2-Dichloroethane	(2)	7.439	62	1745072	25.000
60) t-Amyl methyl ether	(2)	7.567	73	3774345	25.000
63)*Fluorobenzene	(2)	7.781	96	2800014	10.000
62) n-Heptane	(2)	7.805	43	3364877	25.000
65) n-Butanol	(1)	8.080	56	1692592A	2500.000
67) Trichloroethene	(2)	8.268	95	1897278	25.000
70) 1,2-Dichloropropane	(2)	8.592	63	1893274	25.000
69) Methylcyclohexane	(2)	8.598	83	3494386	25.000
71) Methyl Methacrylate	(1)	8.659	69	687658A	25.000
72) 1,4-Dioxane	(1)	8.689	88	178200M	1250.000
73) Dibromomethane	(2)	8.701	93	736048	25.000
74) Bromodichloromethane	(2)	8.927	83	2107877	25.000
76) 2-Nitropropane	(1)	9.165	41	2039874	250.000
80) cis-1,3-Dichloropropene	(2)	9.476	75	2541712	25.000
81) 4-Methyl-2-Pentanone	(1)	9.622	43	9102660	250.000
82)$Toluene-d8	(3)	9.793	98	2748817	10.000
82)$Toluene-d8	(3)	9.793	100	1784610	10.000
83) Toluene	(3)	9.866	92	4476189	25.000
84) trans-1,3-Dichloropropene	(3)	10.110	75	1909780	25.000
86) Ethyl Methacrylate	(3)	10.164	69	1449028	25.000
85) 1,3-Dichloropropene (total)	(3)		75	4451492	50.000
88) 1,1,2-Trichloroethane	(3)	10.311	97	1054699	25.000
89) Tetrachloroethene	(3)	10.421	166	2118212	25.000
90) 1,3-Dichloropropane	(3)	10.475	76	1878449	25.000
91) 2-Hexanone	(1)	10.512	43	6370500	250.000

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	1307800	25.000
95) 1,2-Dibromoethane	(3)	10.817	107	990950	25.000
97)*Chlorobenzene-d5	(3)	11.244	117	1967440	10.000
98) Chlorobenzene	(3)	11.268	112	4900907	25.000
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	1664181	25.000
100) Ethylbenzene	(3)	11.353	91	9041800	25.000
101) m+p-Xylene	(3)	11.469	106	6914491	50.000
105) Xylene (Total)	(3)		106	10305528	75.000
104) o-Xylene	(3)	11.798	106	3391037	25.000
106) Styrene	(3)	11.810	104	5383329	25.000
107) Bromoform	(3)	11.969	173	705857	25.000
108) Isopropylbenzene	(3)	12.097	105	8949706	25.000
111)$4-Bromofluorobenzene	(3)	12.243	95	834801	10.000
111)$4-Bromofluorobenzene	(3)	12.243	174	746536	10.000
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	1242048	25.000
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	2752141A	250.000
114) Bromobenzene	(4)	12.359	156	1974472	25.000
116) 1,2,3-Trichloropropane	(4)	12.377	110	308943	25.000
117) n-Propylbenzene	(4)	12.426	91	11023934	25.000
119) 2-Chlorotoluene	(4)	12.505	126	2066143	25.000
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	7551326	25.000
122) 4-Chlorotoluene	(4)	12.591	126	2075318	25.000
125) tert-Butylbenzene	(4)	12.804	134	1625959M	25.000
126) Pentachloroethane	(4)	12.835	167	1223399	25.000
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	7680342	25.000
128) sec-Butylbenzene	(4)	12.969	105	10077306	25.000
131) 1,3-Dichlorobenzene	(4)	13.066	146	4072688	25.000
132) p-Isopropyltoluene	(4)	13.072	119	8537787	25.000
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	879364	10.000
134) 1,4-Dichlorobenzene	(4)	13.140	146	3937032	25.000
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	3159824	25.000
136) Benzyl Chloride	(4)	13.207	126	489784	25.000
138) n-Butylbenzene	(4)	13.365	92	4448293	25.000
139) 1,2-Dichlorobenzene	(4)	13.396	146	3460522	25.000
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	146624	25.000
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	2422012	25.000
146) Hexachlorobutadiene	(4)	14.572	225	1293703	25.000
147) Naphthalene	(4)	14.670	128	3408445	25.000

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

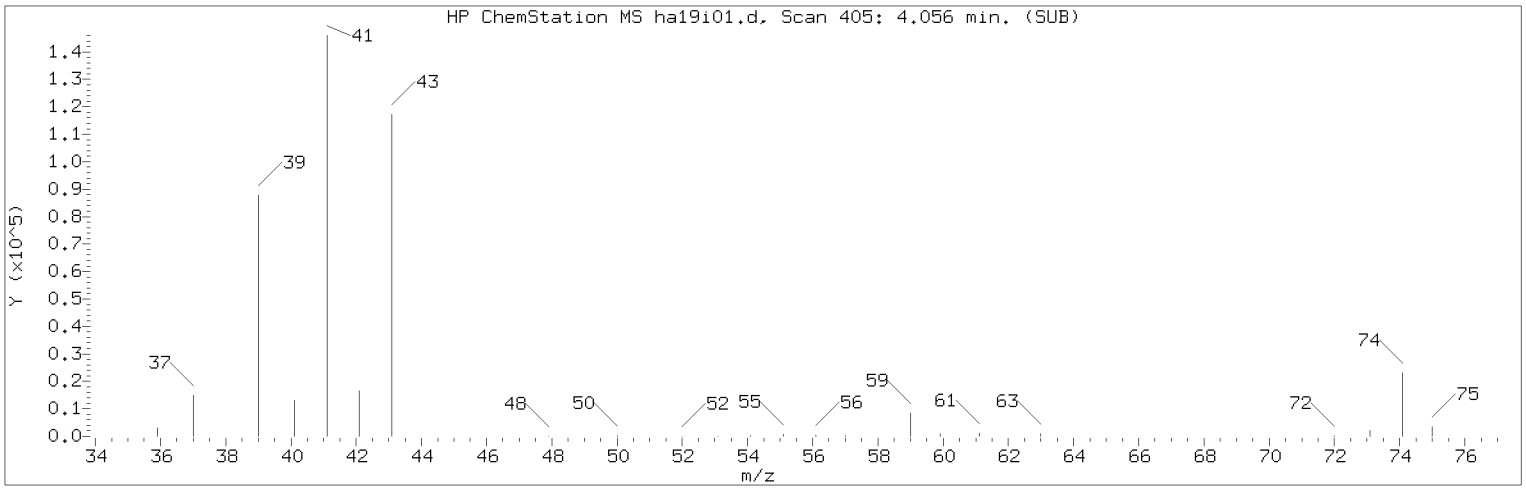
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

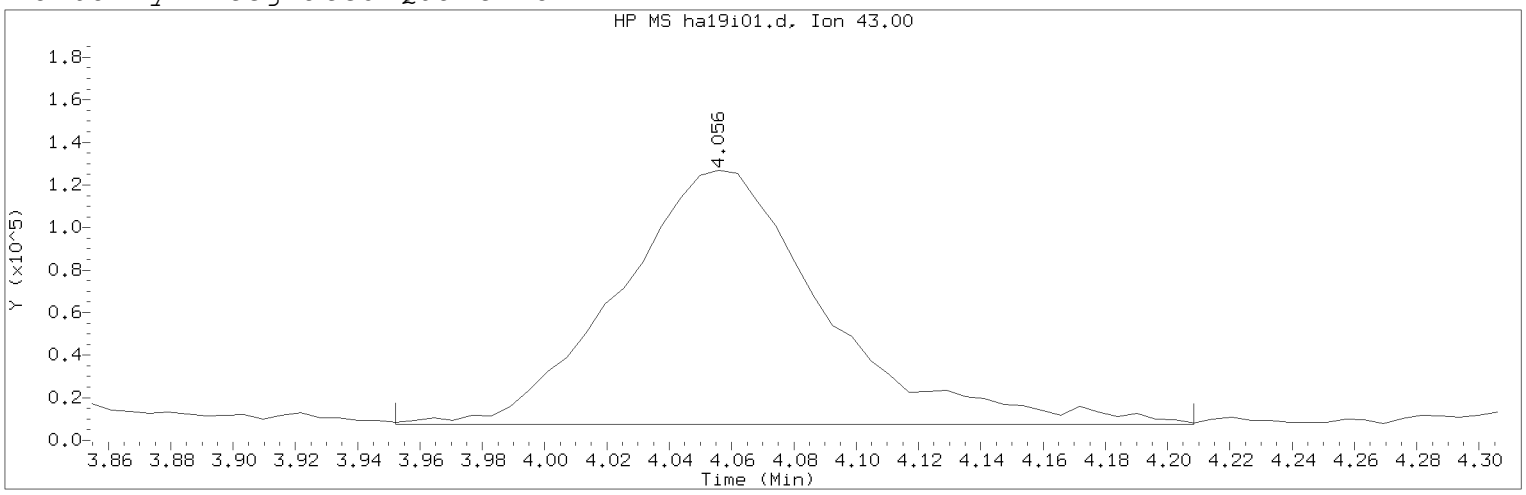
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	1848294	25.000

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

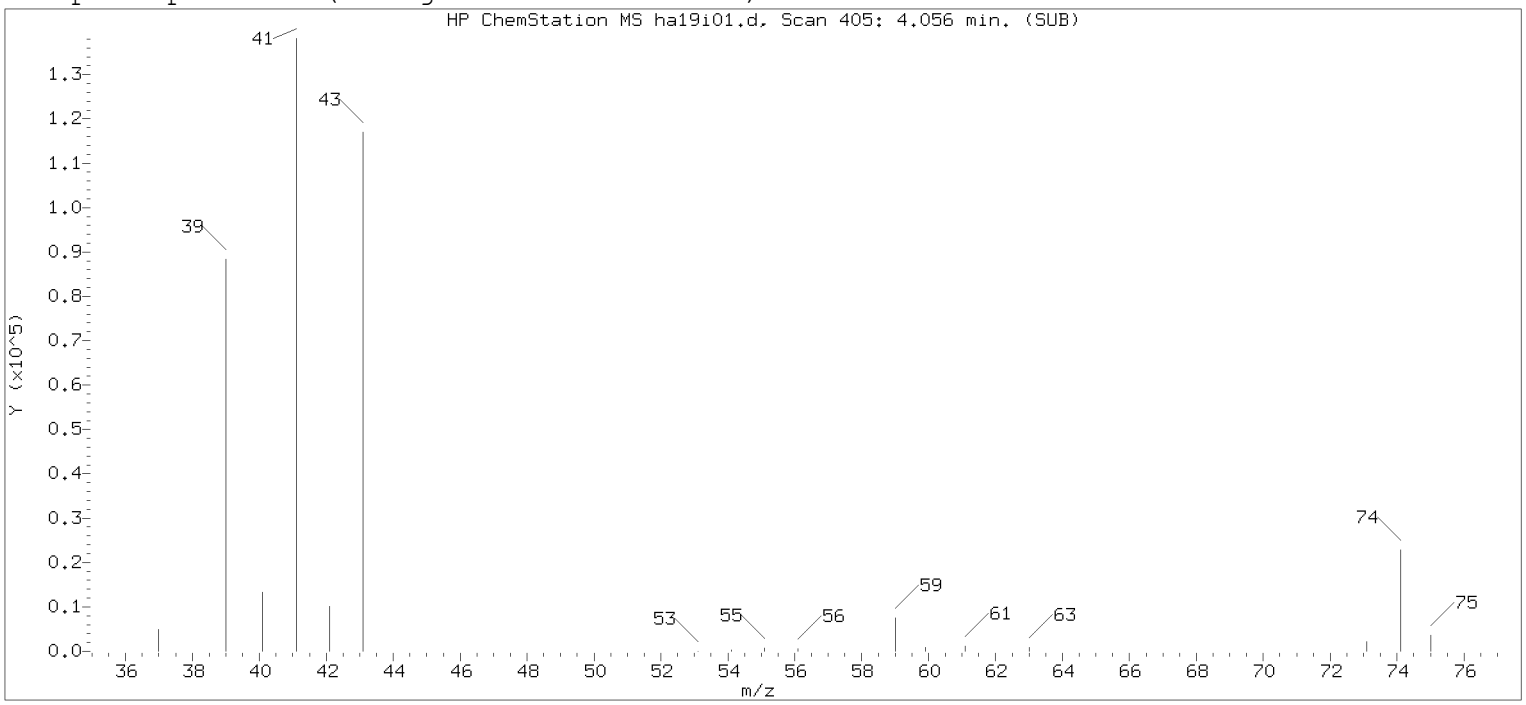
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 405
Retention Time (minutes): 4.056
Quant Ion : 43.00
Area (flag) : 544949M
On-Column Amount (ng) : 25.0000
Integration start scan : 387 Integration stop scan: 429
Y at integration start : 7622 Y at integration end: 7622

Reason for manual integration: improper integration

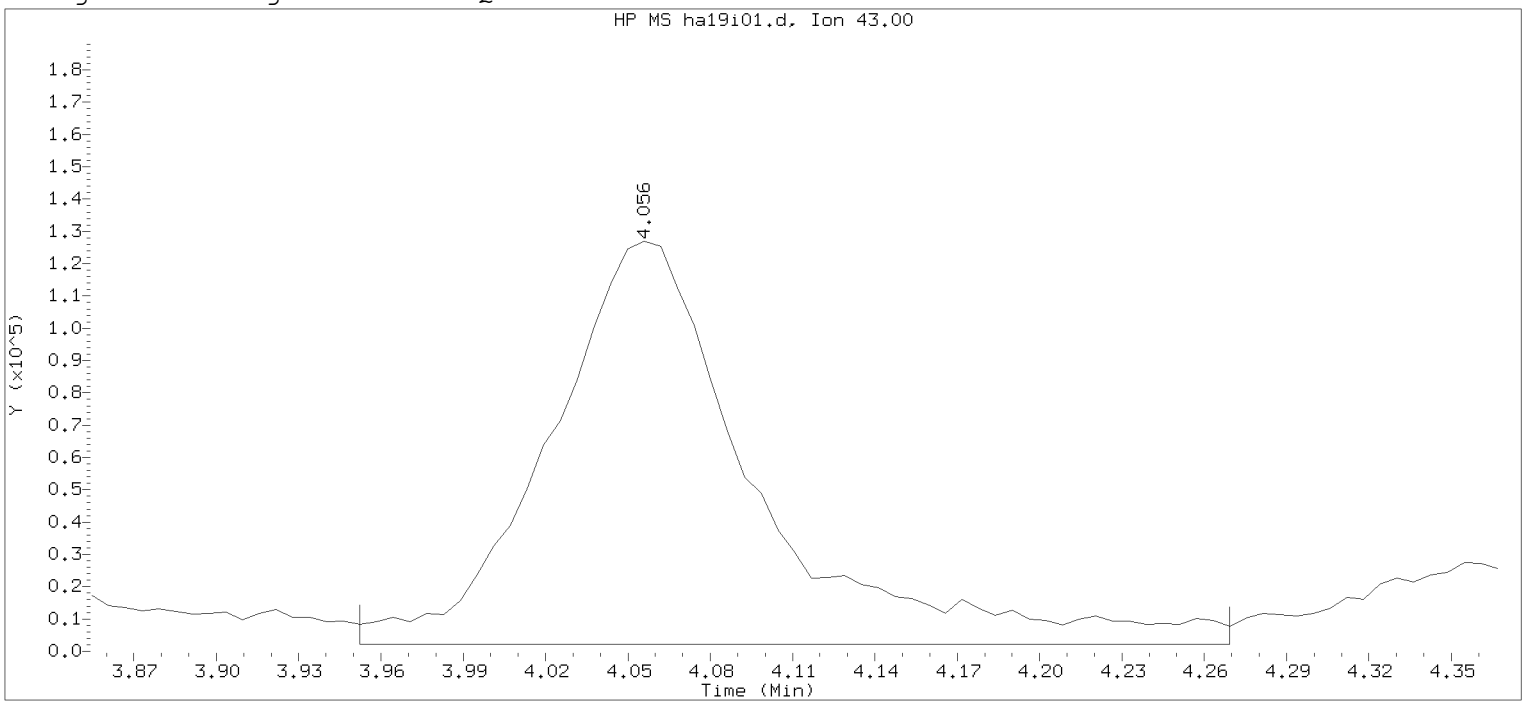
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

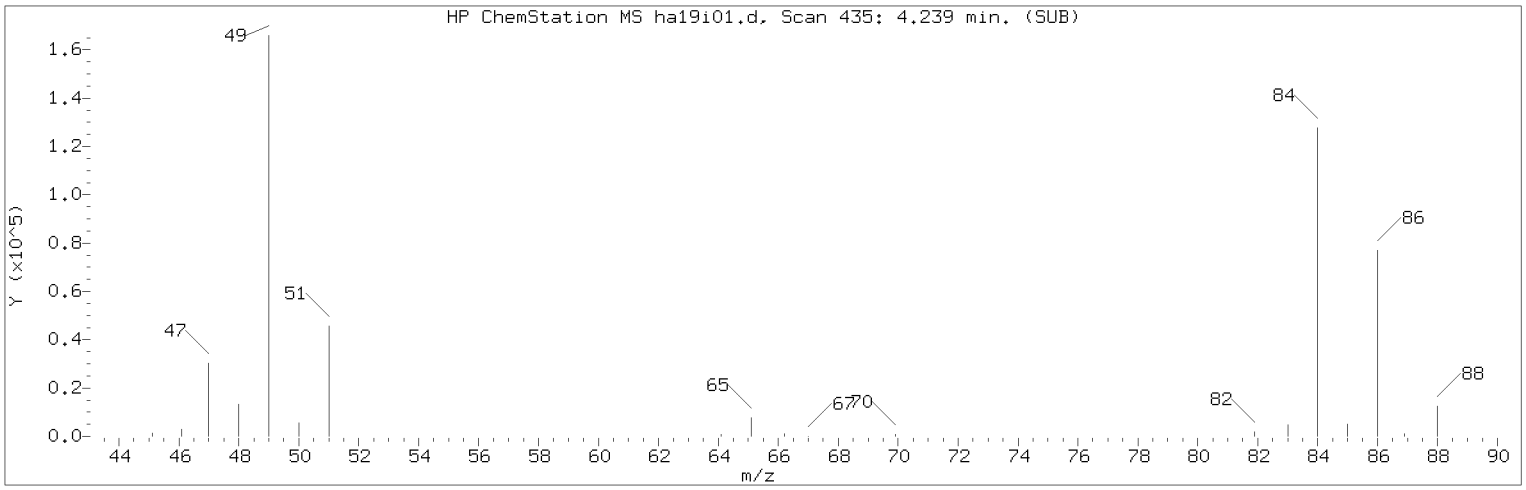
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

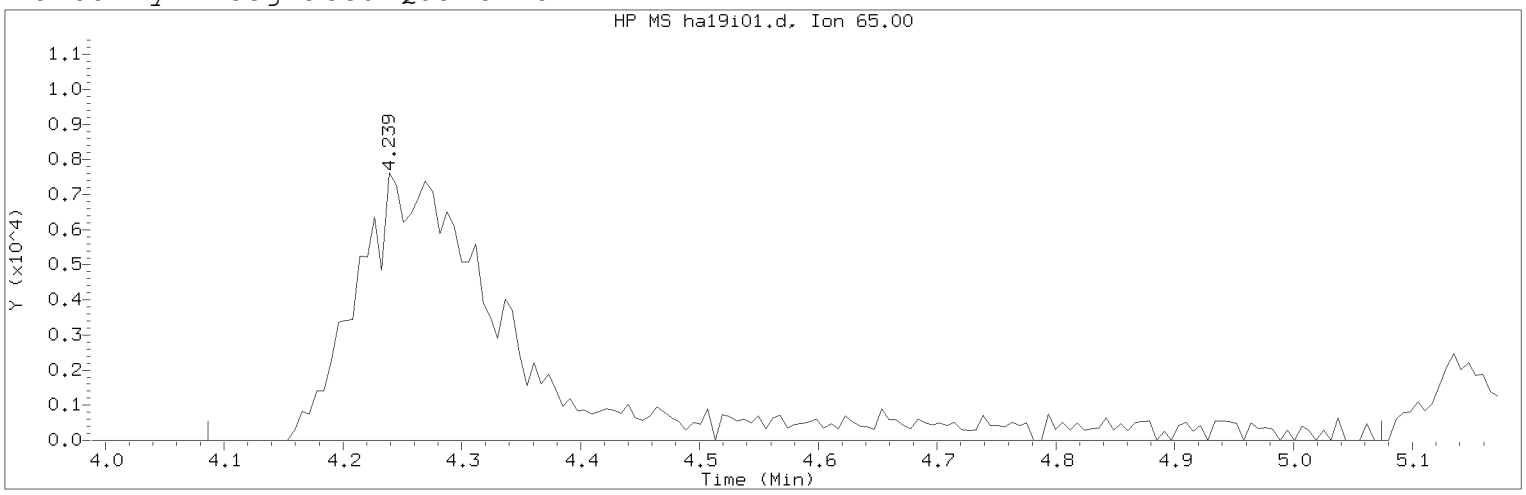
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 405
Retention Time (minutes): 4.056
Quant Ion : 43.00
Area : 653266
On-column Amount (ng) : 37.3024
Integration start scan : 387 Integration stop scan: 439
Y at integration start : 2224 Y at integration end: 2224

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

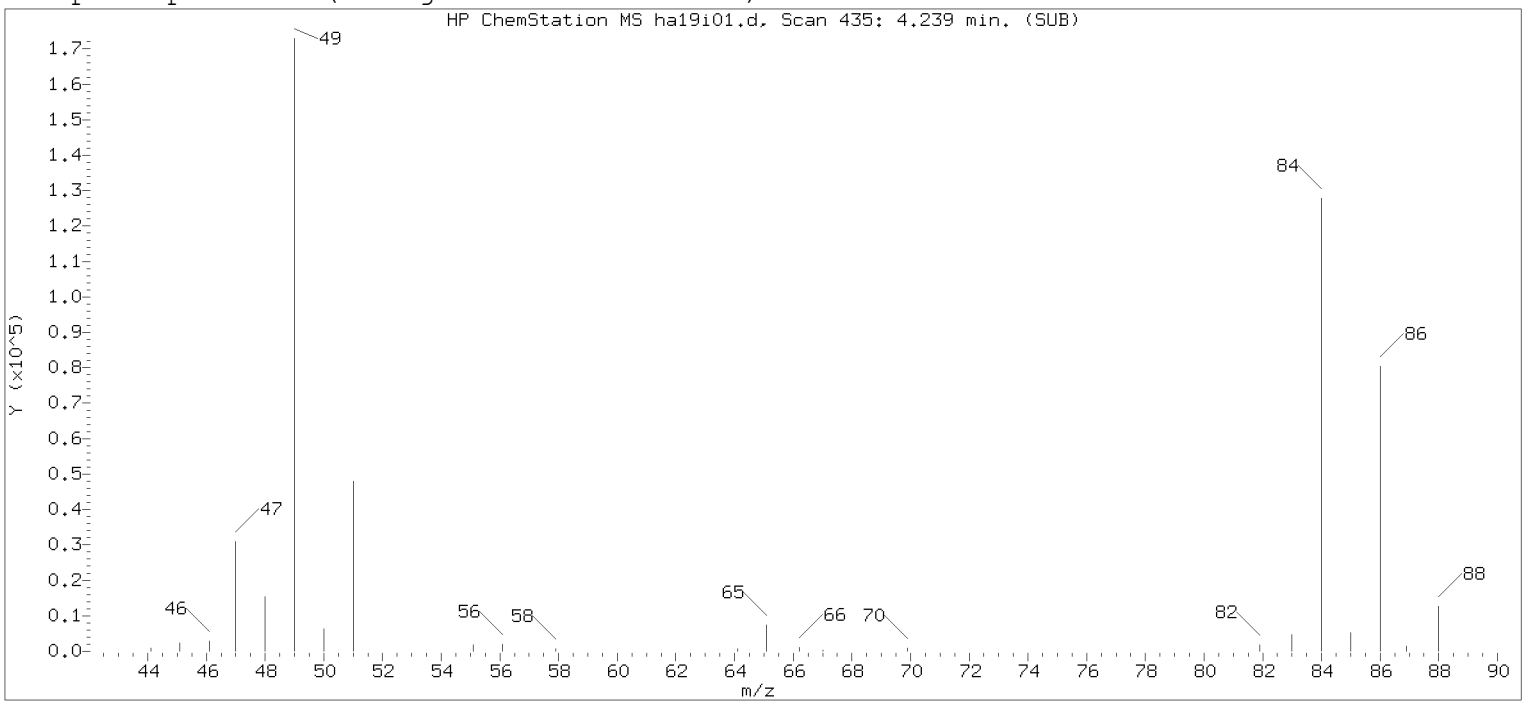
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 435
Retention Time (minutes): 4.239
Quant Ion : 65.00
Area (flag) : 74228M
On-Column Amount (ng) : 50.0000
Integration start scan : 409 Integration stop scan: 571
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

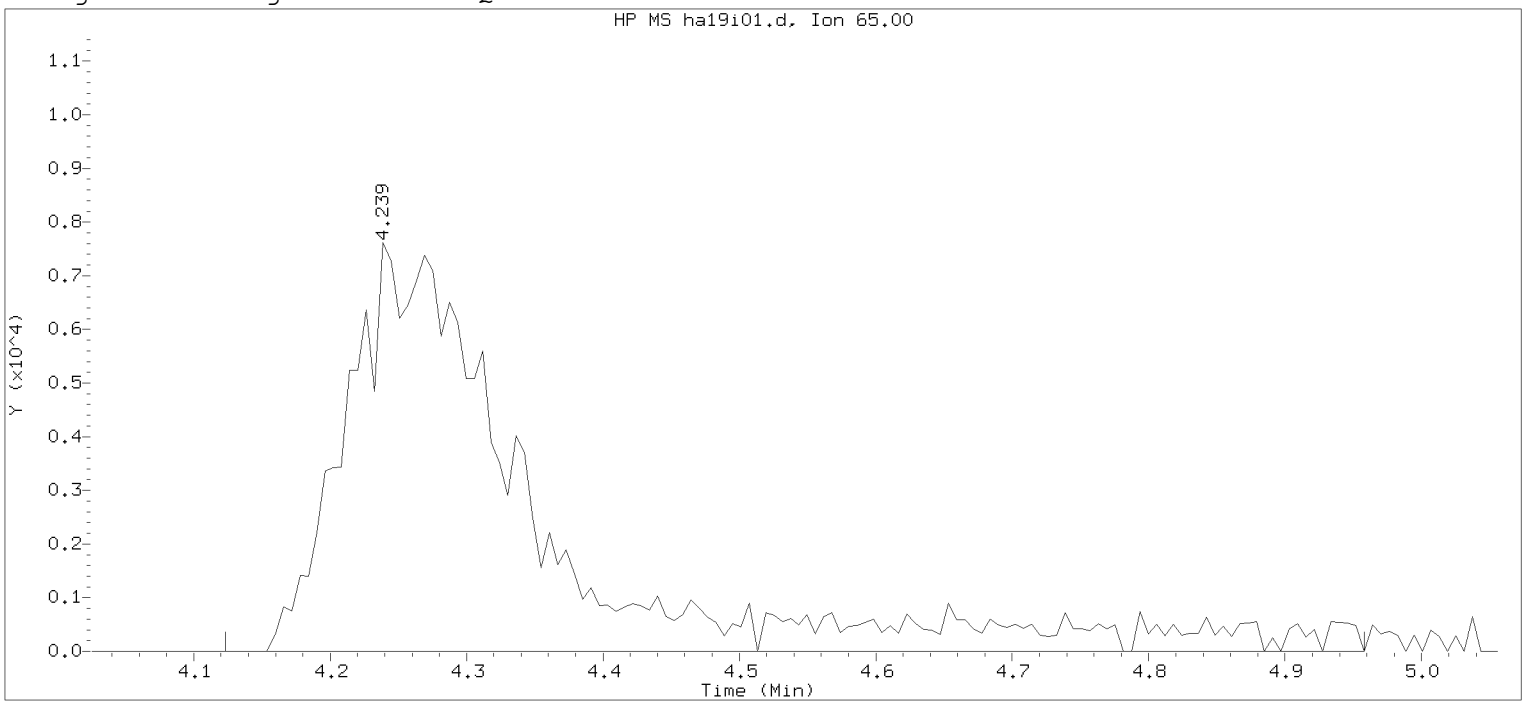
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

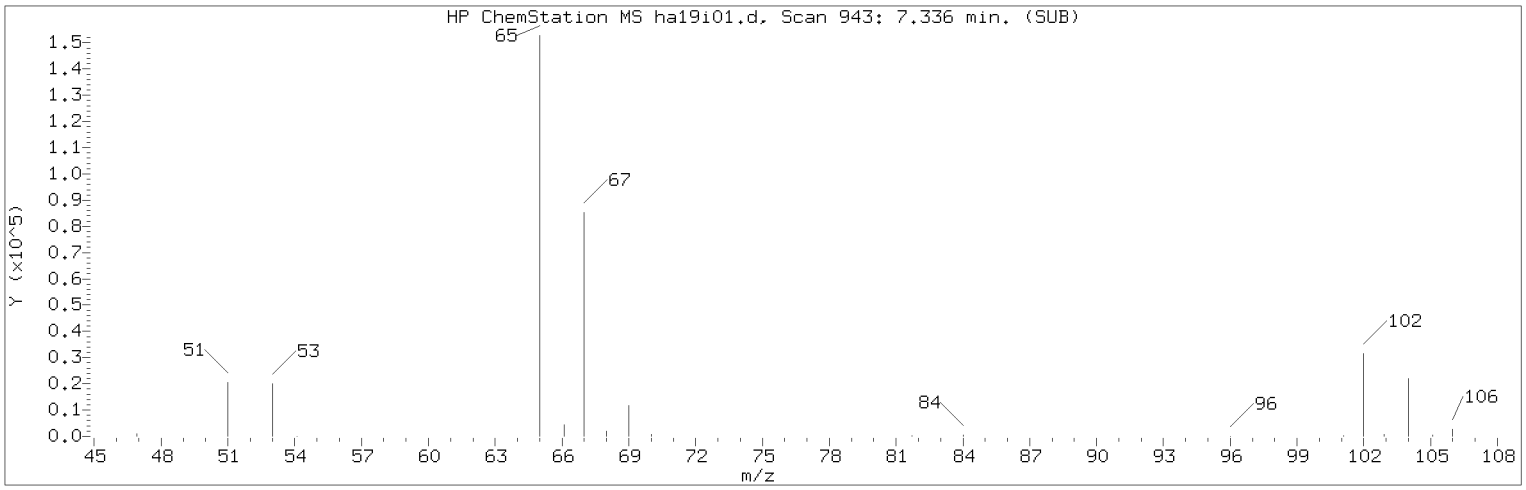
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

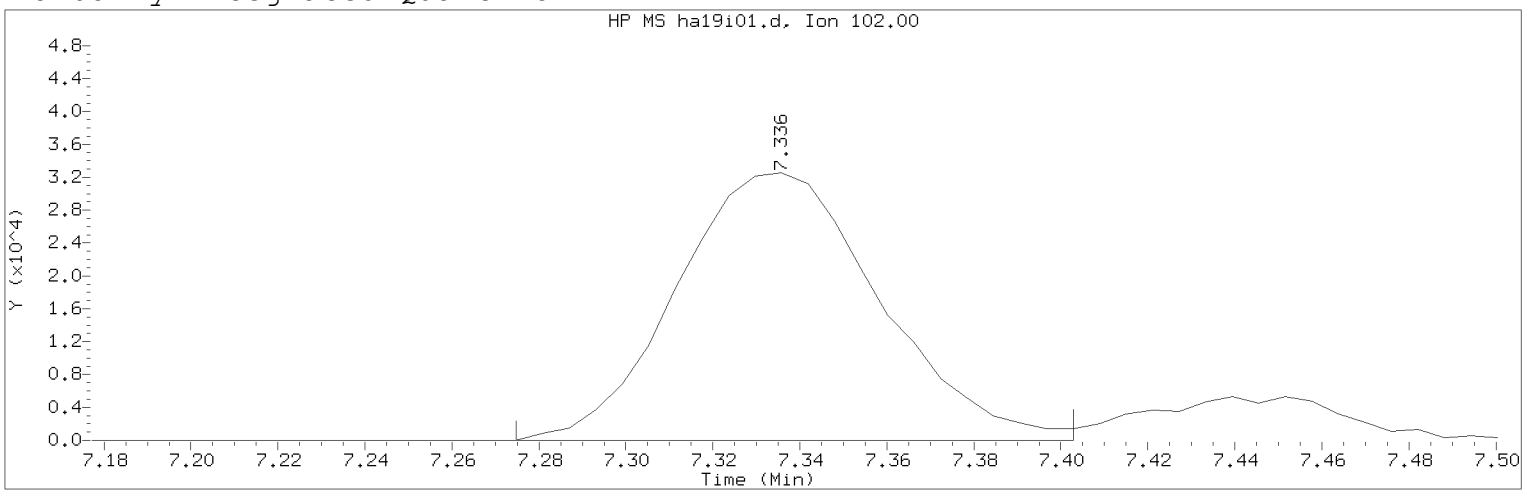
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 435
Retention Time (minutes): 4.239
Quant Ion : 65.00
Area : 72809
On-column Amount (ng) : 50.0000
Integration start scan : 415 Integration stop scan: 552
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

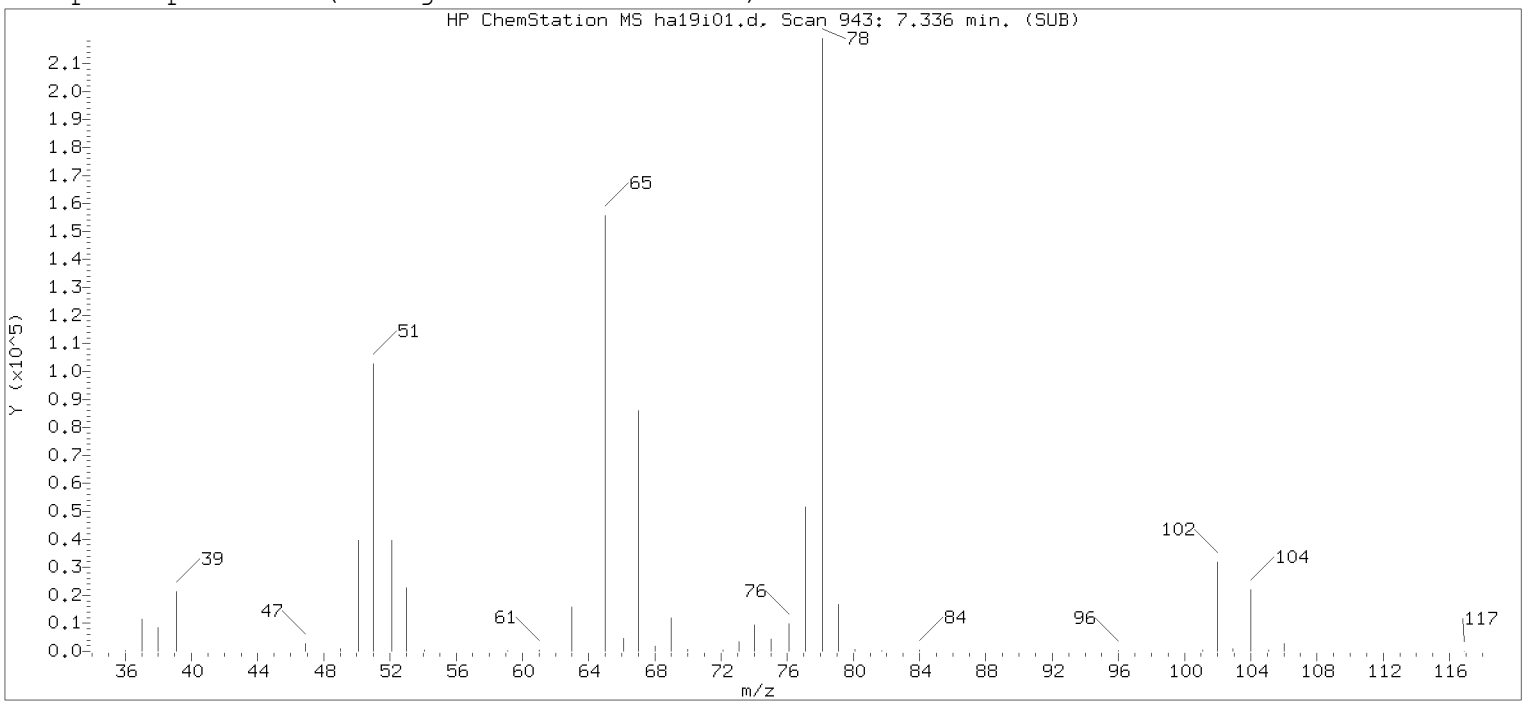
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 943
Retention Time (minutes): 7.336
Quant Ion : 102.00
Area (flag) : 105495M
On-Column Amount (ng) : 10.0000
Integration start scan : 932 Integration stop scan: 953
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

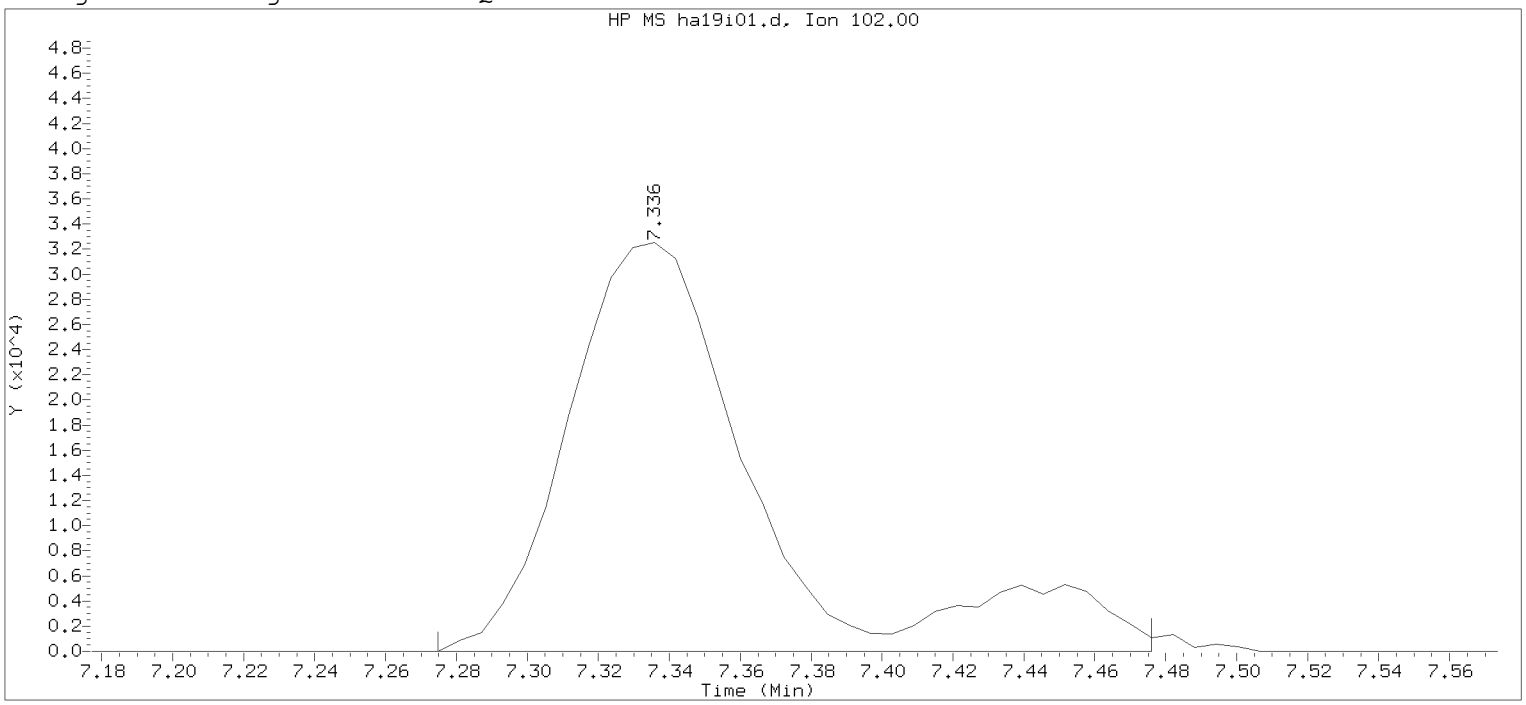
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

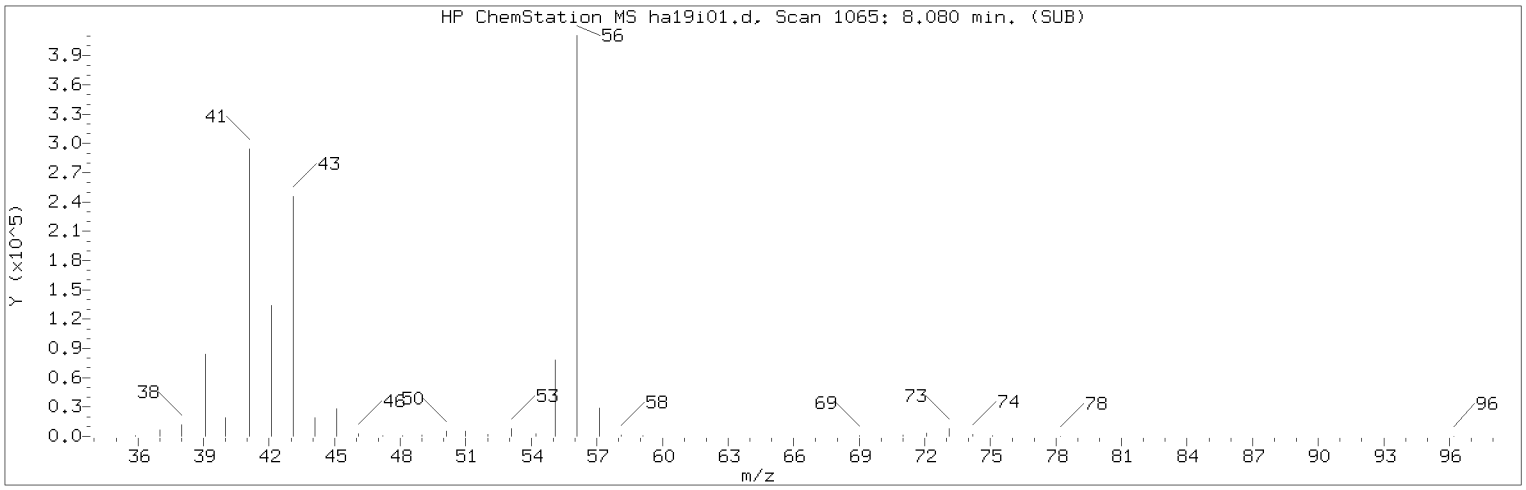
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

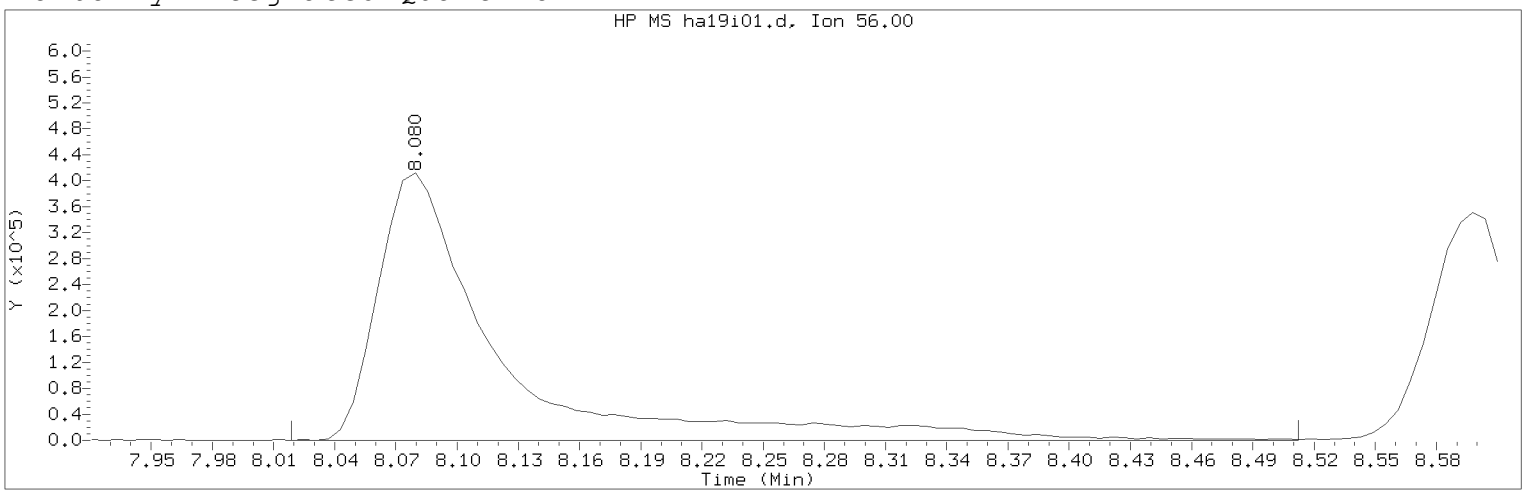
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 943
Retention Time (minutes): 7.336
Quant Ion : 102.00
Area : 121172
On-column Amount (ng) : 11.6756
Integration start scan : 932 Integration stop scan: 965
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

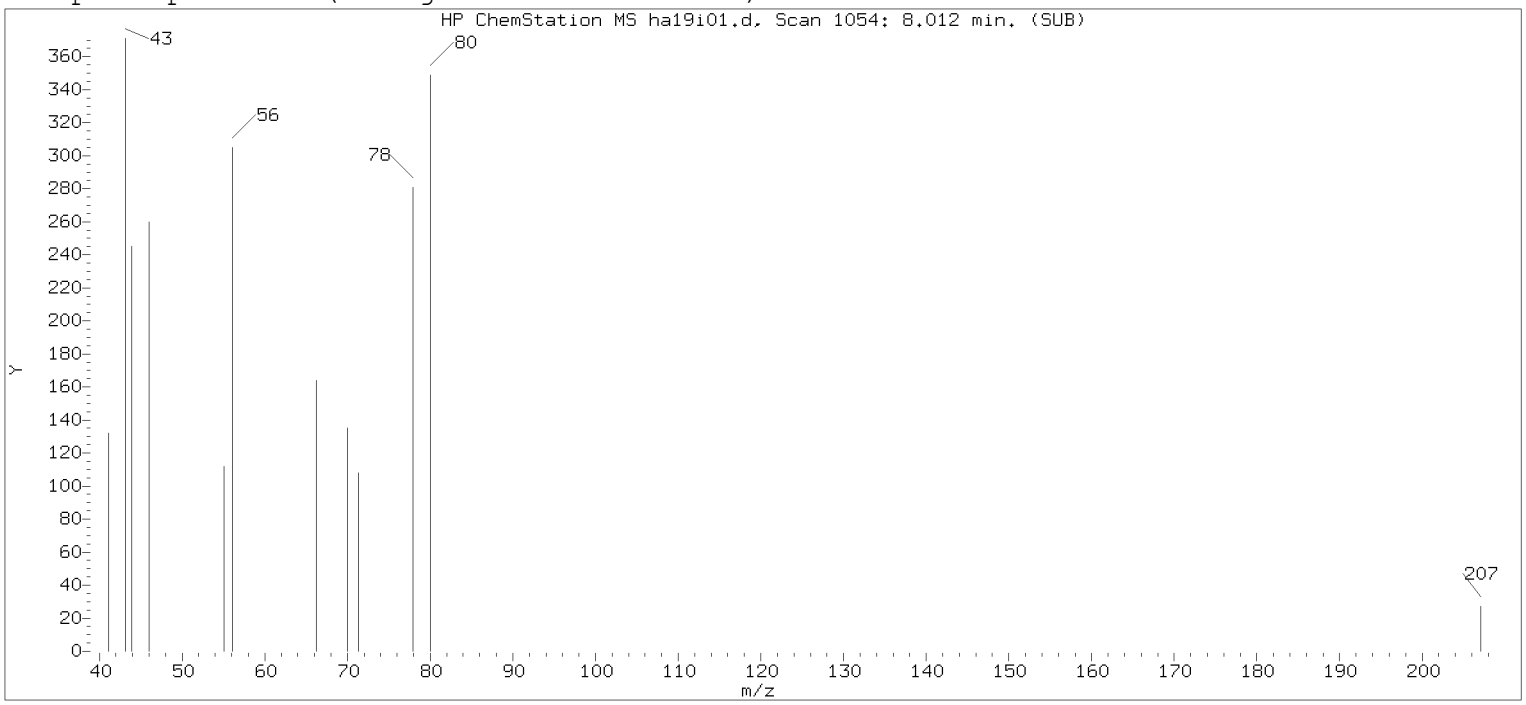
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1065
Retention Time (minutes): 8.080
Quant Ion : 56.00
Area (flag) : 1692592A
On-Column Amount (ng) : 2500.0000
Integration start scan : 1054 Integration stop scan: 1135
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

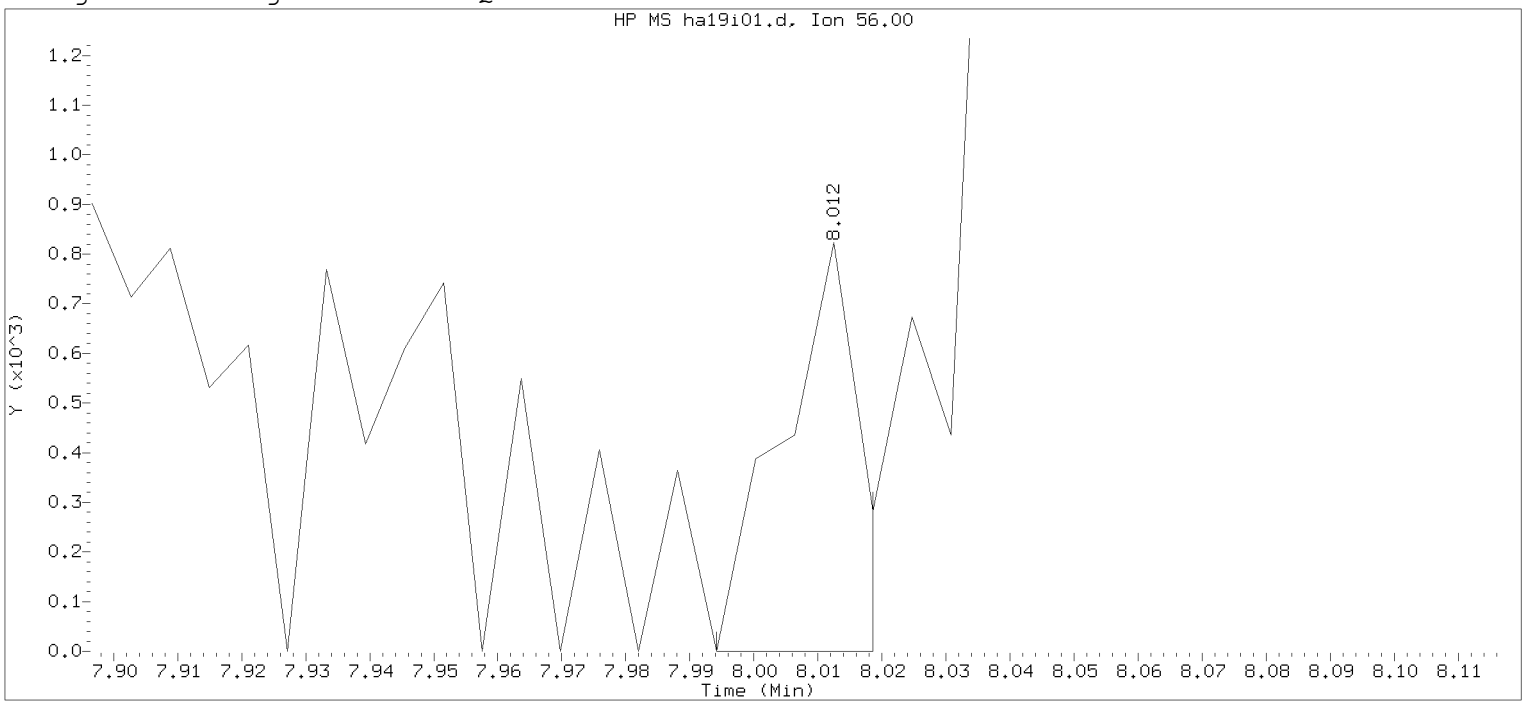
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

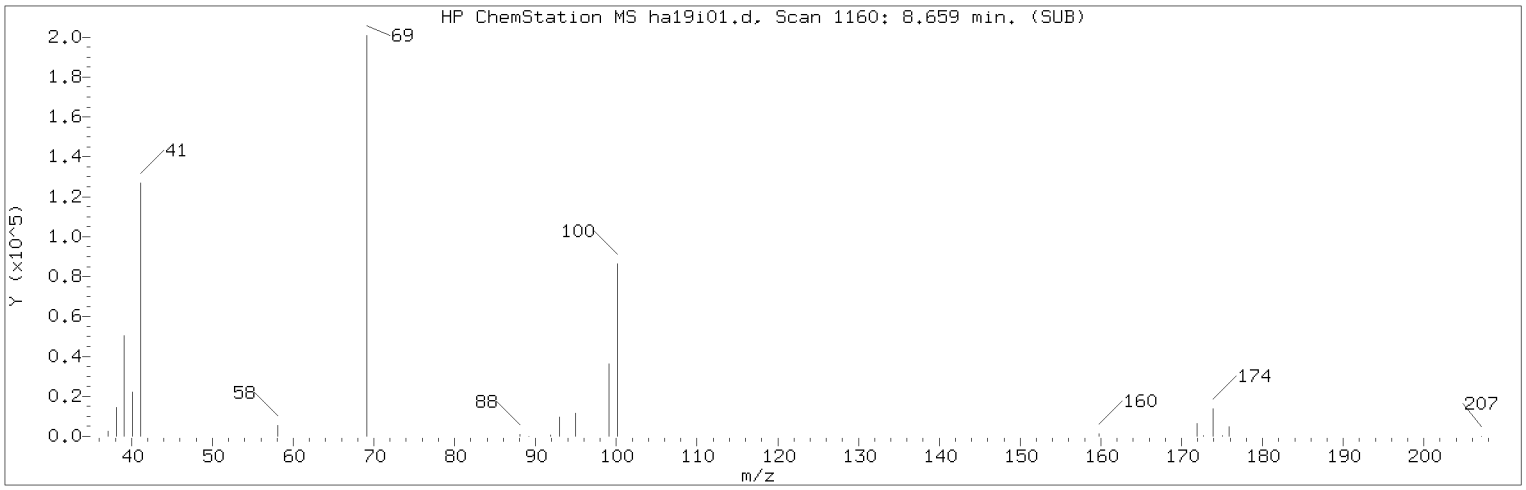
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

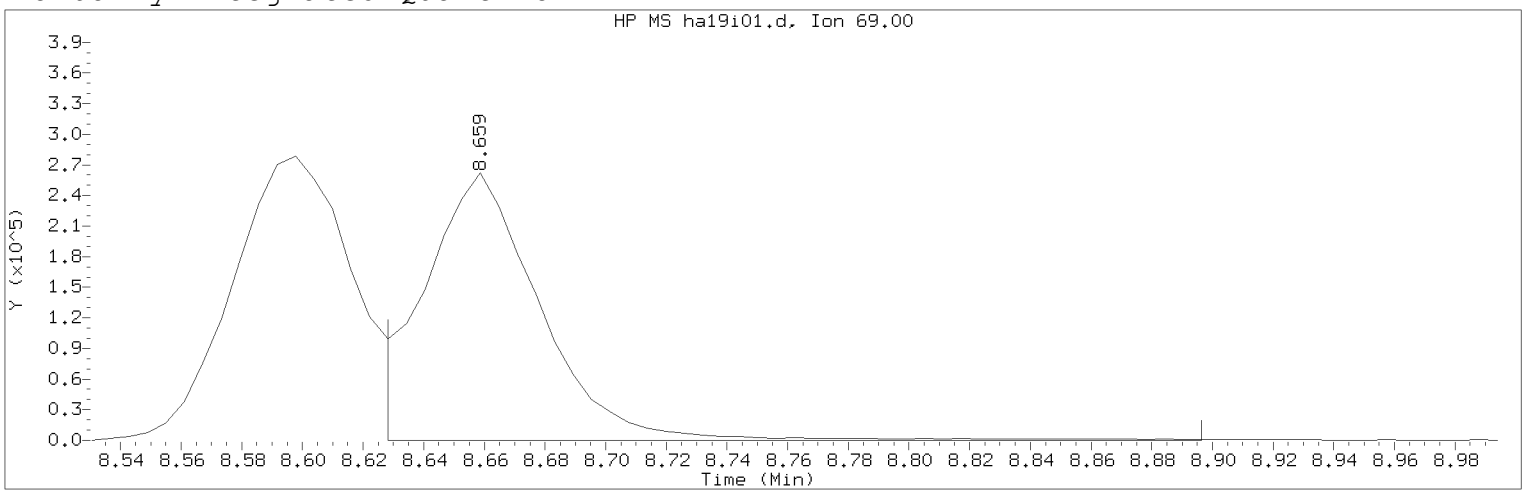
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1054
Retention Time (minutes): 8.012
Quant Ion : 56.00
Area : 654
On-column Amount (ng) : 1.1644
Integration start scan : 1050 Integration stop scan: 1054
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

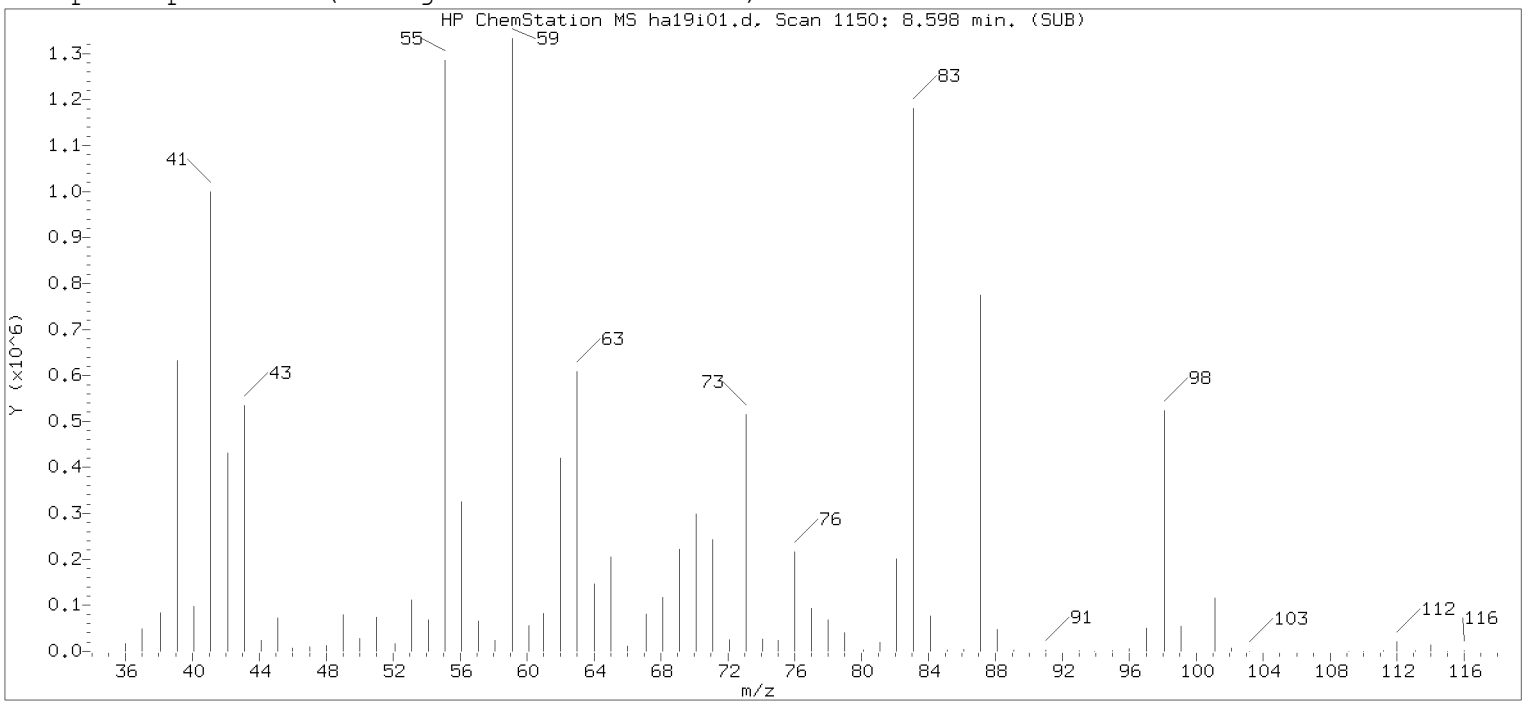
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 687658A
On-Column Amount (ng) : 25.0000
Integration start scan : 1154 Integration stop scan: 1198
Y at integration start : 166 Y at integration end: 259

Reason for manual integration: improper integration

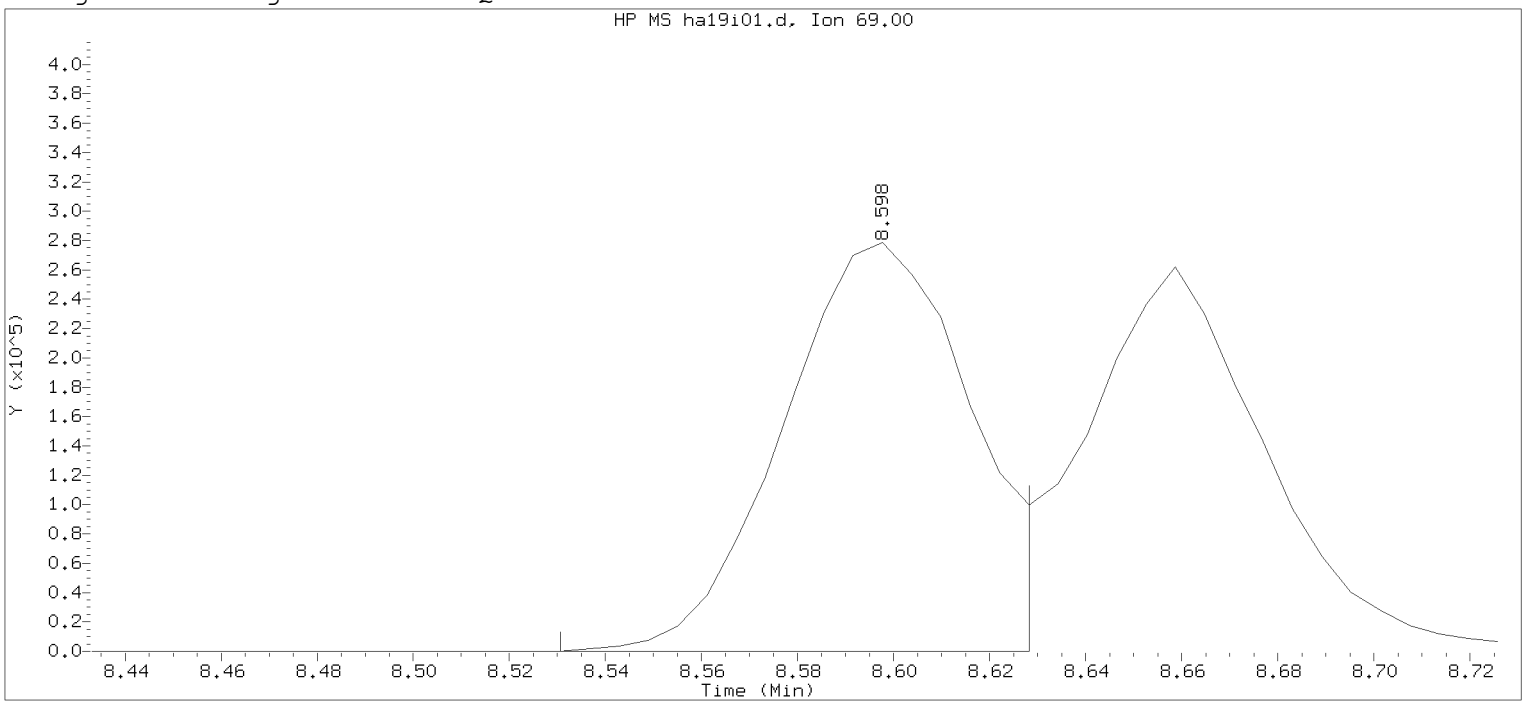
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

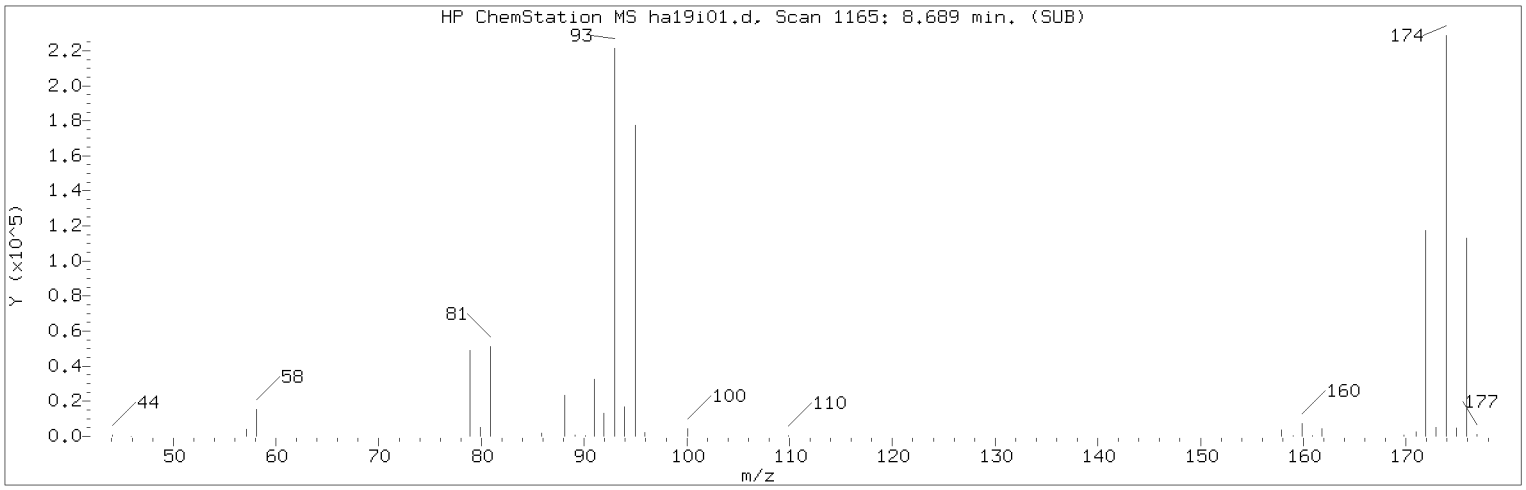
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

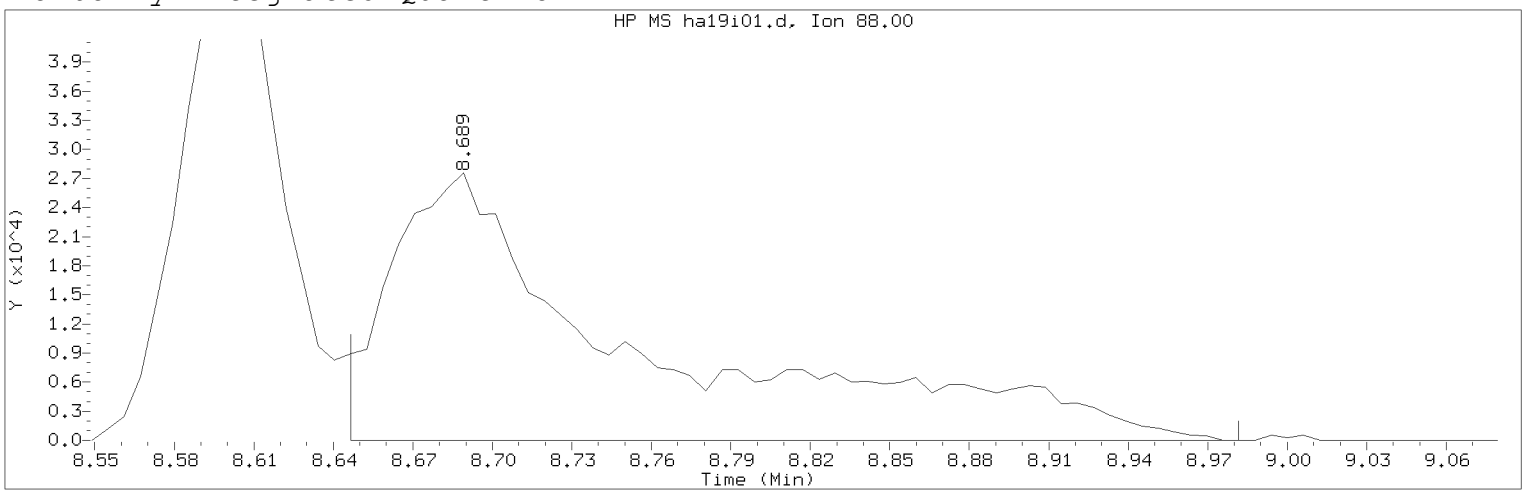
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 69.00
Area : 746664
On-column Amount (ng) : 35.1292
Integration start scan : 1138 Integration stop scan: 1154
Y at integration start : 0 Y at integration end: 166

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

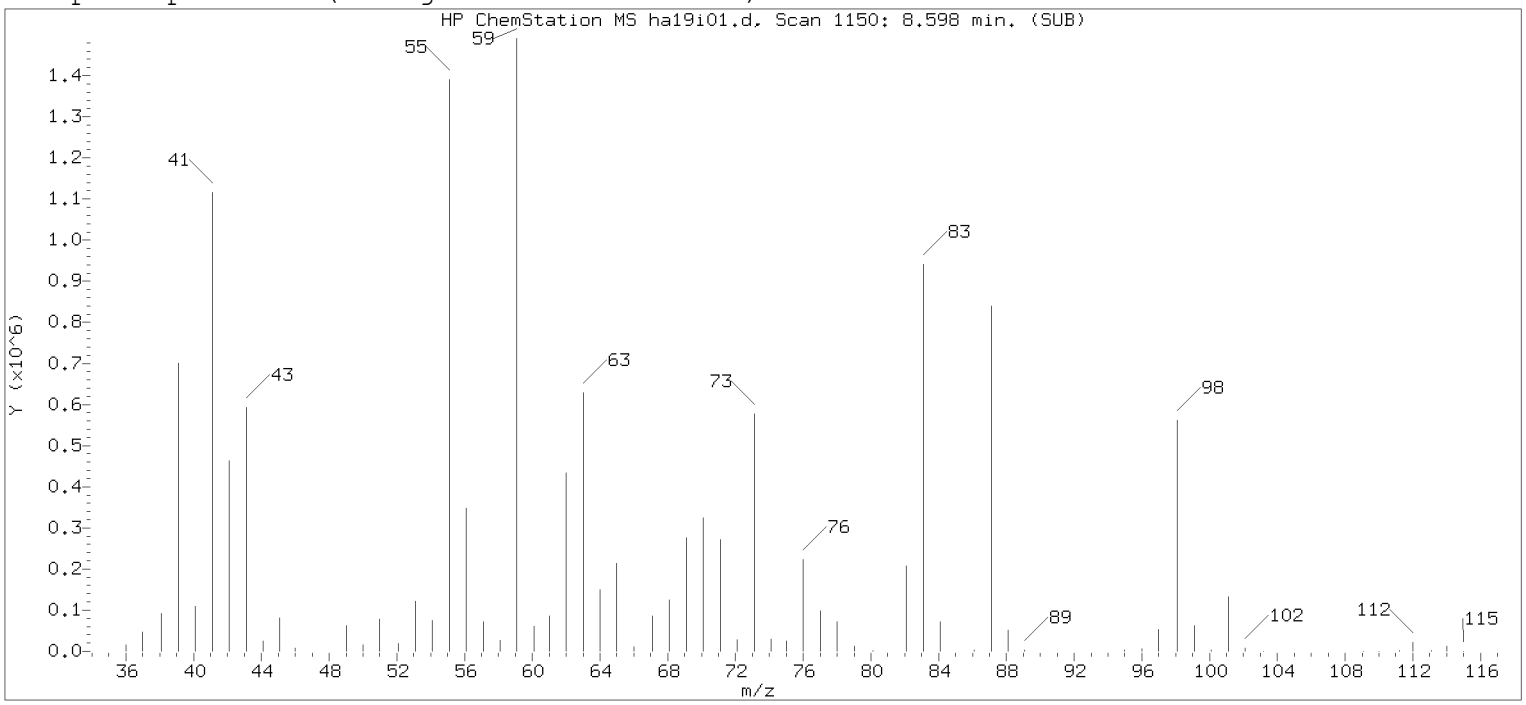
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1165
Retention Time (minutes): 8.689
Quant Ion : 88.00
Area (flag) : 178200M
On-Column Amount (ng) : 1250.0000
Integration start scan : 1157 Integration stop scan: 1212
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

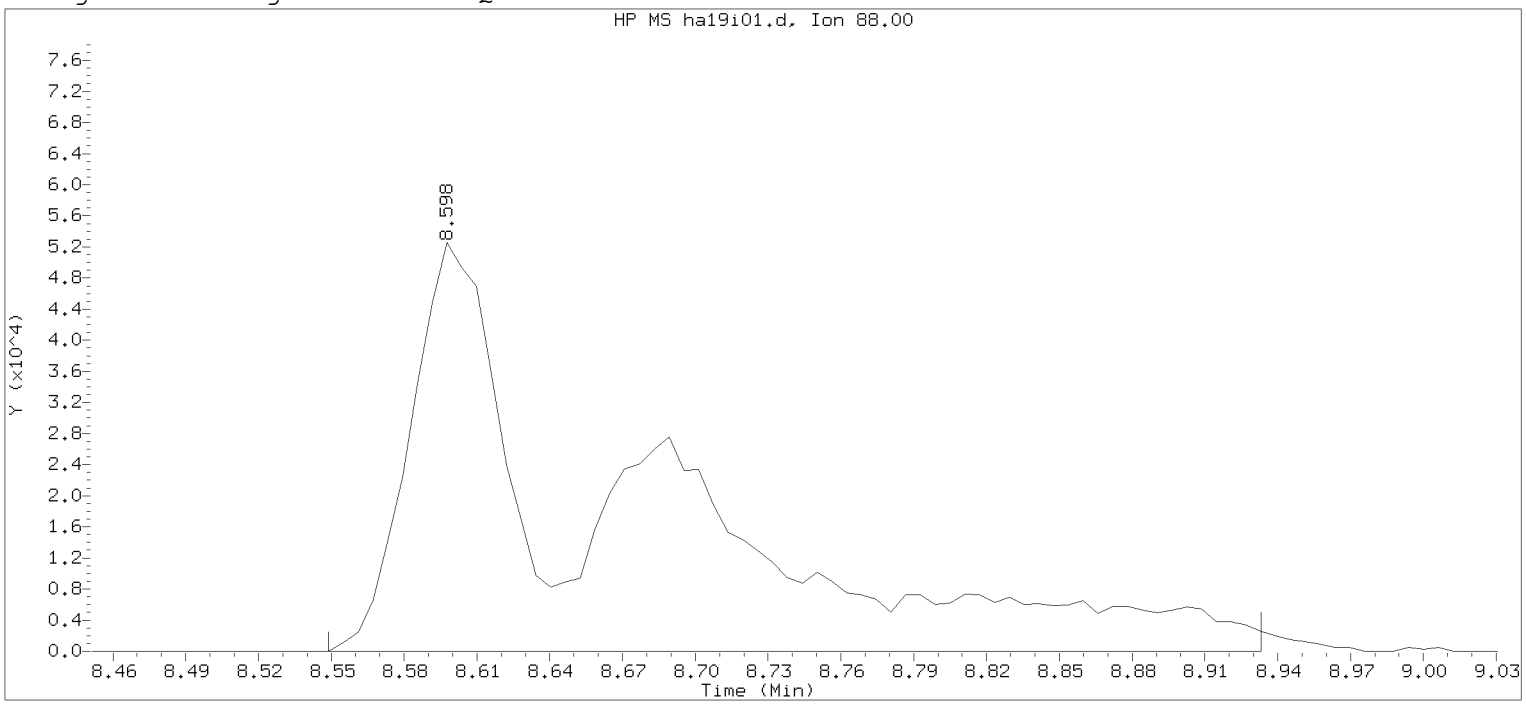
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

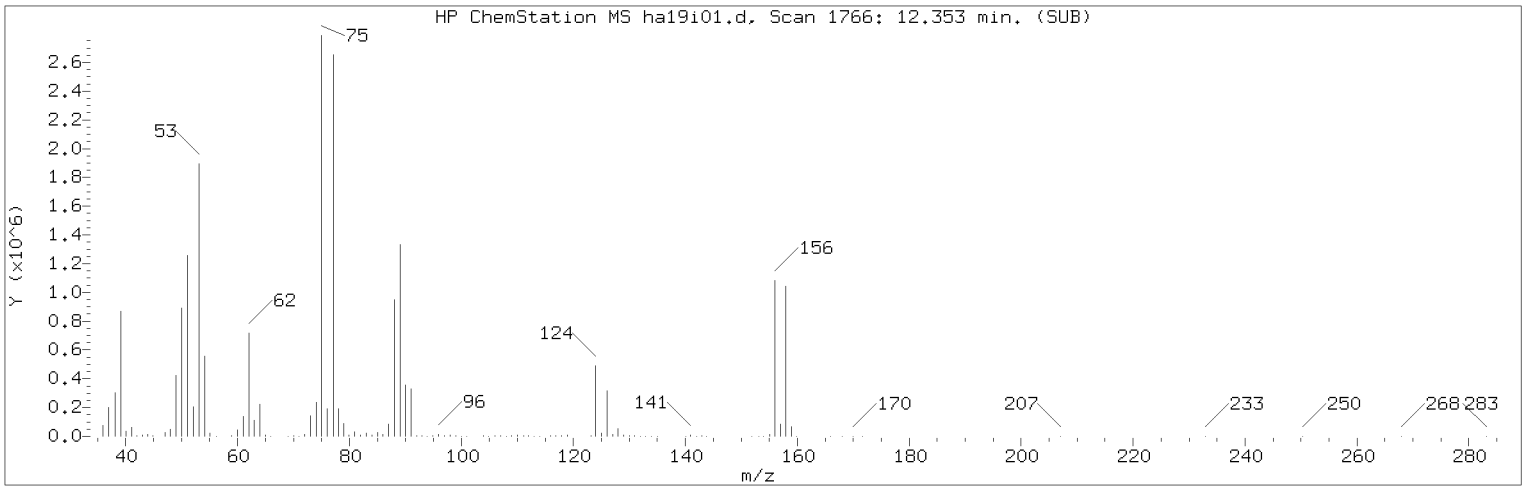
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

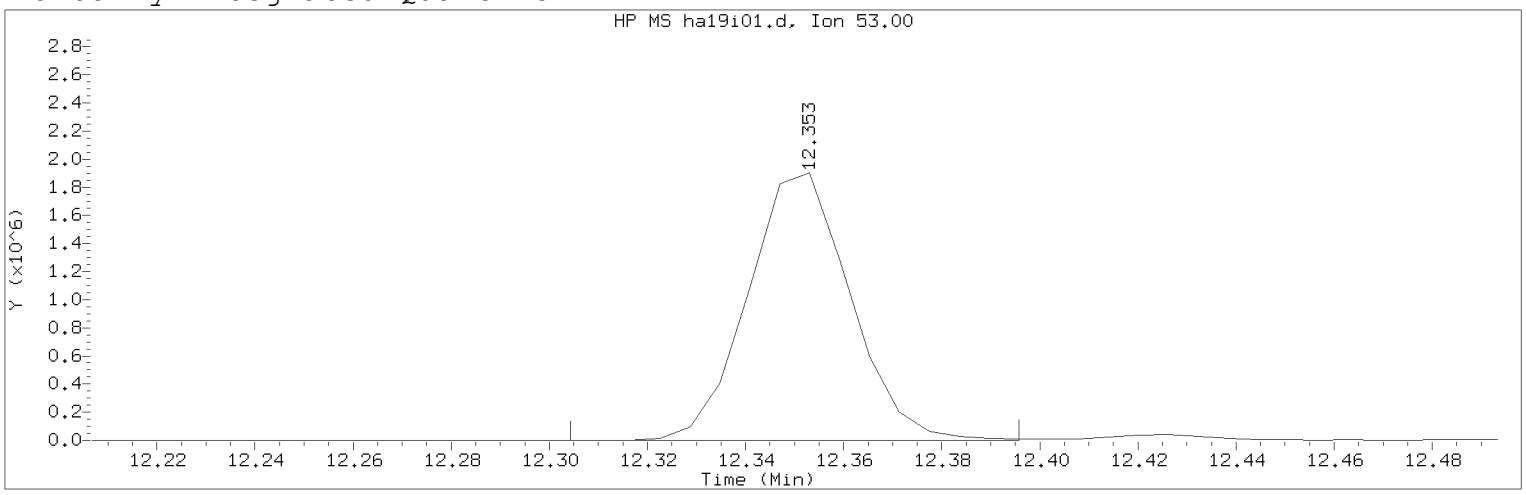
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 310414
On-column Amount (ng) : 1770.9350
Integration start scan : 1141 Integration stop scan: 1204
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

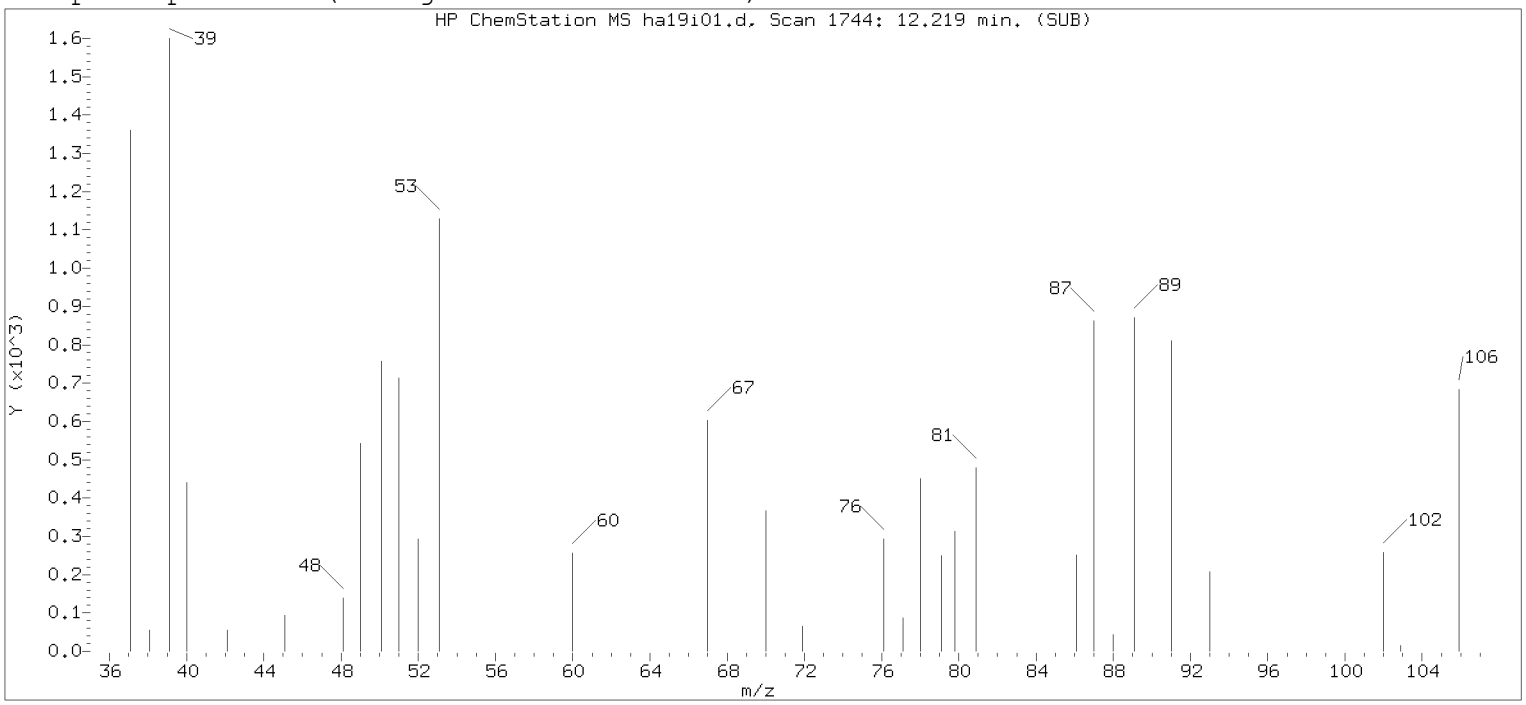
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 2752141A
On-Column Amount (ng) : 250.0000
Integration start scan : 1757 Integration stop scan: 1772
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

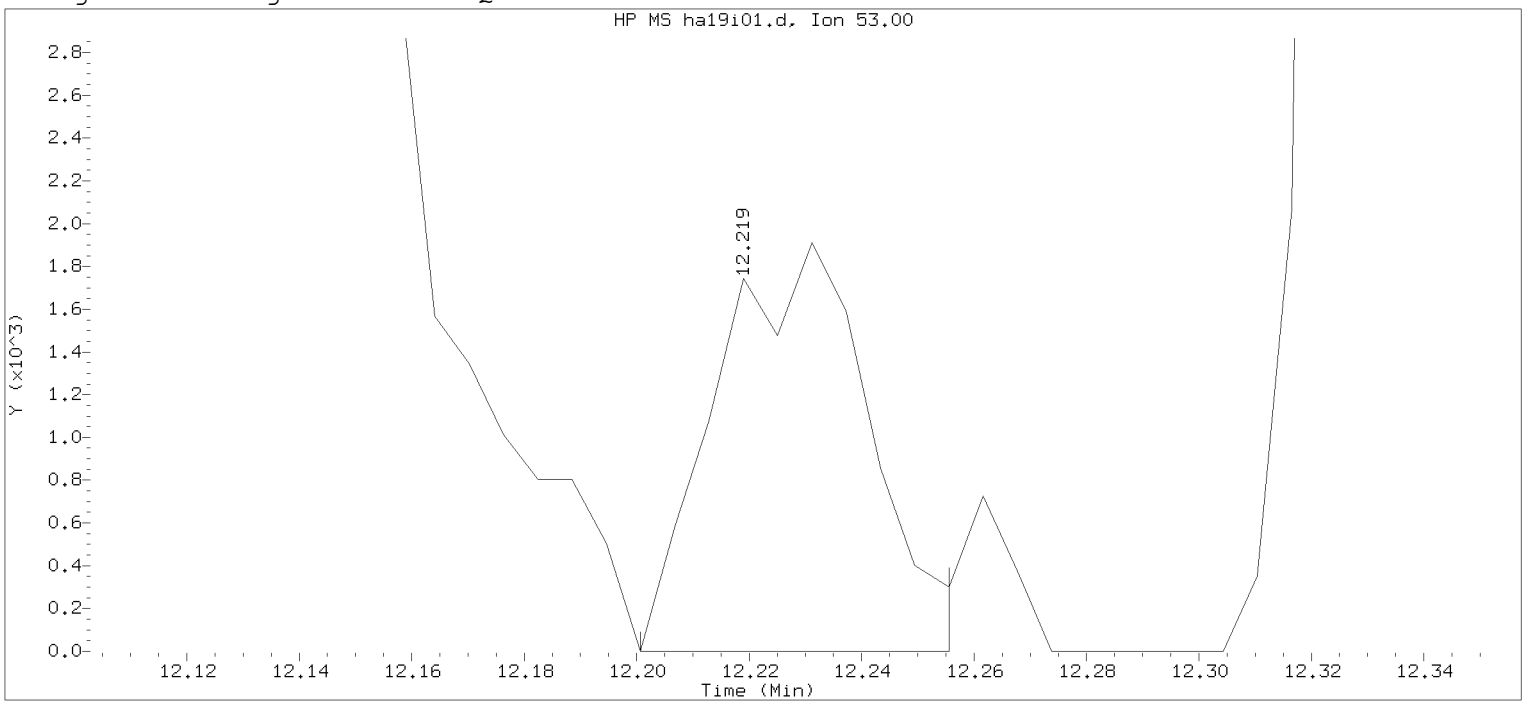
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

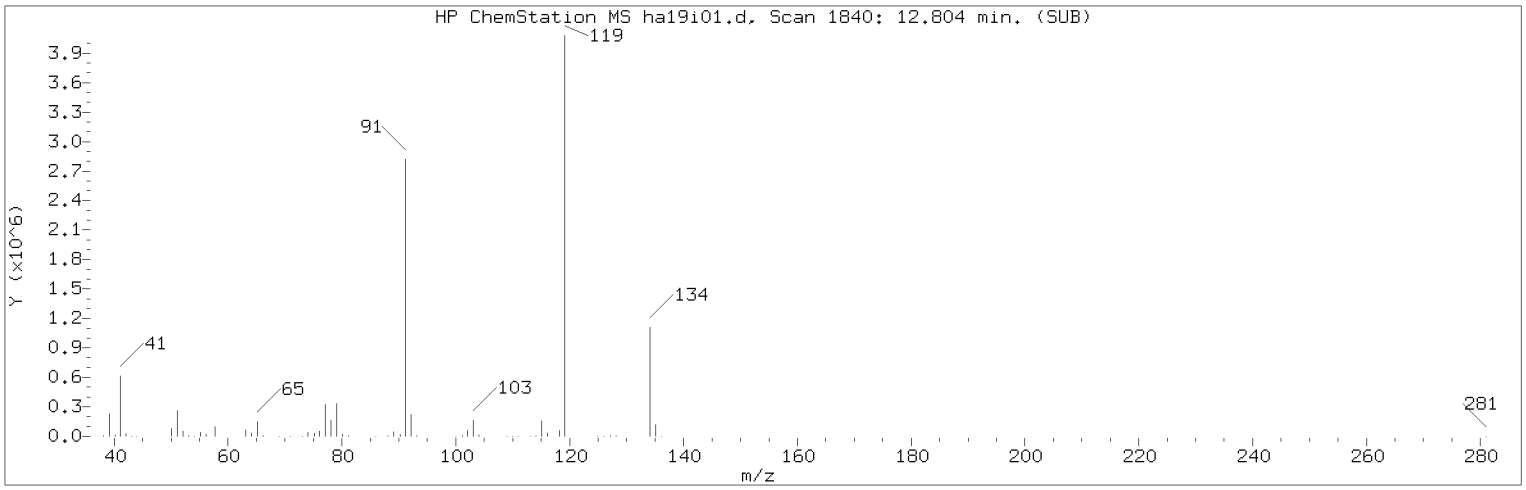
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

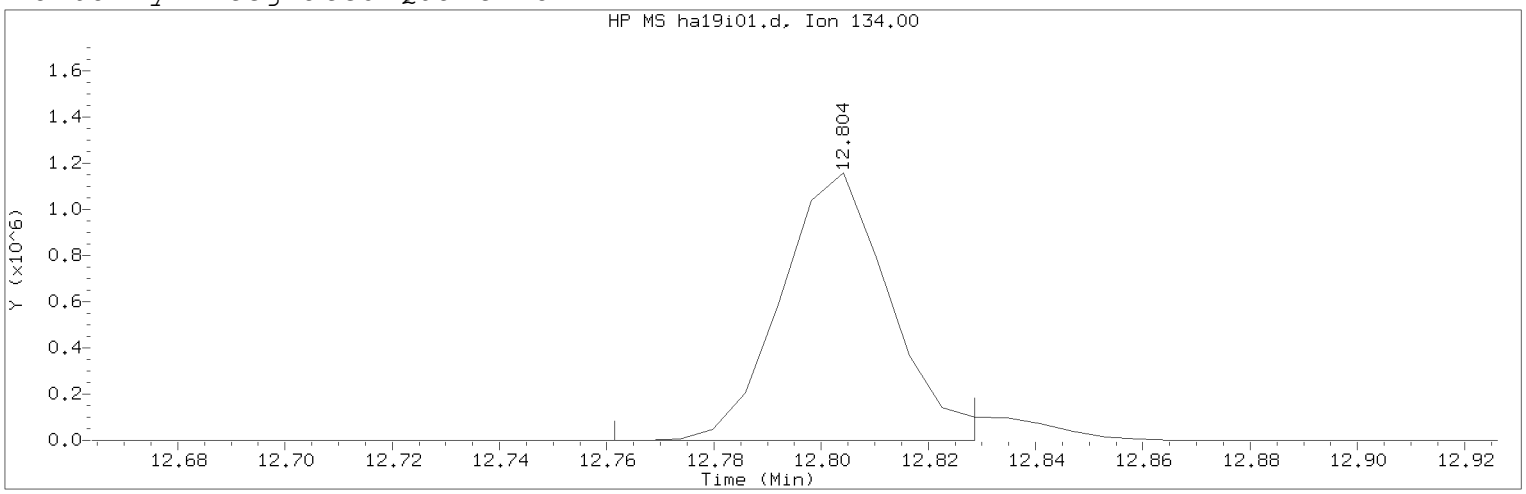
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1744
Retention Time (minutes): 12.219
Quant Ion : 53.00
Area : 3583
On-column Amount (ng) : 0.5430
Integration start scan : 1740 Integration stop scan: 1749
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

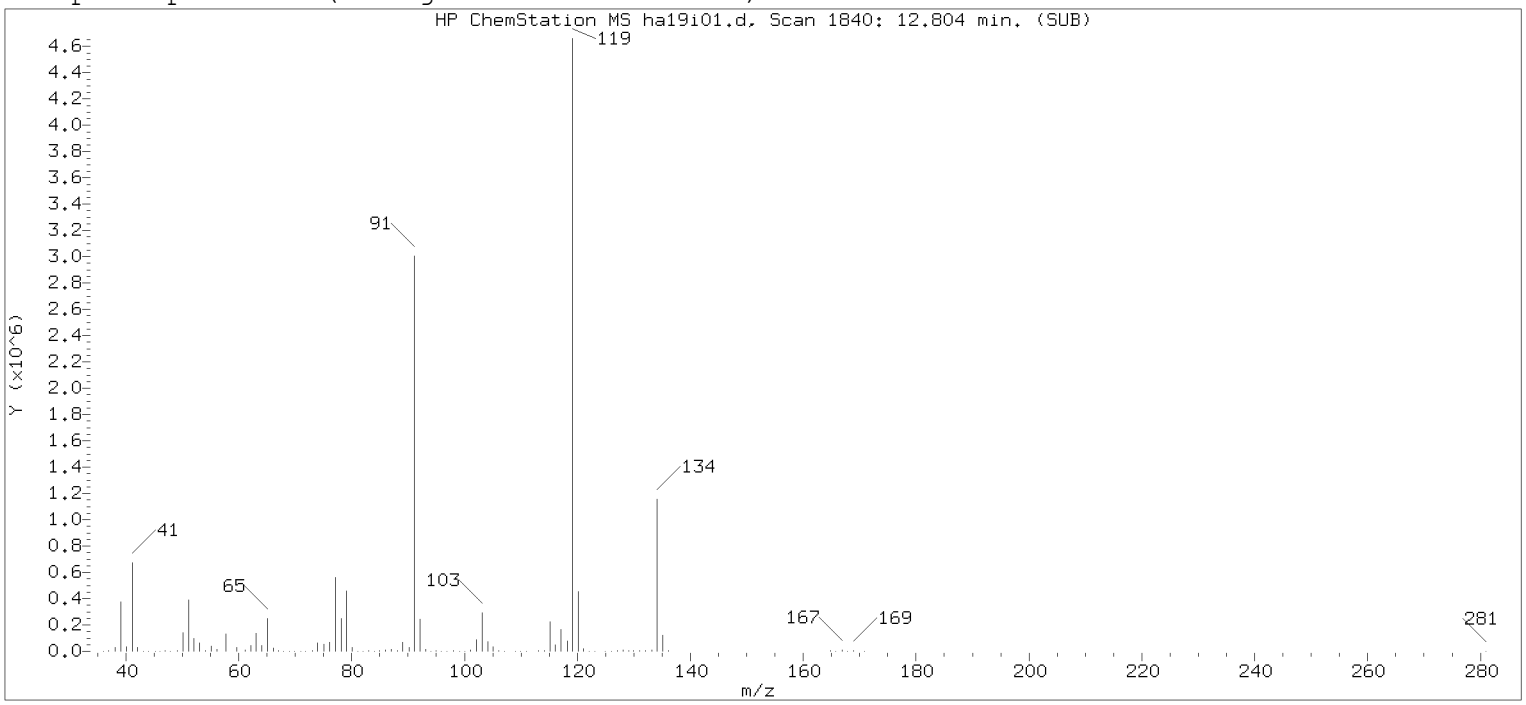
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 1625959M
On-Column Amount (ng) : 25.0000
Integration start scan : 1832 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

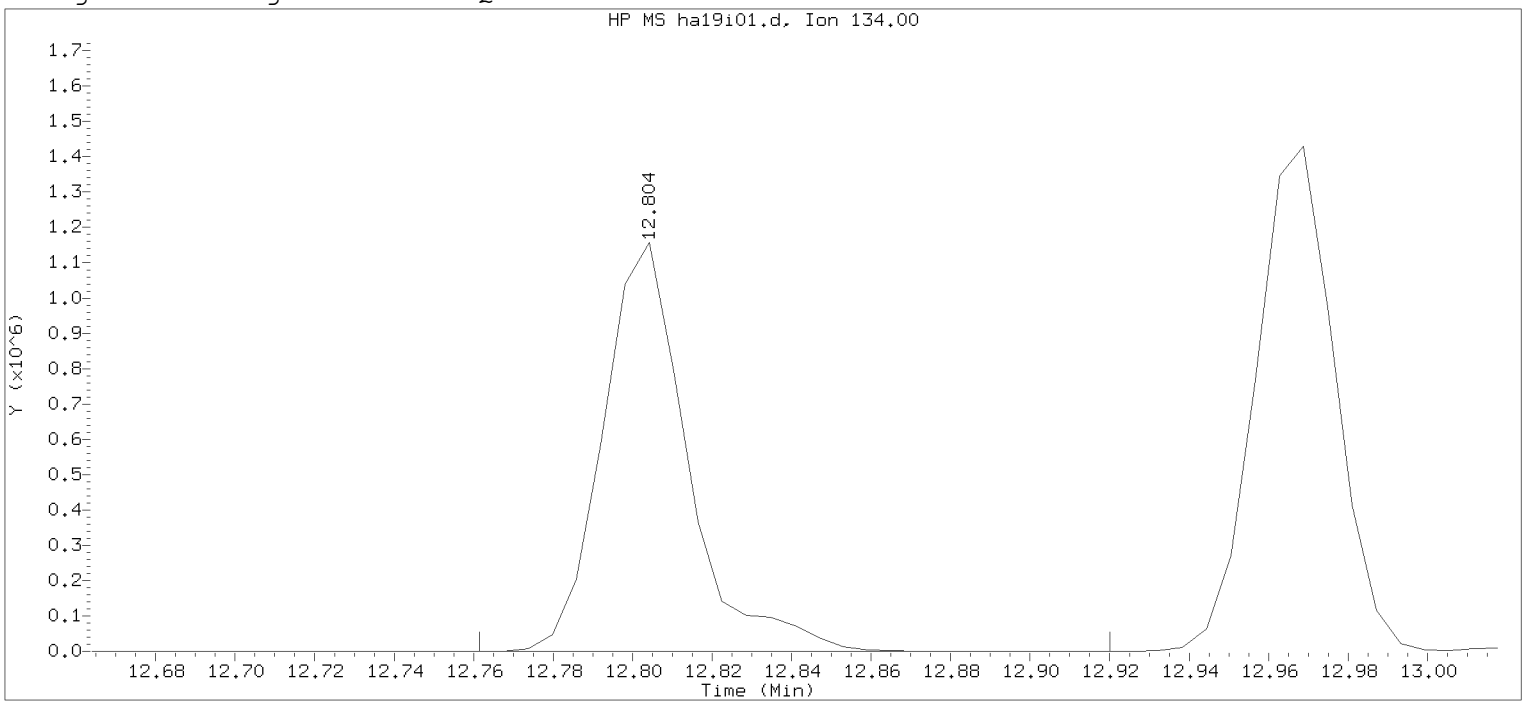
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



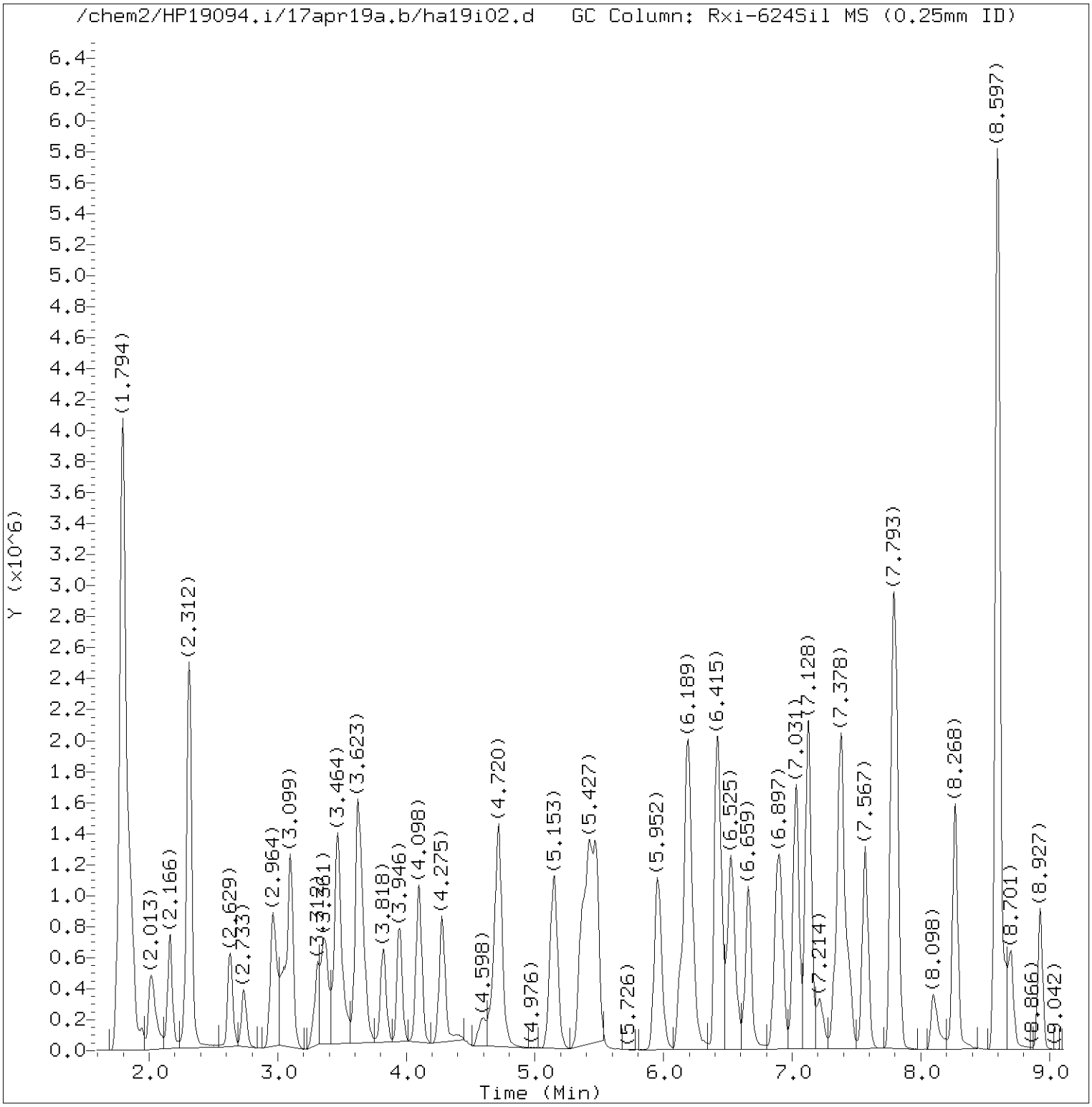
Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 1708923
On-column Amount (ng) : 23.0765
Integration start scan : 1832 Integration stop scan: 1858
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito@



Total Ion Chromatogram (TIC)

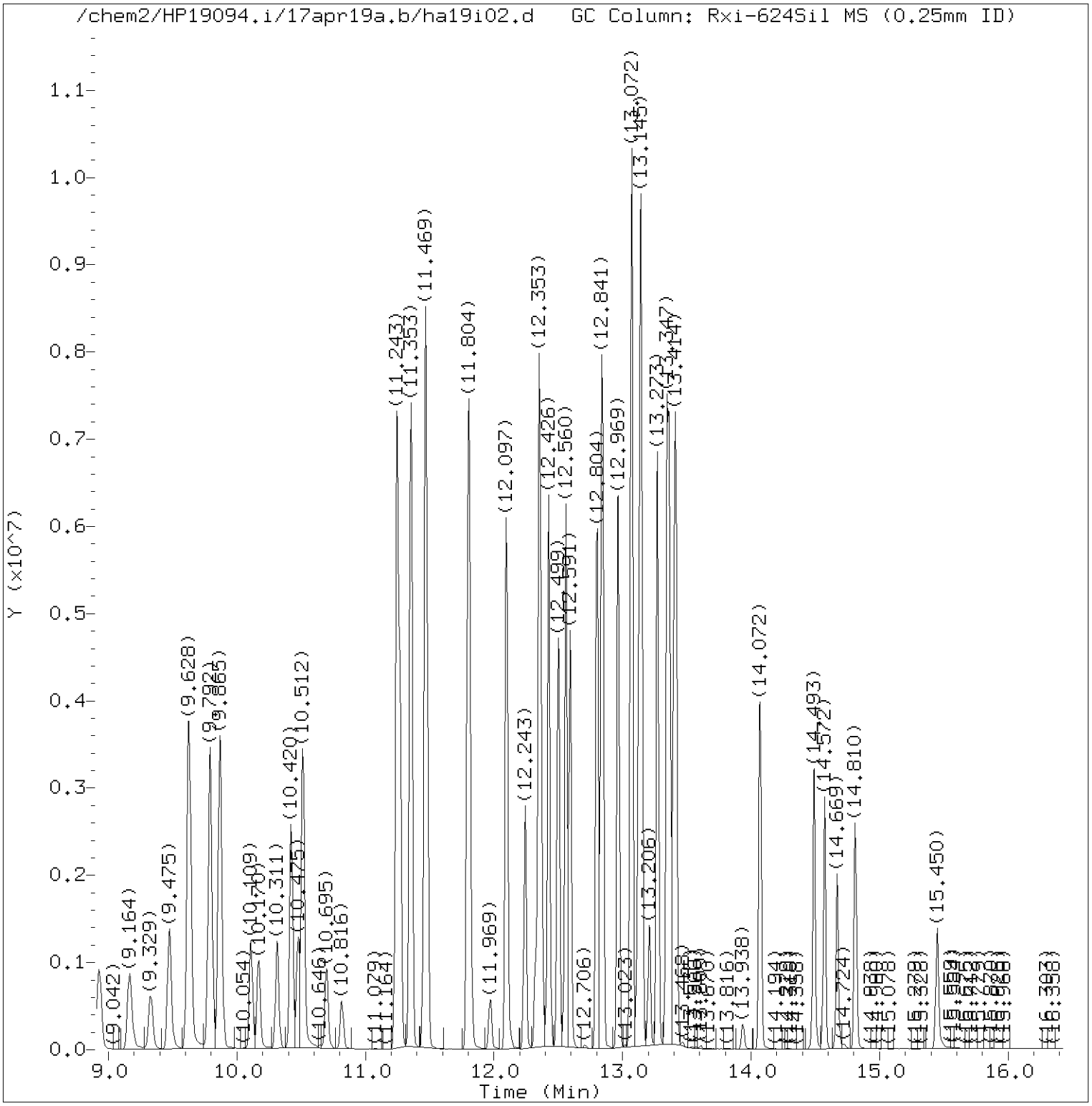
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.019	85	1071262	9.669
2) Chloromethane	(2)	2.160	50	1092226	9.390
5) Vinyl Chloride	(2)	2.300	62	953003	9.334
6) 1,3-Butadiene	(2)	2.312	39	1492747	9.282
7) Bromomethane	(2)	2.629	94	609079	9.497
8) Chloroethane	(2)	2.733	64	538059	9.200
9) Dichlorofluoromethane	(2)	2.958	67	1305115	9.698
10) Trichlorofluoromethane	(2)	3.044	101	1183579	10.005
11) Ethyl ether	(2)	3.306	59	463452	9.888
12) Freon 123a	(2)	3.361	67	902075	10.106
13) Acrolein	(1)	3.464	56	2762988	534.913
15) 1,1-Dichloroethene	(2)	3.623	96	637174	10.029
14) Acetone	(1)	3.641	43	641303	102.527
16) Freon 113	(2)	3.647	101	677975	10.138
17) Methyl Iodide	(2)	3.824	142	1167566	9.894
18) Carbon Disulfide	(2)	3.946	76	1792746	10.057
21) Methyl Acetate	(1)	4.068	43	207306M	9.753
22) Allyl Chloride	(2)	4.098	41	1216942	9.870
23) Methylene Chloride	(2)	4.275	84	673081	9.701
26)*t-Butyl Alcohol-d10	(1)	4.299	65	67885M	50.000
28) t-Butyl Alcohol	(1)	4.403	59	349391	205.706
29) Acrylonitrile	(1)	4.586	53	472610	55.913
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	1326574	10.421
31) trans-1,2-Dichloroethene	(2)	4.720	96	702761	10.016
32) n-Hexane	(2)	5.147	57	1184016	11.008
33) 1,1-Dichloroethane	(2)	5.366	63	1341424	9.689
34) di-Isopropyl Ether	(2)	5.421	45	2407178	10.203
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	1212212	10.364
37) Ethyl t-butyl ether	(2)	5.952	59	1894771	10.446
40) 1,2-Dichloroethene (Total)	(2)		96	1483818	19.989
38) 2-Butanone	(1)	6.128	43	1398892	109.649
39) cis-1,2-Dichloroethene	(2)	6.183	96	781057	9.973
42) Propionitrile	(1)	6.208	54	631605	208.364
41) 2,2-Dichloropropane	(2)	6.208	77	1039712	10.024
45) Methacrylonitrile	(1)	6.421	67	1400493	110.504
47) Bromochloromethane	(2)	6.519	128	299989	9.687
48) Tetrahydrofuran	(1)	6.543	71	350865	110.089
49) Chloroform	(2)	6.659	83	1278502	9.788

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	654497	10.196
50)$Dibromofluoromethane	(2)	6.872	111	675876	10.251
51) 1,1,1-Trichloroethane	(2)	6.909	97	1092724	9.823
52) Cyclohexane	(2)	7.031	56	1403831	10.236
52) Cyclohexane	(2)	7.031	84	1131033M	10.242
52) Cyclohexane	(2)	7.031	69	413049	10.733
55) 1,1-Dichloropropene	(2)	7.116	75	1057901	10.240
54) Carbon Tetrachloride	(2)	7.134	117	926635	9.923
56) Isobutyl Alcohol	(1)	7.220	41	328311	447.932
57)$1,2-Dichloroethane-d4	(2)	7.335	102	104170	10.036
57)$1,2-Dichloroethane-d4	(2)	7.335	65	512298	10.139
57)$1,2-Dichloroethane-d4	(2)	7.329	104	64153	10.197
58) Benzene	(2)	7.378	78	2950193	9.834
59) 1,2-Dichloroethane	(2)	7.439	62	712157	9.930
60) t-Amyl methyl ether	(2)	7.567	73	1540965	10.448
63)*Fluorobenzene	(2)	7.781	96	2863672	10.000
62) n-Heptane	(2)	7.805	43	1342480	10.602
65) n-Butanol	(1)	8.104	56	568957M	1054.252
67) Trichloroethene	(2)	8.262	95	777450	9.789
70) 1,2-Dichloropropane	(2)	8.591	63	782054	9.997
69) Methylcyclohexane	(2)	8.597	83	1398483	10.424
71) Methyl Methacrylate	(1)	8.658	69	275510M	11.883
72) 1,4-Dioxane	(1)	8.689	88	62881M	480.375
73) Dibromomethane	(2)	8.701	93	303095	10.050
74) Bromodichloromethane	(2)	8.927	83	834117	10.099
76) 2-Nitropropane	(1)	9.164	41	813840	106.430
80) cis-1,3-Dichloropropene	(2)	9.475	75	996206	10.699
81) 4-Methyl-2-Pentanone	(1)	9.628	43	3778195	111.760
82)$Toluene-d8	(3)	9.792	98	2797178	9.742
82)$Toluene-d8	(3)	9.792	100	1801336	9.743
83) Toluene	(3)	9.865	92	1819632	9.591
84) trans-1,3-Dichloropropene	(3)	10.109	75	754766	10.212
85) 1,3-Dichloropropene (total)	(3)		75	1750972	20.911
86) Ethyl Methacrylate	(3)	10.170	69	582092	10.647
88) 1,1,2-Trichloroethane	(3)	10.311	97	433031	9.825
89) Tetrachloroethene	(3)	10.420	166	854667	9.713
90) 1,3-Dichloropropane	(3)	10.475	76	766685	9.720
91) 2-Hexanone	(1)	10.512	43	2610250	109.558

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	515238	9.865
95) 1,2-Dibromoethane	(3)	10.816	107	403655	9.685
97)*Chlorobenzene-d5	(3)	11.243	117	1964158	10.000
98) Chlorobenzene	(3)	11.268	112	1981165	9.577
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	658759	9.564
100) Ethylbenzene	(3)	11.353	91	3645850	9.917
101) m+p-Xylene	(3)	11.469	106	2779520	19.884
105) Xylene (Total)	(3)		106	4138521	30.002
104) o-Xylene	(3)	11.798	106	1359001	10.123
106) Styrene	(3)	11.810	104	2140342	10.350
107) Bromoform	(3)	11.975	173	270000	10.351
108) Isopropylbenzene	(3)	12.097	105	3608335	10.271
111)$4-Bromofluorobenzene	(3)	12.243	95	825254	10.116
111)$4-Bromofluorobenzene	(3)	12.243	174	741991	10.219
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	526007	9.380
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	1044235A	116.340
114) Bromobenzene	(4)	12.359	156	795361	9.302
116) 1,2,3-Trichloropropane	(4)	12.377	110	127632	9.097
117) n-Propylbenzene	(4)	12.426	91	4472359	9.783
119) 2-Chlorotoluene	(4)	12.505	126	818841	9.471
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	3036642	9.872
122) 4-Chlorotoluene	(4)	12.591	126	839721	9.663
125) tert-Butylbenzene	(4)	12.804	134	638983M	9.564
126) Pentachloroethane	(4)	12.834	167	489943	9.816
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	3083341	10.056
128) sec-Butylbenzene	(4)	12.969	105	4043809	10.087
131) 1,3-Dichlorobenzene	(4)	13.066	146	1609033	9.578
132) p-Isopropyltoluene	(4)	13.072	119	3376502	10.293
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	868838	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	1594143	9.106
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	1267094	9.374
136) Benzyl Chloride	(4)	13.212	126	188592	10.673
138) n-Butylbenzene	(4)	13.365	92	1736495	10.781
139) 1,2-Dichlorobenzene	(4)	13.395	146	1396754	9.361
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	59646A	11.912
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	969316	10.075
146) Hexachlorobutadiene	(4)	14.572	225	486582	10.210
147) Naphthalene	(4)	14.669	128	1420704	10.035

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

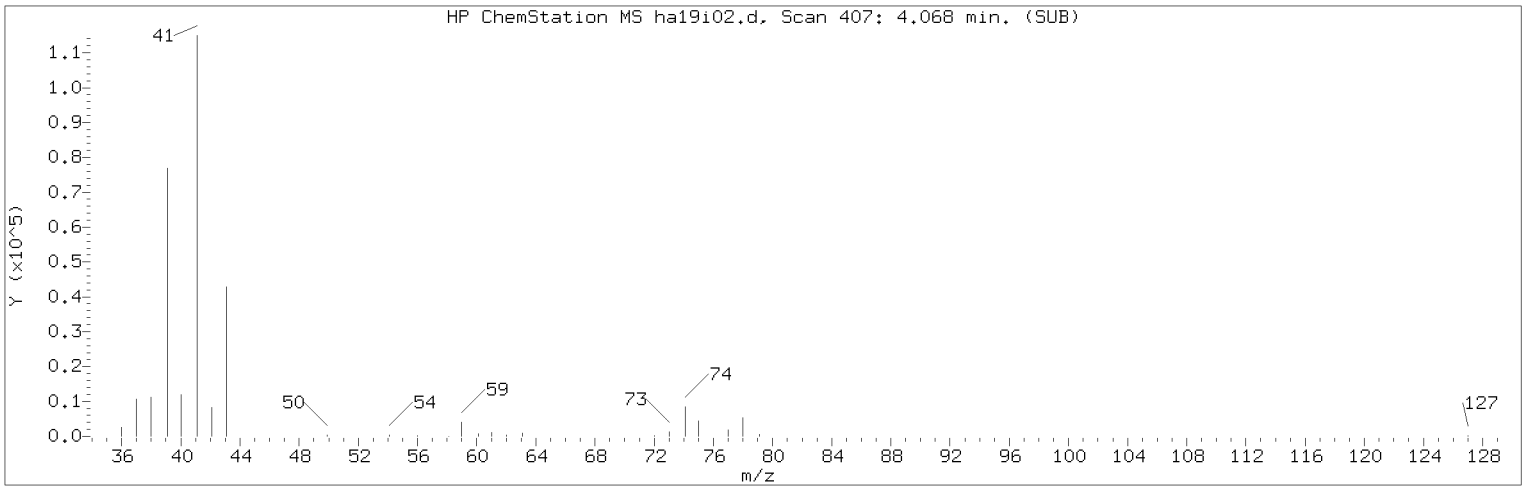
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

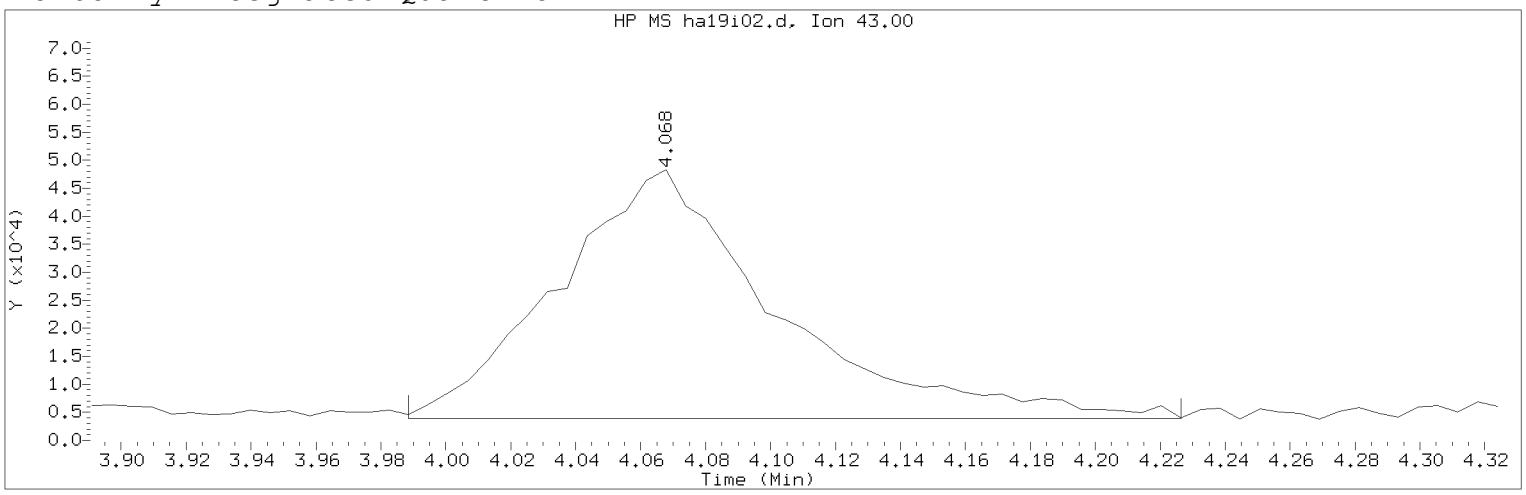
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	773785	9.519

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

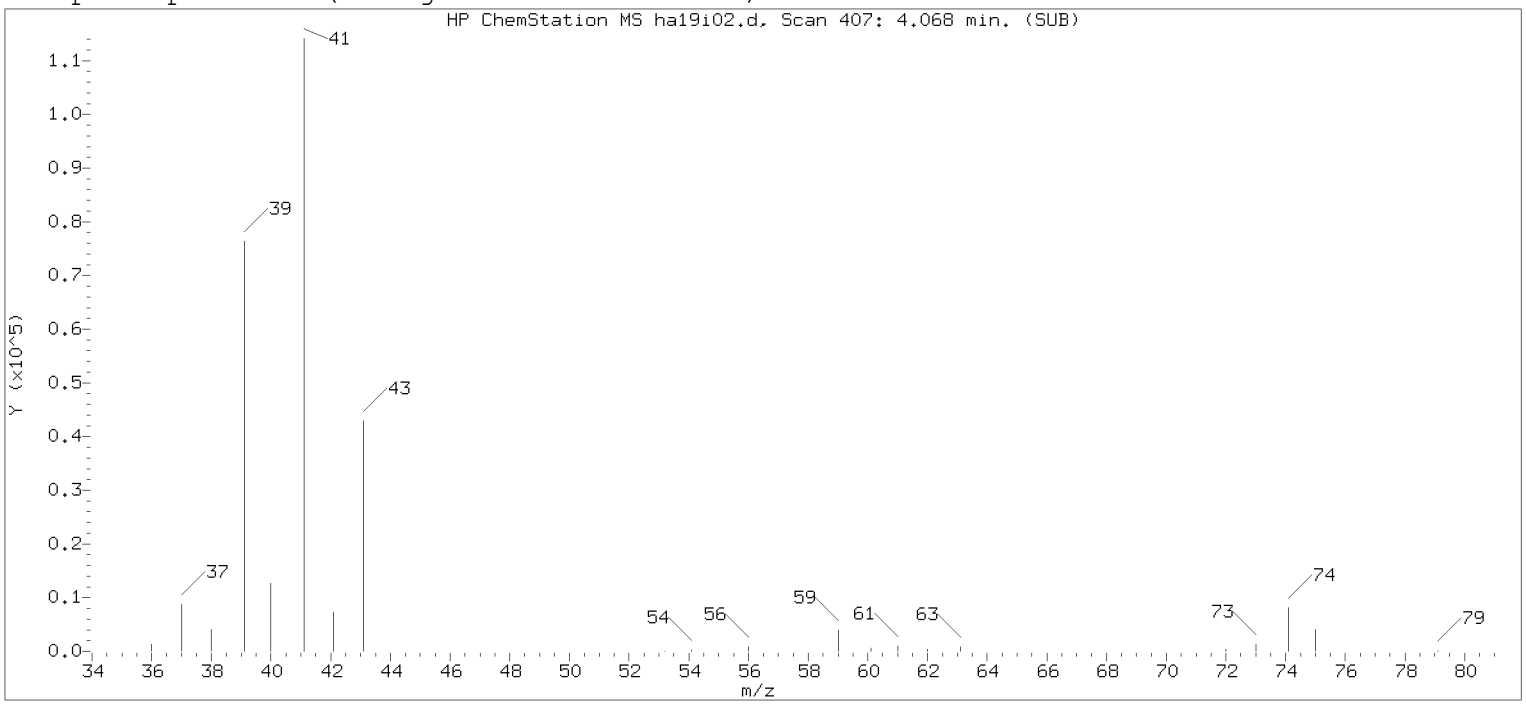
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 407
Retention Time (minutes): 4.068
Quant Ion : 43.00
Area (flag) : 207306M
On-Column Amount (ng) : 9.7534
Integration start scan : 393 Integration stop scan: 432
Y at integration start : 3910 Y at integration end: 3910

Reason for manual integration: improper integration

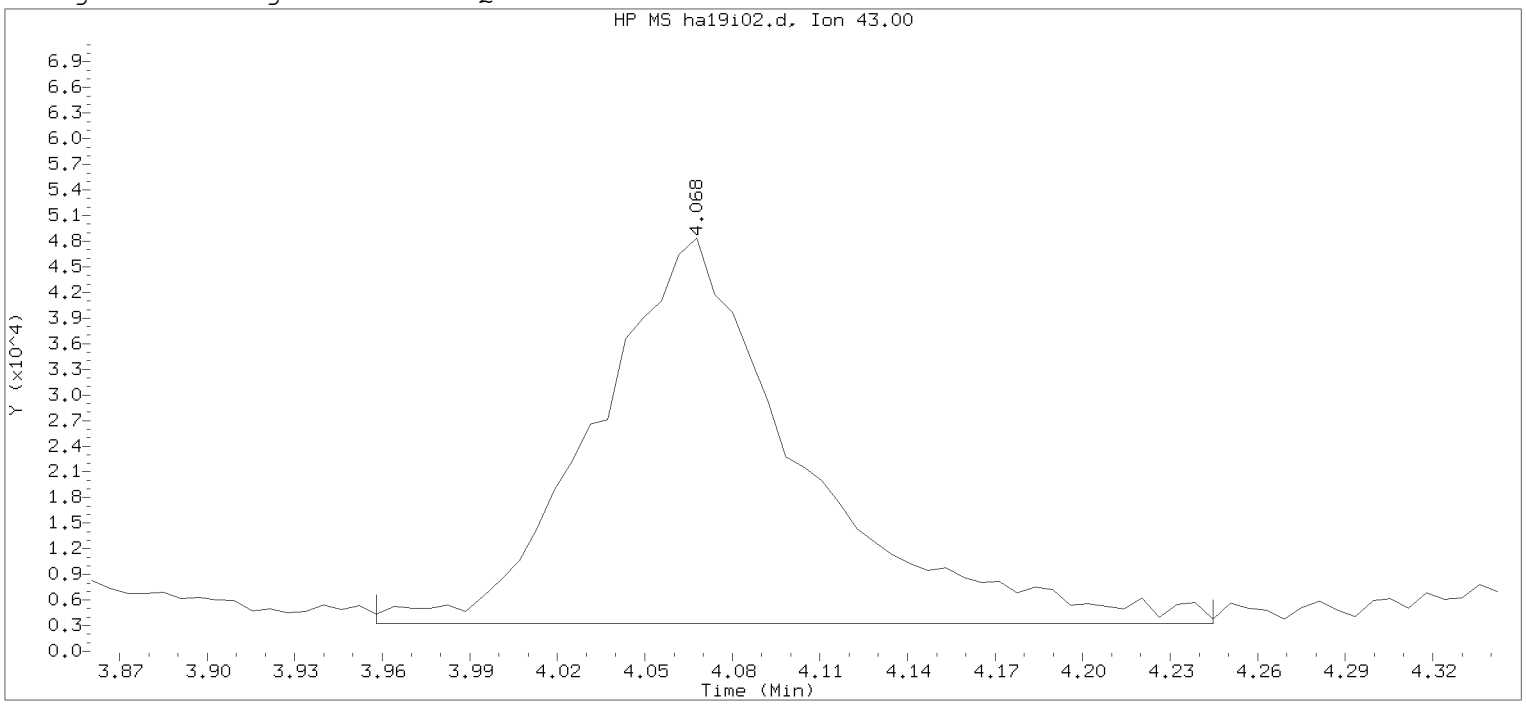
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

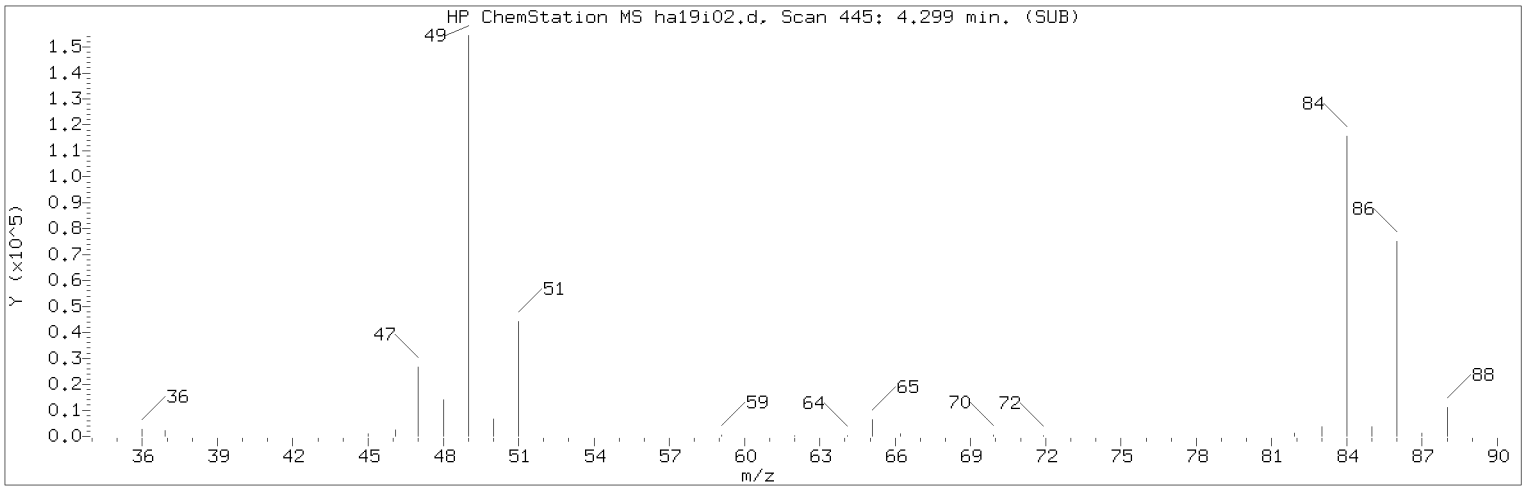
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

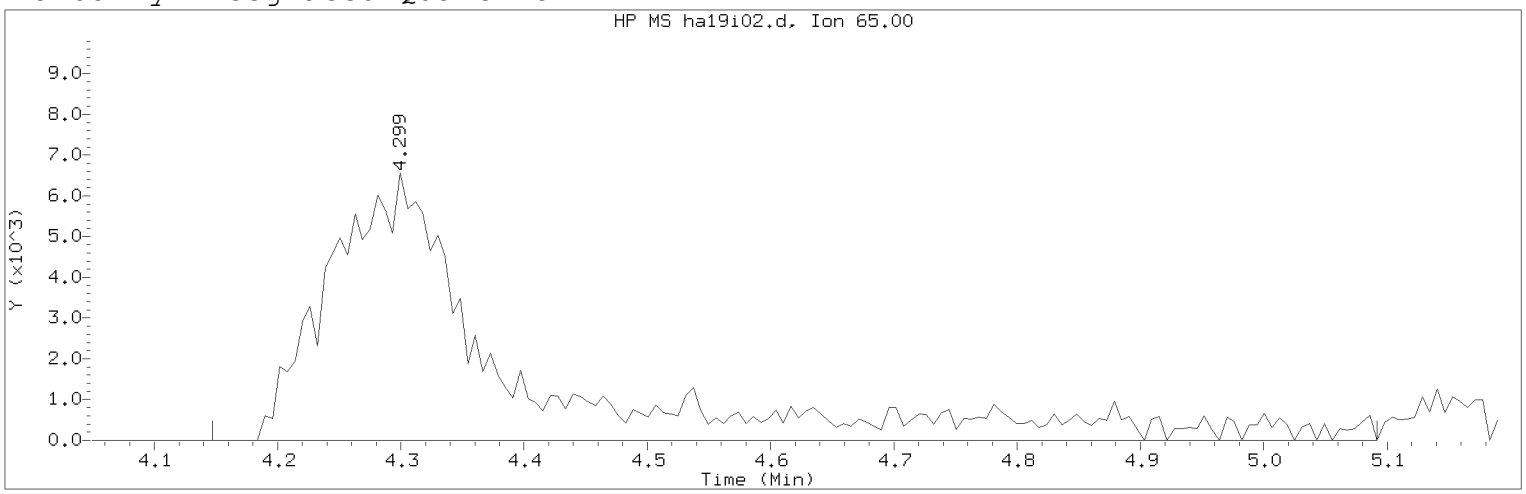
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 407
Retention Time (minutes): 4.068
Quant Ion : 43.00
Area : 221682
On-column Amount (ng) : 14.8497
Integration start scan : 388 Integration stop scan: 435
Y at integration start : 3257 Y at integration end: 3257

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user key: 2137

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

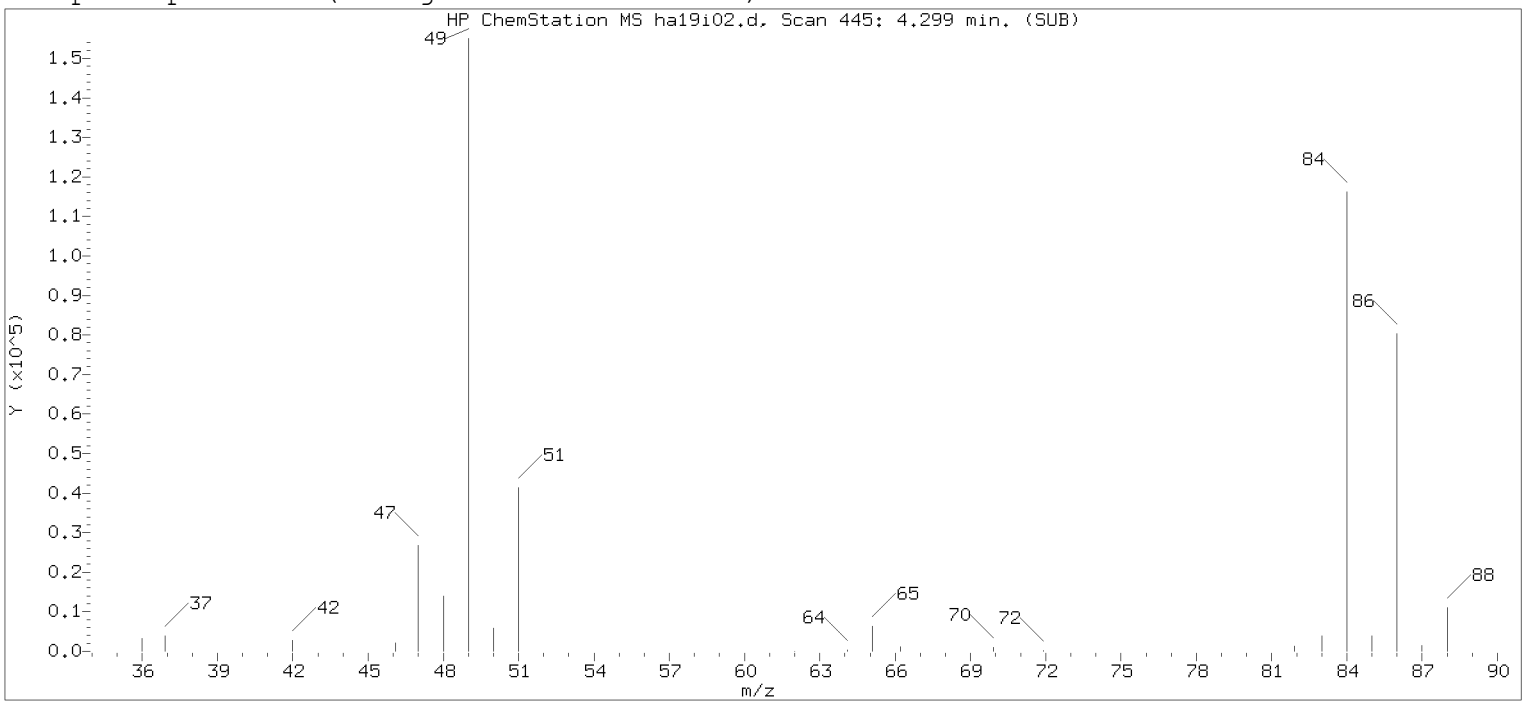
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.299
Quant Ion : 65.00
Area (flag) : 67885M
On-Column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 574
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

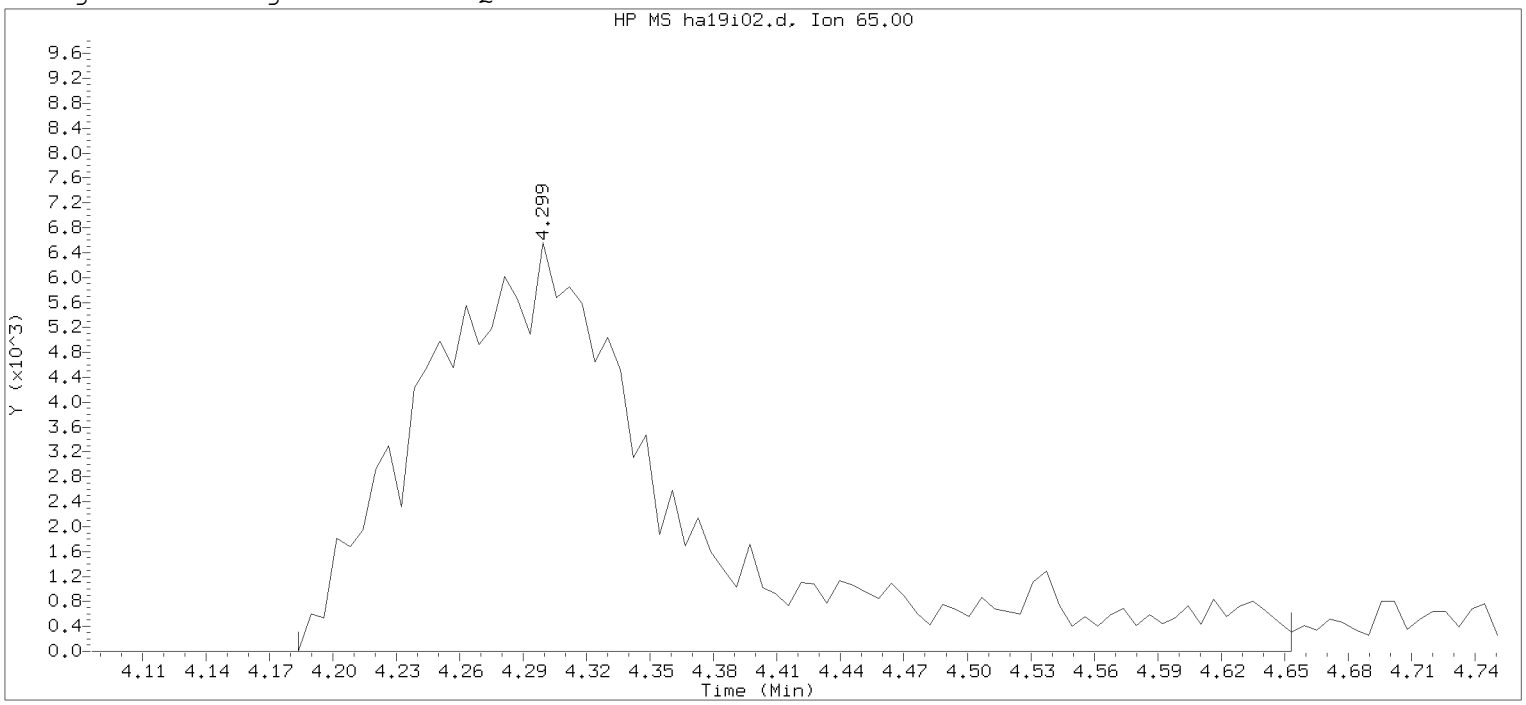
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

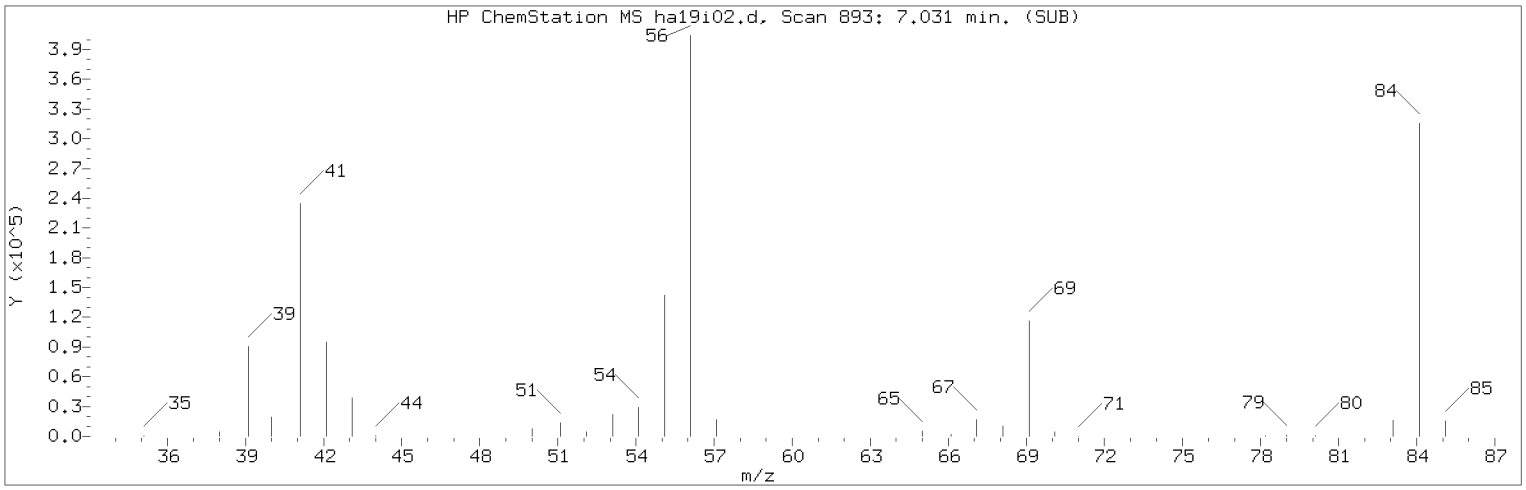
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

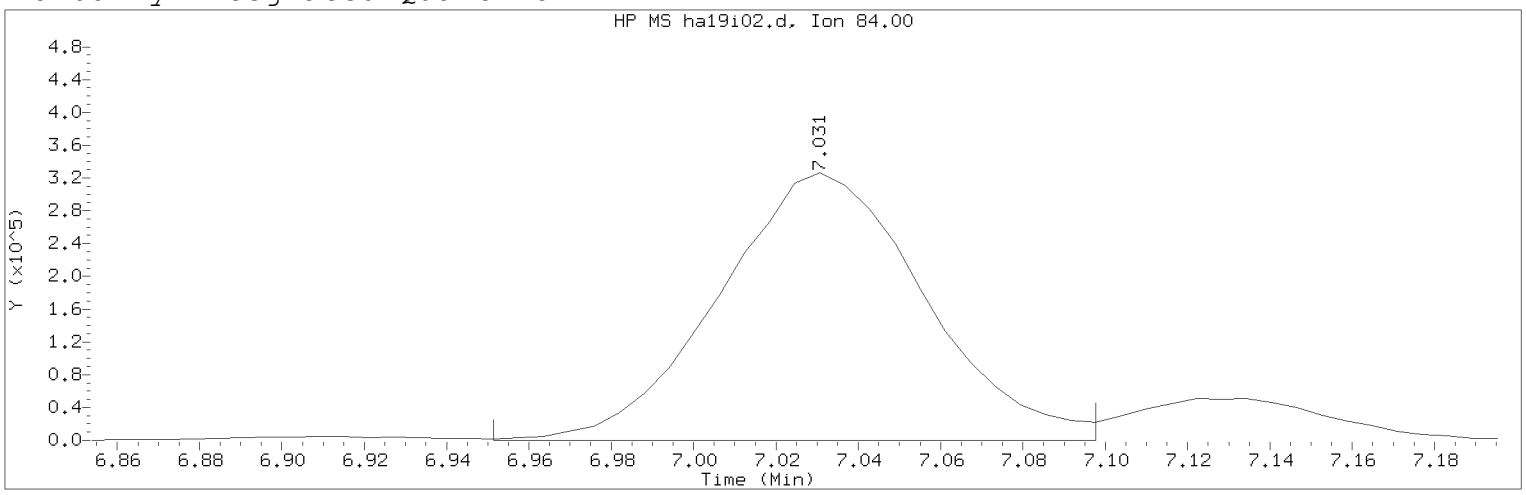
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.299
Quant Ion : 65.00
Area : 56605
On-column Amount (ng) : 50.0000
Integration start scan : 425 Integration stop scan: 502
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user k[illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

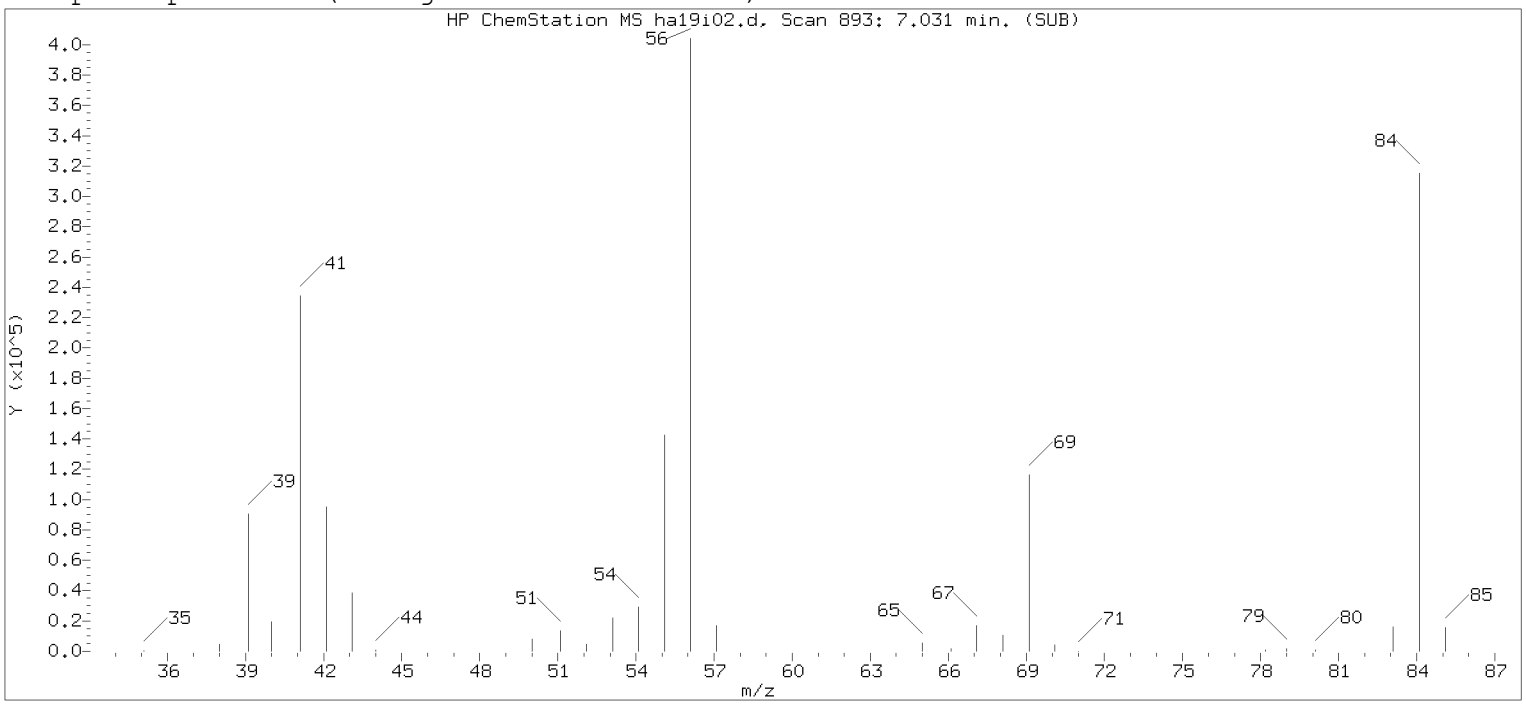
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 893
Retention Time (minutes): 7.031
Quant Ion : 84.00
Area (flag) : 1131033M
On-Column Amount (ng) : 10.2423
Integration start scan : 879 Integration stop scan: 903
Y at integration start : 103 Y at integration end: 150

Reason for manual integration: improper integration

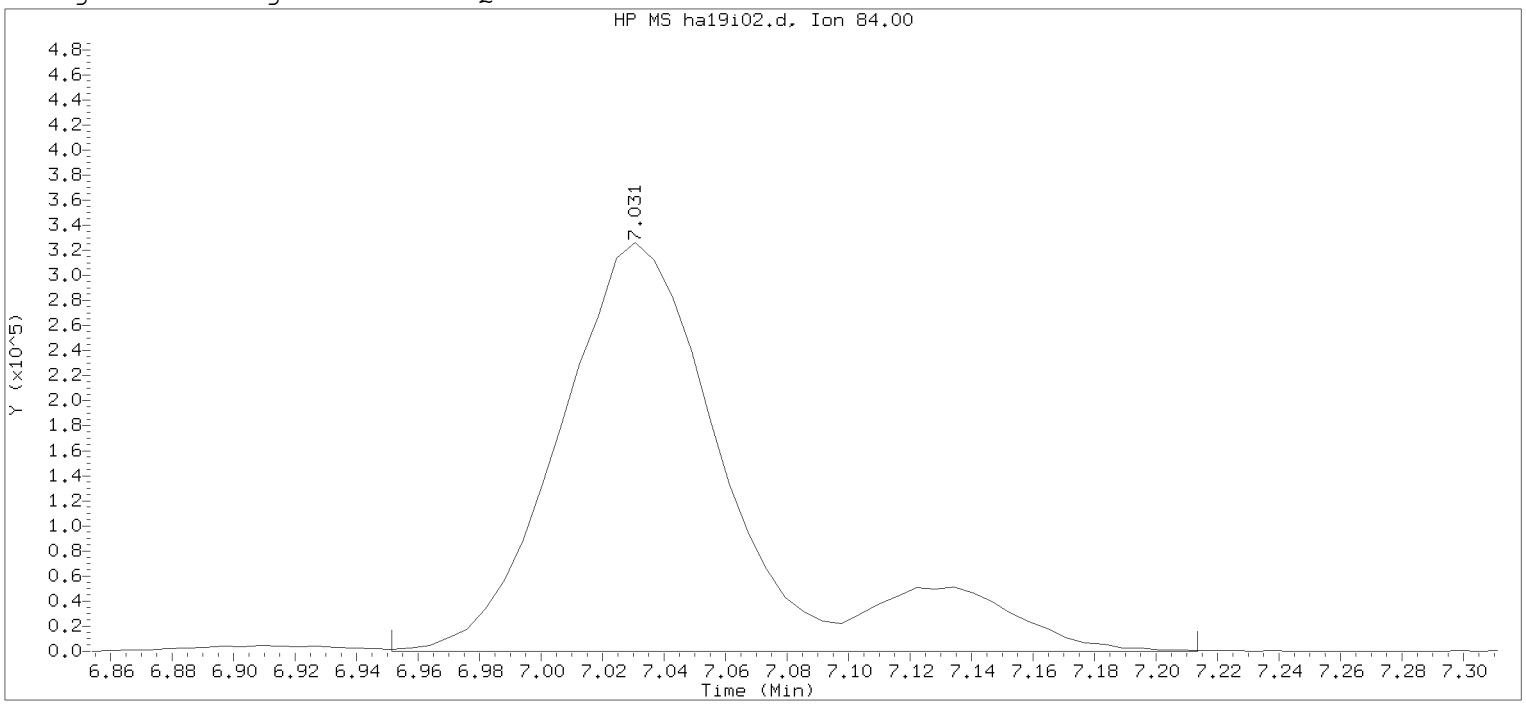
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

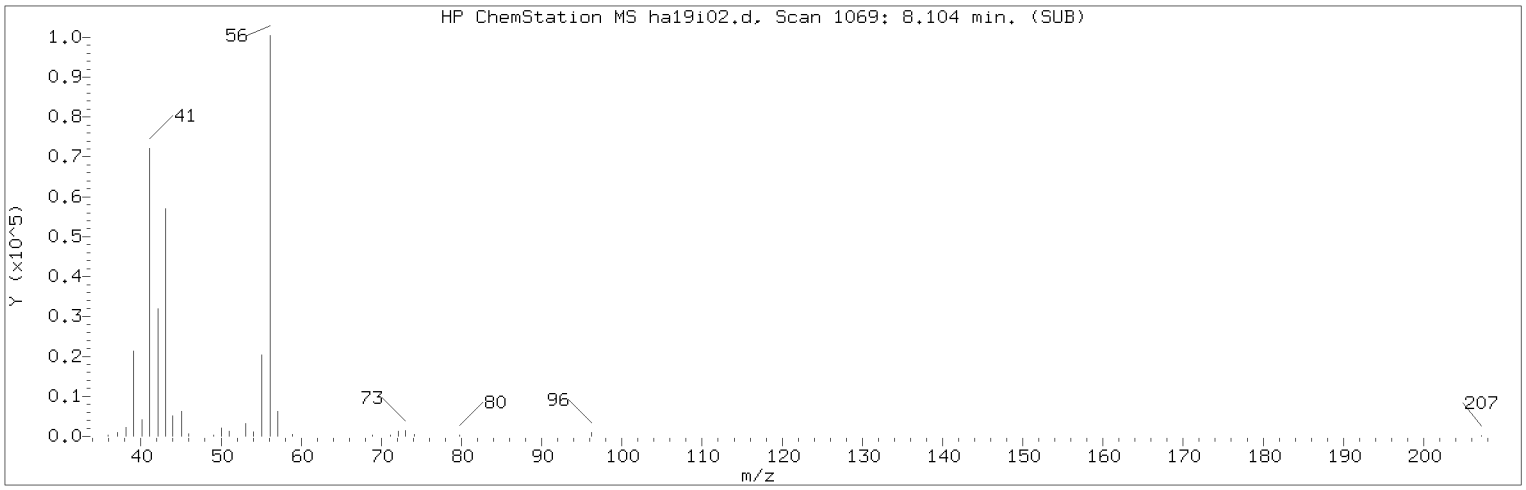
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

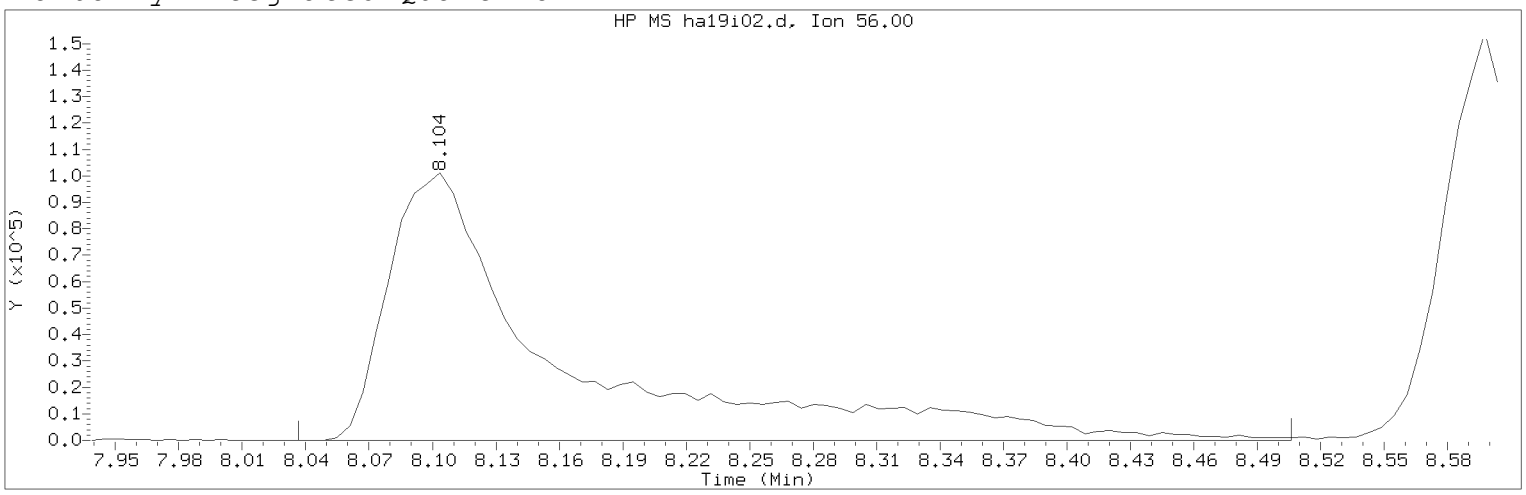
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 893
Retention Time (minutes): 7.031
Quant Ion : 84.00
Area : 1294855
On-column Amount (ng) : 11.3043
Integration start scan : 879 Integration stop scan: 922
Y at integration start : 103 Y at integration end: 189

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

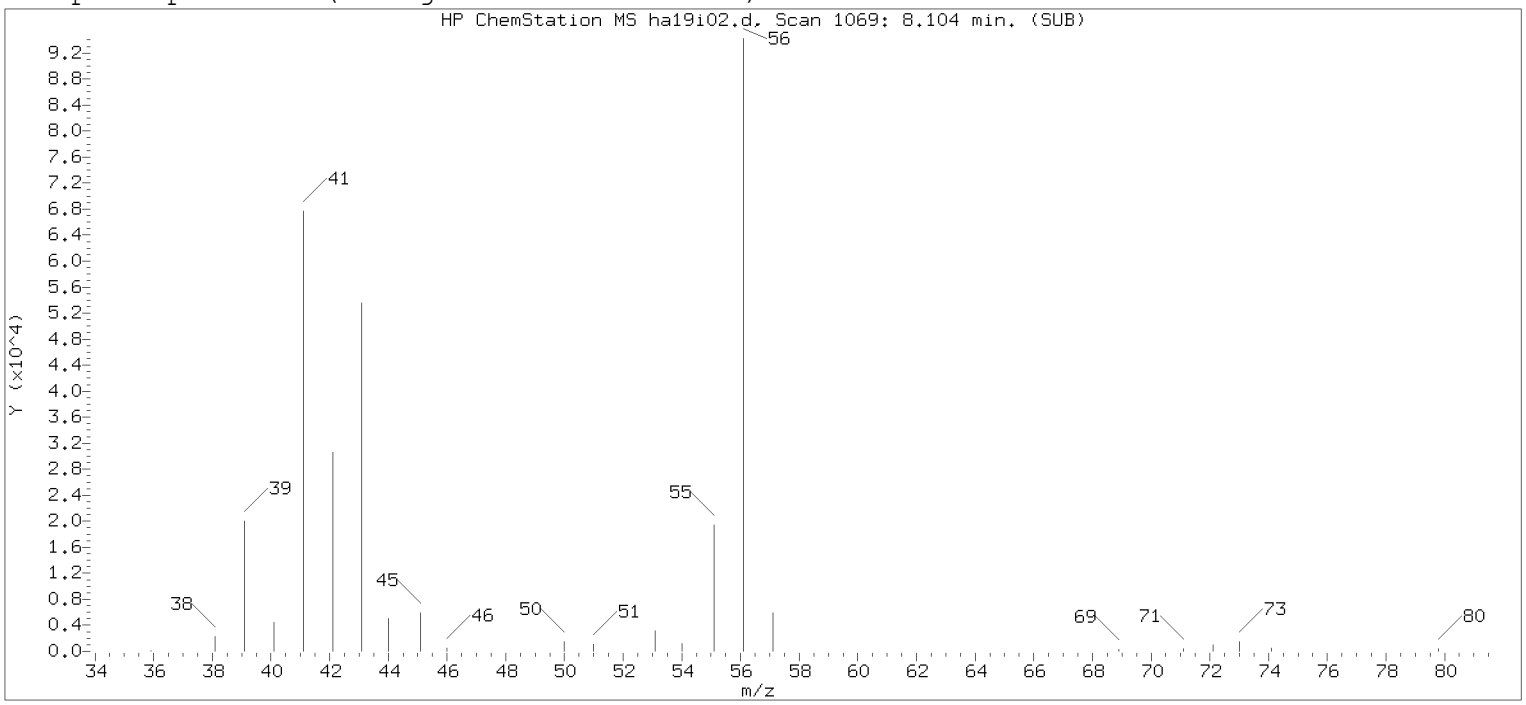
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area (flag) : 568957M
On-Column Amount (ng) : 1054.2522
Integration start scan : 1057 Integration stop scan: 1134
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

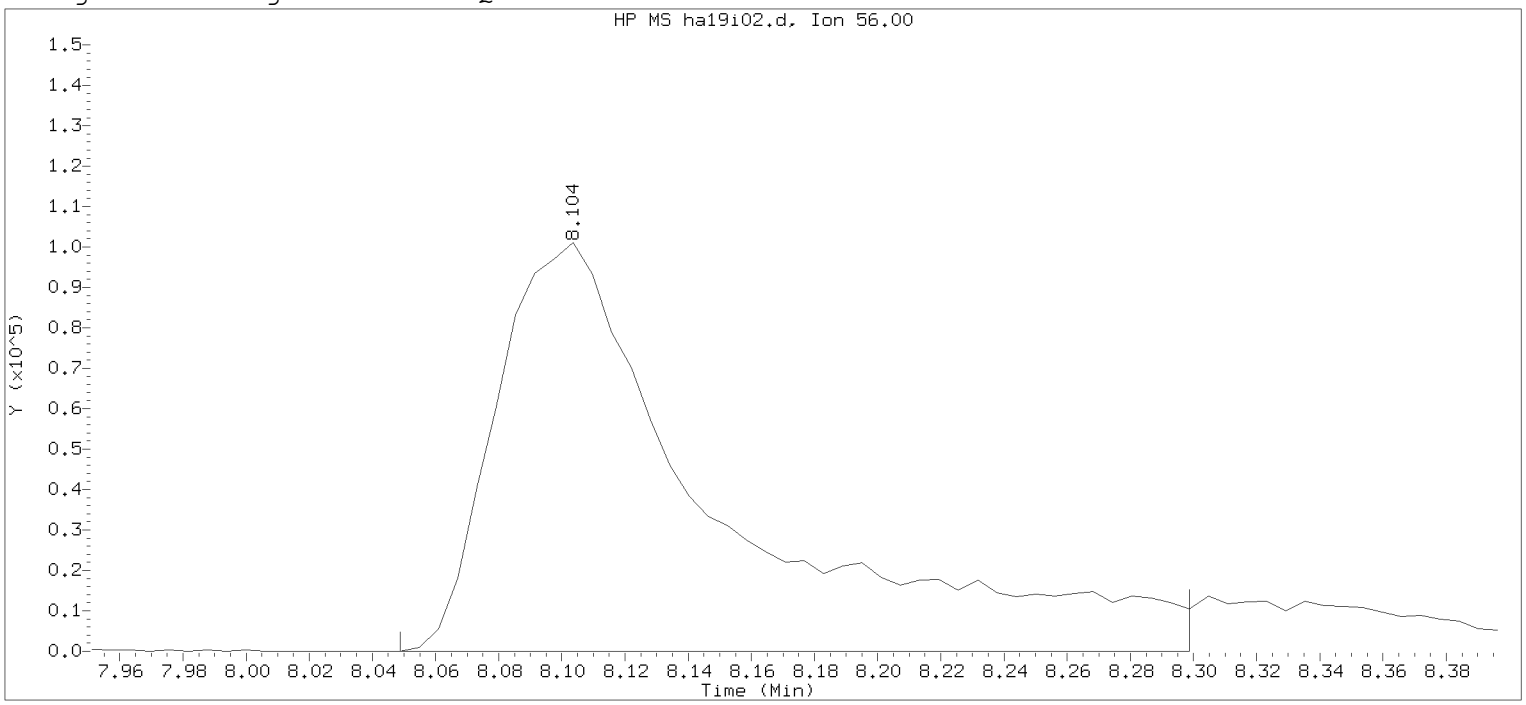
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

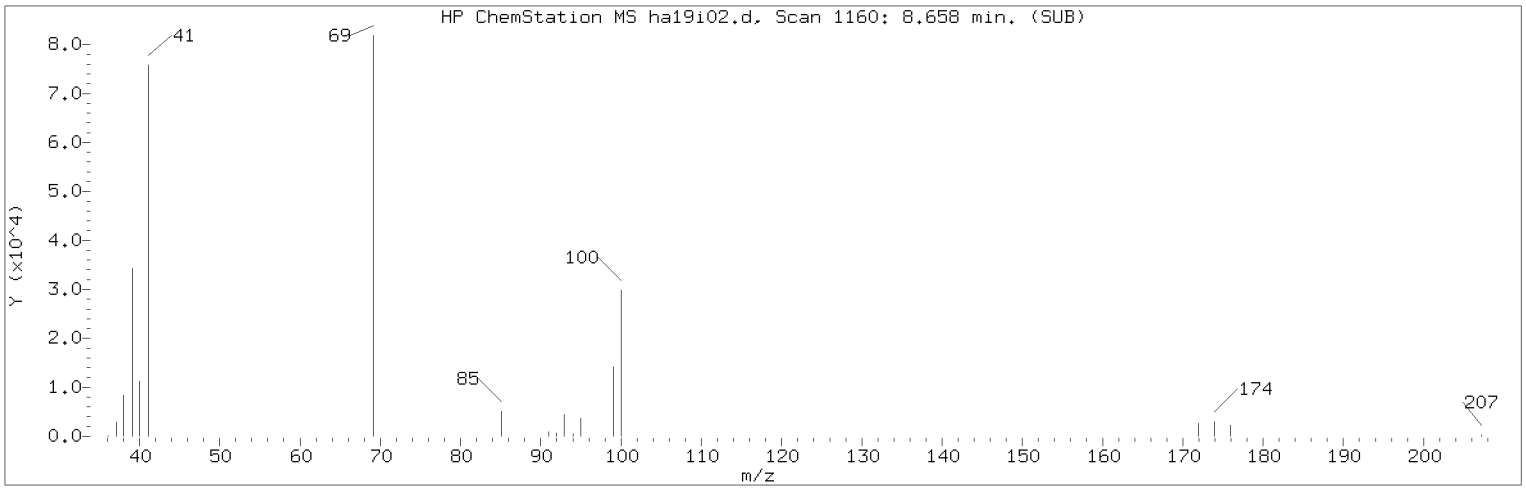
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

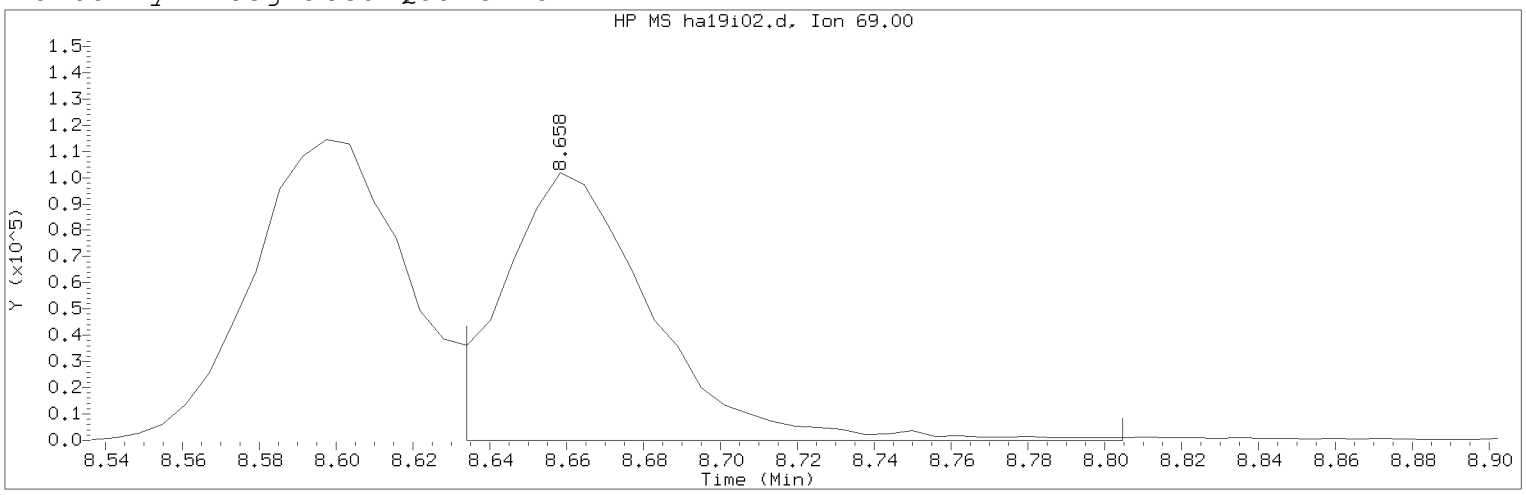
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area : 494439
On-column Amount (ng) : 1147.1115
Integration start scan : 1059 Integration stop scan: 1100
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

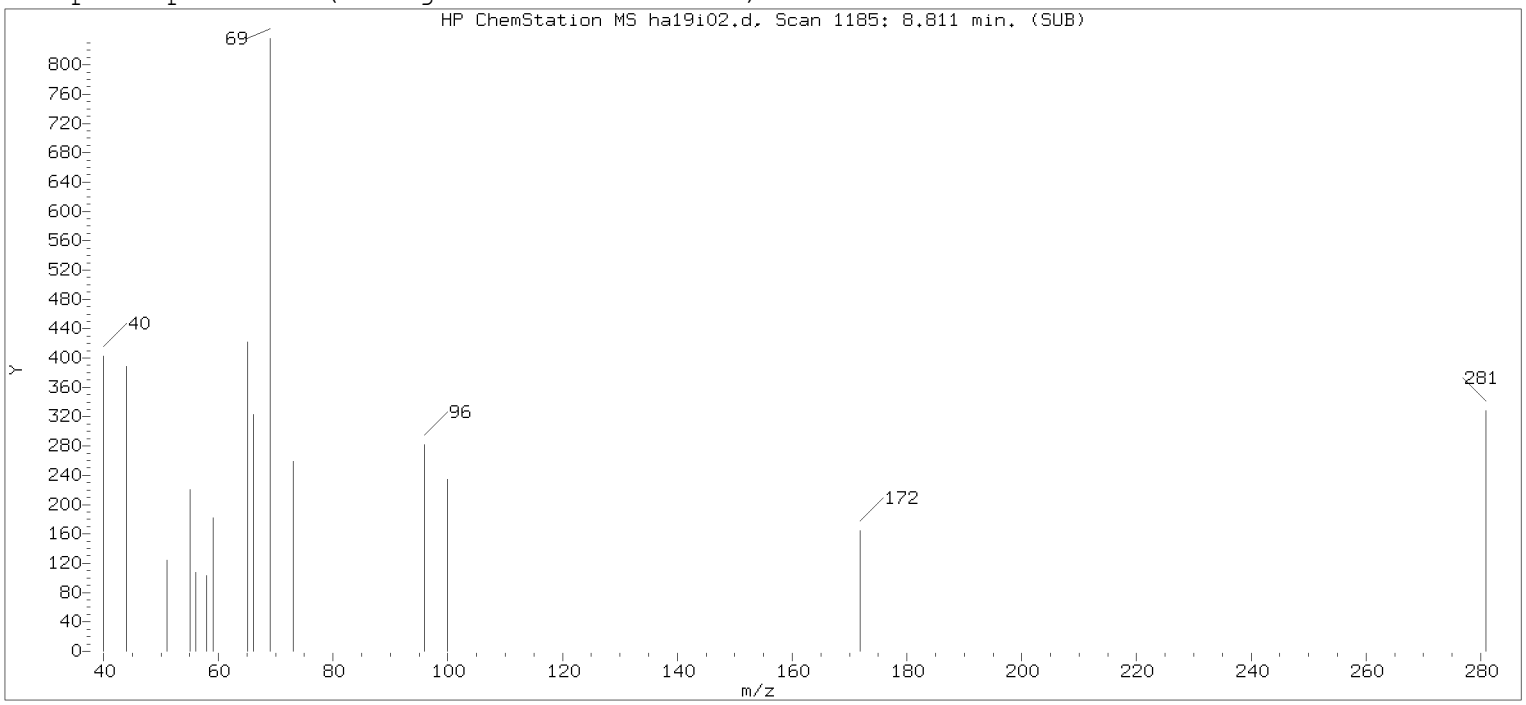
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.658
Quant Ion : 69.00
Area (flag) : 275510M
On-Column Amount (ng) : 11.8833
Integration start scan : 1155 Integration stop scan: 1183
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

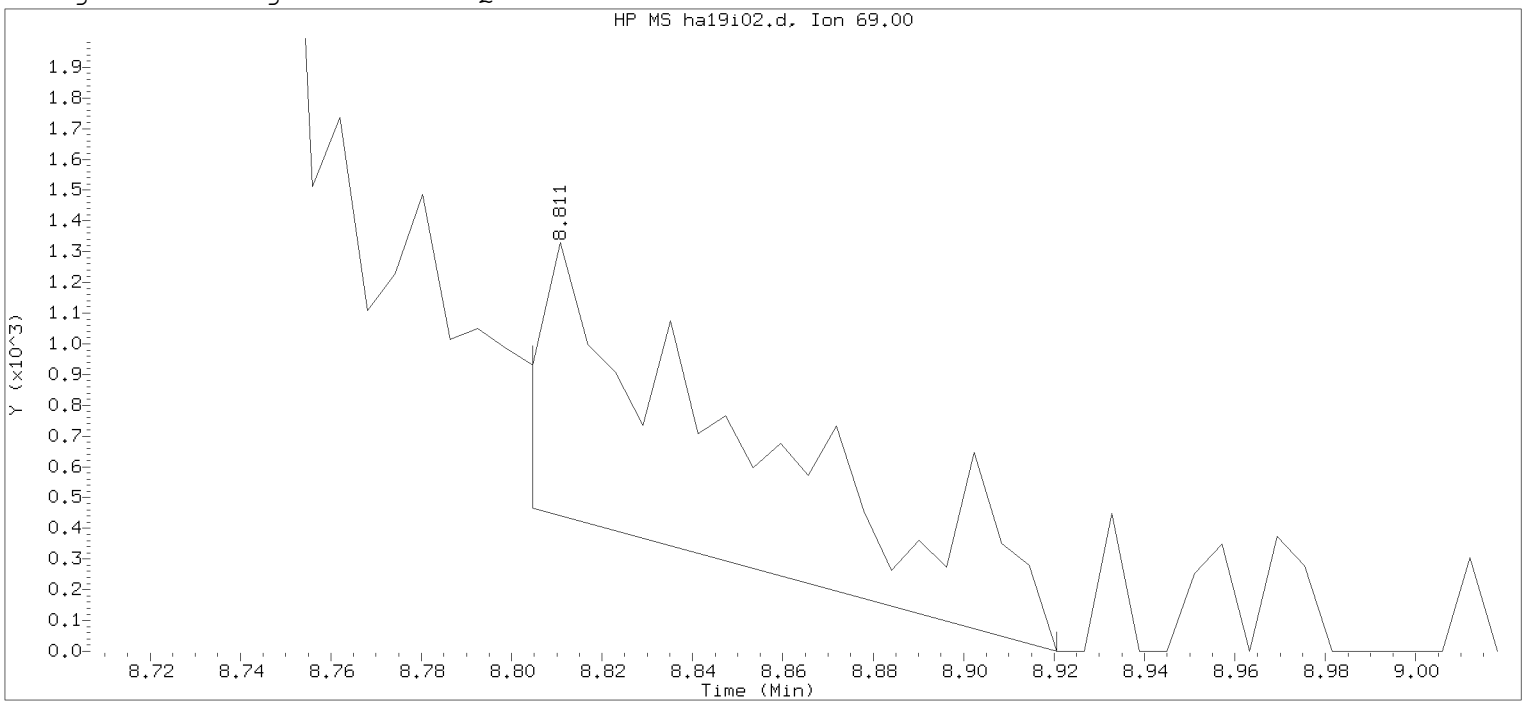
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

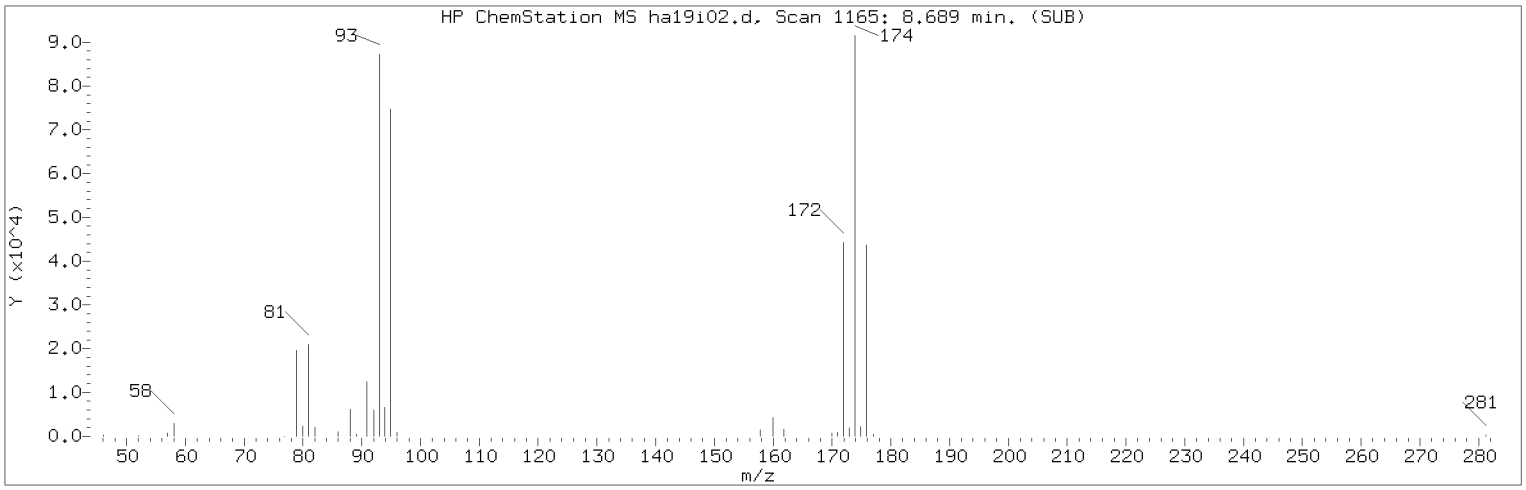
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

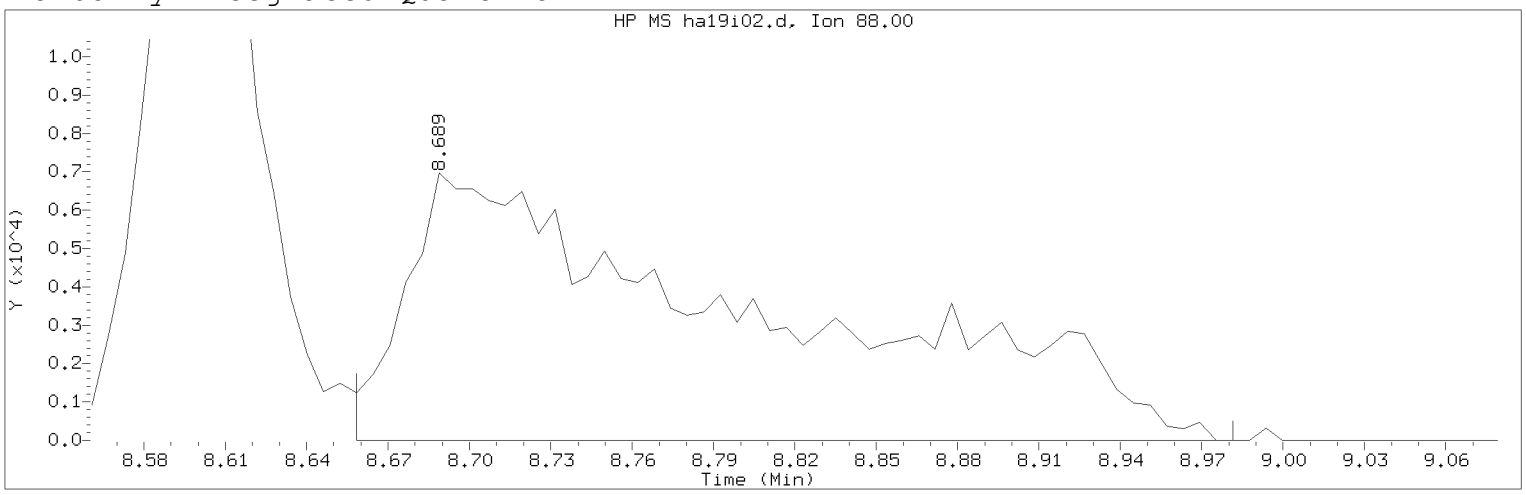
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1185
Retention Time (minutes): 8.811
Quant Ion : 69.00
Area : 2840
On-column Amount (ng) : 0.1976
Integration start scan : 1183 Integration stop scan: 1202
Y at integration start : 466 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

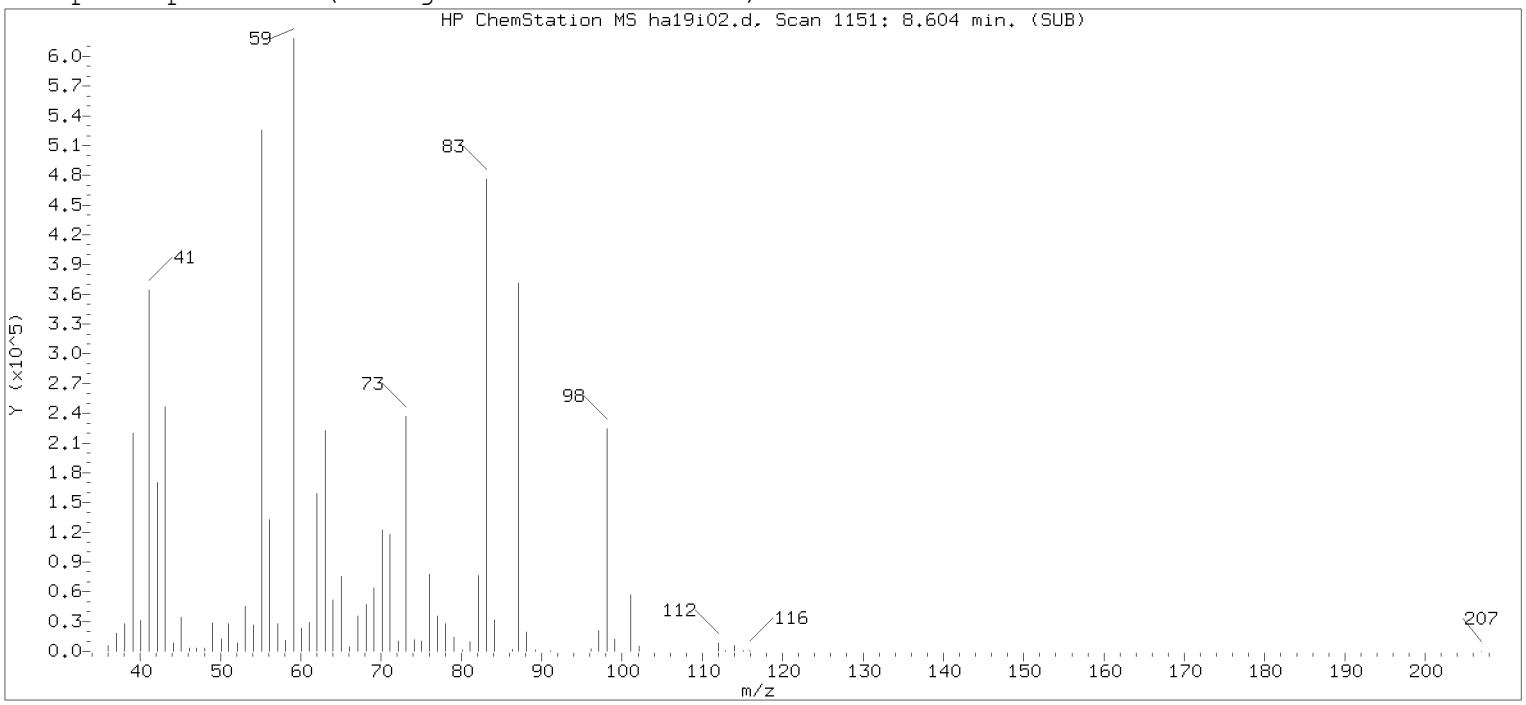
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1165
Retention Time (minutes): 8.689
Quant Ion : 88.00
Area (flag) : 62881M
On-Column Amount (ng) : 480.3753
Integration start scan : 1159 Integration stop scan: 1212
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

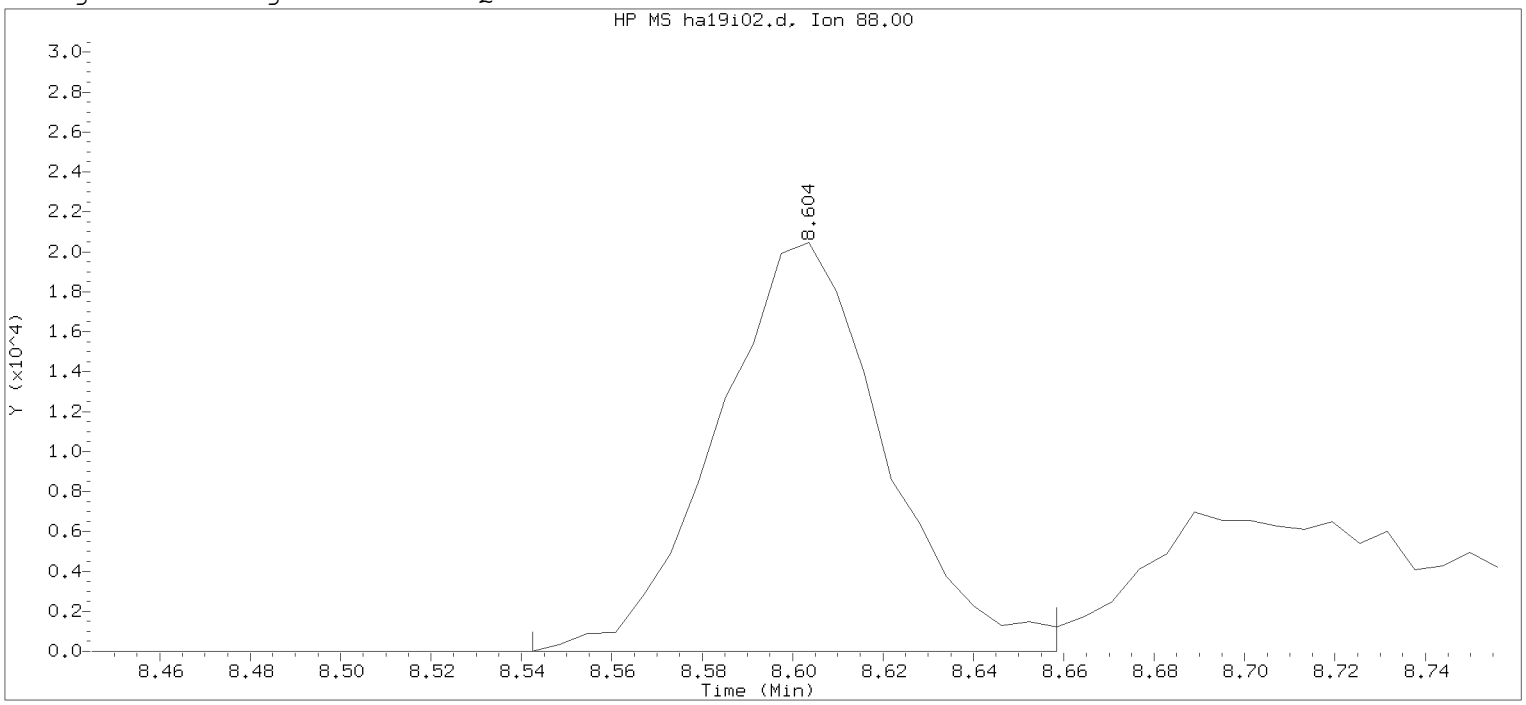
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

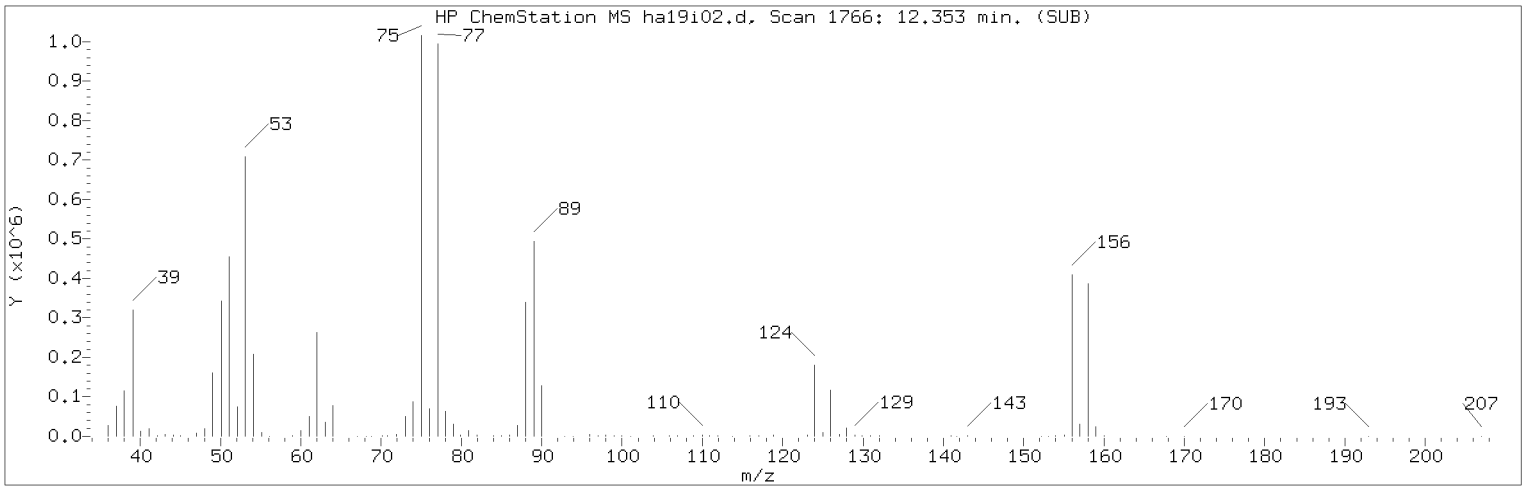
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

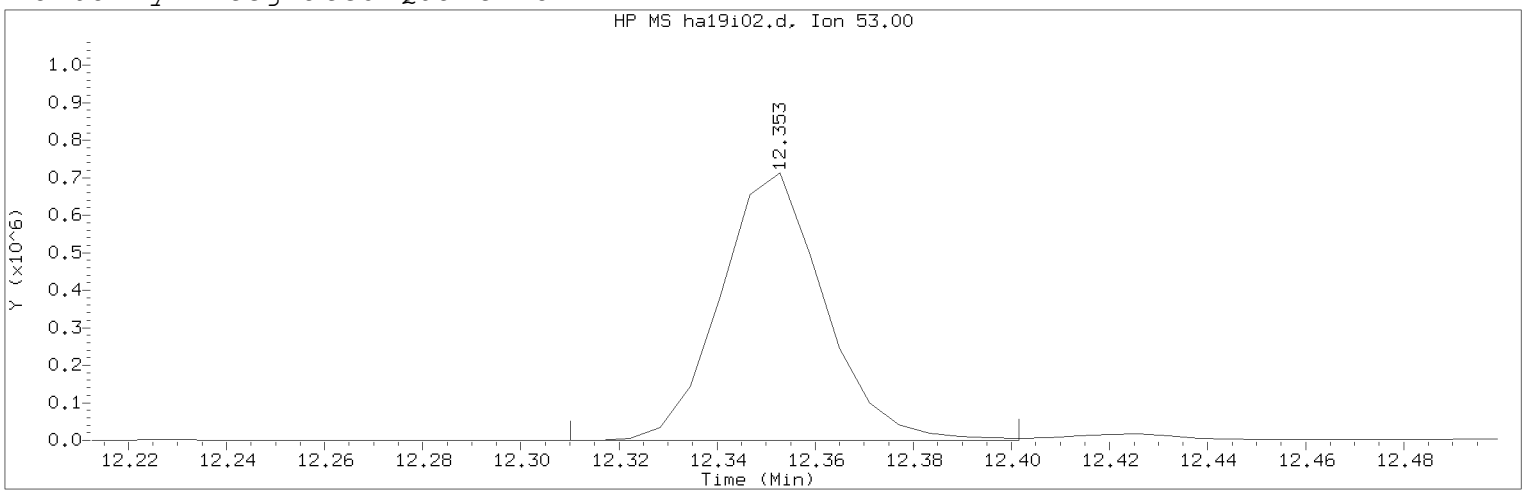
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 52357
On-column Amount (ng) : 396.6429
Integration start scan : 1140 Integration stop scan: 1159
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

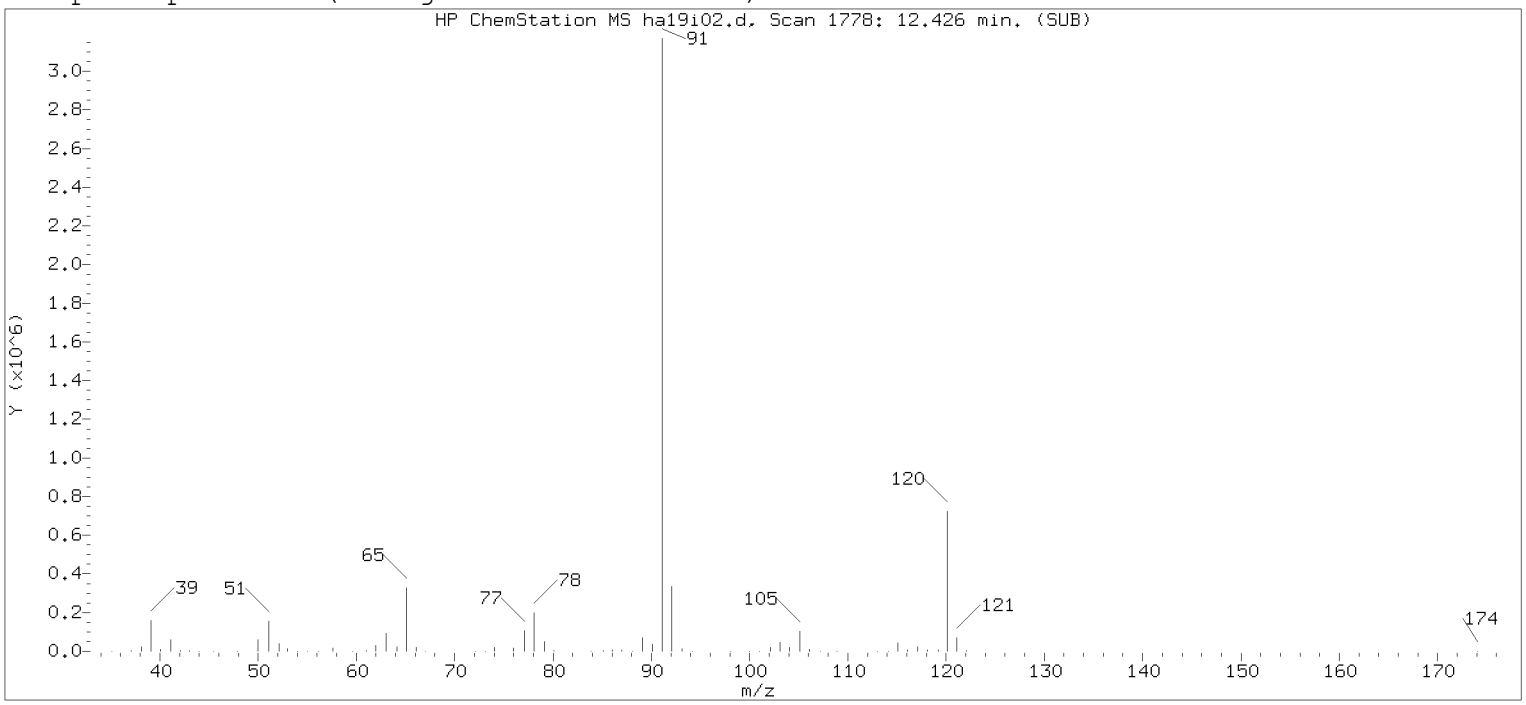
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 1044235A
On-Column Amount (ng) : 116.3404
Integration start scan : 1758 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

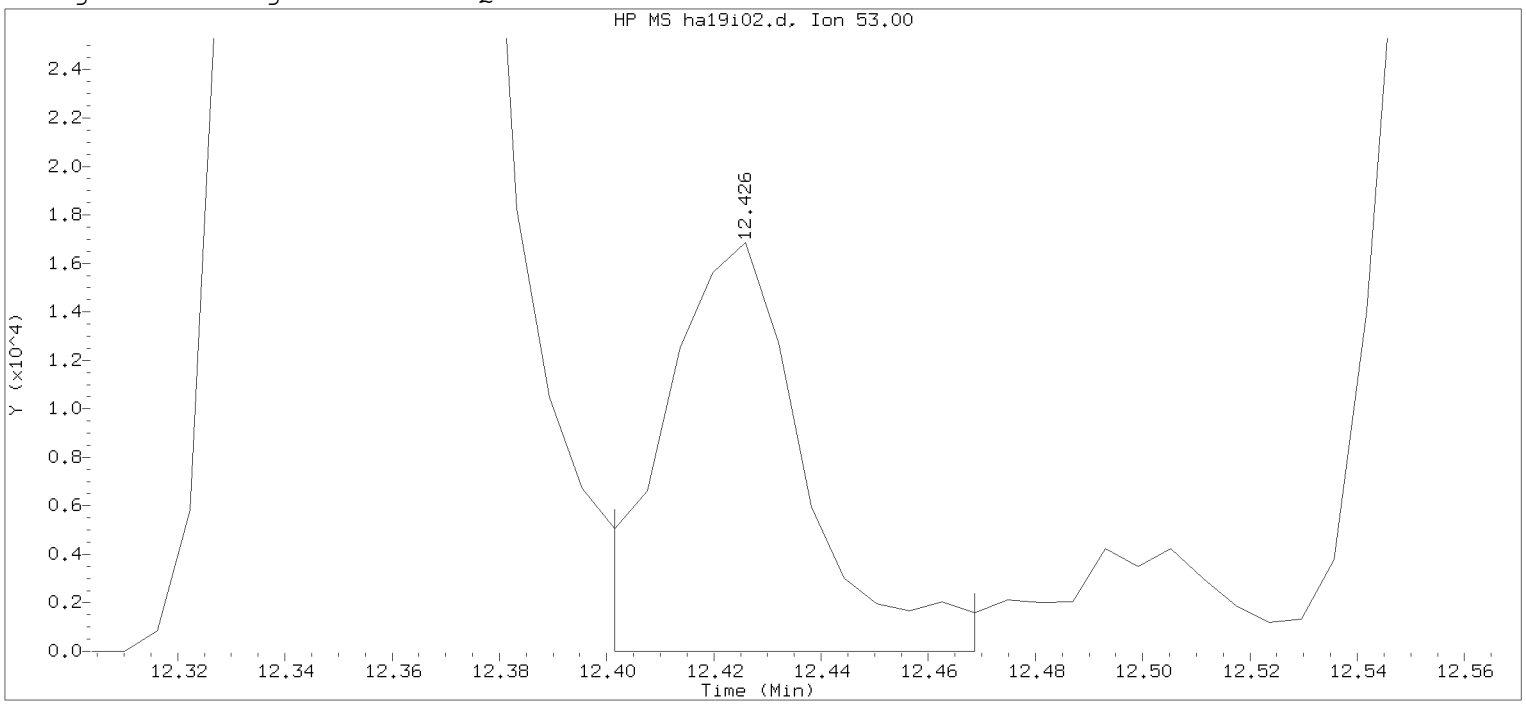
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

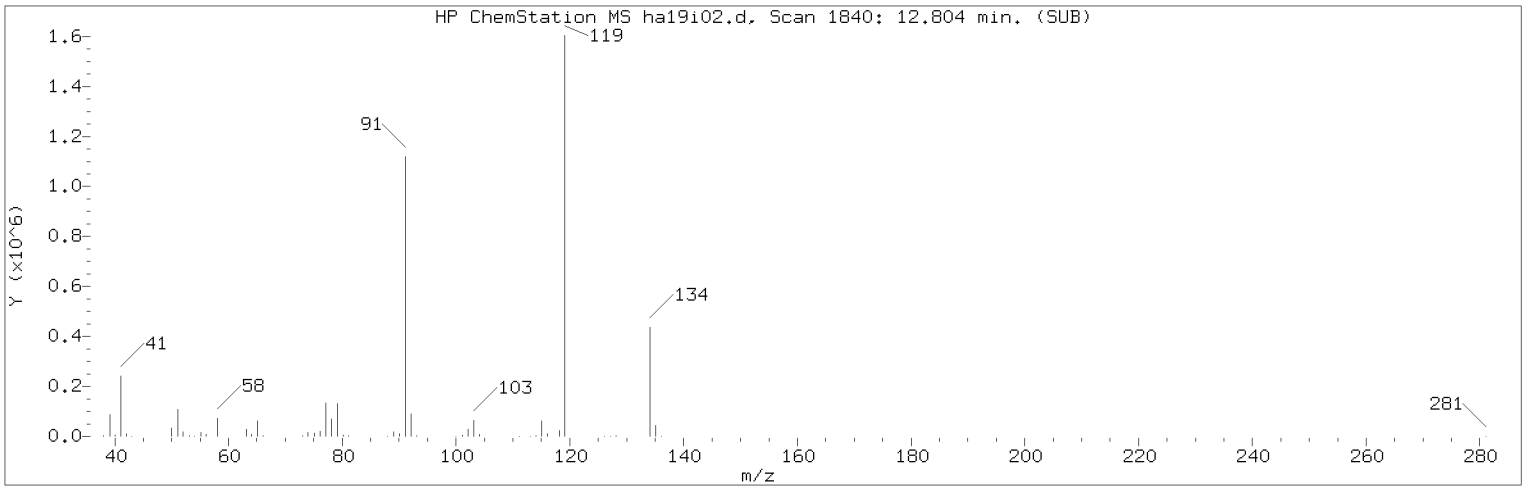
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

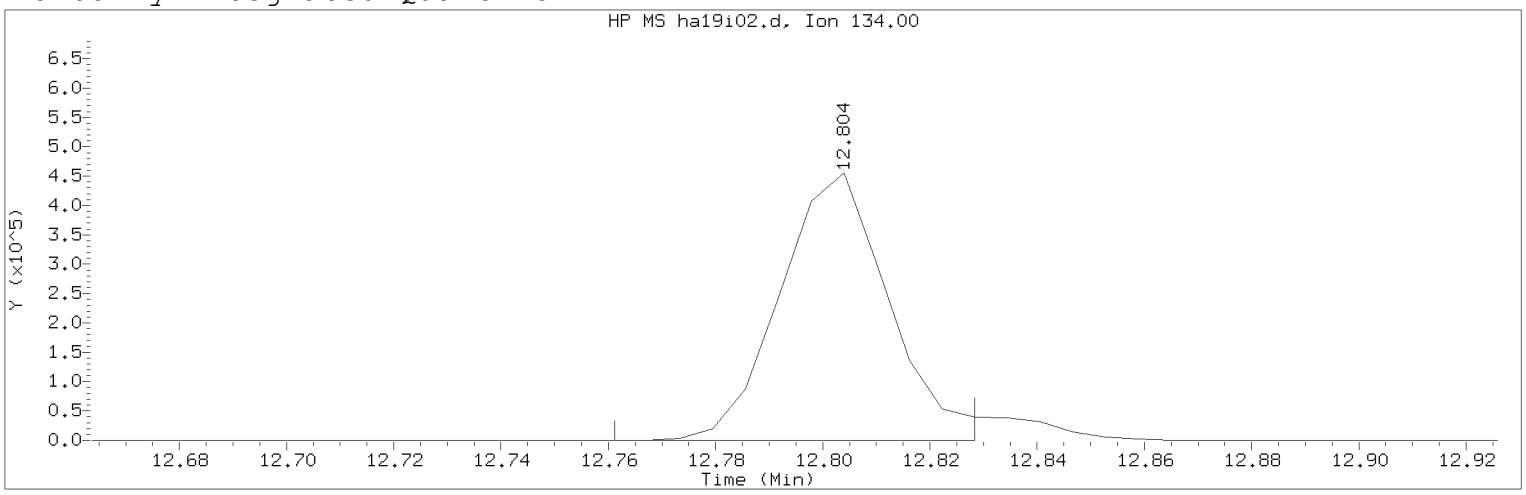
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1778
Retention Time (minutes): 12.426
Quant Ion : 53.00
Area : 30090
On-column Amount (ng) : 7.0915
Integration start scan : 1773 Integration stop scan: 1784
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

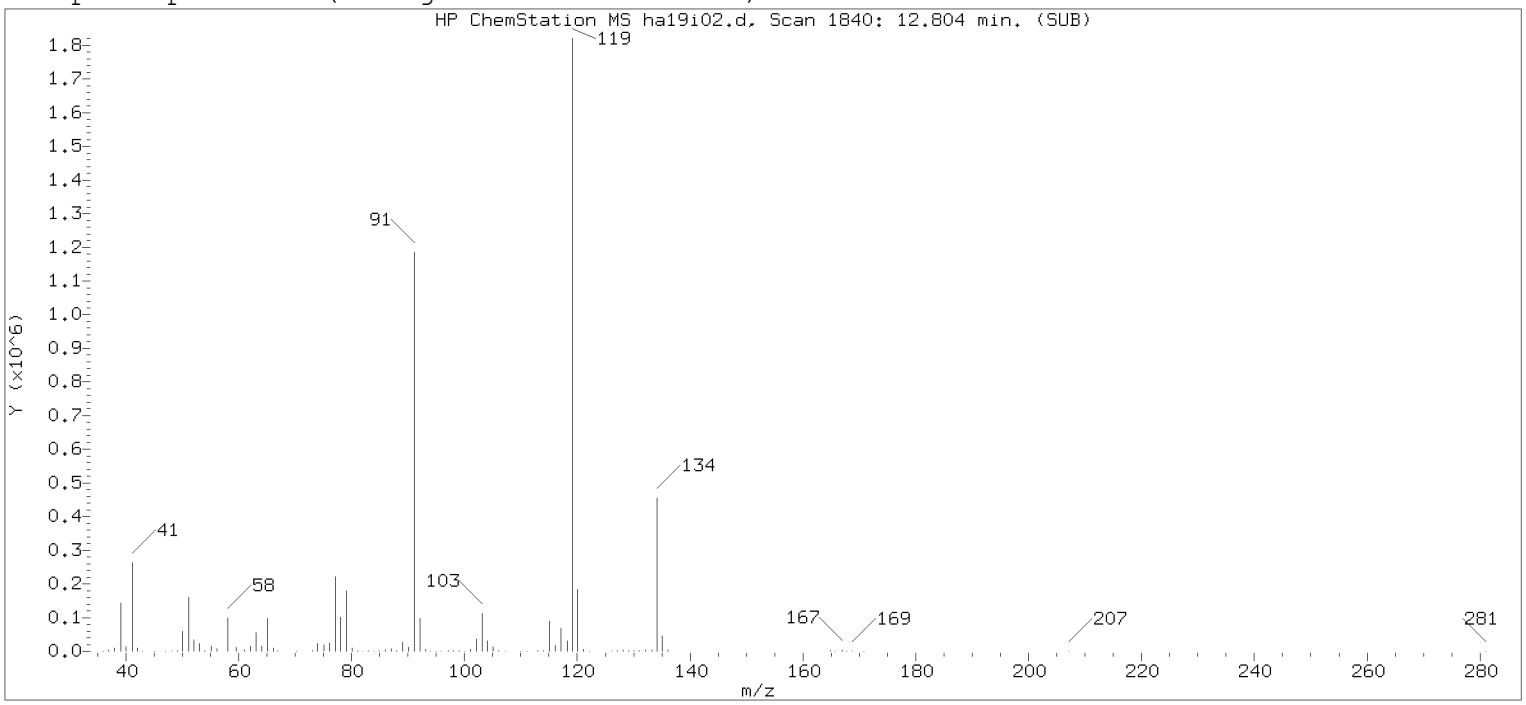
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 638983M
On-Column Amount (ng) : 9.5643
Integration start scan : 1832 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

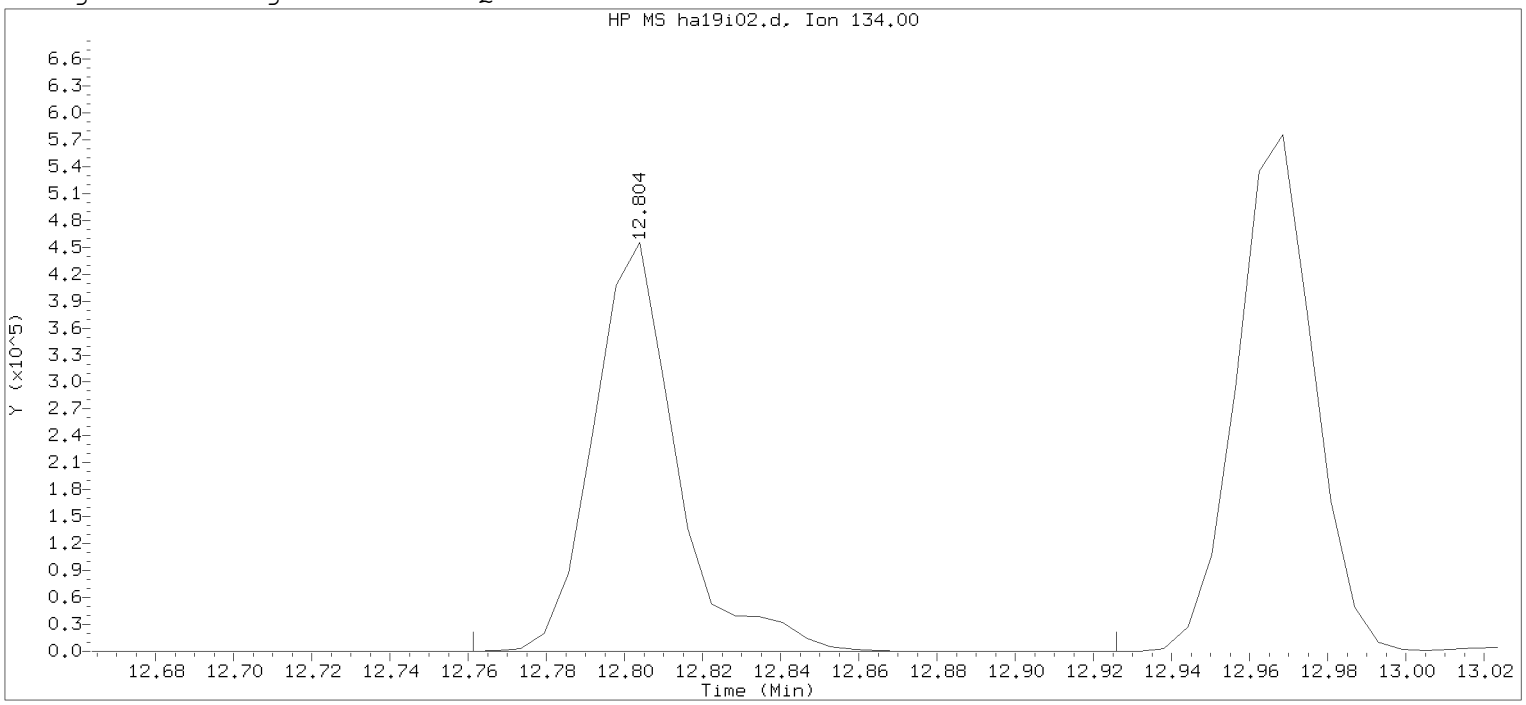
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

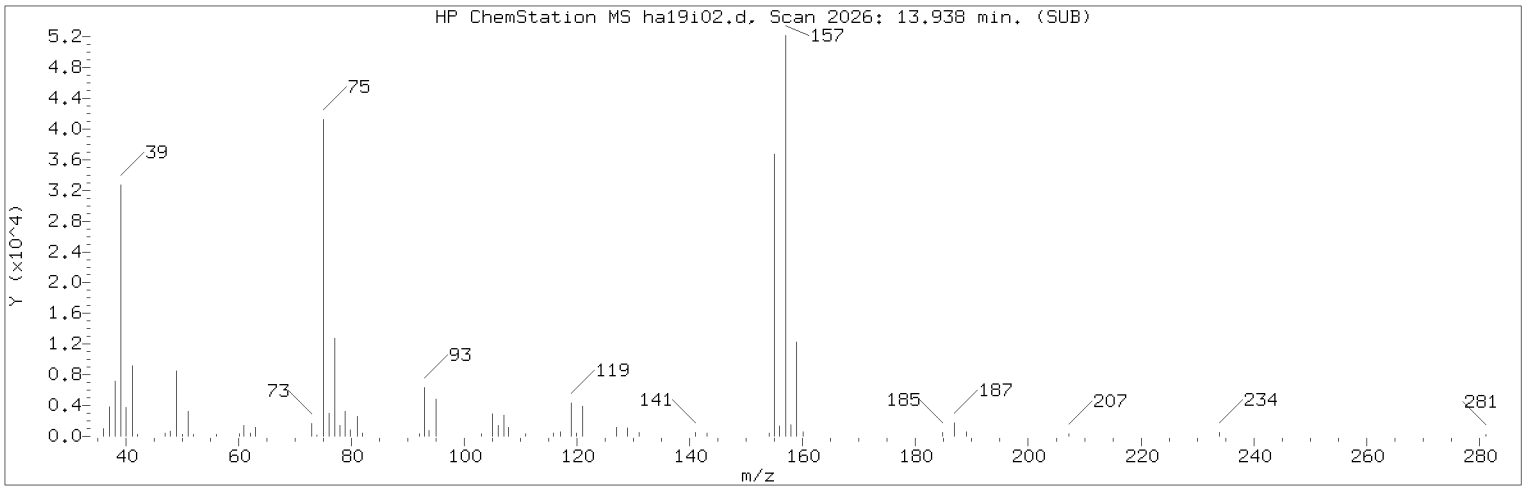
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

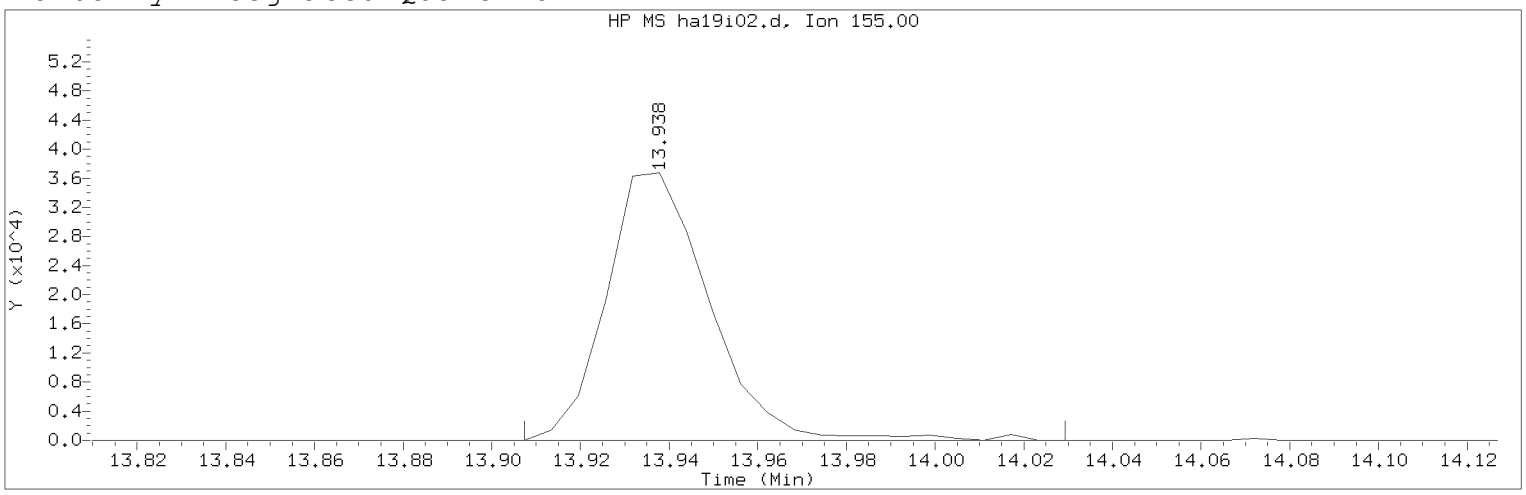
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 672816
On-column Amount (ng) : 9.2262
Integration start scan : 1832 Integration stop scan: 1859
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

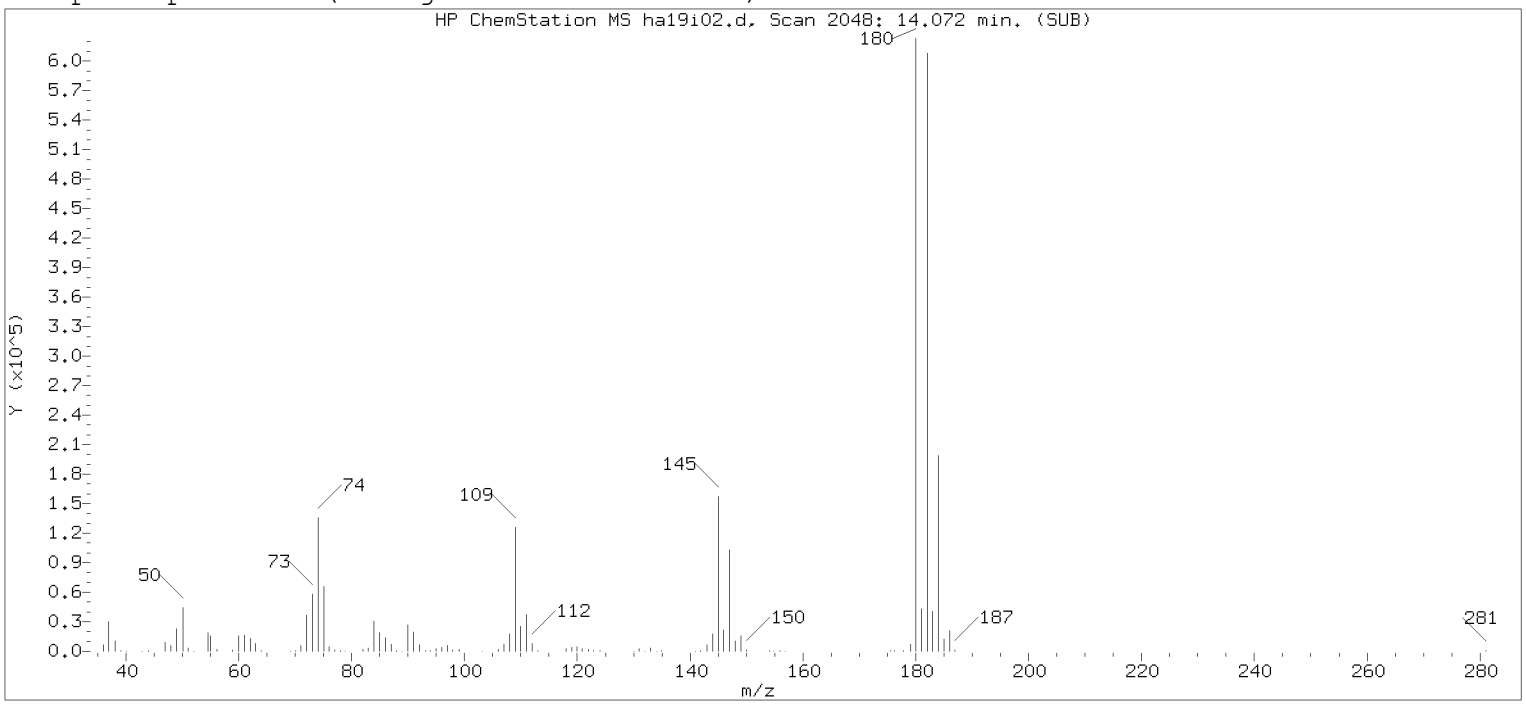
Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2026
Retention Time (minutes): 13.938
Quant Ion : 155.00
Area (flag) : 59646A
On-Column Amount (ng) : 11.9117
Integration start scan : 2020 Integration stop scan: 2040
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

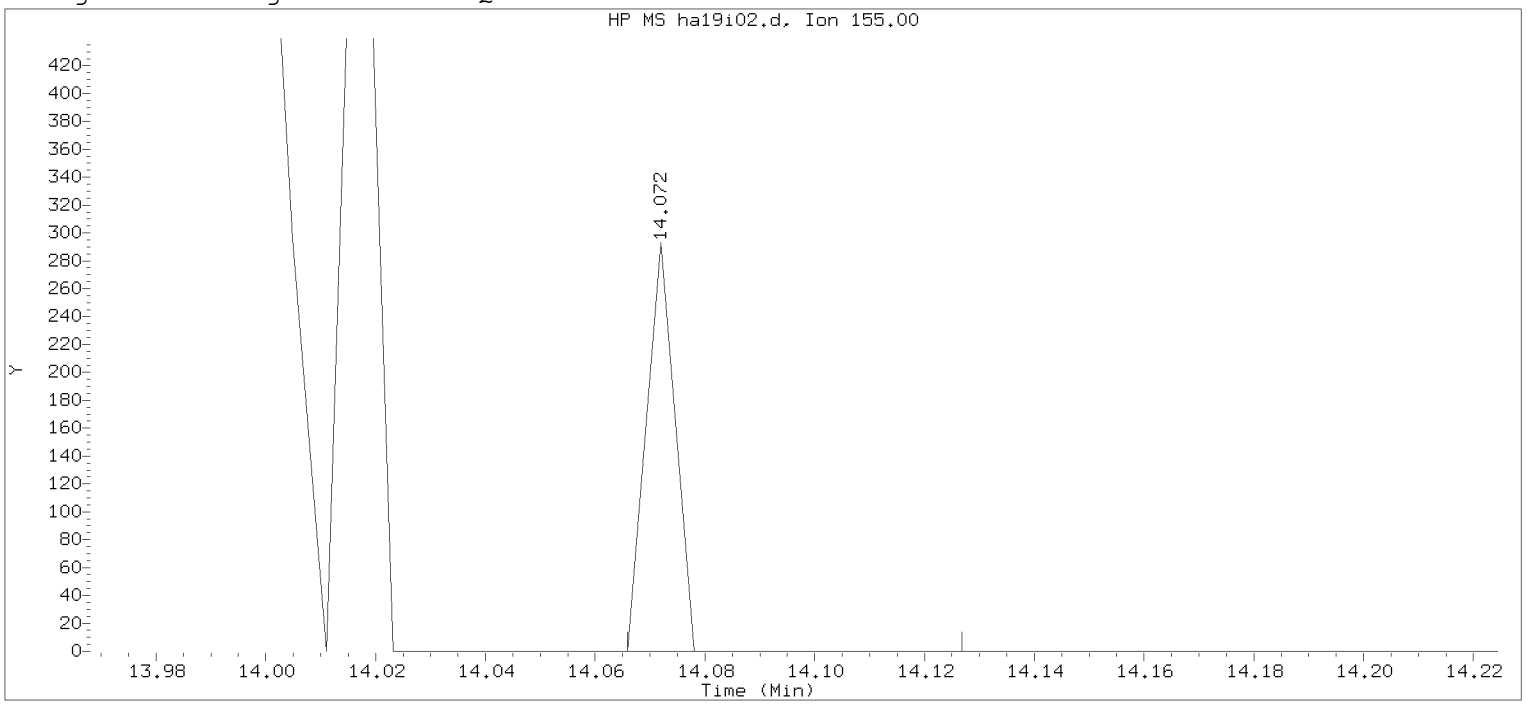
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



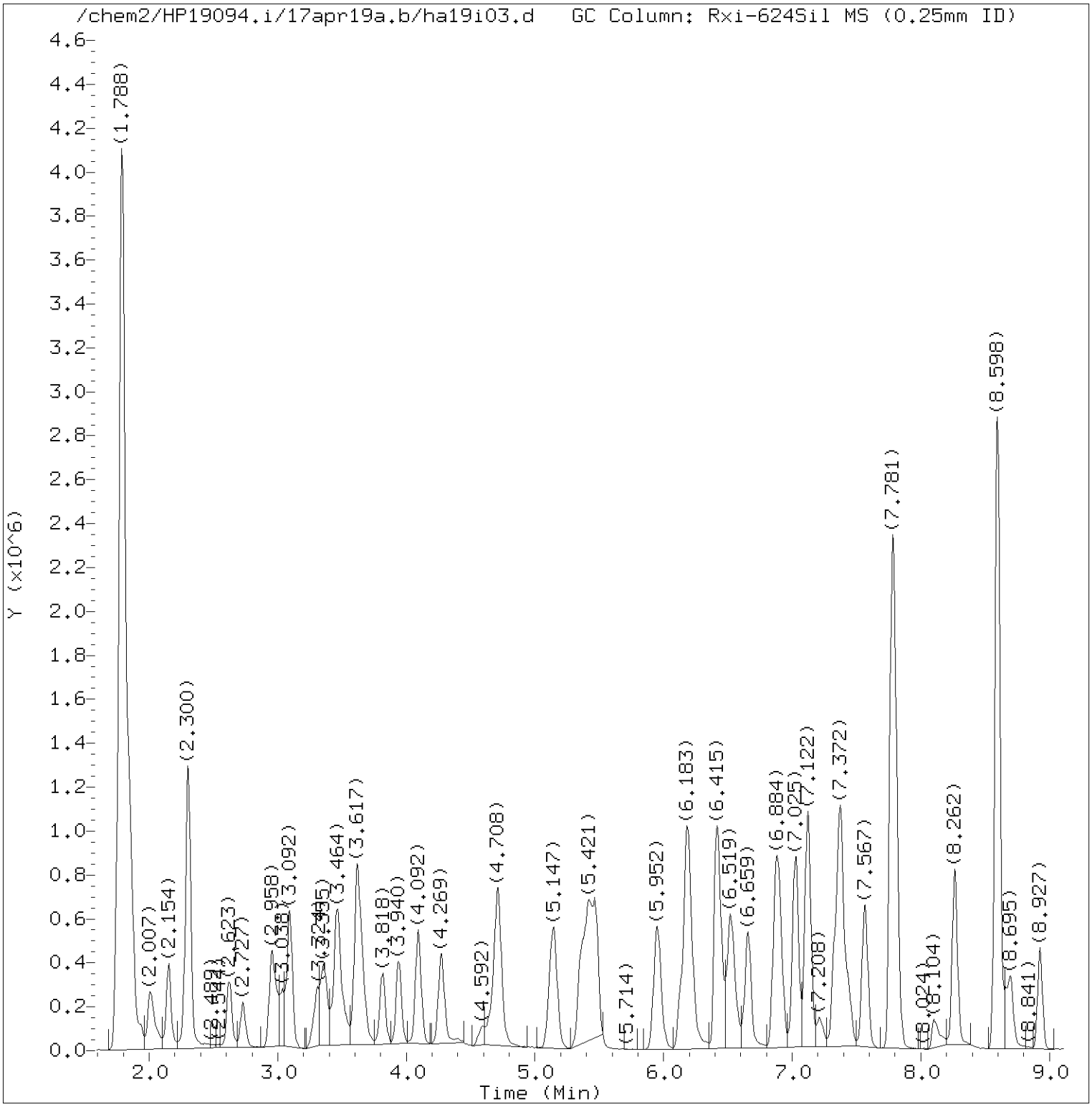
Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2048
Retention Time (minutes): 14.072
Quant Ion : 155.00
Area : 107
On-column Amount (ng) : 0.0378
Integration start scan : 2046 Integration stop scan: 2056
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito



Total Ion Chromatogram (TIC)

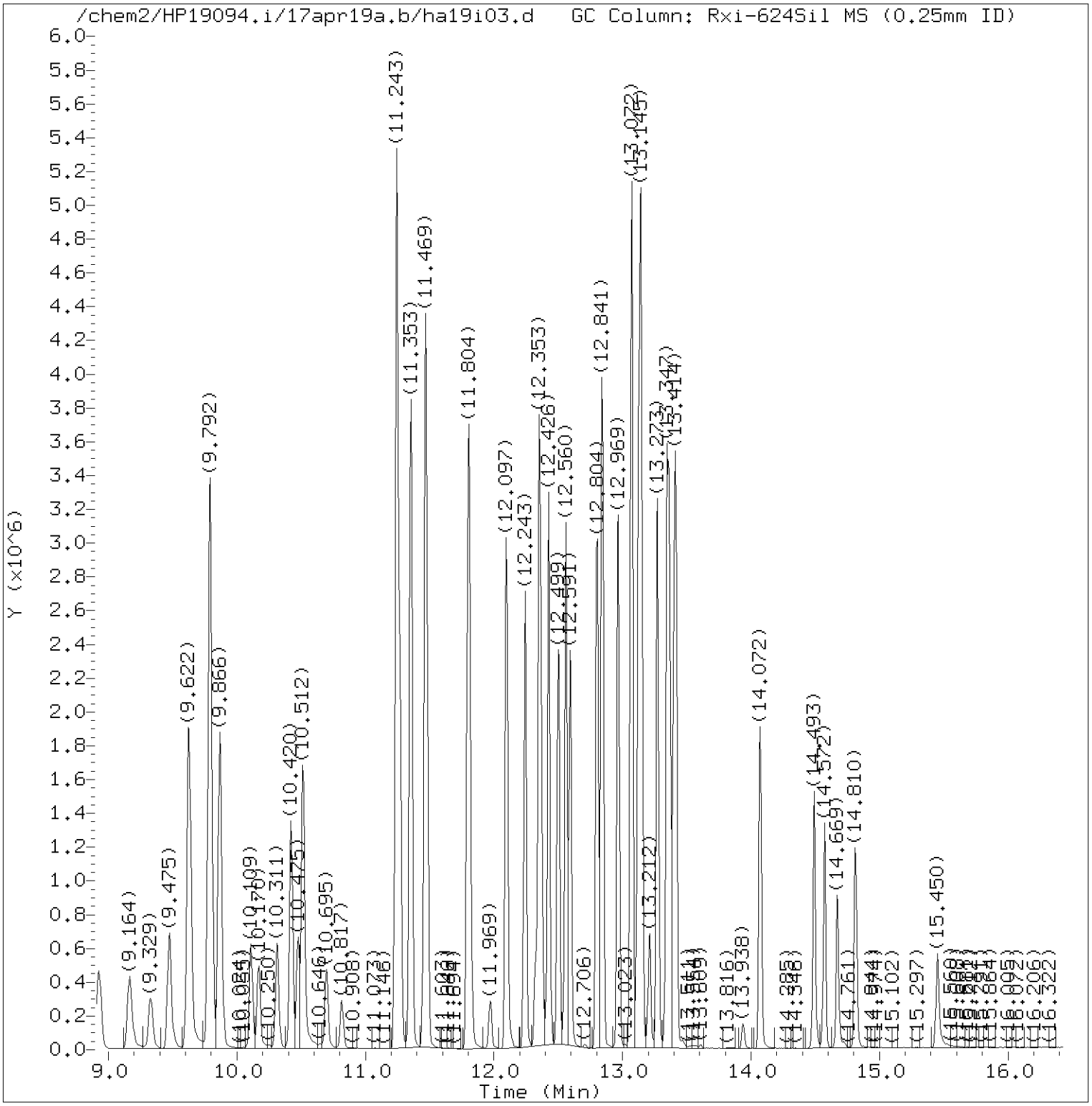
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	528926	4.755
2) Chloromethane	(2)	2.154	50	545593	4.672
5) Vinyl Chloride	(2)	2.288	62	464629	4.533
6) 1,3-Butadiene	(2)	2.306	39	774372	4.796
7) Bromomethane	(2)	2.617	94	301413	4.681
8) Chloroethane	(2)	2.733	64	280420	4.776
9) Dichlorofluoromethane	(2)	2.952	67	667963	4.944
10) Trichlorofluoromethane	(2)	3.032	101	596527	5.022
11) Ethyl ether	(2)	3.300	59	237449	5.046
12) Freon 123a	(2)	3.355	67	474190	5.291
13) Acrolein	(1)	3.464	56	1435703	262.935
15) 1,1-Dichloroethene	(2)	3.611	96	326196	5.114
14) Acetone	(1)	3.623	43	321683M	48.650
16) Freon 113	(2)	3.647	101	352835	5.255
17) Methyl Iodide	(2)	3.818	142	608438	5.135
18) Carbon Disulfide	(2)	3.940	76	901757	5.038
21) Methyl Acetate	(1)	4.068	43	109275	4.863
22) Allyl Chloride	(2)	4.092	41	619363	5.003
23) Methylene Chloride	(2)	4.269	84	351791	5.050
26)*t-Butyl Alcohol-d10	(1)	4.306	65	71762M	50.000
28) t-Butyl Alcohol	(1)	4.403	59	151046	84.125
29) Acrylonitrile	(1)	4.598	53	232934	26.069
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	669087	5.235
31) trans-1,2-Dichloroethene	(2)	4.720	96	370253	5.256
32) n-Hexane	(2)	5.147	57	603359	5.587
33) 1,1-Dichloroethane	(2)	5.360	63	718210	5.167
34) di-Isopropyl Ether	(2)	5.415	45	1230438	5.194
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	623368	5.308
37) Ethyl t-butyl ether	(2)	5.952	59	965810	5.303
40) 1,2-Dichloroethene (Total)	(2)		96	765399	10.282
38) 2-Butanone	(1)	6.122	43	719234	53.330
39) cis-1,2-Dichloroethene	(2)	6.177	96	395146	5.025
41) 2,2-Dichloropropane	(2)	6.202	77	534003	5.128
42) Propionitrile	(1)	6.208	54	335847	104.809
45) Methacrylonitrile	(1)	6.421	67	709682	52.971
47) Bromochloromethane	(2)	6.513	128	147612	4.748
48) Tetrahydrofuran	(1)	6.531	71	187859	55.759
49) Chloroform	(2)	6.659	83	658333	5.020

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	643970	9.992
50)$Dibromofluoromethane	(2)	6.872	111	662876	10.014
51) 1,1,1-Trichloroethane	(2)	6.903	97	565737	5.065
52) Cyclohexane	(2)	7.025	56	727268	5.282
52) Cyclohexane	(2)	7.031	84	573992	5.070
52) Cyclohexane	(2)	7.019	69	211838	5.483
55) 1,1-Dichloropropene	(2)	7.122	75	540304	5.209
54) Carbon Tetrachloride	(2)	7.134	117	483099	5.153
56) Isobutyl Alcohol	(1)	7.214	41	180504	232.966
57)$1,2-Dichloroethane-d4	(2)	7.329	102	106025	10.174
57)$1,2-Dichloroethane-d4	(2)	7.329	65	491332	9.685
57)$1,2-Dichloroethane-d4	(2)	7.323	104	63799	10.100
58) Benzene	(2)	7.372	78	1540706	5.115
59) 1,2-Dichloroethane	(2)	7.433	62	372628	5.175
60) t-Amyl methyl ether	(2)	7.567	73	786659	5.312
63)*Fluorobenzene	(2)	7.774	96	2875093	10.000
62) n-Heptane	(2)	7.805	43	681161	5.358
65) n-Butanol	(1)	8.104	56	295989M	518.824
67) Trichloroethene	(2)	8.262	95	400802	5.027
70) 1,2-Dichloropropane	(2)	8.591	63	397998	5.067
69) Methylcyclohexane	(2)	8.598	83	714121	5.302
71) Methyl Methacrylate	(1)	8.658	69	137114M	5.594
73) Dibromomethane	(2)	8.701	93	153587	5.072
72) 1,4-Dioxane	(1)	8.762	88	37550A	269.863
74) Bromodichloromethane	(2)	8.927	83	426475	5.143
76) 2-Nitropropane	(1)	9.164	41	427733	52.915
80) cis-1,3-Dichloropropene	(2)	9.475	75	490800	5.250
81) 4-Methyl-2-Pentanone	(1)	9.622	43	1951526	54.608
82)$Toluene-d8	(3)	9.792	98	2782414	9.934
82)$Toluene-d8	(3)	9.792	100	1794837	9.952
83) Toluene	(3)	9.866	92	947952	5.122
84) trans-1,3-Dichloropropene	(3)	10.109	75	372638	5.168
85) 1,3-Dichloropropene (total)	(3)		75	863438	10.418
86) Ethyl Methacrylate	(3)	10.170	69	289708	5.432
88) 1,1,2-Trichloroethane	(3)	10.317	97	218565	5.084
89) Tetrachloroethene	(3)	10.420	166	438595	5.110
90) 1,3-Dichloropropane	(3)	10.475	76	386696	5.026
91) 2-Hexanone	(1)	10.512	43	1327854	52.722

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	256579	5.036
95) 1,2-Dibromoethane	(3)	10.817	107	202838	4.989
97)*Chlorobenzene-d5	(3)	11.243	117	1916028	10.000
98) Chlorobenzene	(3)	11.268	112	1013579	5.023
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	335821	4.998
100) Ethylbenzene	(3)	11.353	91	1855553	5.174
101) m+p-Xylene	(3)	11.469	106	1412667	10.360
105) Xylene (Total)	(3)		106	2100708	15.612
104) o-Xylene	(3)	11.798	106	688041	5.254
106) Styrene	(3)	11.810	104	1075924	5.334
107) Bromoform	(3)	11.975	173	128273	5.041
108) Isopropylbenzene	(3)	12.097	105	1819693	5.310
111)$4-Bromofluorobenzene	(3)	12.243	95	793787	9.975
111)$4-Bromofluorobenzene	(3)	12.243	174	705289	9.958
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	263387	4.994
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	488943A	51.531
114) Bromobenzene	(4)	12.359	156	401762	4.996
116) 1,2,3-Trichloropropane	(4)	12.377	110	64991	4.926
117) n-Propylbenzene	(4)	12.426	91	2256214	5.247
119) 2-Chlorotoluene	(4)	12.505	126	425735	5.236
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	1525353	5.272
122) 4-Chlorotoluene	(4)	12.597	126	415728	5.087
125) tert-Butylbenzene	(4)	12.804	134	325824M	5.185
126) Pentachloroethane	(4)	12.834	167	235546	5.018
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1534482	5.321
128) sec-Butylbenzene	(4)	12.969	105	2013392M	5.340
131) 1,3-Dichlorobenzene	(4)	13.066	146	802938	5.082
132) p-Isopropyltoluene	(4)	13.072	119	1672418	5.421
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	817140	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	794518	4.825
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	615145	4.839
136) Benzyl Chloride	(4)	13.212	126	90315	5.435
138) n-Butylbenzene	(4)	13.365	92	858809	5.669
139) 1,2-Dichlorobenzene	(4)	13.395	146	710911	5.066
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	28578A	5.399
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	456045	5.040
146) Hexachlorobutadiene	(4)	14.572	225	222387	4.962
147) Naphthalene	(4)	14.669	128	703176	5.281

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

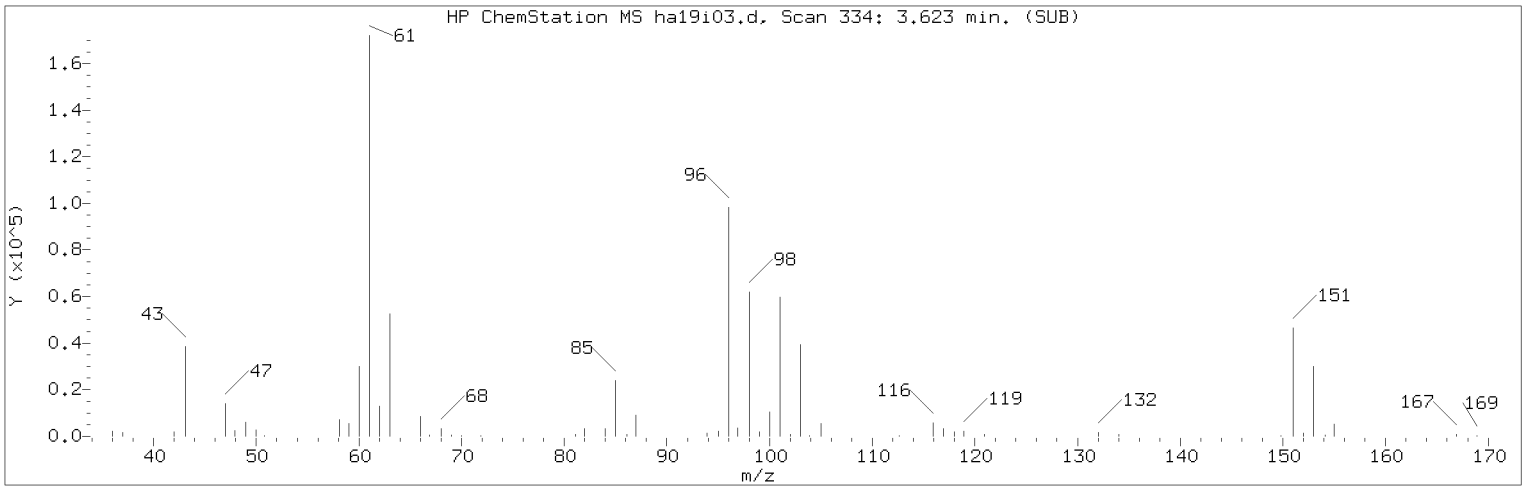
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

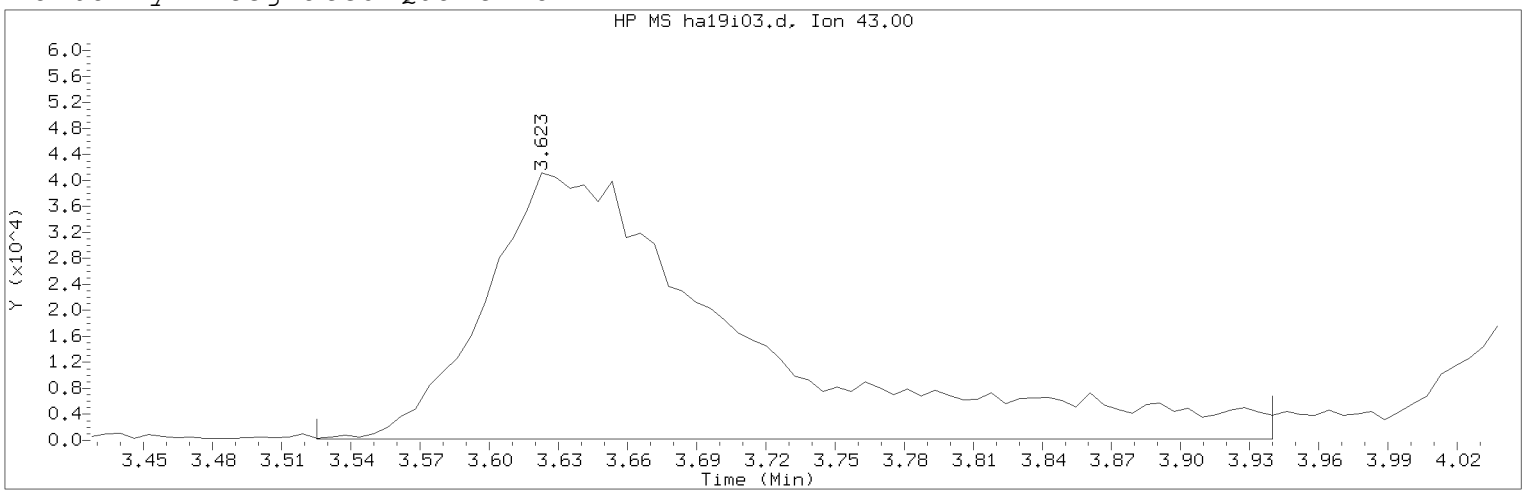
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	379632	4.966

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

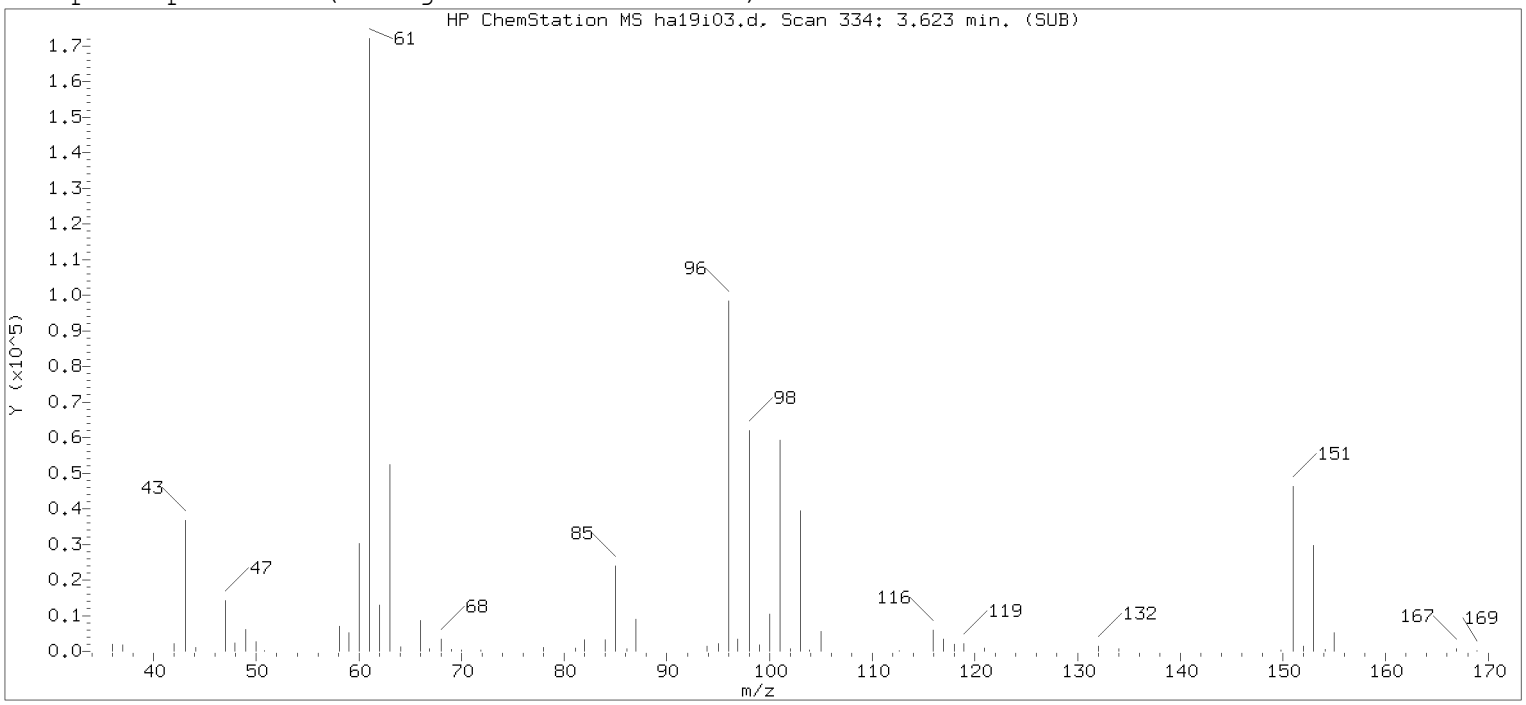
Compound Number : 14
Compound Name : Acetone
Scan Number : 334
Retention Time (minutes): 3.623
Quant Ion : 43.00
Area (flag) : 321683M
On-Column Amount (ng) : 48.6498
Integration start scan : 317 Integration stop scan: 385
Y at integration start : 198 Y at integration end: 198

Reason for manual integration: improper integration

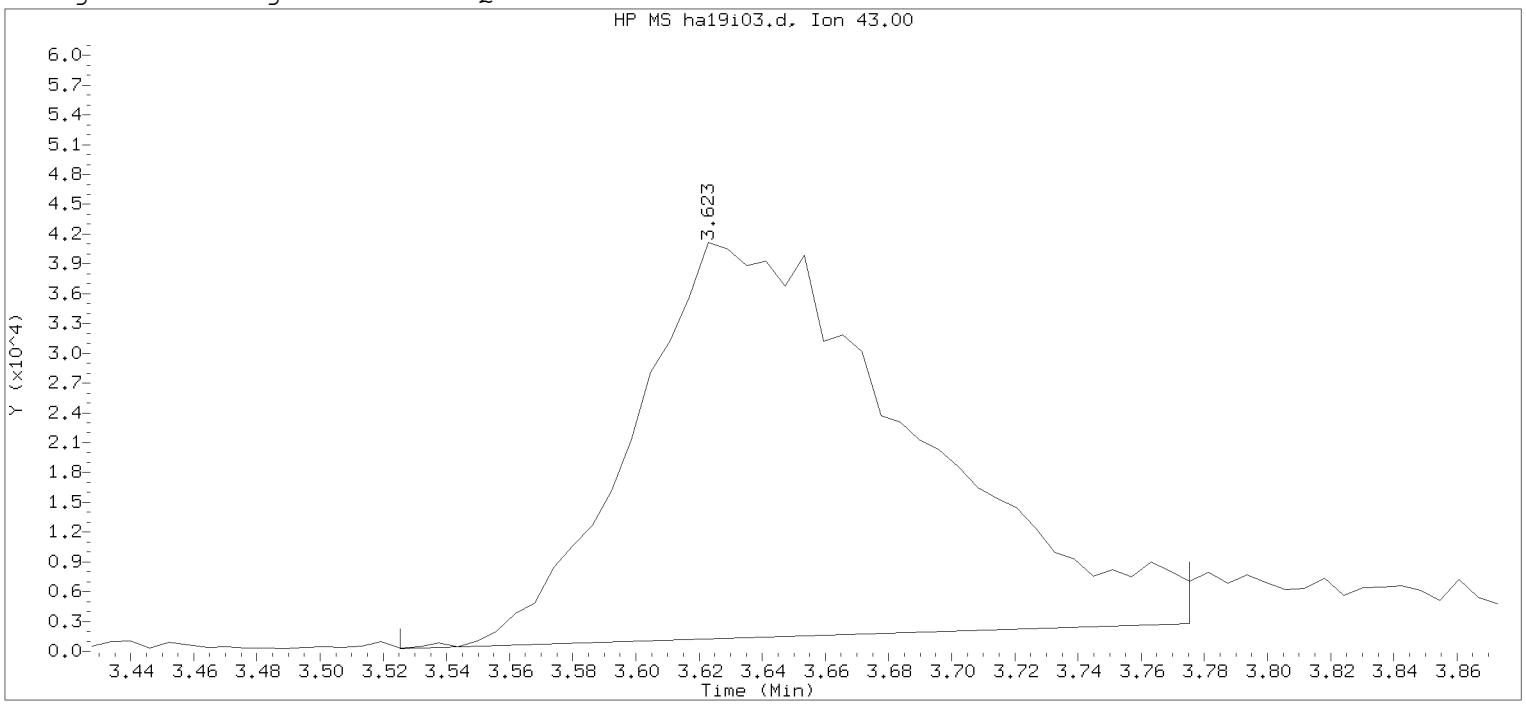
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

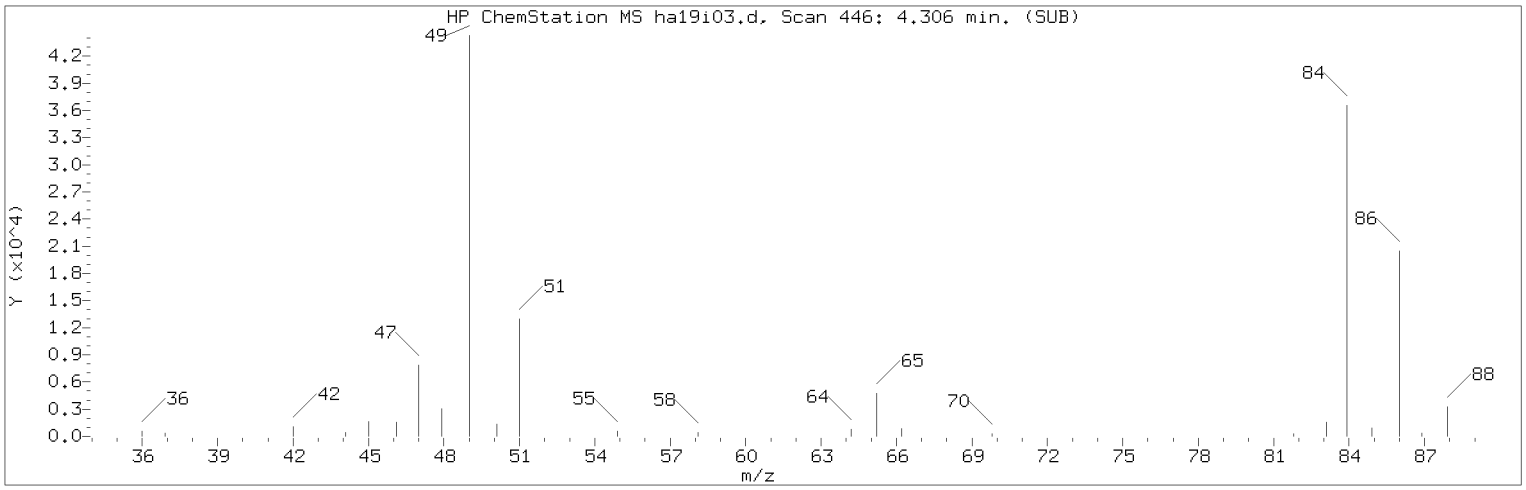
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

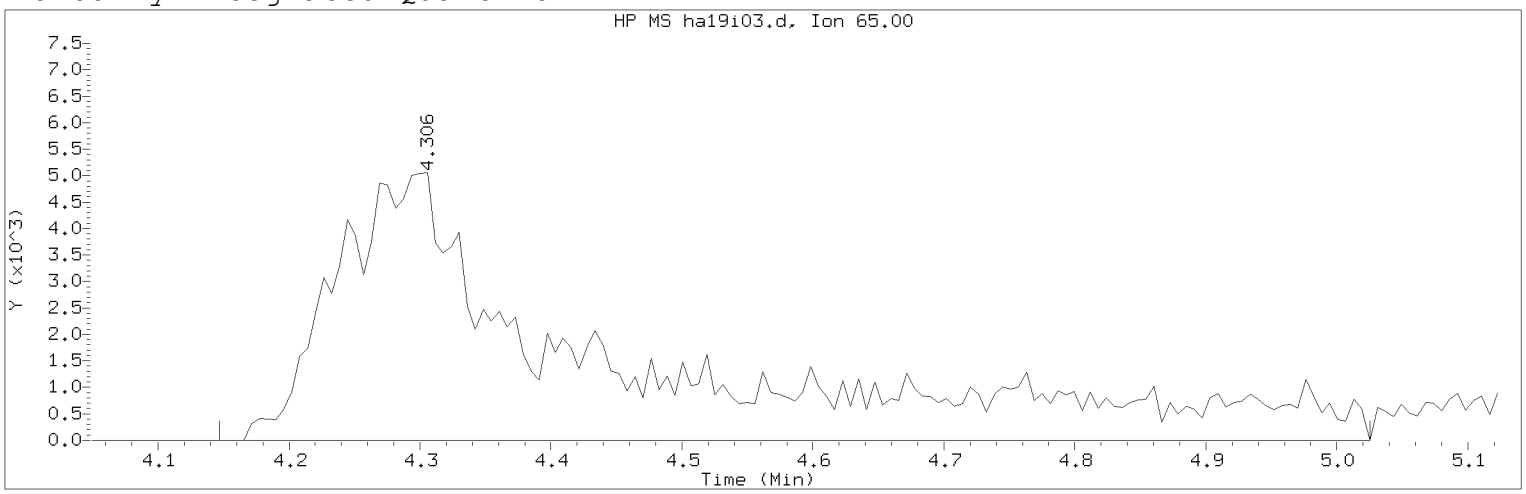
Compound Number : 14
Compound Name : Acetone
Scan Number : 334
Retention Time (minutes): 3.623
Quant Ion : 43.00
Area : 246744
On-column Amount (ng) : 36.4893
Integration start scan : 317 Integration stop scan: 358
Y at integration start : 255 Y at integration end: 2749

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

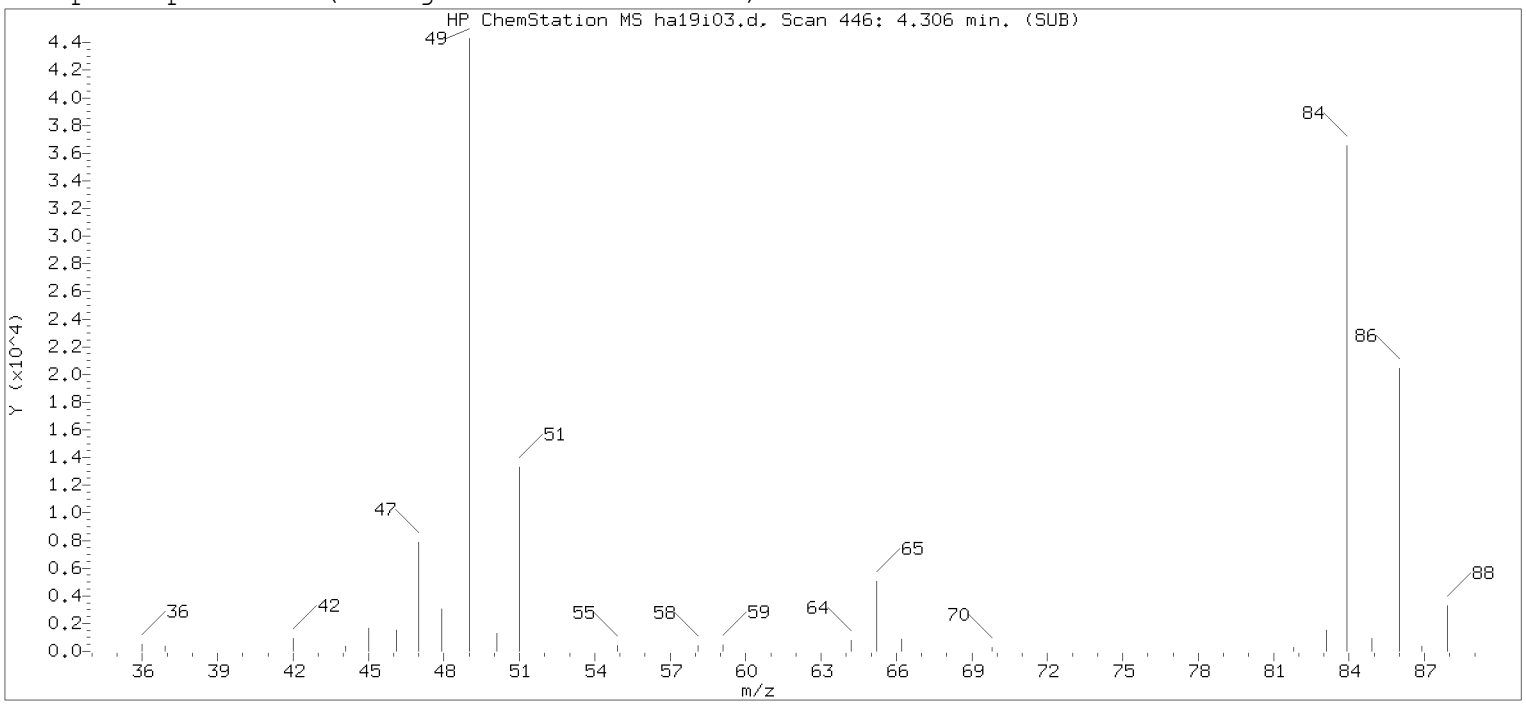
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 446
Retention Time (minutes): 4.306
Quant Ion : 65.00
Area (flag) : 71762M
On-Column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 563
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

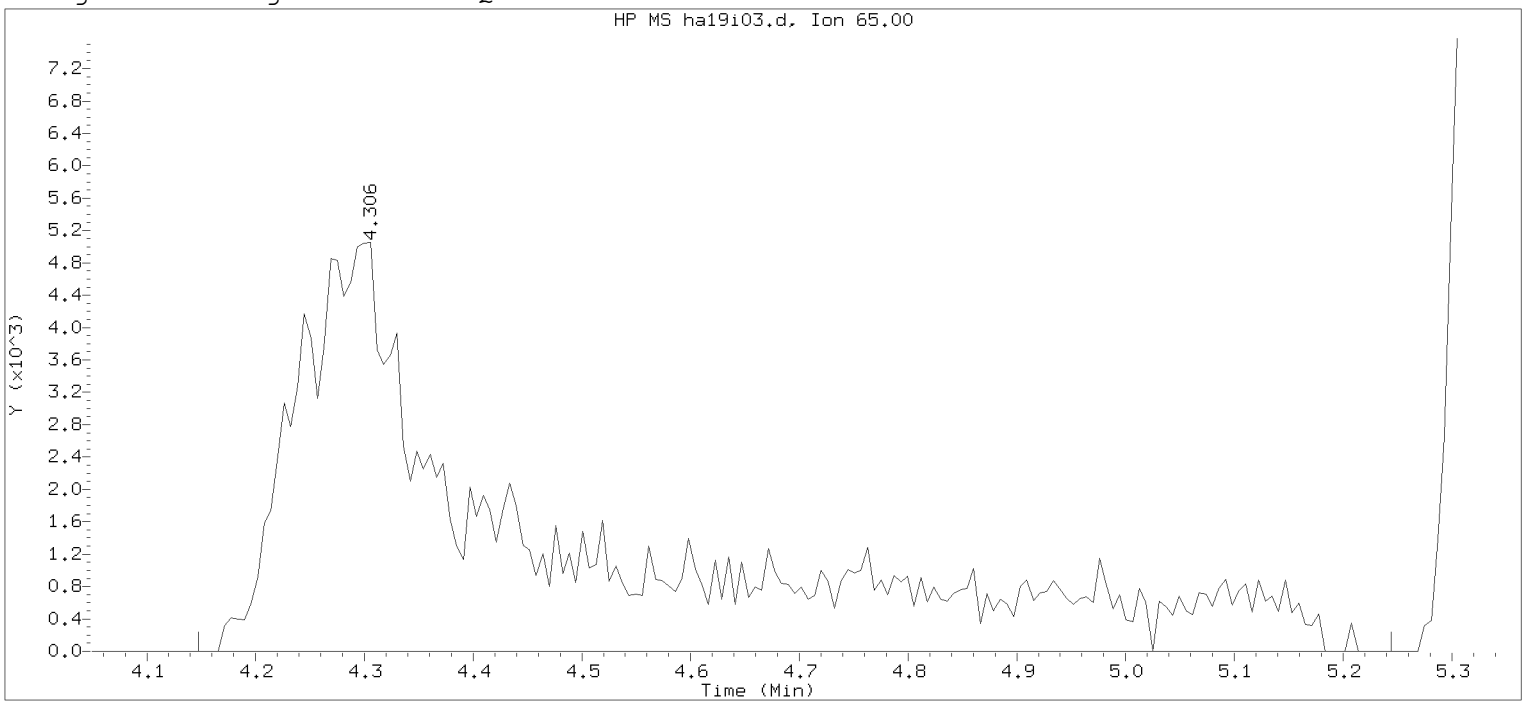
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

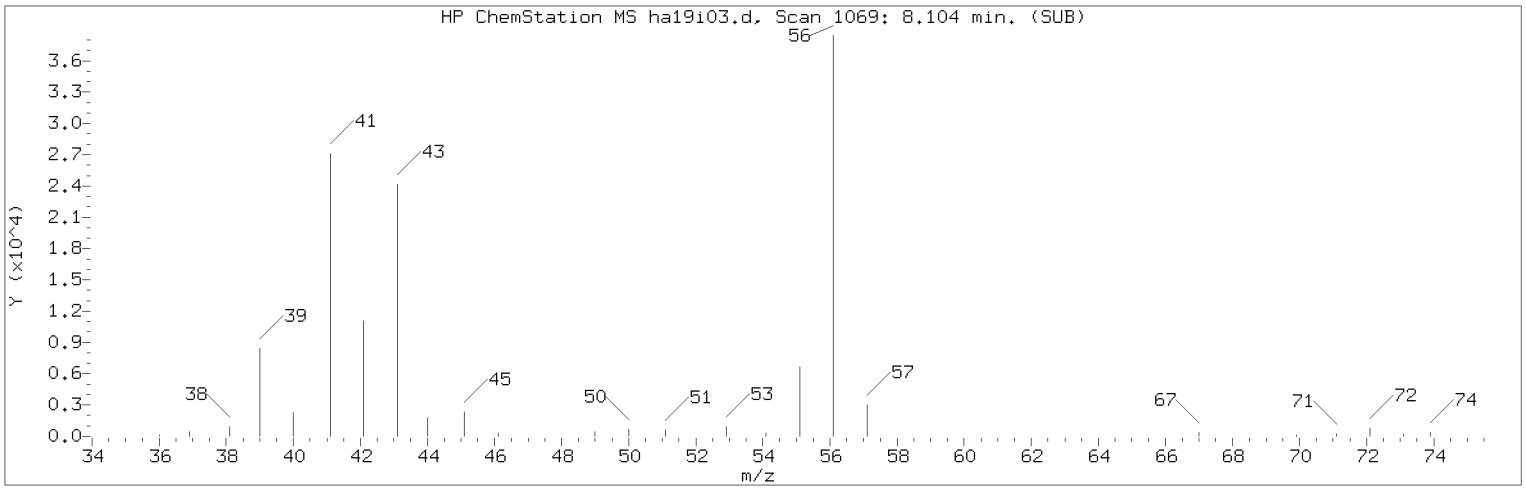
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

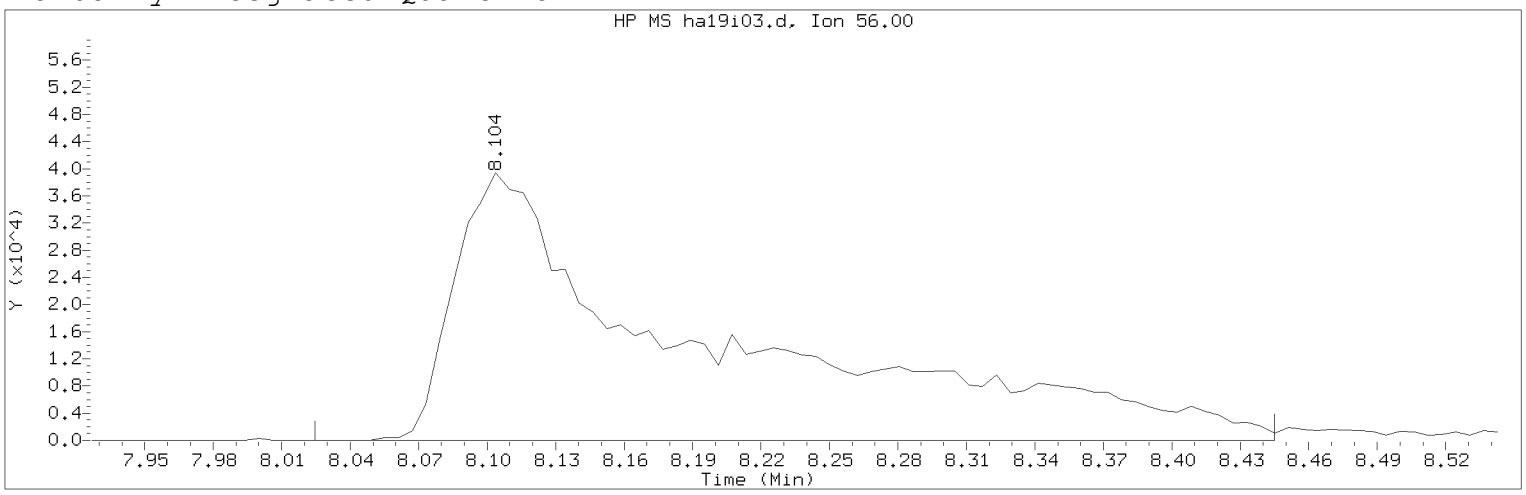
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 446
Retention Time (minutes): 4.306
Quant Ion : 65.00
Area : 77469
On-column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 599
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

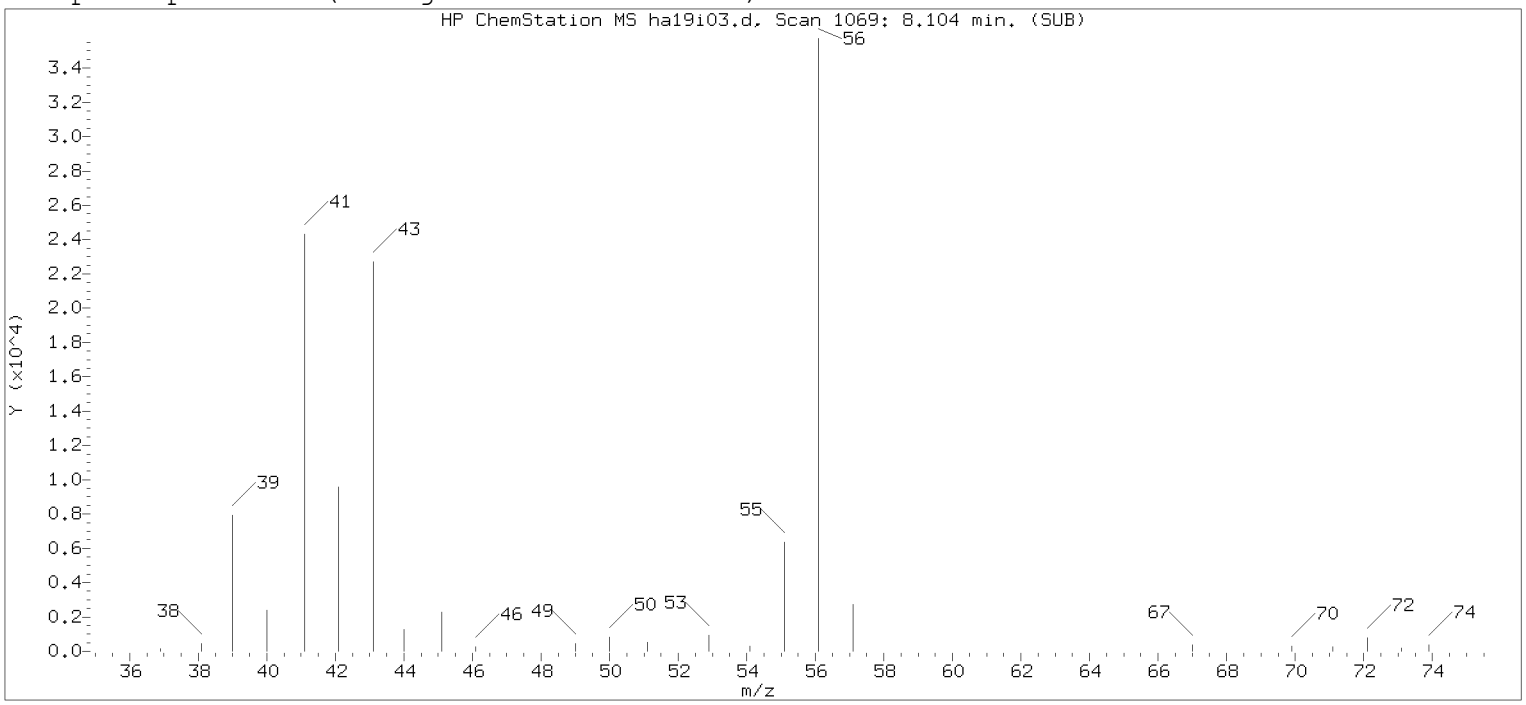
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area (flag) : 295989M
On-Column Amount (ng) : 518.8238
Integration start scan : 1055 Integration stop scan: 1124
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

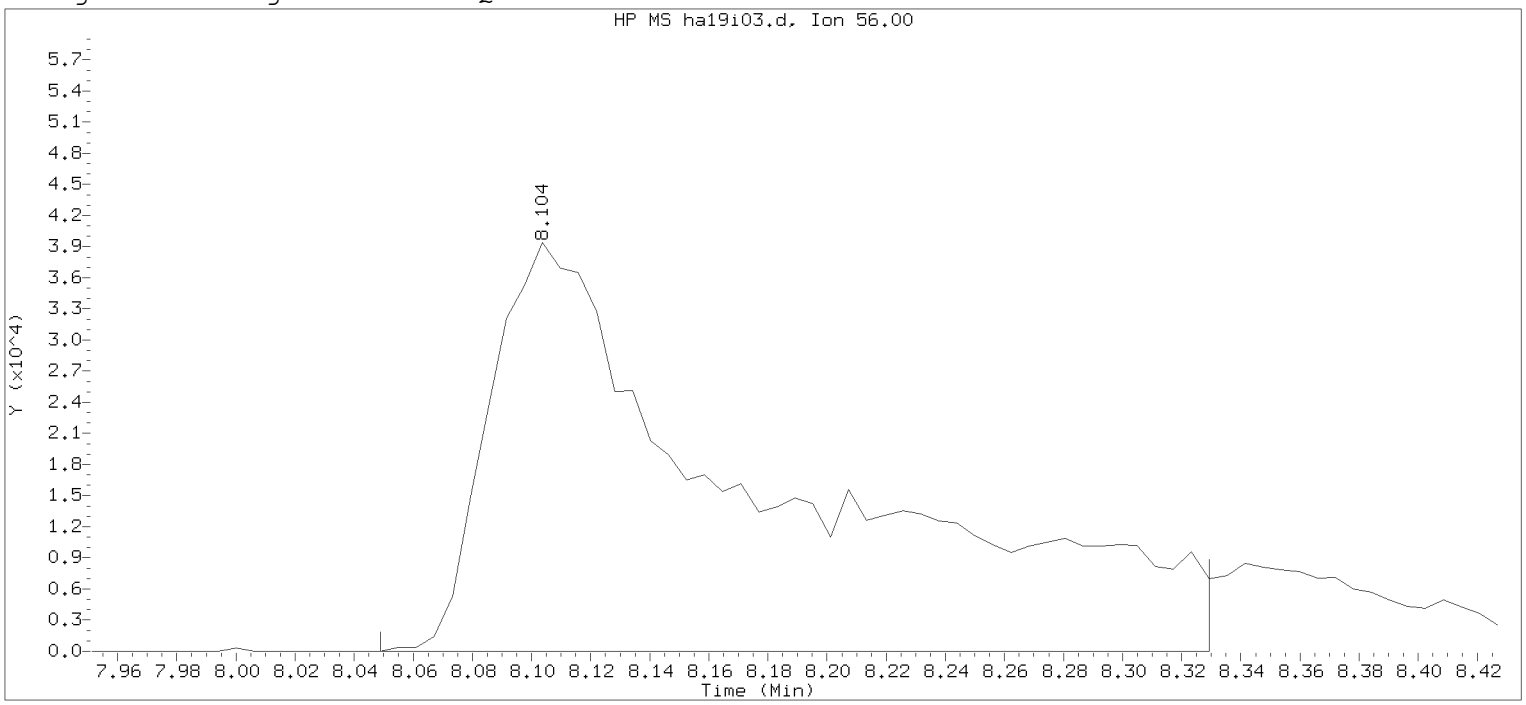
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

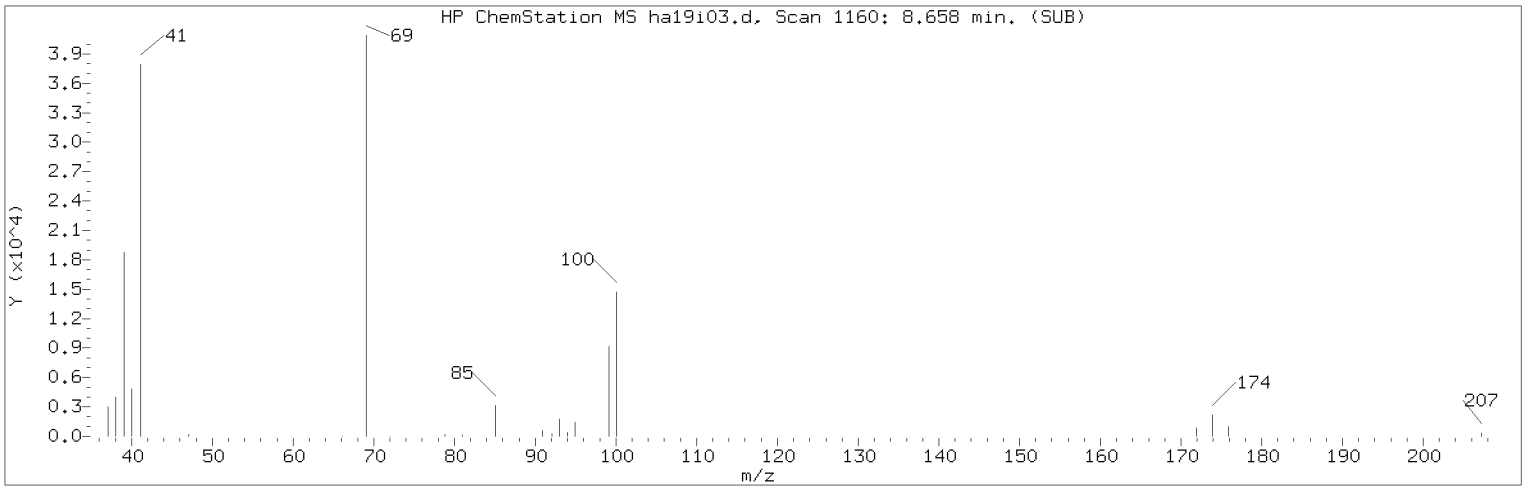
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

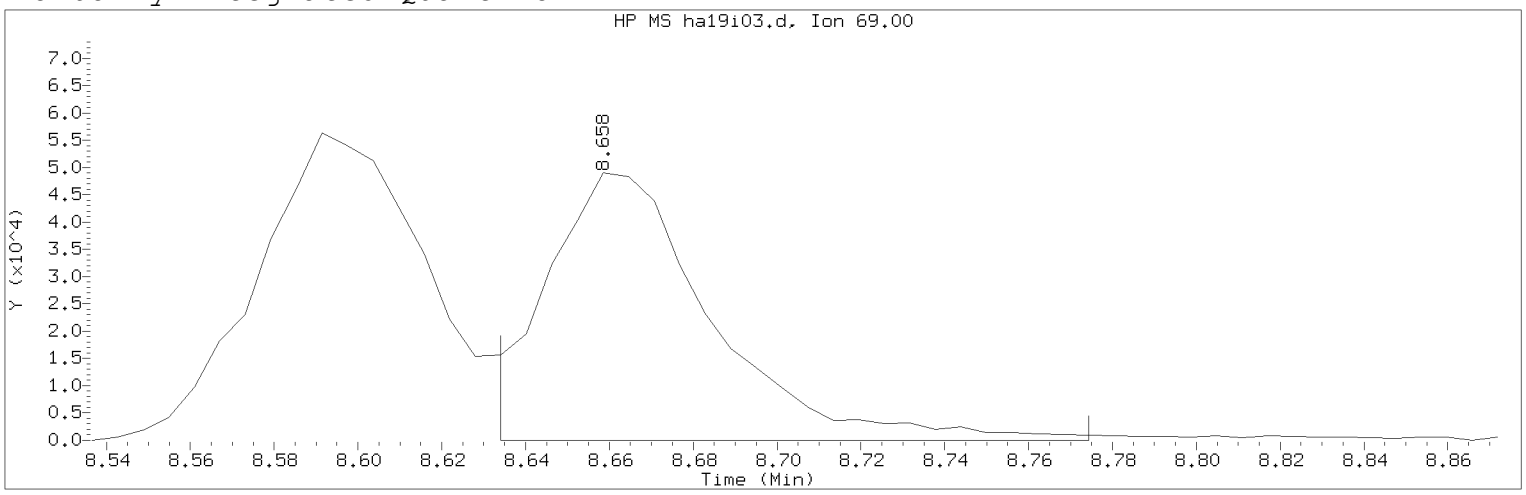
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area : 258178
On-column Amount (ng) : 457.1172
Integration start scan : 1059 Integration stop scan: 1105
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

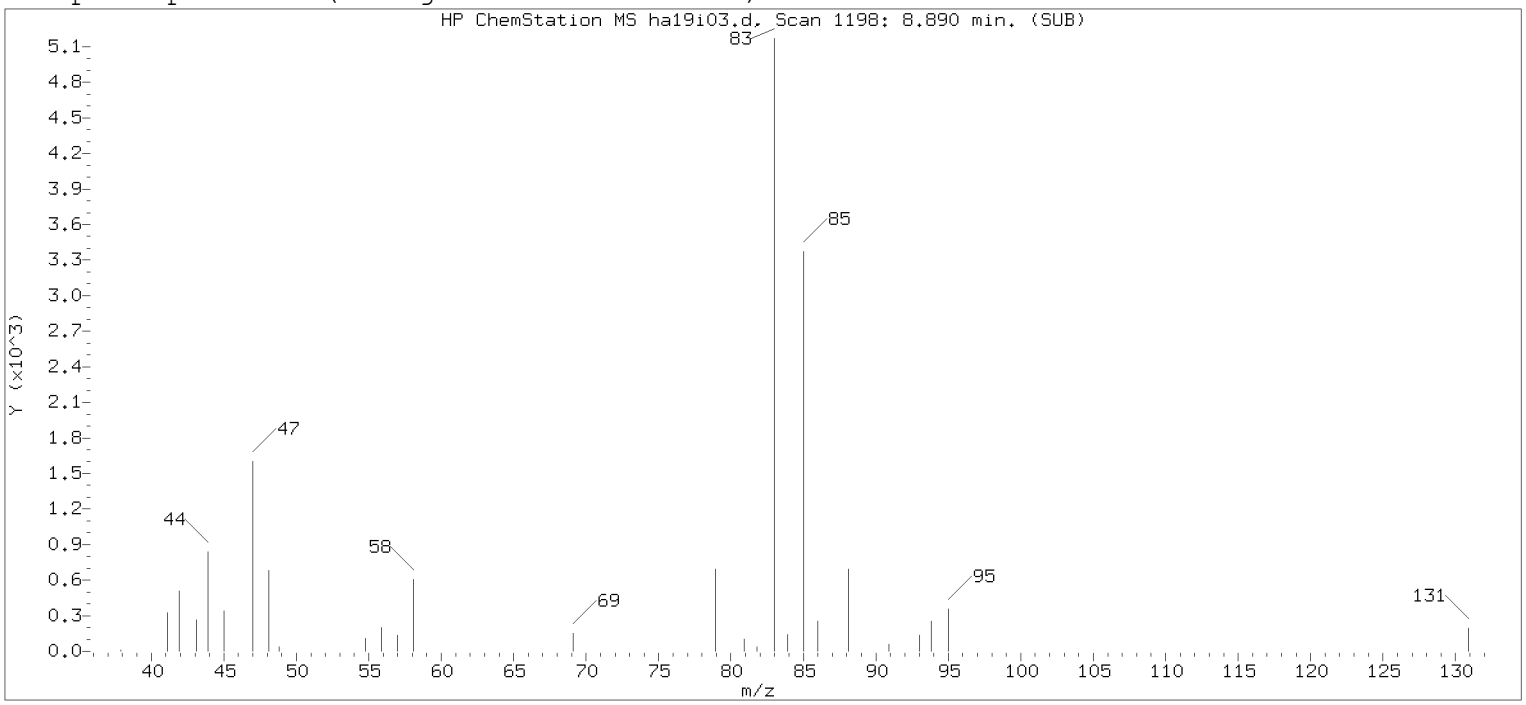
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.658
Quant Ion : 69.00
Area (flag) : 137114M
On-Column Amount (ng) : 5.5945
Integration start scan : 1155 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

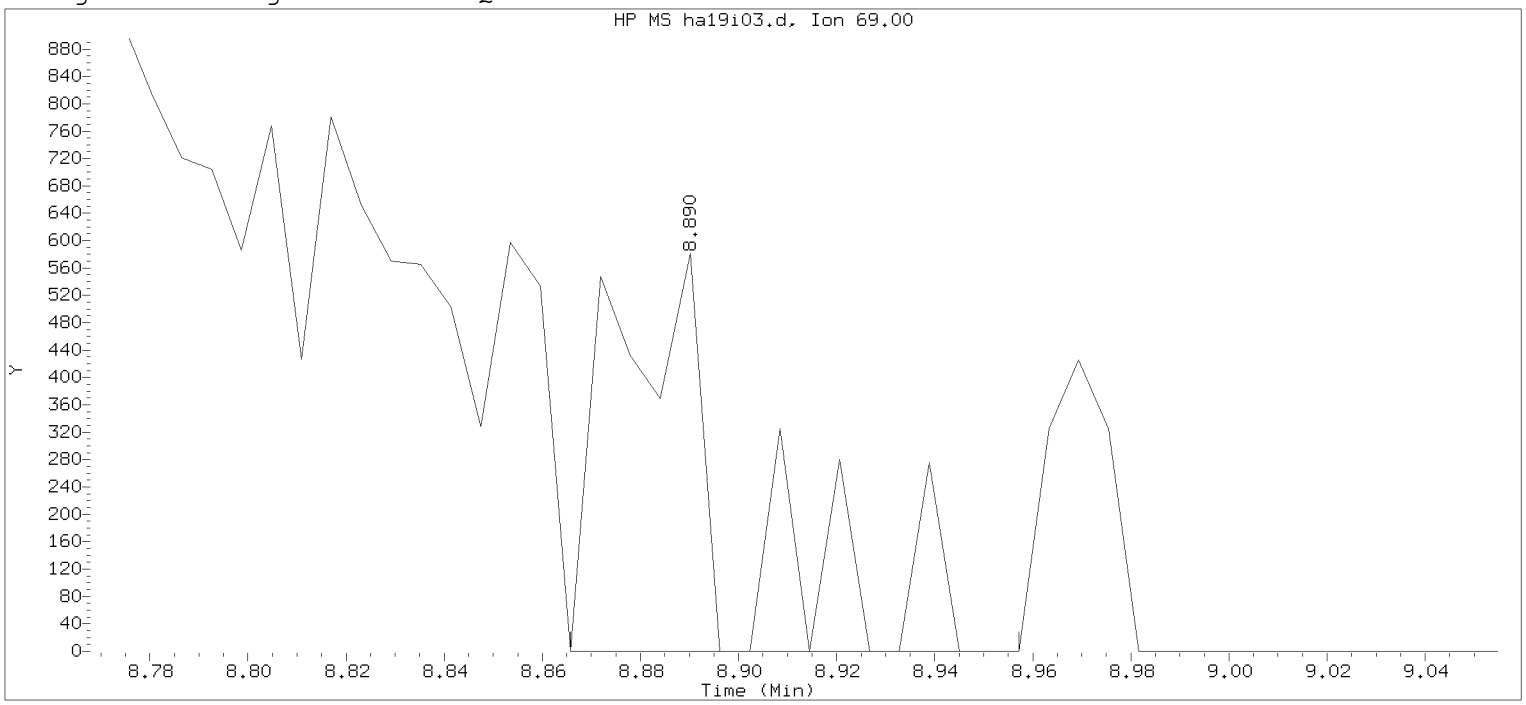
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

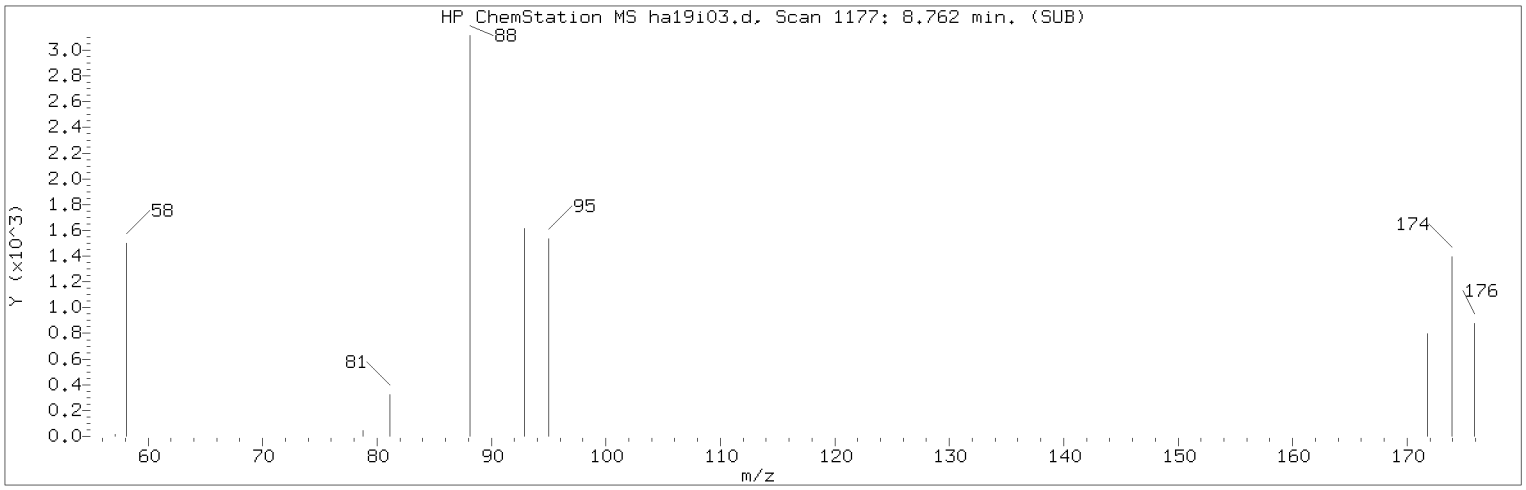
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

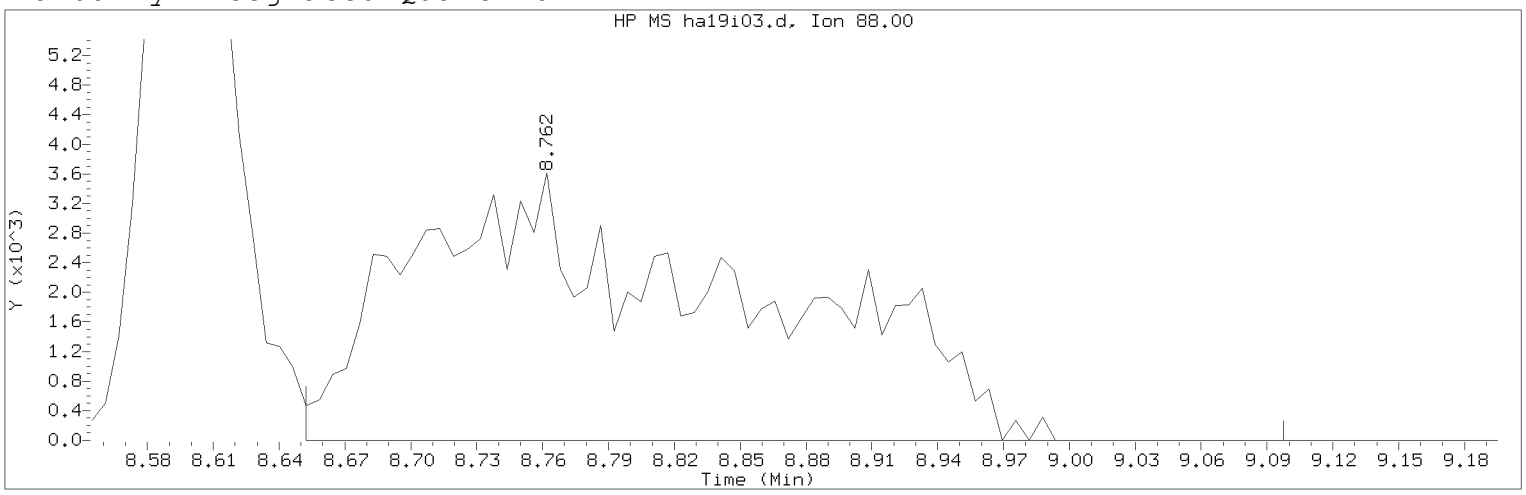
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1198
Retention Time (minutes): 8.890
Quant Ion : 69.00
Area : 1028
On-column Amount (ng) : 0.0613
Integration start scan : 1193 Integration stop scan: 1208
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

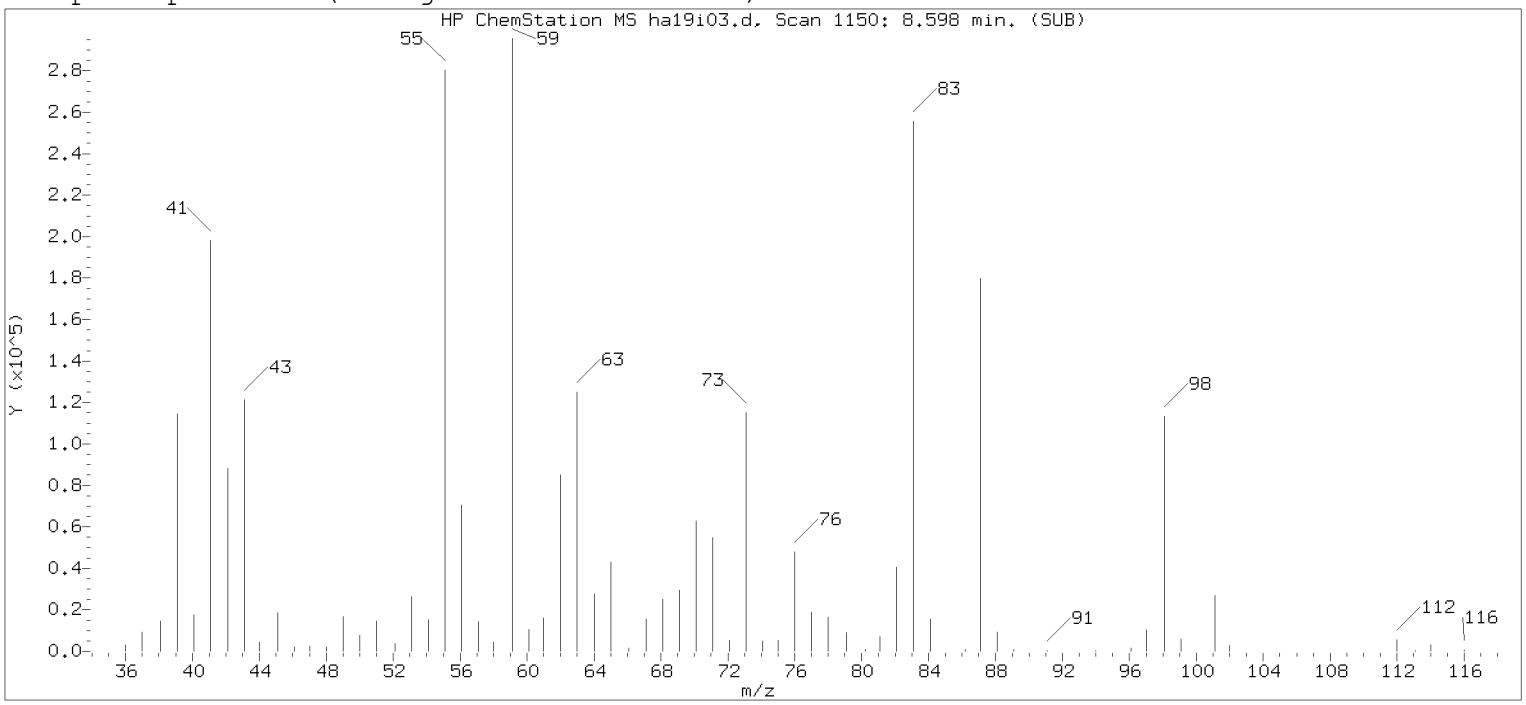
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1177
Retention Time (minutes): 8.762
Quant Ion : 88.00
Area (flag) : 37550A
On-Column Amount (ng) : 269.8626
Integration start scan : 1158 Integration stop scan: 1231
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

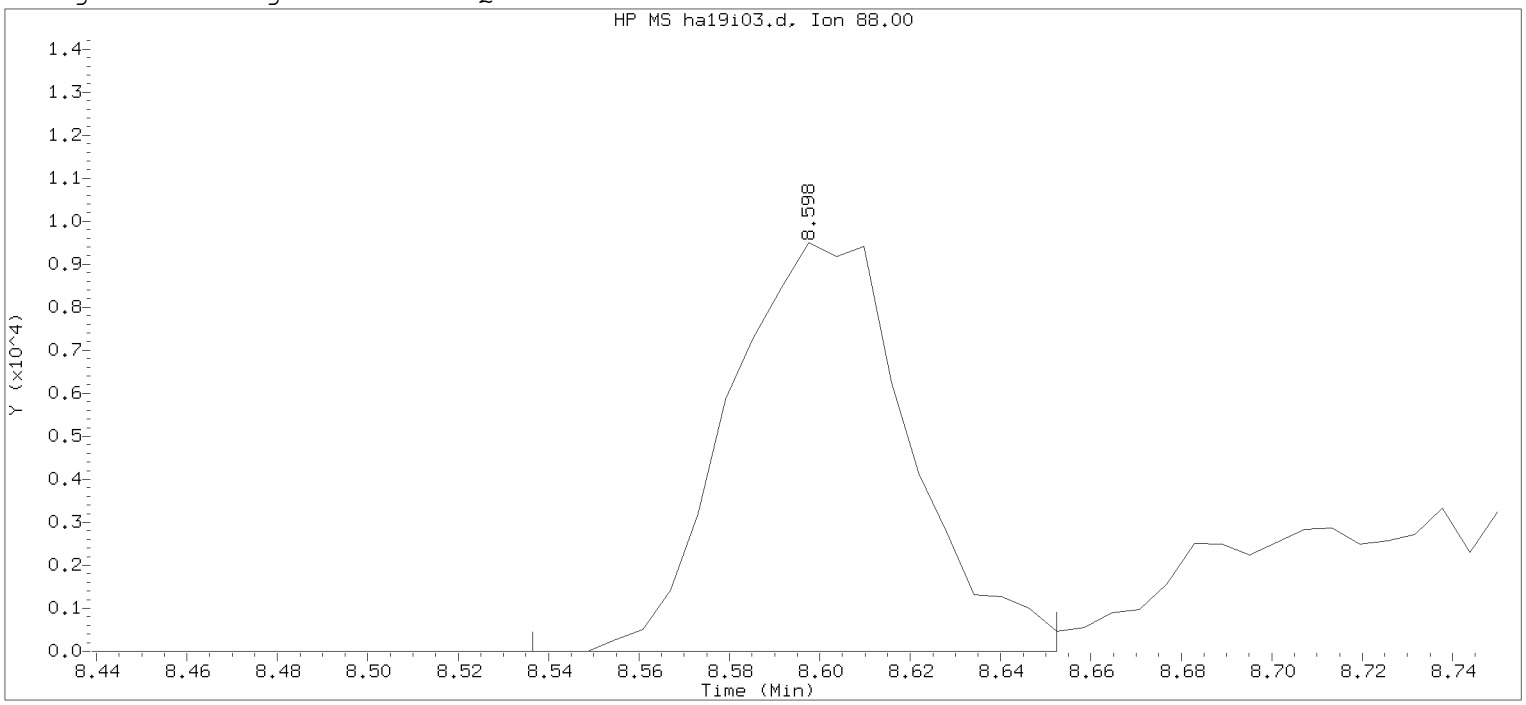
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

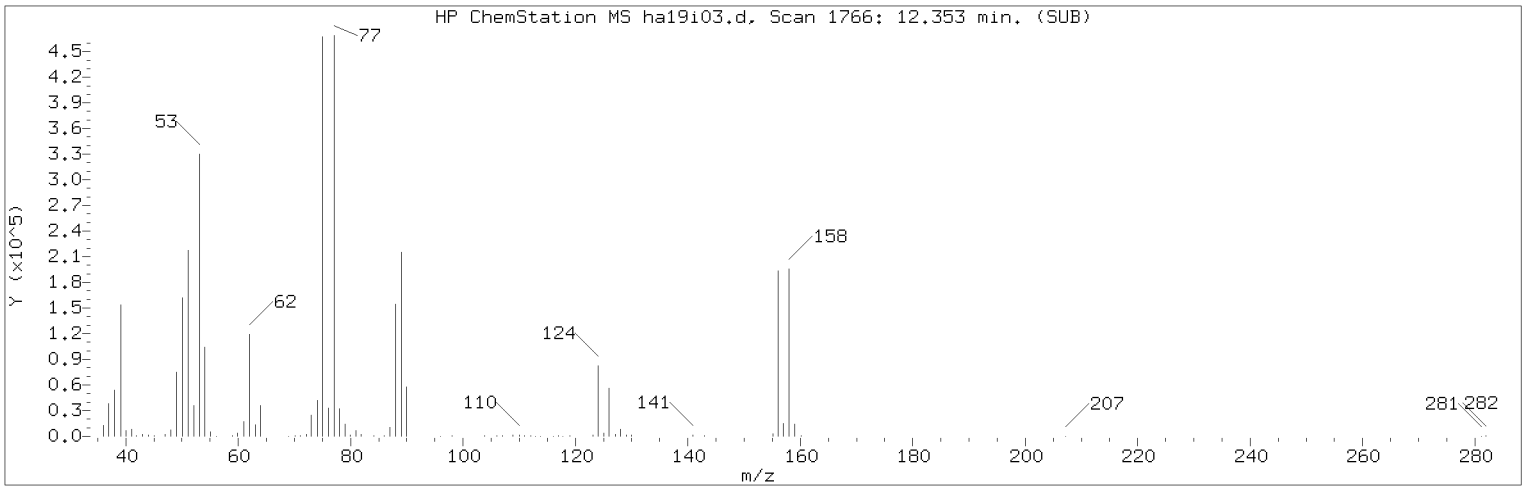
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

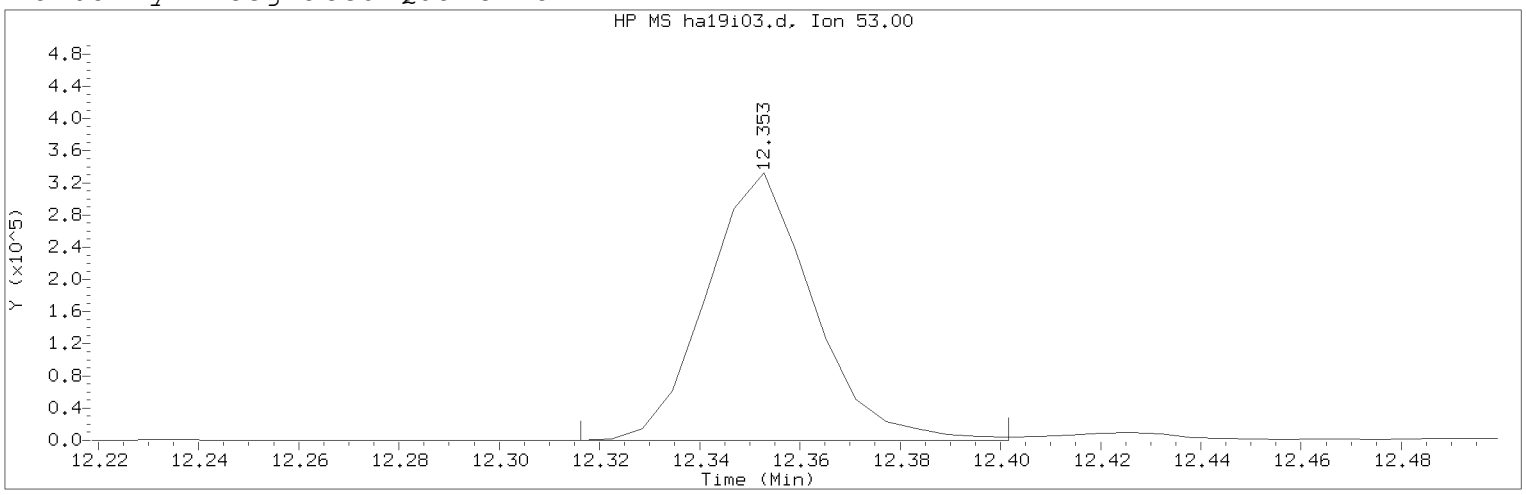
Compound Number	: 72		
Compound Name	: 1,4-Dioxane		
Scan Number	: 1150		
Retention Time (minutes)	: 8.598		
Quant Ion	: 88.00		
Area	: 26338		
On-column Amount (ng)	: 157.3260		
Integration start scan	: 1139	Integration stop scan:	1158
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

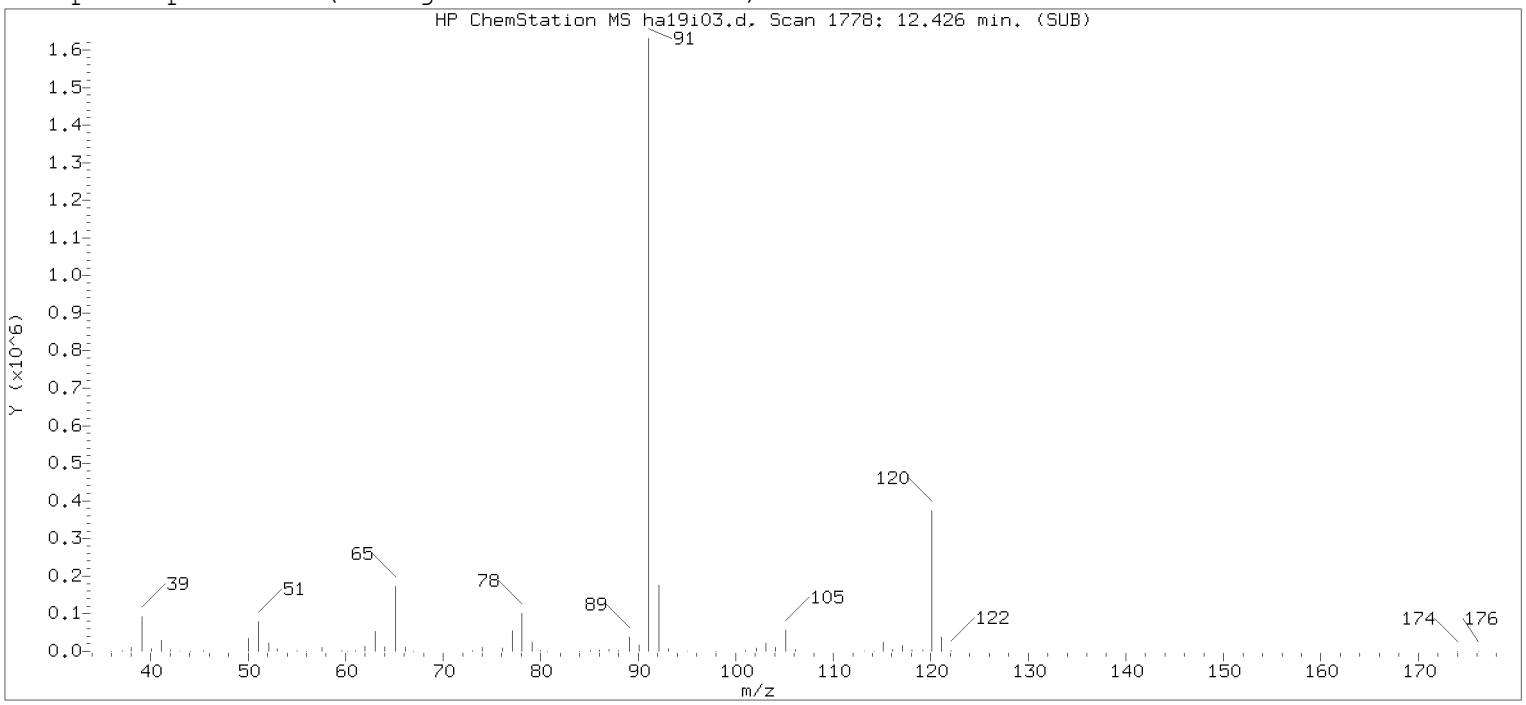
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 488943A
On-Column Amount (ng) : 51.5312
Integration start scan : 1759 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

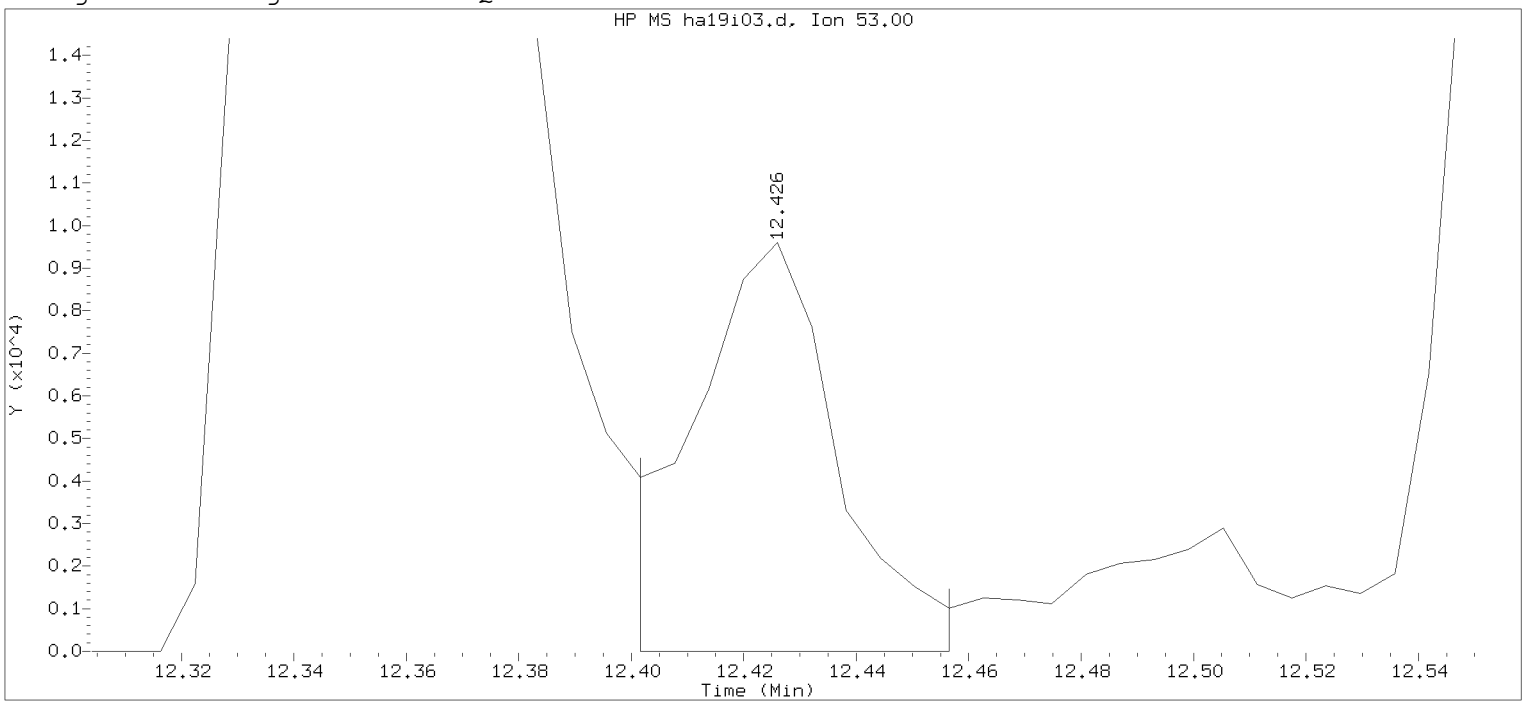
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

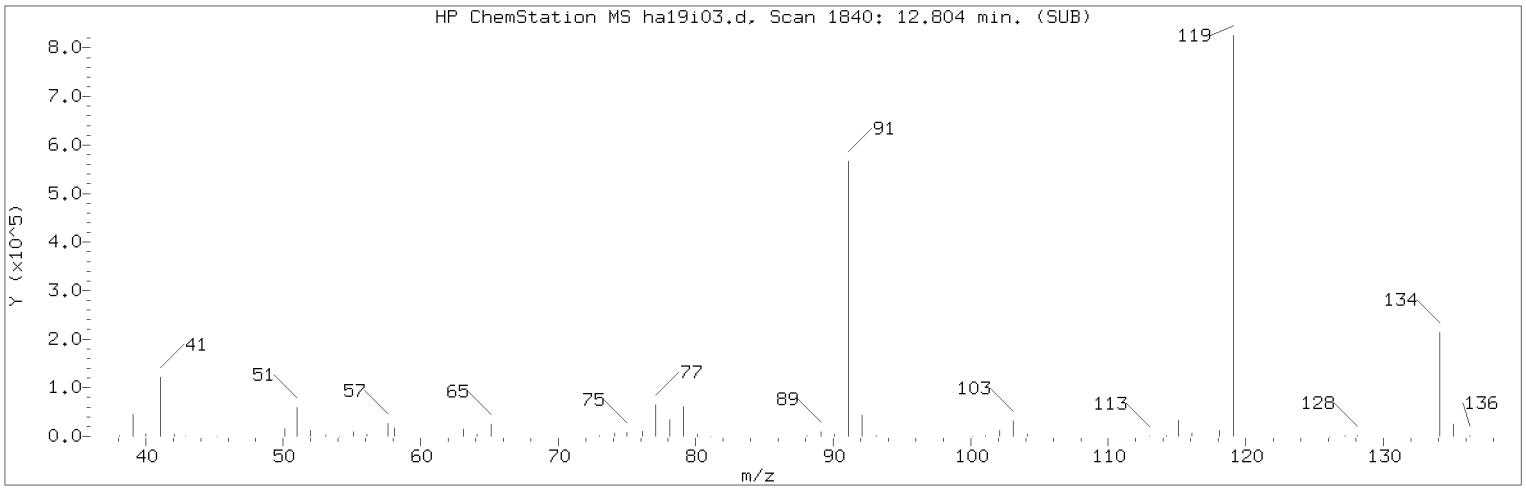
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

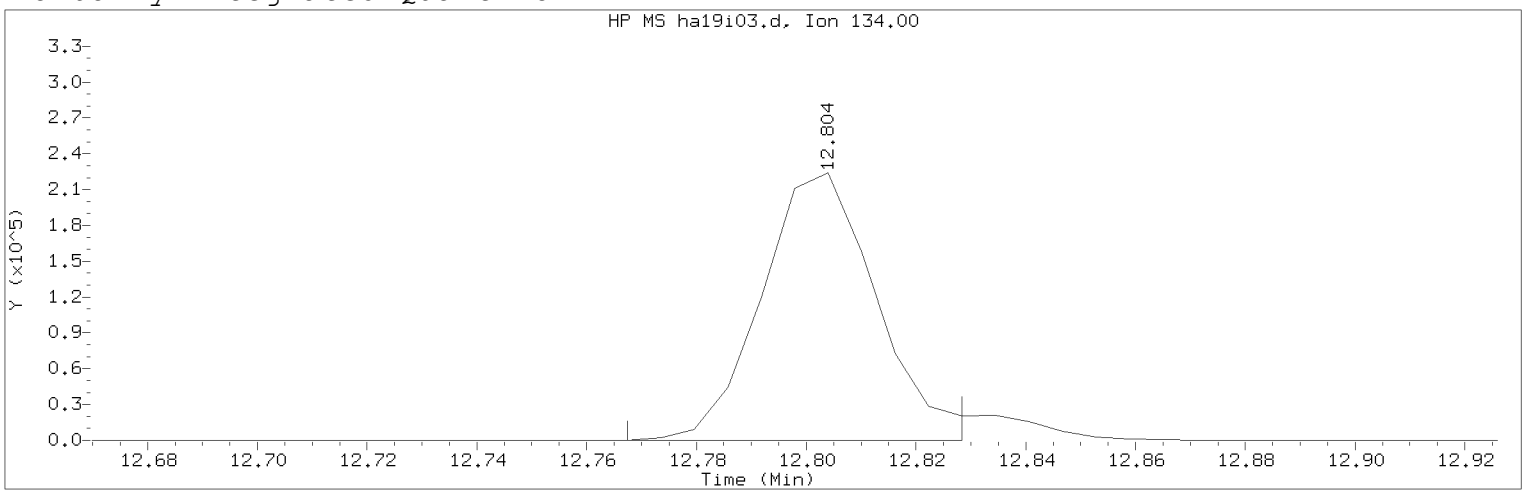
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1778
Retention Time (minutes): 12.426
Quant Ion : 53.00
Area : 16866
On-column Amount (ng) : 3.6265
Integration start scan : 1773 Integration stop scan: 1782
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

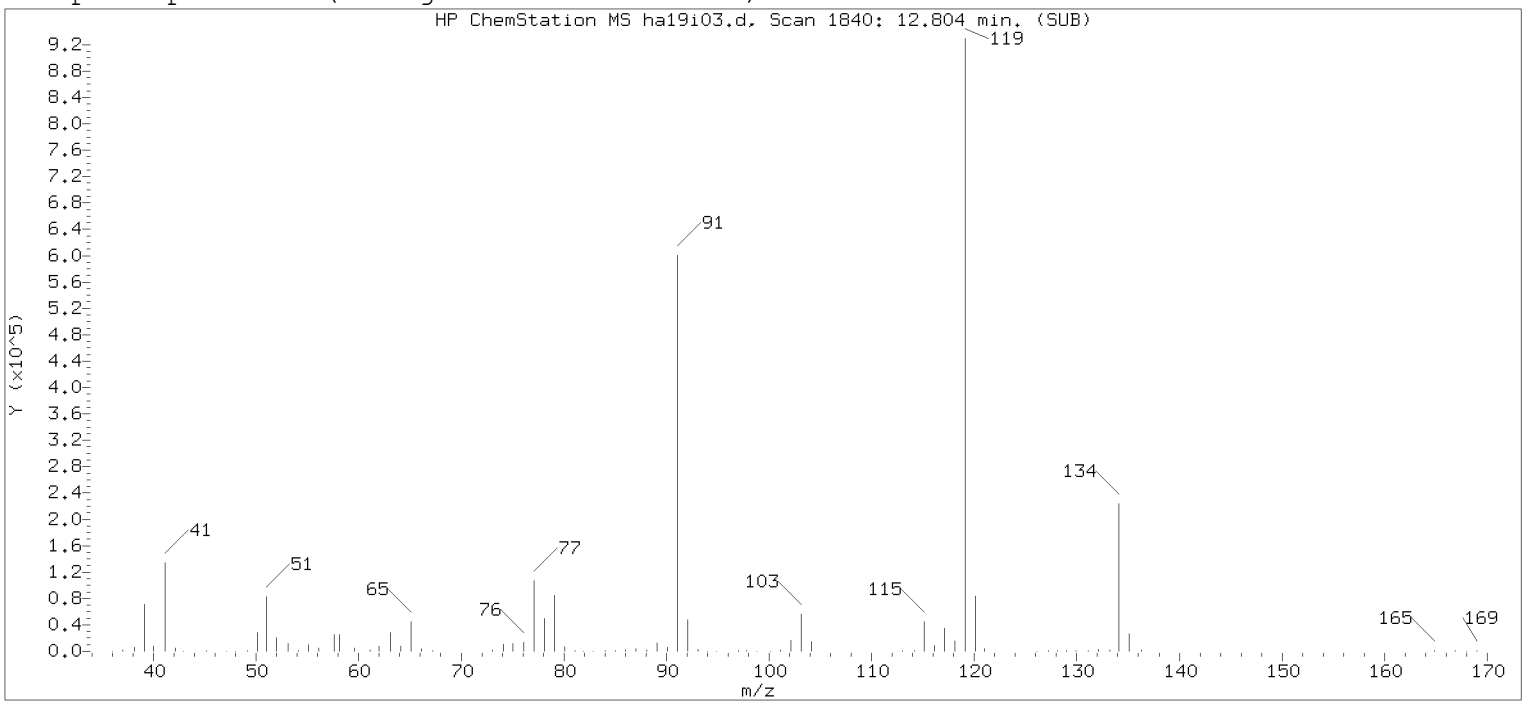
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 325824M
On-Column Amount (ng) : 5.1855
Integration start scan : 1833 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

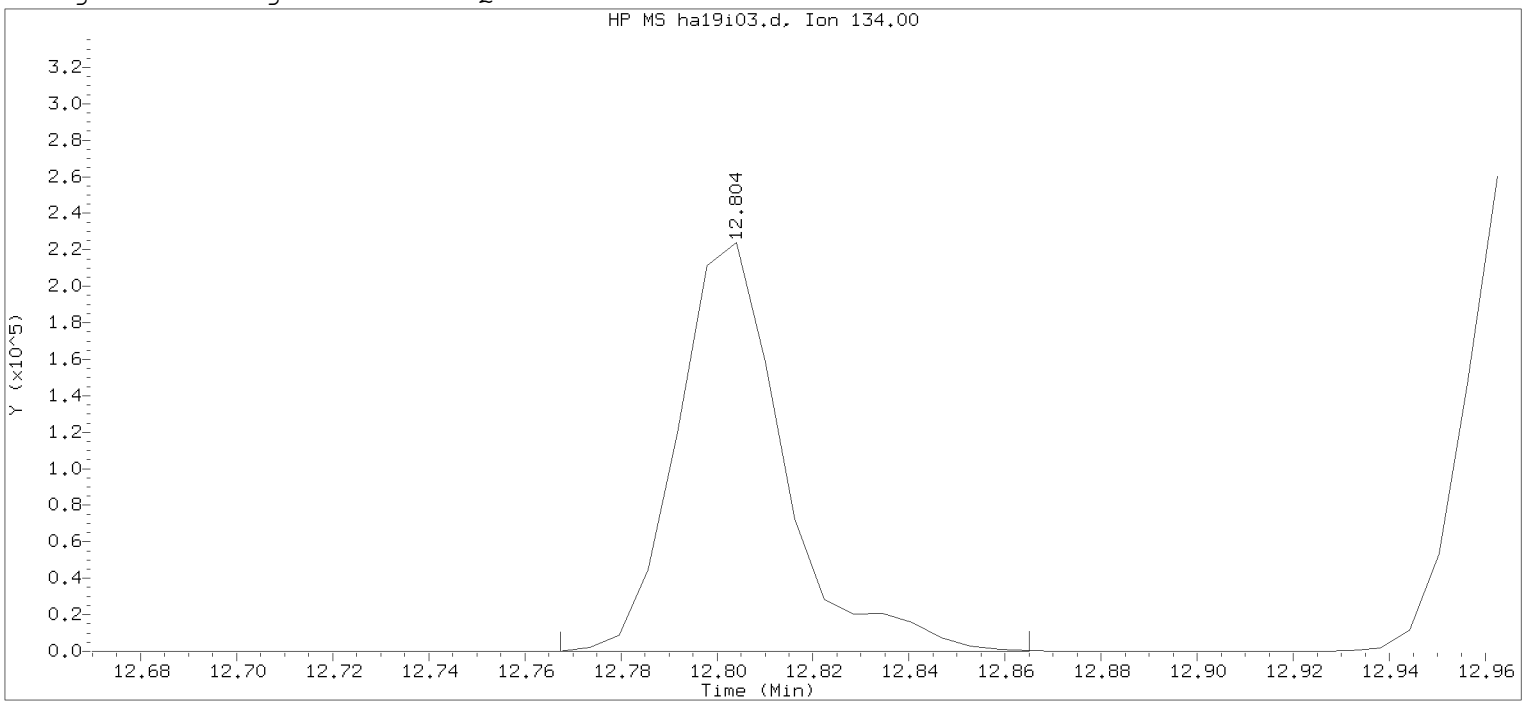
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

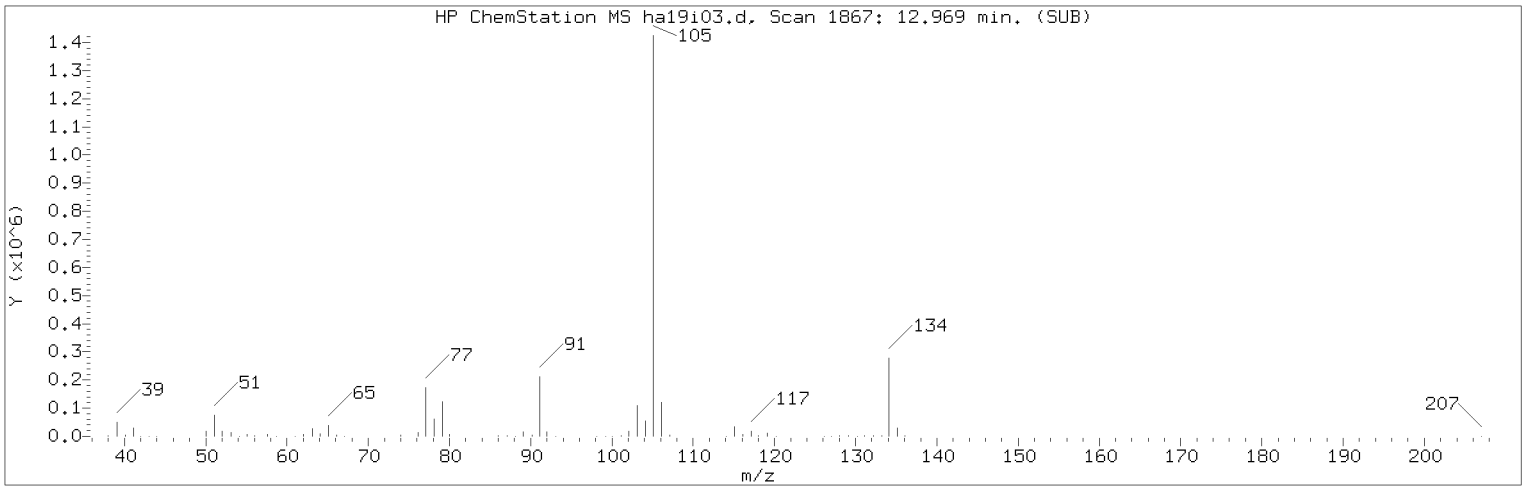
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

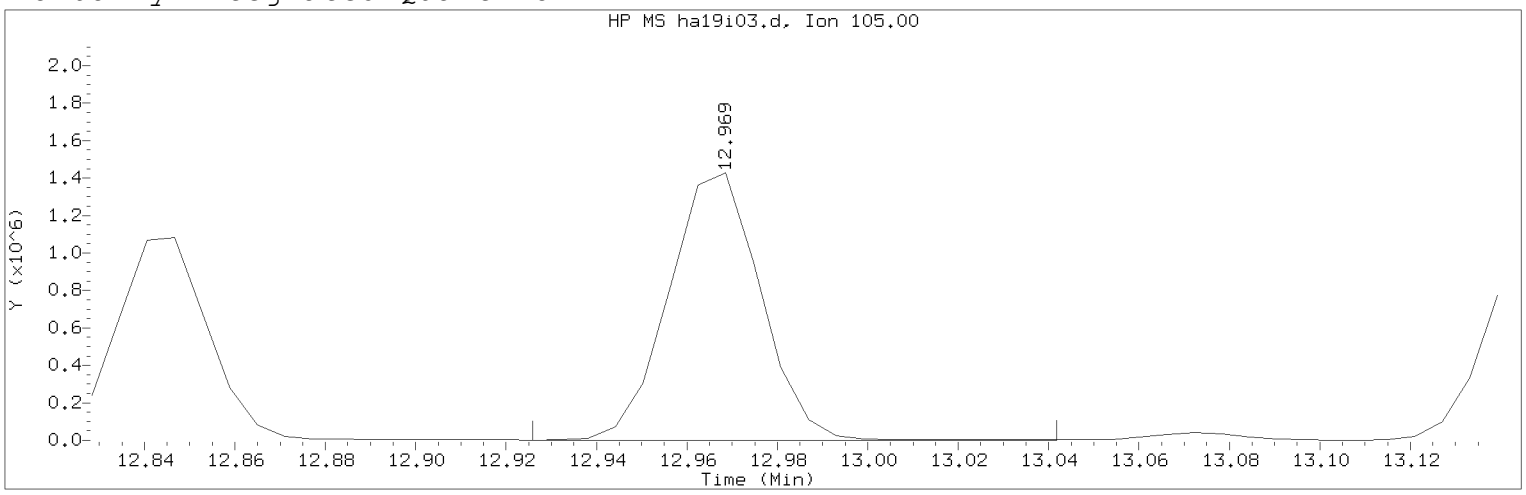
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 343481
On-column Amount (ng) : 5.0181
Integration start scan : 1833 Integration stop scan: 1849
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

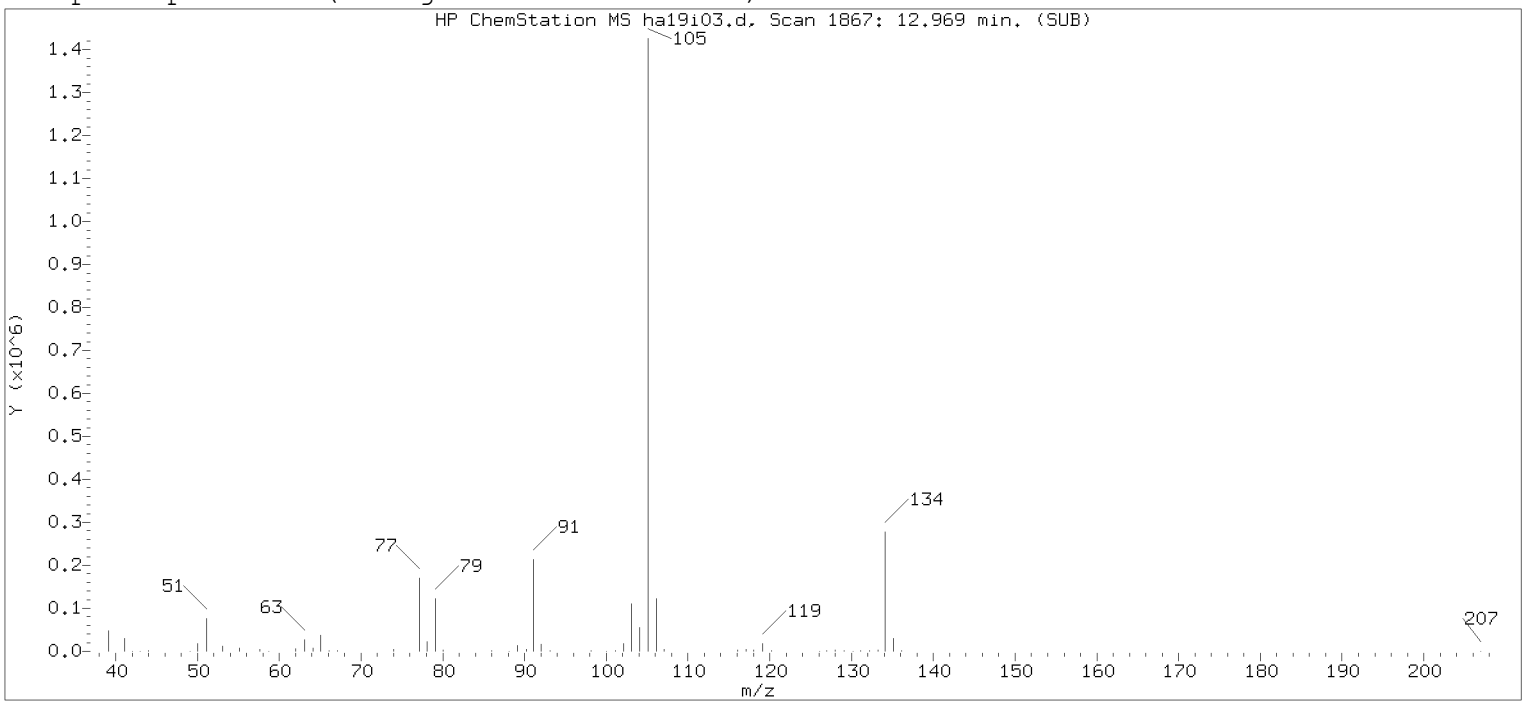
Compound Number : 128
Compound Name : sec-Butylbenzene
Scan Number : 1867
Retention Time (minutes): 12.969
Quant Ion : 105.00
Area (flag) : 2013392M
On-Column Amount (ng) : 5.3400
Integration start scan : 1859 Integration stop scan: 1878
Y at integration start : 302 Y at integration end: 302

Reason for manual integration: improper integration

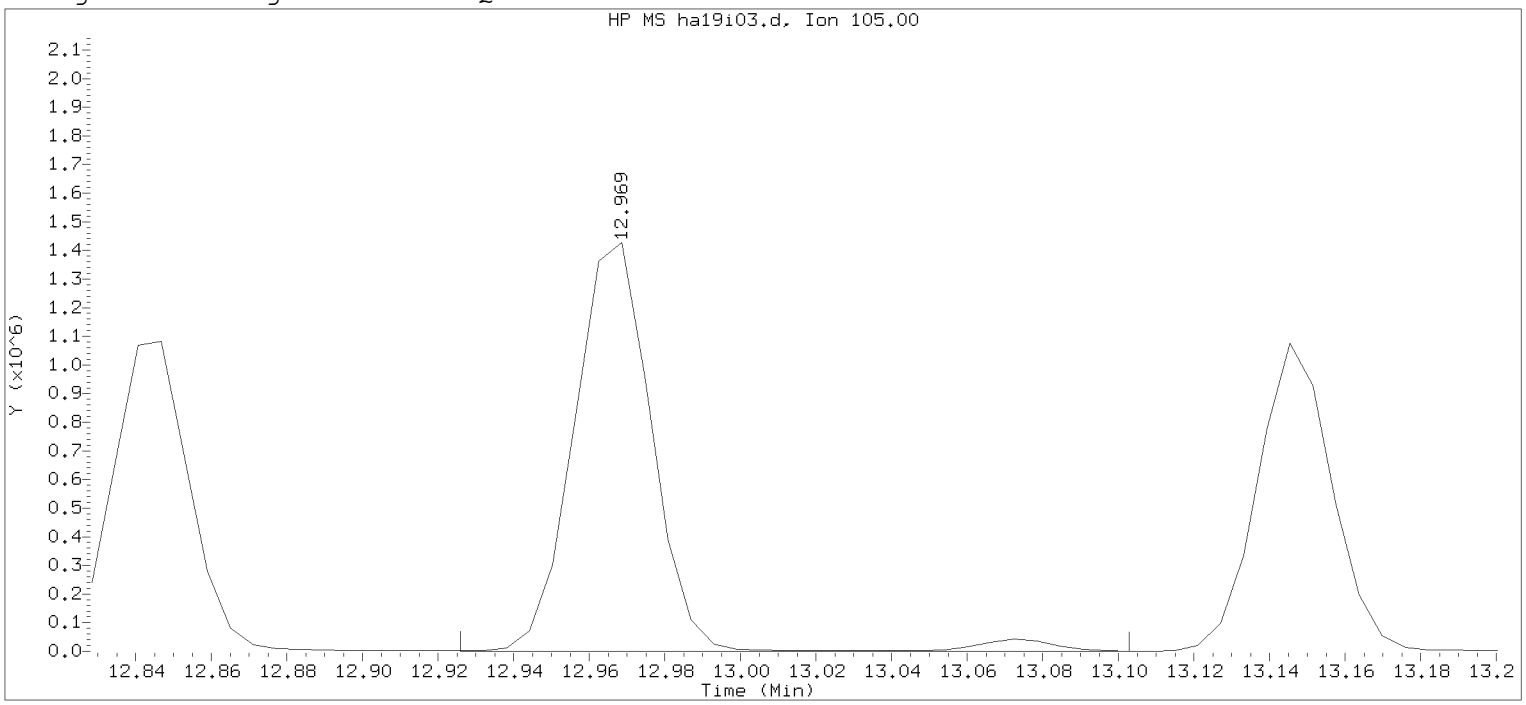
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

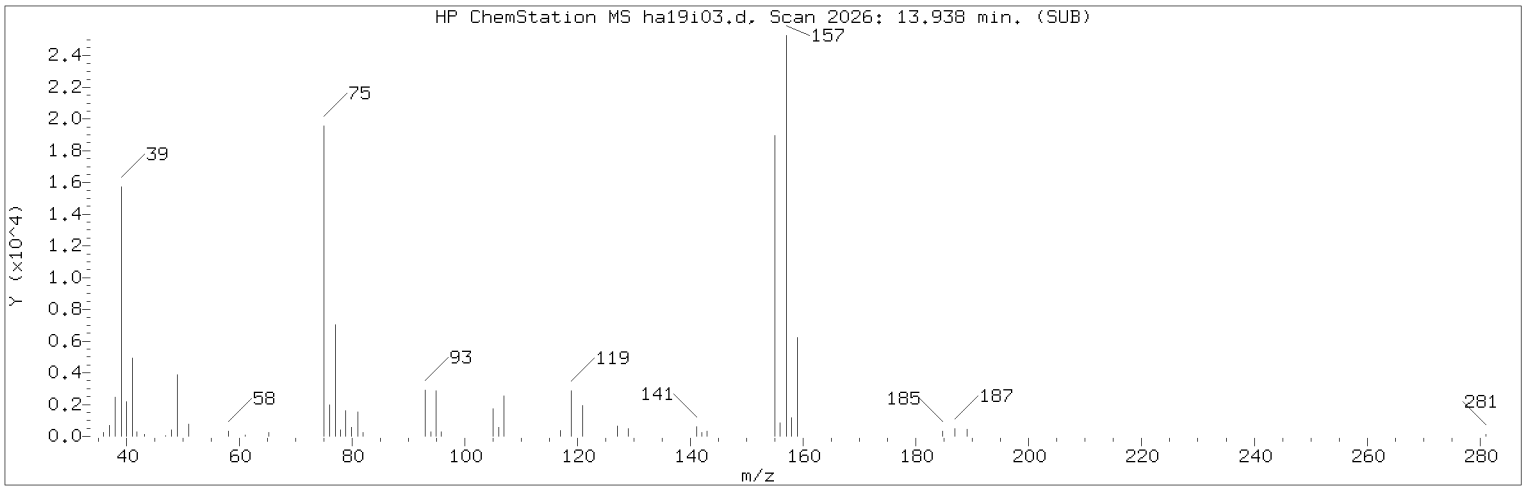
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

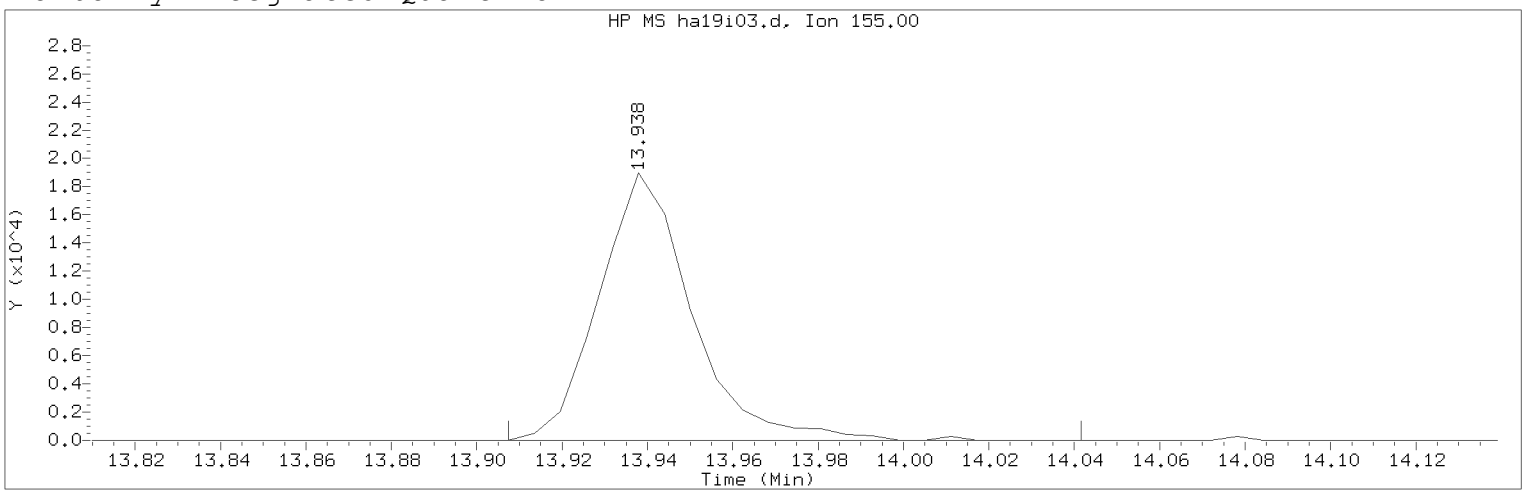
Compound Number : 128
Compound Name : sec-Butylbenzene
Scan Number : 1867
Retention Time (minutes): 12.969
Quant Ion : 105.00
Area : 2070605
On-column Amount (ng) : 5.1178
Integration start scan : 1859 Integration stop scan: 1888
Y at integration start : 302 Y at integration end: 302

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

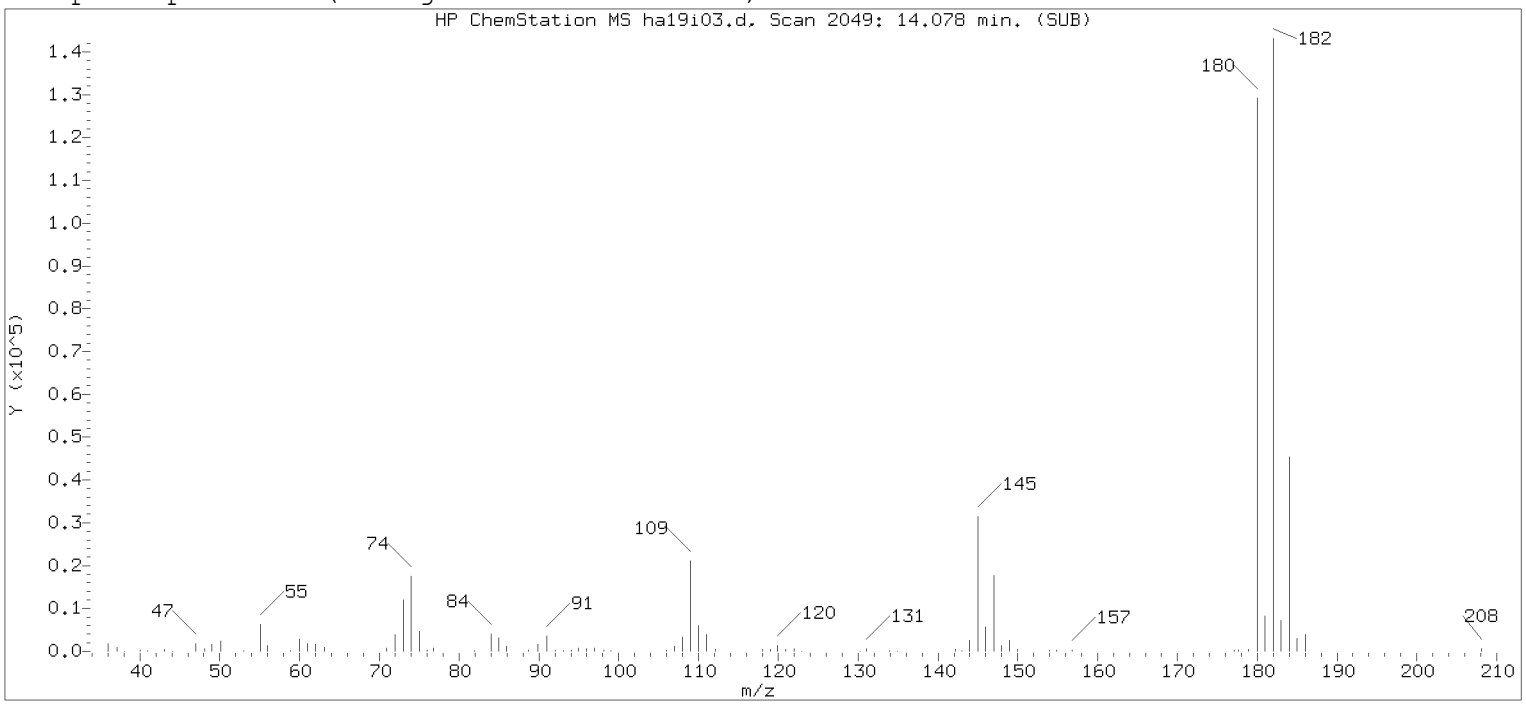
Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2026
Retention Time (minutes): 13.938
Quant Ion : 155.00
Area (flag) : 28578A
On-Column Amount (ng) : 5.3989
Integration start scan : 2020 Integration stop scan: 2042
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

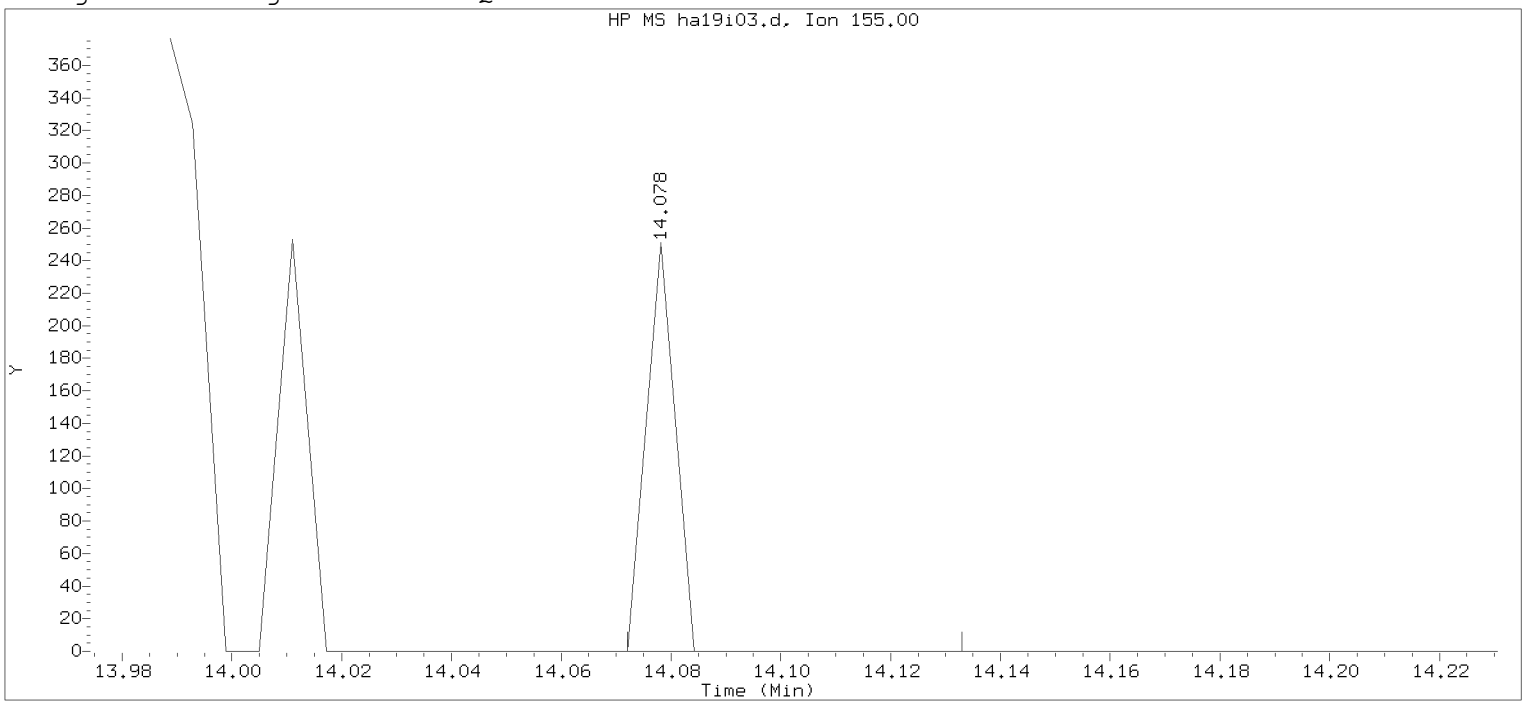
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



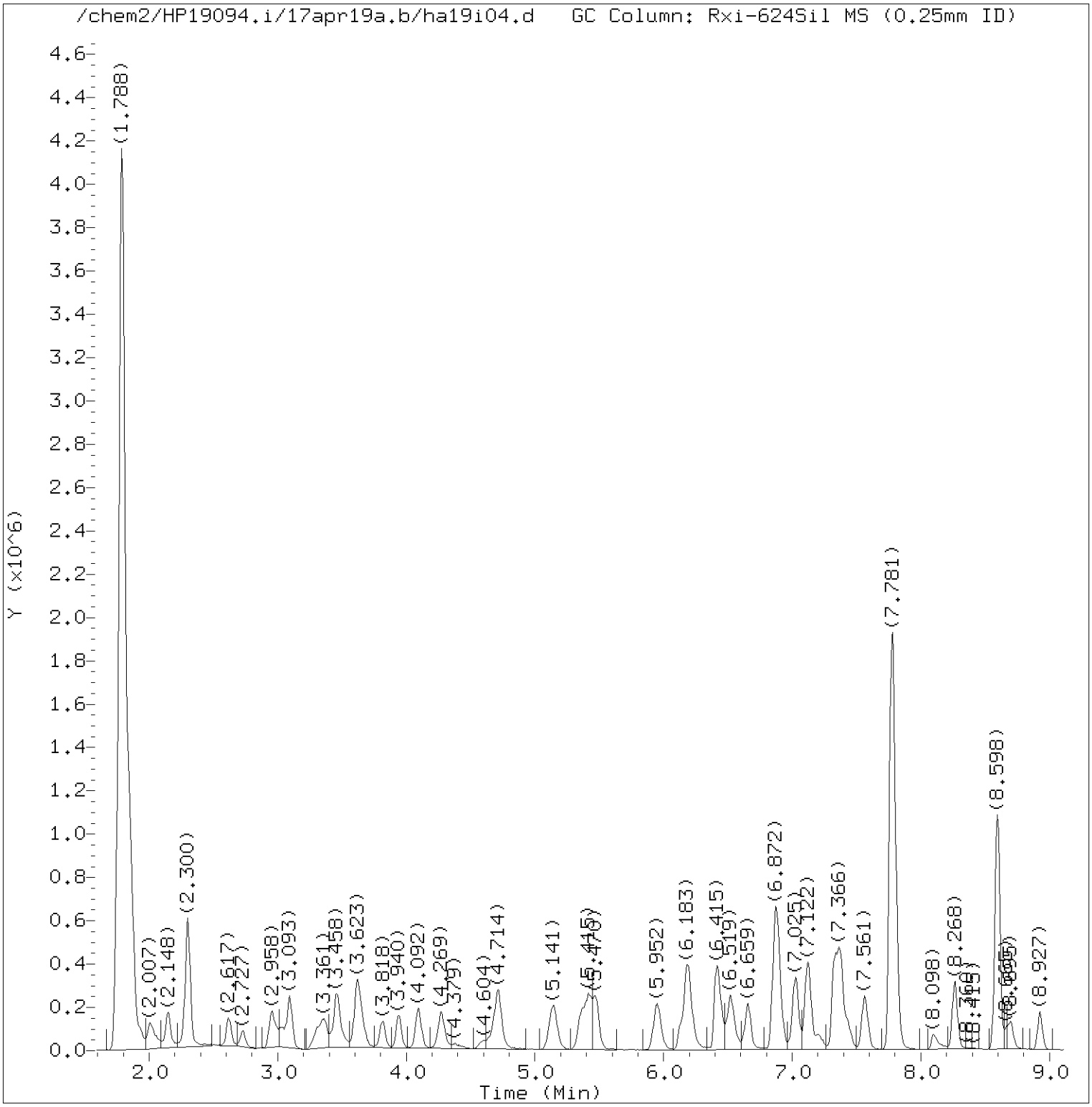
Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compound Number	: 143		
Compound Name	: 1,2-Dibromo-3-chloropropane		
Scan Number	: 2049		
Retention Time (minutes)	: 14.078		
Quant Ion	: 155.00		
Area	: 91		
On-column Amount (ng)	: 0.0285		
Integration start scan	: 2047	Integration stop scan:	2057
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user kevin.sposito



Total Ion Chromatogram (TIC)

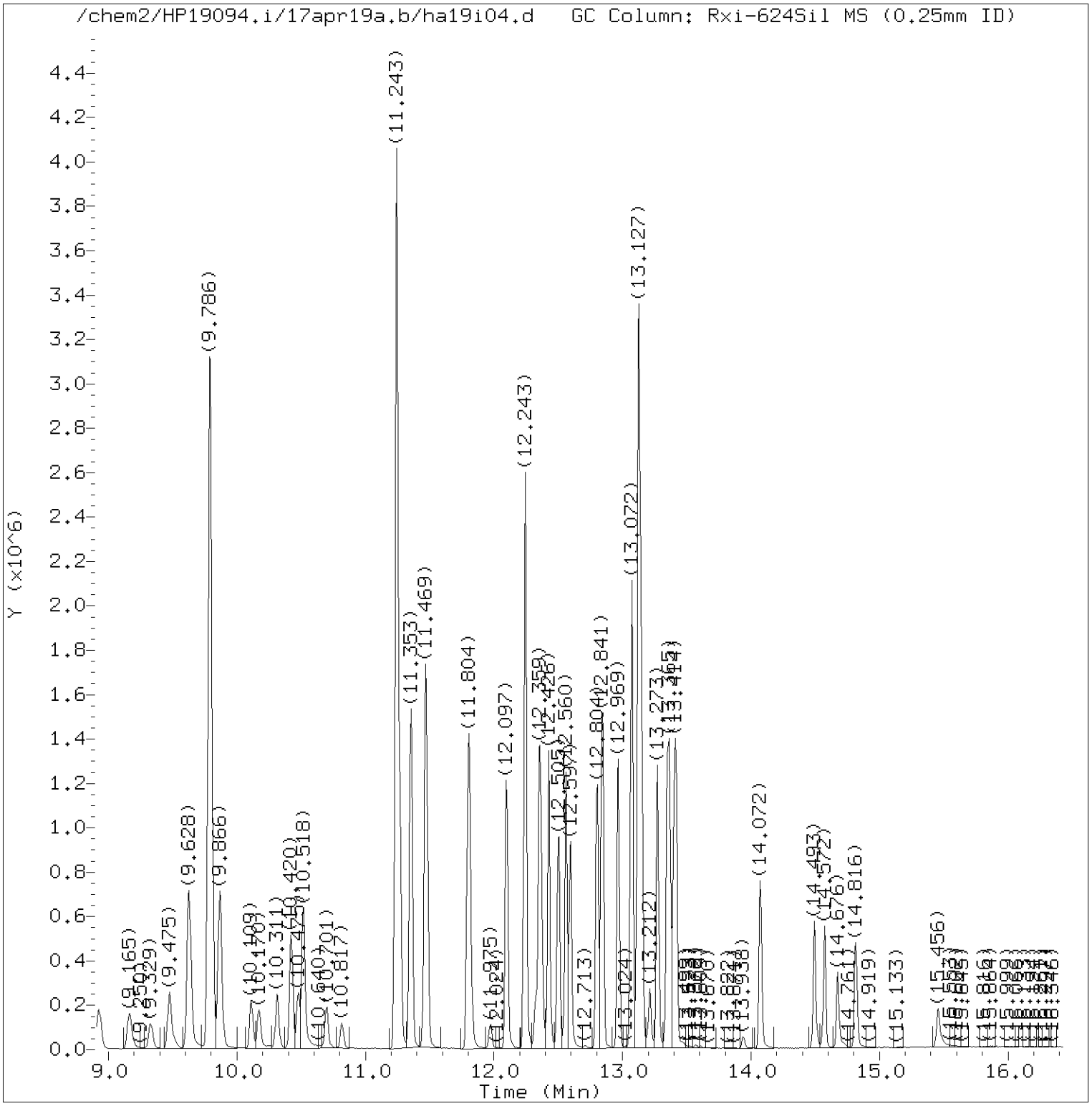
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	214933	2.092
2) Chloromethane	(2)	2.148	50	225851	2.094
5) Vinyl Chloride	(2)	2.288	62	199865	2.111
6) 1,3-Butadiene	(2)	2.300	39	345235	2.315
7) Bromomethane	(2)	2.617	94	125537	2.111
8) Chloroethane	(2)	2.727	64	108321	1.997
9) Dichlorofluoromethane	(2)	2.946	67	258118	2.068
10) Trichlorofluoromethane	(2)	3.032	101	222848	2.031
11) Ethyl ether	(2)	3.306	59	84043	1.933
12) Freon 123a	(2)	3.349	67	179587	2.169
13) Acrolein	(1)	3.458	56	511106	98.742
15) 1,1-Dichloroethene	(2)	3.617	96	126774	2.152
14) Acetone	(1)	3.623	43	121402	19.368
16) Freon 113	(2)	3.635	101	132614	2.138
17) Methyl Iodide	(2)	3.818	142	229743	2.099
18) Carbon Disulfide	(2)	3.940	76	351900	2.129
21) Methyl Acetate	(1)	4.062	43	35434	1.664
22) Allyl Chloride	(2)	4.098	41	224070	1.960
26)*t-Butyl Alcohol-d10	(1)	4.257	65	68028	50.000
23) Methylene Chloride	(2)	4.269	84	130911	2.034
28) t-Butyl Alcohol	(1)	4.379	59	73057	42.922
29) Acrylonitrile	(1)	4.598	53	88750	10.478
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	254578	2.156
31) trans-1,2-Dichloroethene	(2)	4.720	96	136501	2.098
32) n-Hexane	(2)	5.147	57	221575	2.221
33) 1,1-Dichloroethane	(2)	5.354	63	275757	2.148
34) di-Isopropyl Ether	(2)	5.415	45	464544	2.123
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	235409	2.170
37) Ethyl t-butyl ether	(2)	5.952	59	357666	2.126
40) 1,2-Dichloroethene (Total)	(2)		96	291974	4.238
38) 2-Butanone	(1)	6.122	43	271057	21.202
39) cis-1,2-Dichloroethene	(2)	6.177	96	155473	2.141
42) Propionitrile	(1)	6.189	54	122663	40.381
41) 2,2-Dichloropropane	(2)	6.196	77	206491	2.147
45) Methacrylonitrile	(1)	6.415	67	262452	20.665
47) Bromochloromethane	(2)	6.513	128	56709	1.975
48) Tetrahydrofuran	(1)	6.531	71	67886	21.255
49) Chloroform	(2)	6.659	83	255967	2.113

* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	596099	10.013
50)$Dibromofluoromethane	(2)	6.866	111	604932	9.893
51) 1,1,1-Trichloroethane	(2)	6.909	97	219568	2.128
52) Cyclohexane	(2)	7.031	56	271103	2.131
52) Cyclohexane	(2)	7.025	84	215212M	2.154
52) Cyclohexane	(2)	7.025	69	77017	2.158
55) 1,1-Dichloropropene	(2)	7.122	75	209573	2.187
54) Carbon Tetrachloride	(2)	7.128	117	189179	2.184
56) Isobutyl Alcohol	(1)	7.201	41	74392	101.284
57)$1,2-Dichloroethane-d4	(2)	7.336	102	92983	9.659
57)$1,2-Dichloroethane-d4	(2)	7.329	65	467588	9.979
57)$1,2-Dichloroethane-d4	(2)	7.317	104	52387	8.978
58) Benzene	(2)	7.378	78	590415	2.122
59) 1,2-Dichloroethane	(2)	7.433	62	138075	2.076
60) t-Amyl methyl ether	(2)	7.561	73	294416	2.152
63)*Fluorobenzene	(2)	7.775	96	2655800	10.000
62) n-Heptane	(2)	7.805	43	251776	2.144
65) n-Butanol	(1)	8.098	56	113225M	209.360
67) Trichloroethene	(2)	8.268	95	151791	2.061
70) 1,2-Dichloropropane	(2)	8.591	63	153366	2.114
69) Methylcyclohexane	(2)	8.598	83	256321	2.060
71) Methyl Methacrylate	(1)	8.665	69	50497	2.173
73) Dibromomethane	(2)	8.695	93	58111	2.078
72) 1,4-Dioxane	(1)	8.726	88	15642A	116.750
74) Bromodichloromethane	(2)	8.927	83	162841	2.126
76) 2-Nitropropane	(1)	9.165	41	156496	20.423
80) cis-1,3-Dichloropropene	(2)	9.475	75	185134	2.144
81) 4-Methyl-2-Pentanone	(1)	9.628	43	705793A	20.834
82)$Toluene-d8	(3)	9.786	98	2590118	9.552
82)$Toluene-d8	(3)	9.786	100	1662193	9.520
83) Toluene	(3)	9.866	92	363552	2.029
84) trans-1,3-Dichloropropene	(3)	10.109	75	135993	1.948
85) 1,3-Dichloropropene (total)	(3)		75	321127	4.092
86) Ethyl Methacrylate	(3)	10.170	69	108084	2.093
88) 1,1,2-Trichloroethane	(3)	10.311	97	84724	2.036
89) Tetrachloroethene	(3)	10.426	166	172348	2.074
90) 1,3-Dichloropropane	(3)	10.475	76	150411	2.019
91) 2-Hexanone	(1)	10.518	43	531567	22.264

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.701	129	103122	2.091
95) 1,2-Dibromoethane	(3)	10.817	107	83577	2.123
97)*Chlorobenzene-d5	(3)	11.243	117	1854966	10.000
98) Chlorobenzene	(3)	11.268	112	417252	2.136
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	137269	2.110
100) Ethylbenzene	(3)	11.359	91	751832	2.165
101) m+p-Xylene	(3)	11.469	106	577164	4.372
105) Xylene (Total)	(3)		106	857089	6.579
104) o-Xylene	(3)	11.798	106	279925	2.208
106) Styrene	(3)	11.816	104	433158	2.218
107) Bromoform	(3)	11.975	173	54776	2.224
108) Isopropylbenzene	(3)	12.097	105	730153	2.201
111)$4-Bromofluorobenzene	(3)	12.243	95	780719	10.134
111)$4-Bromofluorobenzene	(3)	12.243	174	691175	10.080
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	104644	2.052
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	188111M	20.914
114) Bromobenzene	(4)	12.359	156	165563	2.129
116) 1,2,3-Trichloropropane	(4)	12.377	110	26520	2.078
117) n-Propylbenzene	(4)	12.426	91	911475	2.192
119) 2-Chlorotoluene	(4)	12.505	126	169029	2.150
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	614947	2.198
122) 4-Chlorotoluene	(4)	12.597	126	172657	2.184
125) tert-Butylbenzene	(4)	12.804	134	135295	2.226
126) Pentachloroethane	(4)	12.835	167	89686	1.976
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	619265	2.221
128) sec-Butylbenzene	(4)	12.969	105	797302	2.187
131) 1,3-Dichlorobenzene	(4)	13.066	146	321679	2.105
132) p-Isopropyltoluene	(4)	13.072	119	667388	2.237
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	790252	10.000
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	246842	2.008
134) 1,4-Dichlorobenzene	(4)	13.145	146	333573	2.095
136) Benzyl Chloride	(4)	13.212	126	35310	2.197
138) n-Butylbenzene	(4)	13.365	92	336964	2.300
139) 1,2-Dichlorobenzene	(4)	13.401	146	289413	2.133
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	10984	2.189
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	182178	2.082
146) Hexachlorobutadiene	(4)	14.572	225	93394	2.155
147) Naphthalene	(4)	14.676	128	270419	2.100

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

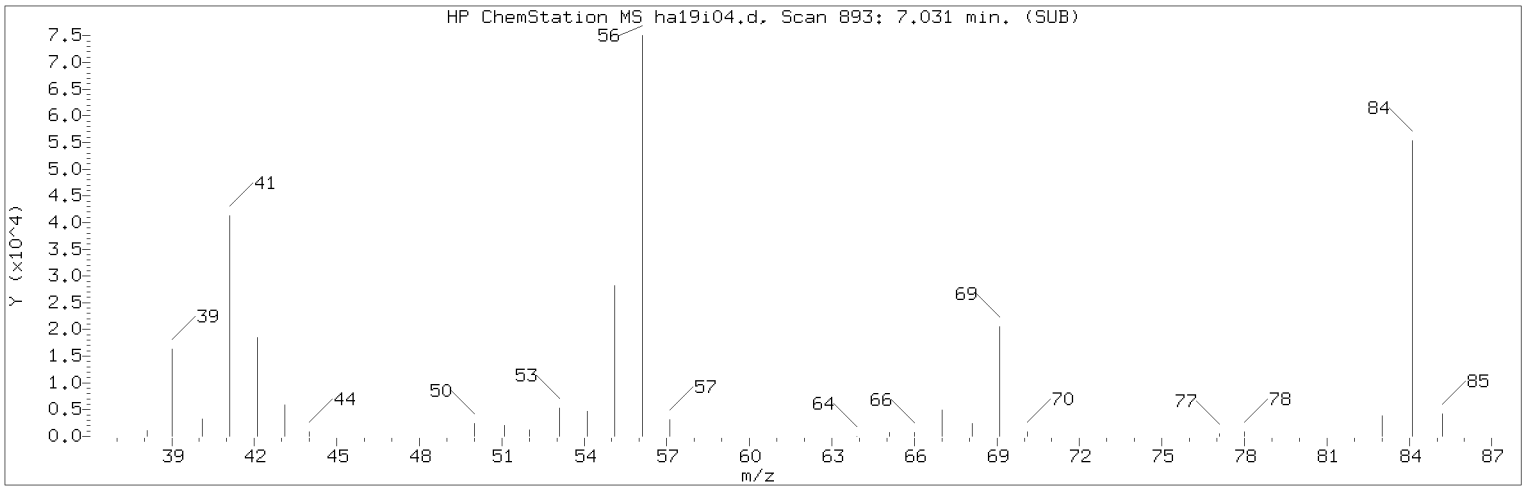
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

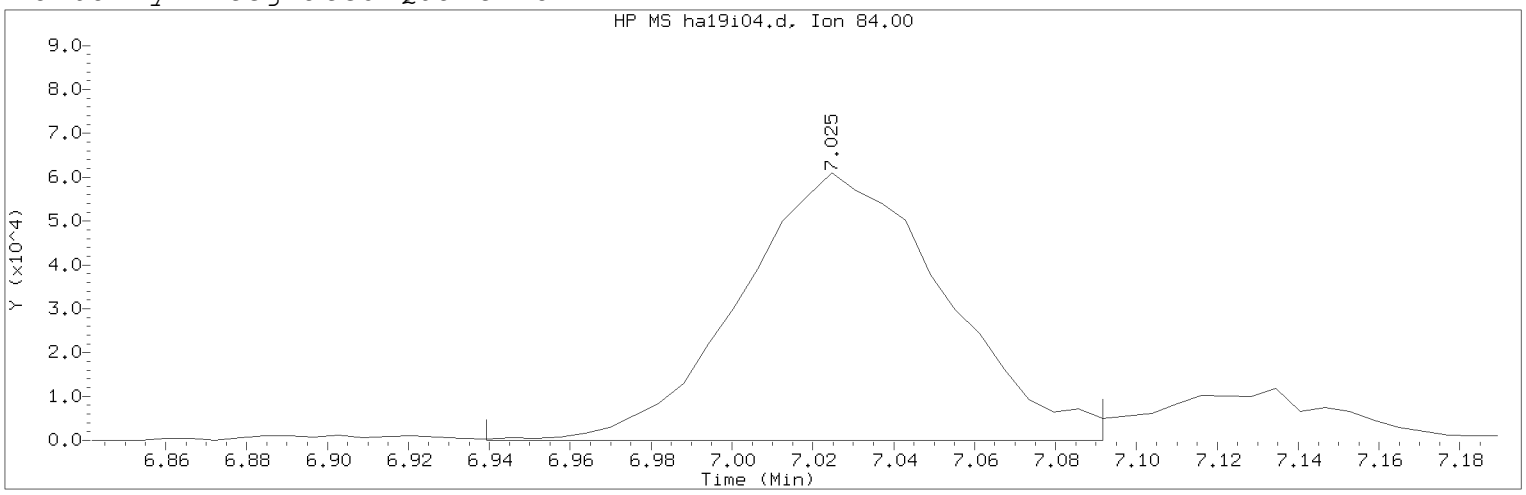
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	158250	2.140

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

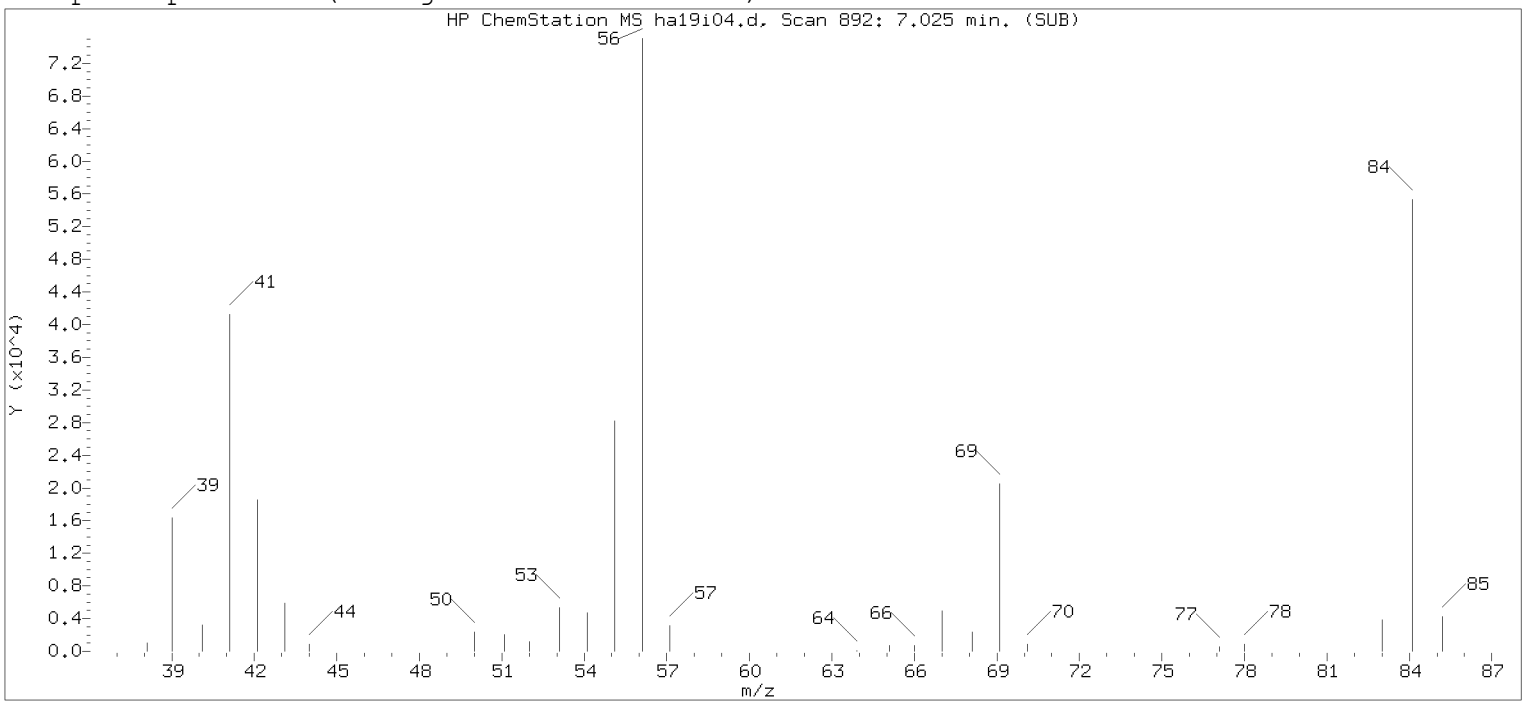
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 892
Retention Time (minutes): 7.025
Quant Ion : 84.00
Area (flag) : 215212M
On-Column Amount (ng) : 2.1543
Integration start scan : 877 Integration stop scan: 902
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

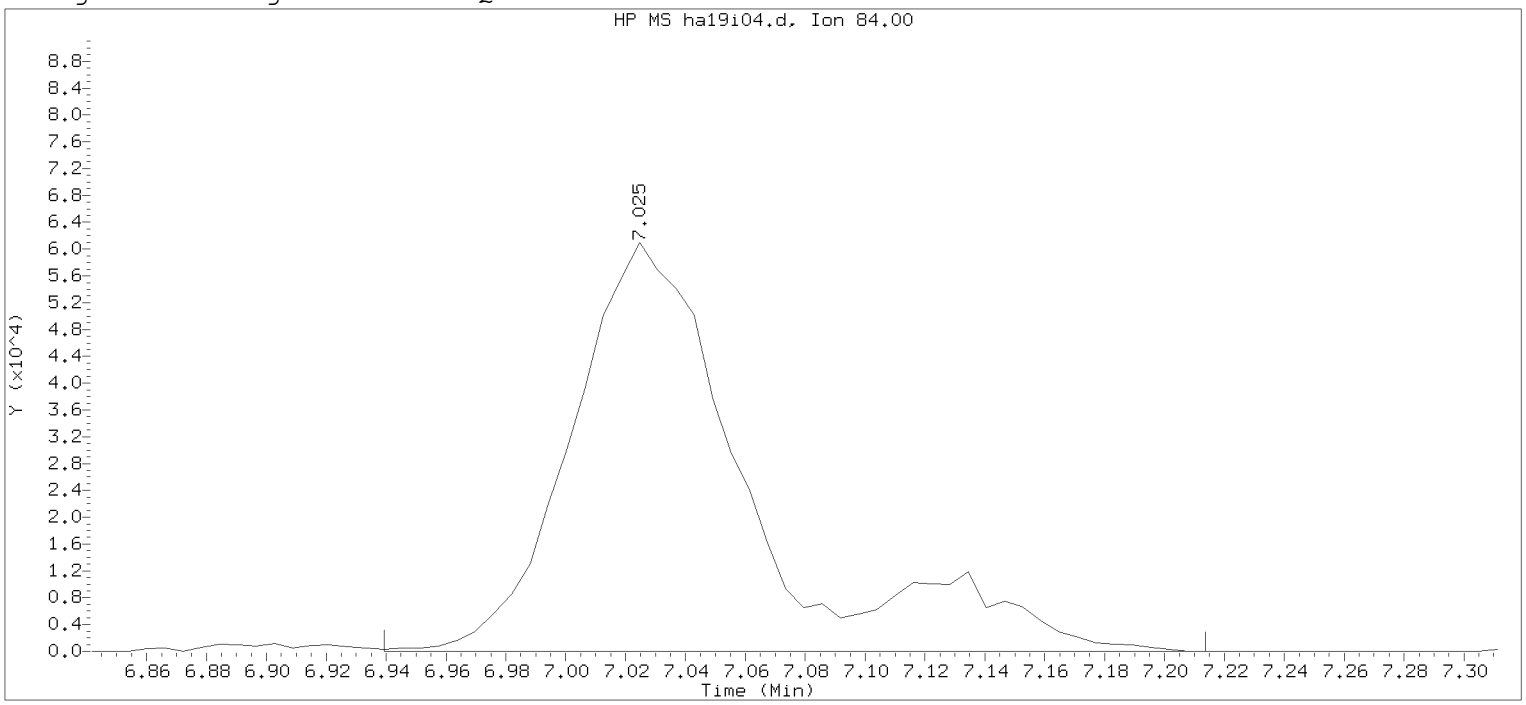
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

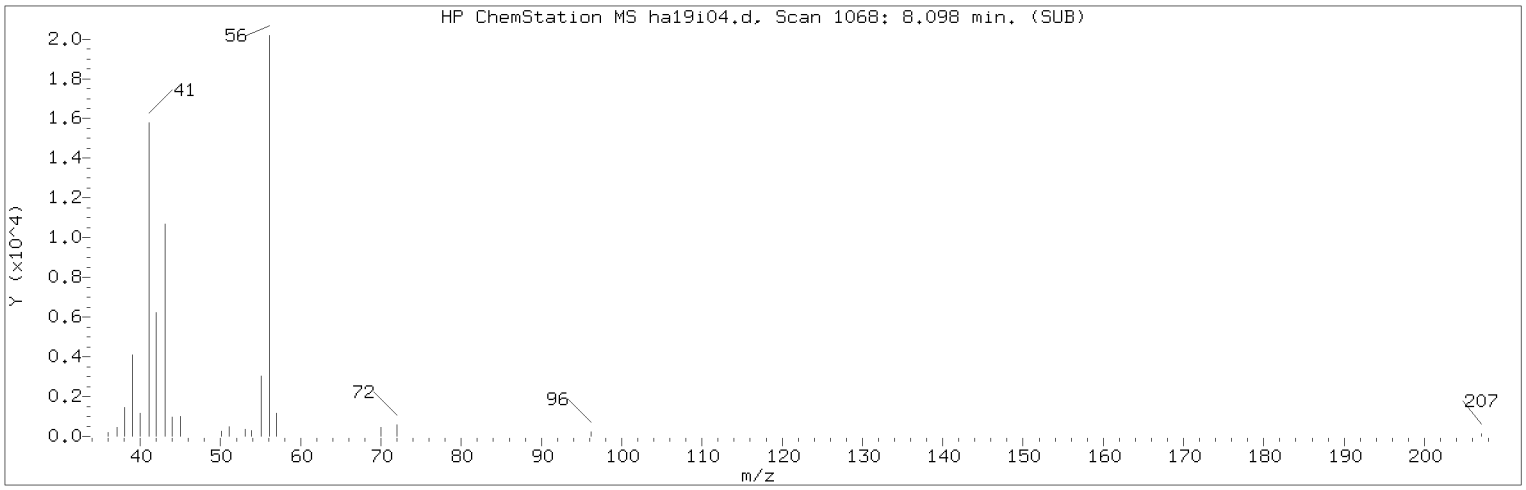
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

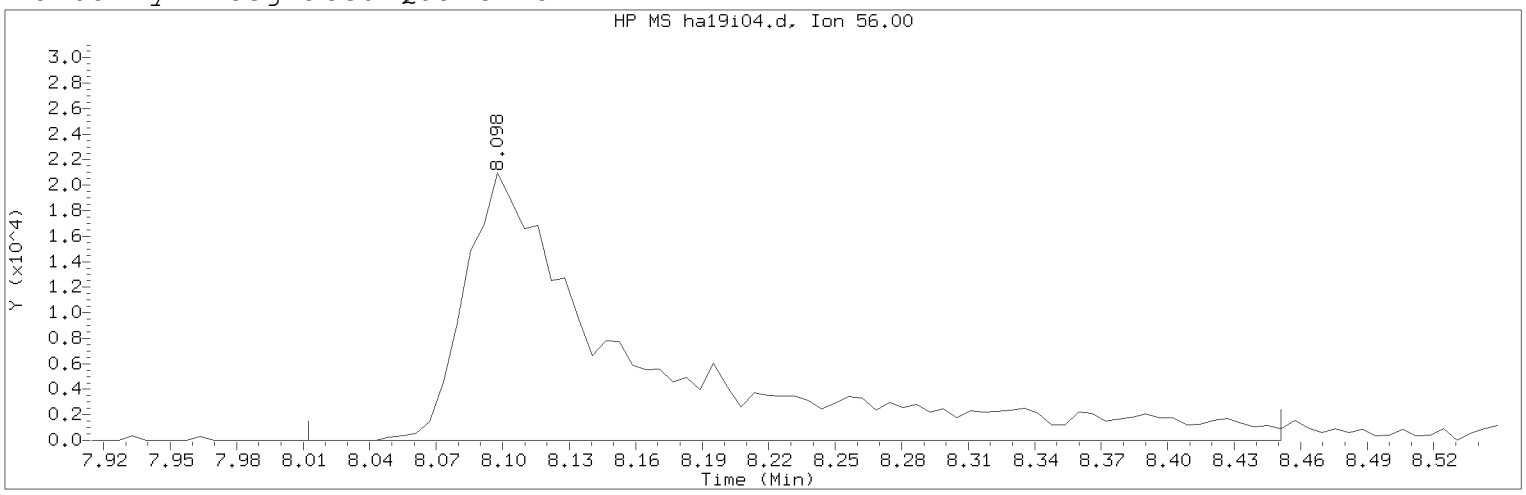
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 892
Retention Time (minutes): 7.025
Quant Ion : 84.00
Area : 250410
On-column Amount (ng) : 2.2933
Integration start scan : 877 Integration stop scan: 922
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@ae

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

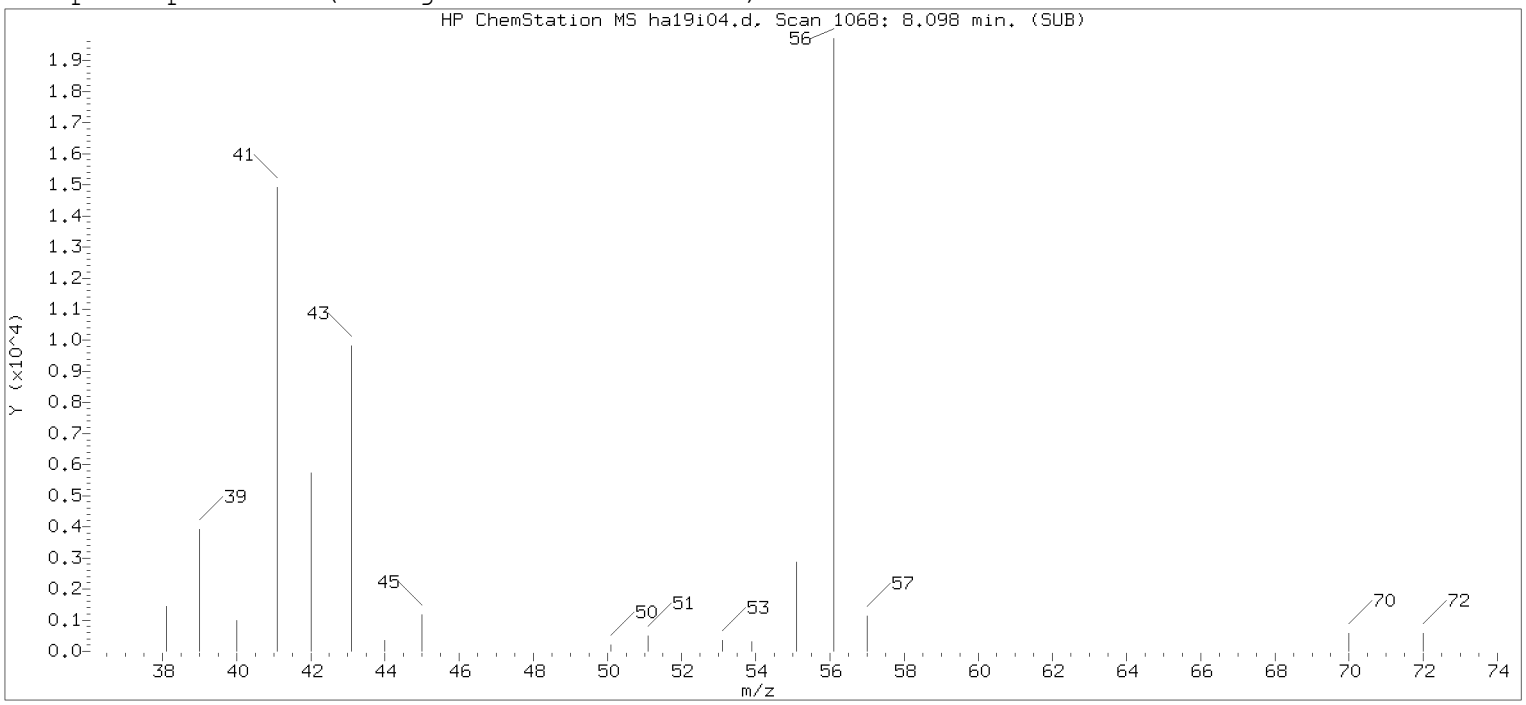
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1068
Retention Time (minutes): 8.098
Quant Ion : 56.00
Area (flag) : 113225M
On-Column Amount (ng) : 209.3599
Integration start scan : 1053 Integration stop scan: 1125
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

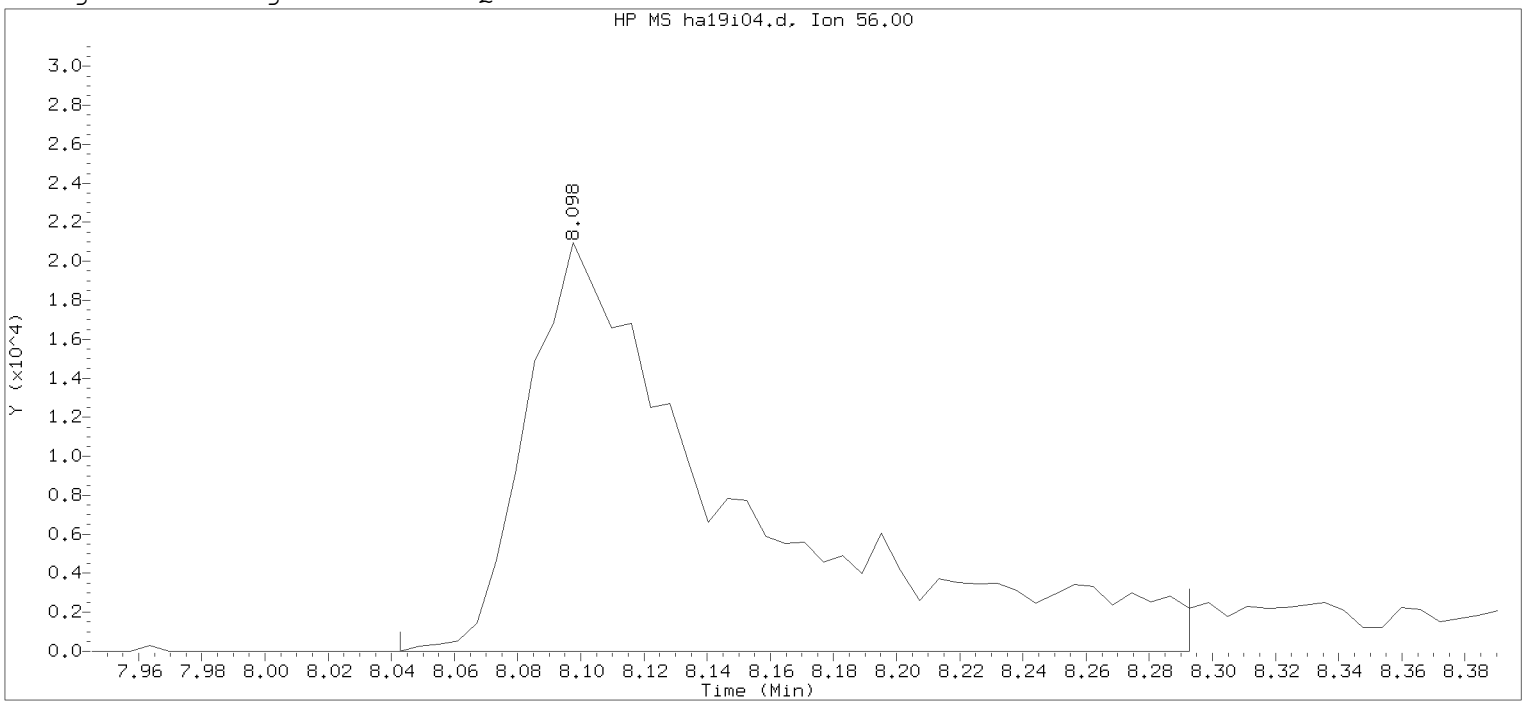
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

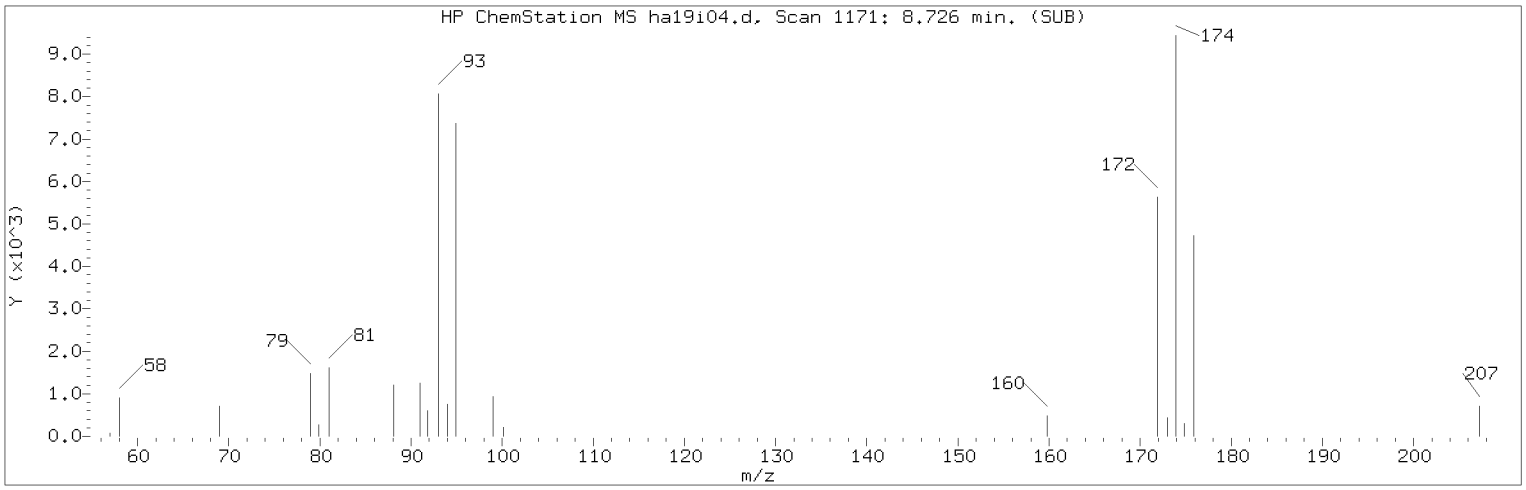
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

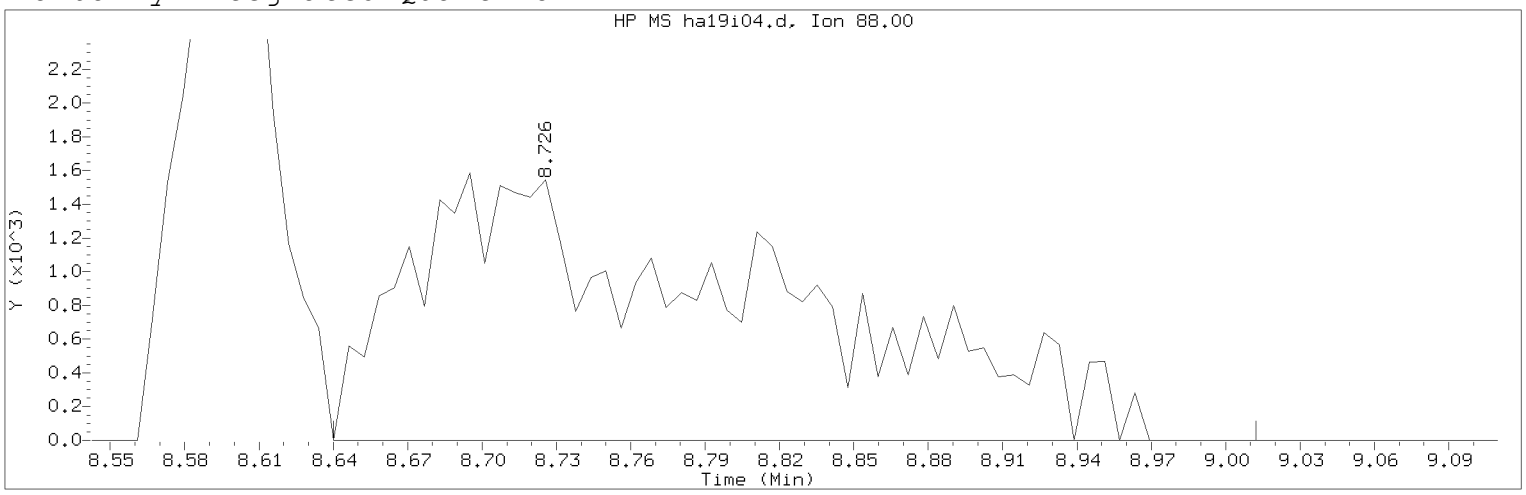
Compound Number	: 65		
Compound Name	: n-Butanol		
Scan Number	: 1068		
Retention Time (minutes)	: 8.098		
Quant Ion	: 56.00		
Area	: 96156		
On-column Amount (ng)	: 198.9785		
Integration start scan	: 1058	Integration stop scan	: 1099
Y at integration start	: 0	Y at integration end	: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

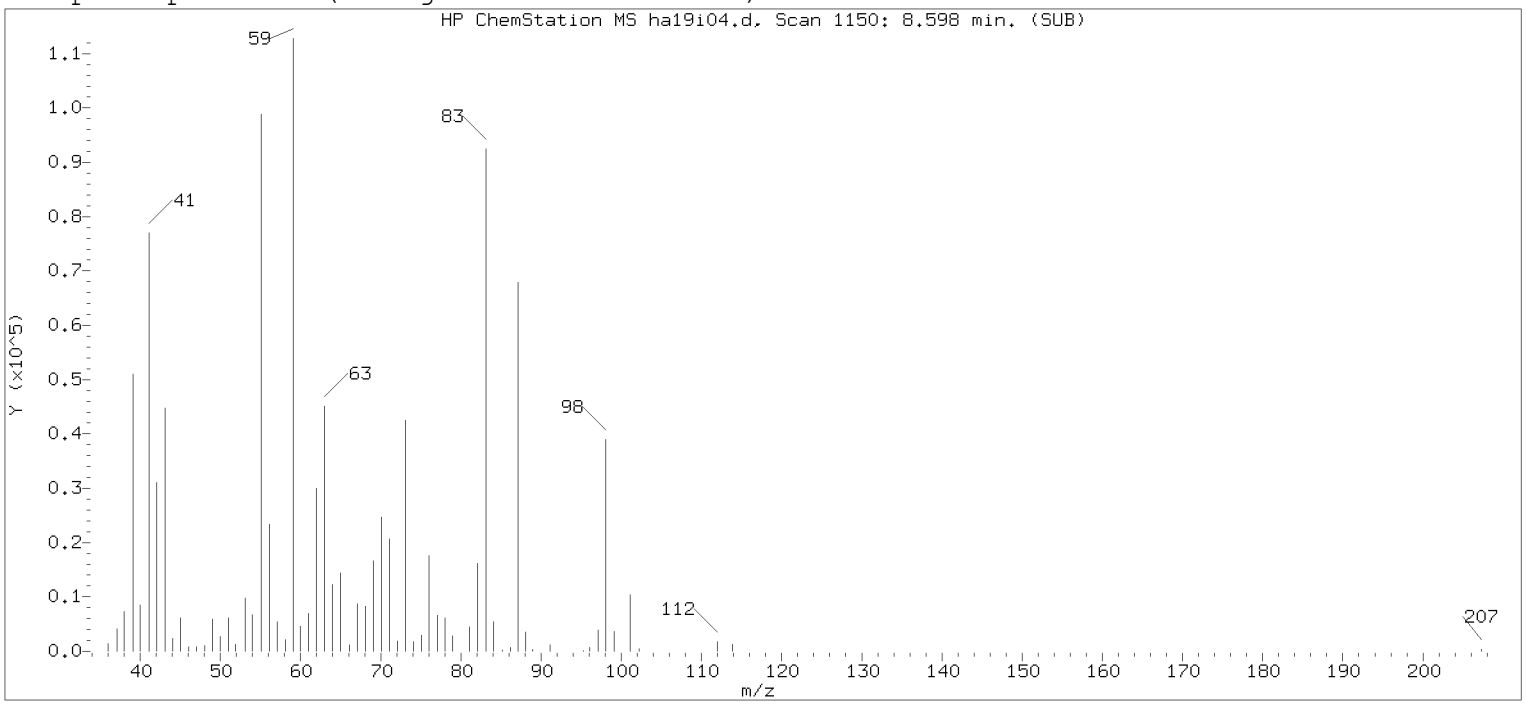
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1171
Retention Time (minutes): 8.726
Quant Ion : 88.00
Area (flag) : 15642A
On-Column Amount (ng) : 116.7502
Integration start scan : 1156 Integration stop scan: 1217
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

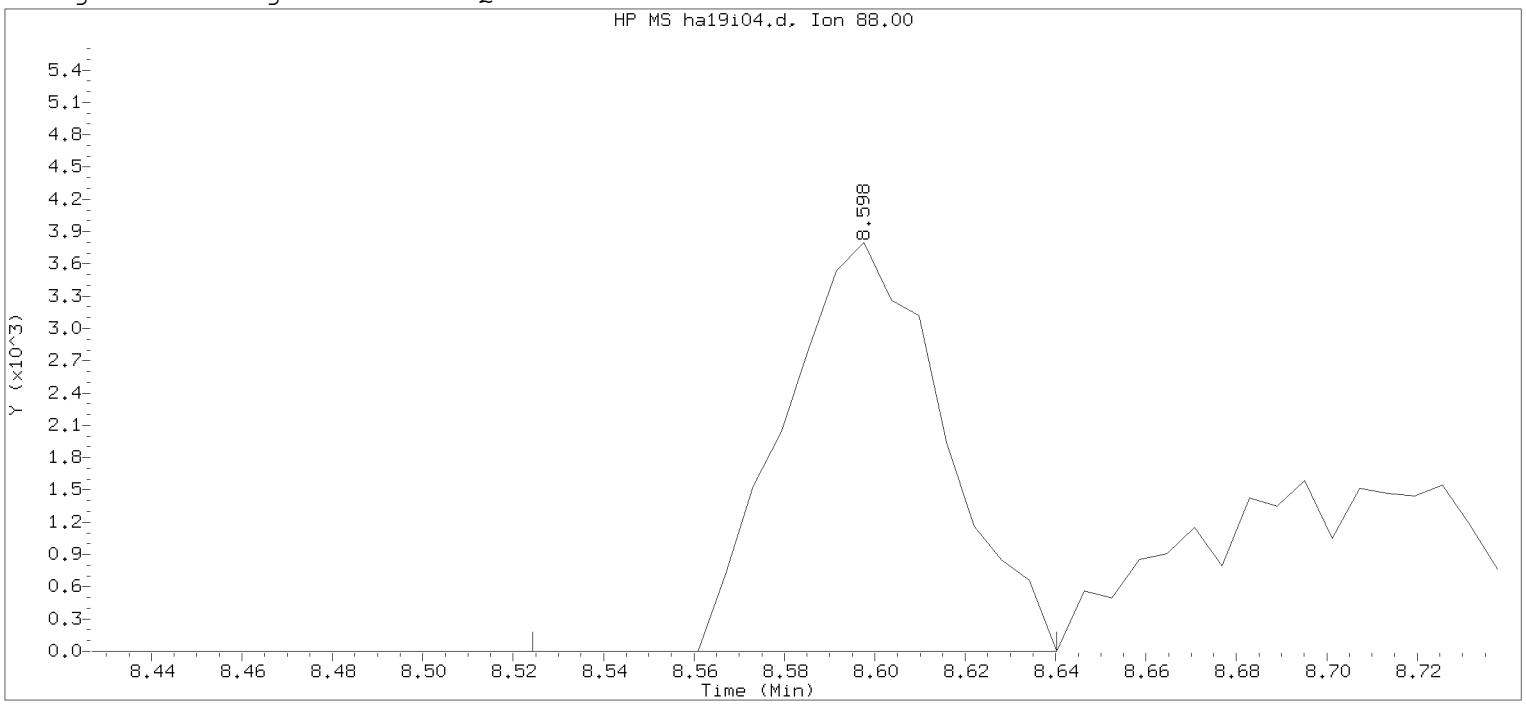
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

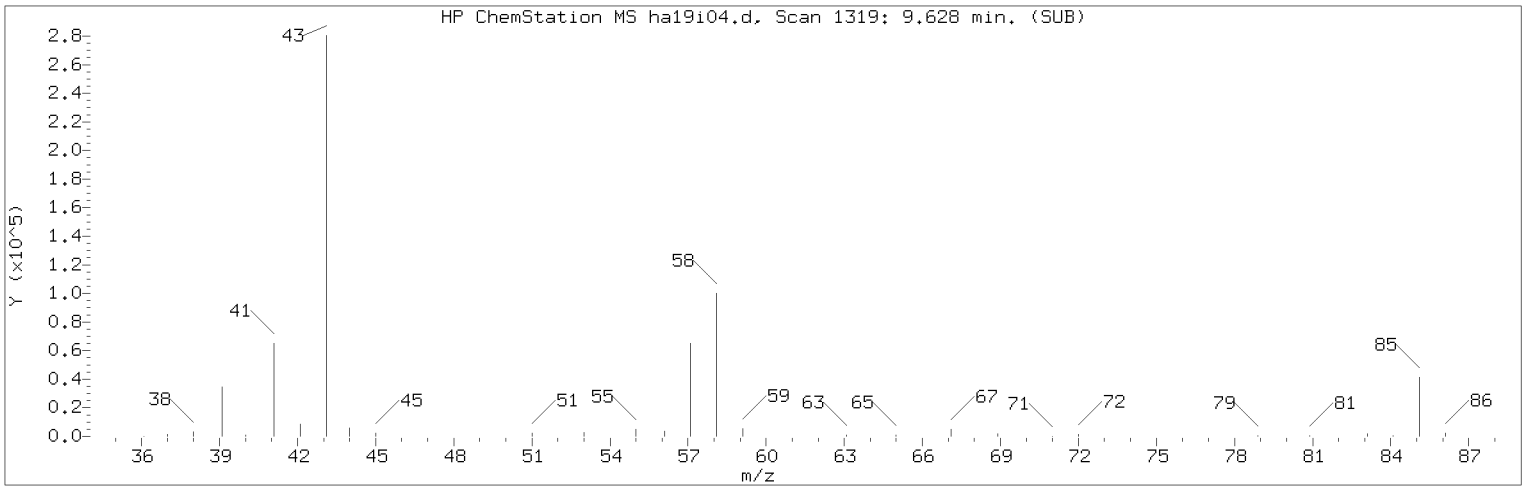
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

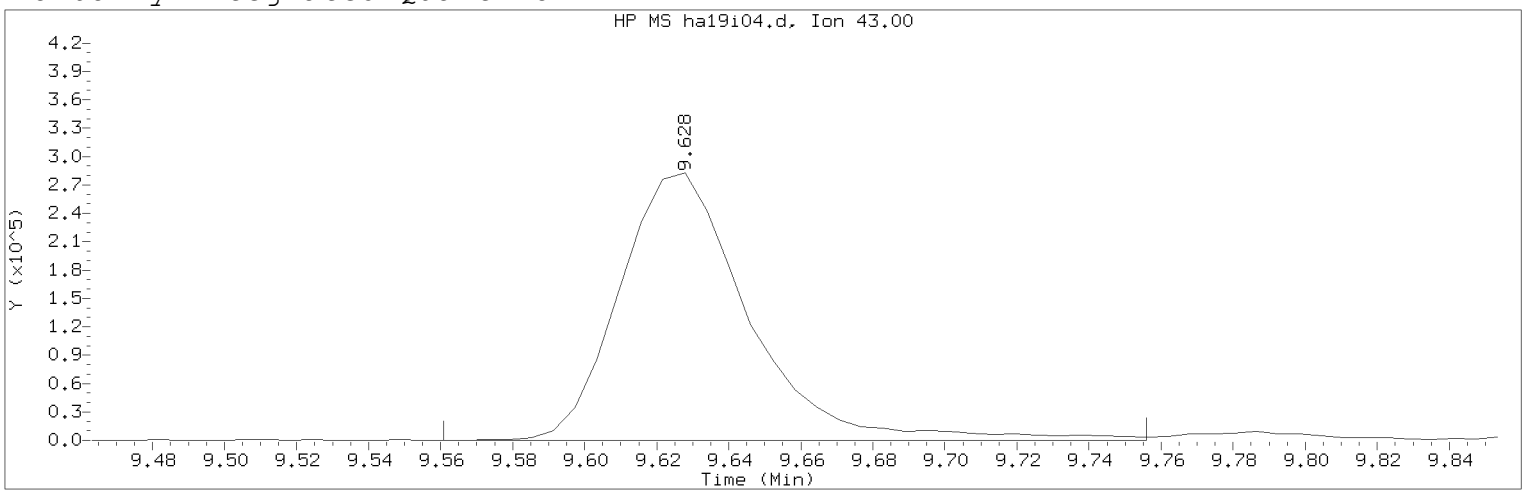
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 9294
On-column Amount (ng) : 68.1186
Integration start scan : 1137 Integration stop scan: 1156
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user name: kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

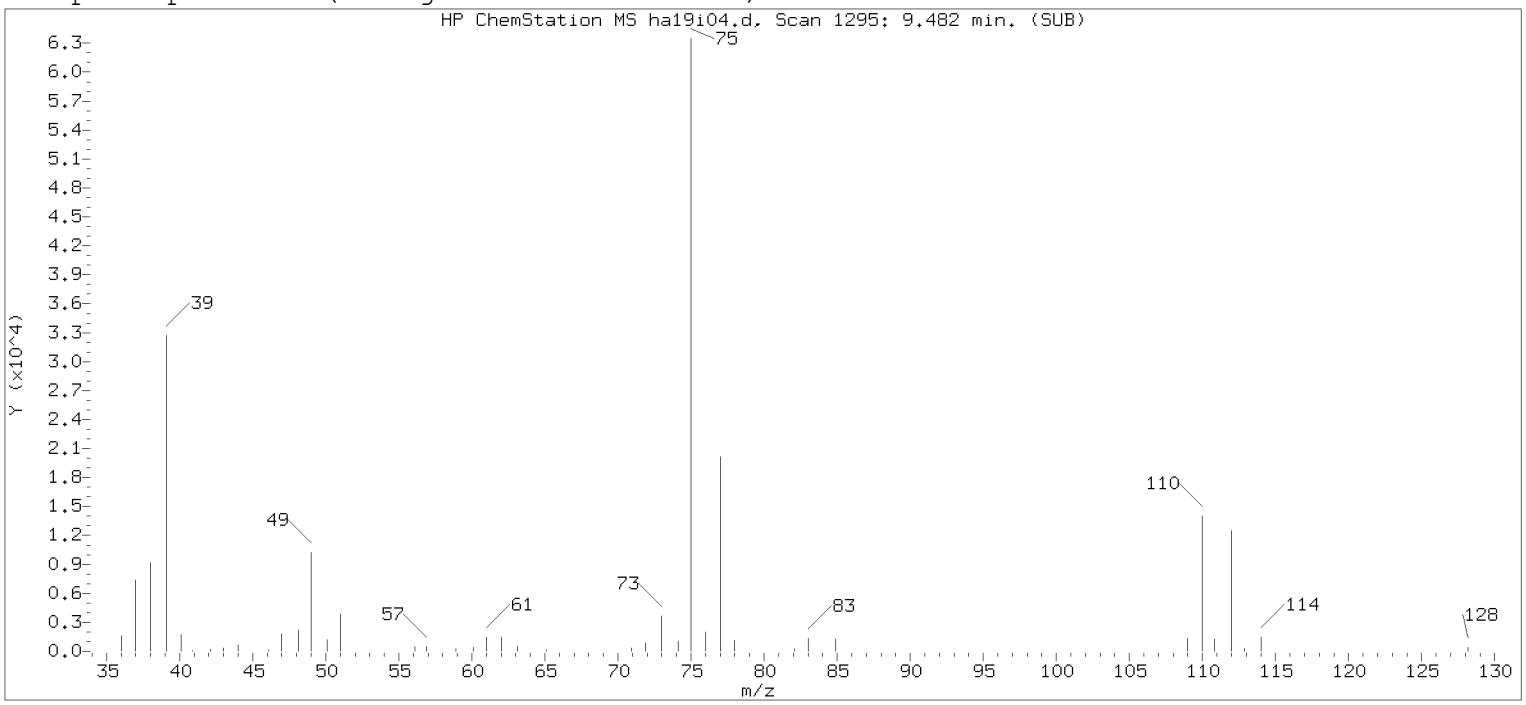
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area (flag) : 705793A
On-Column Amount (ng) : 20.8337
Integration start scan : 1307 Integration stop scan: 1339
Y at integration start : 0 Y at integration end: 63

Reason for manual integration: improper integration

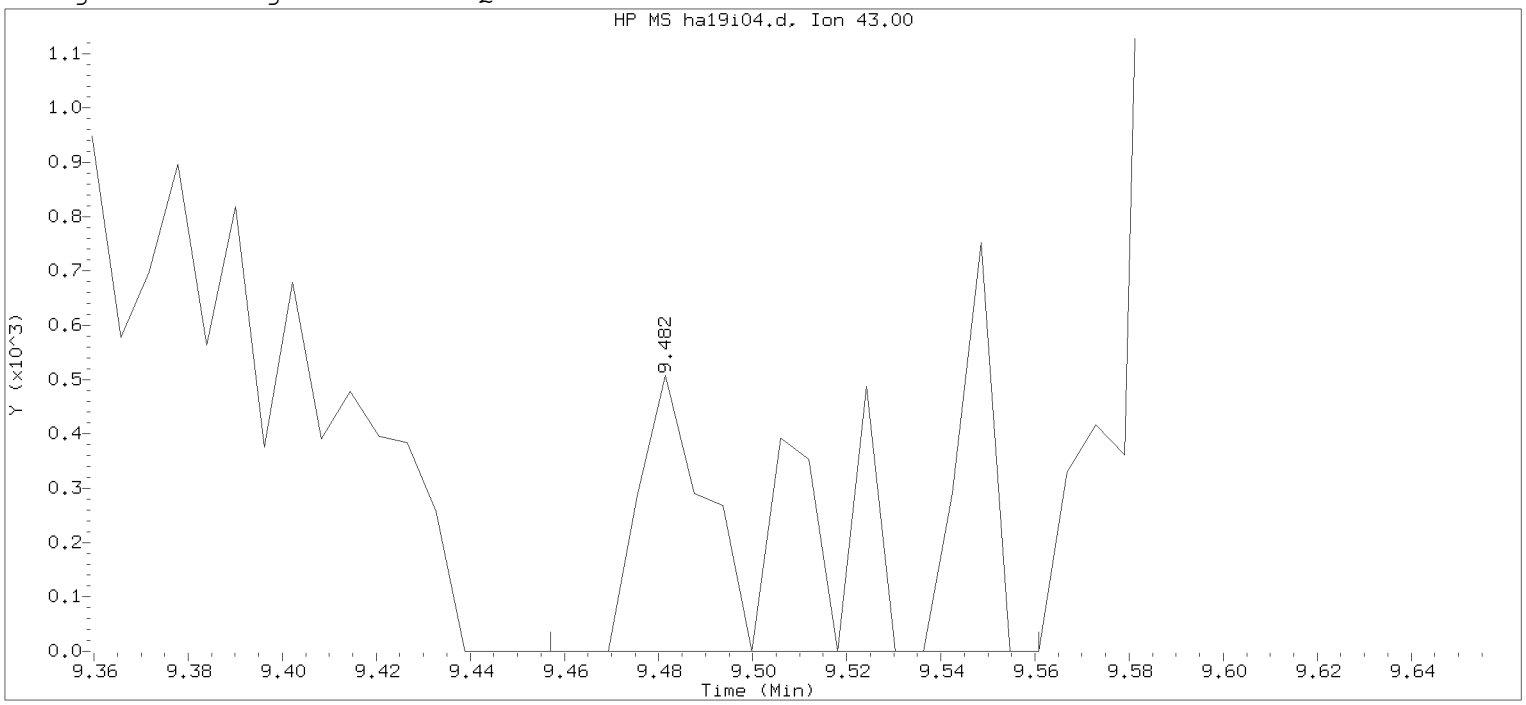
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

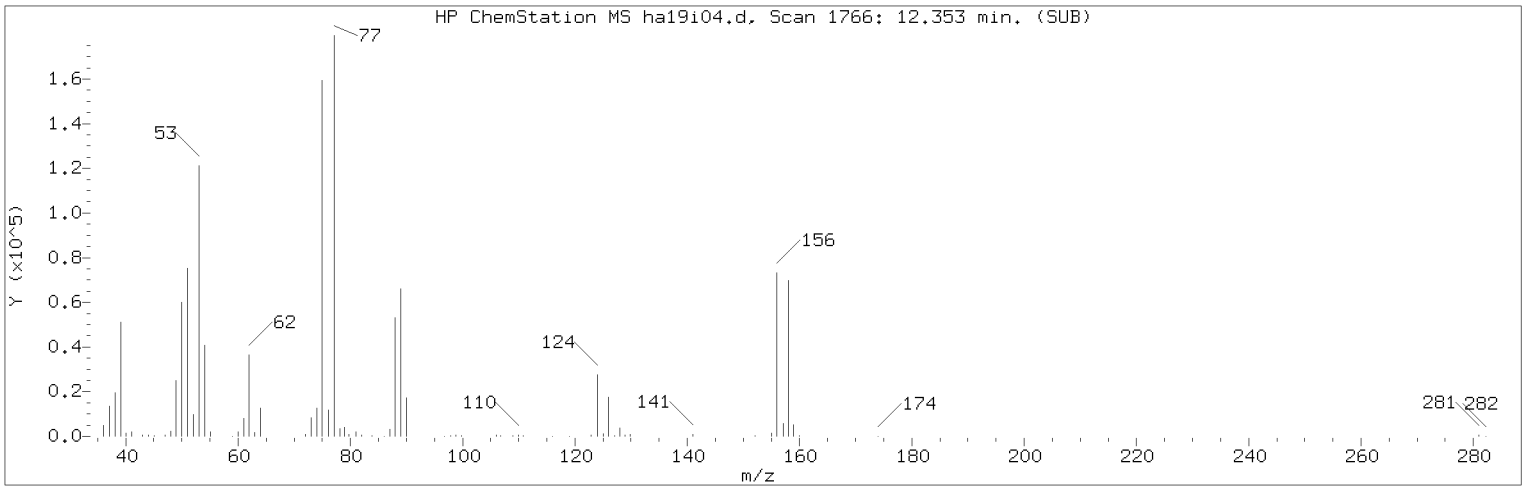
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

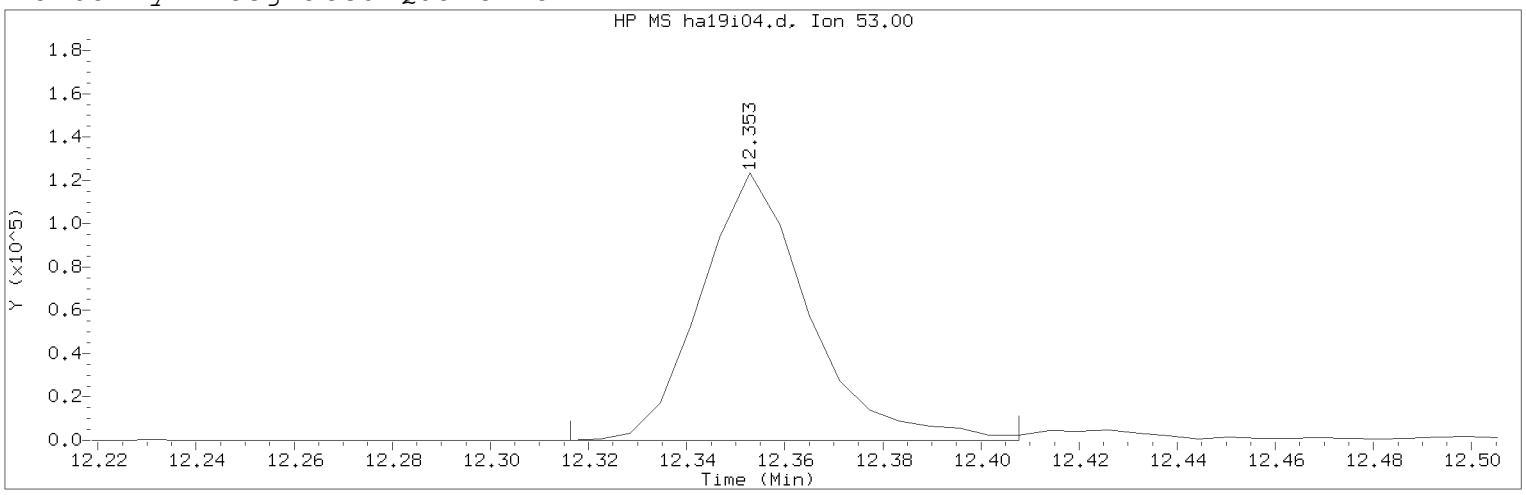
Compound Number	: 81		
Compound Name	: 4-Methyl-2-Pentanone		
Scan Number	: 1295		
Retention Time (minutes)	: 9.482		
Quant Ion	: 43.00		
Area	: 1327		
On-column Amount (ng)	: 0.0489		
Integration start scan	: 1290	Integration stop scan	: 1307
Y at integration start	: 0	Y at integration end	: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

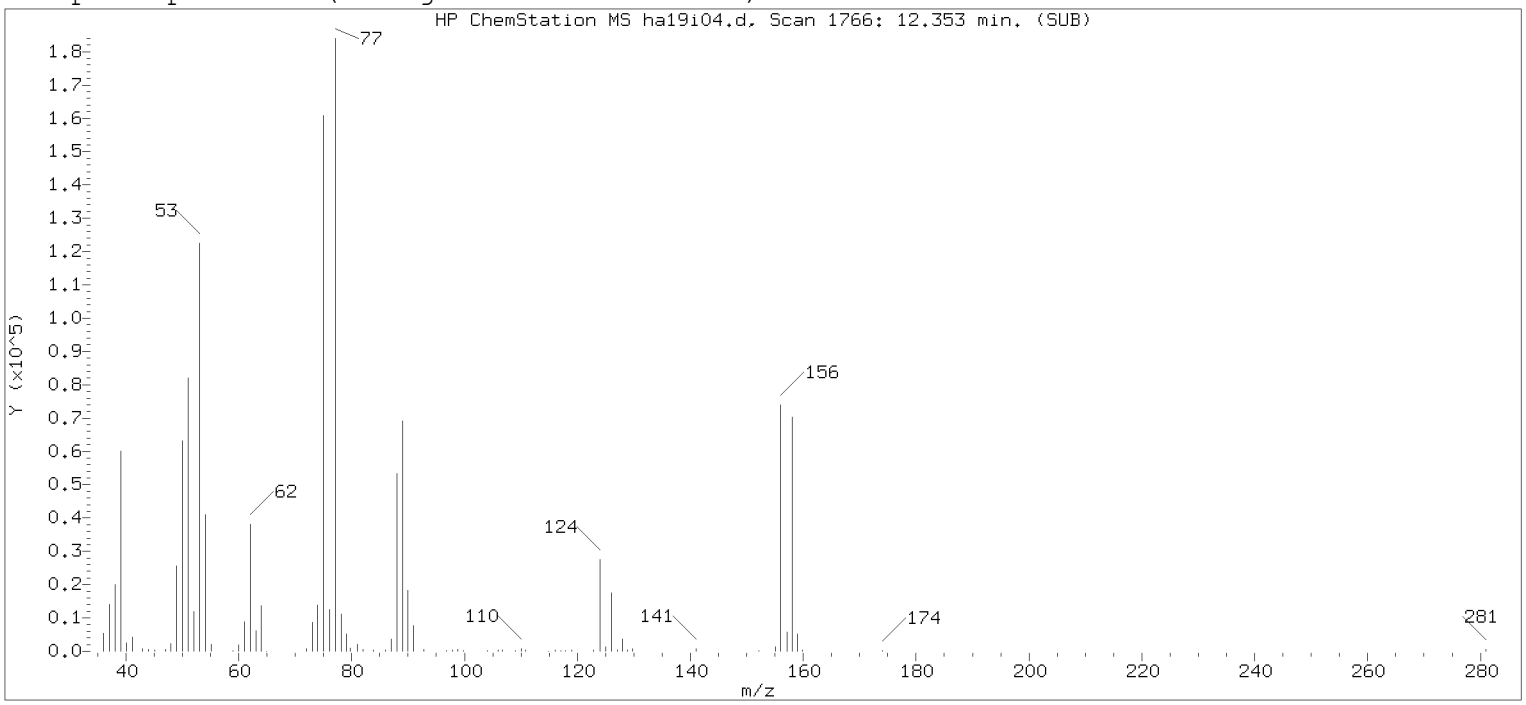
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 188111M
On-Column Amount (ng) : 20.9138
Integration start scan : 1759 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

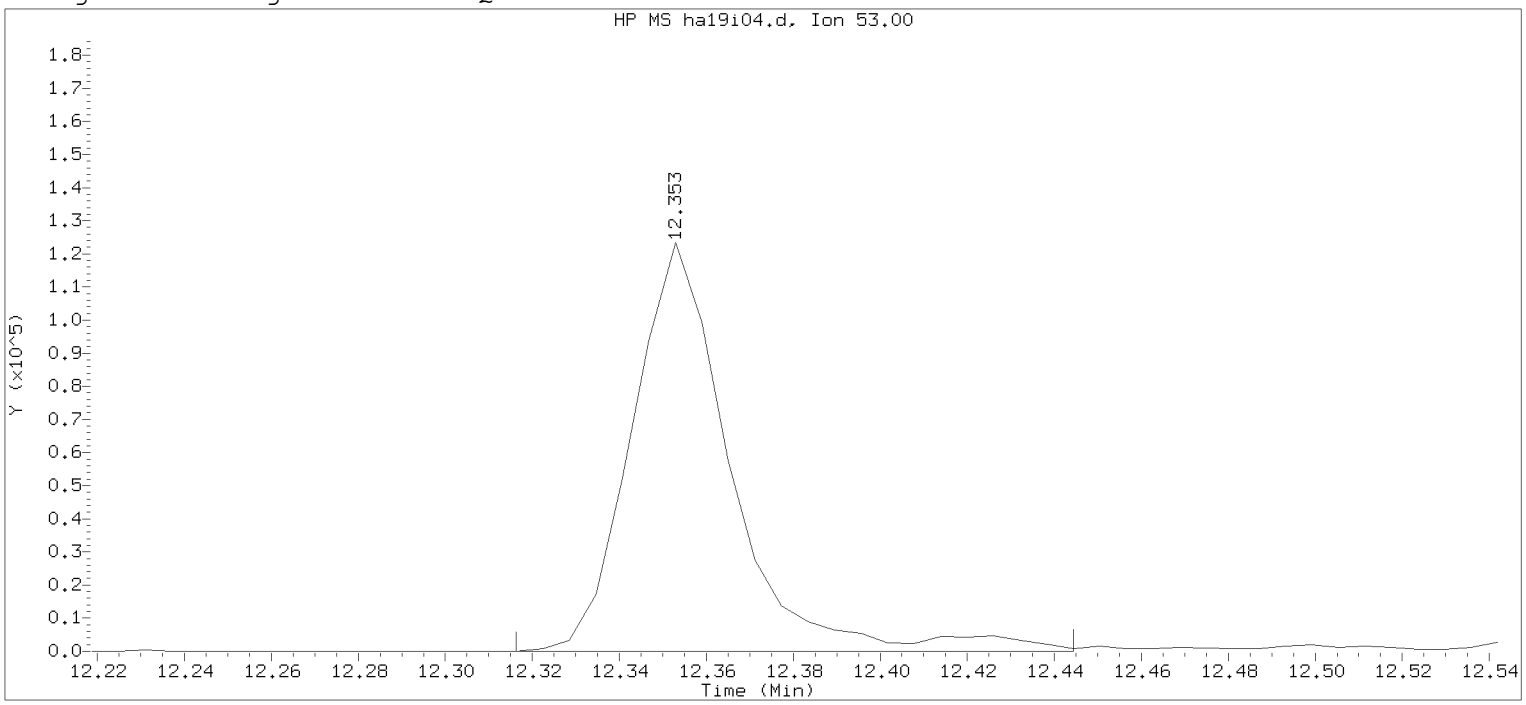
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



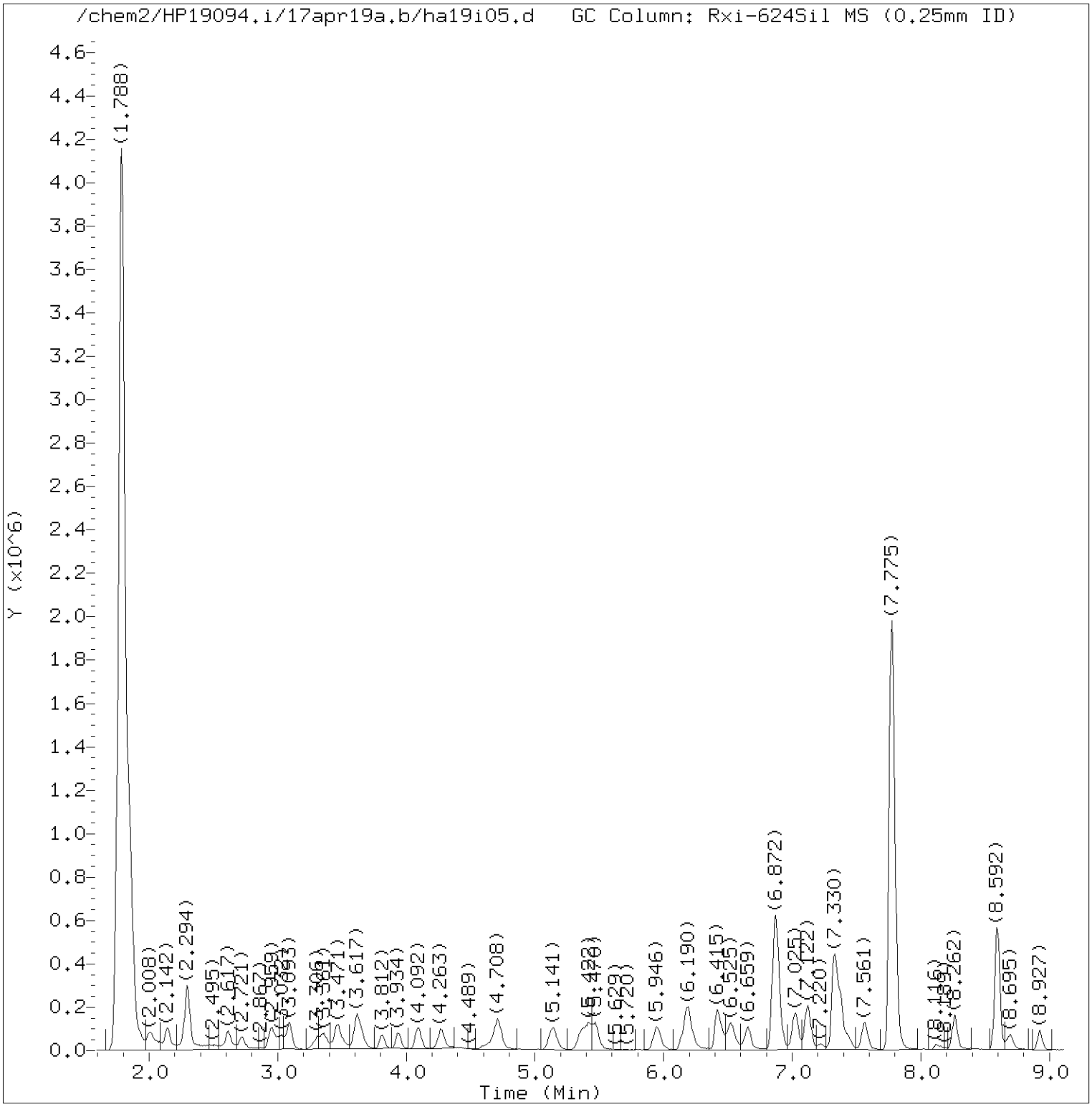
Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area : 195033
On-column Amount (ng) : 43.4217
Integration start scan : 1759 Integration stop scan: 1780
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kevin.sposito



Total Ion Chromatogram (TIC)

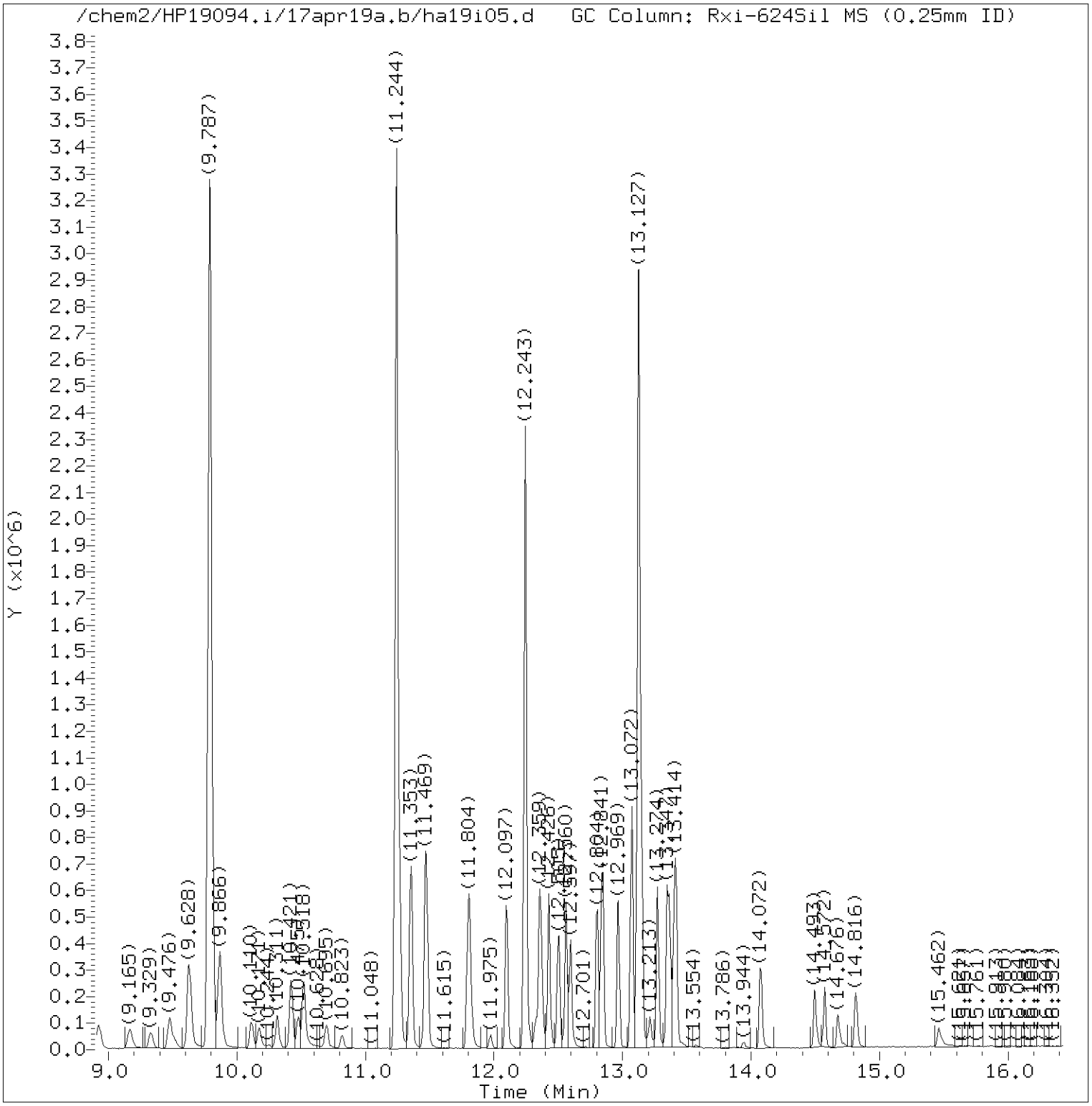
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	121714	1.128
2) Chloromethane	(2)	2.142	50	118684	1.048
5) Vinyl Chloride	(2)	2.276	62	105428	1.060
6) 1,3-Butadiene	(2)	2.300	39	167328	1.068
7) Bromomethane	(2)	2.611	94	67092	1.074
8) Chloroethane	(2)	2.727	64	58245	1.023
9) Dichlorofluoromethane	(2)	2.952	67	142043	1.084
10) Trichlorofluoromethane	(2)	3.038	101	127050	1.103
11) Ethyl ether	(2)	3.294	59	50130	1.098
12) Freon 123a	(2)	3.349	67	93440	1.075
13) Acrolein	(1)	3.465	56	250827	53.108
15) 1,1-Dichloroethene	(2)	3.611	96	64526	1.043
16) Freon 113	(2)	3.635	101	70371	1.081
14) Acetone	(1)	3.635	43	61987	10.838
17) Methyl Iodide	(2)	3.812	142	116892	1.017
18) Carbon Disulfide	(2)	3.934	76	177132	1.020
21) Methyl Acetate	(1)	4.080	43	24125	1.241
22) Allyl Chloride	(2)	4.092	41	124858	1.040
23) Methylene Chloride	(2)	4.269	84	67736	1.003
26)*t-Butyl Alcohol-d10	(1)	4.300	65	62071M	50.000
28) t-Butyl Alcohol	(1)	4.416	59	30393M	19.570
29) Acrylonitrile	(1)	4.598	53	42204	5.461
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	122889	0.991
31) trans-1,2-Dichloroethene	(2)	4.714	96	69423	1.016
32) n-Hexane	(2)	5.153	57	104987	1.002
33) 1,1-Dichloroethane	(2)	5.354	63	139552	1.035
34) di-Isopropyl Ether	(2)	5.409	45	226580	0.986
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	114878	1.009
37) Ethyl t-butyl ether	(2)	5.952	59	176241	0.998
40) 1,2-Dichloroethene (Total)	(2)		96	147248	2.037
38) 2-Butanone	(1)	6.135	43	117940	10.110
39) cis-1,2-Dichloroethene	(2)	6.177	96	77825	1.020
41) 2,2-Dichloropropane	(2)	6.202	77	104301	1.033
42) Propionitrile	(1)	6.226	54	54150	19.537
45) Methacrylonitrile	(1)	6.421	67	122705	10.589
47) Bromochloromethane	(2)	6.525	128	31822	1.055
48) Tetrahydrofuran	(1)	6.531	71	31230	10.717
49) Chloroform	(2)	6.659	83	127278	1.001

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.866	113	605676	9.689
50)$Dibromofluoromethane	(2)	6.872	111	619445	9.648
51) 1,1,1-Trichloroethane	(2)	6.903	97	108634	1.003
52) Cyclohexane	(2)	7.031	56	134088	1.004
52) Cyclohexane	(2)	7.025	84	107796	1.050
52) Cyclohexane	(2)	7.031	69	38267	1.021
55) 1,1-Dichloropropene	(2)	7.122	75	102369	1.018
54) Carbon Tetrachloride	(2)	7.128	117	93602	1.029
56) Isobutyl Alcohol	(1)	7.232	41	35056	52.309
57)$1,2-Dichloroethane-d4	(2)	7.324	102	100320	9.925
57)$1,2-Dichloroethane-d4	(2)	7.330	65	489559	9.950
57)$1,2-Dichloroethane-d4	(2)	7.330	104	62123	10.140
58) Benzene	(2)	7.378	78	296353	1.014
59) 1,2-Dichloroethane	(2)	7.427	62	73001	1.045
60) t-Amyl methyl ether	(2)	7.567	73	144225	1.004
63)*Fluorobenzene	(2)	7.775	96	2788645	10.000
62) n-Heptane	(2)	7.799	43	126399	1.025
65) n-Butanol	(1)	8.122	56	40434M	81.940
67) Trichloroethene	(2)	8.262	95	79402	1.027
70) 1,2-Dichloropropane	(2)	8.586	63	76486	1.004
69) Methylcyclohexane	(2)	8.598	83	133848	1.025
71) Methyl Methacrylate	(1)	8.671	69	22174M	1.046
73) Dibromomethane	(2)	8.695	93	29335	0.999
72) 1,4-Dioxane	(1)	8.695	88	6215M	49.018
74) Bromodichloromethane	(2)	8.927	83	81025	1.007
76) 2-Nitropropane	(1)	9.171	41	73784	10.553
80) cis-1,3-Dichloropropene	(2)	9.476	75	87425	0.964
81) 4-Methyl-2-Pentanone	(1)	9.628	43	324011	10.482
82)$Toluene-d8	(3)	9.787	98	2672599	10.623
82)$Toluene-d8	(3)	9.787	100	1717313	10.600
83) Toluene	(3)	9.866	92	179589	1.080
84) trans-1,3-Dichloropropene	(3)	10.110	75	65238	1.007
85) 1,3-Dichloropropene (total)	(3)		75	152663	1.971
86) Ethyl Methacrylate	(3)	10.171	69	45380	0.947
88) 1,1,2-Trichloroethane	(3)	10.311	97	41372	1.071
89) Tetrachloroethene	(3)	10.421	166	83314	1.081
90) 1,3-Dichloropropane	(3)	10.481	76	71755	1.038
91) 2-Hexanone	(1)	10.518	43	231090	10.608

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	46004	1.005
95) 1,2-Dibromoethane	(3)	10.823	107	36855	1.009
97)*Chlorobenzene-d5	(3)	11.244	117	1721164	10.000
98) Chlorobenzene	(3)	11.268	112	192469	1.062
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	64428	1.067
100) Ethylbenzene	(3)	11.359	91	339458	1.054
101) m+p-Xylene	(3)	11.469	106	262916	2.146
105) Xylene (Total)	(3)		106	384762	3.183
104) o-Xylene	(3)	11.798	106	121846	1.036
106) Styrene	(3)	11.817	104	185704M	1.034
107) Bromoform	(3)	11.975	173	22020	0.963
108) Isopropylbenzene	(3)	12.097	105	321646	1.045
111)$4-Bromofluorobenzene	(3)	12.243	95	712856	9.972
111)$4-Bromofluorobenzene	(3)	12.243	174	640351	10.064
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	49045	1.029
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	78326A	9.544
114) Bromobenzene	(4)	12.359	156	76825	1.057
116) 1,2,3-Trichloropropane	(4)	12.377	110	12003	1.006
117) n-Propylbenzene	(4)	12.426	91	400981	1.032
119) 2-Chlorotoluene	(4)	12.505	126	74346	1.011
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	274441	1.049
122) 4-Chlorotoluene	(4)	12.597	126	77251	1.046
125) tert-Butylbenzene	(4)	12.804	134	54746M	0.964
126) Pentachloroethane	(4)	12.835	167	46993	1.107
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	269992	1.036
128) sec-Butylbenzene	(4)	12.963	105	346230	1.016
131) 1,3-Dichlorobenzene	(4)	13.072	146	147525	1.033
132) p-Isopropyltoluene	(4)	13.072	119	283359	1.016
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	738701	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	157926	1.061
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	124841	1.086
136) Benzyl Chloride	(4)	13.219	126	13920	0.927
138) n-Butylbenzene	(4)	13.365	92	135149	0.987
139) 1,2-Dichlorobenzene	(4)	13.396	146	133706	1.054
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	4111	0.898
145) 1,2,4-Trichlorobenzene	(4)	14.499	180	81123	0.992
146) Hexachlorobutadiene	(4)	14.572	225	37780	0.932
147) Naphthalene	(4)	14.676	128	118724	0.986

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

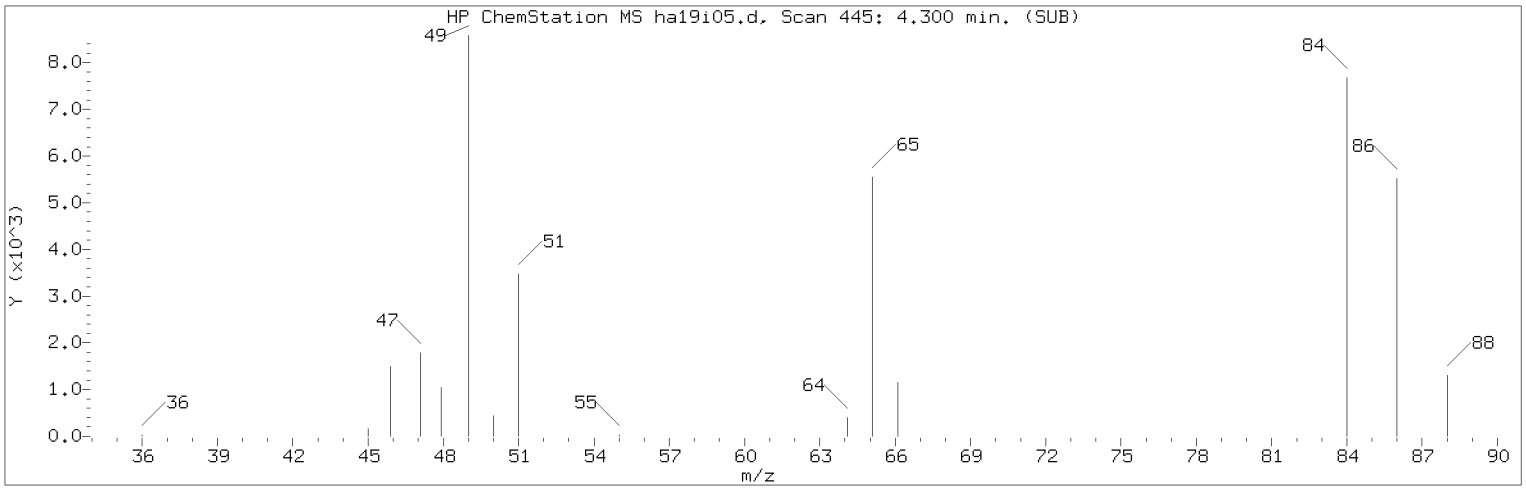
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

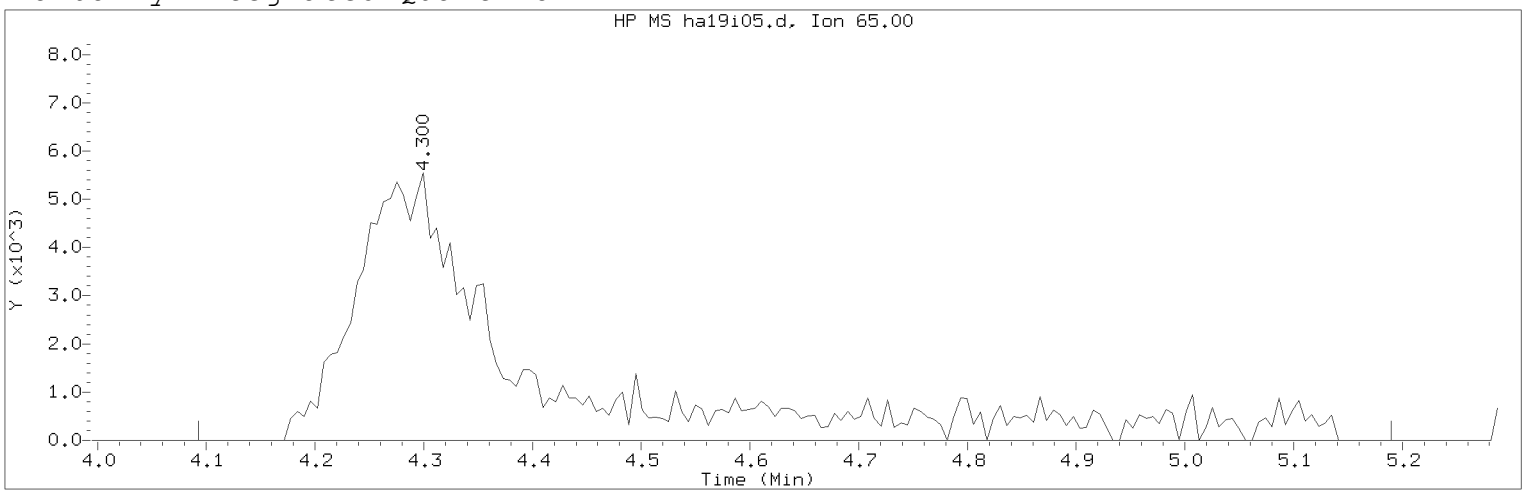
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	69266	1.002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

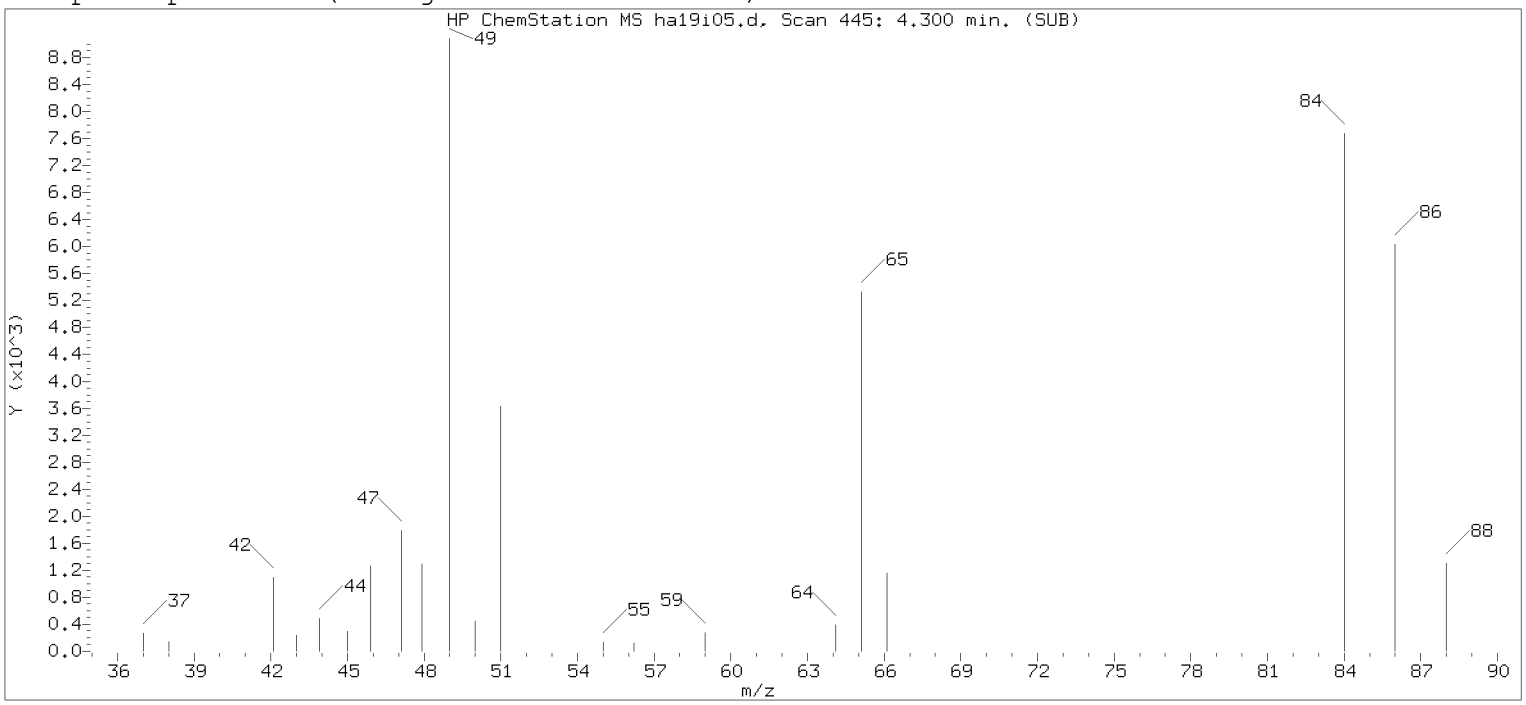
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.300
Quant Ion : 65.00
Area (flag) : 62071M
On-Column Amount (ng) : 50.0000
Integration start scan : 410 Integration stop scan: 590
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

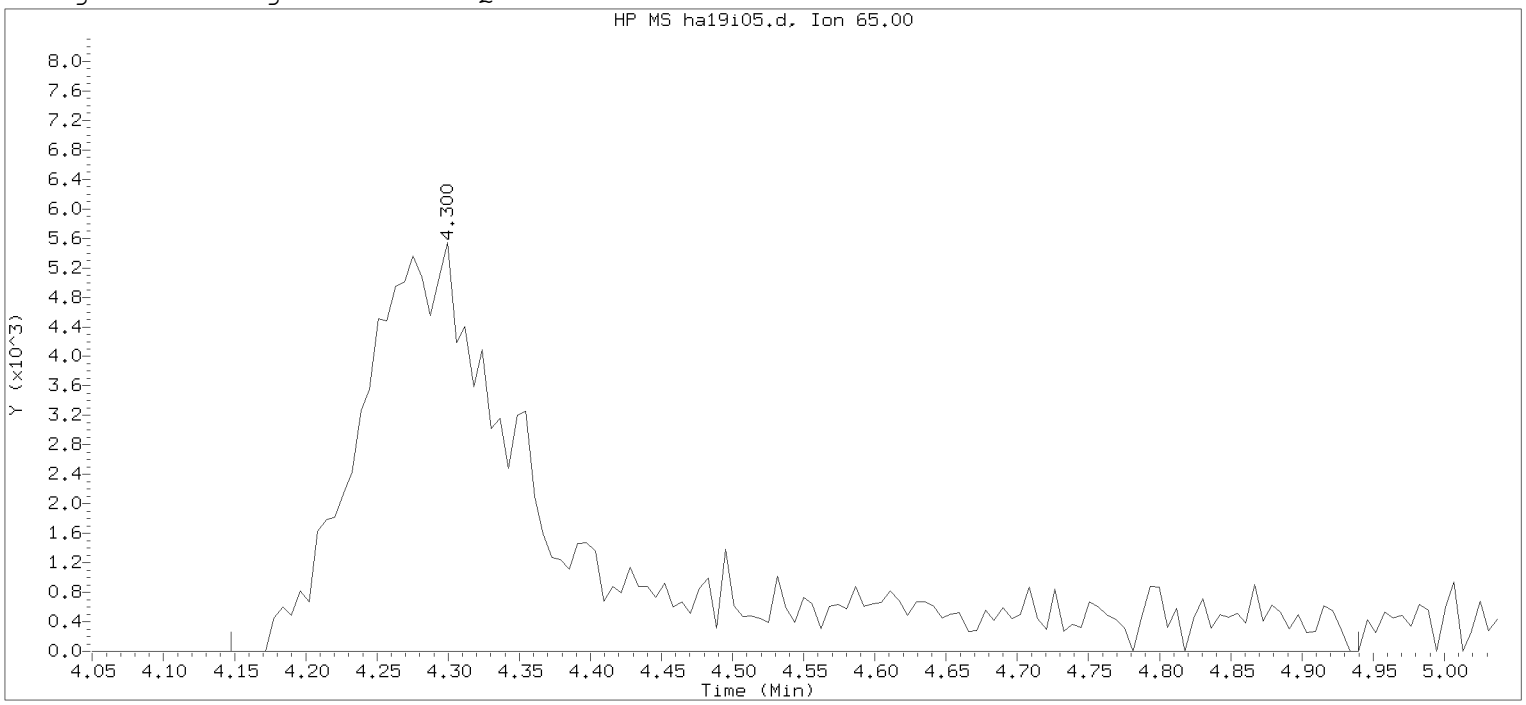
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

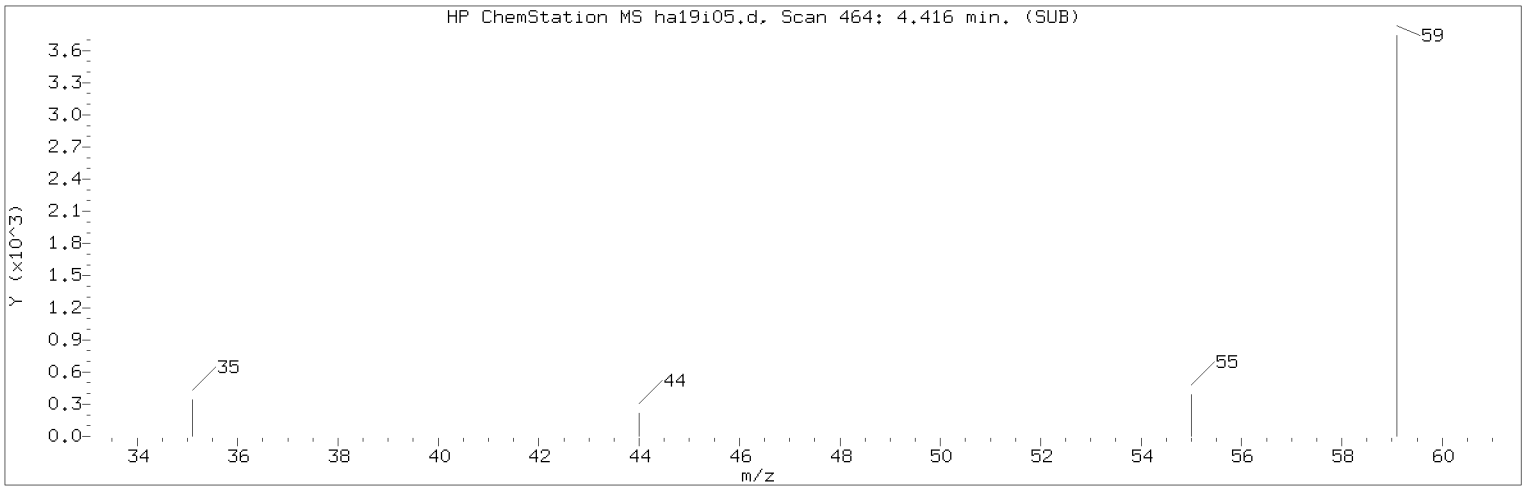
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

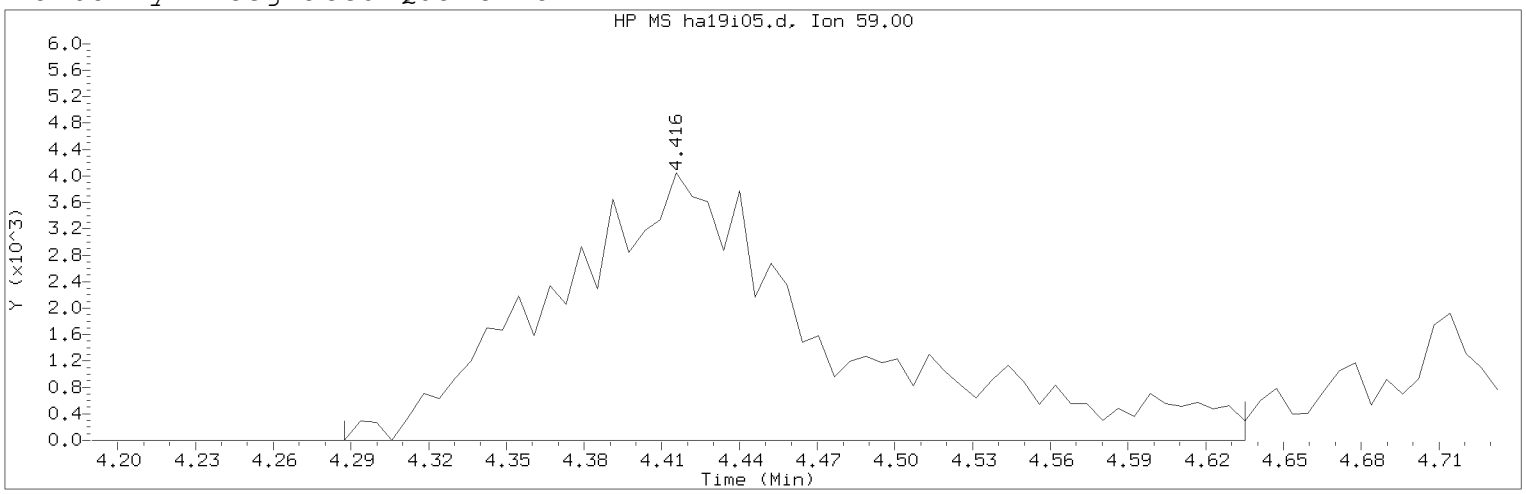
Compound Number	: 26
Compound Name	: t-Butyl Alcohol-d10
Scan Number	: 445
Retention Time (minutes)	: 4.300
Quant Ion	: 65.00
Area	: 57165
On-column Amount (ng)	: 50.0000
Integration start scan	: 419 Integration stop scan: 549
Y at integration start	: 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

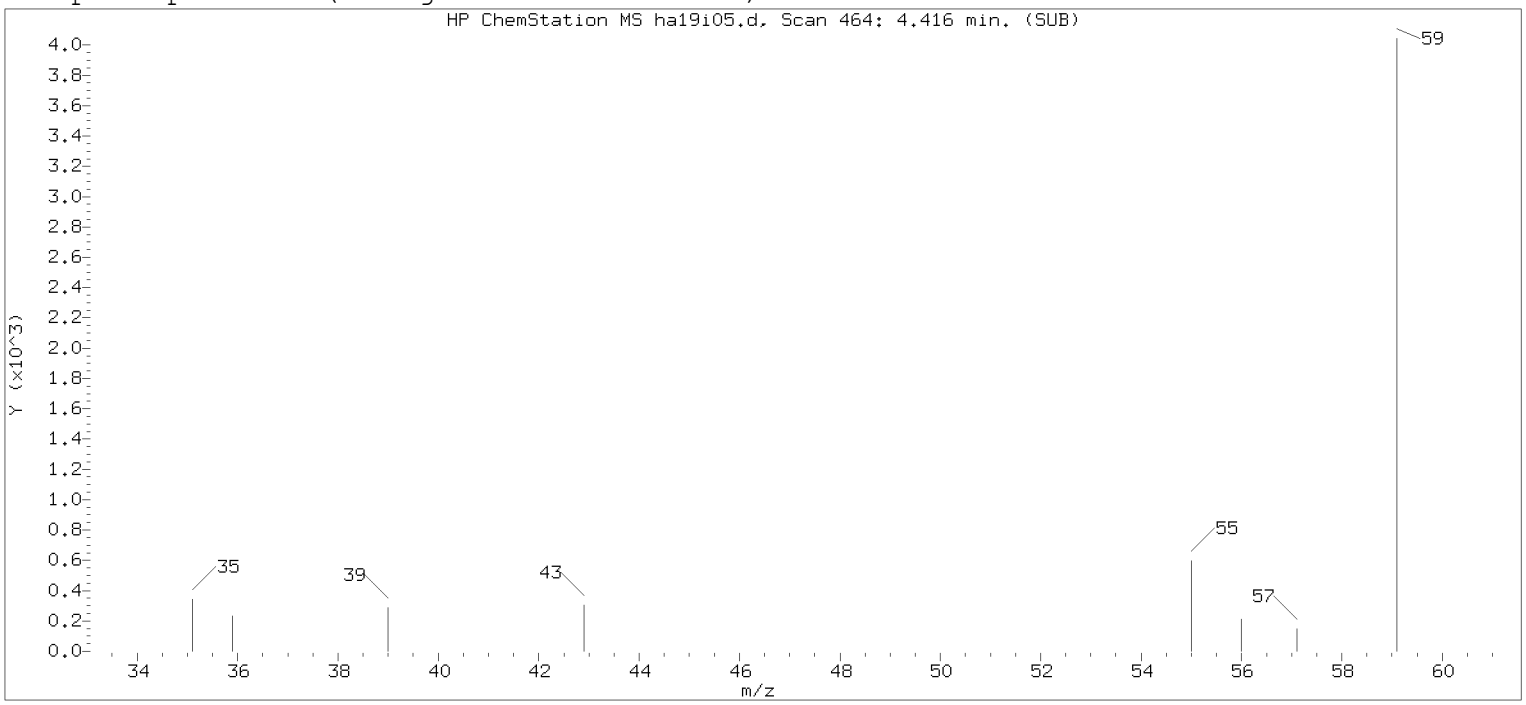
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 464
Retention Time (minutes): 4.416
Quant Ion : 59.00
Area (flag) : 30393M
On-Column Amount (ng) : 19.5701
Integration start scan : 442 Integration stop scan: 499
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

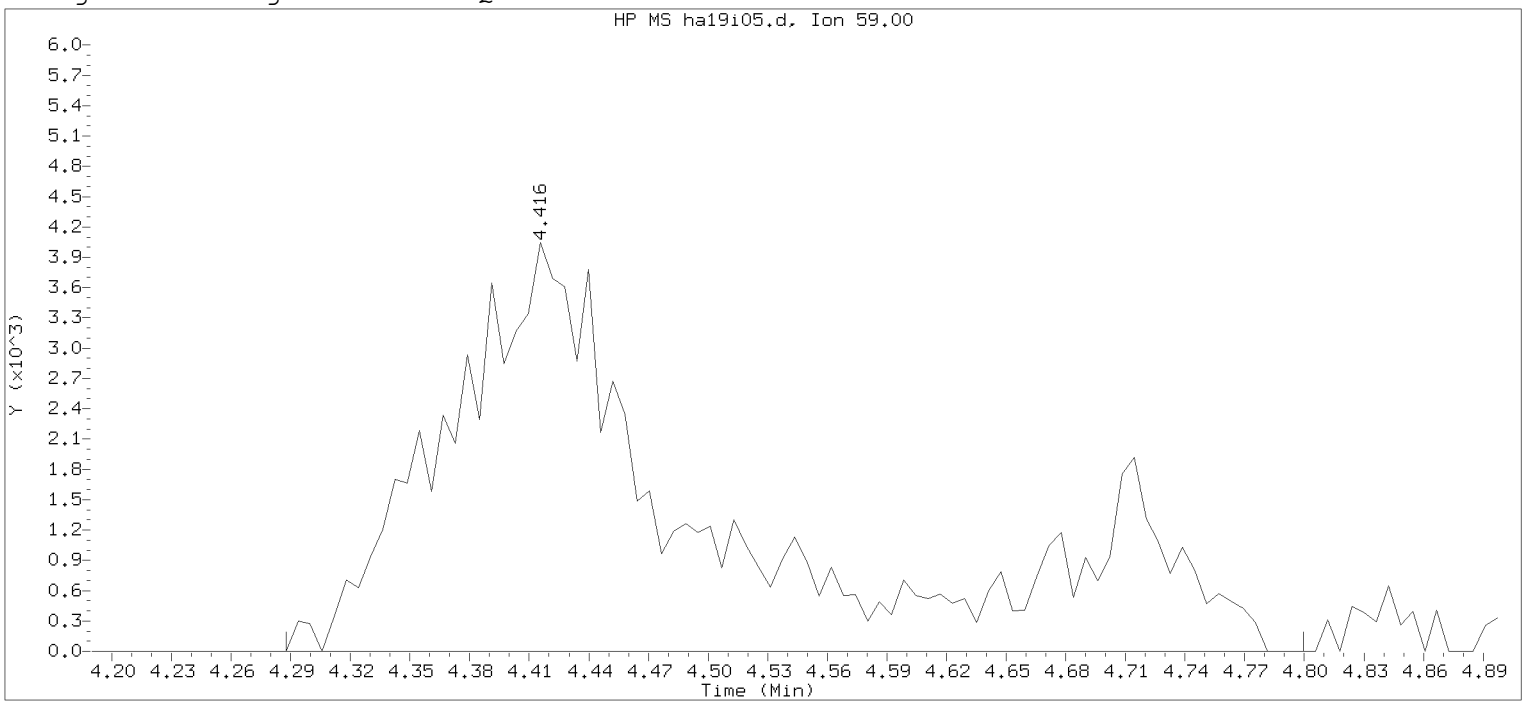
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

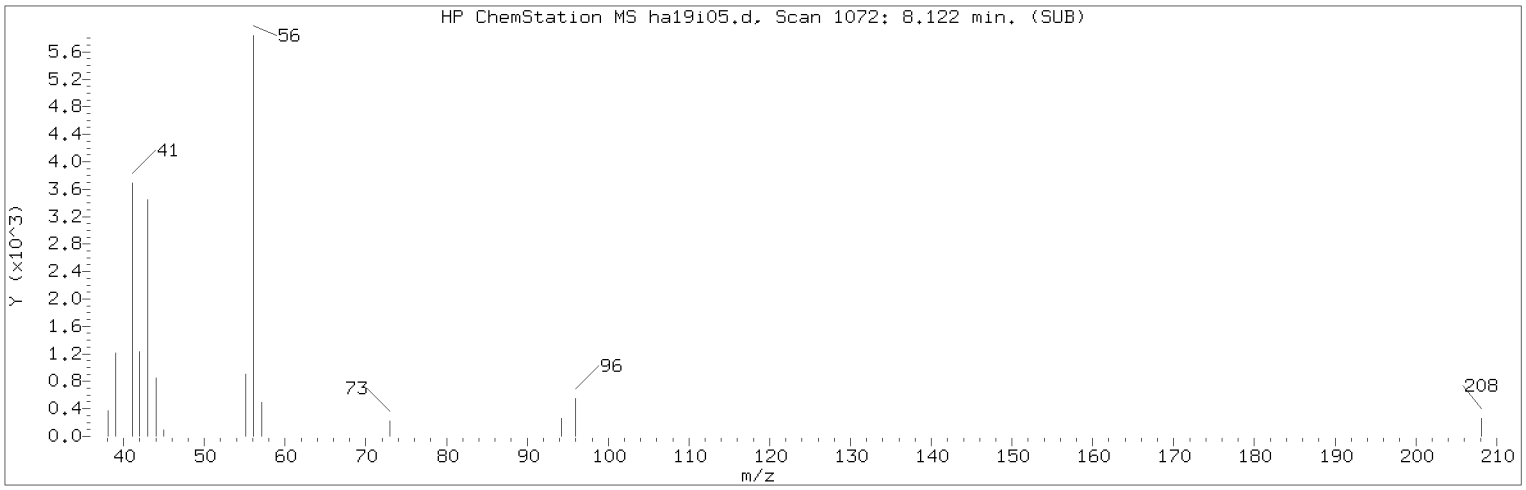
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

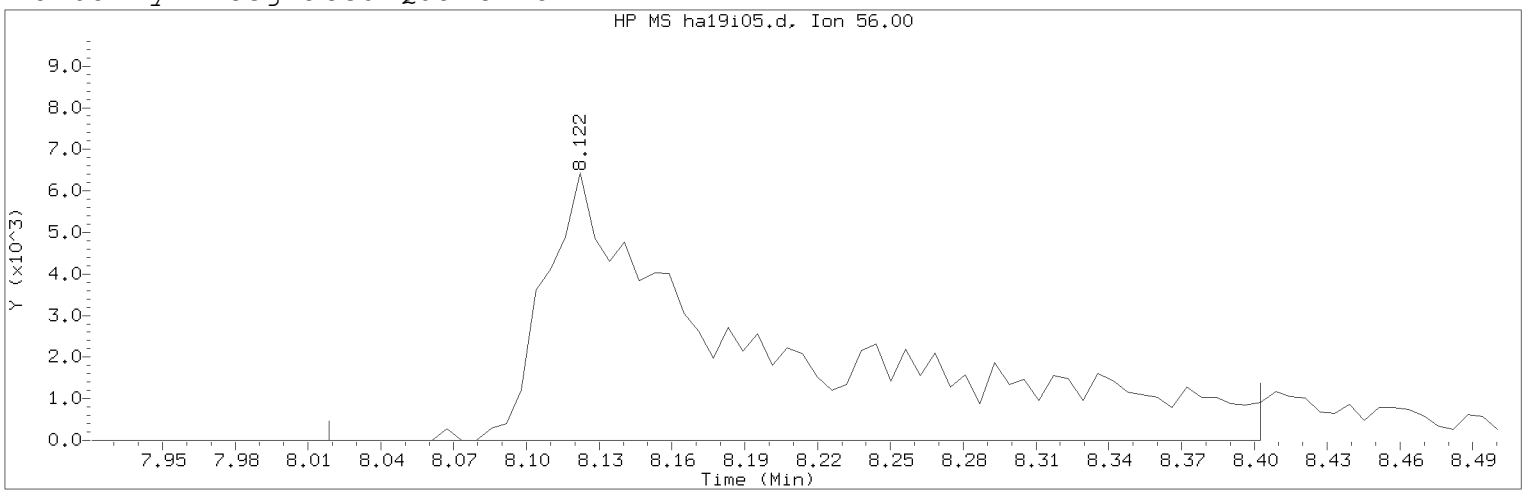
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 464
Retention Time (minutes): 4.416
Quant Ion : 59.00
Area : 37406
On-column Amount (ng) : 23.1270
Integration start scan : 442 Integration stop scan: 526
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user k[illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

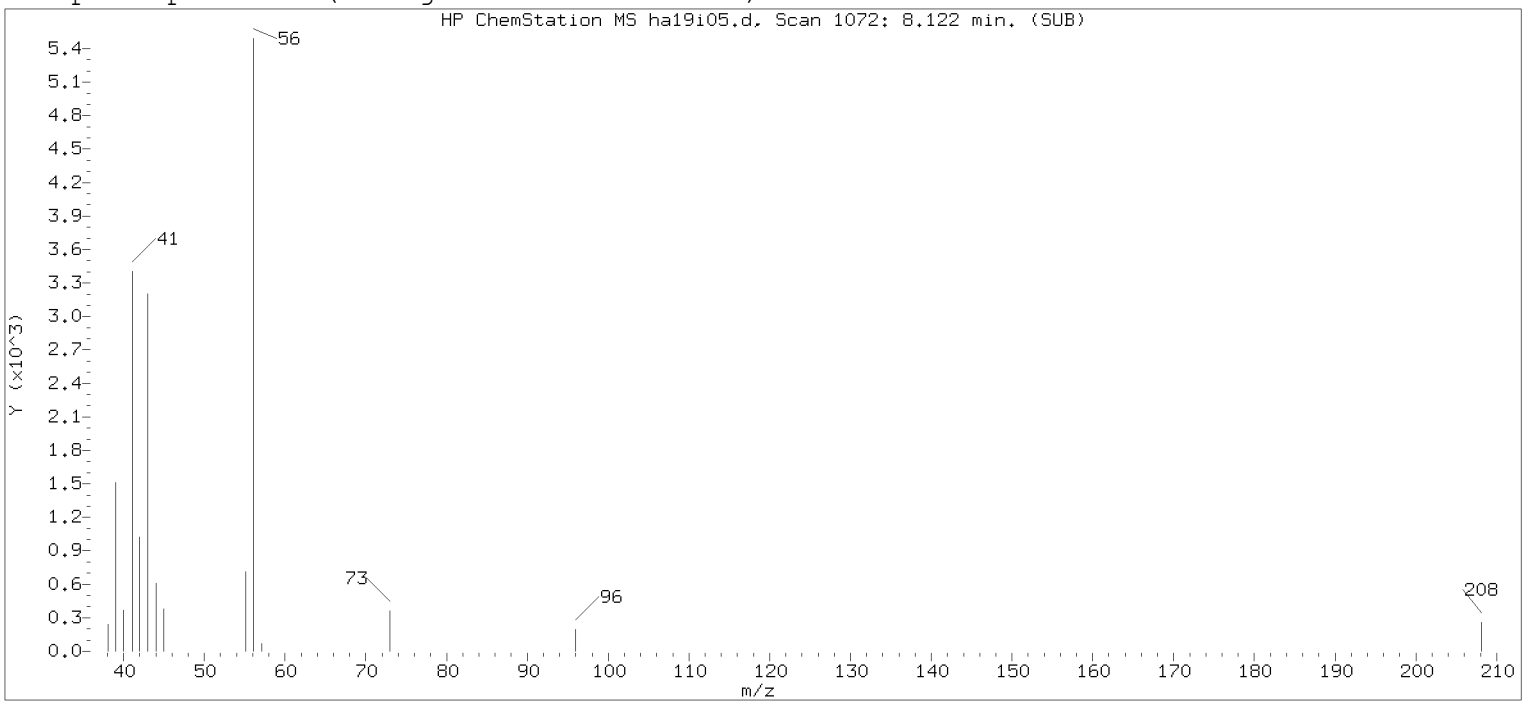
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1072
Retention Time (minutes): 8.122
Quant Ion : 56.00
Area (flag) : 40434M
On-Column Amount (ng) : 81.9402
Integration start scan : 1054 Integration stop scan: 1117
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

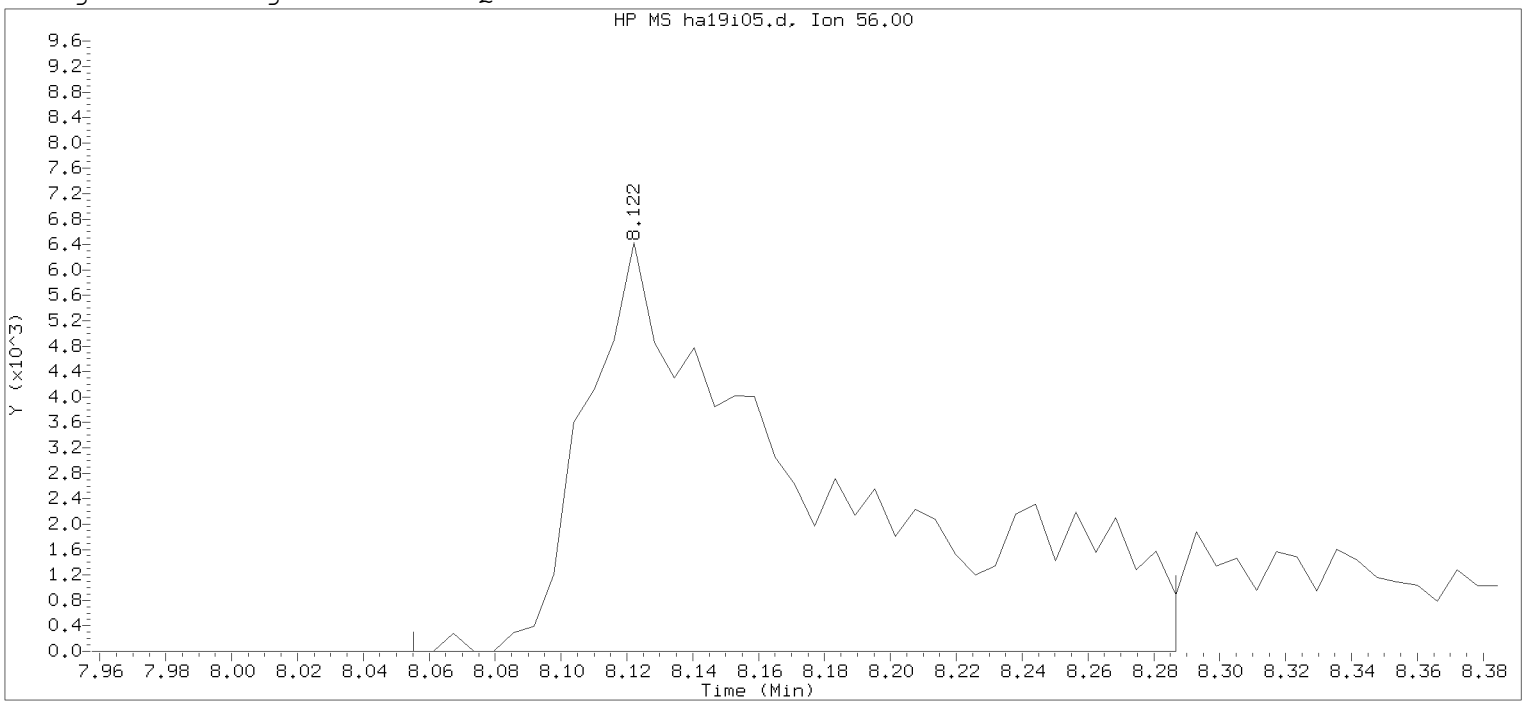
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

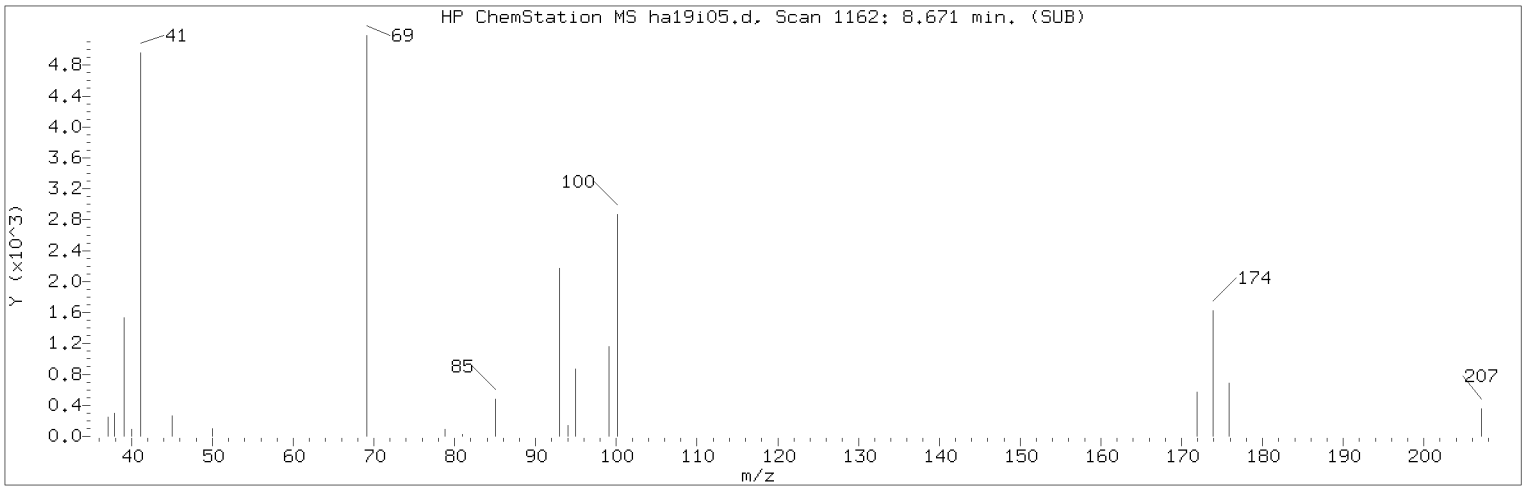
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

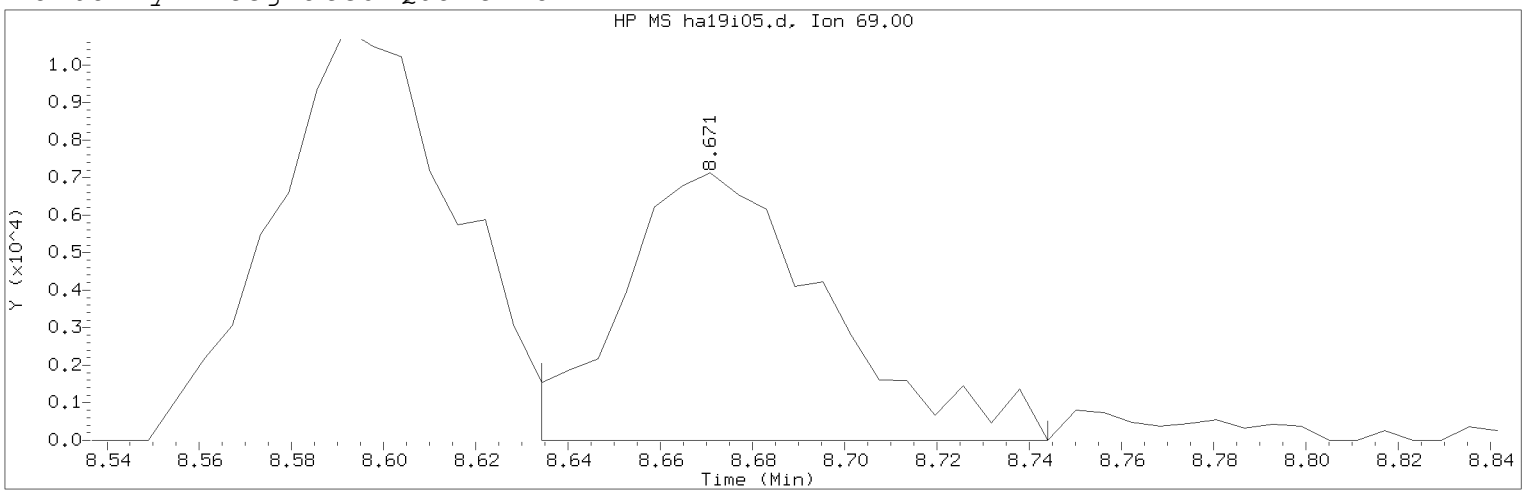
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1072
Retention Time (minutes): 8.122
Quant Ion : 56.00
Area : 31947
On-column Amount (ng) : 83.2201
Integration start scan : 1060 Integration stop scan: 1098
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@tetratech.com

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

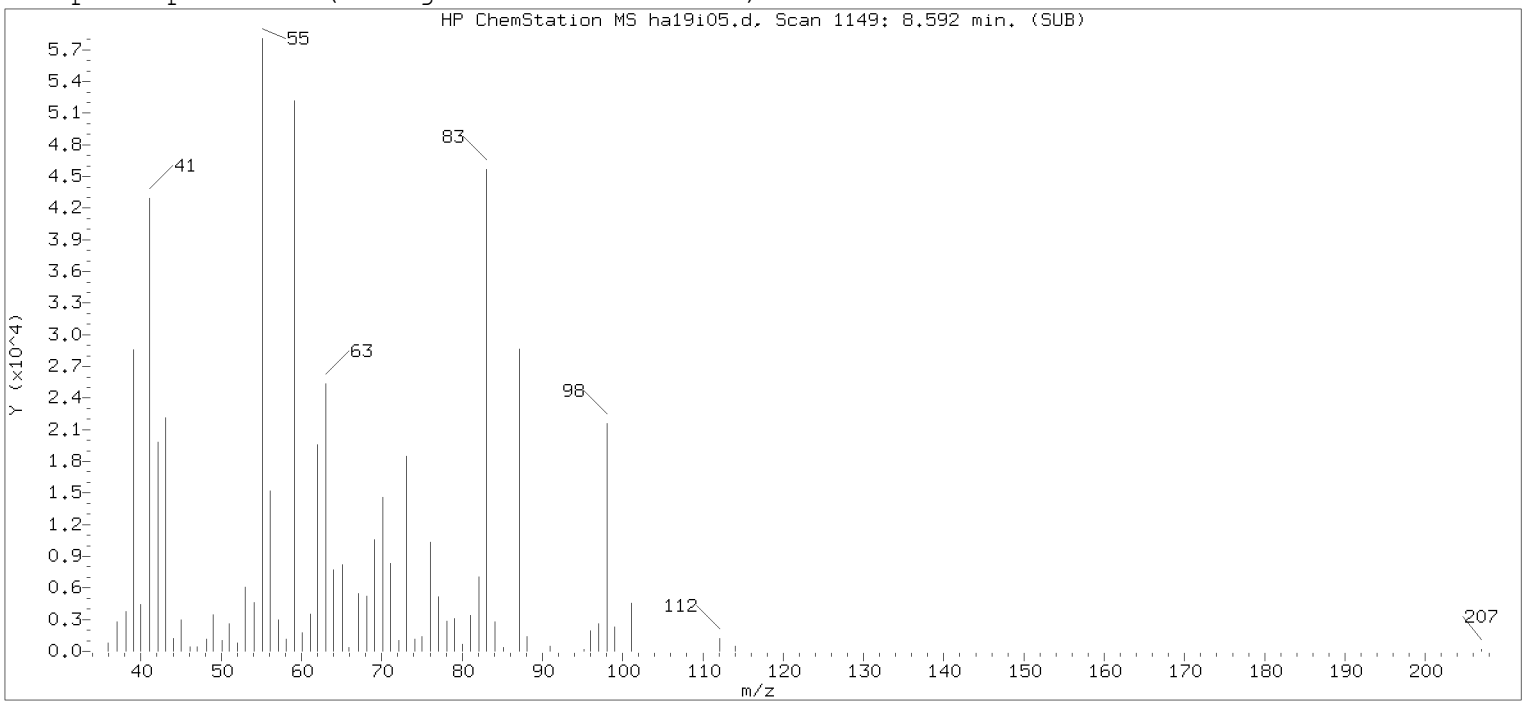
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1162
Retention Time (minutes): 8.671
Quant Ion : 69.00
Area (flag) : 22174M
On-Column Amount (ng) : 1.0460
Integration start scan : 1155 Integration stop scan: 1173
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

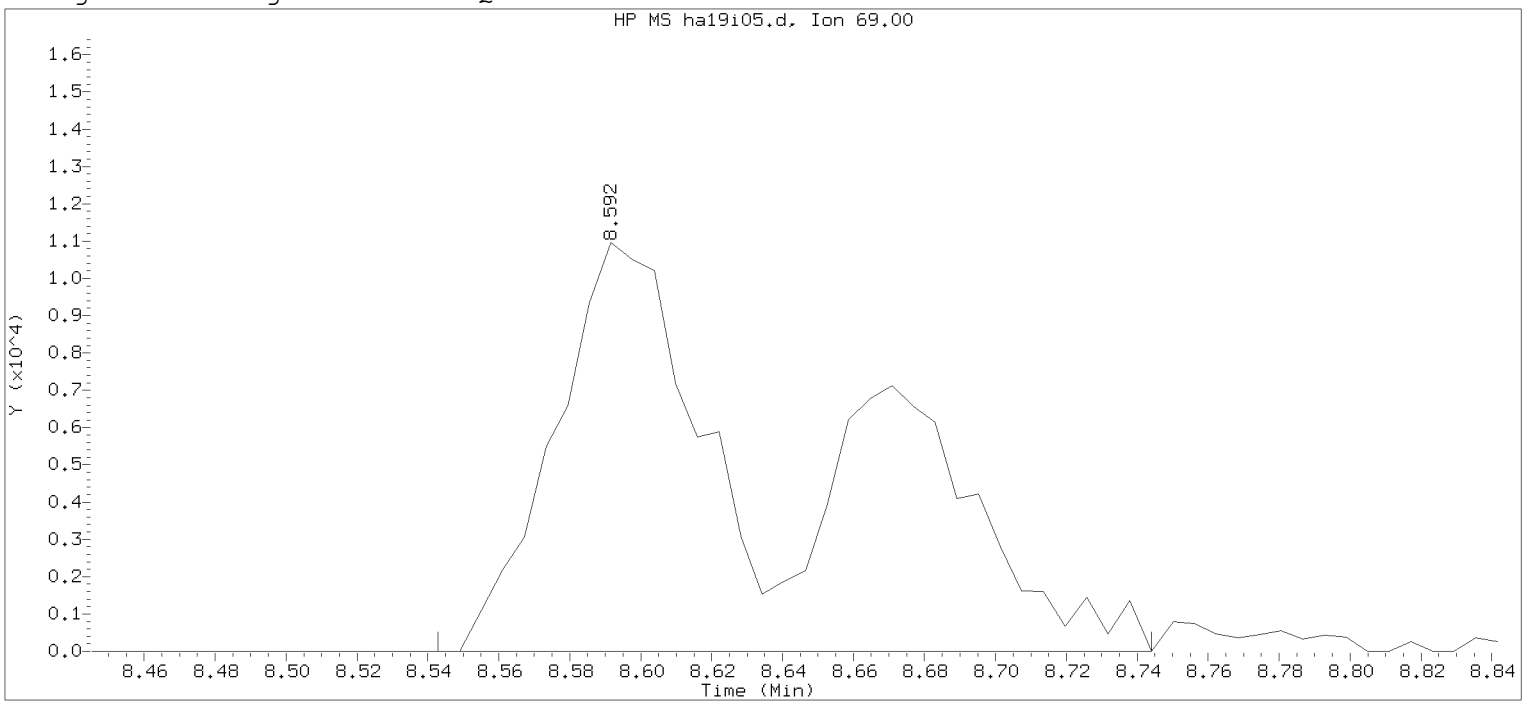
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

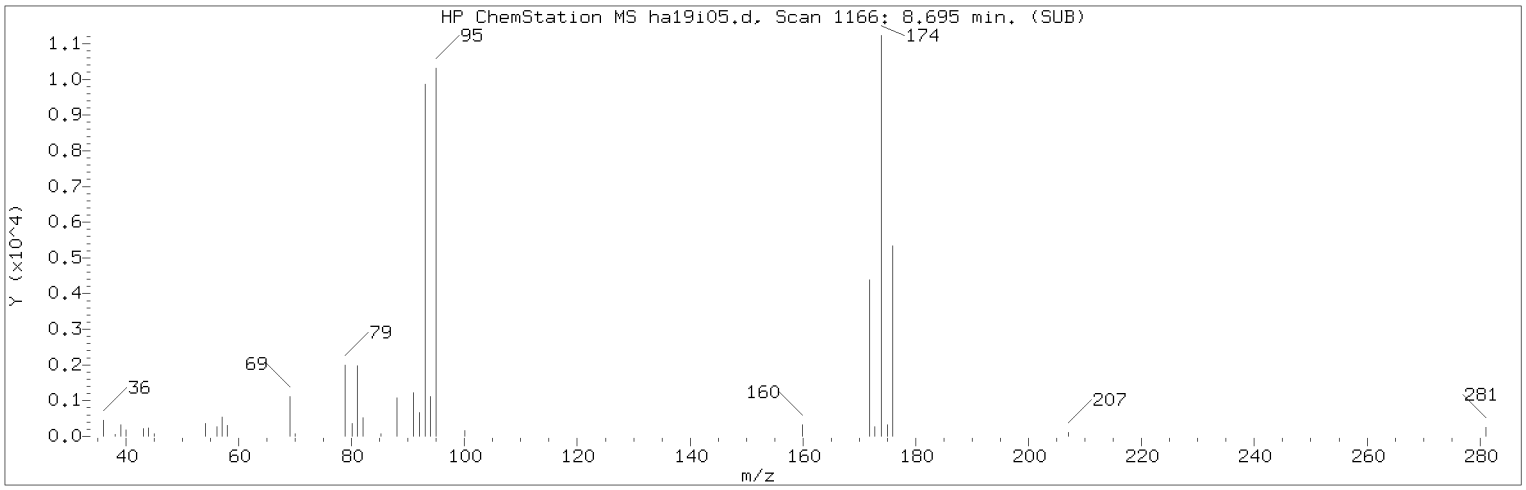
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

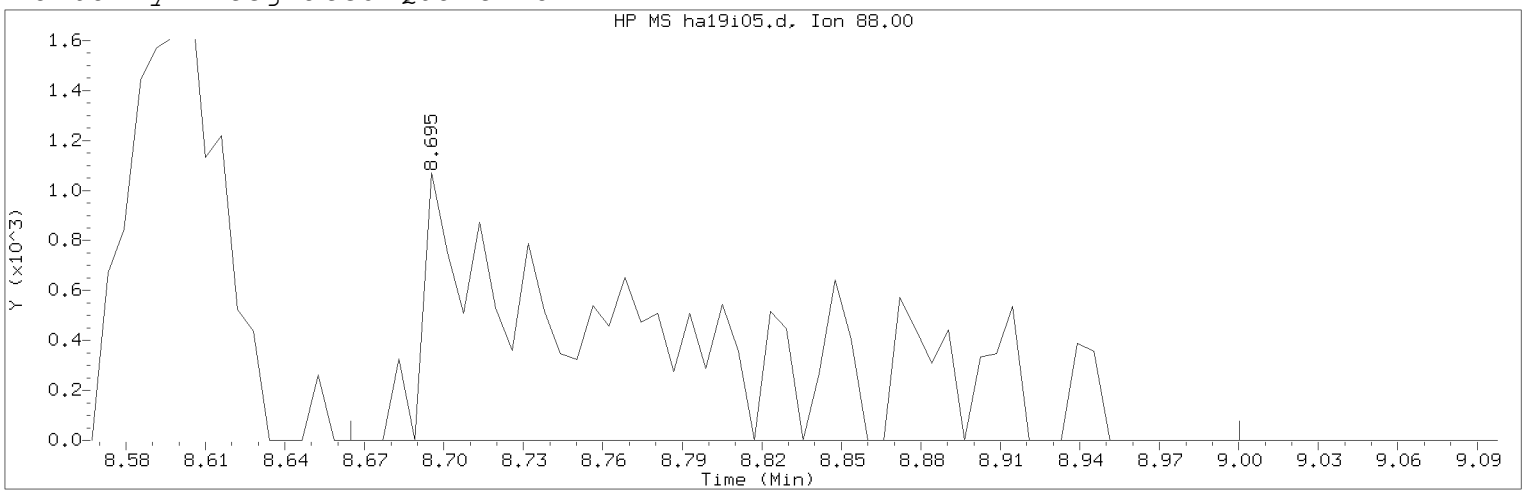
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1149
Retention Time (minutes): 8.592
Quant Ion : 69.00
Area : 51912
On-column Amount (ng) : 2.8236
Integration start scan : 1140 Integration stop scan: 1173
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

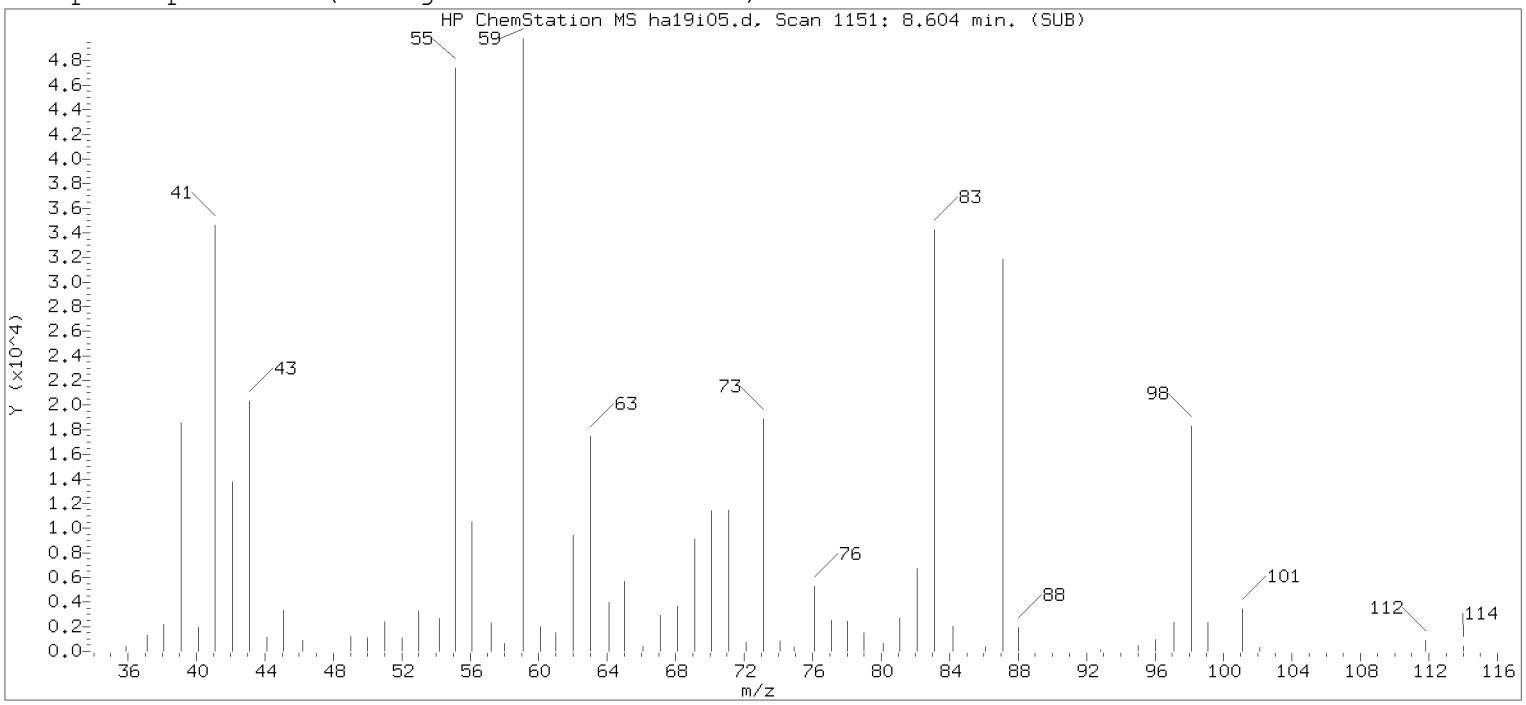
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1166
Retention Time (minutes): 8.695
Quant Ion : 88.00
Area (flag) : 6215M
On-Column Amount (ng) : 49.0179
Integration start scan : 1160 Integration stop scan: 1215
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

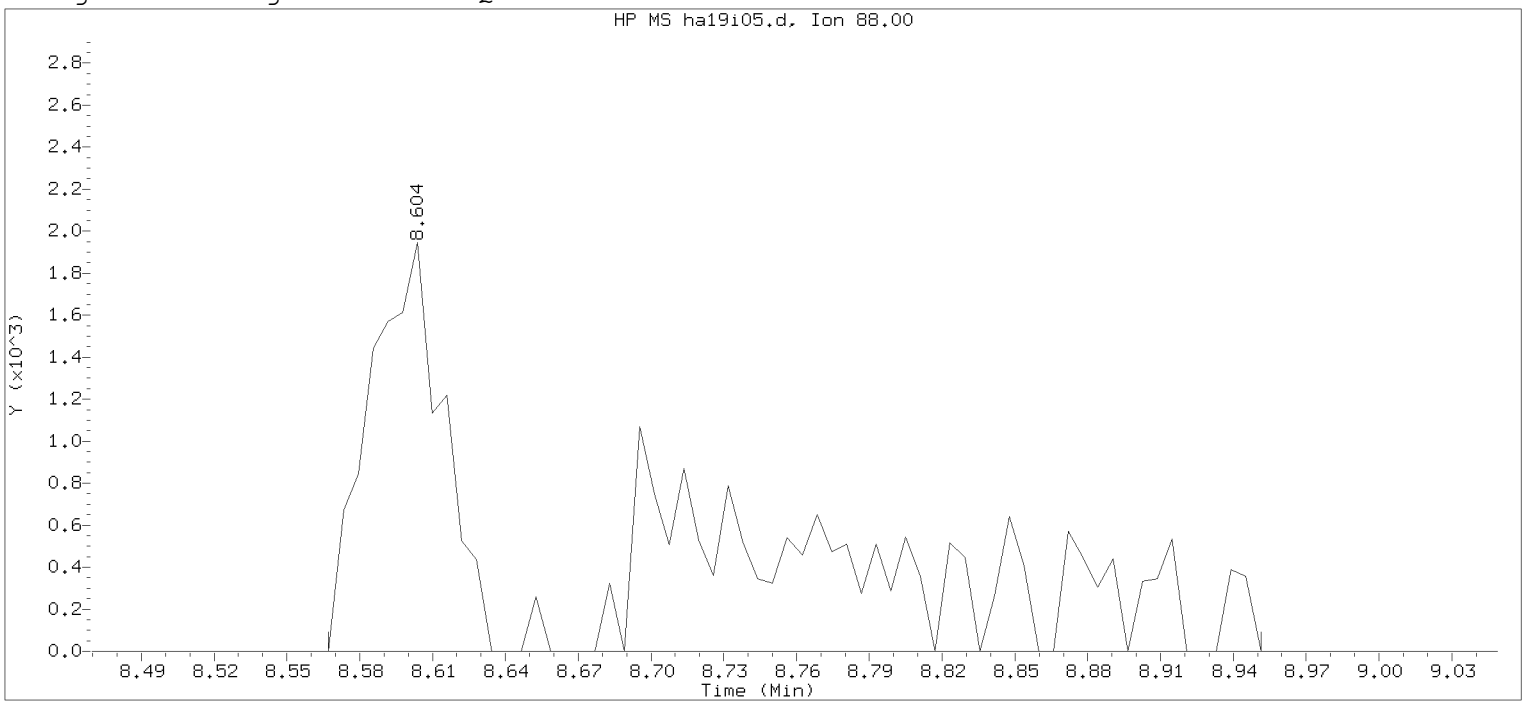
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

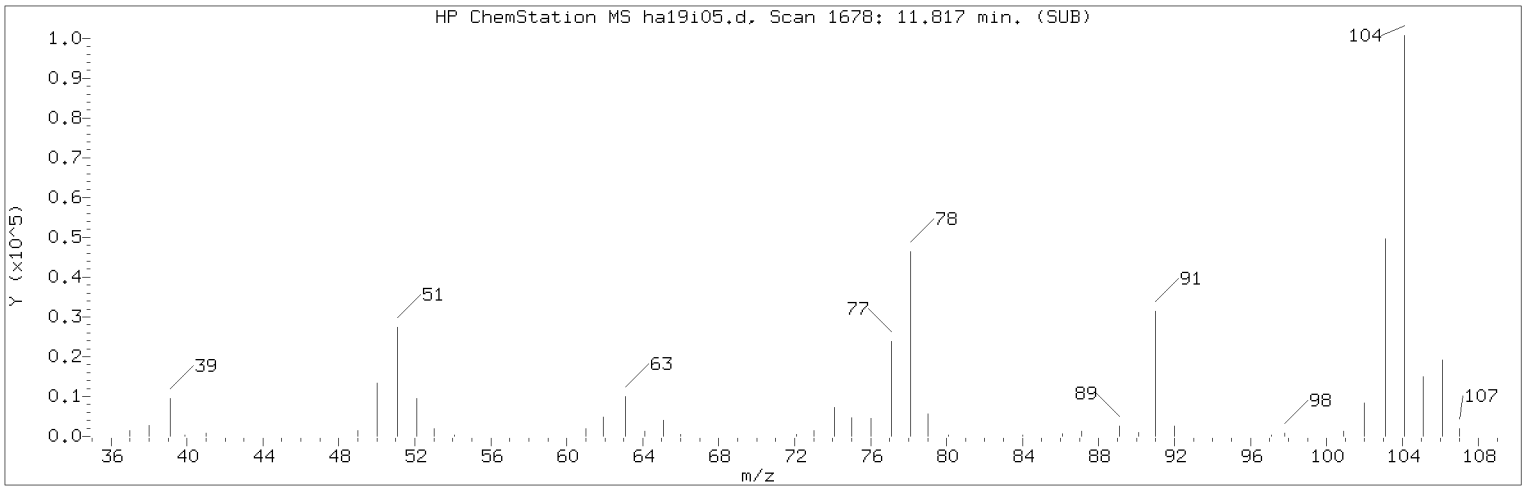
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

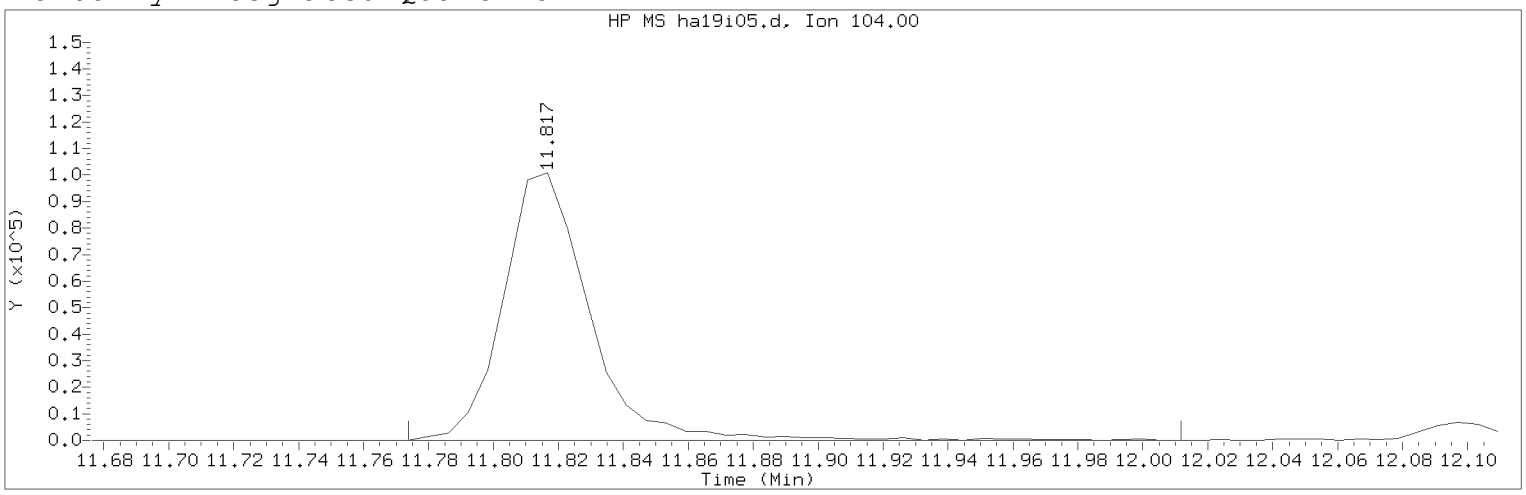
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 10481
On-column Amount (ng) : 81.4184
Integration start scan : 1144 Integration stop scan: 1207
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

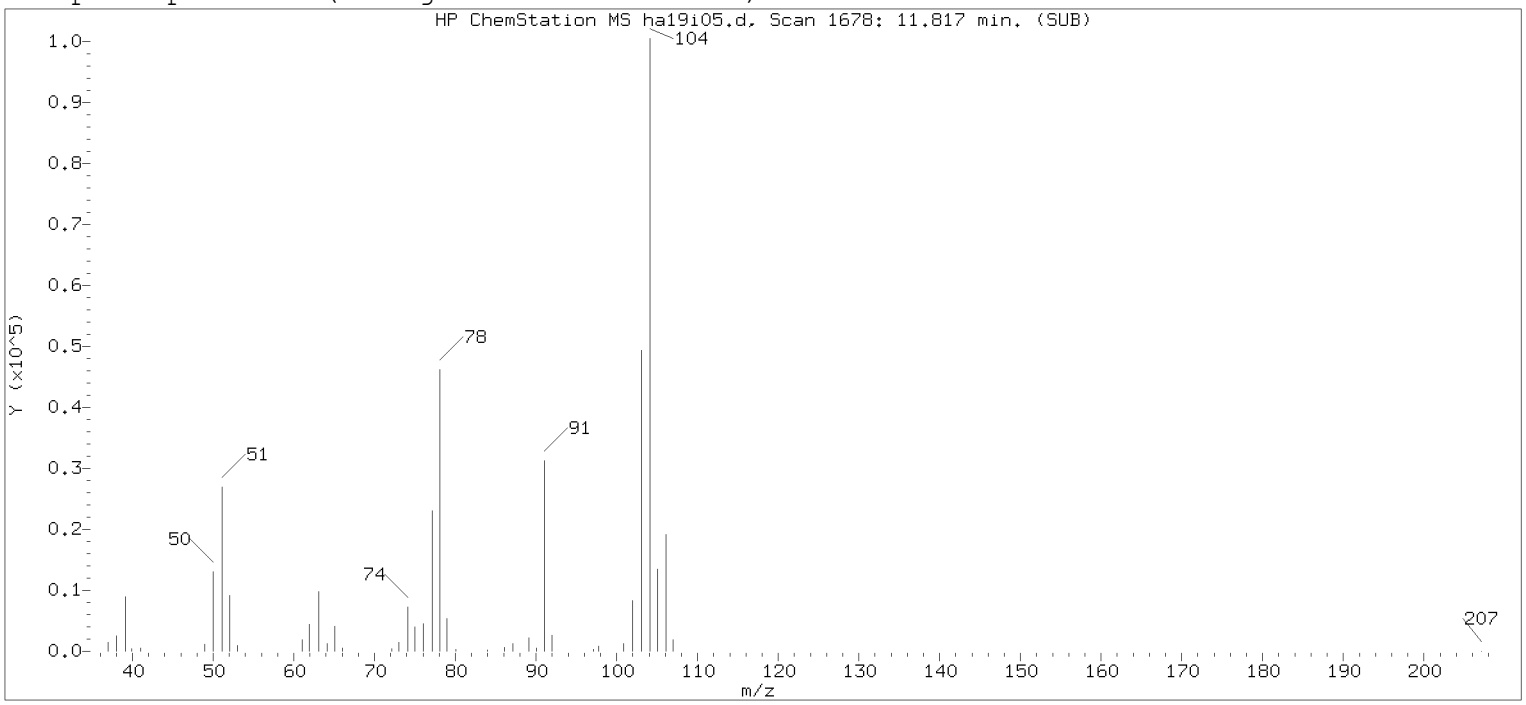
Compound Number : 106
Compound Name : Styrene
Scan Number : 1678
Retention Time (minutes): 11.817
Quant Ion : 104.00
Area (flag) : 185704M
On-Column Amount (ng) : 1.0339
Integration start scan : 1670 Integration stop scan: 1709
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

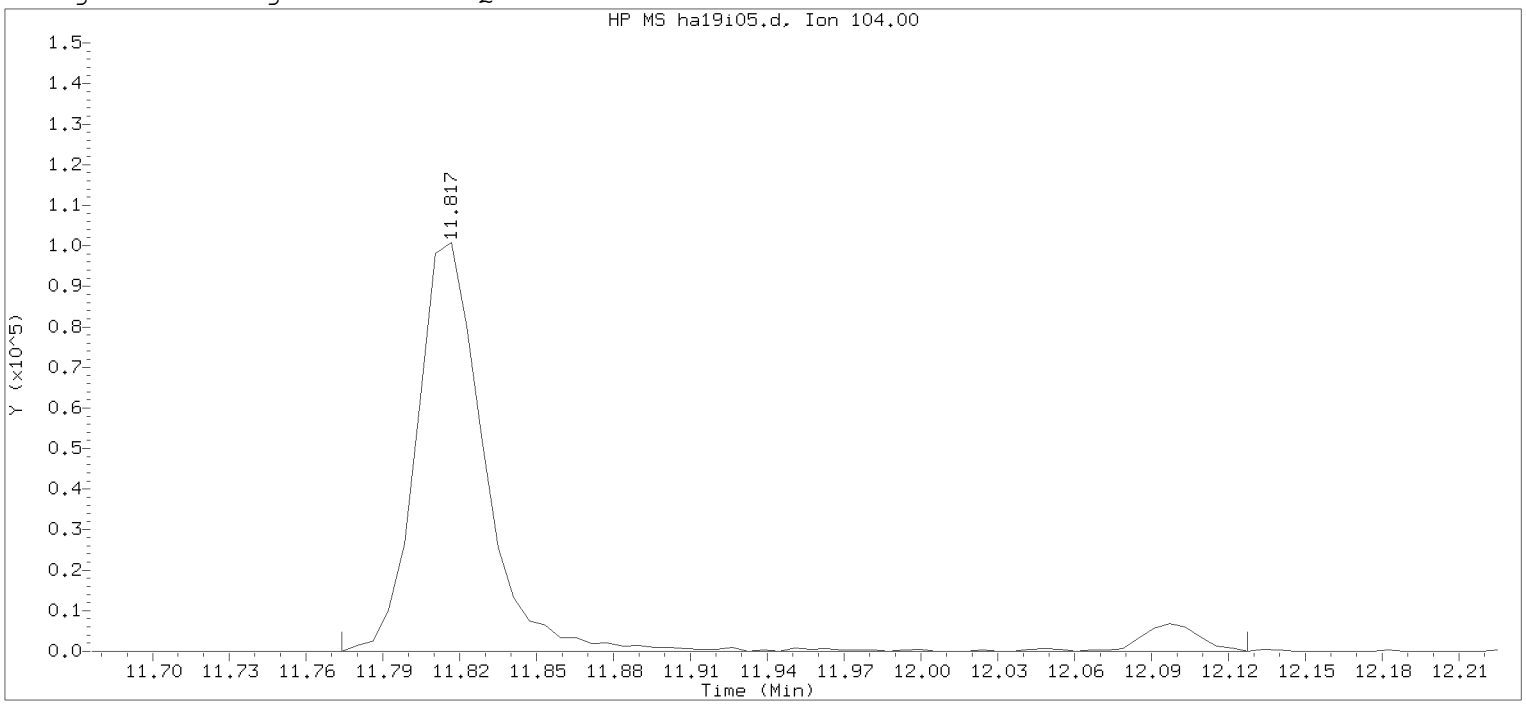
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

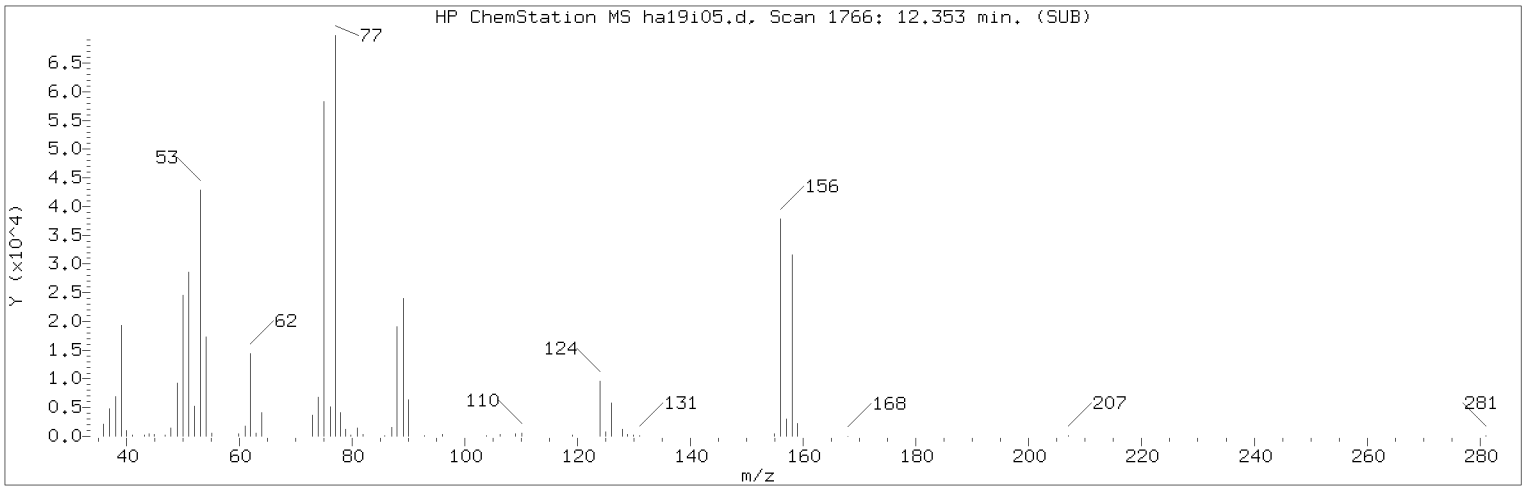
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

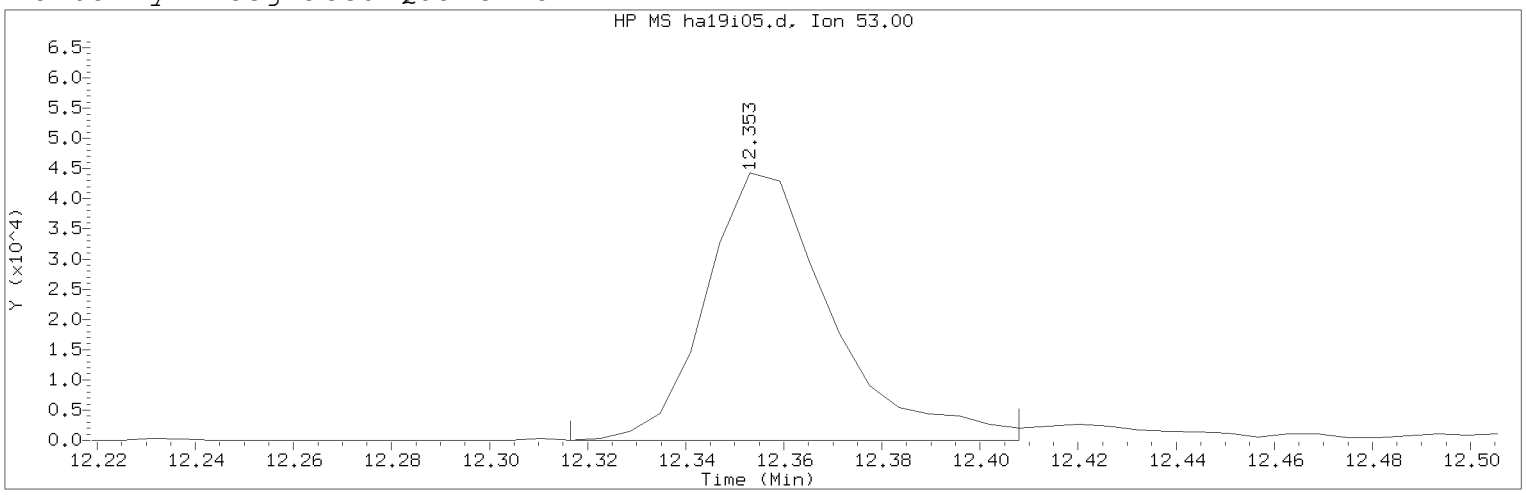
Compound Number	: 106		
Compound Name	: Styrene		
Scan Number	: 1678		
Retention Time (minutes)	: 11.817		
Quant Ion	: 104.00		
Area	: 196827		
On-column Amount (ng)	: 1.0162		
Integration start scan	: 1670	Integration stop scan:	1728
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

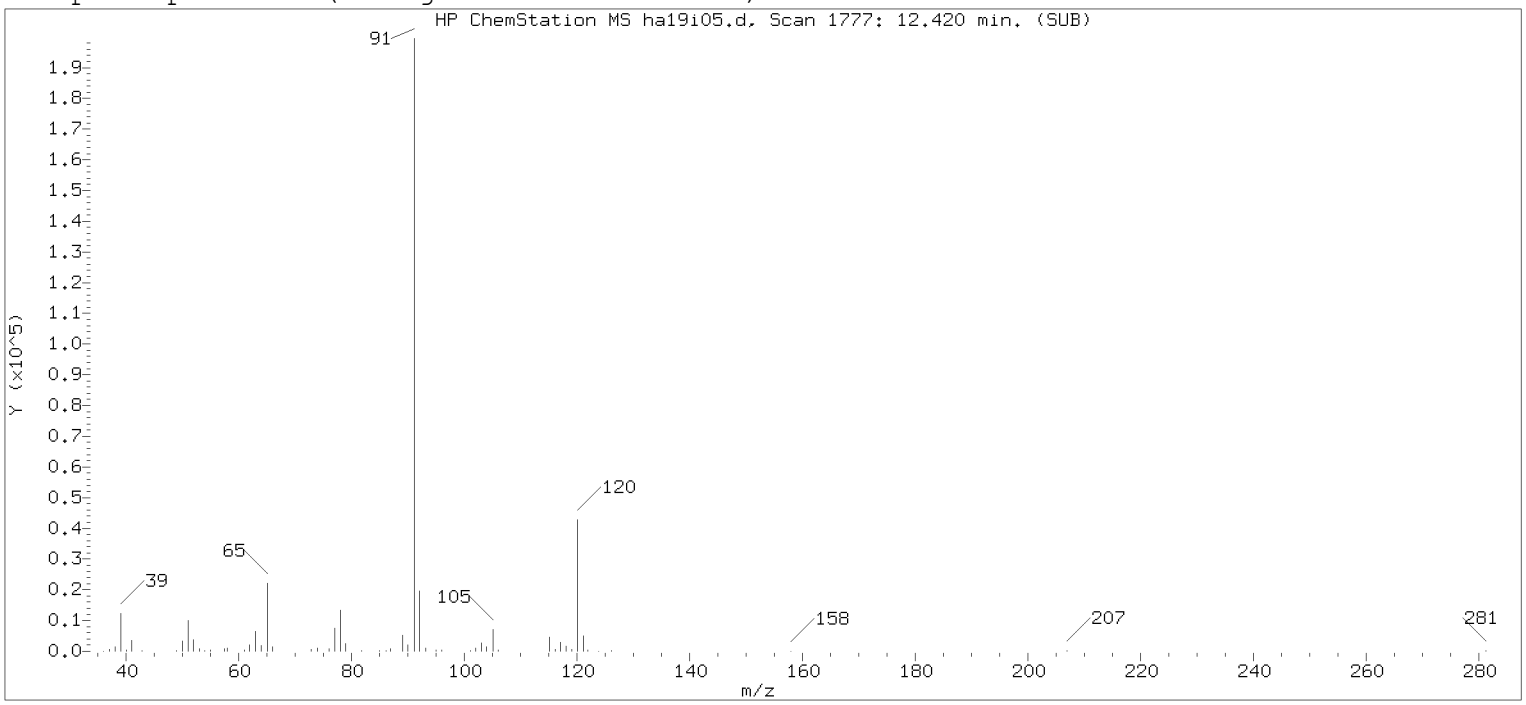
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 78326A
On-Column Amount (ng) : 9.5438
Integration start scan : 1759 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

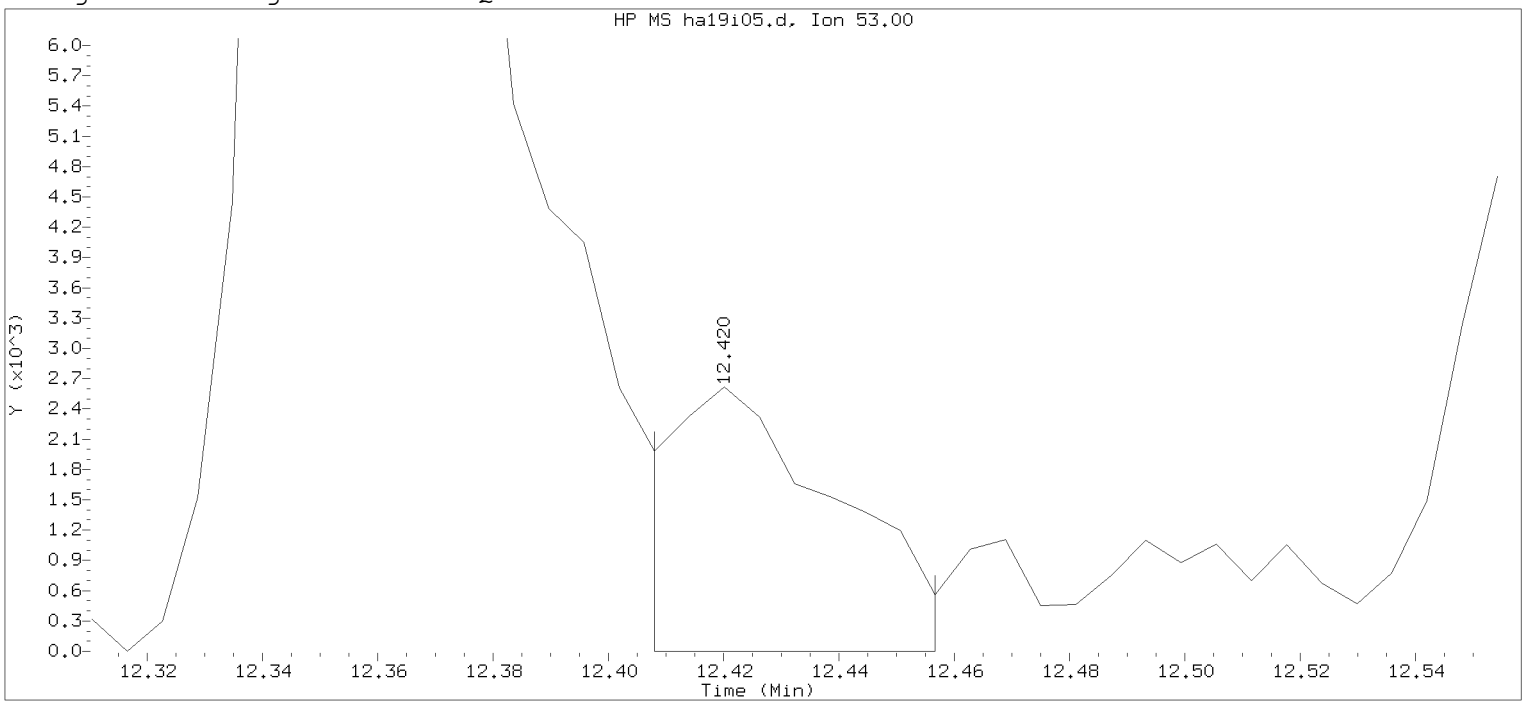
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

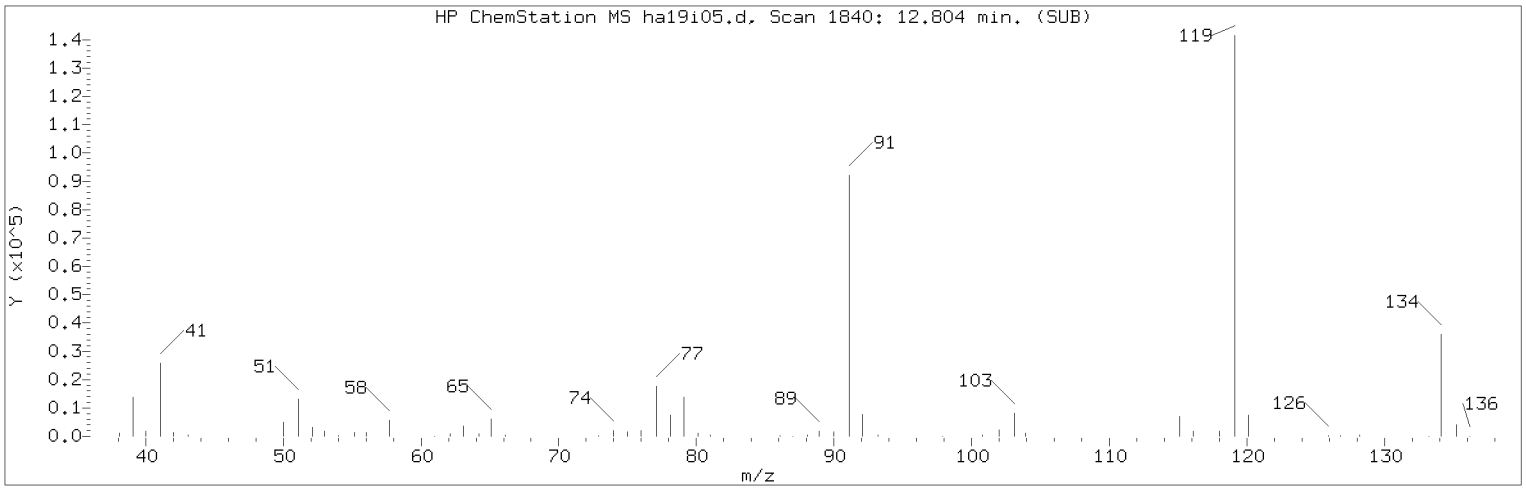
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

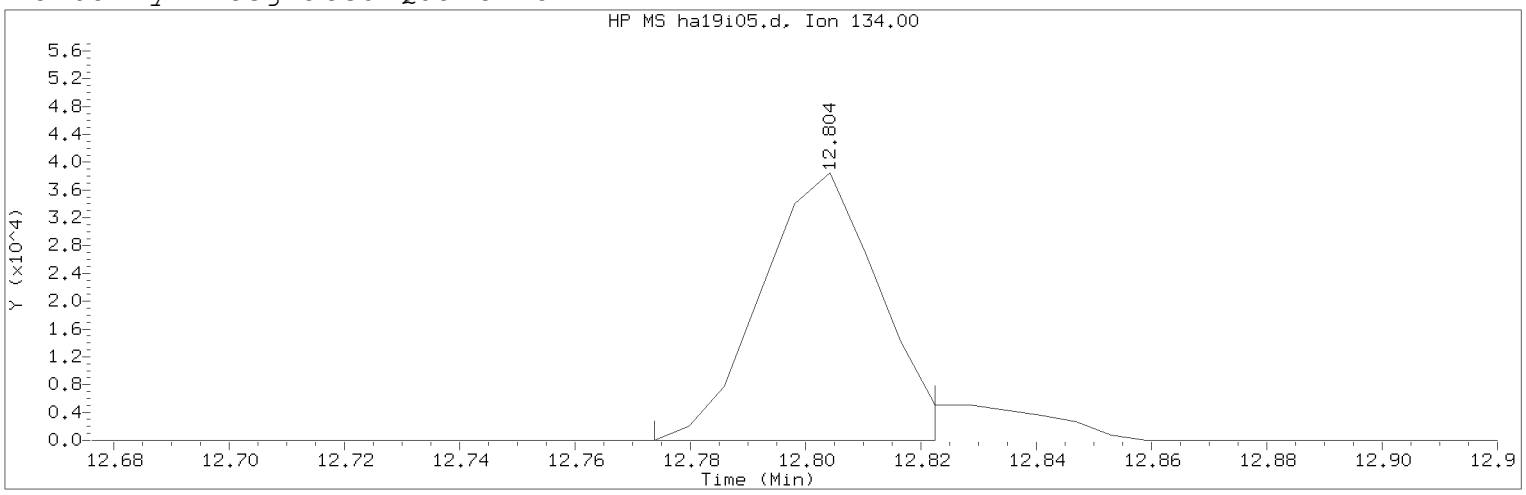
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1777
Retention Time (minutes): 12.420
Quant Ion : 53.00
Area : 5232
On-column Amount (ng) : 1.7690
Integration start scan : 1774 Integration stop scan: 1782
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kasposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

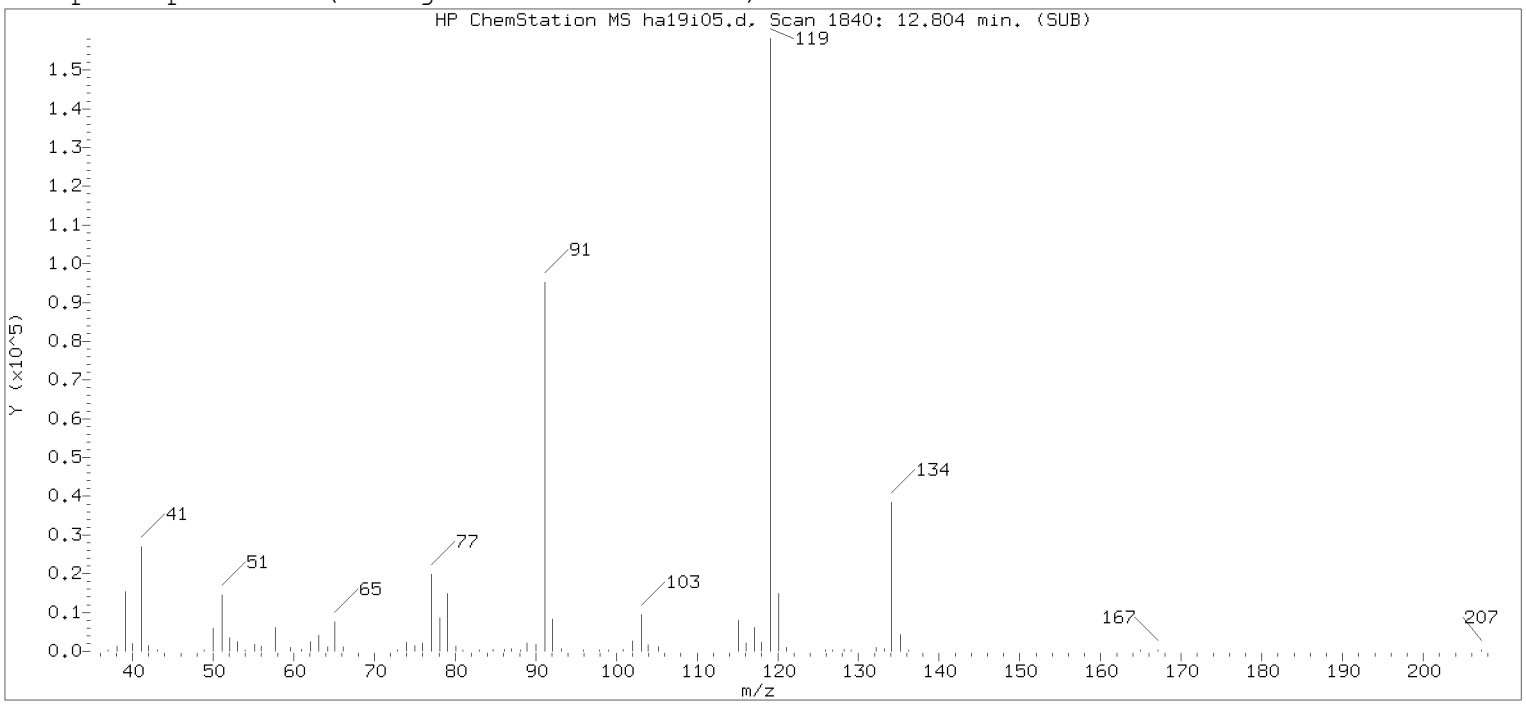
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 54746M
On-Column Amount (ng) : 0.9638
Integration start scan : 1834 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

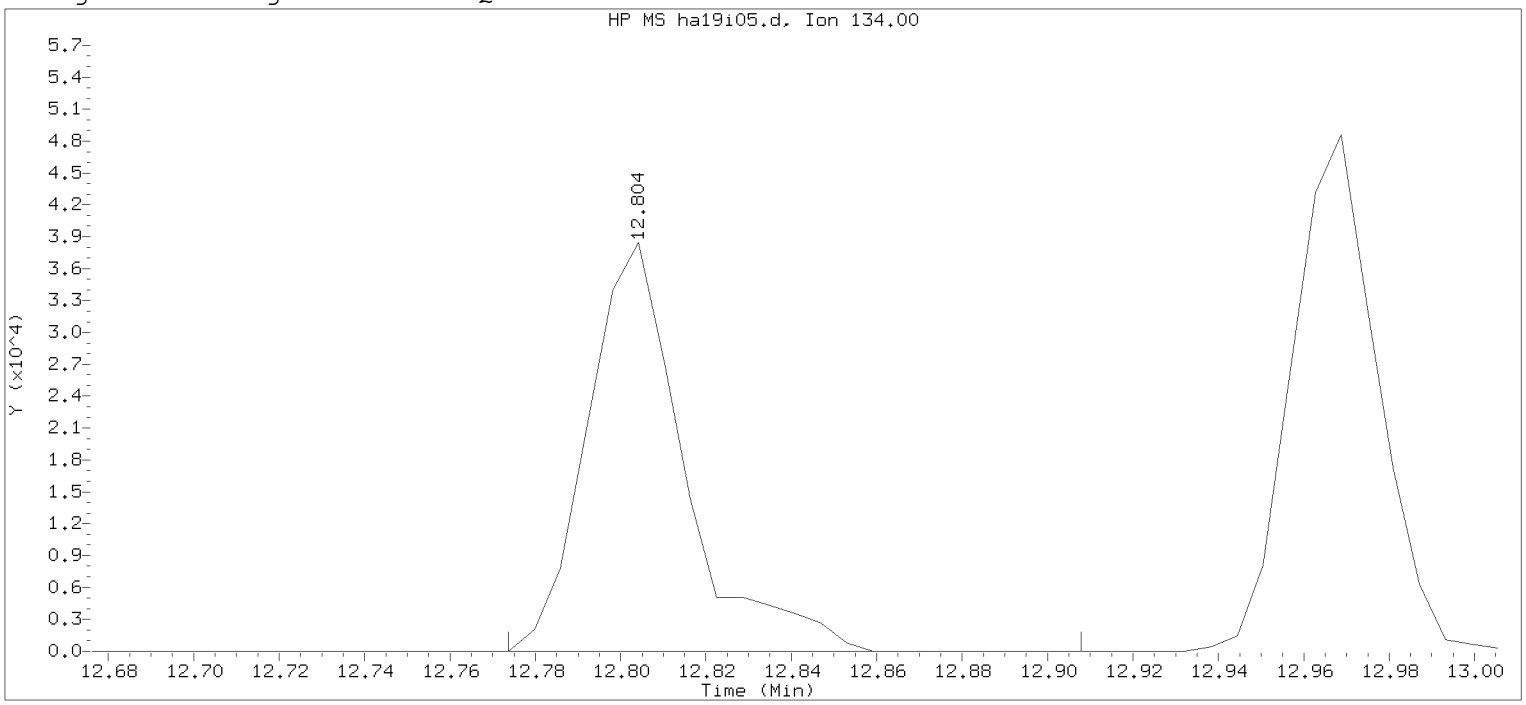
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



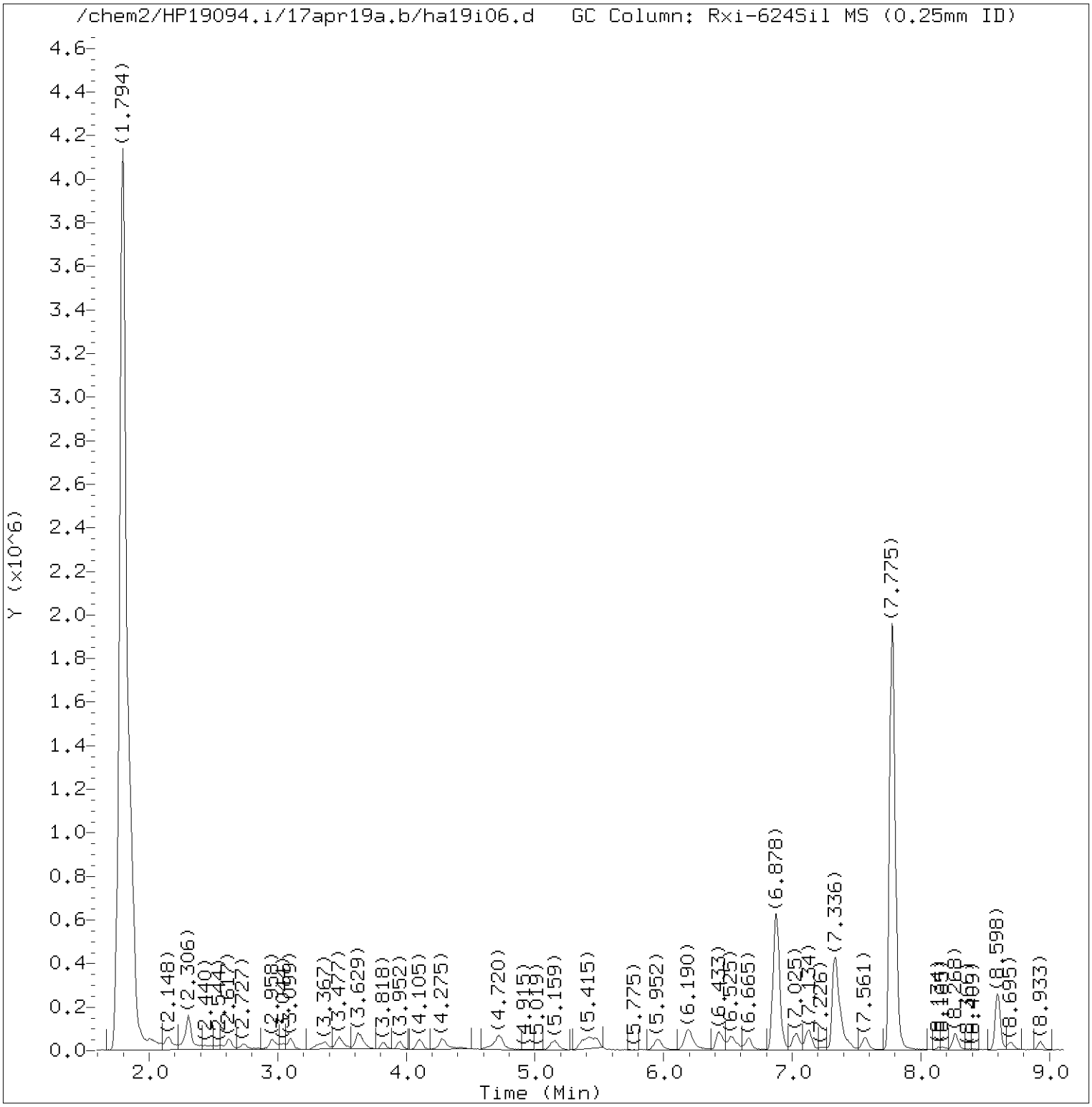
Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 60754
On-column Amount (ng) : 0.9902
Integration start scan : 1834 Integration stop scan: 1856
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito



Total Ion Chromatogram (TIC)

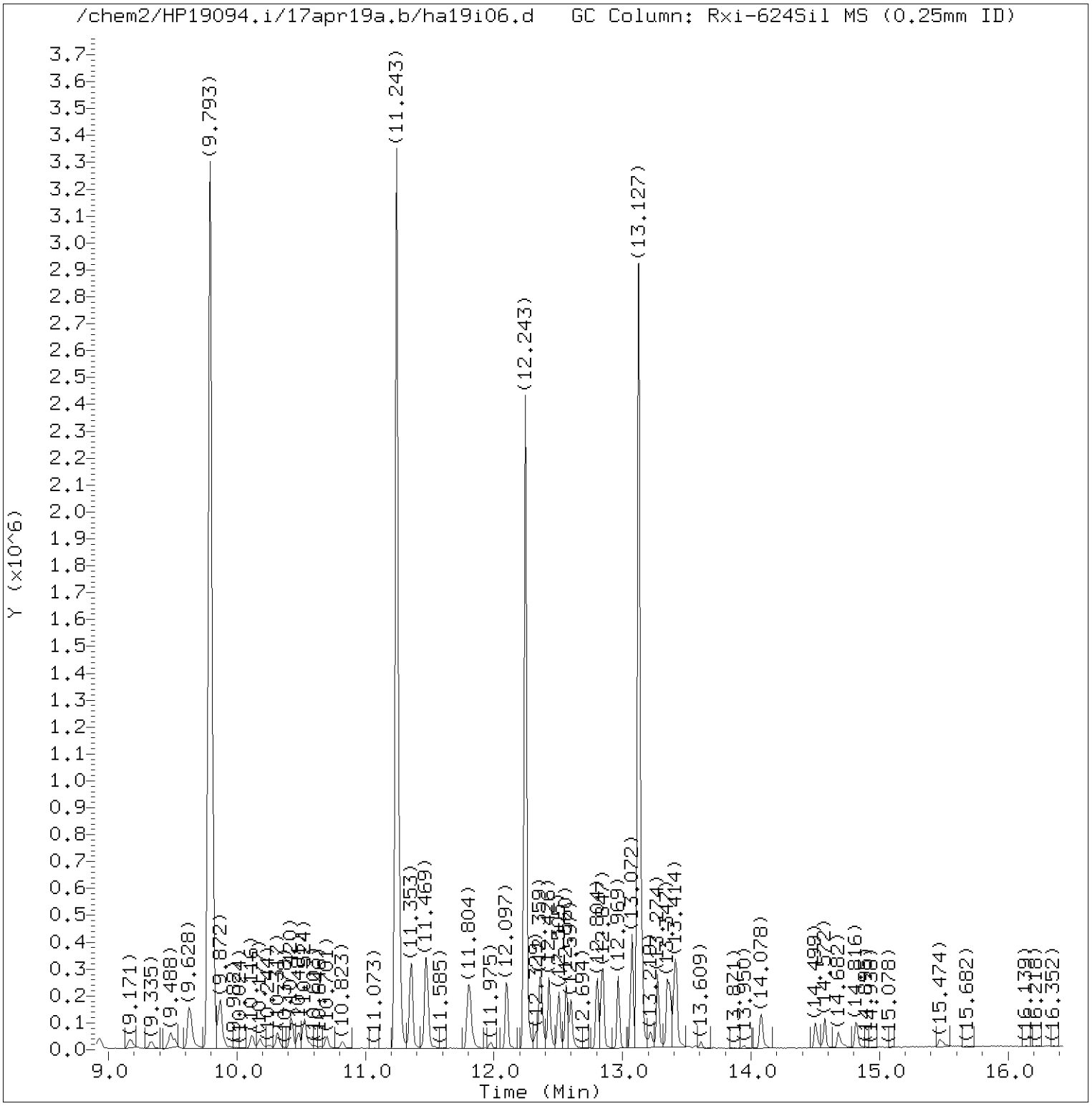
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.020	85	51596	0.473
2) Chloromethane	(2)	2.148	50	58545	0.527
5) Vinyl Chloride	(2)	2.288	62	49244	0.503
6) 1,3-Butadiene	(2)	2.306	39	82743	0.524
7) Bromomethane	(2)	2.623	94	30656	0.493
8) Chloroethane	(2)	2.727	64	29168	0.524
9) Dichlorofluoromethane	(2)	2.958	67	61625	0.473
10) Trichlorofluoromethane	(2)	3.044	101	54020	0.465
11) Ethyl ether	(2)	3.306	59	22023	0.485
12) Freon 123a	(2)	3.367	67	41324	0.463
13) Acrolein	(1)	3.477	56	131393	22.601
15) 1,1-Dichloroethene	(2)	3.623	96	28739	0.456
16) Freon 113	(2)	3.653	101	30900	0.457
14) Acetone	(1)	3.678	43	32388	4.861
17) Methyl Iodide	(2)	3.818	142	56460	0.484
18) Carbon Disulfide	(2)	3.952	76	82495	0.467
21) Methyl Acetate	(1)	4.074	43	13525M	0.565
22) Allyl Chloride	(2)	4.105	41	59536	0.493
23) Methylene Chloride	(2)	4.281	84	33472	0.495
26)*t-Butyl Alcohol-d10	(1)	4.342	65	75157	50.000
28) t-Butyl Alcohol	(1)	4.409	59	20596M	10.784
29) Acrylonitrile	(1)	4.635	53	20648	2.115
30) Methyl Tertiary Butyl Ether	(2)	4.708	73	56537	0.447
31) trans-1,2-Dichloroethene	(2)	4.720	96	32459	0.467
32) n-Hexane	(2)	5.153	57	44481M	0.401
33) 1,1-Dichloroethane	(2)	5.360	63	68216	0.494
34) di-Isopropyl Ether	(2)	5.421	45	110010	0.469
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	51910	0.441
37) Ethyl t-butyl ether	(2)	5.946	59	82948	0.456
40) 1,2-Dichloroethene (Total)	(2)		96	69104	0.940
38) 2-Butanone	(1)	6.159	43	69249	4.732
39) cis-1,2-Dichloroethene	(2)	6.183	96	36645	0.473
41) 2,2-Dichloropropane	(2)	6.202	77	45212	0.442
42) Propionitrile	(1)	6.244	54	33295	9.772
45) Methacrylonitrile	(1)	6.433	67	62980	4.387
47) Bromochloromethane	(2)	6.525	128	13954	0.470
48) Tetrahydrofuran	(1)	6.537	71	15759	4.310
49) Chloroform	(2)	6.665	83	63570	0.495

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	633930	10.034
50)$Dibromofluoromethane	(2)	6.878	111	650969	10.037
51) 1,1,1-Trichloroethane	(2)	6.903	97	53724	0.490
52) Cyclohexane	(2)	7.025	56	68966	0.494
52) Cyclohexane	(2)	7.037	84	42730	0.379
52) Cyclohexane	(2)	7.037	69	17349	0.439
55) 1,1-Dichloropropene	(2)	7.122	75	46872	0.452
54) Carbon Tetrachloride	(2)	7.141	117	41106	0.445
56) Isobutyl Alcohol	(1)	7.226	41	19813	24.940
57)$1,2-Dichloroethane-d4	(2)	7.330	102	103773	10.134
57)$1,2-Dichloroethane-d4	(2)	7.336	65	497994	10.056
57)$1,2-Dichloroethane-d4	(2)	7.330	104	61335	9.955
58) Benzene	(2)	7.384	78	143284	0.484
59) 1,2-Dichloroethane	(2)	7.445	62	35127	0.491
60) t-Amyl methyl ether	(2)	7.561	73	64314	0.436
63)*Fluorobenzene	(2)	7.775	96	2807038	10.000
62) n-Heptane	(2)	7.811	43	53238	0.417
65) n-Butanol	(1)	8.146	56	28373M	47.054
67) Trichloroethene	(2)	8.275	95	36862	0.476
70) 1,2-Dichloropropane	(2)	8.598	63	38889	0.501
69) Methylcyclohexane	(2)	8.598	83	57084	0.428
71) Methyl Methacrylate	(1)	8.677	69	10889	0.399
73) Dibromomethane	(2)	8.707	93	14876	0.498
72) 1,4-Dioxane	(1)	8.768	88	1496M	7.167
74) Bromodichloromethane	(2)	8.933	83	36661	0.448
76) 2-Nitropropane	(1)	9.171	41	36896	4.325
80) cis-1,3-Dichloropropene	(2)	9.476	75	40979	0.437
81) 4-Methyl-2-Pentanone	(1)	9.628	43	161786M	4.218
82)$Toluene-d8	(3)	9.793	98	2704235	10.242
82)$Toluene-d8	(3)	9.793	100	1745778	10.256
83) Toluene	(3)	9.872	92	85856	0.489
84) trans-1,3-Dichloropropene	(3)	10.116	75	32031	0.468
85) 1,3-Dichloropropene (total)	(3)		75	73010	0.904
86) Ethyl Methacrylate	(3)	10.177	69	23329	0.451
88) 1,1,2-Trichloroethane	(3)	10.323	97	19721	0.482
89) Tetrachloroethene	(3)	10.427	166	38516	0.471
90) 1,3-Dichloropropane	(3)	10.481	76	35303	0.488
91) 2-Hexanone	(1)	10.524	43	110495	4.094

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.701	129	22306	0.464
95) 1,2-Dibromoethane	(3)	10.823	107	19440	0.504
97)*Chlorobenzene-d5	(3)	11.243	117	1818984	10.000
98) Chlorobenzene	(3)	11.274	112	93850	0.488
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	31786	0.495
100) Ethylbenzene	(3)	11.359	91	158354	0.459
101) m+p-Xylene	(3)	11.475	106	122745	0.928
105) Xylene (Total)	(3)		106	182485	1.395
104) o-Xylene	(3)	11.798	106	59740	0.467
106) Styrene	(3)	11.816	104	82460	0.417
107) Bromoform	(3)	11.975	173	10327	0.424
108) Isopropylbenzene	(3)	12.097	105	146390	0.439
111)$4-Bromofluorobenzene	(3)	12.243	95	756904	9.947
111)$4-Bromofluorobenzene	(3)	12.243	174	659592	9.745
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	25459	0.527
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	33996A	3.421
114) Bromobenzene	(4)	12.365	156	37363	0.503
116) 1,2,3-Trichloropropane	(4)	12.383	110	6249	0.524
117) n-Propylbenzene	(4)	12.426	91	190164	0.471
119) 2-Chlorotoluene	(4)	12.505	126	38560	0.506
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	126072	0.461
122) 4-Chlorotoluene	(4)	12.597	126	38463	0.500
125) tert-Butylbenzene	(4)	12.804	134	29223	0.497
126) Pentachloroethane	(4)	12.835	167	20605	0.472
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	123814	0.452
128) sec-Butylbenzene	(4)	12.969	105	166632	0.465
131) 1,3-Dichlorobenzene	(4)	13.072	146	71803	0.489
132) p-Isopropyltoluene	(4)	13.078	119	128903	0.436
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	760024	10.000
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	57962	0.499
134) 1,4-Dichlorobenzene	(4)	13.146	146	76808	0.512
136) Benzyl Chloride	(4)	13.219	126	7034	0.441
138) n-Butylbenzene	(4)	13.371	92	56530	0.386
139) 1,2-Dichlorobenzene	(4)	13.402	146	63422	0.489
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	2263	0.398
145) 1,2,4-Trichlorobenzene	(4)	14.505	180	38879	0.465
146) Hexachlorobutadiene	(4)	14.572	225	18704	0.449
147) Naphthalene	(4)	14.682	128	57745	0.468

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

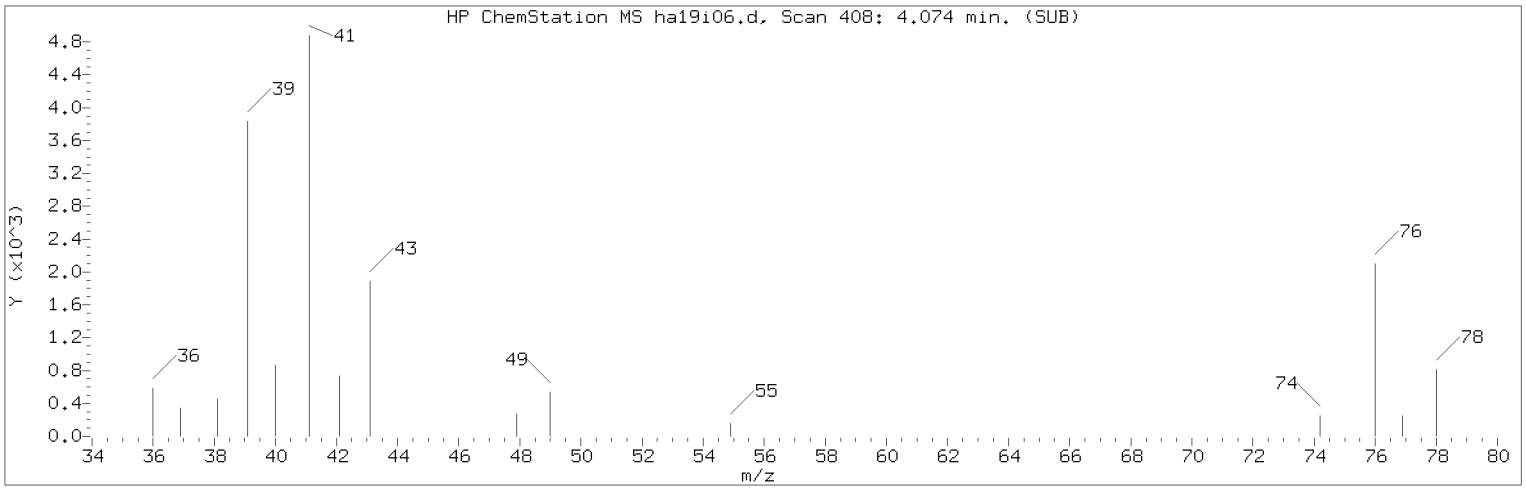
Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	32601M	0.472

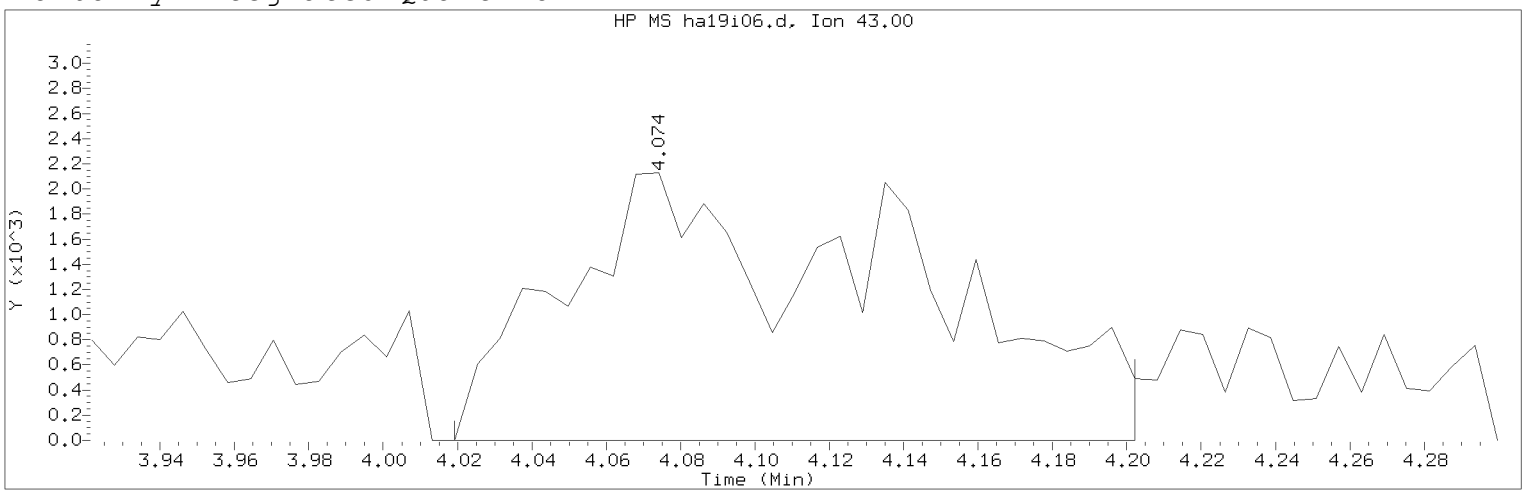
M = Compound was manually integrated.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

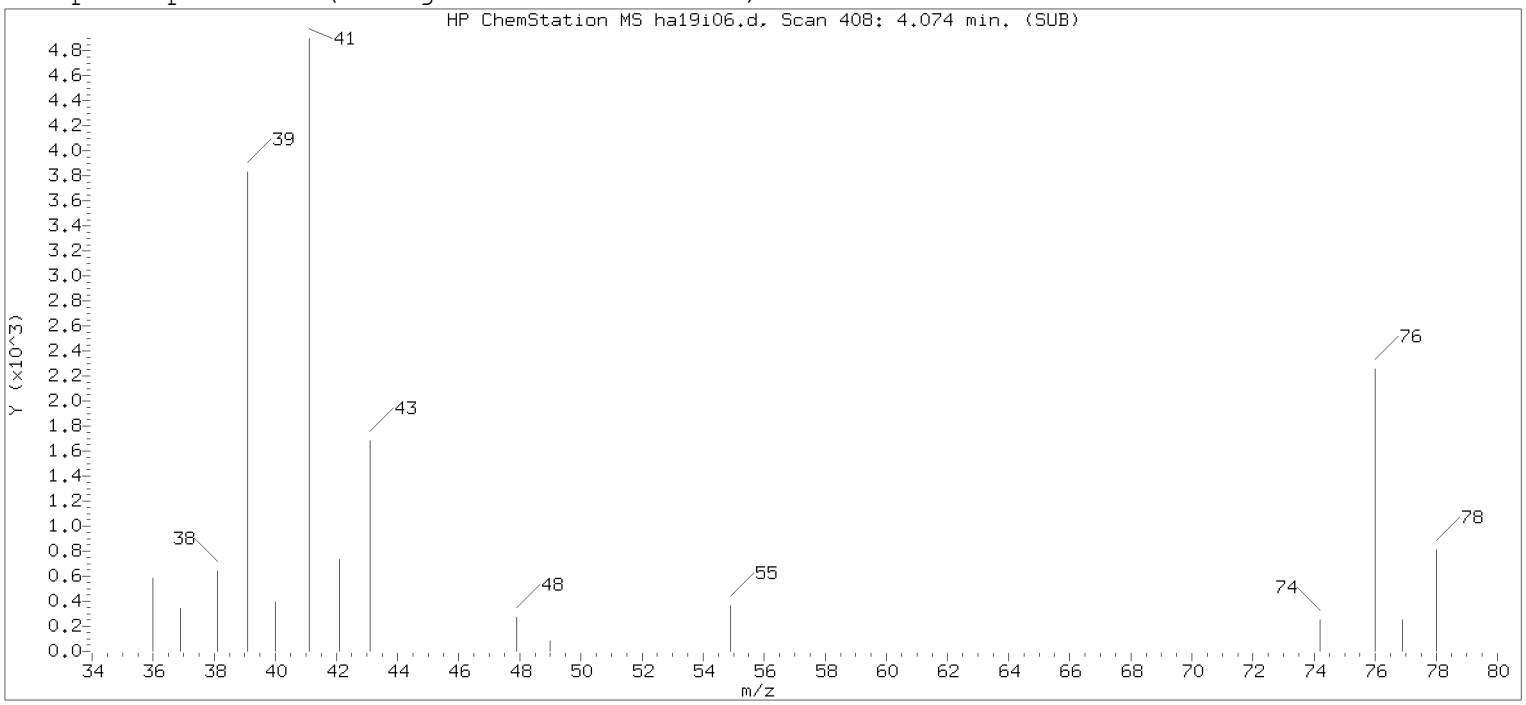
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 408
Retention Time (minutes): 4.074
Quant Ion : 43.00
Area (flag) : 13525M
On-Column Amount (ng) : 0.5645
Integration start scan : 398 Integration stop scan: 428
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

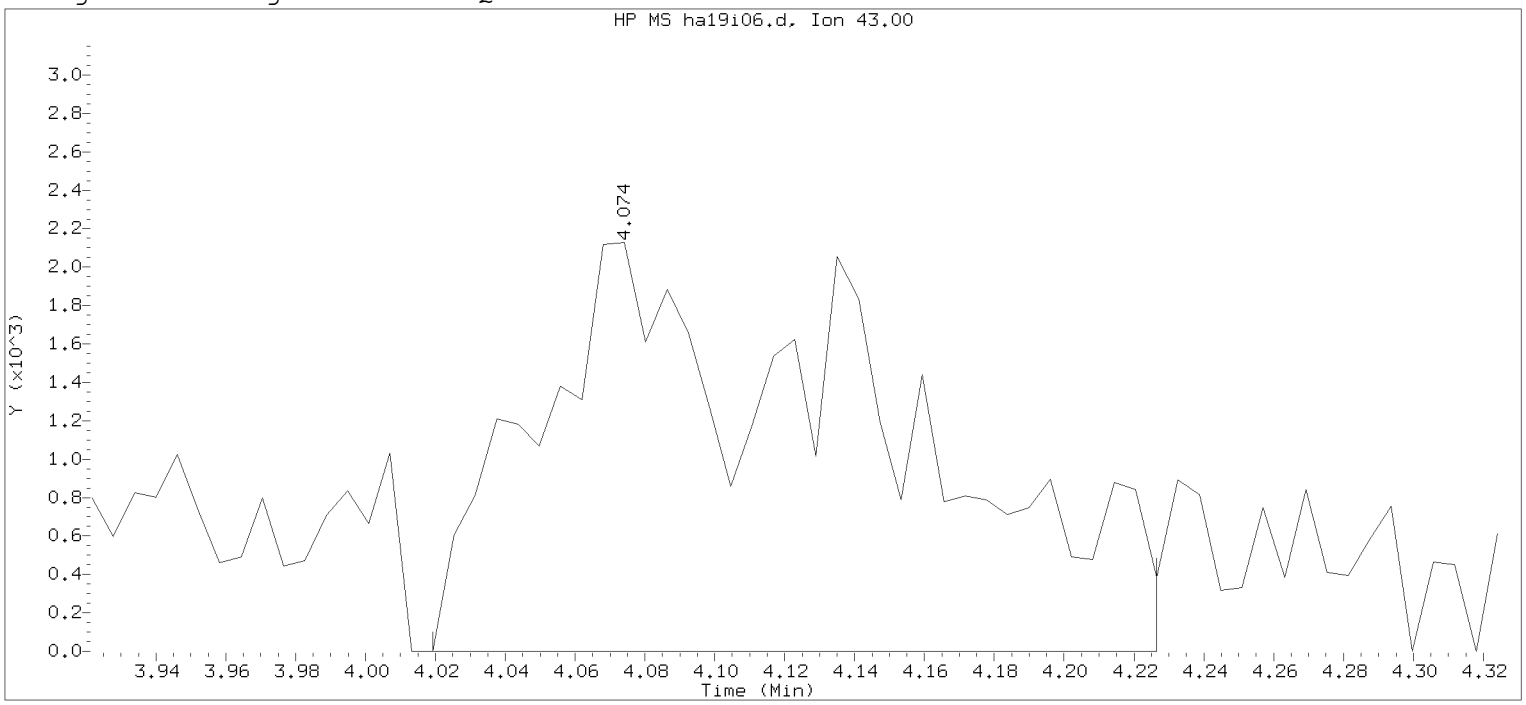
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

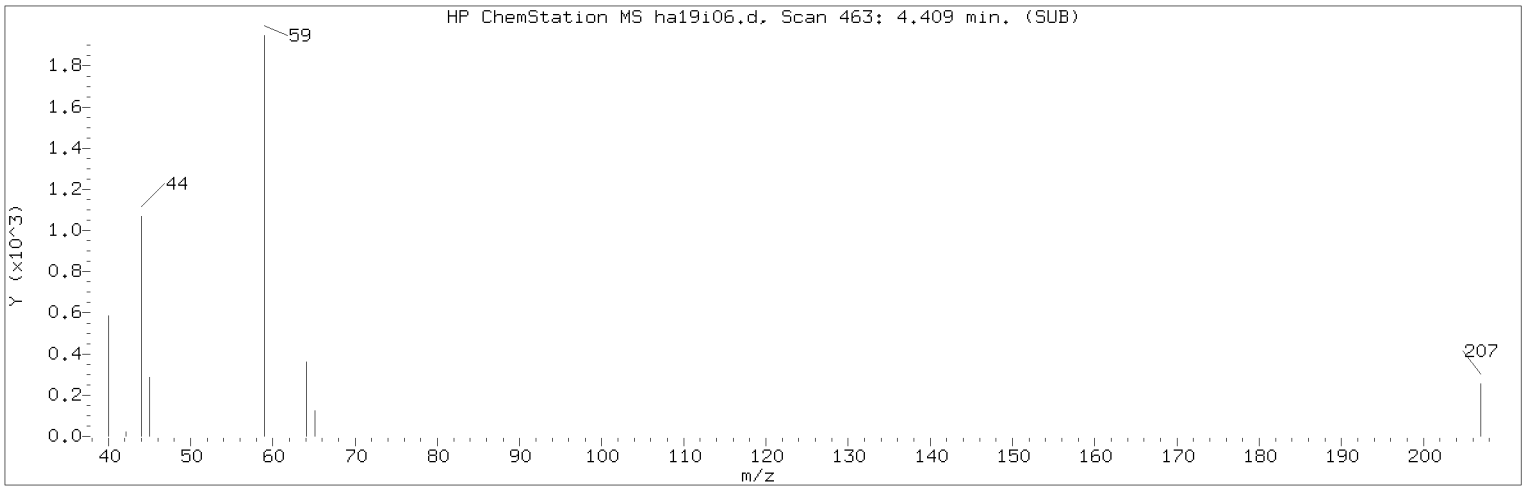
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

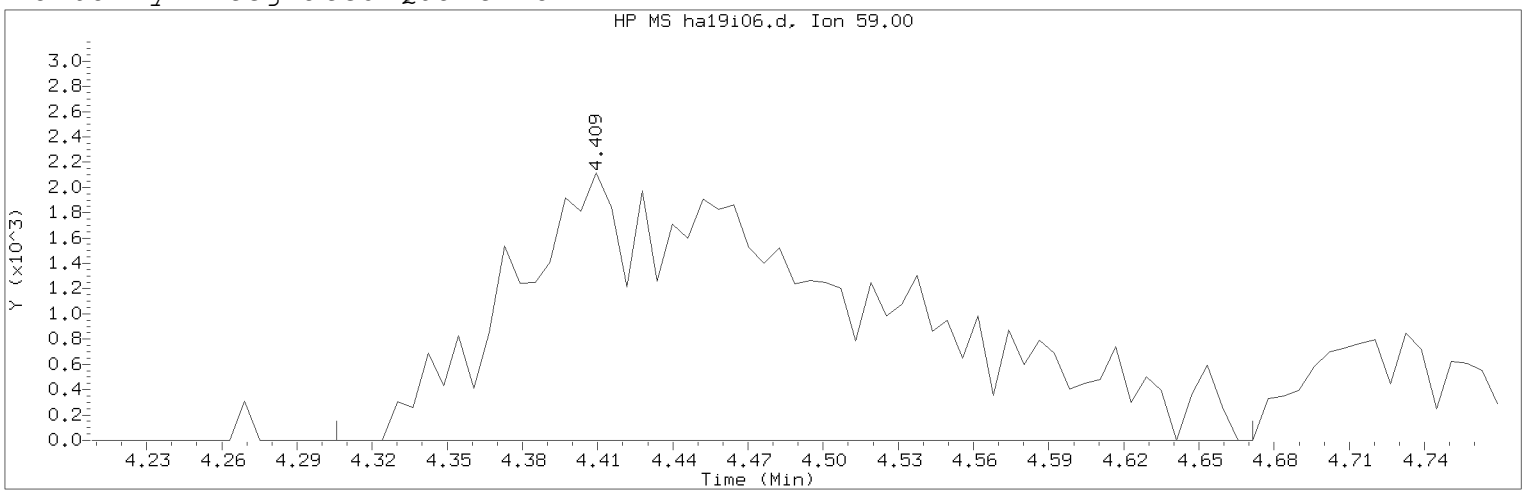
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 408
Retention Time (minutes): 4.074
Quant Ion : 43.00
Area : 14399
On-column Amount (ng) : 0.5615
Integration start scan : 398 Integration stop scan: 432
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

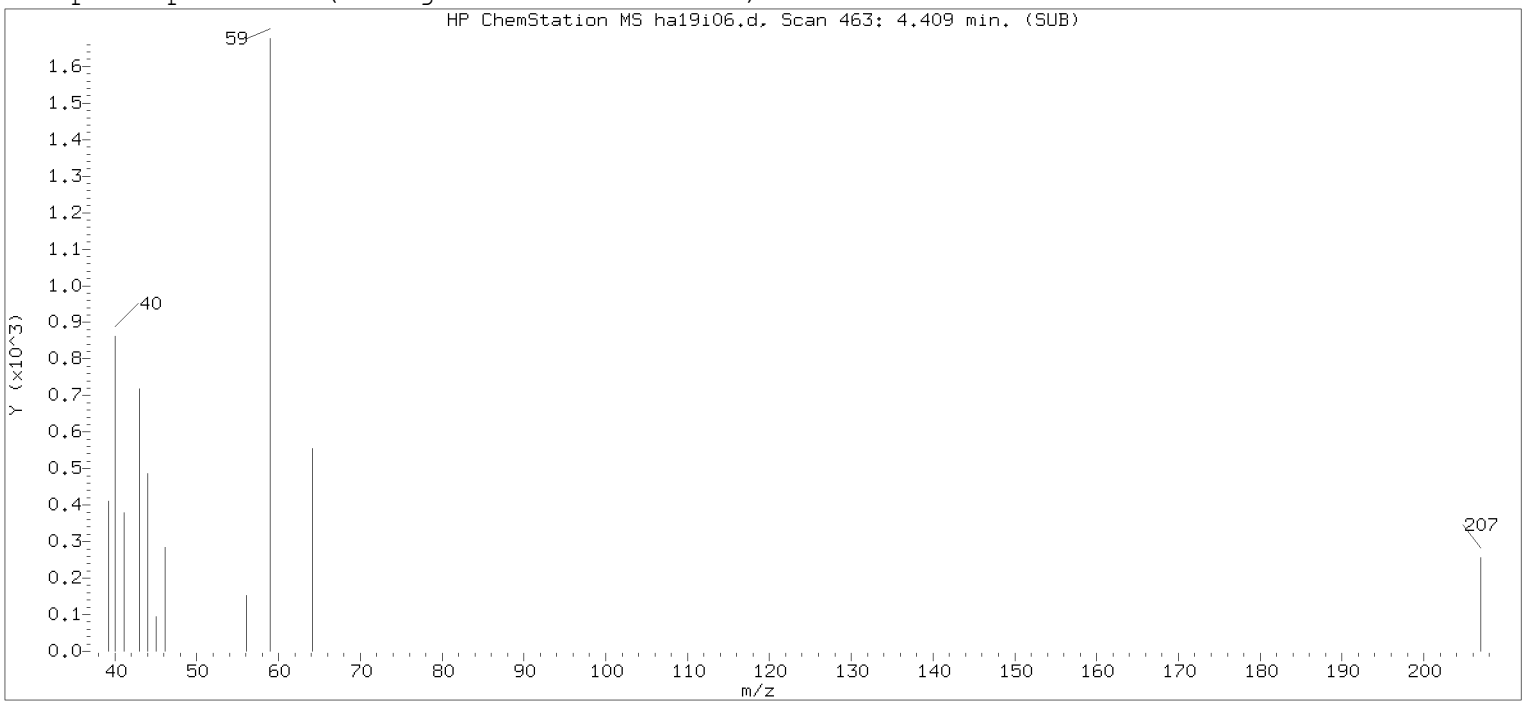
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 463
Retention Time (minutes): 4.409
Quant Ion : 59.00
Area (flag) : 20596M
On-Column Amount (ng) : 10.7836
Integration start scan : 445 Integration stop scan: 505
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

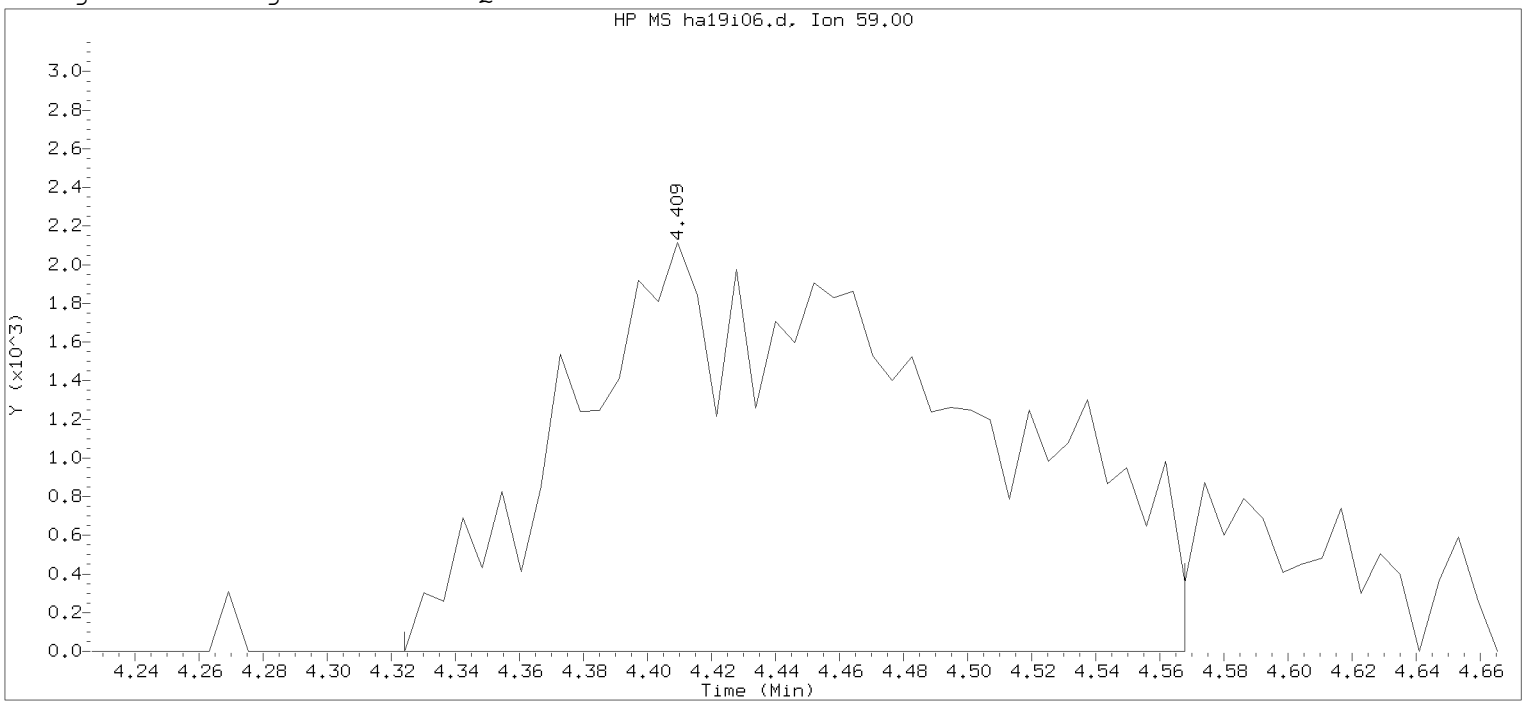
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

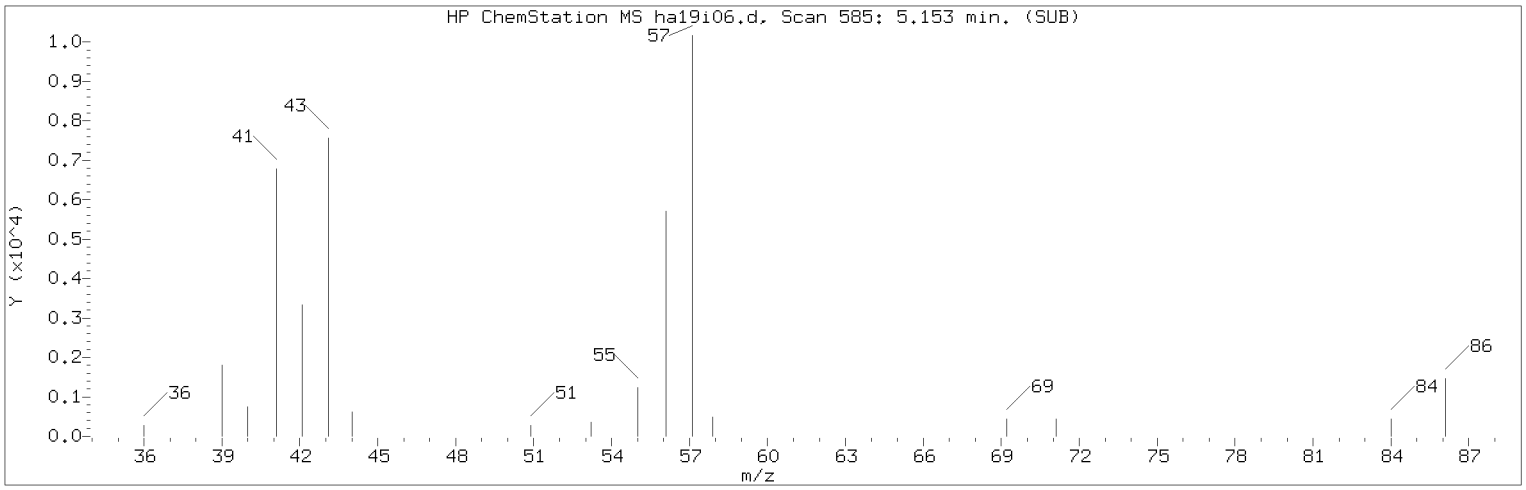
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

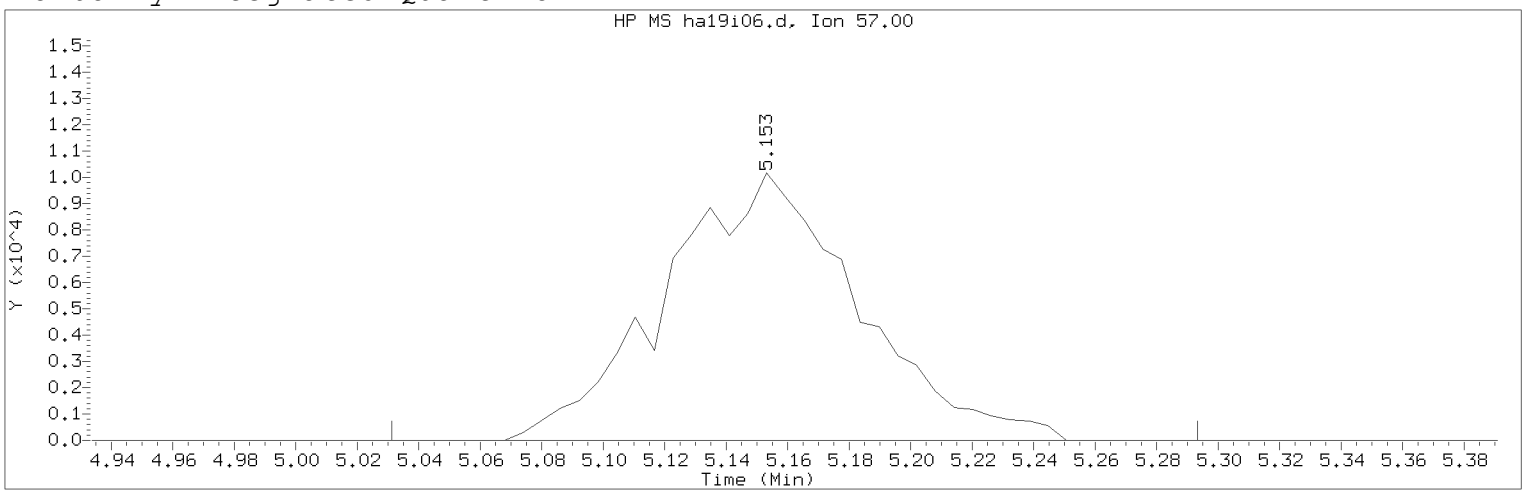
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 463
Retention Time (minutes): 4.409
Quant Ion : 59.00
Area : 17806
On-column Amount (ng) : 8.7314
Integration start scan : 448 Integration stop scan: 488
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

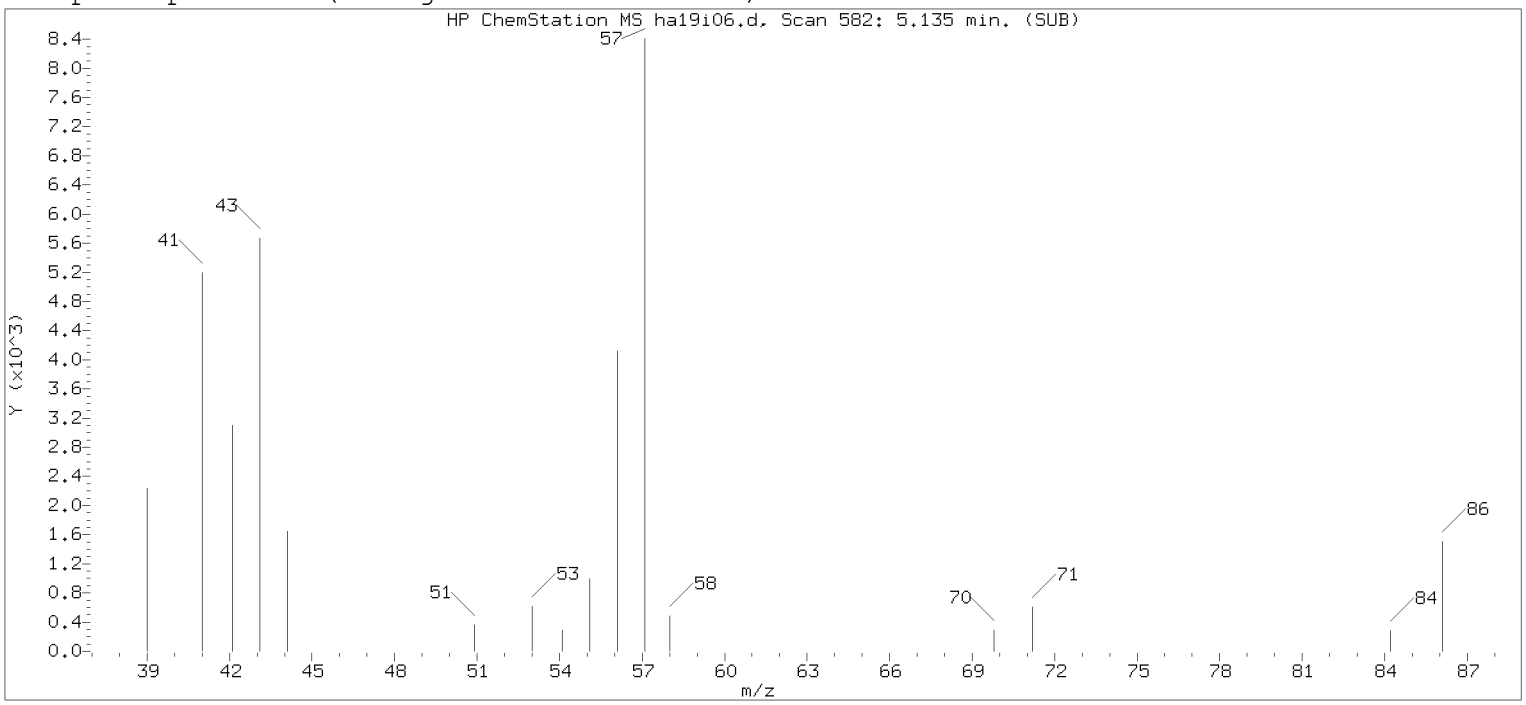
Compound Number : 32
Compound Name : n-Hexane
Scan Number : 585
Retention Time (minutes): 5.153
Quant Ion : 57.00
Area (flag) : 44481M
On-Column Amount (ng) : 0.4013
Integration start scan : 564 Integration stop scan: 607
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

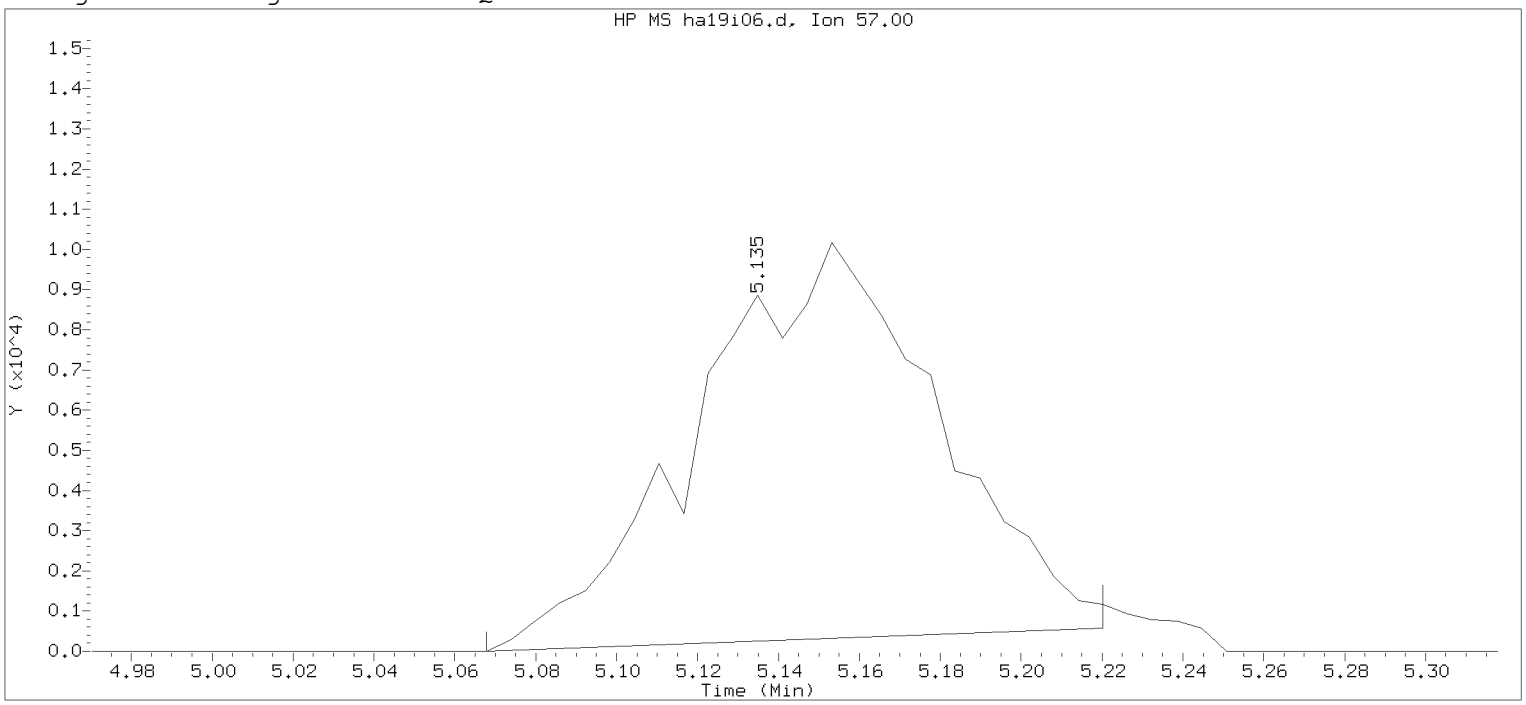
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

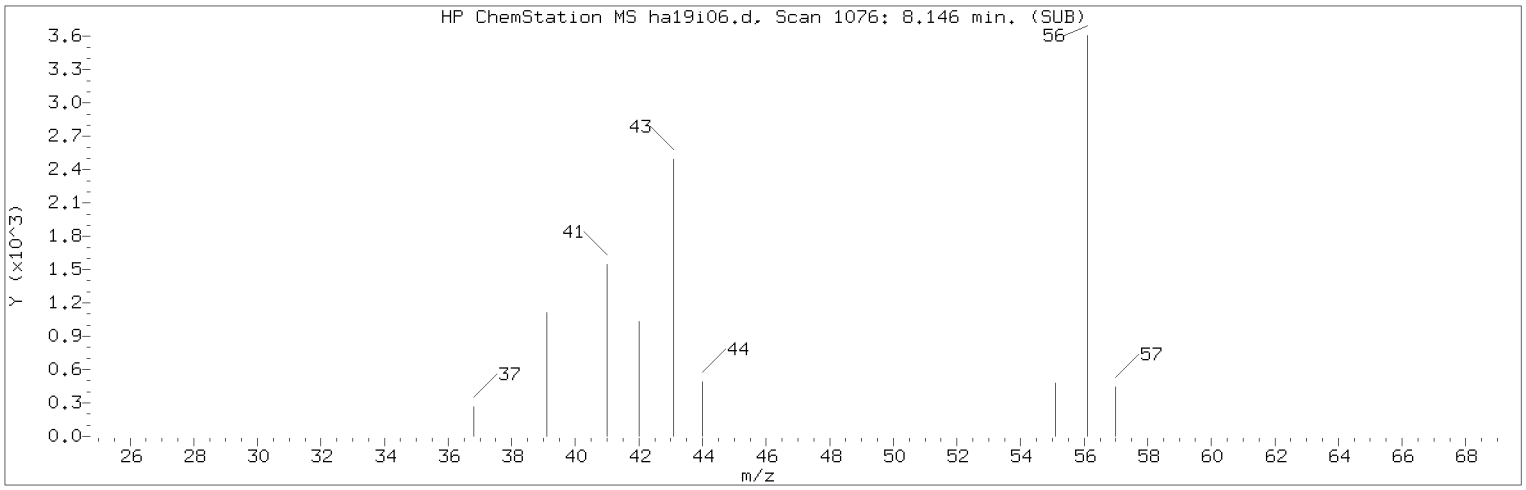
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

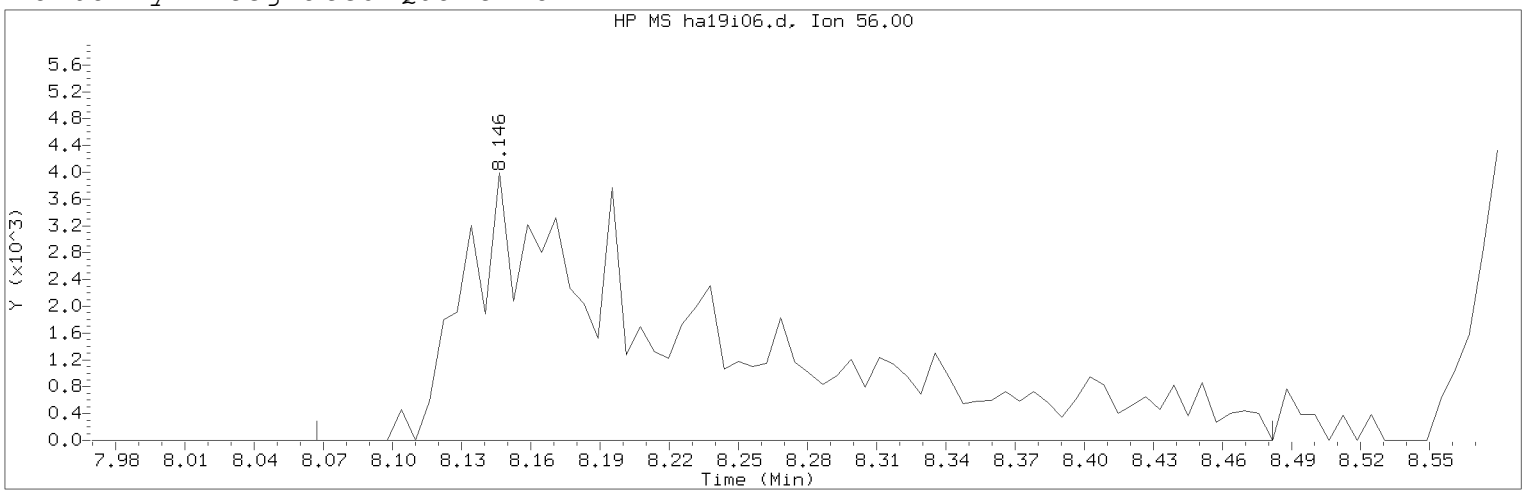
Compound Number : 32
Compound Name : n-Hexane
Scan Number : 582
Retention Time (minutes): 5.135
Quant Ion : 57.00
Area : 40507
On-column Amount (ng) : 0.3683
Integration start scan : 570 Integration stop scan: 595
Y at integration start : 0 Y at integration end: 582

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

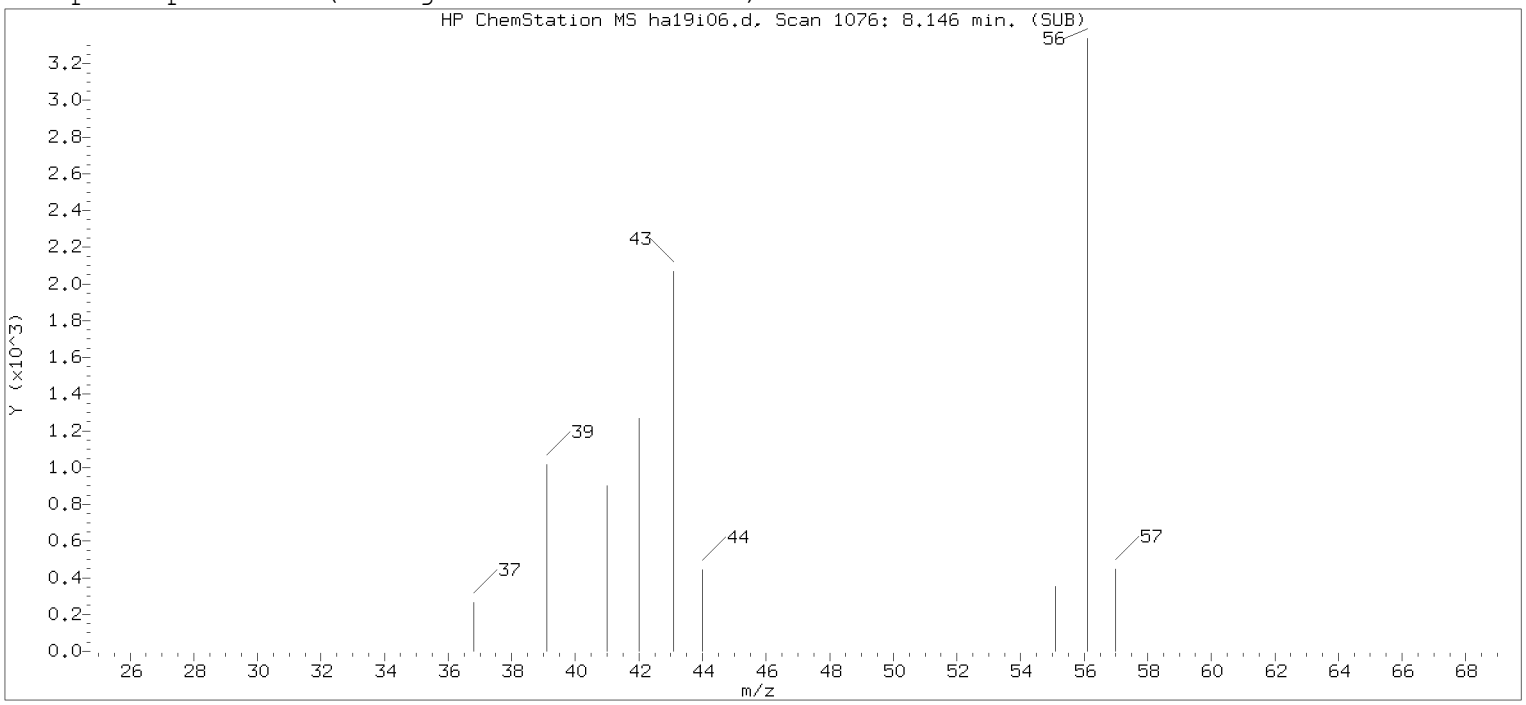
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1076
Retention Time (minutes): 8.146
Quant Ion : 56.00
Area (flag) : 28373M
On-Column Amount (ng) : 47.0544
Integration start scan : 1062 Integration stop scan: 1130
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

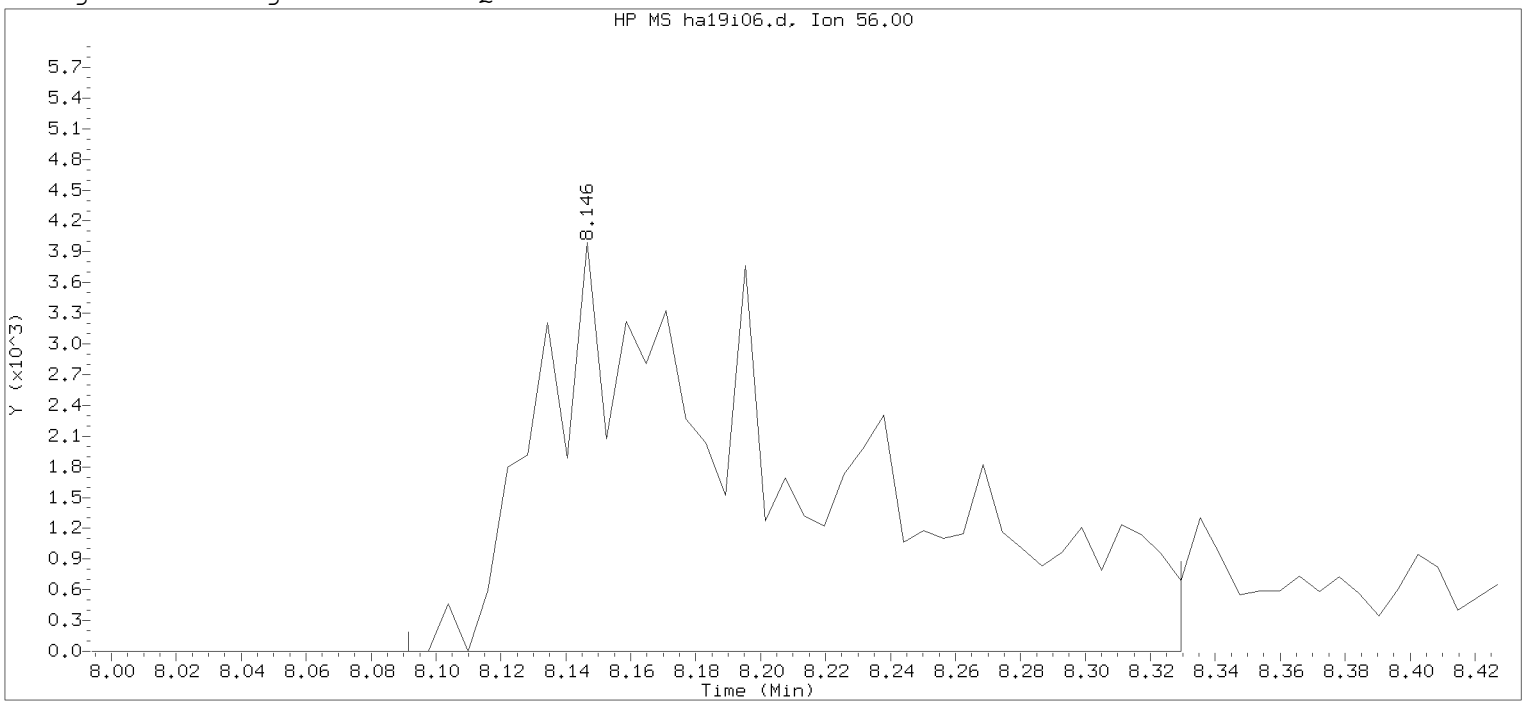
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

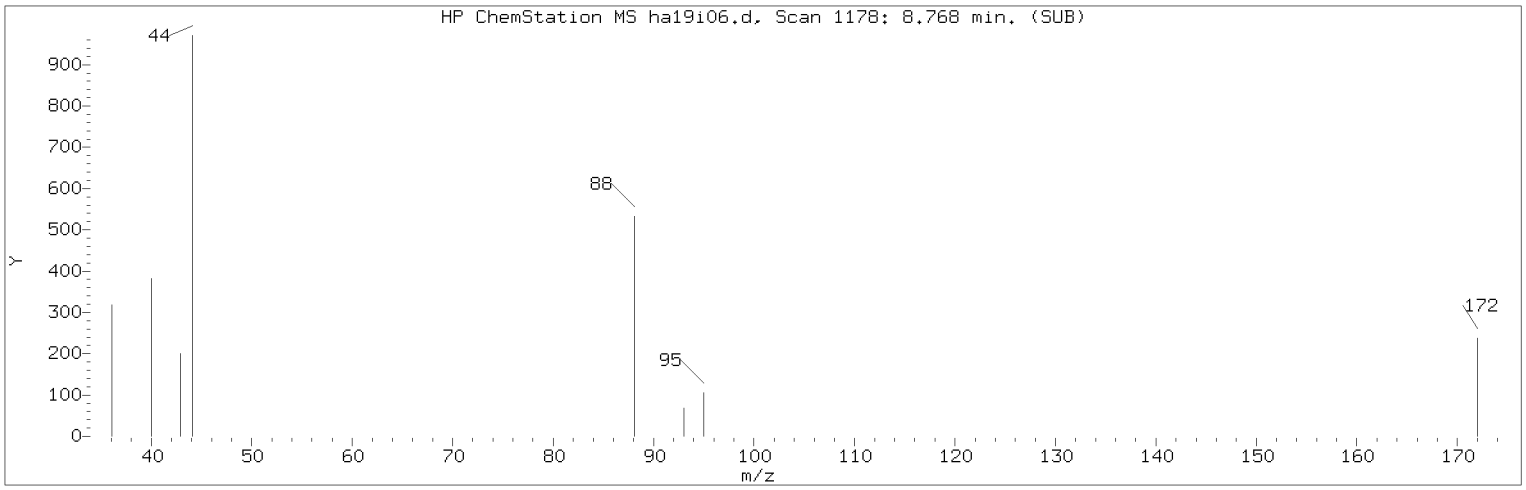
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

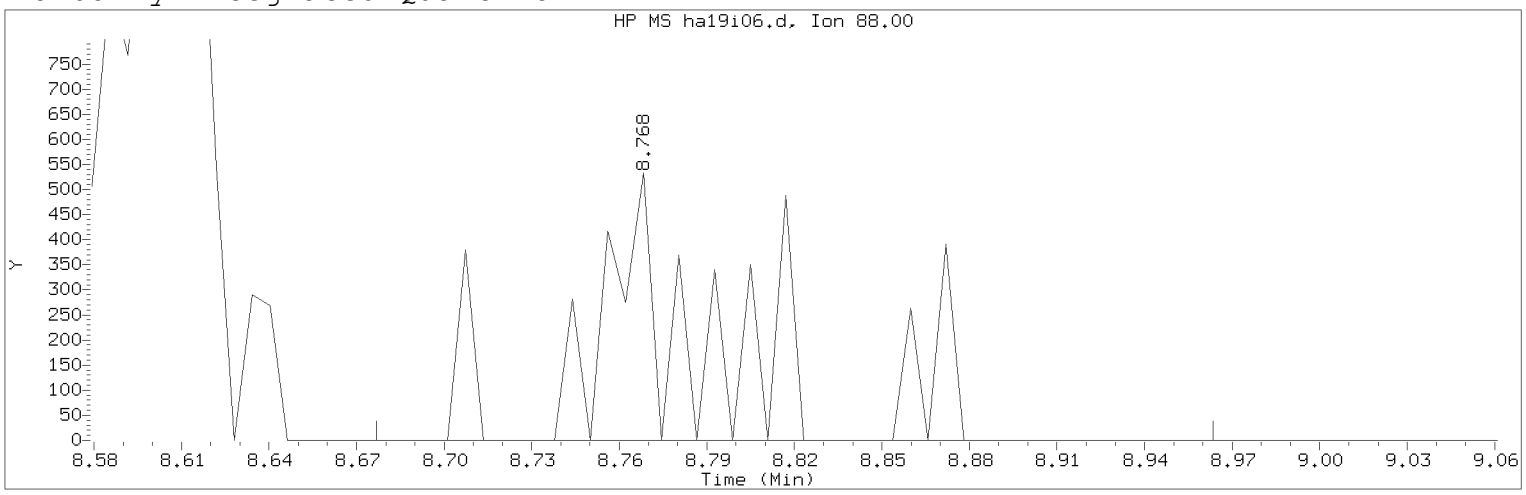
Compound Number	: 65		
Compound Name	: n-Butanol		
Scan Number	: 1076		
Retention Time (minutes)	: 8.146		
Quant Ion	: 56.00		
Area	: 22799		
On-column Amount (ng)	: 48.2577		
Integration start scan	: 1066	Integration stop scan:	1105
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

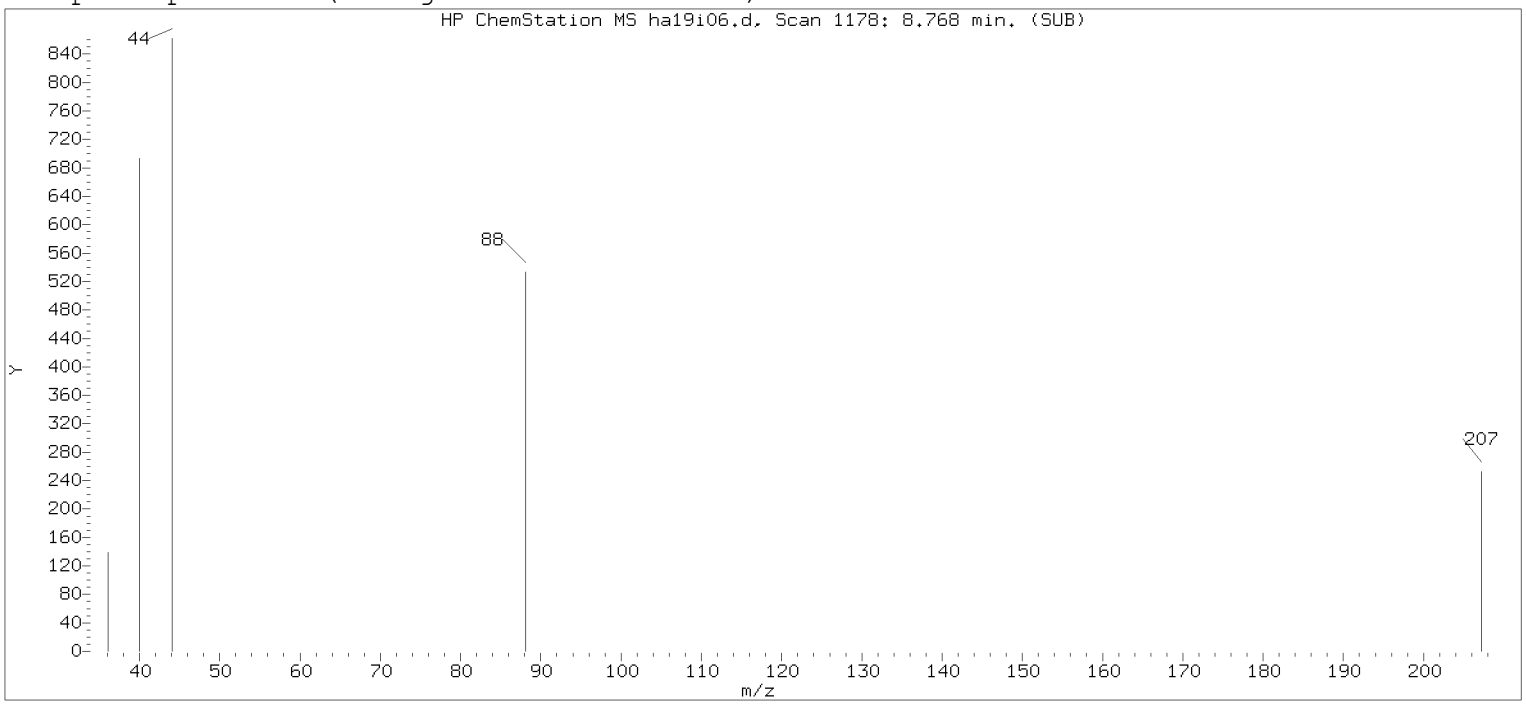
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1178
Retention Time (minutes): 8.768
Quant Ion : 88.00
Area (flag) : 1496M
On-Column Amount (ng) : 7.1667
Integration start scan : 1162 Integration stop scan: 1209
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

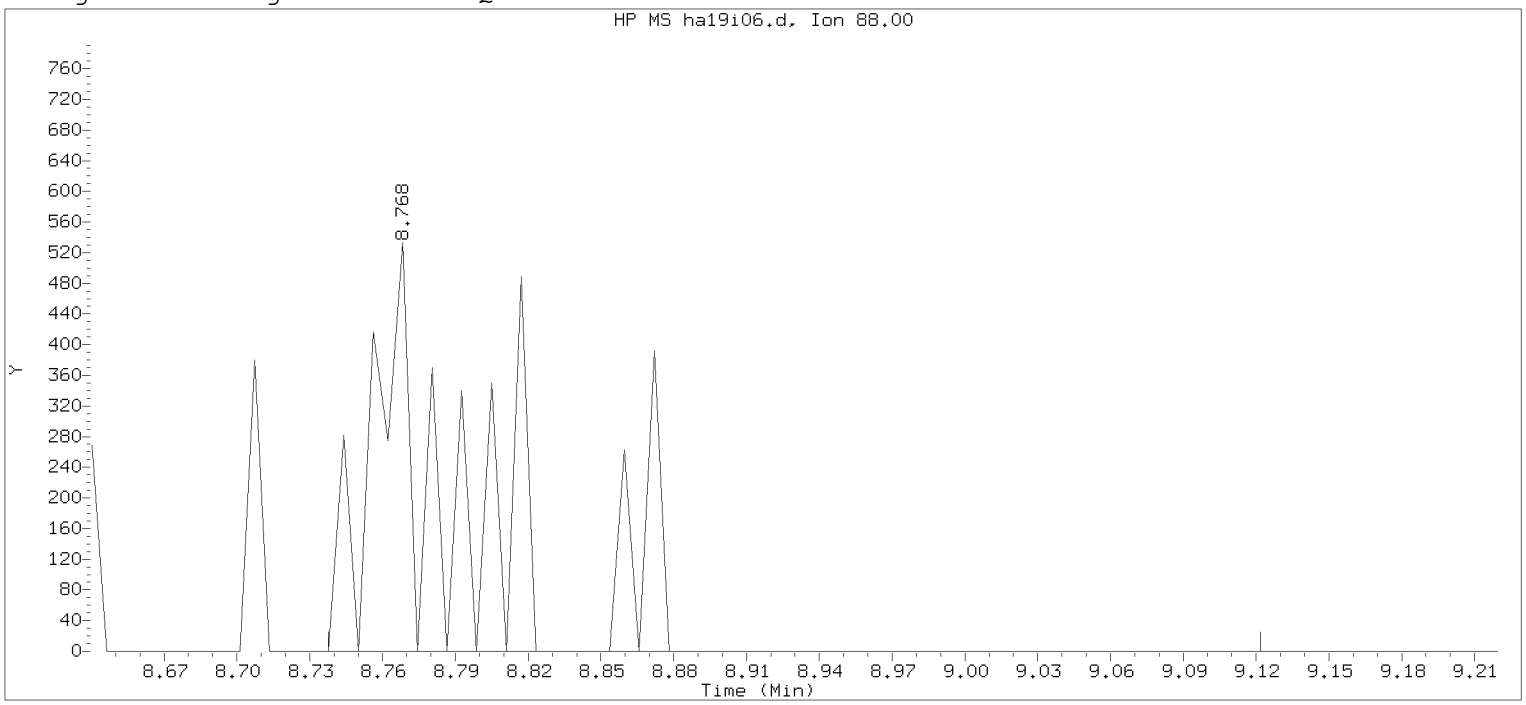
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

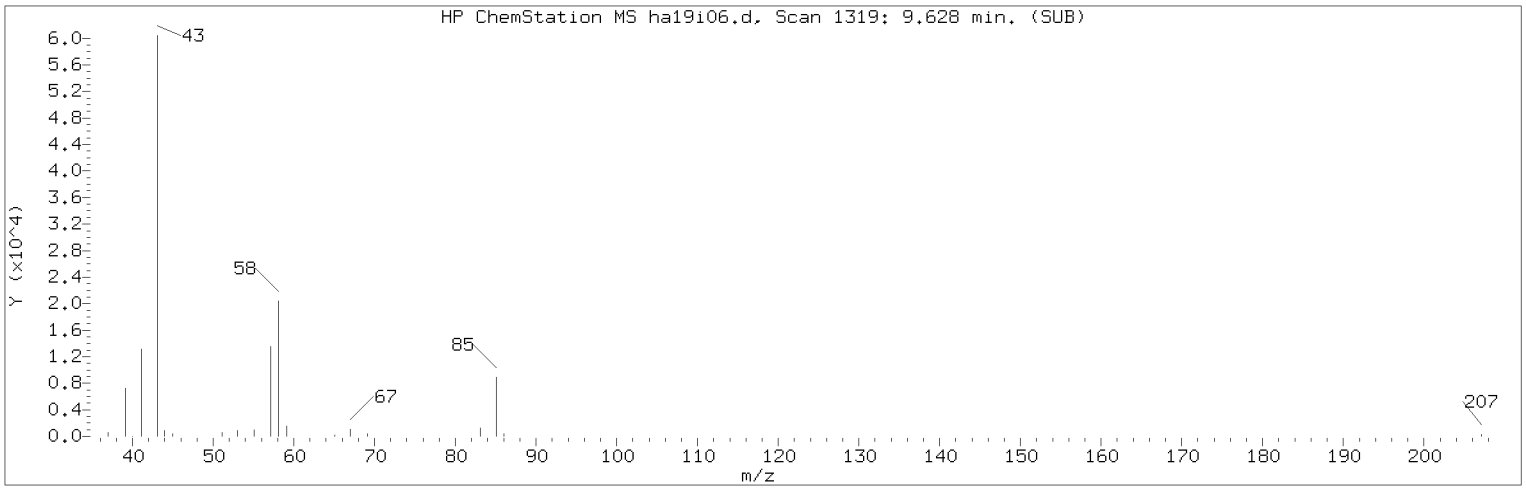
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

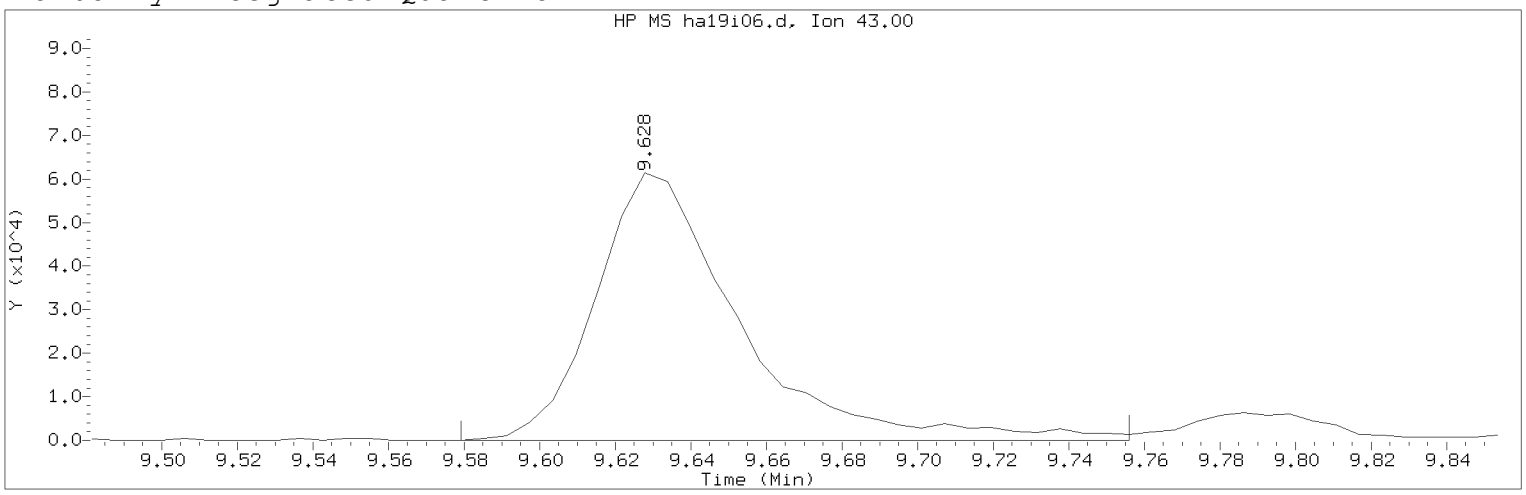
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1178
Retention Time (minutes): 8.768
Quant Ion : 88.00
Area : 1357
On-column Amount (ng) : 8.7560
Integration start scan : 1172 Integration stop scan: 1235
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@tetratech.com

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

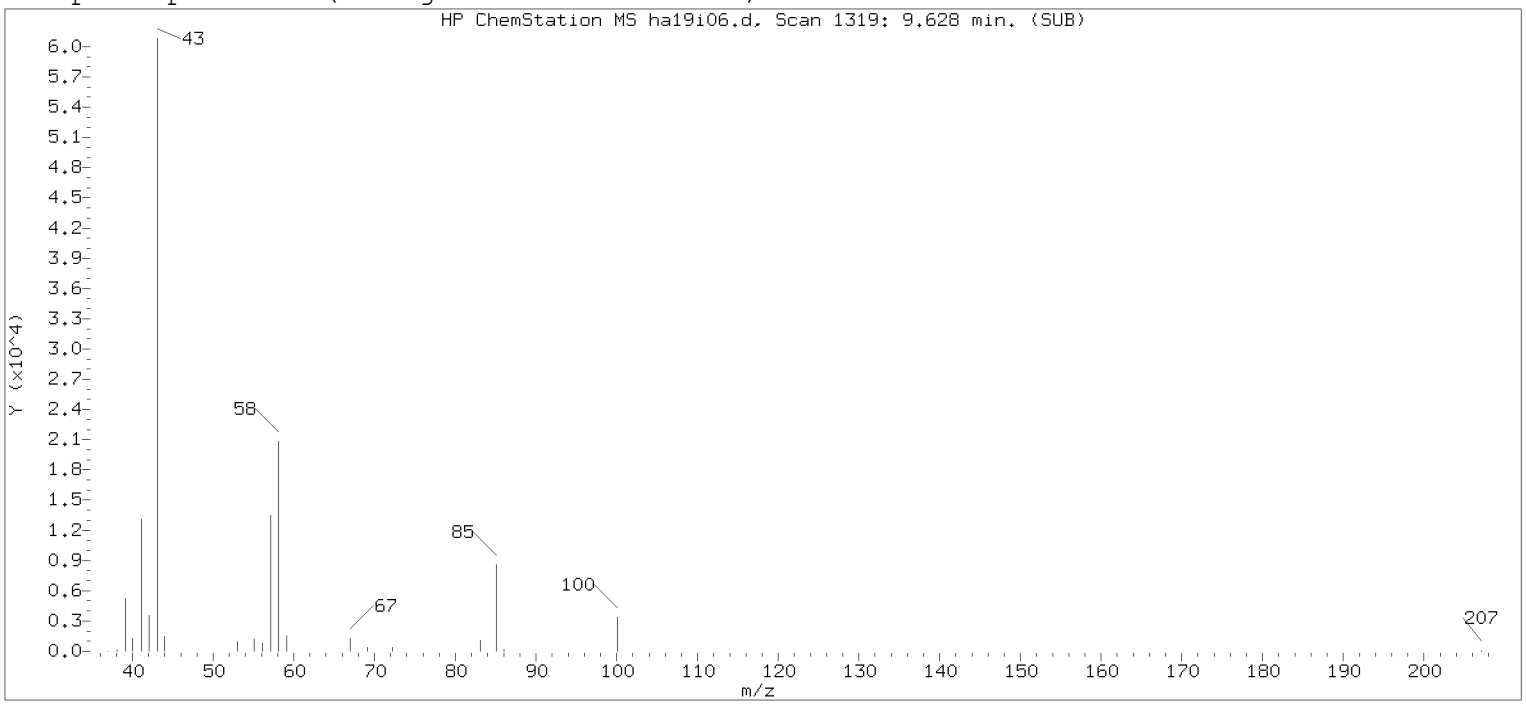
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area (flag) : 161786M
On-Column Amount (ng) : 4.2178
Integration start scan : 1310 Integration stop scan: 1339
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

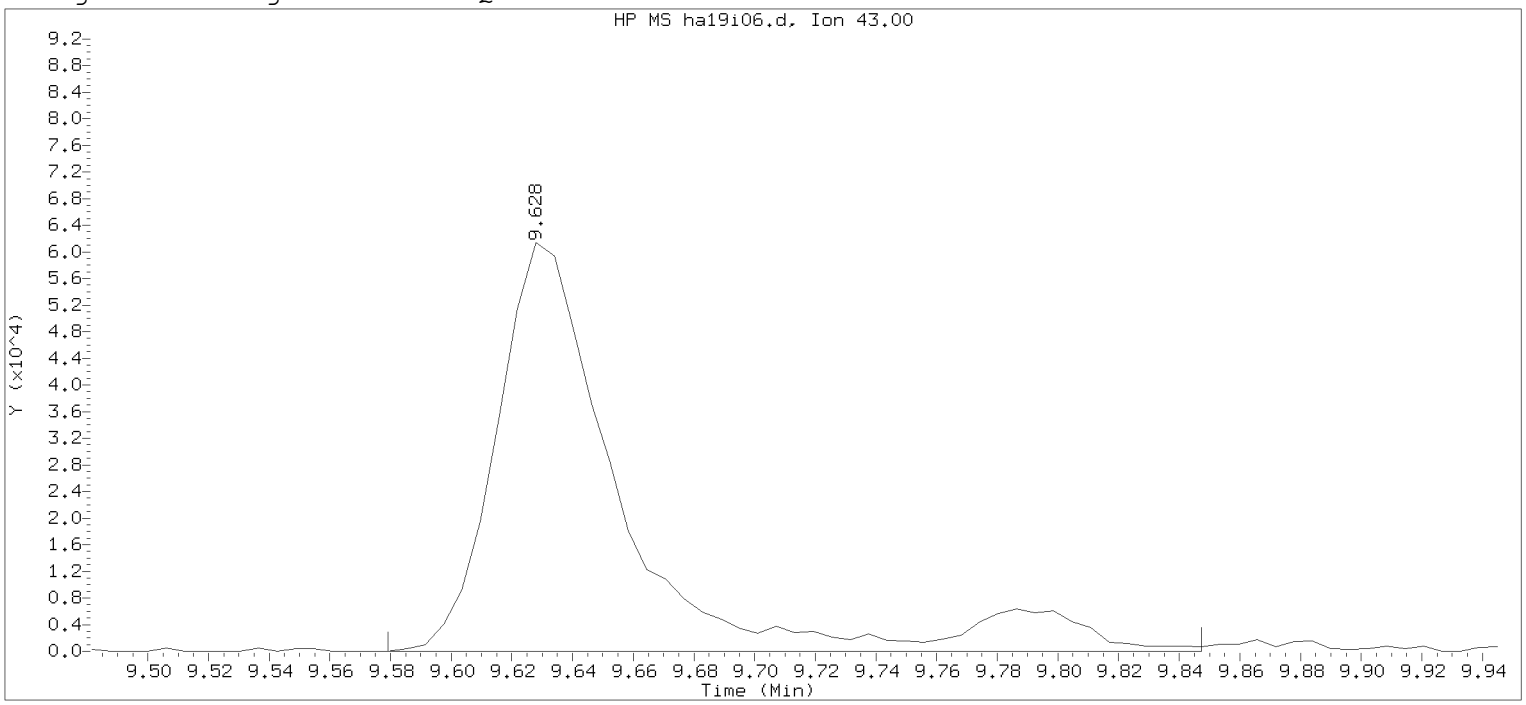
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

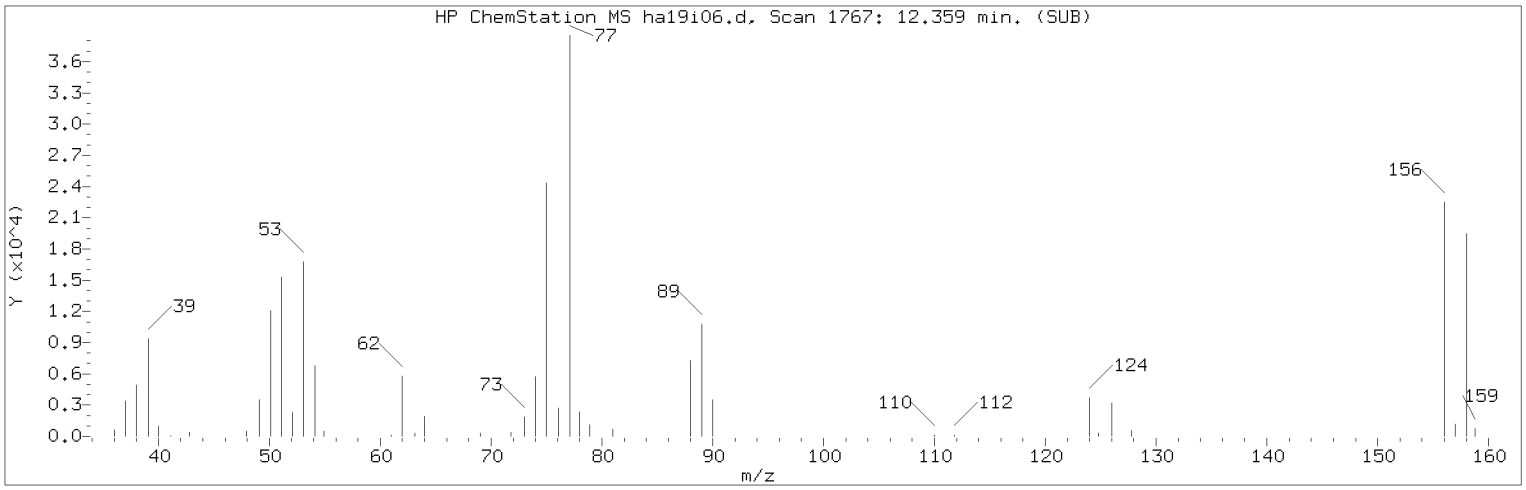
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

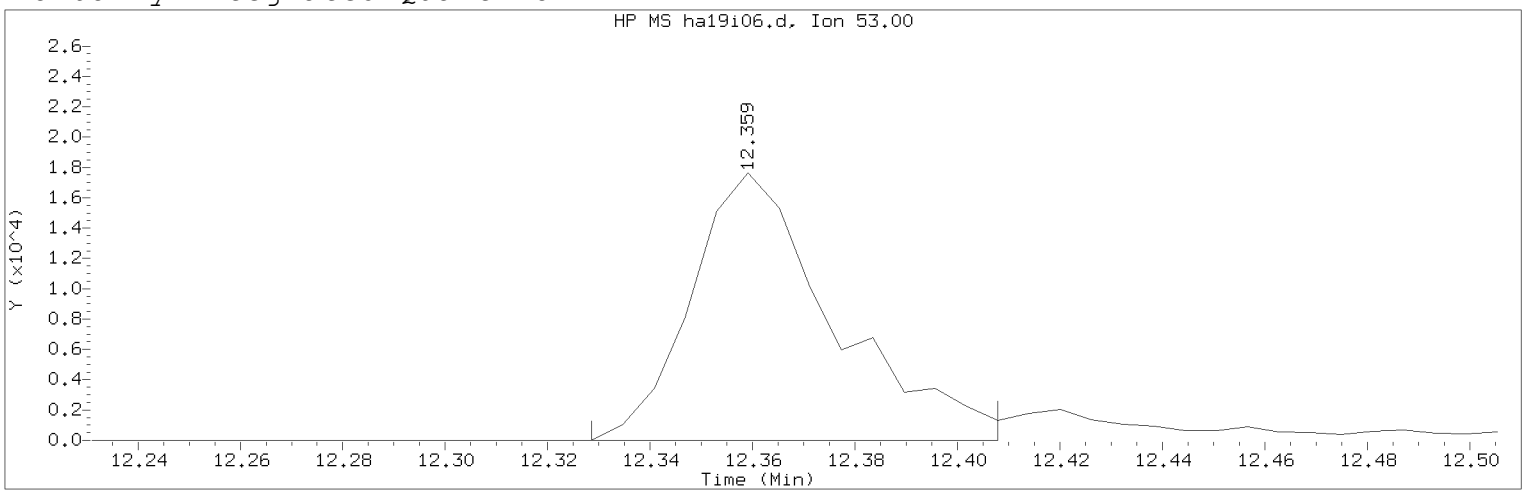
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area : 178480
On-column Amount (ng) : 5.3960
Integration start scan : 1310 Integration stop scan: 1354
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

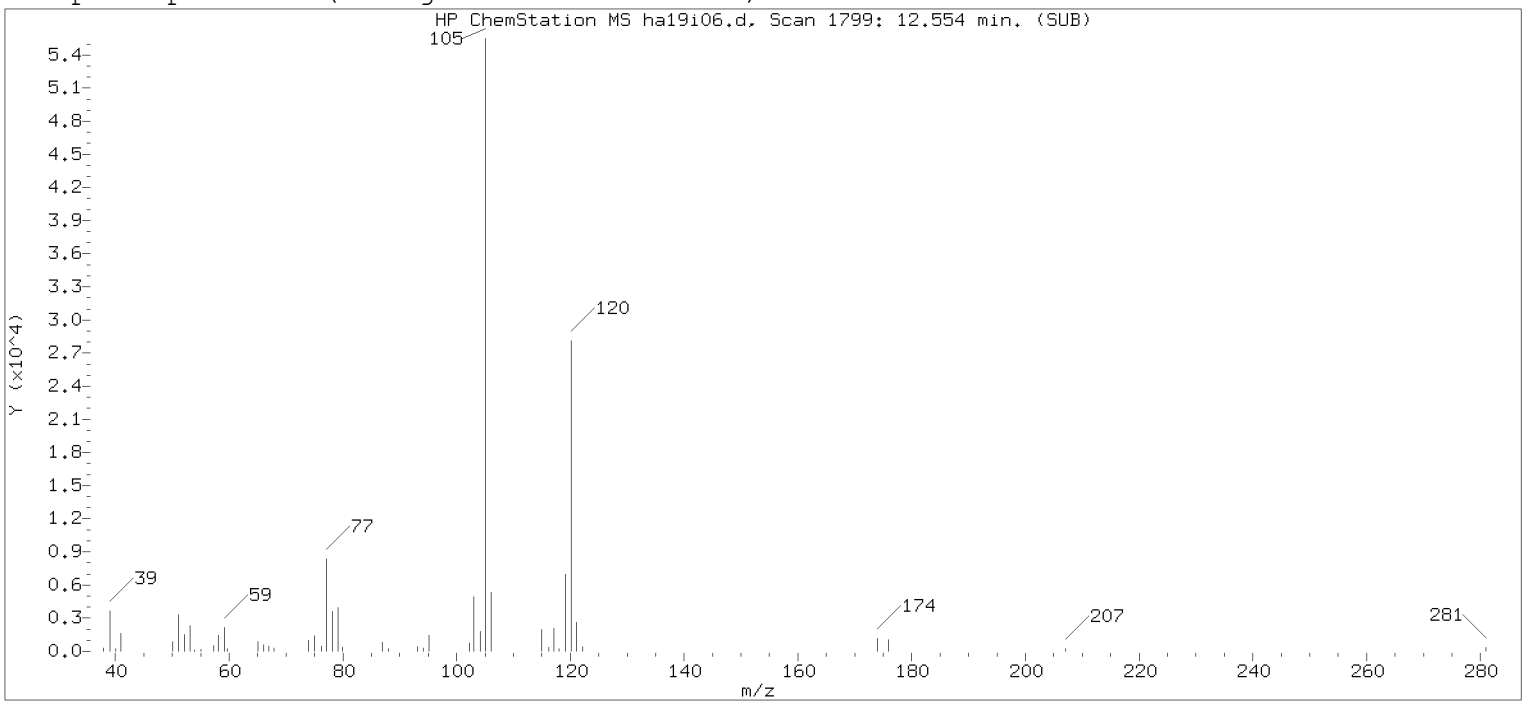
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1767
Retention Time (minutes): 12.359
Quant Ion : 53.00
Area (flag) : 33996A
On-Column Amount (ng) : 3.4211
Integration start scan : 1761 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

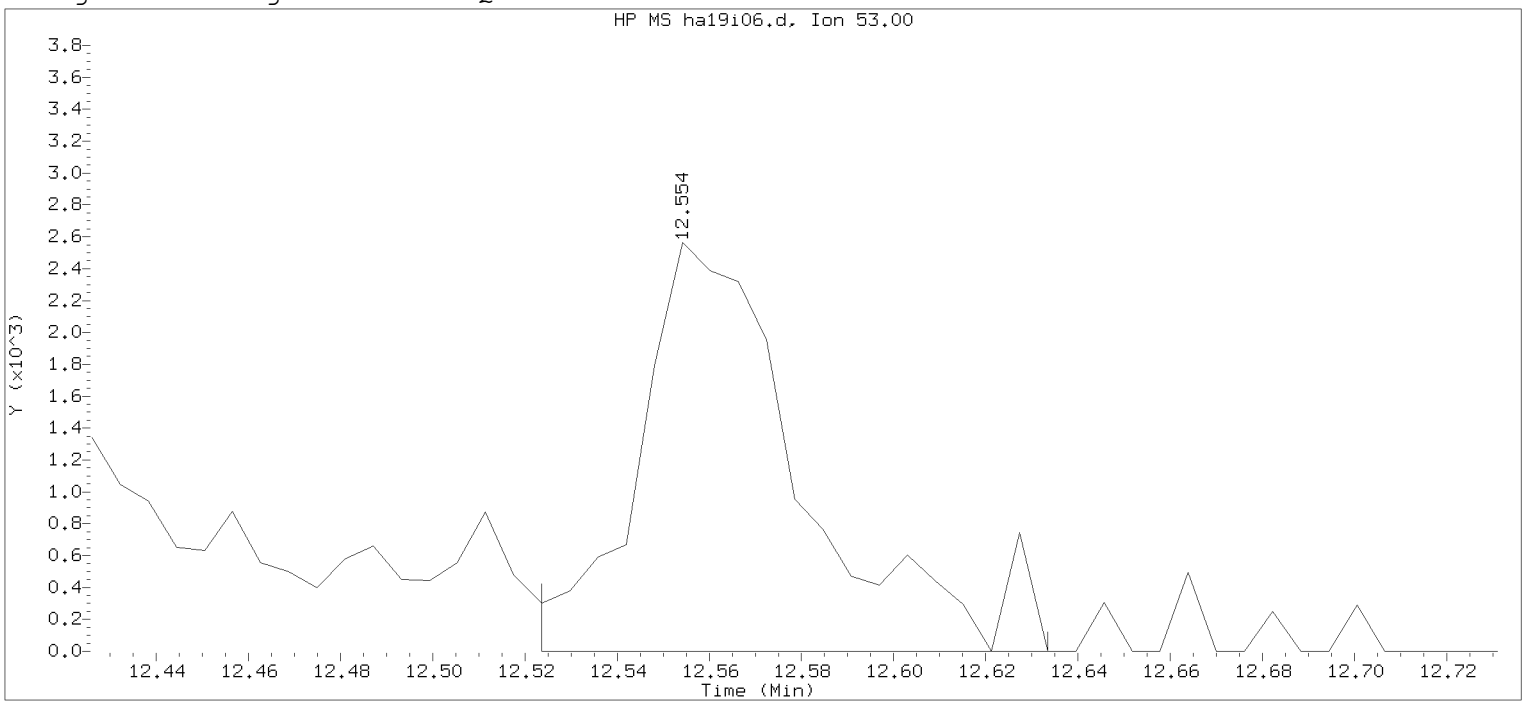
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

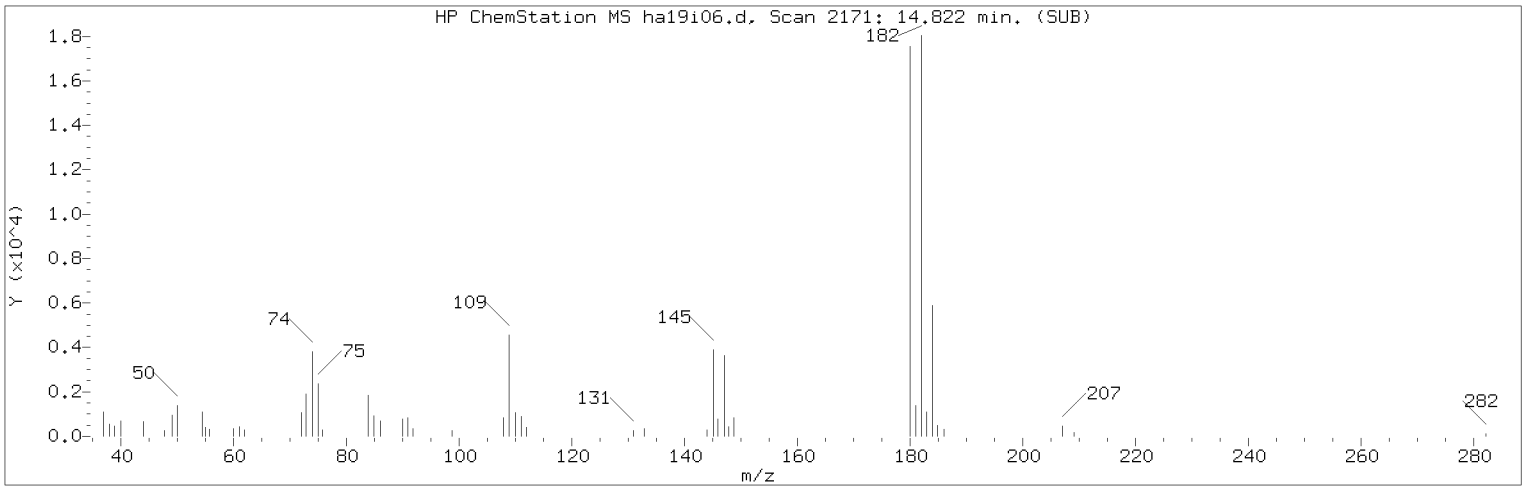
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

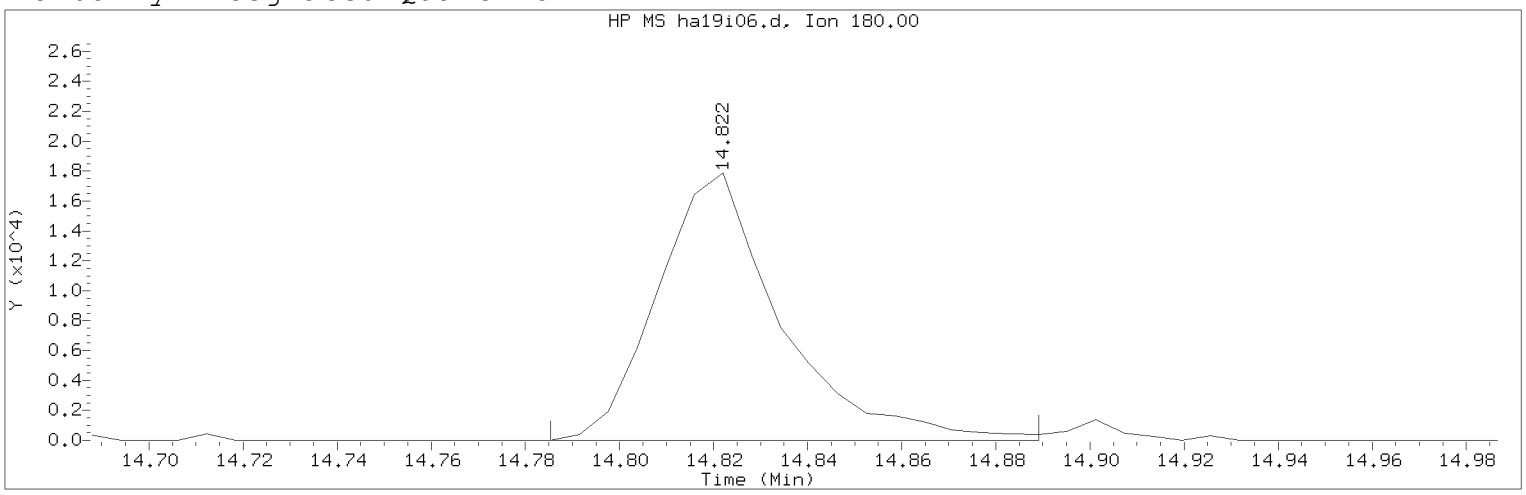
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1799
Retention Time (minutes): 12.554
Quant Ion : 53.00
Area : 6397
On-column Amount (ng) : 2.1520
Integration start scan : 1793 Integration stop scan: 1811
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user: kevin.sposito@tes

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

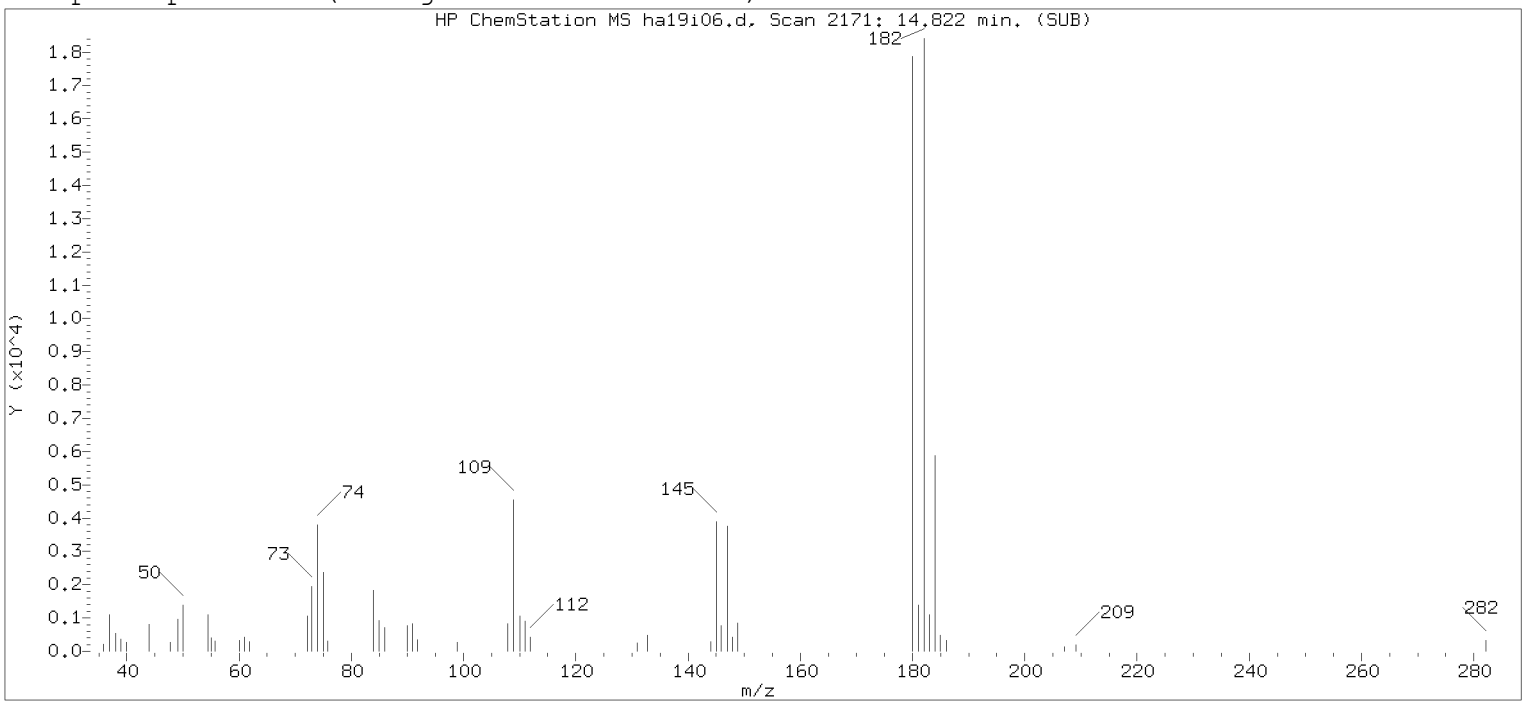
Compound Number : 148
Compound Name : 1,2,3-Trichlorobenzene
Scan Number : 2171
Retention Time (minutes): 14.822
Quant Ion : 180.00
Area (flag) : 32601M
On-Column Amount (ng) : 0.4716
Integration start scan : 2164 Integration stop scan: 2181
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

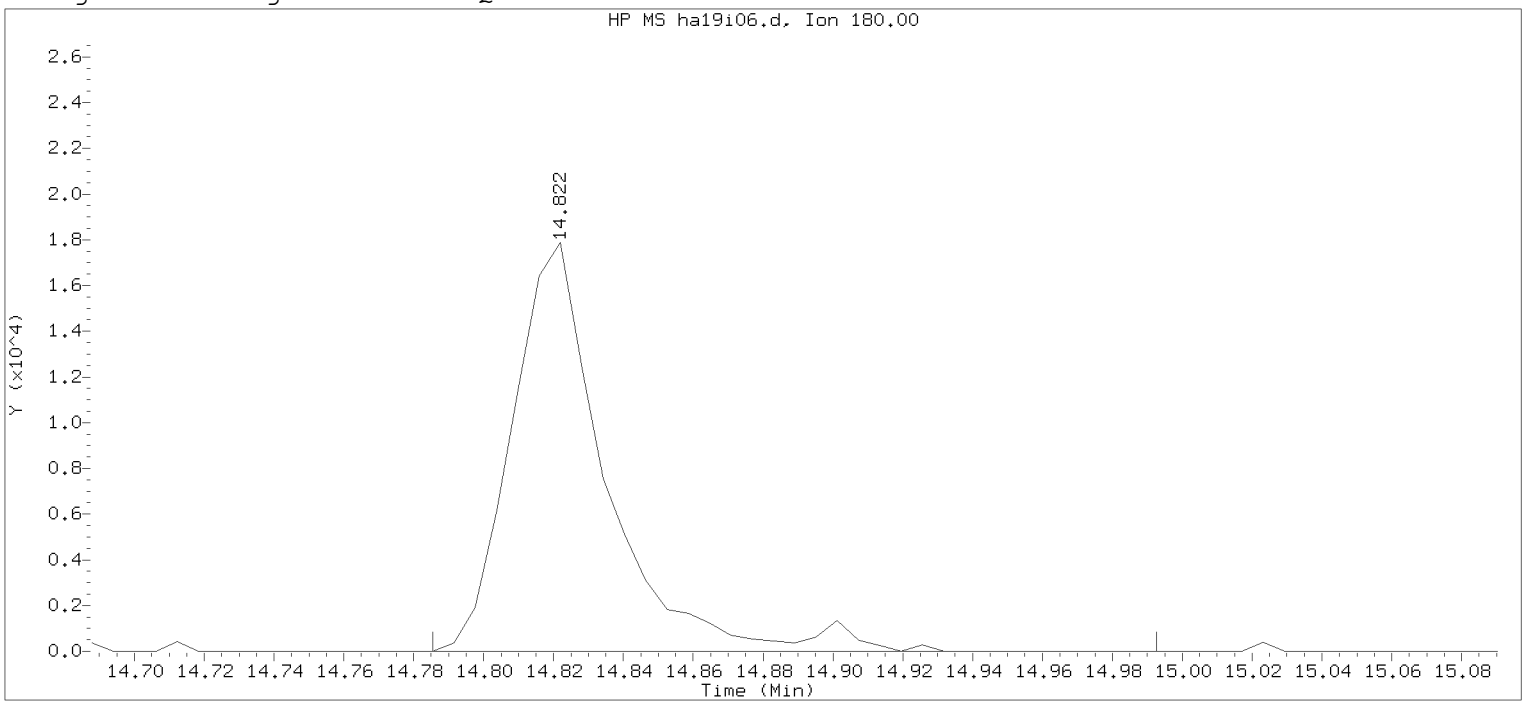
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



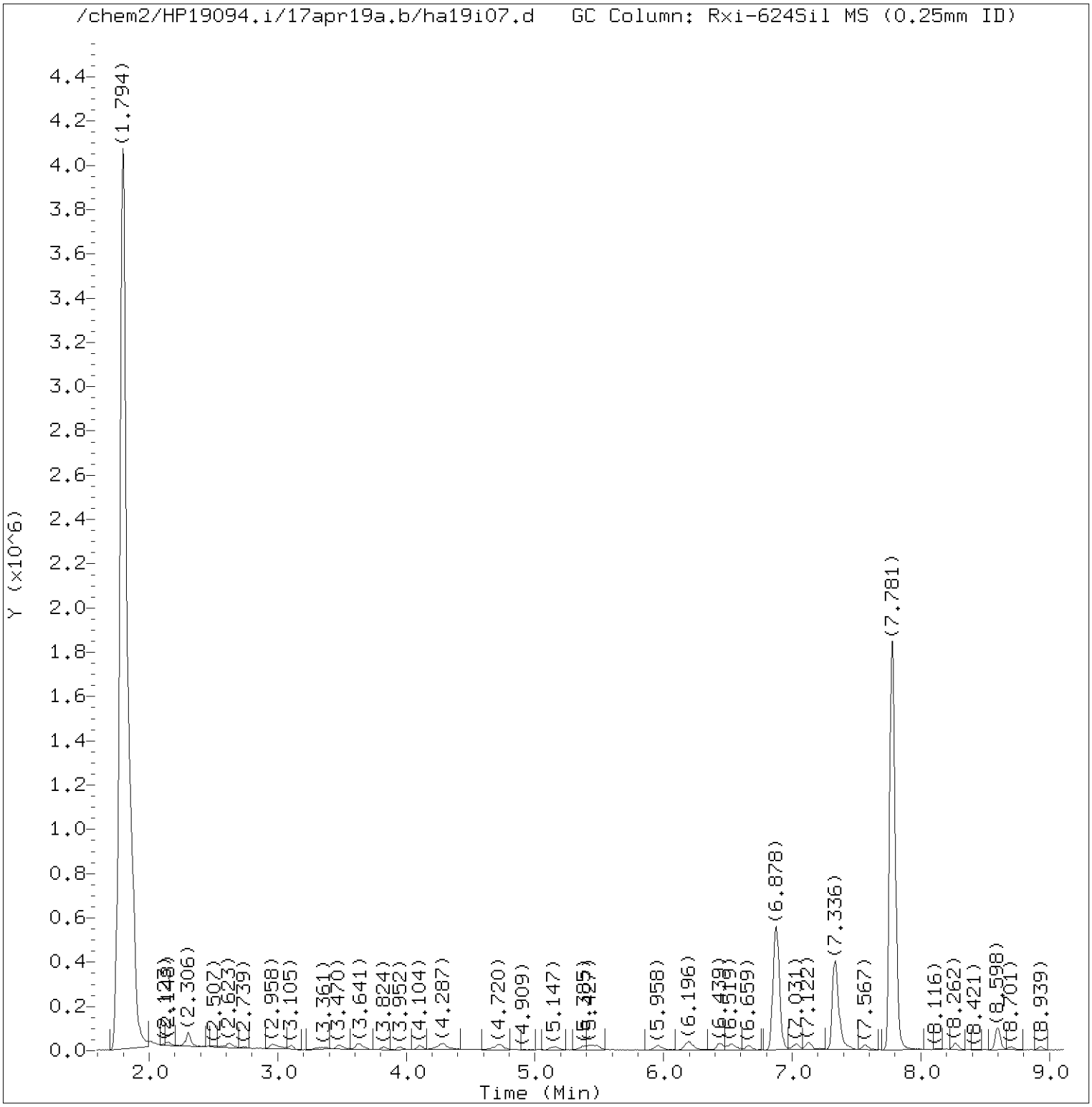
Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compound Number : 148
Compound Name : 1,2,3-Trichlorobenzene
Scan Number : 2171
Retention Time (minutes): 14.822
Quant Ion : 180.00
Area : 33697
On-column Amount (ng) : 0.4652
Integration start scan : 2164 Integration stop scan: 2198
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito



Total Ion Chromatogram (TIC)

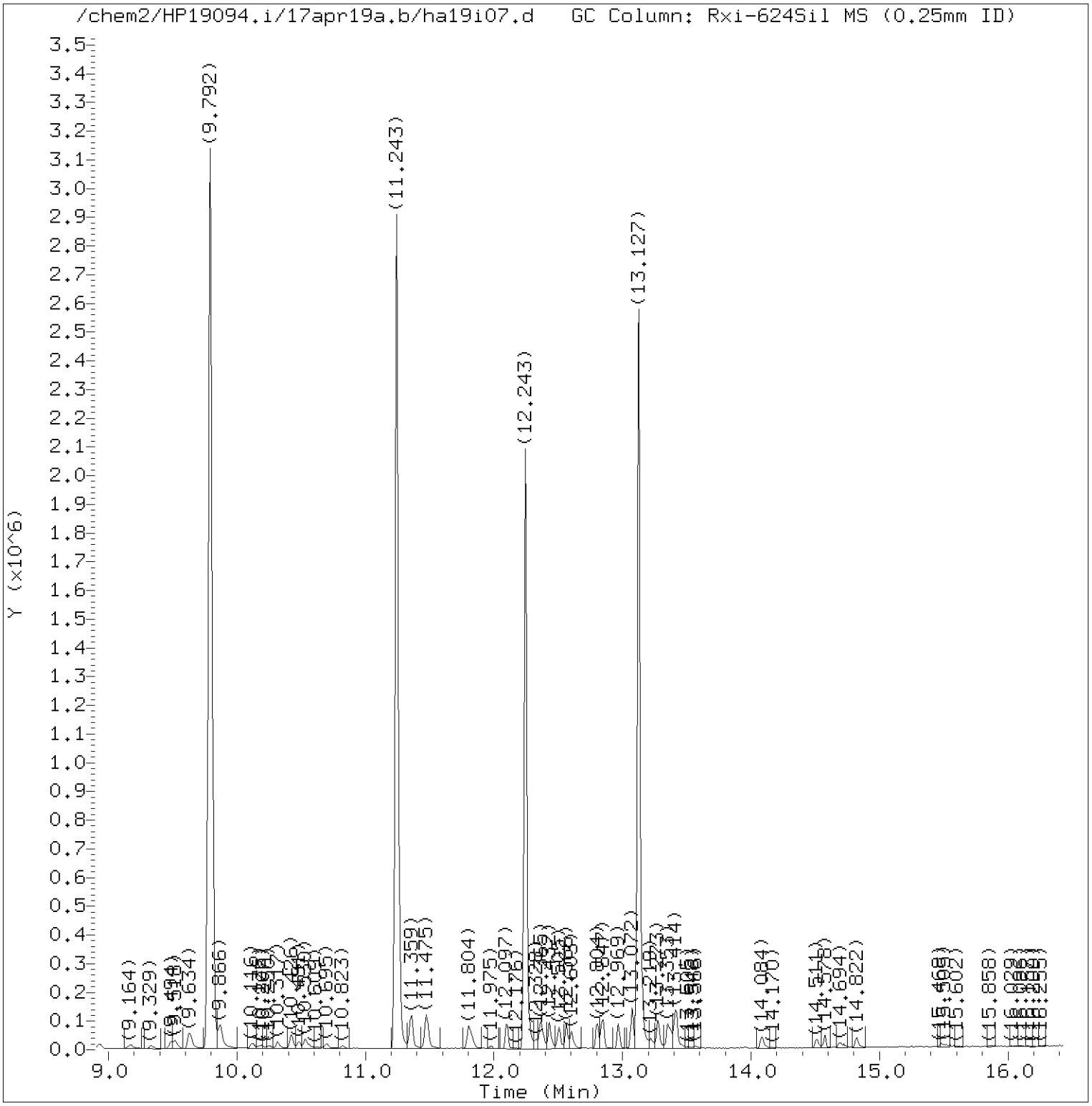
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.013	85	20246	0.196
2) Chloromethane	(2)	2.154	50	24937	0.230
5) Vinyl Chloride	(2)	2.294	62	21428	0.225
6) 1,3-Butadiene	(2)	2.312	39	29750	0.198
7) Bromomethane	(2)	2.623	94	12763	0.213
8) Chloroethane	(2)	2.733	64	12858	0.236
9) Dichlorofluoromethane	(2)	2.958	67	26975	0.215
10) Trichlorofluoromethane	(2)	3.001	101	21854	0.198
11) Ethyl ether	(2)	3.312	59	9318	0.213
12) Freon 123a	(2)	3.361	67	14711M	0.177
13) Acrolein	(1)	3.470	56	47366	9.004
15) 1,1-Dichloroethene	(2)	3.617	96	11046	0.186
16) Freon 113	(2)	3.641	101	10199	0.164
14) Acetone	(1)	3.647	43	18606M	2.921
17) Methyl Iodide	(2)	3.824	142	20954	0.190
18) Carbon Disulfide	(2)	3.946	76	31065	0.187
21) Methyl Acetate	(1)	4.044	43	3859	0.178
22) Allyl Chloride	(2)	4.104	41	23113	0.201
26)*t-Butyl Alcohol-d10	(1)	4.269	65	69135	50.000
23) Methylene Chloride	(2)	4.293	84	13412	0.207
28) t-Butyl Alcohol	(1)	4.367	59	6268M	3.624
29) Acrylonitrile	(1)	4.629	53	6386	0.742
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	21661	0.182
31) trans-1,2-Dichloroethene	(2)	4.739	96	12281	0.188
32) n-Hexane	(2)	5.135	57	13894	0.139
33) 1,1-Dichloroethane	(2)	5.366	63	22956	0.178
34) di-Isopropyl Ether	(2)	5.427	45	40075	0.182
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	18472	0.169
37) Ethyl t-butyl ether	(2)	5.952	59	29316	0.173
40) 1,2-Dichloroethene (Total)	(2)		96	26137	0.377
38) 2-Butanone	(1)	6.177	43	20357	1.567
39) cis-1,2-Dichloroethene	(2)	6.196	96	13856	0.190
41) 2,2-Dichloropropane	(2)	6.208	77	18757	0.194
42) Propionitrile	(1)	6.275	54	11215M	3.633
45) Methacrylonitrile	(1)	6.439	67	22223	1.722
47) Bromochloromethane	(2)	6.519	128	6531	0.226
48) Tetrahydrofuran	(1)	6.543	71	5077	1.564
49) Chloroform	(2)	6.659	83	24058	0.197

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.878	113	584209	9.758
50)$Dibromofluoromethane	(2)	6.878	111	601893	9.788
51) 1,1,1-Trichloroethane	(2)	6.909	97	20081	0.194
52) Cyclohexane	(2)	7.031	56	19710	0.154
52) Cyclohexane	(2)	7.043	84	15620M	0.159
52) Cyclohexane	(2)	7.025	69	5133	0.143
55) 1,1-Dichloropropene	(2)	7.122	75	16557	0.172
54) Carbon Tetrachloride	(2)	7.141	117	16436	0.189
56) Isobutyl Alcohol	(1)	7.214	41	8405	11.260
57)$1,2-Dichloroethane-d4	(2)	7.342	102	93064	9.613
57)$1,2-Dichloroethane-d4	(2)	7.336	65	471539	10.007
57)$1,2-Dichloroethane-d4	(2)	7.336	104	59004	10.056
58) Benzene	(2)	7.372	78	53395	0.191
59) 1,2-Dichloroethane	(2)	7.433	62	11962	0.179
60) t-Amyl methyl ether	(2)	7.567	73	24093	0.175
63)*Fluorobenzene	(2)	7.781	96	2670698	10.000
62) n-Heptane	(2)	7.811	43	19508	0.165
65) n-Butanol	(1)	8.146	56	10386M	18.897
67) Trichloroethene	(2)	8.262	95	15322	0.207
70) 1,2-Dichloropropane	(2)	8.585	63	13449	0.184
69) Methylcyclohexane	(2)	8.591	83	22748	0.182
72) 1,4-Dioxane	(1)	8.604	88	712	2.156
71) Methyl Methacrylate	(1)	8.671	69	2959M	0.125
73) Dibromomethane	(2)	8.713	93	5276	0.188
74) Bromodichloromethane	(2)	8.933	83	14508	0.188
76) 2-Nitropropane	(1)	9.164	41	14850	1.907
80) cis-1,3-Dichloropropene	(2)	9.488	75	14406	0.166
81) 4-Methyl-2-Pentanone	(1)	9.634	43	58585	1.702
82)$Toluene-d8	(3)	9.792	98	2536575	10.420
82)$Toluene-d8	(3)	9.792	100	1622755	10.352
83) Toluene	(3)	9.866	92	32248	0.200
84) trans-1,3-Dichloropropene	(3)	10.122	75	12482	0.199
85) 1,3-Dichloropropene (total)	(3)		75	26888	0.365
86) Ethyl Methacrylate	(3)	10.183	69	8110	0.175
88) 1,1,2-Trichloroethane	(3)	10.323	97	7397	0.198
89) Tetrachloroethene	(3)	10.426	166	14657	0.196
90) 1,3-Dichloropropane	(3)	10.481	76	14147	0.212
91) 2-Hexanone	(1)	10.530	43	41737	1.720

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	9151	0.207
95) 1,2-Dibromoethane	(3)	10.823	107	7111	0.201
97)*Chlorobenzene-d5	(3)	11.243	117	1665343	10.000
98) Chlorobenzene	(3)	11.268	112	34464	0.196
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	11214	0.192
100) Ethylbenzene	(3)	11.359	91	57644	0.185
101) m+p-Xylene	(3)	11.475	106	41138	0.347
105) Xylene (Total)	(3)		106	59980	0.513
104) o-Xylene	(3)	11.798	106	18842	0.166
106) Styrene	(3)	11.822	104	28140	0.160
107) Bromoform	(3)	11.975	173	4183	0.189
108) Isopropylbenzene	(3)	12.103	105	50541	0.170
111)$4-Bromofluorobenzene	(3)	12.243	95	661705	9.567
111)$4-Bromofluorobenzene	(3)	12.243	174	591325	9.605
113) 1,1,2,2-Tetrachloroethane	(4)	12.328	83	9493	0.219
114) Bromobenzene	(4)	12.359	156	13715	0.208
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	11684	1.278
116) 1,2,3-Trichloropropane	(4)	12.389	110	2540	0.234
117) n-Propylbenzene	(4)	12.432	91	66474	0.188
119) 2-Chlorotoluene	(4)	12.511	126	12768	0.191
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	42934	0.181
122) 4-Chlorotoluene	(4)	12.603	126	12397	0.185
125) tert-Butylbenzene	(4)	12.804	134	9993	0.194
126) Pentachloroethane	(4)	12.835	167	7770	0.201
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	41282	0.174
128) sec-Butylbenzene	(4)	12.969	105	53943	0.174
132) p-Isopropyltoluene	(4)	13.072	119	41832	0.165
131) 1,3-Dichlorobenzene	(4)	13.072	146	26095	0.201
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	671591	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	30420	0.225
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	22990	0.220
136) Benzyl Chloride	(4)	13.219	126	2226M	0.163
138) n-Butylbenzene	(4)	13.371	92	18856	0.151
139) 1,2-Dichlorobenzene	(4)	13.401	146	24037	0.208
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	866	0.170
145) 1,2,4-Trichlorobenzene	(4)	14.511	180	15367	0.207
146) Hexachlorobutadiene	(4)	14.572	225	7417	0.201
147) Naphthalene	(4)	14.688	128	22330	0.204

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

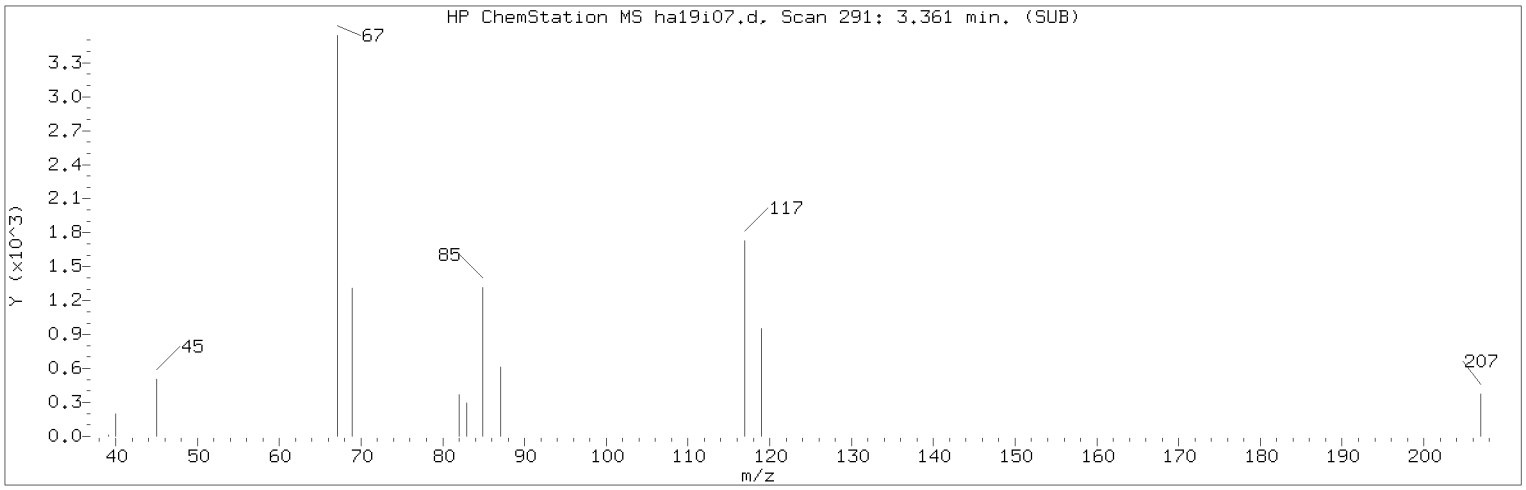
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

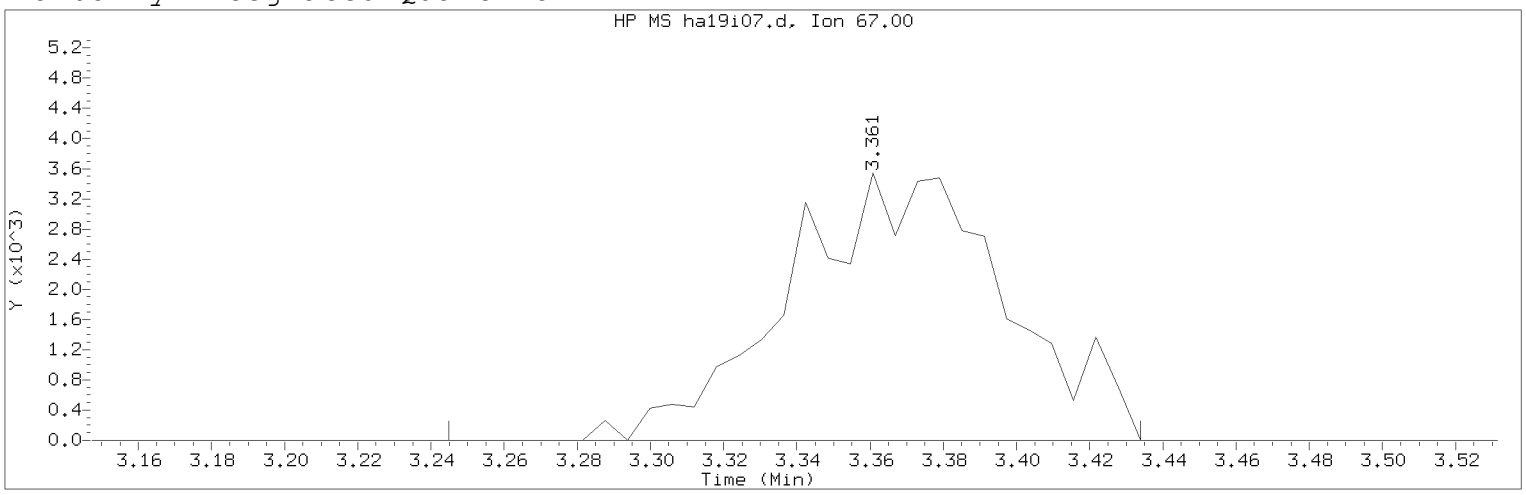
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	14668	0.233

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

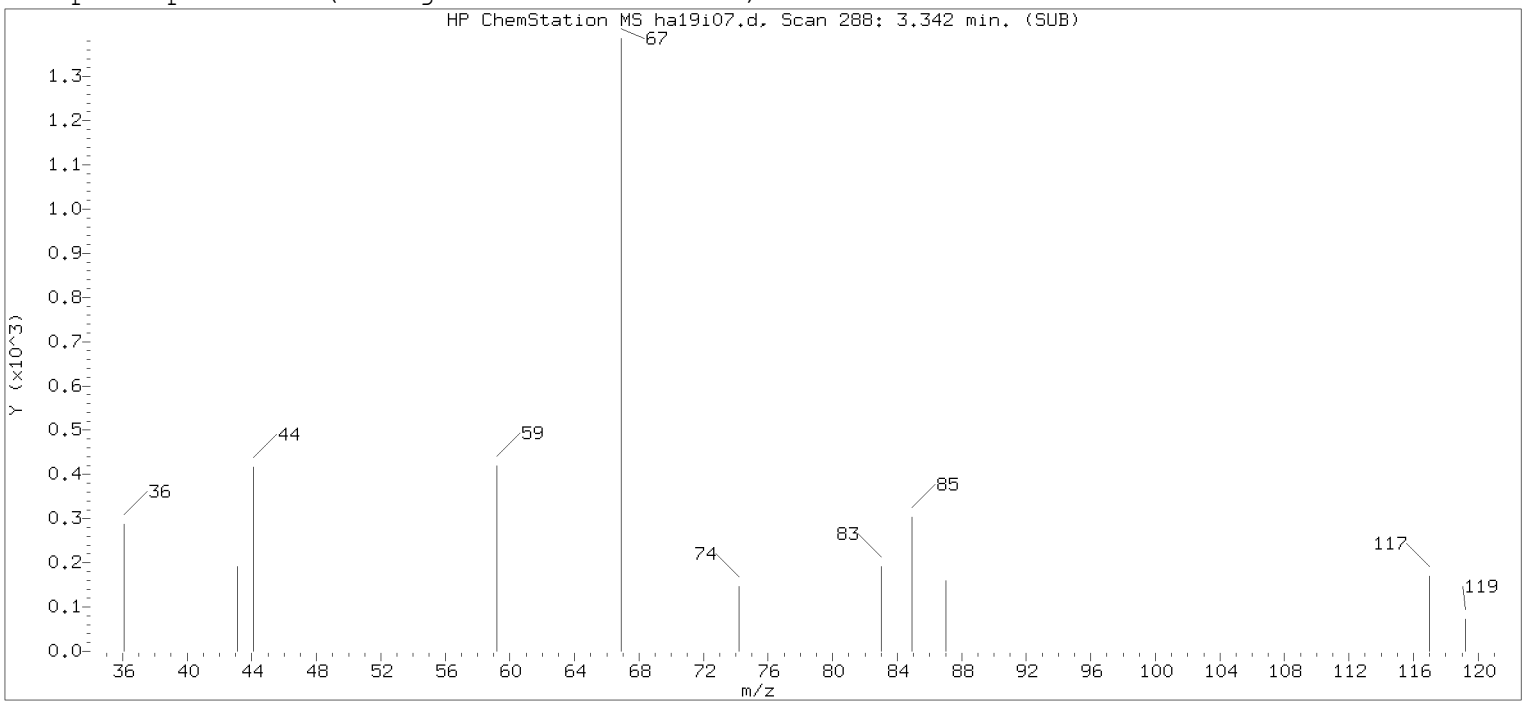
Compound Number : 12
Compound Name : Freon 123a
Scan Number : 291
Retention Time (minutes): 3.361
Quant Ion : 67.00
Area (flag) : 14711M
On-Column Amount (ng) : 0.1767
Integration start scan : 271 Integration stop scan: 302
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

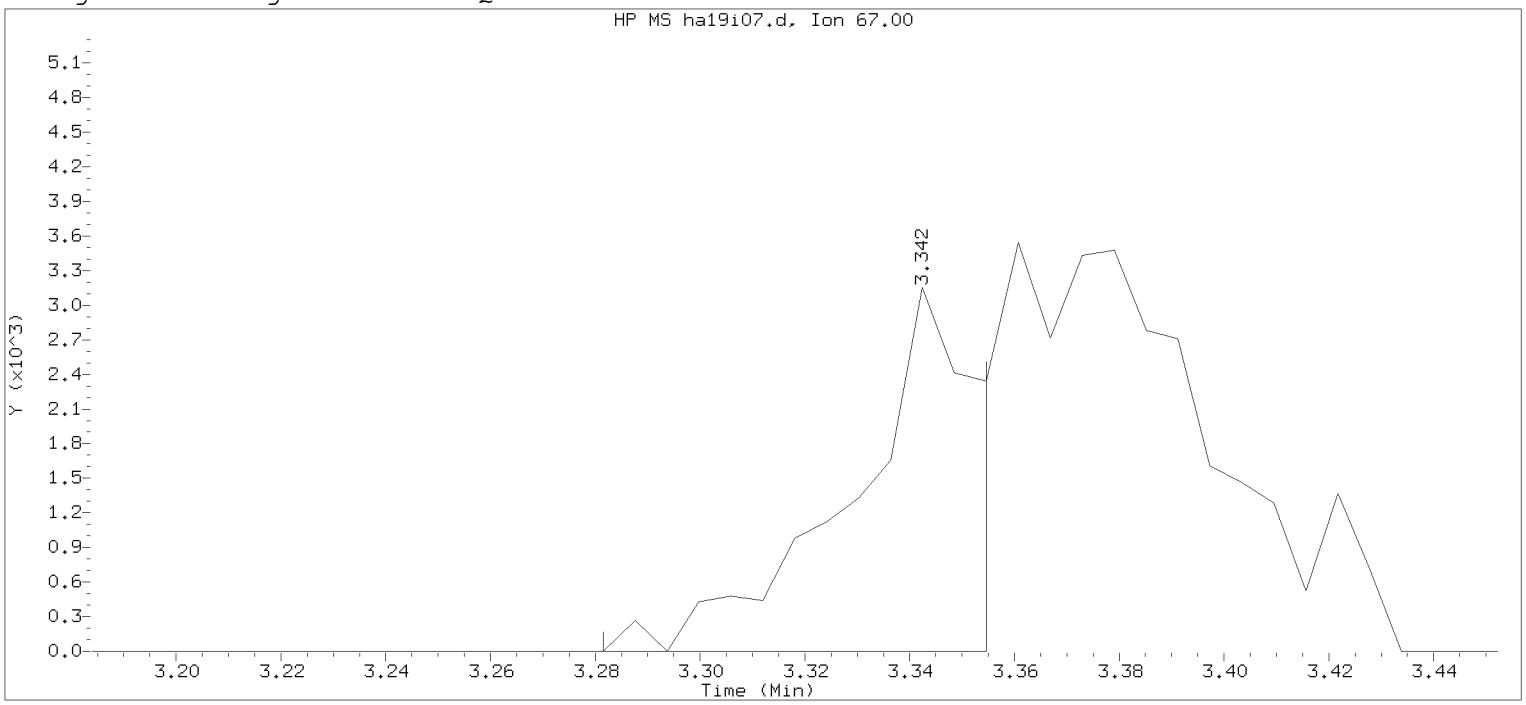
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

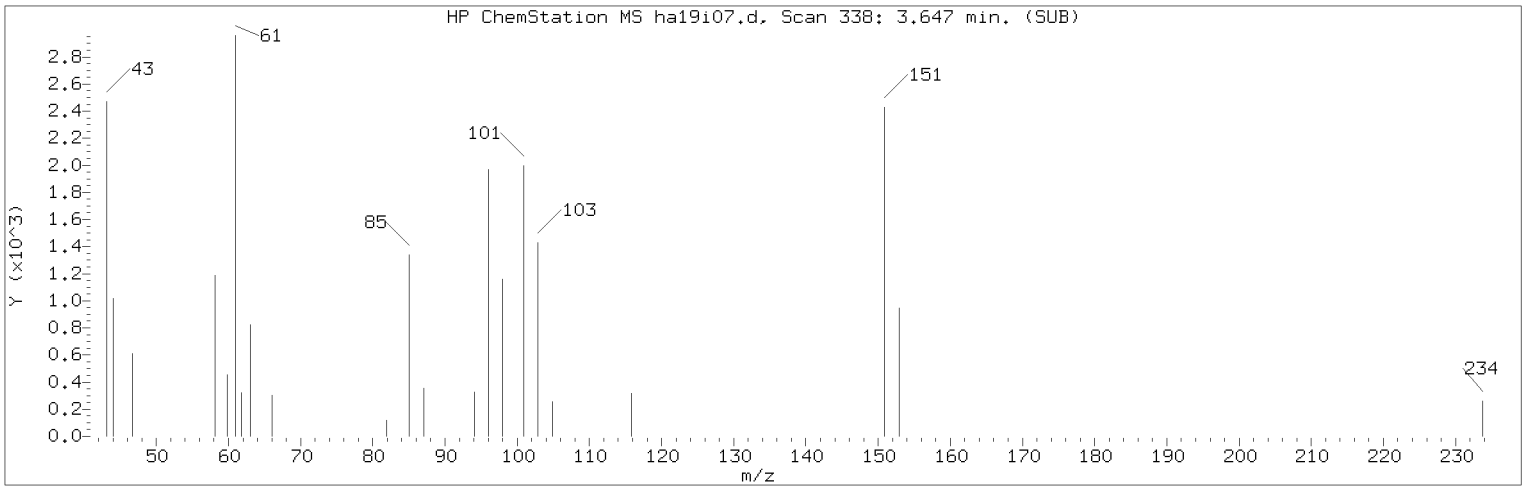
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

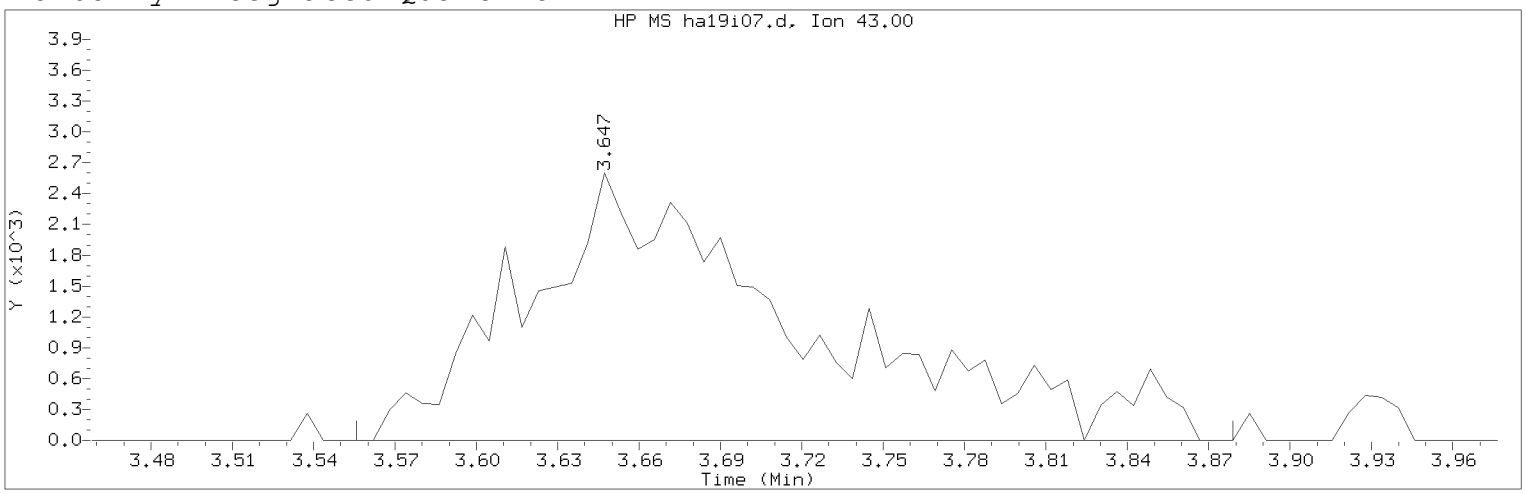
Compound Number : 12
Compound Name : Freon 123a
Scan Number : 288
Retention Time (minutes): 3.342
Quant Ion : 67.00
Area : 4919
On-column Amount (ng) : 0.0645
Integration start scan : 277 Integration stop scan: 289
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user name kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

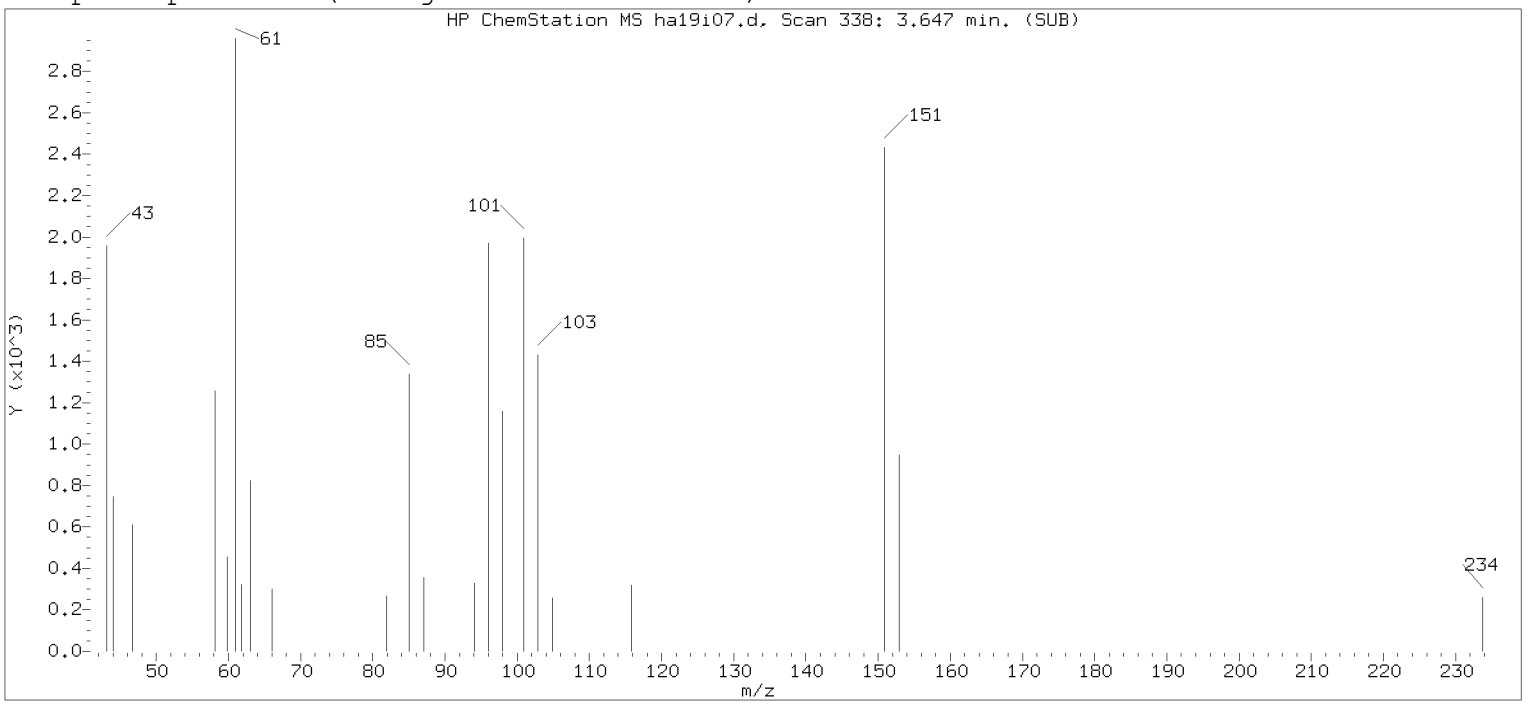
Compound Number : 14
Compound Name : Acetone
Scan Number : 338
Retention Time (minutes): 3.647
Quant Ion : 43.00
Area (flag) : 18606M
On-Column Amount (ng) : 2.9208
Integration start scan : 322 Integration stop scan: 375
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

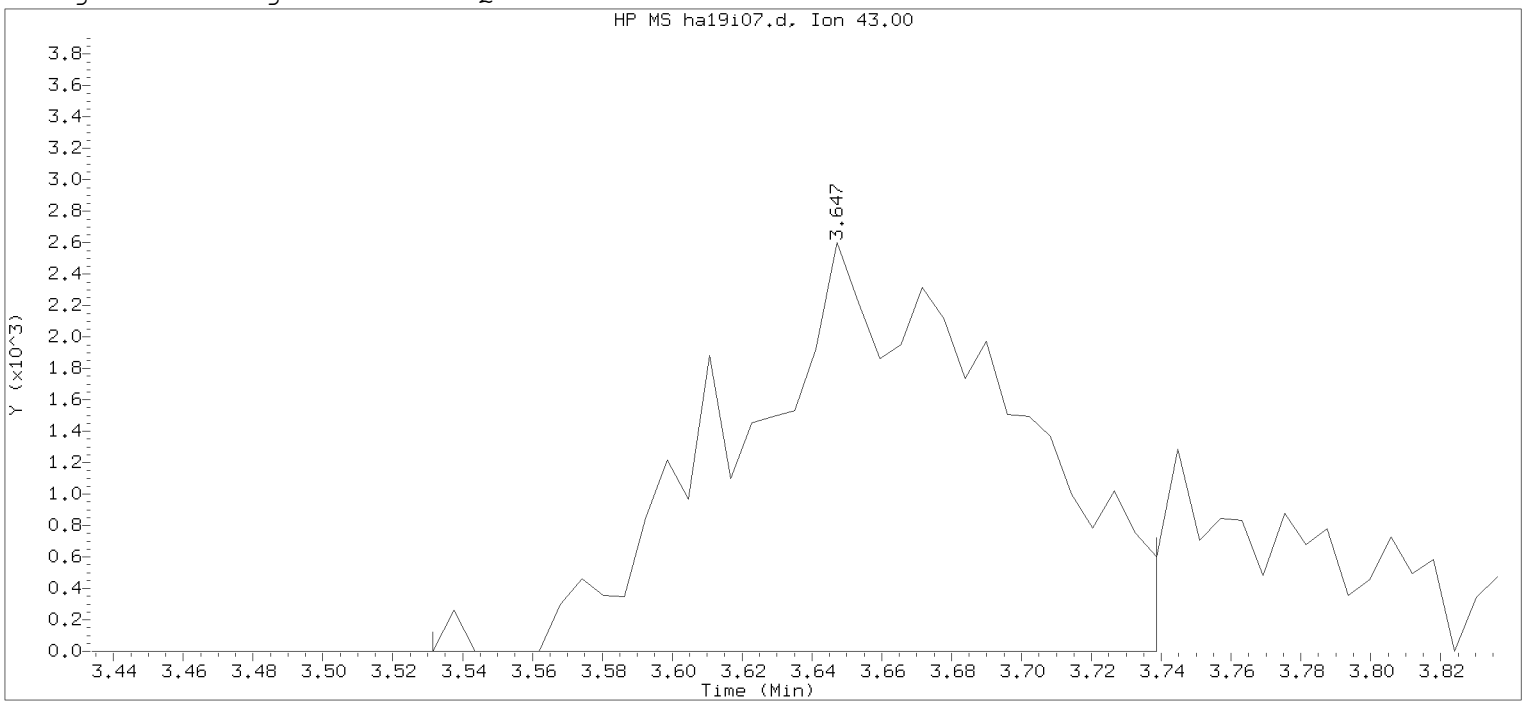
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

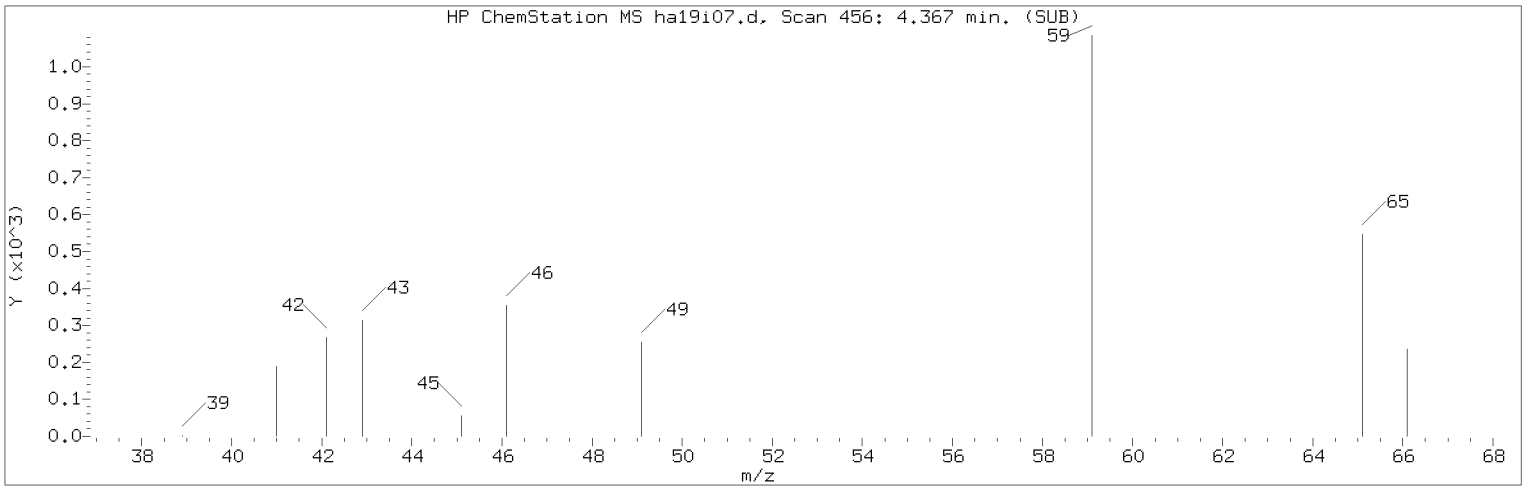
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

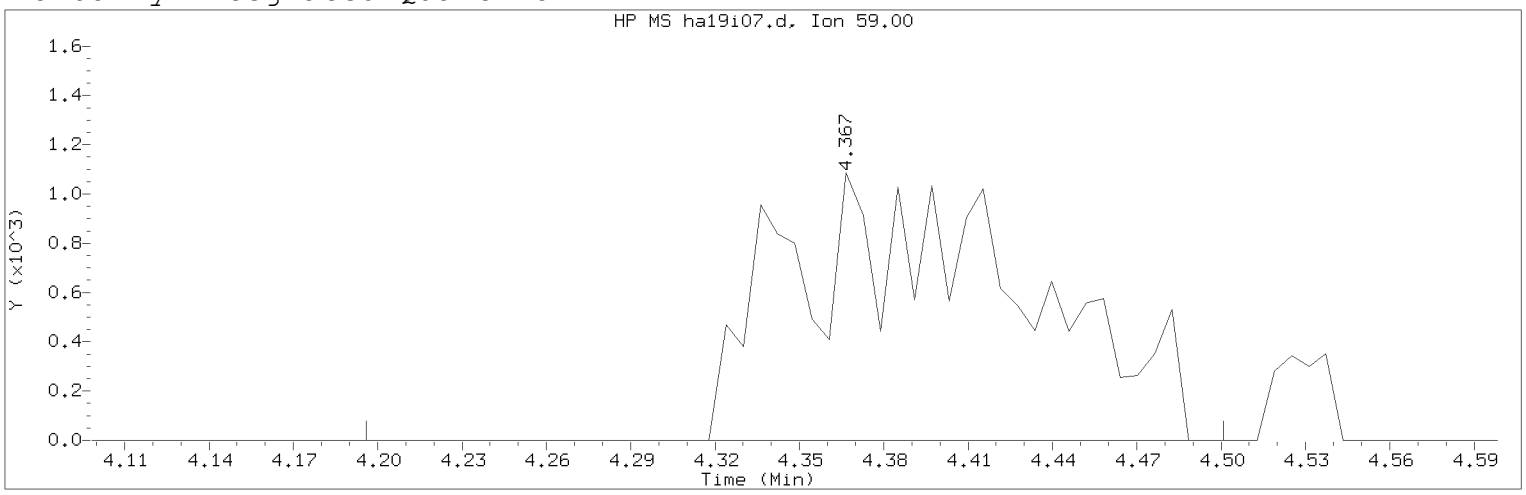
Compound Number : 14
Compound Name : Acetone
Scan Number : 338
Retention Time (minutes): 3.647
Quant Ion : 43.00
Area : 14311
On-column Amount (ng) : 2.2335
Integration start scan : 318 Integration stop scan: 352
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

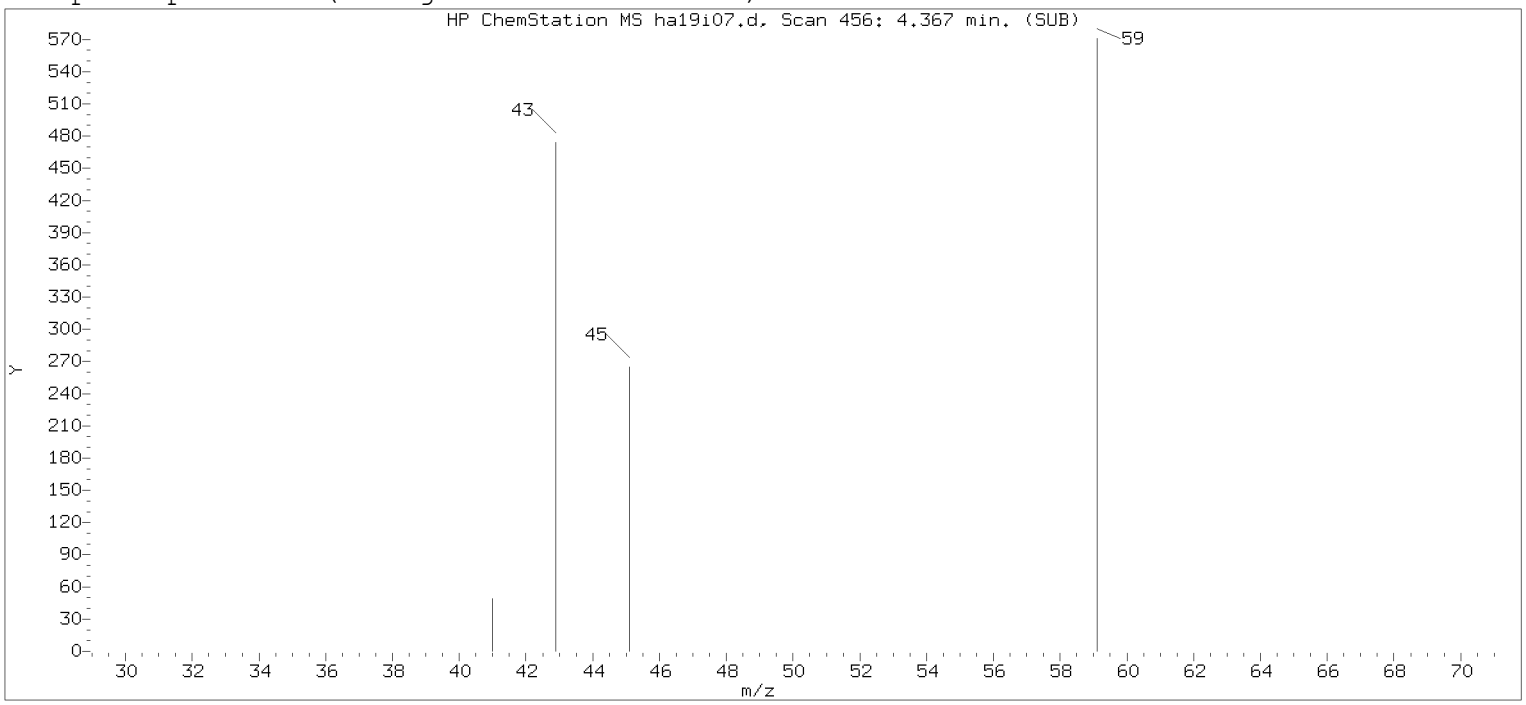
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 456
Retention Time (minutes): 4.367
Quant Ion : 59.00
Area (flag) : 6268M
On-Column Amount (ng) : 3.6236
Integration start scan : 427 Integration stop scan: 477
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

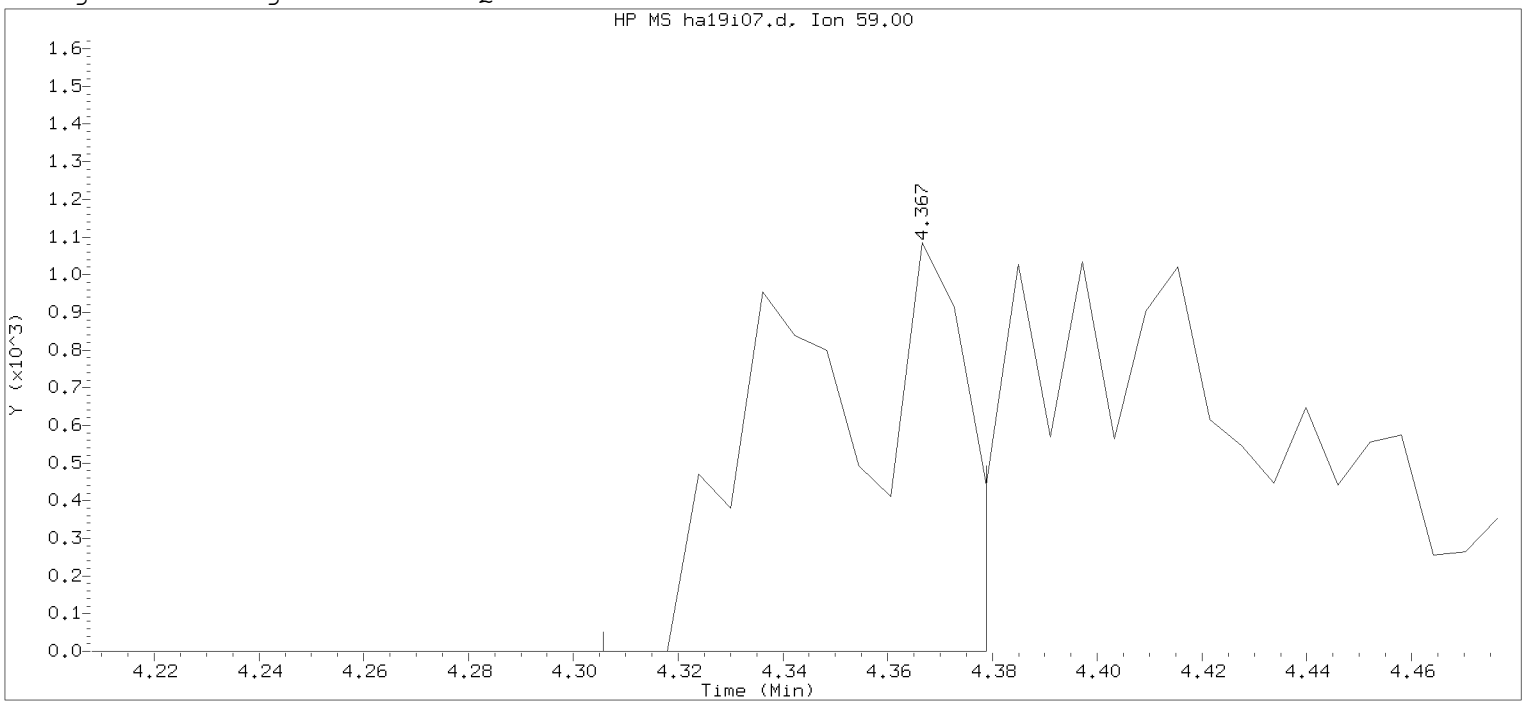
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

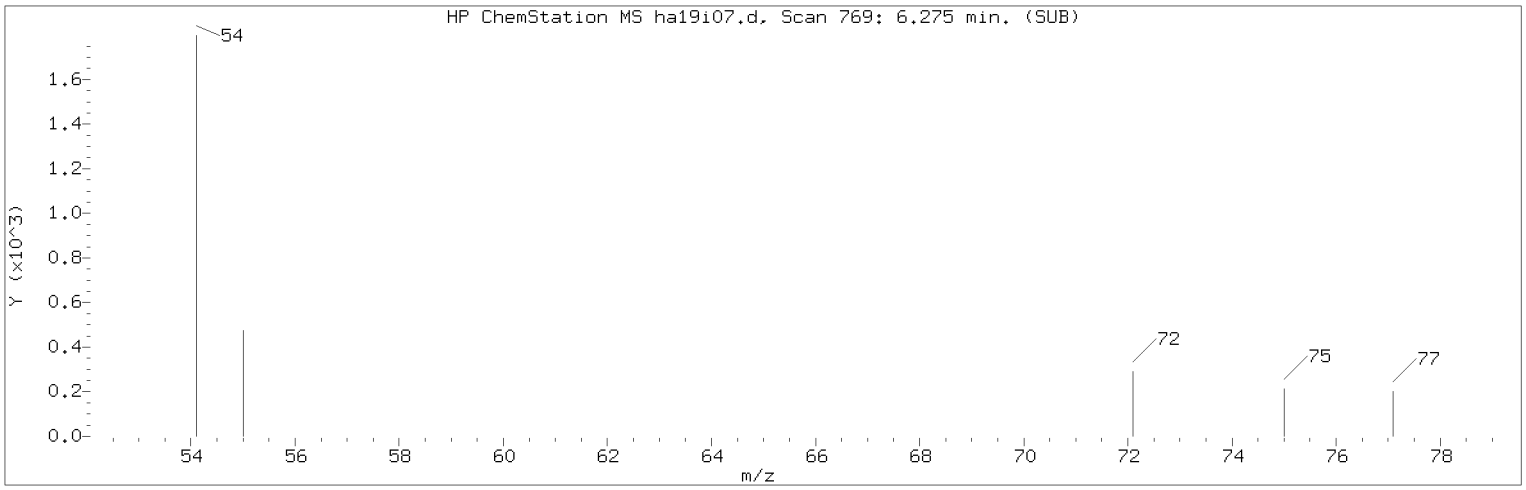
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

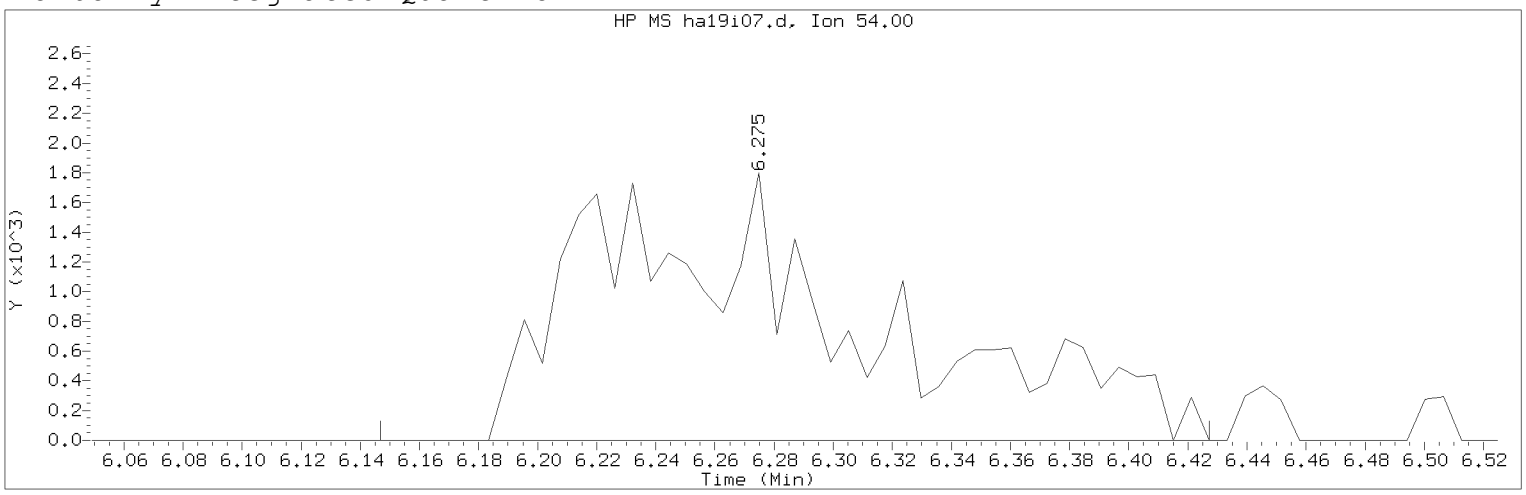
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 456
Retention Time (minutes): 4.367
Quant Ion : 59.00
Area : 2401
On-column Amount (ng) : 1.4320
Integration start scan : 445 Integration stop scan: 457
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

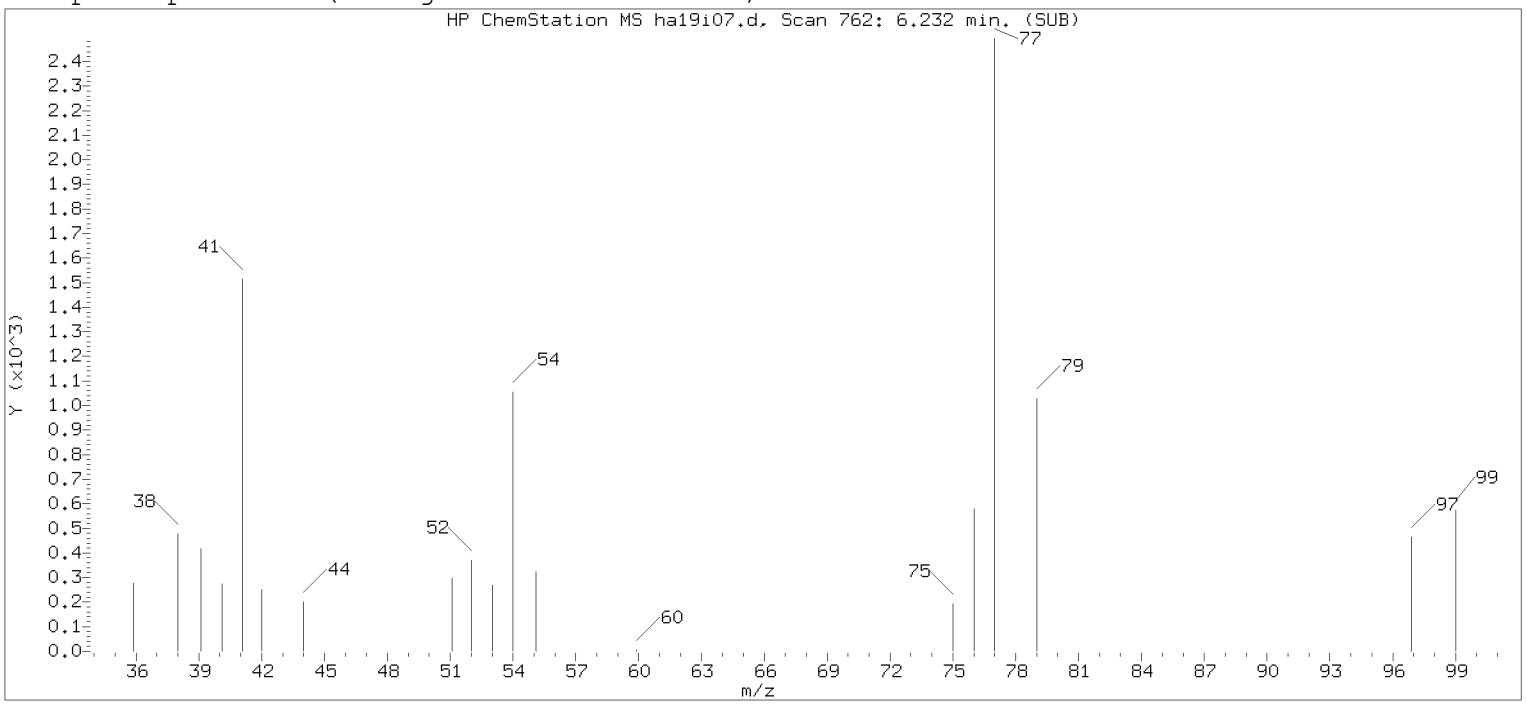
Compound Number : 42
Compound Name : Propionitrile
Scan Number : 769
Retention Time (minutes): 6.275
Quant Ion : 54.00
Area (flag) : 11215M
On-Column Amount (ng) : 3.6329
Integration start scan : 747 Integration stop scan: 793
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

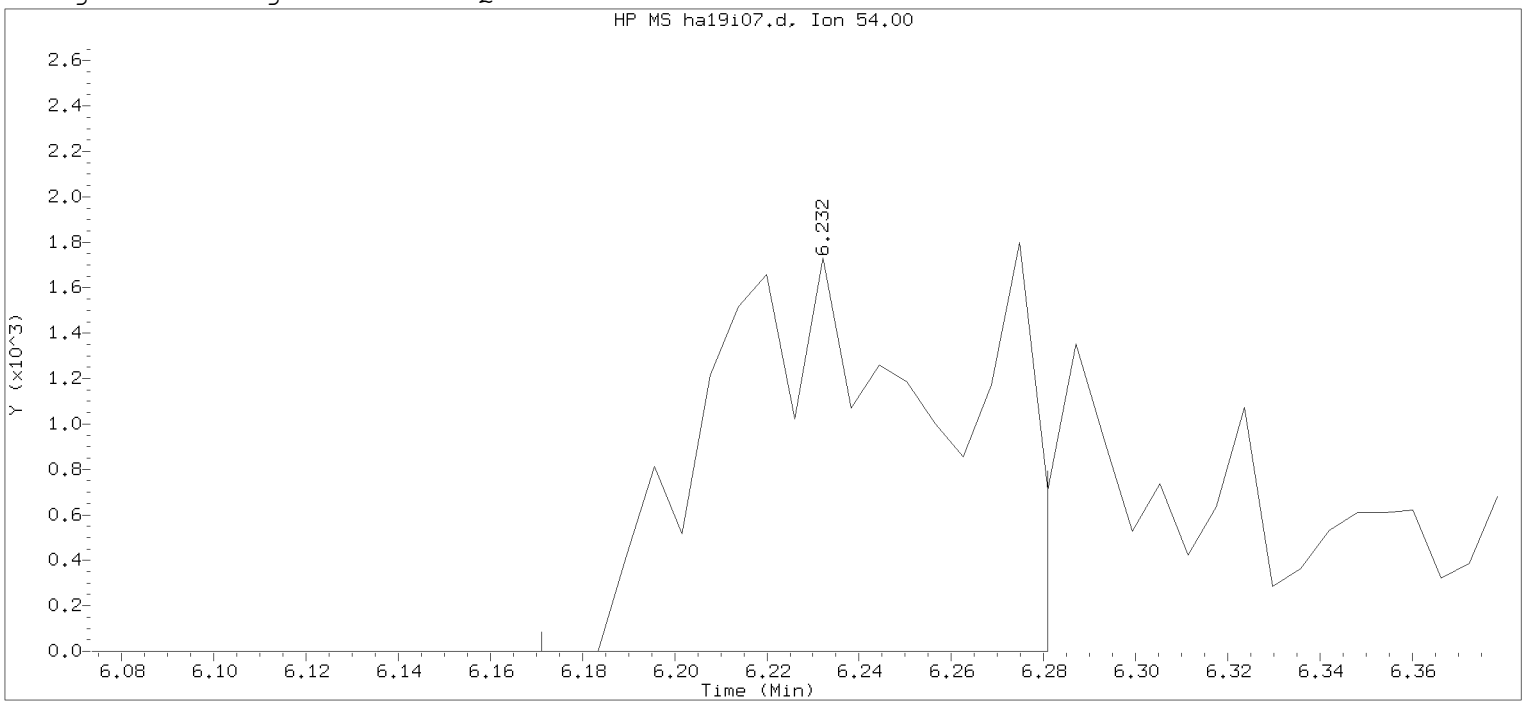
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

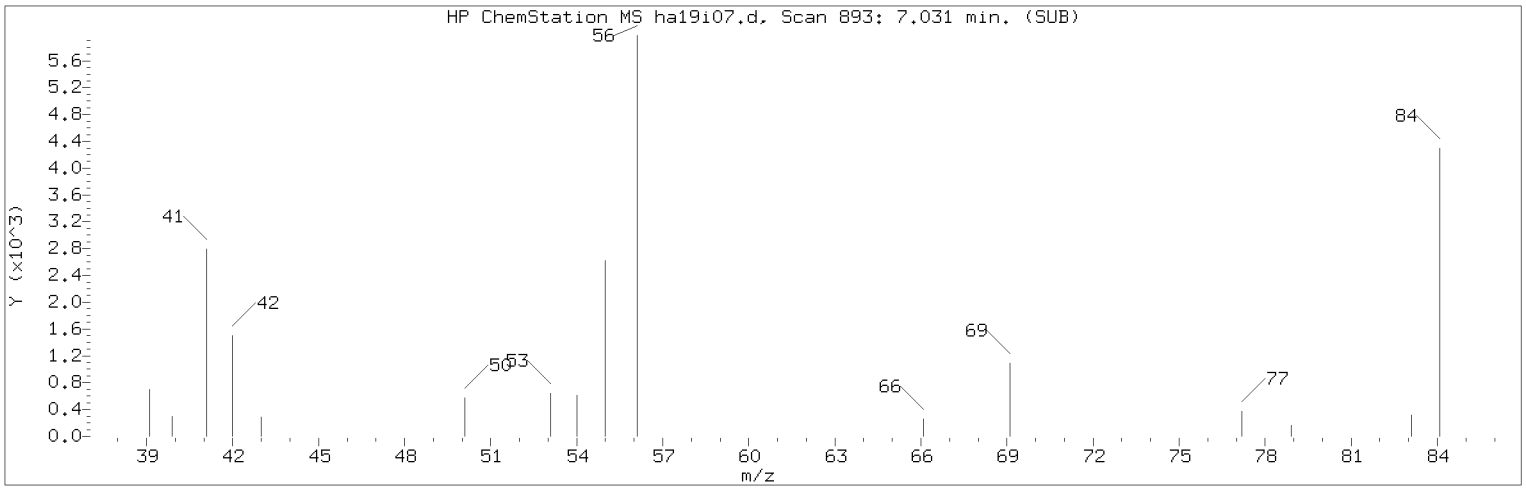
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

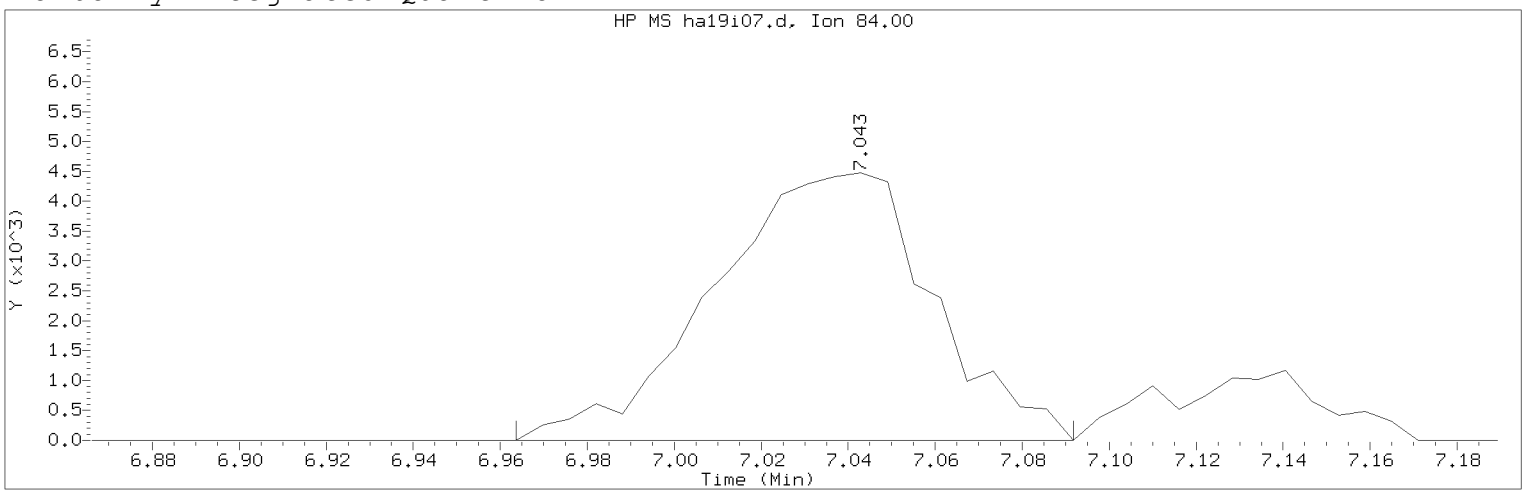
Compound Number : 42
Compound Name : Propionitrile
Scan Number : 762
Retention Time (minutes): 6.232
Quant Ion : 54.00
Area : 6433
On-column Amount (ng) : 2.1305
Integration start scan : 751 Integration stop scan: 769
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

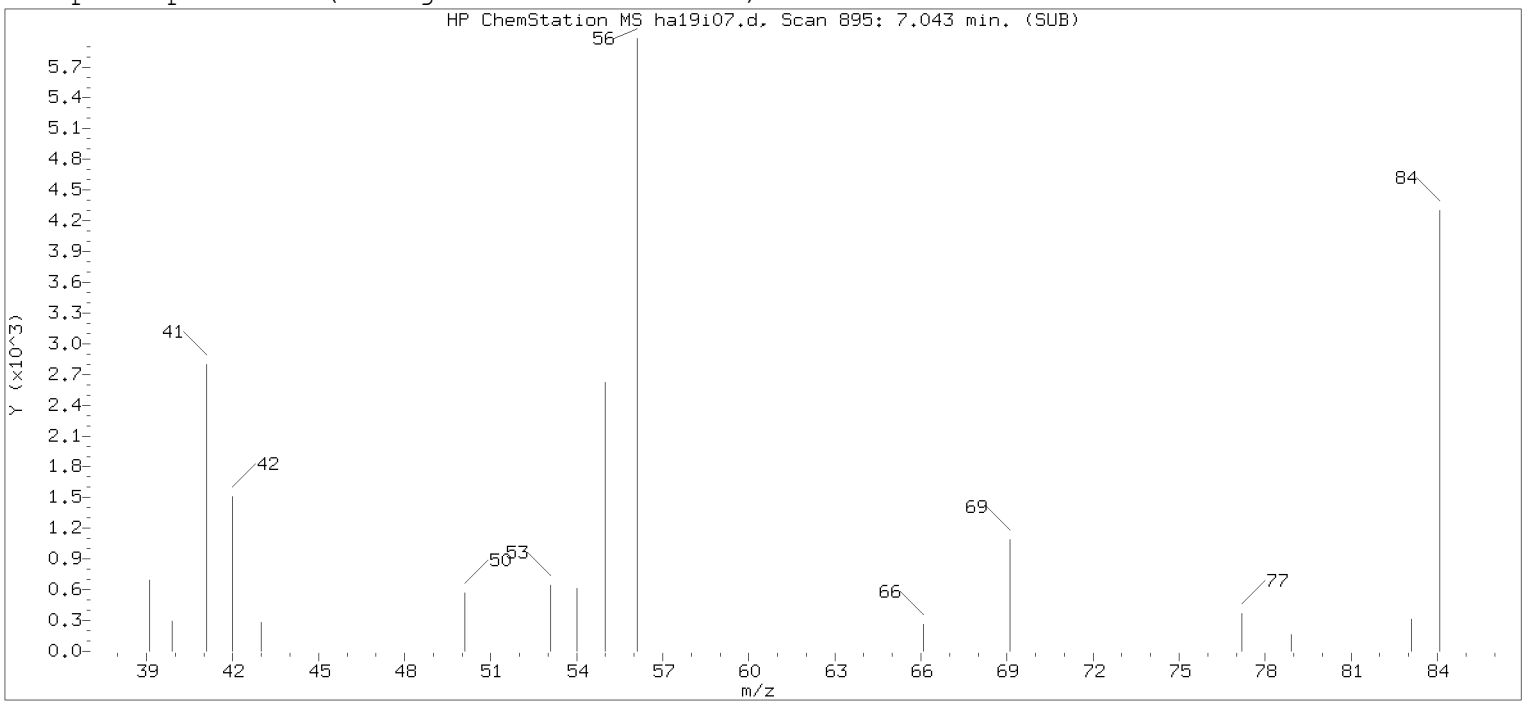
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 895
Retention Time (minutes): 7.043
Quant Ion : 84.00
Area (flag) : 15620M
On-Column Amount (ng) : 0.1589
Integration start scan : 881 Integration stop scan: 902
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

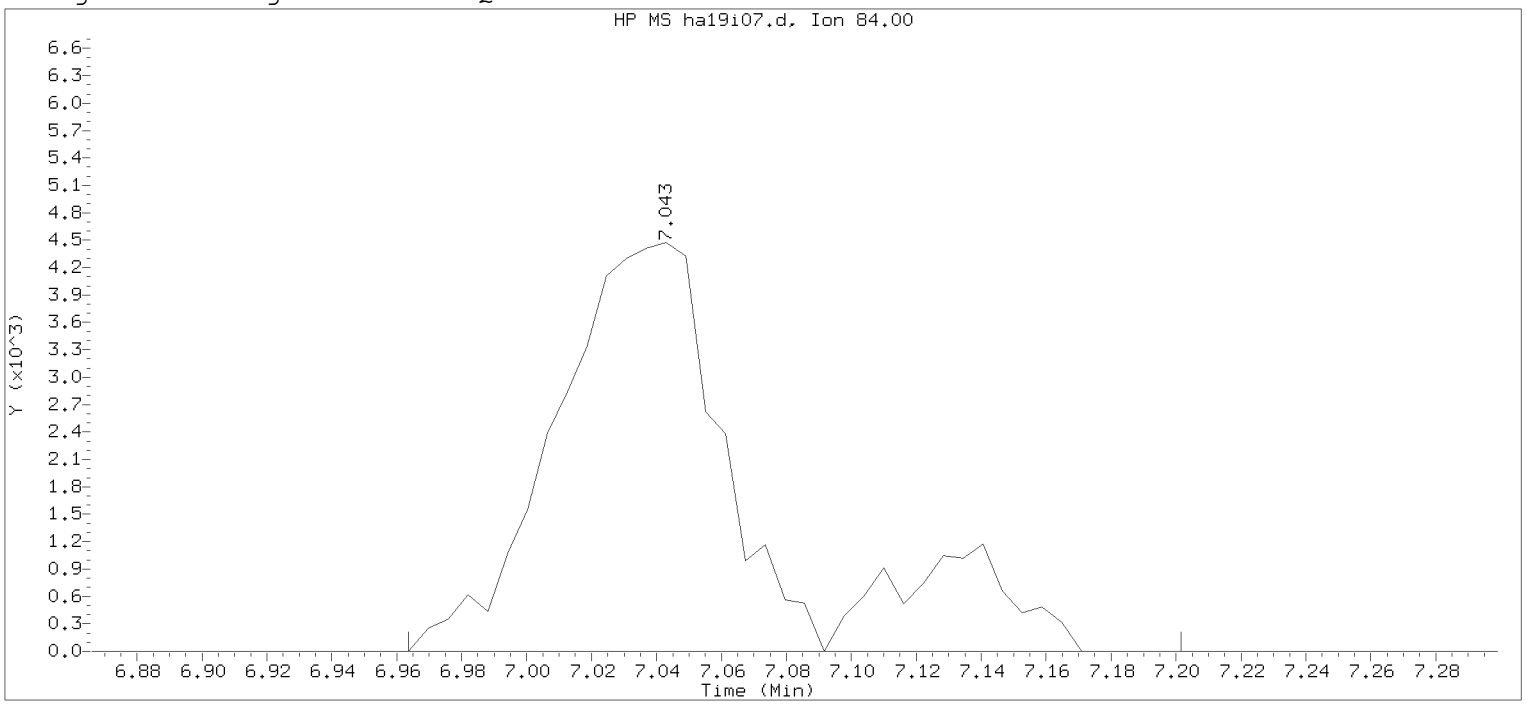
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

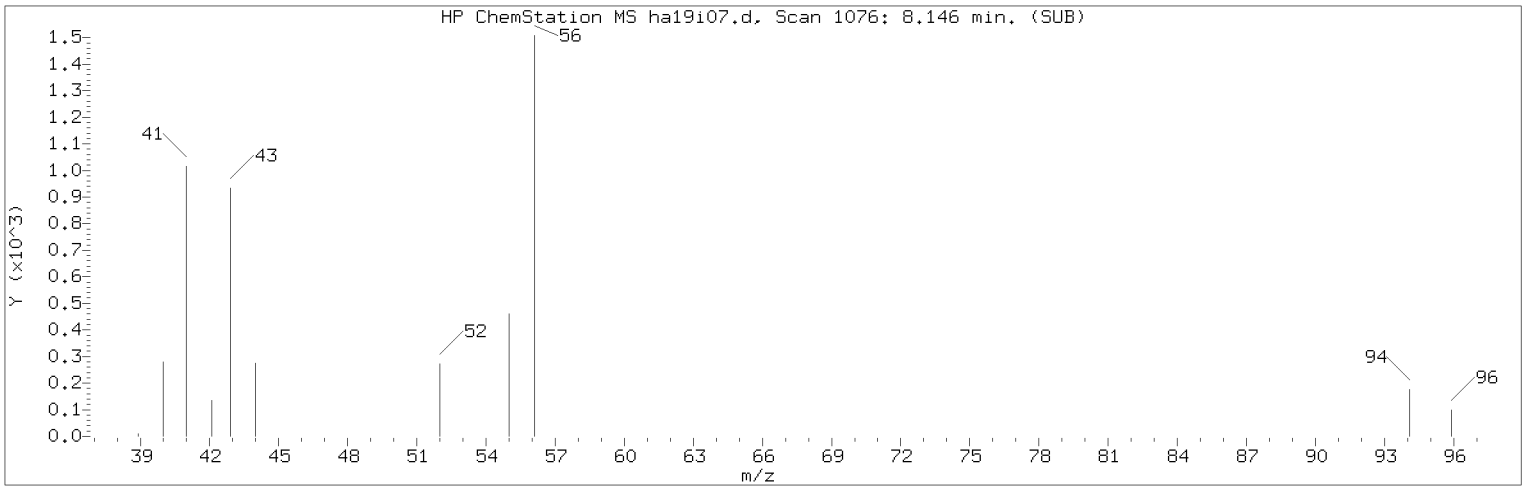
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

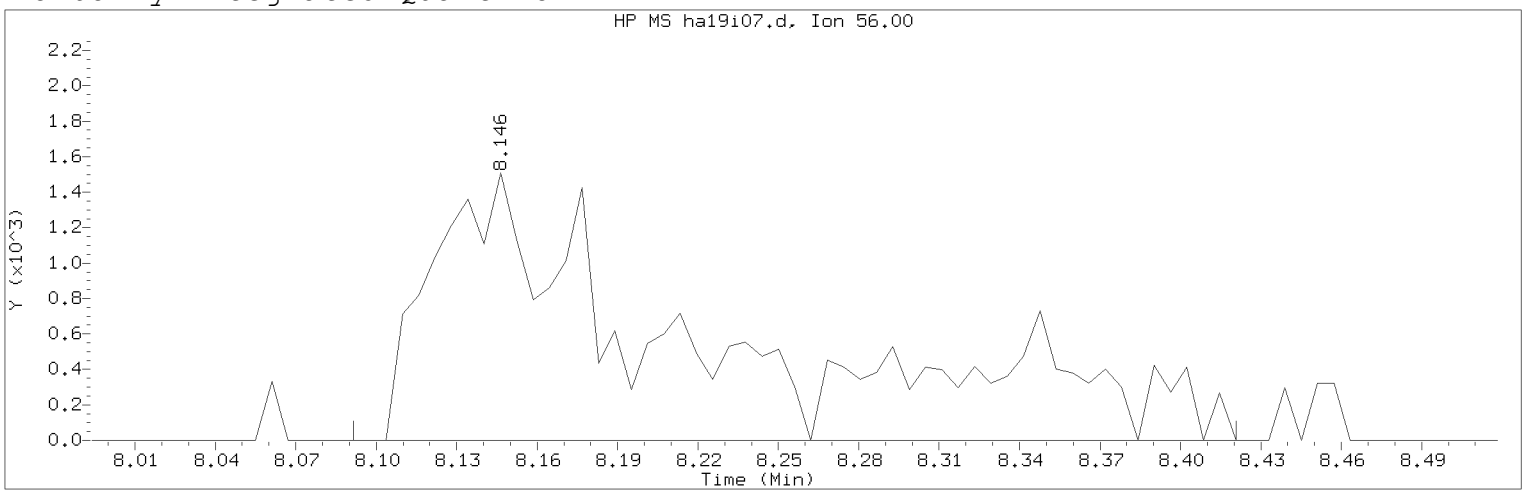
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 895
Retention Time (minutes): 7.043
Quant Ion : 84.00
Area : 18646
On-column Amount (ng) : 0.1773
Integration start scan : 881 Integration stop scan: 920
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

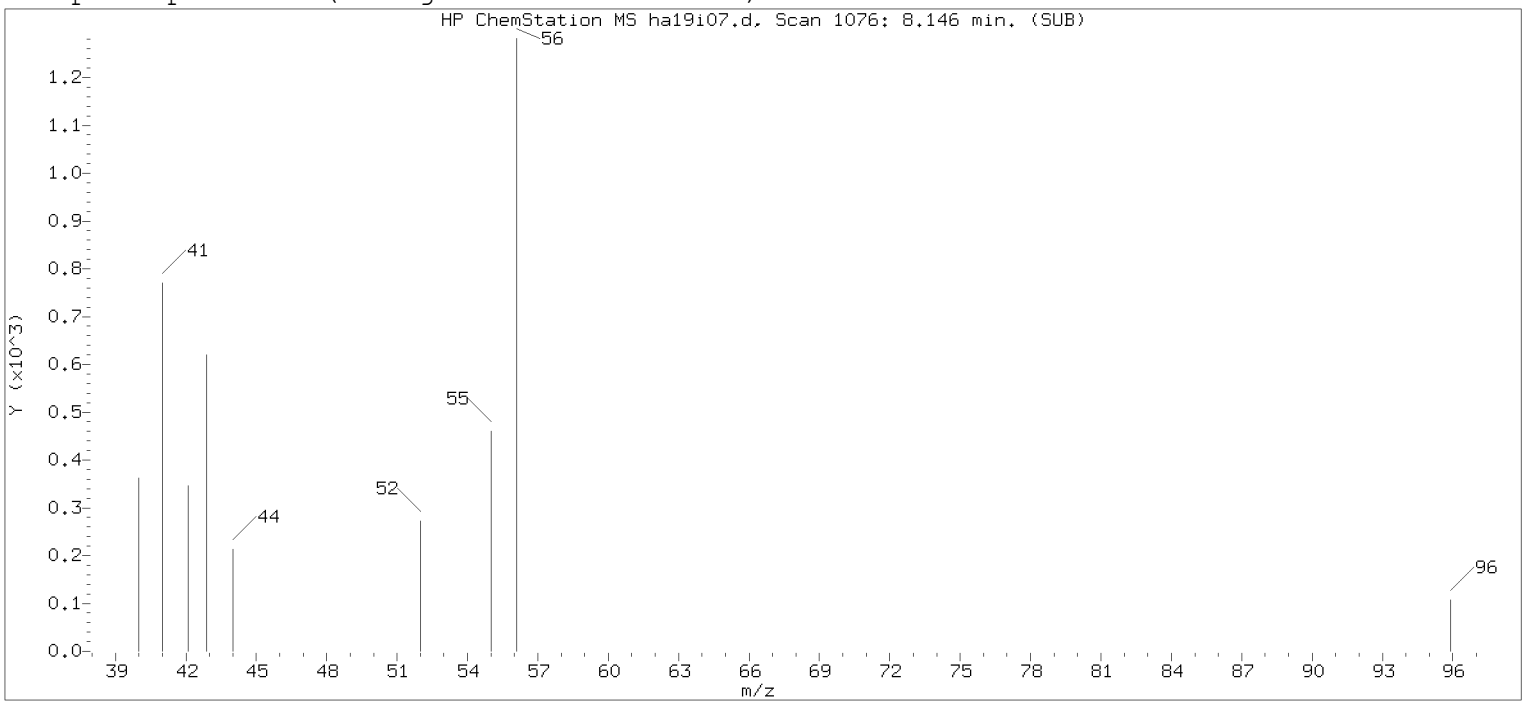
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1076
Retention Time (minutes): 8.146
Quant Ion : 56.00
Area (flag) : 10386M
On-Column Amount (ng) : 18.8968
Integration start scan : 1066 Integration stop scan: 1120
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

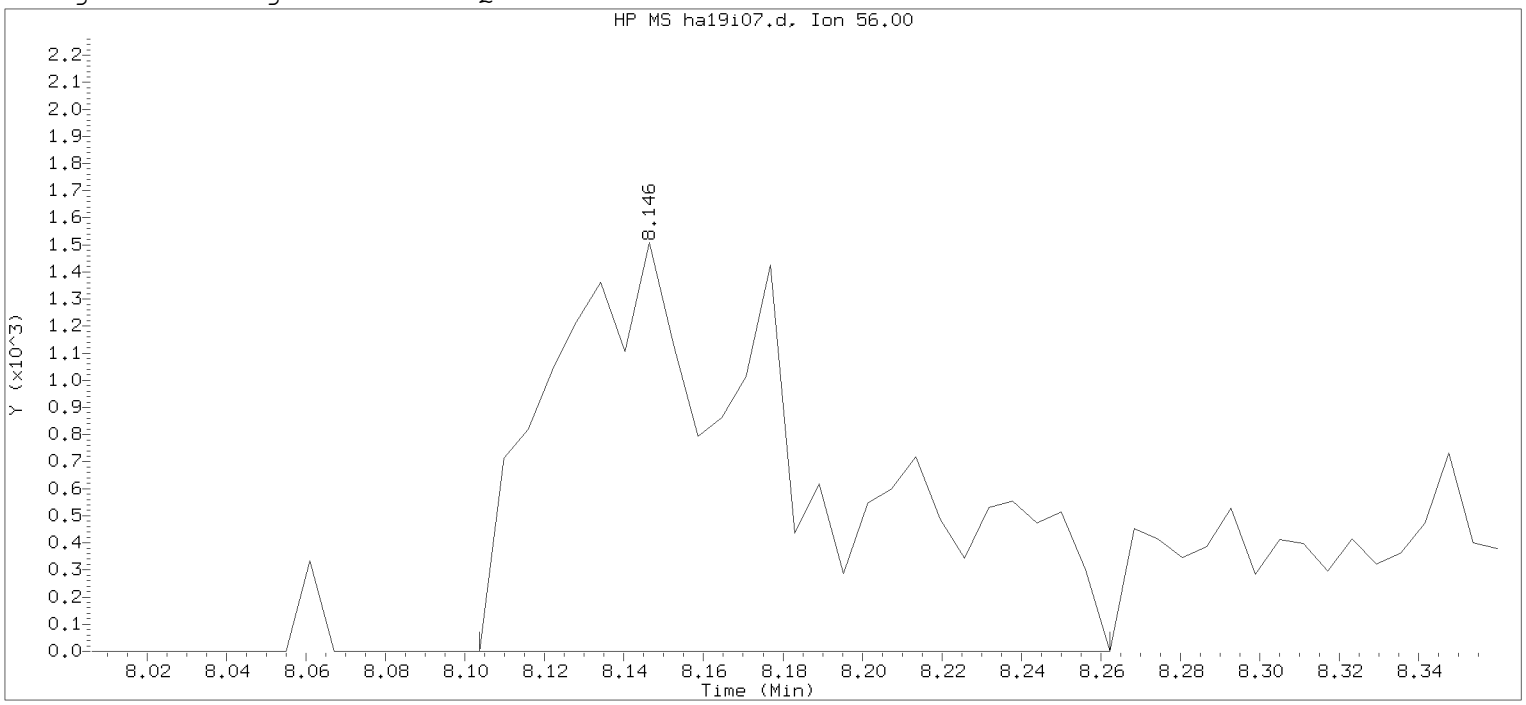
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

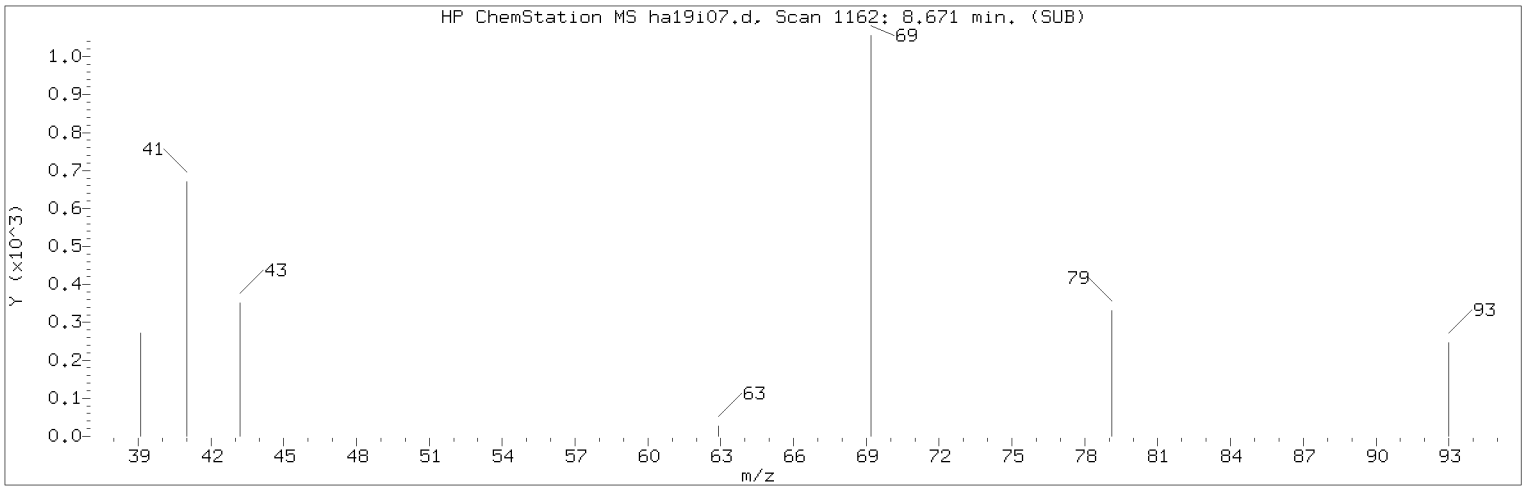
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

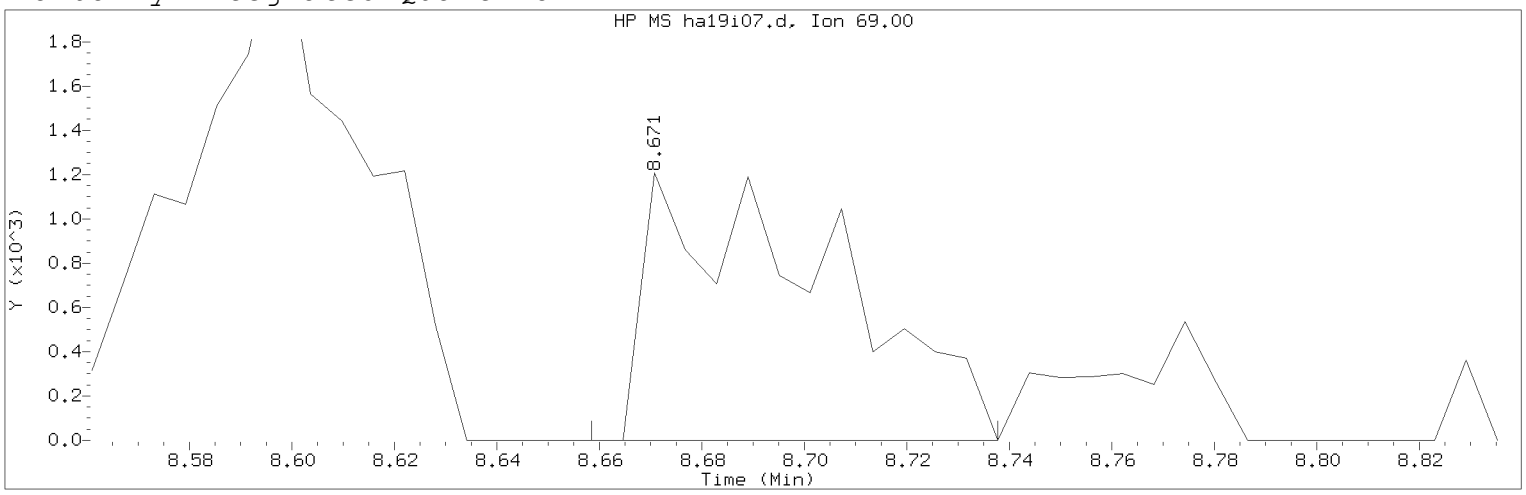
Compound Number	: 65		
Compound Name	: n-Butanol		
Scan Number	: 1076		
Retention Time (minutes)	: 8.146		
Quant Ion	: 56.00		
Area	: 7093		
On-column Amount (ng)	: 18.2964		
Integration start scan	: 1068	Integration stop scan:	1094
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito@ae

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

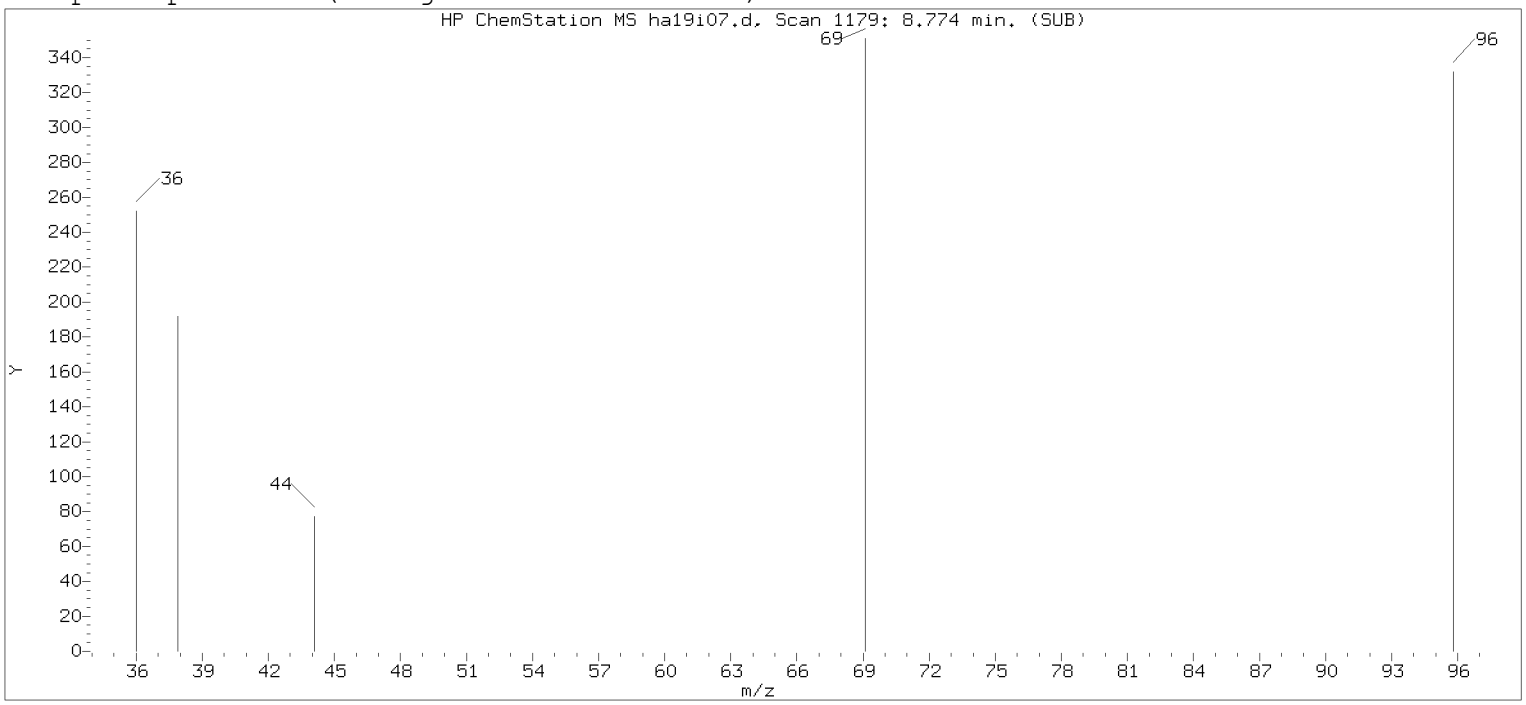
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1162
Retention Time (minutes): 8.671
Quant Ion : 69.00
Area (flag) : 2959M
On-Column Amount (ng) : 0.1253
Integration start scan : 1159 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

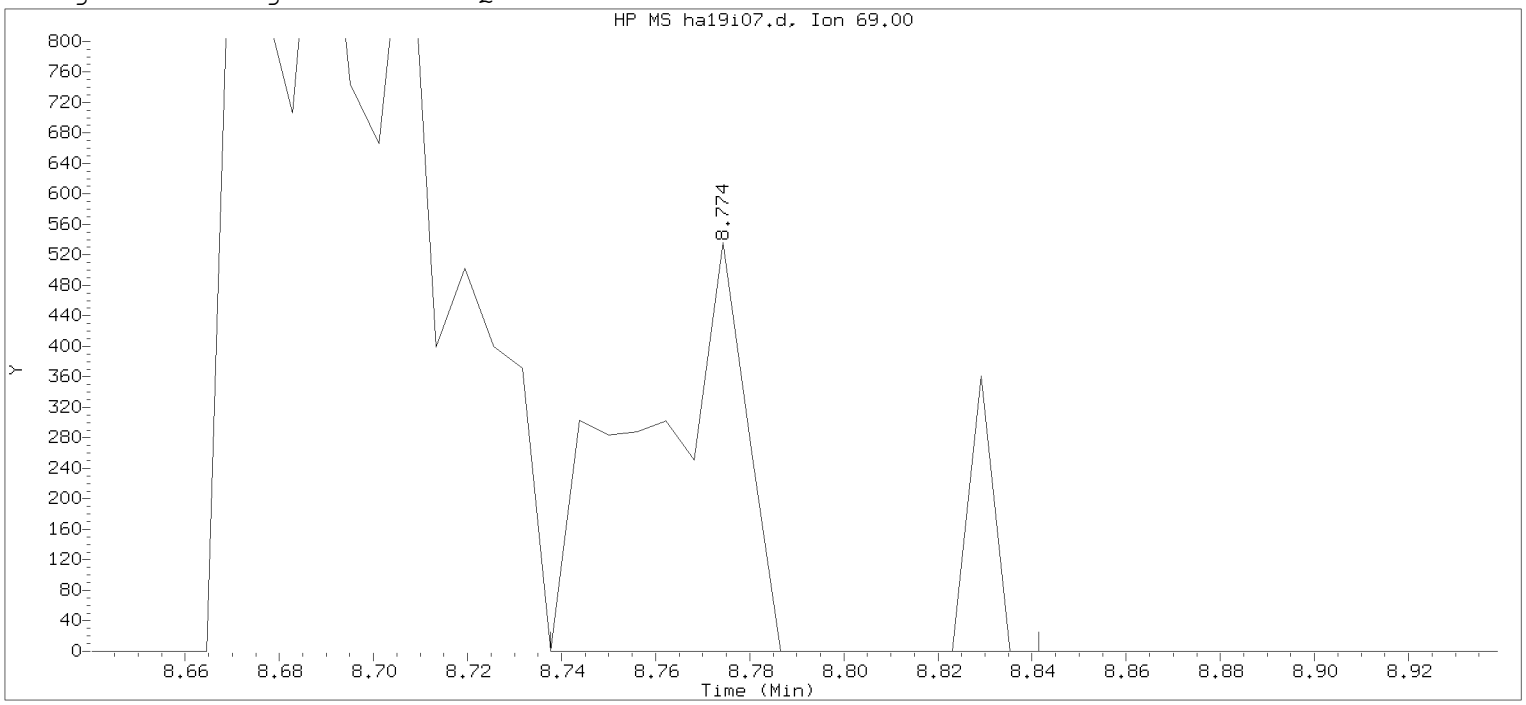
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

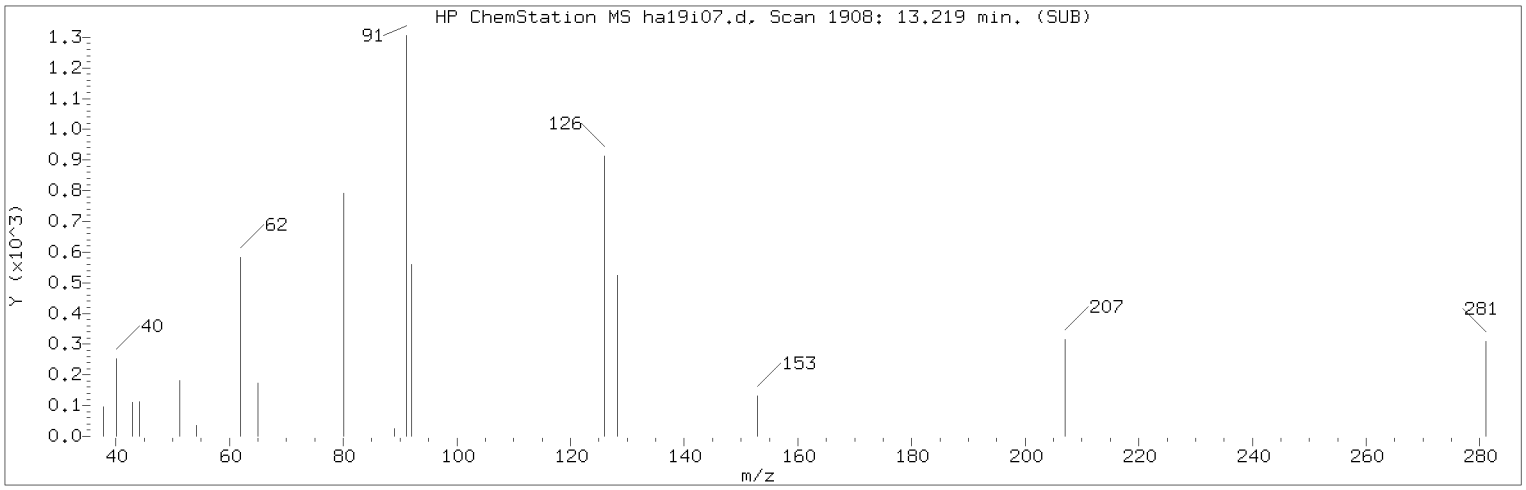
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

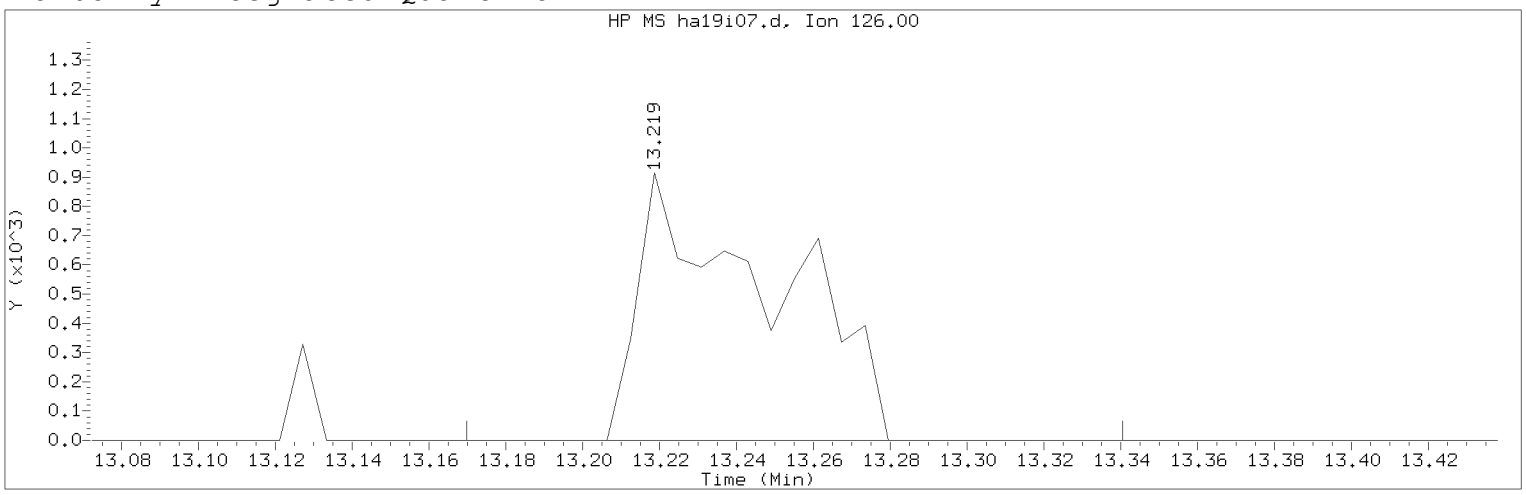
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1179
Retention Time (minutes): 8.774
Quant Ion : 69.00
Area : 945
On-column Amount (ng) : 0.0466
Integration start scan : 1172 Integration stop scan: 1189
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

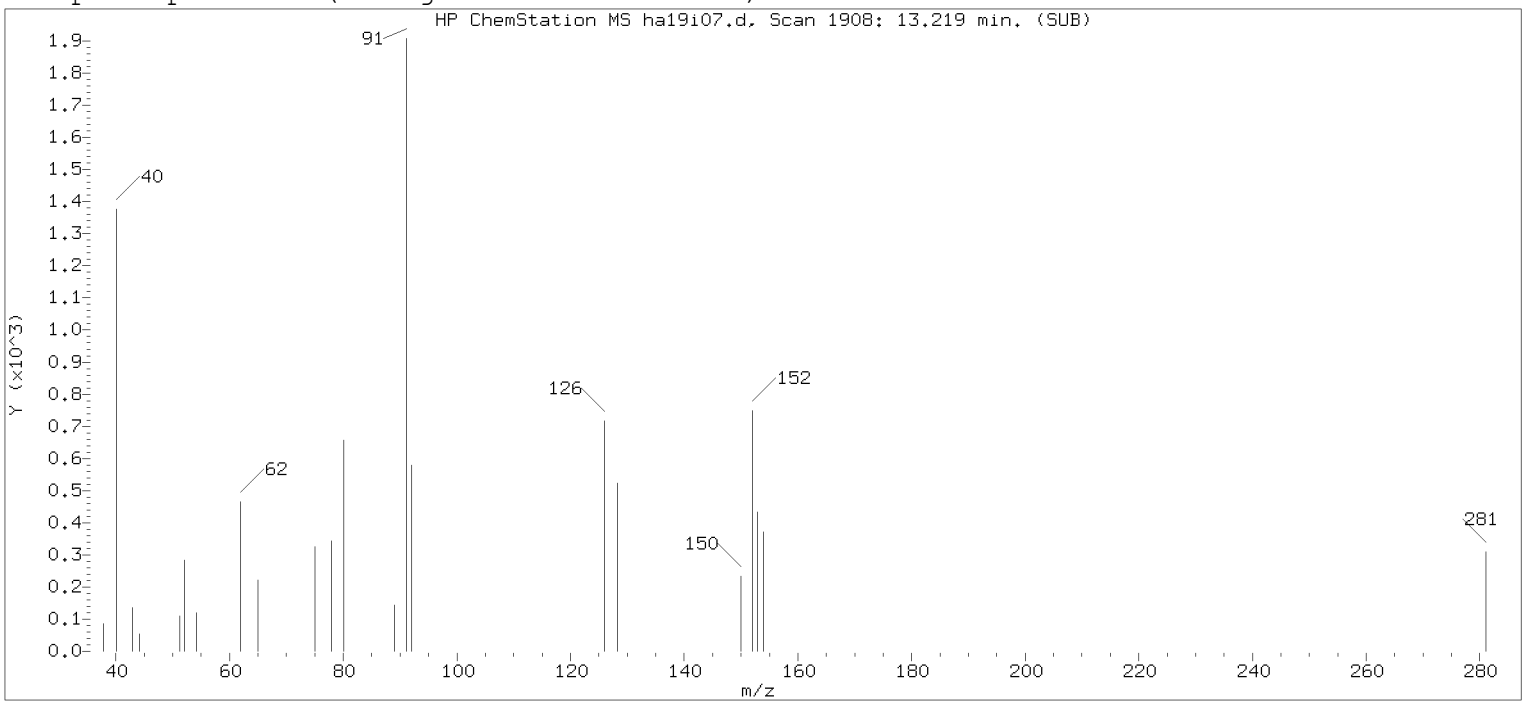
Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1908
Retention Time (minutes): 13.219
Quant Ion : 126.00
Area (flag) : 2226M
On-Column Amount (ng) : 0.1630
Integration start scan : 1899 Integration stop scan: 1927
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

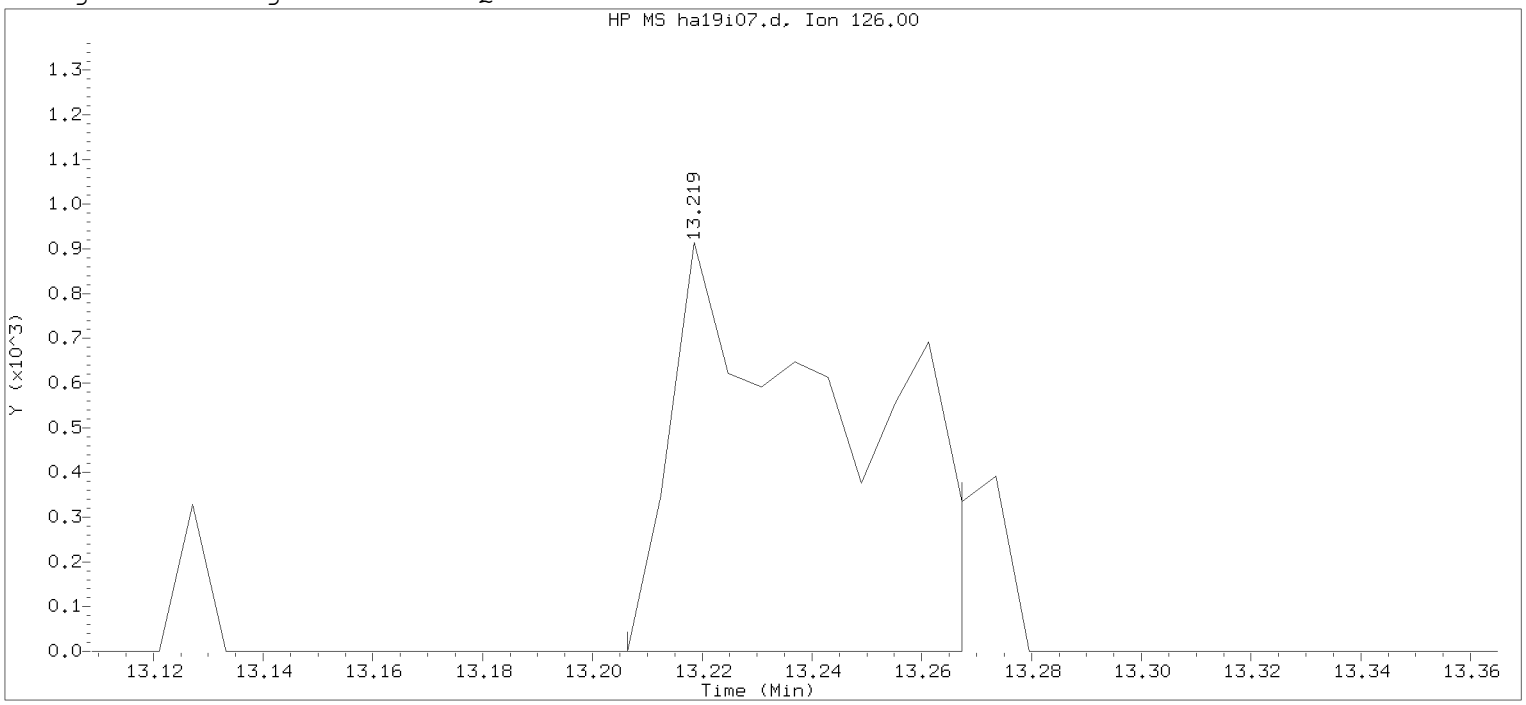
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



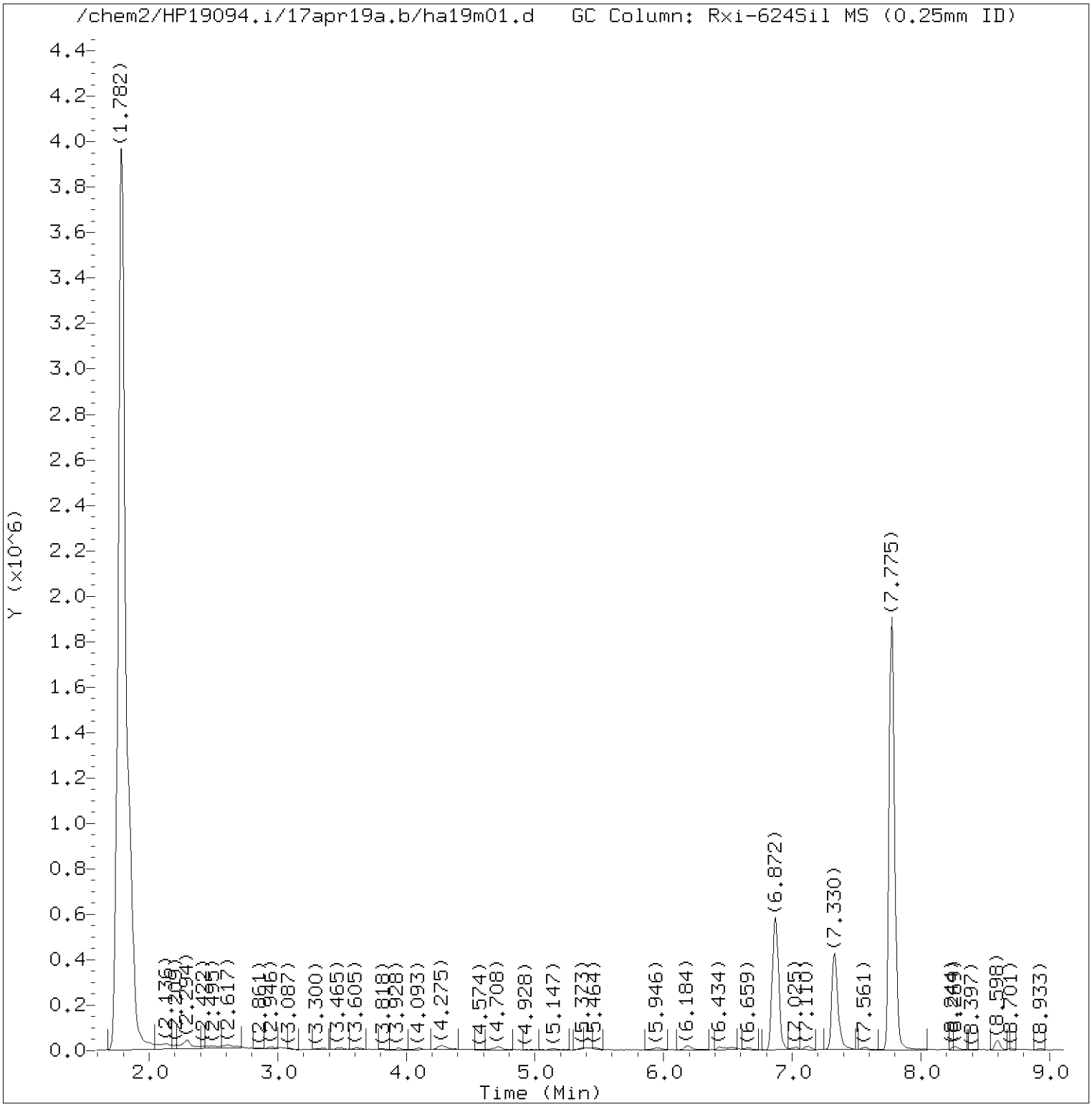
Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1908
Retention Time (minutes): 13.219
Quant Ion : 126.00
Area : 2022
On-column Amount (ng) : 0.1497
Integration start scan : 1905 Integration stop scan: 1915
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user name: kasposito



Total Ion Chromatogram (TIC)

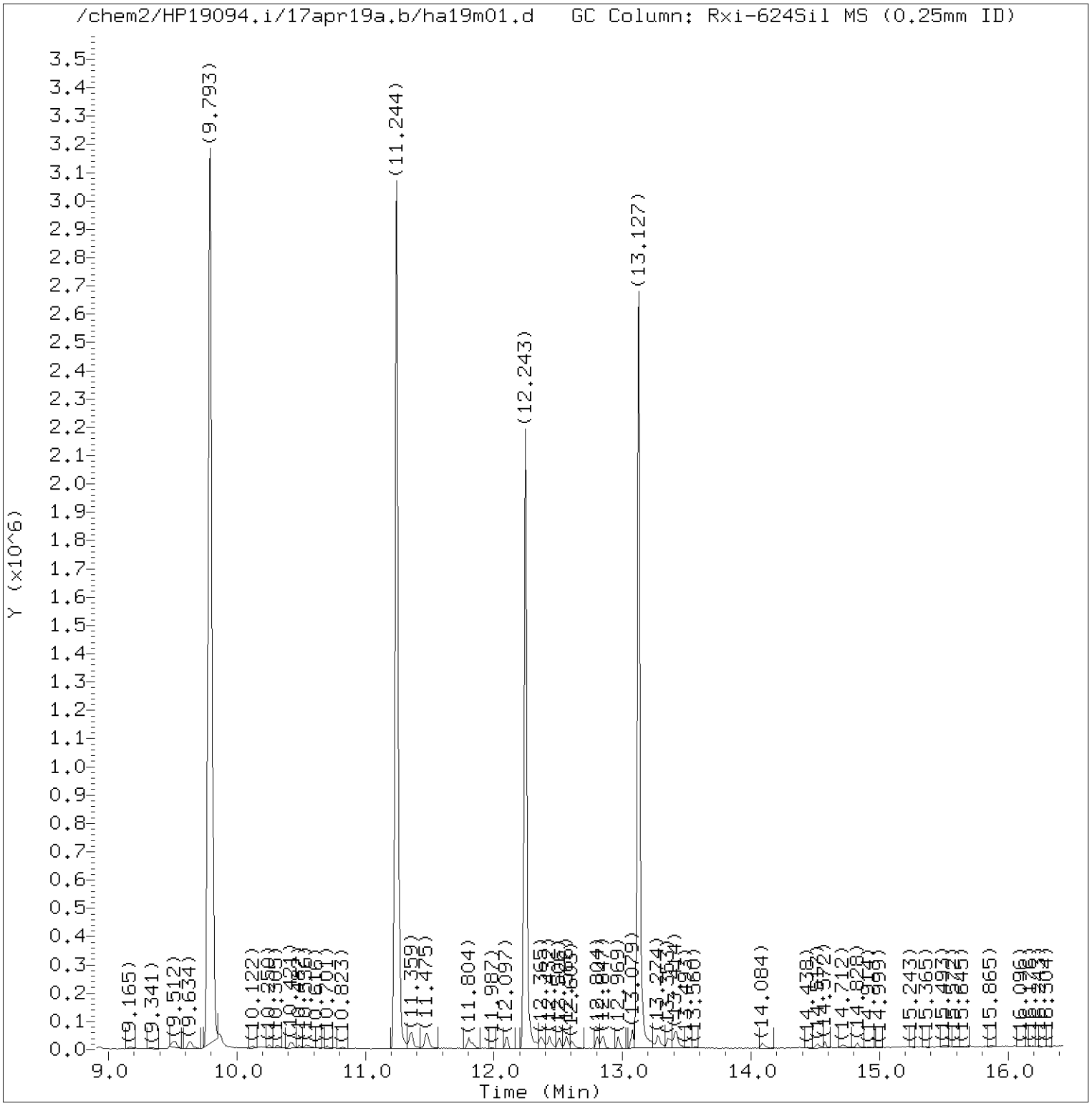
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.008	85	8201	0.078
2) Chloromethane	(2)	2.142	50	12796	0.117
5) Vinyl Chloride	(2)	2.276	62	9900	0.103
6) 1,3-Butadiene	(2)	2.288	39	14922M	0.098
7) Bromomethane	(2)	2.611	94	6265	0.104
8) Chloroethane	(2)	2.727	64	6479	0.117
9) Dichlorofluoromethane	(2)	2.946	67	12953	0.102
10) Trichlorofluoromethane	(2)	2.995	101	9056	0.081
11) Ethyl ether	(2)	3.300	59	3683	0.083
12) Freon 123a	(2)	3.349	67	7958	0.095
13) Acrolein	(1)	3.465	56	22999	4.861
15) 1,1-Dichloroethene	(2)	3.623	96	4983	0.083
16) Freon 113	(2)	3.654	101	3683	0.058
14) Acetone	(1)	3.678	43	8839	1.543
17) Methyl Iodide	(2)	3.812	142	10203	0.092
18) Carbon Disulfide	(2)	3.928	76	16658	0.099
21) Methyl Acetate	(1)	4.050	43	2632	0.135
22) Allyl Chloride	(2)	4.099	41	10861	0.093
26)*t-Butyl Alcohol-d10	(1)	4.257	65	62185	50.000
23) Methylene Chloride	(2)	4.275	84	6362	0.097
28) t-Butyl Alcohol	(1)	4.440	59	1085M	0.697
29) Acrylonitrile	(1)	4.659	53	2444	0.316
30) Methyl Tertiary Butyl Ether	(2)	4.672	73	10843	0.090
31) trans-1,2-Dichloroethene	(2)	4.714	96	6522	0.099
32) n-Hexane	(2)	5.135	57	4526	0.045
33) 1,1-Dichloroethane	(2)	5.348	63	12250	0.094
34) di-Isopropyl Ether	(2)	5.397	45	18886	0.085
35) 2-Chloro-1,3-Butadiene	(2)	5.464	53	8348	0.076
37) Ethyl t-butyl ether	(2)	5.946	59	14391	0.084
40) 1,2-Dichloroethene (Total)	(2)		96	13393	0.192
39) cis-1,2-Dichloroethene	(2)	6.184	96	6871	0.093
41) 2,2-Dichloropropane	(2)	6.196	77	8847	0.090
38) 2-Butanone	(1)	6.202	43	9435M	0.807
42) Propionitrile	(1)	6.281	54	3915	1.410
45) Methacrylonitrile	(1)	6.434	67	8829	0.760
47) Bromochloromethane	(2)	6.525	128	2664	0.091
48) Tetrahydrofuran	(1)	6.537	71	2632	0.902
49) Chloroform	(2)	6.653	83	11346	0.092

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	607526	10.033
51) 1,1,1-Trichloroethane	(2)	6.915	97	8731	0.083
52) Cyclohexane	(2)	7.025	56	6646	0.051
55) 1,1-Dichloropropene	(2)	7.129	75	7704	0.079
54) Carbon Tetrachloride	(2)	7.135	117	7080	0.080
56) Isobutyl Alcohol	(1)	7.244	41	2629	3.916
57)$1,2-Dichloroethane-d4	(2)	7.330	102	99434	10.155
58) Benzene	(2)	7.372	78	26951	0.095
59) 1,2-Dichloroethane	(2)	7.439	62	6145	0.091
60) t-Amyl methyl ether	(2)	7.543	73	10311	0.074
63)*Fluorobenzene	(2)	7.775	96	2701236	10.000
62) n-Heptane	(2)	7.817	43	7631	0.064
65) n-Butanol	(1)	8.183	56	2008	4.062
67) Trichloroethene	(2)	8.269	95	7294	0.097
69) Methylcyclohexane	(2)	8.598	83	6994	0.055
70) 1,2-Dichloropropane	(2)	8.610	63	6730	0.091
73) Dibromomethane	(2)	8.695	93	2415	0.085
71) Methyl Methacrylate	(1)	8.726	69	1082M	0.051
74) Bromodichloromethane	(2)	8.921	83	6611	0.085
76) 2-Nitropropane	(1)	9.171	41	6247M	0.892
80) cis-1,3-Dichloropropene	(2)	9.488	75	7006	0.080
81) 4-Methyl-2-Pentanone	(1)	9.634	43	24554M	0.793
82)$Toluene-d8	(3)	9.793	98	2606070	10.184
83) Toluene	(3)	9.860	92	16927	0.100
84) trans-1,3-Dichloropropene	(3)	10.122	75	4640	0.070
85) 1,3-Dichloropropene (total)	(3)		75	11646	0.150
86) Ethyl Methacrylate	(3)	10.183	69	3465	0.071
88) 1,1,2-Trichloroethane	(3)	10.305	97	3153	0.080
89) Tetrachloroethene	(3)	10.427	166	8038	0.102
90) 1,3-Dichloropropane	(3)	10.482	76	6565	0.093
91) 2-Hexanone	(1)	10.536	43	18988	0.870
93) Dibromochloromethane	(3)	10.701	129	3898	0.084
95) 1,2-Dibromoethane	(3)	10.823	107	3137	0.084
97)*Chlorobenzene-d5	(3)	11.244	117	1750659	10.000
98) Chlorobenzene	(3)	11.268	112	18125	0.098
99) 1,1,1,2-Tetrachloroethane	(3)	11.341	131	5842	0.095
100) Ethylbenzene	(3)	11.359	91	29608	0.090
101) m+p-Xylene	(3)	11.481	106	18449	0.148

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

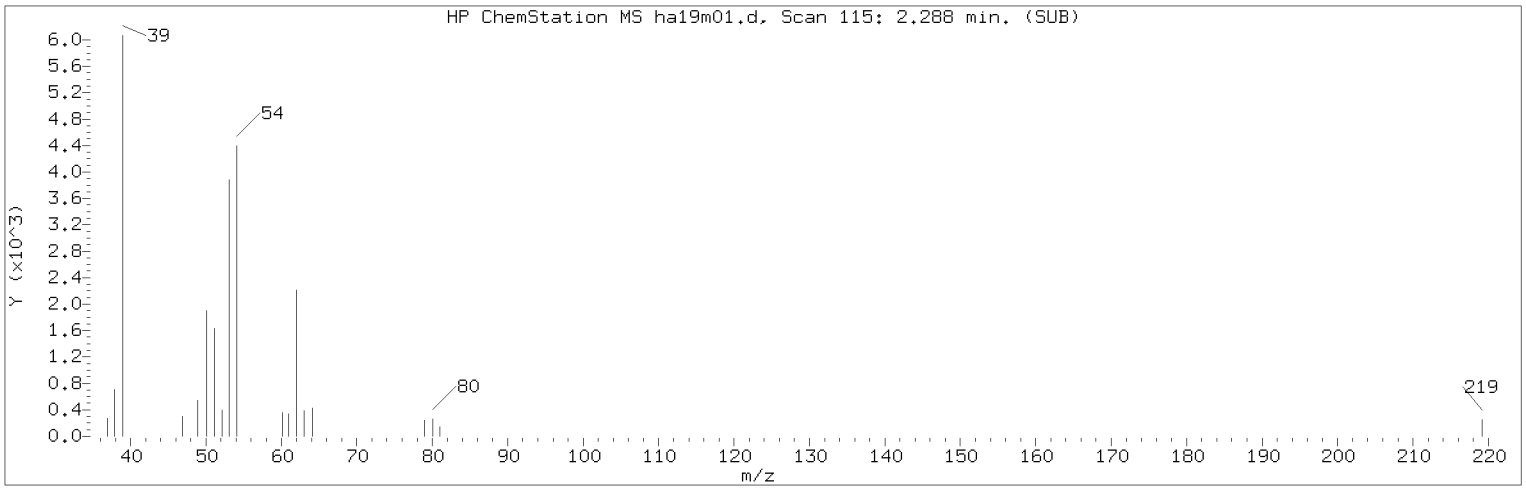
Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
105) Xylene (Total)	(3)		106	28171	0.229
104) o-Xylene	(3)	11.804	106	9722	0.081
106) Styrene	(3)	11.835	104	13219	0.072
107) Bromoform	(3)	11.981	173	1901	0.082
108) Isopropylbenzene	(3)	12.103	105	23140	0.074
111)$4-Bromofluorobenzene	(3)	12.243	95	701352	9.646
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	4990	0.108
114) Bromobenzene	(4)	12.365	156	6504	0.092
115) trans-1,4-Dichloro-2-butene	(1)	12.377	53	5163	0.628
116) 1,2,3-Trichloropropane	(4)	12.384	110	921	0.079
117) n-Propylbenzene	(4)	12.432	91	31628	0.084
119) 2-Chlorotoluene	(4)	12.512	126	6299	0.088
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	20509	0.081
122) 4-Chlorotoluene	(4)	12.615	126	6130M	0.085
125) tert-Butylbenzene	(4)	12.804	134	3719	0.067
126) Pentachloroethane	(4)	12.841	167	3697	0.090
127) 1,2,4-Trimethylbenzene	(4)	12.853	105	19625	0.077
128) sec-Butylbenzene	(4)	12.969	105	27217	0.082
131) 1,3-Dichlorobenzene	(4)	13.072	146	12155	0.087
132) p-Isopropyltoluene	(4)	13.079	119	19624	0.072
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	718732	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	14969	0.103
135) 1,2,3-Trimethylbenzene	(4)	13.158	120	10043	0.090
136) Benzyl Chloride	(4)	13.231	126	779	0.053
138) n-Butylbenzene	(4)	13.377	92	7816	0.059
139) 1,2-Dichlorobenzene	(4)	13.408	146	10743	0.087
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	393	0.086
145) 1,2,4-Trichlorobenzene	(4)	14.523	180	7514	0.094
146) Hexachlorobutadiene	(4)	14.572	225	3606	0.091
147) Naphthalene	(4)	14.700	128	10405	0.089
148) 1,2,3-Trichlorobenzene	(4)	14.828	180	7066	0.105

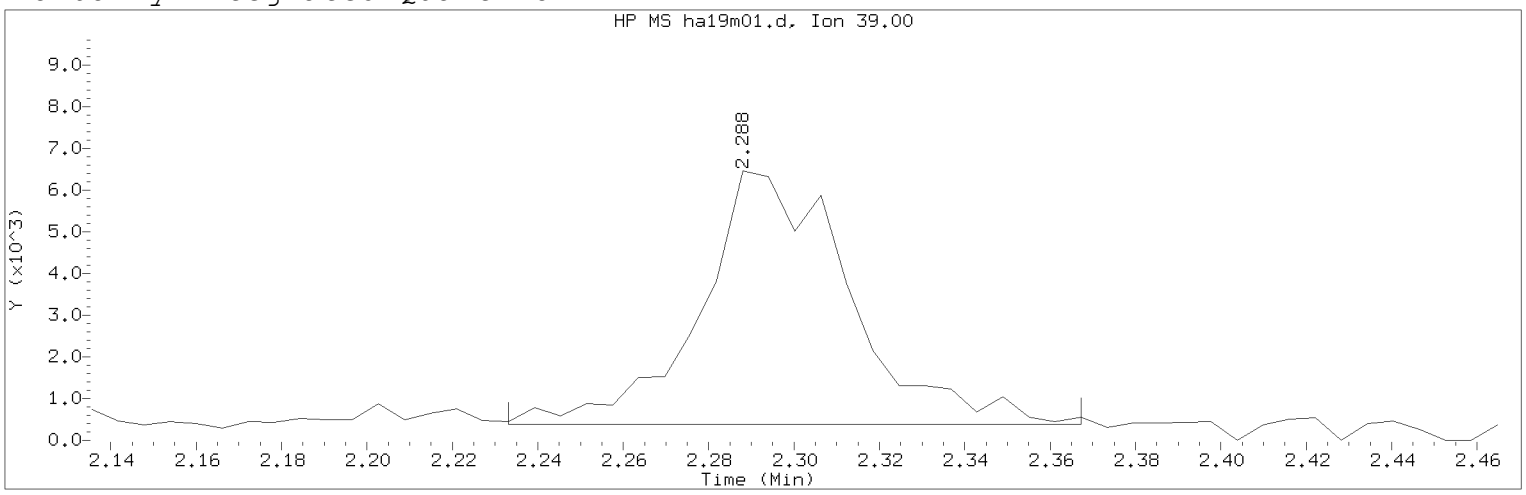
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

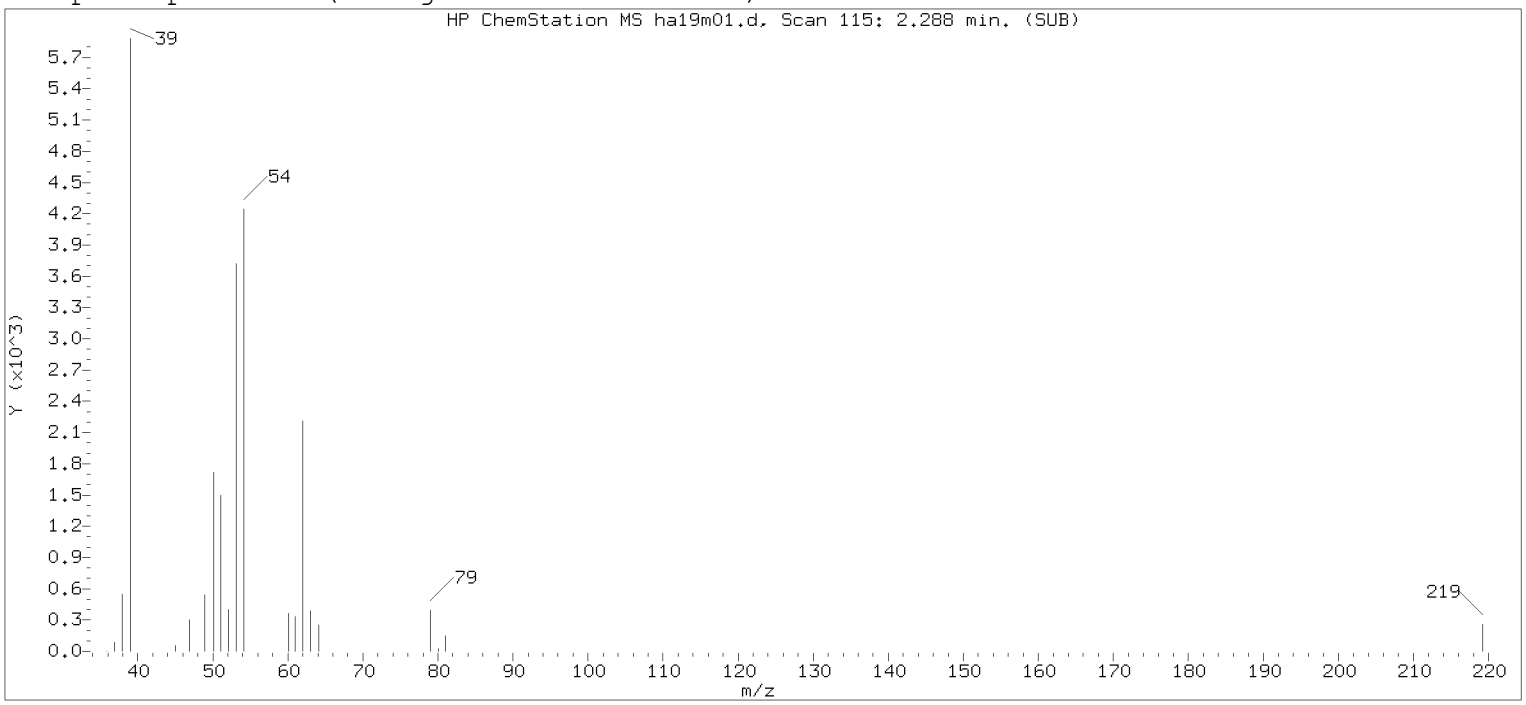
Compound Number : 6
Compound Name : 1,3-Butadiene
Scan Number : 115
Retention Time (minutes): 2.288
Quant Ion : 39.00
Area (flag) : 14922M
On-Column Amount (ng) : 0.0984
Integration start scan : 105 Integration stop scan: 127
Y at integration start : 384 Y at integration end: 384

Reason for manual integration: improper integration

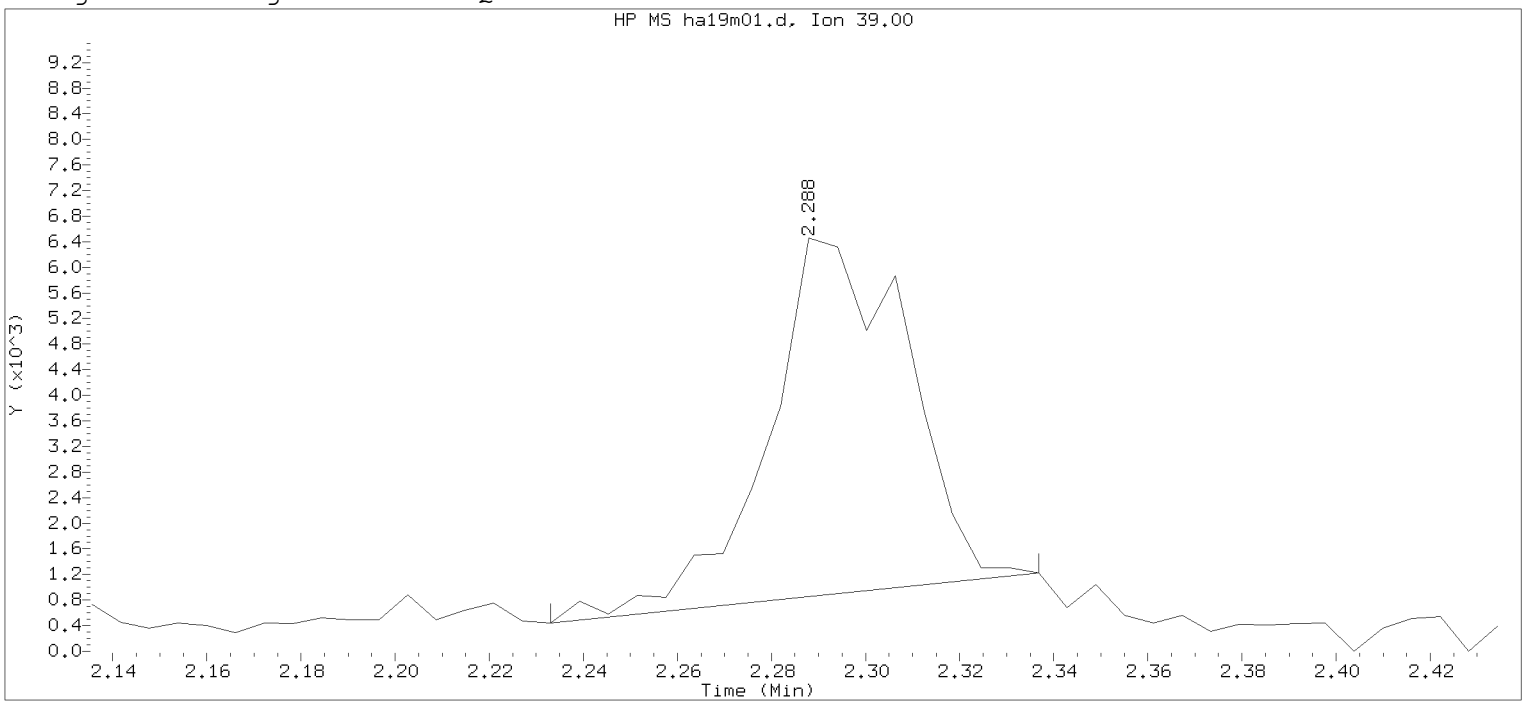
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

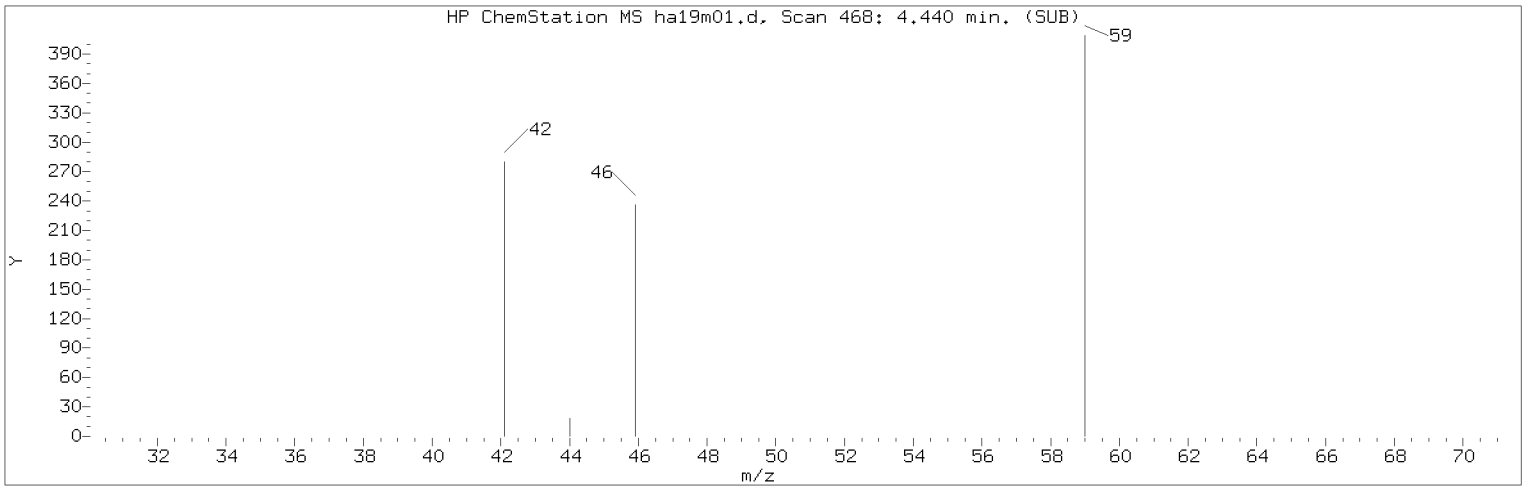
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

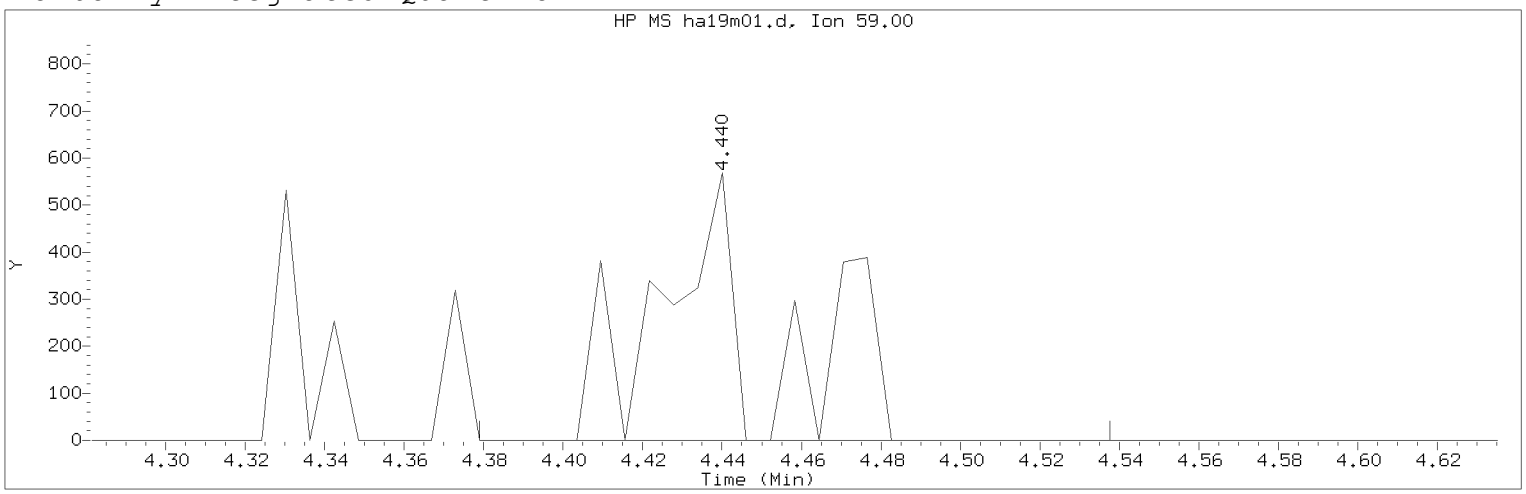
Compound Number : 6
Compound Name : 1,3-Butadiene
Scan Number : 115
Retention Time (minutes): 2.288
Quant Ion : 39.00
Area : 11455
On-column Amount (ng) : 0.0755
Integration start scan : 105 Integration stop scan: 122
Y at integration start : 444 Y at integration end: 1225

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

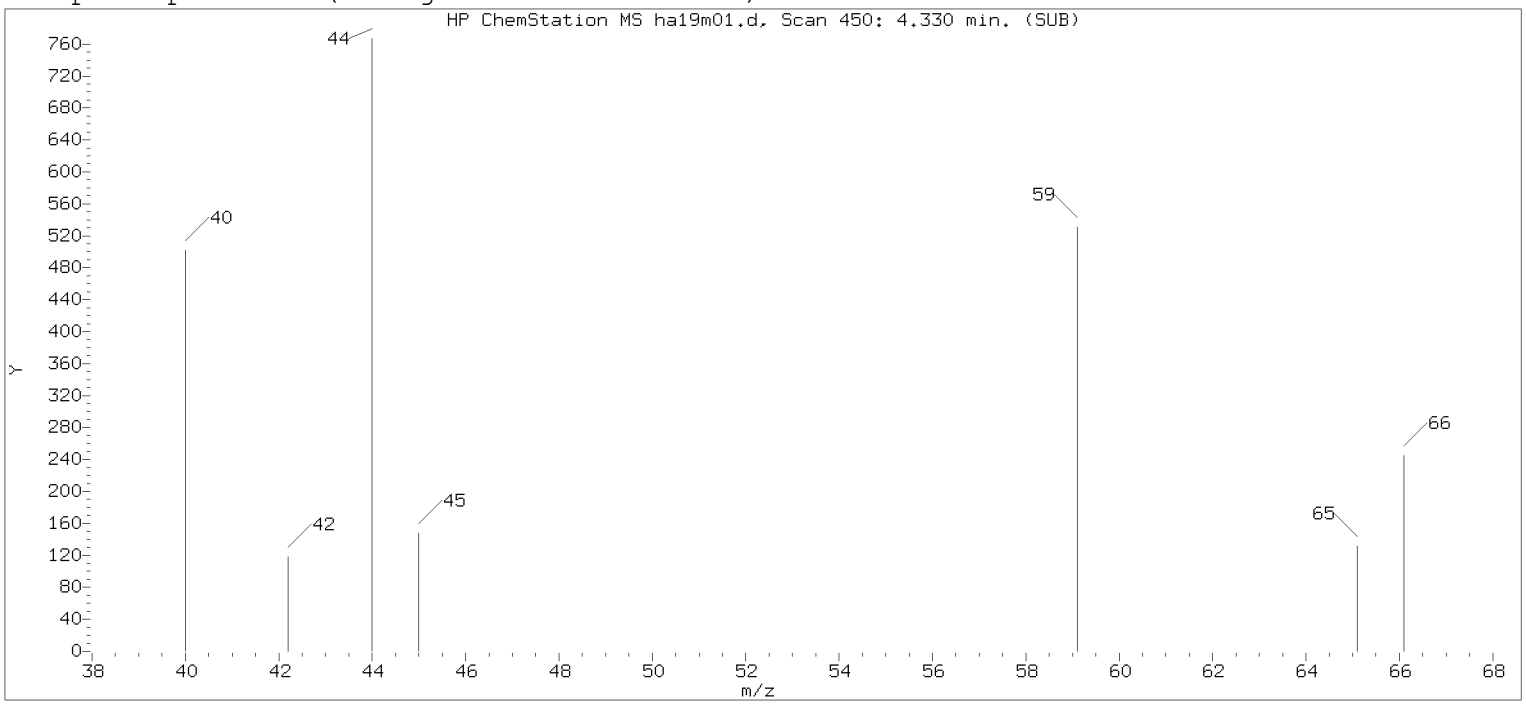
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 468
Retention Time (minutes): 4.440
Quant Ion : 59.00
Area (flag) : 1085M
On-Column Amount (ng) : 0.6974
Integration start scan : 457 Integration stop scan: 483
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

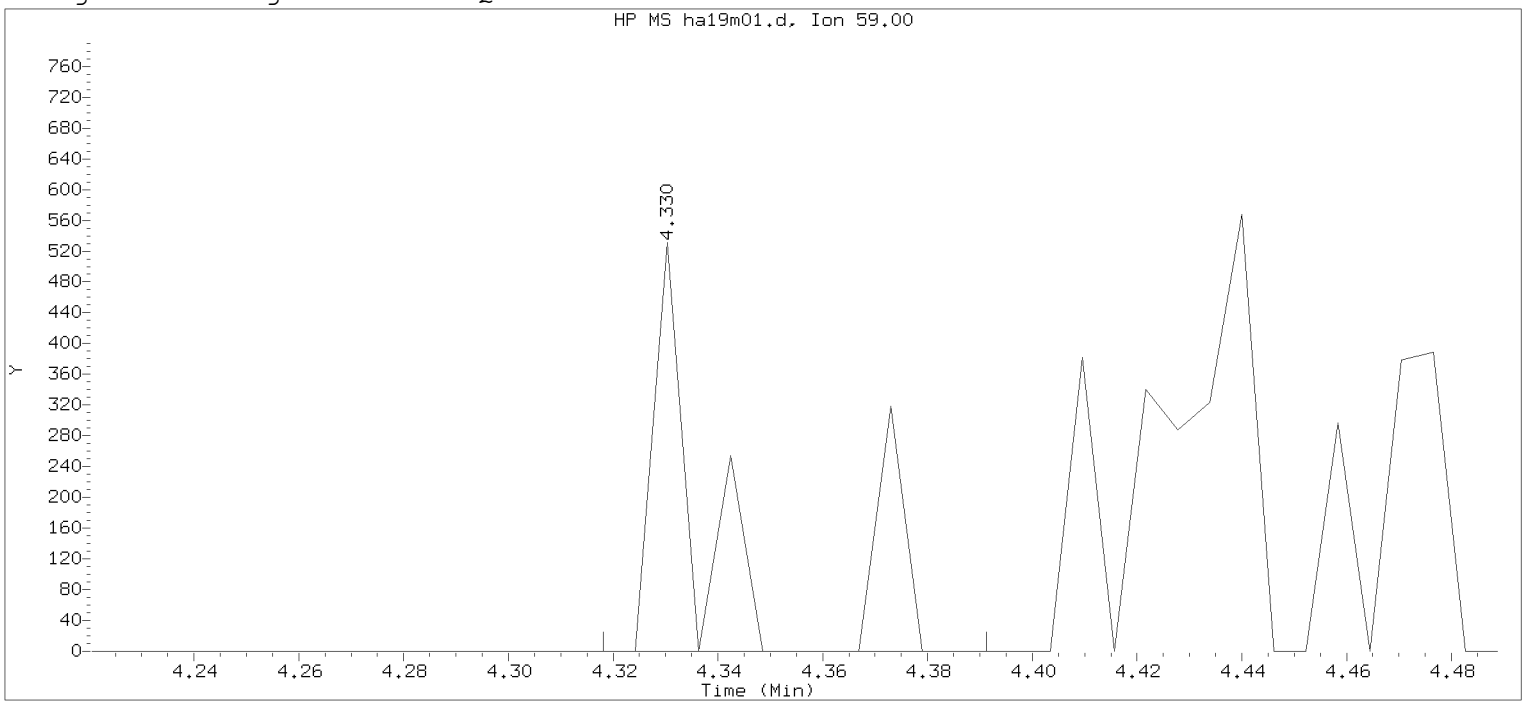
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

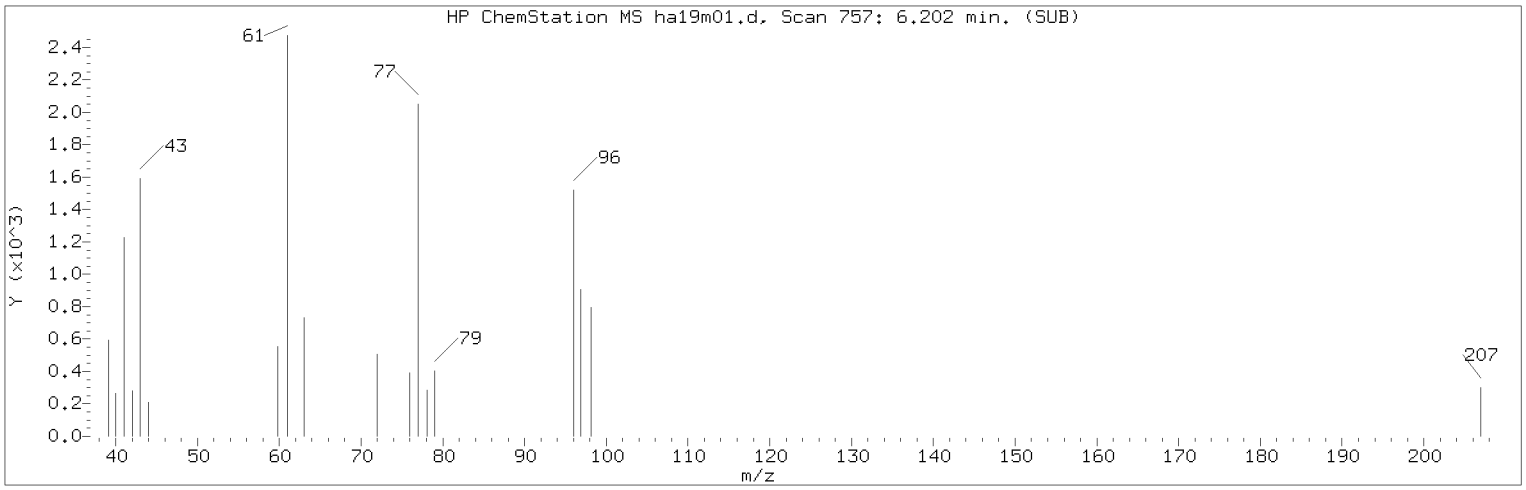
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

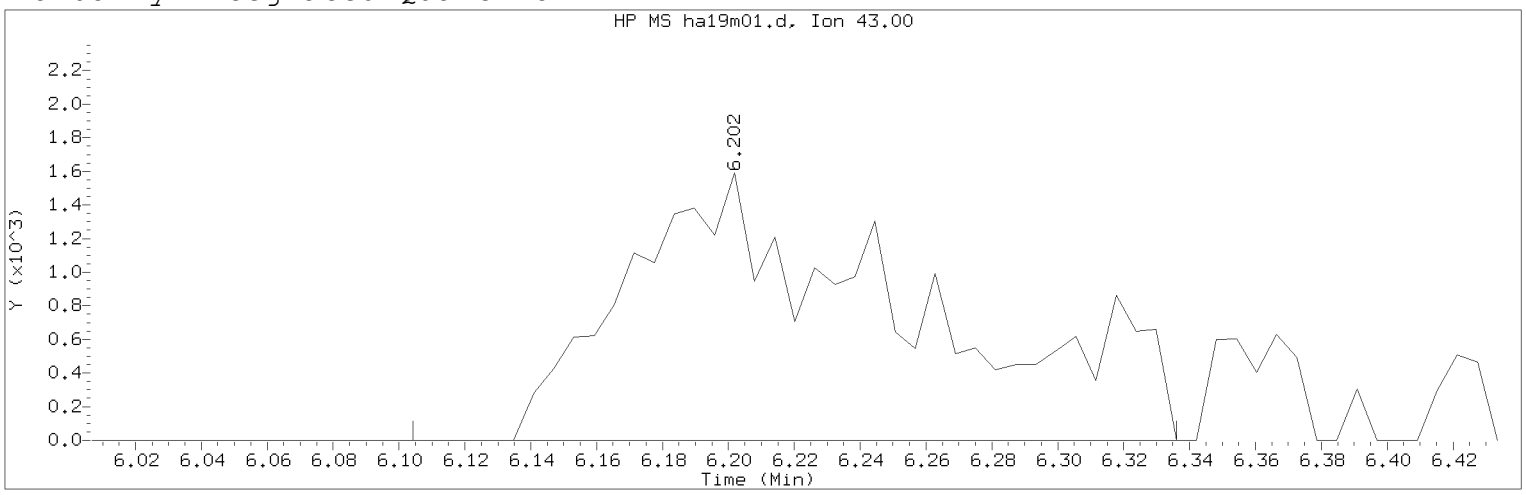
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 450
Retention Time (minutes): 4.330
Quant Ion : 59.00
Area : 403
On-column Amount (ng) : 0.2887
Integration start scan : 447 Integration stop scan: 459
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

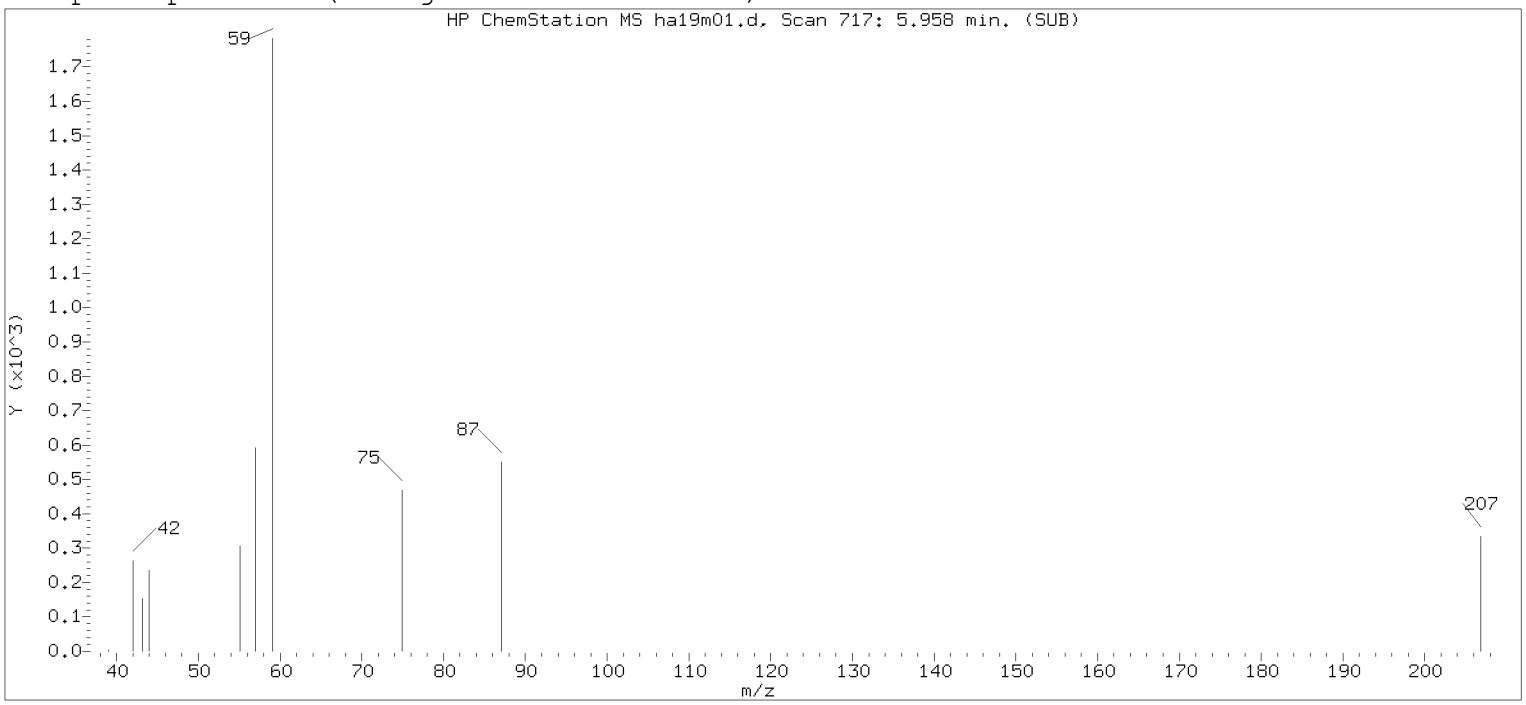
Compound Number : 38
Compound Name : 2-Butanone
Scan Number : 757
Retention Time (minutes): 6.202
Quant Ion : 43.00
Area (flag) : 9435M
On-Column Amount (ng) : 0.8073
Integration start scan : 740 Integration stop scan: 778
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

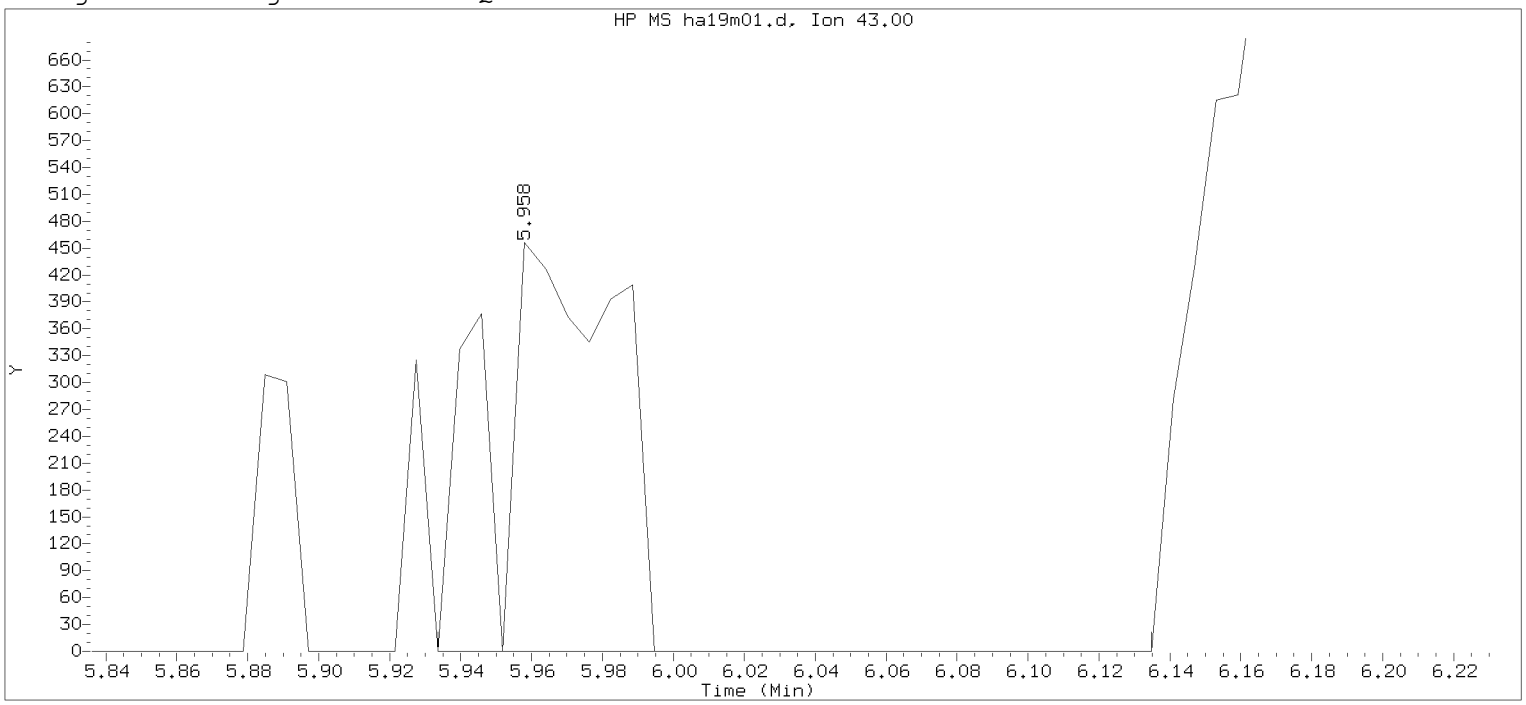
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

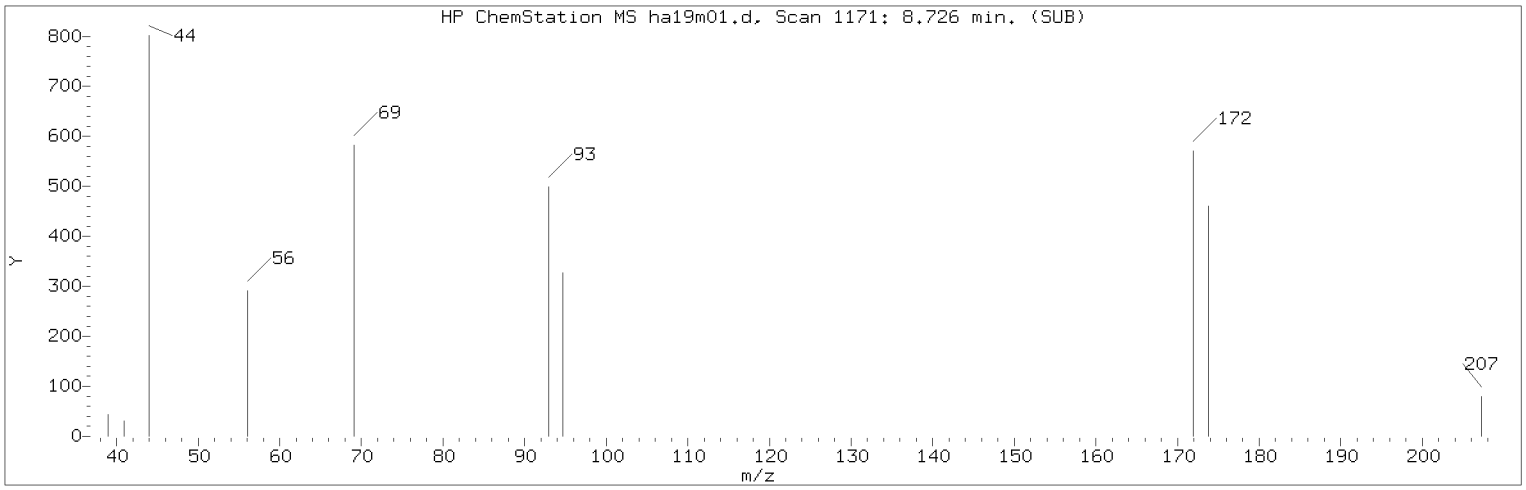
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

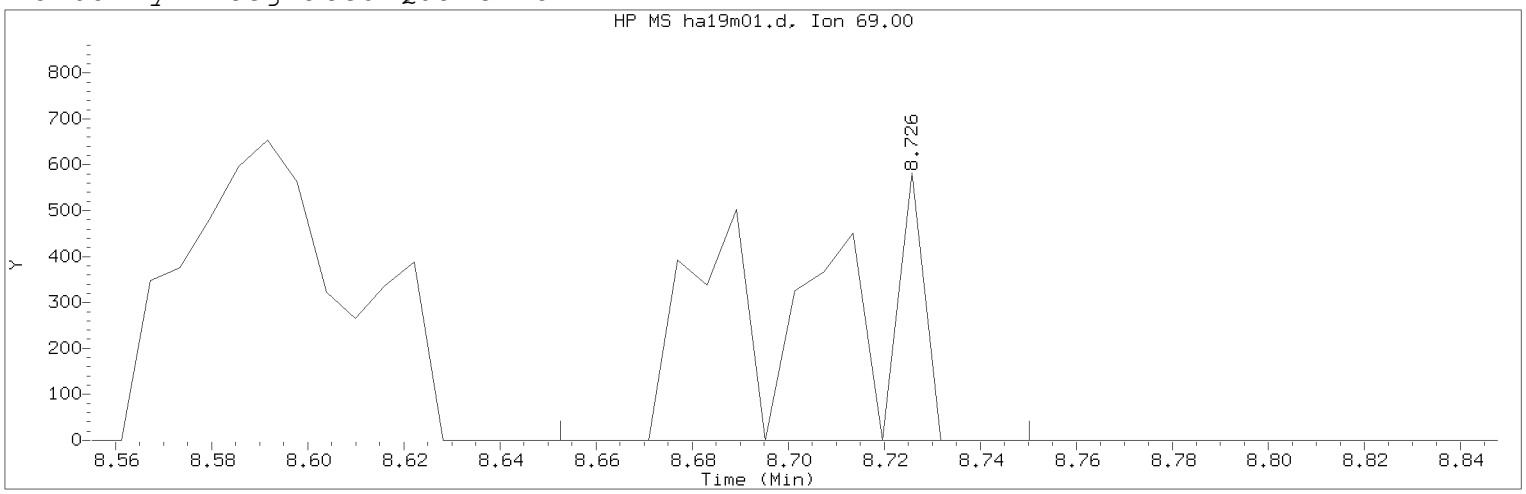
Compound Number	: 38		
Compound Name	: 2-Butanone		
Scan Number	: 717		
Retention Time (minutes)	: 5.958		
Quant Ion	: 43.00		
Area	: 1139		
On-column Amount (ng)	: 0.0975		
Integration start scan	: 712	Integration stop scan:	745
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

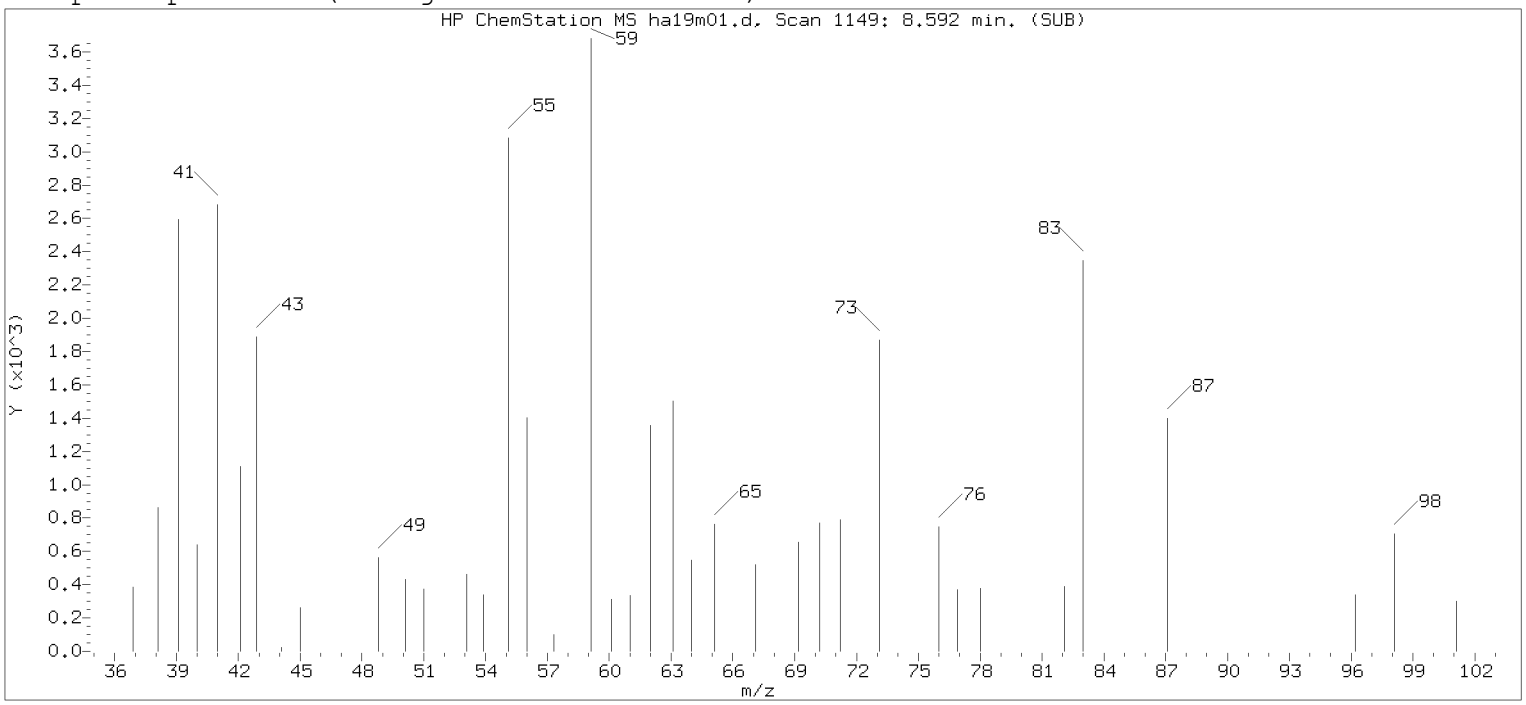
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1171
Retention Time (minutes): 8.726
Quant Ion : 69.00
Area (flag) : 1082M
On-Column Amount (ng) : 0.0509
Integration start scan : 1158 Integration stop scan: 1174
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

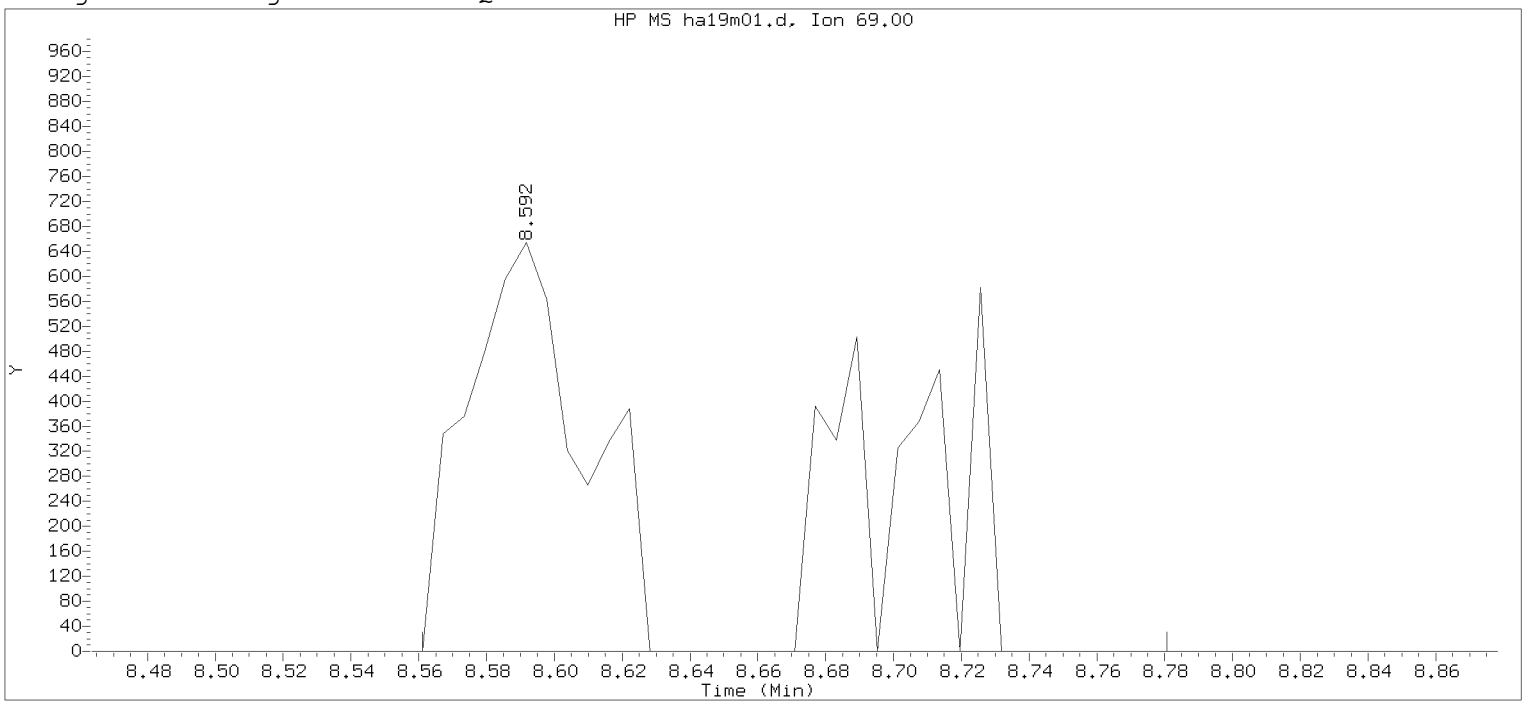
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

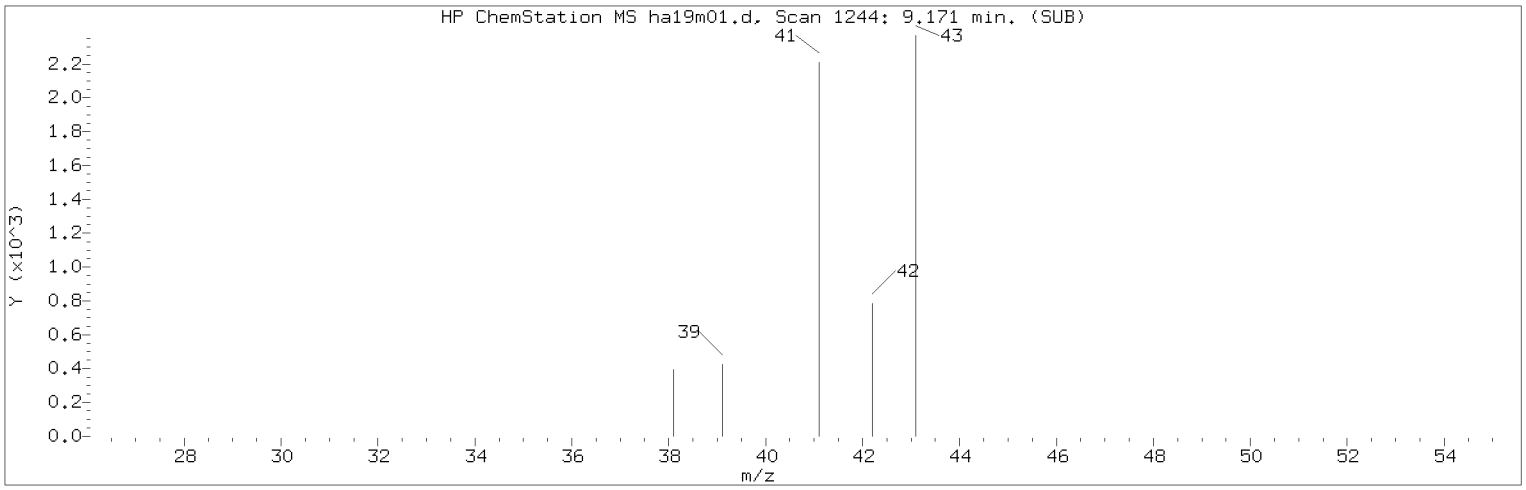
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

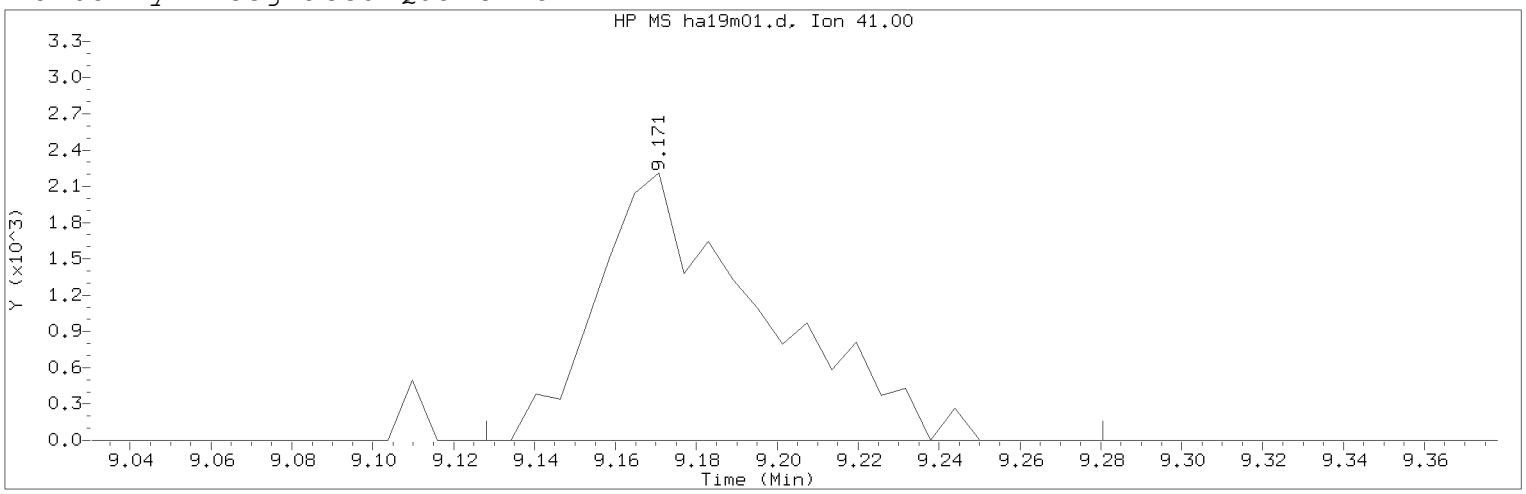
Compound Number	: 71		
Compound Name	: Methyl Methacrylate		
Scan Number	: 1149		
Retention Time (minutes)	: 8.592		
Quant Ion	: 69.00		
Area	: 2666		
On-column Amount (ng)	: 0.1337		
Integration start scan	: 1143	Integration stop scan:	1179
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

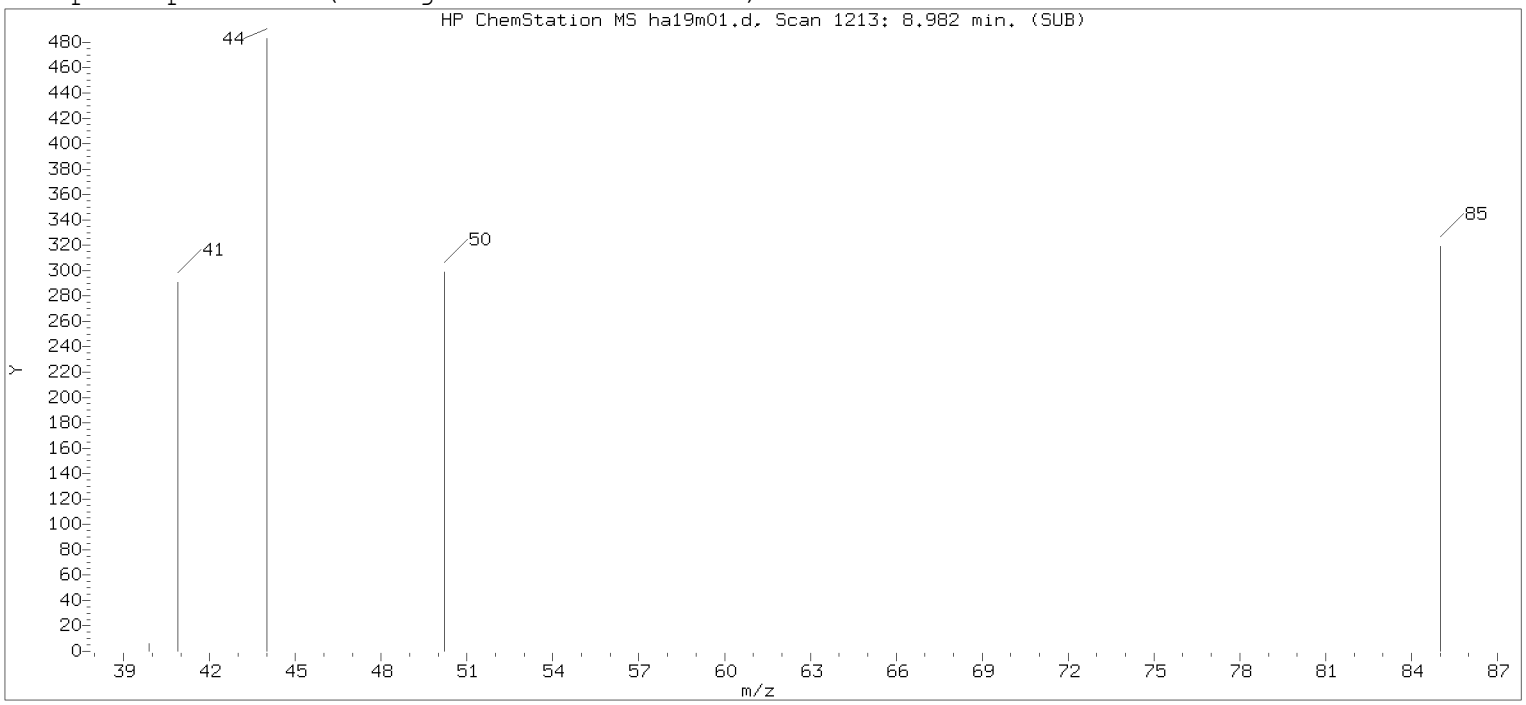
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1244
Retention Time (minutes): 9.171
Quant Ion : 41.00
Area (flag) : 6247M
On-Column Amount (ng) : 0.8918
Integration start scan : 1236 Integration stop scan: 1261
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

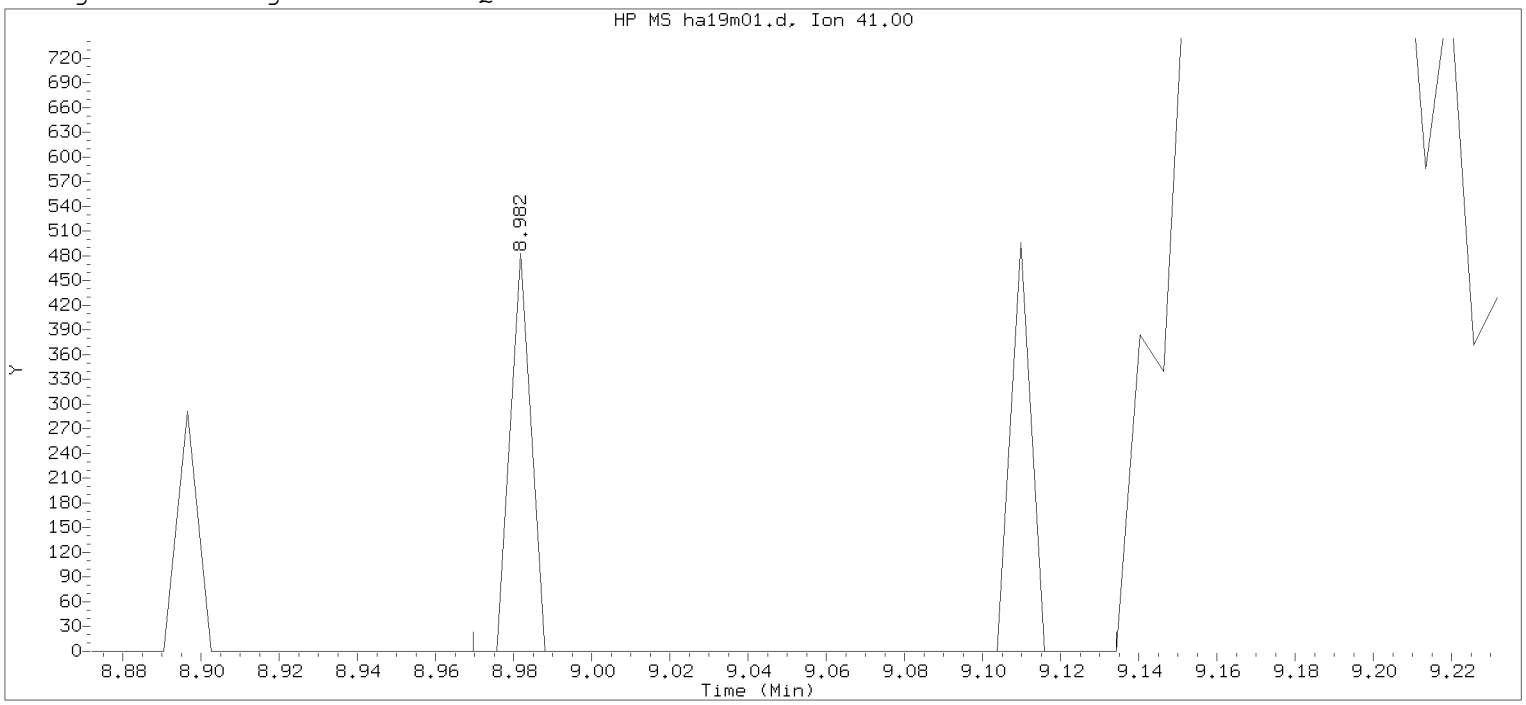
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

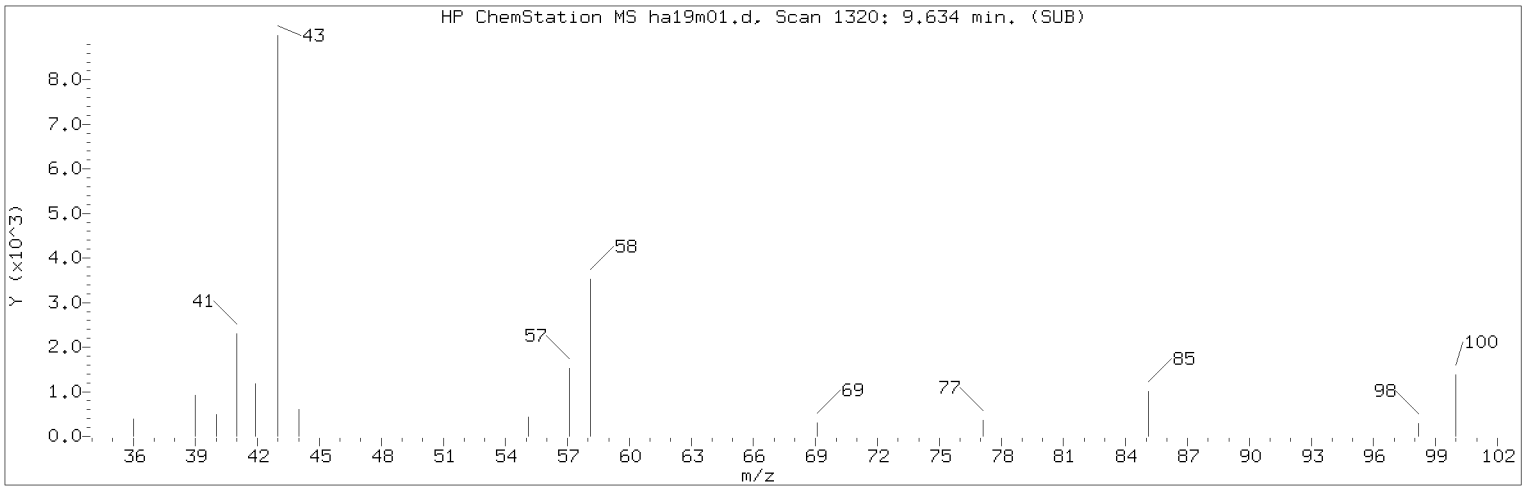
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

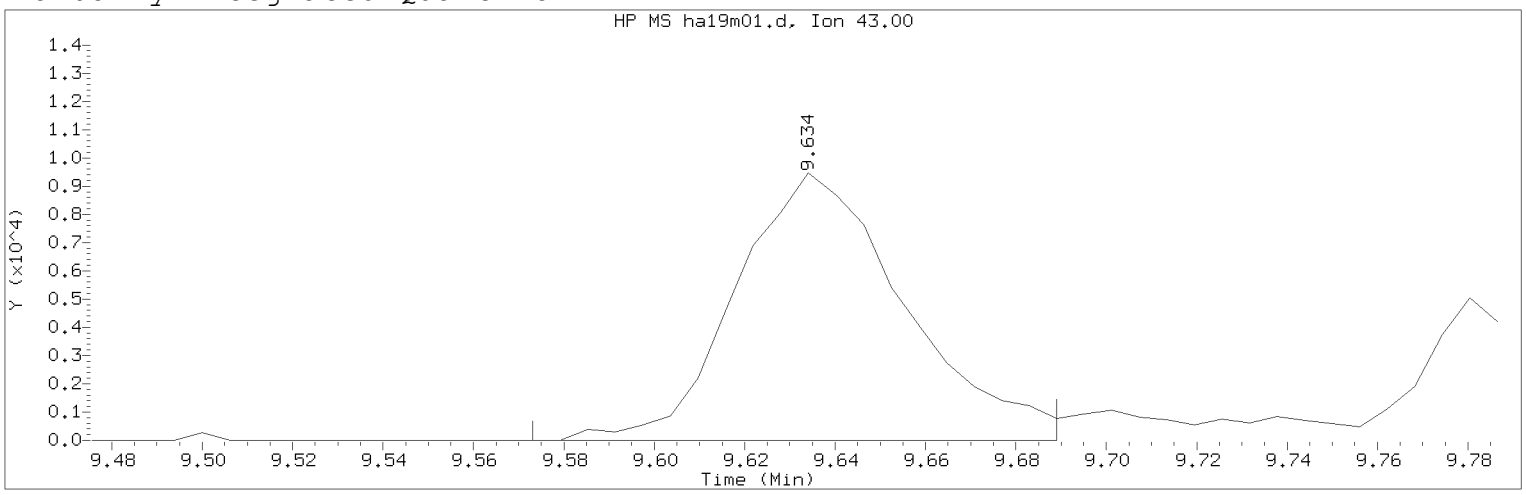
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1213
Retention Time (minutes): 8.982
Quant Ion : 41.00
Area : 358
On-column Amount (ng) : 0.0511
Integration start scan : 1210 Integration stop scan: 1237
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

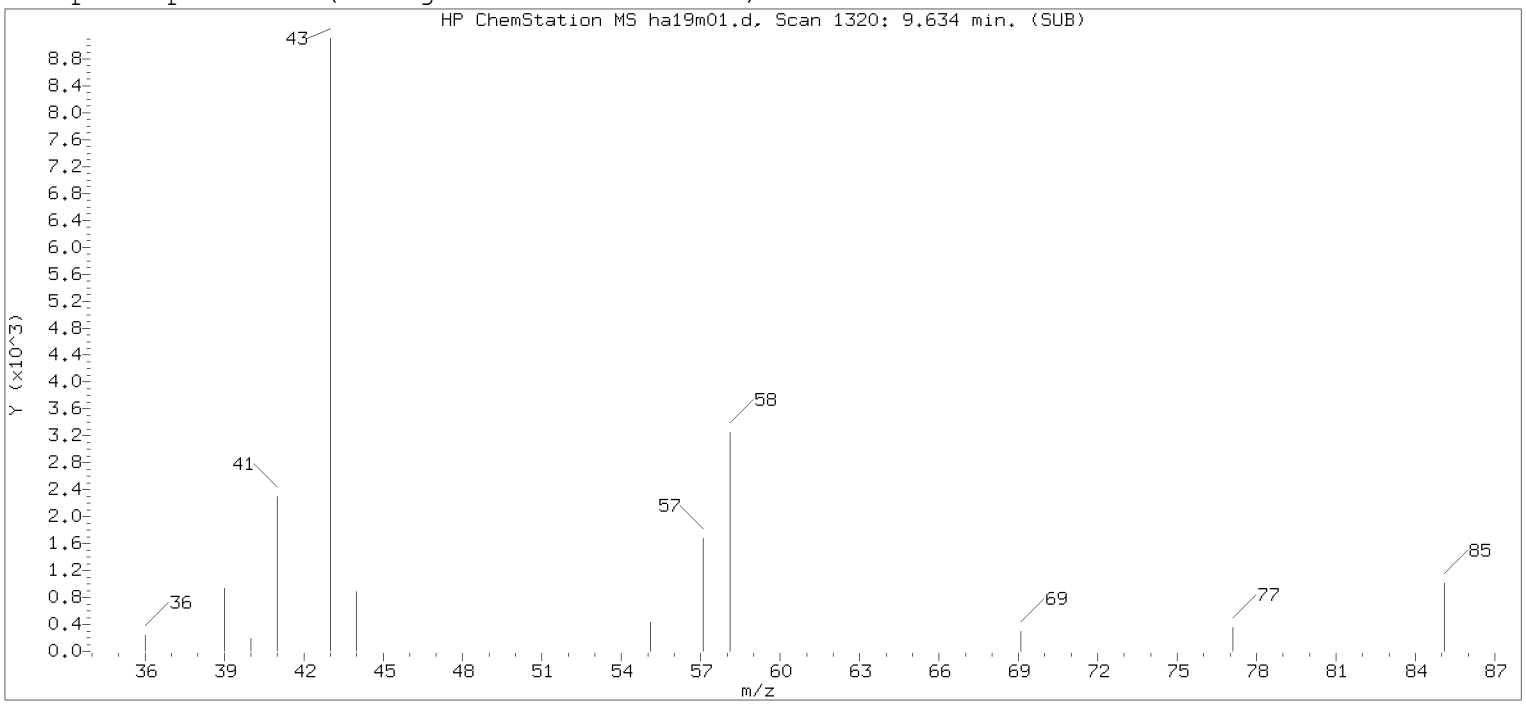
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1320
Retention Time (minutes): 9.634
Quant Ion : 43.00
Area (flag) : 24554M
On-Column Amount (ng) : 0.7929
Integration start scan : 1309 Integration stop scan: 1328
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

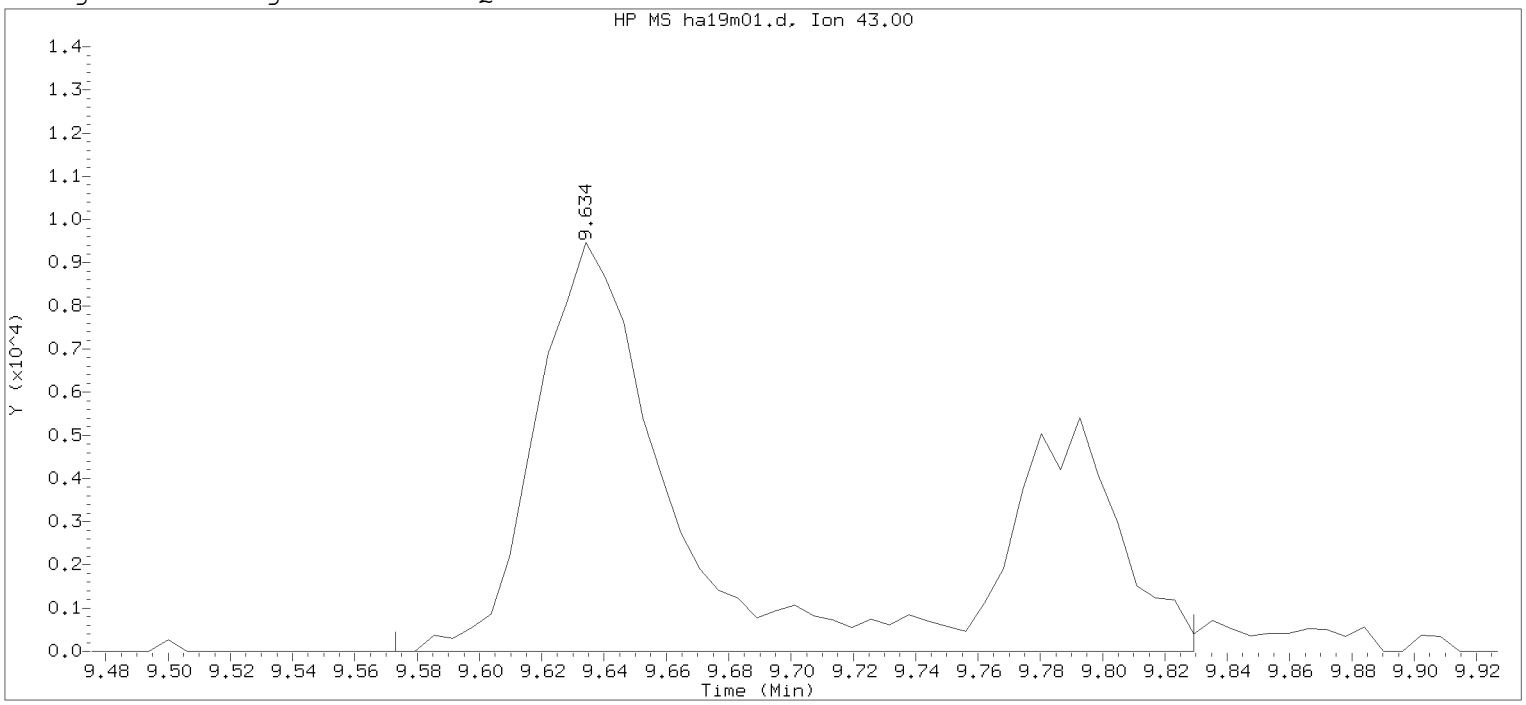
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

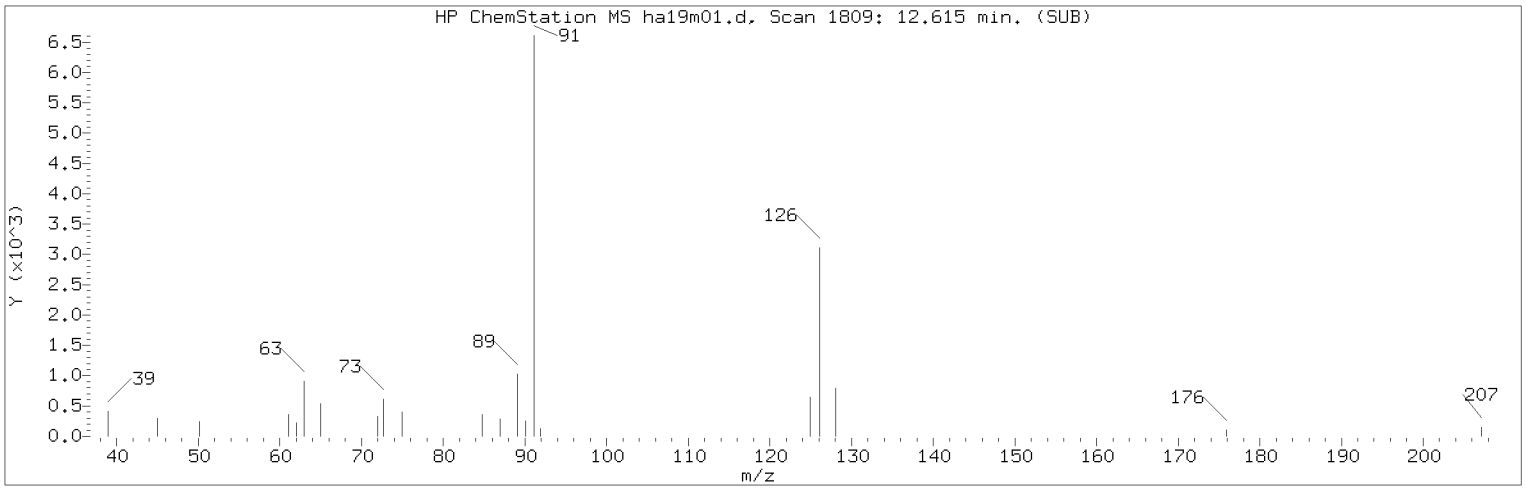
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

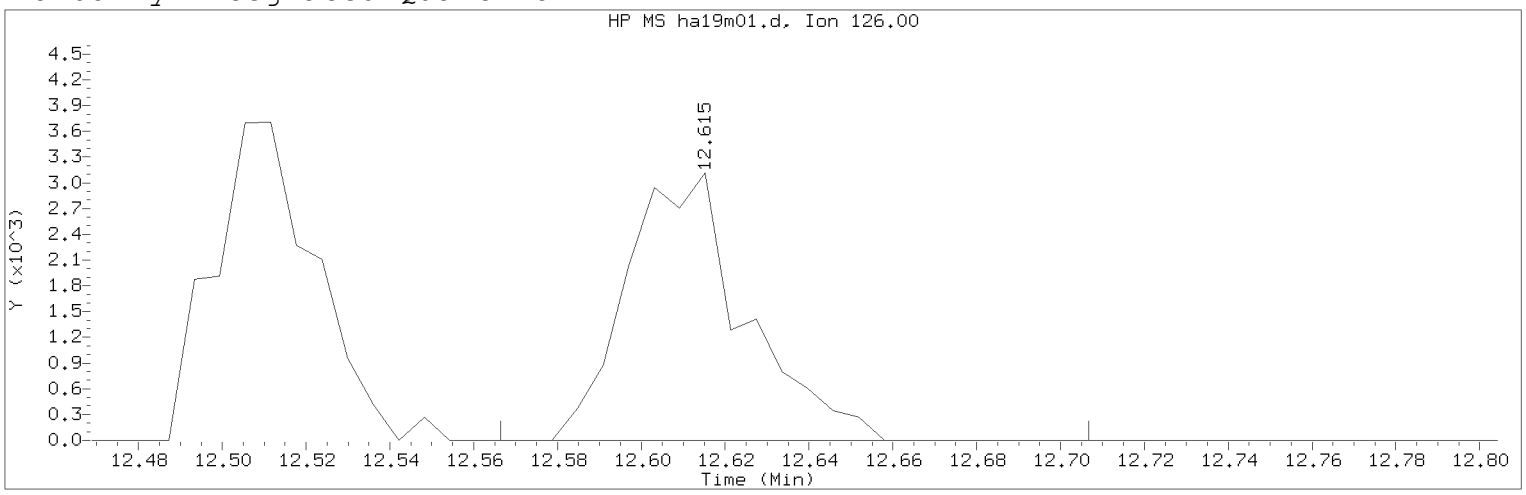
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1320
Retention Time (minutes): 9.634
Quant Ion : 43.00
Area : 39442
On-column Amount (ng) : 1.2576
Integration start scan : 1309 Integration stop scan: 1351
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

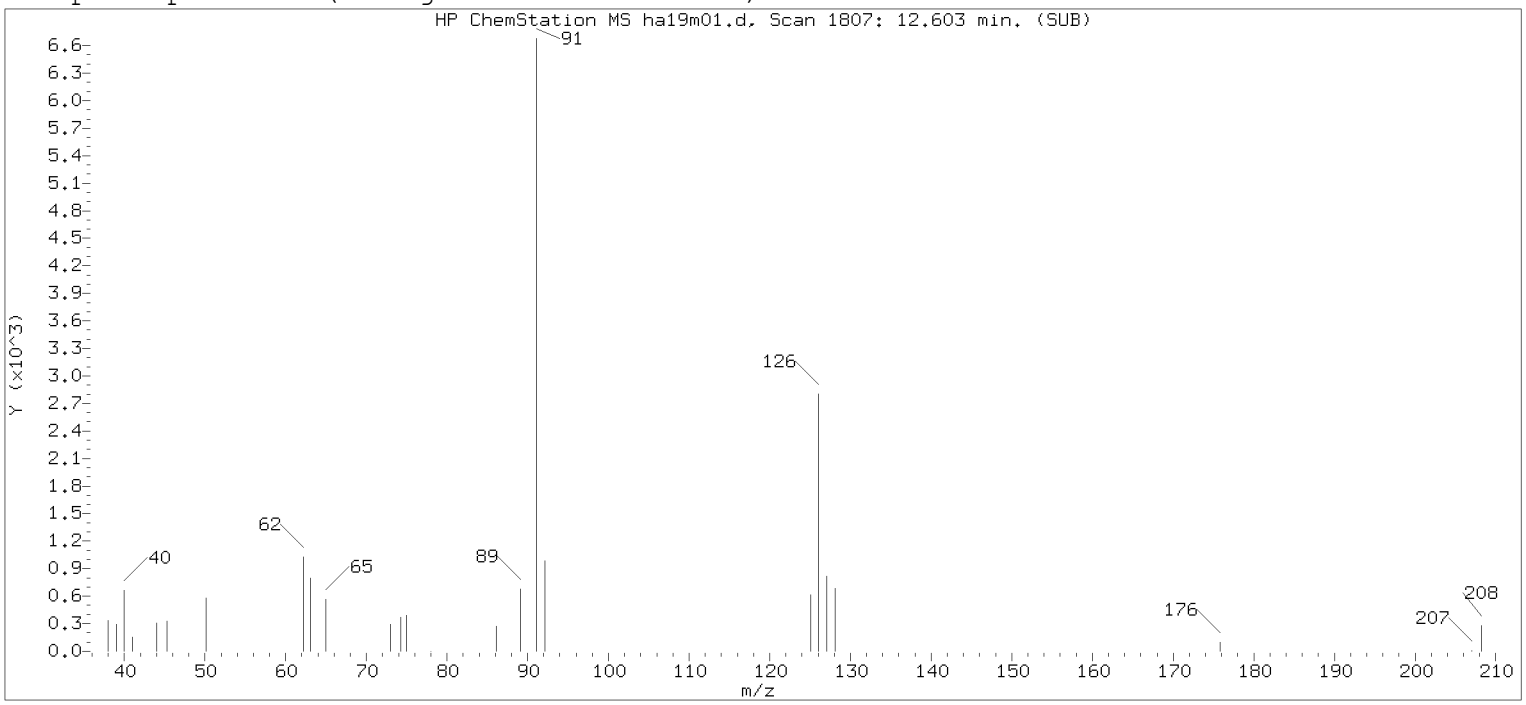
Compound Number : 122
Compound Name : 4-Chlorotoluene
Scan Number : 1809
Retention Time (minutes): 12.615
Quant Ion : 126.00
Area (flag) : 6130M
On-Column Amount (ng) : 0.0853
Integration start scan : 1800 Integration stop scan: 1823
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

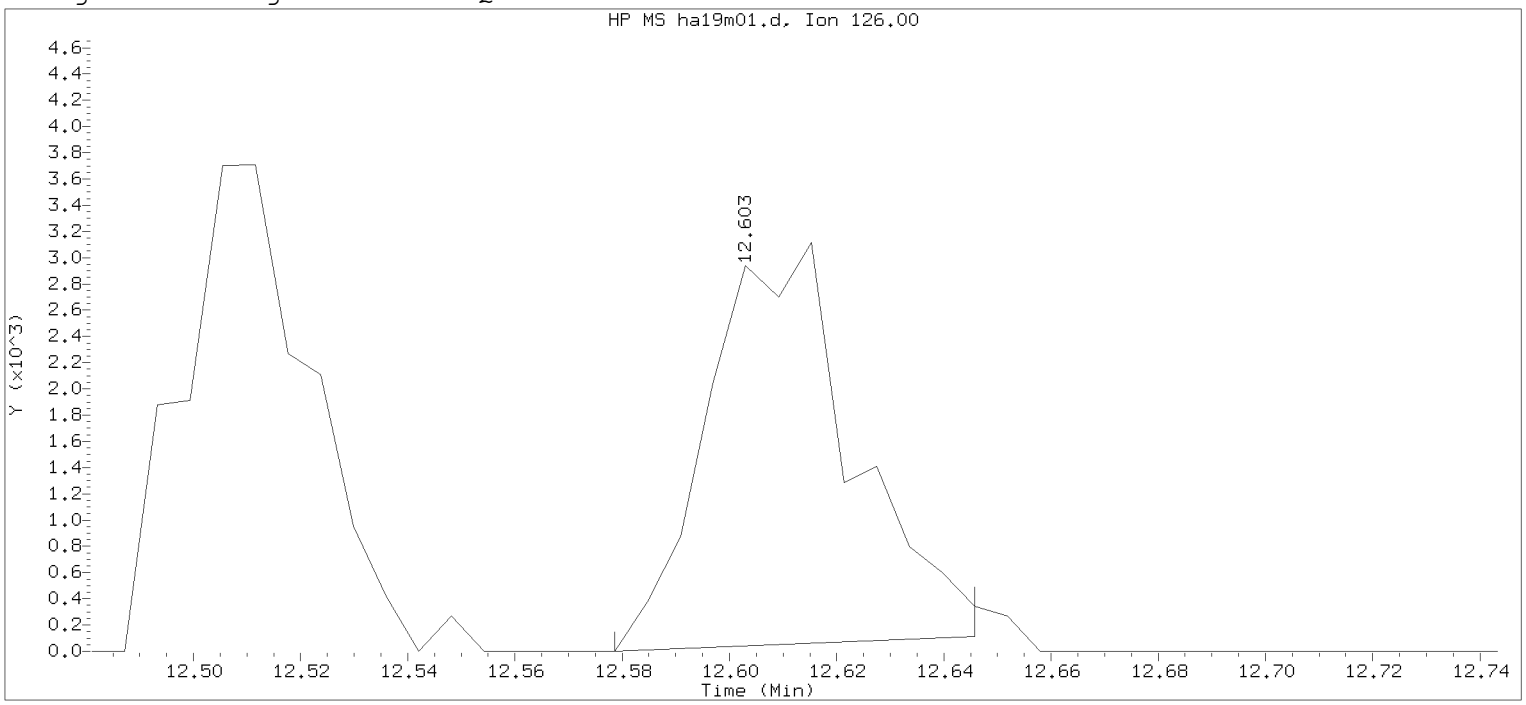
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



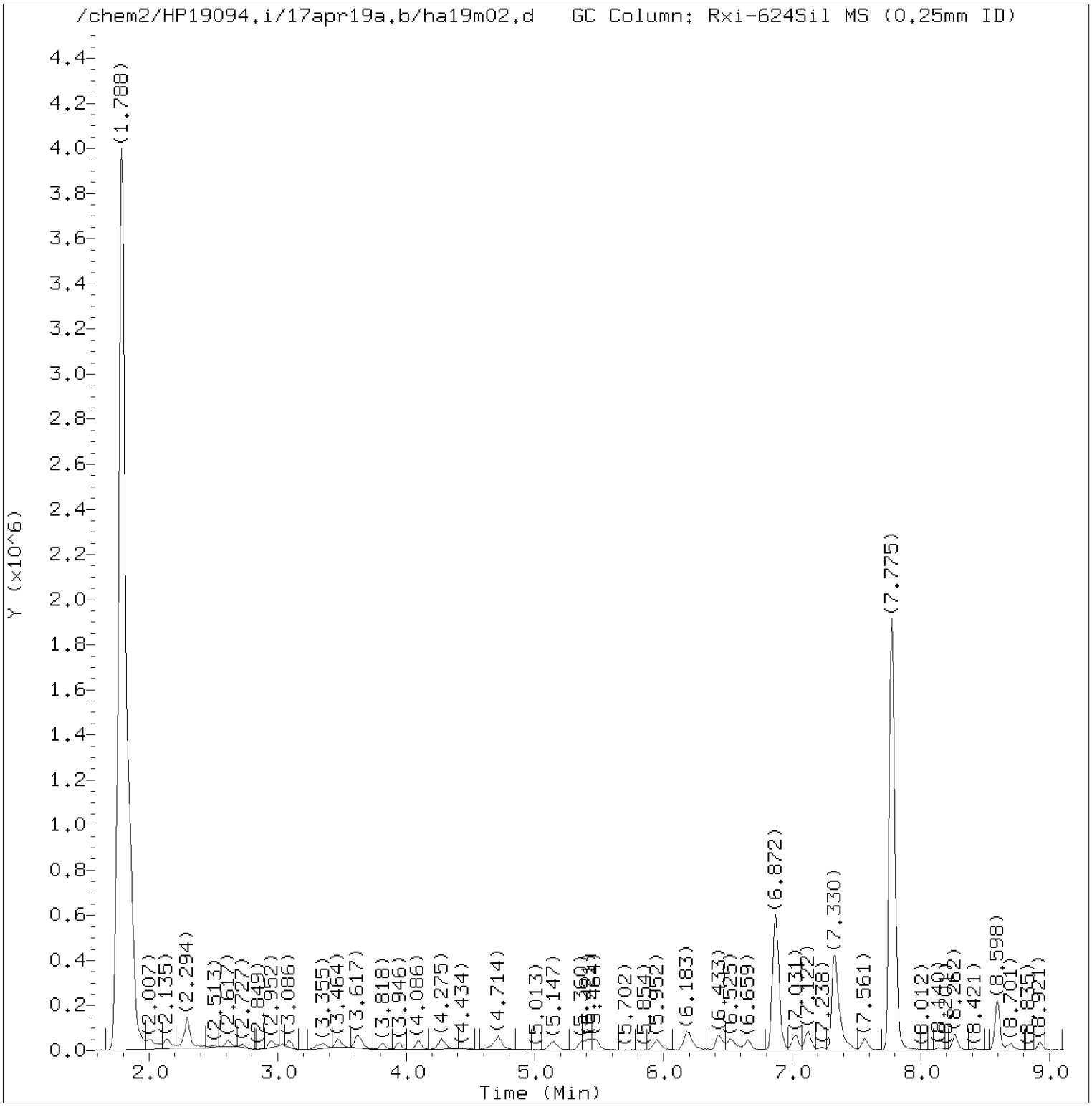
Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compound Number : 122
Compound Name : 4-Chlorotoluene
Scan Number : 1807
Retention Time (minutes): 12.603
Quant Ion : 126.00
Area : 5745
On-column Amount (ng) : 0.0799
Integration start scan : 1802 Integration stop scan: 1813
Y at integration start : 0 Y at integration end: 111

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito



Total Ion Chromatogram (TIC)

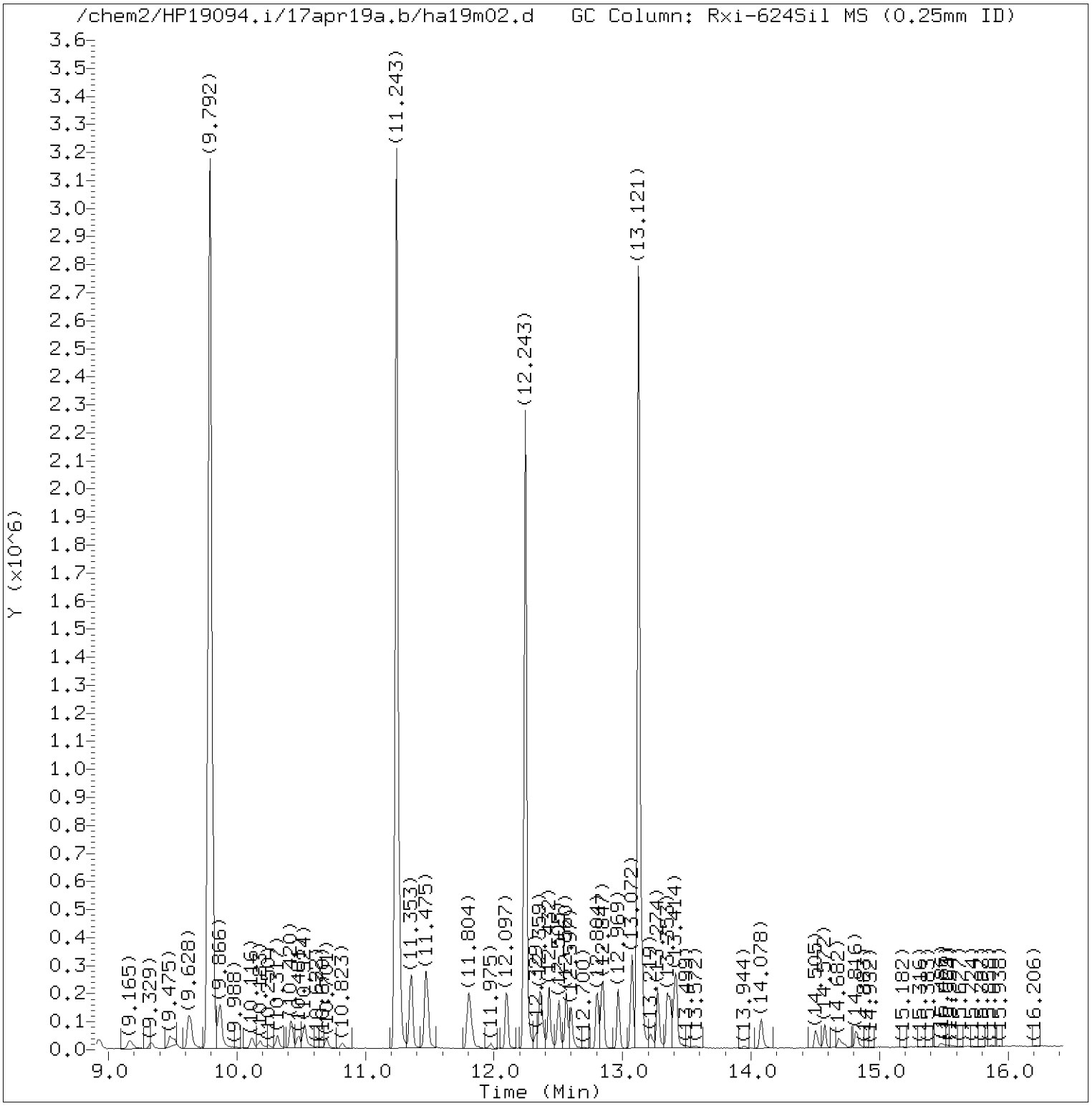
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

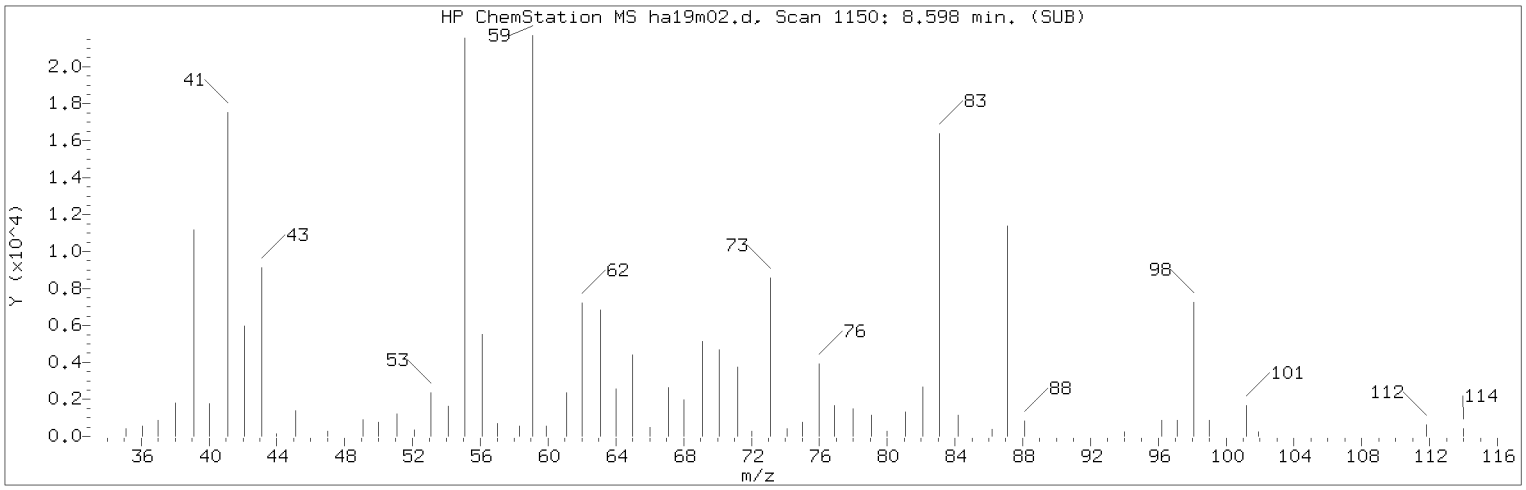
Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.300	65	56137	50.000
50)$Dibromofluoromethane	(2)	6.872	113	614234	10.125
57)$1,2-Dichloroethane-d4	(2)	7.323	102	100511	10.246
63)*Fluorobenzene	(2)	7.775	96	2706333	10.000
72) 1,4-Dioxane	(1)	8.598	88	2201M	17.242
82)$Toluene-d8	(3)	9.792	98	2610619	10.302
97)*Chlorobenzene-d5	(3)	11.243	117	1733515	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	715050	9.932
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	727953	10.000

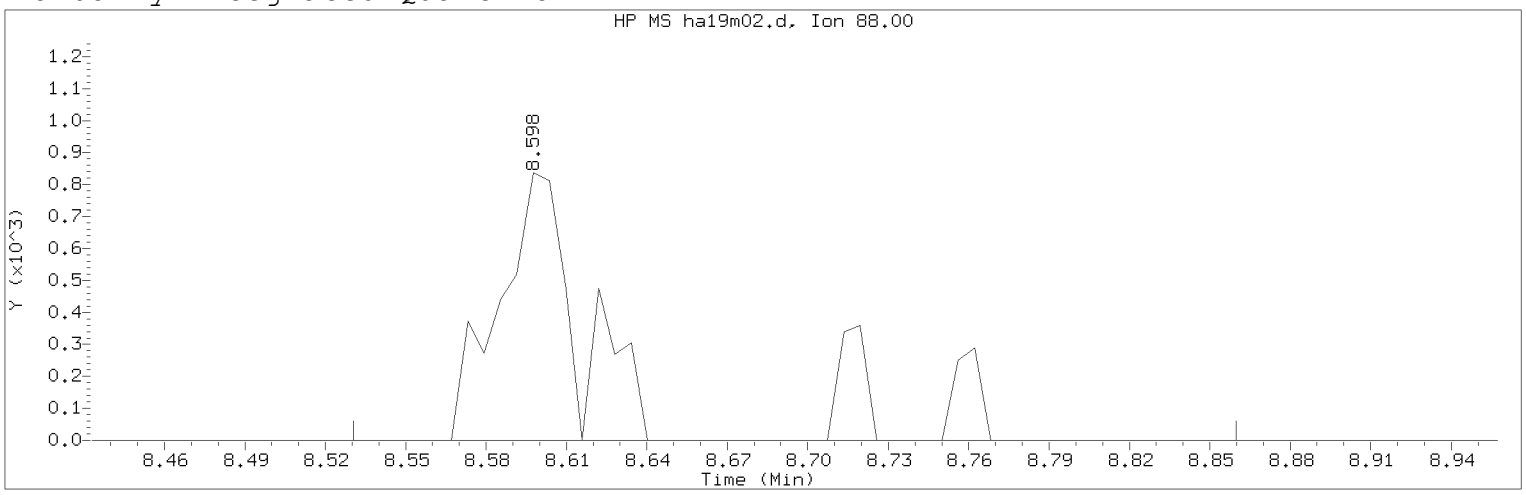
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

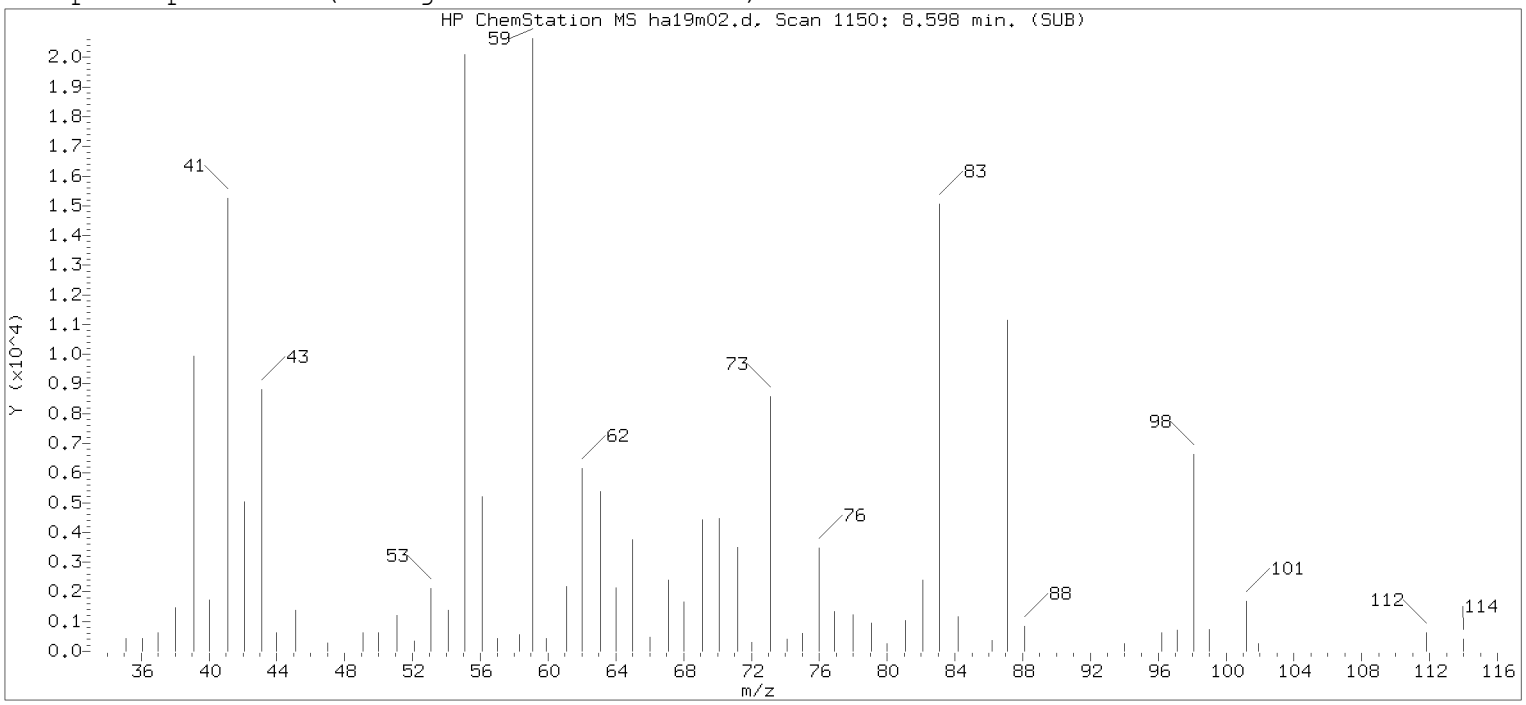
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area (flag) : 2201M
On-Column Amount (ng) : 17.2419
Integration start scan : 1138 Integration stop scan: 1192
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

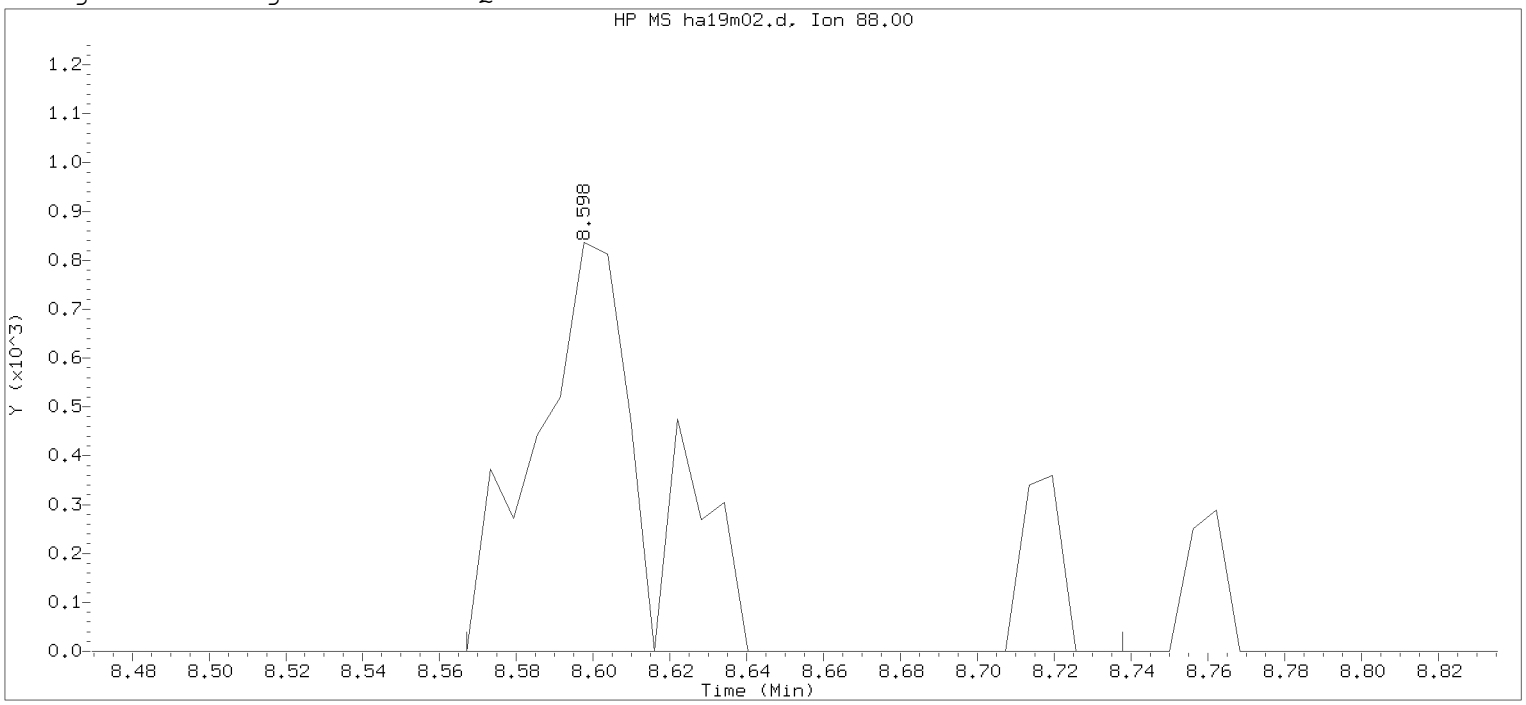
Analyst responsible for change: Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



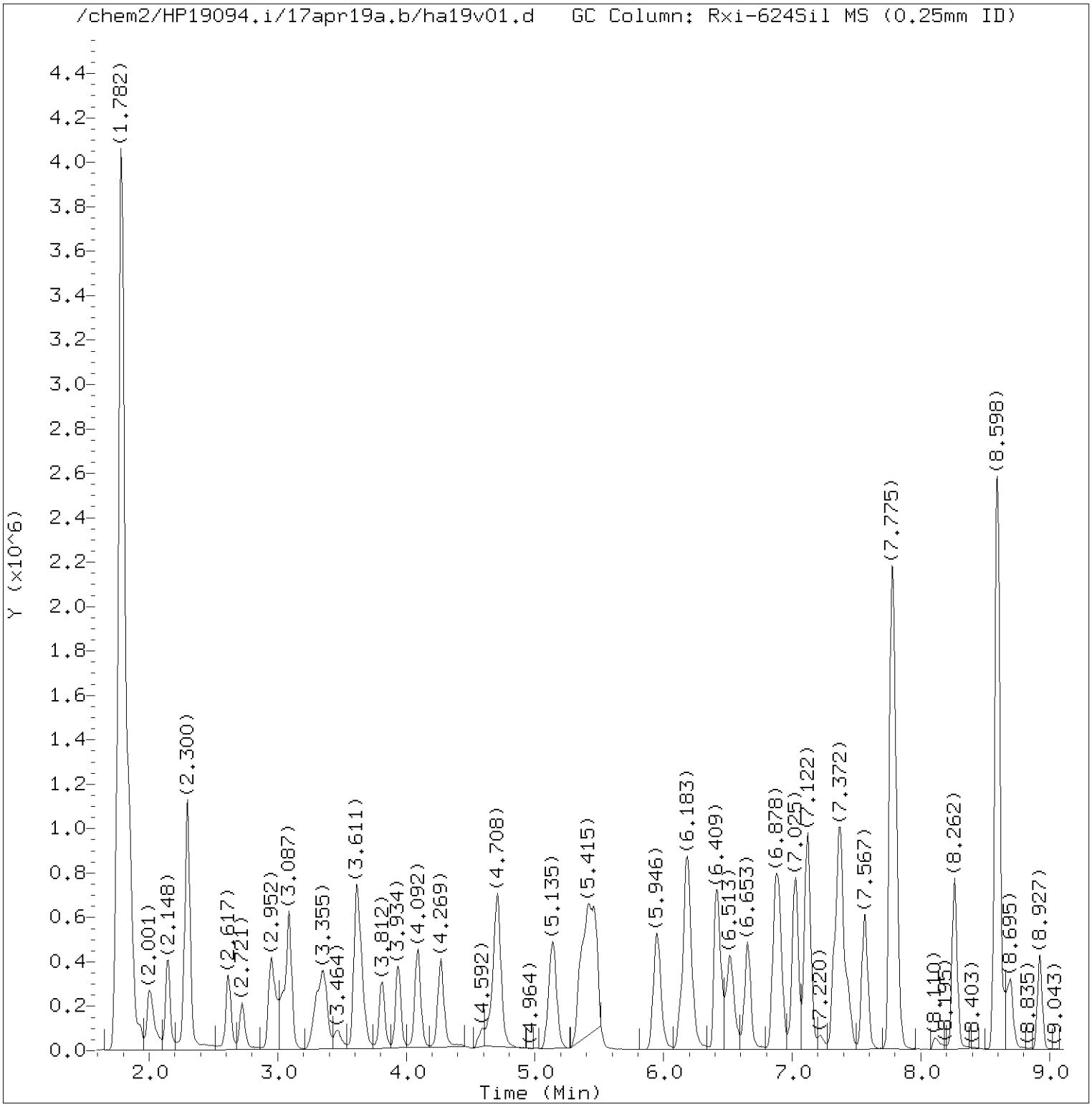
Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 14:59 Automation

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 2004
On-column Amount (ng) : 15.4065
Integration start scan : 1144 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 0

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user name: mskrause



Total Ion Chromatogram (TIC)

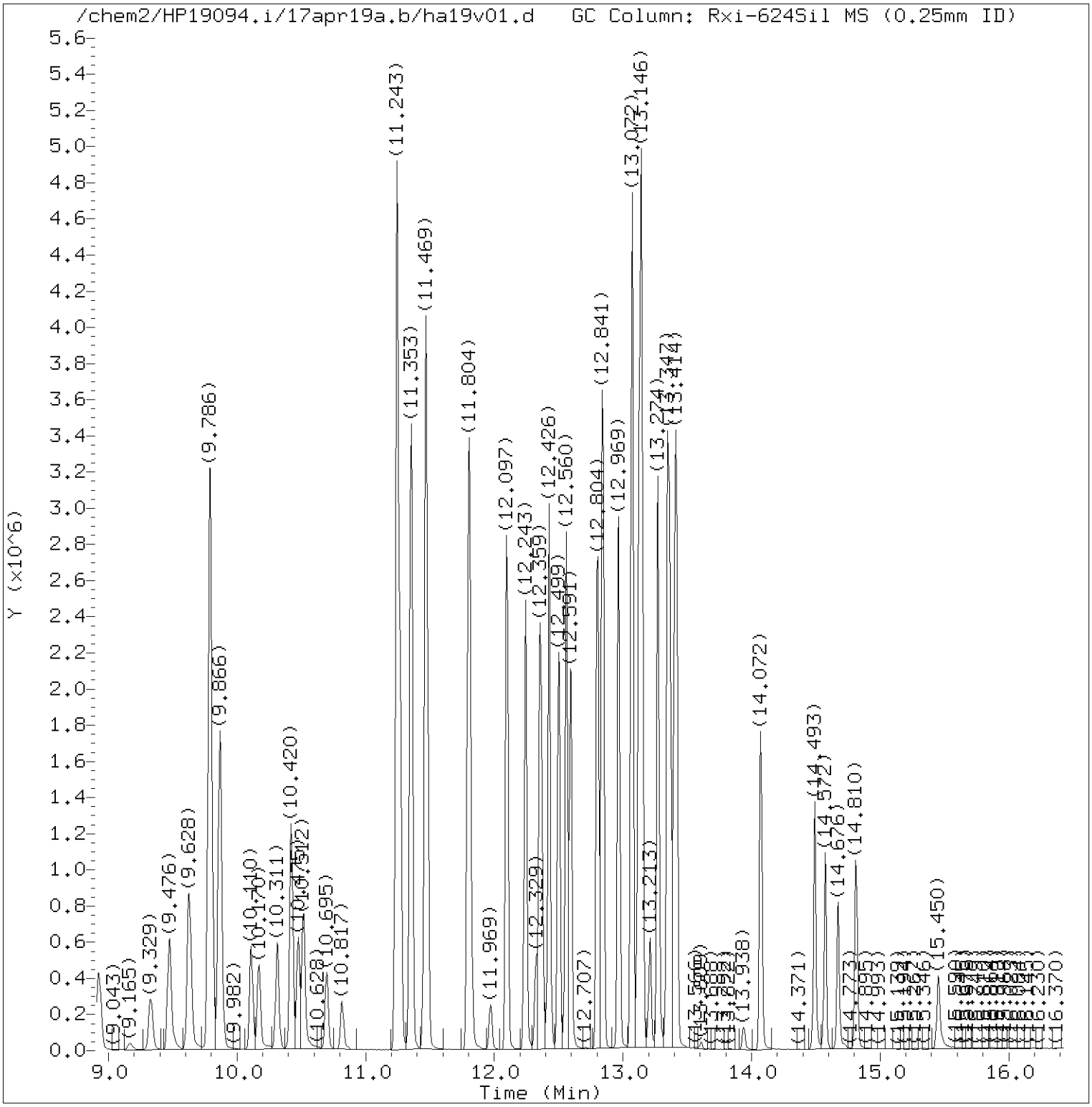
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.001	85	563011	5.308
2) Chloromethane	(2)	2.148	50	578444	5.194
5) Vinyl Chloride	(2)	2.282	62	500909	5.124
6) 1,3-Butadiene	(2)	2.300	39	633079	4.112
7) Bromomethane	(2)	2.617	94	323185	5.263
8) Chloroethane	(2)	2.721	64	272135	4.860
9) Dichlorofluoromethane	(2)	2.946	67	624740	4.849
10) Trichlorofluoromethane	(2)	3.032	101	556123	4.910
11) Ethyl ether	(2)	3.300	59	213655M	4.761
12) Freon 123a	(2)	3.355	67	446006	5.219
13) Acrolein	(1)	3.471	56	179786	36.009
15) 1,1-Dichloroethene	(2)	3.605	96	307542	5.056
16) Freon 113	(2)	3.641	101	327270	5.111
14) Acetone	(1)	3.641	43	206697	34.187
17) Methyl Iodide	(2)	3.812	142	562737	4.981
18) Carbon Disulfide	(2)	3.934	76	864141	5.063
21) Methyl Acetate	(1)	4.068	43	101283	4.930
22) Allyl Chloride	(2)	4.092	41	526149	4.457
26)*t-Butyl Alcohol-d10	(1)	4.257	65	65618M	50.000
23) Methylene Chloride	(2)	4.269	84	327256	4.926
28) t-Butyl Alcohol	(1)	4.422	59	69703M	42.456
29) Acrylonitrile	(1)	4.592	53	228043	27.911
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	633118	5.194
31) trans-1,2-Dichloroethene	(2)	4.708	96	342063	5.092
32) n-Hexane	(2)	5.135	57	514137	4.993
33) 1,1-Dichloroethane	(2)	5.354	63	662036	4.995
34) di-Isopropyl Ether	(2)	5.409	45	1194051	5.286
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	586459	5.237
37) Ethyl t-butyl ether	(2)	5.946	59	887440	5.110
40) 1,2-Dichloroethene (Total)	(2)		96	712881	10.037
38) 2-Butanone	(1)	6.122	43	486160	39.423
39) cis-1,2-Dichloroethene	(2)	6.177	96	370818	4.945
41) 2,2-Dichloropropane	(2)	6.196	77	490856	4.943
42) Propionitrile	(1)	6.208	54	97975	33.438
45) Methacrylonitrile	(1)	6.409	67	487503	39.795
47) Bromochloromethane	(2)	6.513	128	141182	4.762
48) Tetrahydrofuran	(1)	6.525	71	85029	27.601
49) Chloroform	(2)	6.653	83	613368	4.905

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.866	113	598765	9.742
51) 1,1,1-Trichloroethane	(2)	6.903	97	526746	4.946
52) Cyclohexane	(2)	7.025	56	640415	4.877
55) 1,1-Dichloropropene	(2)	7.116	75	476431	4.817
54) Carbon Tetrachloride	(2)	7.122	117	442505	4.949
56) Isobutyl Alcohol	(1)	7.226	41	75268M	106.240
57)$1,2-Dichloroethane-d4	(2)	7.317	102	96640	9.724
58) Benzene	(2)	7.372	78	1414274	4.924
59) 1,2-Dichloroethane	(2)	7.433	62	340036	4.952
60) t-Amyl methyl ether	(2)	7.567	73	728163	5.156
63)*Fluorobenzene	(2)	7.775	96	2741774	10.000
62) n-Heptane	(2)	7.799	43	575765	4.749
65) n-Butanol	(1)	8.110	56	106580M	204.311
67) Trichloroethene	(2)	8.262	95	374579	4.926
70) 1,2-Dichloropropane	(2)	8.585	63	375823	5.018
69) Methylcyclohexane	(2)	8.598	83	596840	4.646
71) Methyl Methacrylate	(1)	8.659	69	133421M	5.954
73) Dibromomethane	(2)	8.695	93	145895	5.053
72) 1,4-Dioxane	(1)	8.713	88	13854MA	106.938
74) Bromodichloromethane	(2)	8.927	83	394161	4.984
76) 2-Nitropropane	(1)	9.165	41	39085A	5.288
80) cis-1,3-Dichloropropene	(2)	9.476	75	442513	4.964
81) 4-Methyl-2-Pentanone	(1)	9.622	43	849519A	25.997
82)$Toluene-d8	(3)	9.793	98	2654233	10.329
83) Toluene	(3)	9.866	92	887106	5.224
84) trans-1,3-Dichloropropene	(3)	10.110	75	346271	5.235
85) 1,3-Dichloropropene (total)	(3)		75	788784	10.198
86) Ethyl Methacrylate	(3)	10.170	69	267539	5.468
88) 1,1,2-Trichloroethane	(3)	10.311	97	200345	5.079
89) Tetrachloroethene	(3)	10.420	166	411880	5.230
90) 1,3-Dichloropropane	(3)	10.475	76	367527	5.206
91) 2-Hexanone	(1)	10.512	43	594667	25.822
93) Dibromochloromethane	(3)	10.695	129	232377	4.971
95) 1,2-Dibromoethane	(3)	10.817	107	193073	5.176
97)*Chlorobenzene-d5	(3)	11.243	117	1757963	10.000
98) Chlorobenzene	(3)	11.268	112	935162	5.051
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	310848	5.042
100) Ethylbenzene	(3)	11.353	91	1700363	5.168

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

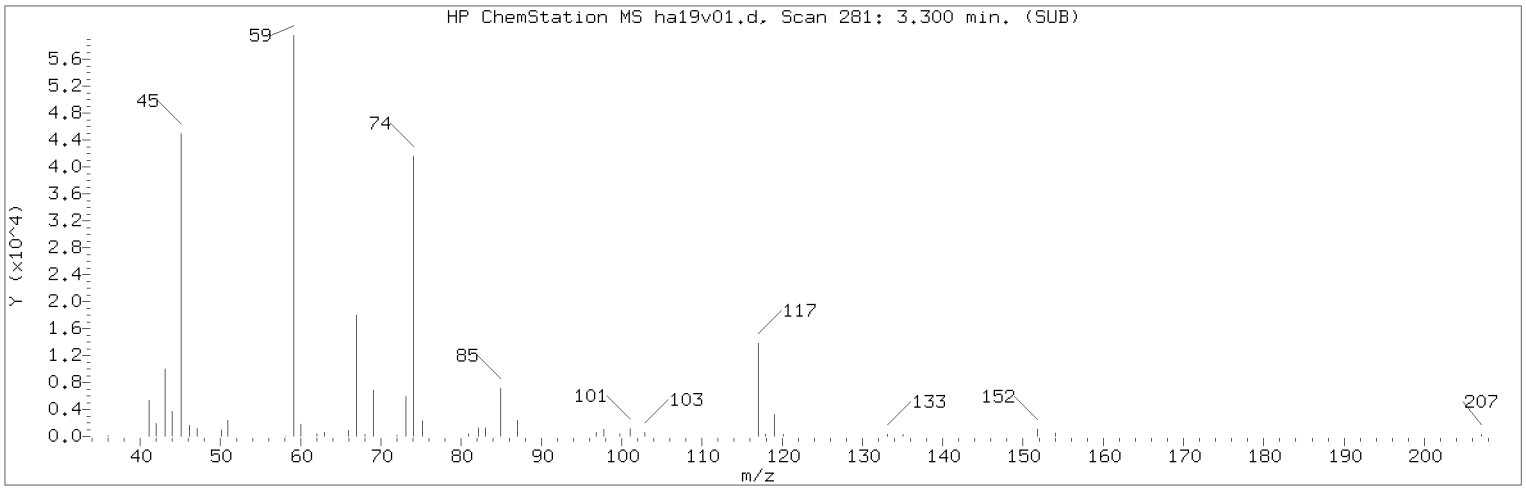
Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
101) m+p-Xylene	(3)	11.469	106	1319755	10.549
105) Xylene (Total)	(3)		106	1945056	15.753
104) o-Xylene	(3)	11.798	106	625301	5.204
106) Styrene	(3)	11.810	104	1008060	5.495
107) Bromoform	(3)	11.969	173	118111	5.059
108) Isopropylbenzene	(3)	12.097	105	1685793	5.362
111)$4-Bromofluorobenzene	(3)	12.243	95	734620	10.062
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	240295	4.911
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	215887	24.883
114) Bromobenzene	(4)	12.359	156	372979	4.999
116) 1,2,3-Trichloropropane	(4)	12.377	110	63233	5.166
117) n-Propylbenzene	(4)	12.426	91	2070313	5.190
119) 2-Chlorotoluene	(4)	12.505	126	384491	5.097
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	1400449	5.218
122) 4-Chlorotoluene	(4)	12.597	126	387082	5.105
125) tert-Butylbenzene	(4)	12.804	134	311249	5.339
126) Pentachloroethane	(4)	12.835	167	232955	5.349
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1403354	5.246
128) sec-Butylbenzene	(4)	12.969	105	1825078	5.218
131) 1,3-Dichlorobenzene	(4)	13.066	146	734703	5.012
132) p-Isopropyltoluene	(4)	13.072	119	1514018	5.290
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	758097	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	740069	4.845
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	630317	5.344
136) Benzyl Chloride	(4)	13.213	126	81548M	5.289
138) n-Butylbenzene	(4)	13.365	92	760910	5.414
139) 1,2-Dichlorobenzene	(4)	13.395	146	651502	5.004
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	25331	5.234
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	407028	4.849
146) Hexachlorobutadiene	(4)	14.572	225	184349	4.433
147) Naphthalene	(4)	14.676	128	613328	4.965
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	330585	4.661

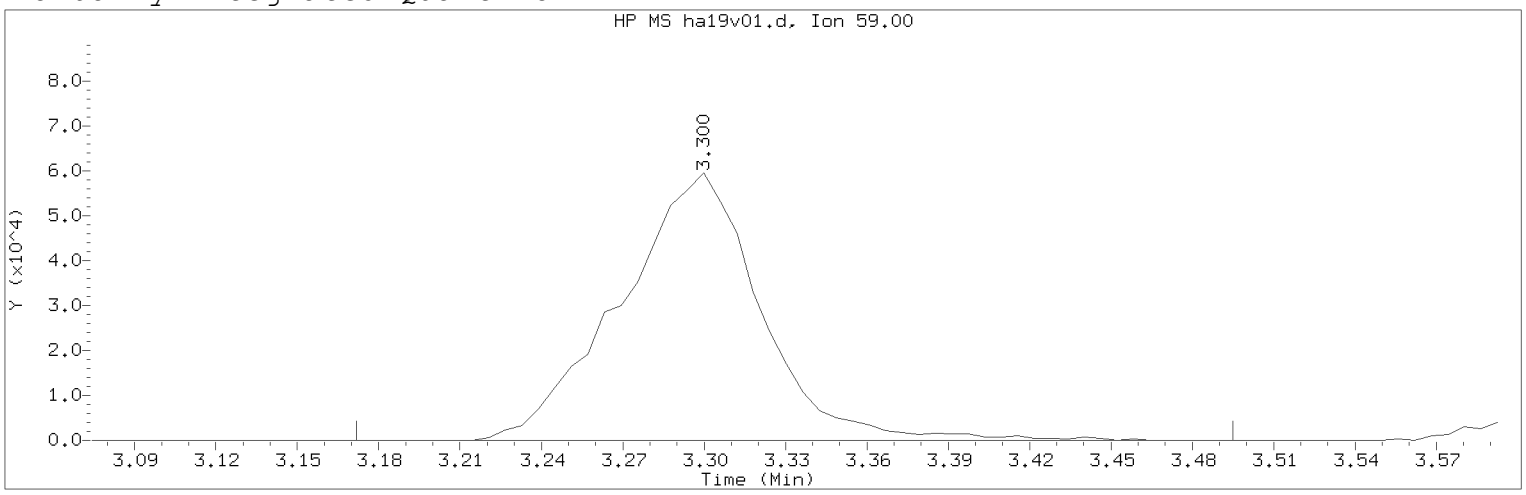
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

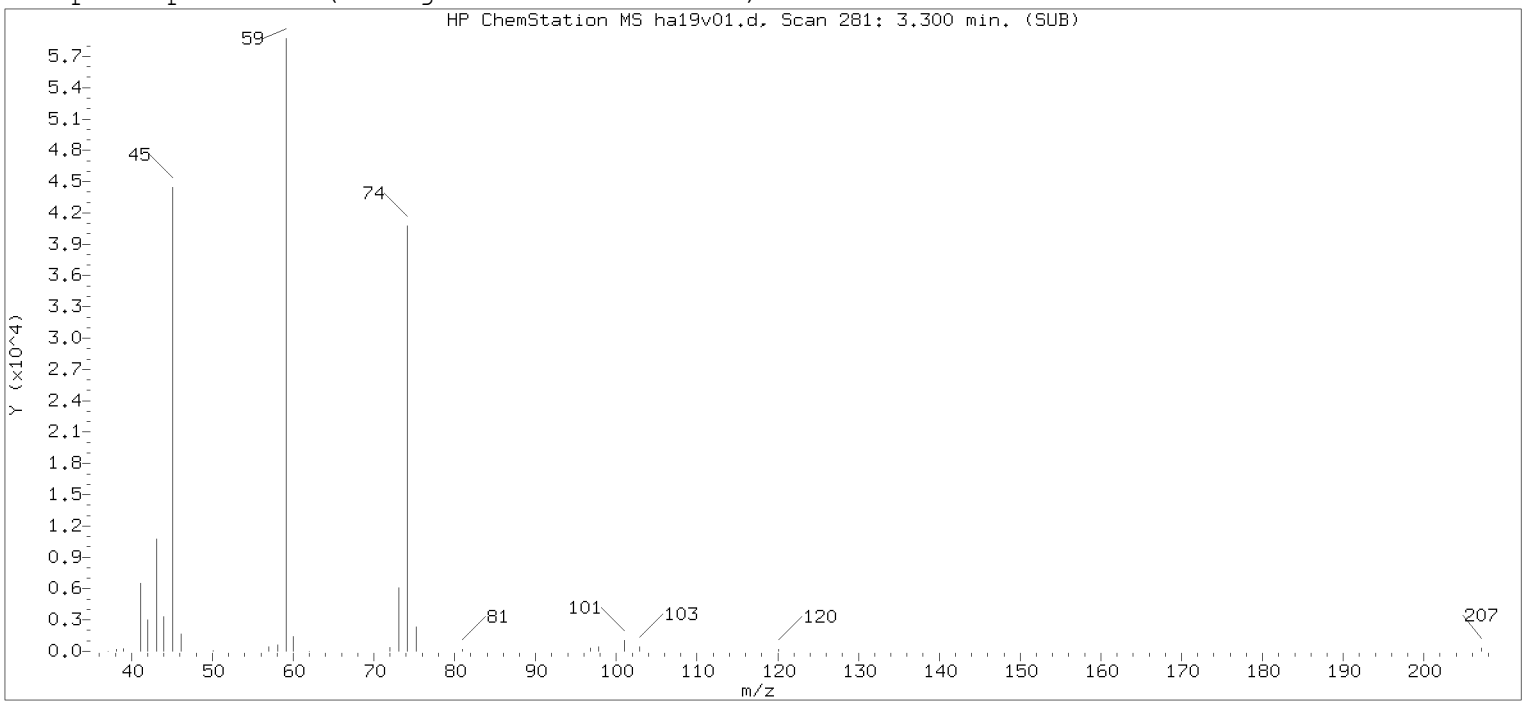
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Quant Ion : 59.00
Area (flag) : 213655M
On-Column Amount (ng) : 4.7610
Integration start scan : 259 Integration stop scan: 312
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

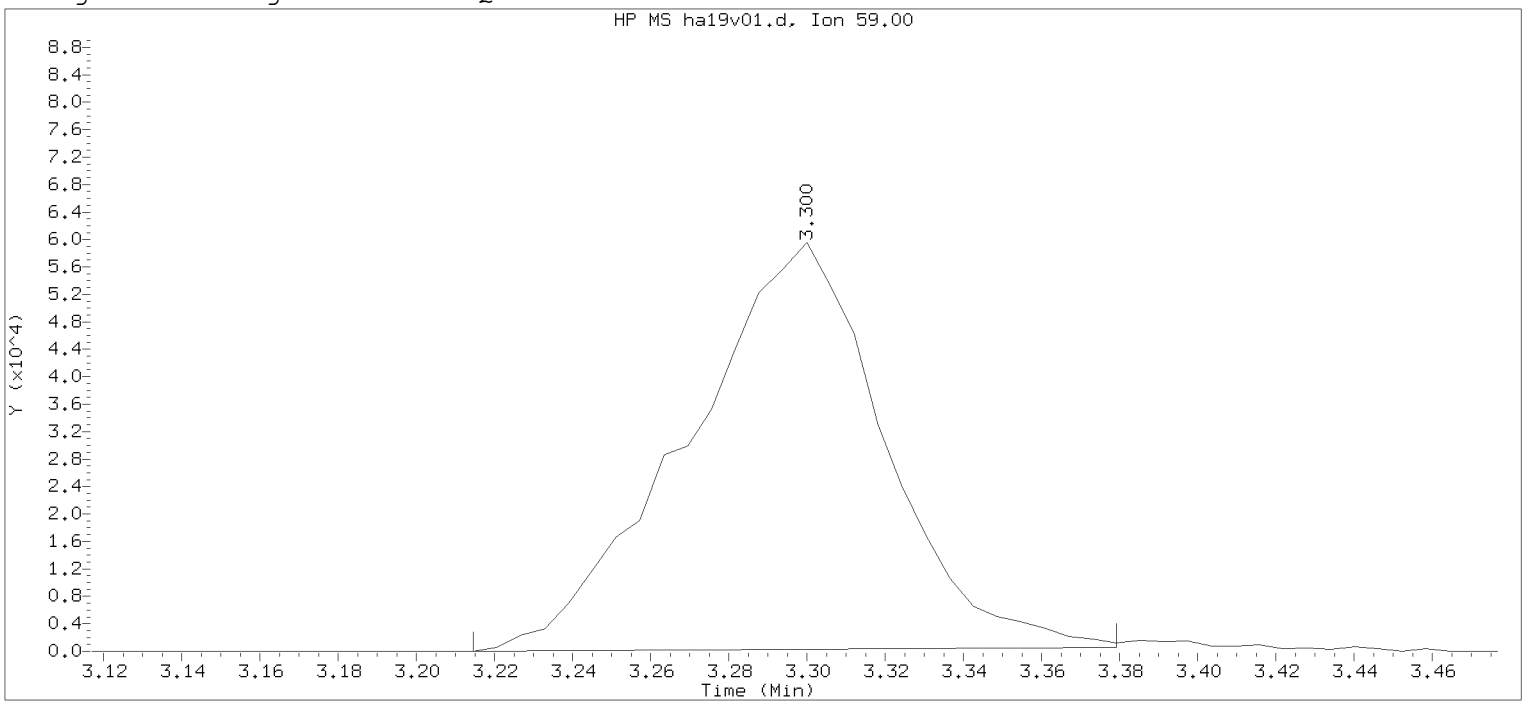
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

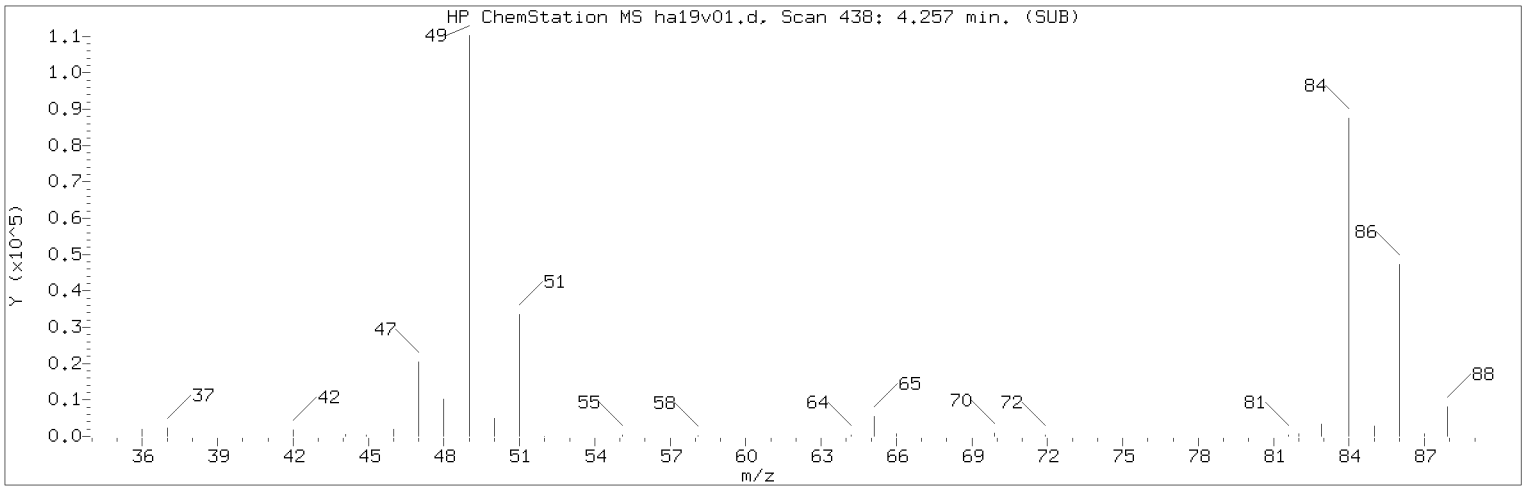
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

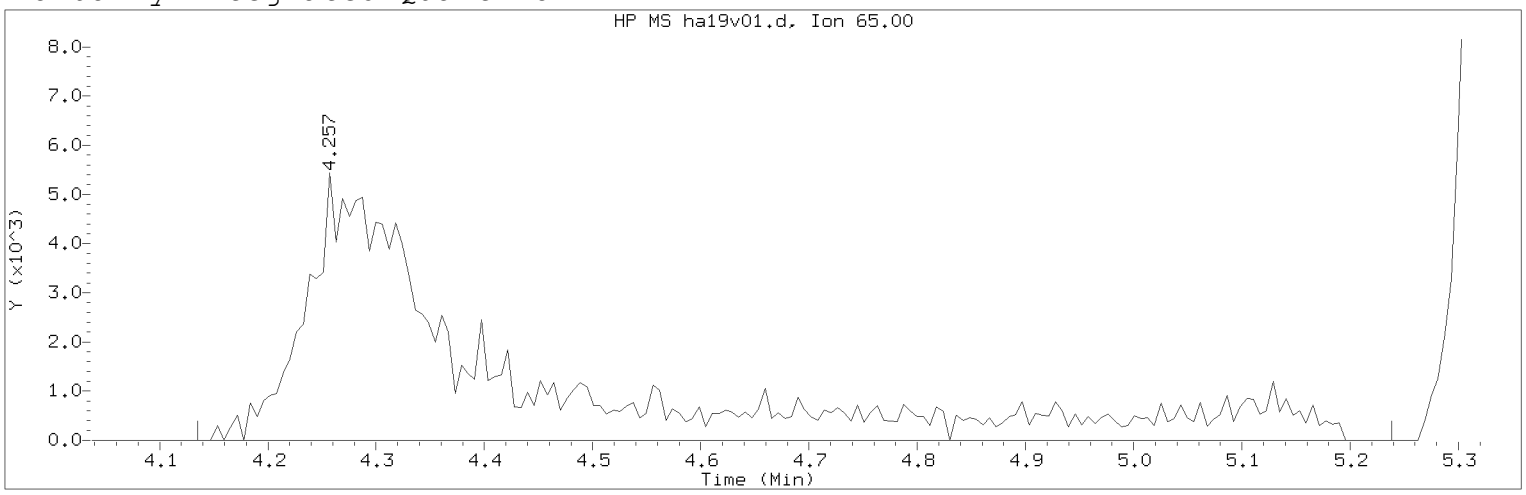
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Quant Ion : 59.00
Area : 207431
On-column Amount (ng) : 4.6224
Integration start scan : 266 Integration stop scan: 293
Y at integration start : 0 Y at integration end: 517

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

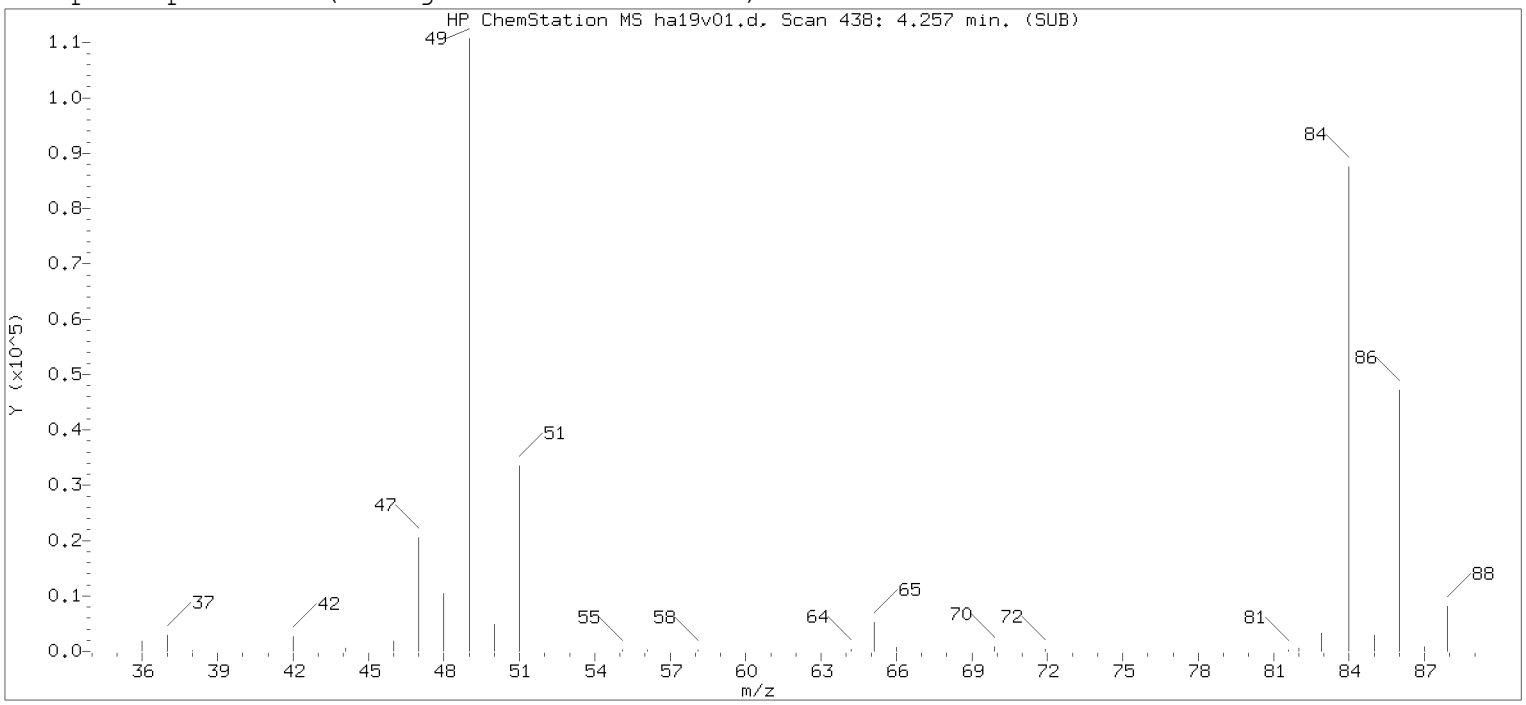
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 65618M
On-Column Amount (ng) : 50.0000
Integration start scan : 417 Integration stop scan: 598
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

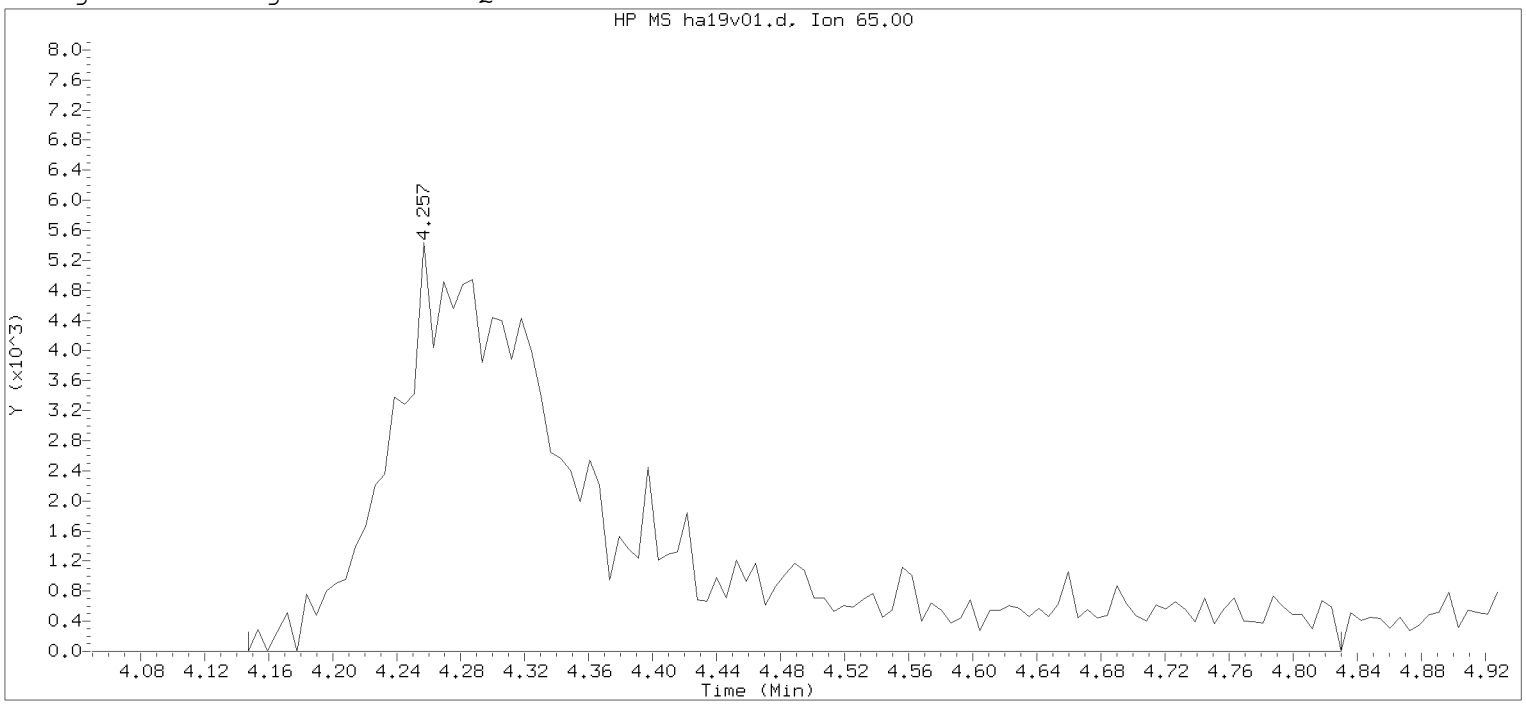
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

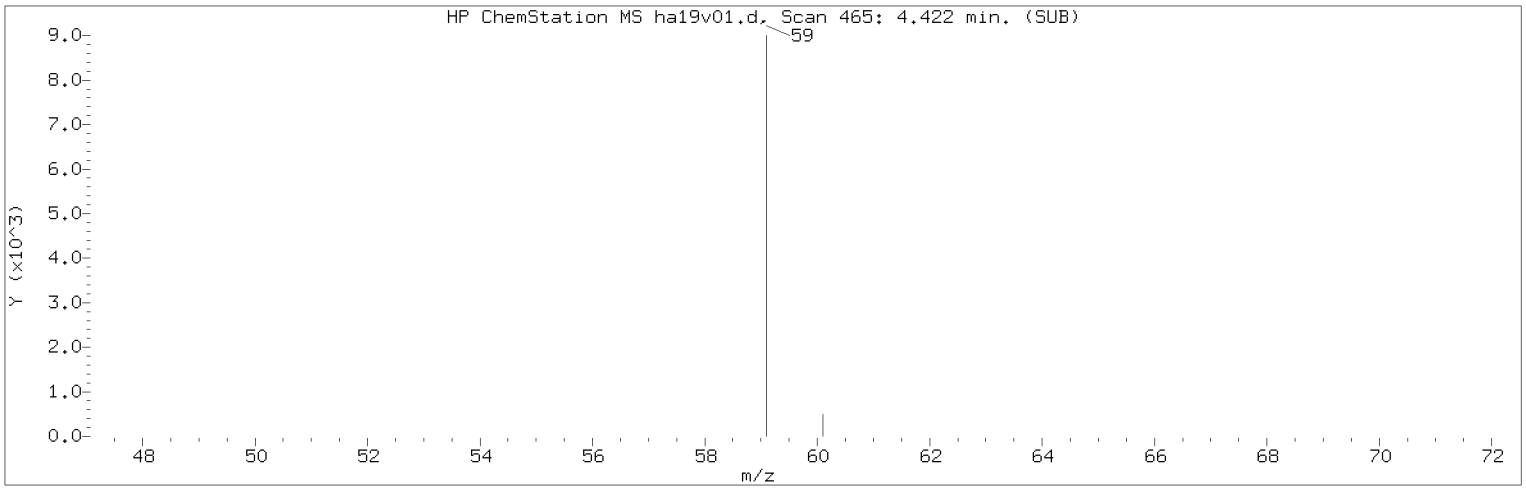
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

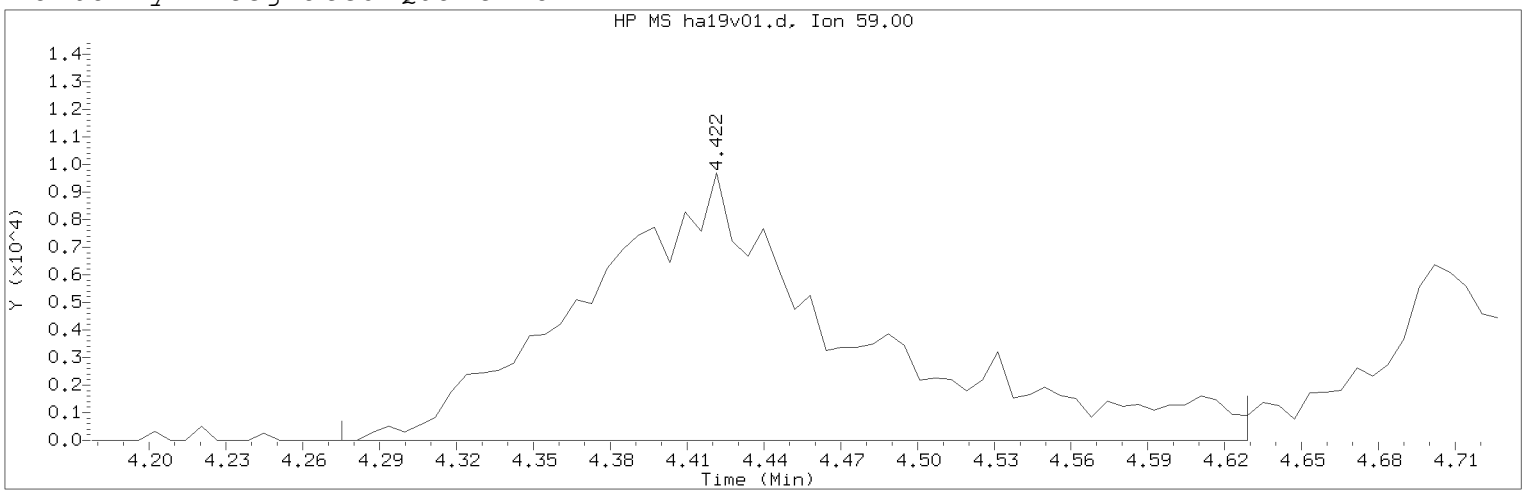
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 54672
On-column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 531
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

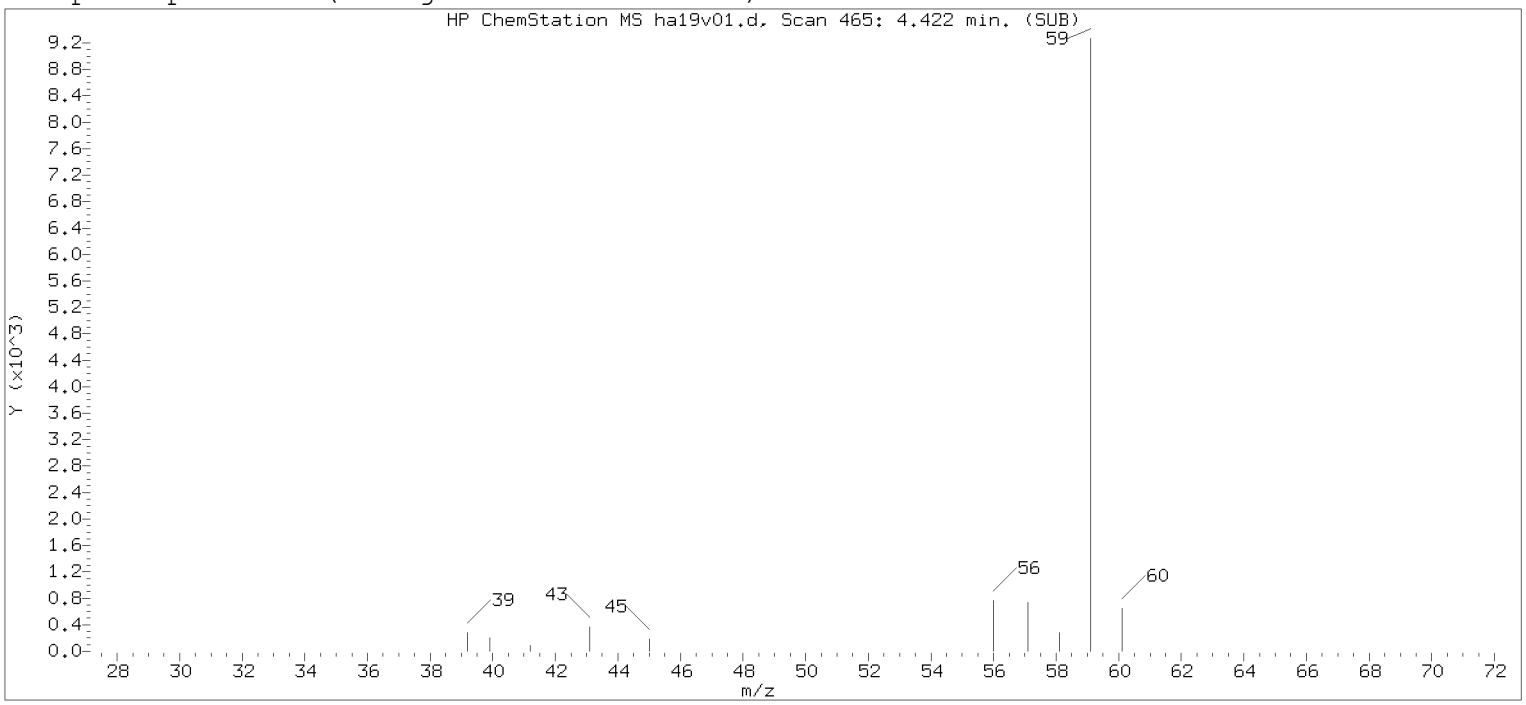
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 465
Retention Time (minutes): 4.422
Quant Ion : 59.00
Area (flag) : 69703M
On-Column Amount (ng) : 42.4558
Integration start scan : 440 Integration stop scan: 498
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

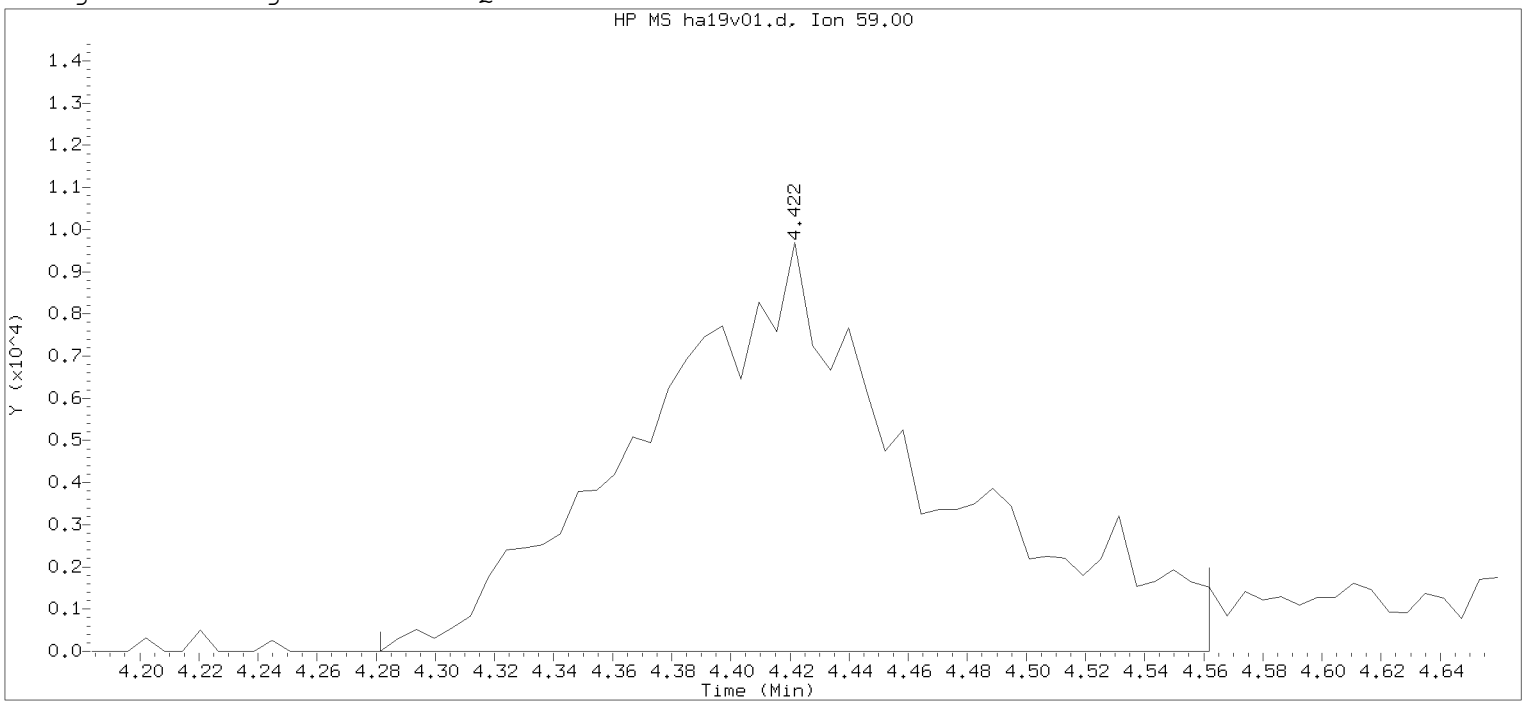
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

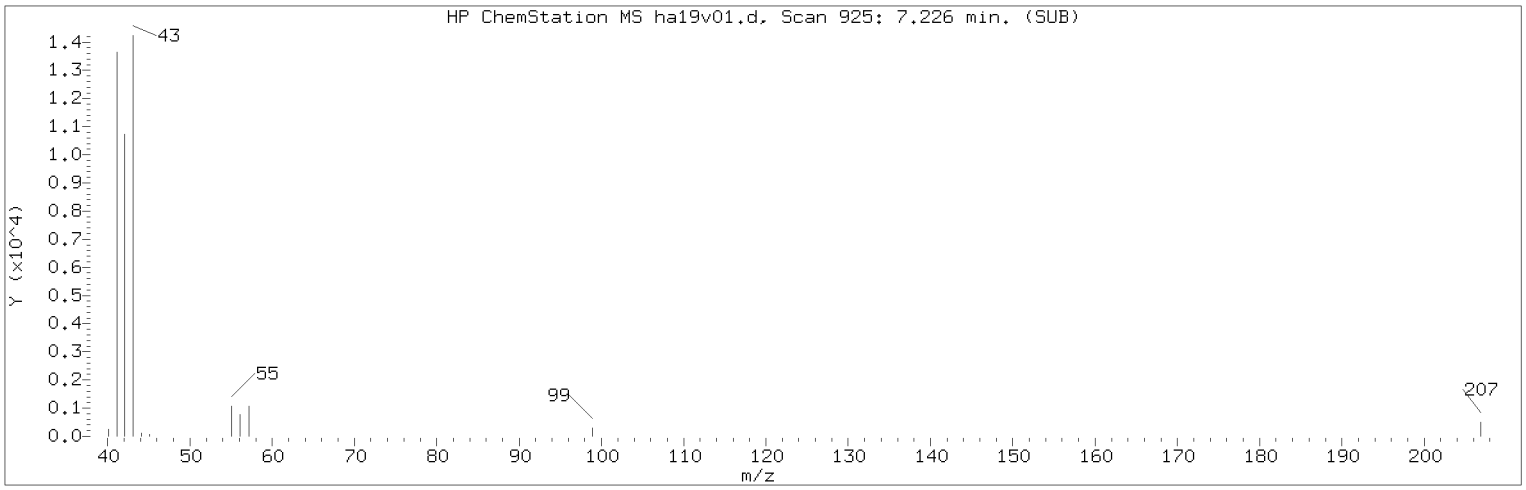
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

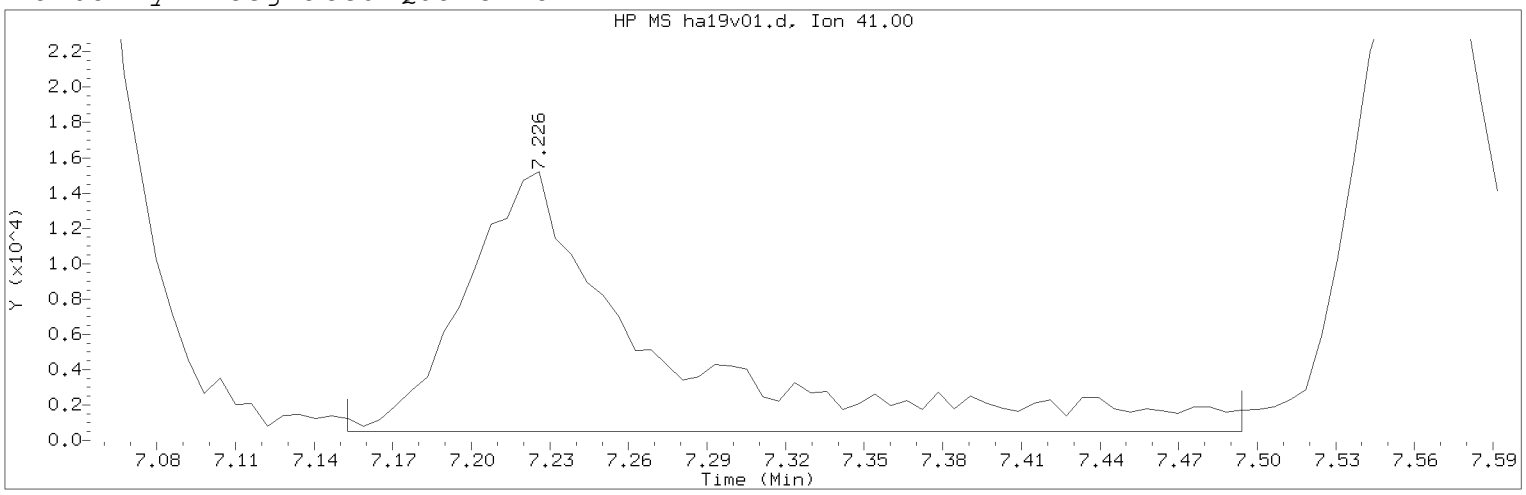
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 465
Retention Time (minutes): 4.422
Quant Ion : 59.00
Area : 64552
On-column Amount (ng) : 47.1900
Integration start scan : 441 Integration stop scan: 487
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

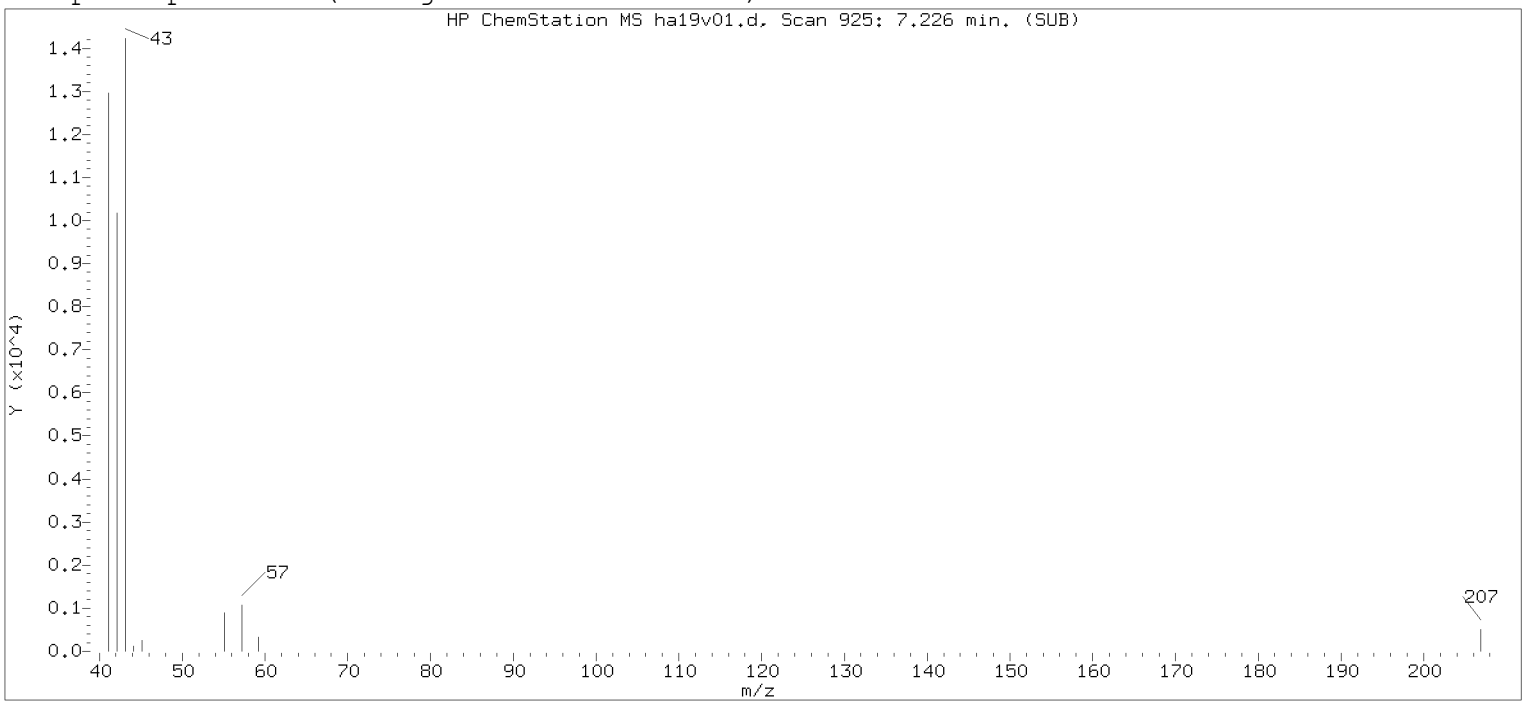
Compound Number : 56
Compound Name : Isobutyl Alcohol
Scan Number : 925
Retention Time (minutes): 7.226
Quant Ion : 41.00
Area (flag) : 75268M
On-Column Amount (ng) : 106.2399
Integration start scan : 912 Integration stop scan: 968
Y at integration start : 503 Y at integration end: 503

Reason for manual integration: improper integration

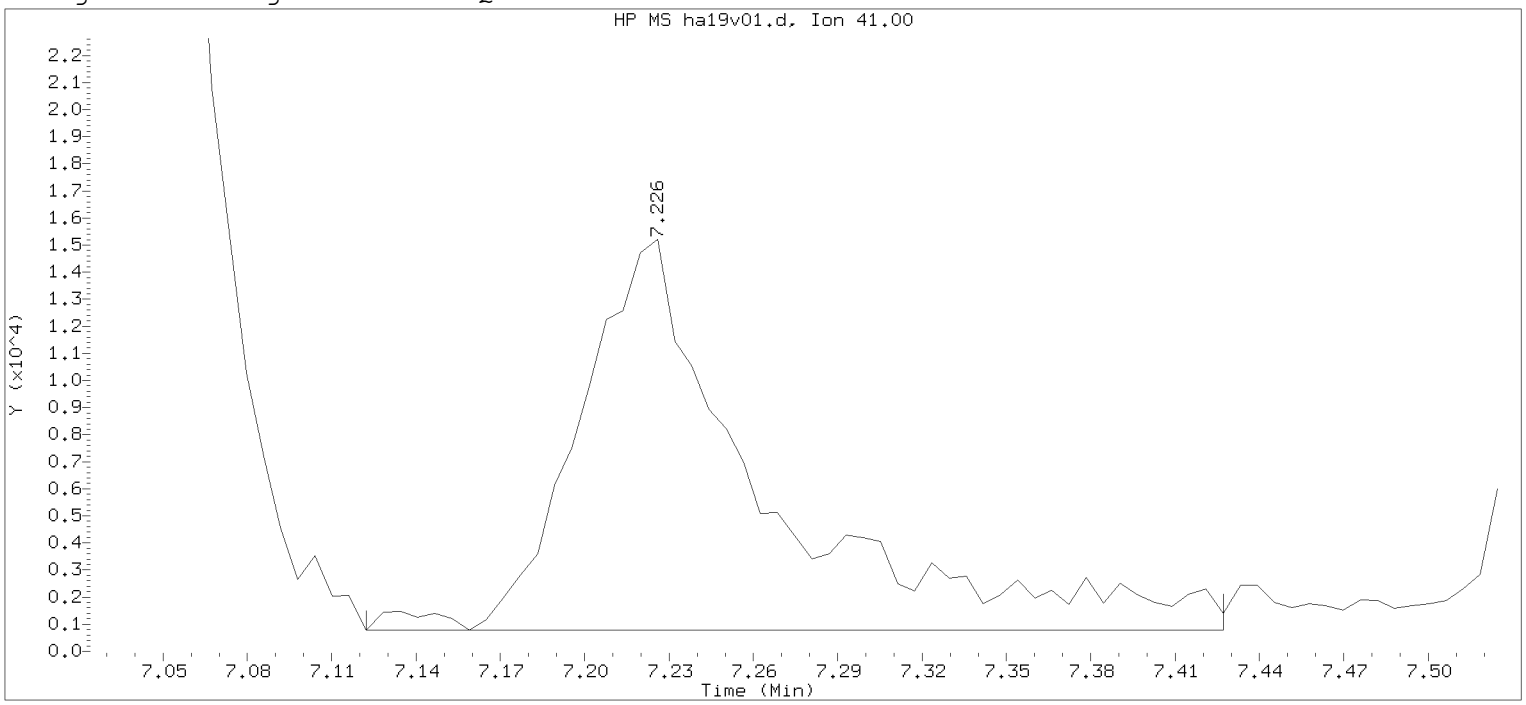
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

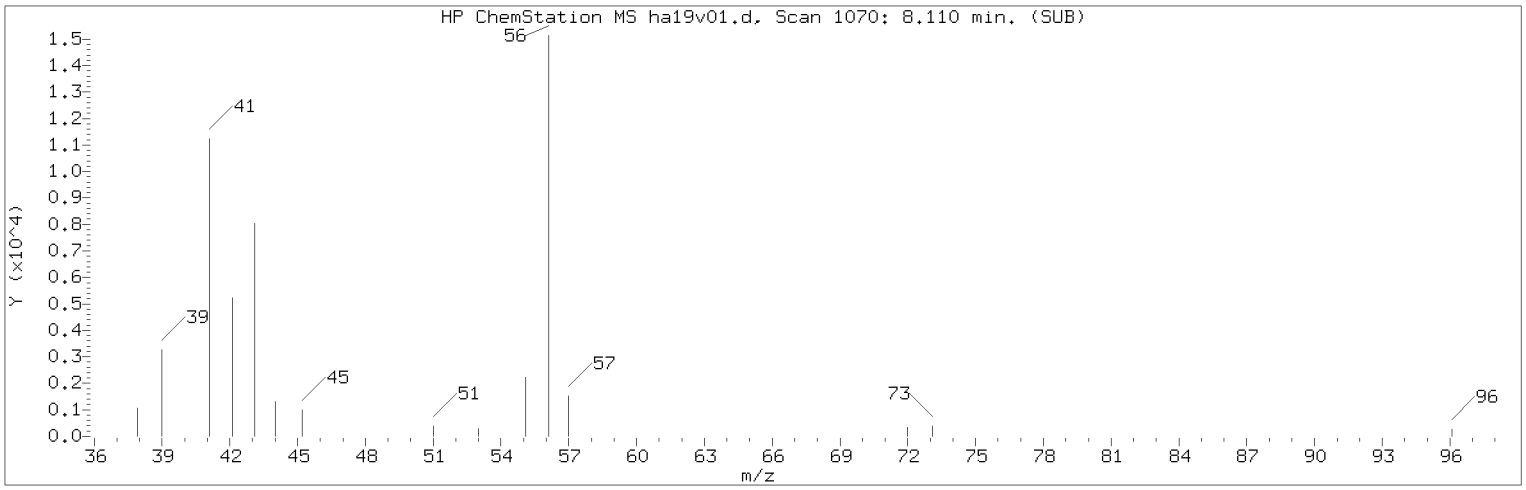
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

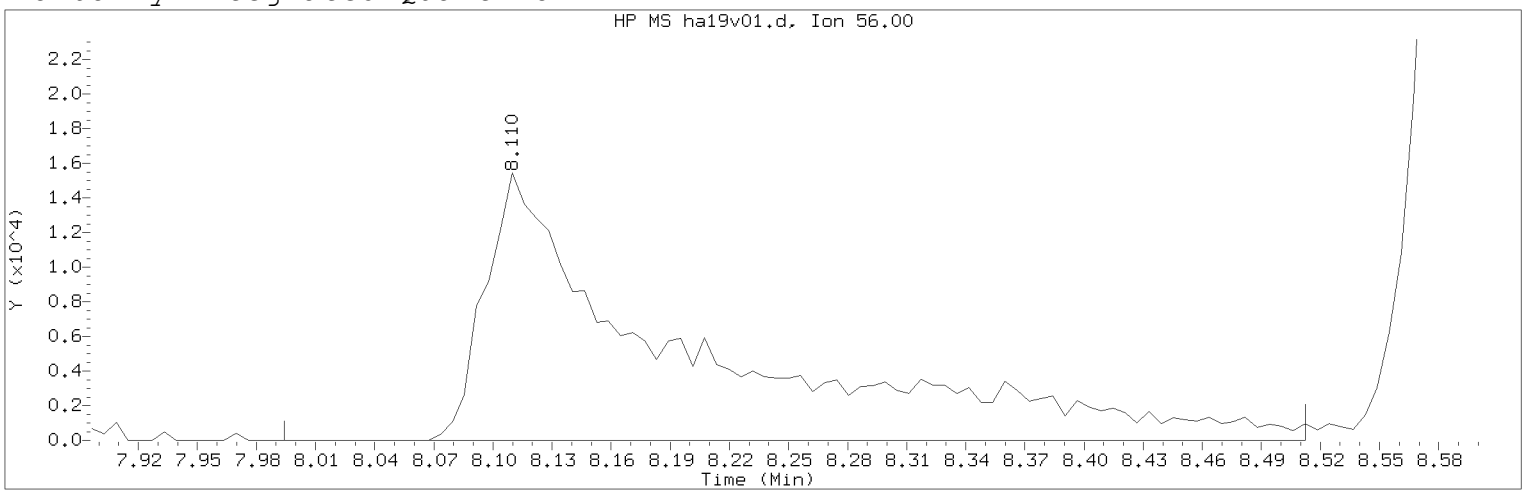
Compound Number : 56
Compound Name : Isobutyl Alcohol
Scan Number : 925
Retention Time (minutes): 7.226
Quant Ion : 41.00
Area : 65776
On-column Amount (ng) : 111.4287
Integration start scan : 907 Integration stop scan: 957
Y at integration start : 791 Y at integration end: 791

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

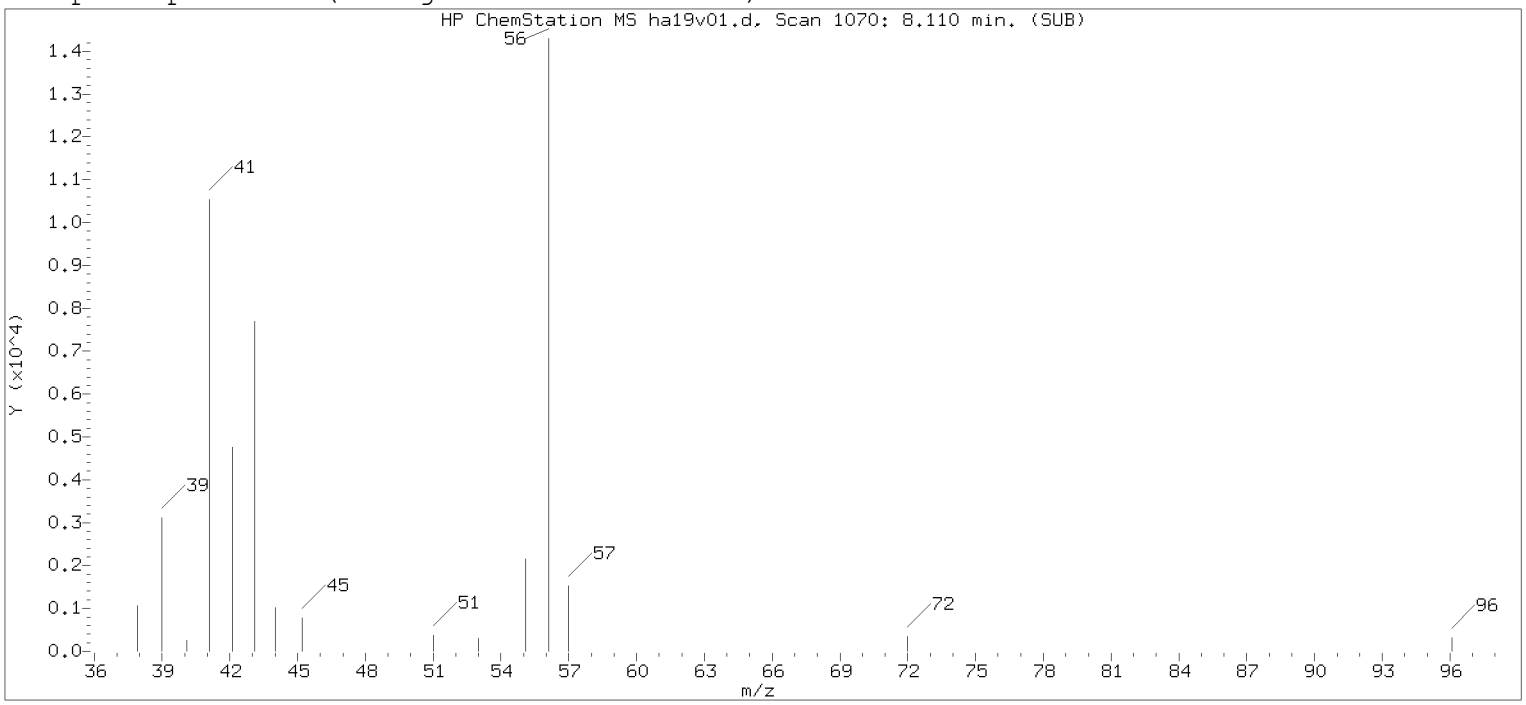
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1070
Retention Time (minutes): 8.110
Quant Ion : 56.00
Area (flag) : 106580M
On-Column Amount (ng) : 204.3109
Integration start scan : 1050 Integration stop scan: 1135
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

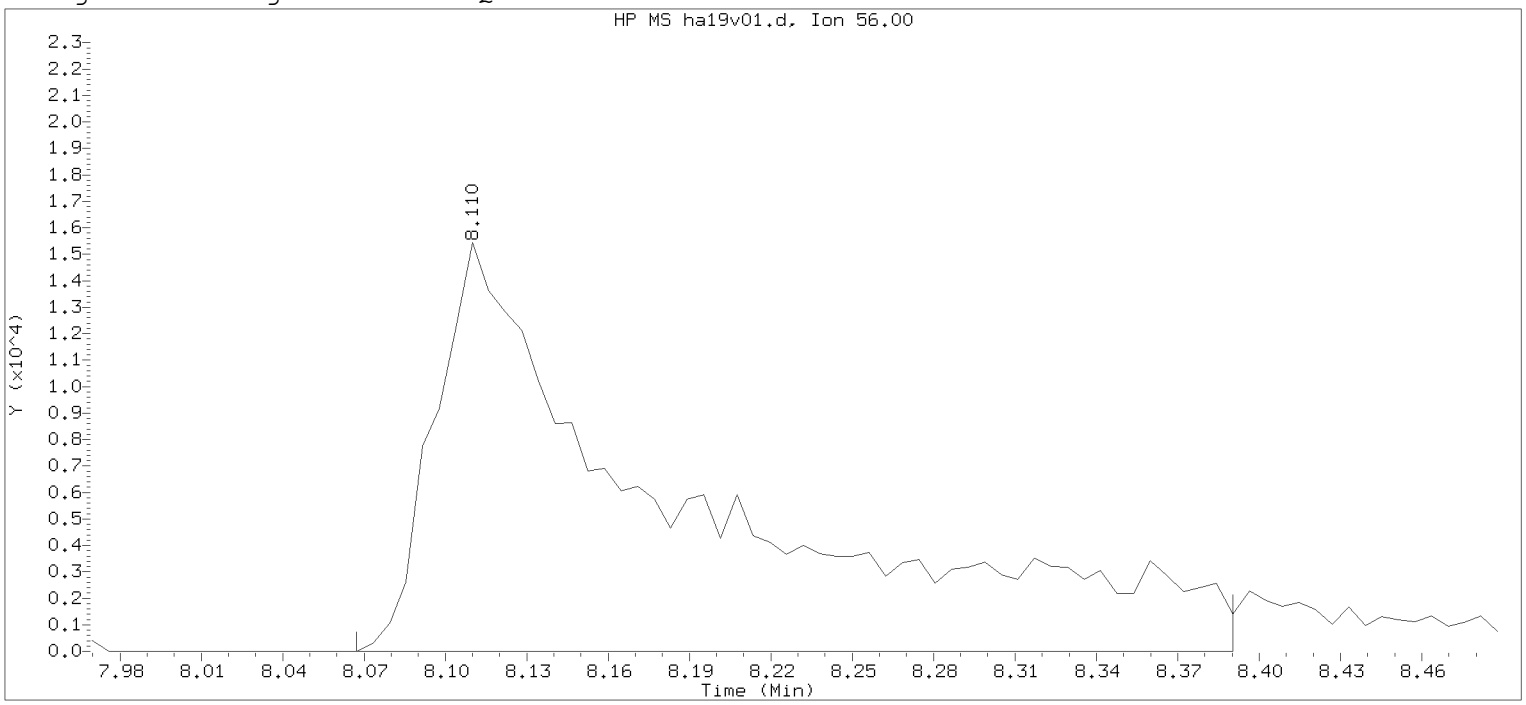
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

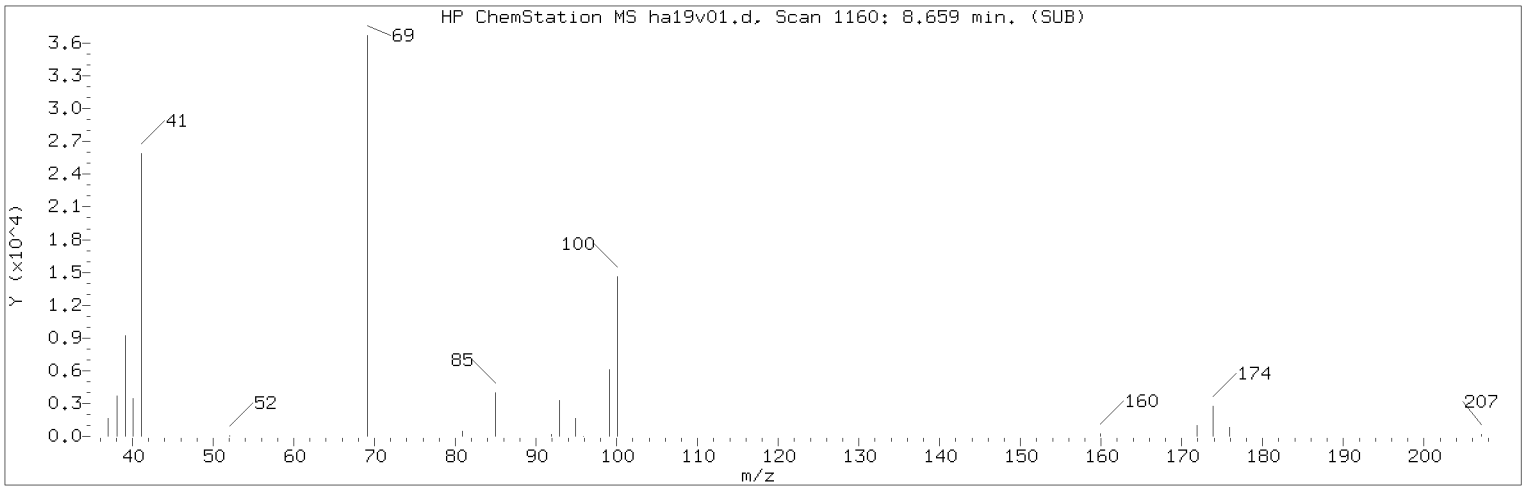
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

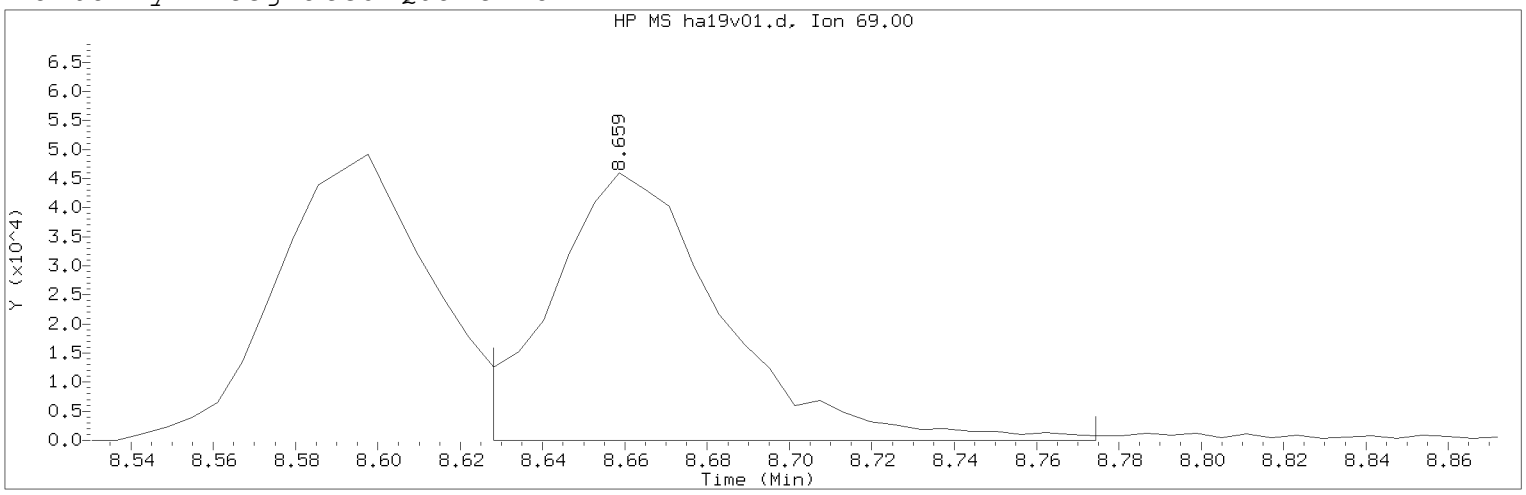
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1070
Retention Time (minutes): 8.110
Quant Ion : 56.00
Area : 97051
On-column Amount (ng) : 223.2892
Integration start scan : 1062 Integration stop scan: 1115
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

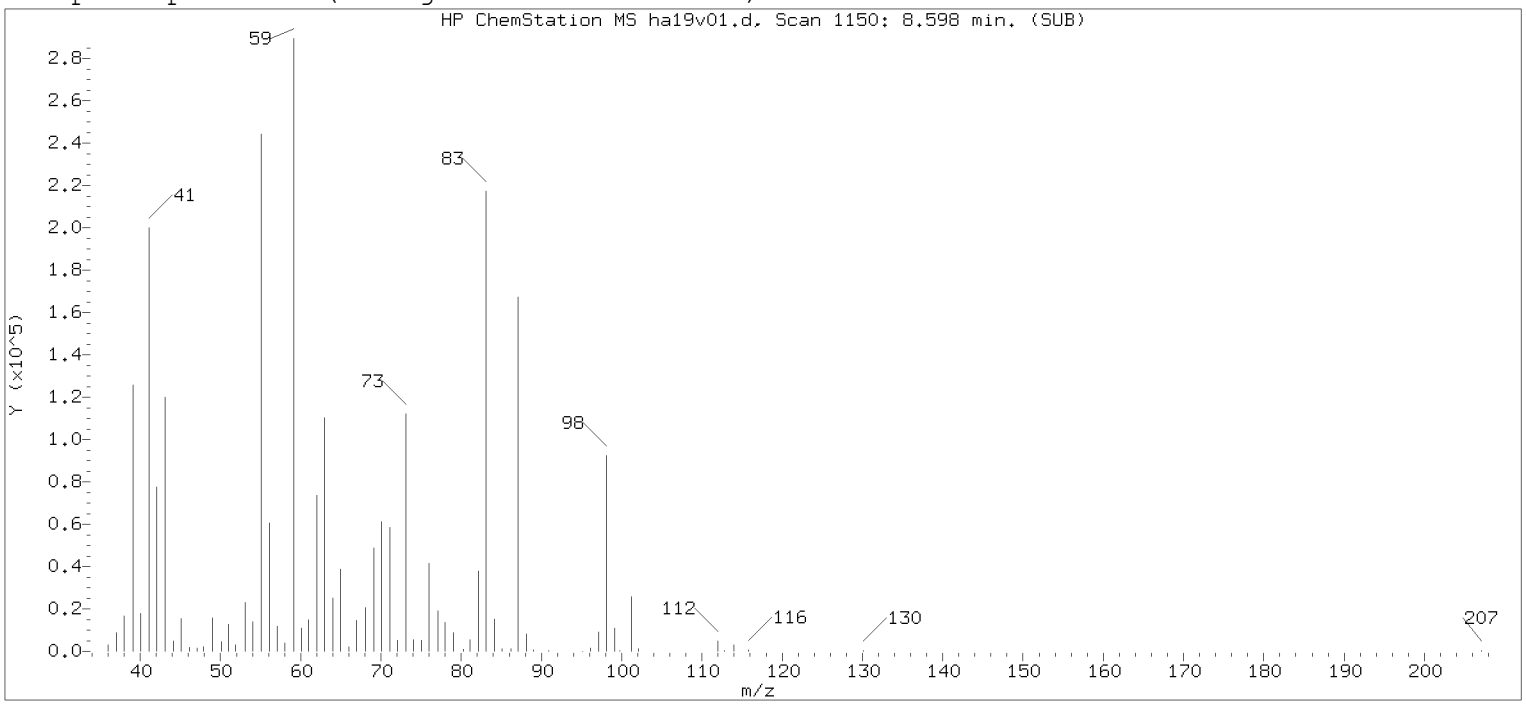
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 133421M
On-Column Amount (ng) : 5.9535
Integration start scan : 1154 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

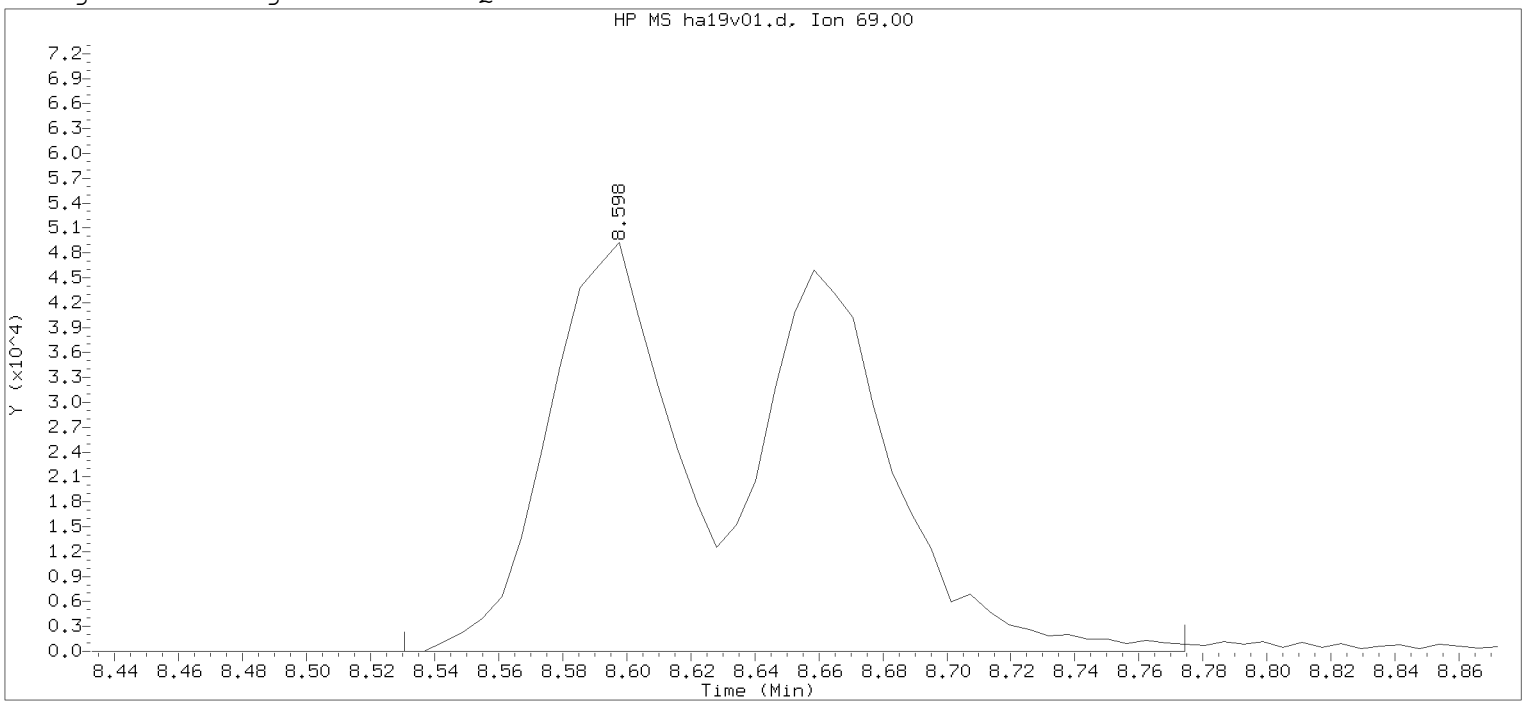
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

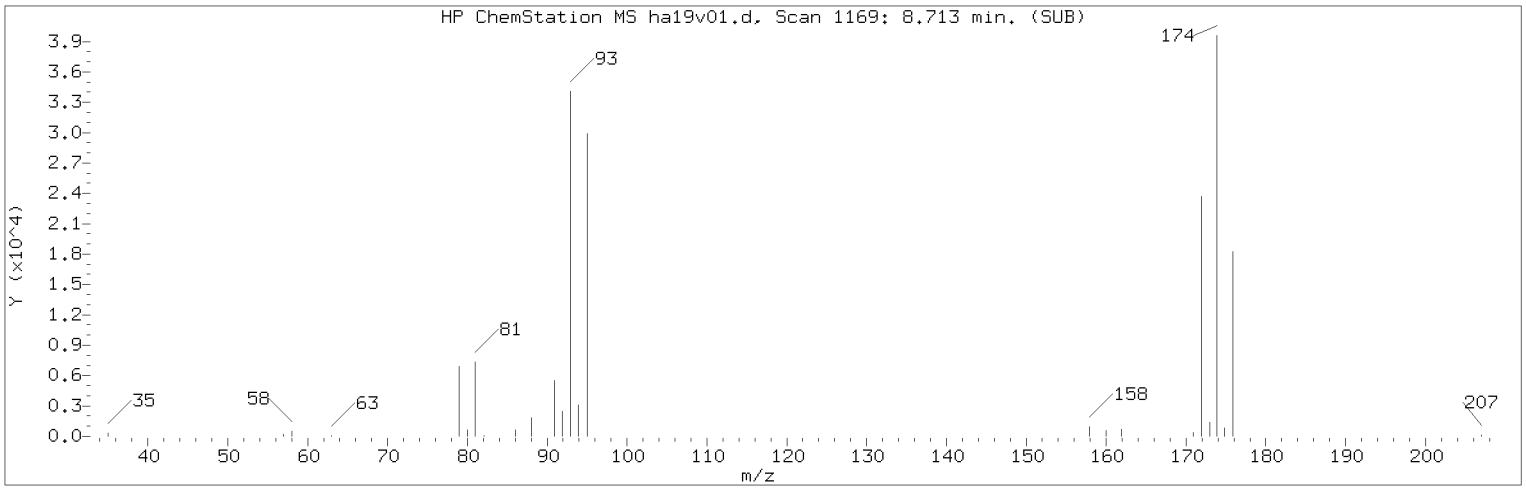
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

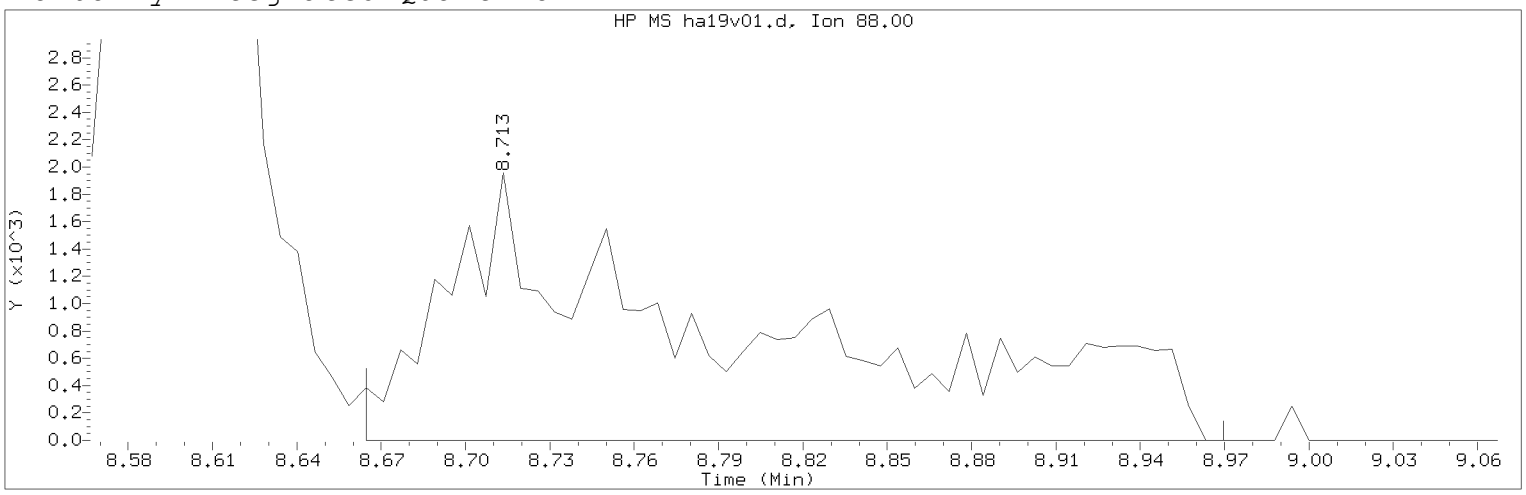
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 69.00
Area : 257555
On-column Amount (ng) : 13.7934
Integration start scan : 1138 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

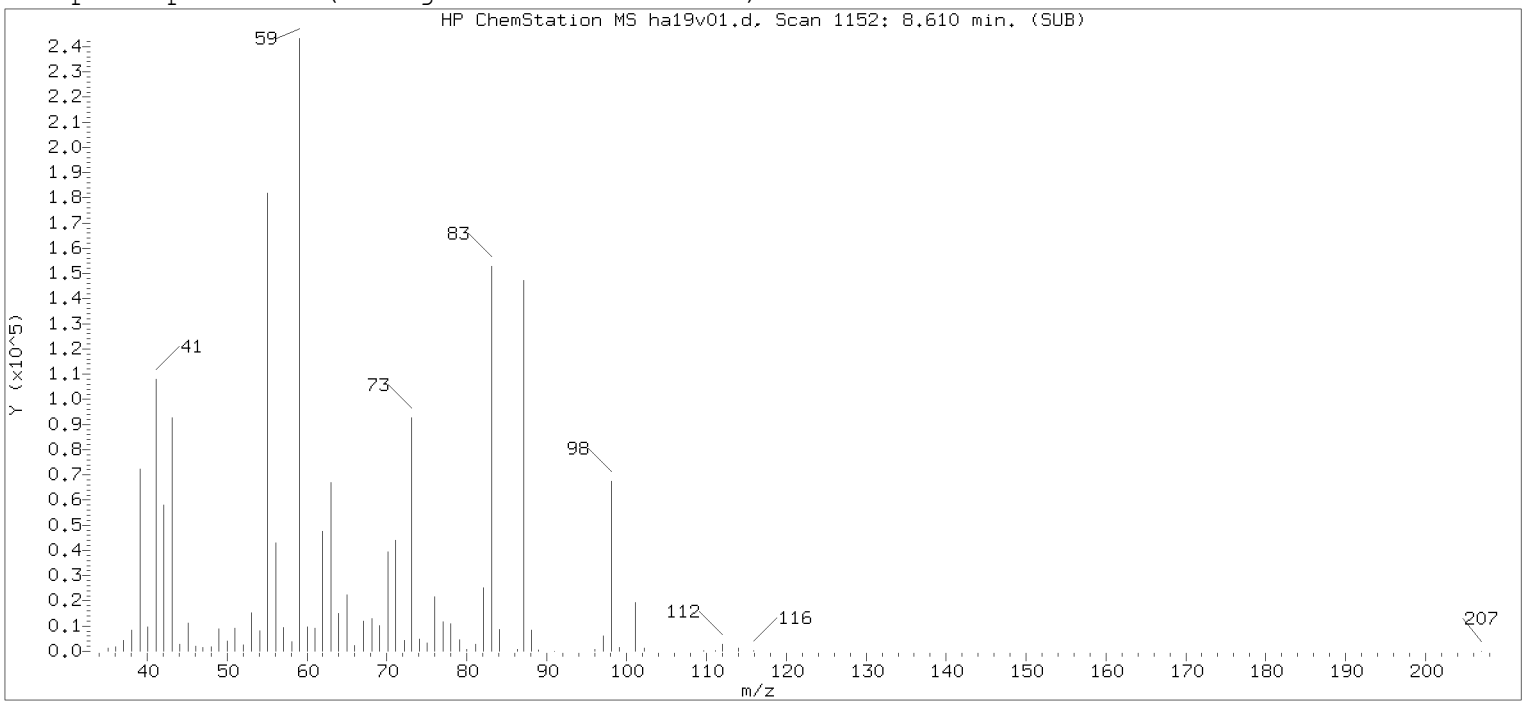
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1169
Retention Time (minutes): 8.713
Quant Ion : 88.00
Area (flag) : 13854MA
On-Column Amount (ng) : 106.9377
Integration start scan : 1160 Integration stop scan: 1210
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

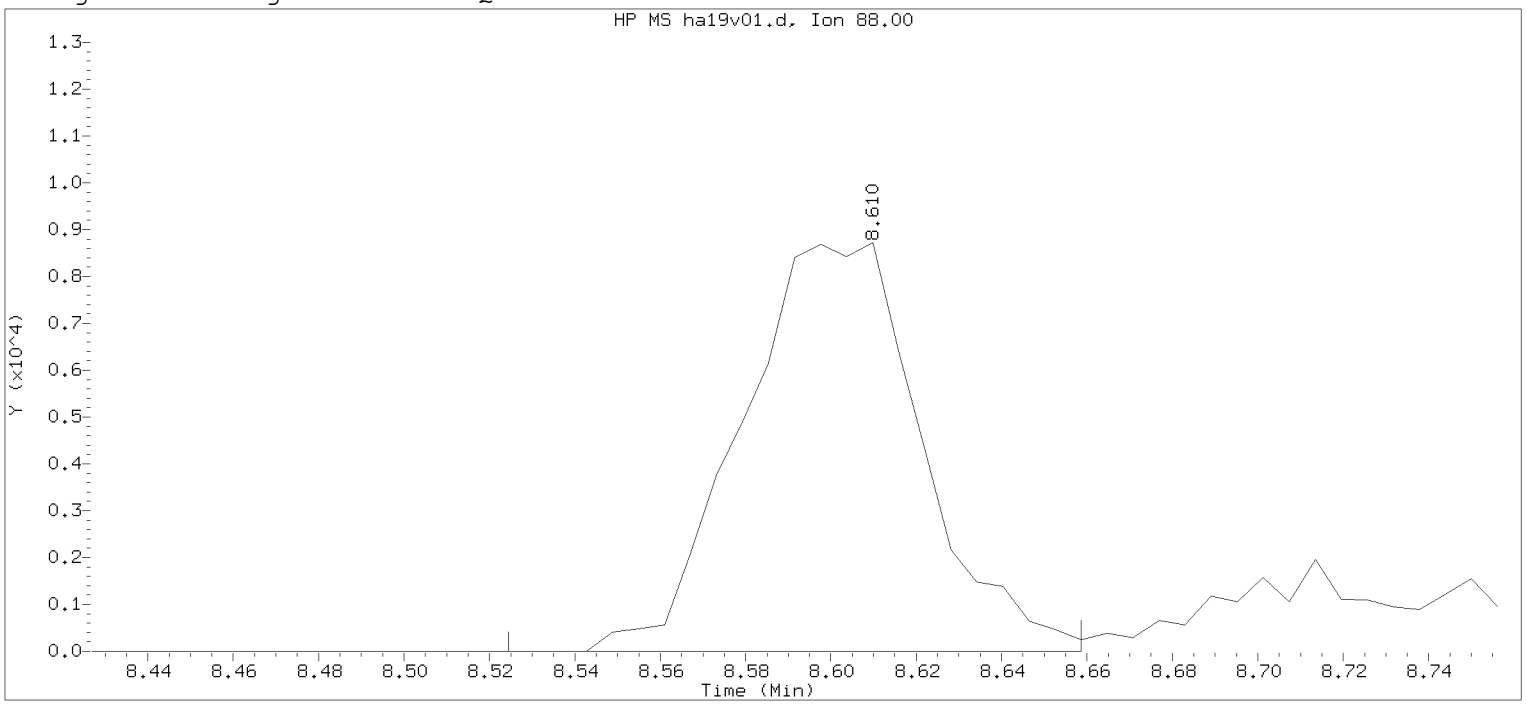
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

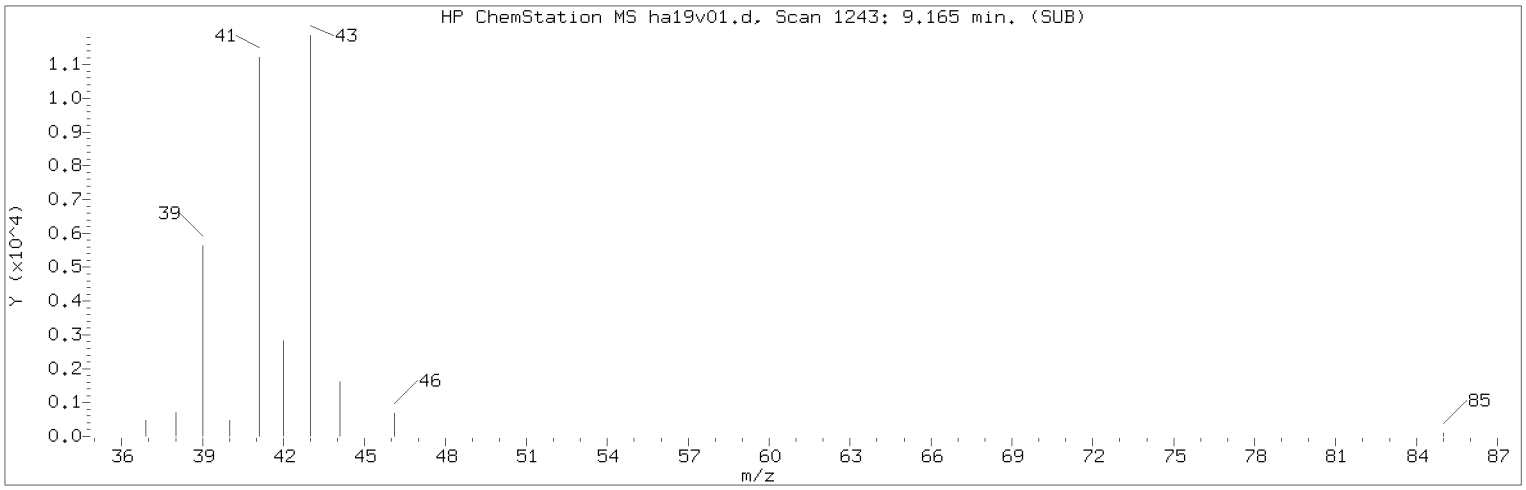
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

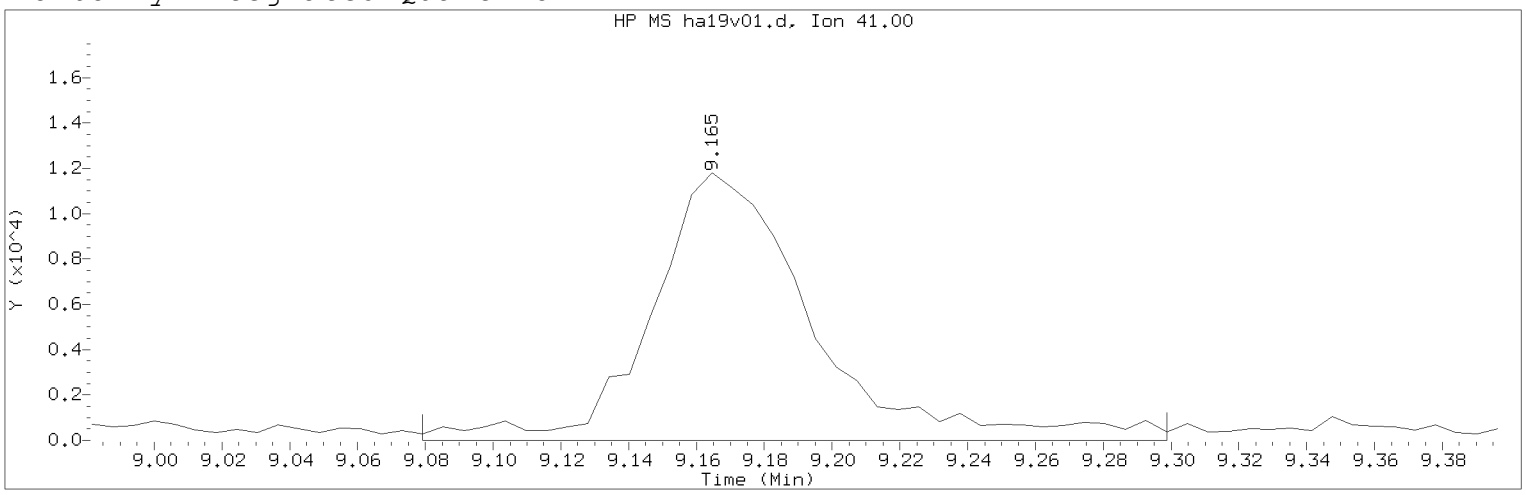
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1152
Retention Time (minutes): 8.610
Quant Ion : 88.00
Area : 25437
On-column Amount (ng) : 239.5816
Integration start scan : 1137 Integration stop scan: 1159
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

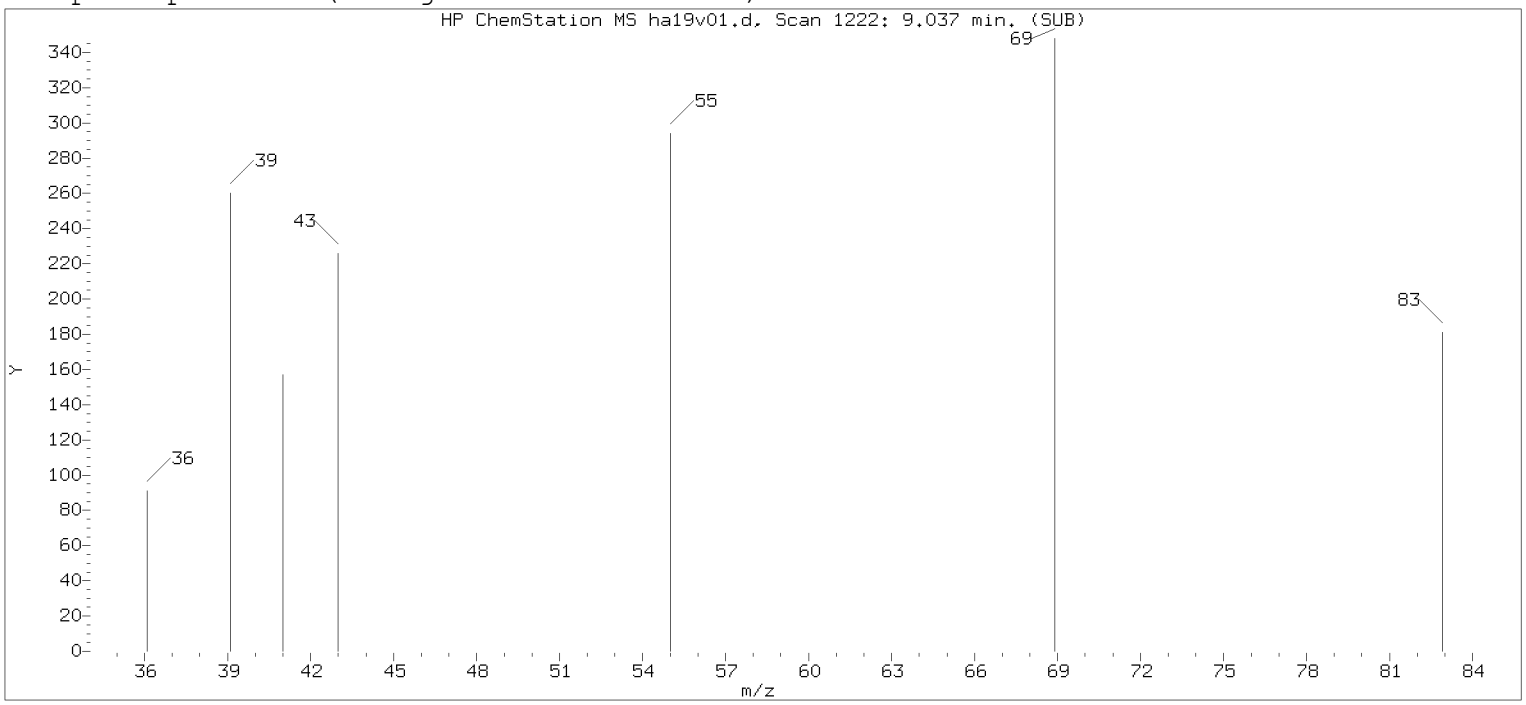
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1243
Retention Time (minutes): 9.165
Quant Ion : 41.00
Area (flag) : 39085A
On-Column Amount (ng) : 5.2879
Integration start scan : 1228 Integration stop scan: 1264
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

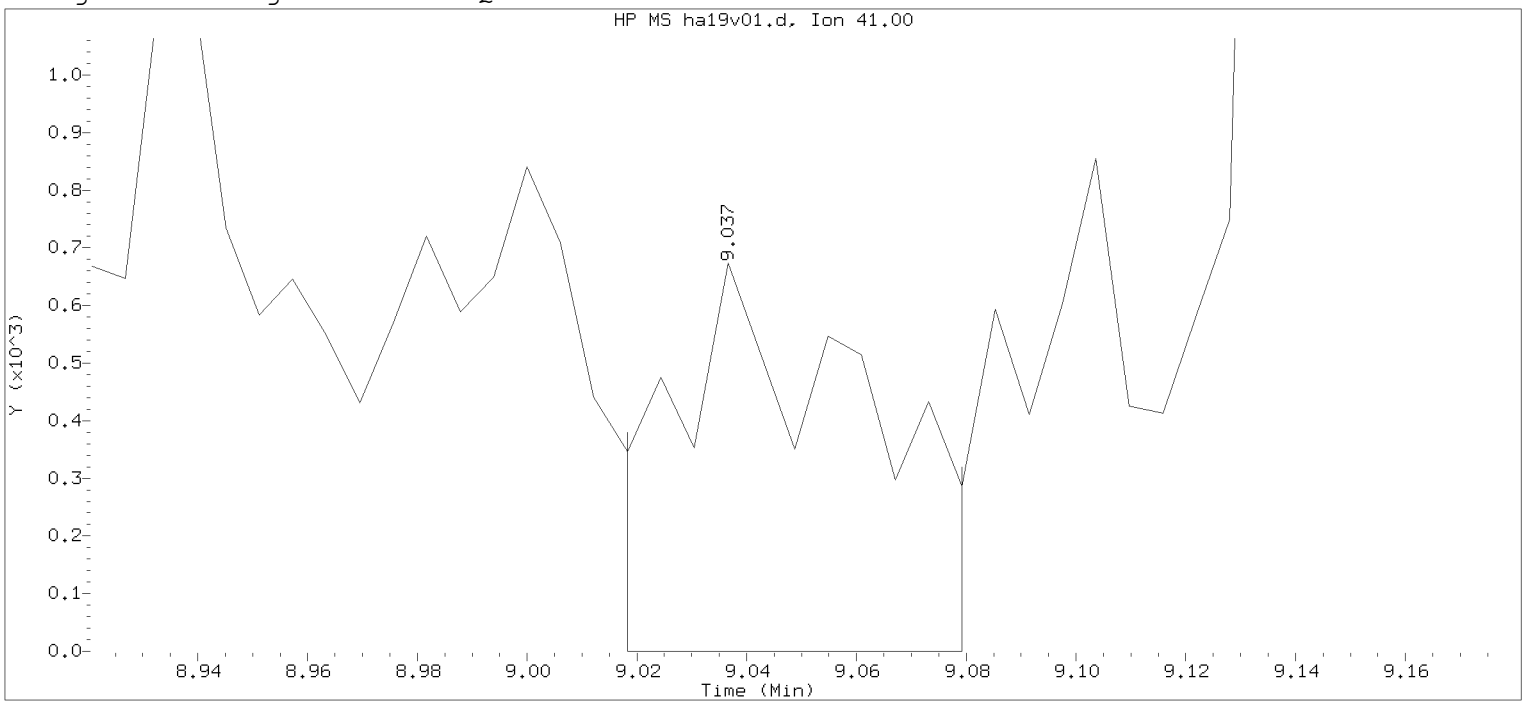
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

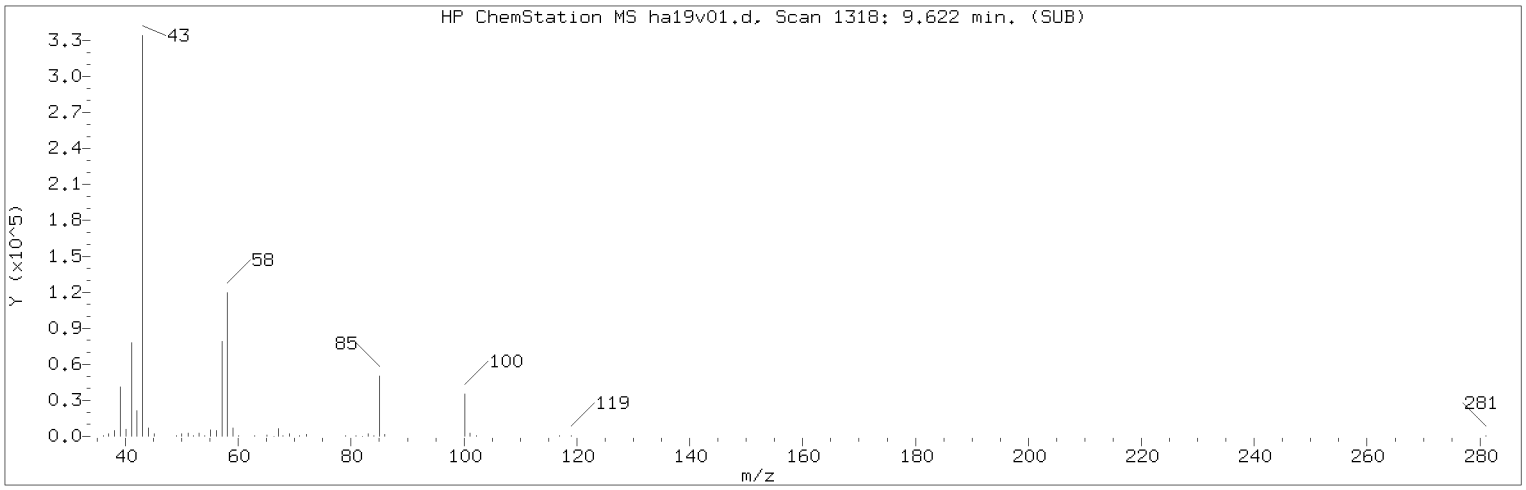
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

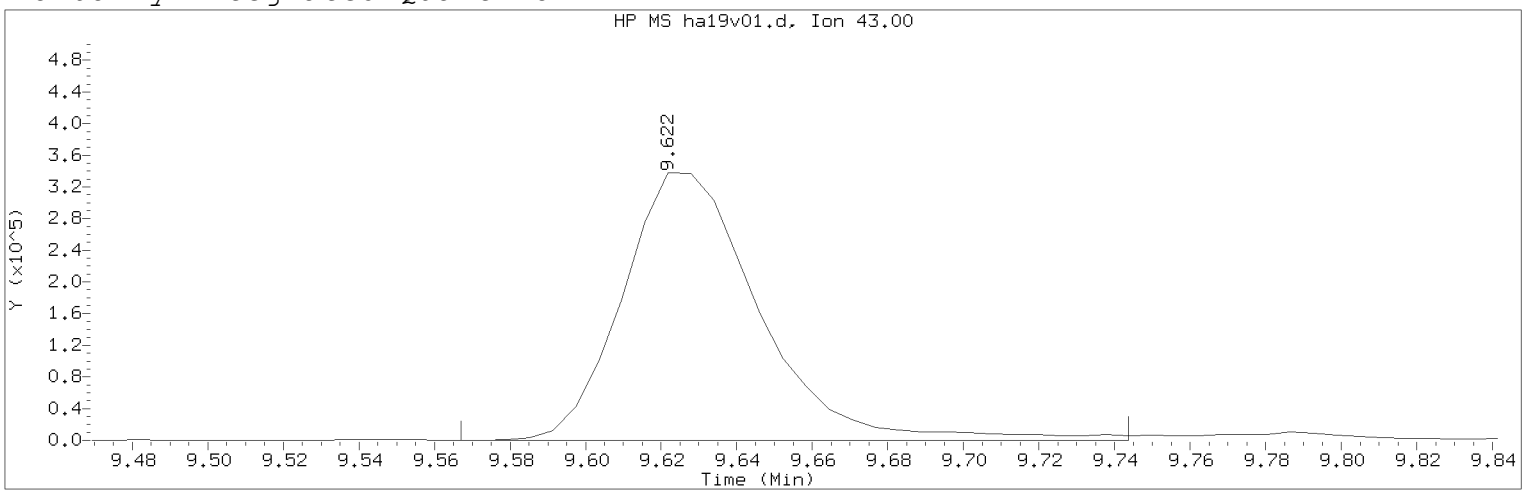
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1222
Retention Time (minutes): 9.037
Quant Ion : 41.00
Area : 1635
On-column Amount (ng) : 0.2656
Integration start scan : 1218 Integration stop scan: 1228
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

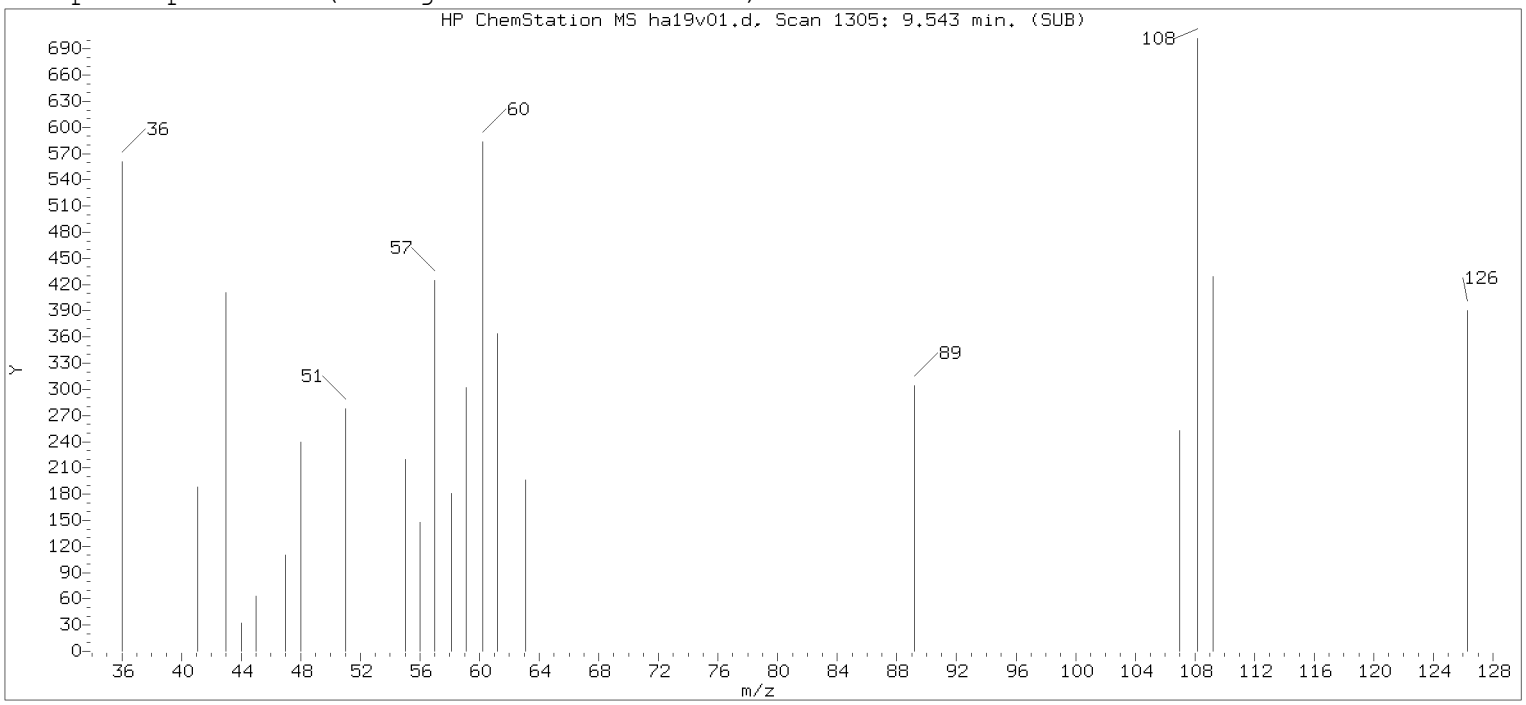
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1318
Retention Time (minutes): 9.622
Quant Ion : 43.00
Area (flag) : 849519A
On-Column Amount (ng) : 25.9972
Integration start scan : 1308 Integration stop scan: 1337
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

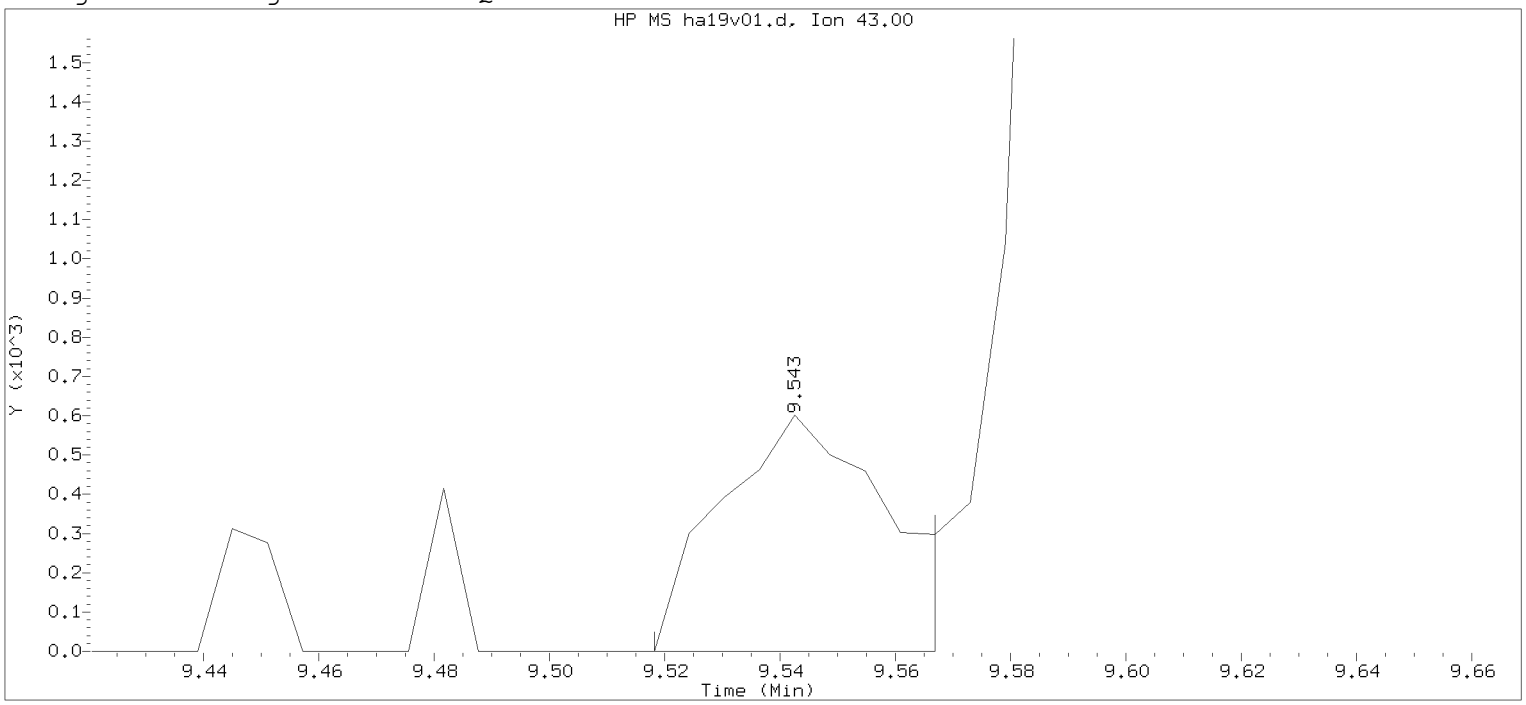
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

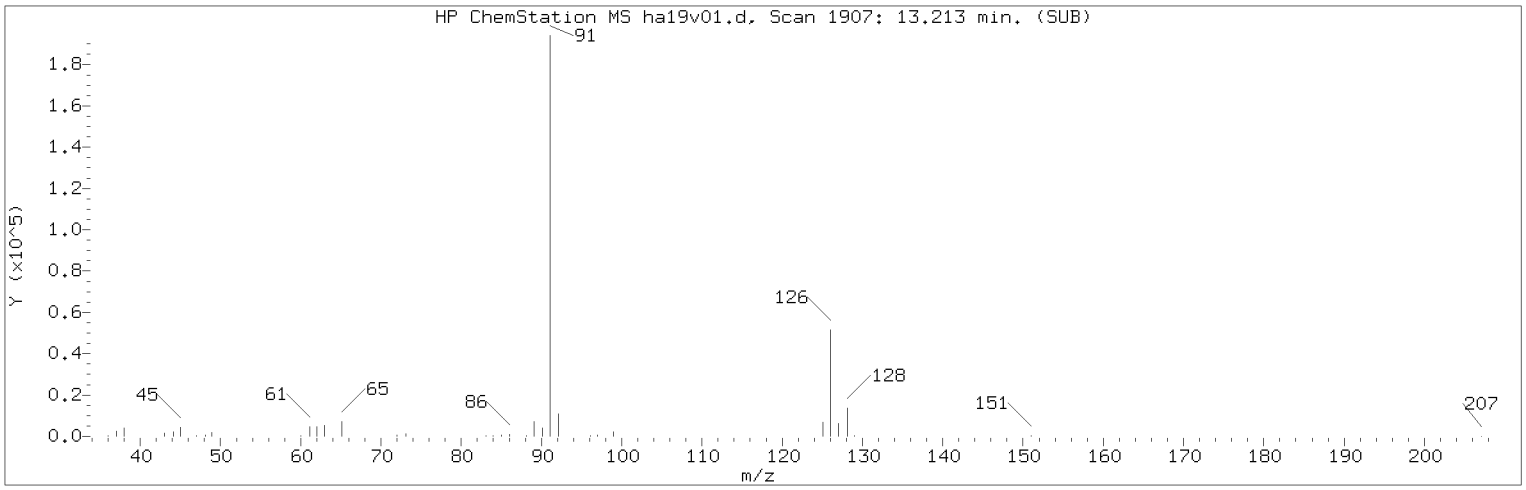
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

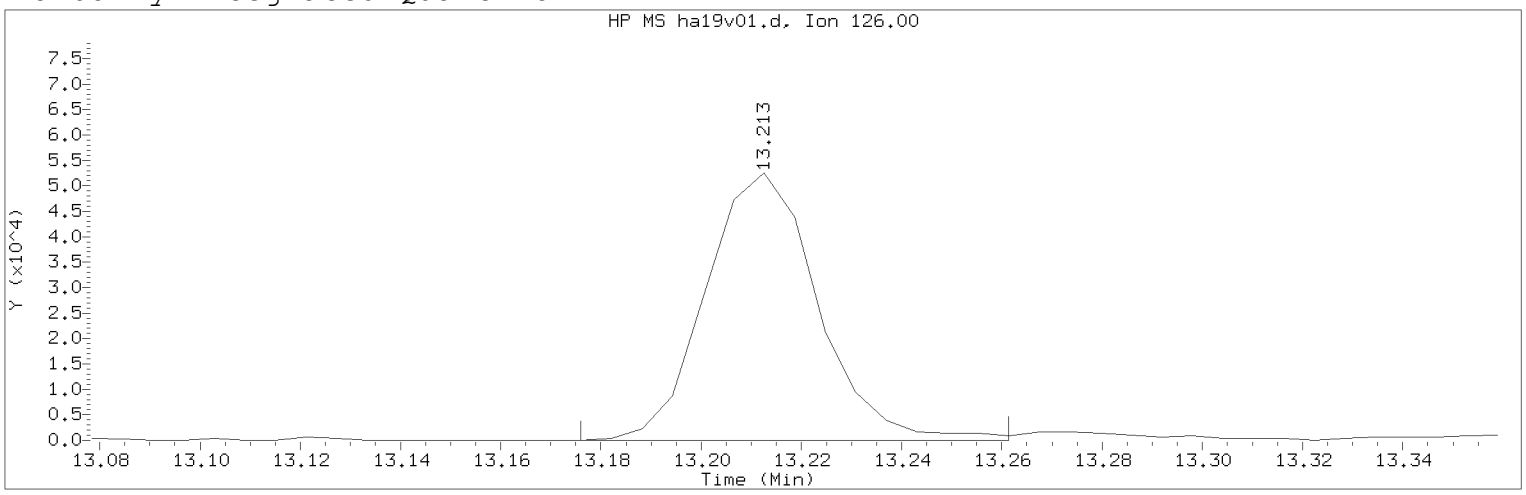
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1305
Retention Time (minutes): 9.543
Quant Ion : 43.00
Area : 1158
On-column Amount (ng) : 0.0425
Integration start scan : 1300 Integration stop scan: 1308
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

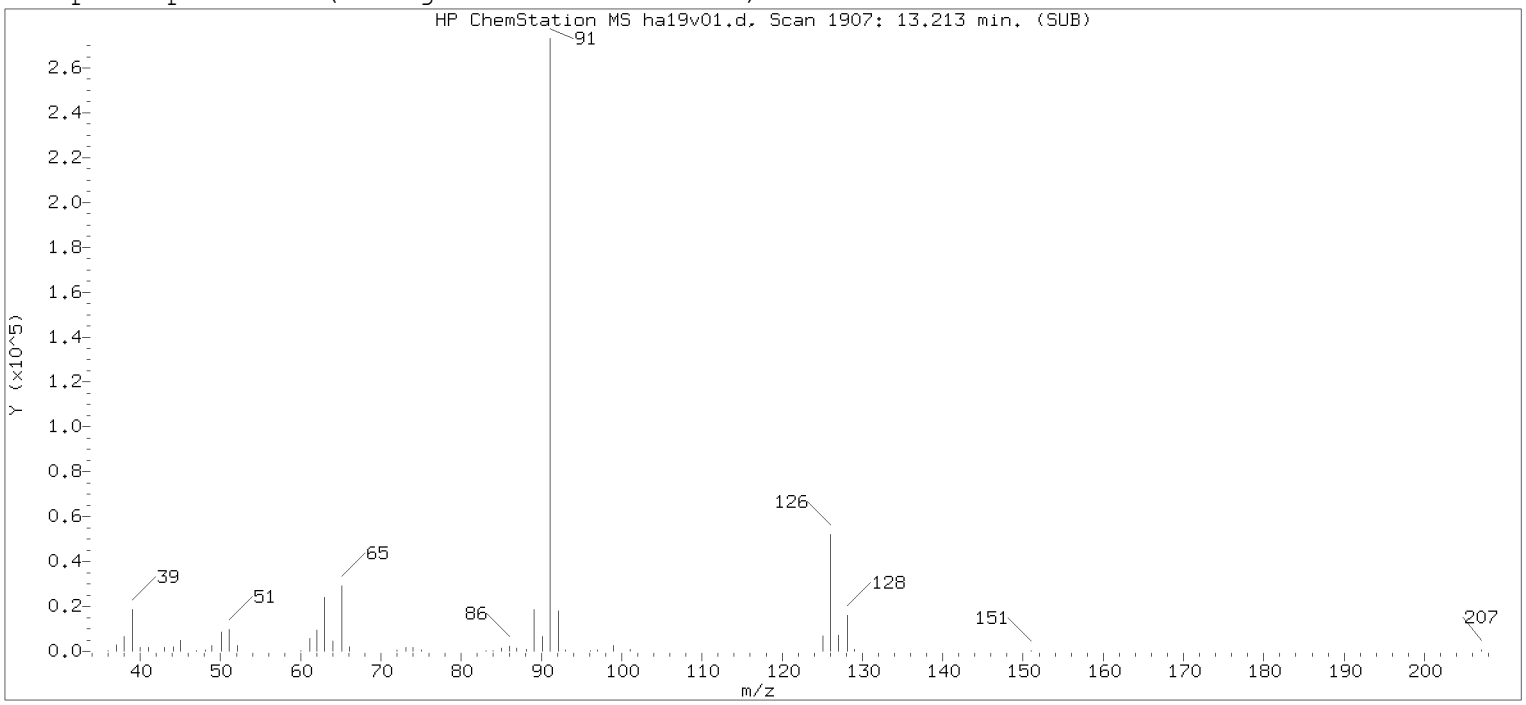
Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1907
Retention Time (minutes): 13.213
Quant Ion : 126.00
Area (flag) : 81548M
On-Column Amount (ng) : 5.2894
Integration start scan : 1900 Integration stop scan: 1914
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

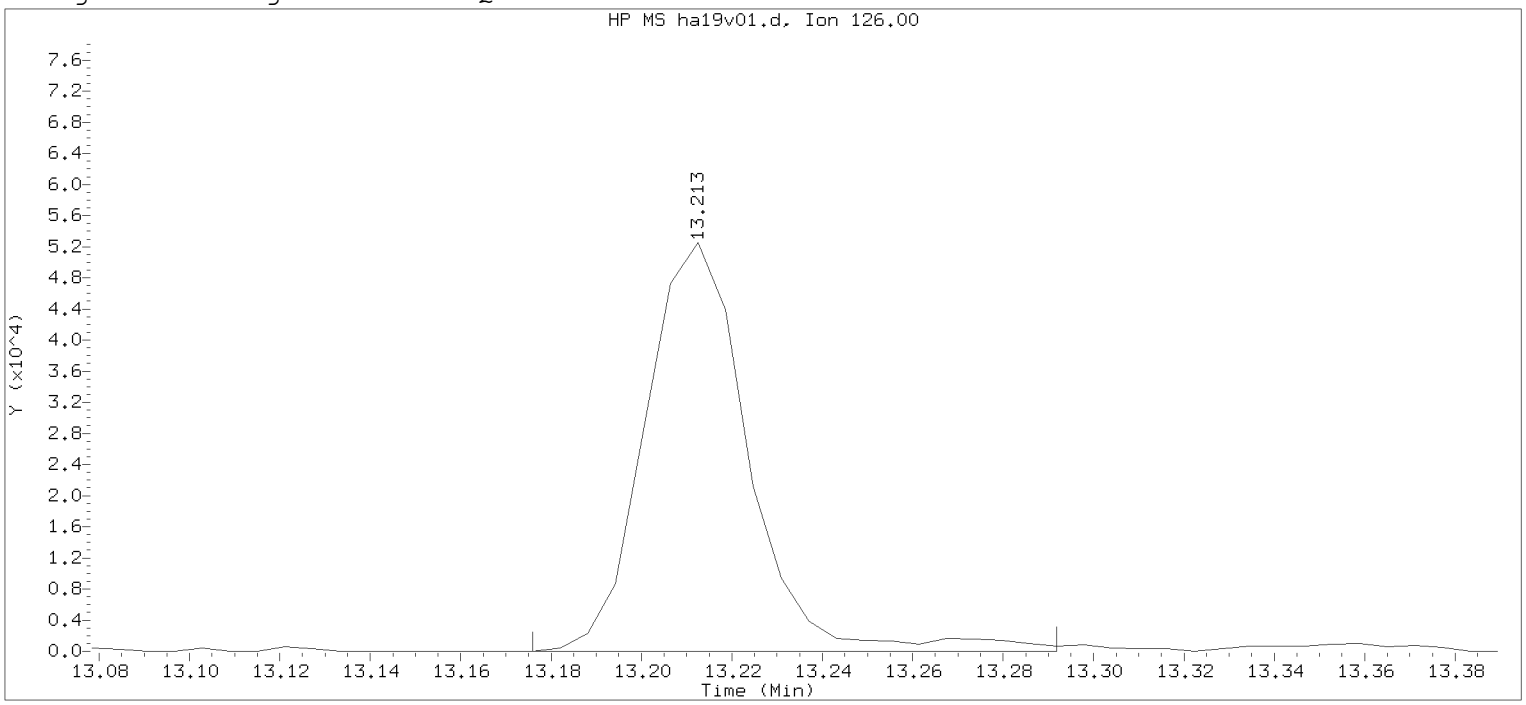
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1907
Retention Time (minutes): 13.213
Quant Ion : 126.00
Area : 83737
On-column Amount (ng) : 5.4314
Integration start scan : 1900 Integration stop scan: 1919
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user kevin.sposito

Data File: /chem2/HP19094.i/17may30b.b/hy30t05.d

Date : 30-MAY-2017 10:54

Client ID: bfb 50ng

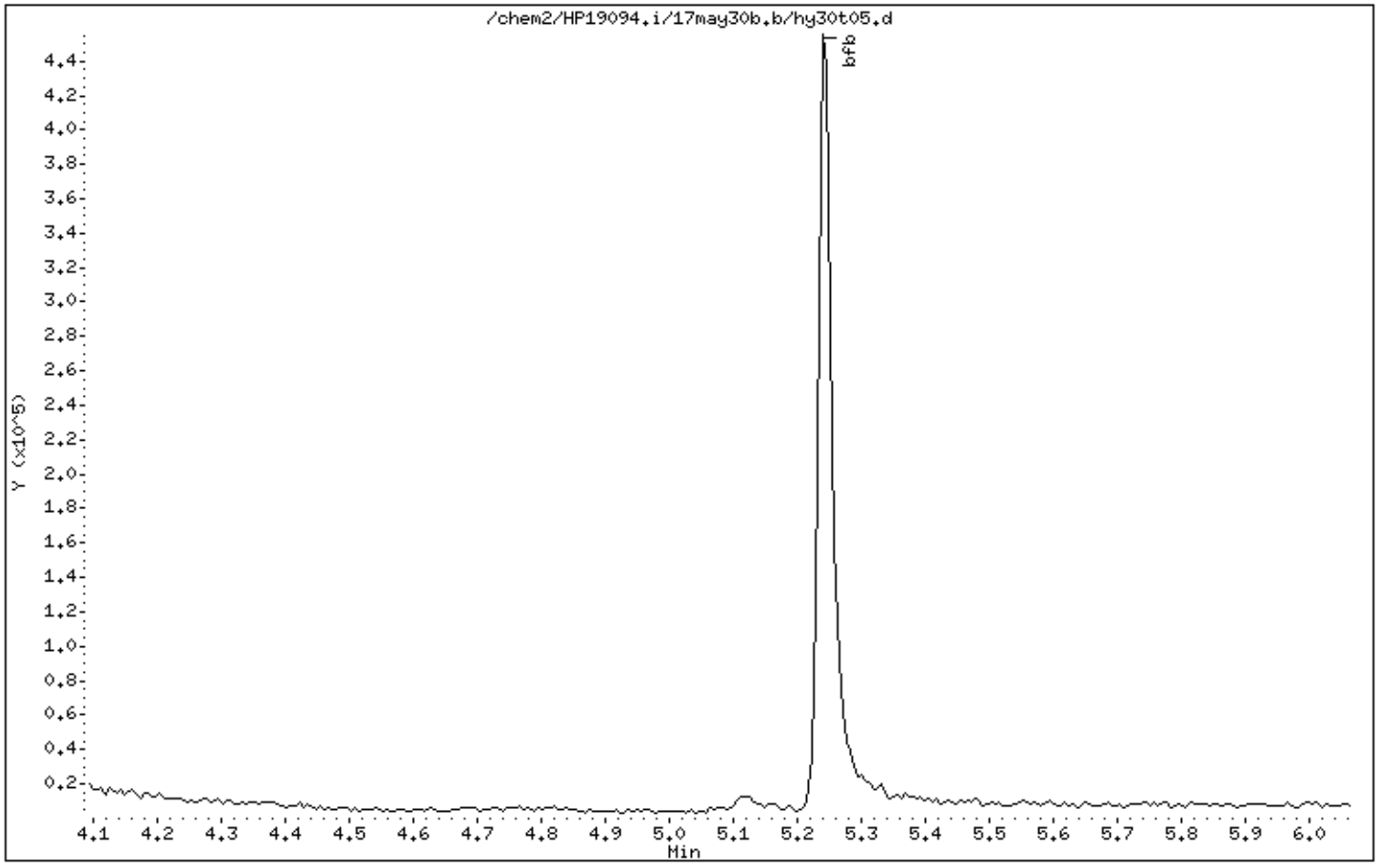
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:01.
Target 3.5 esignature user ID: kel01973

Data File: /chem2/HP19094.i/17may30b.b/hy30t05.d

Date : 30-MAY-2017 10:54

Client ID: bfb 50ng

Instrument: HP19094.i

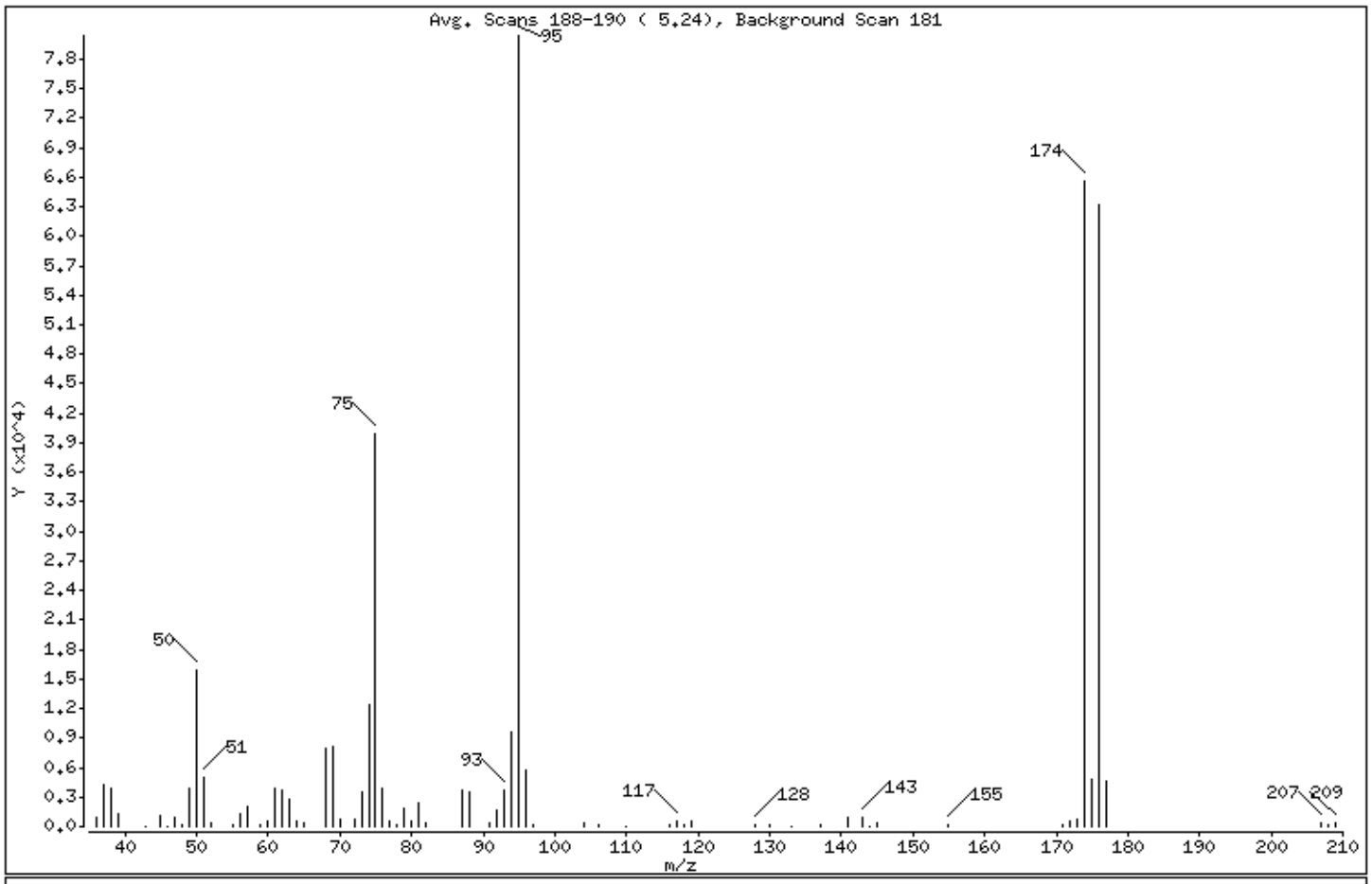
Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.87
75	30.00 - 60.00% of mass 95	49.74
96	5.00 - 9.00% of mass 95	7.10
173	Less than 2.00% of mass 174	0.91 (1.11)
174	50.00 - 100.00% of mass 95	81.63
175	5.00 - 9.00% of mass 174	5.97 (7.32)
176	95.00 - 101.00% of mass 174	78.68 (96.39)
177	5.00 - 9.00% of mass 176	5.71 (7.26)

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:01.
Target 3.5 esignature user ID: kel01973

Date : 30-MAY-2017 10:54

Client ID: bfb 50ng Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

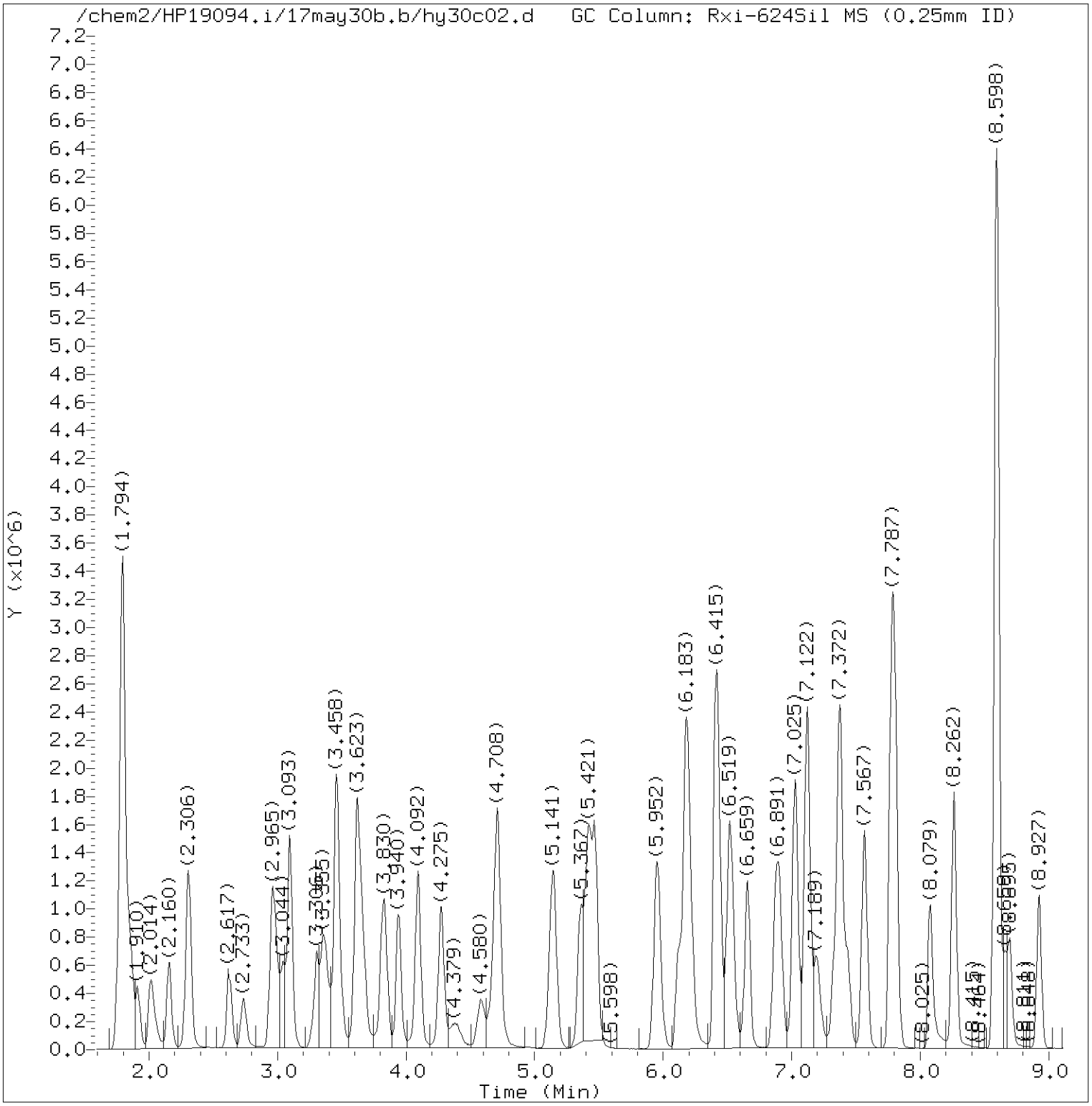
Operator: KEL01973

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: hy30t05.d
Spectrum: Avg. Scans 188-190 (5.24), Background Scan 181
Location of Maximum: 95.00
Number of points: 72

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	847	62.00	3756	88.00	3501	141.00	885
37.00	4222	63.00	2723	91.00	391	143.00	950
38.00	3867	64.00	522	92.00	1693	144.00	88
39.00	1351	65.00	342	93.00	3782	145.00	456
43.00	86	68.00	7892	94.00	9542	155.00	118
45.00	1041	69.00	8057	95.00	80376	171.00	101
46.00	85	70.00	772	96.00	5704	172.00	513
47.00	880	72.00	748	97.00	215	173.00	728
48.00	271	73.00	3531	104.00	281	174.00	65608
49.00	3847	74.00	12465	106.00	120	175.00	4802
50.00	15971	75.00	39976	110.00	85	176.00	63240
51.00	5029	76.00	3968	116.00	244	177.00	4590
52.00	300	77.00	630	117.00	644	207.00	318
55.00	219	78.00	195	118.00	95	208.00	101
56.00	1305	79.00	1918	119.00	583	209.00	312
57.00	2004	80.00	624	128.00	273		
59.00	162	81.00	2487	130.00	108		
60.00	636	82.00	402	133.00	91		
61.00	3962	87.00	3748	137.00	131		

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:01.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

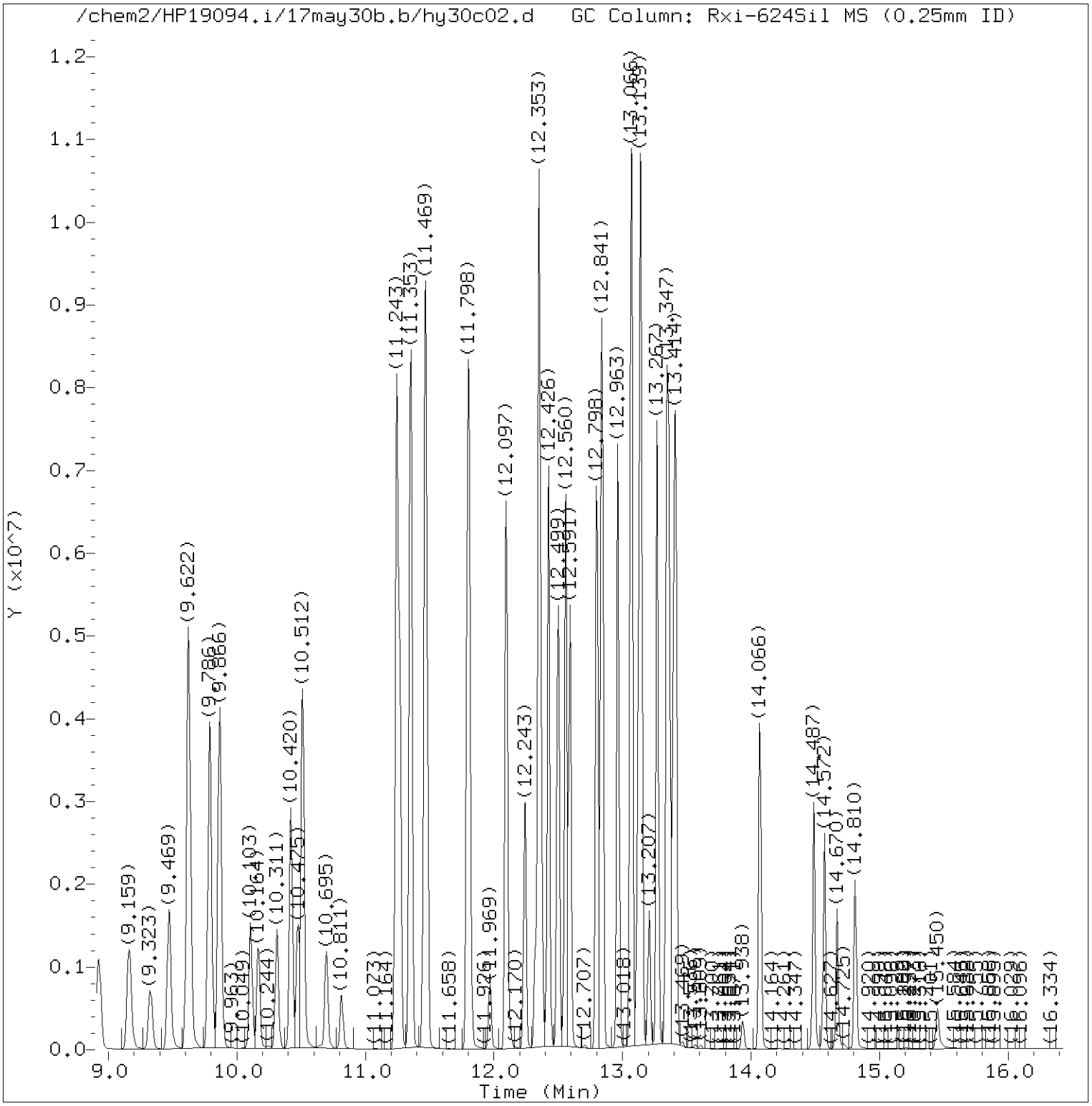
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	1084081	8.843
2) Chloromethane	(2)	2.160	50	967336	7.516
5) Vinyl Chloride	(2)	2.288	62	802746	7.105
6) 1,3-Butadiene	(2)	2.312	39	698450	3.925
7) Bromomethane	(2)	2.617	94	569308	8.022
8) Chloroethane	(2)	2.733	64	539358	8.334
9) Dichlorofluoromethane	(2)	2.959	67	1773170	11.907
10) Trichlorofluoromethane	(2)	3.038	101	1395781	10.663
11) Ethyl ether	(2)	3.306	59	540046	10.413
12) Freon 123a	(2)	3.361	67	1036226	10.491
13) Acrolein	(1)	3.458	56	3039953	354.287
15) 1,1-Dichloroethene	(2)	3.617	96	661431	9.408
14) Acetone	(1)	3.623	43	1045284	100.599
16) Freon 113	(2)	3.660	101	745100	10.069
17) Methyl Iodide	(2)	3.812	142	1317373	10.088
18) Carbon Disulfide	(2)	3.940	76	2074483	10.517
21) Methyl Acetate	(1)	4.056	43	297930	8.438
22) Allyl Chloride	(2)	4.092	41	1353923	9.924
26)*t-Butyl Alcohol-d10	(1)	4.257	65	112769	50.000
23) Methylene Chloride	(2)	4.269	84	753872	9.819
28) t-Butyl Alcohol	(1)	4.397	59	618277	219.130
29) Acrylonitrile	(1)	4.586	53	670804	47.774
30) Methyl Tertiary Butyl Ether	(2)	4.690	73	1489541	10.574
31) trans-1,2-Dichloroethene	(2)	4.708	96	764482	9.847
32) n-Hexane	(2)	5.141	57	1266309	10.640
33) 1,1-Dichloroethane	(2)	5.354	63	1515547M	9.893
34) di-Isopropyl Ether	(2)	5.415	45	2703792	10.357
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	1341890	10.368
37) Ethyl t-butyl ether	(2)	5.958	59	2077637	10.352
40) 1,2-Dichloroethene (Total)	(2)		96	1642991	19.984
38) 2-Butanone	(1)	6.116	43	1834595	86.566
42) Propionitrile	(1)	6.177	54	1015899	201.750
39) cis-1,2-Dichloroethene	(2)	6.177	96	878509	10.137
41) 2,2-Dichloropropane	(2)	6.202	77	1125959	9.811
45) Methacrylonitrile	(1)	6.415	67	1696269	80.571
47) Bromochloromethane	(2)	6.513	128	345703	10.089
48) Tetrahydrofuran	(1)	6.525	71	445700	84.184
49) Chloroform	(2)	6.659	83	1405105	9.722

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	727024	10.235
50)$Dibromofluoromethane	(2)	6.866	111	748930	10.265
51) 1,1,1-Trichloroethane	(2)	6.903	97	1145634	9.307
52) Cyclohexane	(2)	7.025	56	1544470	10.177
52) Cyclohexane	(2)	7.025	84	1211105	10.384
52) Cyclohexane	(2)	7.025	69	454120	10.664
55) 1,1-Dichloropropene	(2)	7.116	75	1175035	10.279
54) Carbon Tetrachloride	(2)	7.128	117	1032073	9.988
56) Isobutyl Alcohol	(1)	7.195	41	626329	514.414
57)$1,2-Dichloroethane-d4	(2)	7.330	102	115659	10.070
57)$1,2-Dichloroethane-d4	(2)	7.330	65	575143	10.287
57)$1,2-Dichloroethane-d4	(2)	7.330	104	76425	10.978
58) Benzene	(2)	7.372	78	3315785	9.988
59) 1,2-Dichloroethane	(2)	7.439	62	815745M	10.279
60) t-Amyl methyl ether	(2)	7.567	73	1723588	10.561
63)*Fluorobenzene	(2)	7.775	96	3168741	10.000
62) n-Heptane	(2)	7.805	43	1446846	10.326
65) n-Butanol	(1)	8.079	56	1032514	1151.715
67) Trichloroethene	(2)	8.262	95	849152	9.663
70) 1,2-Dichloropropane	(2)	8.585	63	873698	10.093
69) Methylcyclohexane	(2)	8.592	83	1495319	10.073
71) Methyl Methacrylate	(1)	8.659	69	323905M	8.410
72) 1,4-Dioxane	(1)	8.677	88	117997M	543.123
73) Dibromomethane	(2)	8.695	93	349319	10.468
74) Bromodichloromethane	(2)	8.927	83	974458	10.662
76) 2-Nitropropane	(1)	9.159	41	1042096	82.038
80) cis-1,3-Dichloropropene	(2)	9.469	75	1181510	11.467
81) 4-Methyl-2-Pentanone	(1)	9.622	43	4604926	81.999
82)$Toluene-d8	(3)	9.786	98	3137085	9.926
82)$Toluene-d8	(3)	9.786	100	2025728	9.953
83) Toluene	(3)	9.866	92	2055680	9.843
84) trans-1,3-Dichloropropene	(3)	10.103	75	882878	10.851
86) Ethyl Methacrylate	(3)	10.164	69	672179	11.169
85) 1,3-Dichloropropene (total)	(3)		75	2064388	22.318
88) 1,1,2-Trichloroethane	(3)	10.311	97	491524	10.131
89) Tetrachloroethene	(3)	10.420	166	938482	9.689
90) 1,3-Dichloropropane	(3)	10.475	76	890154	10.252
91) 2-Hexanone	(1)	10.512	43	3081838M	77.867

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	623810	10.850
95) 1,2-Dibromoethane	(3)	10.817	107	463809	10.109
97)*Chlorobenzene-d5	(3)	11.237	117	2162187	10.000
98) Chlorobenzene	(3)	11.268	112	2236919	9.823
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	757150	9.986
100) Ethylbenzene	(3)	11.353	91	4070146	10.057
101) m+p-Xylene	(3)	11.469	106	3117498	20.260
105) Xylene (Total)	(3)		106	4639876	30.556
104) o-Xylene	(3)	11.792	106	1522378	10.301
106) Styrene	(3)	11.810	104	2419470	10.722
107) Bromoform	(3)	11.969	173	344373	11.993
108) Isopropylbenzene	(3)	12.097	105	3973429	10.275
111)$4-Bromofluorobenzene	(3)	12.237	95	913036	10.167
111)$4-Bromofluorobenzene	(3)	12.243	174	786142	9.836
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	593037M	9.907
115) trans-1,4-Dichloro-2-butene	(1)	12.347	53	1433938	96.172
114) Bromobenzene	(4)	12.359	156	880930	9.651
116) 1,2,3-Trichloropropane	(4)	12.377	110	142681	9.527
117) n-Propylbenzene	(4)	12.426	91	4902250	10.045
119) 2-Chlorotoluene	(4)	12.499	126	931601	10.094
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	3323648	10.121
122) 4-Chlorotoluene	(4)	12.591	126	938965	10.122
125) tert-Butylbenzene	(4)	12.798	134	702647M	9.852
126) Pentachloroethane	(4)	12.835	167	548931	10.303
127) 1,2,4-Trimethylbenzene	(4)	12.841	105	3369664	10.295
128) sec-Butylbenzene	(4)	12.963	105	4344834	10.153
131) 1,3-Dichlorobenzene	(4)	13.066	146	1732194	9.659
132) p-Isopropyltoluene	(4)	13.072	119	3656146	10.441
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	927495	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	1707301	9.136
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	1435049	9.945
136) Benzyl Chloride	(4)	13.207	126	215979	11.450
138) n-Butylbenzene	(4)	13.365	92	1856677	10.798
139) 1,2-Dichlorobenzene	(4)	13.396	146	1517513	9.527
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	66446	7.988
145) 1,2,4-Trichlorobenzene	(4)	14.487	180	859121	8.365
146) Hexachlorobutadiene	(4)	14.572	225	441152	8.671
147) Naphthalene	(4)	14.670	128	1205920	7.979

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

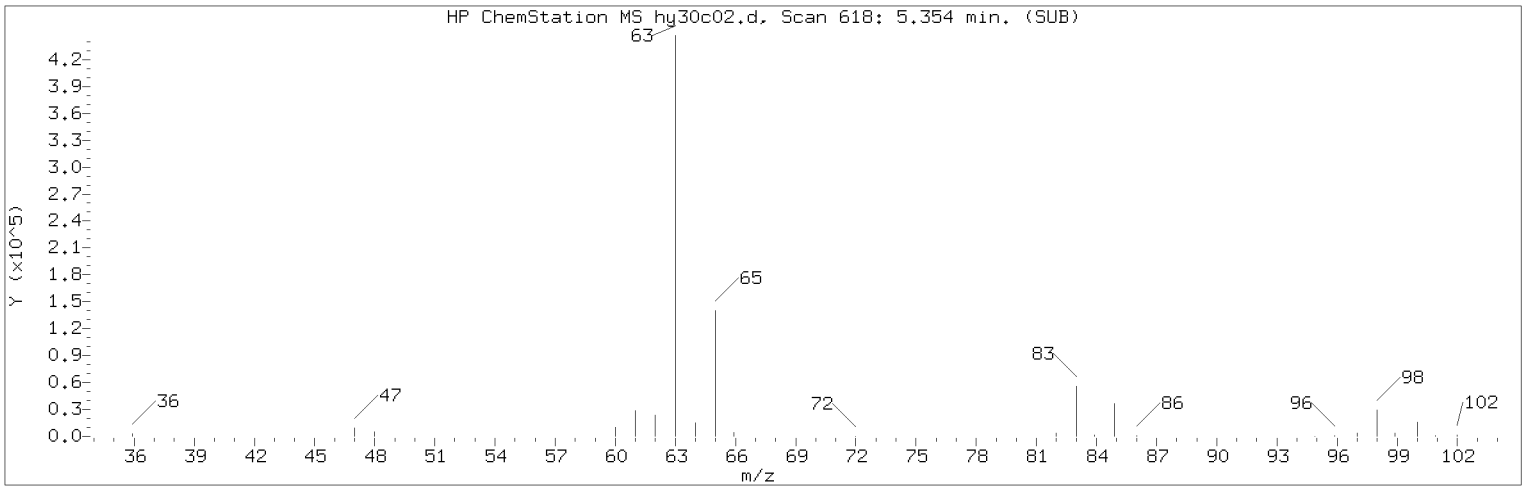
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

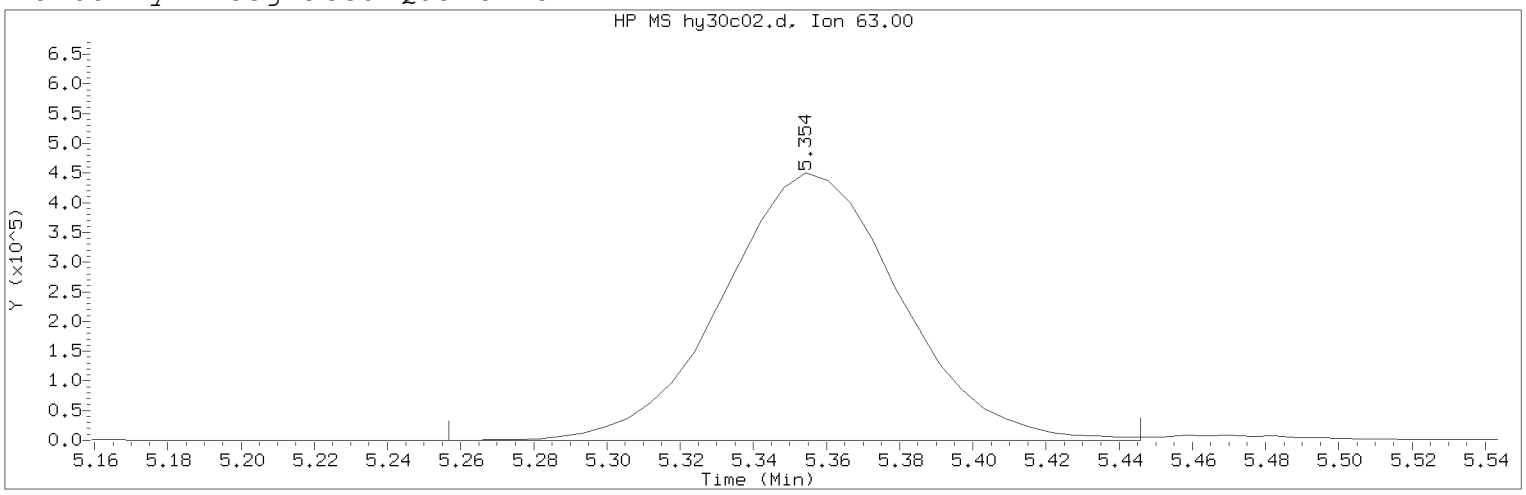
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	597277	6.883

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

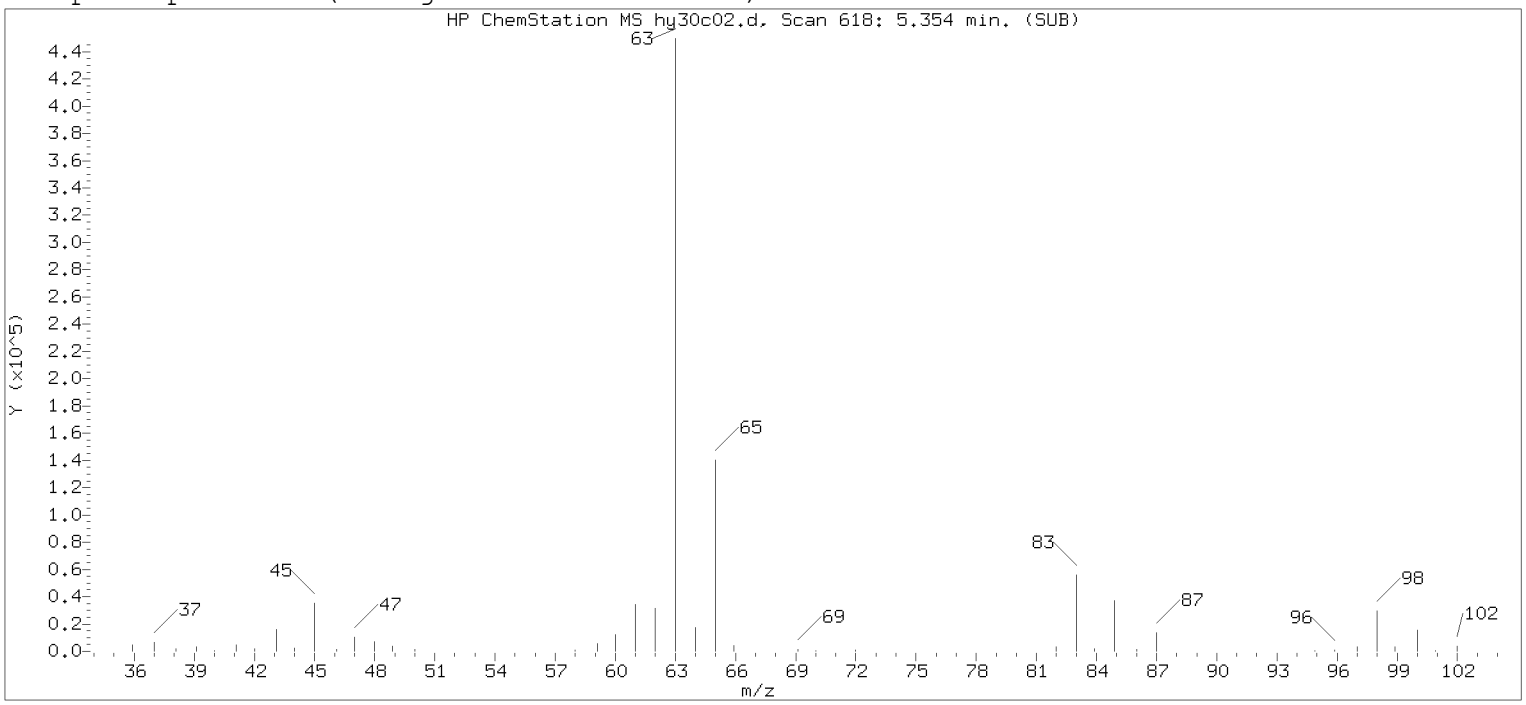
Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 618
Retention Time (minutes): 5.354
Quant Ion : 63.00
Area (flag) : 1515547M
On-Column Amount (ng) : 9.8930
Integration start scan : 601 Integration stop scan: 632
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

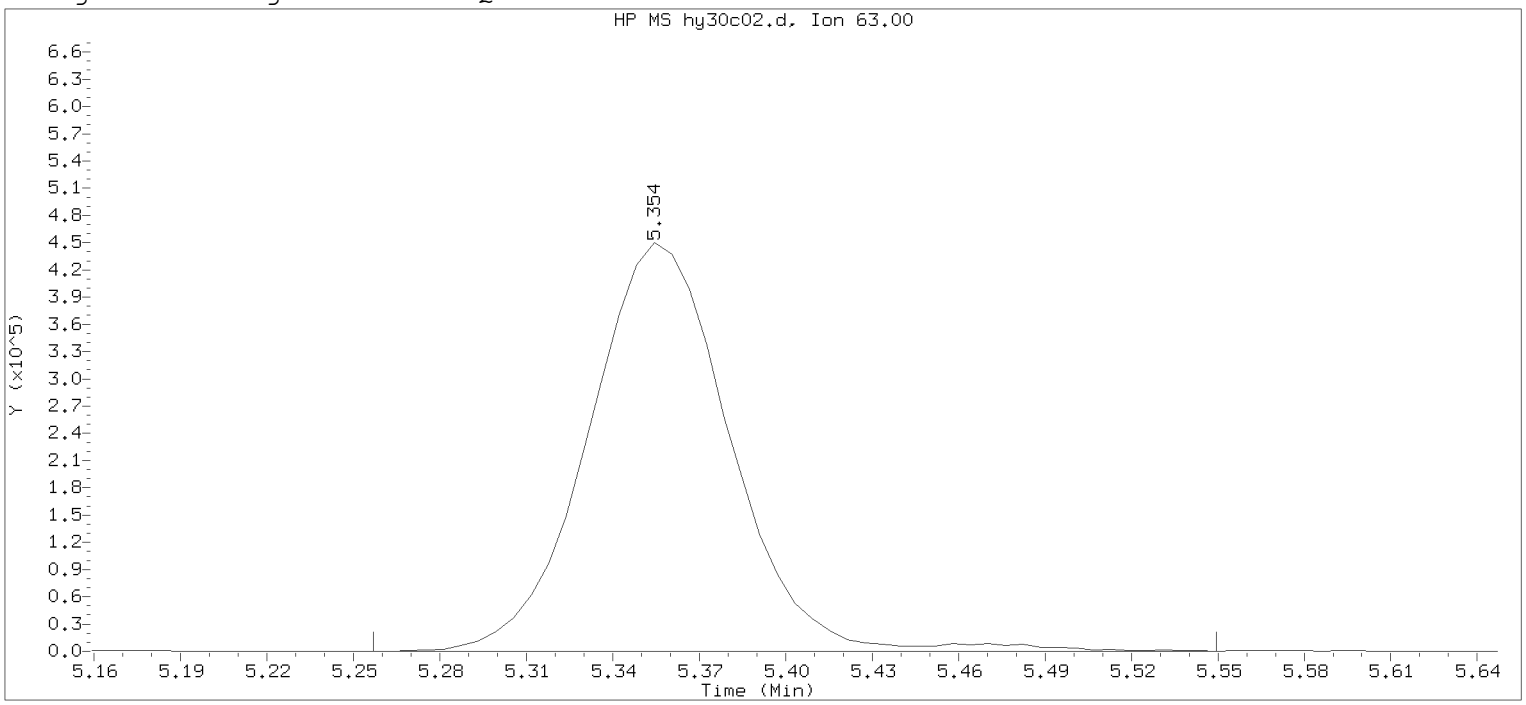
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

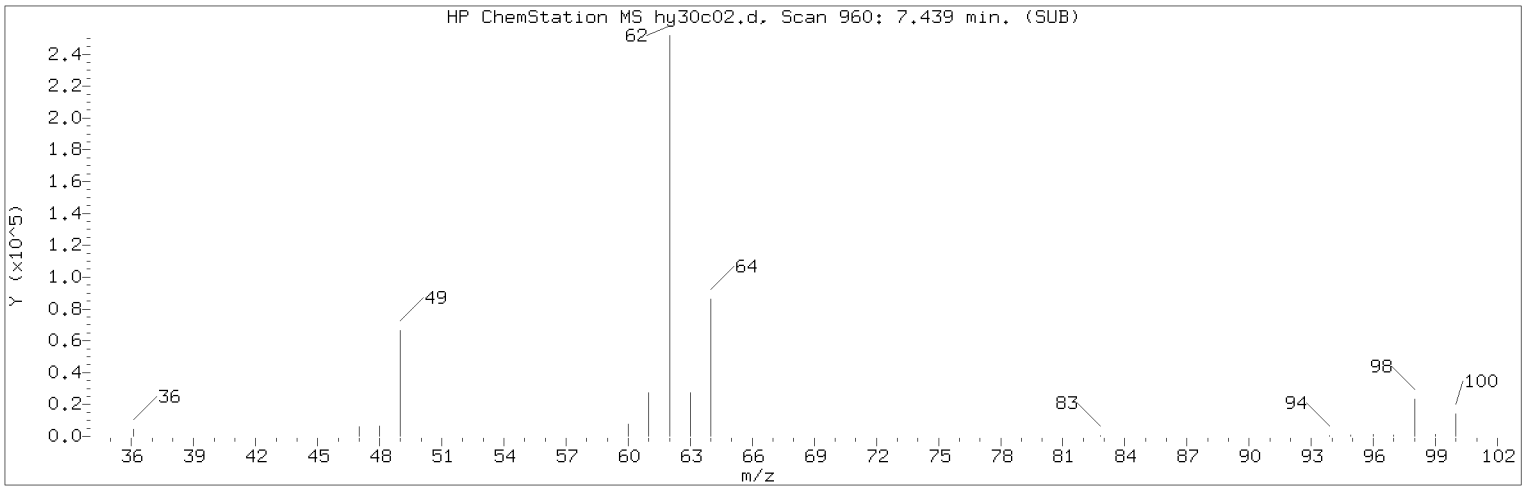
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

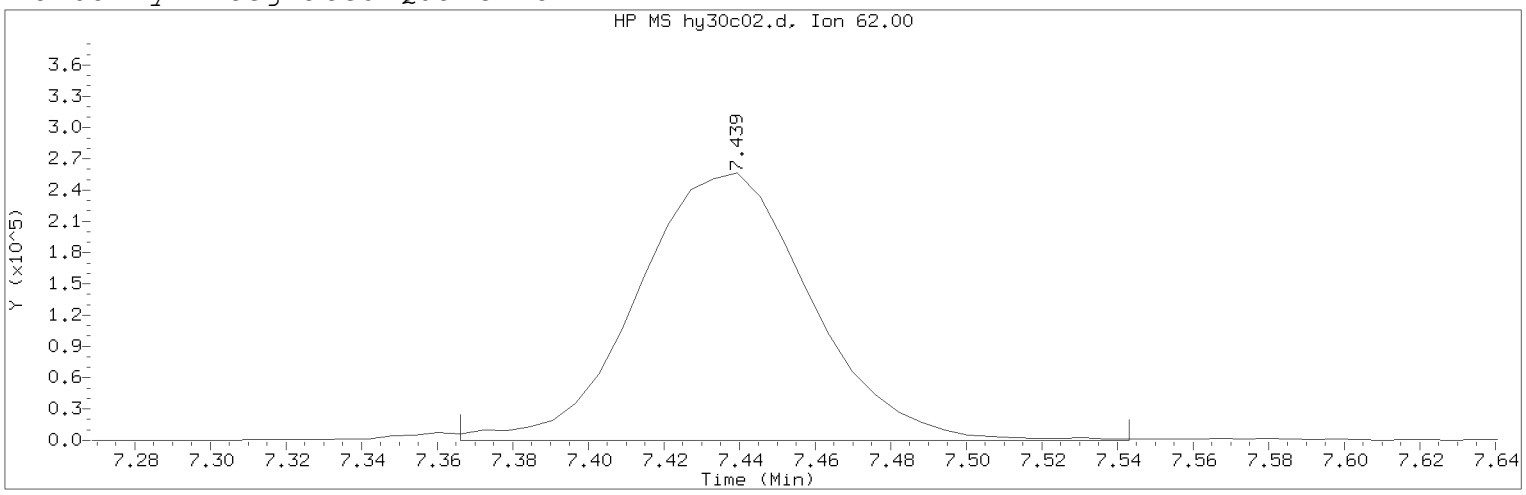
Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 618
Retention Time (minutes): 5.354
Quant Ion : 63.00
Area : 1538786
On-column Amount (ng) : 10.0447
Integration start scan : 601 Integration stop scan: 649
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

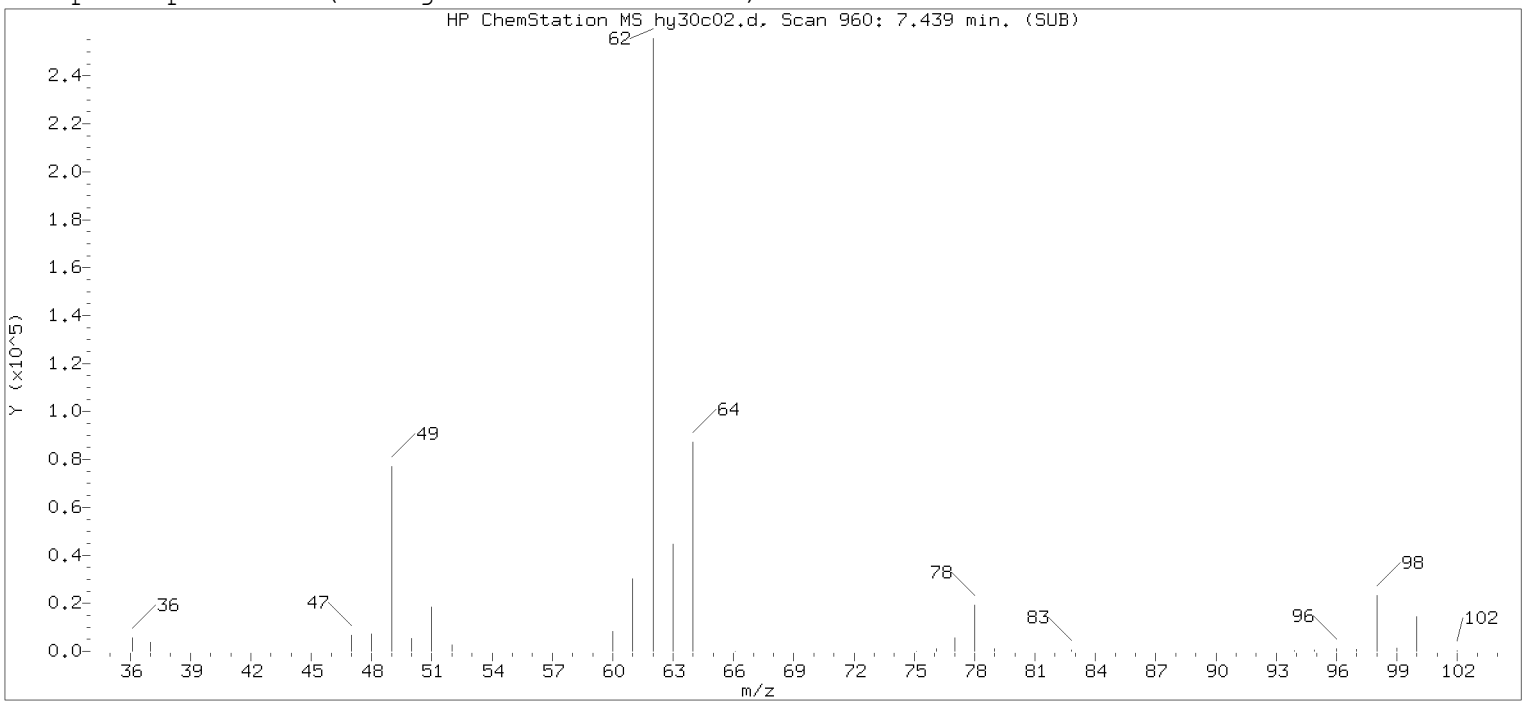
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 960
Retention Time (minutes): 7.439
Quant Ion : 62.00
Area (flag) : 815745M
On-Column Amount (ng) : 10.2789
Integration start scan : 947 Integration stop scan: 976
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

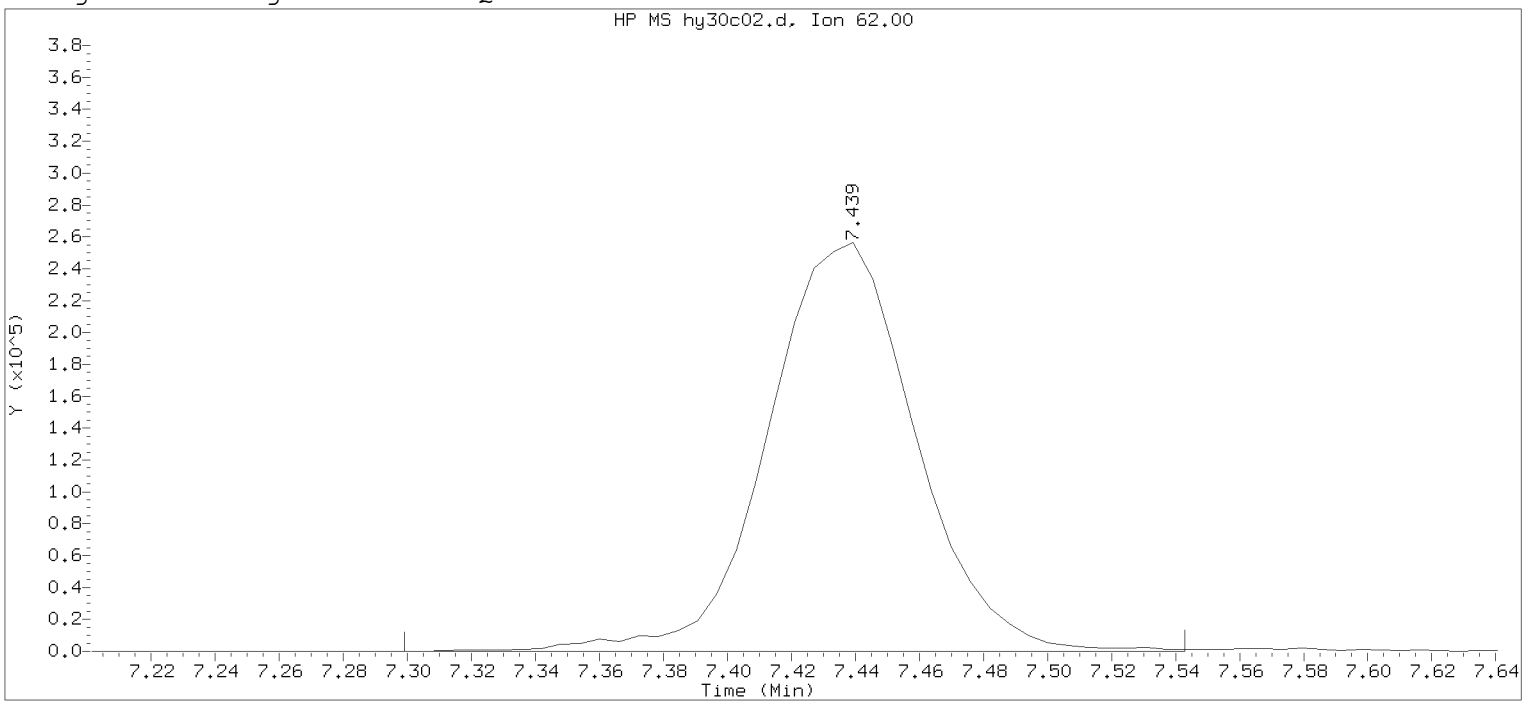
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

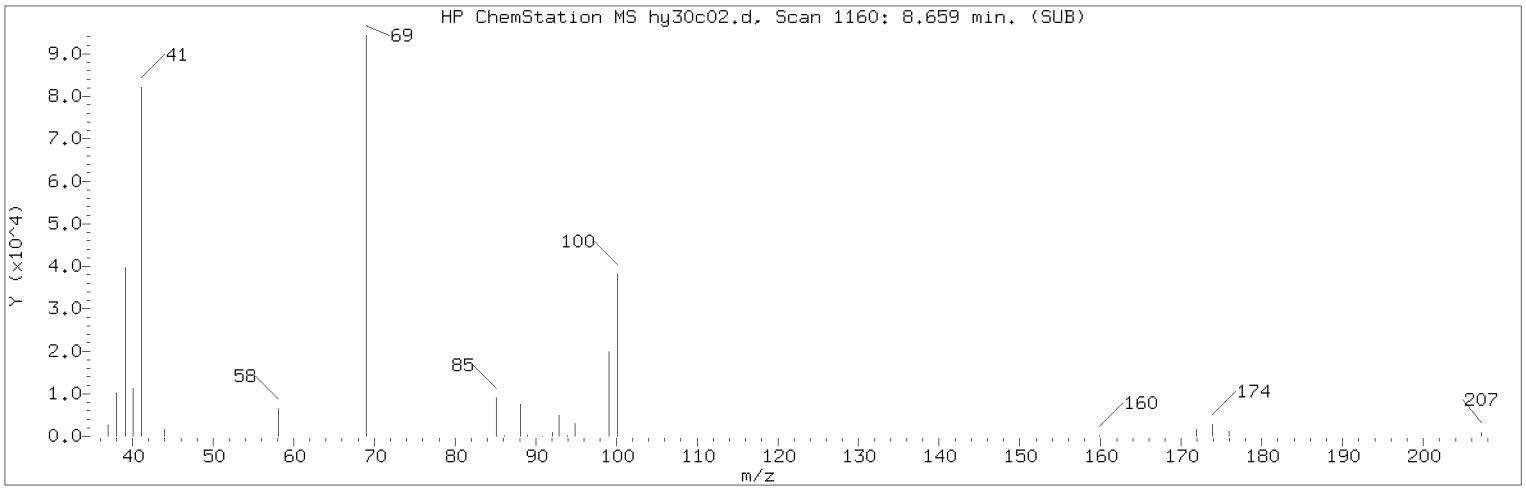
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

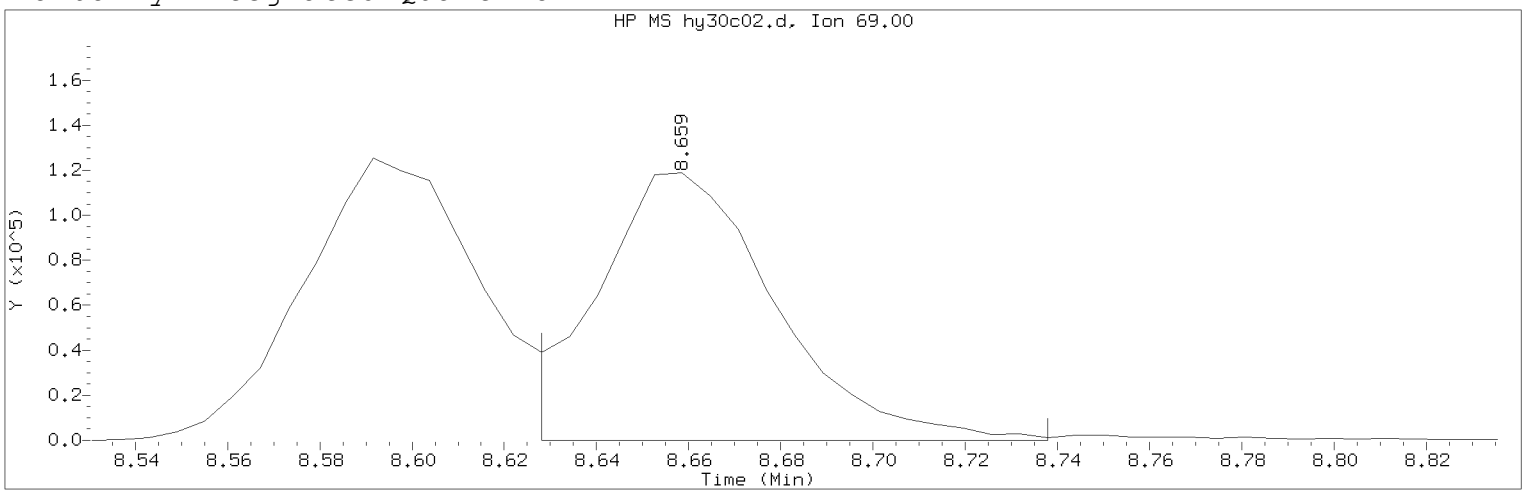
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 960
Retention Time (minutes): 7.439
Quant Ion : 62.00
Area : 823593
On-column Amount (ng) : 10.3778
Integration start scan : 936 Integration stop scan: 976
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kkoch Page 321

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

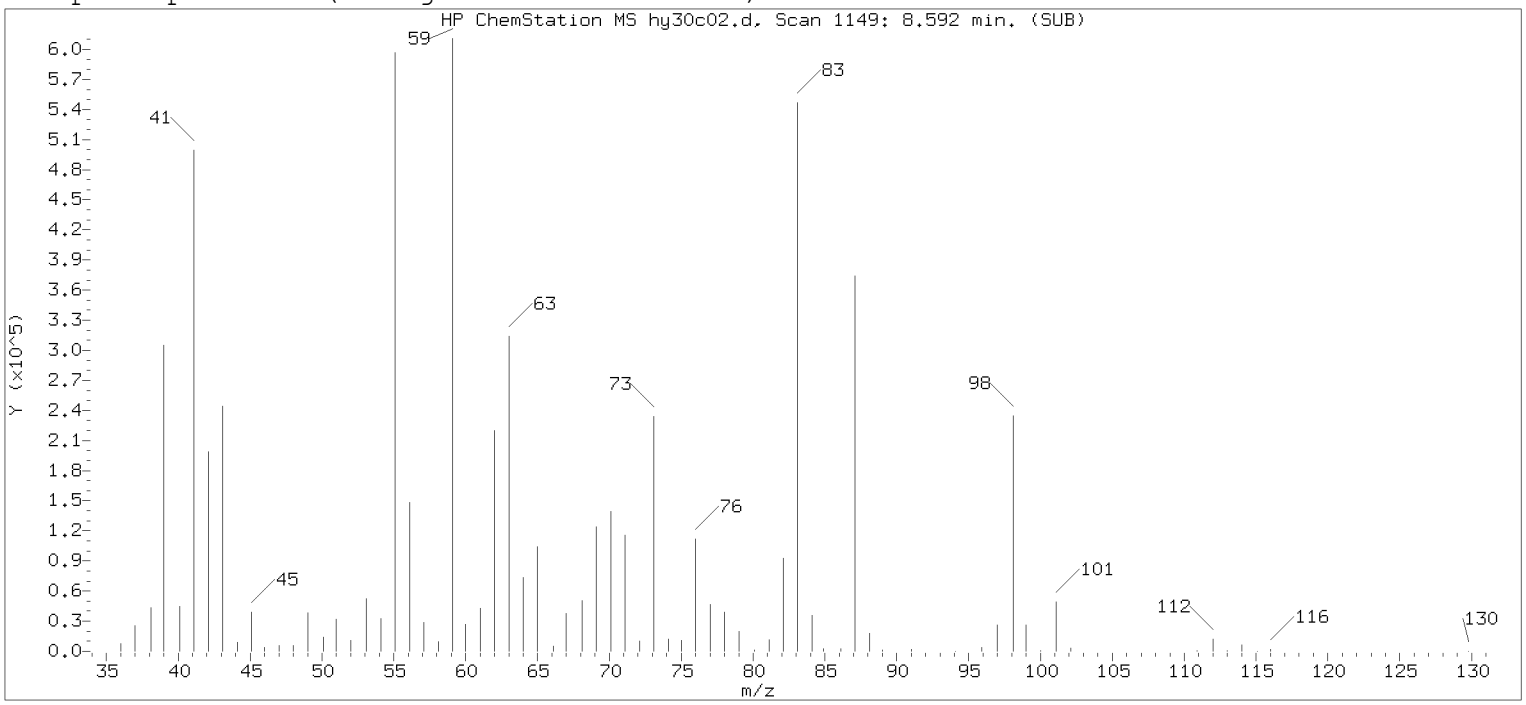
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 323905M
On-Column Amount (ng) : 8.4101
Integration start scan : 1154 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

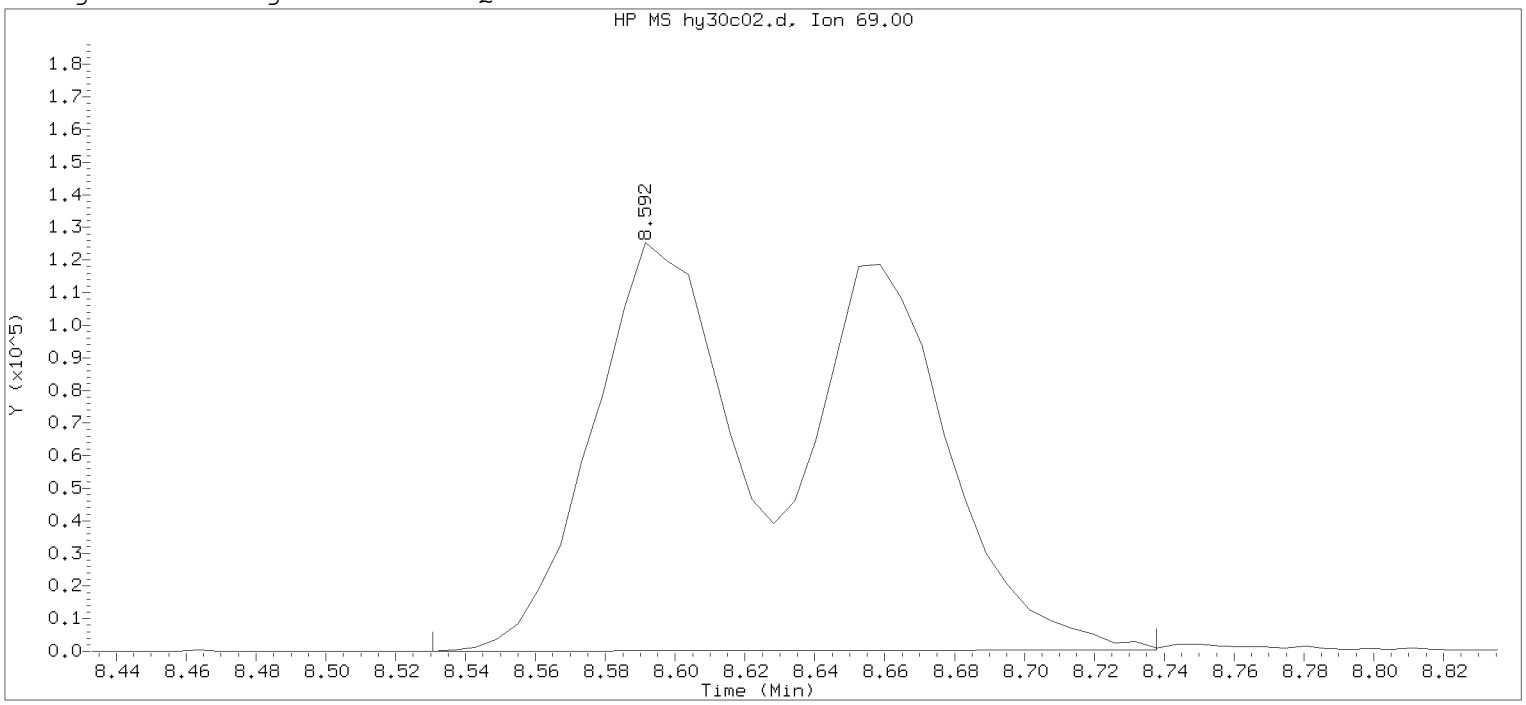
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

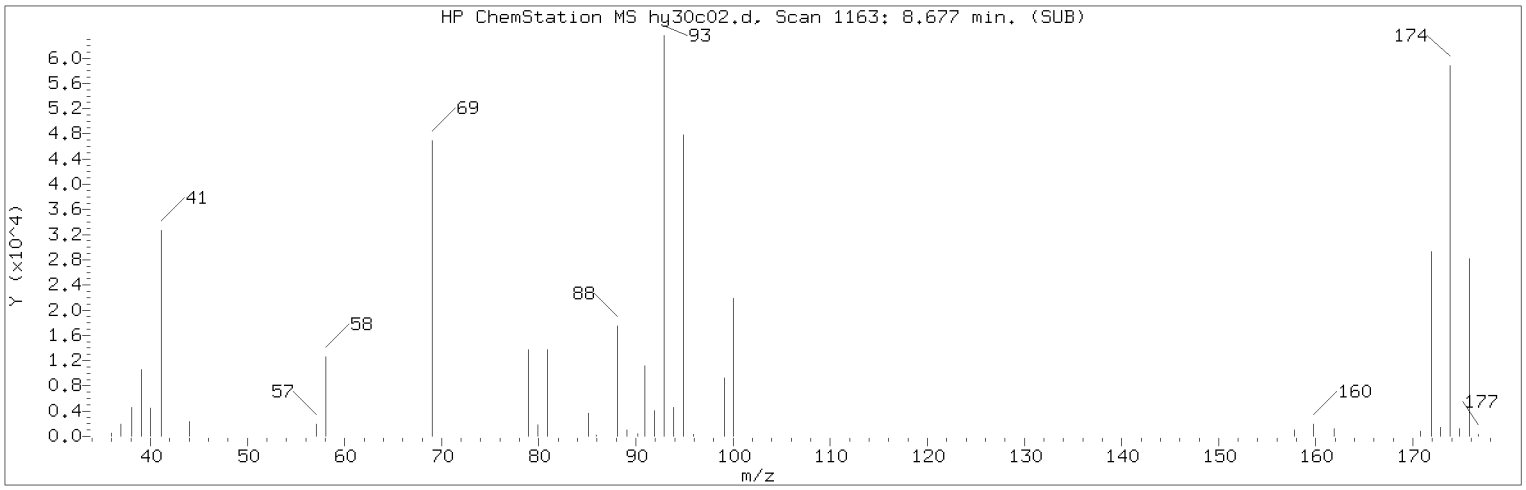
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

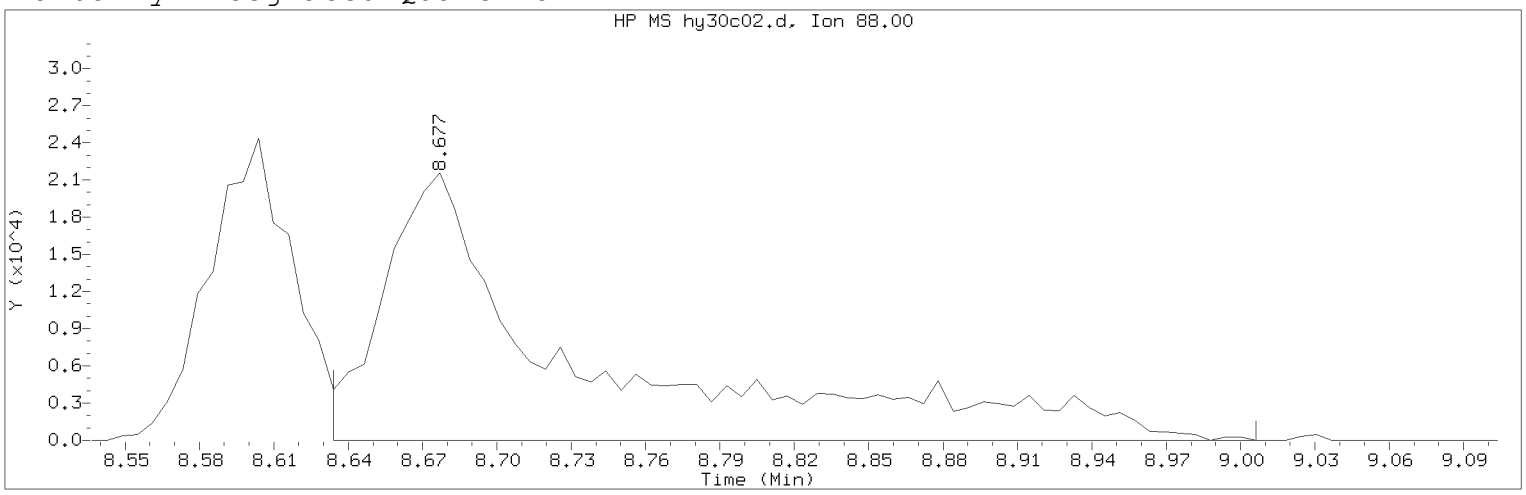
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1149
Retention Time (minutes): 8.592
Quant Ion : 69.00
Area : 640554
On-column Amount (ng) : 16.6317
Integration start scan : 1138 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 393

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kelegerlotz

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

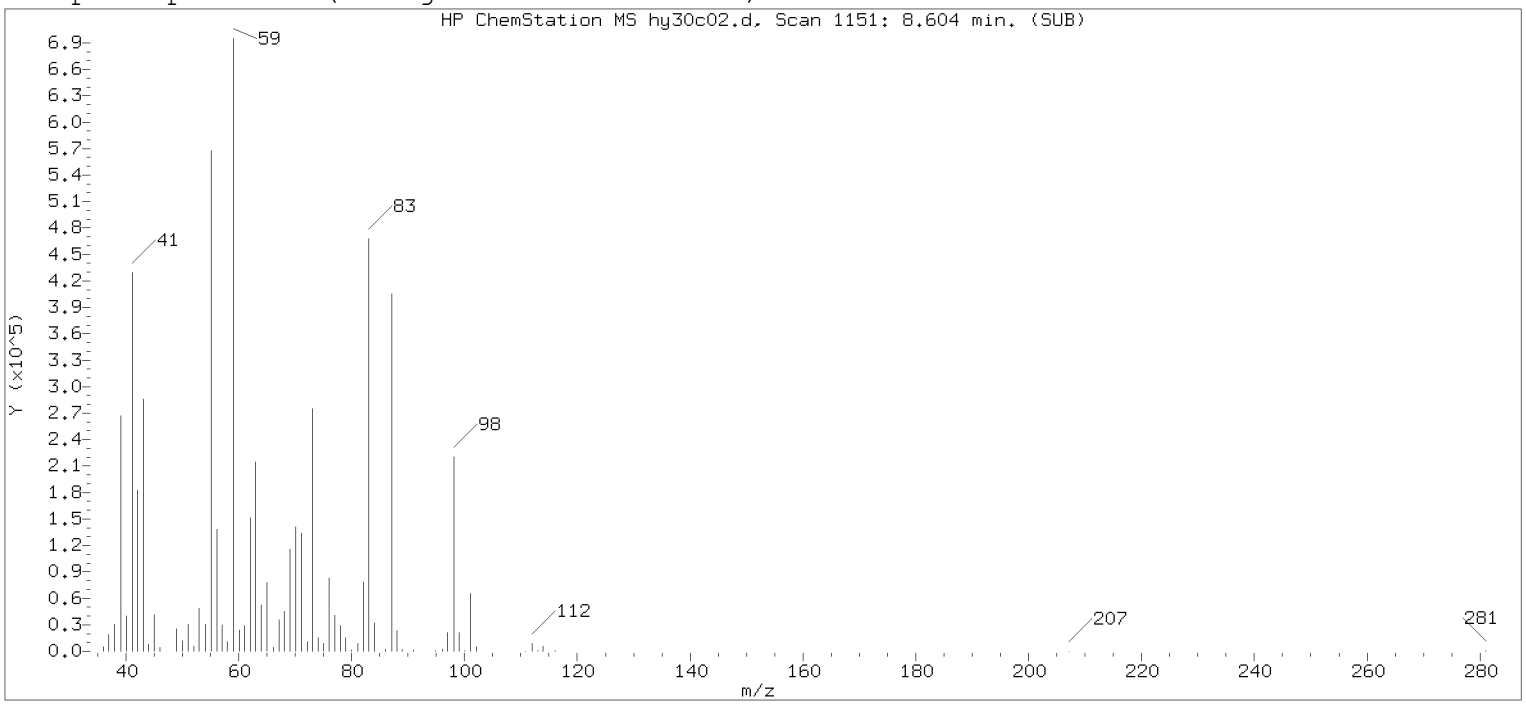
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1163
Retention Time (minutes): 8.677
Quant Ion : 88.00
Area (flag) : 117997M
On-Column Amount (ng) : 543.1226
Integration start scan : 1155 Integration stop scan: 1216
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

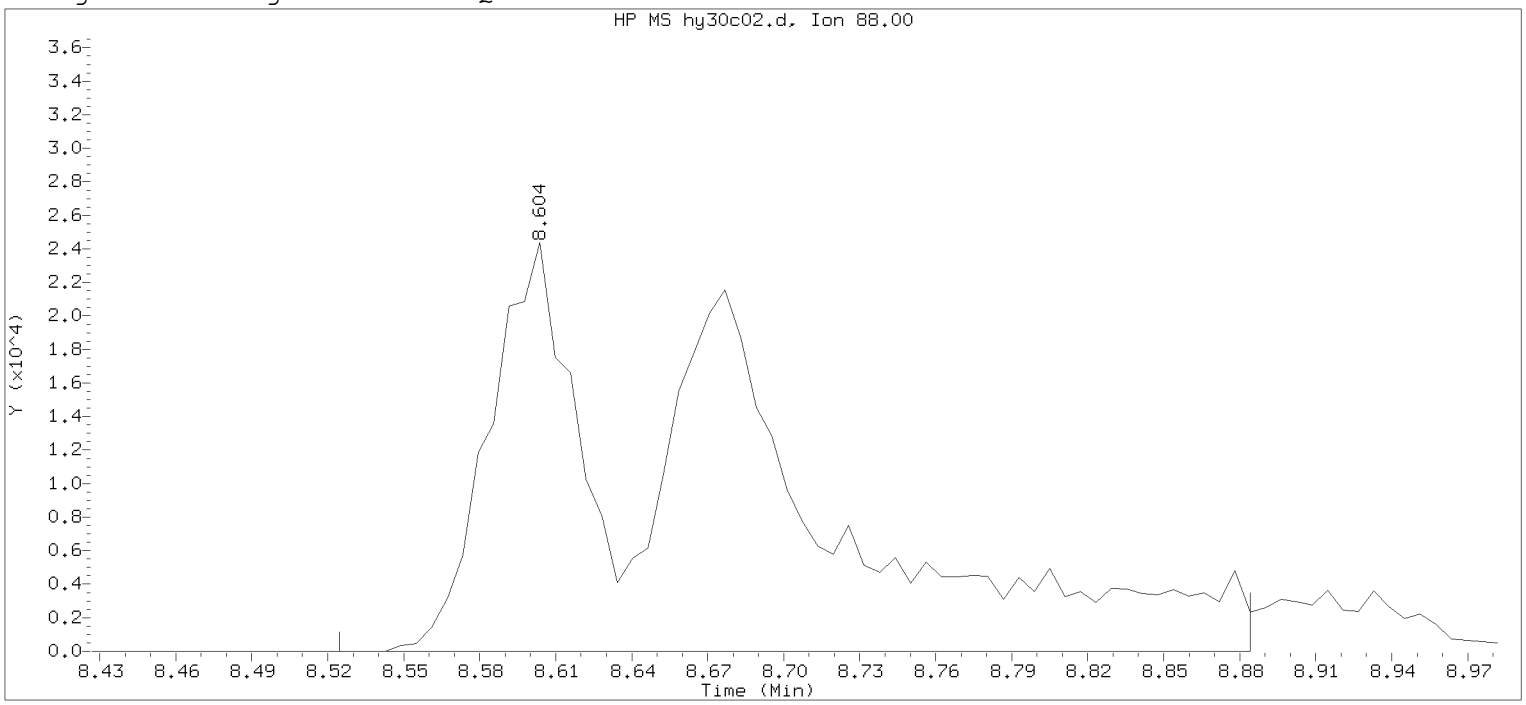
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

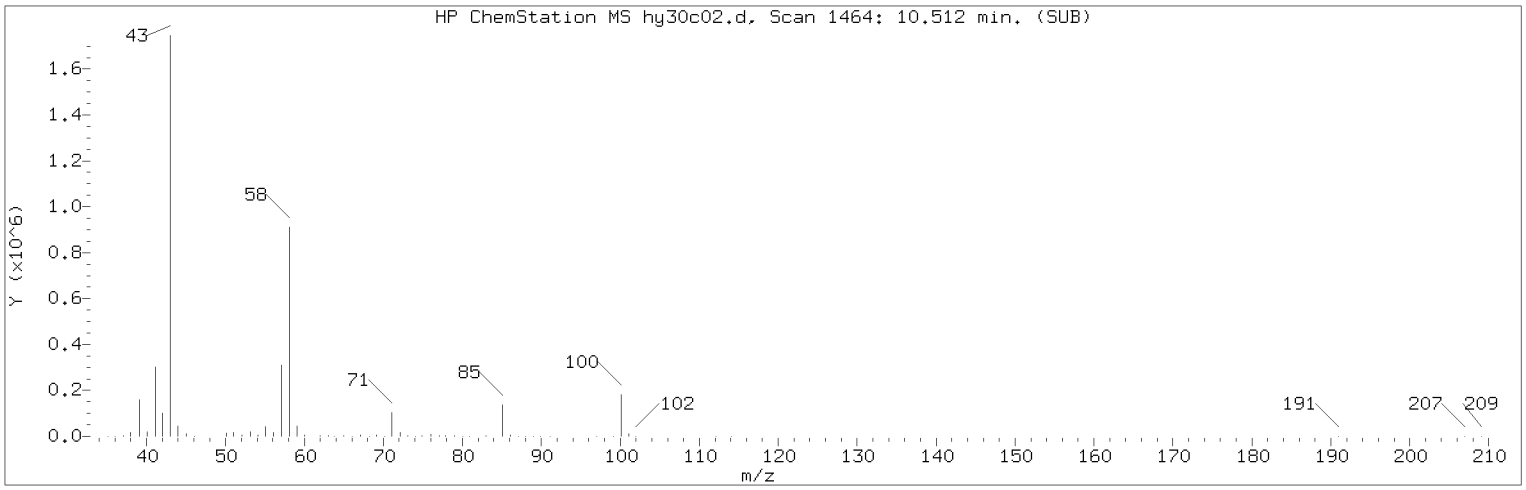
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

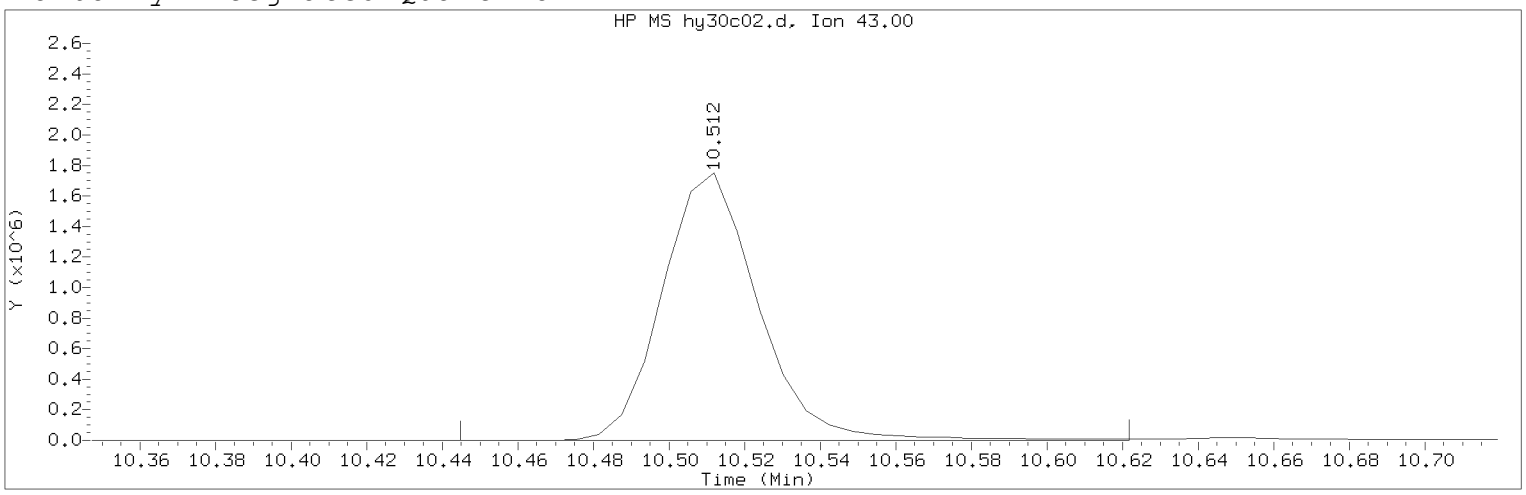
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 161473
On-column Amount (ng) : 744.6848
Integration start scan : 1137 Integration stop scan: 1196
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kelegerlotz

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

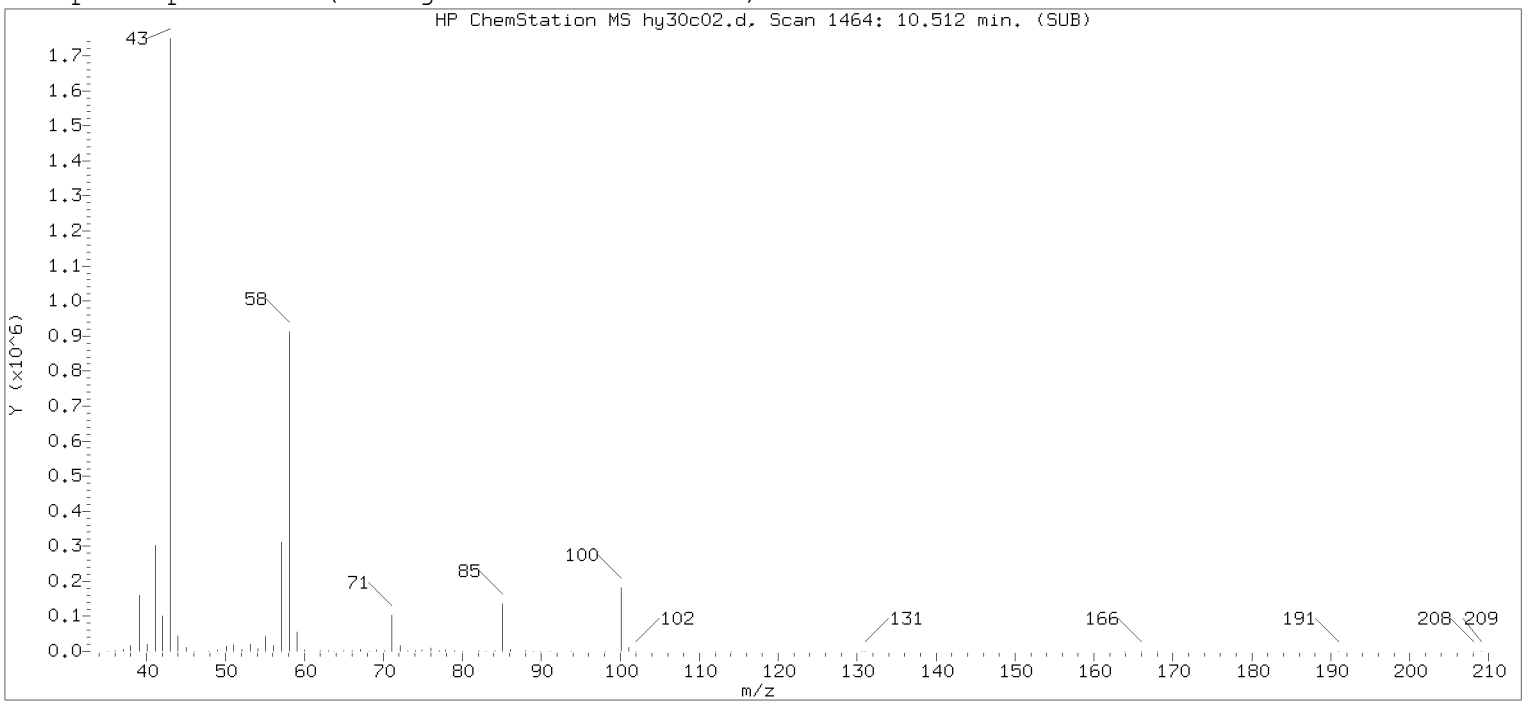
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1464
Retention Time (minutes): 10.512
Quant Ion : 43.00
Area (flag) : 3081838M
On-Column Amount (ng) : 77.8673
Integration start scan : 1452 Integration stop scan: 1481
Y at integration start : 114 Y at integration end: 114

Reason for manual integration: improper integration

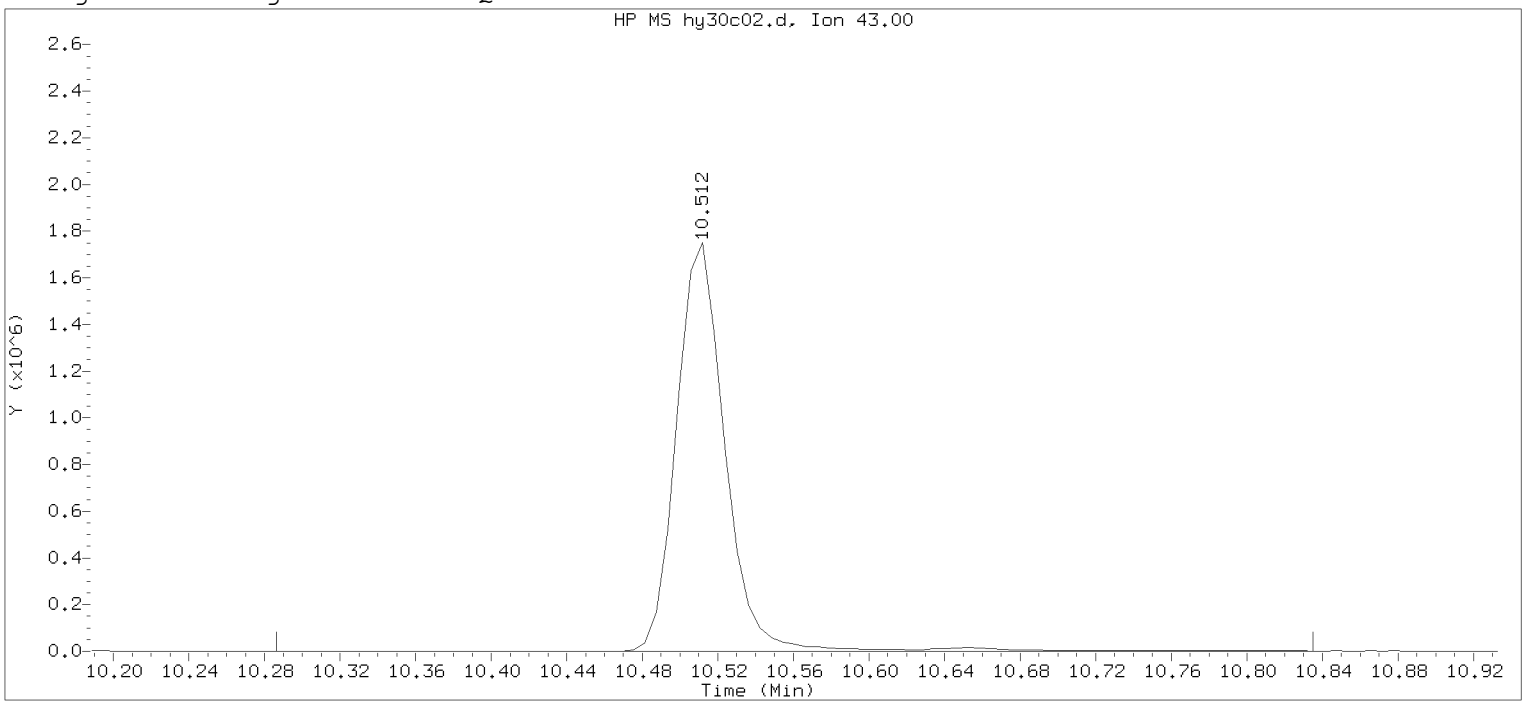
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

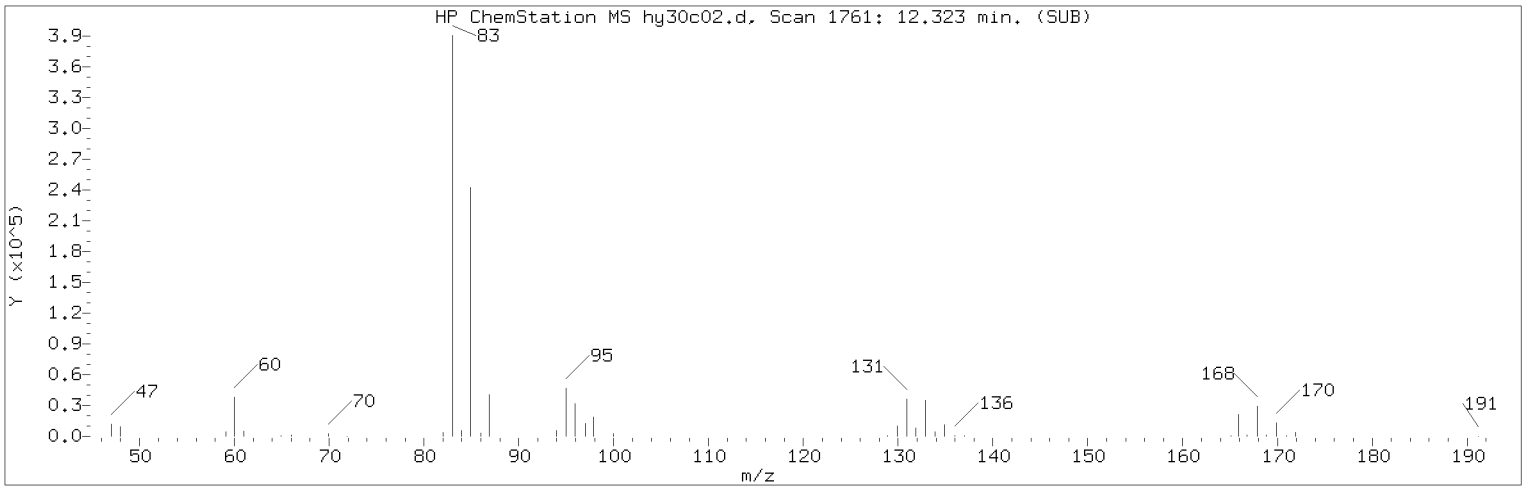
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

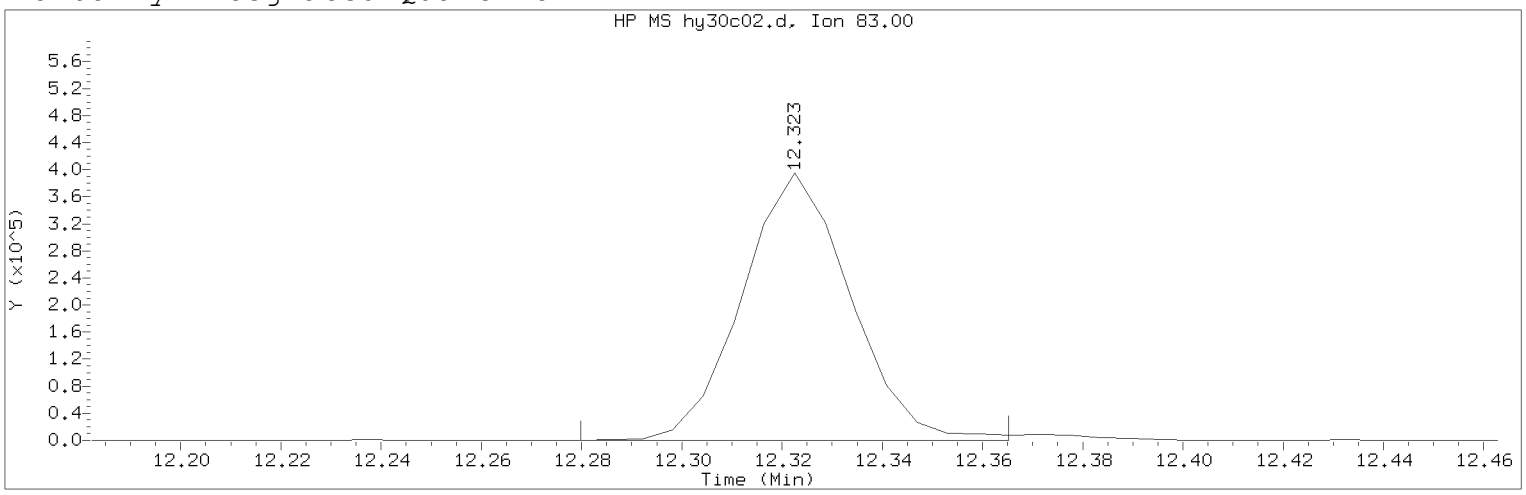
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1464
Retention Time (minutes): 10.512
Quant Ion : 43.00
Area : 3149261
On-column Amount (ng) : 79.5704
Integration start scan : 1426 Integration stop scan: 1516
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

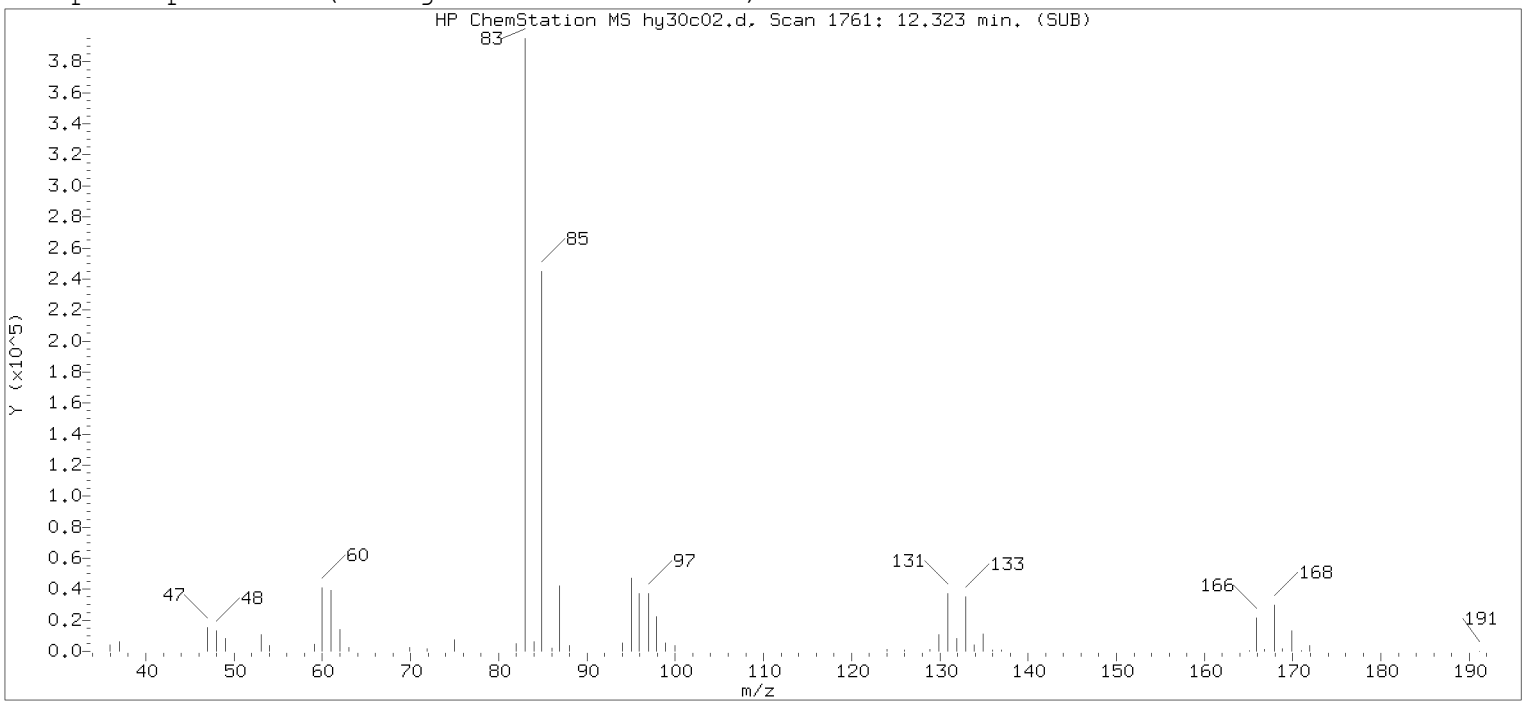
Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1761
Retention Time (minutes): 12.323
Quant Ion : 83.00
Area (flag) : 593037M
On-Column Amount (ng) : 9.9070
Integration start scan : 1753 Integration stop scan: 1767
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

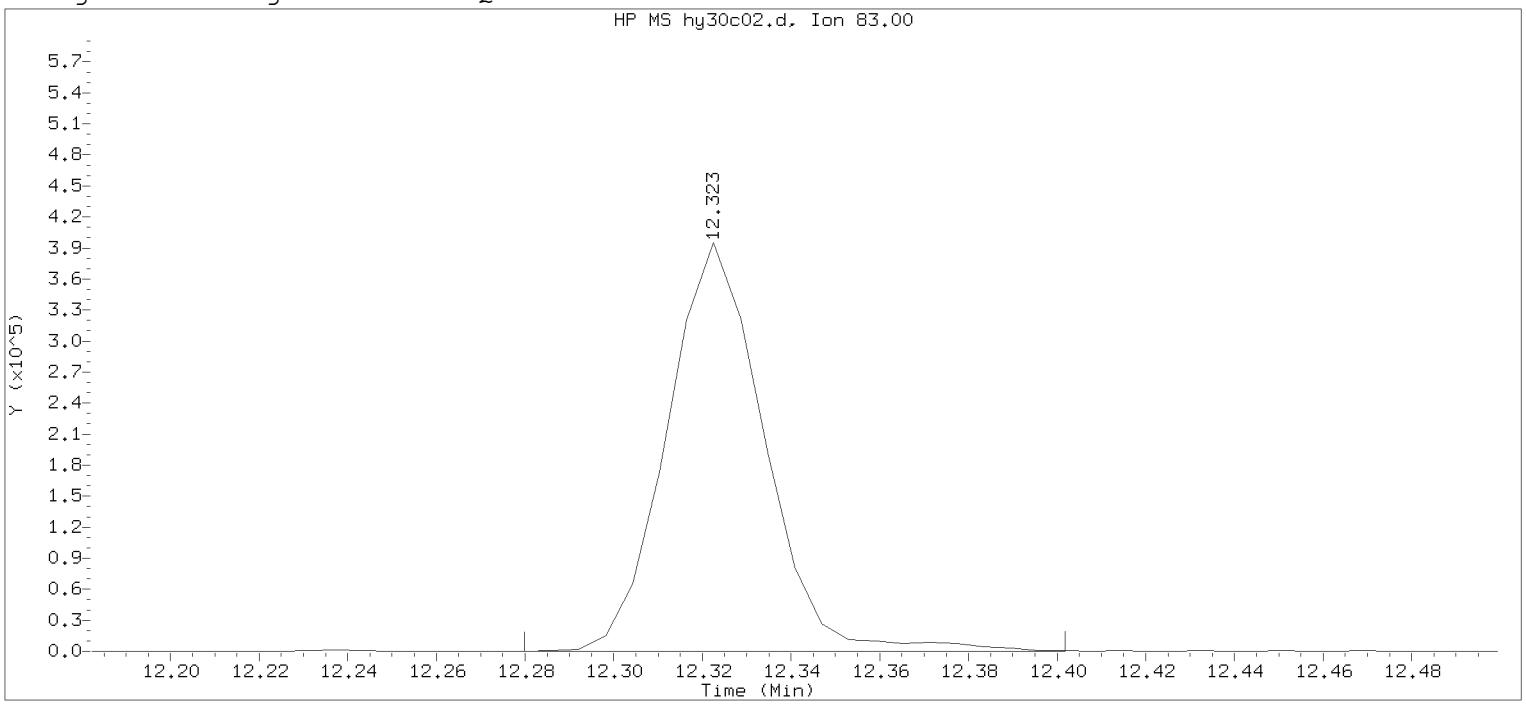
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

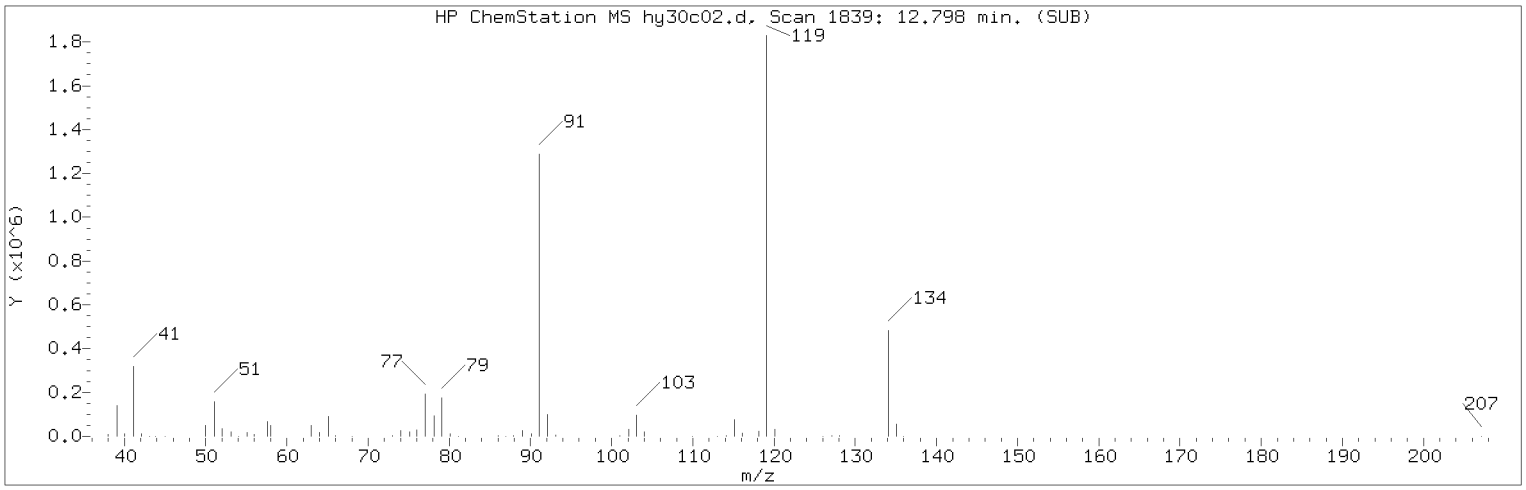
Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

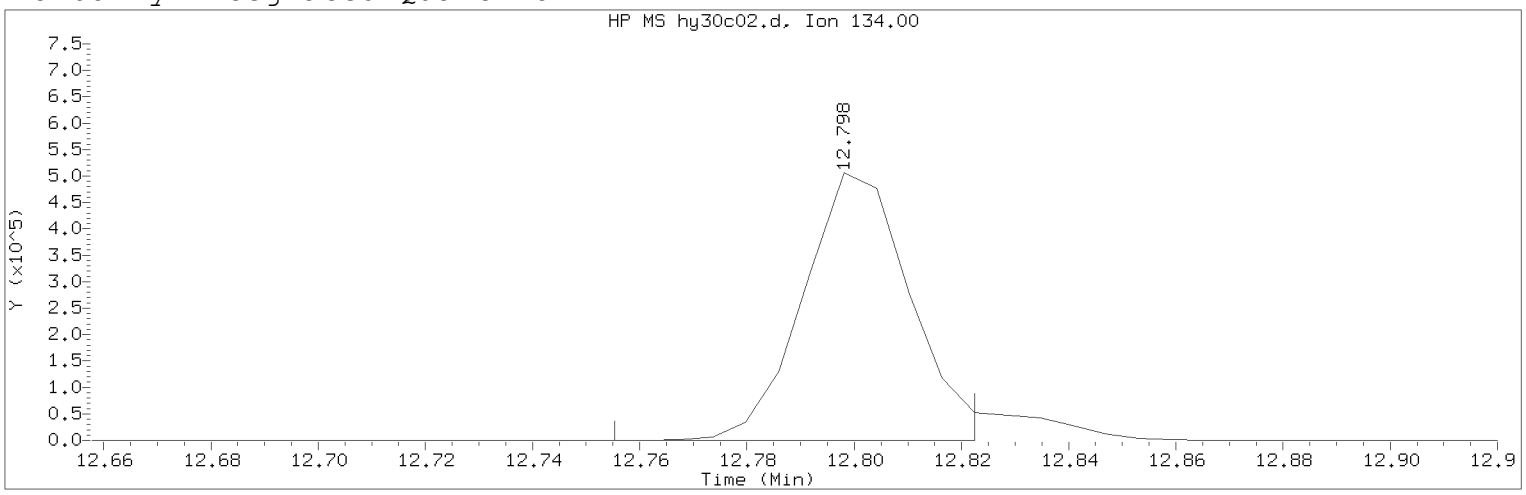
Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1761
Retention Time (minutes): 12.323
Quant Ion : 83.00
Area : 601896
On-column Amount (ng) : 10.0550
Integration start scan : 1753 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:16
Date, time and analyst ID of latest file update: 30-May-2017 12:16 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

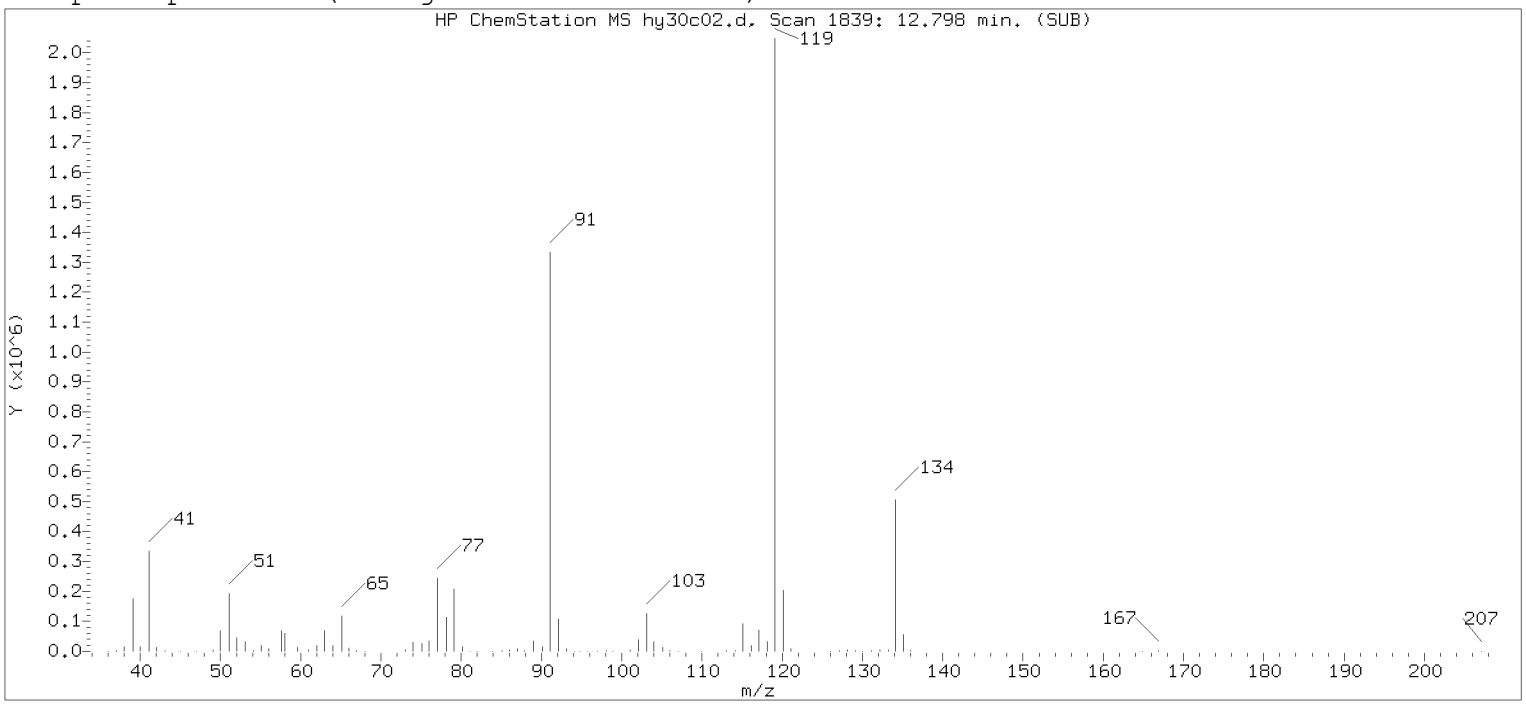
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1839
Retention Time (minutes): 12.798
Quant Ion : 134.00
Area (flag) : 702647M
On-Column Amount (ng) : 9.8521
Integration start scan : 1831 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

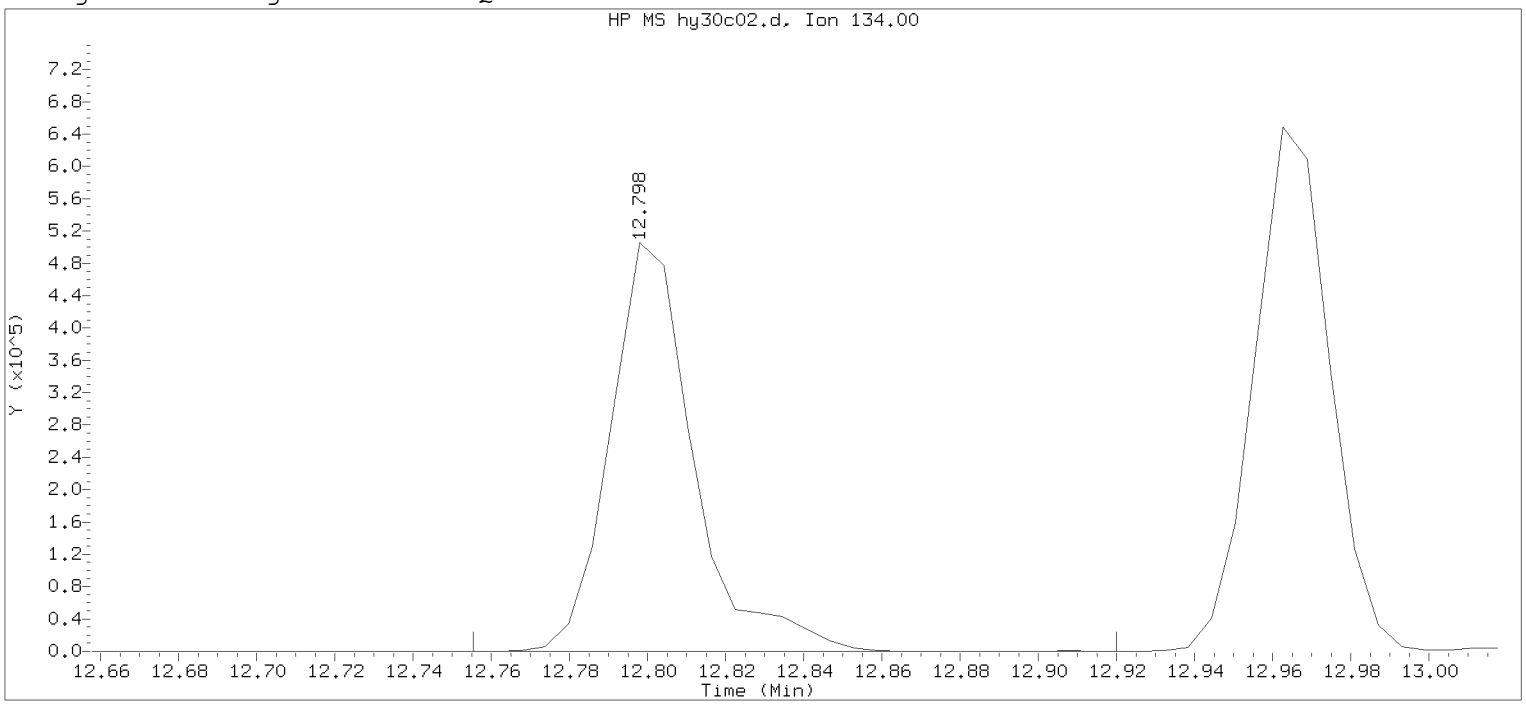
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Marla S. Brewer on 05/30/2017 at 20:21.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30c02.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 11:47 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 12:08
Date, time and analyst ID of latest file update: 30-May-2017 12:08 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1839
Retention Time (minutes): 12.798
Quant Ion : 134.00
Area : 752574
On-column Amount (ng) : 10.5521
Integration start scan : 1831 Integration stop scan: 1858
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 12:16.
Target 3.5 esignature user name: kelegerlotz

Raw QC Data

Volatiles by GC/MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

VBLKH20

Data file: /chem2/HP19094.i/17may30b.b/hy30b01a.d Injection date and time: **30-MAY-2017 13:29**
Data file Sample Info. Line: VBLKH20;VBLKH20;1;3;;;DRAPERJK;;; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 13:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.006)	437	65	104077M (-8)	50.00	
63) Fluorobenzene	7.774(0.000)	1015	96	2948234 (-7)	10.00	
97) Chlorobenzene-d5	11.243(-0.006)	1584	117	1881725 (-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(-0.006)	1893	152	709158 (-24)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872(0.000)	113	674277	10.202	102%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(-0.001)	102	115105	10.771	108%		74 - 113
82) Toluene-d8	(3)	9.792(0.000)	98	2880135	10.471	105%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	729163	9.330	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)			Not Detected					0.3	1
5) Vinyl Chloride	(2)			Not Detected					0.1	1
11) Ethyl ether	(2)			Not Detected					0.4	12
15) 1,1-Dichloroethene	(2)			Not Detected					0.4	1
14) Acetone	(1)			Not Detected					3	10
23) Methylene Chloride	(2)			Not Detected					0.2	1
31) trans-1,2-Dichloroethene	(2)			Not Detected					0.8	1
39) cis-1,2-Dichloroethene	(2)			Not Detected					0.1	1
38) 2-Butanone	(1)			Not Detected					1	10
49) Chloroform	(2)			Not Detected					0.1	1
59) 1,2-Dichloroethane	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.2	1
83) Toluene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.2	3

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:36. Target 3.5 esignature user ID: kel01973

Data file: /chem2/HP19094.i/17may30b.b/hy30b01a.d Injection date and time: **30-MAY-2017 13:29**
Data file Sample Info. Line: VBLKH20;VBLKH20;1;3;;;DRAPERJK;;; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 13:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE

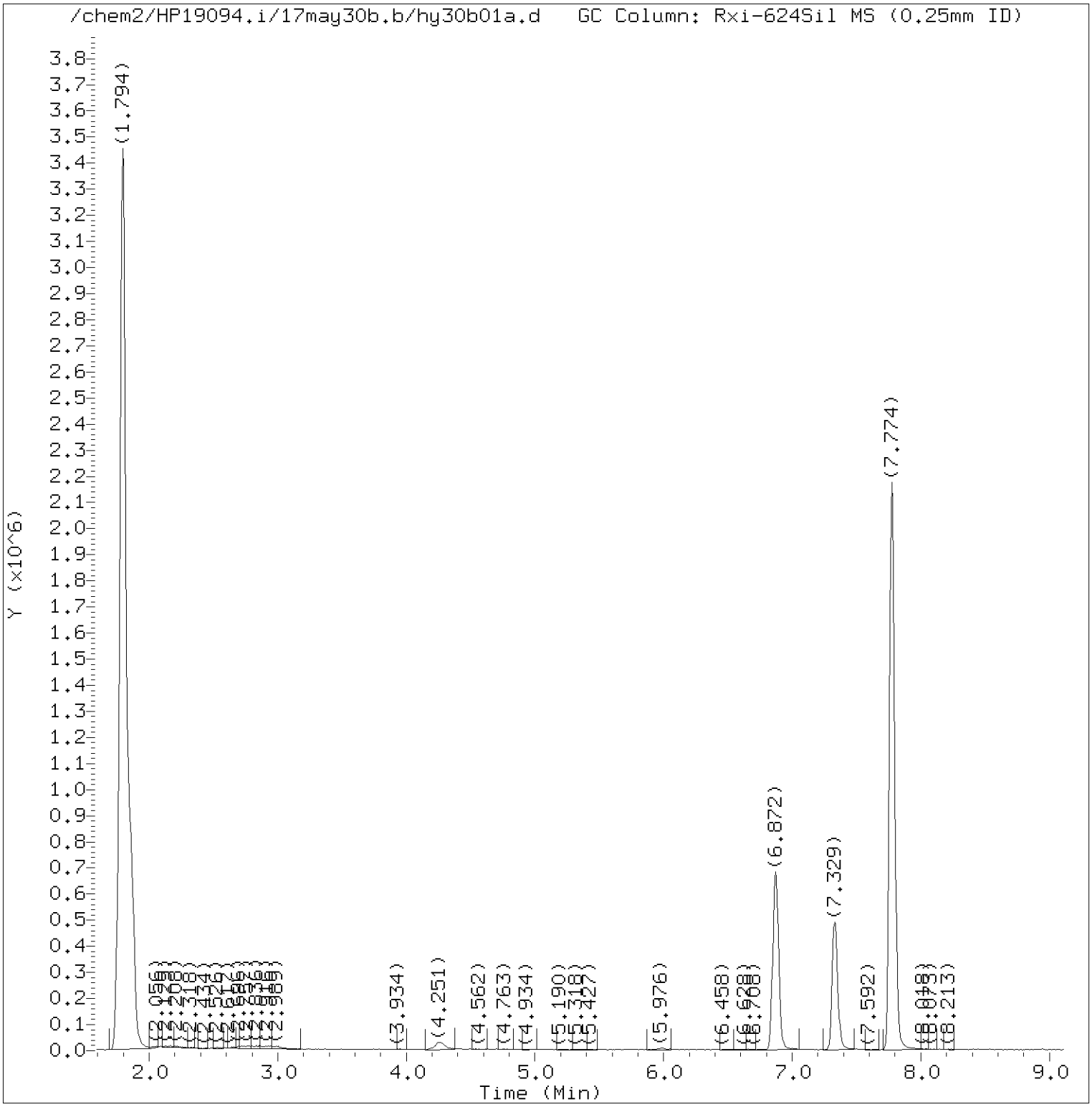
WAS LEFT

BLANK INTENTIONALLY

Total number of targets = 16

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:36. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

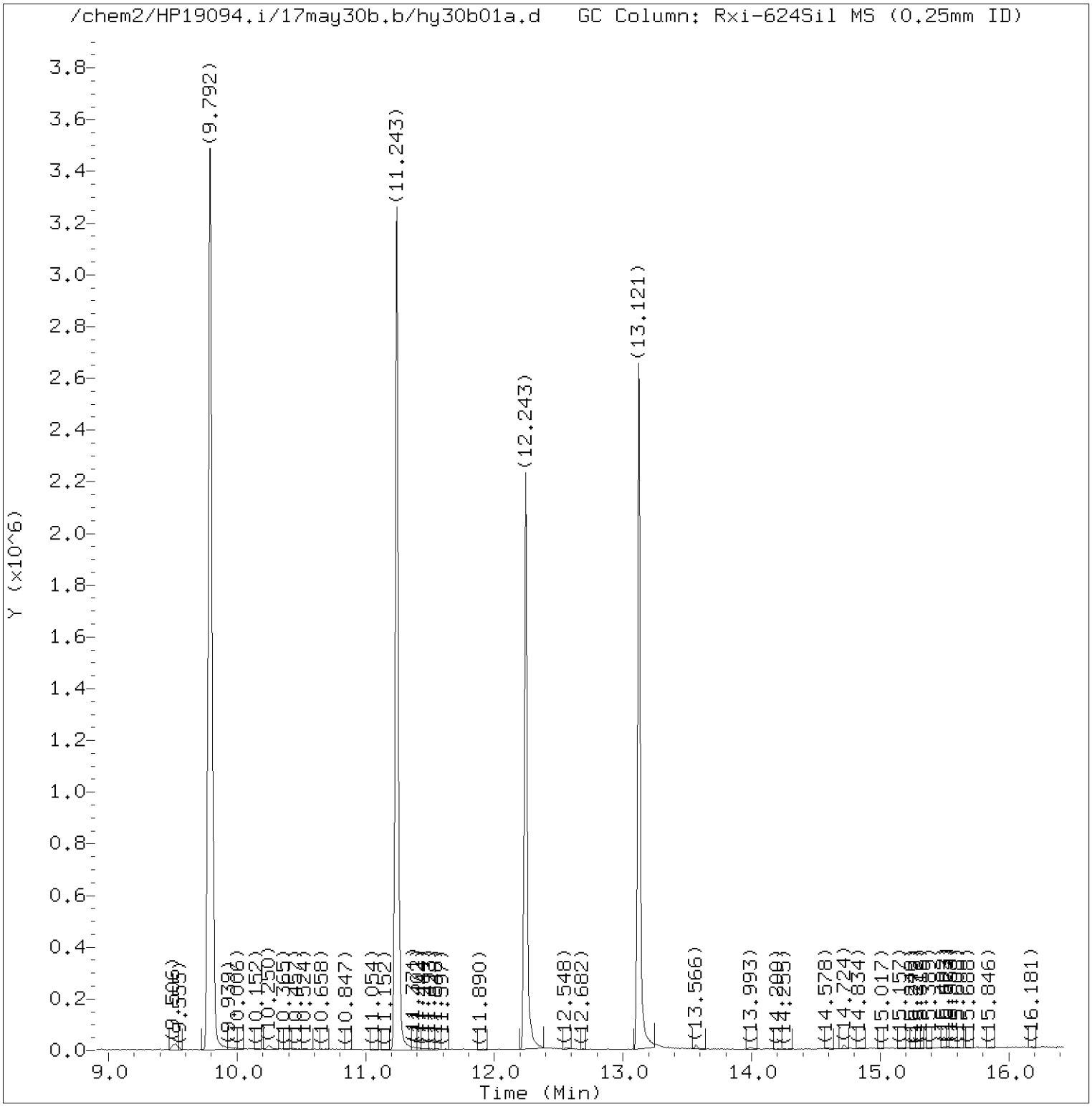
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Sample Name: VBLKH20 Lab Sample ID: VBLKH20

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:36.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Sample Name: VBLKH20 Lab Sample ID: VBLKH20

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:36.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

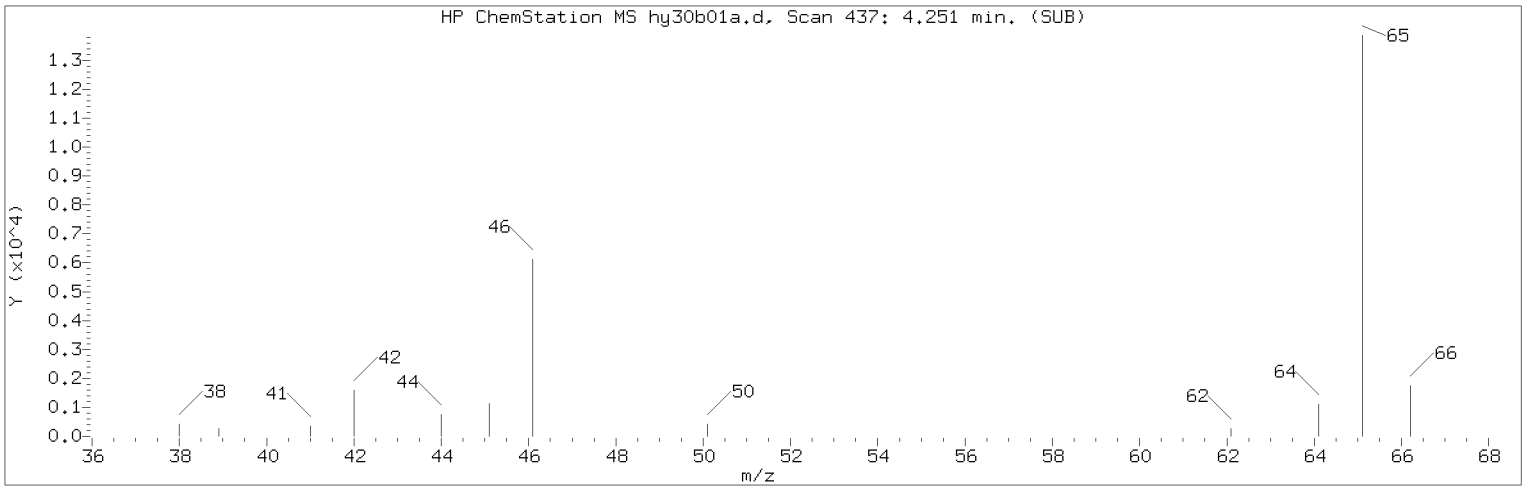
Sample Name: VBLKH20 Lab Sample ID: VBLKH20

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.251	65	104077M	50.000
50)$Dibromofluoromethane	(2)	6.872	113	674277	10.202
57)$1,2-Dichloroethane-d4	(2)	7.336	102	115105	10.771
63)*Fluorobenzene	(2)	7.774	96	2948234	10.000
82)$Toluene-d8	(3)	9.792	98	2880135	10.471
97)*Chlorobenzene-d5	(3)	11.243	117	1881725	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	729163	9.330
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	709158	10.000

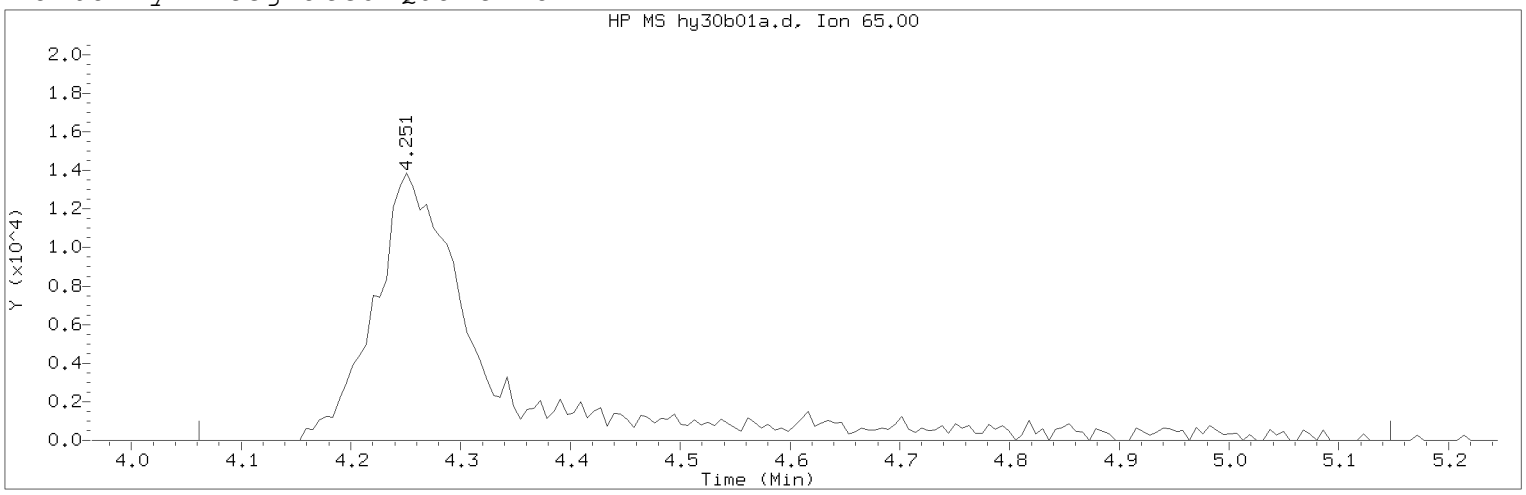
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:36.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Sample Name: VBLKH20 Lab Sample ID: VBLKH20

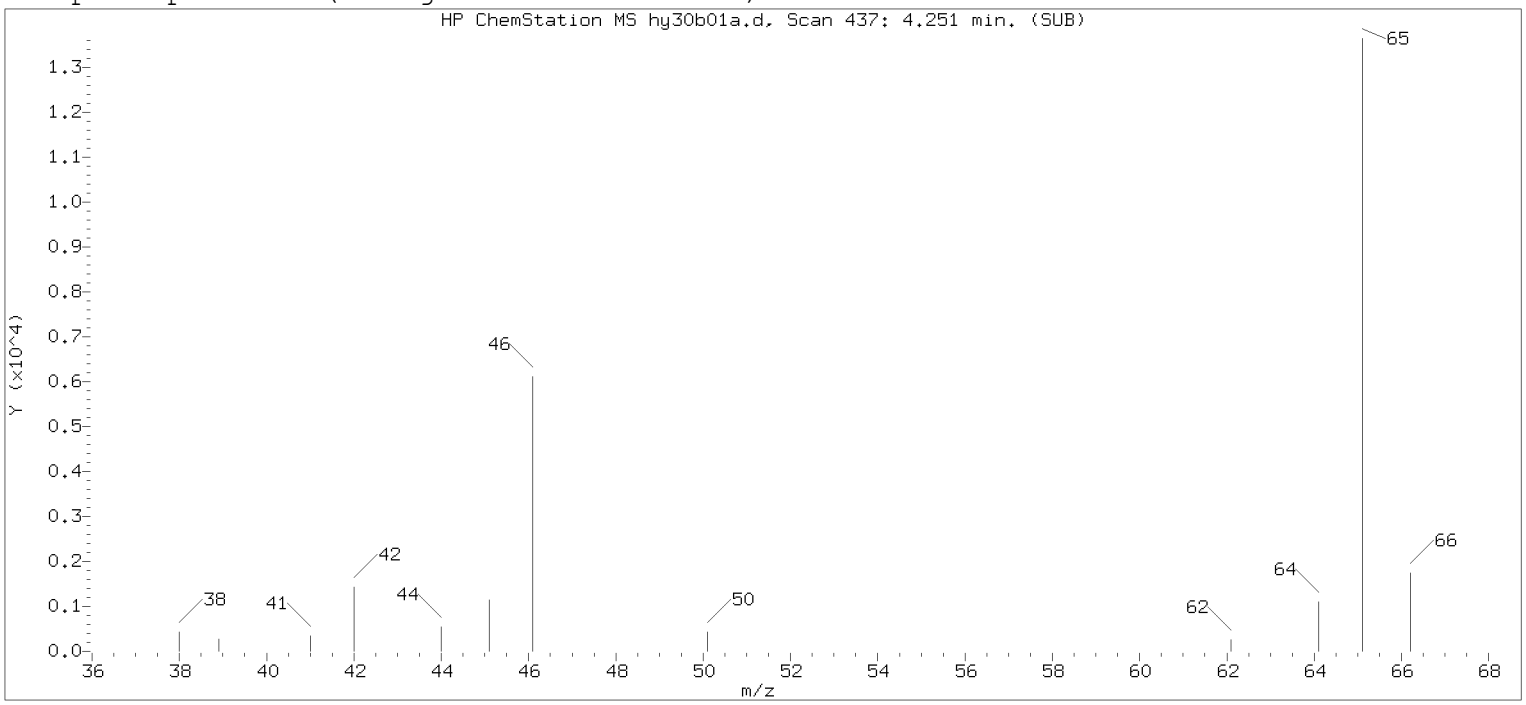
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area (flag) : 104077M
On-Column Amount (ng) : 50.0000
Integration start scan : 405 Integration stop scan: 583
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

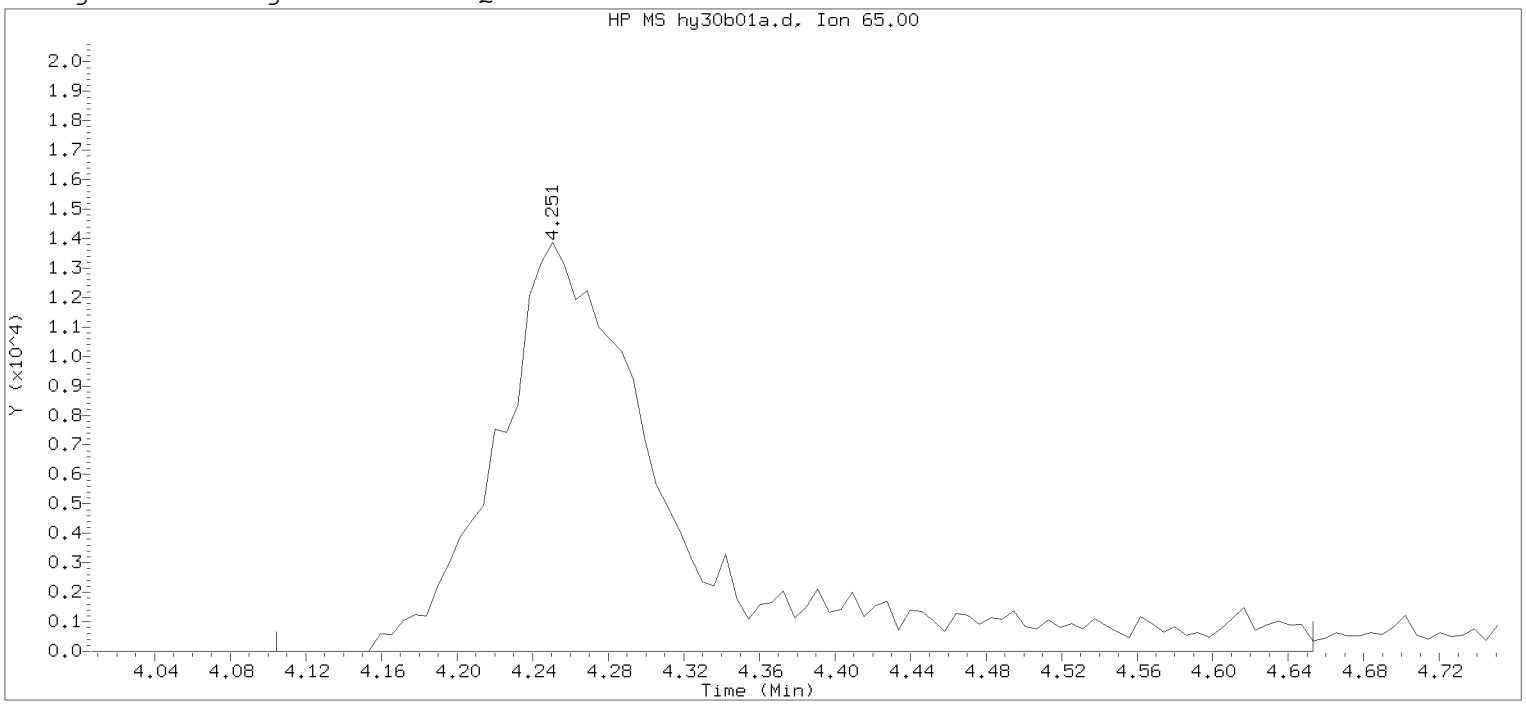
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:36.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30b01a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 13:29 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:36 kel01973

Sample Name: VBLKH20 Lab Sample ID: VBLKH20

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area : 92307
On-column Amount (ng) : 50.0000
Integration start scan : 412 Integration stop scan: 502
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:36.
Target 3.5 esignature user kel01973 Page 339

Data file: /chem2/HP19094.i/17may30b.b/hy30l03a.d Injection date and time: **30-MAY-2017 12:07**
Data file Sample Info. Line: LCSH20;LCSH20;1;3;LCS;;DRAPERJK;;hy30b01a; Instrument ID: **HP19094.i** Batch: **H171502AA**
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may30b.b/hy30b01a.d**

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: **H171502**
Calibration date and time (Last Method Edit): 30-MAY-2017 13:40
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may30b.b/hy30c02.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.000)	438	65	111851 (-1)	50.00	
63) Fluorobenzene	7.775(0.000)	1015	96	3183814 (0)	10.00	
97) Chlorobenzene-d5	11.243(-0.006)	1584	117	2124586 (-2)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	907114 (-2)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866(0.001)	113	729777	10.225	102%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330(0.000)	102	122157	10.585	106%		74 - 113
82) Toluene-d8	(3)	9.786(0.000)	98	3155517	10.161	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	897029	10.166	102%		78 - 110

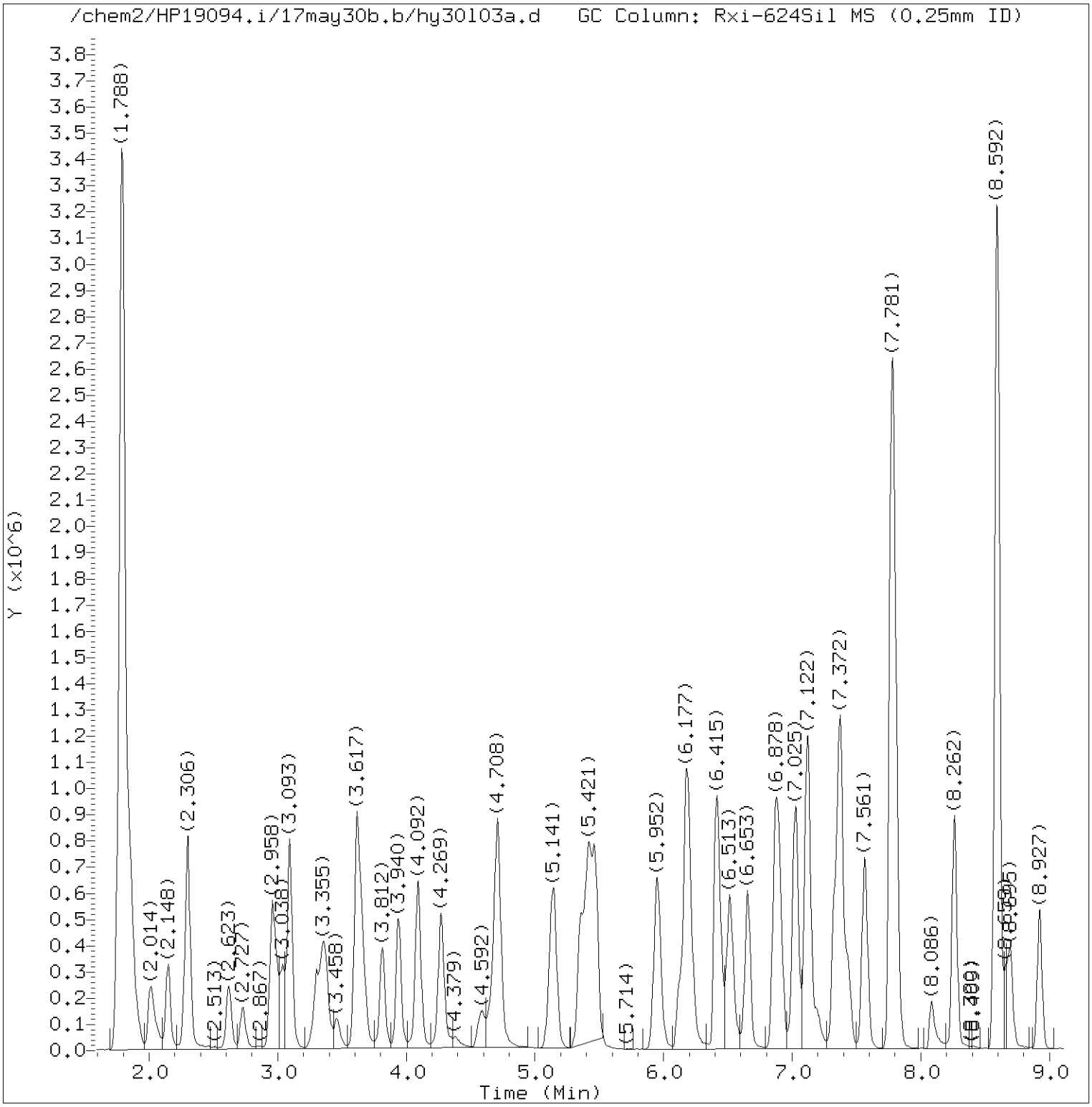
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.014(-0.000)	85	525597	4.267	4.27			0.3	1
5) Vinyl Chloride	(2)	2.282(0.000)	62	463808	4.086	4.09			0.1	1
11) Ethyl ether	(2)	3.300(0.000)	59	240117	4.608	4.61		J	0.4	12
15) 1,1-Dichloroethene	(2)	3.611(0.000)	96	365198	5.170	5.17			0.4	1
14) Acetone	(1)	3.629(-0.001)	43	337516	32.749	32.75			3	10
23) Methylene Chloride	(2)	4.269(0.000)	84	389474	5.049	5.05			0.2	1
31) trans-1,2-Dichloroethene	(2)	4.708(-0.000)	96	401896	5.152	5.15			0.8	1
39) cis-1,2-Dichloroethene	(2)	6.177(0.000)	96	446882	5.132	5.13			0.1	1
38) 2-Butanone	(1)	6.122(-0.001)	43	652205	31.027	31.03			1	10
49) Chloroform	(2)	6.653(0.000)	83	709437	4.885	4.89			0.1	1
59) 1,2-Dichloroethane	(2)	7.433(0.000)	62	411302M	5.158	5.16			0.1	1
67) Trichloroethene	(2)	8.262(-0.000)	95	421162	4.770	4.77			0.2	1
83) Toluene	(3)	9.866(0.000)	92	1036365	5.050	5.05			0.1	1
101) m+p-Xylene	(3)	11.469(0.000)	106	1566118	10.358	10.36			0.1	0.5
104) o-Xylene	(3)	11.798(0.000)	106	730896	5.033	5.03			0.1	0.5
105) Xylene (Total)	(3)		106	2297014	15.391	15.39			0.2	3

M = Compound was manually integrated.

Total number of targets = 16

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:37. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

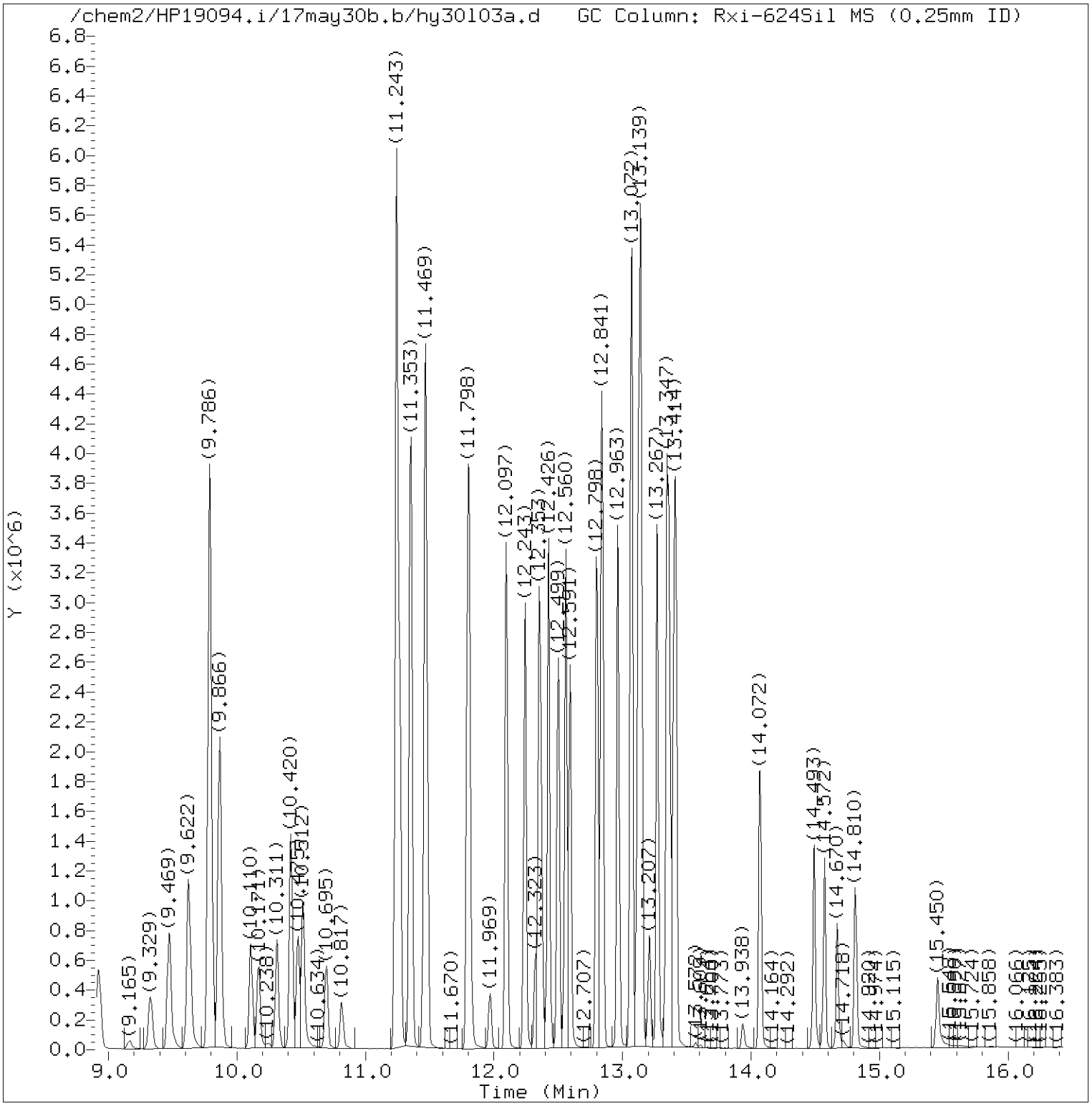
Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30l03a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

Sample Name: LCSH20 Lab Sample ID: LCSH20

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:37.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30l03a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

Sample Name: LCSH20 Lab Sample ID: LCSH20

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:37.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may30b.b/hy30l03a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

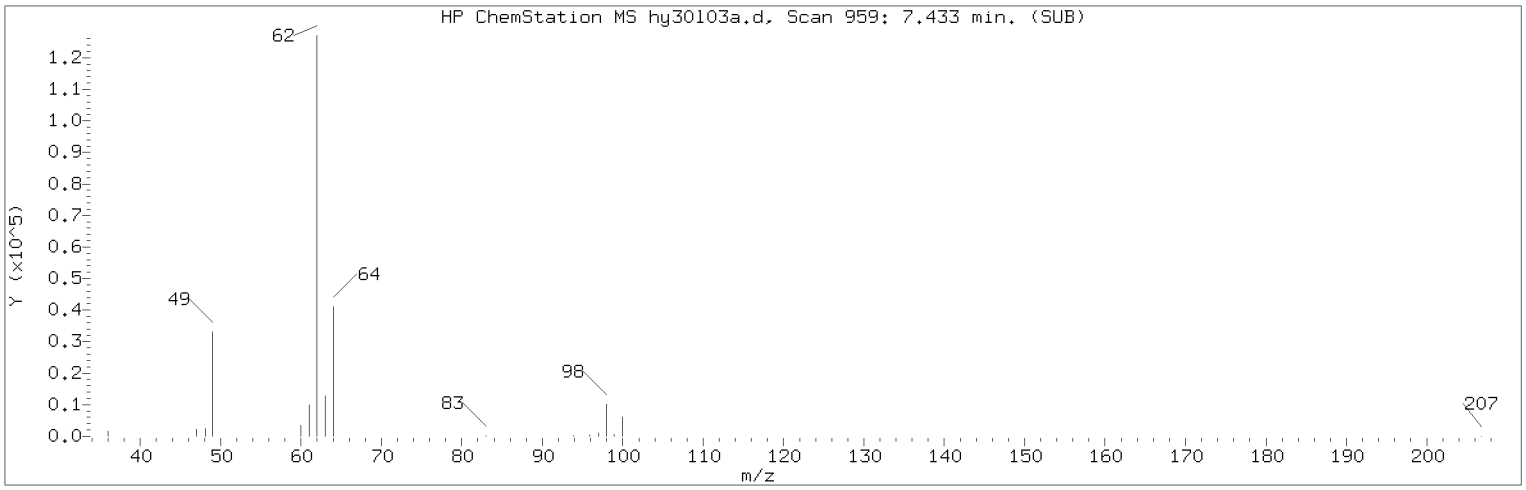
Sample Name: LCSH20 Lab Sample ID: LCSH20

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	525597	4.267
5) Vinyl Chloride	(2)	2.282	62	463808	4.086
11) Ethyl ether	(2)	3.300	59	240117	4.608
15) 1,1-Dichloroethene	(2)	3.611	96	365198	5.170
14) Acetone	(1)	3.629	43	337516	32.749
26)*t-Butyl Alcohol-d10	(1)	4.257	65	111851	50.000
23) Methylene Chloride	(2)	4.269	84	389474	5.049
31) trans-1,2-Dichloroethene	(2)	4.708	96	401896	5.152
38) 2-Butanone	(1)	6.123	43	652205	31.027
39) cis-1,2-Dichloroethene	(2)	6.177	96	446882	5.132
49) Chloroform	(2)	6.653	83	709437	4.885
50)$Dibromofluoromethane	(2)	6.866	113	729777	10.225
57)$1,2-Dichloroethane-d4	(2)	7.330	102	122157	10.585
59) 1,2-Dichloroethane	(2)	7.433	62	411302M	5.158
63)*Fluorobenzene	(2)	7.775	96	3183814	10.000
67) Trichloroethene	(2)	8.262	95	421162	4.770
82)$Toluene-d8	(3)	9.786	98	3155517	10.161
83) Toluene	(3)	9.866	92	1036365	5.050
97)*Chlorobenzene-d5	(3)	11.243	117	2124586	10.000
101) m+p-Xylene	(3)	11.469	106	1566118	10.358
105) Xylene (Total)	(3)		106	2297014	15.391
104) o-Xylene	(3)	11.798	106	730896	5.033
111)$4-Bromofluorobenzene	(3)	12.243	95	897029	10.166
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	907114	10.000

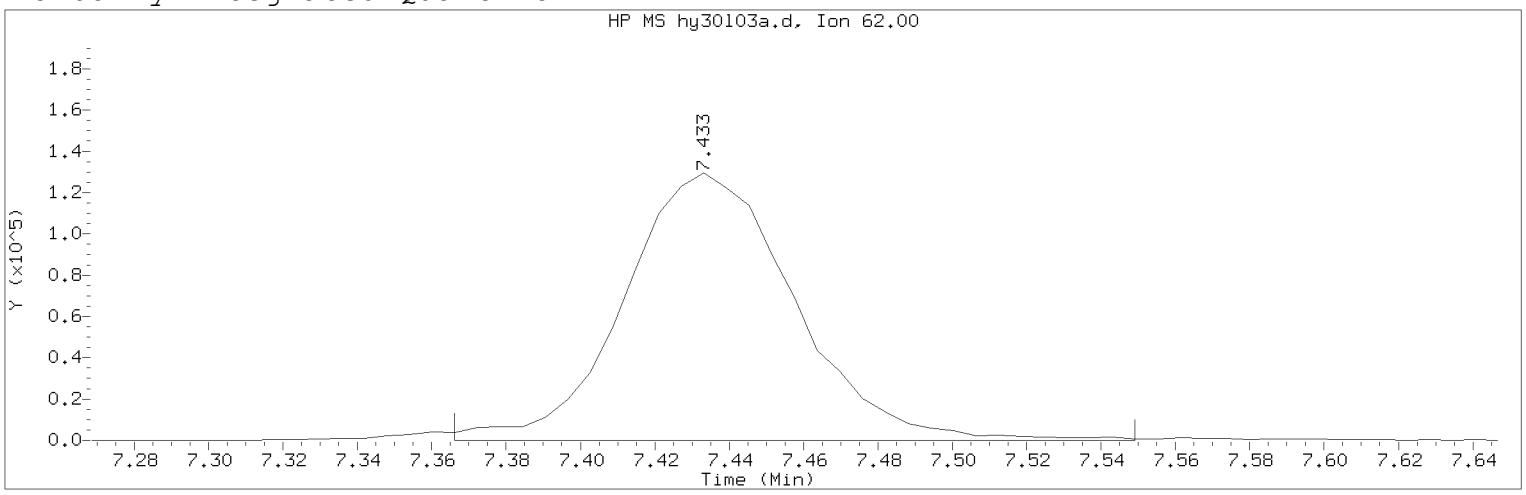
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:37.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30103a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 13:40
Date, time and analyst ID of latest file update: 30-May-2017 14:37 kel01973

Sample Name: LCSH20 Lab Sample ID: LCSH20

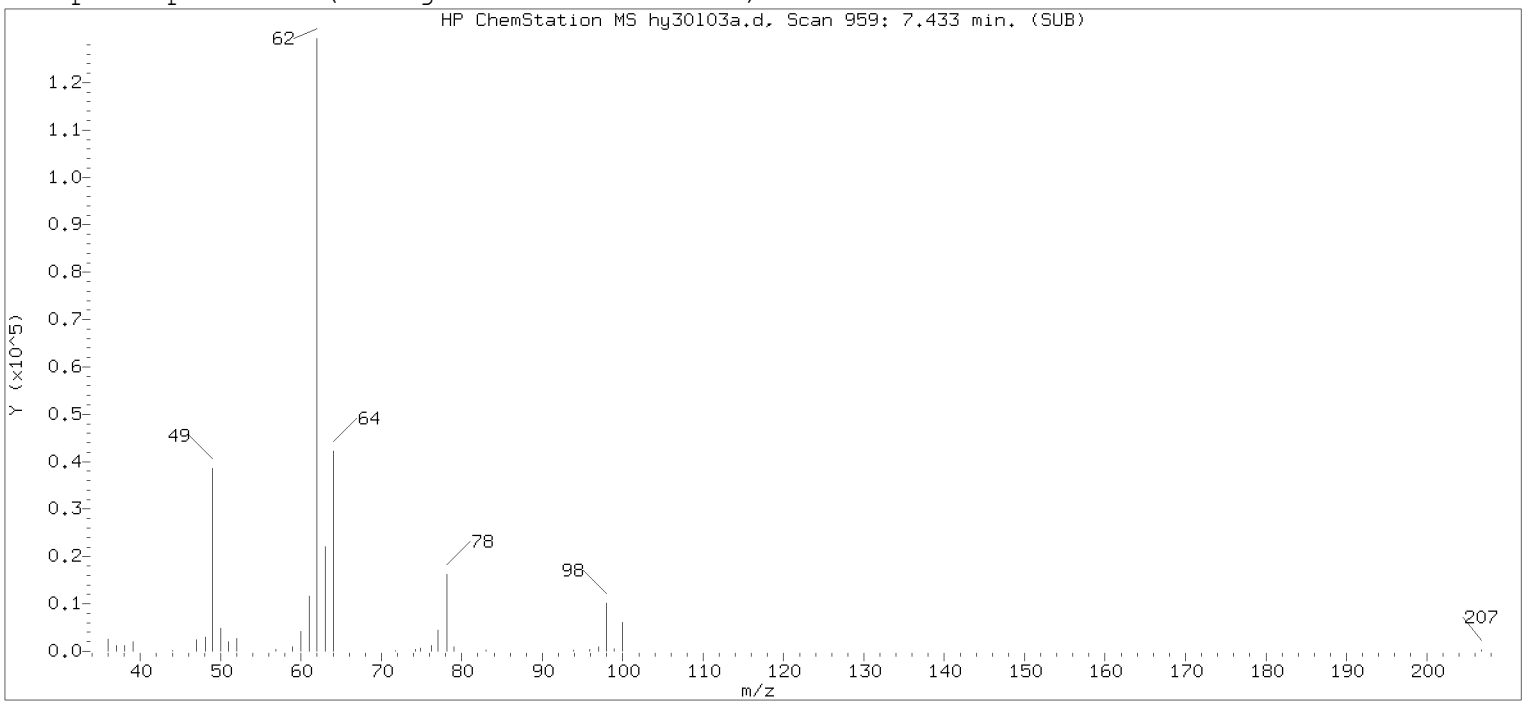
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 959
Retention Time (minutes): 7.433
Quant Ion : 62.00
Area (flag) : 411302M
On-Column Amount (ng) : 5.1581
Integration start scan : 947 Integration stop scan: 977
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

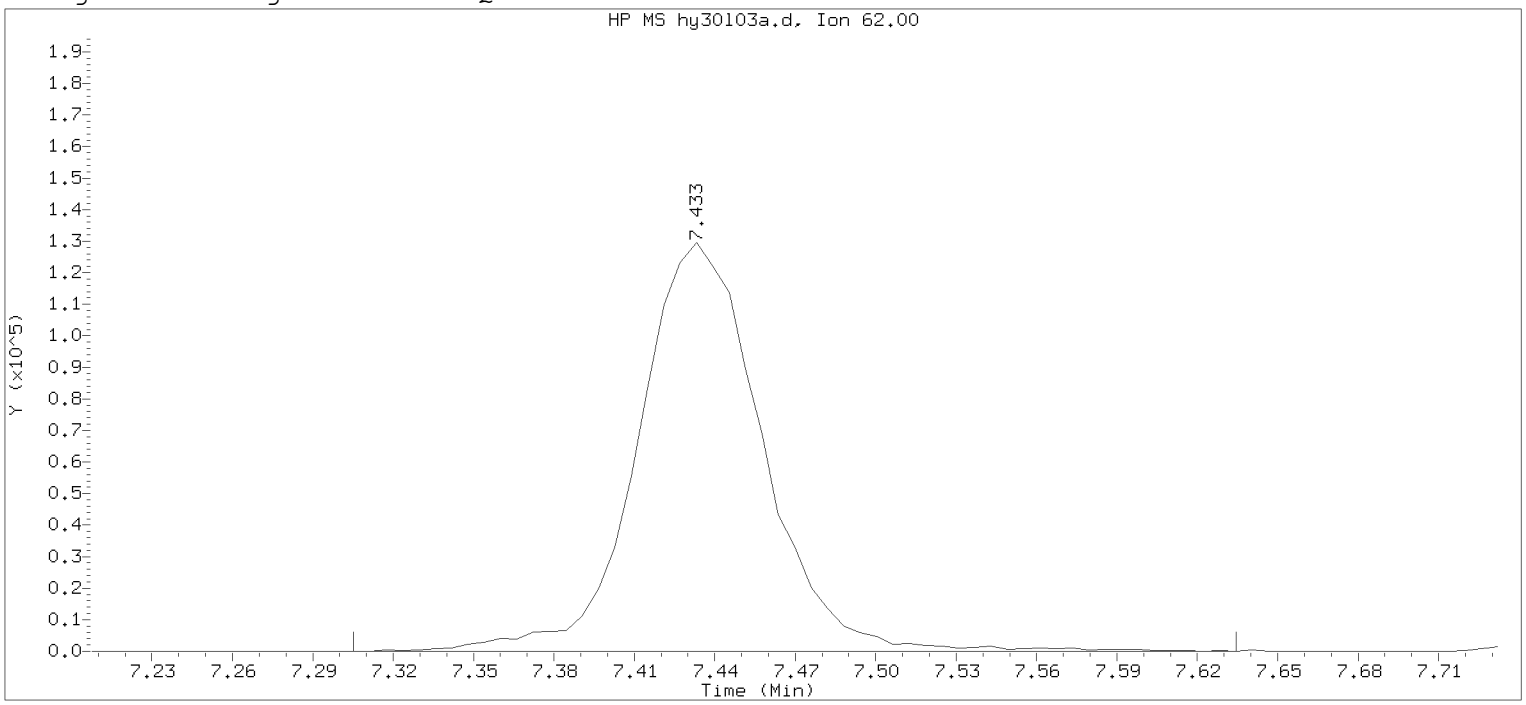
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:37.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/31/2017 at 15:37.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may30b.b/hy30103a.d Instrument ID: HP19094.i
Injection date and time: 30-MAY-2017 12:07 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may30b.b/m8260c25.m Sublist used: H171502
Calibration date and time: 30-MAY-2017 12:41
Date, time and analyst ID of latest file update: 30-May-2017 12:41 kel01973

Sample Name: LCSH20 Lab Sample ID: LCSH20

Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 959
Retention Time (minutes): 7.433
Quant Ion : 62.00
Area : 418393
On-column Amount (ng) : 5.2471
Integration start scan : 937 Integration stop scan: 991
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:37.
Target 3.5 esignature user name: kel01973

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE88

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9009414	5W5B	X		1	
9009415	5WC21	X		1	
9009416	5WDUP	X		1	Field Duplicate Sample
9009417	5WC22	X		1	
9009418	5WC23	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE88

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Semivolatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE88

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
SVOAs 8270D MINI	17142WAX026	SBLKWX142	05/28/2017 00:40:00
		142WXLCS	05/28/2017 01:07:00
		9009414	05/28/2017 08:55:00
		9009415	05/28/2017 09:22:00
		9009416	05/28/2017 09:50:00
		9009417	05/28/2017 10:18:00
		9009418	05/28/2017 10:45:00

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: RAE88
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

17142WAX026 / SBLKWX142 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Nitrobenzene	05/28/17	N.D.	ug/l	0.8	10
2-Nitroaniline	05/28/17	N.D.	ug/l	0.7	10
2,6-Dinitrotoluene	05/28/17	N.D.	ug/l	0.7	10
2,4-Dinitrotoluene	05/28/17	N.D.	ug/l	0.6	10
Diethylphthalate	05/28/17	N.D.	ug/l	0.5	10
4-Nitroaniline	05/28/17	N.D.	ug/l	1	20
bis(2-Ethylhexyl)phthalate	05/28/17	N.D.	ug/l	2	6

eurofins | Lancaster Laboratories Environmental

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: RAE88
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

17142WAX026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWX142	70	41 - 112	72	29 - 119	73	38 - 125
142WXLCS	81	41 - 112	80	29 - 119	80	38 - 125
9009414	74	41 - 112	72	29 - 119	79	38 - 125
9009415	77	41 - 112	75	29 - 119	83	38 - 125
9009416	70	41 - 112	69	29 - 119	78	38 - 125
9009417	72	41 - 112	69	29 - 119	71	38 - 125
9009418	76	41 - 112	73	29 - 119	76	38 - 125

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate (LCSD)

SDG: RAE88
Matrix: LIQUID

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 142WXLCS	Batch: **17142WAX026** (Sample number(s): 9009414-9009418)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Nitrobenzene	50	43.86	NA	88	NA	53-119	NA	NA
2-Nitroaniline	50	44.54	NA	89	NA	74-121	NA	NA
2,6-Dinitrotoluene	50	44.79	NA	90	NA	80-120	NA	NA
2,4-Dinitrotoluene	50	45.45	NA	91	NA	76-122	NA	NA
Diethylphthalate	50	45.06	NA	90	NA	47-122	NA	NA
4-Nitroaniline	50	41.91	NA	84	NA	57-114	NA	NA
bis(2-Ethylhexyl)phthalate	50	46.83	NA	94	NA	64-126	NA	NA

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0160a.d DFTPP Injection Date: 05/05/17

Instrument ID: HP19760 DFTPP Injection Time: 17:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	44.2
68	Less than 2.0% of mass 69	0.85 (1.94)1
69	Mass 69 relative abundance	43.7
70	Less than 2.0% of mass 69	0.18 (0.42)1
127	10.0 - 80.00% of mass 198	43.7
197	Less than 2.0% of mass 198	0.98
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.49
275	10.0 - 60.0% of mass 198	21.0
365	Greater than 1.00% of mass 198	2.21
441	Present, and less than mass 443	8.17
442	Greater than 50.00% of mass 198	50.1
443	15.00 - 24.00% of mass 442	9.32 (18.6)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD1107 - SSTD7.5	de0161.d	05/05/17	18:05
02	RVSTD1107 - SSTD.125	de0162.d	05/05/17	18:46
03	RVSTD1107 - SSTD30	de0163.d	05/05/17	19:14
04	RVSTD1107 - SSTD20	de0164.d	05/05/17	19:42
05	RVSTD1107 - SSTD12.5	de0165.d	05/05/17	20:10
06	RVSTD1107 - SSTD3.75	de0166.d	05/05/17	20:37
07	RVSTD1107 - SSTD1.25	de0167.d	05/05/17	21:05
08	RVSTD1107 - SSTD.25	de0168.d	05/05/17	21:33
09	MDLSTD1107 - SSTD0.125	de0169.d	05/05/17	22:01
10	PAHMDL1107 - SSTD0.025	de0170.d	05/05/17	22:28
11	RVICV1147 - SSTD12.5	de0171.d	05/05/17	22:56
12	RVBASICV0637 - SSTD12.5	de0172.d	05/05/17	23:24
13	BACID1087 - SSTD025	de0173.d	05/05/17	23:52

FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0820.d DFTPP Injection Date: 05/27/17

Instrument ID: HP19760 DFTPP Injection Time: 23:39

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	49.5
68	Less than 2.0% of mass 69	0.67 (1.41)1
69	Mass 69 relative abundance	47.5
70	Less than 2.0% of mass 69	0.16 (0.34)1
127	10.0 - 80.00% of mass 198	47.0
197	Less than 2.0% of mass 198	0.76
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.97
275	10.0 - 60.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.07
441	Present, and less than mass 443	8.9
442	Greater than 50.00% of mass 198	56.0
443	15.00 - 24.00% of mass 442	10.6 (18.9)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	rvSTD1107 - SSTD7.5	de0821.d	05/27/17	23:52
02	SBLKWX142	de0822.d	05/28/17	00:40
03	142WXLCS	de0823.d	05/28/17	01:07
04	9005064RE	de0824.d	05/28/17	01:35
05	9005065REMS	de0825.d	05/28/17	02:02
06	9005066REMSD	de0826.d	05/28/17	02:30
07	9005068RE	de0827.d	05/28/17	02:57
08	9005069RE	de0828.d	05/28/17	03:25
09	9005070RE	de0829.d	05/28/17	03:52
10	9005071RE	de0830.d	05/28/17	04:20
11	9006689RE	de0831.d	05/28/17	04:47
12	9006690RE	de0832.d	05/28/17	05:15
13	9006691RE	de0833.d	05/28/17	05:42
14	9006692RE	de0834.d	05/28/17	06:10
15	9006693RE	de0835.d	05/28/17	06:37
16	9006694RE	de0836.d	05/28/17	07:05
17	142WXUS	de0837.d	05/28/17	07:32
18	142WXMSMS	de0838.d	05/28/17	08:00

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0820.d DFTPP Injection Date: 05/27/17

Instrument ID: HP19760 DFTPP Injection Time: 23:39

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	49.5
68	Less than 2.0% of mass 69	0.67 (1.41)1
69	Mass 69 relative abundance	47.5
70	Less than 2.0% of mass 69	0.16 (0.34)1
127	10.0 - 80.00% of mass 198	47.0
197	Less than 2.0% of mass 198	0.76
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.97
275	10.0 - 60.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.07
441	Present, and less than mass 443	8.9
442	Greater than 50.00% of mass 198	56.0
443	15.00 - 24.00% of mass 442	10.6 (18.9)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	142WXMSDMSD	de0839.d	05/28/17	08:27
20	9009414	de0840.d	05/28/17	08:55
21	9009415	de0841.d	05/28/17	09:22
22	9009416	de0842.d	05/28/17	09:50
23	9009417	de0843.d	05/28/17	10:18
24	9009418	de0844.d	05/28/17	10:45

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.780	0.734	0.744	0.694	0.712	0.723	0.731	4	AVG
N-Nitrosodimethylamine			1.171	1.190	1.202	1.142	1.164	1.185	1.176	2	AVG
Pyridine			2.061	1.877	1.983	1.867	1.855	1.931	1.929	4	AVG
2-Picoline			1.954	2.014	2.023	1.927	1.945	1.956	1.970	2	AVG
N-Nitrosomethylethylamine			0.811	0.862	0.866	0.838	0.834	0.833	0.841	2	AVG
Methyl methanesulfonate			0.929	0.992	0.985	0.956	0.952	0.957	0.962	2	AVG
N-Nitrosodiethylamine		0.719	0.776	0.804	0.807	0.786	0.789	0.785	0.781	4	AVG
Ethyl methanesulfonate		0.839	0.840	0.882	0.852	0.834	0.824	0.833	0.843	2	AVG
Benzaldehyde			1.491	1.447	1.614	1.515	1.425	1.230	1.454	9	AVG
Phenol		2.600	2.377	2.447	2.404	2.322	2.293	2.255	2.385	5	AVG
Aniline		3.044	2.755	2.921	2.809	2.733	2.718	2.641	2.803	5	AVG
a-methylstyrene			1.698	1.740	1.797	1.747	1.708	1.610	1.717	4	AVG
bis(2-Chloroethyl)ether		1.960	1.736	1.852	1.776	1.714	1.712	1.654	1.772	6	AVG
2-Chlorophenol		1.655	1.518	1.641	1.548	1.535	1.514	1.464	1.554	4	AVG
1,3-Dichlorobenzene		1.809	1.718	1.728	1.693	1.646	1.619	1.567	1.683	5	AVG
1,4-Dichlorobenzene		1.954	1.691	1.780	1.699	1.667	1.655	1.593	1.720	7	AVG
Benzyl alcohol			1.096	1.106	1.159	1.132	1.103	1.056	1.108	3	AVG
1,2-Dichlorobenzene		1.840	1.608	1.676	1.604	1.580	1.546	1.488	1.620	7	AVG
Indene			2.974	3.043	3.153	3.082	3.017	2.867	3.023	3	AVG
2-Methylphenol		1.597	1.482	1.609	1.552	1.518	1.489	1.447	1.528	4	AVG
2,2'-oxybis(1-Chloropropane)		3.165	2.531	2.665	2.665	2.475	2.435	2.392	2.618	10	AVG
bis(2-Chloroisopropyl)ether		3.165	2.531	2.665	2.665	2.475	2.435	2.392	2.618	10	AVG
N-Nitrosopyrrolidine		0.901	0.819	0.901	0.870	0.859	0.840	0.835	0.861	4	AVG
Acetophenone		2.053	2.311	2.227	2.397	2.450	2.347	2.302	2.298	6	AVG
4-Methylphenol		1.960	1.735	1.856	1.764	1.715	1.669	1.606	1.758	7	AVG
Total Cresols		1.778	1.608	1.733	1.658	1.616	1.579	1.527	1.643	5	AVG
N-Nitroso-di-n-propylamine		1.592	1.374	1.442	1.388	1.342	1.298	1.266	1.386	8	AVG
N-Nitrosomorpholine			1.174	1.286	1.216	1.164	1.136	1.101	1.179	5	AVG
o-Toluidine		2.922	2.651	2.854	2.728	2.636	2.590	2.473	2.693	6	AVG
Hexachloroethane			0.706	0.740	0.714	0.703	0.696	0.668	0.704	3	AVG
Nitrobenzene		0.556	0.509	0.540	0.524	0.518	0.509	0.498	0.522	4	AVG
N-Nitrosopiperidine		0.212	0.193	0.217	0.210	0.203	0.205	0.203	0.206	4	AVG
Isophorone		0.938	0.837	0.941	0.900	0.877	0.880	0.876	0.893	4	AVG
2-Nitrophenol		0.213	0.183	0.218	0.206	0.207	0.210	0.206	0.206	5	AVG
2,4-Dimethylphenol		0.471	0.422	0.474	0.441	0.437	0.436	0.430	0.444	5	AVG
O,O,O-Triethylphosphorothioat			0.204	0.224	0.210	0.210	0.208	0.203	0.210	4	AVG
bis(2-Chloroethoxy)methane		0.646	0.545	0.593	0.572	0.545	0.559	0.533	0.571	7	AVG
Benzoic acid			0.163	0.250	0.284	0.339	0.347	0.351	0.289	25	1STDEG
1,2,3,4-Tetrahydronaphthalene			0.642	0.666	0.671	0.668	0.656	0.629	0.655	3	AVG
2,4-Dichlorophenol		0.331	0.315	0.345	0.336	0.326	0.328	0.321	0.329	3	AVG
1,2,4-Trichlorobenzene		0.425	0.380	0.404	0.379	0.378	0.374	0.369	0.387	5	AVG
Naphthalene	1.370	1.275	1.154	1.235	1.144	1.140	1.136	1.102	1.194	8	AVG
4-Chloroaniline		0.523	0.457	0.508	0.479	0.480	0.476	0.466	0.484	5	AVG
2,6-Dichlorophenol		0.345	0.318	0.345	0.325	0.319	0.320	0.311	0.326	4	AVG
Hexachloropropene			0.247	0.279	0.256	0.265	0.263	0.257	0.261	4	AVG
Hexachlorobutadiene		0.234	0.226	0.246	0.223	0.226	0.225	0.220	0.229	4	AVG
Quinoline			0.713	0.789	0.742	0.731	0.724	0.706	0.734	4	AVG
Caprolactam			0.099	0.099	0.103	0.108	0.104	0.102	0.103	3	AVG
N-Nitrosodi-n-butylamine			0.336	0.355	0.344	0.339	0.412	0.409	0.366	10	AVG
4-Chloro-3-methylphenol		0.384	0.358	0.395	0.377	0.374	0.372	0.364	0.375	3	AVG
Safrole			0.289	0.314	0.299	0.301	0.295	0.290	0.298	3	AVG
2-Methylnaphthalene	0.865	0.810	0.748	0.807	0.765	0.762	0.759	0.740	0.782	5	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1-Methylnaphthalene	0.800	0.776	0.691	0.743	0.700	0.693	0.683	0.668	0.719	7	AVG
Hexachlorocyclopentadiene			0.294	0.347	0.343	0.348	0.361	0.353	0.341	7	AVG
1,2,4,5-Tetrachlorobenzene		0.801	0.703	0.740	0.695	0.689	0.695	0.686	0.715	6	AVG
cis-Isosafrole			0.538	0.582	0.554	0.562	0.567	0.560	0.561	3	AVG
2,4,6-Trichlorophenol		0.421	0.410	0.461	0.441	0.437	0.444	0.436	0.436	4	AVG
2,4,5-Trichlorophenol		0.481	0.457	0.491	0.475	0.464	0.463	0.462	0.470	3	AVG
trans-Isosafrole			0.565	0.625	0.592	0.585	0.597	0.596	0.594	3	AVG
Isosafrole			0.561	0.618	0.586	0.581	0.592	0.590	0.588	3	AVG
1,1'-Biphenyl		1.370	1.544	1.423	1.533	1.574	1.535	1.506	1.498	5	AVG
2-Chloronaphthalene		1.458	1.261	1.291	1.201	1.248	1.175	1.192	1.261	8	AVG
1-Chloronaphthalene		1.354	1.152	1.238	1.216	1.129	1.209	1.129	1.204	7	AVG
Diphenyl ether		0.985	0.878	0.907	0.849	0.862	0.857	0.839	0.883	6	AVG
2-Nitroaniline		0.407	0.363	0.422	0.387	0.393	0.383	0.387	0.392	5	AVG
1,4-Naphthoquinone			0.486	0.555	0.535	0.528	0.525	0.517	0.524	4	AVG
1,4-Dinitrobenzene			0.184	0.217	0.207	0.209	0.209	0.212	0.206	6	AVG
Dimethylphthalate			1.460	1.552	1.452	1.443	1.432	1.403	1.457	3	AVG
1,3-Dinitrobenzene			0.212	0.239	0.225	0.225	0.229	0.229	0.227	4	AVG
2,6-Dinitrotoluene		0.333	0.305	0.342	0.317	0.321	0.317	0.319	0.322	4	AVG
Acenaphthylene	1.929	1.936	1.789	1.895	1.825	1.804	1.805	1.777	1.845	3	AVG
3-Nitroaniline		0.306	0.312	0.357	0.332	0.341	0.342	0.343	0.333	5	AVG
Acenaphthene	1.413	1.478	1.299	1.379	1.311	1.315	1.288	1.259	1.343	6	AVG
2,4-Dinitrophenol				0.171	0.171	0.186	0.201	0.210	0.188	9	AVG
4-Nitrophenol				0.248	0.237	0.247	0.249	0.252	0.246	2	AVG
Pentachlorobenzene		0.626	0.563	0.602	0.564	0.575	0.561	0.551	0.578	5	AVG
2,4-Dinitrotoluene			0.399	0.448	0.432	0.435	0.446	0.441	0.433	4	AVG
2,4_2,6-Dinitrotoluenes		0.373	0.352	0.395	0.375	0.378	0.382	0.380	0.376	3	AVG
Dibenzofuran		2.084	1.801	1.940	1.780	1.781	1.745	1.705	1.834	7	AVG
1-Naphthylamine				1.333	1.281	1.295	1.297	1.298	1.301	1	AVG
2,3,4,6-Tetrachlorophenol		0.331	0.327	0.363	0.356	0.361	0.371	0.370	0.354	5	AVG
2-Naphthylamine				1.336	1.280	1.284	1.291	1.255	1.289	2	AVG
Diethylphthalate			1.358	1.455	1.418	1.418	1.417	1.417	1.414	2	AVG
Thionazin			0.277	0.291	0.283	0.282	0.280	0.273	0.281	2	AVG
Fluorene	1.651	1.571	1.415	1.518	1.423	1.407	1.397	1.388	1.471	7	AVG
4-Chlorophenyl-phenylether		0.775	0.731	0.751	0.710	0.693	0.685	0.669	0.716	5	AVG
5-Nitro-o-toluidine		0.462	0.377	0.411	0.395	0.395	0.402	0.392	0.405	7	AVG
4-Nitroaniline		0.317	0.320	0.347	0.336	0.333	0.335	0.334	0.332	3	AVG
4,6-Dinitro-2-methylphenol				0.135	0.131	0.132	0.139	0.137	0.135	3	AVG
N-Nitrosodiphenylamine (1)		0.686	0.606	0.654	0.623	0.590	0.596	0.585	0.620	6	AVG
NDPA as diphenylamine		0.686	0.606	0.654	0.623	0.590	0.596	0.585	0.620	6	AVG
1,2-Diphenylhydrazine		0.969	0.866	0.915	0.887	0.838	0.834	0.822	0.876	6	AVG
Tetraethyldithiopyrophosphate			0.138	0.150	0.147	0.140	0.142	0.139	0.143	3	AVG
1,3,5-Trinitrobenzene				0.088	0.084	0.085	0.089	0.089	0.087	3	AVG
Diallate (peak 1)			0.370	0.403	0.393	0.369	0.370	0.367	0.379	4	AVG
Phorate		0.577	0.531	0.590	0.581	0.551	0.558	0.553	0.563	4	AVG
Phenacetin		0.383	0.390	0.448	0.432	0.410	0.417	0.409	0.413	5	AVG
4-Bromophenyl-phenylether		0.229	0.212	0.227	0.211	0.206	0.204	0.200	0.213	5	AVG
Diallate (peak 2)			0.298	0.332	0.315	0.294	0.302	0.300	0.307	5	AVG
Diallate trans/cis			0.358	0.391	0.380	0.356	0.358	0.355	0.366	4	AVG
Hexachlorobenzene	0.255	0.251	0.218	0.228	0.219	0.203	0.209	0.208	0.224	9	AVG
Dimethoate			0.345	0.389	0.385	0.357	0.356	0.343	0.363	5	AVG
Atrazine			0.204	0.193	0.198	0.207	0.200	0.173	0.196	6	AVG
Pentachlorophenol			0.092	0.126	0.128	0.128	0.132	0.133	0.123	13	AVG

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

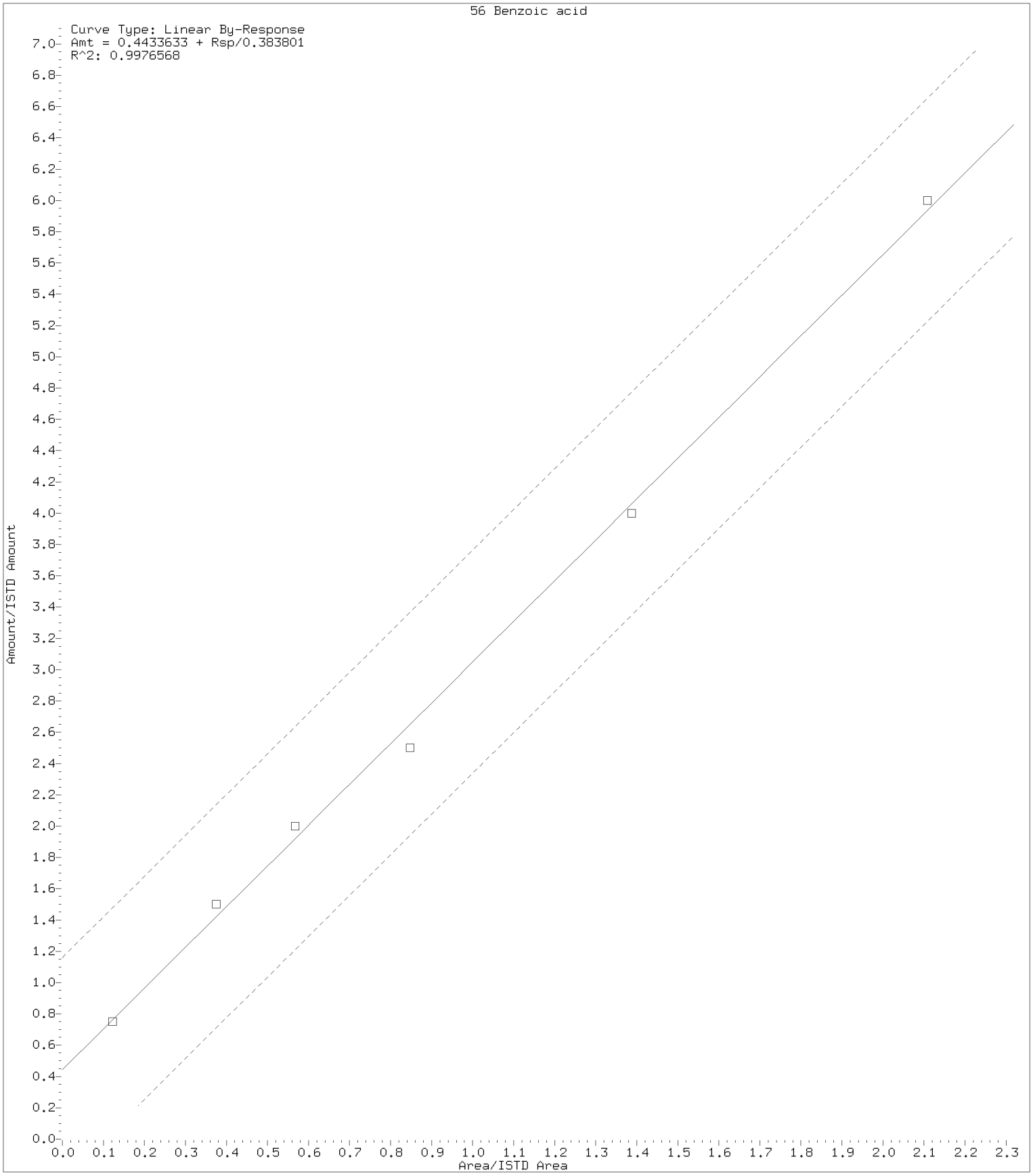
LAB FILE ID:RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
4-Aminobiphenyl		0.726	0.683	0.736	0.701	0.671	0.668	0.635	0.688	5	AVG
Pentachloronitrobenzene			0.090	0.105	0.099	0.096	0.100	0.097	0.098	5	AVG
Pronamide		0.351	0.381	0.367	0.357	0.362	0.350	0.357	4	AVG	
Dinoseb			0.162	0.210	0.212	0.217	0.221	0.220	0.207	11	AVG
Phenanthrene	1.255	1.240	1.067	1.153	1.099	1.053	1.048	1.026	1.118	8	AVG
Anthracene	1.229	1.132	1.073	1.171	1.119	1.064	1.070	1.045	1.113	6	AVG
Carbazole		1.101	0.981	1.086	1.053	1.005	1.015	0.992	1.033	5	AVG
Methyl parathion			0.249	0.295	0.295	0.280	0.280	0.275	0.279	6	AVG
Di-n-butylphthalate			1.201	1.345	1.333	1.256	1.274	1.250	1.276	4	AVG
Parathion			0.156	0.187	0.187	0.177	0.181	0.180	0.178	6	AVG
4-Nitroquinoline-1-oxide				0.099	0.108	0.119	0.129	0.129	0.117	11	AVG
Octachlorostyrene			0.086	0.084	0.084	0.085	0.086	0.082	0.084	2	AVG
Isodrin		0.159	0.129	0.140	0.133	0.130	0.131	0.127	0.135	8	AVG
Fluoranthene	1.377	1.303	1.208	1.317	1.297	1.230	1.264	1.241	1.280	4	AVG
Benzidine				0.731	0.688	0.658	0.634	0.597	0.661	8	AVG
Pyrene	1.273	1.233	1.091	1.167	1.100	1.081	1.080	1.058	1.135	7	AVG
p-Dimethylaminoazobenzene		0.177	0.150	0.187	0.185	0.188	0.191	0.188	0.181	8	AVG
Chlorobenzilate			0.318	0.353	0.333	0.335	0.337	0.327	0.334	3	AVG
3,3'-Dimethylbenzidine			0.667	0.774	0.773	0.734	0.730	0.720	0.733	5	AVG
Butylbenzylphthalate			0.488	0.530	0.509	0.501	0.498	0.490	0.502	3	AVG
2-Acetylaminofluorene			0.389	0.489	0.464	0.476	0.493	0.497	0.468	9	AVG
3,3'-Dichlorobenzidine			0.378	0.434	0.417	0.410	0.414	0.408	0.410	4	AVG
4,4'-Methylenebis(2-chloroani				0.240	0.220	0.218	0.217	0.215	0.222	5	AVG
Benzo(a)anthracene	1.159	1.074	1.048	1.149	1.078	1.075	1.072	1.052	1.088	4	AVG
Chrysene	1.084	1.073	0.992	1.076	1.006	0.999	1.000	0.969	1.025	4	AVG
bis(2-Ethylhexyl)phthalate			0.705	0.786	0.763	0.745	0.760	0.754	0.752	4	AVG
6-Methylchrysene			0.683	0.746	0.738	0.725	0.749	0.737	0.730	3	AVG
Di-n-octylphthalate			1.502	1.726	1.673	1.651	1.641	1.616	1.634	5	AVG
Benzo(b)fluoranthene	1.503	1.427	1.241	1.390	1.331	1.357	1.313	1.335	1.362	6	AVG
7,12-Dimethylbenz[a]anthracen		0.496	0.501	0.594	0.560	0.578	0.572	0.571	0.553	7	AVG
Benzo(k)fluoranthene	1.422	1.363	1.248	1.363	1.296	1.280	1.288	1.219	1.310	5	AVG
Benzo(a)pyrene	1.335	1.263	1.159	1.296	1.259	1.268	1.249	1.239	1.259	4	AVG
3-Methylcholanthrene		0.537	0.513	0.595	0.564	0.588	0.567	0.556	0.560	5	AVG
Dibenz(a,h)acridine			0.831	0.966	0.938	0.927	0.897	0.878	0.906	5	AVG
Dibenz(a,j)acridine			0.797	0.976	0.917	0.930	0.871	0.841	0.889	7	AVG
Indeno(1,2,3-cd)pyrene	1.155	1.226	1.177	1.377	1.279	1.288	1.213	1.154	1.234	6	AVG
Dibenz(a,h)anthracene	0.891	0.962	0.988	1.177	1.069	1.114	1.029	0.980	1.026	9	AVG
Benzo(g,h,i)perylene	0.981	1.030	0.998	1.135	1.035	1.033	0.959	0.903	1.009	7	AVG
Total PAHs	1.227	1.180	1.062	1.154	1.069	1.070	1.028	1.005	1.099	7	AVG
2-Fluorophenol		1.605	1.529	1.585	1.581	1.523	1.522	1.515	1.551	2	AVG
Phenol-d6		2.216	2.065	2.200	2.142	2.055	2.036	2.023	2.105	4	AVG
Nitrobenzene-d5		0.565	0.501	0.540	0.516	0.506	0.502	0.497	0.518	5	AVG
2-Fluorobiphenyl		1.722	1.525	1.592	1.533	1.520	1.513	1.474	1.554	5	AVG
2,4,6-Tribromophenol		0.171	0.174	0.196	0.185	0.191	0.194	0.191	0.186	5	AVG
Terphenyl-d14		0.796	0.718	0.767	0.737	0.714	0.709	0.695	0.734	5	AVG
								Average %RSD	5		

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

FORM VI SV-1

^



Digitally signed by Brandon H. Smith on 05/07/2017 at 21:12.
Target 3.5 esignature user ID: bhs10208

Internal Standard
Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may05b.b/de0161.d SSTD7.5
/chem/HP19760.i/17may05b.b/de0162.d SSTD0.125
/chem/HP19760.i/17may05b.b/de0163.d SSTD030
/chem/HP19760.i/17may05b.b/de0164.d SSTD020
/chem/HP19760.i/17may05b.b/de0165.d SSTD12.5
/chem/HP19760.i/17may05b.b/de0166.d SSTD3.75
/chem/HP19760.i/17may05b.b/de0167.d SSTD1.25
/chem/HP19760.i/17may05b.b/de0168.d SSTD0.25

Area Summary

File ID:

Internal Standard Name	de0161.d	de0162.d	de0163.d	de0164.d	de0165.d	de0166.d	de0167.d	de0168.d	Avg. Area	%RSD	In Spec
1,4-Dichlorobenzene-d4	195284	184070	182912	175545	177612	187395	178509	181346	182834	3	Yes
Naphthalene-d8	747503	711760	678696	659112	673993	707489	684219	693503	694534	4	Yes
Acenaphthene-d10	426791	412178	378528	372722	386093	412952	390234	392347	396481	5	Yes
Phenanthrene-d10	816291	786368	754842	740261	770671	789256	755491	745727	769863	3	Yes
Pyrene-d10	993842	934540	904399	888165	906909	943049	895421	891777	919763	4	Yes
Perylene-d12	828843	712054	769596	757991	749691	768390	720620	694492	750210	6	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	de0161.d	de0162.d	de0163.d	de0164.d	de0165.d	de0166.d	de0167.d	de0168.d	Avg. RT
1,4-Dichlorobenzene-d4	6.728	6.722	6.728	6.728	6.728	6.728	6.722	6.722	6.726
Naphthalene-d8	8.657	8.657	8.663	8.663	8.657	8.657	8.657	8.657	8.658
Acenaphthene-d10	11.449	11.443	11.449	11.449	11.449	11.443	11.443	11.443	11.446
Phenanthrene-d10	13.337	13.337	13.343	13.337	13.337	13.337	13.332	13.332	13.337
Pyrene-d10	15.290	15.290	15.296	15.296	15.290	15.290	15.290	15.284	15.291
Perylene-d12	19.761	19.755	19.766	19.760	19.761	19.755	19.755	19.755	19.758

Comments:_____

_____

Report generated on 05/07/2017 at 21:25

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS | LAB CODE: LANCAS | INSTRUMENT: HP19760

Method: SW-846 8270D MINI | File ID: de0171.d

ICV SAMPLE ID: RVICV1147 | BATCH: 17MAY05B026 | Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	11.22	-10	30	YES
N-Nitrosodimethylamine	12.50	12.01	-4	30	YES
Pyridine	12.50	11.81	-6	30	YES
2-Picoline	12.50	12.25	-2	30	YES
N-Nitrosomethylethylamine	12.50	11.48	-8	30	YES
Methyl methanesulfonate	12.50	12.22	-2	30	YES
N-Nitrosodiethylamine	12.50	11.86	-5	30	YES
Ethyl methanesulfonate	12.50	11.61	-7	30	YES
Phenol	12.50	12.13	-3	30	YES
Aniline	12.50	11.06	-12	30	YES
bis(2-Chloroethyl)ether	12.50	11.96	-4	30	YES
2-Chlorophenol	12.50	12.10	-3	30	YES
1,3-Dichlorobenzene	12.50	12.30	-2	30	YES
1,4-Dichlorobenzene	12.50	12.29	-2	30	YES
Benzyl alcohol	12.50	12.03	-4	30	YES
1,2-Dichlorobenzene	12.50	12.28	-2	30	YES
Indene	12.50	11.70	-6	30	YES
2-Methylphenol	12.50	12.09	-3	30	YES
2,2'-oxybis(1-Chloropropane	12.50	11.75	-6	30	YES
bis(2-Chloroisopropyl)ether	12.50	11.75	-6	30	YES
N-Nitrosopyrrolidine	12.50	11.54	-8	30	YES
Acetophenone	12.50	12.47	0	30	YES
4-Methylphenol	12.50	11.69	-7	30	YES
N-Nitroso-di-n-propylamine	12.50	11.93	-5	30	YES
N-Nitrosomorpholine	12.50	11.79	-6	30	YES
o-Toluidine	12.50	11.63	-7	30	YES
Total Cresols	25.00	23.78	-5	30	YES
Hexachloroethane	12.50	11.92	-5	30	YES
Nitrobenzene	12.50	12.53	0	30	YES
N-Nitrosopiperidine	12.50	11.84	-5	30	YES
Isophorone	12.50	12.49	0	30	YES
2-Nitrophenol	12.50	12.60	1	30	YES
2,4-Dimethylphenol	12.50	9.86	-21	30	YES
bis(2-Chloroethoxy)methane	12.50	12.97	4	30	YES
Benzoic acid	25.00	17.65	-29	30	YES
O,O,O-Triethylphosphorothio	12.50	12.24	-2	30	YES
2,4-Dichlorophenol	12.50	12.78	2	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	12.50	12.65	1	30	YES
Naphthalene	12.50	12.25	-2	30	YES
4-Chloroaniline	12.50	12.11	-3	30	YES
2,6-Dichlorophenol	12.50	11.96	-4	30	YES
Hexachloropropene	12.50	13.01	4	30	YES
Hexachlorobutadiene	12.50	12.54	0	30	YES
Quinoline	12.50	12.29	-2	30	YES
N-Nitrosodi-n-butylamine	12.50	11.14	-11	30	YES
4-Chloro-3-methylphenol	12.50	12.53	0	30	YES
Safrole	12.50	12.11	-3	30	YES
2-Methylnaphthalene	12.50	12.33	-1	30	YES
1-Methylnaphthalene	12.50	12.41	-1	30	YES
Hexachlorocyclopentadiene	25.00	24.24	-3	30	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.19	-2	30	YES
cis-Isosafrole	1.50	1.53	2	30	YES
2,4,6-Trichlorophenol	12.50	12.98	4	30	YES
2,4,5-Trichlorophenol	12.50	12.60	1	30	YES
trans-Isosafrole	11.00	11.49	4	30	YES
1,1'-Biphenyl	12.50	13.29	6	30	YES
2-Chloronaphthalene	12.50	12.88	3	30	YES
Isosafrole	12.50	13.01	4	30	YES
1-Chloronaphthalene	12.50	11.65	-7	30	YES
Diphenyl ether	12.50	12.23	-2	30	YES
2-Nitroaniline	12.50	12.46	0	30	YES
1,4-Naphthoquinone	15.63	15.35	-2	30	YES
1,4-Dinitrobenzene	12.50	12.40	-1	30	YES
Dimethylphthalate	12.50	12.36	-1	30	YES
1,3-Dinitrobenzene	12.50	12.37	-1	30	YES
2,6-Dinitrotoluene	12.50	12.29	-2	30	YES
Acenaphthylene	12.50	12.31	-1	30	YES
3-Nitroaniline	12.50	12.41	-1	30	YES
Acenaphthene	12.50	12.60	1	30	YES
2,4-Dinitrophenol	25.00	26.25	5	30	YES
4-Nitrophenol	12.50	12.57	1	30	YES
Pentachlorobenzene	12.50	11.87	-5	30	YES
2,4-Dinitrotoluene	12.50	12.38	-1	30	YES
Dibenzofuran	12.50	12.29	-2	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	25.00	24.68	-1	30	YES
1-Naphthylamine	25.00	22.06	-12	30	YES
2,3,4,6-Tetrachlorophenol	12.50	12.82	3	30	YES
2-Naphthylamine	25.00	21.28	-15	30	YES
Diethylphthalate	12.50	12.74	2	30	YES
Thionazin	12.50	12.42	-1	30	YES
Fluorene	12.50	12.12	-3	30	YES
4-Chlorophenyl-phenylether	12.50	12.33	-1	30	YES
5-Nitro-o-toluidine	12.50	11.93	-5	30	YES
4-Nitroaniline	12.50	12.29	-2	30	YES
4,6-Dinitro-2-methylphenol	12.50	12.16	-3	30	YES
N-Nitrosodiphenylamine	12.50	12.41	-1	30	YES
NDPA as diphenylamine	12.50	12.41	-1	30	YES
1,2-Diphenylhydrazine	12.50	12.57	1	30	YES
Tetraethyldithiopyrophospha	12.50	12.04	-4	30	YES
1,3,5-Trinitrobenzene	12.50	12.01	-4	30	YES
Diallate (peak 1)	9.38	8.65	-8	30	YES
Phorate	12.50	12.18	-3	30	YES
Phenacetin	12.50	12.28	-2	30	YES
4-Bromophenyl-phenylether	12.50	12.46	0	30	YES
Diallate (peak 2)	3.13	3.50	12	30	YES
Hexachlorobenzene	12.50	11.70	-6	30	YES
Diallate trans/cis	12.50	12.15	-3	30	YES
Dimethoate	12.50	11.96	-4	30	YES
Pentachlorophenol	12.50	14.04	12	30	YES
4-Aminobiphenyl	12.50	14.37	15	30	YES
Pentachloronitrobenzene	12.50	12.31	-2	30	YES
Pronamide	12.50	12.51	0	30	YES
Dinoseb	12.50	12.57	1	30	YES
Phenanthrene	12.50	11.94	-4	30	YES
Anthracene	12.50	12.20	-2	30	YES
Carbazole	12.50	12.53	0	30	YES
Methyl parathion	12.50	12.20	-2	30	YES
Di-n-butylphthalate	12.50	12.79	2	30	YES
Parathion	12.50	12.99	4	30	YES
4-Nitroquinoline-1-oxide	150.00	180.32	20	30	YES
Isodrin	12.50	11.97	-4	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	12.50	12.27	-2	30	YES
Benzidine	62.50	57.60	-8	30	YES
Pyrene	12.50	12.02	-4	30	YES
p-Dimethylaminoazobenzene	12.50	14.54	16	30	YES
Chlorobenzilate	12.50	13.21	6	30	YES
3,3'-Dimethylbenzidine	25.00	23.10	-8	30	YES
Butylbenzylphthalate	12.50	12.87	3	30	YES
2-Acetylaminofluorene	12.50	12.23	-2	30	YES
3,3'-Dichlorobenzidine	12.50	11.92	-5	30	YES
Benzo(a)anthracene	12.50	12.70	2	30	YES
Chrysene	12.50	12.77	2	30	YES
4,4'-Methylenebis(2-chloroa	12.50	12.44	0	30	YES
bis(2-Ethylhexyl)phthalate	12.50	12.95	4	30	YES
6-Methylchrysene	12.50	12.21	-2	30	YES
Di-n-octylphthalate	12.50	12.74	2	30	YES
Benzo(b)fluoranthene	12.50	12.35	-1	30	YES
7,12-Dimethylbenz[a]anthrac	12.50	13.20	6	30	YES
Benzo(k)fluoranthene	12.50	12.15	-3	30	YES
Benzo(a)pyrene	12.50	12.14	-3	30	YES
3-Methylcholanthrene	12.50	13.54	8	30	YES
Dibenz(a,h)acridine	12.50	12.50	0	30	YES
Dibenz(a,j)acridine	12.50	12.64	1	30	YES
Indeno(1,2,3-cd)pyrene	12.50	12.90	3	30	YES
Dibenz(a,h)anthracene	12.50	13.31	6	30	YES
Benzo(g,h,i)perylene	12.50	12.54	0	30	YES
Total PAHs	225.00	223.30	-1	30	YES

NC = Could not calculate

Comments: _____

^

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0172.d

ICV SAMPLE ID: RVBASICV0637 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	12.84	3	30	YES
Caprolactam	12.50	12.18	-3	30	YES
Atrazine	12.50	13.49	8	30	YES

NC = Could not calculate

Comments: _____

^

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS | LAB CODE: LANCAS | INSTRUMENT: HP19760

Method: SW-846 8270D MINI | File ID: de0173.d

ICV SAMPLE ID: BACID1087 | BATCH: 17MAY05B026 | Sample Name: SSTD025

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzoic acid	25.00	16.20	-35	30	NO *

NC = Could not calculate

Comments: _____

_____* non-CCC, OK if greater than 20% D_____

_____

^

7B
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/27/17 Time: 23:52

Lab File ID: de0821.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.731	0.765	7.850	7.5	5
N-Nitrosodimethylamine	1.176	1.212	7.730	7.5	3
Pyridine	1.929	1.830	7.110	7.5	-5
2-Picoline	1.970	1.983	7.550	7.5	1
N-Nitrosomethylethylamine	0.841	0.849	7.580	7.5	1
Methyl methanesulfonate	0.962	0.979	7.640	7.5	2
N-Nitrosodiethylamine	0.781	0.795	7.630	7.5	2
Ethyl methanesulfonate	0.843	0.848	7.540	7.5	1
Benzaldehyde	1.454	1.521	7.850	7.5	5
Phenol	2.385	2.534	7.970	7.5	6
Aniline	2.803	2.796	7.480	7.5	0
a-methylstyrene	1.717	1.792	7.830	7.5	4
bis(2-Chloroethyl)ether	1.772	1.770	7.490	7.5	0
2-Chlorophenol	1.554	1.551	7.490	7.5	0
1,3-Dichlorobenzene	1.683	1.669	7.440	7.5	-1
1,4-Dichlorobenzene	1.720	1.679	7.320	7.5	-2
Benzyl alcohol	1.109	1.106	7.480	7.5	0
1,2-Dichlorobenzene	1.620	1.587	7.350	7.5	-2
Indene	3.023	3.072	7.620	7.5	2
2-Methylphenol	1.528	1.525	7.490	7.5	0
2,2'-oxybis(1-Chloropropane)	2.618	2.727	7.810	7.5	4
bis(2-Chloroisopropyl)ether	2.618	2.727	7.810	7.5	4
N-Nitrosopyrrolidine	0.861	0.863	7.530	7.5	0
Acetophenone	2.298	2.368	7.730	7.5	3
4-Methylphenol	1.758	1.749	7.460	7.5	0
Total Cresols	1.643	1.637	14.950	15.0	0
N-Nitroso-di-n-propylamine	1.386	1.371	7.420	7.5	-1
N-Nitrosomorpholine	1.179	1.230	7.820	7.5	4
o-Toluidine	2.693	2.688	7.480	7.5	0
Hexachloroethane	0.704	0.702	7.480	7.5	0
Nitrobenzene	0.522	0.530	7.610	7.5	1
N-Nitrosopiperidine	0.206	0.208	7.560	7.5	1
Isophorone	0.893	0.905	7.600	7.5	1
2-Nitrophenol	0.206	0.206	7.490	7.5	0
2,4-Dimethylphenol	0.444	0.443	7.470	7.5	0
O,O,O-Triethylphosphorothioate	0.210	0.205	7.330	7.5	-2

FORM VII SV-1

7C
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/27/17 Time: 23:52

Lab File ID: de0821.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.571	0.573	7.520	7.5	0
Benzoic acid	0.289	0.285	9.630	10.0	-4
1,2,3,4-Tetrahydronaphthalene	0.655	0.662	7.580	7.5	1
2,4-Dichlorophenol	0.329	0.330	7.520	7.5	0
1,2,4-Trichlorobenzene	0.387	0.377	7.310	7.5	-3
Naphthalene	1.194	1.150	7.220	7.5	-4
4-Chloroaniline	0.484	0.480	7.430	7.5	-1
2,6-Dichlorophenol	0.326	0.325	7.480	7.5	0
Hexachloropropene	0.261	0.250	7.180	7.5	-4
Hexachlorobutadiene	0.229	0.222	7.300	7.5	-3
Quinoline	0.734	0.740	7.560	7.5	1
Caprolactam	0.103	0.102	7.420	7.5	-1
N-Nitrosodi-n-butylamine	0.366	0.342	7.020	7.5	-6
4-Chloro-3-methylphenol	0.375	0.375	7.500	7.5	0
Safrole	0.298	0.298	7.500	7.5	0
2-Methylnaphthalene	0.782	0.774	7.420	7.5	-1
1-Methylnaphthalene	0.719	0.702	7.320	7.5	-2
Hexachlorocyclopentadiene	0.341	0.323	7.110	7.5	-5
1,2,4,5-Tetrachlorobenzene	0.715	0.695	7.290	7.5	-3
cis-Isosafrole	0.561	0.532	1.210	1.3	-5
2,4,6-Trichlorophenol	0.436	0.438	7.540	7.5	1
2,4,5-Trichlorophenol	0.470	0.462	7.360	7.5	-2
trans-Isosafrole	0.594	0.574	6.020	6.2	-3
Isosafrole	0.588	0.567	7.230	7.5	-4
1,1'-Biphenyl	1.498	1.538	7.700	7.5	3
2-Chloronaphthalene	1.261	1.267	7.540	7.5	1
1-Chloronaphthalene	1.204	1.132	7.050	7.5	-6
Diphenyl ether	0.883	0.852	7.240	7.5	-3
2-Nitroaniline	0.392	0.389	7.440	7.5	-1
1,4-Naphthoquinone	0.524	0.526	7.530	7.5	0
1,4-Dinitrobenzene	0.206	0.200	7.280	7.5	-3
Dimethylphthalate	1.457	1.427	7.340	7.5	-2
1,3-Dinitrobenzene	0.227	0.225	7.440	7.5	-1
2,6-Dinitrotoluene	0.322	0.315	7.340	7.5	-2
Acenaphthylene	1.845	1.826	7.420	7.5	-1
3-Nitroaniline	0.333	0.339	7.640	7.5	2

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/27/17 Time: 23:52

Lab File ID: de0821.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.343	1.300	7.260	7.5	-3
2,4-Dinitrophenol	0.188	0.185	9.860	10.0	-1
4-Nitrophenol	0.246	0.234	7.120	7.5	-5
Pentachlorobenzene	0.578	0.568	7.370	7.5	-2
2,4-Dinitrotoluene	0.433	0.426	7.380	7.5	-2
2,4_2,6-Dinitrotoluenes	0.376	0.371	14.720	15.0	-2
Dibenzofuran	1.834	1.780	7.280	7.5	-3
1-Naphthylamine	1.301	1.260	7.260	7.5	-3
2,3,4,6-Tetrachlorophenol	0.354	0.358	7.580	7.5	1
2-Naphthylamine	1.289	1.238	7.210	7.5	-4
Diethylphthalate	1.414	1.407	7.460	7.5	0
Thionazin	0.281	0.278	7.430	7.5	-1
Fluorene	1.471	1.446	7.370	7.5	-2
4-Chlorophenyl-phenylether	0.716	0.710	7.430	7.5	-1
5-Nitro-o-toluidine	0.405	0.395	7.310	7.5	-3
4-Nitroaniline	0.332	0.334	7.550	7.5	1
4,6-Dinitro-2-methylphenol	0.135	0.135	7.500	7.5	0
N-Nitrosodiphenylamine (1)	0.620	0.631	7.630	7.5	2
NDPA as diphenylamine	0.620	0.631	7.630	7.5	2
1,2-Diphenylhydrazine	0.876	0.916	7.840	7.5	5
Tetraethyldithiopyrophosphate	0.143	0.143	7.510	7.5	0
1,3,5-Trinitrobenzene	0.087	0.083	7.140	7.5	-5
Diallate (peak 1)	0.379	0.396	6.520	6.2	5
Phorate	0.563	0.605	8.060	7.5	8
Phenacetin	0.413	0.415	7.540	7.5	1
4-Bromophenyl-phenylether	0.213	0.213	7.530	7.5	0
Diallate (peak 2)	0.307	0.306	1.270	1.3	0
Diallate trans/cis	0.366	0.381	7.790	7.5	4
Hexachlorobenzene	0.224	0.217	7.250	7.5	-3
Dimethoate	0.363	0.385	7.950	7.5	6
Atrazine	0.196	0.202	7.730	7.5	3
Pentachlorophenol	0.123	0.130	7.920	7.5	6
4-Aminobiphenyl	0.688	0.693	7.550	7.5	1
Pentachloronitrobenzene	0.098	0.096	7.370	7.5	-2
Pronamide	0.357	0.365	7.670	7.5	2
Dinoseb	0.207	0.212	7.680	7.5	2

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/27/17 Time: 23:52

Lab File ID: de0821.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.118	1.097	7.360	7.5	-2
Anthracene	1.113	1.113	7.500	7.5	0
Carbazole	1.033	1.056	7.660	7.5	2
Methyl parathion	0.279	0.295	7.920	7.5	6
Di-n-butylphthalate	1.276	1.305	7.670	7.5	2
Parathion	0.178	0.187	7.860	7.5	5
4-Nitroquinoline-1-oxide	0.117	0.099	6.380	7.5	-15
Octachlorostyrene	0.084	0.085	7.600	7.5	1
Isodrin	0.135	0.135	7.470	7.5	0
Fluoranthene	1.280	1.299	7.610	7.5	2
Benzidine	0.661	0.680	23.120	22.5	3
Pyrene	1.135	1.108	7.320	7.5	-2
p-Dimethylaminoazobenzene	0.181	0.181	7.500	7.5	0
Chlorobenzilate	0.334	0.329	7.390	7.5	-1
3,3'-Dimethylbenzidine	0.733	0.709	7.260	7.5	-3
Butylbenzylphthalate	0.502	0.506	7.550	7.5	1
2-Acetylaminofluorene	0.468	0.450	7.210	7.5	-4
3,3'-Dichlorobenzidine	0.410	0.404	7.400	7.5	-1
4,4'-Methylenebis(2-chloroanil	0.222	0.217	7.340	7.5	-2
Benzo(a)anthracene	1.088	1.080	7.440	7.5	-1
Chrysene	1.025	1.020	7.460	7.5	-1
bis(2-Ethylhexyl)phthalate	0.752	0.749	7.470	7.5	0
6-Methylchrysene	0.730	0.724	7.440	7.5	-1
Di-n-octylphthalate	1.635	1.566	7.190	7.5	-4
Benzo(b)fluoranthene	1.362	1.311	7.220	7.5	-4
7,12-Dimethylbenz[a]anthracene	0.553	0.552	7.490	7.5	0
Benzo(k)fluoranthene	1.310	1.325	7.580	7.5	1
Benzo(a)pyrene	1.258	1.249	7.440	7.5	-1
3-Methylcholanthrene	0.560	0.543	7.270	7.5	-3
Dibenz(a,h)acridine	0.906	0.914	7.560	7.5	1
Dibenz(a,j)acridine	0.889	0.946	7.980	7.5	6
Indeno(1,2,3-cd)pyrene	1.234	1.334	8.110	7.5	8
Dibenz(a,h)anthracene	1.026	1.099	8.030	7.5	7
Benzo(g,h,i)perylene	1.010	1.081	8.030	7.5	7
Total PAHs	1.099	1.081	135.130	135.0	0
2-Fluorophenol	1.551	1.567	15.150	15.0	1

FORM VII SV-1

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/27/17 Time: 23:52

Lab File ID: de0821.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.105	2.127	15.150	15.0	1
Nitrobenzene-d5	0.518	0.511	14.800	15.0	-1
2-Fluorobiphenyl	1.554	1.515	14.620	15.0	-3
2,4,6-Tribromophenol	0.186	0.184	14.830	15.0	-1
Terphenyl-d14	0.734	0.740	15.120	15.0	1
			Average %Drift:		2

Continuing Calibration
Internal Standard Area and Retention Time
Summary

Initial Calibration Standards:

/chem/HP19760.i/17may05b.b/de0161.d **
/chem/HP19760.i/17may05b.b/de0162.d
/chem/HP19760.i/17may05b.b/de0163.d
/chem/HP19760.i/17may05b.b/de0164.d
/chem/HP19760.i/17may05b.b/de0165.d
/chem/HP19760.i/17may05b.b/de0166.d
/chem/HP19760.i/17may05b.b/de0167.d
/chem/HP19760.i/17may05b.b/de0168.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP19760.i/17may28.b/de0821.d

Area Summary

File ID:

Internal Standard Name	de0821.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	216947	195284	97642	390568	Yes
Naphthalene-d8	819237	747503	373752	1495006	Yes
Acenaphthene-d10	474638	426791	213396	853582	Yes
Phenanthrene-d10	903267	816291	408146	1632582	Yes
Pyrene-d10	1095970	993842	496921	1987684	Yes
Perylene-d12	911974	828843	414422	1657686	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	de0821.d	ICAL RT	In Spec	
1,4-Dichlorobenzene-d4	6.471	6.728	No	*
Naphthalene-d8	8.411	8.657	No	
Acenaphthene-d10	11.203	11.449	No	
Phenanthrene-d10	13.133	13.337	No	
Pyrene-d10	15.044	15.290	No	
Perylene-d12	19.474	19.761	No	

A "No" indicates the retention time is greater than 10 seconds from the RT of the referenced standard.

Comments: * column maintenance
ARB 10206 05/28/17

Report generated on 05/28/2017 at 06:38

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0821.d Date Analyzed: 05/27/17

Instrument ID: HP19760 Time Analyzed: 23:52

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	216947	6.471	819237	8.411	474638	11.203
UPPER LIMIT	433894	6.971	1638474	8.911	949276	11.703
LOWER LIMIT	108474	5.971	409619	7.911	237319	10.703
LLI SAMPLE NO.						
01 SBLKWX142	177668	6.470	658330	8.411	367971	11.203
02 142WXLCS	166637	6.476	619042	8.411	351640	11.203
03 9005064RE	169335	6.470	636663	8.405	349677	11.197
04 9005065REMS	169860	6.470	632851	8.411	354830	11.203
05 9005066REMSD	165529	6.470	615072	8.411	346750	11.203
06 9005068RE	169471	6.470	635928	8.406	361565	11.197
07 9005069RE	176205	6.470	661312	8.406	373789	11.197
08 9005070RE	178313	6.470	659703	8.406	367020	11.197
09 9005071RE	182696	6.470	684305	8.405	382370	11.197
10 9006689RE	177806	6.470	672905	8.405	375646	11.197
11 9006690RE	169146	6.465	640431	8.406	356342	11.197
12 9006691RE	178576	6.470	673206	8.405	369993	11.197
13 9006692RE	172284	6.470	649987	8.405	362239	11.197
14 9006693RE	170868	6.470	638367	8.406	354129	11.203
15 9006694RE	180675	6.470	666727	8.406	373502	11.197
16 142WXUS	167359	6.470	632902	8.405	351511	11.197
17 142WXMS	168595	6.476	620541	8.411	354629	11.203

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0821.d Date Analyzed: 05/27/17

Instrument ID: HP19760 Time Analyzed: 23:52

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	903267	13.133	1095970	15.044	911974	19.474
UPPER LIMIT	1806534	13.633	2191940	15.544	1823948	19.974
LOWER LIMIT	451634	12.633	547985	14.544	455987	18.974
LLI SAMPLE NO.						
01 SBLKWX142	692866	13.127	815010	15.044	631490	19.474
02 142WXLCS	671139	13.127	804721	15.044	678621	19.474
03 9005064RE	672553	13.127	799117	15.038	640926	19.468
04 9005065RE	669644	13.127	825928	15.044	674630	19.474
05 9005066MSDSD	647821	13.127	805650	15.044	670198	19.474
06 9005068RE	690354	13.127	809651	15.039	647659	19.468
07 9005069RE	714592	13.127	828289	15.039	656789	19.468
08 9005070RE	688540	13.127	834645	15.039	642979	19.468
09 9005071RE	728443	13.127	864227	15.038	662244	19.468
10 9006689RE	721093	13.127	842683	15.038	652886	19.468
11 9006690RE	684993	13.127	808222	15.039	616187	19.468
12 9006691RE	708658	13.127	833235	15.038	651442	19.468
13 9006692RE	689171	13.127	810498	15.038	618160	19.468
14 9006693RE	688301	13.127	816003	15.039	647041	19.468
15 9006694RE	710939	13.127	835949	15.039	651807	19.468
16 142WXUS	668211	13.127	791713	15.038	603741	19.468
17 142WXMS	673619	13.132	806992	15.044	657057	19.474

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0821.d Date Analyzed: 05/27/17

Instrument ID: HP19760 Time Analyzed: 23:52

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	216947	6.471	819237	8.411	474638	11.203
	UPPER LIMIT	433894	6.971	1638474	8.911	949276	11.703
	LOWER LIMIT	108474	5.971	409619	7.911	237319	10.703
	LLI SAMPLE NO.						
18	142WXMSD	167492	6.476	616315	8.411	342529	11.203
19	9009414	168019	6.470	631283	8.405	350650	11.203
20	9009415	166246	6.470	631459	8.405	353825	11.197
21	9009416	169046	6.470	634780	8.405	356249	11.197
22	9009417	169656	6.470	636727	8.406	351459	11.203
23	9009418	166922	6.470	633986	8.405	353019	11.197

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0821.d Date Analyzed: 05/27/17

Instrument ID: HP19760 Time Analyzed: 23:52

		IS4(PHN)		IS5(PYR)		IS6(PRY)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	903267	13.133	1095970	15.044	911974	19.474
	UPPER LIMIT	1806534	13.633	2191940	15.544	1823948	19.974
	LOWER LIMIT	451634	12.633	547985	14.544	455987	18.974
	LLI SAMPLE NO.						
18	142WXMSD	667315	13.133	795372	15.044	662742	19.474
19	9009414	665812	13.127	796588	15.038	629075	19.468
20	9009415	674457	13.127	802039	15.038	625408	19.468
21	9009416	672568	13.127	800107	15.038	610232	19.468
22	9009417	666704	13.127	810214	15.039	616435	19.468
23	9009418	682732	13.127	803969	15.038	607738	19.468

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

14241: SVOAs 8270D MINI Analyte Name	Default MDL	Default LOQ	Units
Nitrobenzene	0.8	10	ug/l
2-Nitroaniline	0.7	10	ug/l
2,6-Dinitrotoluene	0.7	10	ug/l
2,4-Dinitrotoluene	0.6	10	ug/l
Diethylphthalate	0.5	10	ug/l
4-Nitroaniline	1	20	ug/l
bis(2-Ethylhexyl)phthalate	2	6	ug/l

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may28.b/de0840.d Injection date and time: **28-MAY-2017 08:55**
Data file Sample Info. Line: R8801;9009414;1;0;SAMPLE;;DRRAAP; Instrument ID: **HP19760.i** Batch: **17142WAX**
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Blank Data file reference: **/chem/HP19760.i/17may28.b/de0822.d**

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 28-MAY-2017 23:52
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may28.b/de0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.470	(0.000)	855	152	168019	(-23)	5.00	
65) Naphthalene-d8	8.405	(0.006)	1187	136	631283	(-23)	5.00	
113) Acenaphthene-d10	11.203	(0.000)	1667	164	350650	(-26)	5.00	
153) Phenanthrene-d10	13.127	(0.006)	1997	188	665812	(-26)	5.00	
175) Pyrene-d10	15.038	(0.006)	2325	212	796588	(-27)	5.00	
213) Perylene-d12	19.468	(0.006)	3085	264	629075	(-31)	5.00	

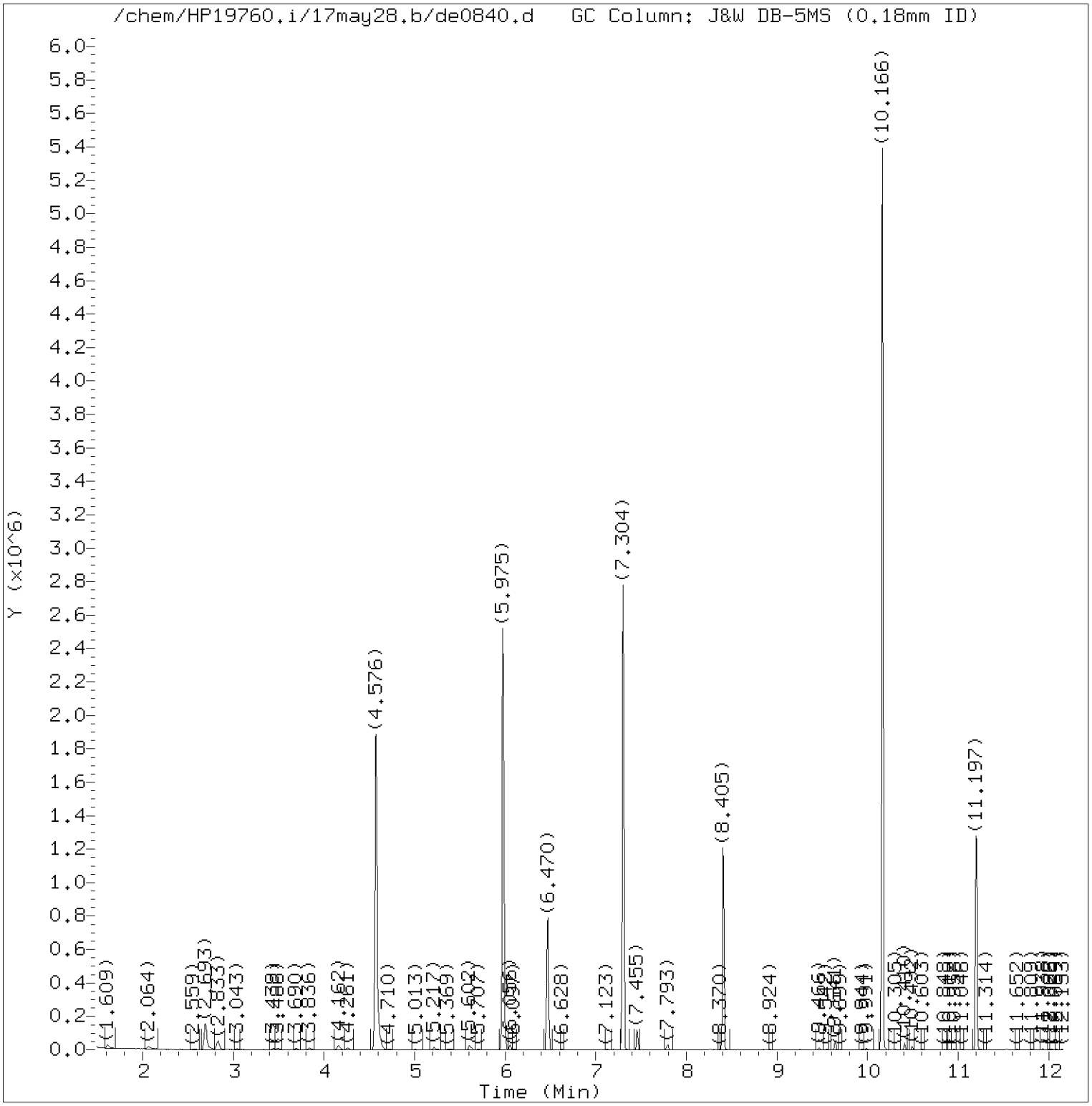
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.304	(0.000)	82	1175514	17.968	72%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.166	(0.000)	172	2015184	18.489	74%		41 - 112
179) Terphenyl-d14	(5)	15.365	(0.000)	244	2310137	19.762	79%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)				Not Detected					0.2
100) 2-Nitroaniline	(3)				Not Detected					0.2
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.2
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.2
124) Diethylphthalate	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.3
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.4

Total number of targets = 7

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:00. Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Matthew E. Barton on 06/05/2017 at 10:48. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

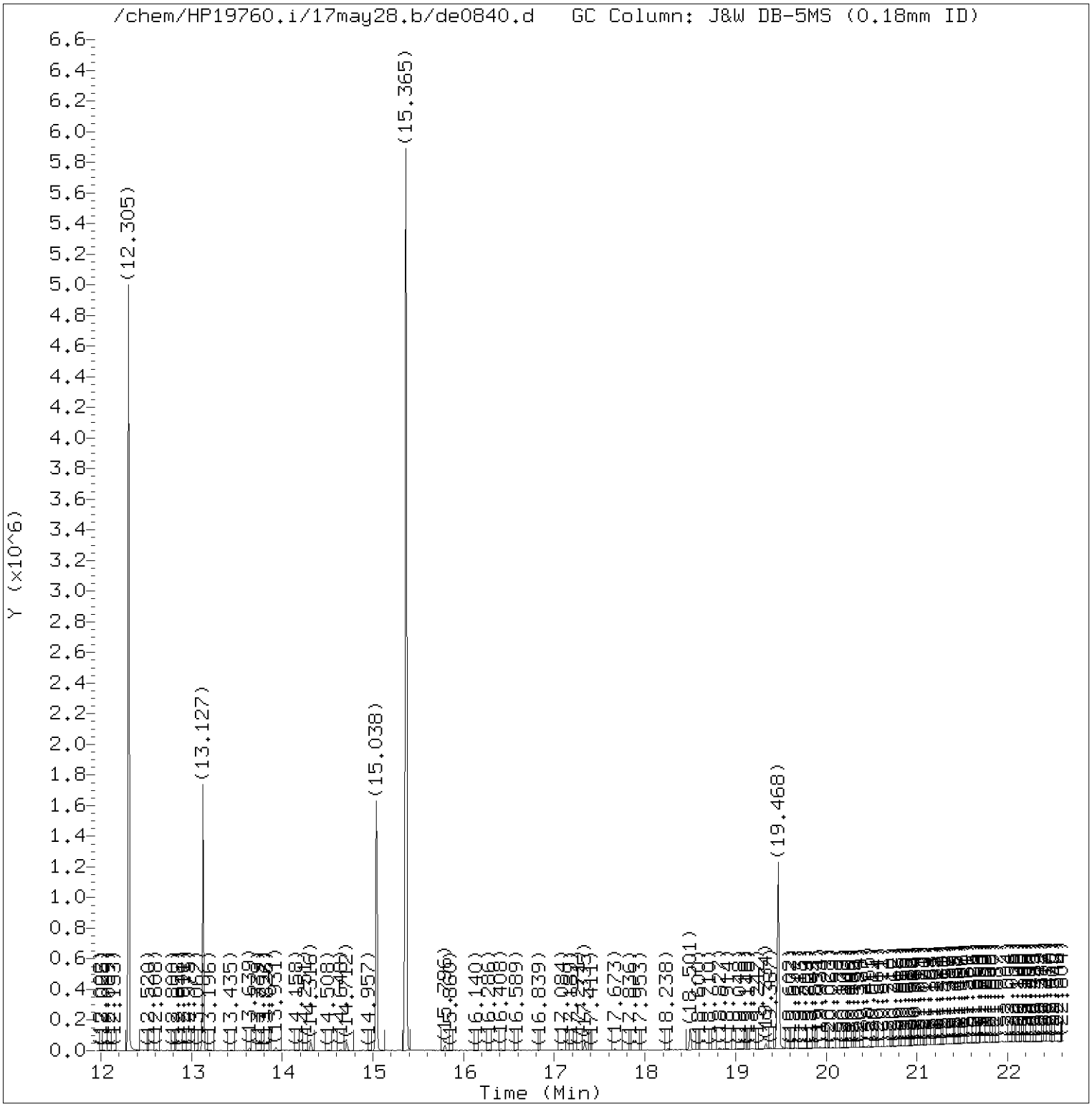
Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0840.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 08:55 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8801 Lab Sample ID: 9009414

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0840.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 08:55 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8801 Lab Sample ID: 9009414

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0840.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 08:55 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8801 Lab Sample ID: 9009414

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.470	152	168019	5.000
44)$Nitrobenzene-d5	(2)	7.304	82	1175514	17.968
65)*Naphthalene-d8	(2)	8.405	136	631283	5.000
93)$2-Fluorobiphenyl	(3)	10.166	172	2015184	18.489
113)*Acenaphthene-d10	(3)	11.203	164	350650	5.000
153)*Phenanthrene-d10	(4)	13.127	188	665812	5.000
175)*Pyrene-d10	(5)	15.038	212	796588	5.000
179)$Terphenyl-d14	(5)	15.365	244	2310137	19.762
213)*Perylene-d12	(6)	19.468	264	629075	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may28.b/de0841.d Injection date and time: **28-MAY-2017 09:22**
Data file Sample Info. Line: R8802;9009415;1;0;SAMPLE;;DRRAAP; Instrument ID: **HP19760.i** Batch: **17142WAX**
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Blank Data file reference: **/chem/HP19760.i/17may28.b/de0822.d**

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 28-MAY-2017 23:52
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may28.b/de0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.470	(0.000)	855	152	166246	(-23)	5.00	
65) Naphthalene-d8	8.405	(0.006)	1187	136	631459	(-23)	5.00	
113) Acenaphthene-d10	11.197	(0.006)	1666	164	353825	(-25)	5.00	
153) Phenanthrene-d10	13.127	(0.006)	1997	188	674457	(-25)	5.00	
175) Pyrene-d10	15.038	(0.006)	2325	212	802039	(-27)	5.00	
213) Perylene-d12	19.468	(0.006)	3085	264	625408	(-31)	5.00	

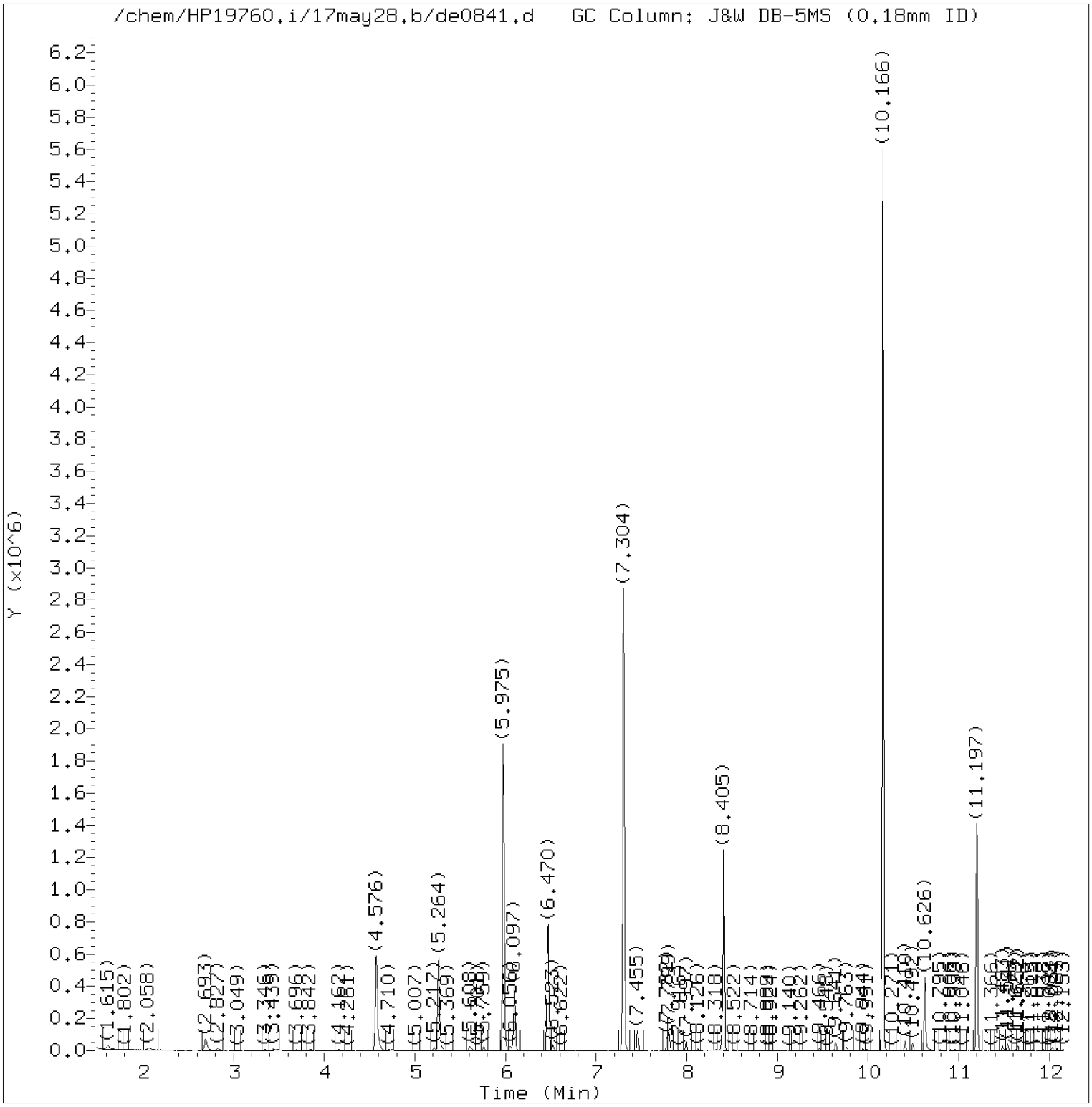
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.304	(0.000)	82	1219647	18.638	75%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.166	(0.000)	172	2124468	19.317	77%		41 - 112
179) Terphenyl-d14	(5)	15.365	(0.000)	244	2440415	20.735	83%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)				Not Detected					0.2
100) 2-Nitroaniline	(3)	10.498	(0.000)	138	5465	0.197	0.79		J	0.2
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.2
118) 2,4-Dinitrotoluene	(3)	11.541	(-0.000)	165	7109	0.232	0.93		J	0.2
124) Diethylphthalate	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.3
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.4

Total number of targets = 7

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:00. Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Matthew E. Barton on 06/05/2017 at 10:48. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

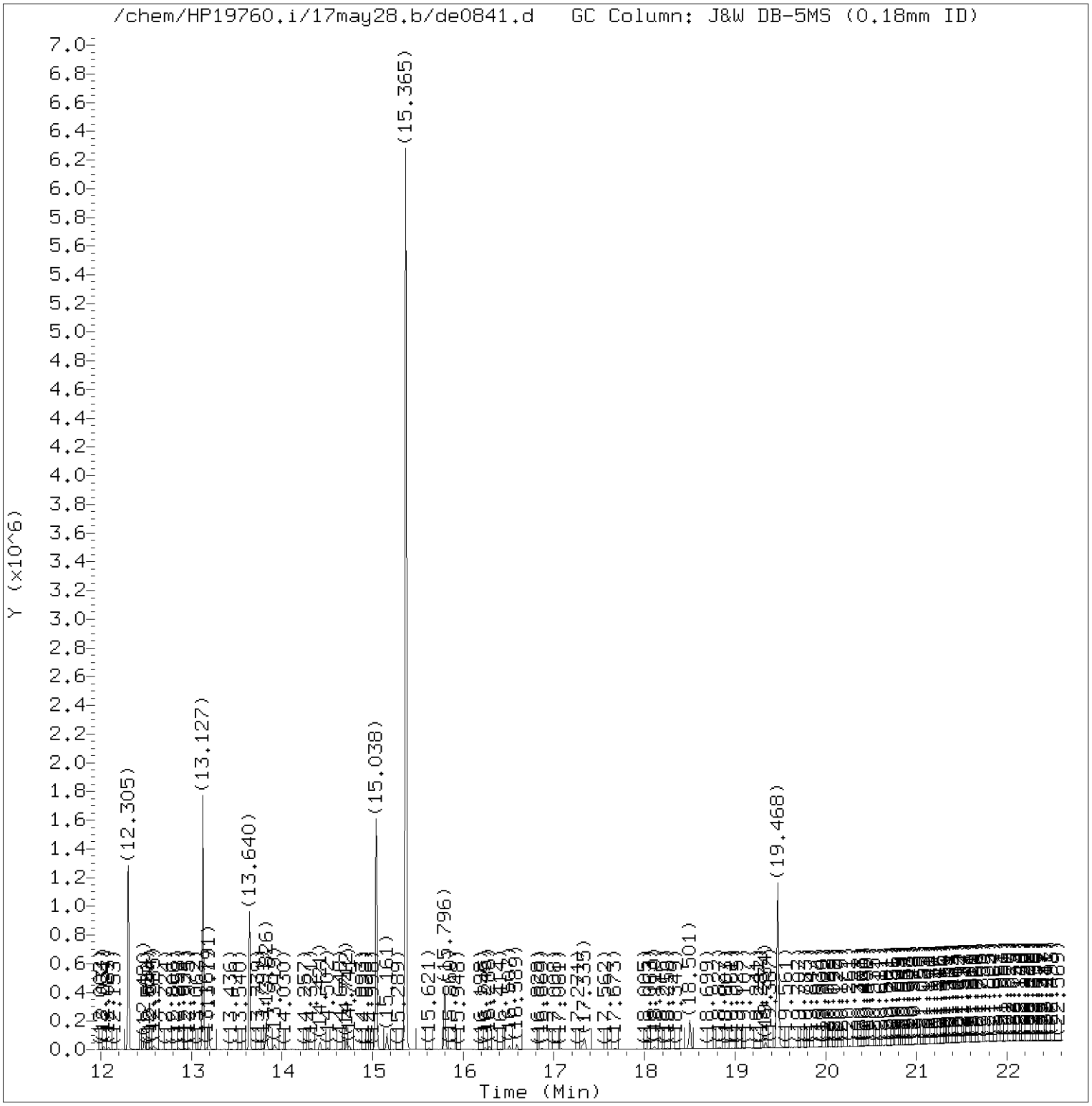
Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0841.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:22 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8802 Lab Sample ID: 9009415

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0841.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:22 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8802 Lab Sample ID: 9009415

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0841.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:22 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

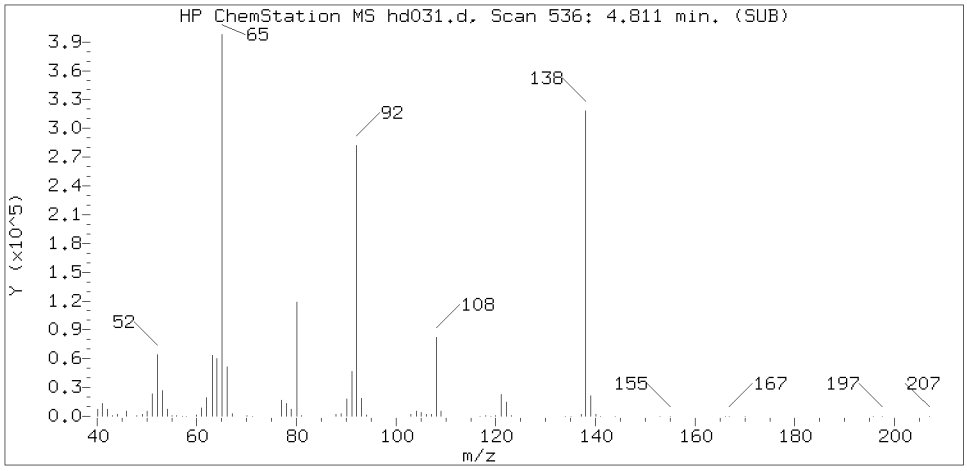
Sample Name: R8802 Lab Sample ID: 9009415

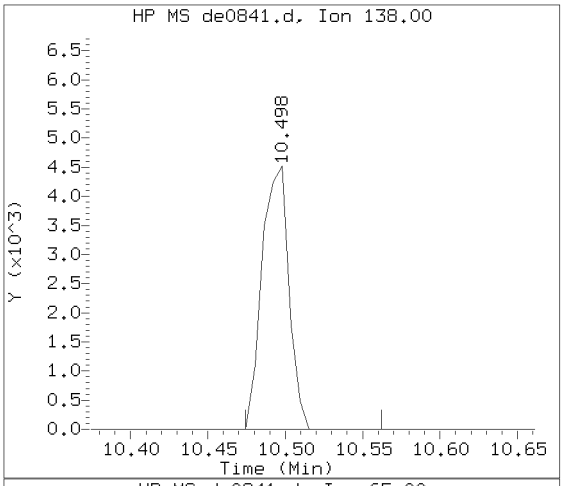
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.470	152	166246	5.000
44)$Nitrobenzene-d5	(2)	7.304	82	1219647	18.638
65)*Naphthalene-d8	(2)	8.405	136	631459	5.000
93)$2-Fluorobiphenyl	(3)	10.166	172	2124468	19.317
100) 2-Nitroaniline	(3)	10.498	138	5465	0.197
113)*Acenaphthene-d10	(3)	11.197	164	353825	5.000
118) 2,4-Dinitrotoluene	(3)	11.541	165	7109	0.232
153)*Phenanthrene-d10	(4)	13.127	188	674457	5.000
175)*Pyrene-d10	(5)	15.038	212	802039	5.000
179)$Terphenyl-d14	(5)	15.365	244	2440415	20.735
213)*Perylene-d12	(6)	19.468	264	625408	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

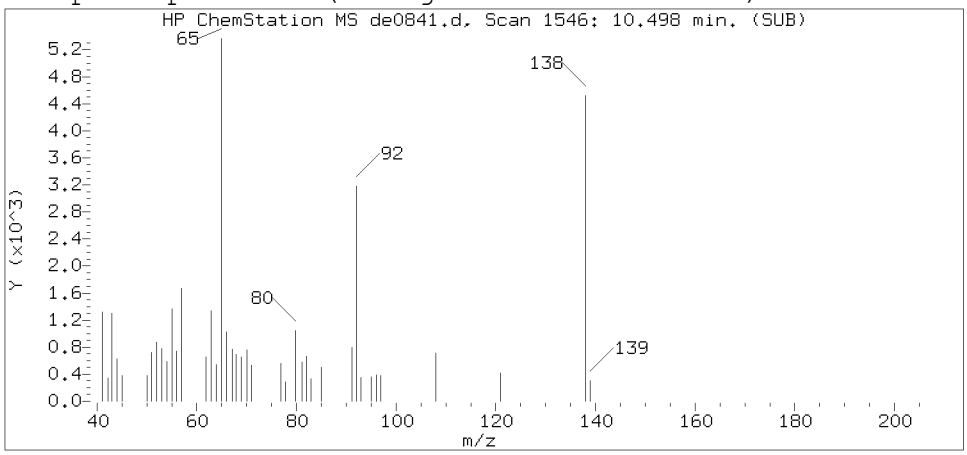
Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

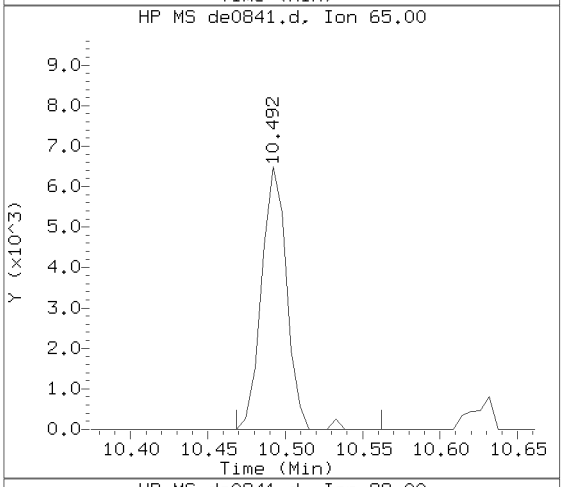
Reference Standard Spectrum for 2-Nitroaniline



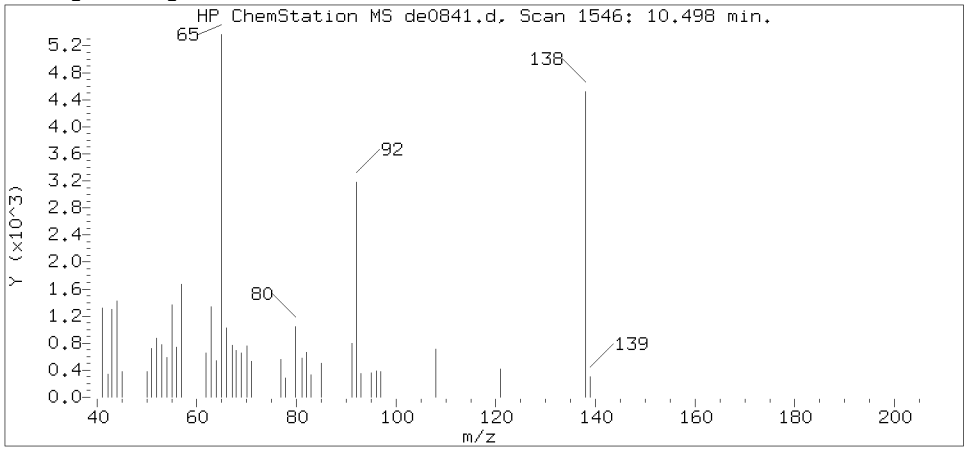


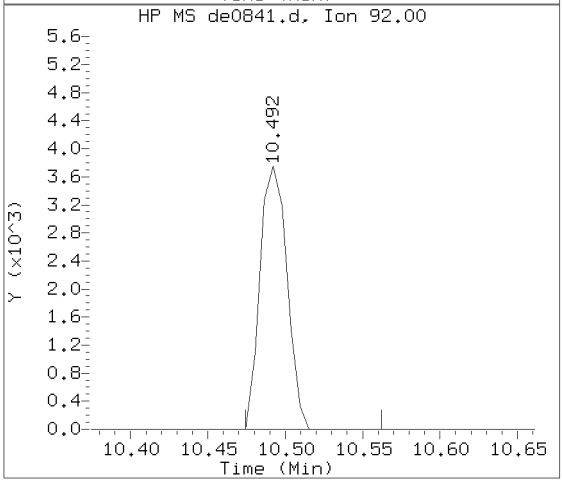
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP19760.i/17may28.b/de0841.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:22 Analyst ID: apb10206

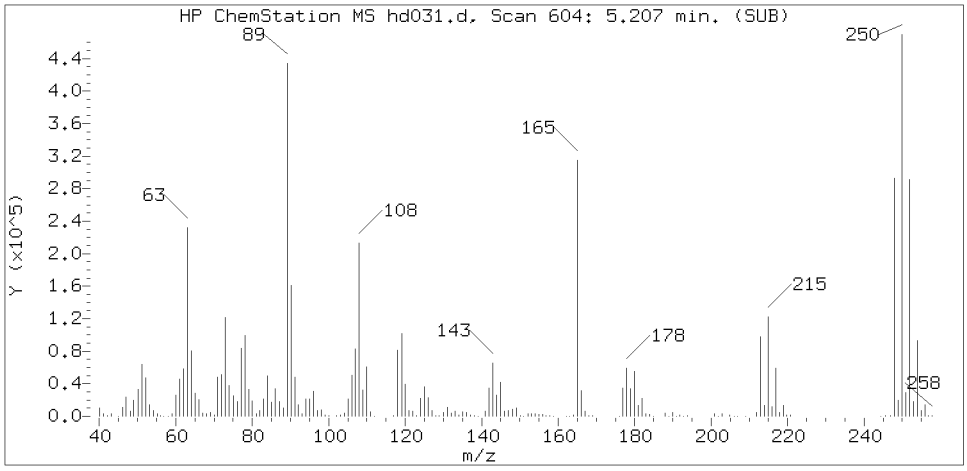
Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

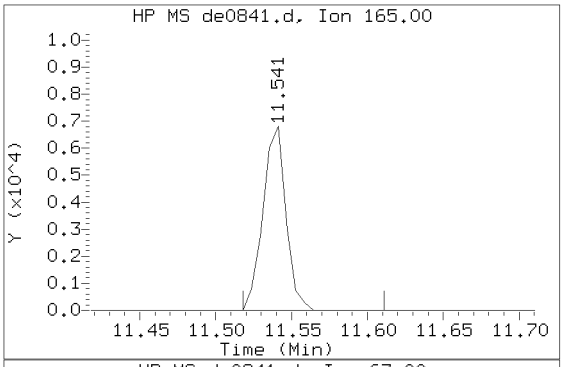
Sample Name: R8802 Lab Sample ID: 9009415

Compound Number	: 100
Compound Name	: 2-Nitroaniline
Scan Number	: 1546
Retention Time (minutes)	: 10.498
Relative Retention Time	: 0.00003
Quant Ion	: 138.00
Area (flag)	: 5465
On-column Amount (ng/ul)	: 0.1971

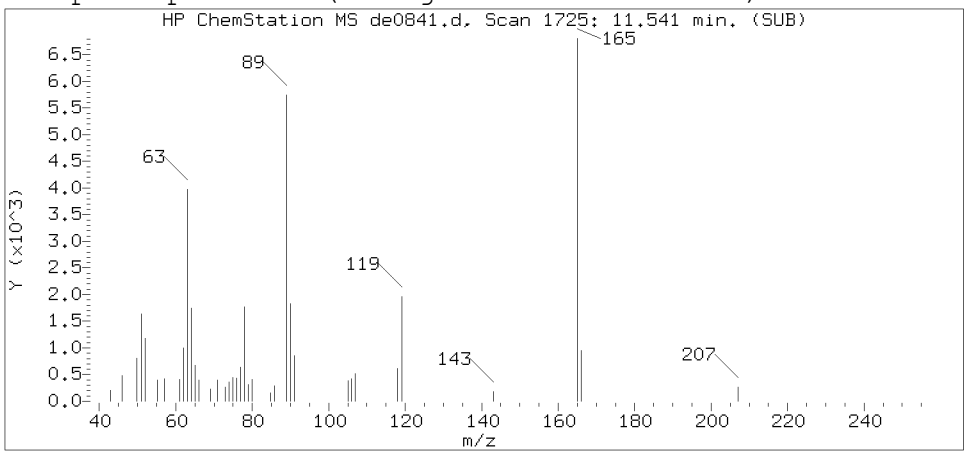
Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

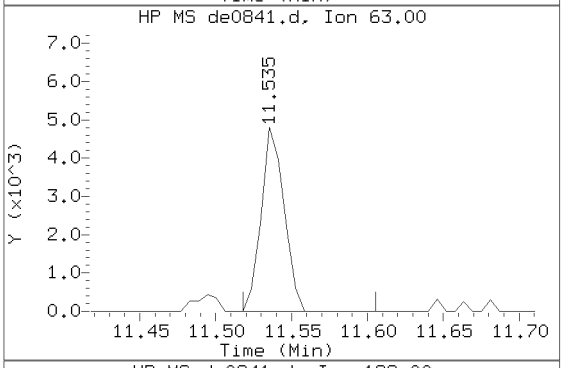
Reference Standard Spectrum for 2,4-Dinitrotoluene

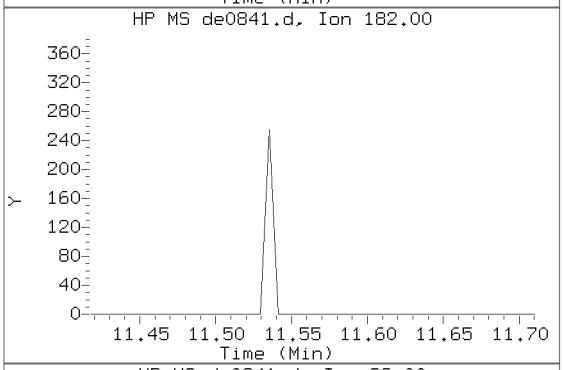




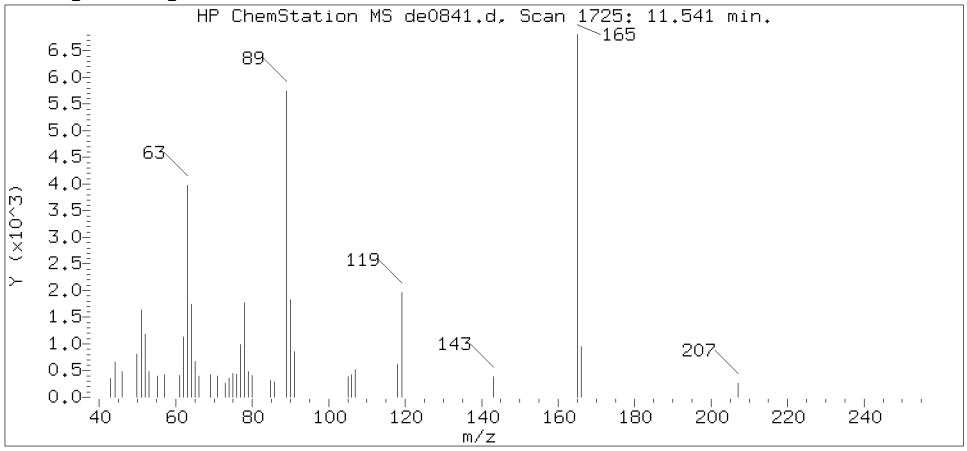
Sample Spectrum (Background Subtracted)

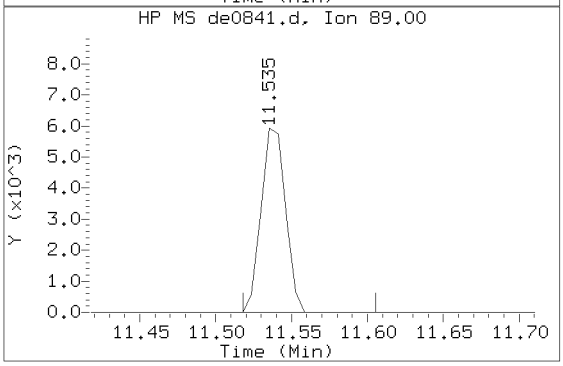






Sample Spectrum (Unaltered)





Data File: /chem/HP19760.i/17may28.b/de0841.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:22 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8802 Lab Sample ID: 9009415

Compound Number : 118
Compound Name : 2,4-Dinitrotoluene
Scan Number : 1725
Retention Time (minutes) : 11.541
Relative Retention Time :-0.00002
Quant Ion : 165.00
Area (flag) : 7109
On-column Amount (ng/ul) : 0.2318

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may28.b/de0842.d Injection date and time: **28-MAY-2017 09:50**
Data file Sample Info. Line: R8803;9009416;1;0;SAMPLE;;DRRAAP; Instrument ID: **HP19760.i** Batch: **17142WAX**
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Blank Data file reference: **/chem/HP19760.i/17may28.b/de0822.d**

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 28-MAY-2017 23:52
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may28.b/de0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.470	(0.000)	855	152	169046	(-22)	5.00	
65) Naphthalene-d8	8.405	(0.006)	1187	136	634780	(-23)	5.00	
113) Acenaphthene-d10	11.197	(0.006)	1666	164	356249	(-25)	5.00	
153) Phenanthrene-d10	13.127	(0.006)	1997	188	672568	(-26)	5.00	
175) Pyrene-d10	15.038	(0.006)	2325	212	800107	(-27)	5.00	
213) Perylene-d12	19.468	(0.006)	3085	264	610232	(-33)	5.00	

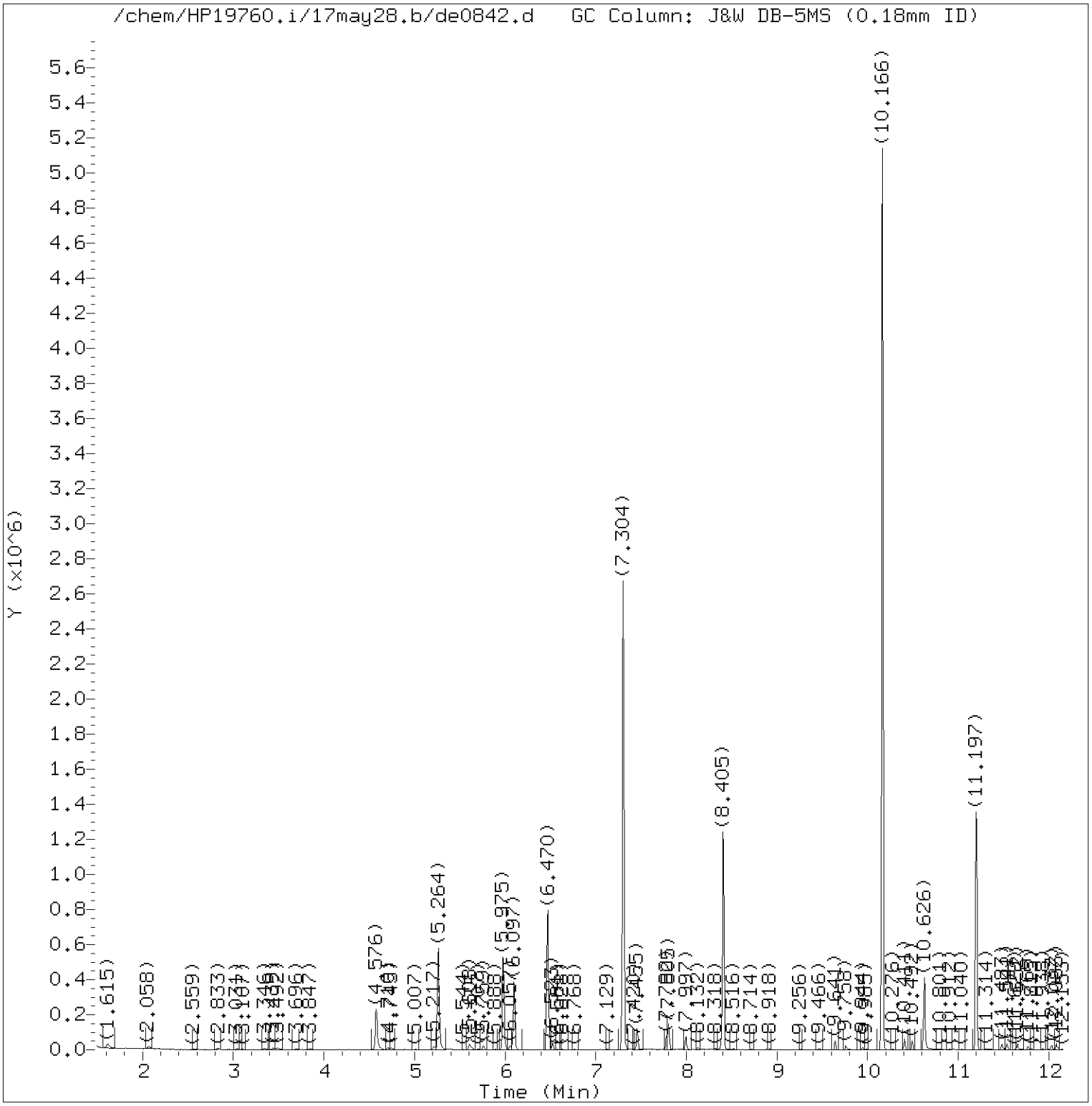
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.304	(0.000)	82	1131168	17.195	69%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.166	(0.000)	172	1935291	17.477	70%		41 - 112
179) Terphenyl-d14	(5)	15.365	(0.000)	244	2301037	19.598	78%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)				Not Detected					0.2
100) 2-Nitroaniline	(3)				Not Detected					0.2
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.2
118) 2,4-Dinitrotoluene	(3)	11.541	(-0.000)	165	6482	0.210	0.85		J	0.2
124) Diethylphthalate	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.3
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.4

Total number of targets = 7

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:00. Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Matthew E. Barton on 06/05/2017 at 10:48. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

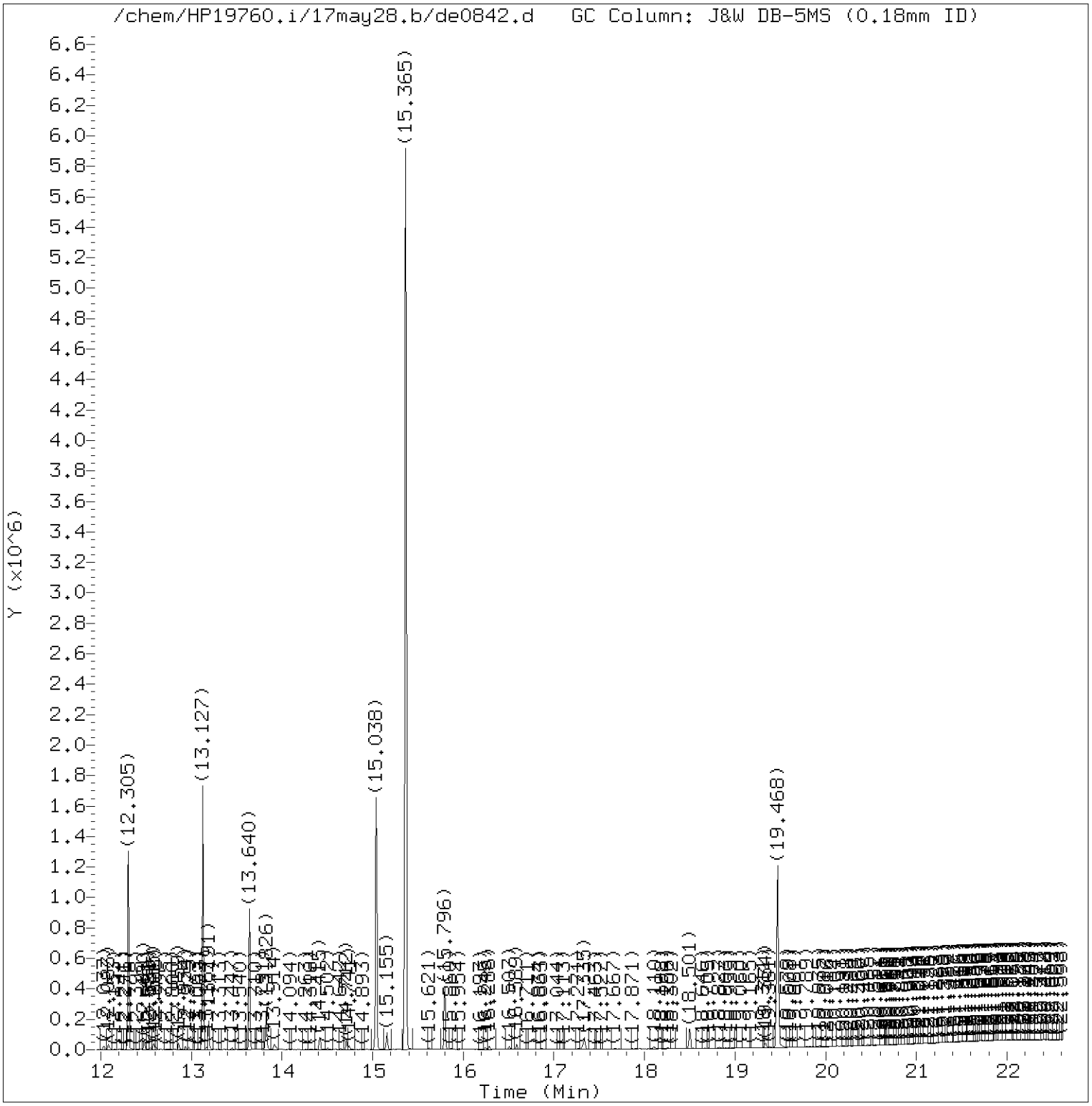
Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0842.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:50 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8803 Lab Sample ID: 9009416

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0842.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:50 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8803 Lab Sample ID: 9009416

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0842.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:50 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

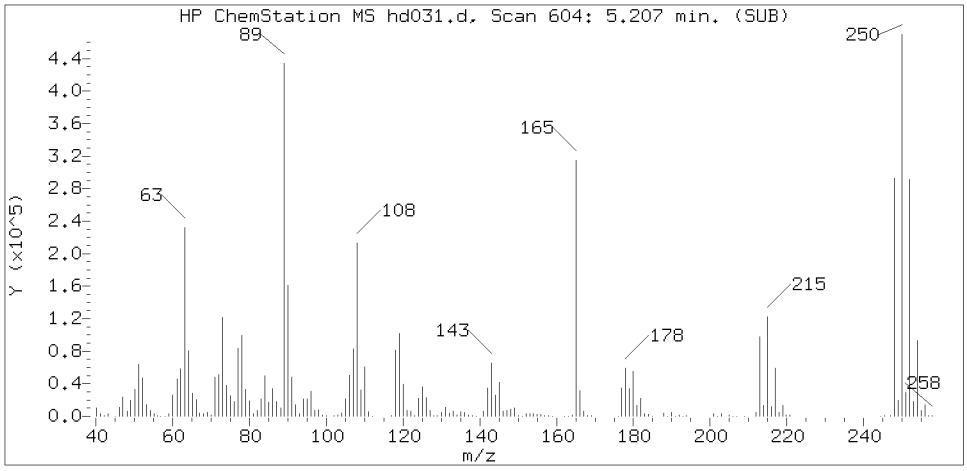
Sample Name: R8803 Lab Sample ID: 9009416

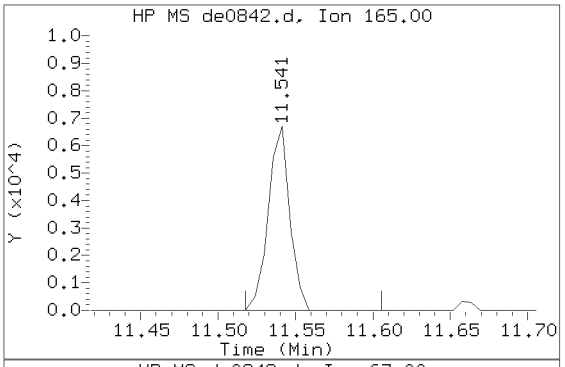
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.470	152	169046	5.000
44)$Nitrobenzene-d5	(2)	7.304	82	1131168	17.195
65)*Naphthalene-d8	(2)	8.405	136	634780	5.000
93)$2-Fluorobiphenyl	(3)	10.166	172	1935291	17.477
113)*Acenaphthene-d10	(3)	11.197	164	356249	5.000
118) 2,4-Dinitrotoluene	(3)	11.541	165	6482	0.210
153)*Phenanthrene-d10	(4)	13.127	188	672568	5.000
175)*Pyrene-d10	(5)	15.038	212	800107	5.000
179)$Terphenyl-d14	(5)	15.365	244	2301037	19.598
213)*Perylene-d12	(6)	19.468	264	610232	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

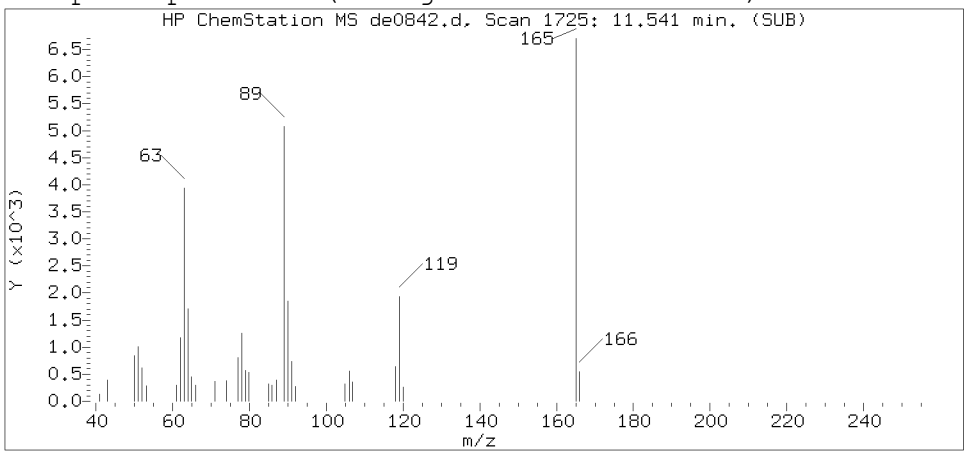
Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

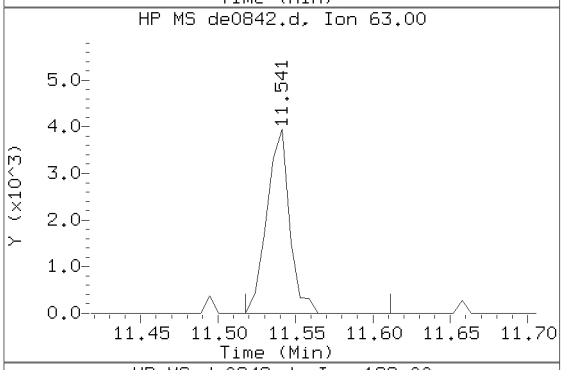
Reference Standard Spectrum for 2,4-Dinitrotoluene

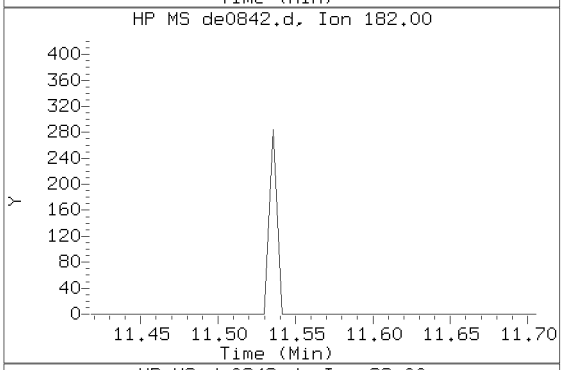




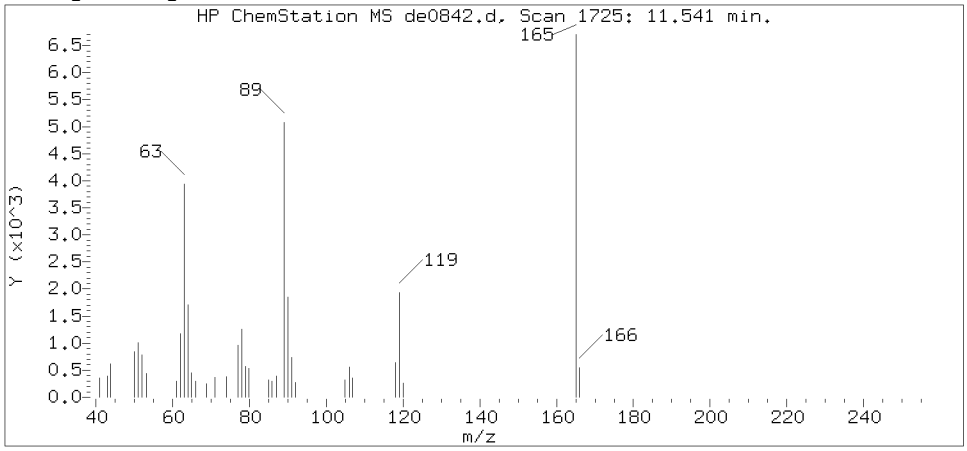
Sample Spectrum (Background Subtracted)

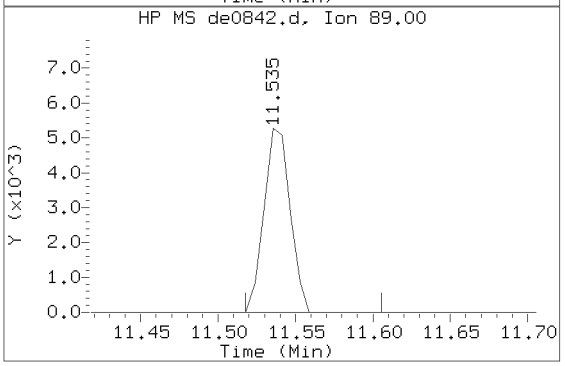






Sample Spectrum (Unaltered)





Data File: /chem/HP19760.i/17may28.b/de0842.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 09:50 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8803 Lab Sample ID: 9009416

Compound Number : 118
Compound Name : 2,4-Dinitrotoluene
Scan Number : 1725
Retention Time (minutes) : 11.541
Relative Retention Time :-0.00001
Quant Ion : 165.00
Area (flag) : 6482
On-column Amount (ng/ul) : 0.2099

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may28.b/de0843.d Injection date and time: **28-MAY-2017 10:18**
Data file Sample Info. Line: R8804;9009417;1;0;SAMPLE;;DRRAAP; Instrument ID: **HP19760.i** Batch: **17142WAX**
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Blank Data file reference: **/chem/HP19760.i/17may28.b/de0822.d**

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 28-MAY-2017 23:52
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may28.b/de0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.470	(0.000)	855	152	169656	(-22)	5.00	
65) Naphthalene-d8	8.406	(0.006)	1187	136	636727	(-22)	5.00	
113) Acenaphthene-d10	11.203	(0.000)	1667	164	351459	(-26)	5.00	
153) Phenanthrene-d10	13.127	(0.006)	1997	188	666704	(-26)	5.00	
175) Pyrene-d10	15.039	(0.006)	2325	212	810214	(-26)	5.00	
213) Perylene-d12	19.468	(0.006)	3085	264	616435	(-32)	5.00	

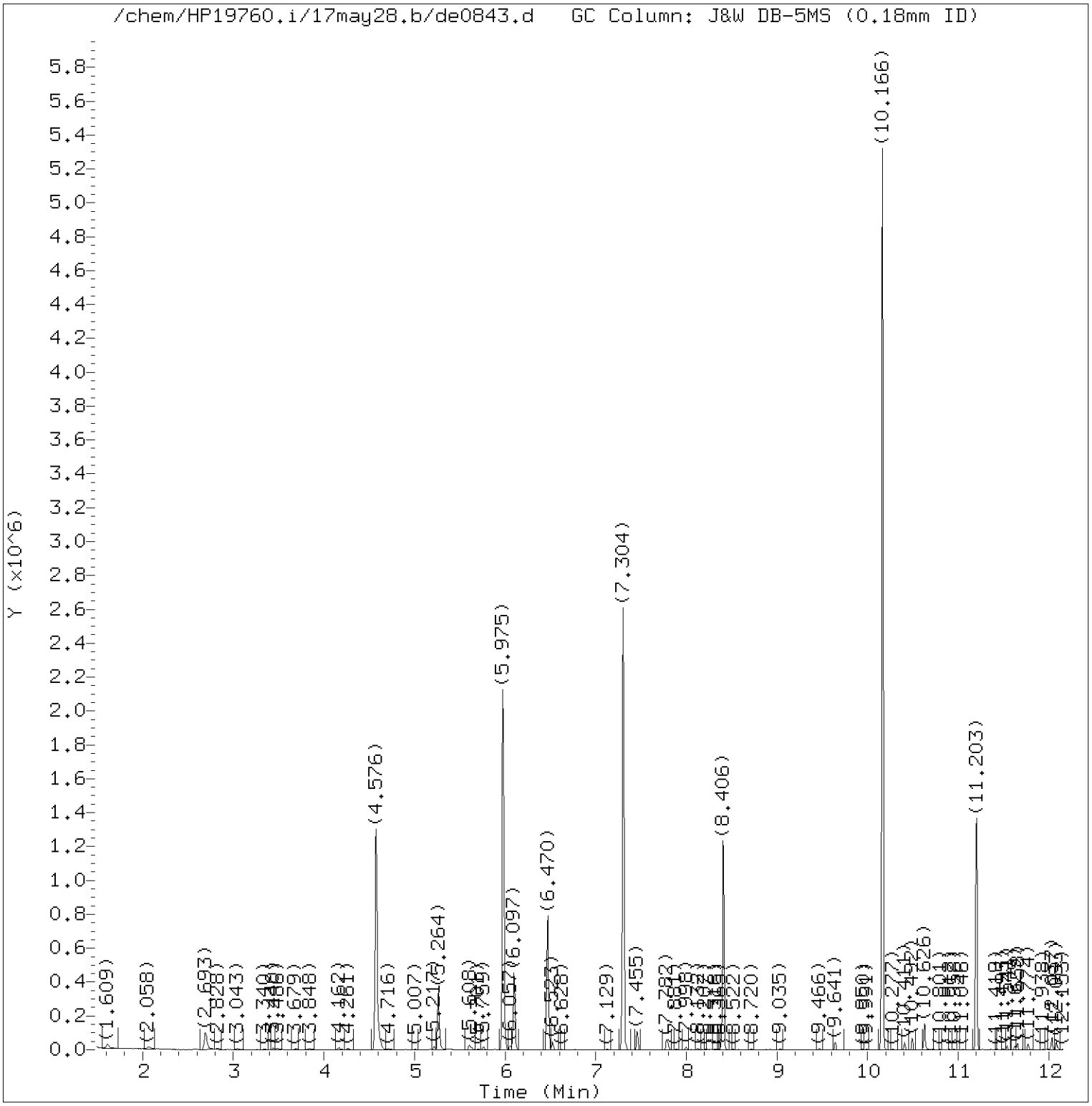
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.304	(0.000)	82	1138133	17.248	69%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.166	(0.000)	172	1973679	18.066	72%		41 - 112
179) Terphenyl-d14	(5)	15.365	(0.000)	244	2115992	17.797	71%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)	7.333	(0.000)	77	14156	0.213	0.86		J	0.2
100) 2-Nitroaniline	(3)	10.492	(0.001)	138	10748	0.390	1.58		J	0.2
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.2
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.2
124) Diethylphthalate	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.3
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.4

Total number of targets = 7

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:01. Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Matthew E. Barton on 06/05/2017 at 10:48. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

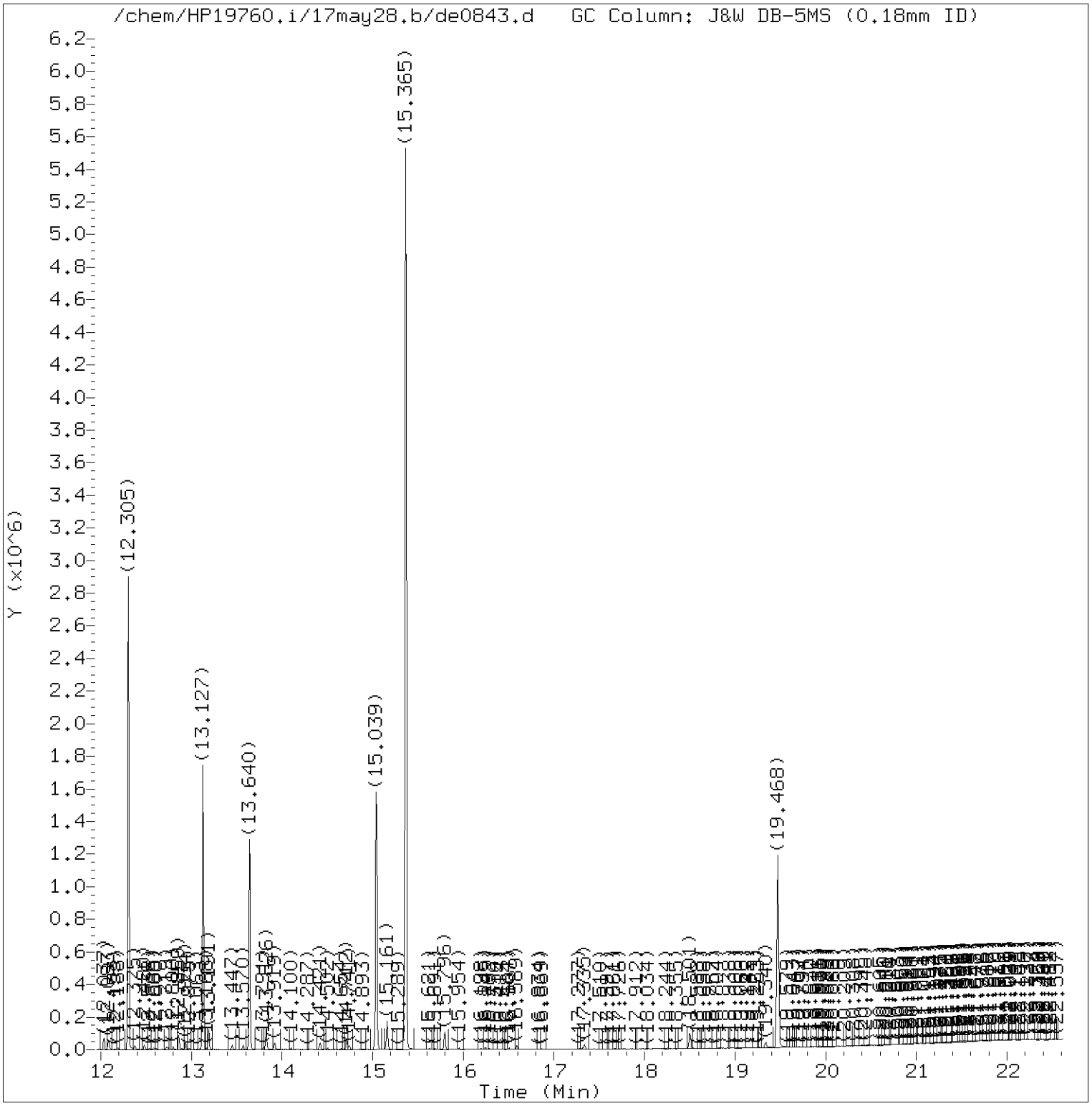
Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0843.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:18 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8804 Lab Sample ID: 9009417

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0843.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:18 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8804 Lab Sample ID: 9009417

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0843.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:18 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

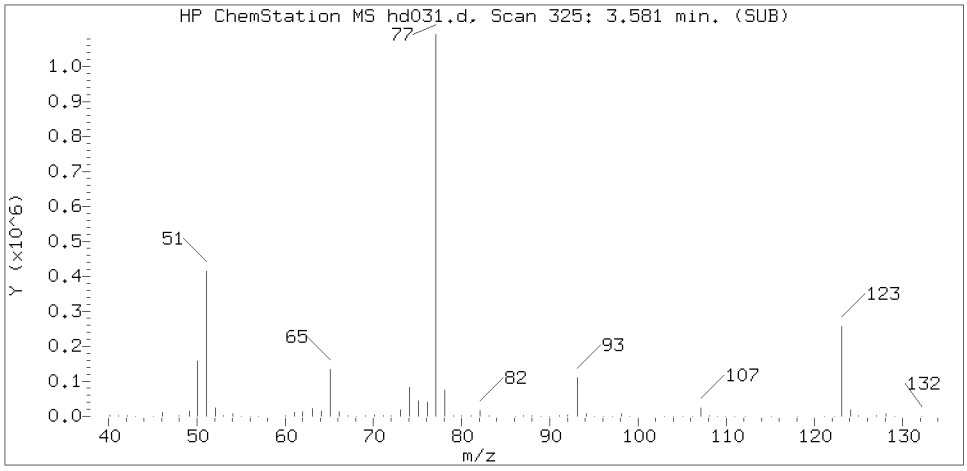
Sample Name: R8804 Lab Sample ID: 9009417

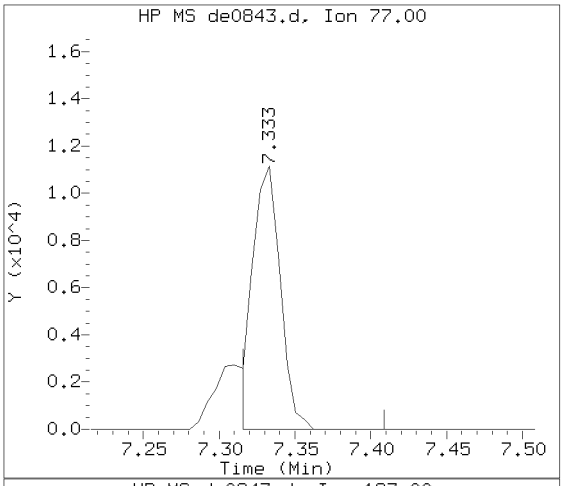
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.470	152	169656	5.000
44)$Nitrobenzene-d5	(2)	7.304	82	1138133	17.248
45) Nitrobenzene	(2)	7.333	77	14156	0.213
65)*Naphthalene-d8	(2)	8.406	136	636727	5.000
93)$2-Fluorobiphenyl	(3)	10.166	172	1973679	18.066
100) 2-Nitroaniline	(3)	10.492	138	10748	0.390
113)*Acenaphthene-d10	(3)	11.203	164	351459	5.000
153)*Phenanthrene-d10	(4)	13.127	188	666704	5.000
175)*Pyrene-d10	(5)	15.039	212	810214	5.000
179)$Terphenyl-d14	(5)	15.365	244	2115992	17.797
213)*Perylene-d12	(6)	19.468	264	616435	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

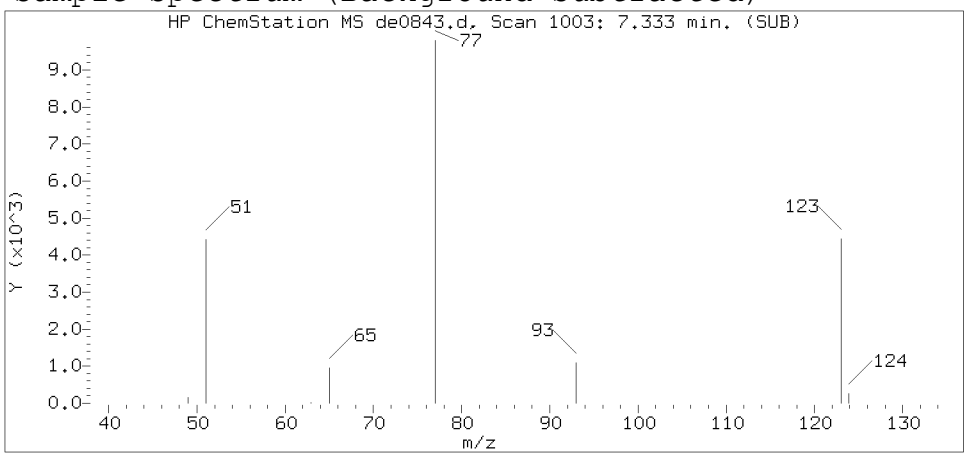
Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

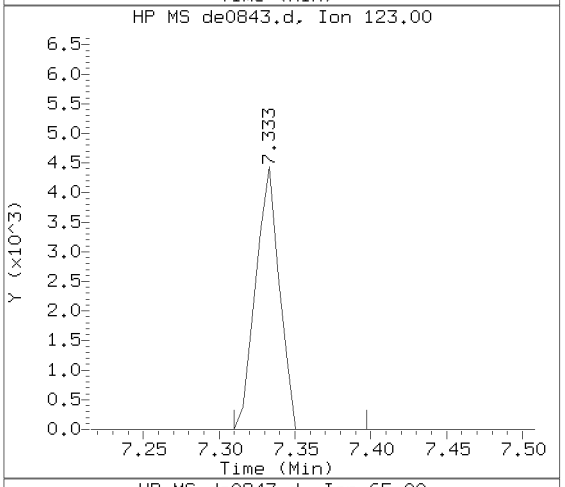
Reference Standard Spectrum for Nitrobenzene



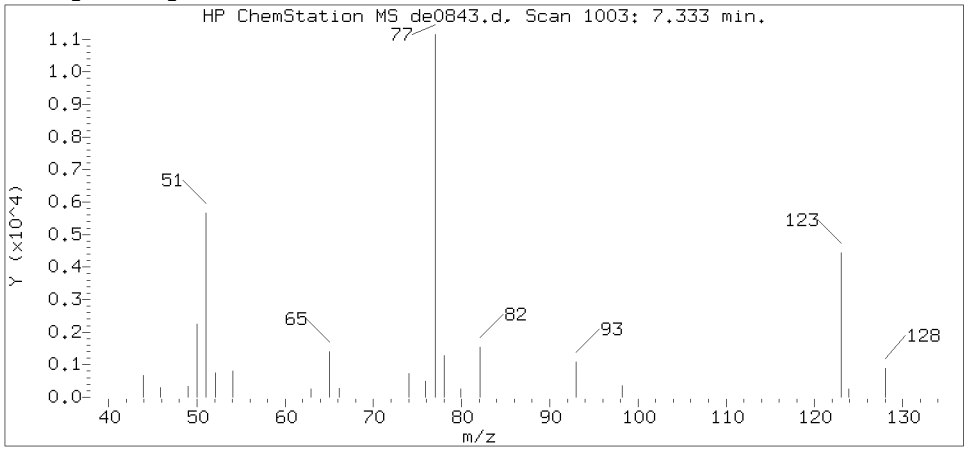


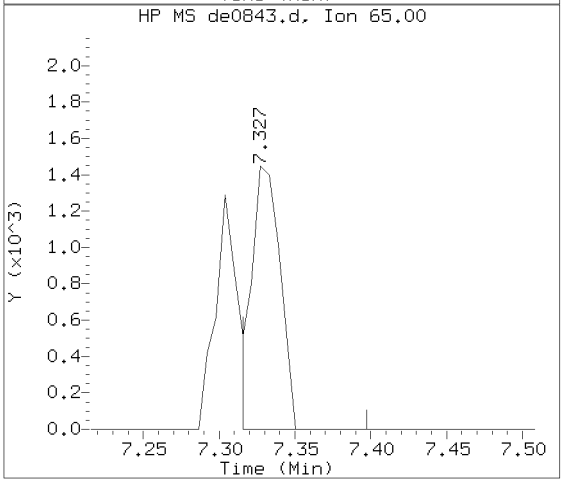
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP19760.i/17may28.b/de0843.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:18 Analyst ID: apb10206

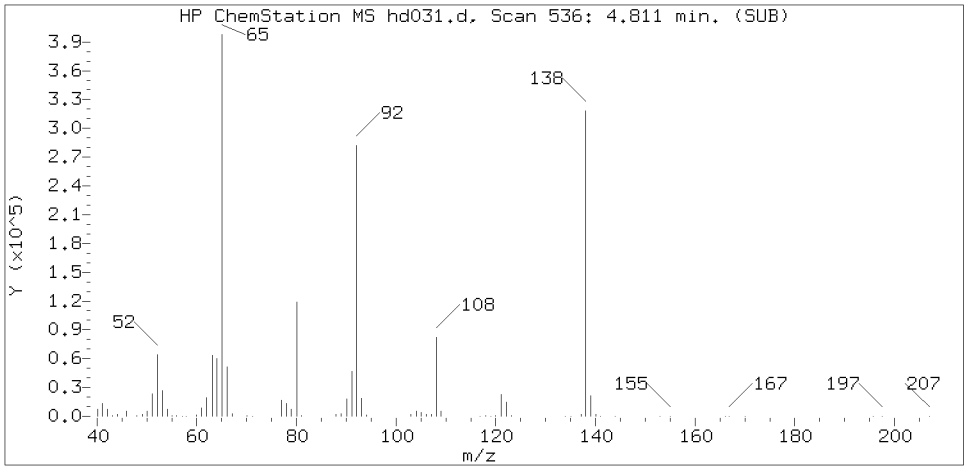
Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

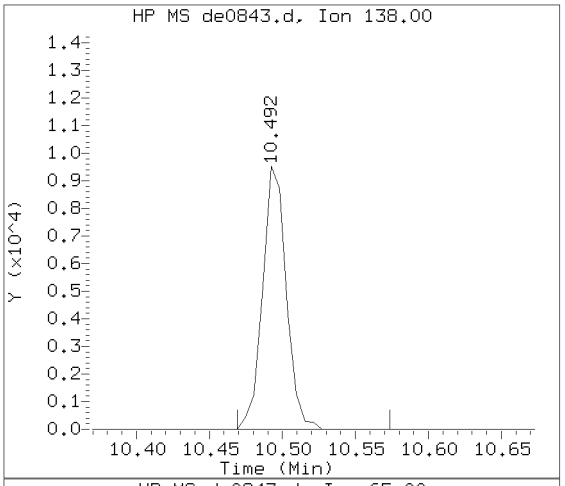
Sample Name: R8804 Lab Sample ID: 9009417

Compound Number	: 45
Compound Name	: Nitrobenzene
Scan Number	: 1003
Retention Time (minutes)	: 7.333
Relative Retention Time	: 0.00009
Quant Ion	: 77.00
Area (flag)	: 14156
On-column Amount (ng/ul)	: 0.2130

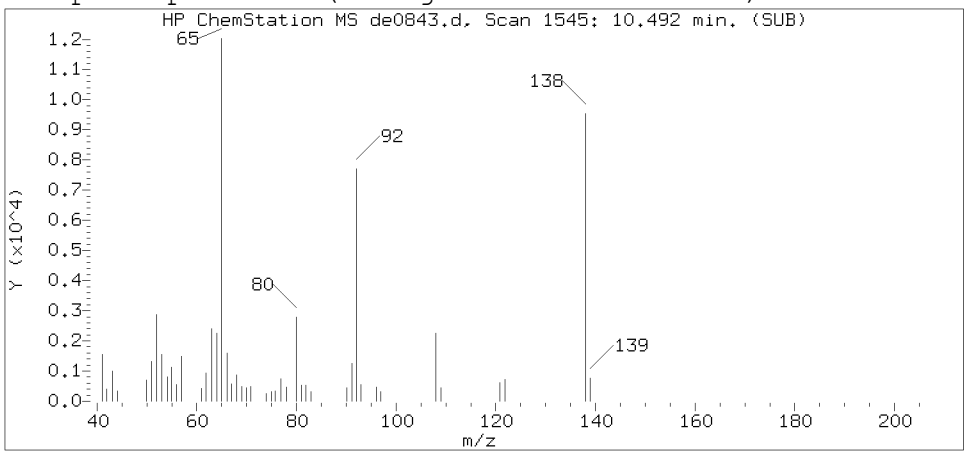
Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

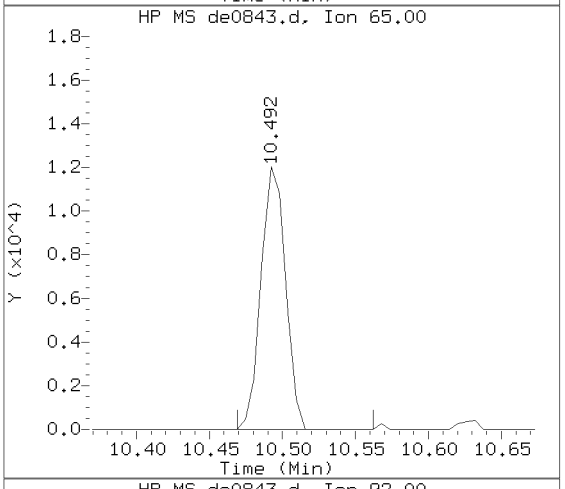
Reference Standard Spectrum for 2-Nitroaniline



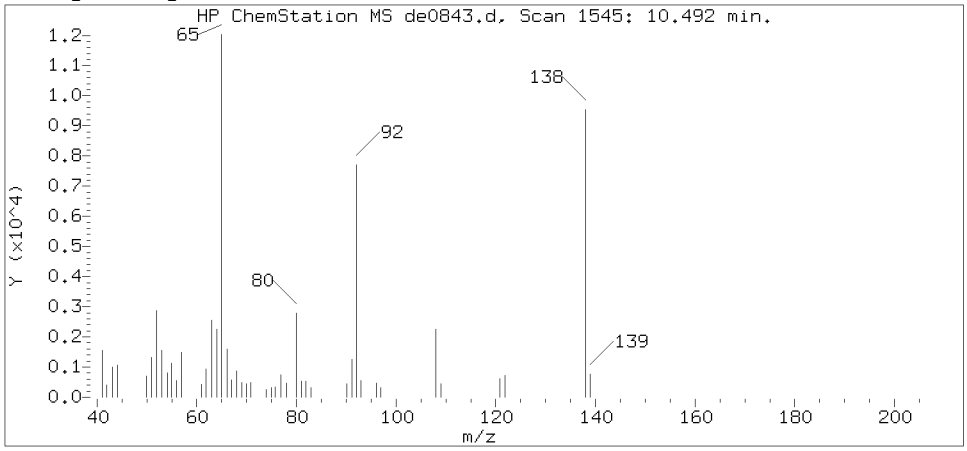


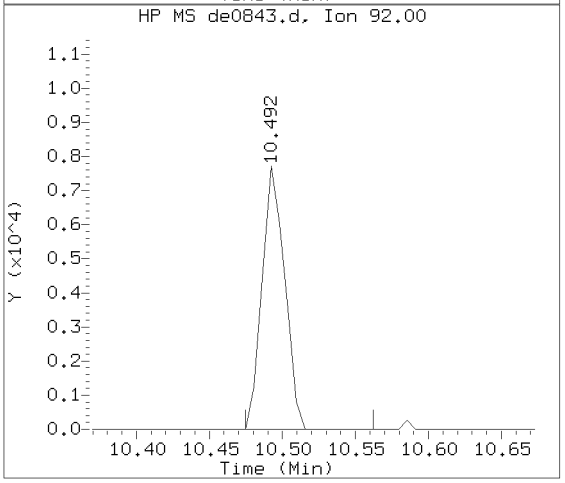
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP19760.i/17may28.b/de0843.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:18 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8804 Lab Sample ID: 9009417

Compound Number	: 100
Compound Name	: 2-Nitroaniline
Scan Number	: 1545
Retention Time (minutes)	: 10.492
Relative Retention Time	: 0.00104
Quant Ion	: 138.00
Area (flag)	: 10748
On-column Amount (ng/ul)	: 0.3903

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may28.b/de0844.d
Injection date and time: **28-MAY-2017 10:45**
Data file Sample Info. Line: R8805;9009418;1;0;SAMPLE;;DRRAAP;
Instrument ID: **HP19760.i** Batch: **17142WAX**
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Blank Data file reference: **/chem/HP19760.i/17may28.b/de0822.d**

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 28-MAY-2017 23:52
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may28.b/de0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.470	(0.000)	855	152	166922	(-23)	5.00	
65) Naphthalene-d8	8.405	(0.006)	1187	136	633986	(-23)	5.00	
113) Acenaphthene-d10	11.197	(0.006)	1666	164	353019	(-26)	5.00	
153) Phenanthrene-d10	13.127	(0.006)	1997	188	682732	(-24)	5.00	
175) Pyrene-d10	15.038	(0.006)	2325	212	803969	(-27)	5.00	
213) Perylene-d12	19.468	(0.006)	3085	264	607738	(-33)	5.00	

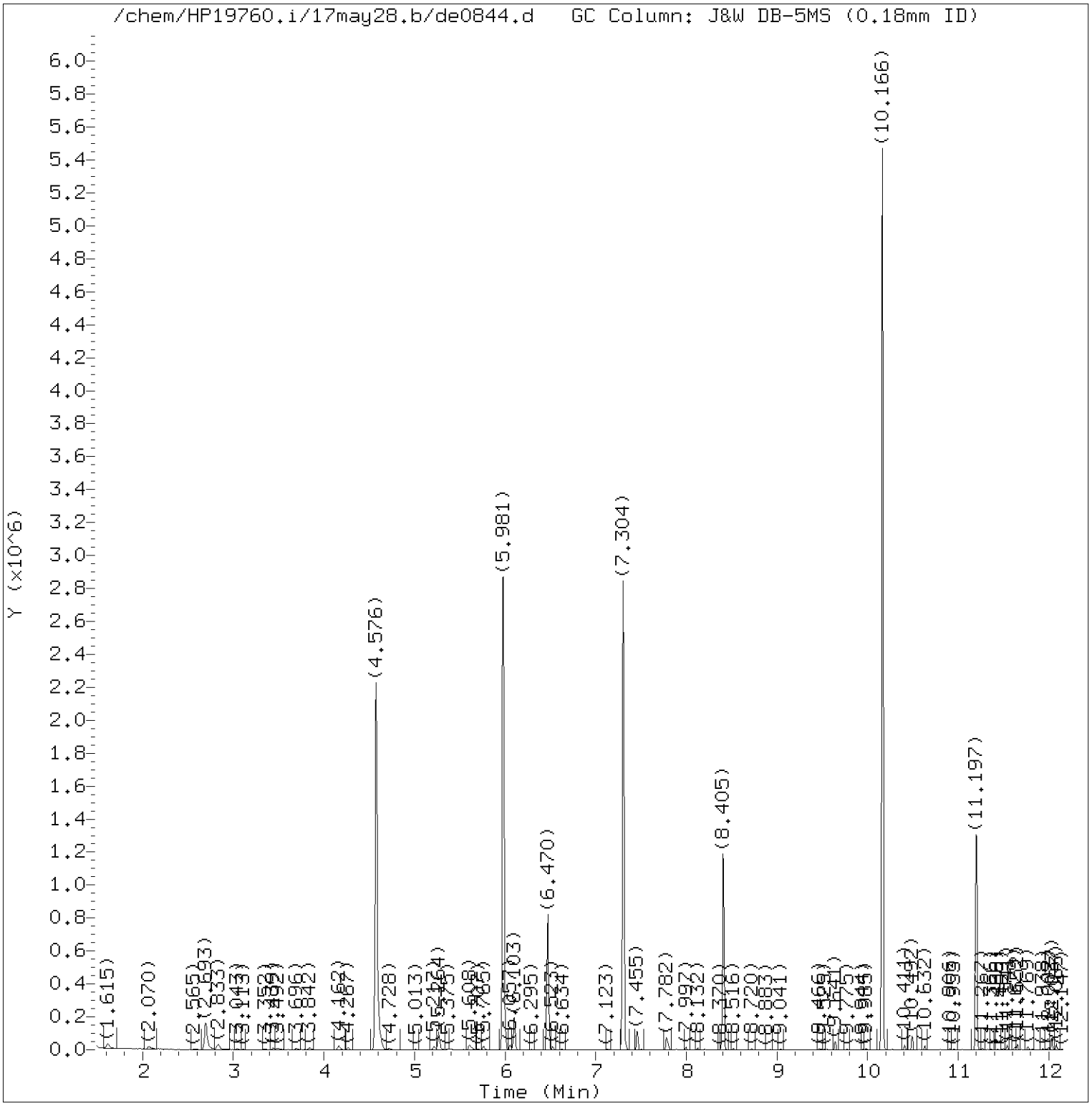
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.304	(0.000)	82	1205408	18.346	73%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.166	(0.000)	172	2073941	18.900	76%		41 - 112
179) Terphenyl-d14	(5)	15.365	(0.000)	244	2253991	19.105	76%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)	7.333	(0.000)	77	14728	0.223	0.89		J	0.2
100) 2-Nitroaniline	(3)	10.498	(0.000)	138	13545	0.490	1.97		J	0.2
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.2
118) 2,4-Dinitrotoluene	(3)	11.541	(-0.000)	165	4931	0.161	0.65		J	0.2
124) Diethylphthalate	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.3
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.4

Total number of targets = 7

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:01. Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Matthew E. Barton on 06/05/2017 at 10:48. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

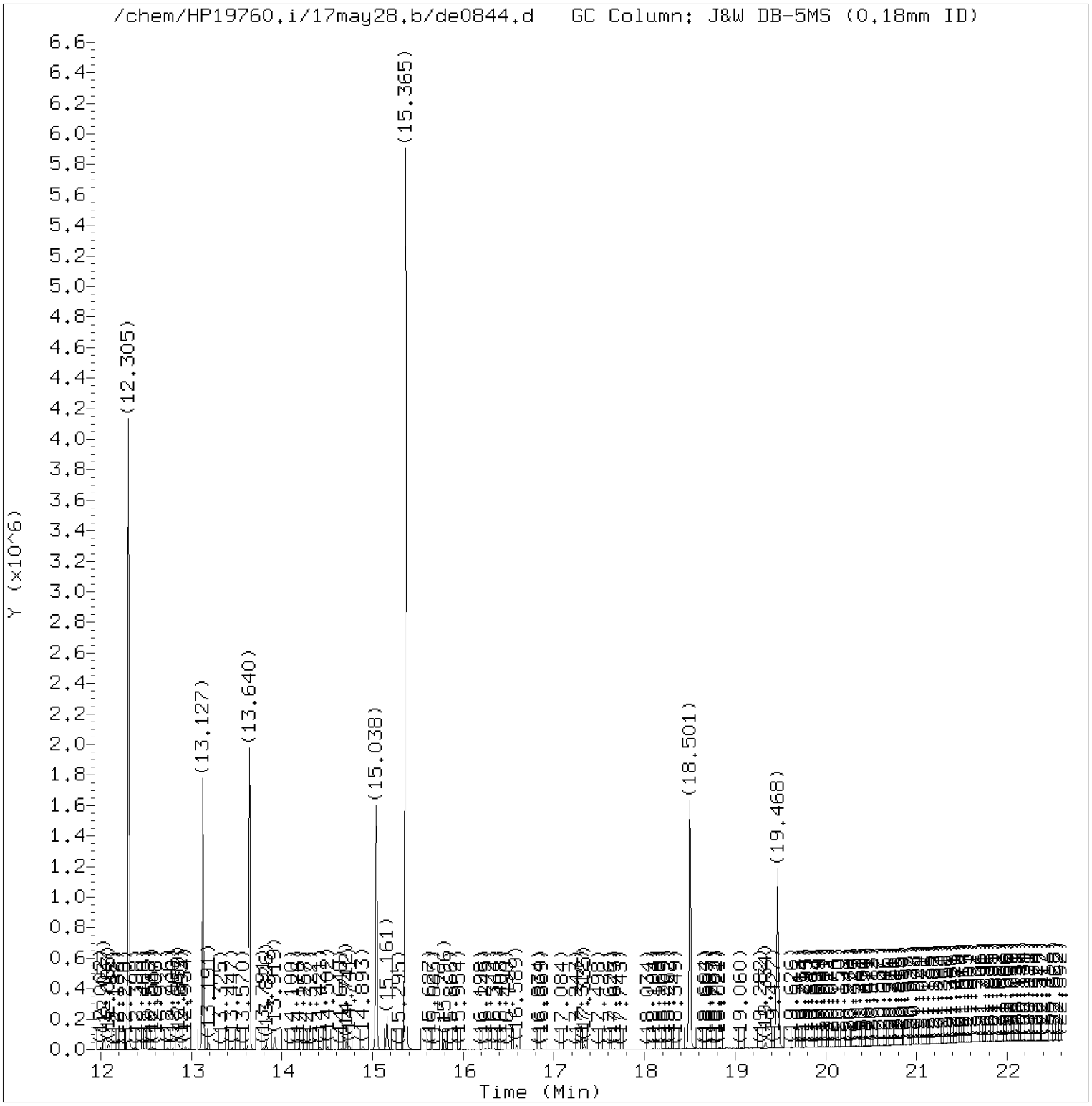
Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0844.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:45 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8805 Lab Sample ID: 9009418

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0844.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:45 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8805 Lab Sample ID: 9009418

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0844.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:45 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

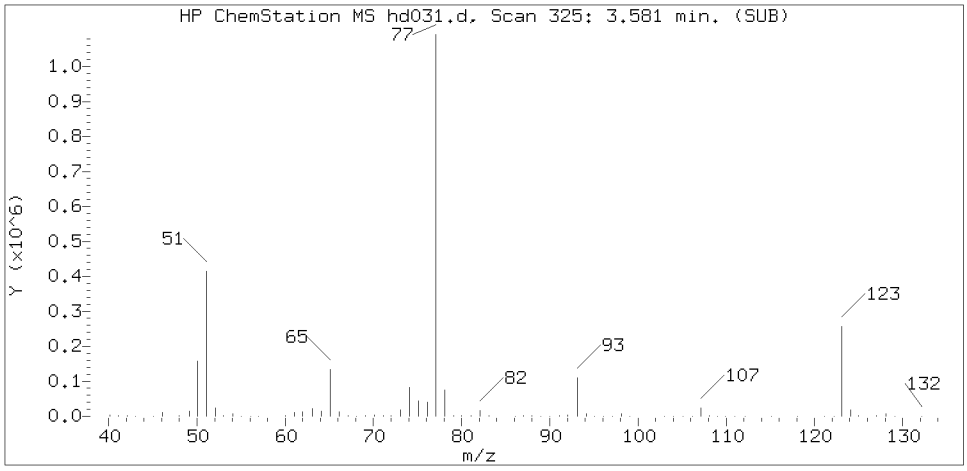
Sample Name: R8805 Lab Sample ID: 9009418

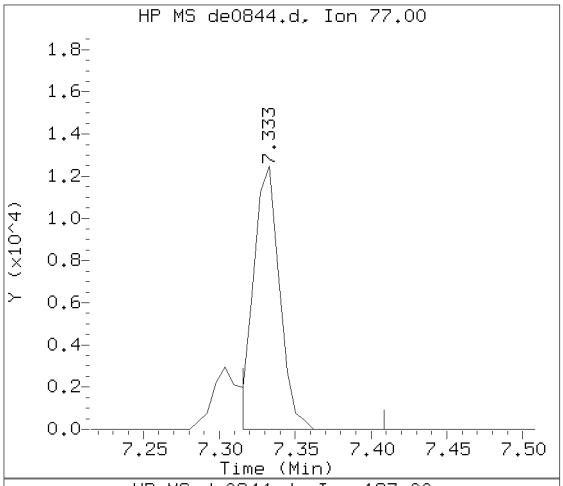
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.470	152	166922	5.000
44)$Nitrobenzene-d5	(2)	7.304	82	1205408	18.346
45) Nitrobenzene	(2)	7.333	77	14728	0.223
65)*Naphthalene-d8	(2)	8.405	136	633986	5.000
93)$2-Fluorobiphenyl	(3)	10.166	172	2073941	18.900
100) 2-Nitroaniline	(3)	10.498	138	13545	0.490
113)*Acenaphthene-d10	(3)	11.197	164	353019	5.000
118) 2,4-Dinitrotoluene	(3)	11.541	165	4931	0.161
153)*Phenanthrene-d10	(4)	13.127	188	682732	5.000
175)*Pyrene-d10	(5)	15.038	212	803969	5.000
179)$Terphenyl-d14	(5)	15.365	244	2253991	19.105
213)*Perylene-d12	(6)	19.468	264	607738	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

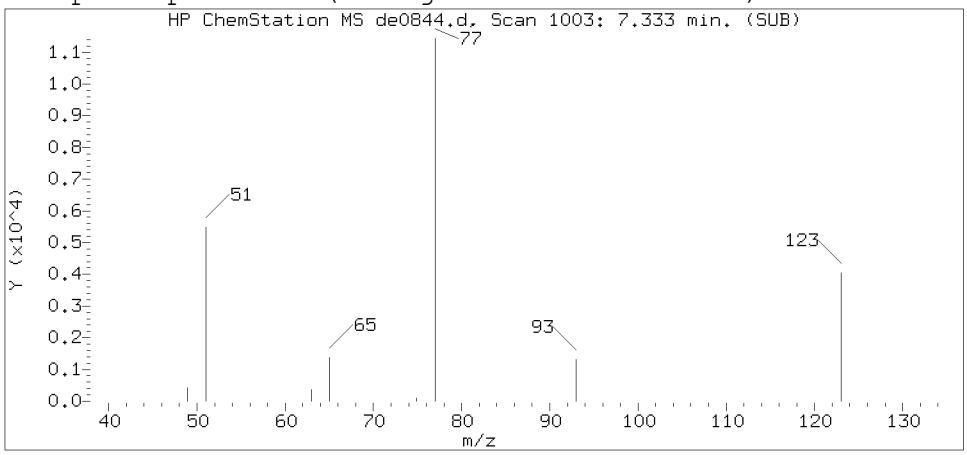
Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

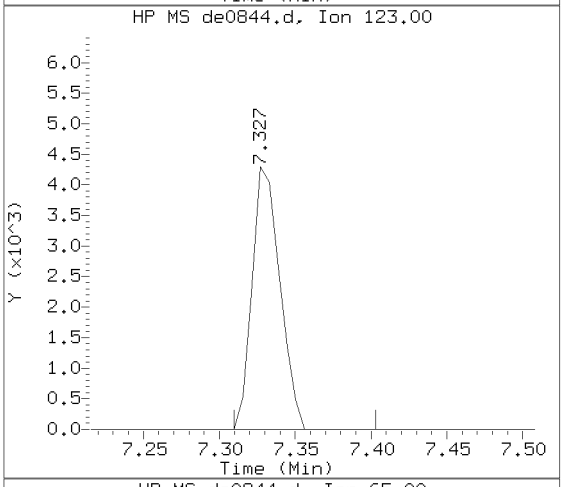
Reference Standard Spectrum for Nitrobenzene



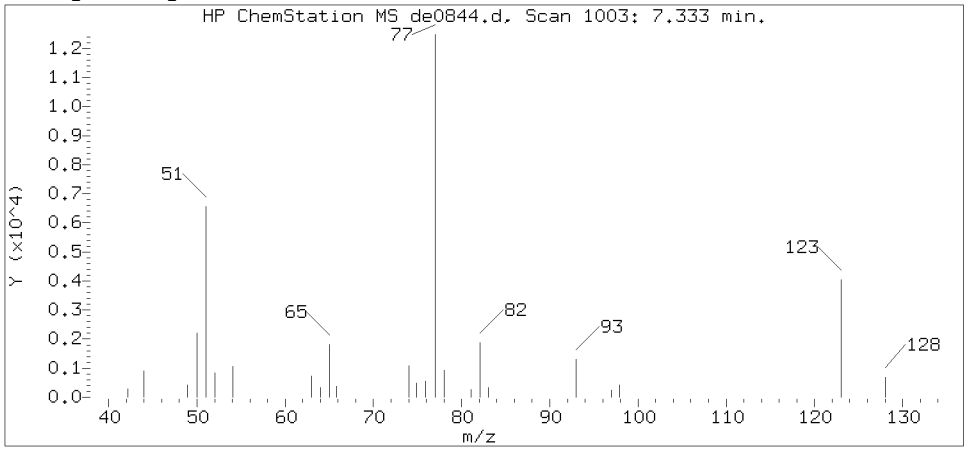


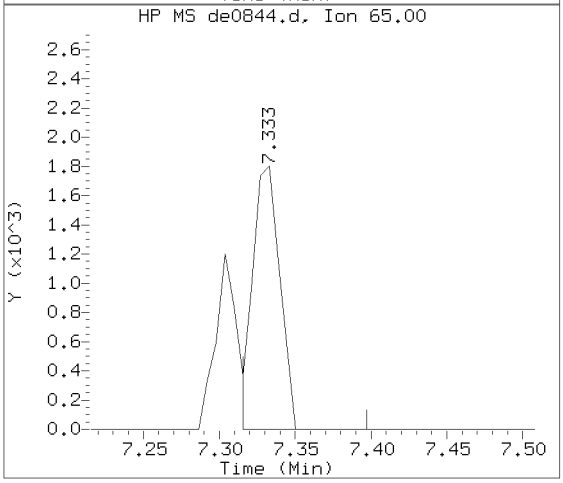
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP19760.i/17may28.b/de0844.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:45 Analyst ID: apb10206

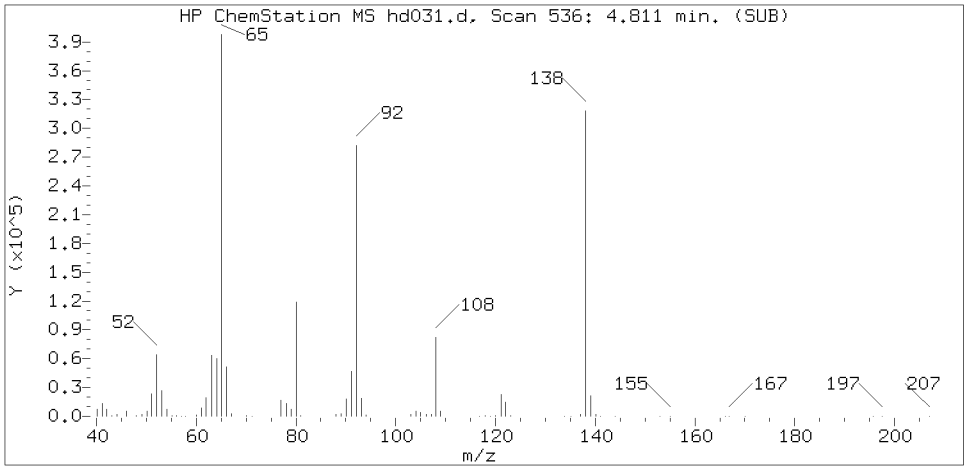
Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

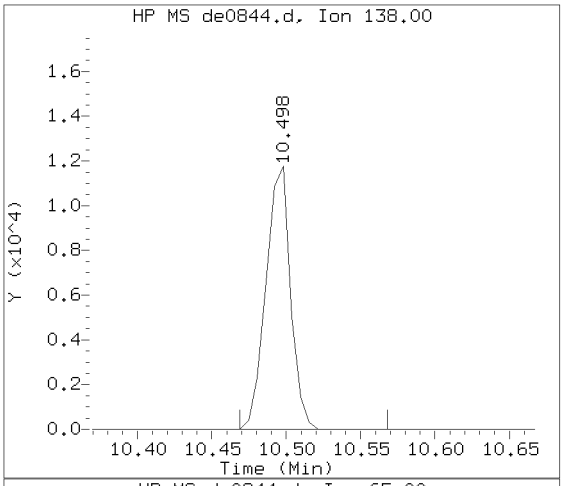
Sample Name: R8805 Lab Sample ID: 9009418

Compound Number	: 45
Compound Name	: Nitrobenzene
Scan Number	: 1003
Retention Time (minutes)	: 7.333
Relative Retention Time	: 0.00009
Quant Ion	: 77.00
Area (flag)	: 14728
On-column Amount (ng/ul)	: 0.2226

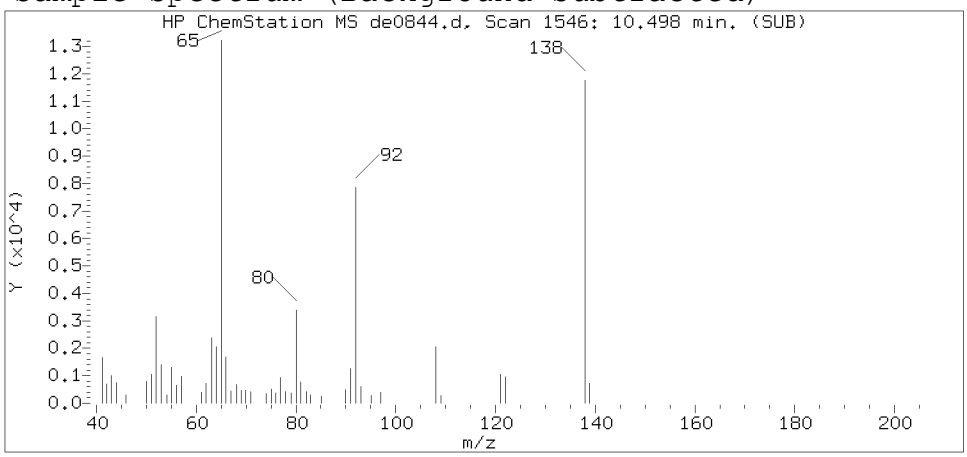
Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

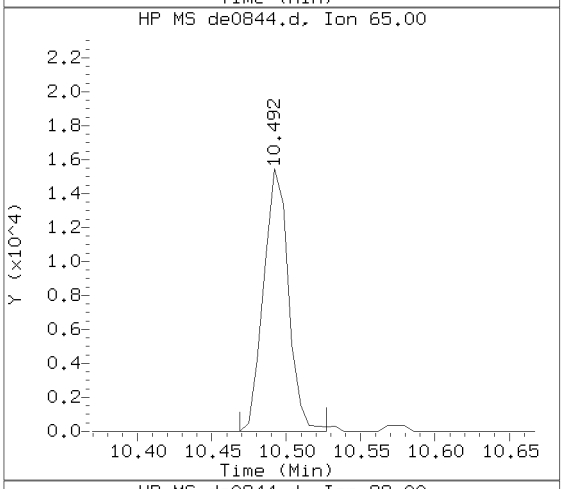
Reference Standard Spectrum for 2-Nitroaniline



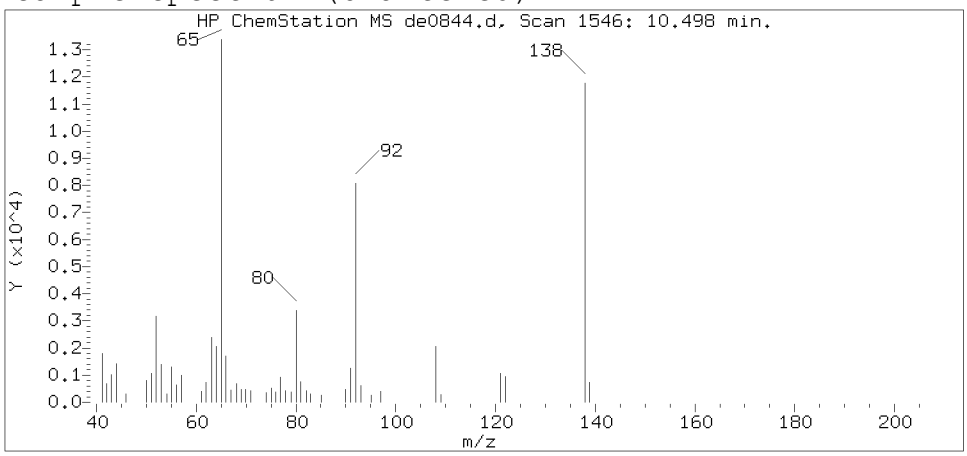


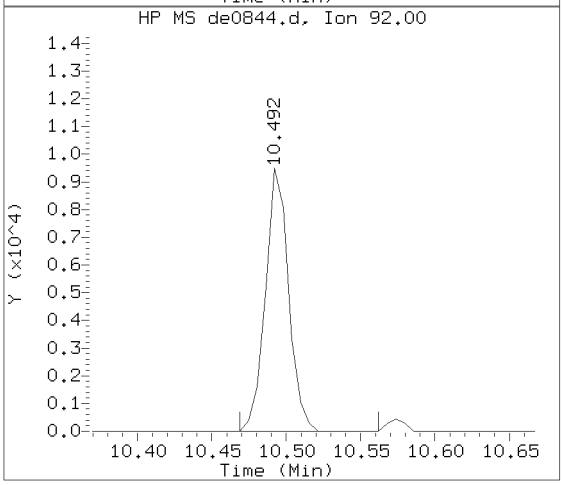
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem/HP19760.i/17may28.b/de0844.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:45 Analyst ID: apb10206

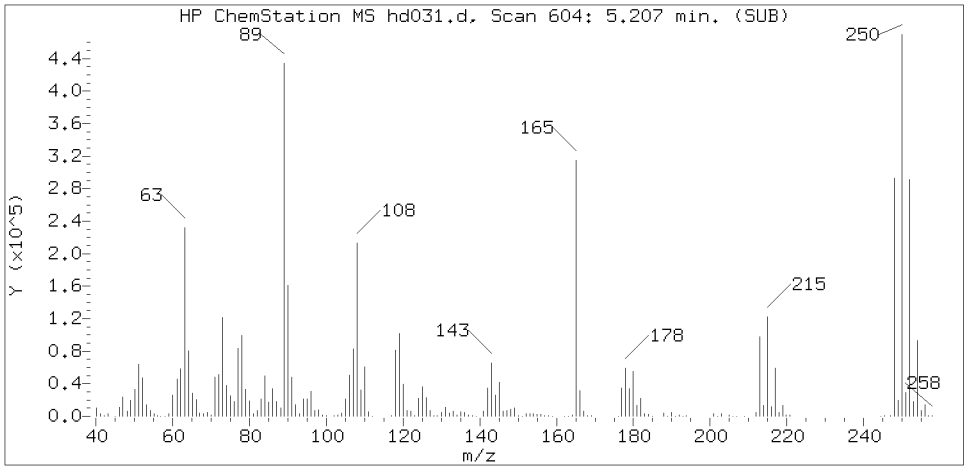
Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

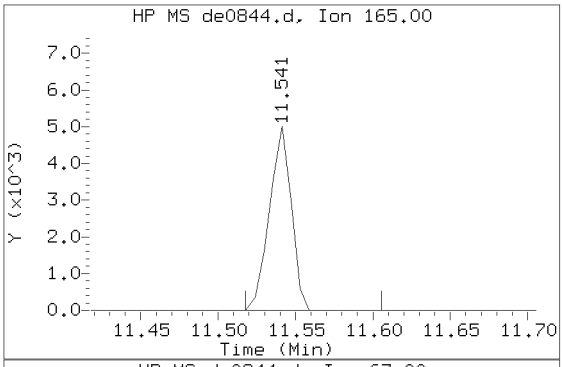
Sample Name: R8805 Lab Sample ID: 9009418

Compound Number	: 100
Compound Name	: 2-Nitroaniline
Scan Number	: 1546
Retention Time (minutes)	: 10.498
Relative Retention Time	: 0.00003
Quant Ion	: 138.00
Area (flag)	: 13545
On-column Amount (ng/ul)	: 0.4897

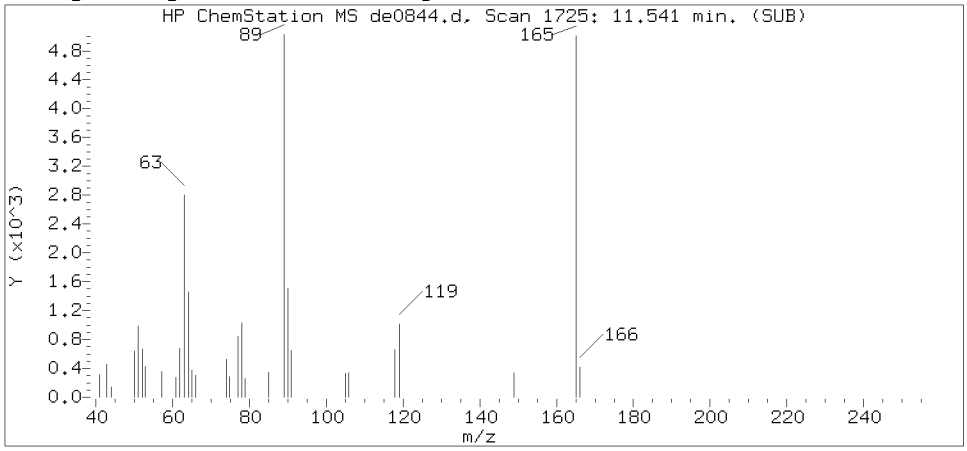
Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

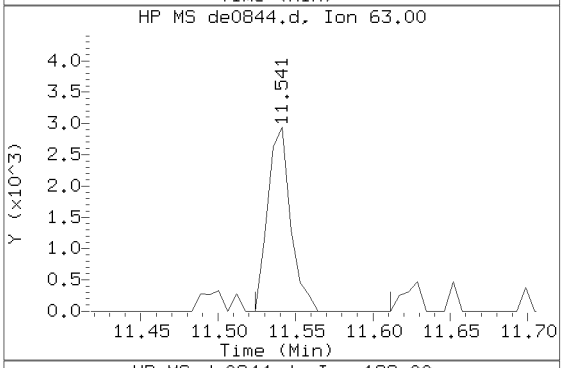
Reference Standard Spectrum for 2,4-Dinitrotoluene

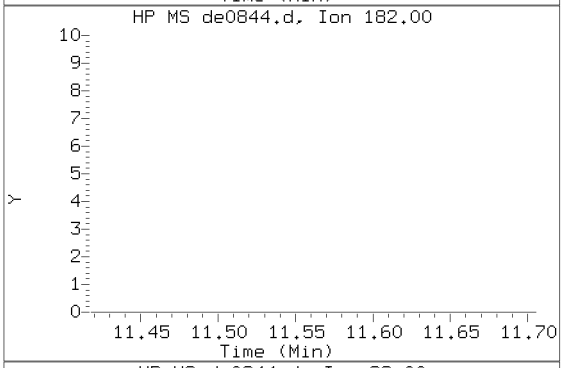




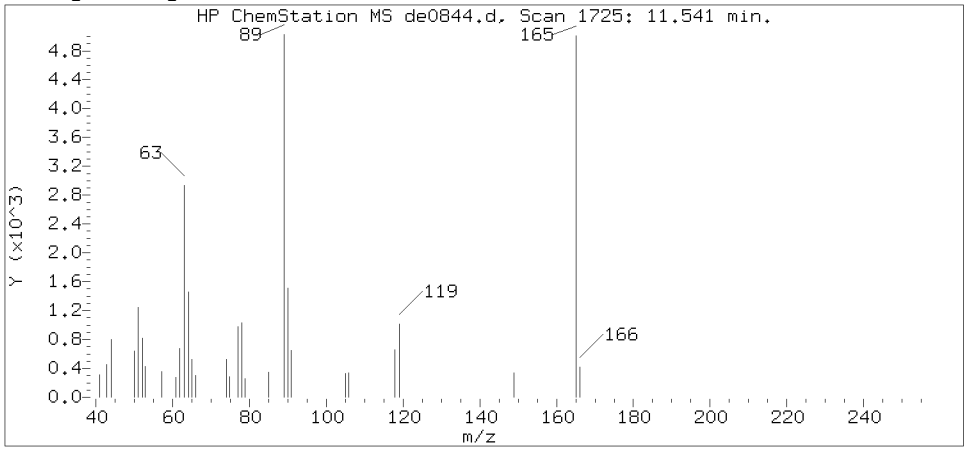
Sample Spectrum (Background Subtracted)

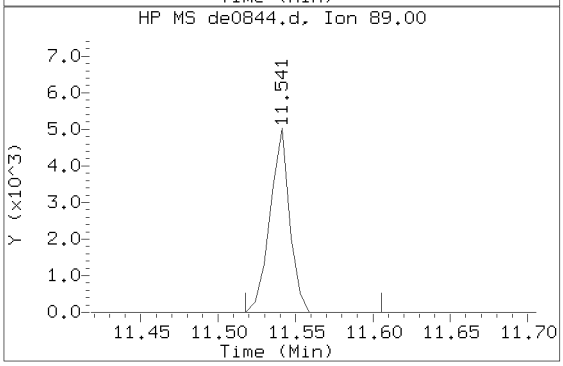






Sample Spectrum (Unaltered)





Data File: /chem/HP19760.i/17may28.b/de0844.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 10:45 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: R8805 Lab Sample ID: 9009418

Compound Number	: 118
Compound Name	: 2,4-Dinitrotoluene
Scan Number	: 1725
Retention Time (minutes)	: 11.541
Relative Retention Time	:-0.00002
Quant Ion	: 165.00
Area (flag)	: 4931
On-column Amount (ng/ul)	: 0.1611

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:01.
Target 3.5 esignature user ID: apb10206

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - D:\data\17may05b\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
em10340	DE0160.D	RVDFTPP0877	05/05/2017	17:31		
em10340	DE0160a.D	RVDFTPP0877	05/05/2017	17:51		
em10340	DE0161.D	RVSTD1107	05/05/2017	18:05		
em10340	DE0162.D	RVSTD1107	05/05/2017	18:46		
em10340	DE0163.D	RVSTD1107	05/05/2017	19:14		
em10340	DE0164.D	RVSTD1107	05/05/2017	19:42		
em10340	DE0165.D	RVSTD1107	05/05/2017	20:10		
em10340	DE0166.D	RVSTD1107	05/05/2017	20:37		
em10340	DE0167.D	RVSTD1107	05/05/2017	21:05		
em10340	DE0168.D	RVSTD1107	05/05/2017	21:33		
em10340	DE0169.D	MDLSTD1107	05/05/2017	22:01		
em10340	DE0170.D	PAHMDL1107	05/05/2017	22:28		
em10340	DE0171.D	RVICV1147	05/05/2017	22:56		
em10340	DE0172.D	RVBASICV0637	05/05/2017	23:24		
em10340	DE0173.D	BACID1087	05/05/2017	23:52		

SAMPLE INFORMATION SUMMARY

BATCH: /chem/HP19760.i/17may28.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
de0820.d	27-MAY-2017 23:39	DFTPP	1.00	HP19760	rvdftpp8270d.m	17may28.b
de0821.d	27-MAY-2017 23:52	Continuing Cal	1.00	HP19760	rv8270d.m	17may28.b
de0822.d	28-MAY-2017 00:40	BLANK	1.00	HP19760	rv8270d.m	17may28.b
de0823.d	28-MAY-2017 01:07	LCS	1.00	HP19760	rv8270d.m	17may28.b
de0824.d	28-MAY-2017 01:35	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0825.d	28-MAY-2017 02:02	MS	1.00	HP19760	rv8270d.m	17may28.b
de0826.d	28-MAY-2017 02:30	MSD	1.00	HP19760	rv8270d.m	17may28.b
de0827.d	28-MAY-2017 02:57	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0828.d	28-MAY-2017 03:25	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0829.d	28-MAY-2017 03:52	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0830.d	28-MAY-2017 04:20	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0831.d	28-MAY-2017 04:47	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0832.d	28-MAY-2017 05:15	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0833.d	28-MAY-2017 05:42	Unknown	1.00	HP19760	rv8270d.m	17may28.b

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
de0820.d	LIQUID	SV	DFTPP1247	17may27	DFTPP12.5	17may27
de0821.d	LIQUID	SV	rvSTD1107	17may27	SSTD7.5	17may27
de0822.d	LIQUID	SV	SBLKWX142	17142WAX	SBLKWX142	17may28
de0823.d	LIQUID	SV	142WXLCS	17142WAX	142WXLCS	17may28
de0824.d	LIQUID	SV	9005064RE	17145WAQ	-DDP2RE	17may28
de0825.d	LIQUID	SV	9005065RE	17145WAQ	-DDP2REMS	17may28
de0826.d	LIQUID	SV	9005066RE	17145WAQ	-DDP2REMSD	17may28
de0827.d	LIQUID	SV	9005068RE	17145WAQ	DDP2DRE	17may28
de0828.d	LIQUID	SV	9005069RE	17145WAQ	-DDP3RE	17may28
de0829.d	LIQUID	SV	9005070RE	17145WAQ	DDP3DRE	17may28
de0830.d	LIQUID	SV	9005071RE	17145WAQ	-DDP4RE	17may28
de0831.d	LIQUID	SV	9006689RE	17145WAQ	-101ARE	17may28
de0832.d	LIQUID	SV	9006690RE	17145WAQ	-102ARE	17may28
de0833.d	LIQUID	SV	9006691RE	17145WAQ	-104ARE	17may28

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
de0820.d	all.sub		201960769	201960781	200002637	201960780
de0821.d	all1.sub		201960777	201960781	201934287	201960779
de0822.d	22228M.sub		201960593	201960781	201934287	201960779
de0823.d	22228M.sub		201960612	201960781	201934287	201960779
de0824.d	22349M.sub		201960616	201960781	201934287	201960779
de0825.d	22349M.sub		201960638	201960781	201934287	201960779
de0826.d	22349M.sub		201960648	201960781	201934287	201960779
de0827.d	22349M.sub		201960657	201960781	201934287	201960779
de0828.d	22349M.sub		201960664	201960781	201934287	201960779
de0829.d	22349M.sub		201960687	201960781	201934287	201960779
de0830.d	22349M.sub		201960707	201960781	201934287	201960779
de0831.d	22349M.sub		201960720	201960781	201934287	201960779
de0832.d	22349M.sub		201960733	201960781	201934287	201960779
de0833.d	22349M.sub		201960755	201960781	201934287	201960779

SAMPLE INFORMATION SUMMARY

BATCH: /chem/HP19760.i/17may28.b

Data File	Injection Date	Sample Type	Dil Factor	Inst ID	Method	Method Batch
de0834.d	28-MAY-2017 06:10	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0835.d	28-MAY-2017 06:37	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0836.d	28-MAY-2017 07:05	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0837.d	28-MAY-2017 07:32	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0838.d	28-MAY-2017 08:00	MS	1.00	HP19760	rv8270d.m	17may28.b
de0839.d	28-MAY-2017 08:27	MSD	1.00	HP19760	rv8270d.m	17may28.b
de0840.d	28-MAY-2017 08:55	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0841.d	28-MAY-2017 09:22	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0842.d	28-MAY-2017 09:50	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0843.d	28-MAY-2017 10:18	Unknown	1.00	HP19760	rv8270d.m	17may28.b
de0844.d	28-MAY-2017 10:45	Unknown	1.00	HP19760	rv8270d.m	17may28.b

Data File	Matrix	Fraction	Lab Sample ID	Lab Prep Batch	Client Sample ID	Client Sample Group
de0834.d	LIQUID	SV	9006692RE	17145WAQ	-105ARE	17may28
de0835.d	LIQUID	SV	9006693RE	17145WAQ	-101BRE	17may28
de0836.d	LIQUID	SV	9006694RE	17145WAQ	-102BRE	17may28
de0837.d	LIQUID	SV	142WXRE	17142WAX	142WXUSRE	17may28
de0838.d	LIQUID	SV	142WXRE	17142WAX	142WXREMS	17may28
de0839.d	LIQUID	SV	142WXRE	17142WAX	142WXREMSD	17may28
de0840.d	LIQUID	SV	9009414	17142WAX	R8801	17may28
de0841.d	LIQUID	SV	9009415	17142WAX	R8802	17may28
de0842.d	LIQUID	SV	9009416	17142WAX	R8803	17may28
de0843.d	LIQUID	SV	9009417	17142WAX	R8804	17may28
de0844.d	LIQUID	SV	9009418	17142WAX	R8805	17may28

Data File	Compound Sublist	Spike List File	Sample Ref #	QC Group Ref #	Init Cal Ref #	Batch Ref #
de0834.d	22349M.sub		201960767	201960781	201934287	201960779
de0835.d	22349M.sub		201960807	201960781	201934287	201960779
de0836.d	22349M.sub		201960819	201960781	201934287	201960779
de0837.d	22228M.sub		201960834	201960781	201934287	201960779
de0838.d	22228M.sub		201960850	201960781	201934287	201960779
de0839.d	22228M.sub		201960863	201960781	201934287	201960779
de0840.d	22228M.sub		201960875	201960781	201934287	201960779
de0841.d	22228M.sub		201960887	201960781	201934287	201960779
de0842.d	22228M.sub		201960895	201960781	201934287	201960779
de0843.d	22228M.sub		201960905	201960781	201934287	201960779
de0844.d	22228M.sub		201960915	201960781	201934287	201960779

Data File: /chem/HP19760.i/17may05b.b/de0160a.d

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5

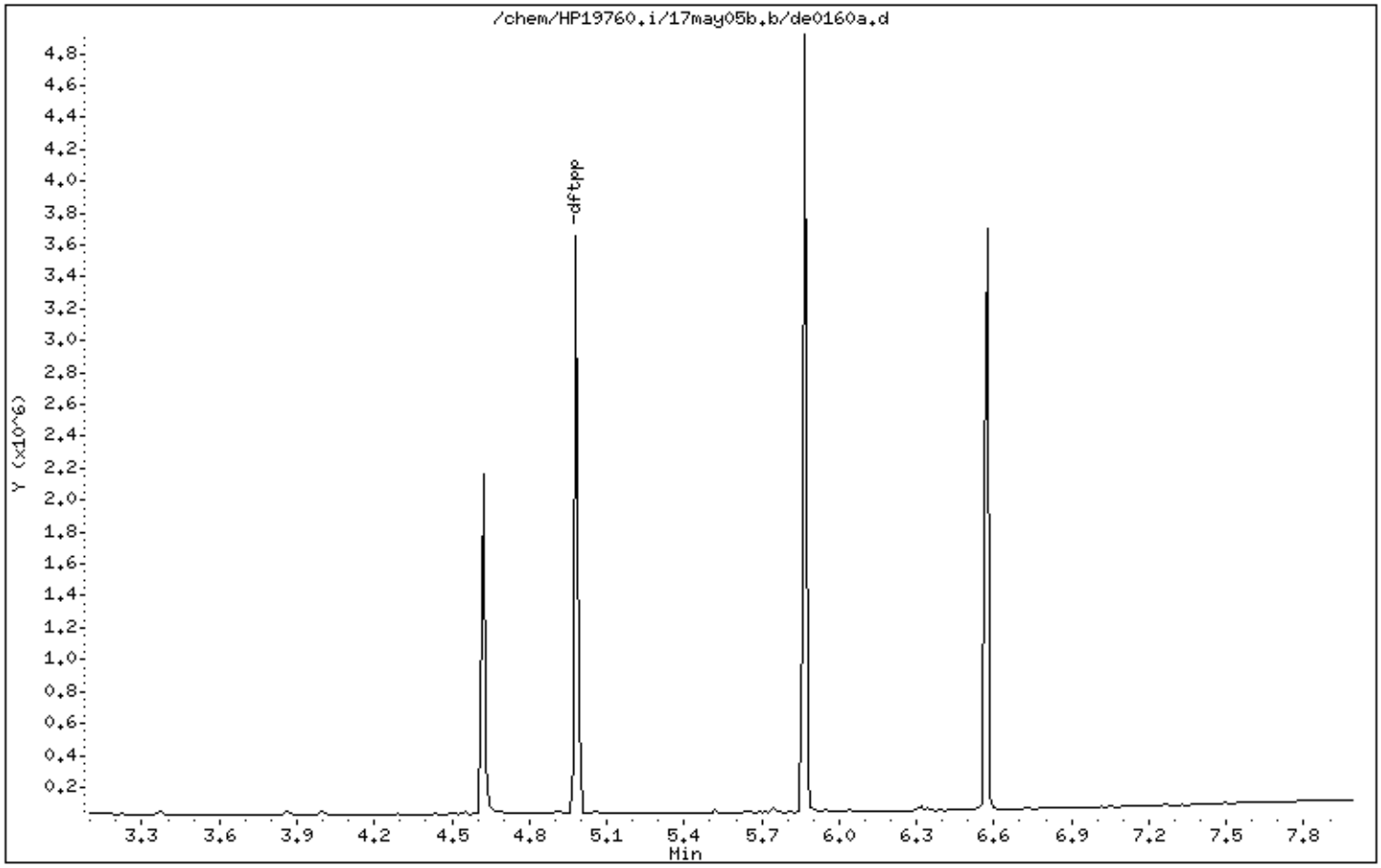
Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP19760.i/17may05b.b/de0160a.d

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5

Instrument: HP19760.i

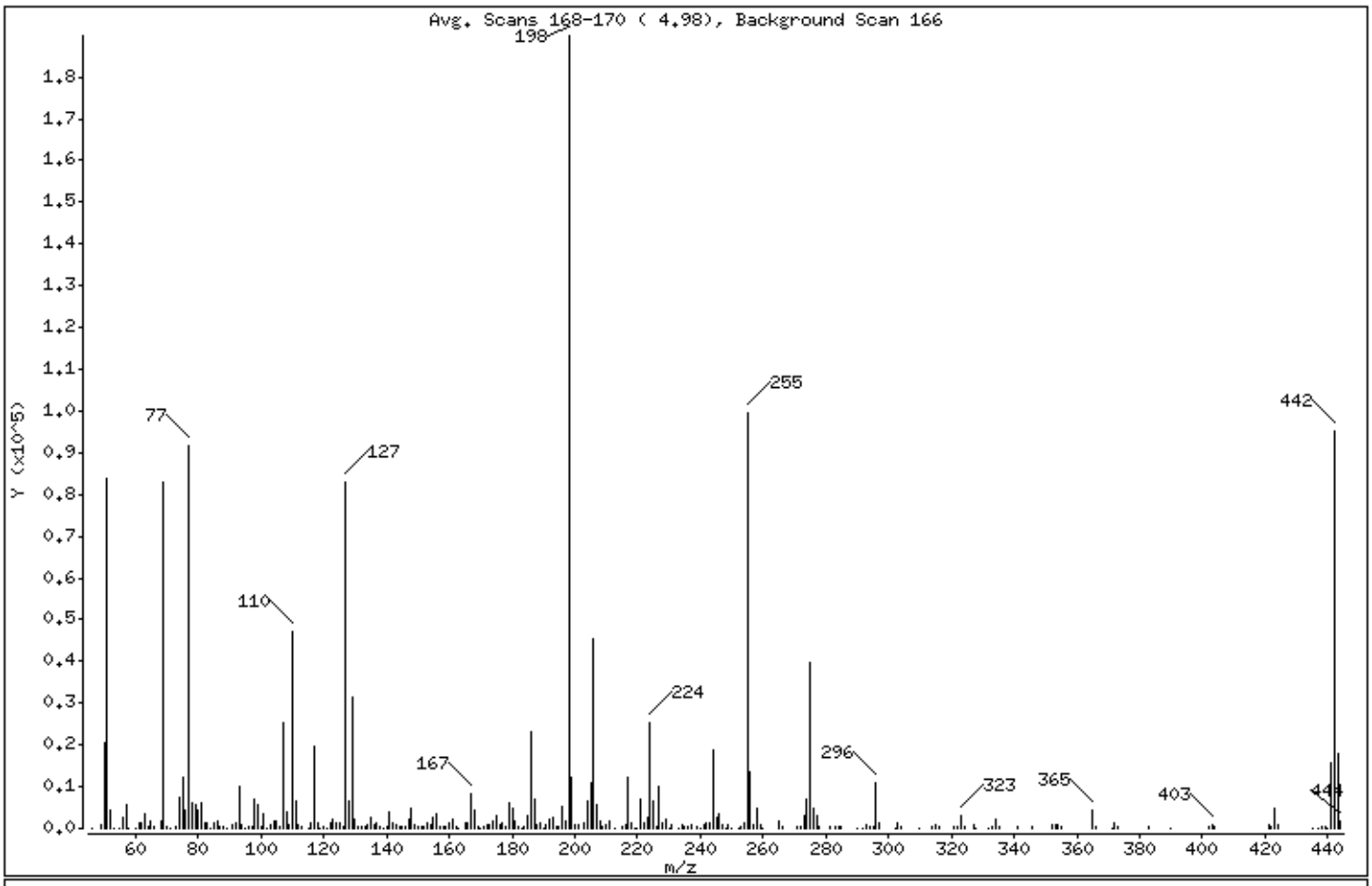
Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	44.24
68	Less than 2.00% of mass 69	0.85 (1.94)
69	Mass 69 relative abundance	43.71
70	Less than 2.00% of mass 69	0.18 (0.42)
127	10.00 - 80.00% of mass 198	43.70
197	Less than 2.00% of mass 198	0.98
199	5.00 - 9.00% of mass 198	6.49
275	10.00 - 60.00% of mass 198	21.01
365	Greater than 1.00% of mass 198	2.21
441	0.01 - 24.00% of mass 442	8.17 (16.31)
442	50.00 - 99.99% of mass 198	50.06
443	15.00 - 24.00% of mass 442	9.32 (18.61)

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS Column diameter: 0.18

Data File: de0160a.d

Spectrum: Avg. Scans 168-170 (4.98), Background Scan 166

Location of Maximum: 198.00

Number of points: 267

m/z	Y	m/z	Y	m/z	Y	m/z	Y
46.00	100	121.00	125	189.00	1482	266.00	395
49.00	759	122.00	1462	190.00	181	271.00	314
50.00	20656	123.00	2397	191.00	675	272.00	315
51.00	84016	124.00	1248	192.00	2045	273.00	2858
52.00	4370	125.00	1221	193.00	2581	274.00	7121
53.00	143	126.00	598	194.00	474	275.00	39896
55.00	127	127.00	83000	195.00	299	276.00	4779
56.00	2436	128.00	6406	196.00	5361	277.00	3184
57.00	5721	129.00	31488	197.00	1857	278.00	466
58.00	74	130.00	2238	198.00	189888	281.00	276
60.00	128	131.00	652	199.00	12328	283.00	318
61.00	1128	132.00	255	200.00	981	284.00	270
62.00	1223	133.00	297	201.00	745	285.00	641
63.00	3461	134.00	961	203.00	1408	290.00	100
64.00	616	135.00	2648	204.00	6633	292.00	137
65.00	1589	136.00	977	205.00	11076	293.00	735
66.00	275	137.00	1366	206.00	45504	294.00	271
68.00	1610	138.00	261	207.00	5595	295.00	357
69.00	83016	139.00	121	208.00	1746	296.00	10958
70.00	349	140.00	276	209.00	587	297.00	1505
71.00	161	141.00	3840	210.00	948	302.00	135
73.00	433	142.00	1295	211.00	1647	303.00	1195
74.00	7469	143.00	1062	213.00	79	304.00	305
75.00	12322	144.00	282	215.00	450	310.00	95
76.00	4517	145.00	310	216.00	957	314.00	533
77.00	91864	146.00	489	217.00	12341	315.00	1088
78.00	6207	147.00	2104	218.00	1493	316.00	520
79.00	5539	148.00	4649	219.00	129	321.00	356
80.00	4289	149.00	1076	220.00	216	322.00	228
81.00	6255	150.00	264	221.00	6794	323.00	3062
82.00	1463	151.00	559	222.00	1441	324.00	609
83.00	1191	152.00	246	223.00	2632	327.00	832
84.00	67	153.00	1481	224.00	25176	328.00	189
85.00	1217	154.00	863	225.00	6607	332.00	213
86.00	1881	155.00	2577	226.00	622	333.00	349

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS Column diameter: 0.18

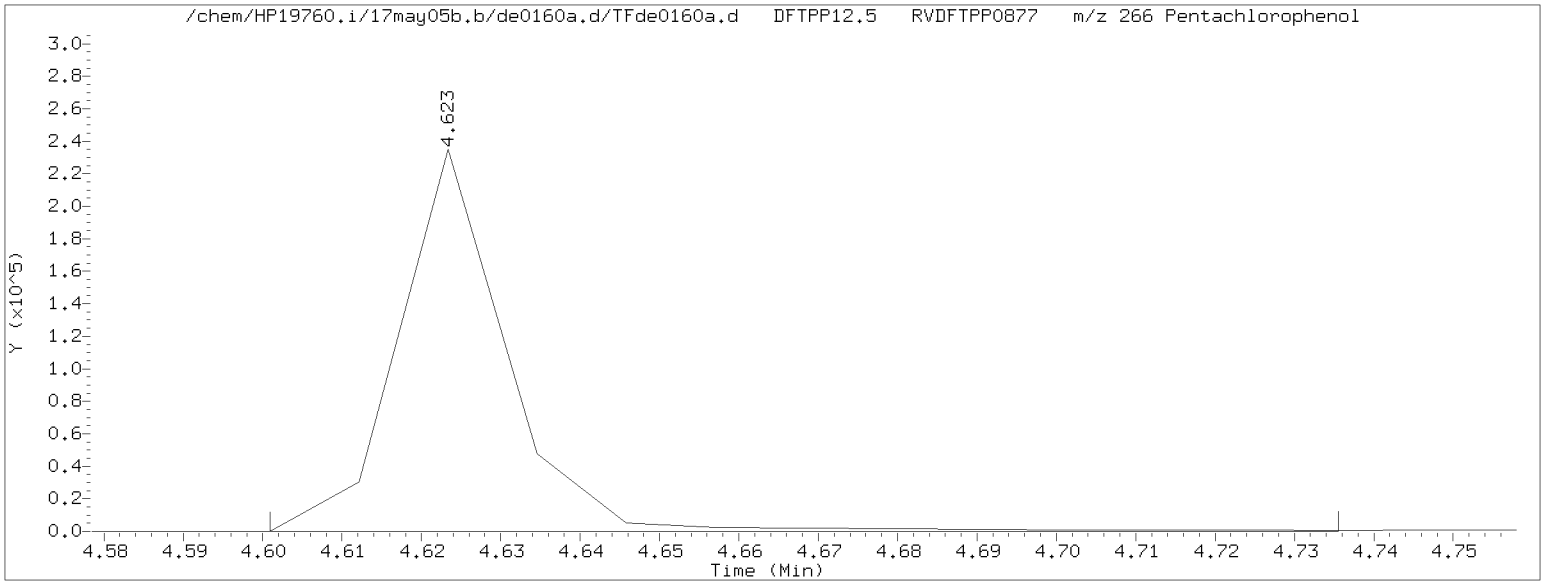
Data File: de0160a.d
Spectrum: Avg. Scans 168-170 (4.98), Background Scan 166
Location of Maximum: 198.00
Number of points: 267

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	493	156.00	3555	227.00	9953	334.00	1995
88.00	252	157.00	489	228.00	1403	335.00	550
89.00	165	158.00	486	229.00	2084	341.00	365
91.00	1077	159.00	367	230.00	211	346.00	485
92.00	1503	160.00	1242	231.00	1009	352.00	789
93.00	9874	161.00	2037	233.00	133	353.00	683
94.00	698	162.00	495	234.00	776	354.00	990
95.00	210	163.00	106	235.00	505	355.00	287
96.00	383	165.00	1299	236.00	384	365.00	4195
97.00	360	166.00	1383	237.00	698	366.00	531
98.00	7113	167.00	8508	239.00	410	371.00	165
99.00	5491	168.00	4225	240.00	208	372.00	1410
100.00	361	169.00	653	241.00	697	373.00	330
101.00	3311	170.00	188	242.00	1254	383.00	356
102.00	156	171.00	603	243.00	1415	390.00	218
103.00	961	172.00	668	244.00	18984	402.00	575
104.00	1774	173.00	916	245.00	2826	403.00	808
105.00	1745	174.00	1732	246.00	3413	404.00	282
106.00	520	175.00	3238	247.00	799	421.00	876
107.00	25424	176.00	682	248.00	147	422.00	640
108.00	3838	177.00	1475	249.00	664	423.00	4827
109.00	815	178.00	472	250.00	85	424.00	984
110.00	47048	179.00	6117	252.00	187	435.00	100
111.00	6739	180.00	4592	253.00	526	437.00	86
112.00	1061	181.00	1930	254.00	1136	438.00	522
113.00	540	182.00	341	255.00	99360	439.00	421
115.00	110	183.00	162	256.00	13378	440.00	192
116.00	1437	184.00	452	257.00	1061	441.00	15509
117.00	19624	185.00	2913	258.00	4965	442.00	95064
118.00	1332	186.00	23256	259.00	672	443.00	17688
119.00	138	187.00	6779	260.00	139	444.00	1633
120.00	278	188.00	677	265.00	1938		

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Assessment of GC Column Performance and Injection Port Inertness for

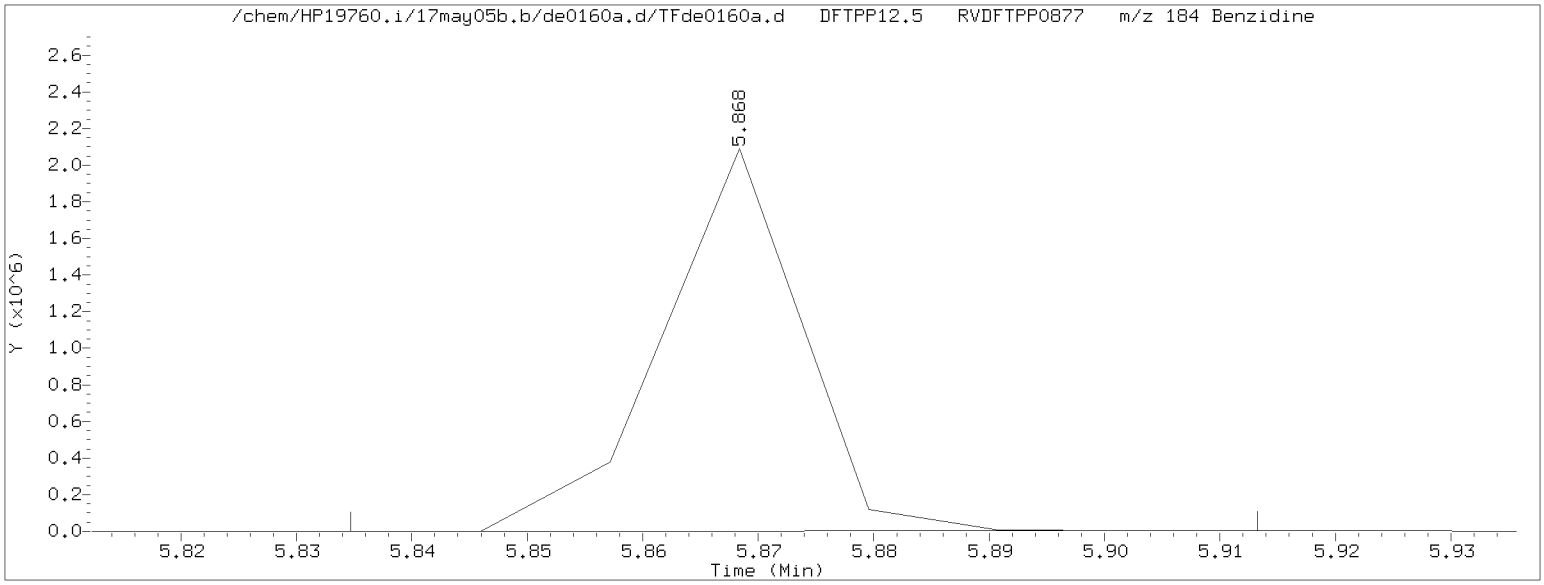
Instrument ID: HP19760.i Injection Date: 05-MAY-2017 17:51 Operator: em10340



Pentachlorophenol EICP peak height = 235200 EICP peak height at 10% = 23520 Pentachlorophenol EICP area = 221109

Pentachlorophenol EICP peak apex (min.) = 4.623
RT at 10% of front half of EICP (min.) = 4.610 'Front' peak width (min.) = 0.0137000000
RT at 10% of back half of EICP (min.) = 4.641 'Tailing' peak width (min.) = 0.0176000000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0176000000}{0.0137000000} = 1.285$$



Benzidine EICP peak height = 2087743 EICP peak height at 5% = 104387 Benzidine EICP area = 1745996

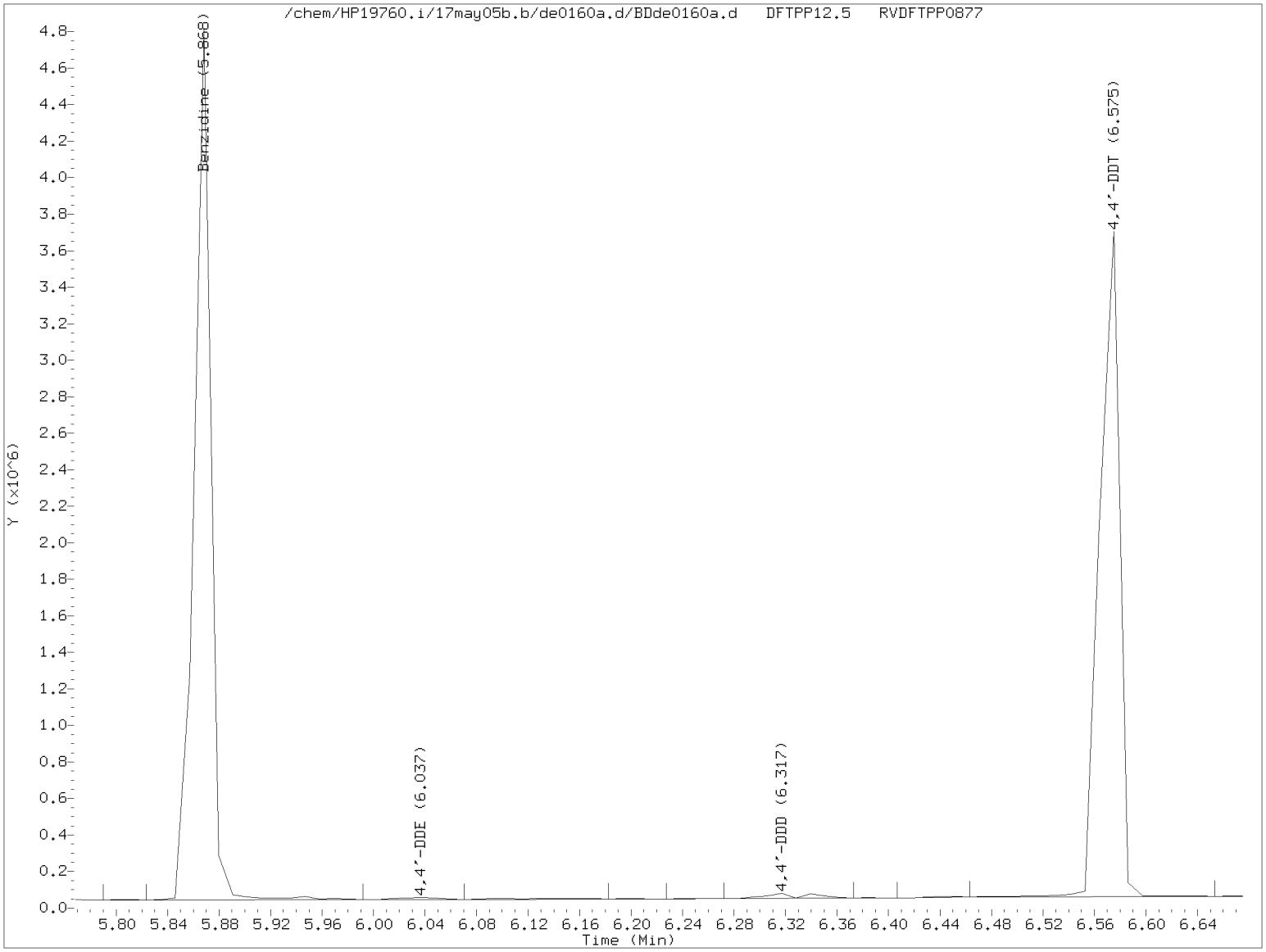
Benzidine EICP peak apex (min.) = 5.868
RT at 5% of front half of EICP (min.) = 5.849 'Front' peak width (min.) = 0.0193333333
RT at 5% of back half of EICP (min.) = 5.881 'Tailing' peak width (min.) = 0.0125666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0125666667}{0.0193333333} = 0.650$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

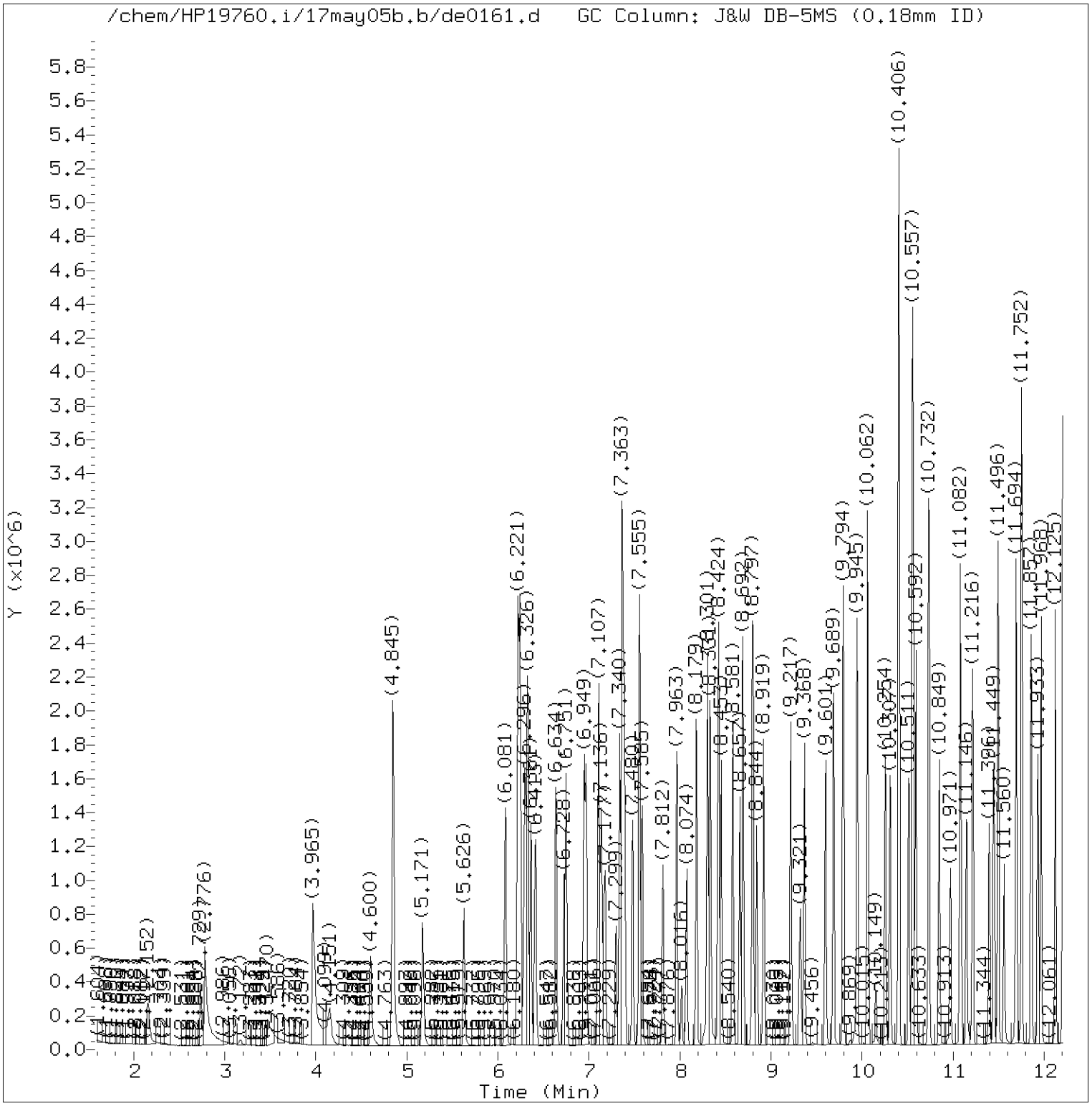
Instrument ID: HP19760.i Injection Date: 05-MAY-2017 17:51 Operator: em10340



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{26057 + 63477}{26057 + 63477 + 3924403} \times 100 = 2.2$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

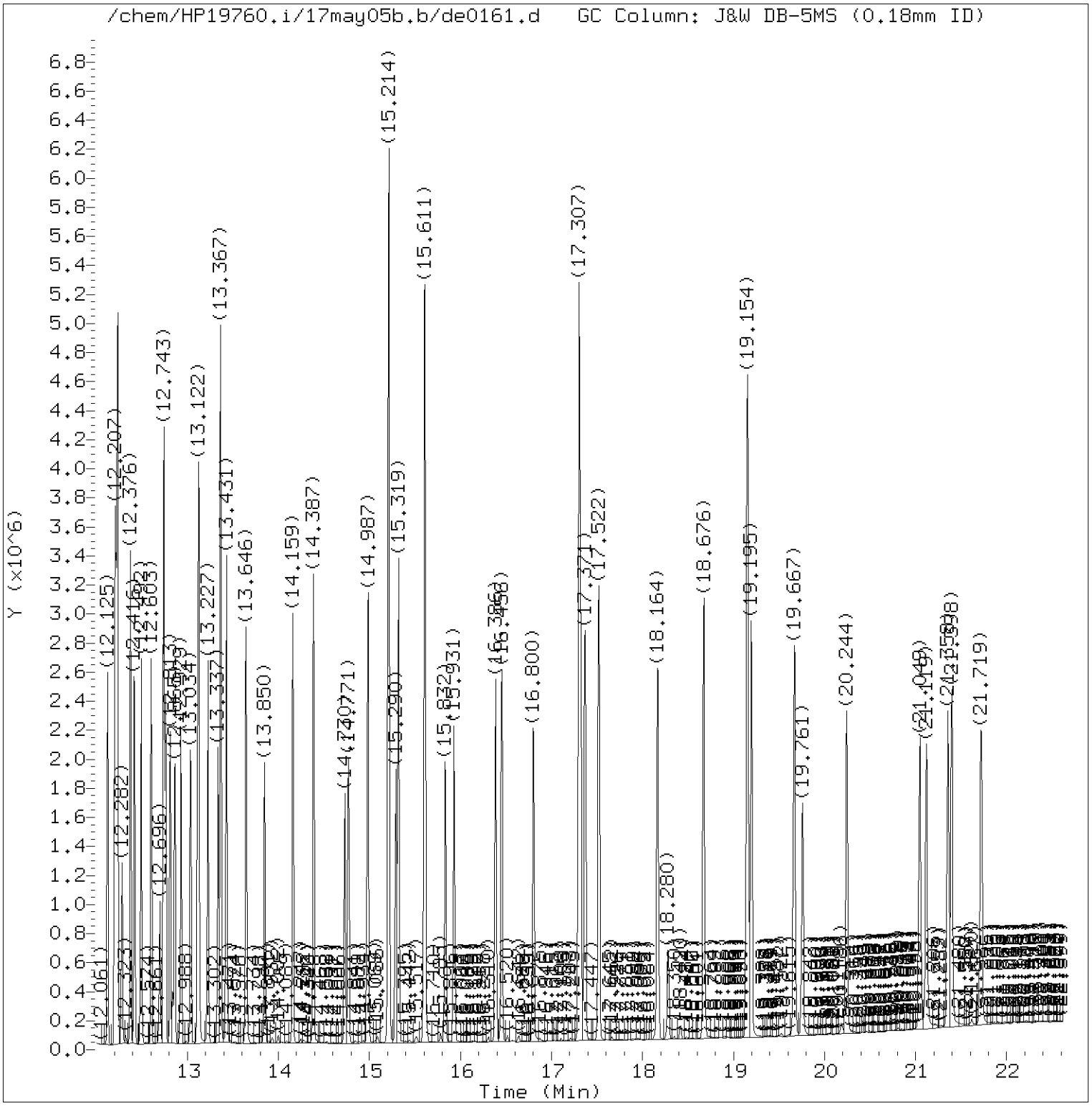
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.158	88	217886M	7.500
4) N-Nitrosodimethylamine	(1)	2.729	74	351990M	7.500
5) Pyridine	(1)	2.776	79	581008M	7.500
7) 2-Picoline	(1)	3.965	93	592704	7.500
8) N-Nitrosomethylethylamine	(1)	4.151	88	253782	7.500
9) Methyl methanesulfonate	(1)	4.600	80	288513	7.500
11)$2-Fluorophenol	(1)	4.845	112	925961	15.000
13) N-Nitrosodiethylamine	(1)	5.171	102	236312	7.500
15) Ethyl methanesulfonate	(1)	5.626	109	249489	7.500
42) Total Cresols	(1)			971287	15.000
16) Benzaldehyde	(1)	6.081	77	472734	7.500
17)$Phenol-d6	(1)	6.221	99	1255041	15.000
18) Phenol	(1)	6.238	94	704193	7.500
19) Aniline	(1)	6.244	93	822826	7.500
20) a-methylstyrene	(1)	6.326	118	526277	7.500
22) bis(2-Chloroethyl)ether	(1)	6.361	93	520371	7.500
23) 2-Chlorophenol	(1)	6.413	128	453306	7.500
24) 1,3-Dichlorobenzene	(1)	6.634	146	496006	7.500
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	195284	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	497540	7.500
27) Benzyl alcohol	(1)	6.949	108	339410	7.500
28) 1,2-Dichlorobenzene	(1)	6.967	146	469963	7.500
30) Indene	(1)	7.107	115	923559	7.500
31) 2-Methylphenol	(1)	7.136	108	454702	7.500
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	780613	7.500
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	780613	7.500
35) N-Nitrosopyrrolidine	(1)	7.299	100	254775	7.500
36) Acetophenone	(1)	7.340	105	702240	7.500
39) N-Nitrosomorpholine	(1)	7.363	56	356052	7.500
38) N-Nitroso-di-n-propylamine	(1)	7.363	70	406577	7.500
37) 4-Methylphenol	(1)	7.369	108	516585	7.500
97) Isosafrole	(3)			375078	7.500
40) o-Toluidine	(1)	7.392	106	799092	7.500
43) Hexachloroethane	(1)	7.480	117	209151	7.500
44)$Nitrobenzene-d5	(2)	7.555	82	1156104	15.000
45) Nitrobenzene	(2)	7.585	77	587009	7.500
48) N-Nitrosopiperidine	(2)	7.812	114	235961	7.500
50) Isophorone	(2)	7.963	82	1008916	7.500
120) 2,4_2,6-Dinitrotoluenes	(3)			479738	15.000
51) 2-Nitrophenol	(2)	8.074	139	230540	7.500

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	494378	7.500
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	235207	7.500
56) Benzoic acid	(2)	8.331	105	424547	10.000
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	641209	7.500
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	752900	7.500
60) 2,4-Dichlorophenol	(2)	8.453	162	376601	7.500
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	424687	7.500
65)*Naphthalene-d8	(2)	8.657	136	747503	5.000
66) Naphthalene	(2)	8.692	128	1283271	7.500
146) Diallate trans/cis	(4)			465353	7.500
67) 4-Chloroaniline	(2)	8.797	127	537120	7.500
68) 2,6-Dichlorophenol	(2)	8.803	162	364471	7.500
69) Hexachloropropene	(2)	8.844	213	286948	7.500
71) Hexachlorobutadiene	(2)	8.919	225	250390	7.500
75) Quinoline	(2)	9.217	129	832154	7.500
76) Caprolactam	(2)	9.321	113	115823	7.500
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	385201	7.500
80) 4-Chloro-3-methylphenol	(2)	9.601	107	422395	7.500
82) Safrole	(2)	9.689	162	335163	7.500
83) 2-Methylnaphthalene	(2)	9.794	142	858017	7.500
84) 1-Methylnaphthalene	(2)	9.945	142	784341	7.500
85) Hexachlorocyclopentadiene	(3)	10.062	237	219272	7.500
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	444966	7.500
88) cis-Isosafrole	(3)	10.155	162	60338	1.275
90) 2,4,6-Trichlorophenol	(3)	10.254	196	282174	7.500
92) 2,4,5-Trichlorophenol	(3)	10.307	196	304073	7.500
93)$2-Fluorobiphenyl	(3)	10.406	172	1962969	15.000
94) trans-Isosafrole	(3)	10.516	162	314740	6.225
95) 1,1'-Biphenyl	(3)	10.551	154	981544	7.500
96) 2-Chloronaphthalene	(3)	10.563	162	768784	7.500
98) 1-Chloronaphthalene	(3)	10.592	162	778615	7.500
99) Diphenyl ether	(3)	10.732	170	543313	7.500
100) 2-Nitroaniline	(3)	10.738	138	248042	7.500
104) 1,4-Naphthoquinone	(3)	10.849	158	342423	7.500
105) 1,4-Dinitrobenzene	(3)	10.971	168	132431	7.500
106) Dimethylphthalate	(3)	11.082	163	929320	7.500
107) 1,3-Dinitrobenzene	(3)	11.088	168	144357	7.500
108) 2,6-Dinitrotoluene	(3)	11.152	165	203204	7.500
109) Acenaphthylene	(3)	11.216	152	1168618	7.500
112) 3-Nitroaniline	(3)	11.396	138	212437	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	426791	5.000
114) Acenaphthene	(3)	11.496	153	839098	7.500
115) 2,4-Dinitrophenol	(3)	11.560	184	145785	10.000
117) Pentachlorobenzene	(3)	11.694	250	361369	7.500
116) 4-Nitrophenol	(3)	11.694	109	151517	7.500
119) Dibenzofuran	(3)	11.752	168	1139432	7.500
118) 2,4-Dinitrotoluene	(3)	11.758	165	276534	7.500
121) 1-Naphthylamine	(3)	11.857	143	820074	7.500
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	227826	7.500
123) 2-Naphthylamine	(3)	11.968	143	819134	7.500
124) Diethylphthalate	(3)	12.125	149	908026	7.500
126) Fluorene	(3)	12.207	166	911177	7.500
125) Thionazin	(3)	12.218	107	181337	7.500
128) 5-Nitro-o-toluidine	(3)	12.230	152	253188	7.500
129) 4-Nitroaniline	(3)	12.236	138	215302	7.500
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	454709	7.500
130) 4,6-Dinitro-2-methylphenol	(4)	12.282	198	159859	7.500
131) N-Nitrosodiphenylamine	(4)	12.376	169	762708	7.500
132) NDPA as diphenylamine	(4)	12.376	169	762708	7.500
134) 1,2-Diphenylhydrazine	(4)	12.416	77	1086178	7.500
135)$2,4,6-Tribromophenol	(3)	12.492	330	237139	15.000
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	179986	7.500
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	103032	7.500
140) Diallate (peak 1)	(4)	12.737	86	399692	6.225
141) Phorate	(4)	12.743	75	711822	7.500
142) Phenacetin	(4)	12.760	108	528458	7.500
143) 4-Bromophenyl-phenylether	(4)	12.813	248	258788	7.500
144) Diallate (peak 2)	(4)	12.836	86	65661	1.275
145) Hexachlorobenzene	(4)	12.865	284	268625	7.500
147) Dimethoate	(4)	12.929	87	471557	7.500
148) Atrazine	(4)	13.040	200	242535	7.500
149) Pentachlorophenol	(4)	13.110	266	156770	7.500
150) 4-Aminobiphenyl	(4)	13.122	169	858439	7.500
151) Pentachloronitrobenzene	(4)	13.128	237	121505	7.500
152) Pronamide	(4)	13.227	173	448991	7.500
153)*Phenanthrene-d10	(4)	13.337	188	816291	5.000
154) Dinoseb	(4)	13.367	211	259031	7.500
155) Phenanthrene	(4)	13.367	178	1345932	7.500
157) Anthracene	(4)	13.431	178	1369933	7.500
163) Carbazole	(4)	13.646	167	1289182	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

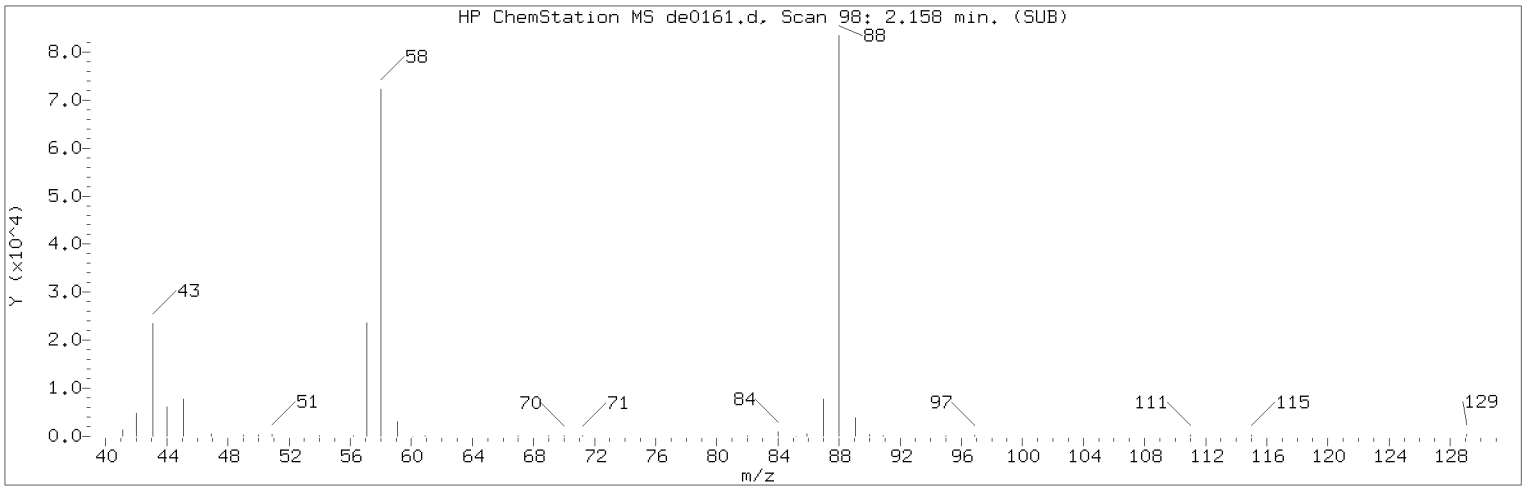
Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	361464	7.500
165) Di-n-butylphthalate	(4)	14.159	149	1632237	7.500
168) 4-Nitroquinoline-1-oxide	(4)	14.387	190	131959	7.500
167) Parathion	(4)	14.387	109	229411	7.500
169) Octachlorostyrene	(4)	14.730	308	103162	7.500
171) Isodrin	(4)	14.771	193	162581	7.500
173) Fluoranthene	(4)	14.987	202	1587811	7.500
222) Total PAHs	(6)			23931170	135.000
174) Benzidine	(5)	15.214	184	3075818	22.500
175)*Pyrene-d10	(5)	15.290	212	993842	5.000
177) Pyrene	(5)	15.319	202	1639475	7.500
179)$Terphenyl-d14	(5)	15.611	244	2197508	15.000
182) p-Dimethylaminoazobenzene	(5)	15.838	225	275422	7.500
185) Chlorobenzilate	(5)	15.931	139	496663	7.500
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	1152796	7.500
188) Butylbenzylphthalate	(5)	16.456	149	758553	7.500
191) 2-Acetylaminofluorene	(5)	16.800	181	692458	7.500
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	622168	7.500
195) Benzo(a)anthracene	(5)	17.307	228	1607390	7.500
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	328245	7.500
196) Chrysene	(5)	17.371	228	1499167	7.500
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1136783	7.500
203) 6-Methylchrysene	(5)	18.169	242	1100348	7.500
205) Di-n-octylphthalate	(6)	18.676	149	2079814	7.500
206) Benzo(b)fluoranthene	(6)	19.149	252	1654288	7.500
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	696349	7.500
208) Benzo(k)fluoranthene	(6)	19.195	252	1611697	7.500
211) Benzo(a)pyrene	(6)	19.667	252	1565551	7.500
213)*Perylene-d12	(6)	19.761	264	828843	5.000
215) 3-Methylcholanthrene	(6)	20.244	268	701224	7.500
217) Dibenz(a,h)acridine	(6)	21.049	279	1165593	7.500
218) Dibenz(a,j)acridine	(6)	21.119	279	1140517	7.500
219) Indeno(1,2,3-cd)pyrene	(6)	21.358	276	1589797	7.500
220) Dibenz(a,h)anthracene	(6)	21.398	278	1328454	7.500
221) Benzo(g,h,i)perylene	(6)	21.725	276	1287153	7.500

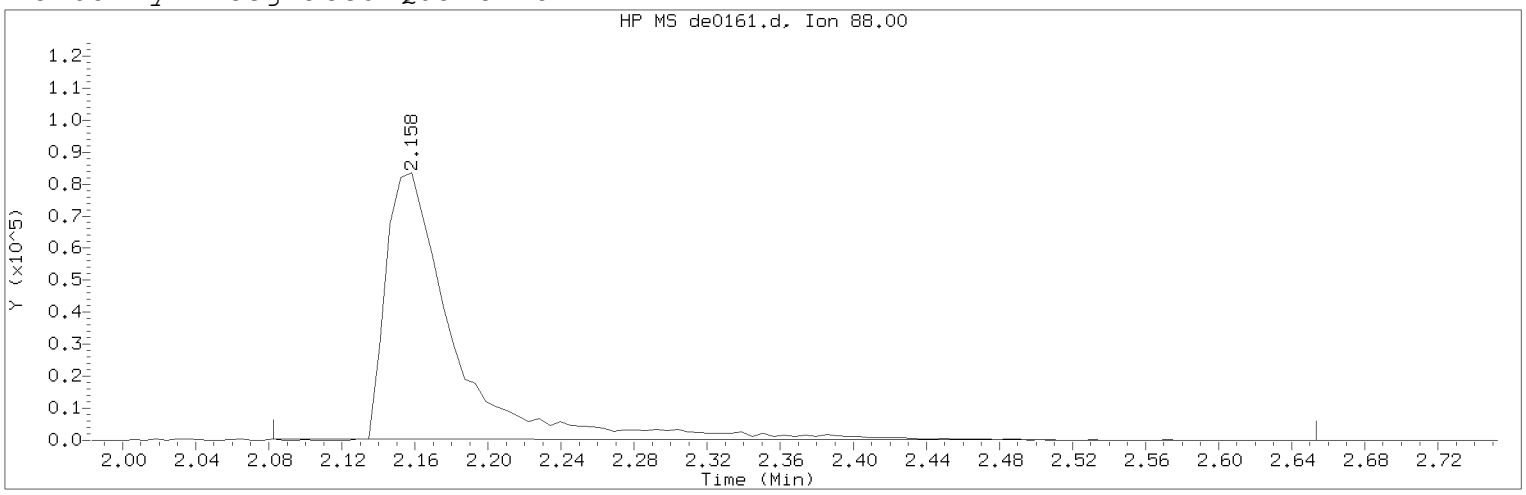
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

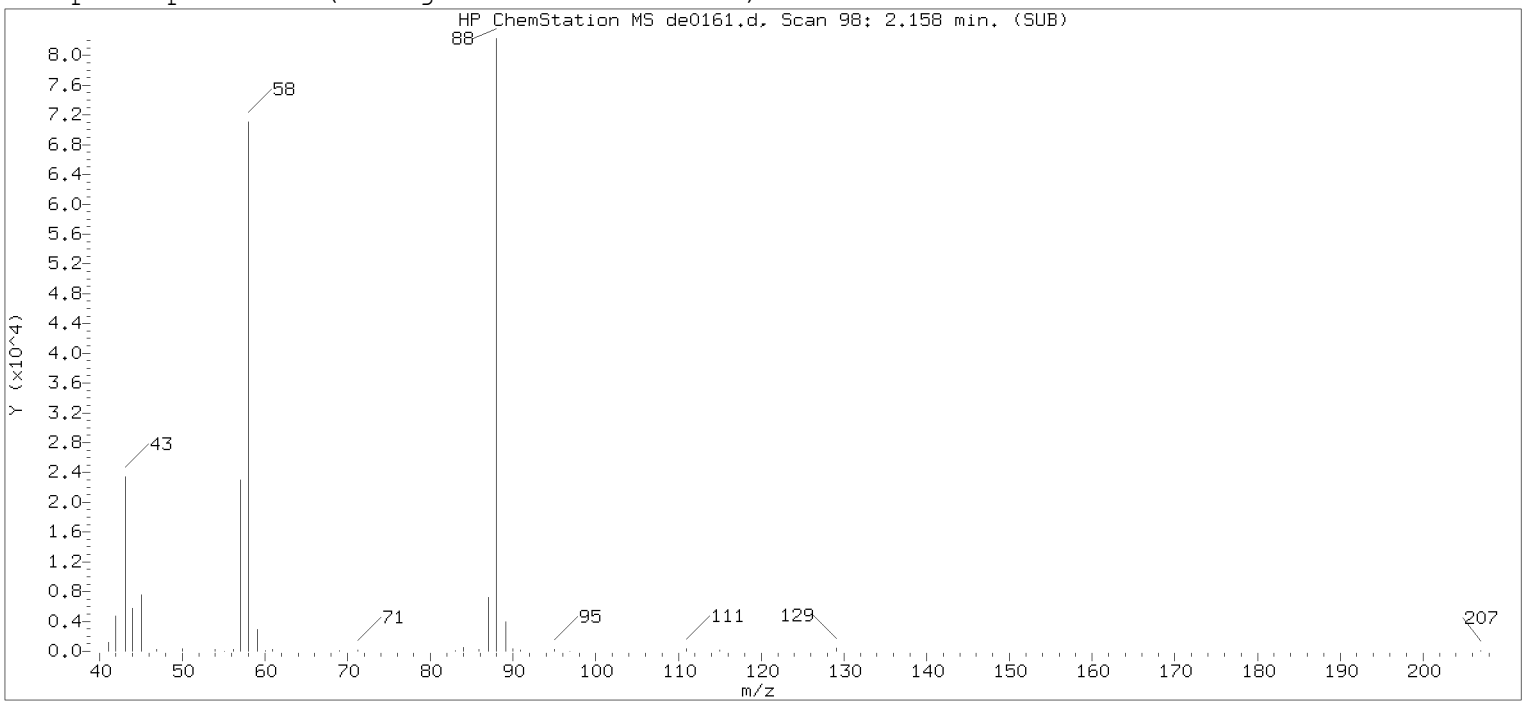
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 98
Retention Time (minutes) : 2.158
Quant Ion : 88.00
Area (flag) : 217886M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 84 Integration stop scan: 182
Y at integration start : 322 Y at integration end: 0

Reason for manual integration: improper integration

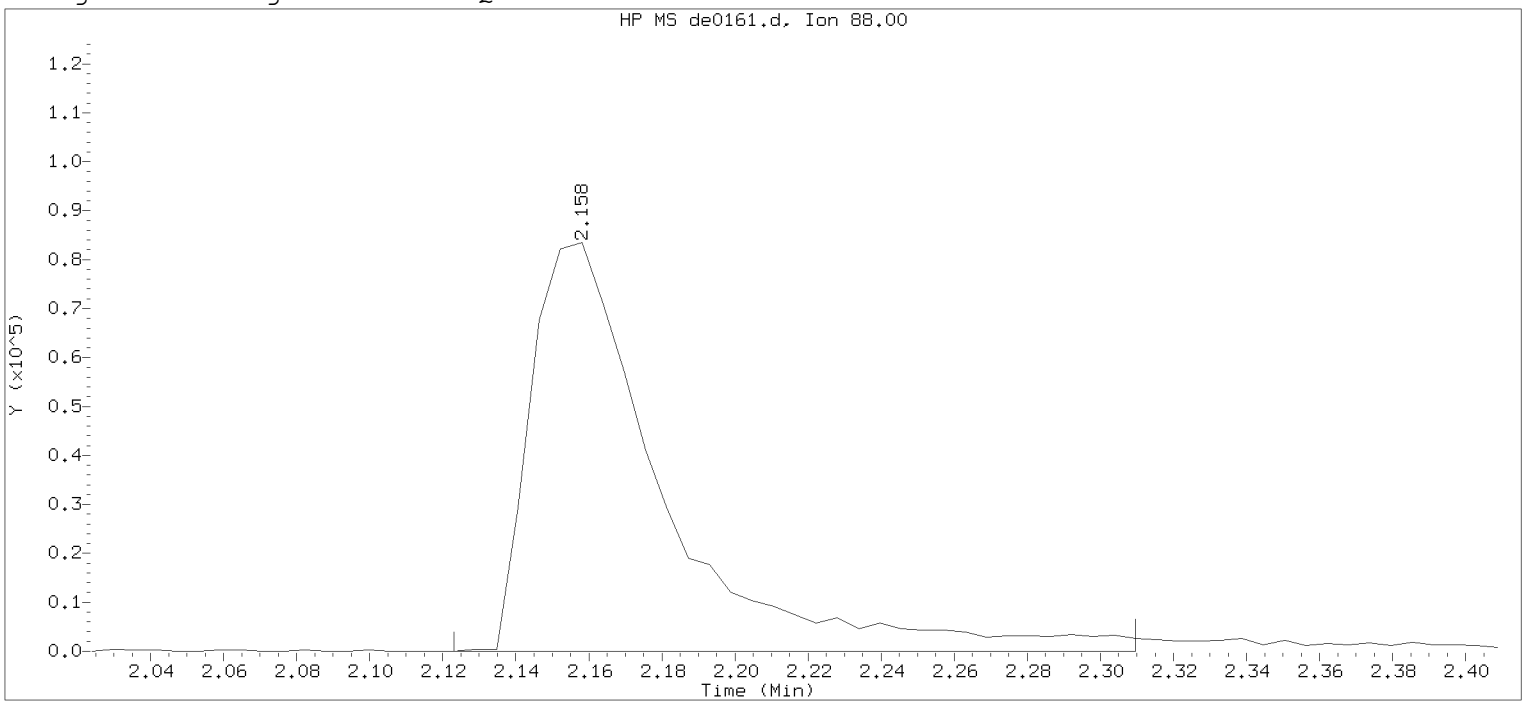
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

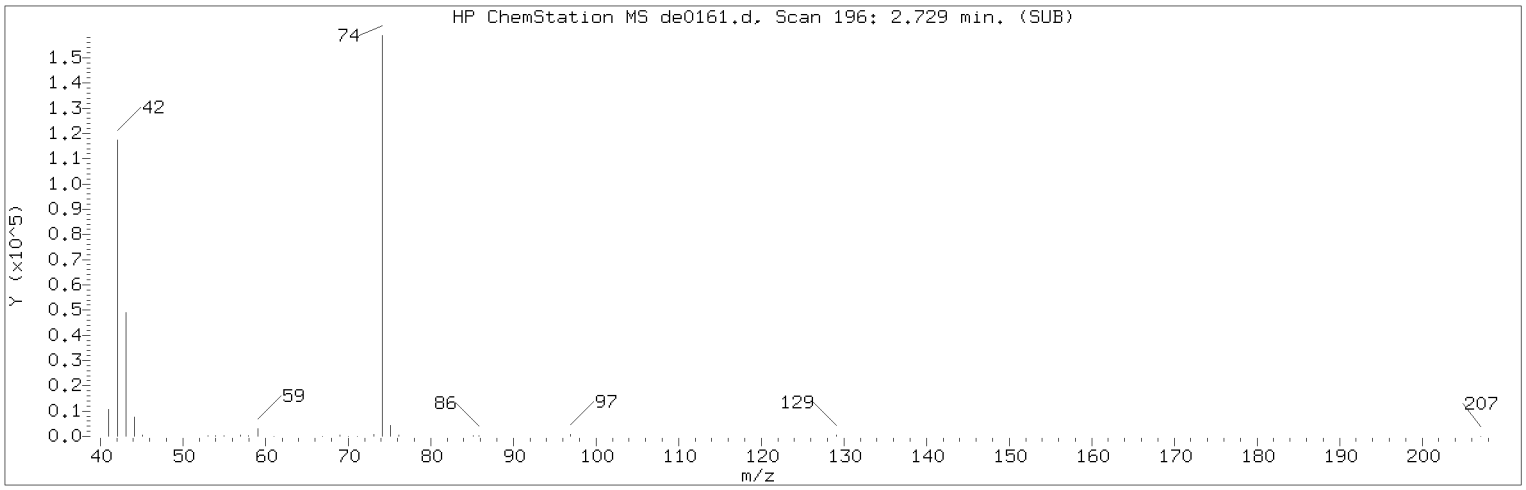
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

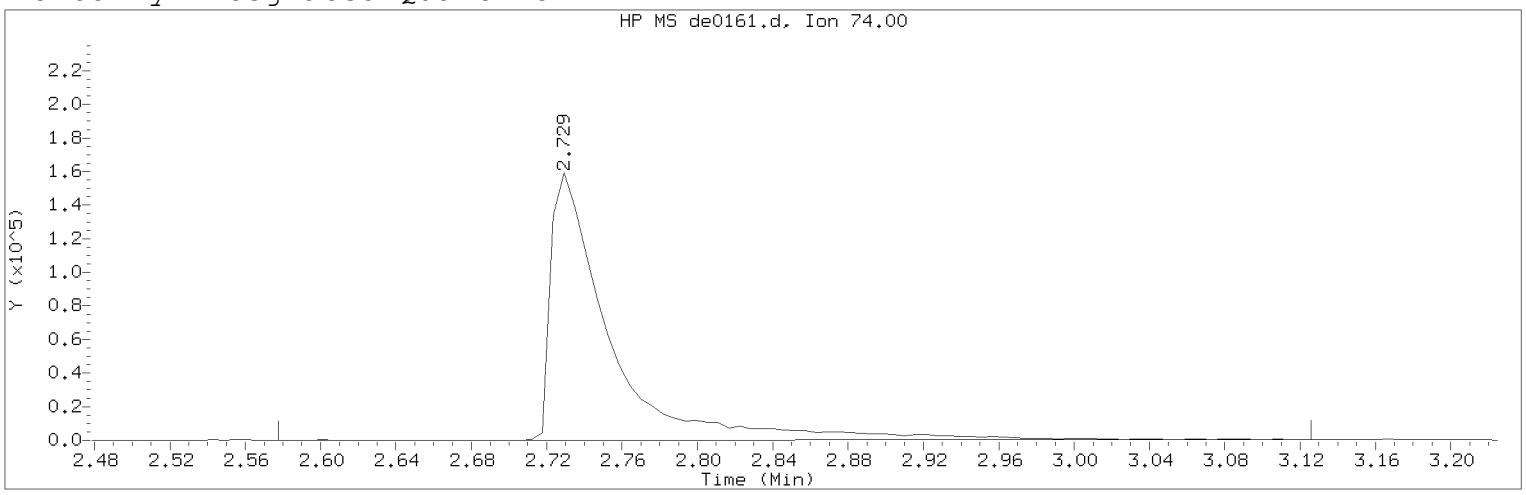
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 98
Retention Time (minutes) : 2.158
Quant Ion : 88.00
Area : 210118
On-column Amount (ng/ul) : 7.0164
Integration start scan : 91 Integration stop scan: 123
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bsmith0426

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

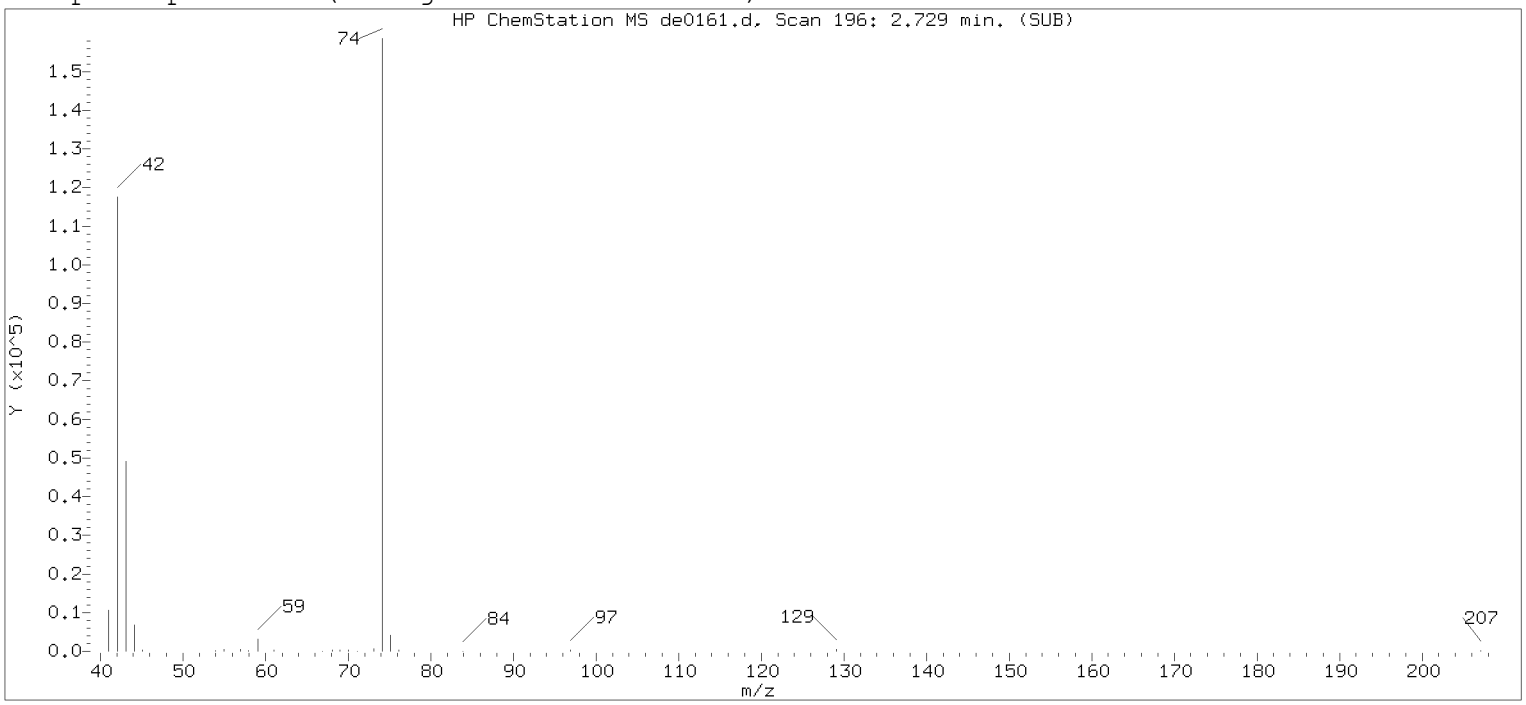
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 196
Retention Time (minutes) : 2.729
Quant Ion : 74.00
Area (flag) : 351990M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 169 Integration stop scan: 263
Y at integration start : 0 Y at integration end: 390

Reason for manual integration: improper integration

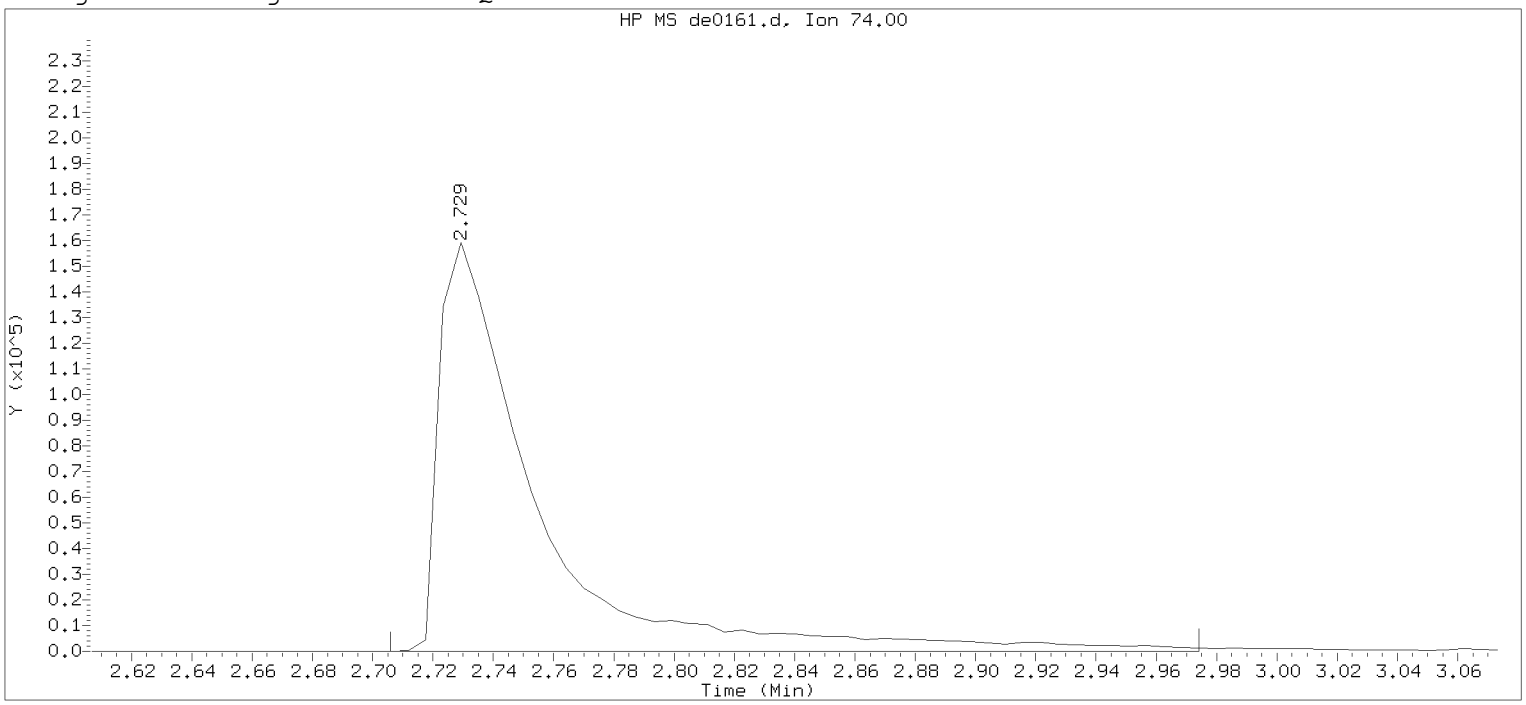
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

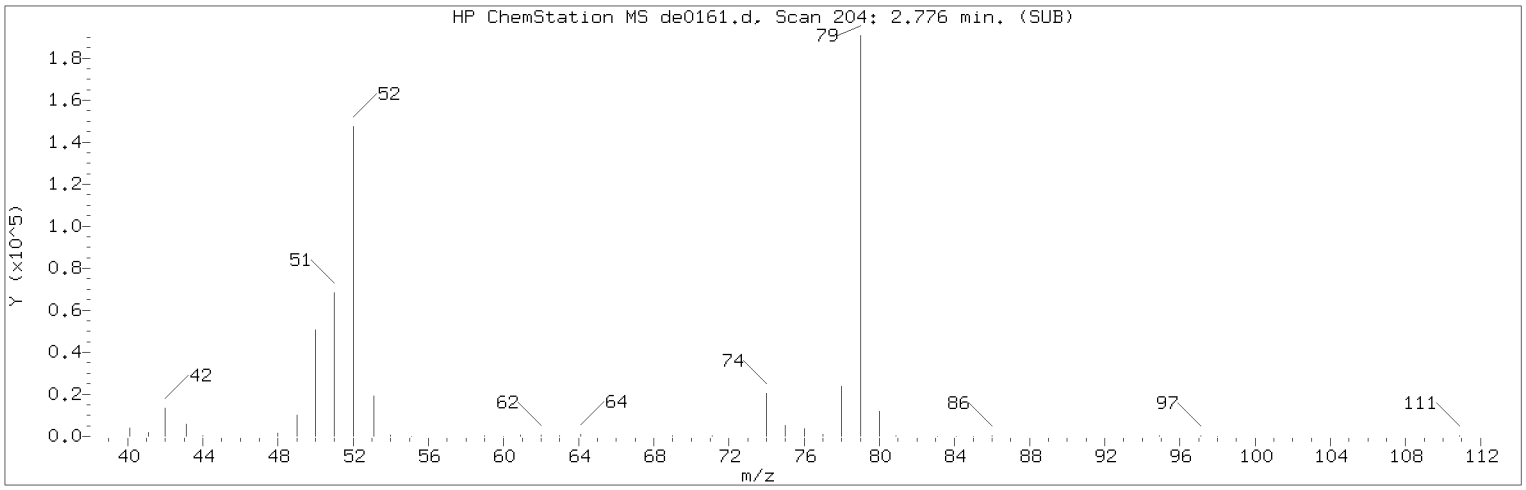
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

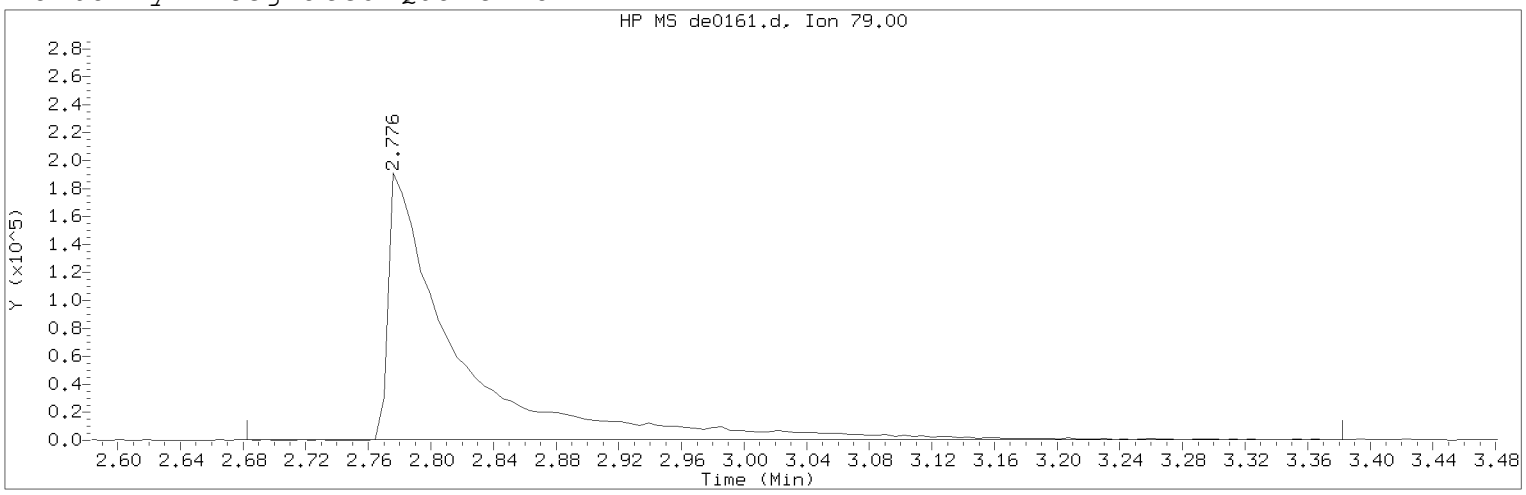
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 196		
Retention Time (minutes)	: 2.729		
Quant Ion	: 74.00		
Area	: 351950		
On-column Amount (ng/ul)	: 7.4087		
Integration start scan	: 191	Integration stop scan:	237
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

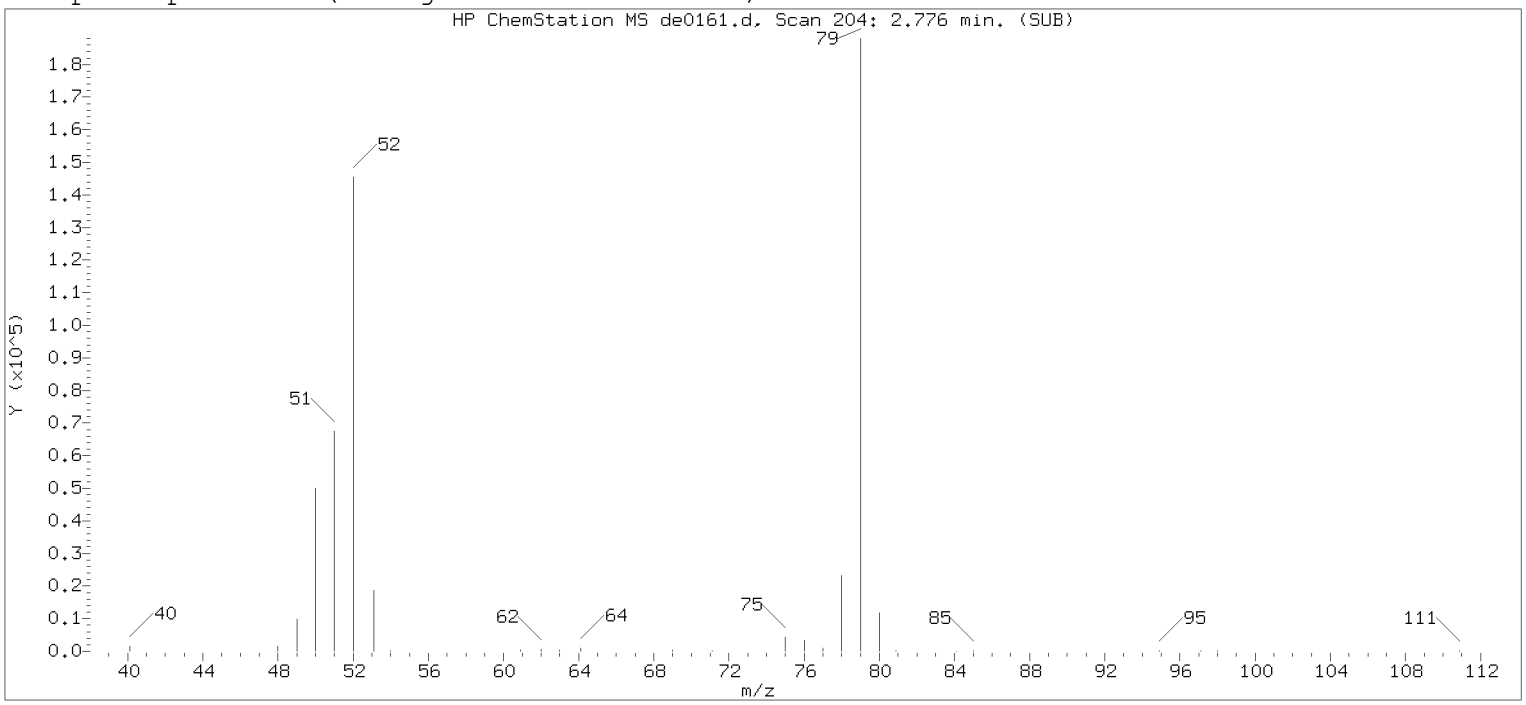
Compound Number : 5
Compound Name : Pyridine
Scan Number : 204
Retention Time (minutes) : 2.776
Quant Ion : 79.00
Area (flag) : 581008M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 187 Integration stop scan: 307
Y at integration start : 390 Y at integration end: 335

Reason for manual integration: improper integration

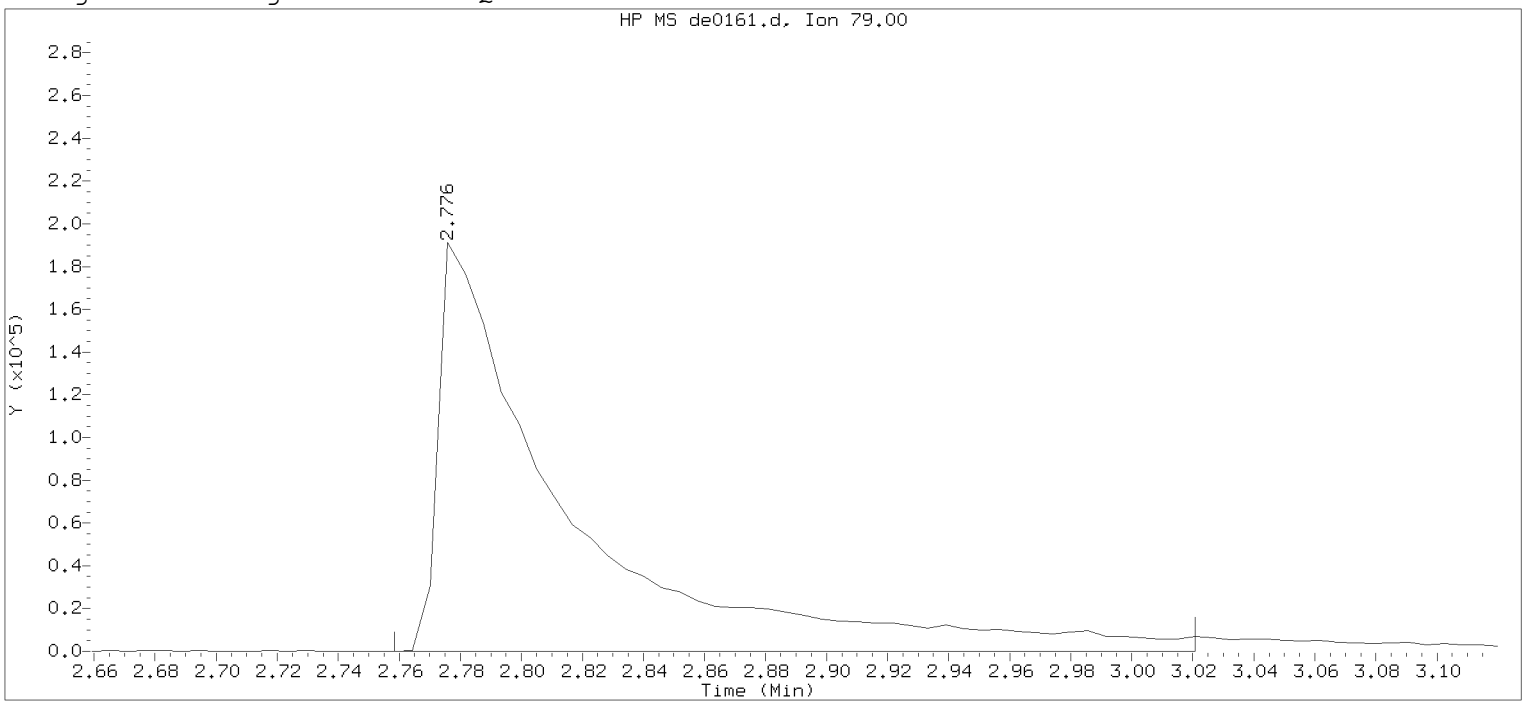
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



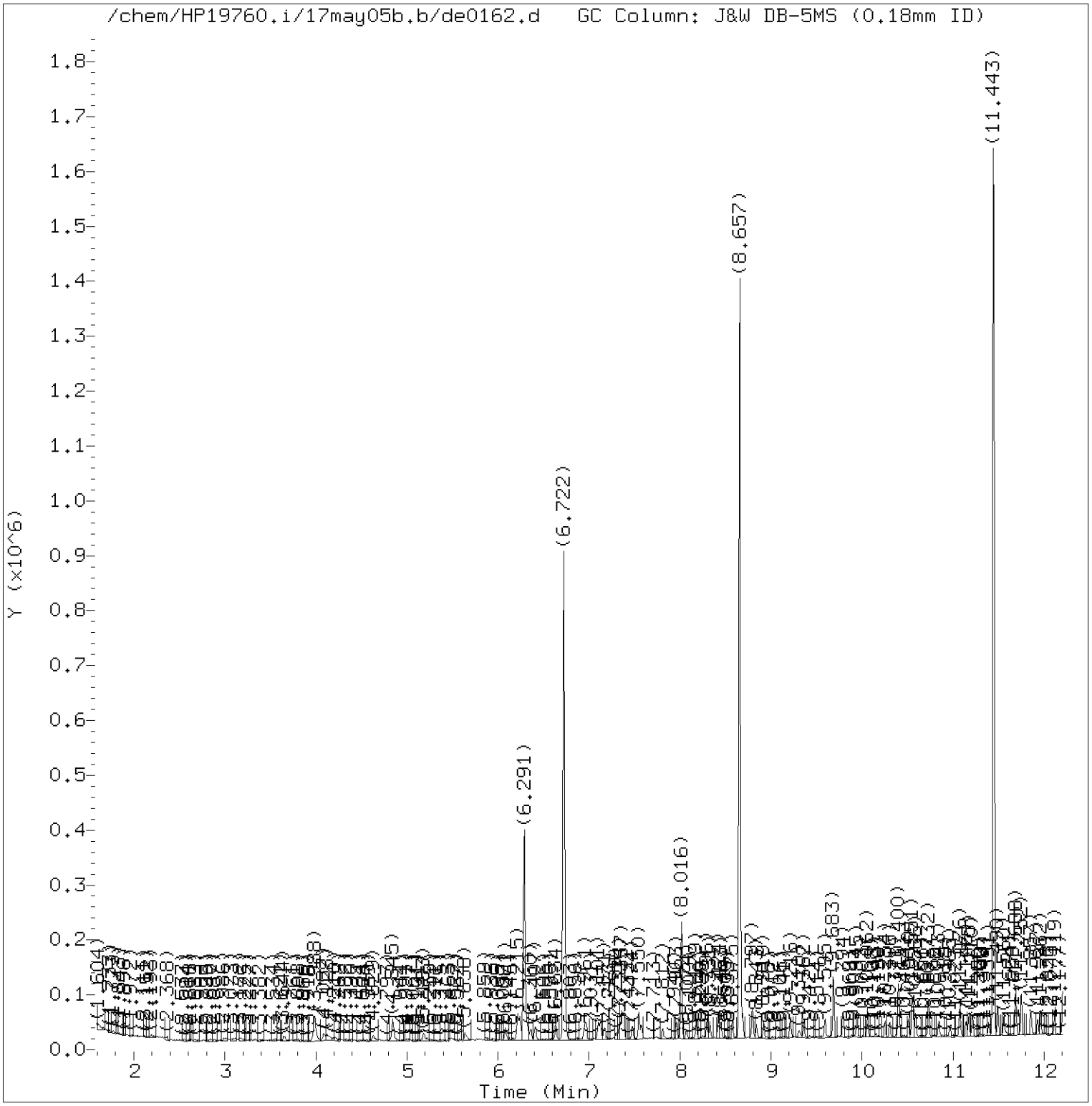
Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 204		
Retention Time (minutes)	: 2.776		
Quant Ion	: 79.00		
Area	: 552604		
On-column Amount (ng/ul)	: 6.8157		
Integration start scan	: 200	Integration stop scan:	245
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user brandon.smith



Total Ion Chromatogram (TIC)

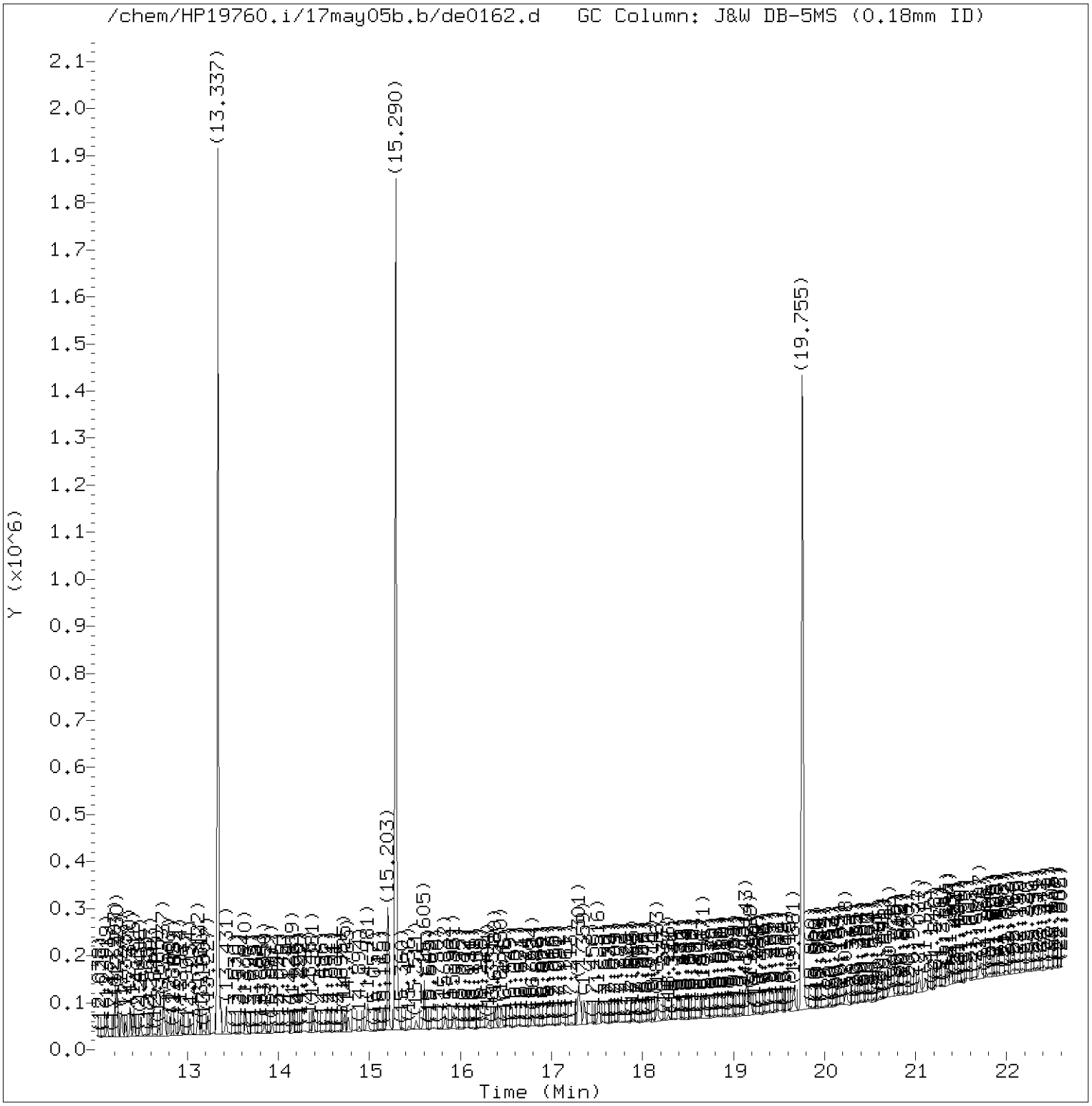
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.199	88	3016	0.110
5) Pyridine	(1)	2.648	79	1109	0.015
4) N-Nitrosodimethylamine	(1)	2.840	74	5014	0.113
7) 2-Picoline	(1)	4.081	93	8644	0.116
9) Methyl methanesulfonate	(1)	4.629	80	5186	0.143
11)$2-Fluorophenol	(1)	4.845	112	16653	0.286
13) N-Nitrosodiethylamine	(1)	5.183	102	3693	0.124
15) Ethyl methanesulfonate	(1)	5.638	109	4606	0.147
42) Total Cresols	(1)			16906	0.276
16) Benzaldehyde	(1)	6.081	77	7179	0.121
17)$Phenol-d6	(1)	6.215	99	21487	0.272
18) Phenol	(1)	6.238	94	13534	0.153
19) Aniline	(1)	6.244	93	15143	0.146
20) a-methylstyrene	(1)	6.325	118	6859	0.104
22) bis(2-Chloroethyl)ether	(1)	6.360	93	9801	0.150
23) 2-Chlorophenol	(1)	6.407	128	8295	0.146
24) 1,3-Dichlorobenzene	(1)	6.634	146	8596	0.138
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	184070	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	9962	0.159
27) Benzyl alcohol	(1)	6.943	108	4617	0.108
28) 1,2-Dichlorobenzene	(1)	6.967	146	8492	0.144
30) Indene	(1)	7.101	115	12234	0.105
31) 2-Methylphenol	(1)	7.130	108	7639	0.134
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.171	45	16087	0.164
34) bis(2-Chloroisopropyl)ether	(1)	7.171	45	16087	0.164
35) N-Nitrosopyrrolidine	(1)	7.299	100	4130	0.129
36) Acetophenone	(1)	7.334	105	10091	0.114
39) N-Nitrosomorpholine	(1)	7.340	56	7472	0.167
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	8785	0.172
37) 4-Methylphenol	(1)	7.363	108	9267	0.143
97) Isosafrole	(3)			6646	0.137
40) o-Toluidine	(1)	7.386	106	15362	0.153
43) Hexachloroethane	(1)	7.480	117	3516	0.134
44)$Nitrobenzene-d5	(2)	7.550	82	21722	0.296
45) Nitrobenzene	(2)	7.579	77	10684	0.143
48) N-Nitrosopiperidine	(2)	7.812	114	3872	0.129
50) Isophorone	(2)	7.963	82	18349	0.143
120) 2,4_2,6-Dinitrotoluenes	(3)			7378	0.242
51) 2-Nitrophenol	(2)	8.074	139	3580	0.122
53) 2,4-Dimethylphenol	(2)	8.179	107	9564	0.152

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	4265	0.143
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	11473	0.141
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	9793	0.102
56) Benzoic acid	(2)	8.424	105	1372	0.034
60) 2,4-Dichlorophenol	(2)	8.453	162	6882	0.144
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	7552	0.140
65)*Naphthalene-d8	(2)	8.657	136	711760	5.000
66) Naphthalene	(2)	8.686	128	24380	0.136
146) Diallate trans/cis	(4)			8949	0.150
67) 4-Chloroaniline	(2)	8.791	127	9976	0.146
68) 2,6-Dichlorophenol	(2)	8.803	162	6624	0.143
69) Hexachloropropene	(2)	8.843	213	5061	0.139
71) Hexachlorobutadiene	(2)	8.919	225	4291	0.135
75) Quinoline	(2)	9.216	129	15903	0.151
76) Caprolactam	(2)	9.304	113	1411	0.096
77) N-Nitrosodi-n-butylamine	(2)	9.362	84	6235	0.127
80) 4-Chloro-3-methylphenol	(2)	9.595	107	7768	0.145
82) Safrole	(2)	9.683	162	5749	0.135
83) 2-Methylnaphthalene	(2)	9.794	142	15389	0.133
84) 1-Methylnaphthalene	(2)	9.945	142	14243	0.133
85) Hexachlorocyclopentadiene	(3)	10.062	237	3096	0.110
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	8623	0.150
88) cis-Isosafrole	(3)	10.149	162	862	0.019
90) 2,4,6-Trichlorophenol	(3)	10.254	196	4908	0.135
92) 2,4,5-Trichlorophenol	(3)	10.306	196	4894	0.125
93)$2-Fluorobiphenyl	(3)	10.400	172	35608	0.282
94) trans-Isosafrole	(3)	10.510	162	5784	0.118
95) 1,1'-Biphenyl	(3)	10.551	154	14813	0.117
96) 2-Chloronaphthalene	(3)	10.557	162	14413	0.146
98) 1-Chloronaphthalene	(3)	10.586	162	13412	0.134
100) 2-Nitroaniline	(3)	10.732	138	4629	0.145
99) Diphenyl ether	(3)	10.732	170	9668	0.138
104) 1,4-Naphthoquinone	(3)	10.843	158	5377	0.122
105) 1,4-Dinitrobenzene	(3)	10.971	168	1773	0.104
106) Dimethylphthalate	(3)	11.076	163	17682	0.148
107) 1,3-Dinitrobenzene	(3)	11.082	168	2509	0.135
108) 2,6-Dinitrotoluene	(3)	11.146	165	3409	0.130
109) Acenaphthylene	(3)	11.216	152	19873	0.128
112) 3-Nitroaniline	(3)	11.391	138	3523	0.129
113)*Acenaphthene-d10	(3)	11.443	164	412178	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
114) Acenaphthene	(3)	11.490	153	14564	0.130
115) 2,4-Dinitrophenol	(3)	11.560	184	5189	0.369
116) 4-Nitrophenol	(3)	11.688	109	8199	0.420
117) Pentachlorobenzene	(3)	11.694	250	6833	0.147
118) 2,4-Dinitrotoluene	(3)	11.752	165	3969	0.111
119) Dibenzofuran	(3)	11.752	168	21528	0.147
121) 1-Naphthylamine	(3)	11.857	143	13904	0.132
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	3900	0.133
123) 2-Naphthylamine	(3)	11.962	143	14594	0.138
124) Diethylphthalate	(3)	12.119	149	16142	0.138
126) Fluorene	(3)	12.201	166	17017	0.134
125) Thionazin	(3)	12.212	107	3694	0.158
128) 5-Nitro-o-toluidine	(3)	12.224	152	4158	0.128
129) 4-Nitroaniline	(3)	12.224	138	3608	0.130
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	8376	0.143
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	6611	0.322
132) NDPA as diphenylamine	(4)	12.376	169	14731	0.150
131) N-Nitrosodiphenylamine	(4)	12.376	169	14731	0.150
134) 1,2-Diphenylhydrazine	(4)	12.416	77	20885	0.150
135)$2,4,6-Tribromophenol	(3)	12.492	330	4292	0.281
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	4070	0.176
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	1457	0.110
140) Diallate (peak 1)	(4)	12.737	86	7556	0.122
141) Phorate	(4)	12.743	75	11488	0.126
142) Phenacetin	(4)	12.749	108	8040	0.118
143) 4-Bromophenyl-phenylether	(4)	12.813	248	4576	0.138
144) Diallate (peak 2)	(4)	12.836	86	1393	0.028
145) Hexachlorobenzene	(4)	12.859	284	5015	0.134
147) Dimethoate	(4)	12.924	87	7924	0.131
148) Atrazine	(4)	13.034	200	4038	0.130
149) Pentachlorophenol	(4)	13.110	266	1279	0.064
150) 4-Aminobiphenyl	(4)	13.122	169	14503	0.132
151) Pentachloronitrobenzene	(4)	13.122	237	1900	0.122
152) Pronamide	(4)	13.227	173	7101	0.123
153)*Phenanthrene-d10	(4)	13.337	188	786368	5.000
155) Phenanthrene	(4)	13.361	178	24668	0.133
154) Dinoseb	(4)	13.366	211	2485	0.075
157) Anthracene	(4)	13.431	178	24167	0.131
163) Carbazole	(4)	13.640	167	22374	0.135
164) Methyl parathion	(4)	13.850	109	5294	0.114

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

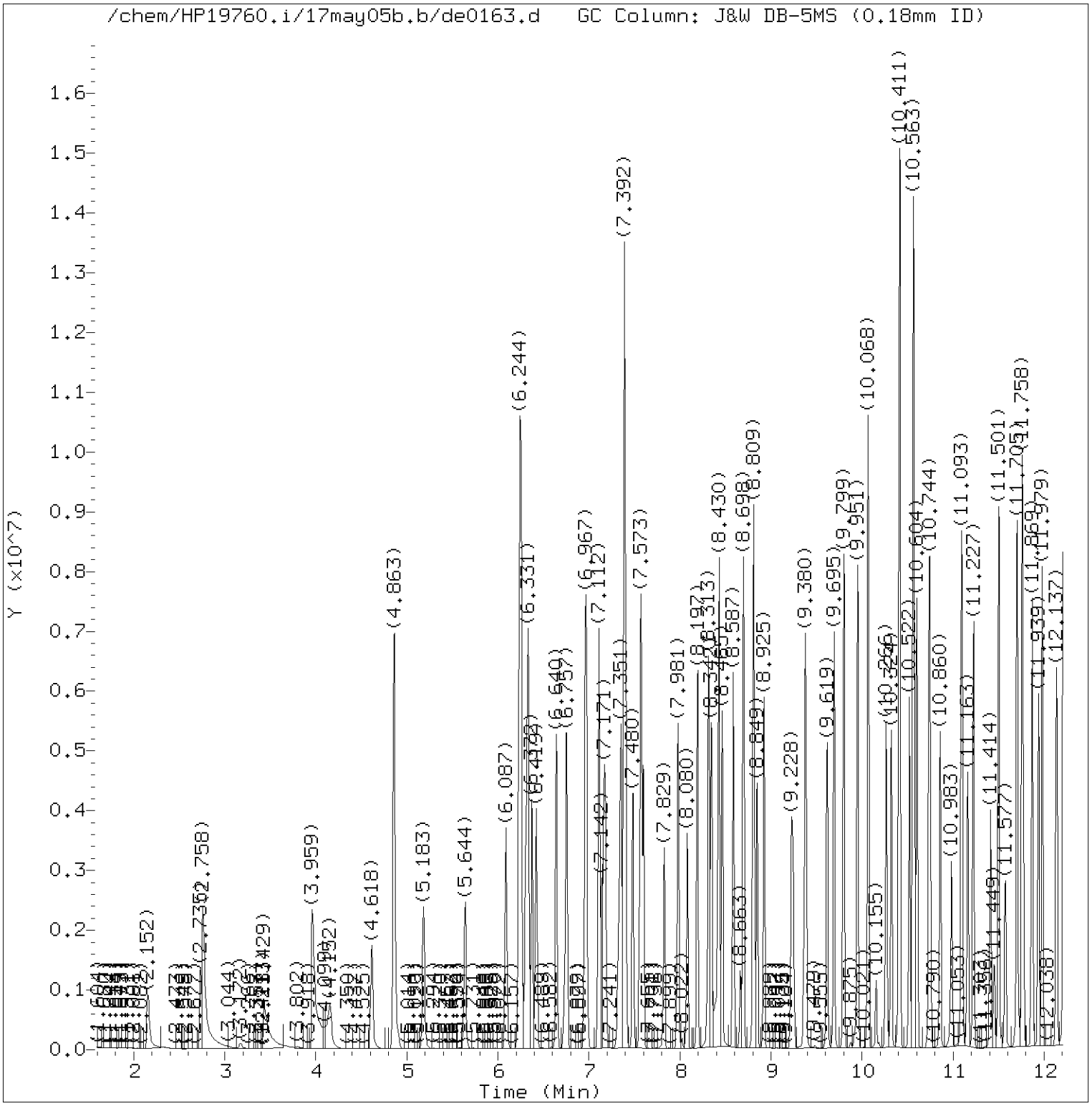
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.159	149	27373	0.131
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	1280	0.076
167) Parathion	(4)	14.386	109	3208	0.109
171) Isodrin	(4)	14.771	193	3146	0.151
173) Fluoranthene	(4)	14.981	202	27079	0.129
222) Total PAHs	(6)			393255	2.327
174) Benzidine	(5)	15.203	184	118035	0.918
175)*Pyrene-d10	(5)	15.290	212	934540	5.000
177) Pyrene	(5)	15.319	202	29731	0.134
179)$Terphenyl-d14	(5)	15.605	244	37368	0.271
182) p-Dimethylaminoazobenzene	(5)	15.832	225	4185	0.121
185) Chlorobenzilate	(5)	15.931	139	8327	0.134
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	17817	0.123
188) Butylbenzylphthalate	(5)	16.450	149	12752	0.134
191) 2-Acetylaminofluorene	(5)	16.794	181	7152	0.082
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	9876	0.127
195) Benzo(a)anthracene	(5)	17.301	228	27081	0.130
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	5149	0.125
196) Chrysene	(5)	17.359	228	25334	0.130
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	18747	0.132
203) 6-Methylchrysene	(5)	18.163	242	17654	0.128
205) Di-n-octylphthalate	(6)	18.671	149	30790	0.129
206) Benzo(b)fluoranthene	(6)	19.143	252	26747	0.133
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.148	256	9768	0.122
208) Benzo(k)fluoranthene	(6)	19.183	252	25321	0.131
211) Benzo(a)pyrene	(6)	19.661	252	23767	0.129
213)*Perylene-d12	(6)	19.755	264	712054	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	10033	0.125
217) Dibenz(a,h)acridine	(6)	21.037	279	15162	0.114
218) Dibenz(a,j)acridine	(6)	21.113	279	12886	0.099
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	20568	0.119
220) Dibenz(a,h)anthracene	(6)	21.387	278	15855	0.114
221) Benzo(g,h,i)perylene	(6)	21.707	276	17471	0.122

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

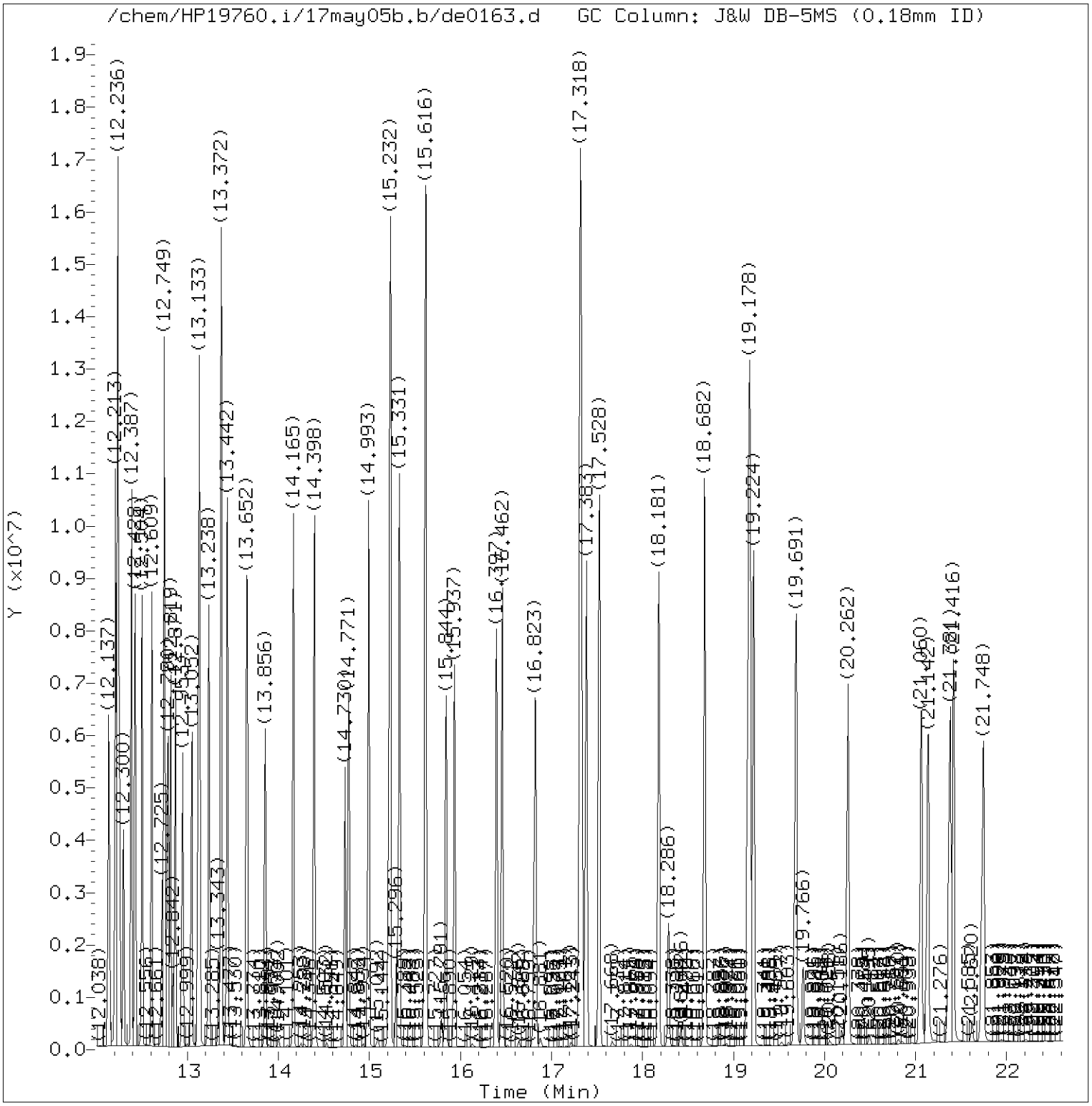
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.152	88	793528	29.575
4) N-Nitrosodimethylamine	(1)	2.735	74	1300310	29.789
5) Pyridine	(1)	2.758	79	2119756	29.602
7) 2-Picoline	(1)	3.959	93	2146665	29.492
8) N-Nitrosomethylethylamine	(1)	4.157	88	914429	29.415
9) Methyl methanesulfonate	(1)	4.618	80	1050057	29.565
11)$2-Fluorophenol	(1)	4.863	112	3325343	58.730
13) N-Nitrosodiethylamine	(1)	5.183	102	861679	29.593
15) Ethyl methanesulfonate	(1)	5.644	109	913740	29.659
42) Total Cresols	(1)			3351248	57.550
16) Benzaldehyde	(1)	6.087	77	1350005	25.952
17)$Phenol-d6	(1)	6.238	99	4441173	58.288
18) Phenol	(1)	6.256	94	2474485	29.039
19) Aniline	(1)	6.256	93	2897915	29.073
20) a-methylstyrene	(1)	6.331	118	1767463	28.361
22) bis(2-Chloroethyl)ether	(1)	6.372	93	1815386	28.930
23) 2-Chlorophenol	(1)	6.419	128	1606800	29.169
24) 1,3-Dichlorobenzene	(1)	6.640	146	1720142	28.842
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	182912	5.000
26) 1,4-Dichlorobenzene	(1)	6.757	146	1748255	29.038
27) Benzyl alcohol	(1)	6.961	108	1158468	28.603
28) 1,2-Dichlorobenzene	(1)	6.973	146	1632713	28.868
30) Indene	(1)	7.112	115	3145957	28.573
31) 2-Methylphenol	(1)	7.142	108	1588475	28.951
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.182	45	2625541	28.383
34) bis(2-Chloroisopropyl)ether	(1)	7.182	45	2625541	28.383
35) N-Nitrosopyrrolidine	(1)	7.328	100	916196	29.385
36) Acetophenone	(1)	7.351	105	2526830	29.394
97) Isosafrole	(3)			1340427	30.110
38) N-Nitroso-di-n-propylamine	(1)	7.386	70	1389462	28.622
37) 4-Methylphenol	(1)	7.386	108	1762773	28.599
39) N-Nitrosomorpholine	(1)	7.392	56	1207856	28.511
40) o-Toluidine	(1)	7.404	106	2713962	28.529
43) Hexachloroethane	(1)	7.480	117	732996	28.999
44)$Nitrobenzene-d5	(2)	7.573	82	4048771	58.909
45) Nitrobenzene	(2)	7.596	77	2029621	29.263
48) N-Nitrosopiperidine	(2)	7.829	114	824917	29.428
50) Isophorone	(2)	7.981	82	3565998	29.593
120) 2,4_2,6-Dinitrotoluenes	(3)			1726338	60.393
51) 2-Nitrophenol	(2)	8.080	139	838260	30.018

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.197	107	1752657	29.638
57) O,O,O-Triethylphosphorothioate	(2)	8.313	198	826529	29.506
55) bis(2-Chloroethoxy)methane	(2)	8.342	93	2171585	28.952
56) Benzoic acid	(2)	8.418	105	1430416	33.178
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.430	104	2561838	29.023
60) 2,4-Dichlorophenol	(2)	8.465	162	1307148	29.320
62) 1,2,4-Trichlorobenzene	(2)	8.587	180	1501782	29.600
65)*Naphthalene-d8	(2)	8.663	136	678696	5.000
66) Naphthalene	(2)	8.698	128	4488958	27.429
146) Diallate trans/cis	(4)			1608677	28.994
67) 4-Chloroaniline	(2)	8.809	127	1899663	29.602
68) 2,6-Dichlorophenol	(2)	8.814	162	1264924	29.319
69) Hexachloropropene	(2)	8.849	213	1045223	30.044
71) Hexachlorobutadiene	(2)	8.925	225	896159	29.781
75) Quinoline	(2)	9.228	129	2873587	29.244
77) N-Nitrosodi-n-butylamine	(2)	9.380	84	1664716	32.602
76) Caprolactam	(2)	9.386	113	416272A	29.843
80) 4-Chloro-3-methylphenol	(2)	9.619	107	1483044	29.493
82) Safrole	(2)	9.695	162	1180281	29.537
83) 2-Methylnaphthalene	(2)	9.799	142	3012146	28.092
84) 1-Methylnaphthalene	(2)	9.951	142	2721468	27.740
85) Hexachlorocyclopentadiene	(3)	10.068	237	802520	30.467
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.068	216	1557757	29.801
88) cis-Isosafrole	(3)	10.155	162	216382	5.128
90) 2,4,6-Trichlorophenol	(3)	10.266	196	990683	29.844
92) 2,4,5-Trichlorophenol	(3)	10.324	196	1049407	29.586
93)$2-Fluorobiphenyl	(3)	10.417	172	6695121	58.819
94) trans-Isosafrole	(3)	10.522	162	1124045	24.983
95) 1,1'-Biphenyl	(3)	10.563	154	3420269	29.731
96) 2-Chloronaphthalene	(3)	10.575	162	2707129	29.888
98) 1-Chloronaphthalene	(3)	10.604	162	2564402	28.886
99) Diphenyl ether	(3)	10.738	170	1906591	29.836
100) 2-Nitroaniline	(3)	10.750	138	878717	29.979
104) 1,4-Naphthoquinone	(3)	10.860	158	1175088	29.501
105) 1,4-Dinitrobenzene	(3)	10.983	168	481831	30.379
106) Dimethylphthalate	(3)	11.093	163	3186137	29.487
107) 1,3-Dinitrobenzene	(3)	11.099	168	519924	30.227
108) 2,6-Dinitrotoluene	(3)	11.163	165	725215	30.090
109) Acenaphthylene	(3)	11.227	152	4035958	28.916
112) 3-Nitroaniline	(3)	11.414	138	779308	30.502

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	378528	5.000
114) Acenaphthene	(3)	11.507	153	2858744	28.443
115) 2,4-Dinitrophenol	(3)	11.577	184	477651	33.111
117) Pentachlorobenzene	(3)	11.705	250	1252441	29.650
116) 4-Nitrophenol	(3)	11.705	109	571211	30.911
119) Dibenzofuran	(3)	11.758	168	3871691	29.353
118) 2,4-Dinitrotoluene	(3)	11.775	165	1001123	30.304
121) 1-Naphthylamine	(3)	11.869	143	2948314	30.200
122) 2,3,4,6-Tetrachlorophenol	(3)	11.939	232	840764	30.592
123) 2-Naphthylamine	(3)	11.979	143	2850034	29.708
124) Diethylphthalate	(3)	12.137	149	3219229	29.990
126) Fluorene	(3)	12.213	166	3152534	27.993
125) Thionazin	(3)	12.230	107	620789	29.465
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	1519861	29.107
128) 5-Nitro-o-toluidine	(3)	12.247	152	889321	29.851
129) 4-Nitroaniline	(3)	12.259	138	758229A	29.890
130) 4,6-Dinitro-2-methylphenol	(4)	12.300	198	620426	30.721
131) N-Nitrosodiphenylamine	(4)	12.387	169	2648332	29.052
132) NDPA as diphenylamine	(4)	12.387	169	2648332	29.052
134) 1,2-Diphenylhydrazine	(4)	12.428	77	3725073	28.866
135)$2,4,6-Tribromophenol	(3)	12.504	330	865838	60.863
137) Tetraethyldithiopyrophosphate	(4)	12.609	97	629982	29.172
139) 1,3,5-Trinitrobenzene	(4)	12.725	213	405195	30.919
140) Diallate (peak 1)	(4)	12.743	86	1377836	24.023
141) Phorate	(4)	12.749	75	2504892	29.252
142) Phenacetin	(4)	12.790	108	1853592	29.203
143) 4-Bromophenyl-phenylether	(4)	12.819	248	906457	29.183
144) Diallate (peak 2)	(4)	12.842	86	230841	4.970
145) Hexachlorobenzene	(4)	12.871	284	944090	27.471
147) Dimethoate	(4)	12.953	87	1554529	28.275
148) Atrazine	(4)	13.052	200	784709	27.995
149) Pentachlorophenol	(4)	13.122	266	603468	30.598
150) 4-Aminobiphenyl	(4)	13.133	169	2874879	28.511
151) Pentachloronitrobenzene	(4)	13.133	237	440096	29.685
152) Pronamide	(4)	13.238	173	1585973	29.309
153)*Phenanthrene-d10	(4)	13.343	188	754842	5.000
154) Dinoseb	(4)	13.372	211	998429	30.618
155) Phenanthrene	(4)	13.378	178	4647525	27.322
157) Anthracene	(4)	13.442	178	4733210	27.719
163) Carbazole	(4)	13.658	167	4494763	29.113

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

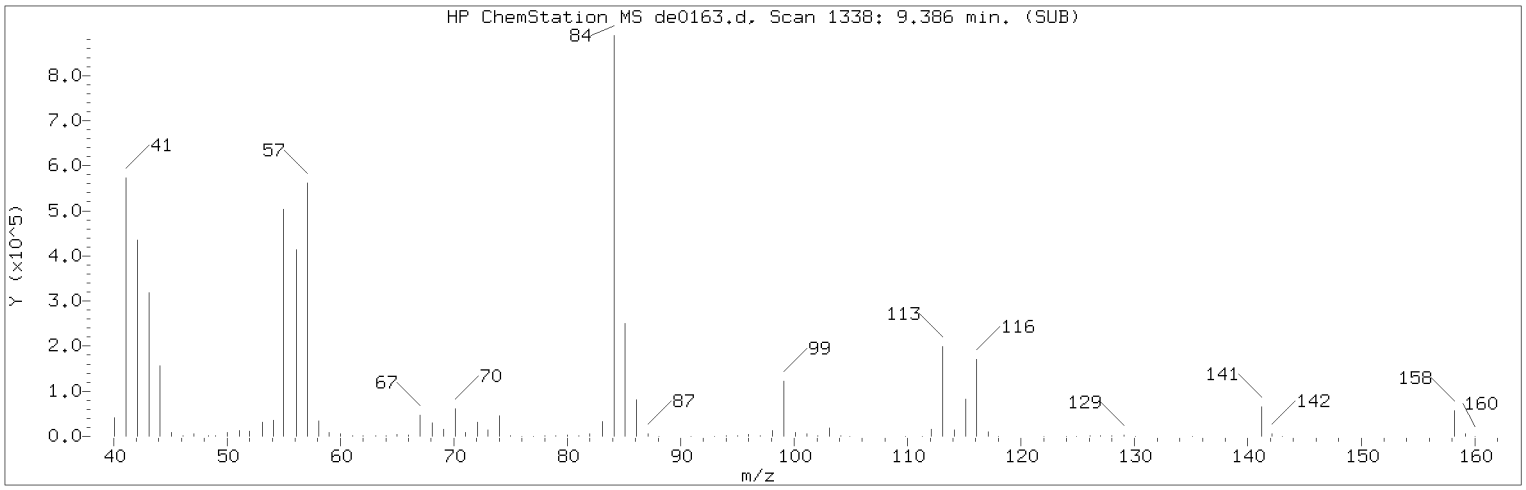
Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.856	109	1247564	28.962
165) Di-n-butylphthalate	(4)	14.165	149	5659107	29.030
167) Parathion	(4)	14.392	109	814621	29.388
168) 4-Nitroquinoline-1-oxide	(4)	14.398	190	583411	32.668
169) Octachlorostyrene	(4)	14.736	308	370103	29.542
171) Isodrin	(4)	14.771	193	575326	29.336
173) Fluoranthene	(4)	14.993	202	5620102	28.526
222) Total PAHs	(6)			83517774	509.803
174) Benzidine	(5)	15.232	184	9722532	83.660
175)*Pyrene-d10	(5)	15.296	212	904399	5.000
177) Pyrene	(5)	15.331	202	5739431	27.753
179)$Terphenyl-d14	(5)	15.616	244	7542771	58.239
182) p-Dimethylaminoazobenzene	(5)	15.844	225	1017464	30.222
185) Chlorobenzilate	(5)	15.937	139	1775254	29.727
187) 3,3'-Dimethylbenzidine	(5)	16.397	212	3909632	28.939
188) Butylbenzylphthalate	(5)	16.462	149	2656490	29.420
191) 2-Acetylaminofluorene	(5)	16.829	181	2697123	31.015
193) 3,3'-Dichlorobenzidine	(5)	17.318	252	2215528	29.671
195) Benzo(a)anthracene	(5)	17.318	228	5707574	28.780
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.336	231	1167516	29.653
196) Chrysene	(5)	17.388	228	5258873	28.512
199) bis(2-Ethylhexyl)phthalate	(5)	17.528	149	4091635	29.831
203) 6-Methylchrysene	(5)	18.181	242	3997613	29.971
205) Di-n-octylphthalate	(6)	18.682	149	7460076	29.477
206) Benzo(b)fluoranthene	(6)	19.172	252	6165889	28.830
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.178	256	2636716	30.290
208) Benzo(k)fluoranthene	(6)	19.224	252	5628527	27.860
211) Benzo(a)pyrene	(6)	19.691	252	5720405	29.087
213)*Perylene-d12	(6)	19.766	264	769596	5.000
215) 3-Methylcholanthrene	(6)	20.262	268	2566037	29.777
217) Dibenz(a,h)acridine	(6)	21.066	279	4055142	29.020
218) Dibenz(a,j)acridine	(6)	21.142	279	3883306	28.697
219) Indeno(1,2,3-cd)pyrene	(6)	21.381	276	5330830	28.953
220) Dibenz(a,h)anthracene	(6)	21.416	278	4523753	30.002
221) Benzo(g,h,i)perylene	(6)	21.748	276	4171847	27.845

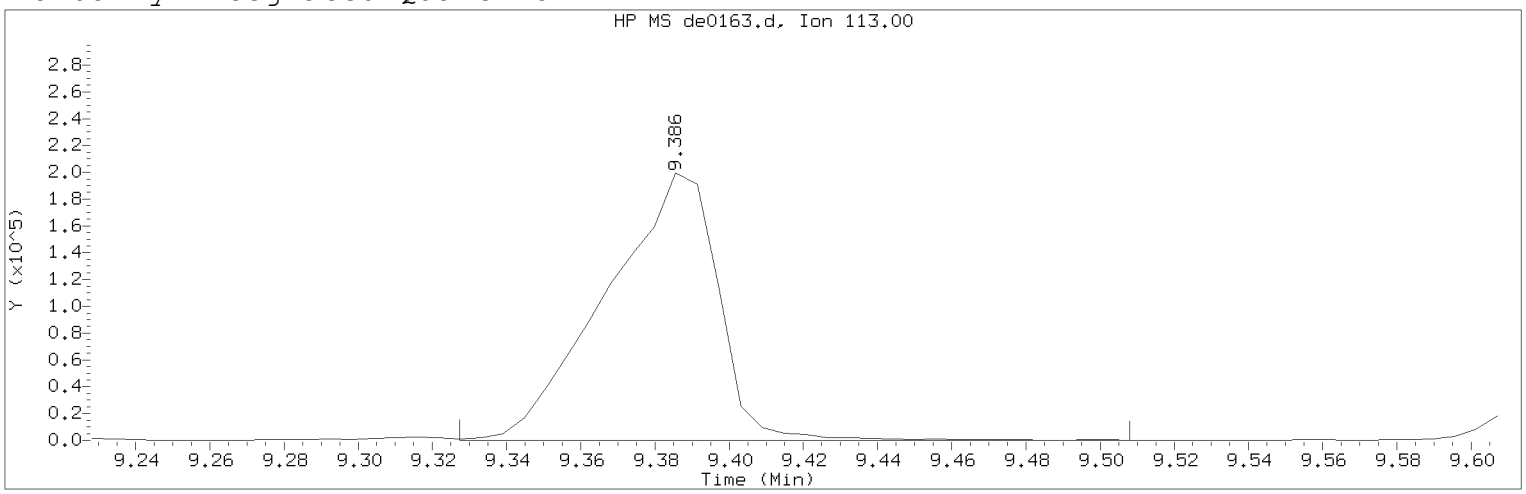
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

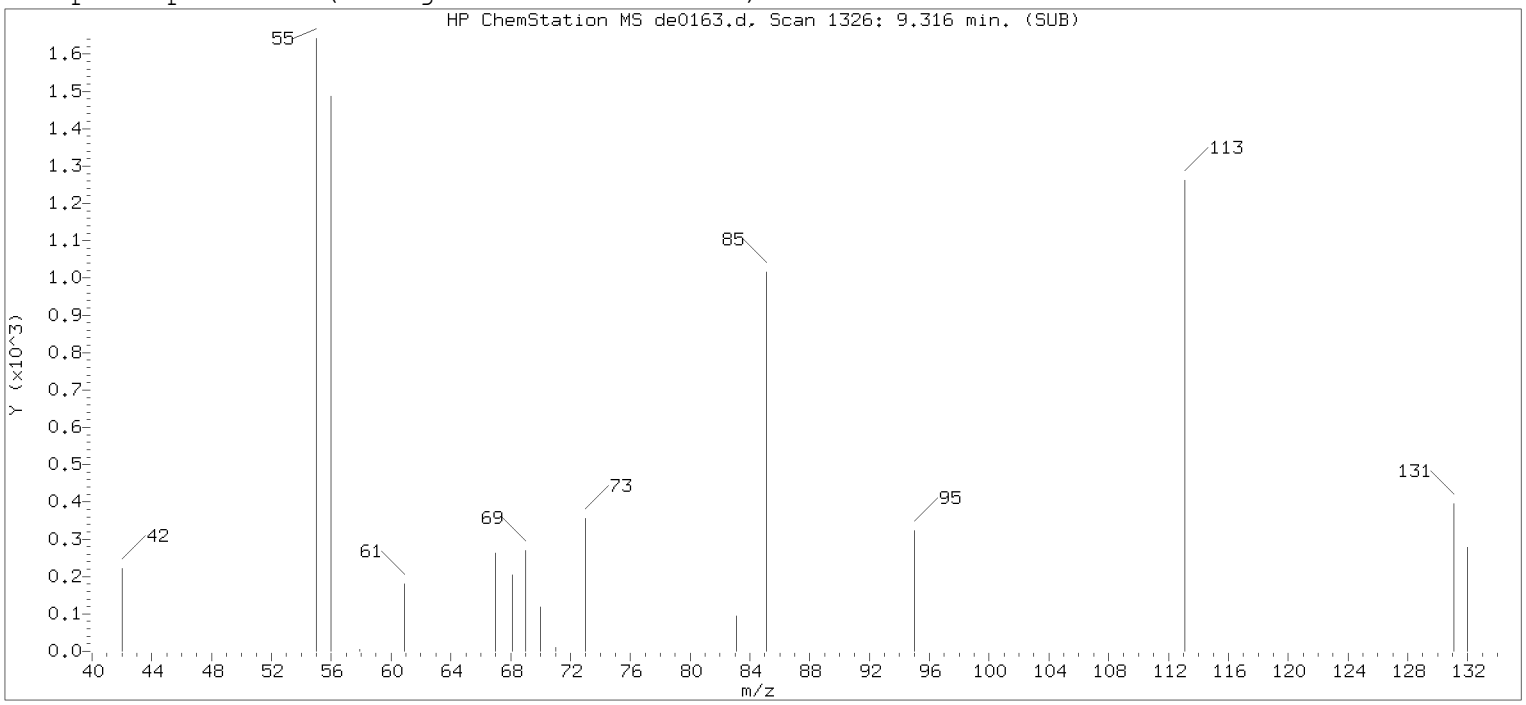
Compound Number : 76
Compound Name : Caprolactam
Scan Number : 1338
Retention Time (minutes) : 9.386
Quant Ion : 113.00
Area (flag) : 416272A
On-Column Amount (ng/ul) : 29.8432
Integration start scan : 1327 Integration stop scan: 1358
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

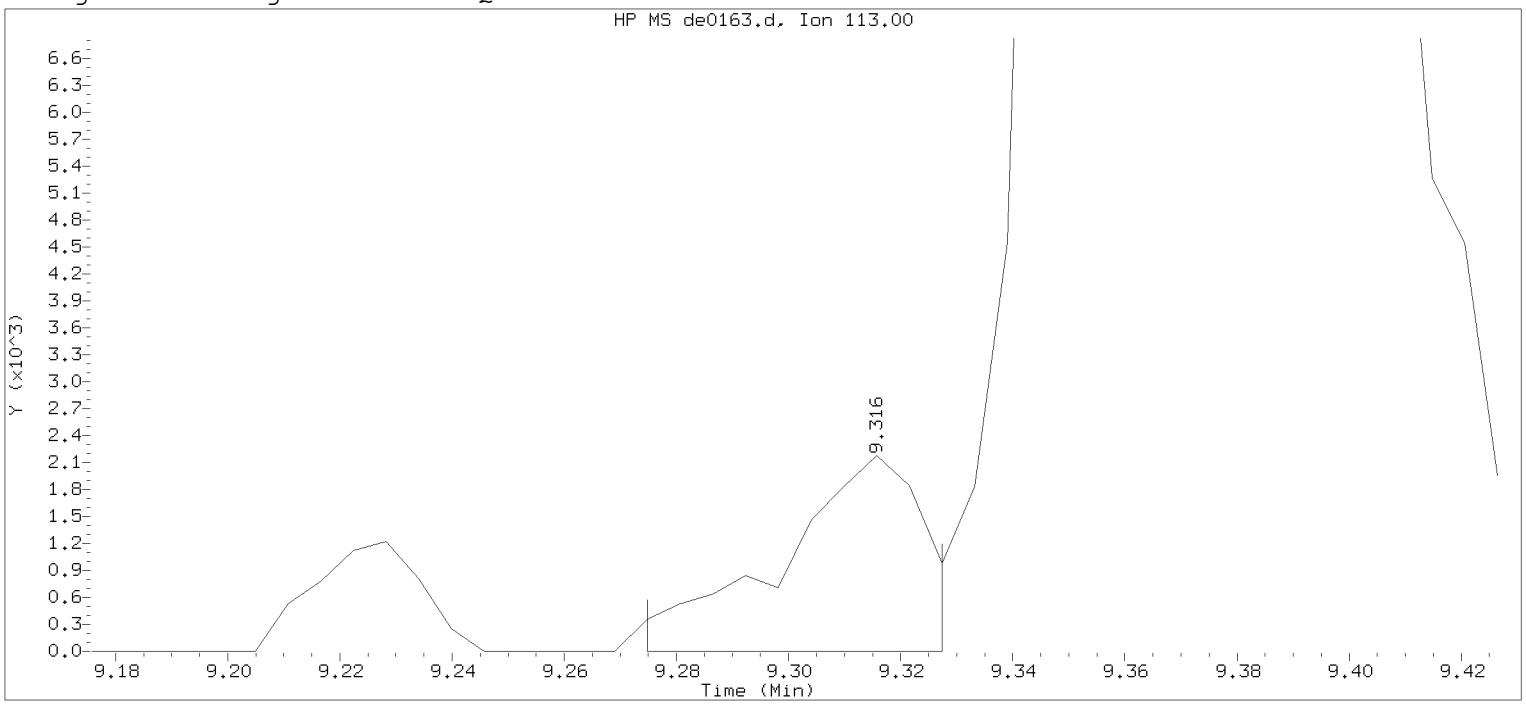
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

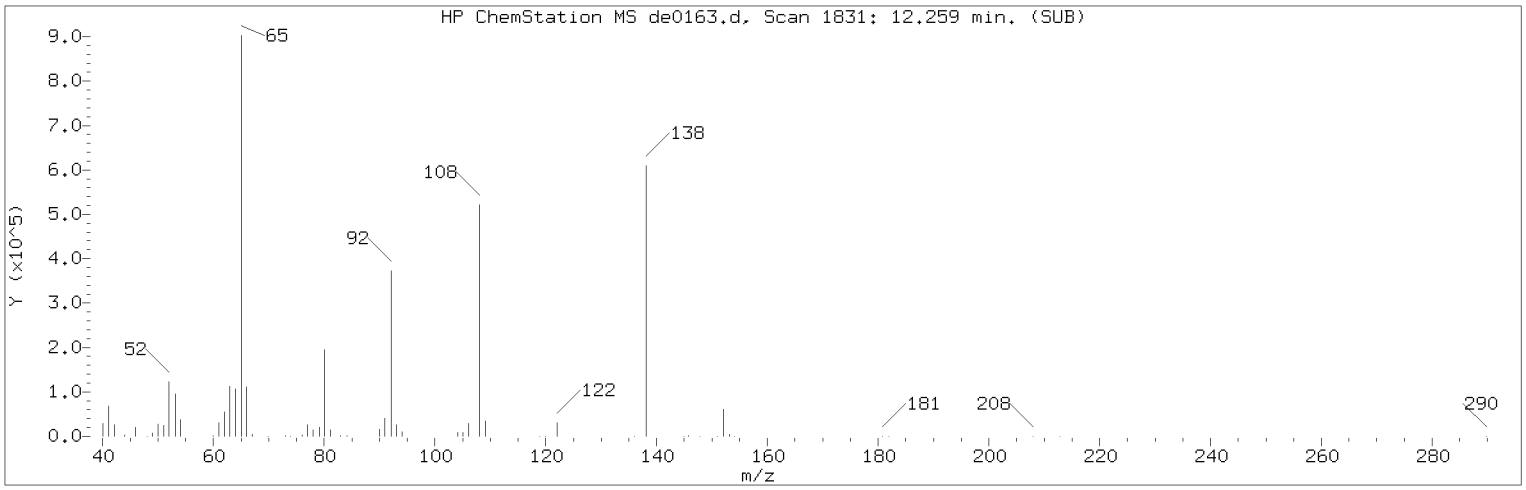
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 19:37
Date, time and analyst ID of latest file update: 05-May-2017 19:37 Automation

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

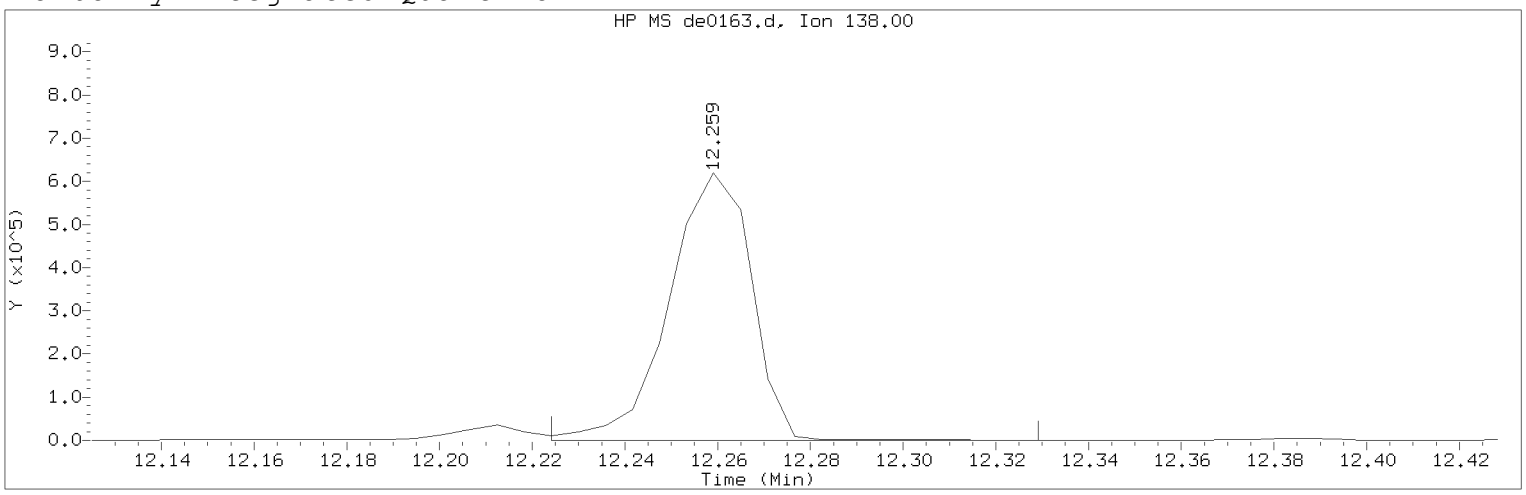
Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1326		
Retention Time (minutes)	: 9.316		
Quant Ion	: 113.00		
Area	: 3739		
On-column Amount (ng/ul)	: 0.3433		
Integration start scan	: 1318	Integration stop scan:	1327
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user name: bsmith0244

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

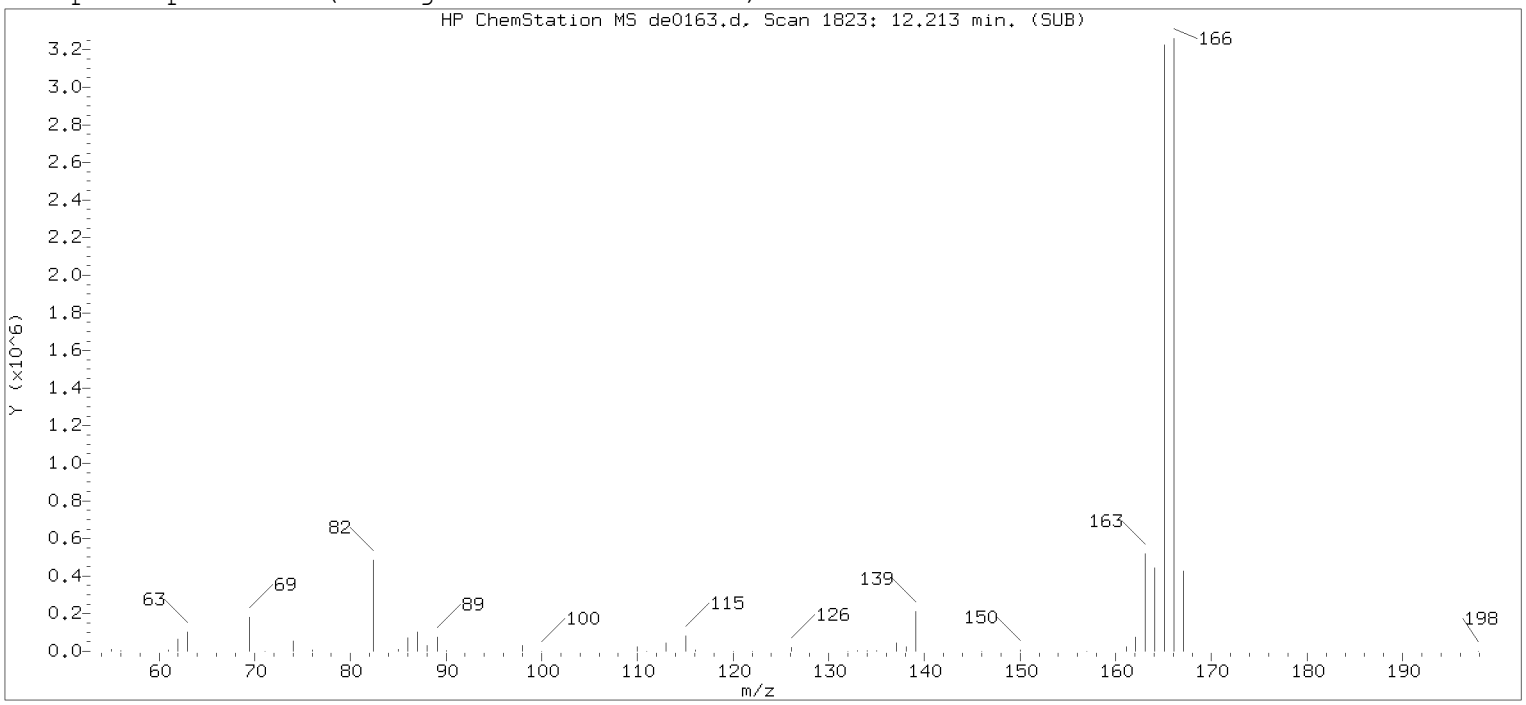
Compound Number : 129
Compound Name : 4-Nitroaniline
Scan Number : 1831
Retention Time (minutes) : 12.259
Quant Ion : 138.00
Area (flag) : 758229A
On-Column Amount (ng/ul) : 29.8898
Integration start scan : 1824 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

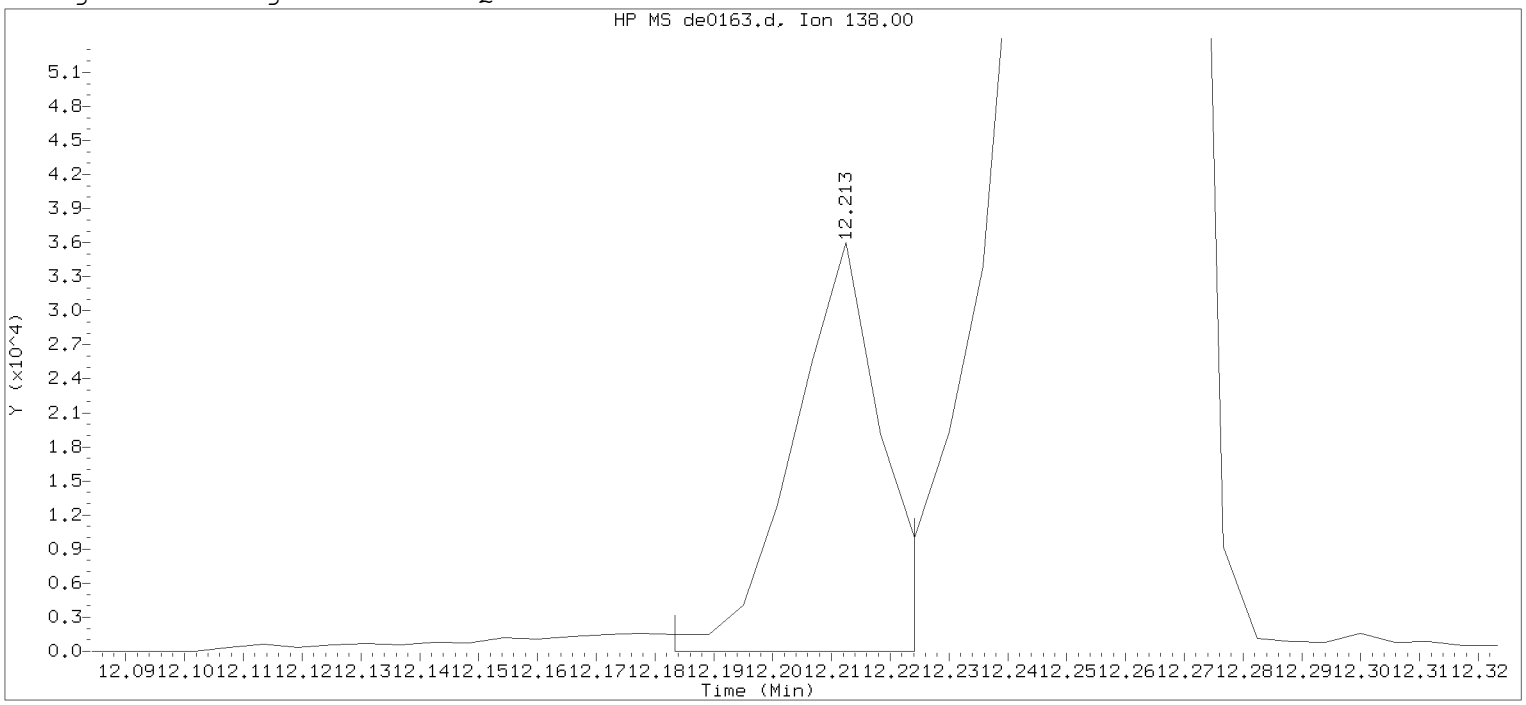
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



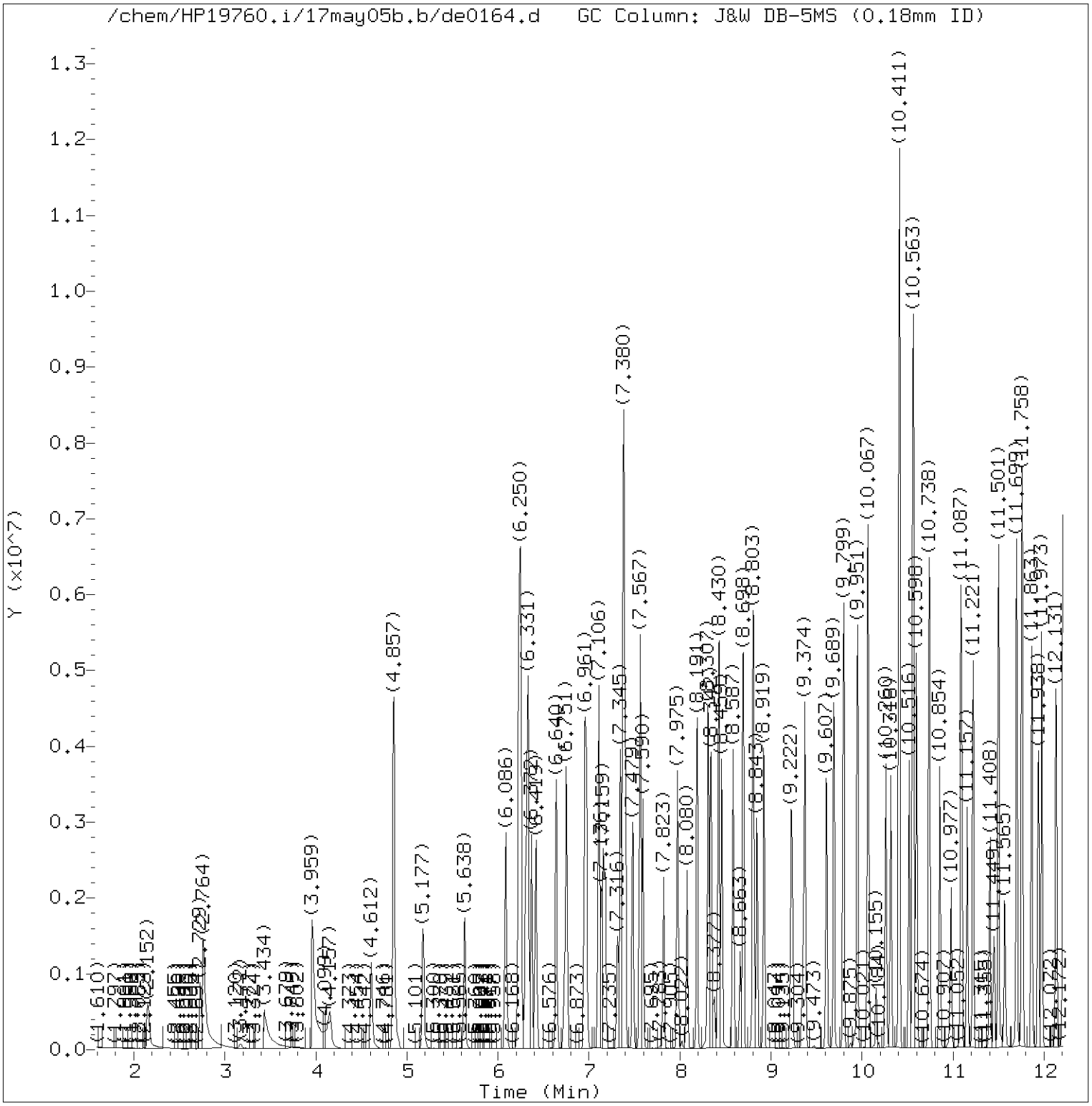
Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 19:37
Date, time and analyst ID of latest file update: 05-May-2017 19:37 Automation

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compound Number	: 129		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1823		
Retention Time (minutes)	: 12.213		
Quant Ion	: 138.00		
Area	: 36651		
On-column Amount (ng/ul)	: 1.5999		
Integration start scan	: 1817	Integration stop scan:	1824
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bsmith0246



Total Ion Chromatogram (TIC)

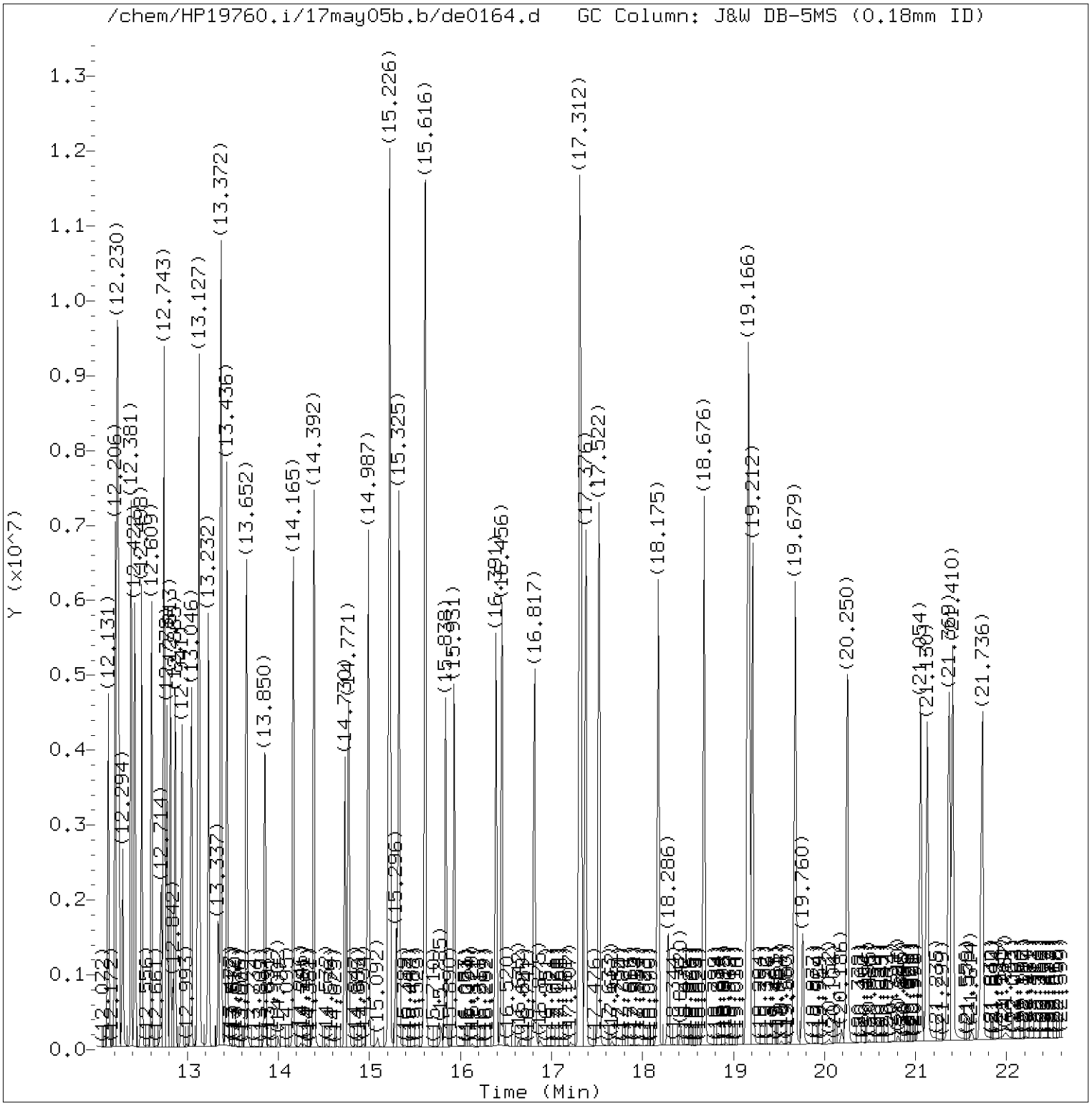
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.152	88	499773	19.602
4) N-Nitrosodimethylamine	(1)	2.729	74	817510	19.673
5) Pyridine	(1)	2.764	79	1302804	19.292
7) 2-Picoline	(1)	3.959	93	1365837	19.699
8) N-Nitrosomethylethylamine	(1)	4.157	88	585530	19.749
9) Methyl methanesulfonate	(1)	4.612	80	668225	19.734
11)$2-Fluorophenol	(1)	4.857	112	2136914	39.547
13) N-Nitrosodiethylamine	(1)	5.177	102	554185	19.887
15) Ethyl methanesulfonate	(1)	5.638	109	578353	19.705
42) Total Cresols	(1)			2217765	39.781
16) Benzaldehyde	(1)	6.086	77	1000340	20.025
17)$Phenol-d6	(1)	6.232	99	2859183	39.395
18) Phenol	(1)	6.250	94	1609755	19.788
19) Aniline	(1)	6.250	93	1908767	19.969
20) a-methylstyrene	(1)	6.331	118	1199445	20.036
22) bis(2-Chloroethyl)ether	(1)	6.372	93	1201919	19.972
23) 2-Chlorophenol	(1)	6.419	128	1063451	20.077
24) 1,3-Dichlorobenzene	(1)	6.640	146	1137023	19.909
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	175545	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	1162342	20.077
27) Benzyl alcohol	(1)	6.955	108	774216	19.945
28) 1,2-Dichlorobenzene	(1)	6.972	146	1085540	19.999
30) Indene	(1)	7.106	115	2118352	20.031
31) 2-Methylphenol	(1)	7.136	108	1045719	19.906
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	1709868	19.501
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	1709868	19.501
35) N-Nitrosopyrrolidine	(1)	7.316	100	589861	19.807
36) Acetophenone	(1)	7.345	105	1647776	19.982
38) N-Nitroso-di-n-propylamine	(1)	7.375	70	911679	19.710
37) 4-Methylphenol	(1)	7.380	108	1172046	19.875
39) N-Nitrosomorpholine	(1)	7.380	56	797868	19.748
97) Isosafrole	(3)			882831	20.094
40) o-Toluidine	(1)	7.398	106	1818375	19.944
43) Hexachloroethane	(1)	7.479	117	488646	20.095
44)$Nitrobenzene-d5	(2)	7.567	82	2649332	39.795
45) Nitrobenzene	(2)	7.590	77	1340781	19.937
48) N-Nitrosopiperidine	(2)	7.823	114	540765	19.910
50) Isophorone	(2)	7.975	82	2319208	19.878
120) 2,4_2,6-Dinitrotoluenes	(3)			1137571	40.240
51) 2-Nitrophenol	(2)	8.080	139	554742	20.301

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.191	107	1150053	20.017
57) O,O,O-Triethylphosphorothioate	(2)	8.313	198	547066	20.073
55) bis(2-Chloroethoxy)methane	(2)	8.342	93	1474892	20.165
56) Benzoic acid	(2)	8.383	105	914701	21.194
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.430	104	1730206	20.122
60) 2,4-Dichlorophenol	(2)	8.459	162	865770	19.998
62) 1,2,4-Trichlorobenzene	(2)	8.587	180	985589	20.002
65)*Naphthalene-d8	(2)	8.663	136	659112	5.000
66) Naphthalene	(2)	8.698	128	2995374	19.122
146) Diallate trans/cis	(4)			1060230	19.653
67) 4-Chloroaniline	(2)	8.803	127	1255297	20.095
68) 2,6-Dichlorophenol	(2)	8.814	162	842392	20.070
69) Hexachloropropene	(2)	8.843	213	694228	20.362
71) Hexachlorobutadiene	(2)	8.919	225	592960	20.193
75) Quinoline	(2)	9.228	129	1909982	20.010
76) Caprolactam	(2)	9.368	113	275492	20.224
77) N-Nitrosodi-n-butylamine	(2)	9.374	84	1085277	21.219
80) 4-Chloro-3-methylphenol	(2)	9.607	107	981559	20.066
82) Safrole	(2)	9.689	162	778281	20.037
83) 2-Methylnaphthalene	(2)	9.799	142	2000905	19.406
84) 1-Methylnaphthalene	(2)	9.951	142	1801261	19.168
85) Hexachlorocyclopentadiene	(3)	10.067	237	538219	20.495
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.067	216	1035685	20.081
88) cis-Isosafrole	(3)	10.155	162	143609	3.437
90) 2,4,6-Trichlorophenol	(3)	10.260	196	662522	20.179
92) 2,4,5-Trichlorophenol	(3)	10.318	196	689651	19.830
93)$2-Fluorobiphenyl	(3)	10.411	172	4511190	40.166
94) trans-Isosafrole	(3)	10.516	162	739222	16.657
95) 1,1'-Biphenyl	(3)	10.557	154	2288399	20.134
96) 2-Chloronaphthalene	(3)	10.569	162	1751895	19.761
98) 1-Chloronaphthalene	(3)	10.598	162	1803006	20.413
99) Diphenyl ether	(3)	10.738	170	1277659	20.203
100) 2-Nitroaniline	(3)	10.749	138	571458	19.866
104) 1,4-Naphthoquinone	(3)	10.854	158	782141	19.961
105) 1,4-Dinitrobenzene	(3)	10.977	168	311855	19.979
106) Dimethylphthalate	(3)	11.087	163	2135010	20.045
107) 1,3-Dinitrobenzene	(3)	11.093	168	341242	20.098
108) 2,6-Dinitrotoluene	(3)	11.157	165	473183	19.959
109) Acenaphthylene	(3)	11.221	152	2691041	19.684
112) 3-Nitroaniline	(3)	11.408	138	509287	20.162

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	372722	5.000
114) Acenaphthene	(3)	11.501	153	1920724	19.553
115) 2,4-Dinitrophenol	(3)	11.571	184	299736	20.721
117) Pentachlorobenzene	(3)	11.699	250	836912	20.081
116) 4-Nitrophenol	(3)	11.699	109	371186	20.265
119) Dibenzofuran	(3)	11.758	168	2601395	20.020
118) 2,4-Dinitrotoluene	(3)	11.764	165	664388	20.281
121) 1-Naphthylamine	(3)	11.863	143	1934215	20.080
122) 2,3,4,6-Tetrachlorophenol	(3)	11.938	232	553805	20.307
123) 2-Naphthylamine	(3)	11.973	143	1924199	20.245
124) Diethylphthalate	(3)	12.131	149	2112026	19.988
126) Fluorene	(3)	12.206	166	2083391	19.077
125) Thionazin	(3)	12.224	107	416856	20.063
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	1020699	19.901
128) 5-Nitro-o-toluidine	(3)	12.241	152	598678	20.270
129) 4-Nitroaniline	(3)	12.247	138	499400	19.996
130) 4,6-Dinitro-2-methylphenol	(4)	12.294	198	412676	20.550
131) N-Nitrosodiphenylamine	(4)	12.381	169	1764200	19.822
132) NDPA as diphenylamine	(4)	12.381	169	1764200	19.822
134) 1,2-Diphenylhydrazine	(4)	12.422	77	2469175	19.671
135)$2,4,6-Tribromophenol	(3)	12.498	330	579467	40.901
137) Tetraethyldithiopyrophosphate	(4)	12.609	97	420231	19.895
139) 1,3,5-Trinitrobenzene	(4)	12.714	213	264709	20.394
140) Diallate (peak 1)	(4)	12.743	86	908351	16.297
141) Phorate	(4)	12.749	75	1652853	19.787
142) Phenacetin	(4)	12.778	108	1233586	19.878
143) 4-Bromophenyl-phenylether	(4)	12.813	248	603769	19.880
144) Diallate (peak 2)	(4)	12.842	86	151879	3.356
145) Hexachlorobenzene	(4)	12.865	284	618079	18.728
147) Dimethoate	(4)	12.941	87	1054882	19.708
148) Atrazine	(4)	13.046	200	592789	21.017
149) Pentachlorophenol	(4)	13.116	266	390217	20.116
150) 4-Aminobiphenyl	(4)	13.127	169	1977503	19.998
151) Pentachloronitrobenzene	(4)	13.133	237	295828	20.230
152) Pronamide	(4)	13.232	173	1072440	20.139
153)*Phenanthrene-d10	(4)	13.337	188	740261	5.000
154) Dinoseb	(4)	13.366	211	655161	20.322
155) Phenanthrene	(4)	13.372	178	3103236	18.934
157) Anthracene	(4)	13.436	178	3169418	19.184
163) Carbazole	(4)	13.652	167	3005567	19.900

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

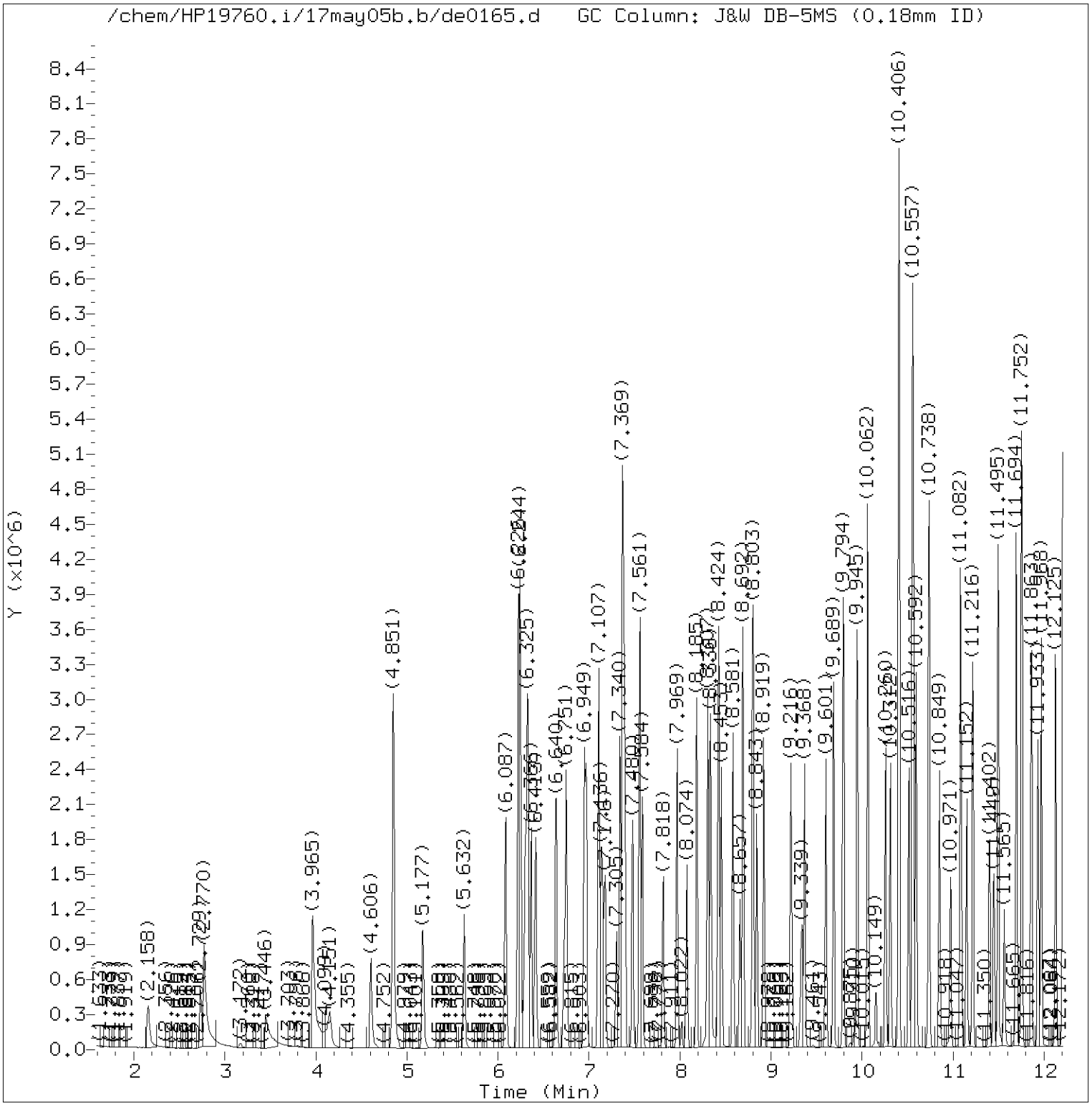
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	830481	19.771
165) Di-n-butylphthalate	(4)	14.165	149	3773284	19.824
167) Parathion	(4)	14.392	109	535446	19.797
168) 4-Nitroquinoline-1-oxide	(4)	14.398	190	381654	21.160
169) Octachlorostyrene	(4)	14.730	308	253343	20.409
171) Isodrin	(4)	14.771	193	387552	20.100
173) Fluoranthene	(4)	14.993	202	3743219	19.526
222) Total PAHs	(6)			56087122	351.469
174) Benzidine	(5)	15.226	184	6756062	59.462
175)*Pyrene-d10	(5)	15.296	212	888165	5.000
177) Pyrene	(5)	15.325	202	3835717	19.153
179)$Terphenyl-d14	(5)	15.616	244	5039015	39.745
182) p-Dimethylaminoazobenzene	(5)	15.838	225	678318	20.341
185) Chlorobenzilate	(5)	15.931	139	1195560	20.256
187) 3,3'-Dimethylbenzidine	(5)	16.391	212	2594257	19.700
188) Butylbenzylphthalate	(5)	16.456	149	1767497	19.955
191) 2-Acetylaminofluorene	(5)	16.817	181	1750977	20.333
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	1471530	20.045
195) Benzo(a)anthracene	(5)	17.312	228	3808750	19.666
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.330	231	771435	19.968
196) Chrysene	(5)	17.376	228	3553966	19.714
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	2701366	20.037
203) 6-Methylchrysene	(5)	18.175	242	2662526	20.217
205) Di-n-octylphthalate	(6)	18.676	149	4974250	19.971
206) Benzo(b)fluoranthene	(6)	19.160	252	3982166	19.167
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.172	256	1734196	20.151
208) Benzo(k)fluoranthene	(6)	19.212	252	3906199	19.722
211) Benzo(a)pyrene	(6)	19.679	252	3786204	19.658
213)*Perylene-d12	(6)	19.760	264	757991	5.000
215) 3-Methylcholanthrene	(6)	20.250	268	1720398	20.179
217) Dibenz(a,h)acridine	(6)	21.054	279	2720690	19.845
218) Dibenz(a,j)acridine	(6)	21.130	279	2642290	19.883
219) Indeno(1,2,3-cd)pyrene	(6)	21.369	276	3677724	20.210
220) Dibenz(a,h)anthracene	(6)	21.410	278	3119498	20.745
221) Benzo(g,h,i)perylene	(6)	21.736	276	2908329	19.781

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

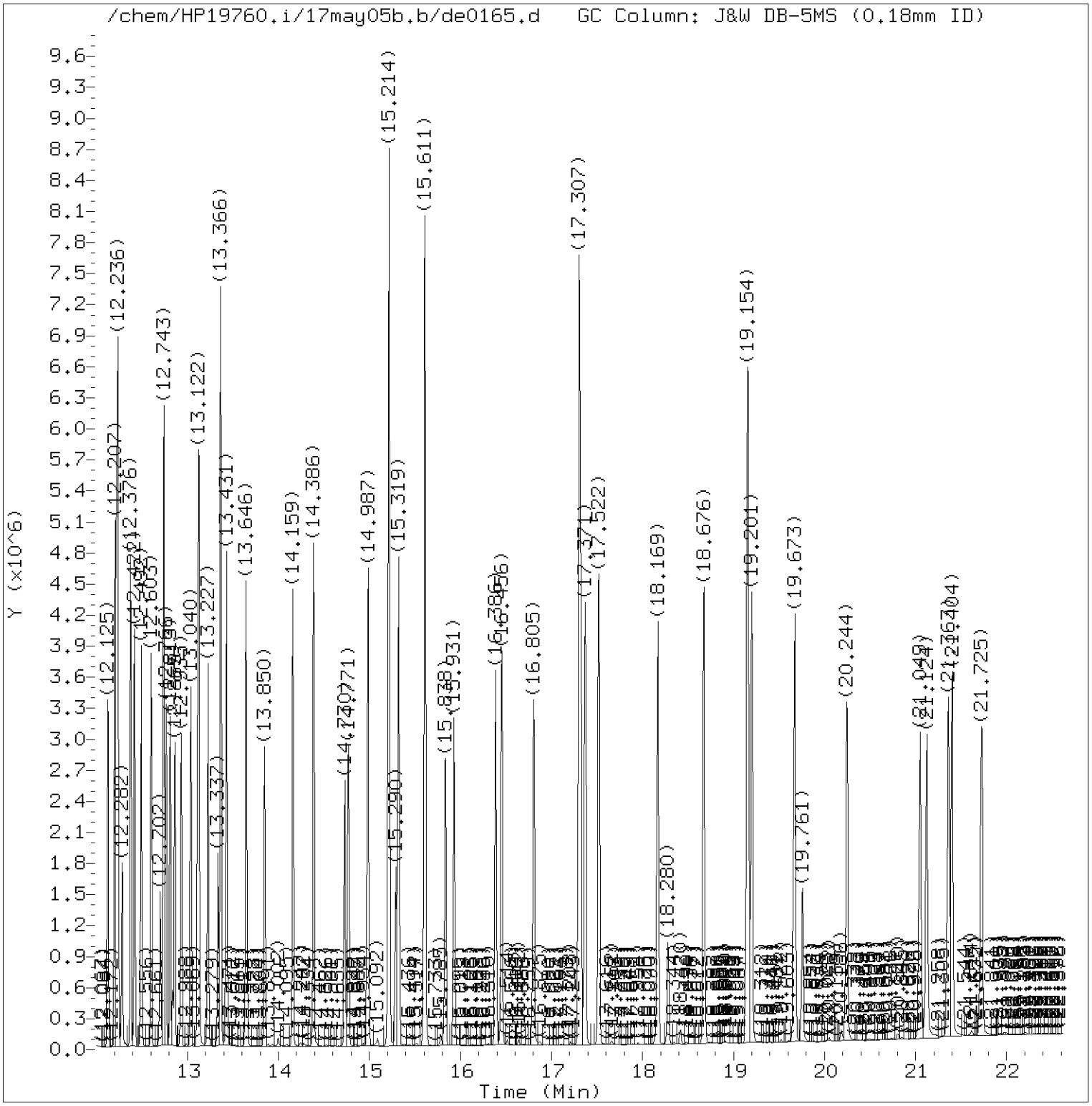
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.158	88	307952	12.073
4) N-Nitrosodimethylamine	(1)	2.729	74	506984	12.166
5) Pyridine	(1)	2.770	79	828839	12.221
7) 2-Picoline	(1)	3.965	93	855608	12.271
8) N-Nitrosomethylethylamine	(1)	4.151	88	371889	12.423
9) Methyl methanesulfonate	(1)	4.606	80	424675	12.422
11)$2-Fluorophenol	(1)	4.851	112	1352639	24.806
13) N-Nitrosodiethylamine	(1)	5.177	102	349008	12.409
15) Ethyl methanesulfonate	(1)	5.632	109	370477	12.482
42) Total Cresols	(1)			1435360	25.329
16) Benzaldehyde	(1)	6.087	77	672860	13.100
17)$Phenol-d6	(1)	6.226	99	1825281	24.893
18) Phenol	(1)	6.244	94	1031132	12.521
19) Aniline	(1)	6.250	93	1213348	12.534
20) a-methylstyrene	(1)	6.331	118	775763	12.730
22) bis(2-Chloroethyl)ether	(1)	6.366	93	761273	12.502
23) 2-Chlorophenol	(1)	6.413	128	681654	12.664
24) 1,3-Dichlorobenzene	(1)	6.640	146	730936	12.612
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	177612	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	739994	12.600
27) Benzyl alcohol	(1)	6.949	108	502563	12.721
28) 1,2-Dichlorobenzene	(1)	6.972	146	701396	12.703
30) Indene	(1)	7.107	115	1368378	12.716
31) 2-Methylphenol	(1)	7.136	108	674037	12.635
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	1099014	12.416
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	1099014	12.416
35) N-Nitrosopyrrolidine	(1)	7.305	100	381256	12.615
36) Acetophenone	(1)	7.340	105	1087707	12.898
39) N-Nitrosomorpholine	(1)	7.369	56	516679	12.604
38) N-Nitroso-di-n-propylamine	(1)	7.369	70	595823	12.673
37) 4-Methylphenol	(1)	7.375	108	761323	12.694
97) Isosafrole	(3)			560728	12.366
40) o-Toluidine	(1)	7.392	106	1170350	12.640
43) Hexachloroethane	(1)	7.480	117	311952	12.634
44)$Nitrobenzene-d5	(2)	7.561	82	1706553	25.051
45) Nitrobenzene	(2)	7.584	77	872235	12.637
48) N-Nitrosopiperidine	(2)	7.818	114	341864	12.356
50) Isophorone	(2)	7.969	82	1477928	12.416
120) 2,4_2,6-Dinitrotoluenes	(3)			730243	25.005
51) 2-Nitrophenol	(2)	8.074	139	348194	12.471

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.185	107	735577	12.515
57) O,O,O-Triethylphosphorothioate	(2)	8.307	198	354031	12.652
55) bis(2-Chloroethoxy)methane	(2)	8.336	93	918561	12.335
56) Benzoic acid	(2)	8.348	105	570932M	12.825
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	1125811	12.727
60) 2,4-Dichlorophenol	(2)	8.453	162	549097	12.427
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	636234	12.595
65)*Naphthalene-d8	(2)	8.657	136	673993	5.000
66) Naphthalene	(2)	8.692	128	1920136	12.087
146) Diallate trans/cis	(4)			686662	12.287
67) 4-Chloroaniline	(2)	8.797	127	808190	12.613
68) 2,6-Dichlorophenol	(2)	8.809	162	537688	12.521
69) Hexachloropropene	(2)	8.843	213	446839	12.736
71) Hexachlorobutadiene	(2)	8.919	225	380864	12.637
75) Quinoline	(2)	9.222	129	1231186	12.585
76) Caprolactam	(2)	9.339	113	181435	12.890
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	570519	11.267
80) 4-Chloro-3-methylphenol	(2)	9.601	107	630781	12.583
82) Safrole	(2)	9.689	162	506487	12.688
83) 2-Methylnaphthalene	(2)	9.794	142	1284353	12.244
84) 1-Methylnaphthalene	(2)	9.945	142	1167419	12.217
85) Hexachlorocyclopentadiene	(3)	10.062	237	336334	12.398
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	664729	12.457
88) cis-Isosafrole	(3)	10.155	162	92208	2.129
90) 2,4,6-Trichlorophenol	(3)	10.260	196	421951	12.430
92) 2,4,5-Trichlorophenol	(3)	10.312	196	448077	12.453
93)$2-Fluorobiphenyl	(3)	10.406	172	2933662	25.162
94) trans-Isosafrole	(3)	10.516	162	468520	10.237
95) 1,1'-Biphenyl	(3)	10.557	154	1519074	12.799
96) 2-Chloronaphthalene	(3)	10.563	162	1204654	12.957
98) 1-Chloronaphthalene	(3)	10.592	162	1089521	12.051
99) Diphenyl ether	(3)	10.732	170	831739	12.647
100) 2-Nitroaniline	(3)	10.744	138	379277	12.671
104) 1,4-Naphthoquinone	(3)	10.849	158	509349	12.537
105) 1,4-Dinitrobenzene	(3)	10.971	168	201539	12.473
106) Dimethylphthalate	(3)	11.082	163	1392653	12.591
107) 1,3-Dinitrobenzene	(3)	11.088	168	217636	12.405
108) 2,6-Dinitrotoluene	(3)	11.152	165	309979	12.591
109) Acenaphthylene	(3)	11.216	152	1741110	12.335
112) 3-Nitroaniline	(3)	11.402	138	328838	12.550

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	386093	5.000
114) Acenaphthene	(3)	11.495	153	1268989	12.477
115) 2,4-Dinitrophenol	(3)	11.565	184	179540	12.107
117) Pentachlorobenzene	(3)	11.694	250	555105	12.767
116) 4-Nitrophenol	(3)	11.694	109	238081	12.536
119) Dibenzofuran	(3)	11.752	168	1719327	12.704
118) 2,4-Dinitrotoluene	(3)	11.758	165	420264	12.413
121) 1-Naphthylamine	(3)	11.863	143	1249642	12.518
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	348714	12.383
123) 2-Naphthylamine	(3)	11.968	143	1239485	12.567
124) Diethylphthalate	(3)	12.125	149	1368929	12.505
126) Fluorene	(3)	12.207	166	1357631	12.097
125) Thionazin	(3)	12.218	107	272391	12.616
128) 5-Nitro-o-toluidine	(3)	12.236	152	381588	12.479
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	669350	12.574
129) 4-Nitroaniline	(3)	12.242	138	321300	12.439
130) 4,6-Dinitro-2-methylphenol	(4)	12.288	198	255220	12.280
131) N-Nitrosodiphenylamine	(4)	12.376	169	1136731	12.325
132) NDPA as diphenylamine	(4)	12.376	169	1136731	12.325
134) 1,2-Diphenylhydrazine	(4)	12.422	77	1614721	12.392
135)$2,4,6-Tribromophenol	(3)	12.498	330	369164	25.116
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	270087	12.336
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	164308	12.243
140) Diallate (peak 1)	(4)	12.737	86	590332	10.223
141) Phorate	(4)	12.743	75	1061155	12.275
142) Phenacetin	(4)	12.766	108	789605	12.290
143) 4-Bromophenyl-phenylether	(4)	12.813	248	397529	12.555
144) Diallate (peak 2)	(4)	12.836	86	96330	2.064
145) Hexachlorobenzene	(4)	12.865	284	391741	11.605
147) Dimethoate	(4)	12.935	87	687981	12.384
148) Atrazine	(4)	13.040	200	398144	13.278
149) Pentachlorophenol	(4)	13.116	266	247223	12.305
150) 4-Aminobiphenyl	(4)	13.122	169	1292085	12.538
151) Pentachloronitrobenzene	(4)	13.128	237	184595	12.217
152) Pronamide	(4)	13.227	173	687763	12.429
153)*Phenanthrene-d10	(4)	13.337	188	770671	5.000
154) Dinoseb	(4)	13.366	211	417594	12.456
155) Phenanthrene	(4)	13.366	178	2028174	12.004
157) Anthracene	(4)	13.431	178	2049960	12.030
163) Carbazole	(4)	13.646	167	1936836	12.363

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

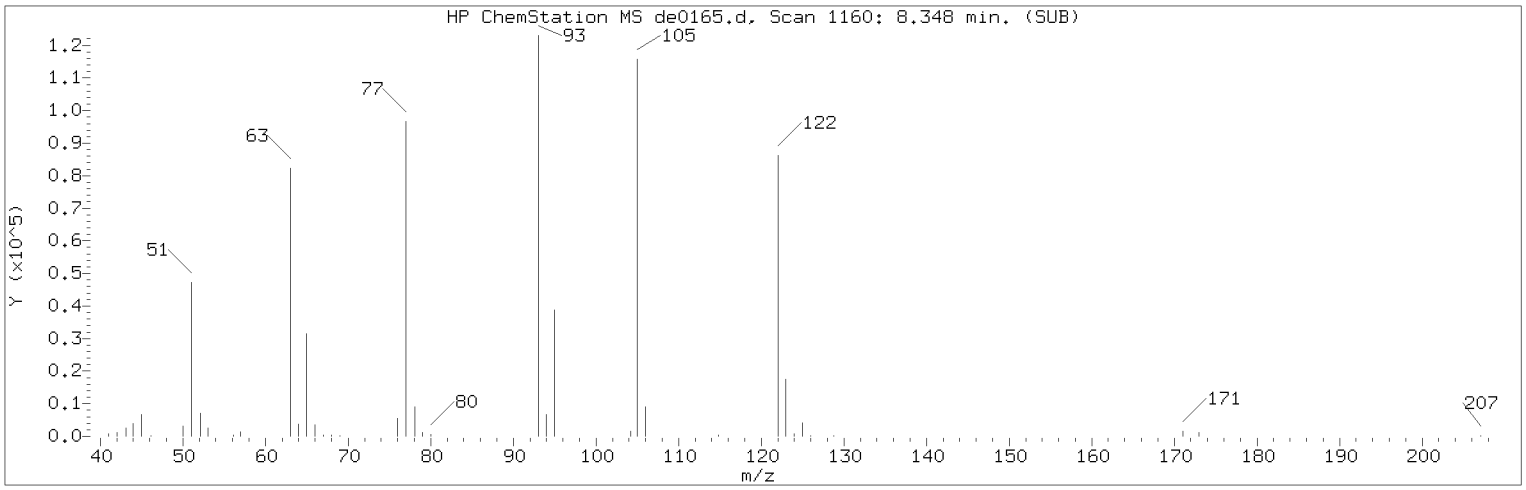
Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	539771	12.382
165) Di-n-butylphthalate	(4)	14.159	149	2419497	12.281
168) 4-Nitroquinoline-1-oxide	(4)	14.386	190	230060	12.313
167) Parathion	(4)	14.386	109	341740	12.225
169) Octachlorostyrene	(4)	14.730	308	162909	12.579
171) Isodrin	(4)	14.771	193	250111	12.470
173) Fluoranthene	(4)	14.987	202	2370401	11.997
222) Total PAHs	(6)			36099312	223.520
174) Benzidine	(5)	15.220	184	4475286	38.300
175)*Pyrene-d10	(5)	15.290	212	906909	5.000
177) Pyrene	(5)	15.319	202	2451768	12.088
179)$Terphenyl-d14	(5)	15.611	244	3236552	25.000
182) p-Dimethylaminoazobenzene	(5)	15.838	225	425681	12.501
185) Chlorobenzilate	(5)	15.931	139	760453	12.588
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	1663269	12.402
188) Butylbenzylphthalate	(5)	16.456	149	1136047	12.546
191) 2-Acetylaminofluorene	(5)	16.805	181	1079748	12.334
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	928515	12.415
195) Benzo(a)anthracene	(5)	17.312	228	2438046	12.362
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	493870	12.514
196) Chrysene	(5)	17.371	228	2265021	12.343
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1689671	12.330
203) 6-Methylchrysene	(5)	18.169	242	1642967	12.287
205) Di-n-octylphthalate	(6)	18.676	149	3093882	12.544
206) Benzo(b)fluoranthene	(6)	19.154	252	2543309	12.402
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	1083375	12.670
208) Benzo(k)fluoranthene	(6)	19.201	252	2399384	12.298
211) Benzo(a)pyrene	(6)	19.673	252	2375960	12.478
213)*Perylene-d12	(6)	19.761	264	749691	5.000
215) 3-Methylcholanthrene	(6)	20.250	268	1102111	12.923
217) Dibenz(a,h)acridine	(6)	21.049	279	1737973	12.736
218) Dibenz(a,j)acridine	(6)	21.124	279	1743045	13.063
219) Indeno(1,2,3-cd)pyrene	(6)	21.363	276	2413759	13.218
220) Dibenz(a,h)anthracene	(6)	21.404	278	2087591	13.699
221) Benzo(g,h,i)perylene	(6)	21.731	276	1936301	13.144

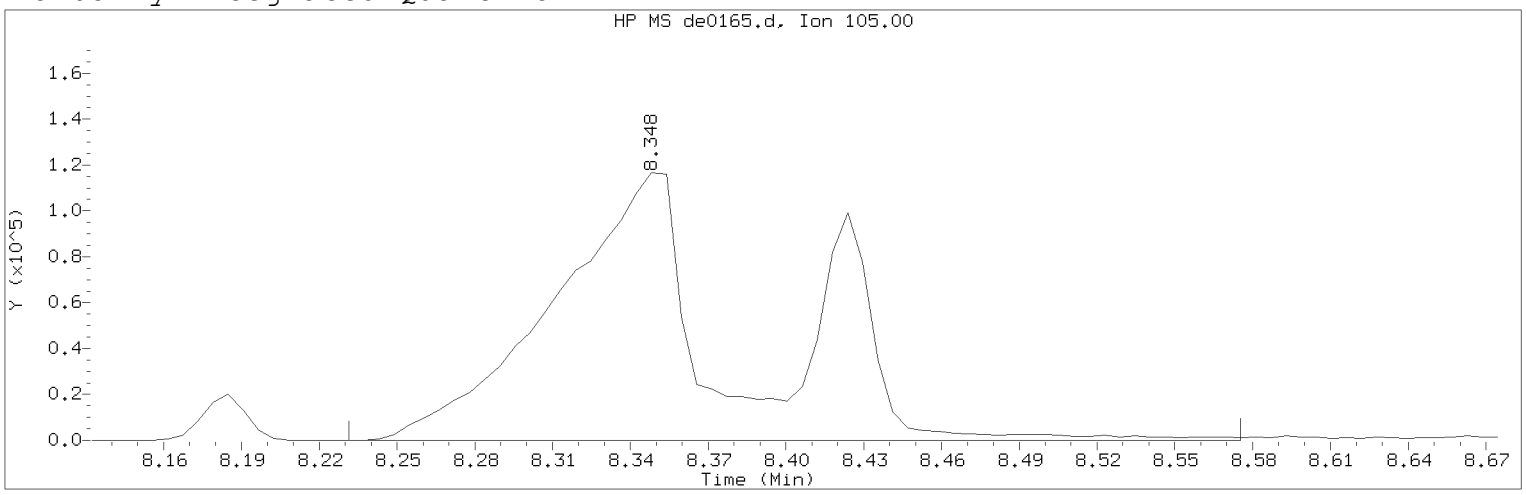
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

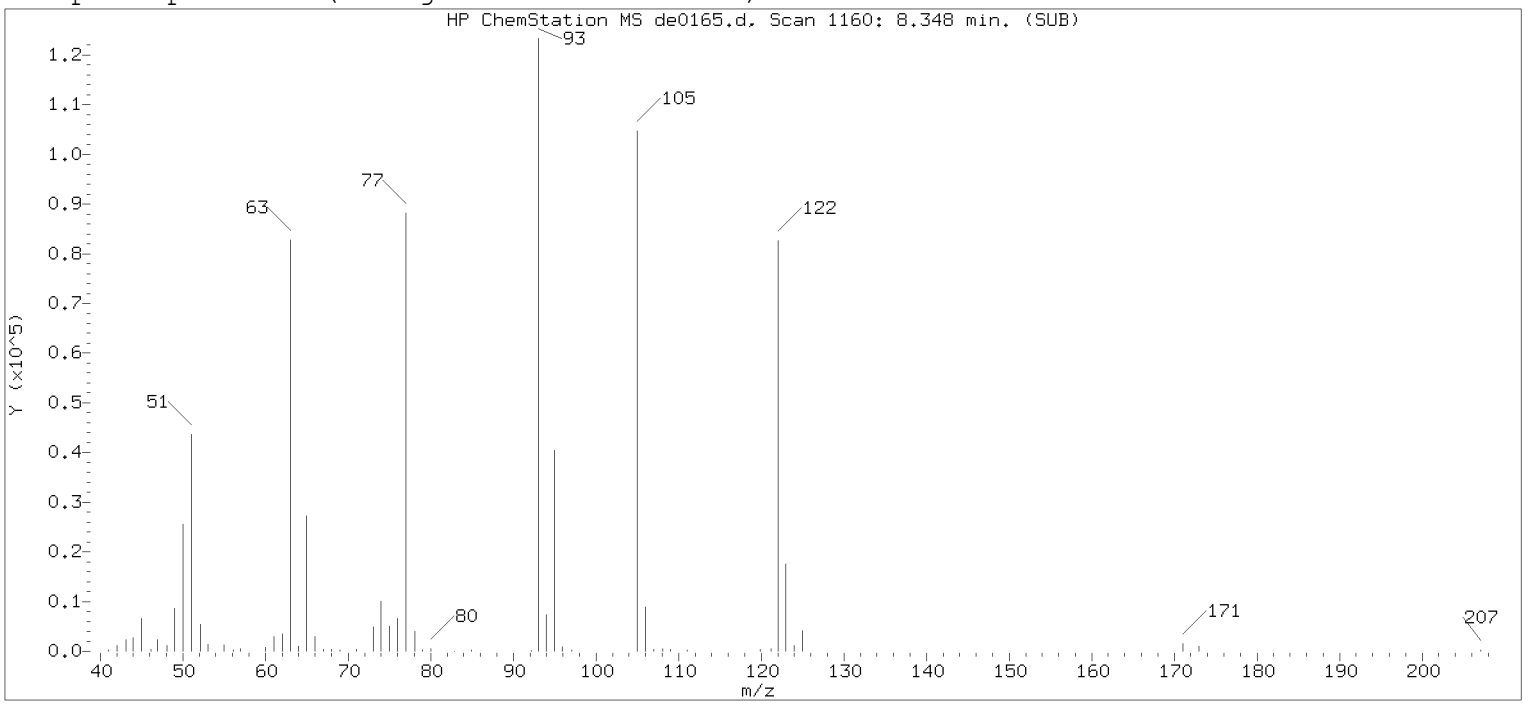
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1160
Retention Time (minutes) : 8.348
Quant Ion : 105.00
Area (flag) : 570932M
On-Column Amount (ng/ul) : 12.8247
Integration start scan : 1139 Integration stop scan: 1198
Y at integration start : -9 Y at integration end: -9

Reason for manual integration: improper integration

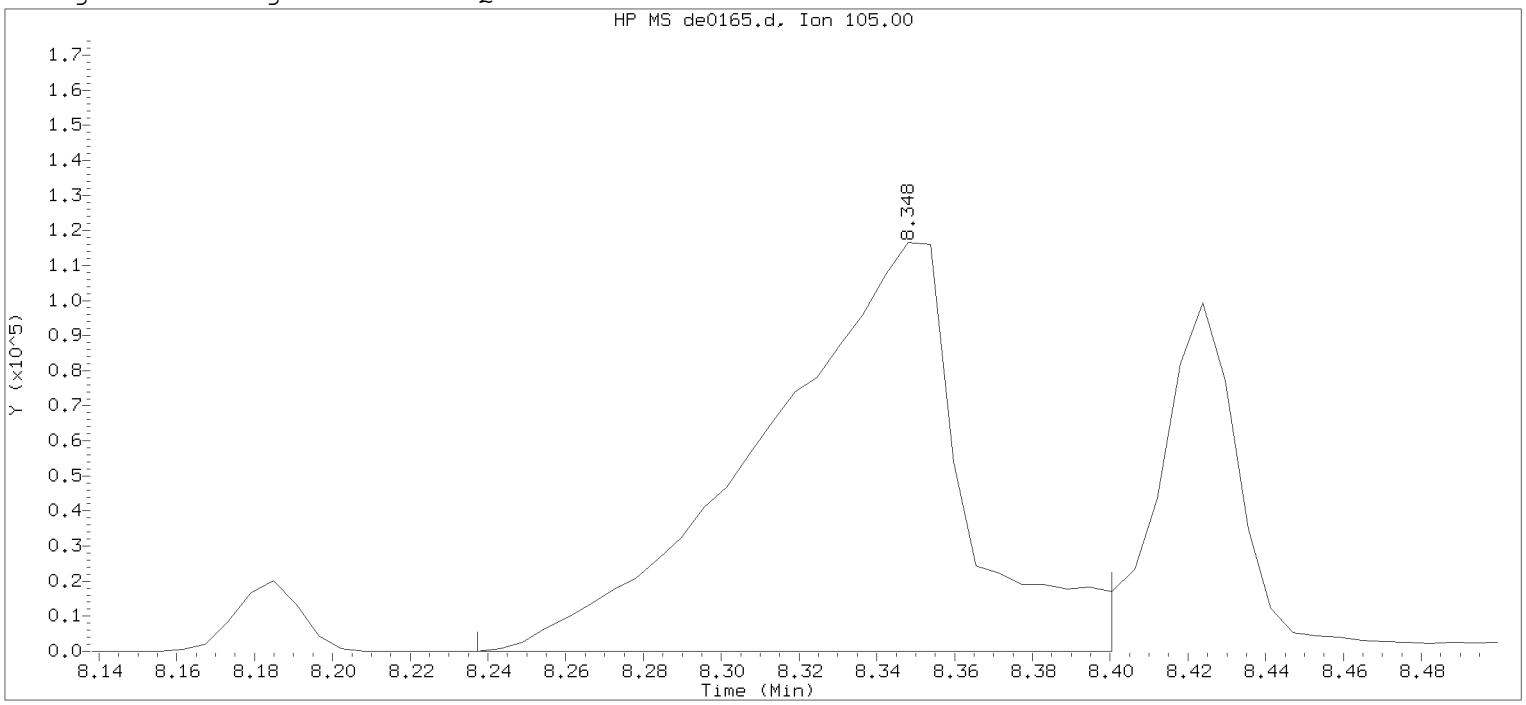
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



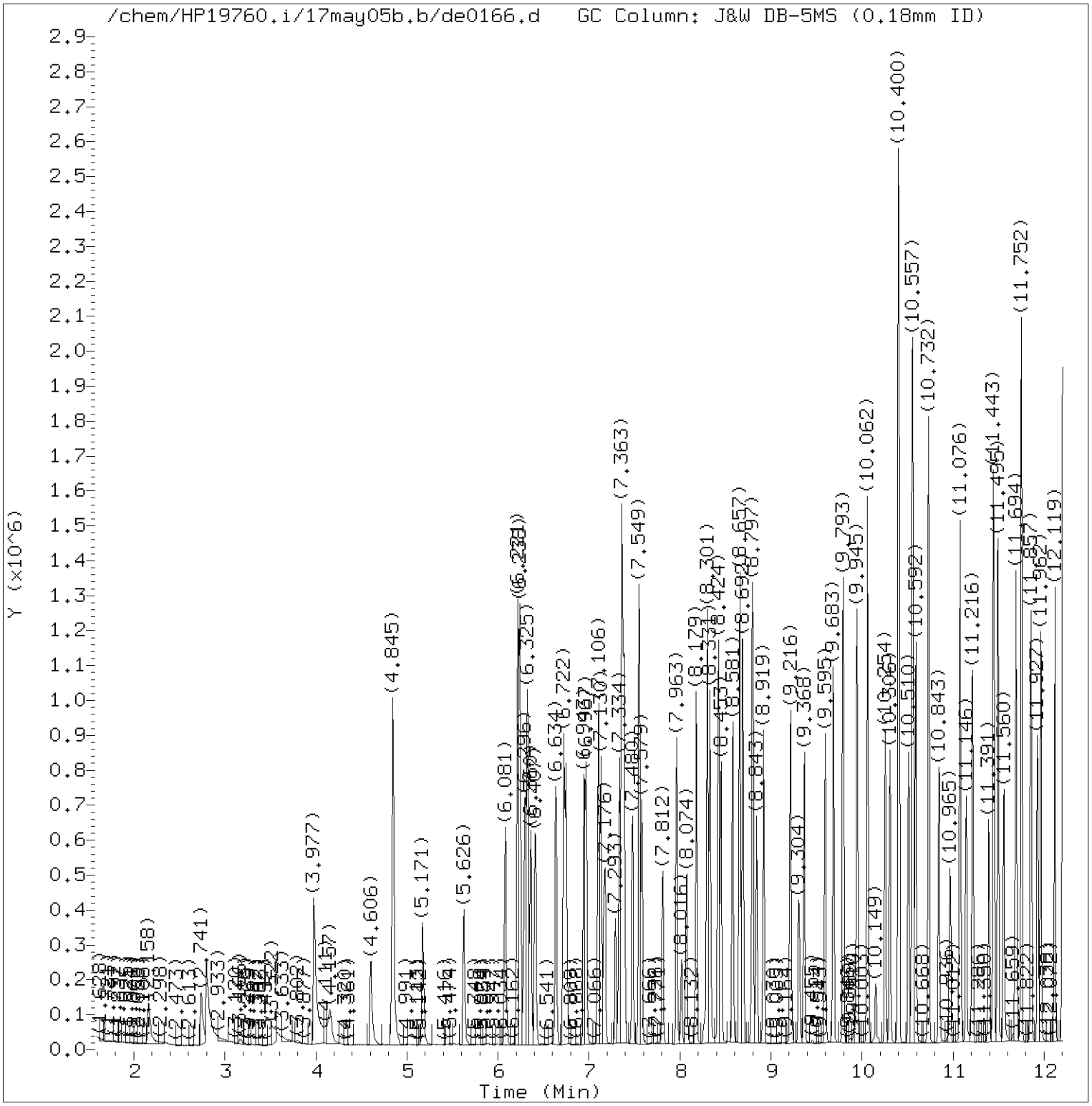
Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 20:33
Date, time and analyst ID of latest file update: 05-May-2017 20:33 Automation

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1160		
Retention Time (minutes)	: 8.348		
Quant Ion	: 105.00		
Area	: 419226		
On-column Amount (ng/ul)	: 10.8202		
Integration start scan	: 1140	Integration stop scan:	1168
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0460



Total Ion Chromatogram (TIC)

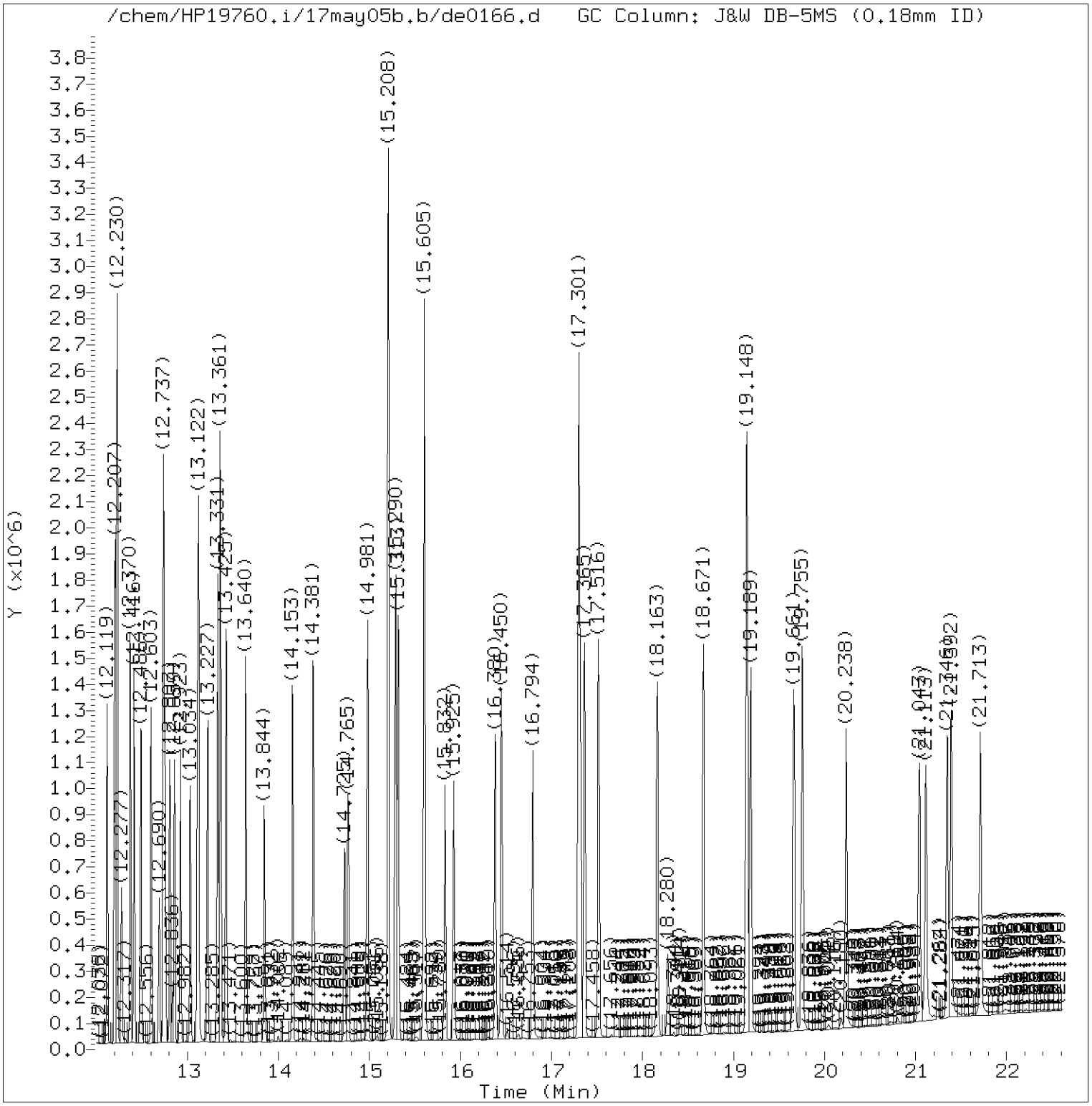
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.164	88	103223	3.818
4) N-Nitrosodimethylamine	(1)	2.741	74	167248	3.793
5) Pyridine	(1)	2.793	79	263779	3.699
7) 2-Picoline	(1)	3.977	93	282996	3.827
8) N-Nitrosomethylethylamine	(1)	4.157	88	121123	3.818
9) Methyl methanesulfonate	(1)	4.606	80	139467	3.843
11)$2-Fluorophenol	(1)	4.845	112	445453	7.693
13) N-Nitrosodiethylamine	(1)	5.171	102	112932	3.794
15) Ethyl methanesulfonate	(1)	5.626	109	123896	3.913
42) Total Cresols	(1)			487102	8.005
16) Benzaldehyde	(1)	6.081	77	203376	3.752
17)$Phenol-d6	(1)	6.215	99	618357	7.889
18) Phenol	(1)	6.238	94	343889	3.914
19) Aniline	(1)	6.244	93	410499	3.962
20) a-methylstyrene	(1)	6.325	118	244503	3.792
22) bis(2-Chloroethyl)ether	(1)	6.360	93	260353	3.988
23) 2-Chlorophenol	(1)	6.413	128	230609	3.994
24) 1,3-Dichlorobenzene	(1)	6.634	146	242876	3.925
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	187395	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	250137	3.976
27) Benzyl alcohol	(1)	6.943	108	155418	3.733
28) 1,2-Dichlorobenzene	(1)	6.967	146	235622	3.982
30) Indene	(1)	7.106	115	427718	3.764
31) 2-Methylphenol	(1)	7.130	108	226201	3.962
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	374582	3.956
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	374582	3.956
35) N-Nitrosopyrrolidine	(1)	7.293	100	126698	3.927
36) Acetophenone	(1)	7.334	105	313049	3.562
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	202641	4.013
39) N-Nitrosomorpholine	(1)	7.363	56	180694	4.085
37) 4-Methylphenol	(1)	7.369	108	260901	4.043
97) Isosafrole	(3)			191291	3.903
40) o-Toluidine	(1)	7.386	106	401103	4.029
43) Hexachloroethane	(1)	7.480	117	103987	3.941
44)$Nitrobenzene-d5	(2)	7.549	82	573385	7.909
45) Nitrobenzene	(2)	7.579	77	286339	3.910
48) N-Nitrosopiperidine	(2)	7.812	114	114914	3.914
50) Isophorone	(2)	7.963	82	499419	3.945
120) 2,4_2,6-Dinitrotoluenes	(3)			244667	7.780
51) 2-Nitrophenol	(2)	8.074	139	115526	3.902

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	251368	4.005
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	118935	3.986
56) Benzoic acid	(2)	8.325	105	265161M	5.965
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	314881	3.969
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	353285	3.794
60) 2,4-Dichlorophenol	(2)	8.453	162	183110	3.907
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	214370	3.981
65)*Naphthalene-d8	(2)	8.657	136	707489	5.000
66) Naphthalene	(2)	8.692	128	655147	3.898
146) Diallate trans/cis	(4)			231428	3.984
67) 4-Chloroaniline	(2)	8.791	127	269387	3.951
68) 2,6-Dichlorophenol	(2)	8.803	162	182892	3.992
69) Hexachloropropene	(2)	8.843	213	147974	3.961
71) Hexachlorobutadiene	(2)	8.919	225	130372	4.041
75) Quinoline	(2)	9.216	129	418695	4.007
76) Caprolactam	(2)	9.304	113	52684	3.601
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	188187	3.580
80) 4-Chloro-3-methylphenol	(2)	9.595	107	209614	3.934
82) Safrole	(2)	9.683	162	166811	3.932
83) 2-Methylnaphthalene	(2)	9.793	142	428272	3.865
84) 1-Methylnaphthalene	(2)	9.945	142	394133	3.898
85) Hexachlorocyclopentadiene	(3)	10.062	237	107322	3.709
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	229180	3.959
88) cis-Isosafrole	(3)	10.155	162	30635	0.656
90) 2,4,6-Trichlorophenol	(3)	10.254	196	142694	3.893
92) 2,4,5-Trichlorophenol	(3)	10.306	196	152140	3.911
93)$2-Fluorobiphenyl	(3)	10.400	172	986070	7.822
94) trans-Isosafrole	(3)	10.510	162	160656	3.247
95) 1,1'-Biphenyl	(3)	10.551	154	440678	3.524
96) 2-Chloronaphthalene	(3)	10.557	162	399863	3.964
98) 1-Chloronaphthalene	(3)	10.592	162	383527	3.921
100) 2-Nitroaniline	(3)	10.732	138	130752	4.012
99) Diphenyl ether	(3)	10.732	170	281042	3.944
104) 1,4-Naphthoquinone	(3)	10.848	158	171744	3.910
105) 1,4-Dinitrobenzene	(3)	10.965	168	67079	3.854
106) Dimethylphthalate	(3)	11.076	163	480627	3.996
107) 1,3-Dinitrobenzene	(3)	11.082	168	74141	3.909
108) 2,6-Dinitrotoluene	(3)	11.146	165	105947	3.966
109) Acenaphthylene	(3)	11.216	152	586768	3.863
112) 3-Nitroaniline	(3)	11.391	138	110545	3.904

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	412952	5.000
114) Acenaphthene	(3)	11.495	153	427185	3.896
115) 2,4-Dinitrophenol	(3)	11.560	184	105969	6.830
116) 4-Nitrophenol	(3)	11.688	109	76764	3.773
117) Pentachlorobenzene	(3)	11.694	250	186424	3.954
119) Dibenzofuran	(3)	11.752	168	600895	4.064
118) 2,4-Dinitrotoluene	(3)	11.752	165	138720	3.814
121) 1-Naphthylamine	(3)	11.857	143	412992	3.844
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	112537	3.739
123) 2-Naphthylamine	(3)	11.962	143	413862	3.887
124) Diethylphthalate	(3)	12.119	149	450525	3.828
126) Fluorene	(3)	12.201	166	470186	3.888
125) Thionazin	(3)	12.212	107	90268	3.876
128) 5-Nitro-o-toluidine	(3)	12.224	152	127286	3.863
129) 4-Nitroaniline	(3)	12.230	138	107417	3.860
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	232739	4.015
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	79749	3.747
132) NDPA as diphenylamine	(4)	12.376	169	387414	4.026
131) N-Nitrosodiphenylamine	(4)	12.376	169	387414	4.026
134) 1,2-Diphenylhydrazine	(4)	12.416	77	541568	3.993
135)$2,4,6-Tribromophenol	(3)	12.492	330	121575	7.686
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	88660	3.911
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	51979	3.775
140) Diallate (peak 1)	(4)	12.737	86	197970	3.298
141) Phorate	(4)	12.743	75	349373	3.905
142) Phenacetin	(4)	12.754	108	265054	3.969
143) 4-Bromophenyl-phenylether	(4)	12.807	248	134199	4.054
144) Diallate (peak 2)	(4)	12.836	86	33458	0.687
145) Hexachlorobenzene	(4)	12.859	284	134961	3.878
147) Dimethoate	(4)	12.923	87	230326	3.985
148) Atrazine	(4)	13.034	200	114541	3.734
149) Pentachlorophenol	(4)	13.110	266	74321	3.639
151) Pentachloronitrobenzene	(4)	13.122	237	62062	3.956
150) 4-Aminobiphenyl	(4)	13.122	169	435492	4.045
152) Pronamide	(4)	13.227	173	225370	3.929
153)*Phenanthrene-d10	(4)	13.337	188	789256	5.000
155) Phenanthrene	(4)	13.361	178	682566	3.911
154) Dinoseb	(4)	13.361	211	124396	3.648
157) Anthracene	(4)	13.425	178	692951	3.932
163) Carbazole	(4)	13.640	167	642945	3.953

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

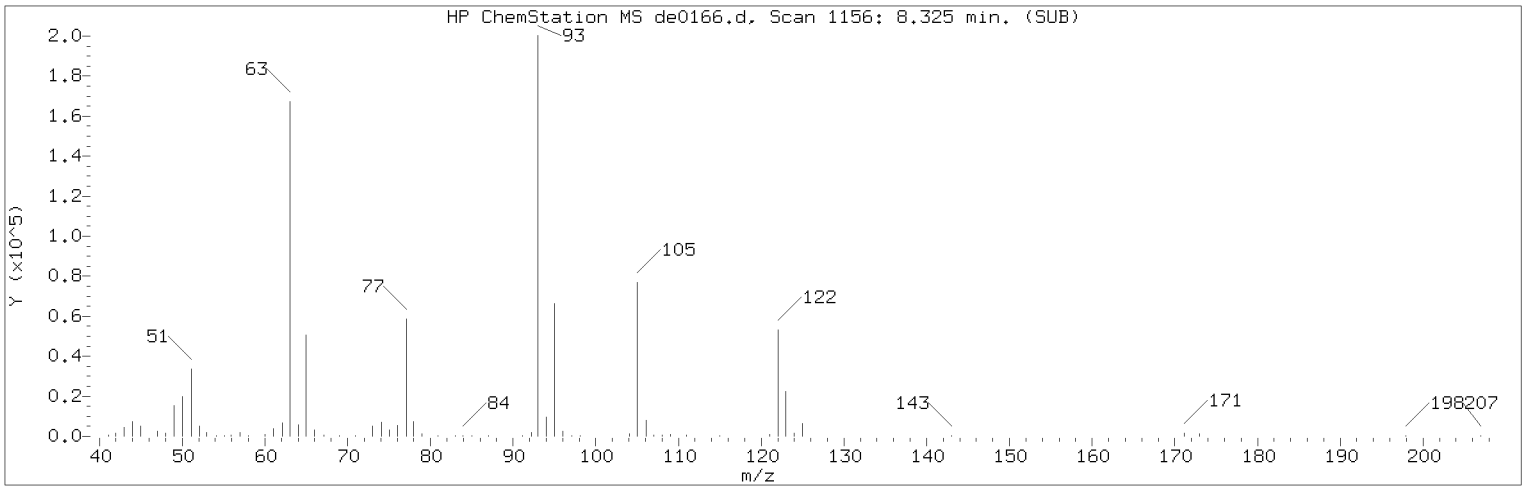
Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.844	109	174859	3.882
165) Di-n-butylphthalate	(4)	14.153	149	796038	3.905
167) Parathion	(4)	14.386	109	110691	3.843
168) 4-Nitroquinoline-1-oxide	(4)	14.386	190	58810	3.188
169) Octachlorostyrene	(4)	14.730	308	49680	3.747
171) Isodrin	(4)	14.765	193	83028	3.980
173) Fluoranthene	(4)	14.981	202	779480	3.835
222) Total PAHs	(6)			11974872	70.859
174) Benzidine	(5)	15.208	184	1550675	12.428
175)*Pyrene-d10	(5)	15.290	212	943049	5.000
177) Pyrene	(5)	15.313	202	825312	3.885
179)$Terphenyl-d14	(5)	15.605	244	1085159	7.942
182) p-Dimethylaminoazobenzene	(5)	15.832	225	132059	3.734
185) Chlorobenzilate	(5)	15.925	139	249530	3.926
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	547107	3.887
188) Butylbenzylphthalate	(5)	16.450	149	375206	3.935
191) 2-Acetylaminofluorene	(5)	16.794	181	345627	3.787
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	306685	3.903
195) Benzo(a)anthracene	(5)	17.301	228	812336	3.924
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	169705	4.052
196) Chrysene	(5)	17.365	228	761010	3.946
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	556235	3.872
203) 6-Methylchrysene	(5)	18.163	242	527662	3.786
205) Di-n-octylphthalate	(6)	18.671	149	994415	3.896
206) Benzo(b)fluoranthene	(6)	19.143	252	801014	3.801
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.148	256	342188	3.873
208) Benzo(k)fluoranthene	(6)	19.189	252	785449	3.897
211) Benzo(a)pyrene	(6)	19.661	252	746886	3.814
213)*Perylene-d12	(6)	19.755	264	768390	5.000
215) 3-Methylcholanthrene	(6)	20.238	268	342799	3.886
217) Dibenz(a,h)acridine	(6)	21.043	279	556640	3.932
218) Dibenz(a,j)acridine	(6)	21.113	279	562722	4.036
219) Indeno(1,2,3-cd)pyrene	(6)	21.352	276	793622	4.150
220) Dibenz(a,h)anthracene	(6)	21.392	278	678208	4.231
221) Benzo(g,h,i)perylene	(6)	21.713	276	654347	4.224

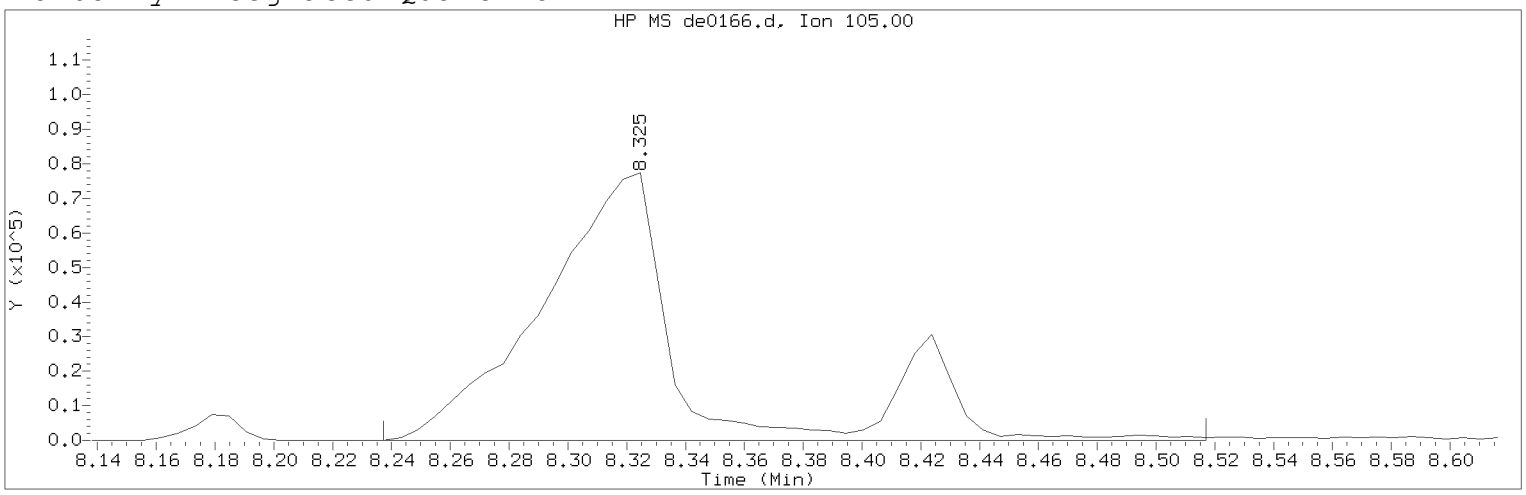
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

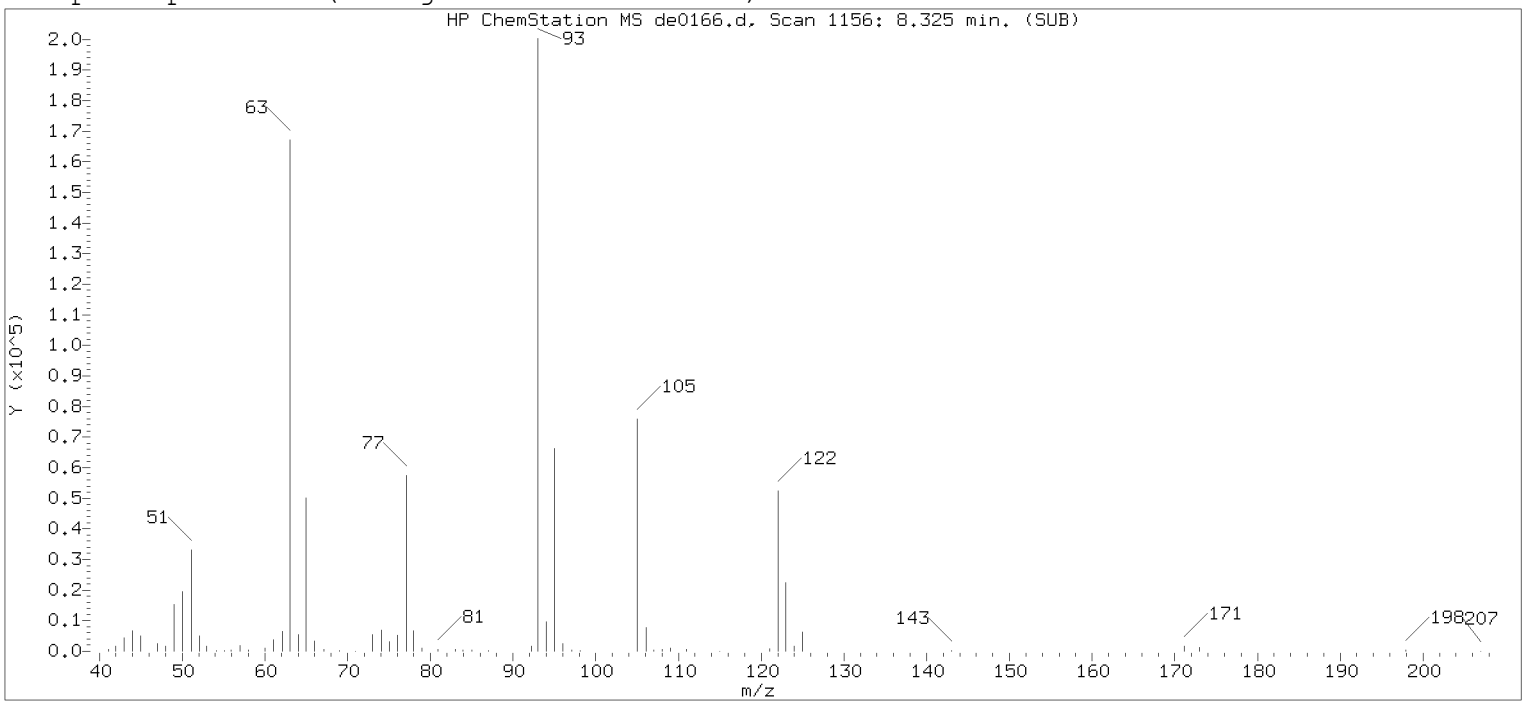
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1156
Retention Time (minutes) : 8.325
Quant Ion : 105.00
Area (flag) : 265161M
On-Column Amount (ng/ul) : 5.9647
Integration start scan : 1140 Integration stop scan: 1188
Y at integration start : 4 Y at integration end: 4

Reason for manual integration: improper integration

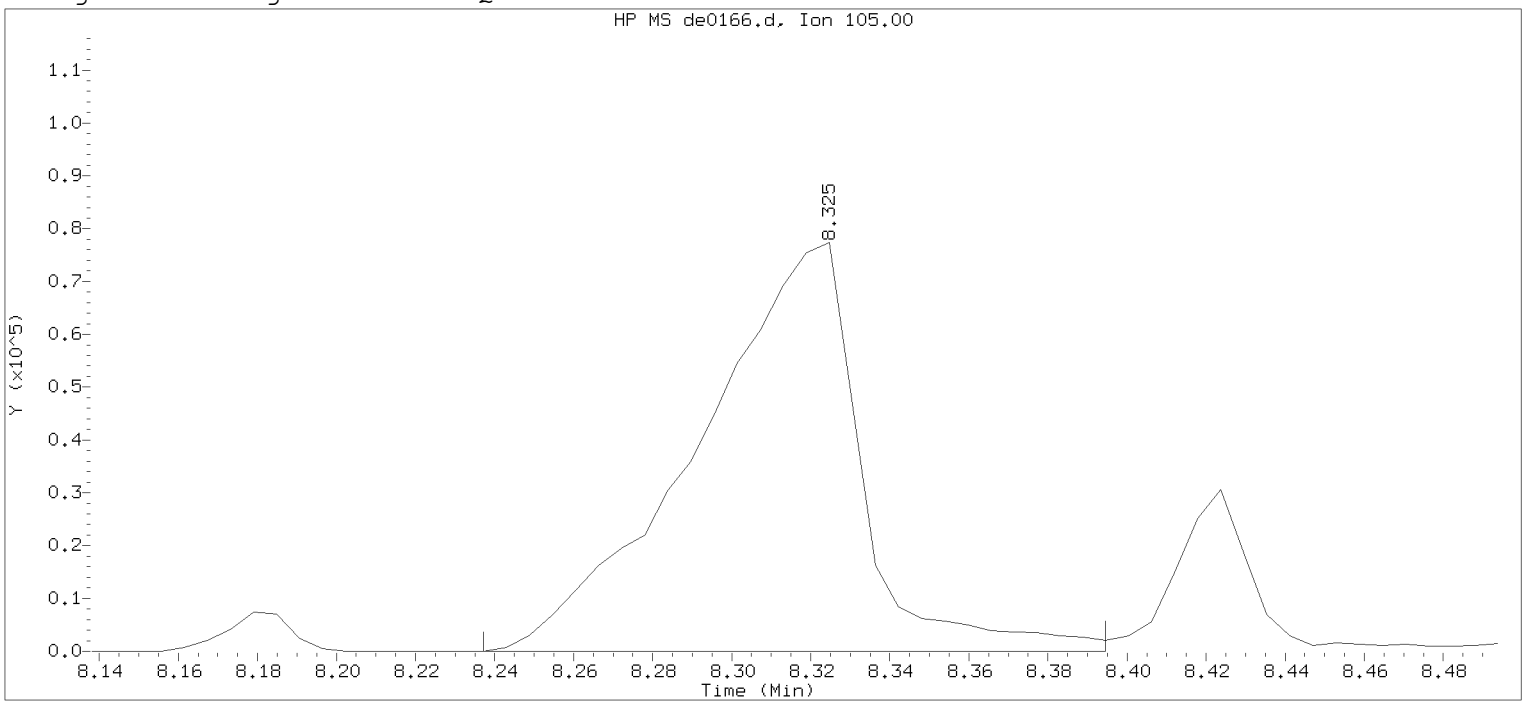
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



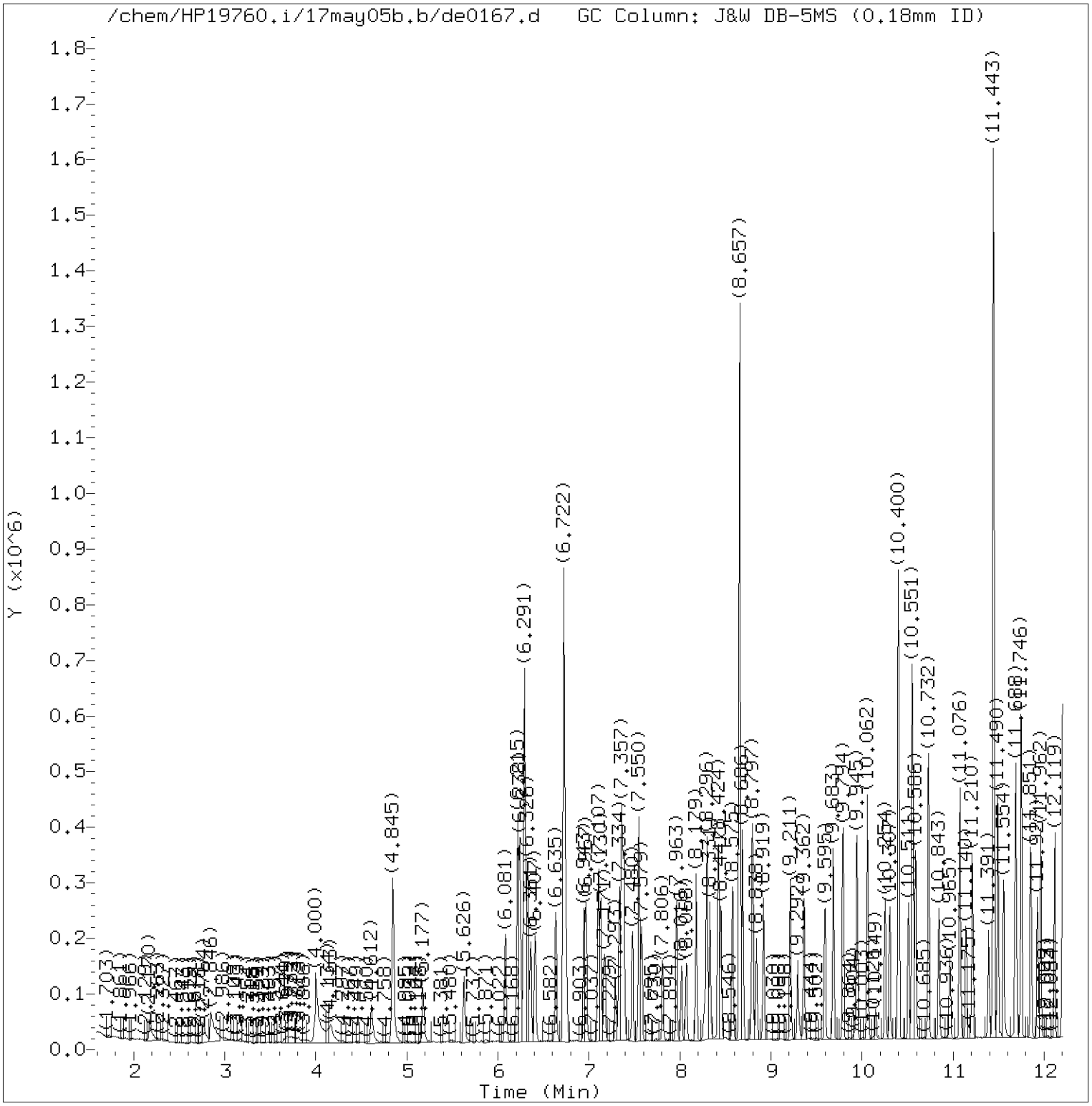
Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:00
Date, time and analyst ID of latest file update: 05-May-2017 21:00 Automation

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1156		
Retention Time (minutes)	: 8.325		
Quant Ion	: 105.00		
Area	: 221906		
On-column Amount (ng/ul)	: 5.6582		
Integration start scan	: 1140	Integration stop scan:	1167
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0468



Total Ion Chromatogram (TIC)

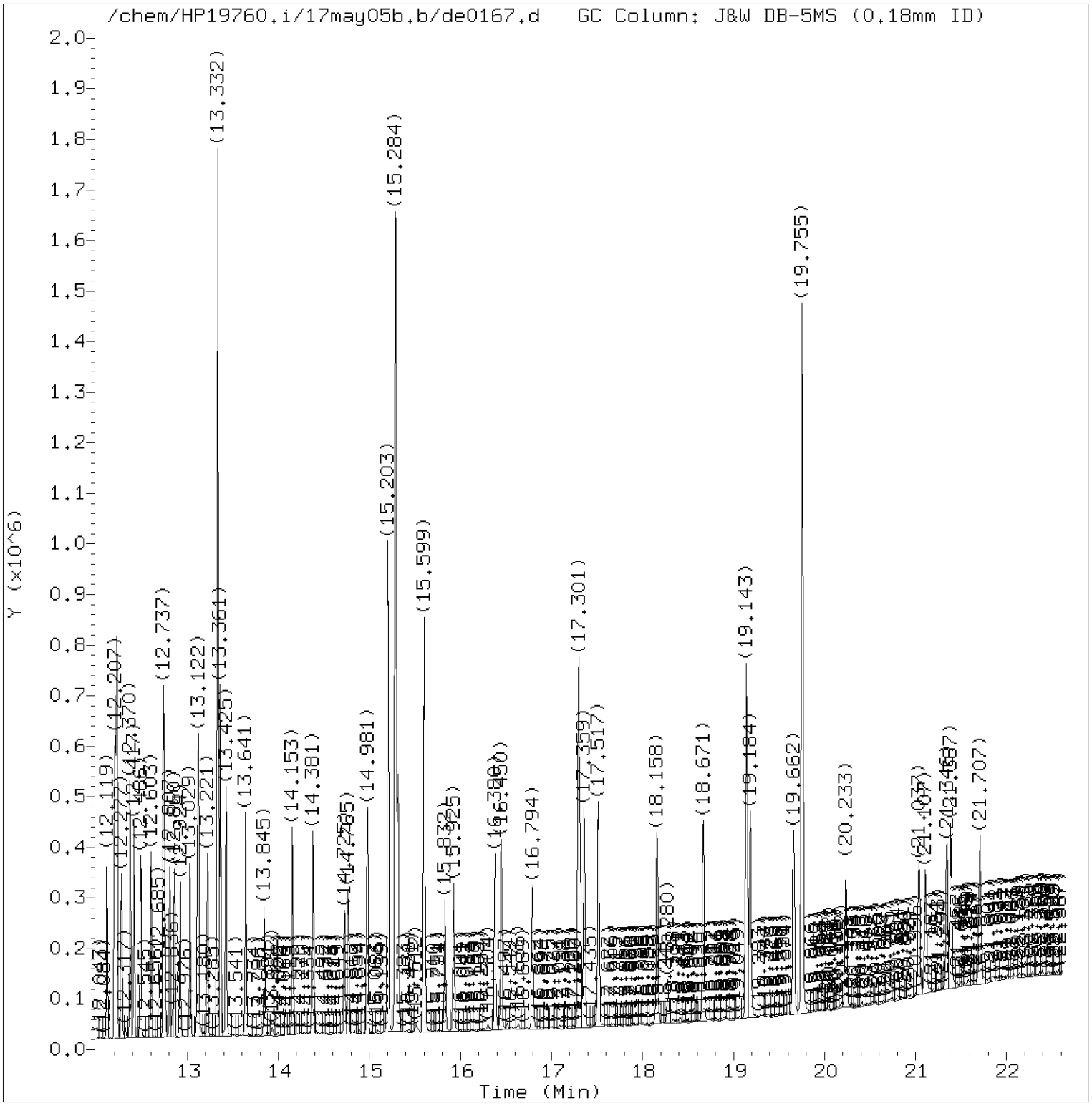
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.170	88	34814M	1.334
4) N-Nitrosodimethylamine	(1)	2.764	74	52272M	1.245
5) Pyridine	(1)	2.846	79	91972M	1.335
7) 2-Picoline	(1)	4.000	93	87204M	1.240
8) N-Nitrosomethylethylamine	(1)	4.163	88	36190	1.206
9) Methyl methanesulfonate	(1)	4.612	80	41467M	1.208
11)$2-Fluorophenol	(1)	4.845	112	136462	2.478
13) N-Nitrosodiethylamine	(1)	5.172	102	34644	1.227
15) Ethyl methanesulfonate	(1)	5.626	109	37493	1.244
42) Total Cresols	(1)			143548	2.479
16) Benzaldehyde	(1)	6.081	77	66544	1.282
17)$Phenol-d6	(1)	6.215	99	184338	2.474
18) Phenol	(1)	6.232	94	106070	1.265
19) Aniline	(1)	6.244	93	122935	1.246
20) a-methylstyrene	(1)	6.326	118	75766	1.236
22) bis(2-Chloroethyl)ether	(1)	6.361	93	77466	1.246
23) 2-Chlorophenol	(1)	6.407	128	67737	1.235
24) 1,3-Dichlorobenzene	(1)	6.635	146	76664	1.292
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	178509	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	75470	1.258
27) Benzyl alcohol	(1)	6.943	108	48928	1.236
28) 1,2-Dichlorobenzene	(1)	6.967	146	71779	1.269
30) Indene	(1)	7.107	115	132737	1.230
31) 2-Methylphenol	(1)	7.130	108	66133	1.222
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.171	45	112949	1.252
34) bis(2-Chloroisopropyl)ether	(1)	7.171	45	112949	1.252
35) N-Nitrosopyrrolidine	(1)	7.293	100	36533	1.198
36) Acetophenone	(1)	7.334	105	103121	1.235
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	61337	1.271
39) N-Nitrosomorpholine	(1)	7.363	56	52406	1.245
37) 4-Methylphenol	(1)	7.369	108	77415	1.258
97) Isosafrole	(3)			54705	1.192
40) o-Toluidine	(1)	7.386	106	118323	1.248
43) Hexachloroethane	(1)	7.480	117	31506	1.253
44)$Nitrobenzene-d5	(2)	7.550	82	171240	2.452
45) Nitrobenzene	(2)	7.579	77	87105	1.233
48) N-Nitrosopiperidine	(2)	7.812	114	32947	1.174
50) Isophorone	(2)	7.963	82	143165	1.182
120) 2,4_2,6-Dinitrotoluenes	(3)			68706	2.342
51) 2-Nitrophenol	(2)	8.074	139	31381	1.119

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	72140	1.198
56) Benzoic acid	(2)	8.290	105	83803M	2.119
57) O,O,O-Triethylphosphorothioate	(2)	8.296	198	34830	1.214
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	93264	1.221
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	109821	1.224
60) 2,4-Dichlorophenol	(2)	8.447	162	53944	1.200
62) 1,2,4-Trichlorobenzene	(2)	8.575	180	64931	1.247
65)*Naphthalene-d8	(2)	8.657	136	684219	5.000
66) Naphthalene	(2)	8.686	128	197361	1.219
146) Diallate trans/cis	(4)			67557	1.220
67) 4-Chloroaniline	(2)	8.791	127	78195	1.196
68) 2,6-Dichlorophenol	(2)	8.803	162	54458	1.232
69) Hexachloropropene	(2)	8.838	213	42290	1.183
71) Hexachlorobutadiene	(2)	8.919	225	38657	1.241
75) Quinoline	(2)	9.211	129	121896	1.213
76) Caprolactam	(2)	9.292	113	16919	1.204
77) N-Nitrosodi-n-butylamine	(2)	9.362	84	57417	1.148
80) 4-Chloro-3-methylphenol	(2)	9.595	107	61170	1.197
82) Safrole	(2)	9.683	162	49402	1.212
83) 2-Methylnaphthalene	(2)	9.794	142	127925	1.202
84) 1-Methylnaphthalene	(2)	9.945	142	118247	1.215
85) Hexachlorocyclopentadiene	(3)	10.062	237	28707	1.079
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	68550	1.253
88) cis-Isosafrole	(3)	10.149	162	8926	0.204
90) 2,4,6-Trichlorophenol	(3)	10.254	196	40002	1.170
92) 2,4,5-Trichlorophenol	(3)	10.307	196	44625	1.220
93)$2-Fluorobiphenyl	(3)	10.400	172	297586	2.498
94) trans-Isosafrole	(3)	10.511	162	45779	0.988
95) 1,1'-Biphenyl	(3)	10.551	154	150655	1.271
96) 2-Chloronaphthalene	(3)	10.557	162	122994	1.283
98) 1-Chloronaphthalene	(3)	10.586	162	112409	1.222
100) 2-Nitroaniline	(3)	10.732	138	35373	1.164
99) Diphenyl ether	(3)	10.732	170	85689	1.269
104) 1,4-Naphthoquinone	(3)	10.843	158	47366	1.158
105) 1,4-Dinitrobenzene	(3)	10.965	168	17903	1.113
106) Dimethylphthalate	(3)	11.076	163	142397	1.252
107) 1,3-Dinitrobenzene	(3)	11.076	168	20676	1.169
108) 2,6-Dinitrotoluene	(3)	11.146	165	29798	1.191
109) Acenaphthylene	(3)	11.210	152	174565	1.221
112) 3-Nitroaniline	(3)	11.391	138	30455	1.155

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	390234	5.000
114) Acenaphthene	(3)	11.490	153	126726	1.227
115) 2,4-Dinitrophenol	(3)	11.554	184	40582	2.768
116) 4-Nitrophenol	(3)	11.682	109	40588	2.111
117) Pentachlorobenzene	(3)	11.694	250	54958	1.236
119) Dibenzofuran	(3)	11.746	168	175704	1.256
118) 2,4-Dinitrotoluene	(3)	11.752	165	38908	1.150
121) 1-Naphthylamine	(3)	11.857	143	120752	1.189
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	31914	1.142
123) 2-Naphthylamine	(3)	11.962	143	123721	1.230
124) Diethylphthalate	(3)	12.119	149	132482	1.201
126) Fluorene	(3)	12.201	166	138026	1.214
125) Thionazin	(3)	12.213	107	27053	1.233
128) 5-Nitro-o-toluidine	(3)	12.224	152	36766	1.192
129) 4-Nitroaniline	(3)	12.224	138	31225	1.197
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	71333	1.293
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	41471	2.036
132) NDPA as diphenylamine	(4)	12.370	169	114538	1.245
131) N-Nitrosodiphenylamine	(4)	12.370	169	114538	1.245
134) 1,2-Diphenylhydrazine	(4)	12.417	77	163637	1.259
135)$2,4,6-Tribromophenol	(3)	12.492	330	33887	2.303
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	26148	1.212
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	12766	0.969
140) Diallate (peak 1)	(4)	12.737	86	57985	1.014
141) Phorate	(4)	12.737	75	100225	1.183
142) Phenacetin	(4)	12.749	108	73724	1.168
143) 4-Bromophenyl-phenylether	(4)	12.807	248	40037	1.261
144) Diallate (peak 2)	(4)	12.836	86	9572	0.206
145) Hexachlorobenzene	(4)	12.860	284	41232	1.239
147) Dimethoate	(4)	12.924	87	65206	1.190
148) Atrazine	(4)	13.029	200	38460	1.299
149) Pentachlorophenol	(4)	13.110	266	17418	0.936
151) Pentachloronitrobenzene	(4)	13.122	237	16975	1.149
150) 4-Aminobiphenyl	(4)	13.122	169	128934	1.251
152) Pronamide	(4)	13.221	173	62496	1.156
153)*Phenanthrene-d10	(4)	13.332	188	755491	5.000
155) Phenanthrene	(4)	13.361	178	201512	1.212
154) Dinoseb	(4)	13.361	211	30538	0.976
157) Anthracene	(4)	13.425	178	202591	1.208
163) Carbazole	(4)	13.641	167	185203	1.199

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

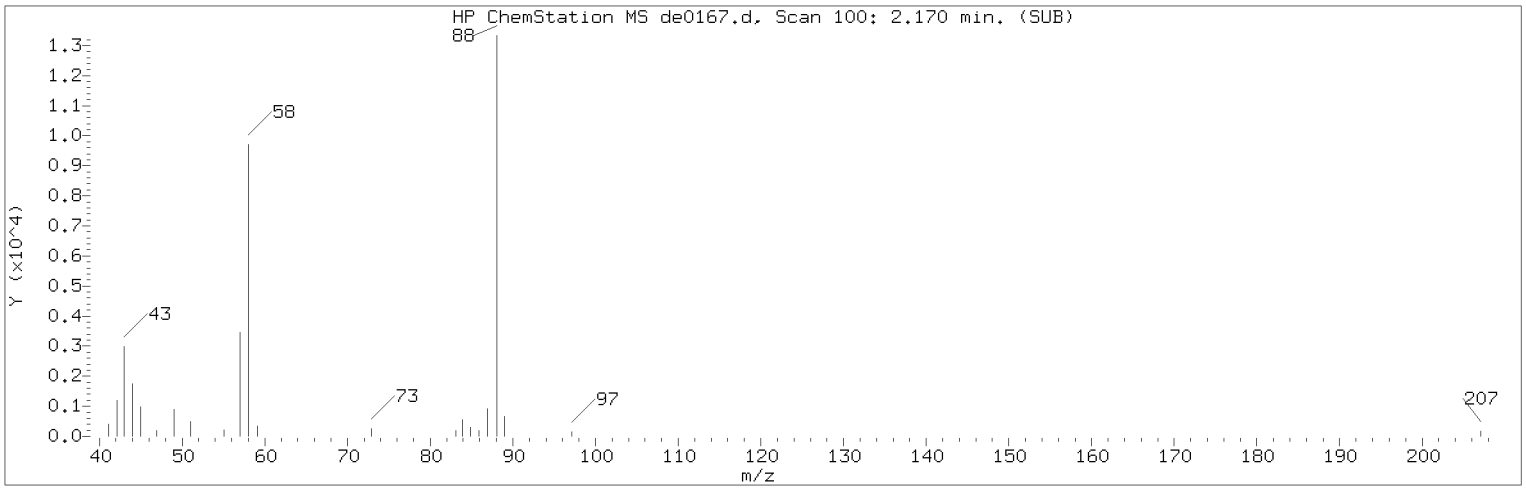
Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.845	109	47000	1.114
165) Di-n-butylphthalate	(4)	14.153	149	226753	1.176
167) Parathion	(4)	14.381	109	29483	1.096
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	12228	0.693
169) Octachlorostyrene	(4)	14.730	308	16196	1.272
171) Isodrin	(4)	14.765	193	24293	1.222
173) Fluoranthene	(4)	14.981	202	228106	1.183
222) Total PAHs	(6)			3443029	21.656
174) Benzidine	(5)	15.203	184	439208	3.707
175)*Pyrene-d10	(5)	15.290	212	895421	5.000
177) Pyrene	(5)	15.313	202	244176	1.216
179)$Terphenyl-d14	(5)	15.605	244	321670	2.483
182) p-Dimethylaminoazobenzene	(5)	15.832	225	33641	1.036
185) Chlorobenzilate	(5)	15.925	139	71213	1.191
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	149343	1.138
188) Butylbenzylphthalate	(5)	16.450	149	109150	1.213
191) 2-Acetylaminofluorene	(5)	16.794	181	86996	1.038
193) 3,3'-Dichlorobenzidine	(5)	17.295	252	84520	1.151
195) Benzo(a)anthracene	(5)	17.301	228	234613	1.201
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	45643	1.148
196) Chrysene	(5)	17.359	228	222108	1.218
199) bis(2-Ethylhexyl)phthalate	(5)	17.517	149	157772	1.171
203) 6-Methylchrysene	(5)	18.158	242	152855	1.170
205) Di-n-octylphthalate	(6)	18.671	149	270511	1.148
206) Benzo(b)fluoranthene	(6)	19.143	252	223483	1.146
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.149	256	90203	1.112
208) Benzo(k)fluoranthene	(6)	19.184	252	224847	1.198
211) Benzo(a)pyrene	(6)	19.662	252	208878	1.152
213)*Perylene-d12	(6)	19.755	264	720620	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	92496	1.138
217) Dibenz(a,h)acridine	(6)	21.037	279	149674	1.146
218) Dibenz(a,j)acridine	(6)	21.107	279	143636	1.121
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	212039	1.191
220) Dibenz(a,h)anthracene	(6)	21.387	278	178028	1.193
221) Benzo(g,h,i)perylene	(6)	21.707	276	179798	1.239

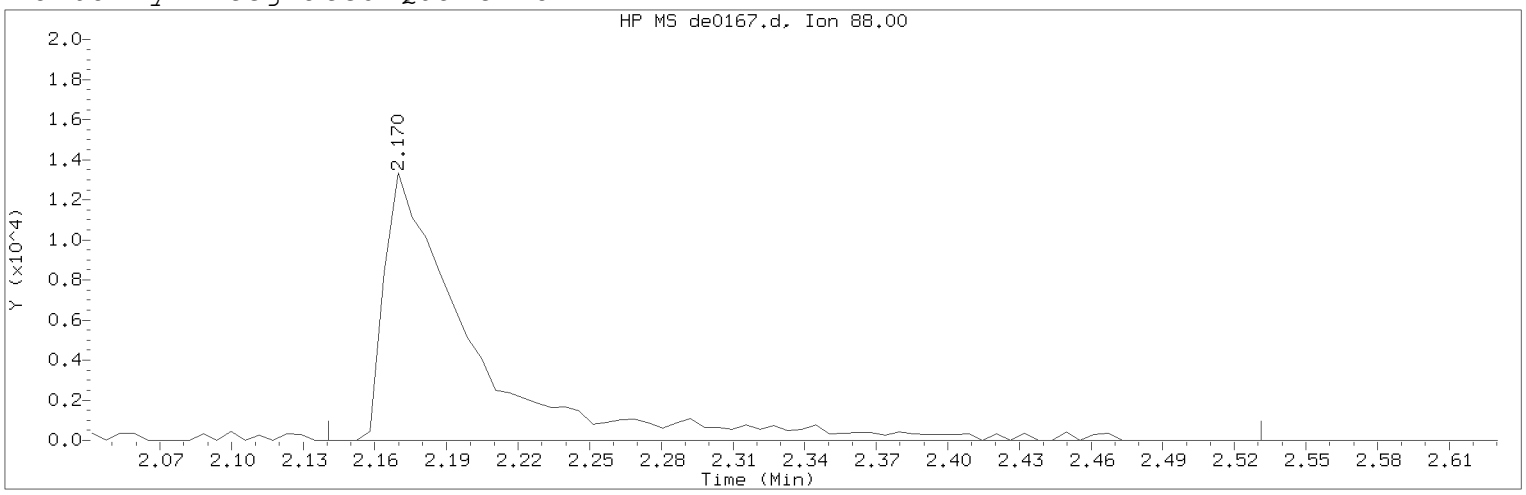
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

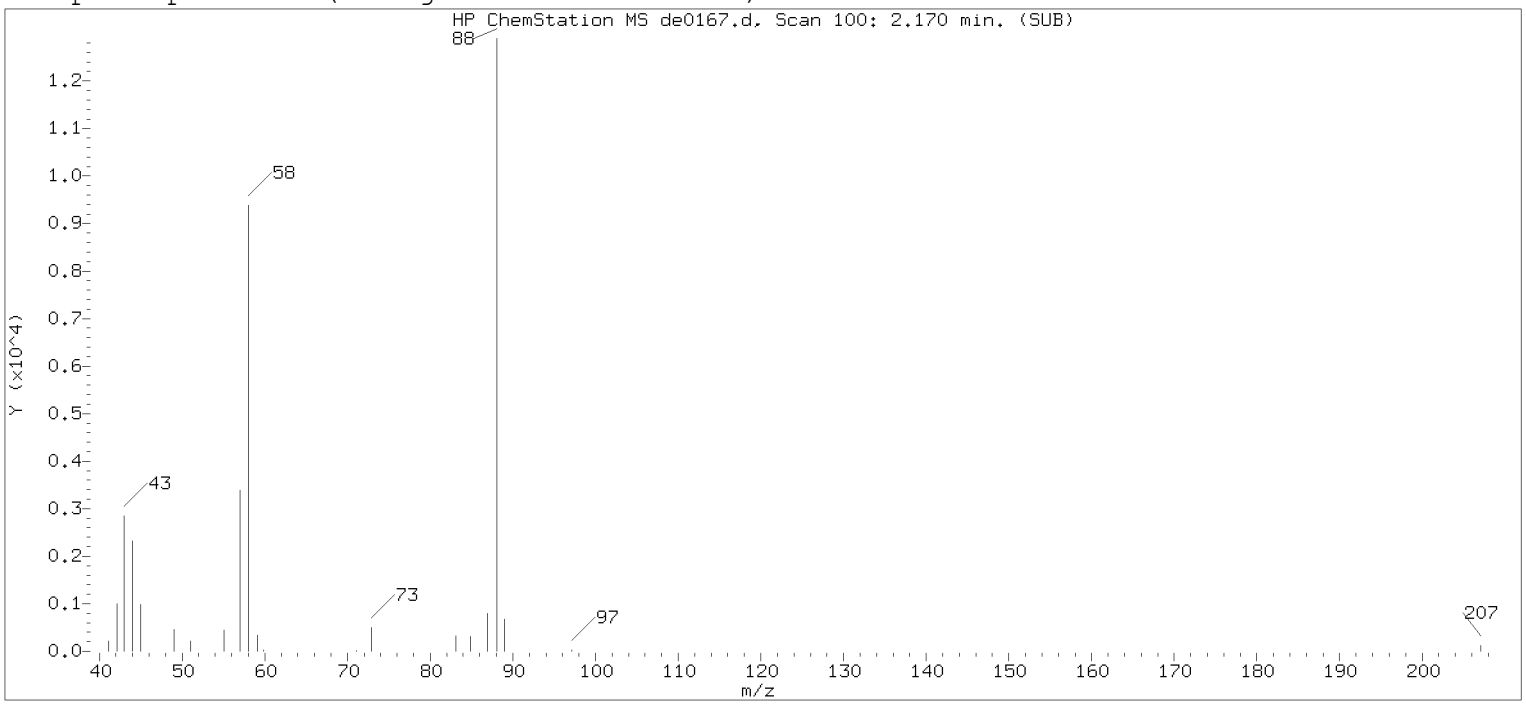
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 100
Retention Time (minutes) : 2.170
Quant Ion : 88.00
Area (flag) : 34814M
On-Column Amount (ng/ul) : 1.3338
Integration start scan : 94 Integration stop scan: 161
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

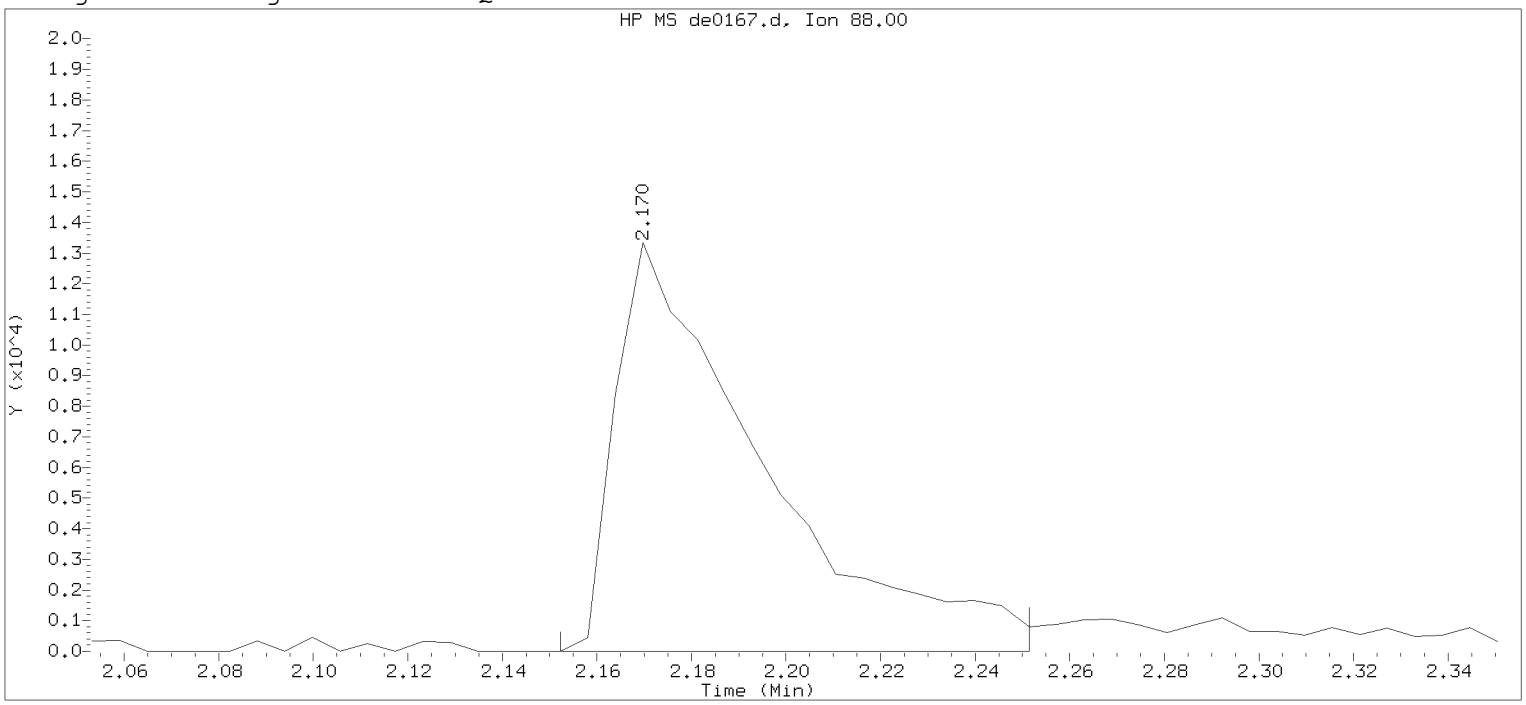
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

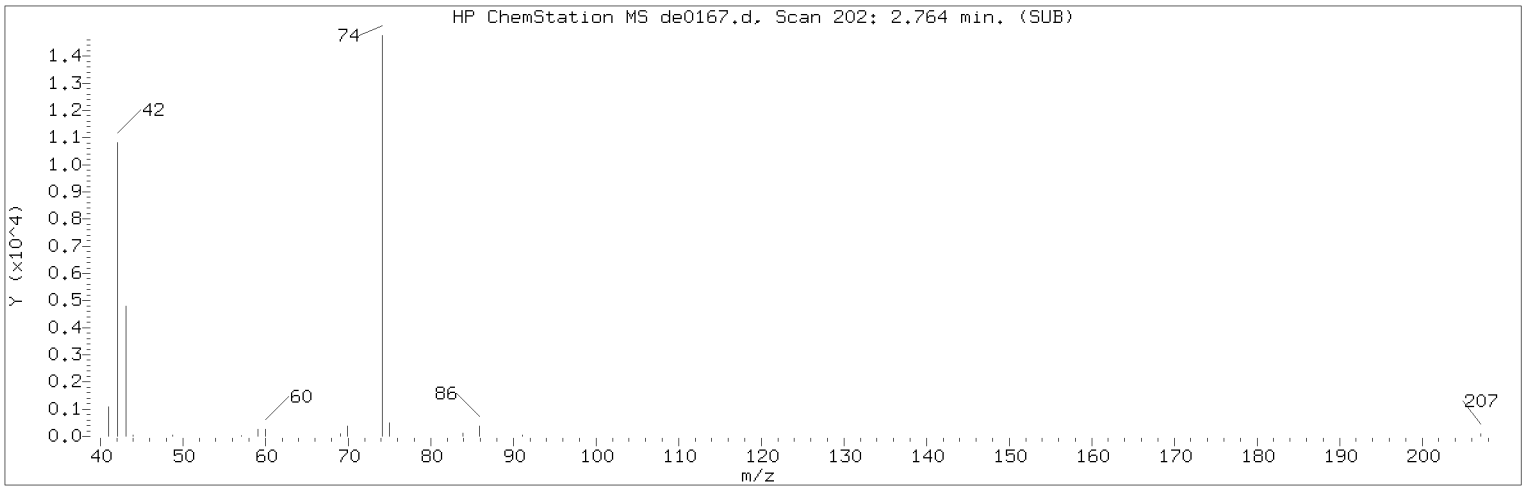
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

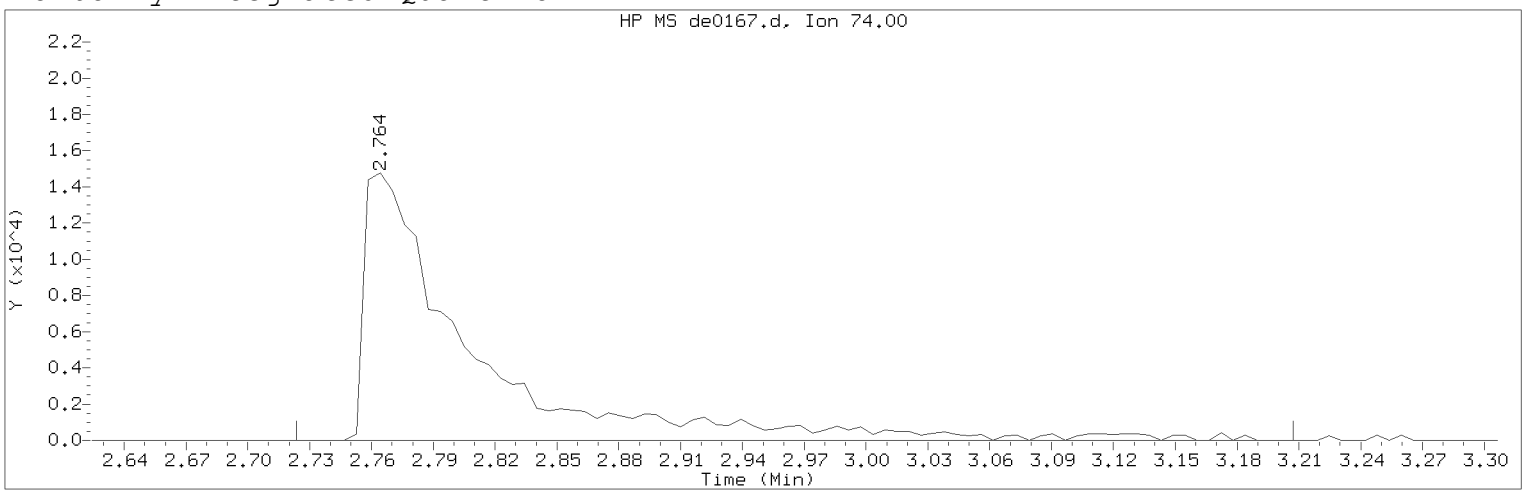
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 100		
Retention Time (minutes)	: 2.170		
Quant Ion	: 88.00		
Area	: 28566		
On-column Amount (ng/ul)	: 1.1275		
Integration start scan	: 96	Integration stop scan:	113
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0476

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

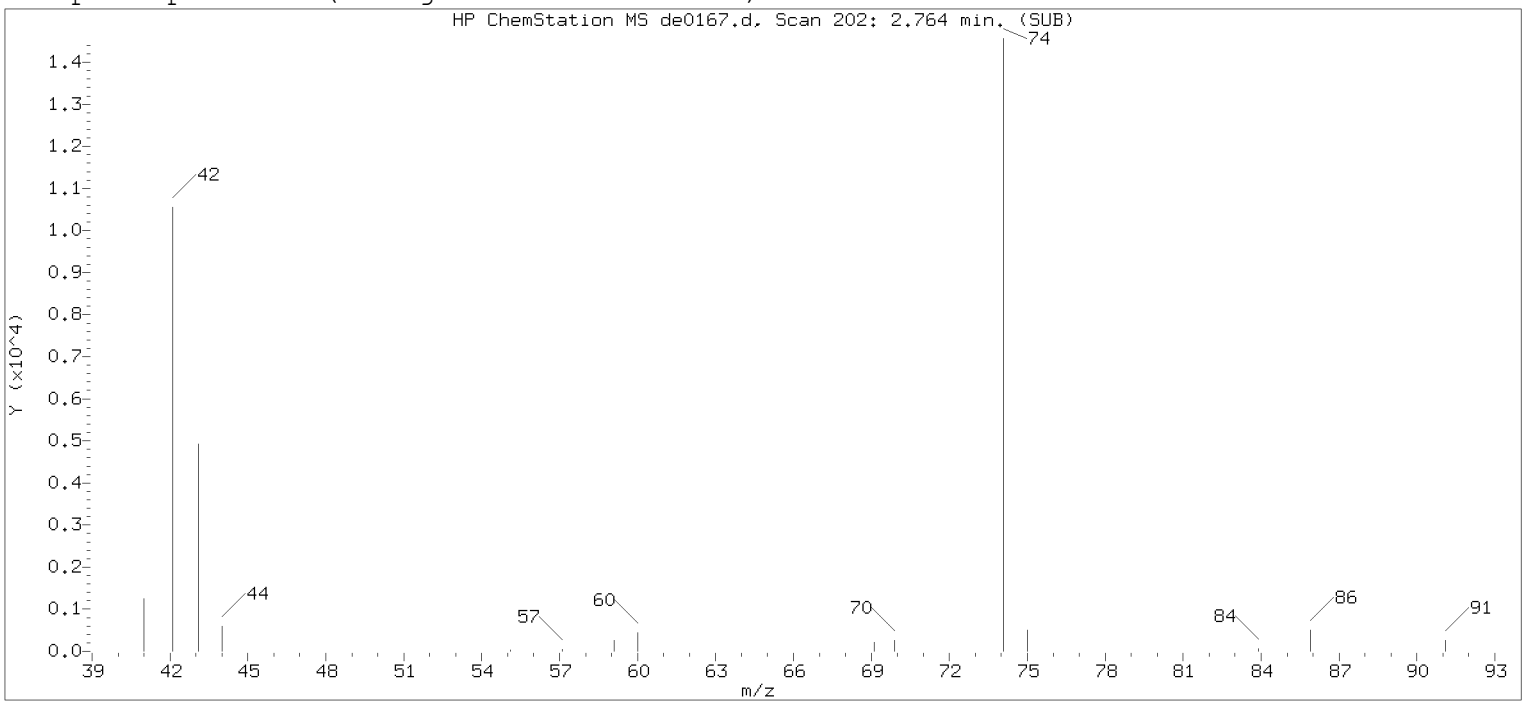
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 202
Retention Time (minutes) : 2.764
Quant Ion : 74.00
Area (flag) : 52272M
On-Column Amount (ng/ul) : 1.2454
Integration start scan : 194 Integration stop scan: 277
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

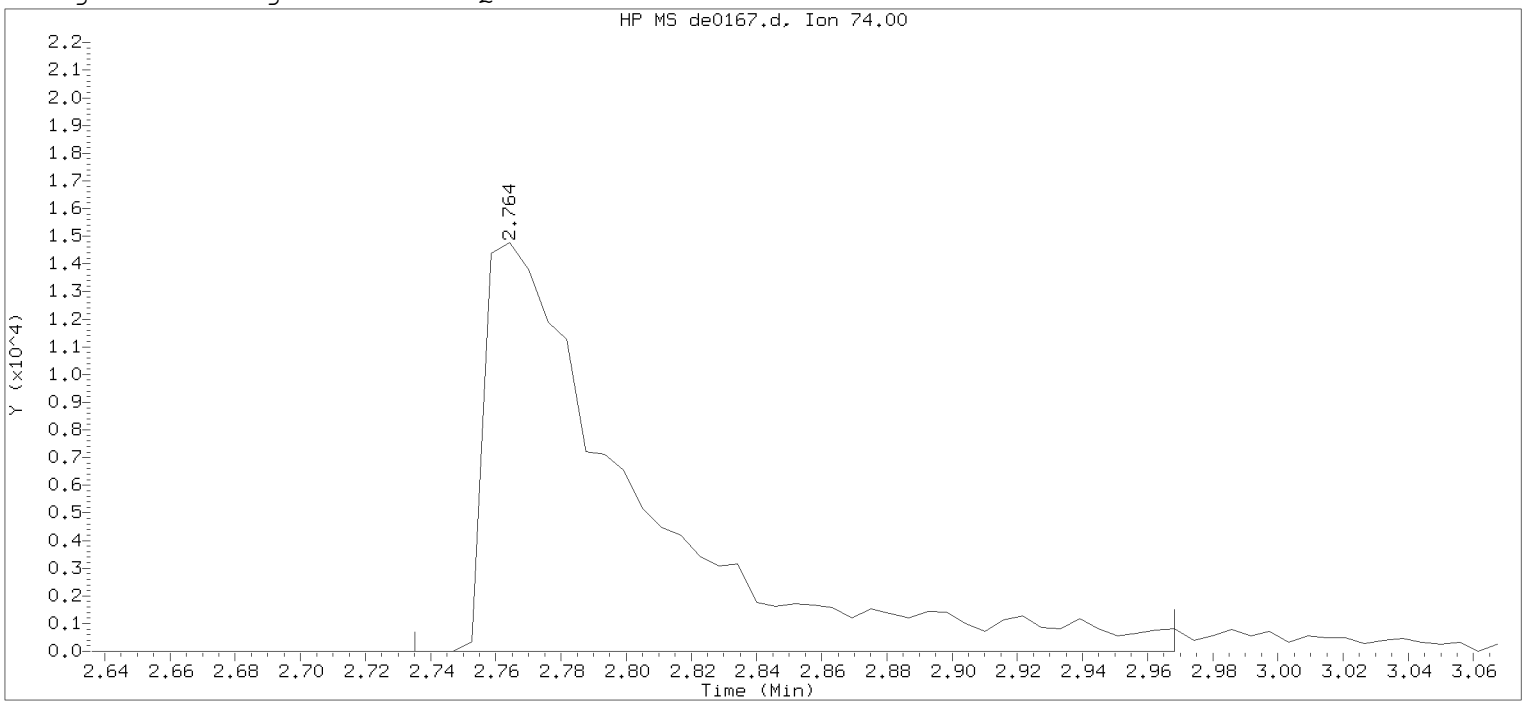
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

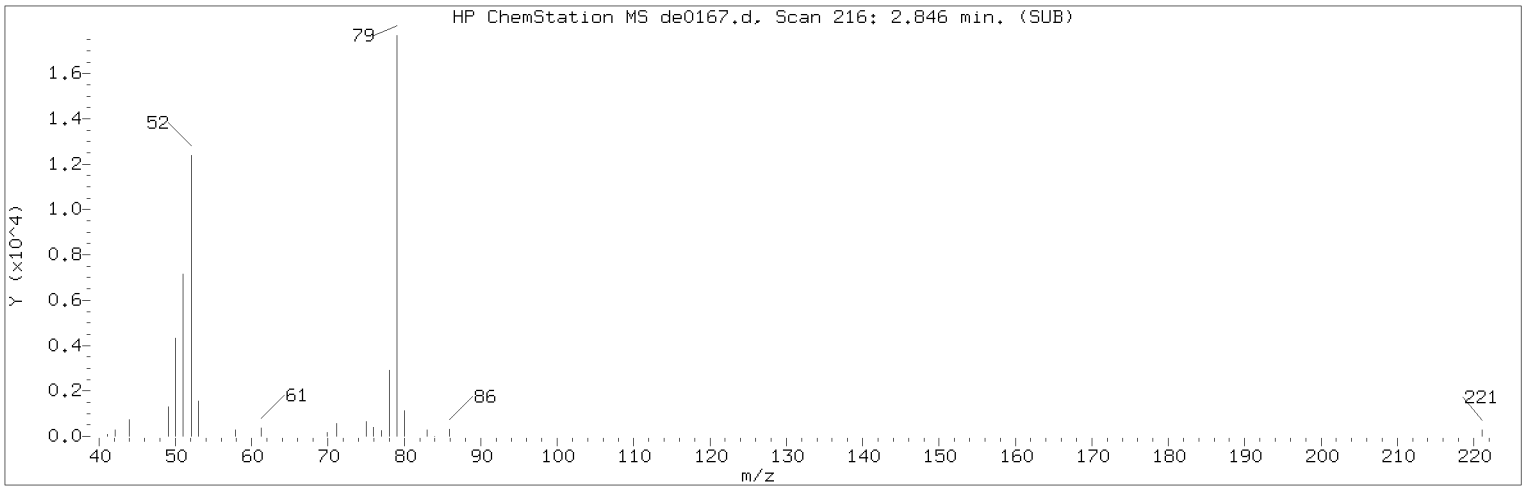
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

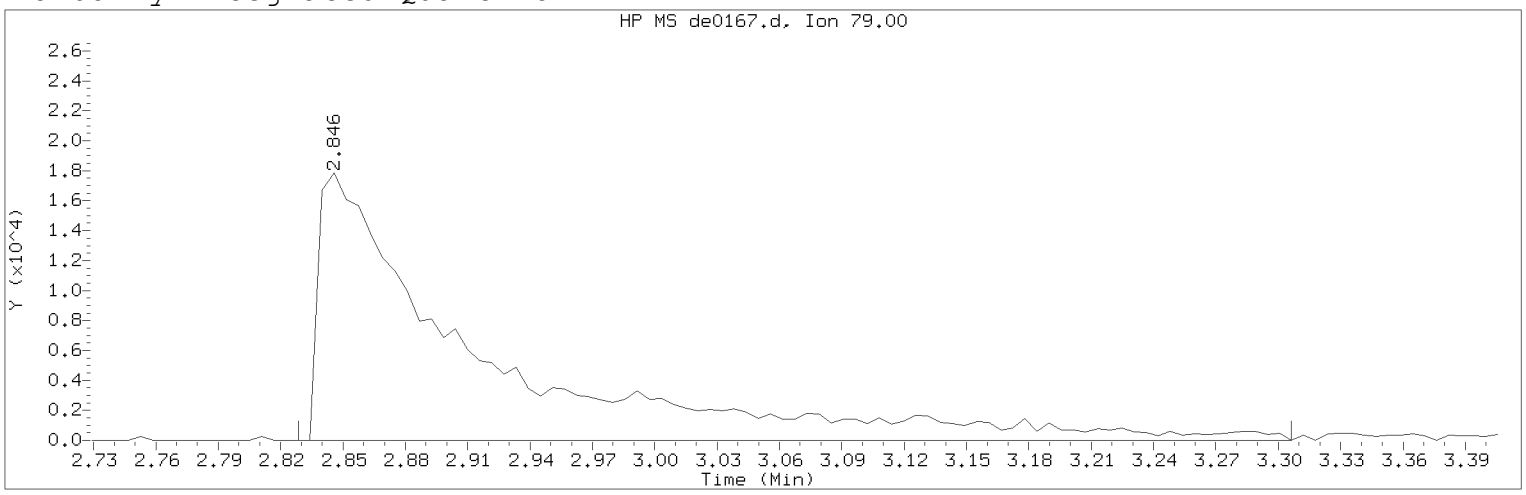
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 202		
Retention Time (minutes)	: 2.764		
Quant Ion	: 74.00		
Area	: 48070		
On-column Amount (ng/ul)	: 1.1636		
Integration start scan	: 196	Integration stop scan:	236
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

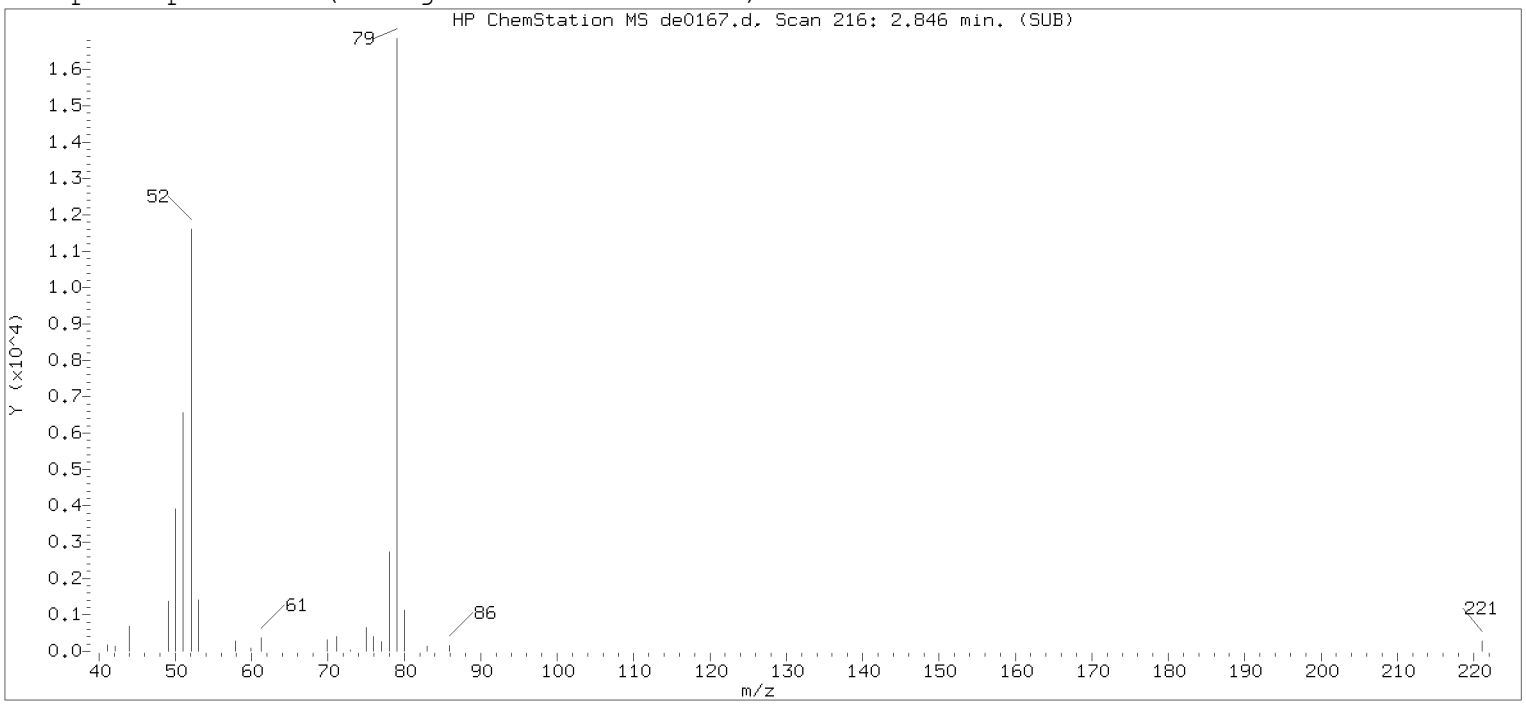
Compound Number : 5
Compound Name : Pyridine
Scan Number : 216
Retention Time (minutes) : 2.846
Quant Ion : 79.00
Area (flag) : 91972M
On-Column Amount (ng/ul) : 1.3354
Integration start scan : 212 Integration stop scan: 294
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

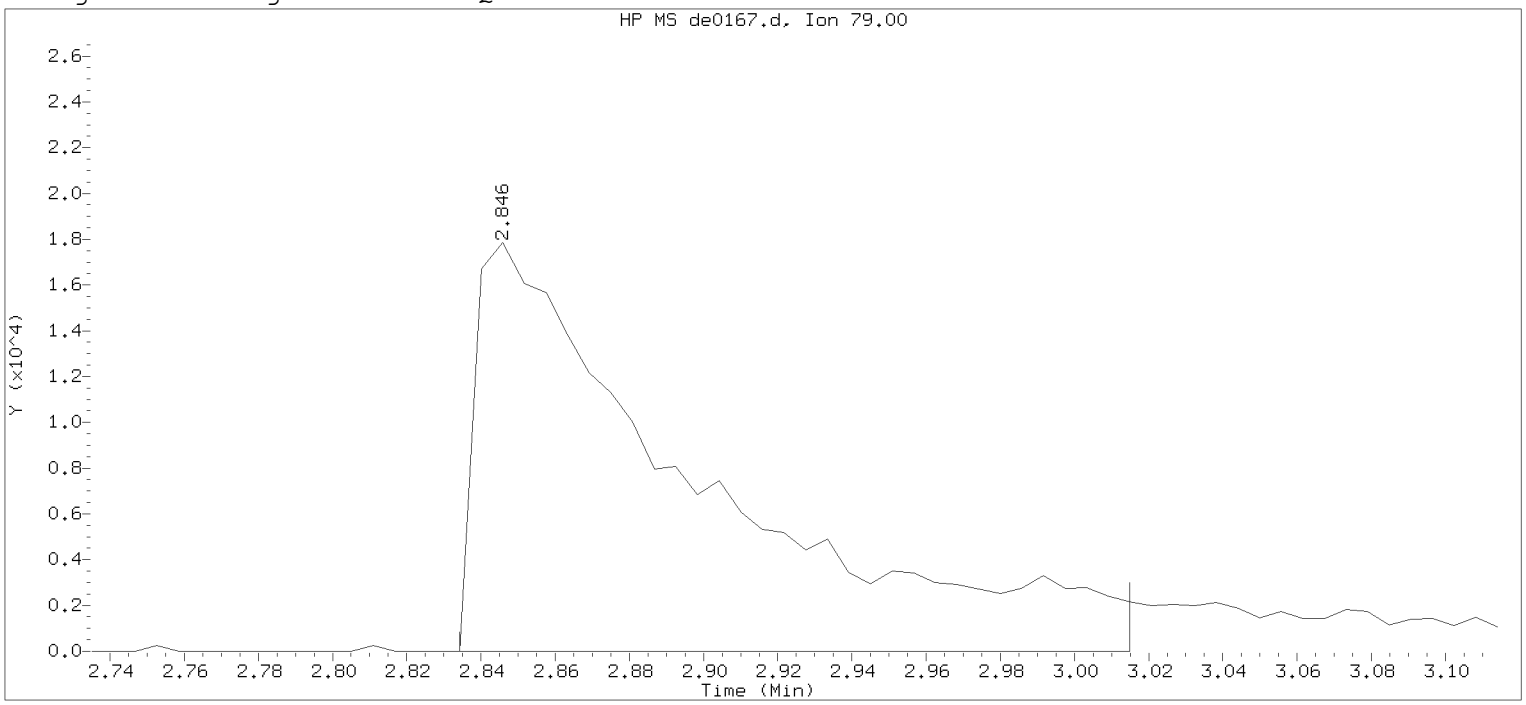
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

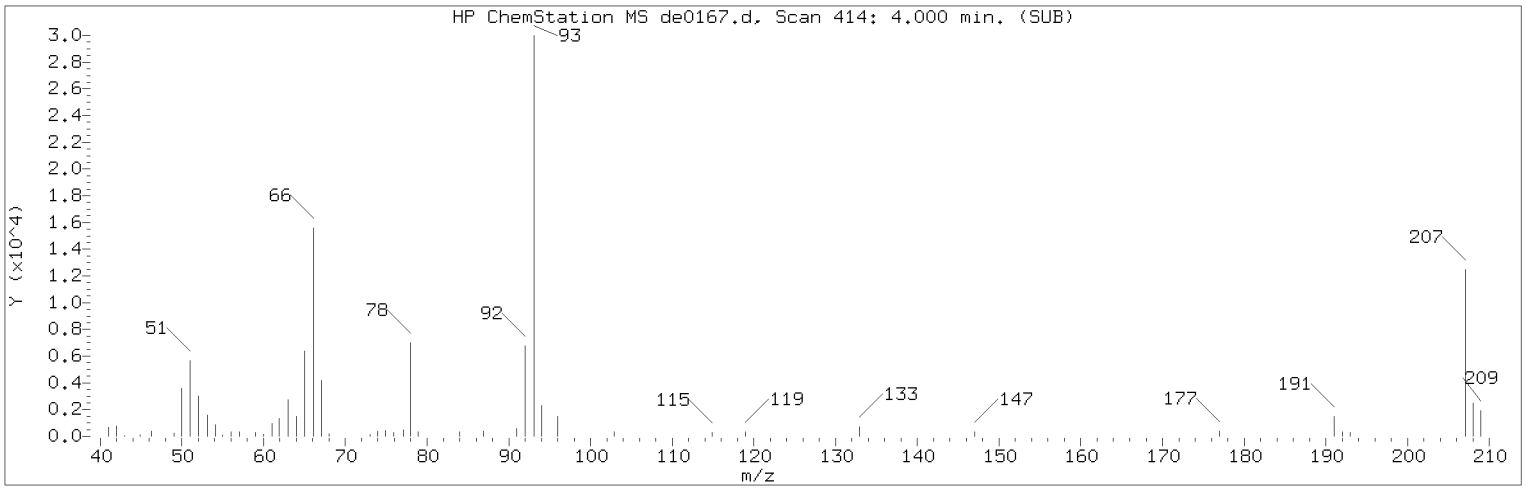
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

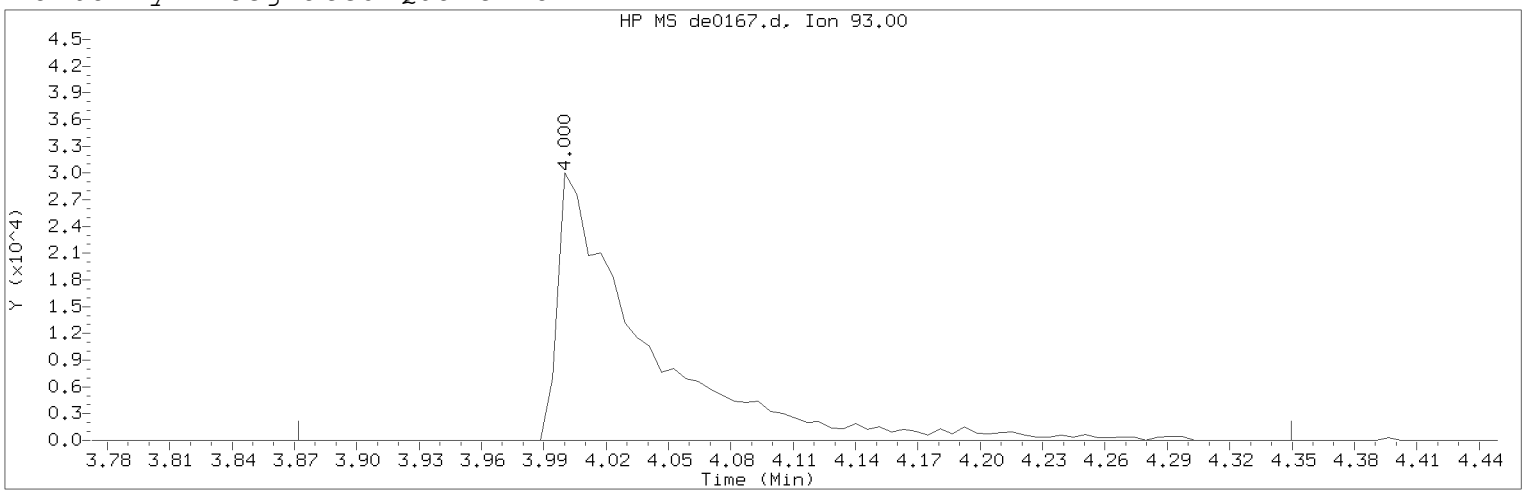
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 216		
Retention Time (minutes)	: 2.846		
Quant Ion	: 79.00		
Area	: 73200		
On-column Amount (ng/ul)	: 1.1054		
Integration start scan	: 213	Integration stop scan:	244
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0480

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

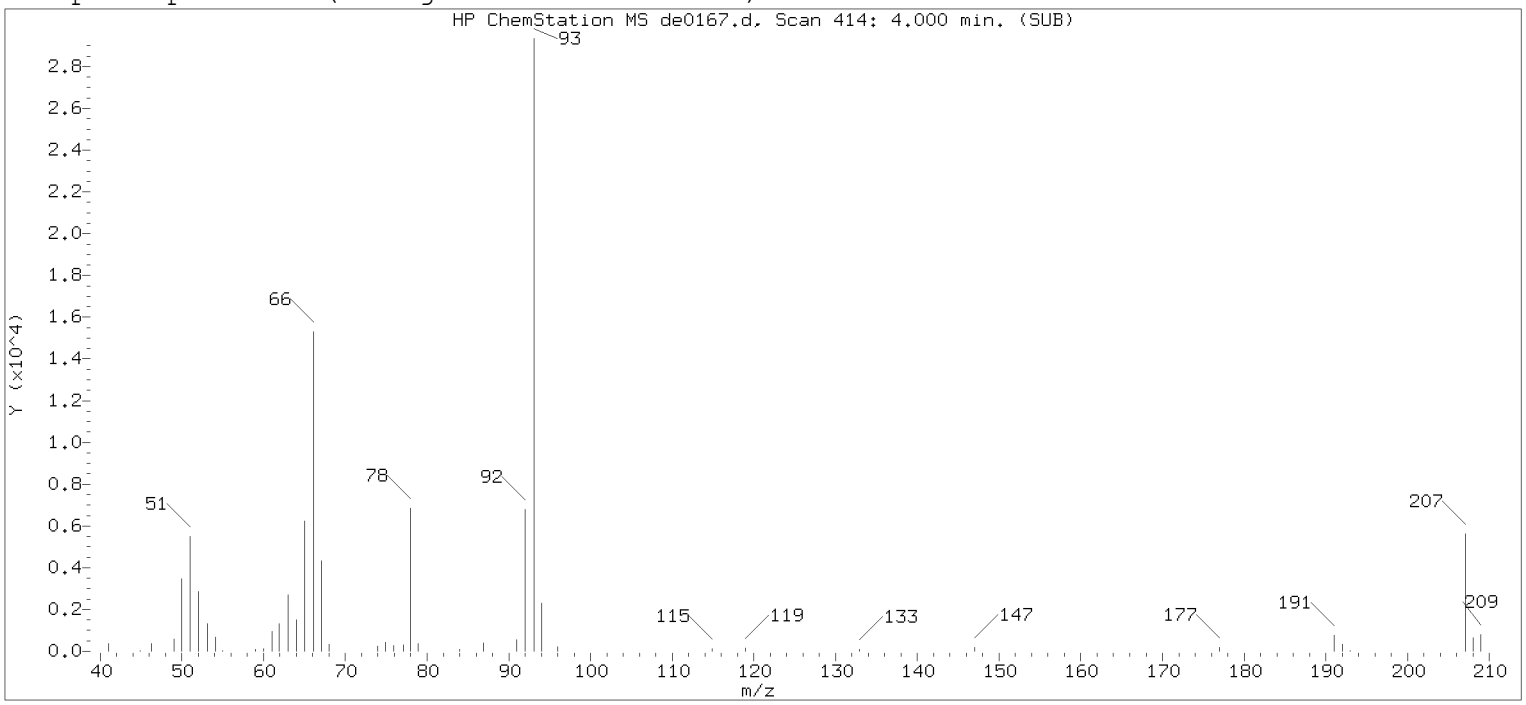
Compound Number : 7
Compound Name : 2-Picoline
Scan Number : 414
Retention Time (minutes) : 4.000
Quant Ion : 93.00
Area (flag) : 87204M
On-Column Amount (ng/ul) : 1.2400
Integration start scan : 391 Integration stop scan: 473
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

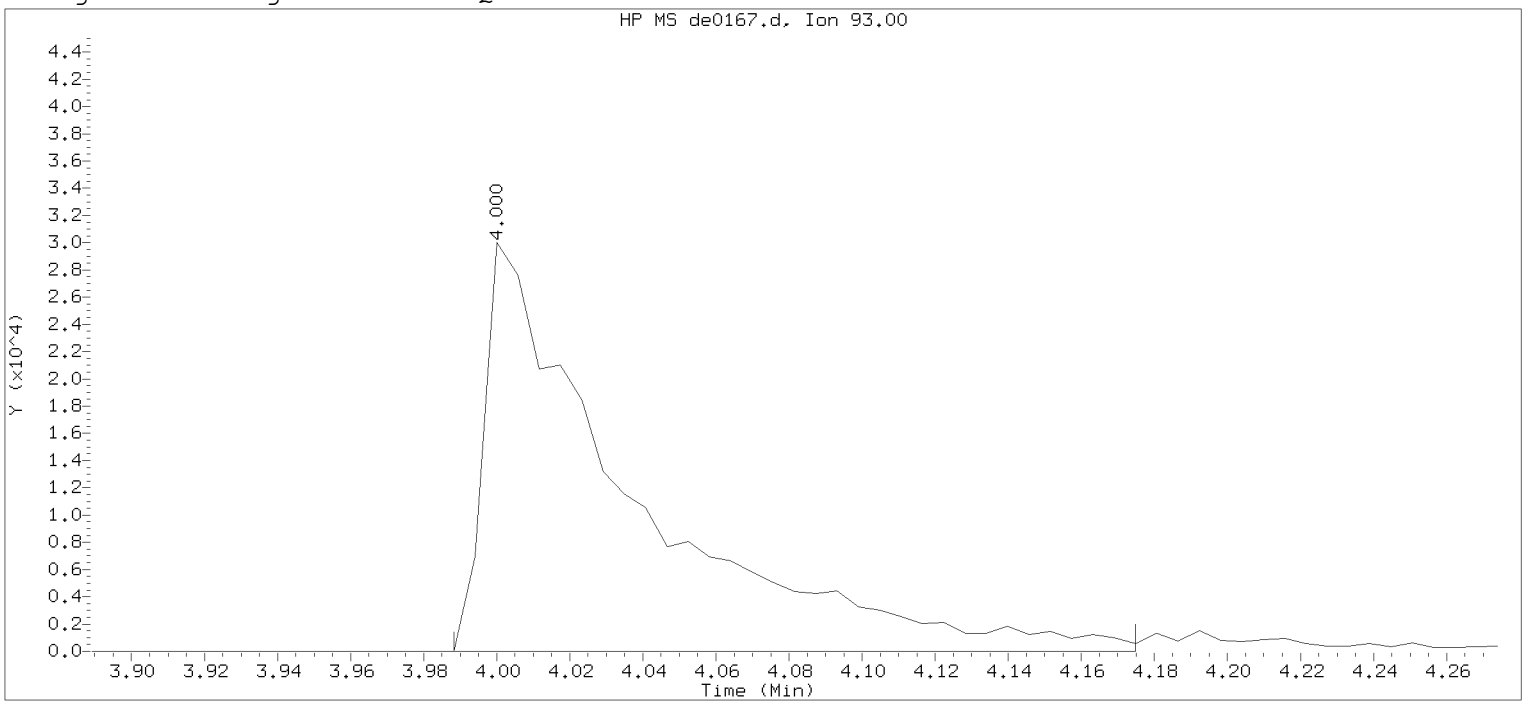
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

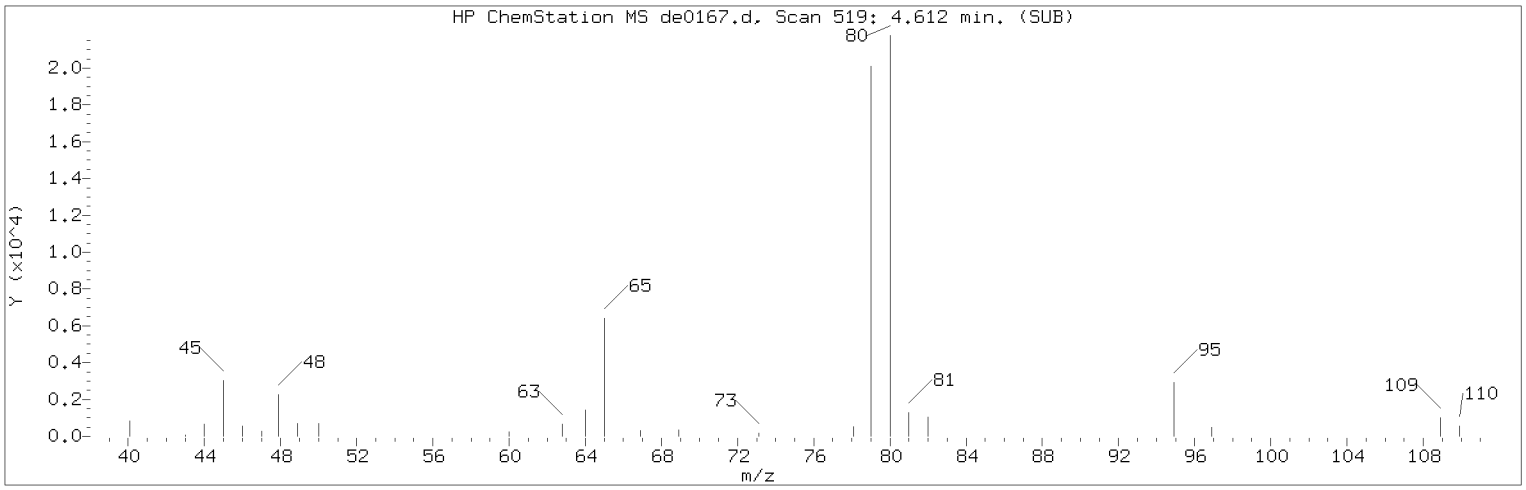
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

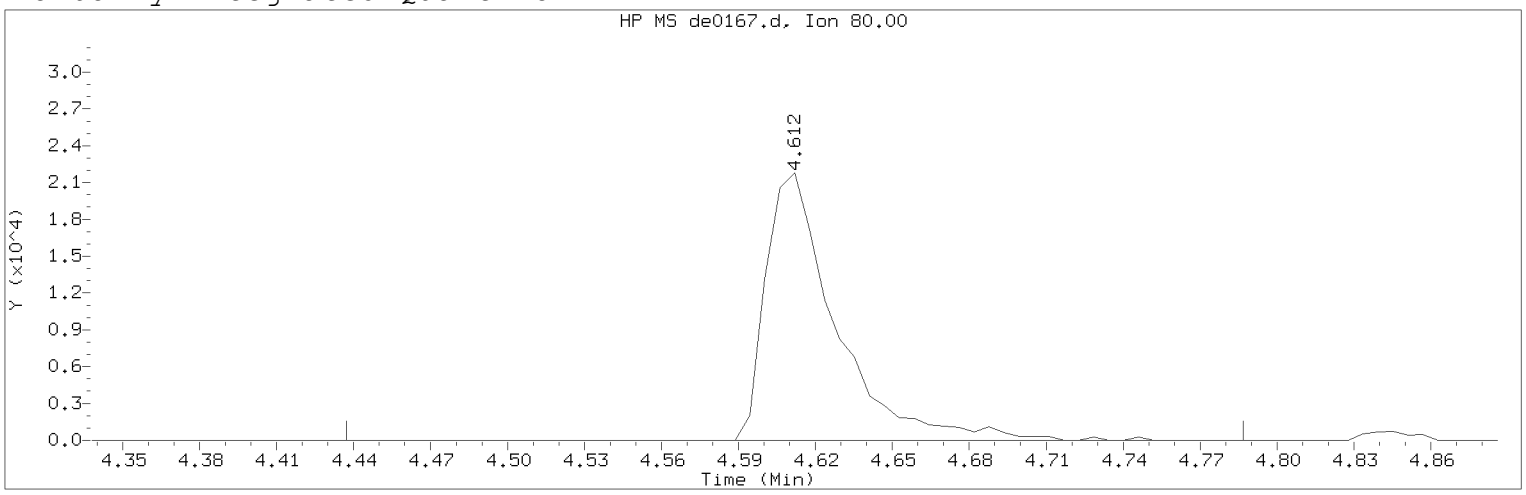
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 414		
Retention Time (minutes)	: 4.000		
Quant Ion	: 93.00		
Area	: 82801		
On-column Amount (ng/ul)	: 1.1907		
Integration start scan	: 411	Integration stop scan:	443
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0482

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

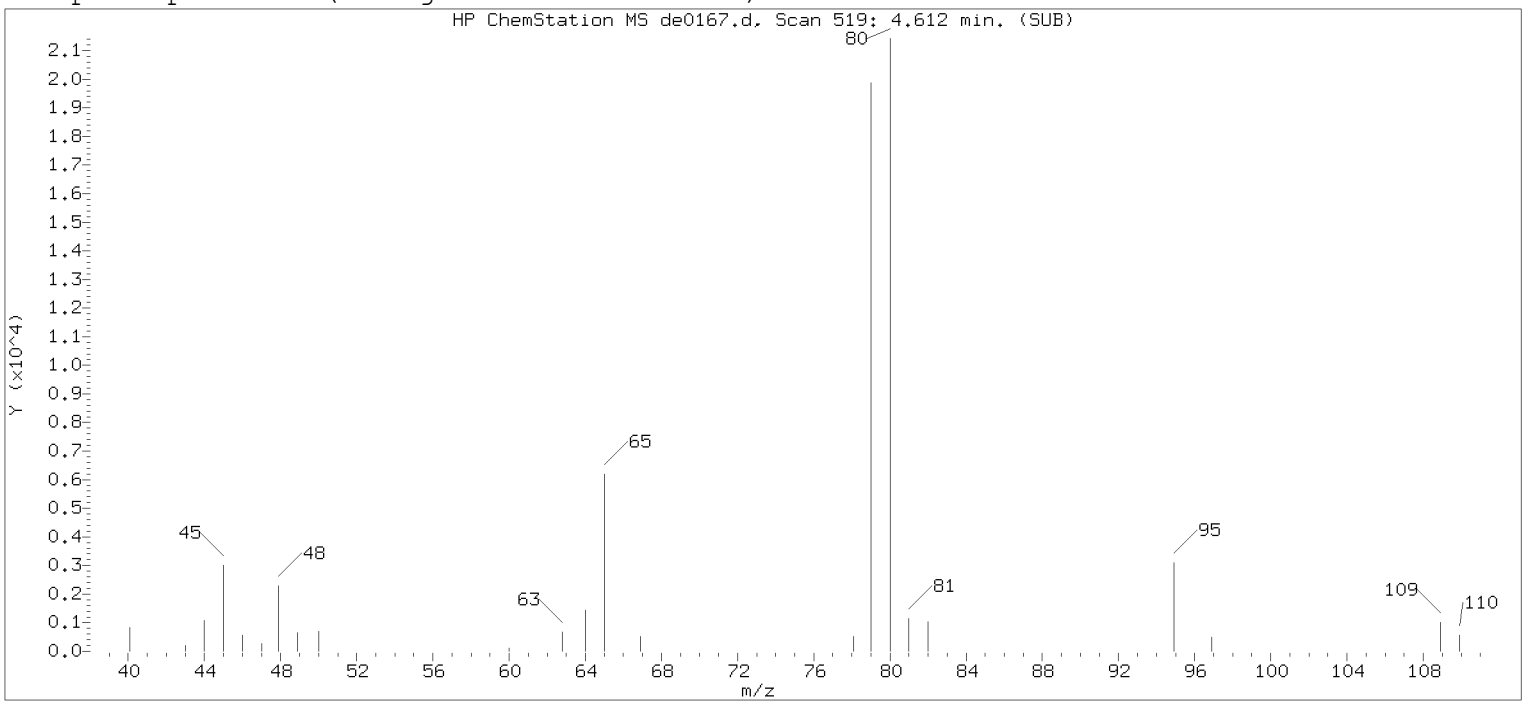
Compound Number : 9
Compound Name : Methyl methanesulfonate
Scan Number : 519
Retention Time (minutes) : 4.612
Quant Ion : 80.00
Area (flag) : 41467M
On-Column Amount (ng/ul) : 1.2075
Integration start scan : 488 Integration stop scan: 548
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

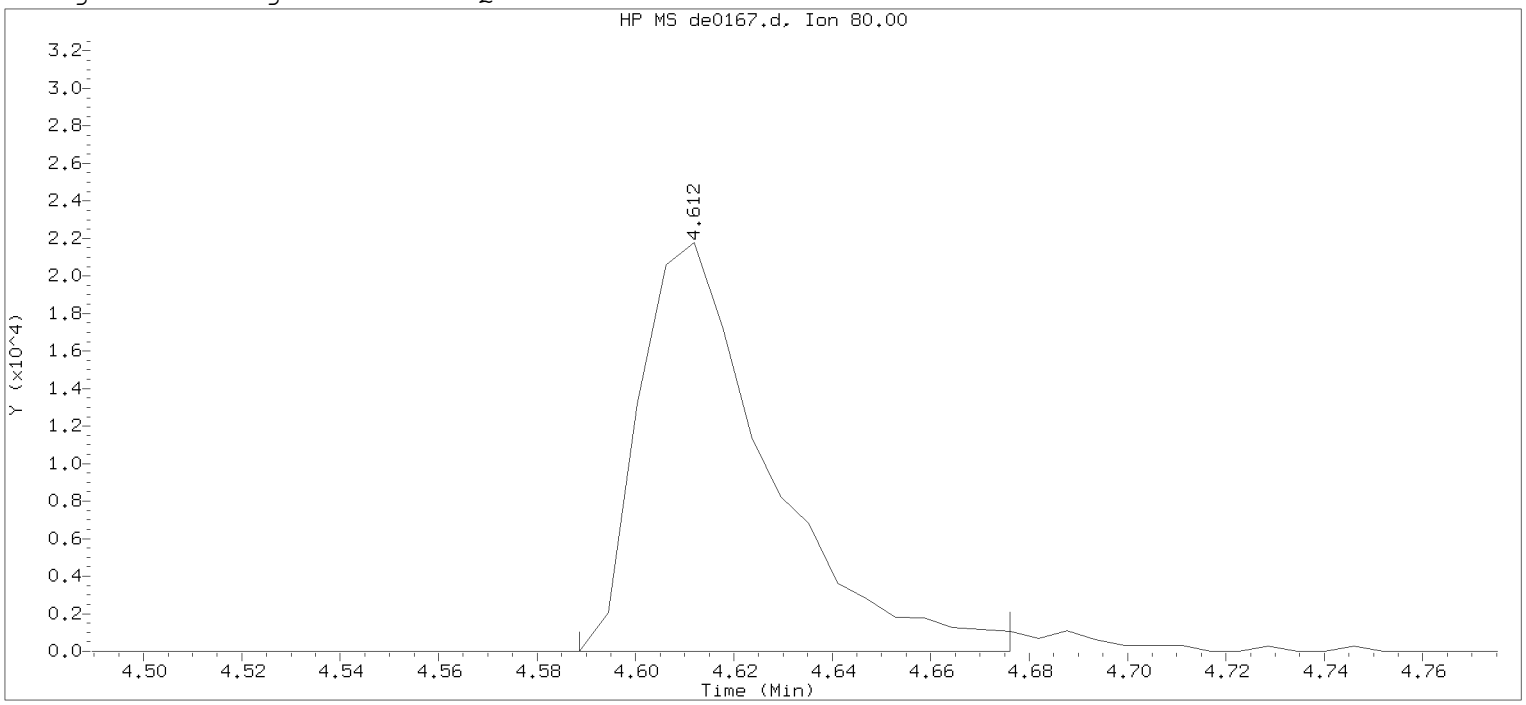
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

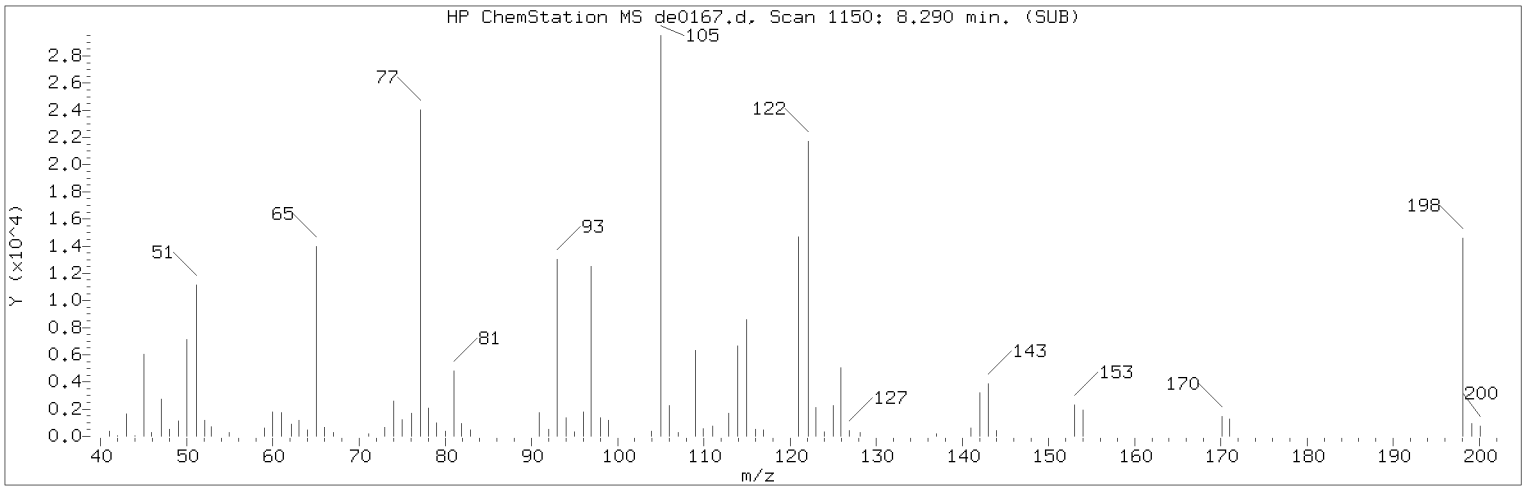
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

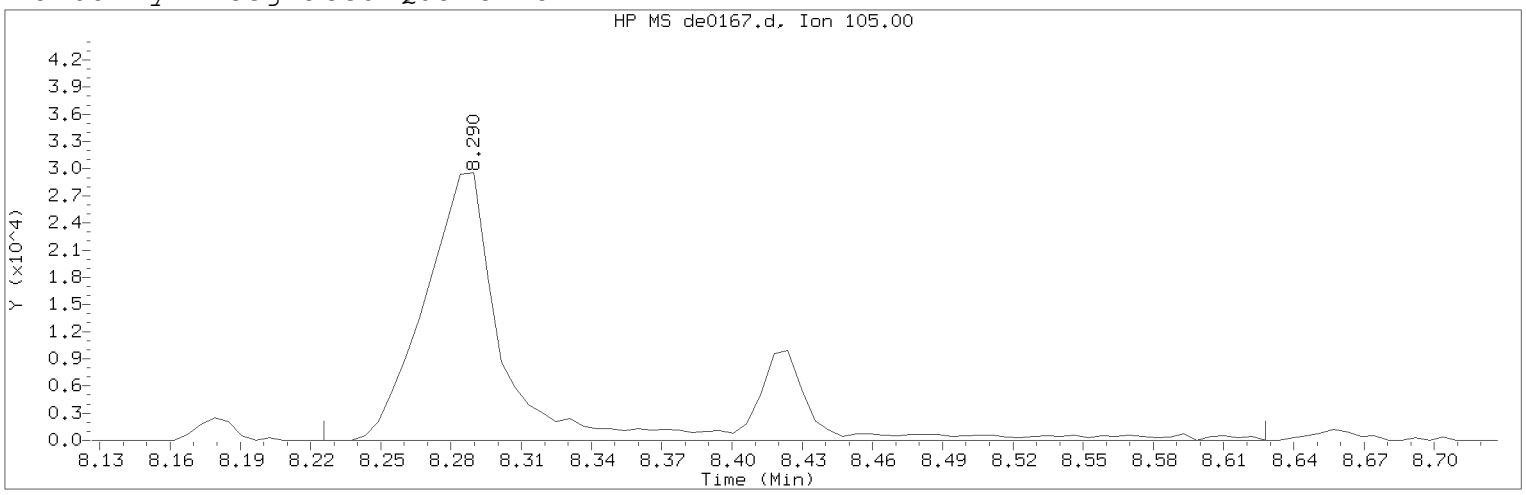
Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 519		
Retention Time (minutes)	: 4.612		
Quant Ion	: 80.00		
Area	: 39934		
On-column Amount (ng/ul)	: 1.1664		
Integration start scan	: 514	Integration stop scan:	529
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0484

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

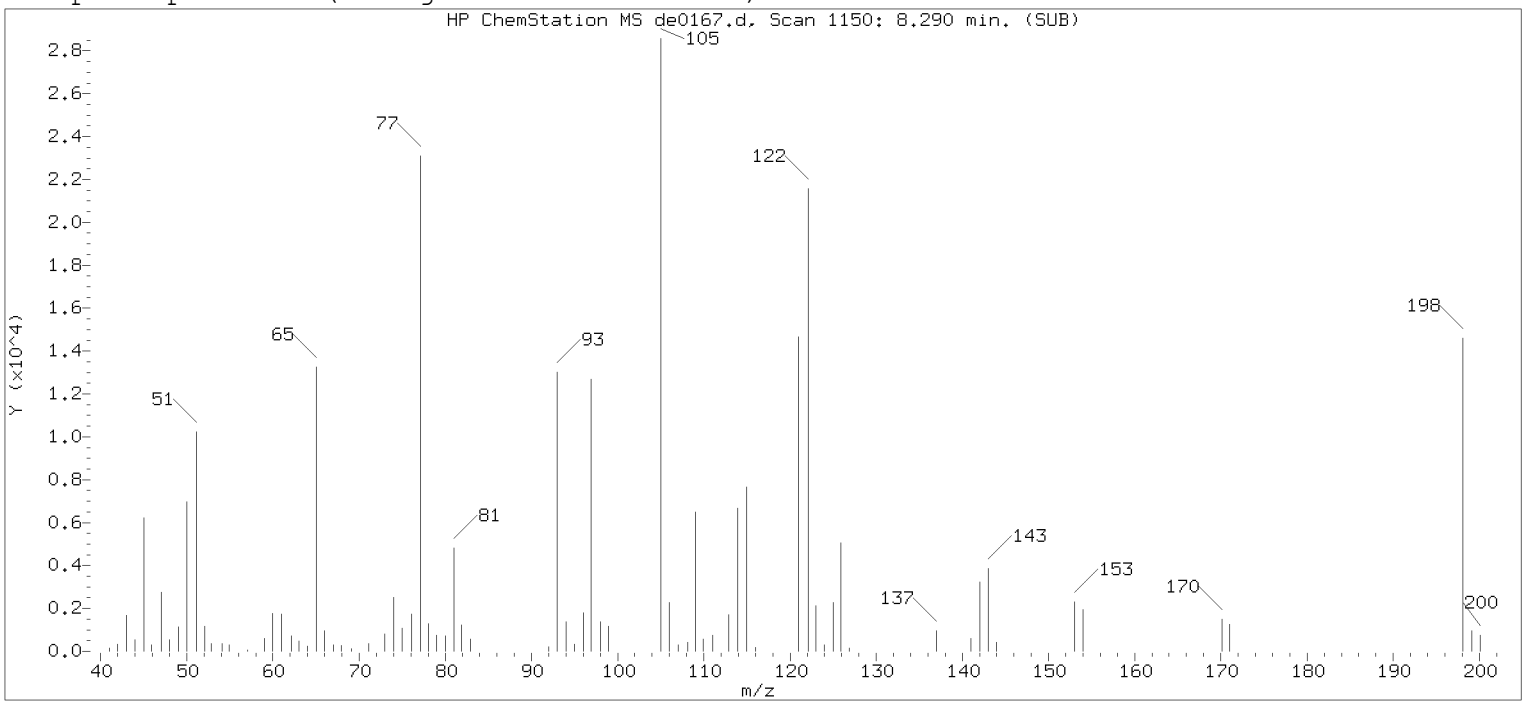
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1150
Retention Time (minutes) : 8.290
Quant Ion : 105.00
Area (flag) : 83803M
On-Column Amount (ng/ul) : 2.1188
Integration start scan : 1138 Integration stop scan: 1207
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

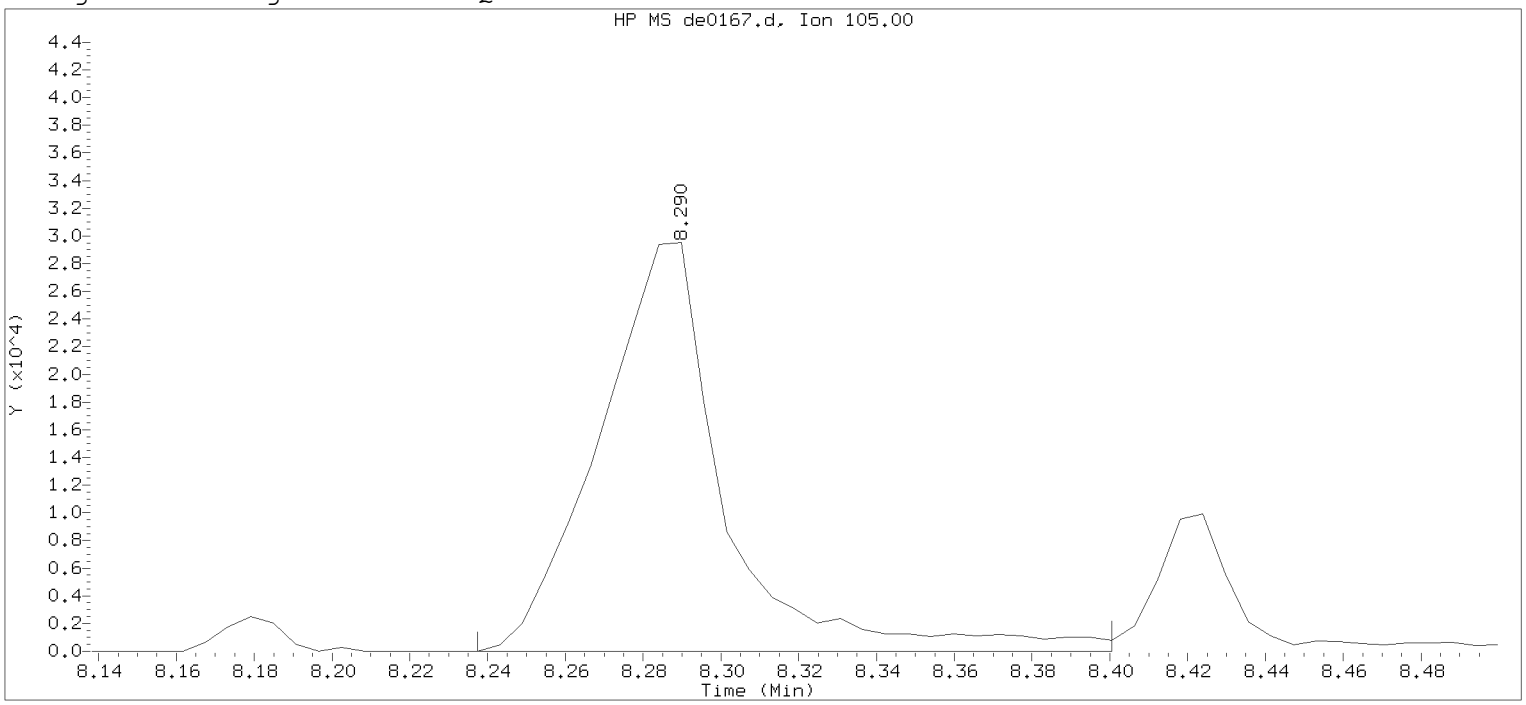
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



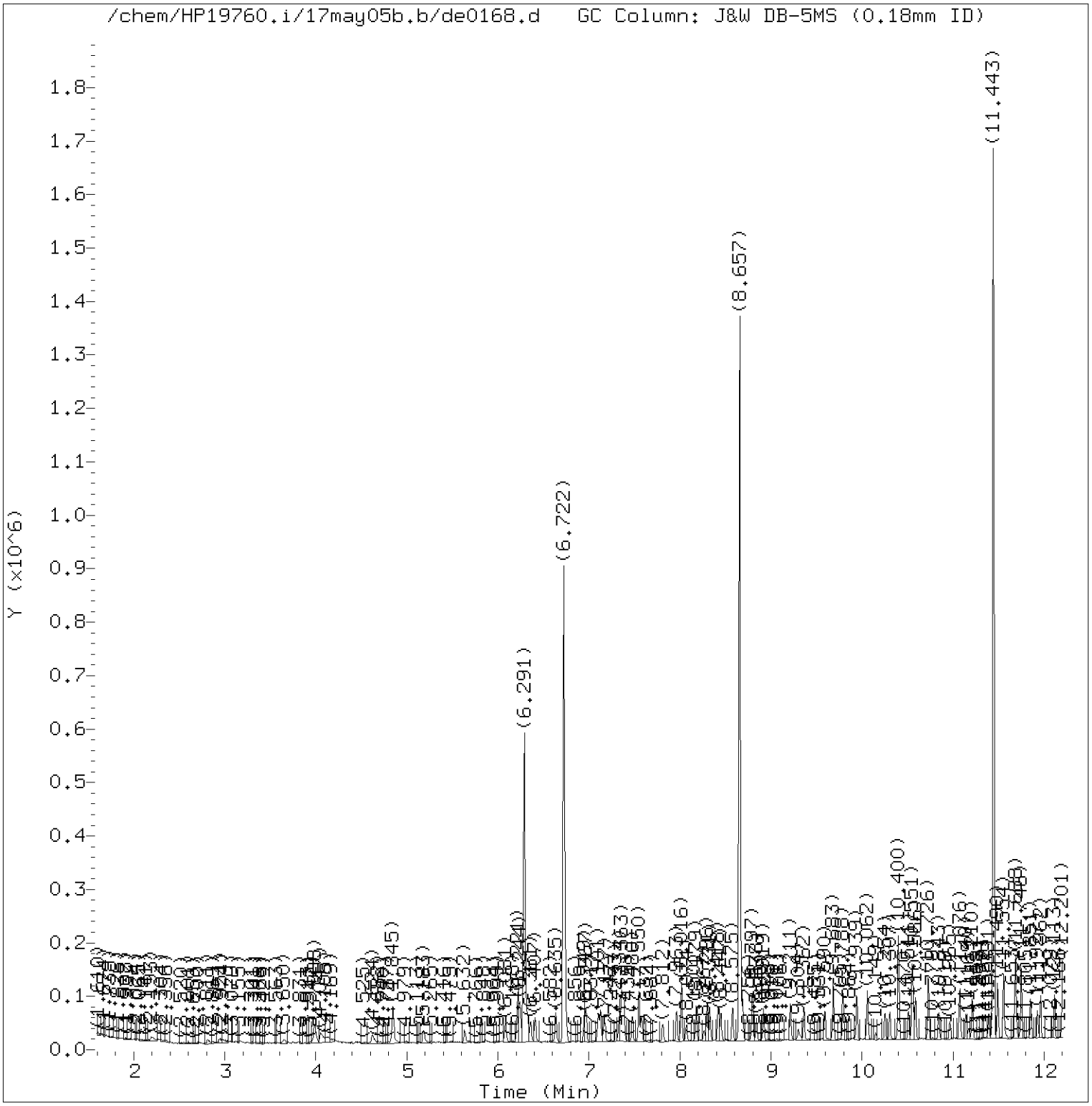
Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1150		
Retention Time (minutes)	: 8.290		
Quant Ion	: 105.00		
Area	: 66303		
On-column Amount (ng/ul)	: 1.8332		
Integration start scan	: 1140	Integration stop scan:	1168
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0486



Total Ion Chromatogram (TIC)

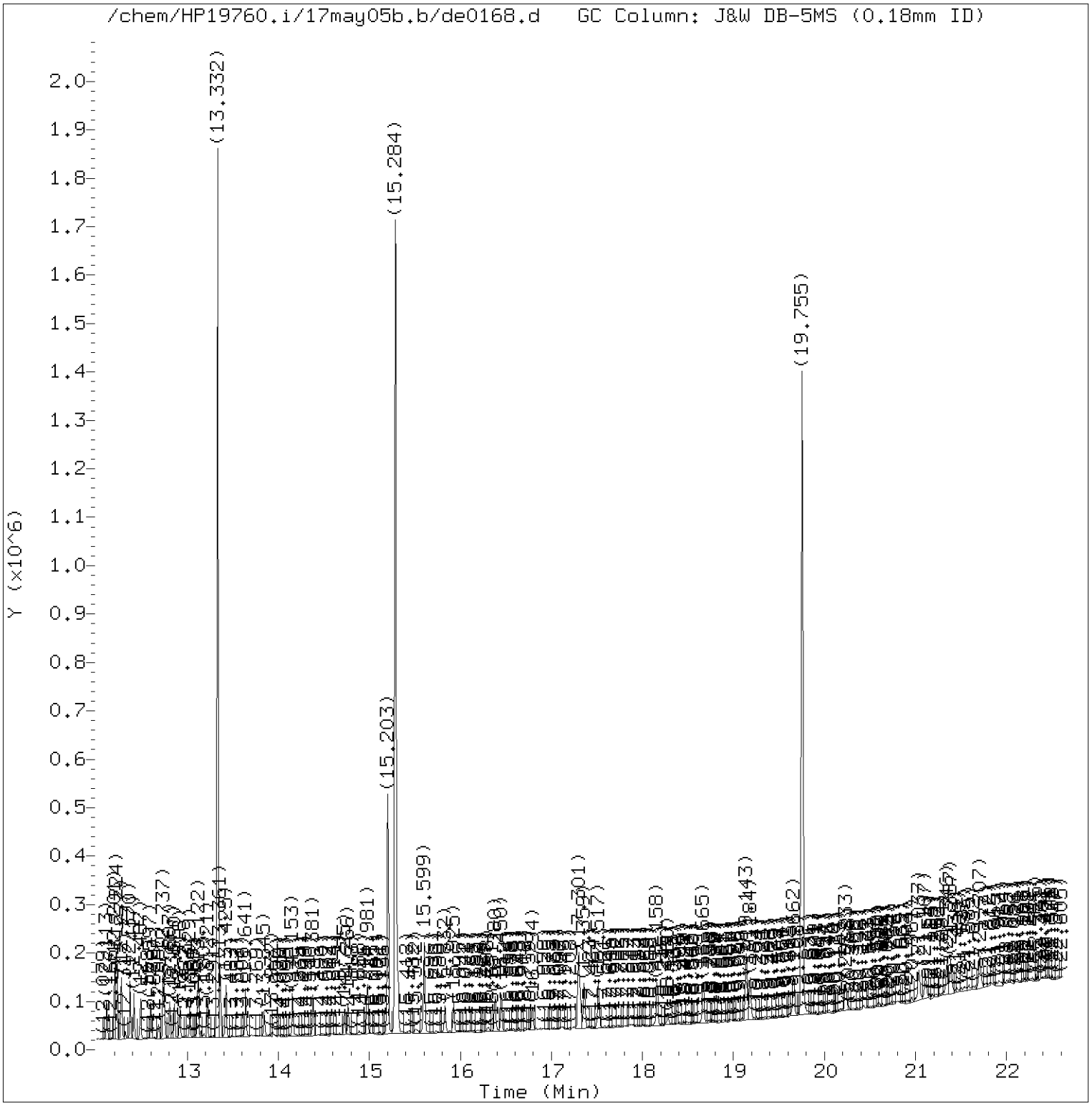
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.193	88	9149M	0.345
4) N-Nitrosodimethylamine	(1)	2.817	74	11498M	0.270
5) Pyridine	(1)	2.951	79	22304M	0.319
7) 2-Picoline	(1)	4.047	93	20774M	0.291
8) N-Nitrosomethylethylamine	(1)	4.192	88	8659M	0.284
9) Methyl methanesulfonate	(1)	4.624	80	9329M	0.267
11)$2-Fluorophenol	(1)	4.845	112	29109	0.517
13) N-Nitrosodiethylamine	(1)	5.183	102	6517	0.230
15) Ethyl methanesulfonate	(1)	5.632	109	7611	0.249
42) Total Cresols	(1)			32250	0.540
16) Benzaldehyde	(1)	6.081	77	12631	0.240
17)$Phenol-d6	(1)	6.215	99	40190	0.526
18) Phenol	(1)	6.238	94	23573	0.272
19) Aniline	(1)	6.244	93	27598	0.271
20) a-methylstyrene	(1)	6.326	118	12818	0.206
22) bis(2-Chloroethyl)ether	(1)	6.361	93	17770	0.276
23) 2-Chlorophenol	(1)	6.407	128	15010	0.266
24) 1,3-Dichlorobenzene	(1)	6.635	146	16400	0.269
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	181346	5.000
26) 1,4-Dichlorobenzene	(1)	6.745	146	17721	0.284
27) Benzyl alcohol	(1)	6.949	108	8305	0.207
28) 1,2-Dichlorobenzene	(1)	6.967	146	16682	0.284
30) Indene	(1)	7.101	115	23689	0.216
31) 2-Methylphenol	(1)	7.124	108	14478	0.261
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	28695	0.302
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	28695	0.302
35) N-Nitrosopyrrolidine	(1)	7.293	100	8166	0.262
36) Acetophenone	(1)	7.334	105	18618	0.223
38) N-Nitroso-di-n-propylamine	(1)	7.351	70	14435	0.287
39) N-Nitrosomorpholine	(1)	7.363	56	13602	0.318
37) 4-Methylphenol	(1)	7.363	108	17772	0.279
97) Isosafrole	(3)			12336	0.267
40) o-Toluidine	(1)	7.386	106	26493	0.271
43) Hexachloroethane	(1)	7.480	117	6753	0.264
44)$Nitrobenzene-d5	(2)	7.550	82	39171	0.545
45) Nitrobenzene	(2)	7.579	77	19293	0.267
48) N-Nitrosopiperidine	(2)	7.806	114	7366	0.258
50) Isophorone	(2)	7.963	82	32516	0.263
120) 2,4_2,6-Dinitrotoluenes	(3)			14618	0.496
51) 2-Nitrophenol	(2)	8.068	139	7389	0.258

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	16347	0.265
56) Benzoic acid	(2)	8.267	105	11608	0.290
57) O,O,O-Triethylphosphorothioate	(2)	8.302	198	7851	0.270
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	22414	0.283
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.418	104	19785	0.218
60) 2,4-Dichlorophenol	(2)	8.453	162	11473	0.251
62) 1,2,4-Trichlorobenzene	(2)	8.575	180	14754	0.275
65)*Naphthalene-d8	(2)	8.657	136	693503	5.000
66) Naphthalene	(2)	8.686	128	44200	0.267
146) Diallate trans/cis	(4)			15190	0.277
67) 4-Chloroaniline	(2)	8.791	127	18144	0.270
68) 2,6-Dichlorophenol	(2)	8.803	162	11971	0.265
69) Hexachloropropene	(2)	8.844	213	8918	0.246
71) Hexachlorobutadiene	(2)	8.919	225	8117	0.256
75) Quinoline	(2)	9.211	129	29164	0.286
76) Caprolactam	(2)	9.304	113	2614	0.184
77) N-Nitrosodi-n-butylamine	(2)	9.362	84	12847	0.253
80) 4-Chloro-3-methylphenol	(2)	9.590	107	13312	0.256
82) Safrole	(2)	9.683	162	10801	0.261
83) 2-Methylnaphthalene	(2)	9.788	142	28099	0.259
84) 1-Methylnaphthalene	(2)	9.939	142	26915	0.270
85) Hexachlorocyclopentadiene	(3)	10.062	237	5697	0.213
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	15708	0.280
88) cis-Isosafrole	(3)	10.149	162	1953	0.044
90) 2,4,6-Trichlorophenol	(3)	10.254	196	8253	0.241
92) 2,4,5-Trichlorophenol	(3)	10.307	196	9440	0.256
93)$2-Fluorobiphenyl	(3)	10.400	172	67580	0.554
94) trans-Isosafrole	(3)	10.511	162	10383	0.223
95) 1,1'-Biphenyl	(3)	10.551	154	26872	0.229
96) 2-Chloronaphthalene	(3)	10.557	162	28598	0.289
98) 1-Chloronaphthalene	(3)	10.586	162	26567	0.281
99) Diphenyl ether	(3)	10.726	170	19330	0.279
100) 2-Nitroaniline	(3)	10.732	138	7986	0.260
104) 1,4-Naphthoquinone	(3)	10.843	158	10120	0.246
105) 1,4-Dinitrobenzene	(3)	10.965	168	3933	0.243
106) Dimethylphthalate	(3)	11.070	163	32114	0.281
107) 1,3-Dinitrobenzene	(3)	11.082	168	4039	0.227
108) 2,6-Dinitrotoluene	(3)	11.146	165	6532	0.258
109) Acenaphthylene	(3)	11.210	152	37972	0.262
112) 3-Nitroaniline	(3)	11.391	138	5994	0.229

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	392347	5.000
114) Acenaphthene	(3)	11.490	153	28998	0.275
115) 2,4-Dinitrophenol	(3)	11.554	184	15768	1.070
116) 4-Nitrophenol	(3)	11.682	109	17071	0.883
117) Pentachlorobenzene	(3)	11.694	250	12285	0.271
119) Dibenzofuran	(3)	11.746	168	40888	0.284
118) 2,4-Dinitrotoluene	(3)	11.752	165	8086	0.238
121) 1-Naphthylamine	(3)	11.851	143	25674	0.252
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	6496	0.234
123) 2-Naphthylamine	(3)	11.962	143	26526	0.262
124) Diethylphthalate	(3)	12.113	149	29250	0.264
126) Fluorene	(3)	12.201	166	30820	0.267
125) Thionazin	(3)	12.213	107	5497	0.249
128) 5-Nitro-o-toluidine	(3)	12.224	152	9069	0.285
129) 4-Nitroaniline	(3)	12.224	138	6210	0.239
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	15205	0.270
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	15902	0.791
132) NDPA as diphenylamine	(4)	12.370	169	25587	0.277
131) N-Nitrosodiphenylamine	(4)	12.370	169	25587	0.277
134) 1,2-Diphenylhydrazine	(4)	12.417	77	36141	0.277
135)$2,4,6-Tribromophenol	(3)	12.487	330	6722	0.460
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	6007	0.282
139) 1,3,5-Trinitrobenzene	(4)	12.685	213	2363	0.182
140) Diallate (peak 1)	(4)	12.731	86	13260	0.235
141) Phorate	(4)	12.737	75	21529	0.256
142) Phenacetin	(4)	12.749	108	14290	0.232
143) 4-Bromophenyl-phenylether	(4)	12.807	248	8531	0.269
144) Diallate (peak 2)	(4)	12.836	86	1930	0.042
145) Hexachlorobenzene	(4)	12.860	284	9367	0.280
147) Dimethoate	(4)	12.918	87	13240	0.245
148) Atrazine	(4)	13.029	200	7024	0.240
149) Pentachlorophenol	(4)	13.110	266	2914	0.159
150) 4-Aminobiphenyl	(4)	13.116	169	27077	0.264
151) Pentachloronitrobenzene	(4)	13.122	237	3617	0.248
152) Pronamide	(4)	13.221	173	13087	0.246
153)*Phenanthrene-d10	(4)	13.332	188	745727	5.000
155) Phenanthrene	(4)	13.361	178	46246	0.277
154) Dinoseb	(4)	13.361	211	5050	0.164
157) Anthracene	(4)	13.425	178	42191	0.254
163) Carbazole	(4)	13.641	167	41040	0.266

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

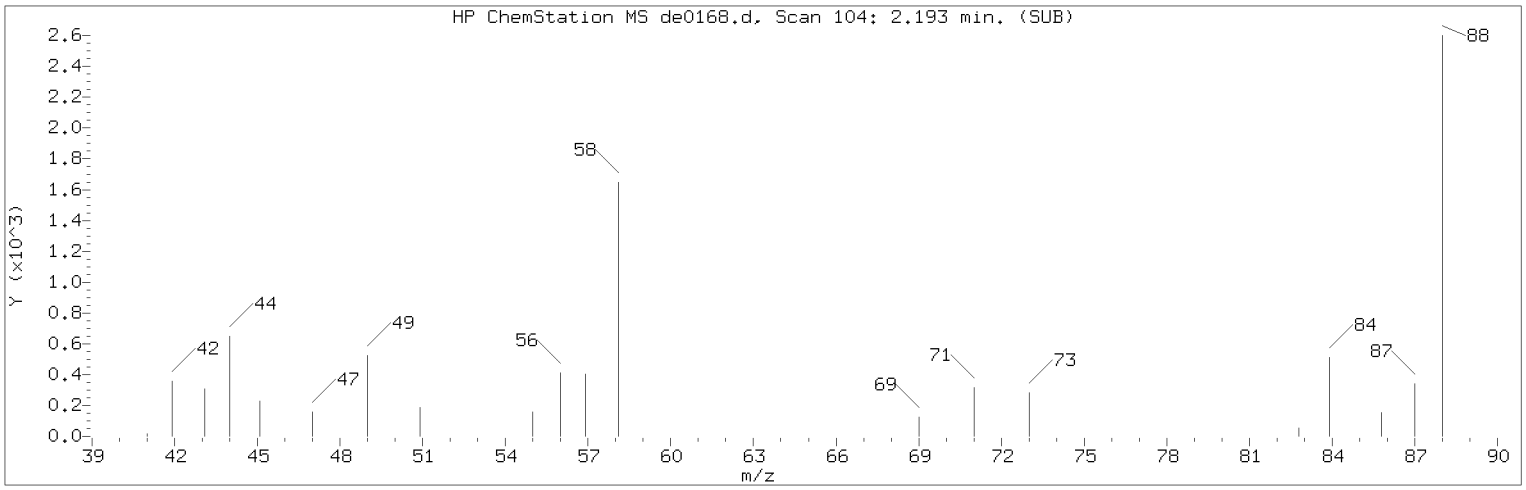
Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.845	109	9017	0.216
165) Di-n-butylphthalate	(4)	14.153	149	50157	0.263
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	2002	0.115
167) Parathion	(4)	14.387	109	5597	0.211
169) Octachlorostyrene	(4)	14.731	308	2697	0.215
171) Isodrin	(4)	14.766	193	5932	0.294
173) Fluoranthene	(4)	14.981	202	48595	0.255
222) Total PAHs	(6)			737244	4.677
174) Benzidine	(5)	15.203	184	224066	1.899
175)*Pyrene-d10	(5)	15.284	212	891777	5.000
177) Pyrene	(5)	15.313	202	54987	0.272
179)$Terphenyl-d14	(5)	15.599	244	70949	0.542
182) p-Dimethylaminoazobenzene	(5)	15.832	225	7908	0.245
185) Chlorobenzilate	(5)	15.925	139	15185	0.255
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	32076	0.245
188) Butylbenzylphthalate	(5)	16.450	149	21654	0.242
191) 2-Acetylaminofluorene	(5)	16.788	181	16695	0.200
193) 3,3'-Dichlorobenzidine	(5)	17.295	252	18571	0.254
195) Benzo(a)anthracene	(5)	17.301	228	47888	0.247
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	9355	0.236
196) Chrysene	(5)	17.359	228	47823	0.262
199) bis(2-Ethylhexyl)phthalate	(5)	17.517	149	31754	0.237
203) 6-Methylchrysene	(5)	18.158	242	33295	0.256
205) Di-n-octylphthalate	(6)	18.671	149	54481	0.240
206) Benzo(b)fluoranthene	(6)	19.137	252	49558	0.262
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.143	256	17213	0.224
208) Benzo(k)fluoranthene	(6)	19.184	252	47338	0.260
211) Benzo(a)pyrene	(6)	19.662	252	43864	0.251
213)*Perylene-d12	(6)	19.755	264	694492	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	18654	0.240
217) Dibenz(a,h)acridine	(6)	21.037	279	29430	0.234
218) Dibenz(a,j)acridine	(6)	21.107	279	25993	0.211
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	42573	0.248
220) Dibenz(a,h)anthracene	(6)	21.387	278	33412	0.234
221) Benzo(g,h,i)perylene	(6)	21.707	276	35765	0.255

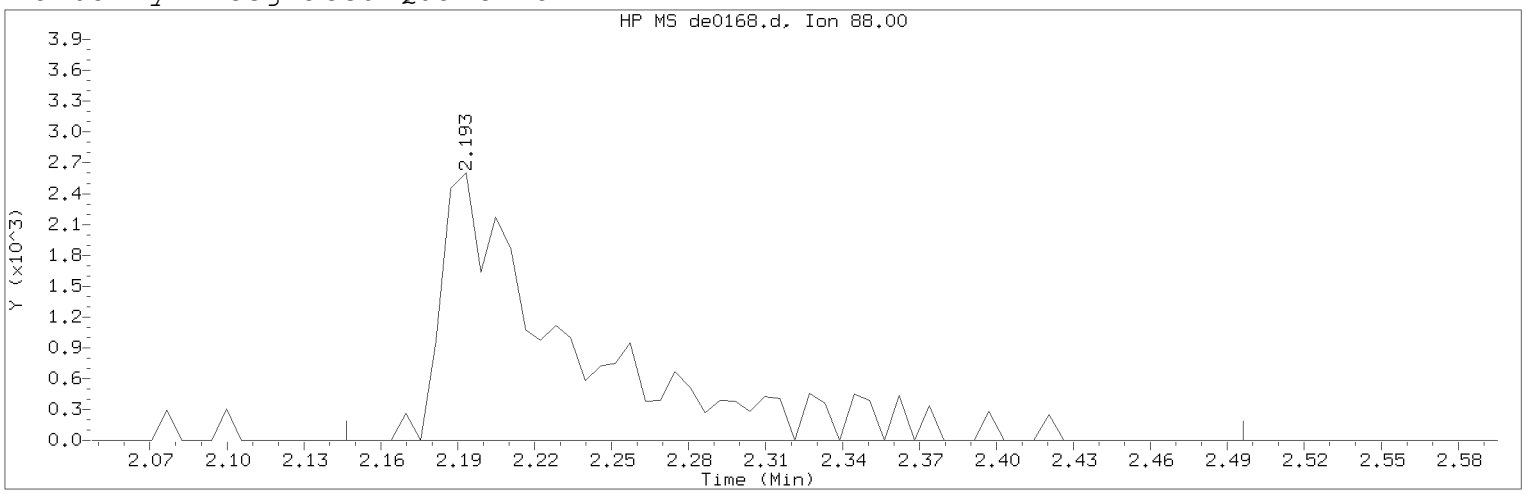
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

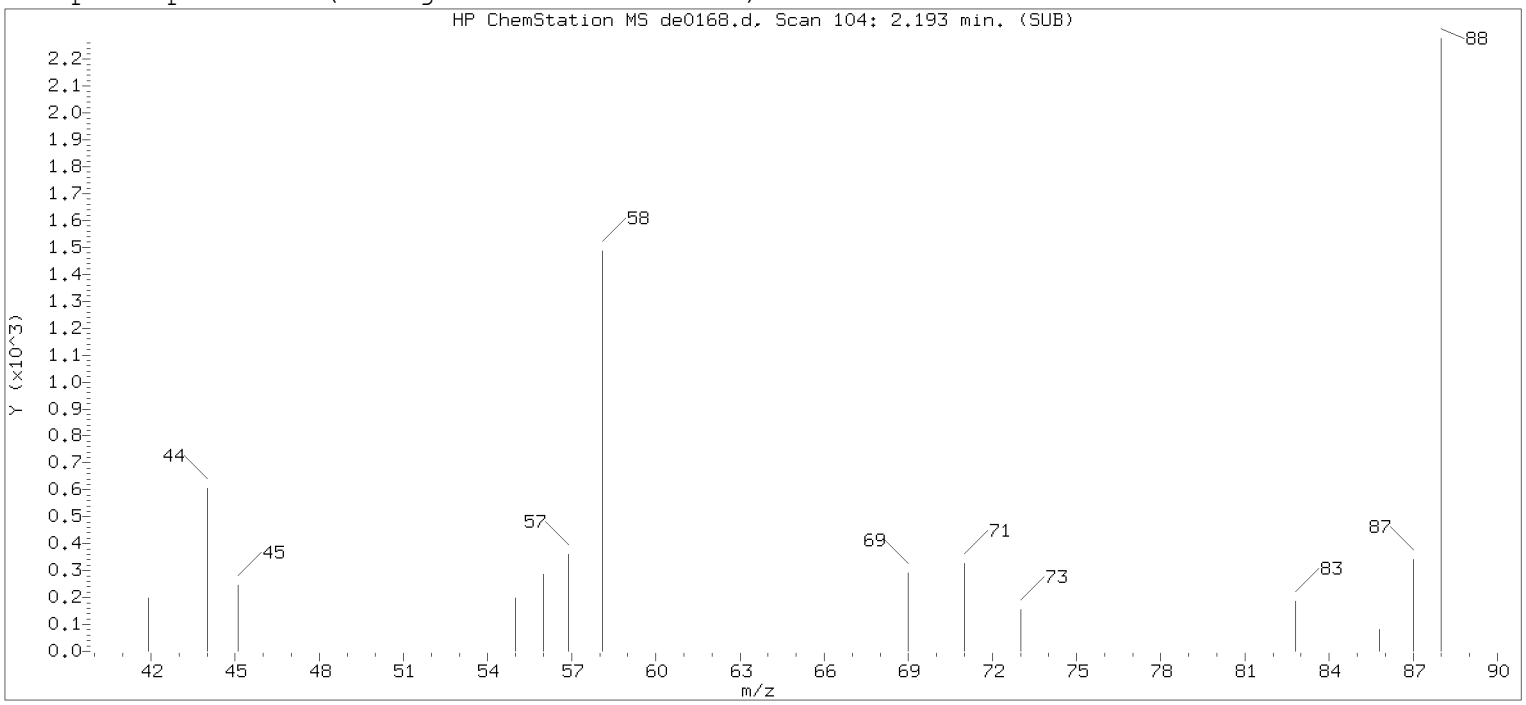
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 104
Retention Time (minutes) : 2.193
Quant Ion : 88.00
Area (flag) : 9149M
On-Column Amount (ng/ul) : 0.3450
Integration start scan : 95 Integration stop scan: 155
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

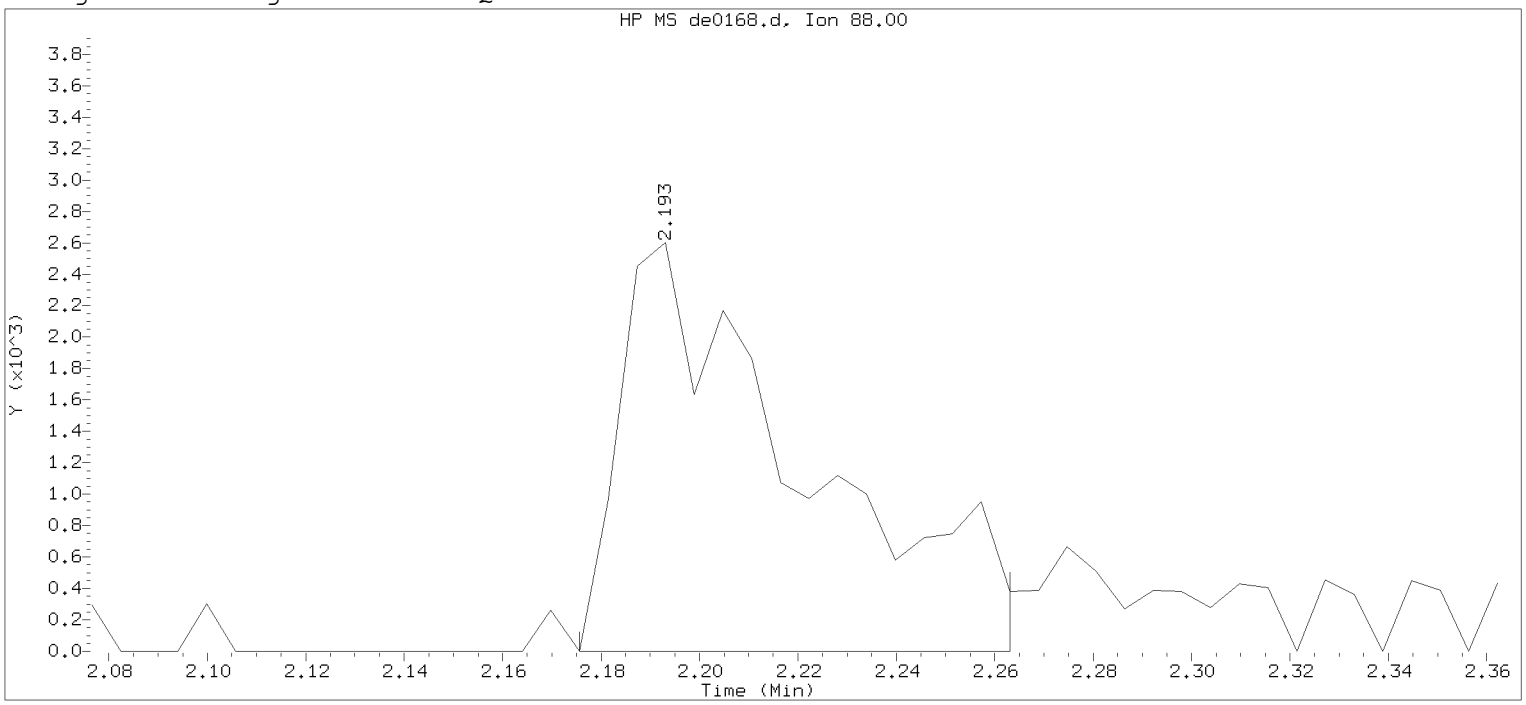
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

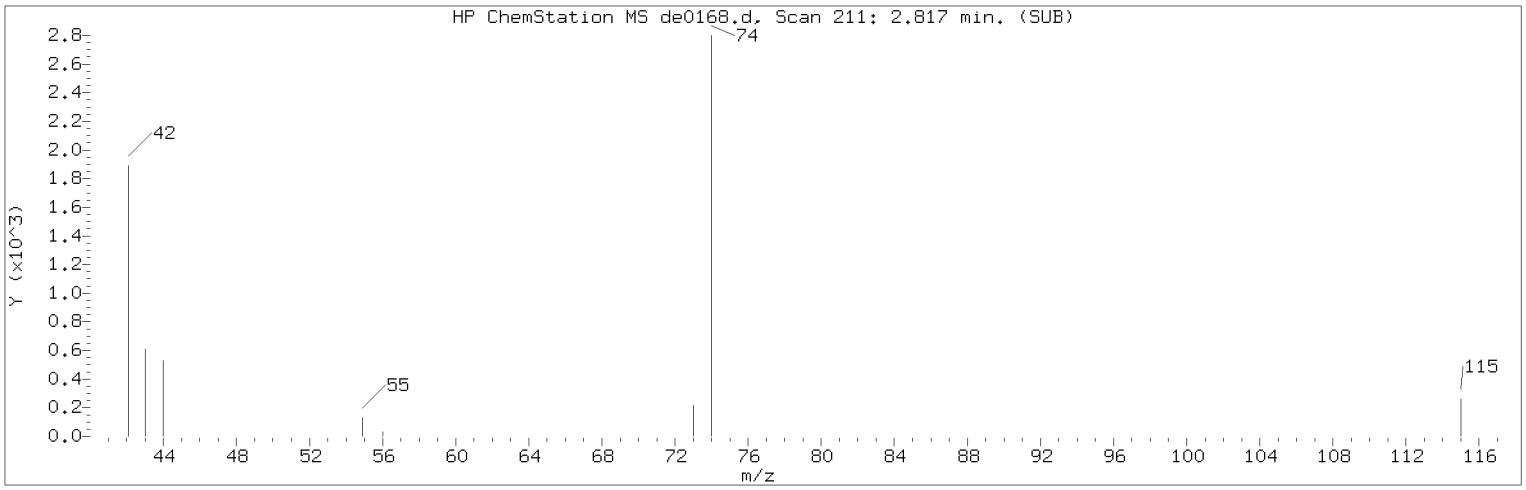
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

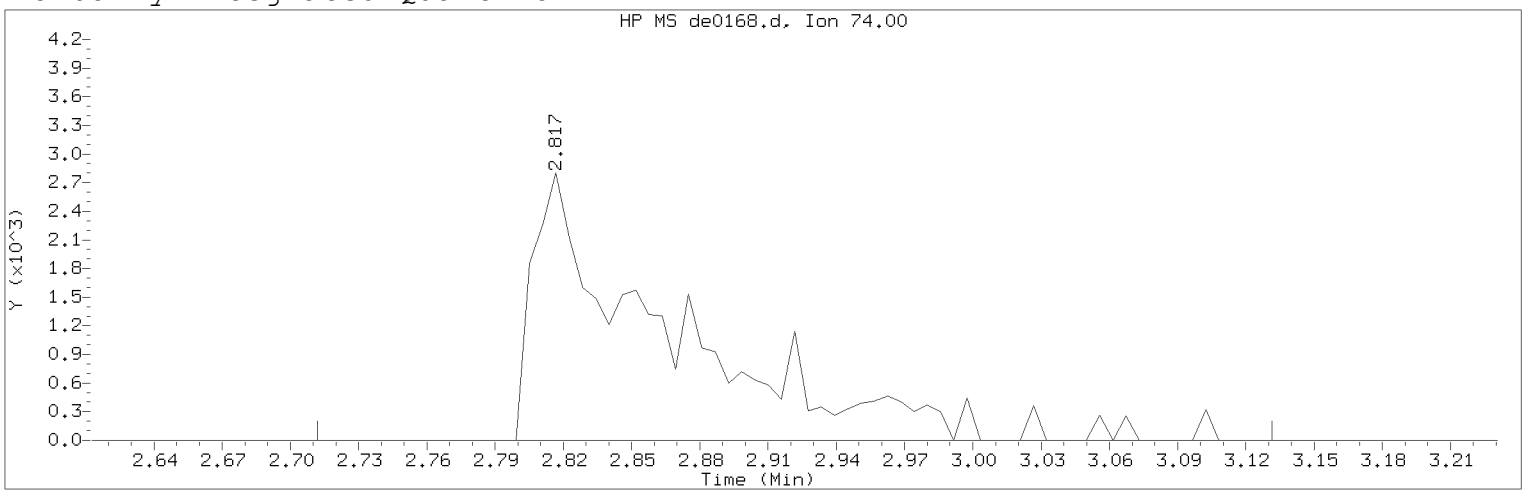
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 104		
Retention Time (minutes)	: 2.193		
Quant Ion	: 88.00		
Area	: 6659		
On-column Amount (ng/ul)	: 0.2505		
Integration start scan	: 100	Integration stop scan:	115
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0294

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

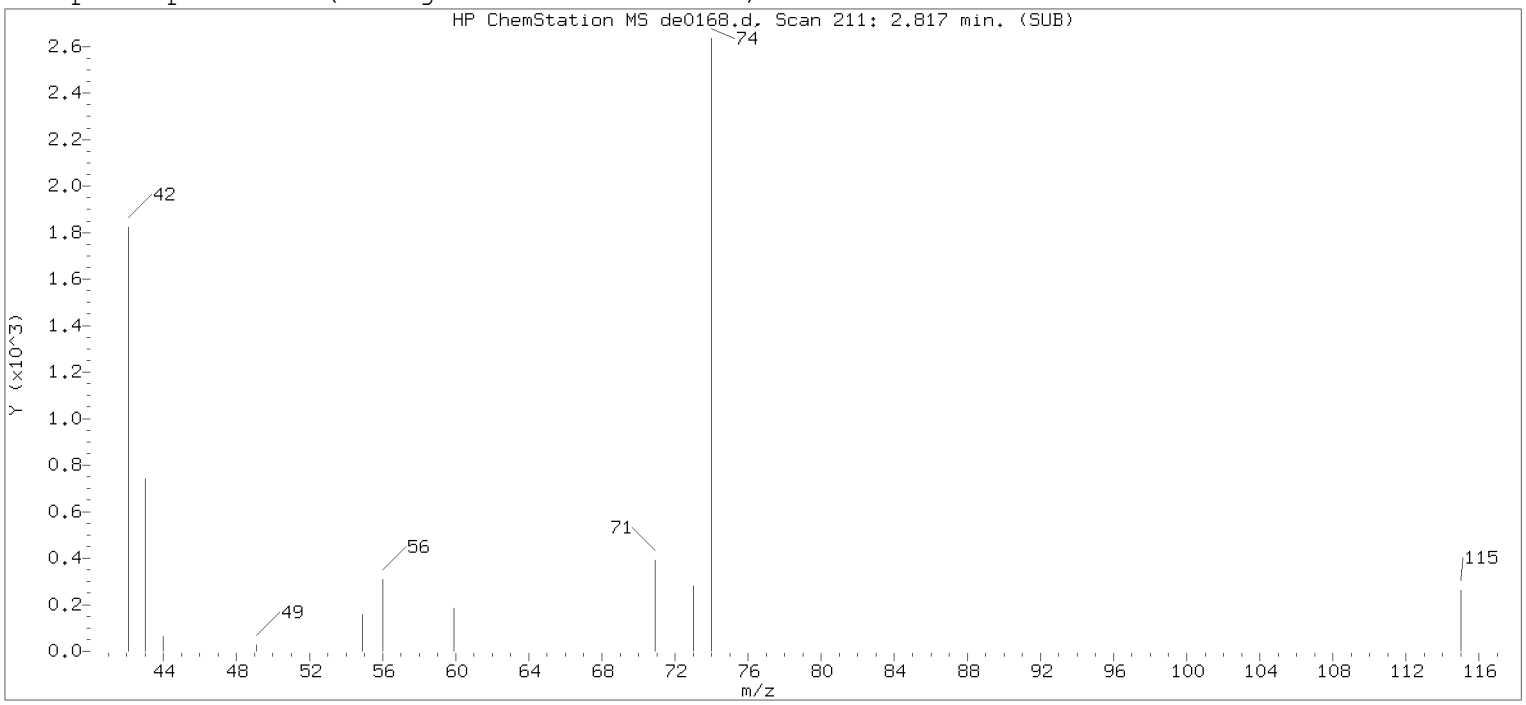
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 211
Retention Time (minutes) : 2.817
Quant Ion : 74.00
Area (flag) : 11498M
On-Column Amount (ng/ul) : 0.2697
Integration start scan : 192 Integration stop scan: 264
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

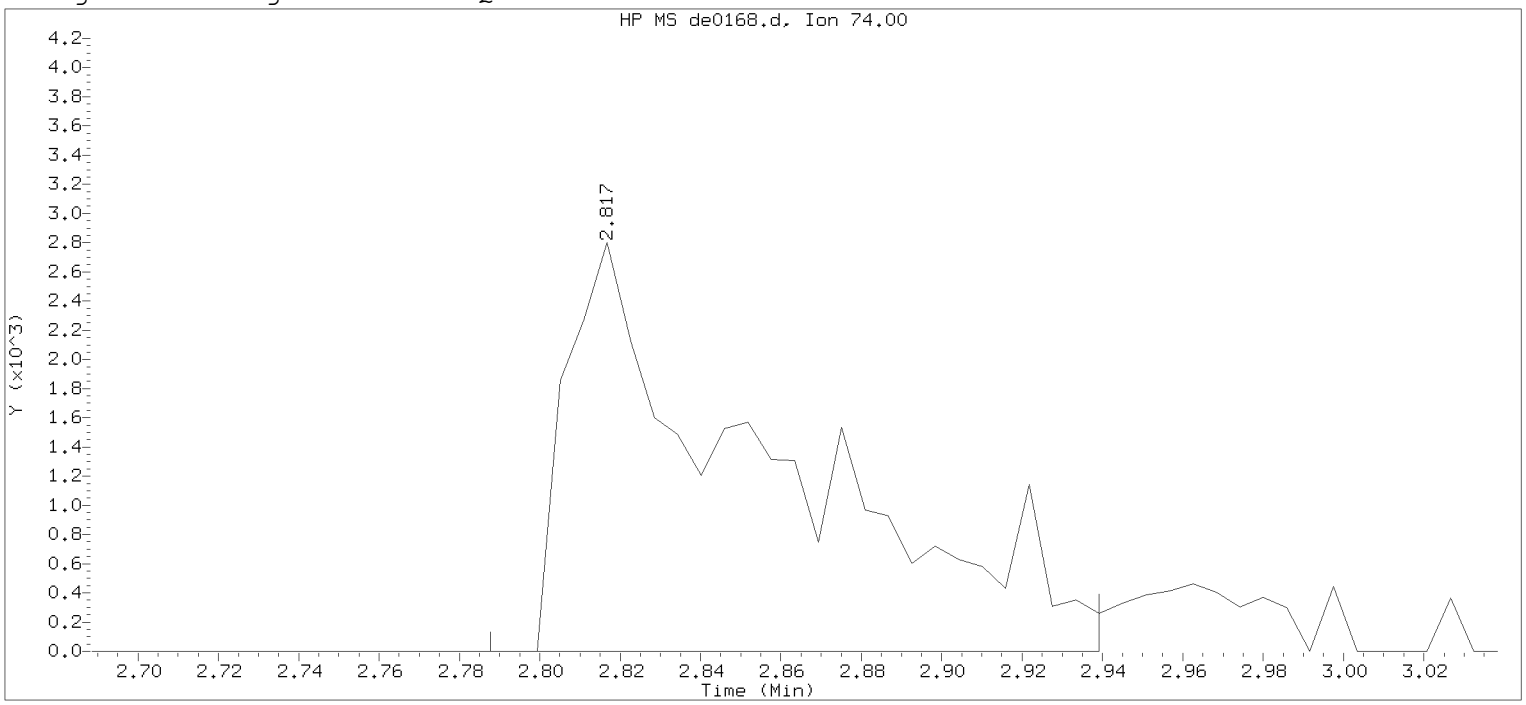
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

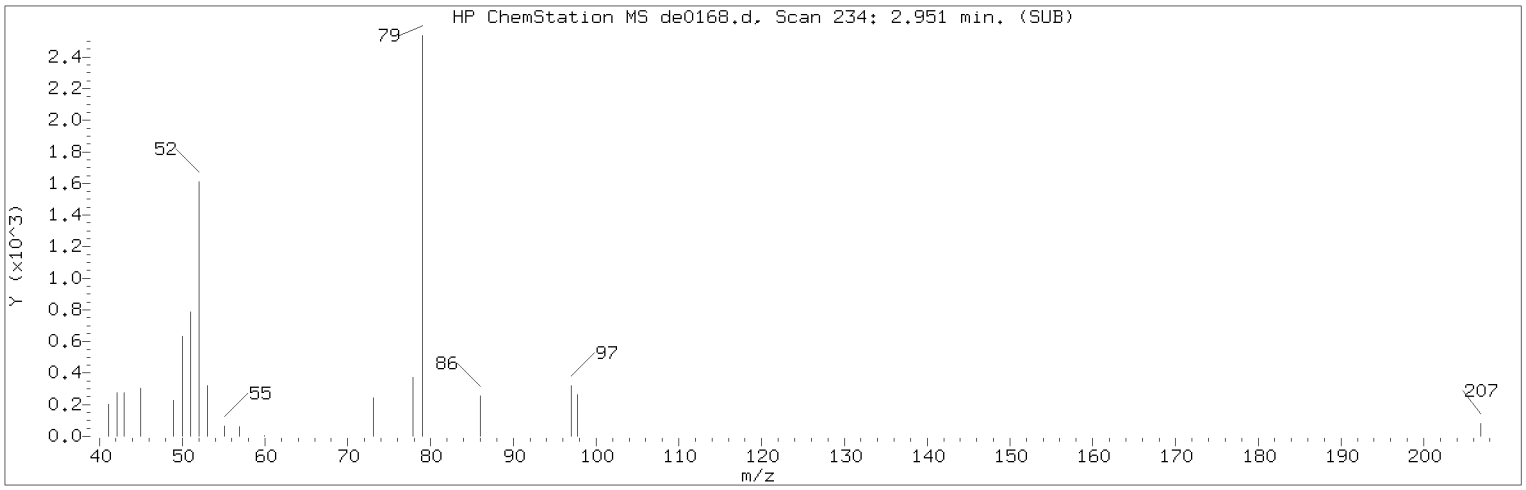
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

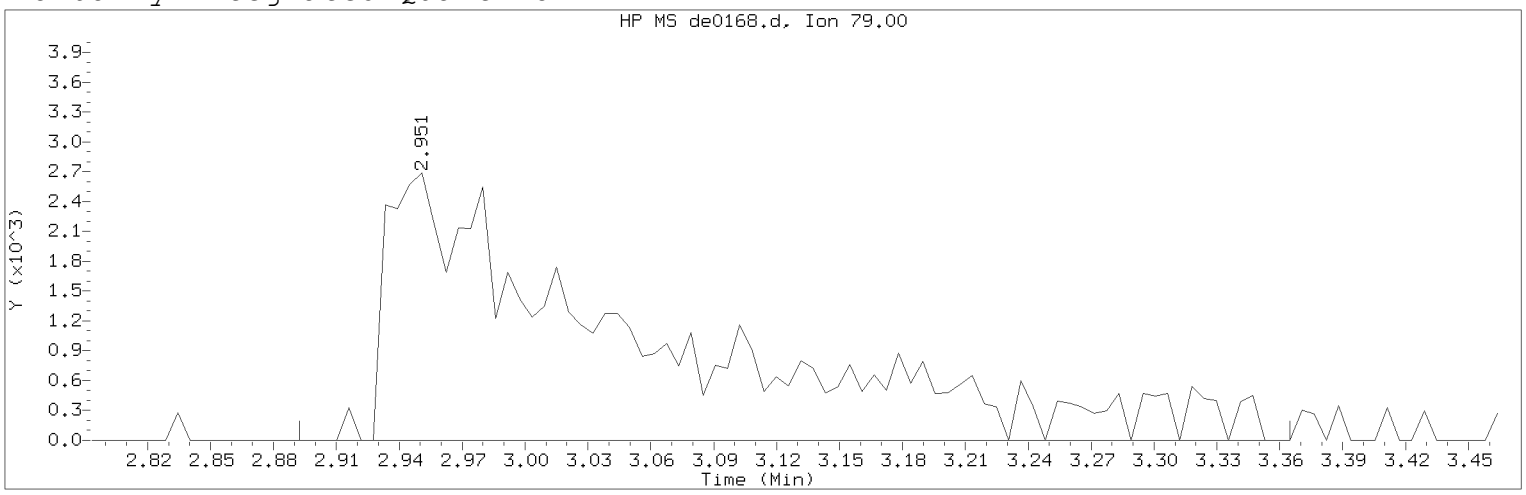
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 211		
Retention Time (minutes)	: 2.817		
Quant Ion	: 74.00		
Area	: 9837		
On-column Amount (ng/ul)	: 0.2313		
Integration start scan	: 205	Integration stop scan:	231
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0496

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

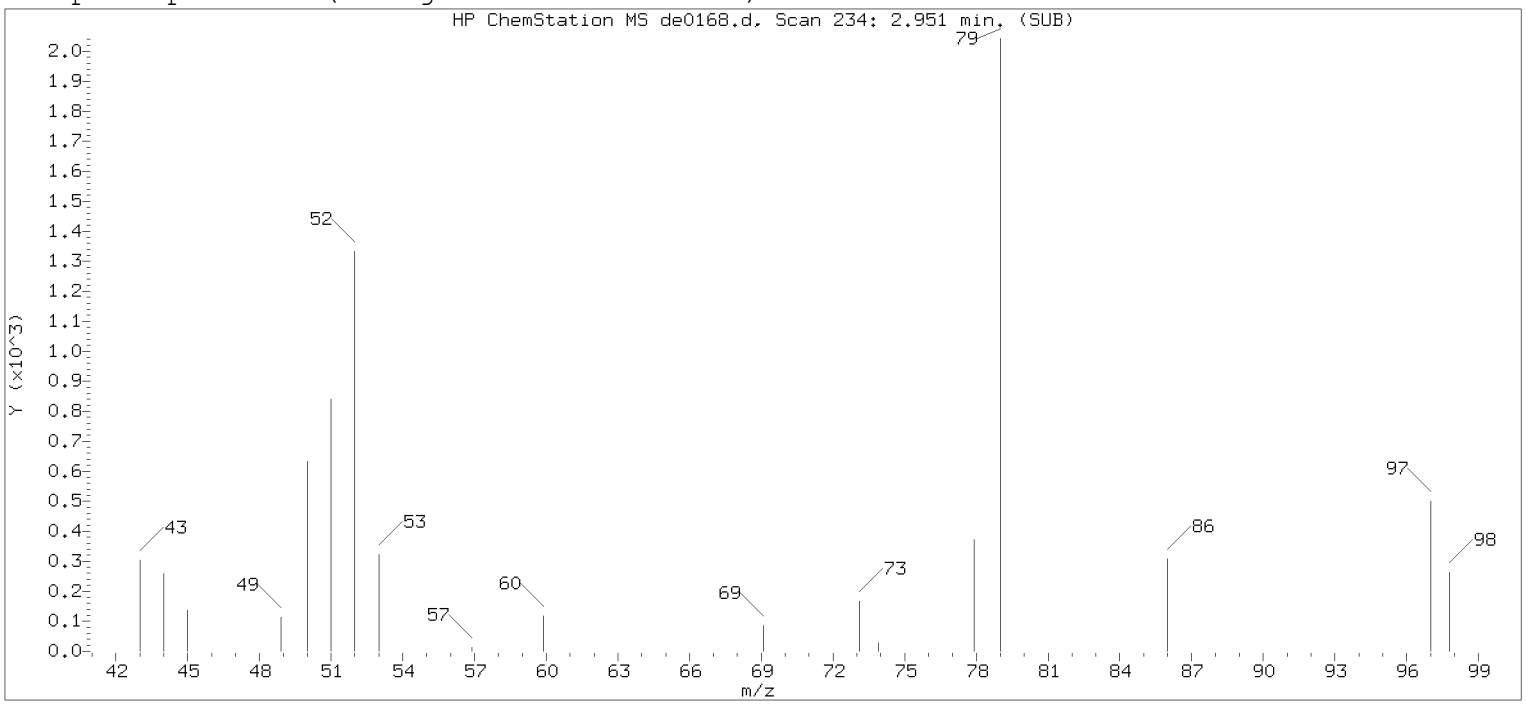
Compound Number : 5
Compound Name : Pyridine
Scan Number : 234
Retention Time (minutes) : 2.951
Quant Ion : 79.00
Area (flag) : 22304M
On-Column Amount (ng/ul) : 0.3188
Integration start scan : 223 Integration stop scan: 304
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

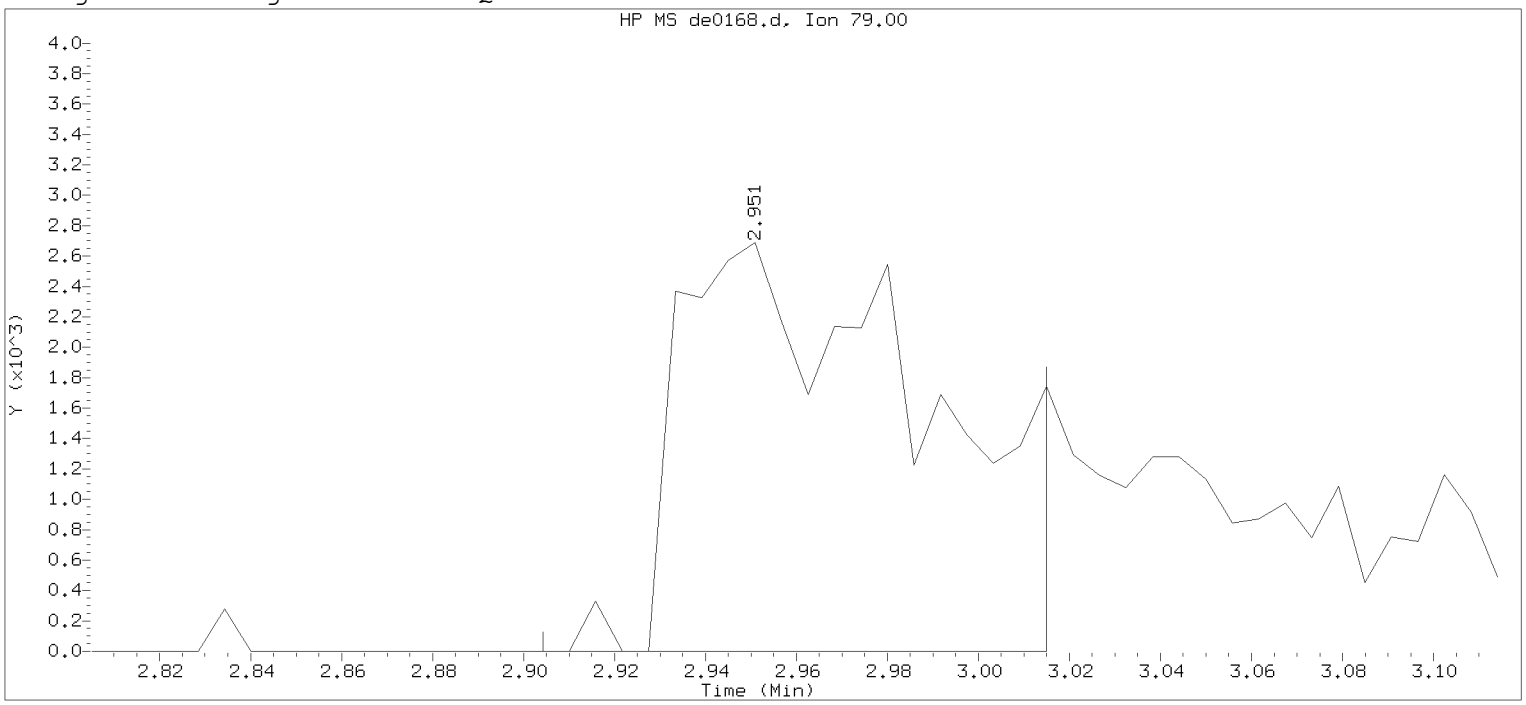
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

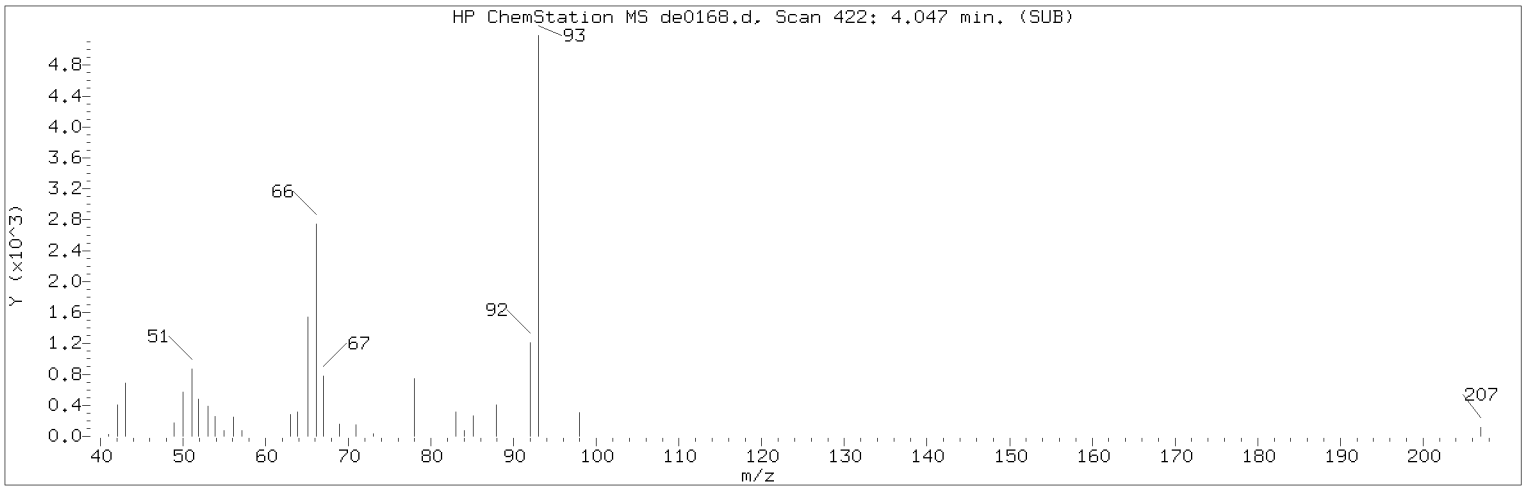
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

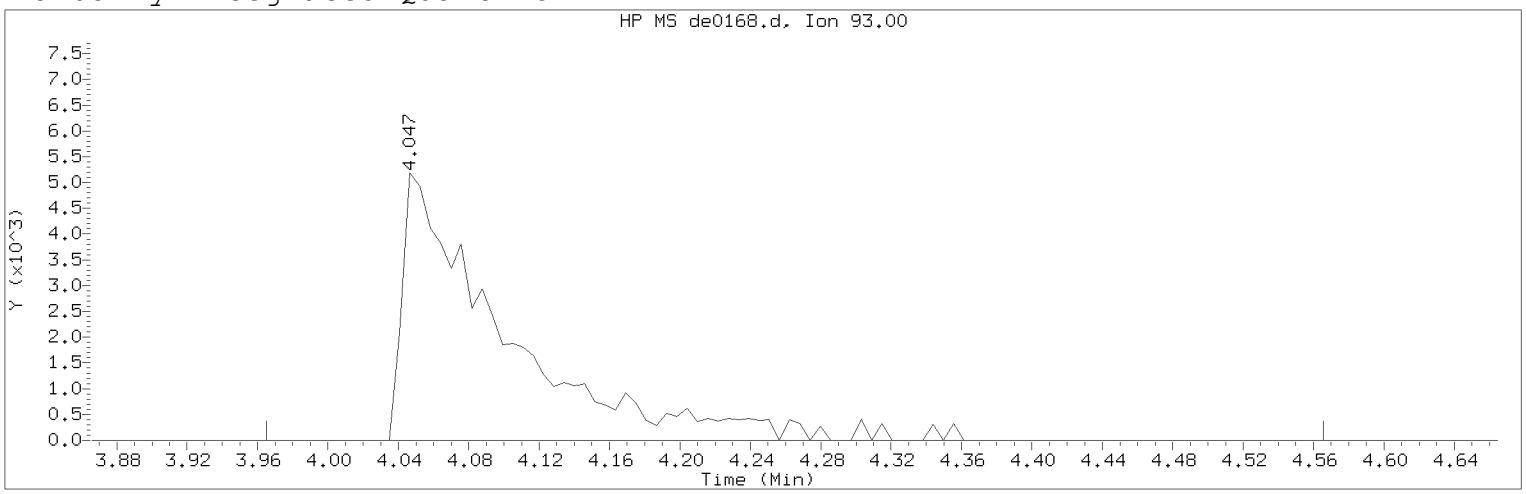
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 234		
Retention Time (minutes)	: 2.951		
Quant Ion	: 79.00		
Area	: 10053		
On-column Amount (ng/ul)	: 0.1440		
Integration start scan	: 225	Integration stop scan:	244
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0248

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

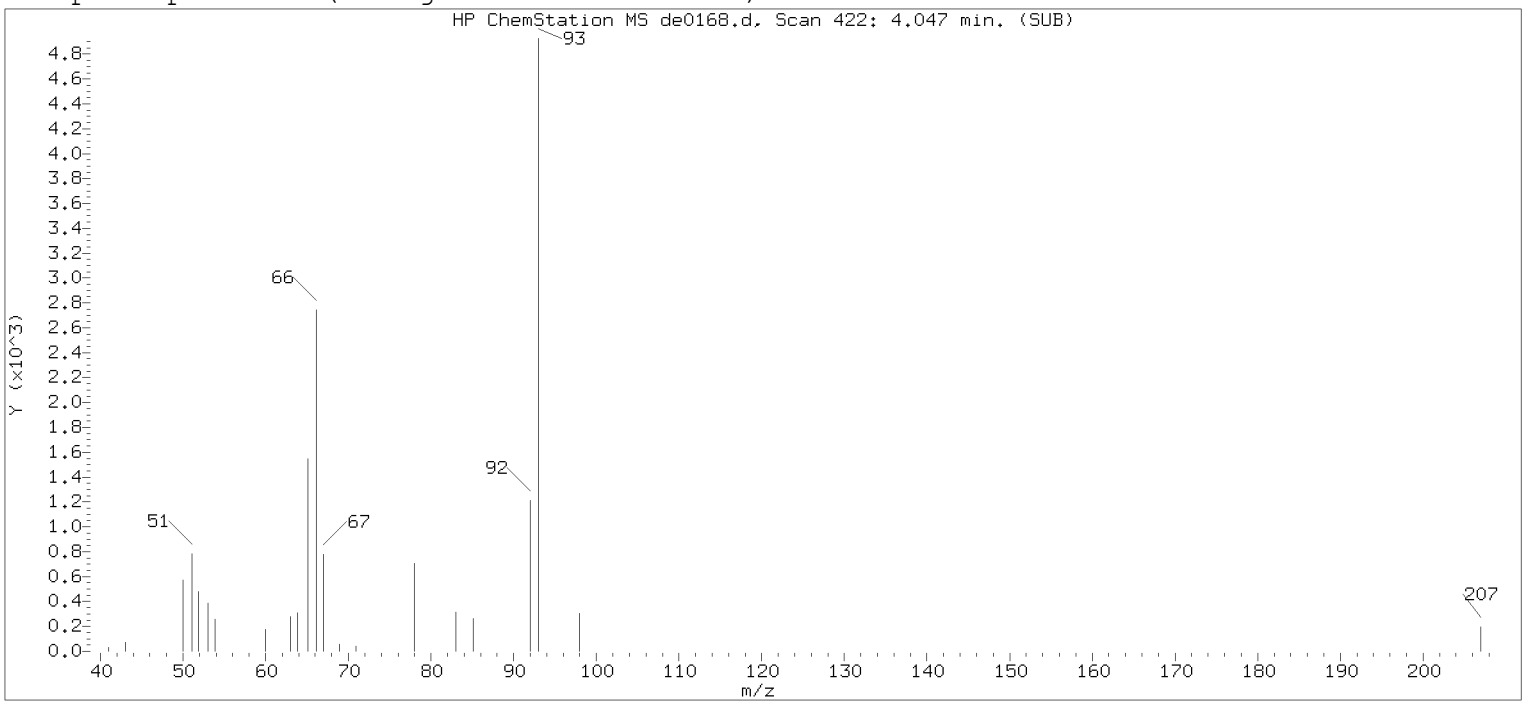
Compound Number : 7
Compound Name : 2-Picoline
Scan Number : 422
Retention Time (minutes) : 4.047
Quant Ion : 93.00
Area (flag) : 20774M
On-Column Amount (ng/ul) : 0.2908
Integration start scan : 407 Integration stop scan: 510
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

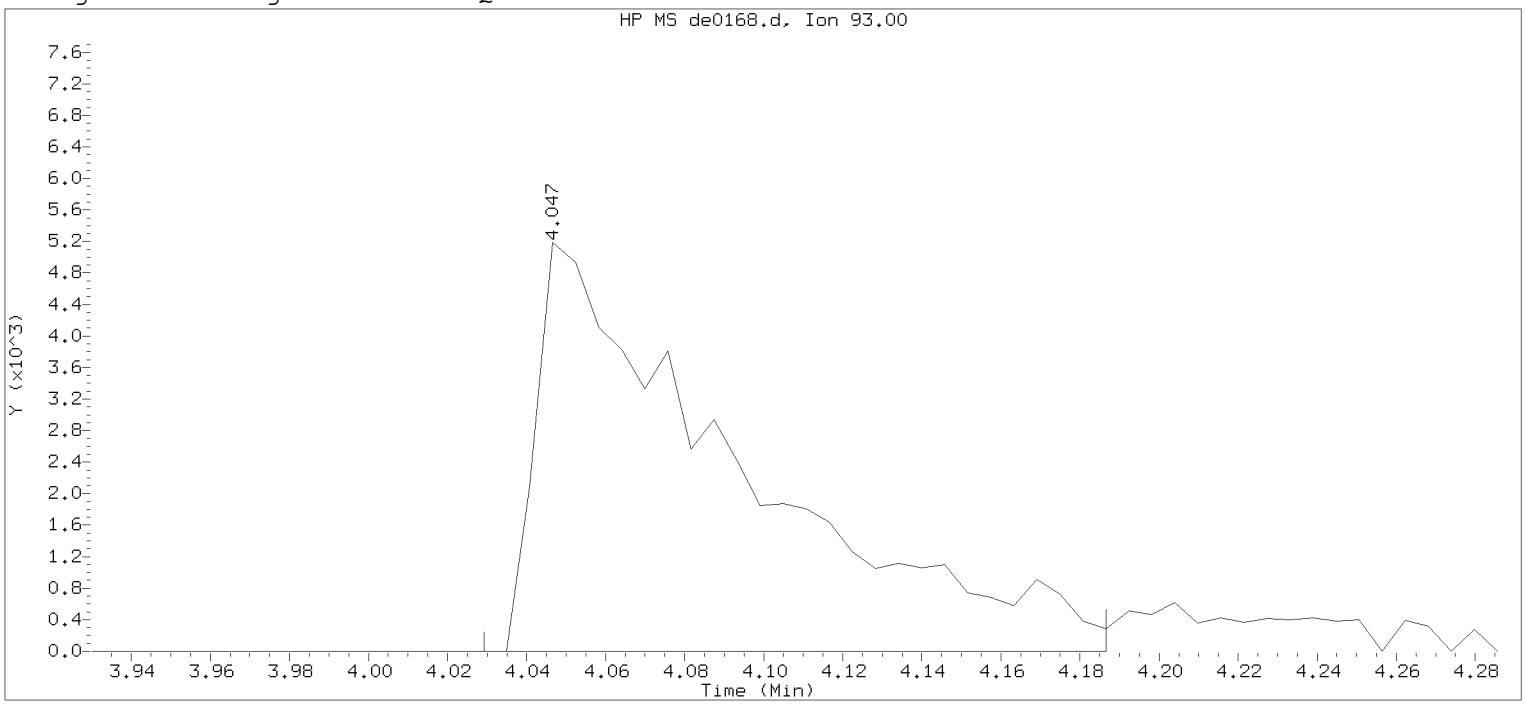
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

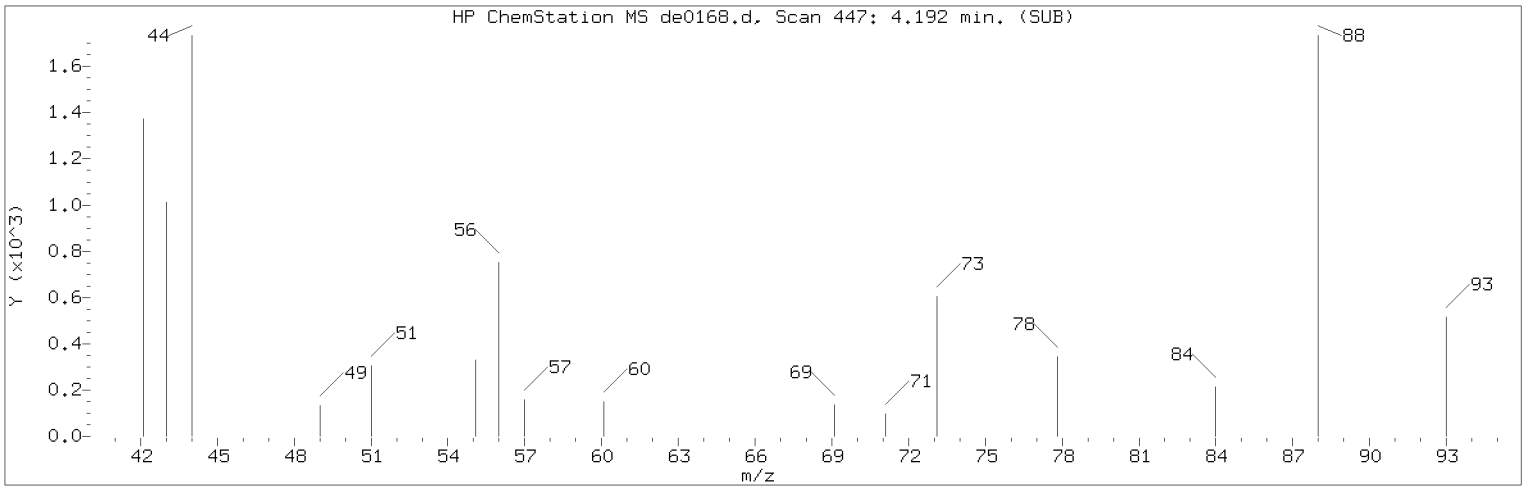
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

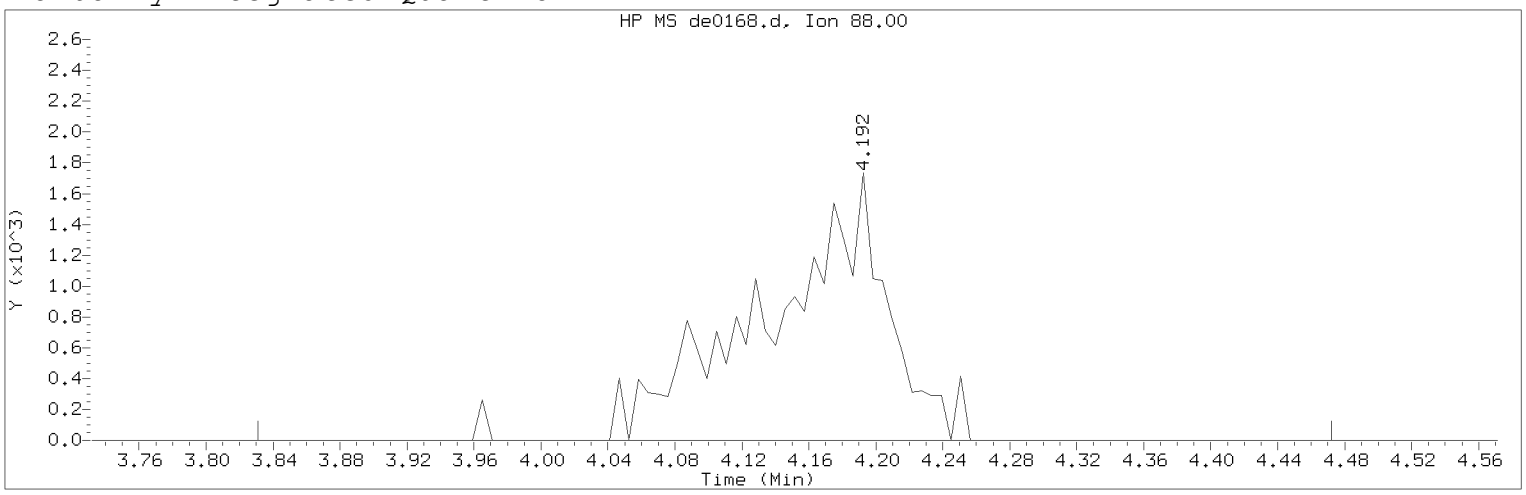
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 422		
Retention Time (minutes)	: 4.047		
Quant Ion	: 93.00		
Area	: 18233		
On-column Amount (ng/ul)	: 0.2559		
Integration start scan	: 418	Integration stop scan:	445
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith2500

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

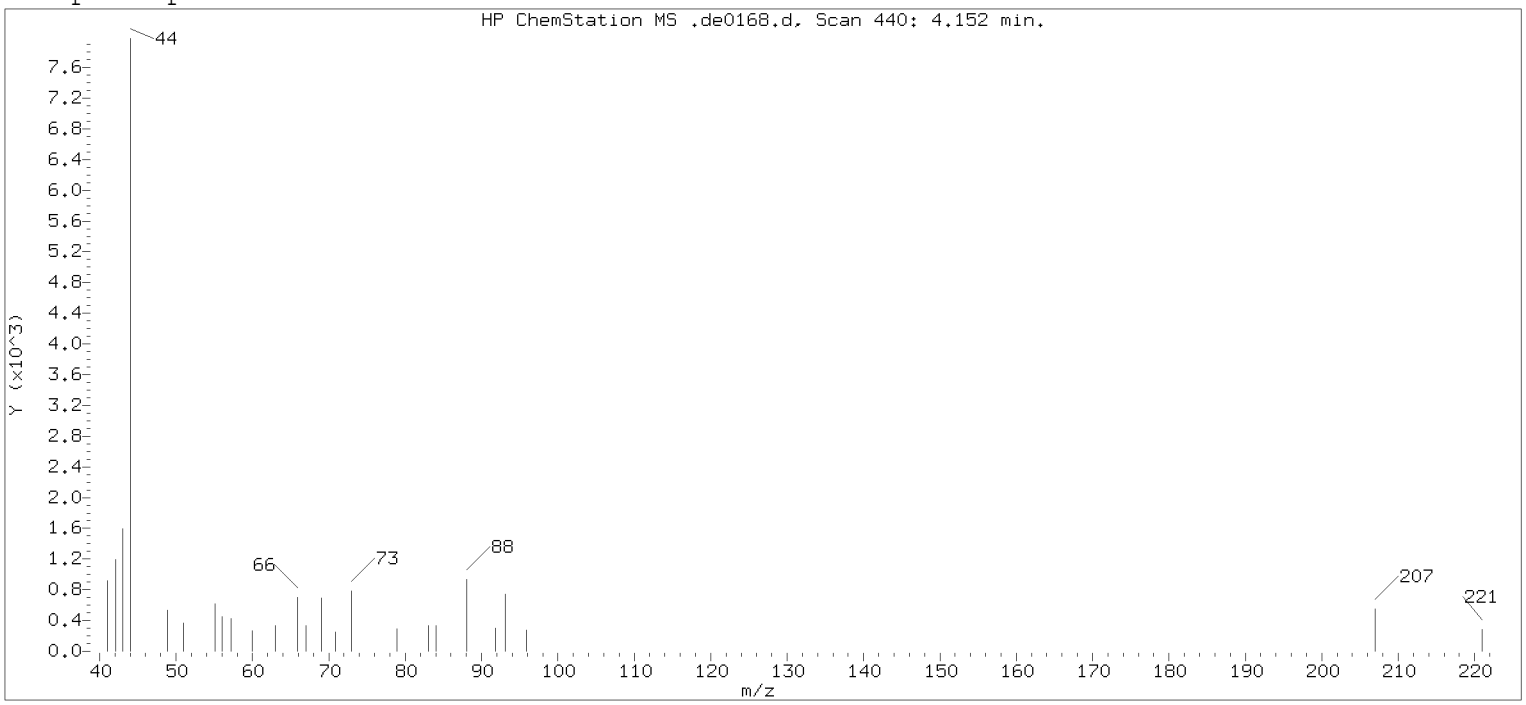
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 447
Retention Time (minutes) : 4.192
Quant Ion : 88.00
Area (flag) : 8659M
On-Column Amount (ng/ul) : 0.2840
Integration start scan : 384 Integration stop scan: 494
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

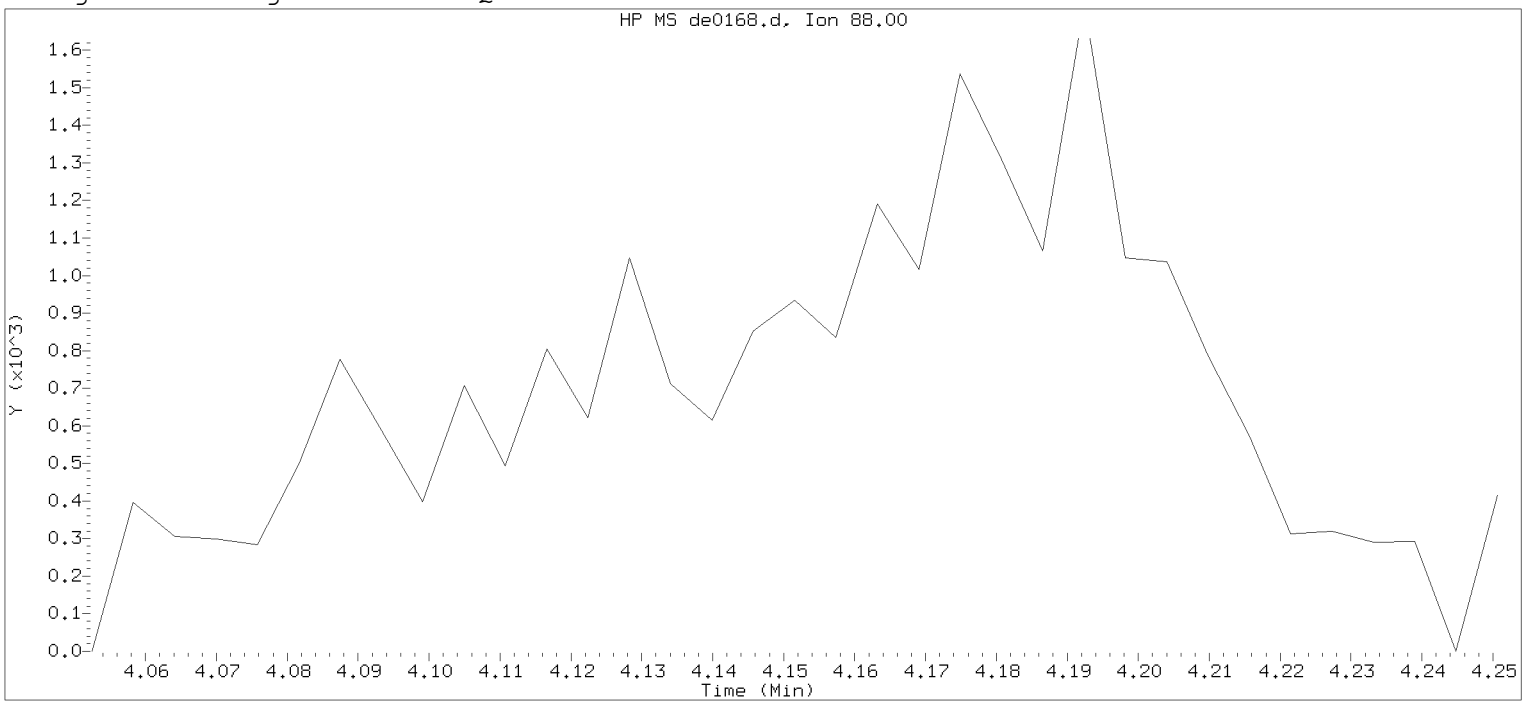
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

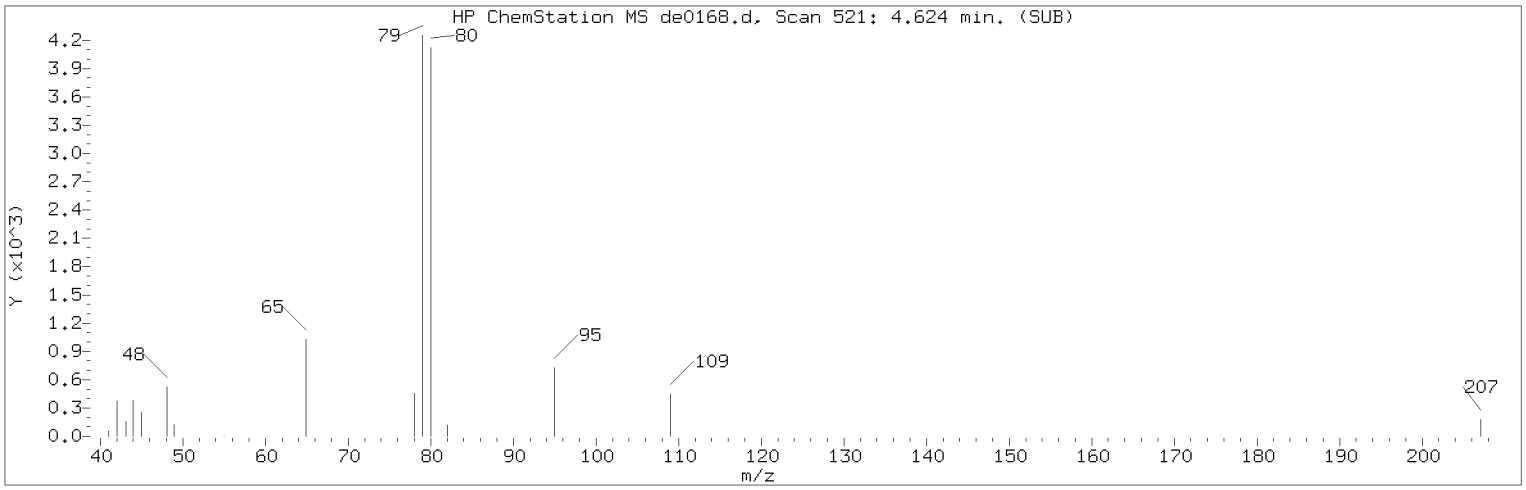
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

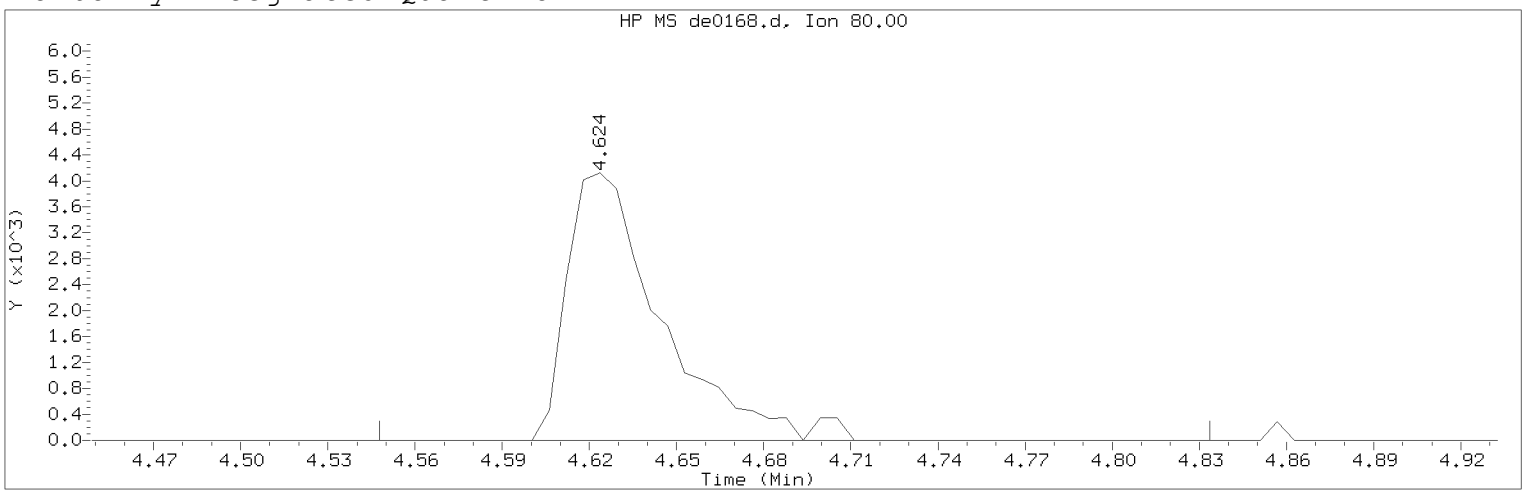
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.151
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ab 10.2

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

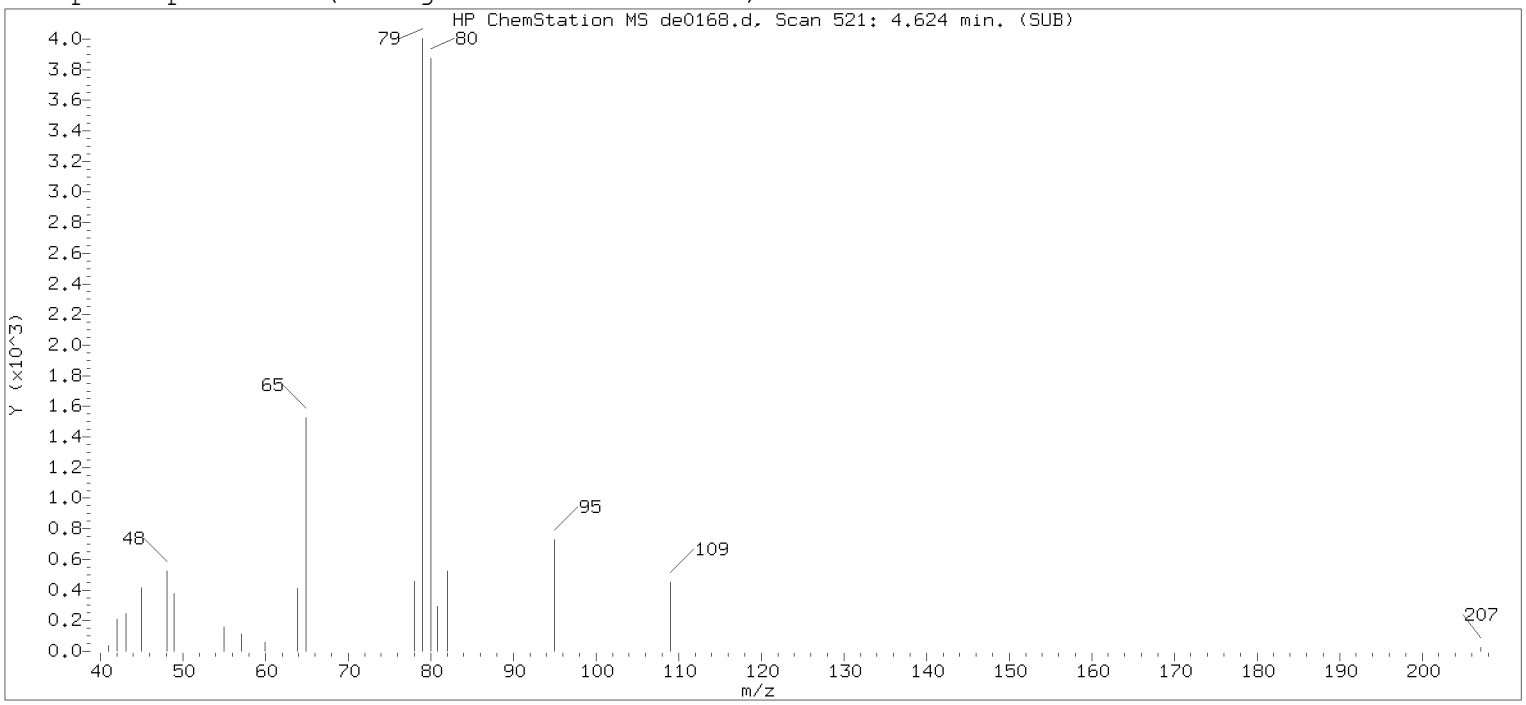
Compound Number : 9
Compound Name : Methyl methanesulfonate
Scan Number : 521
Retention Time (minutes) : 4.624
Quant Ion : 80.00
Area (flag) : 9329M
On-Column Amount (ng/ul) : 0.2674
Integration start scan : 507 Integration stop scan: 556
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

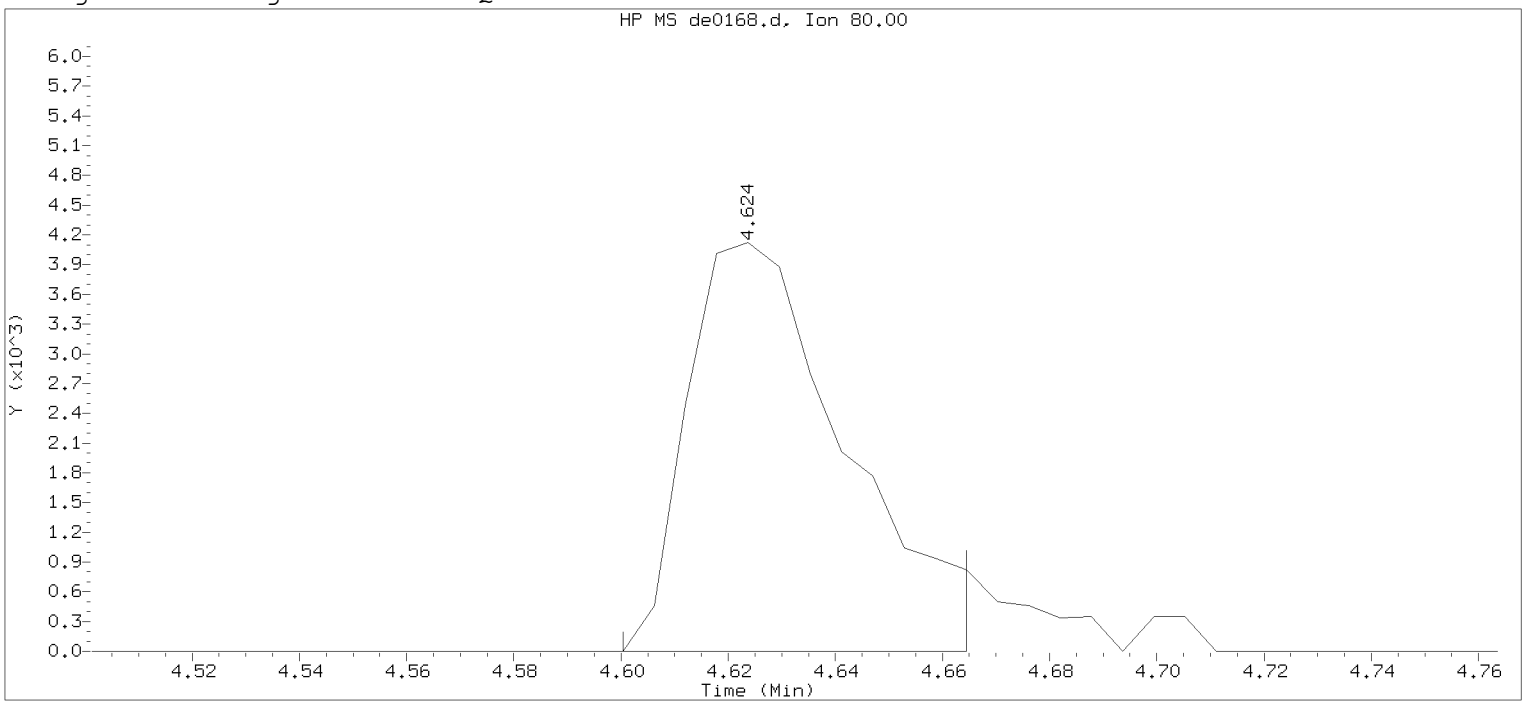
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



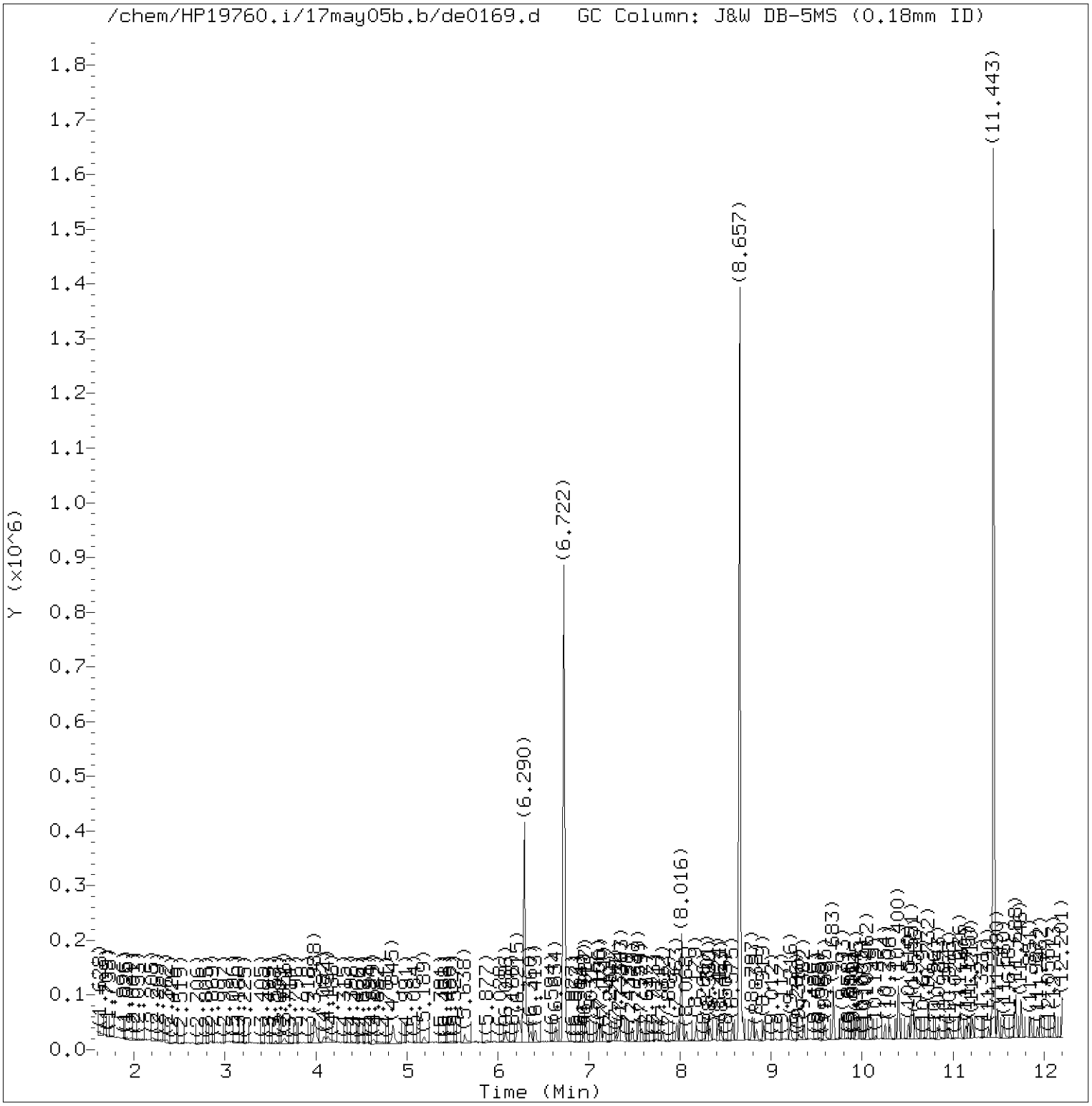
Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 521		
Retention Time (minutes)	: 4.624		
Quant Ion	: 80.00		
Area	: 8366		
On-column Amount (ng/ul)	: 0.2391		
Integration start scan	: 516	Integration stop scan:	527
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0504



Total Ion Chromatogram (TIC)

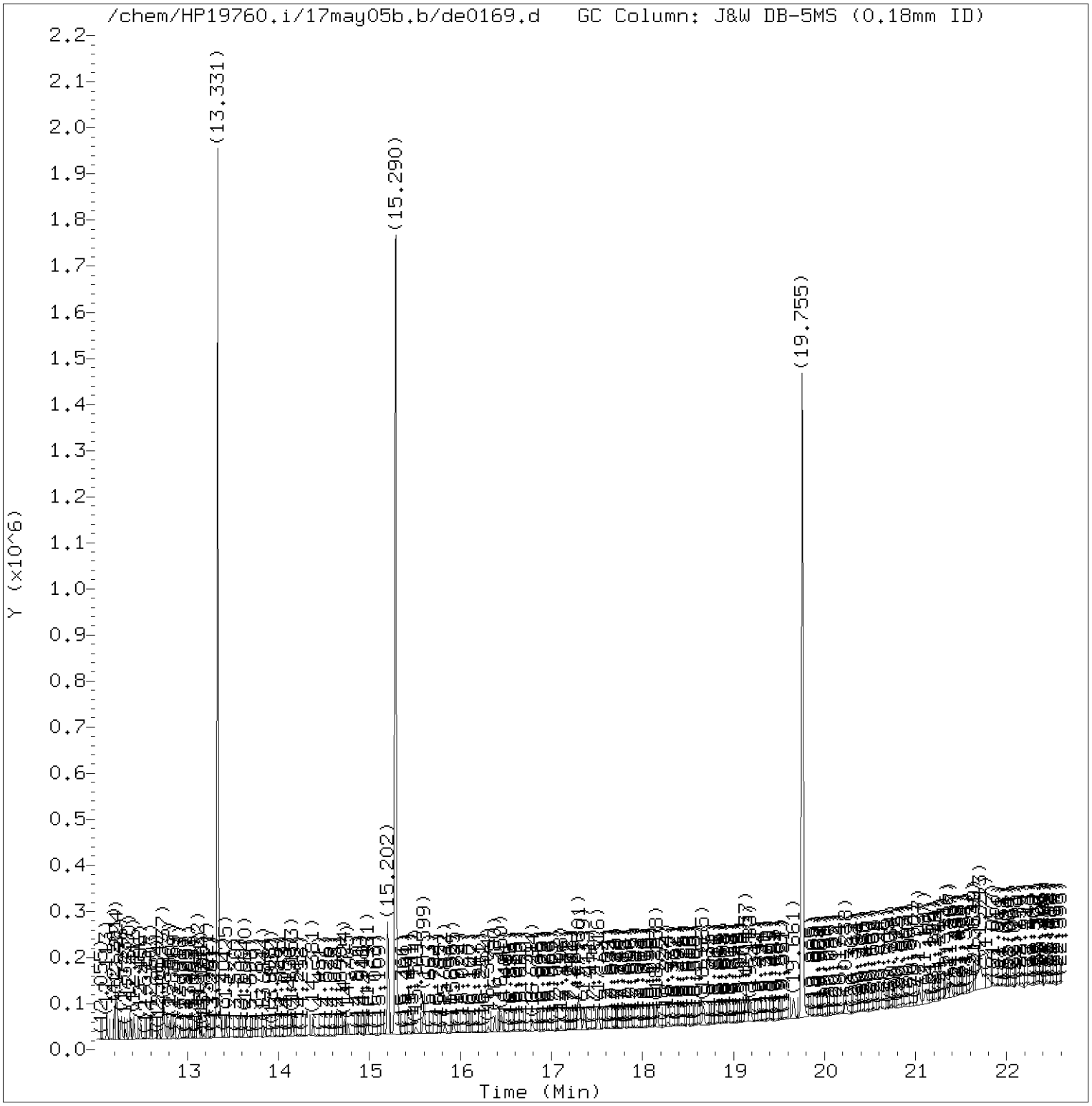
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.210	88	4144M	0.151
4) N-Nitrosodimethylamine	(1)	2.869	74	4894	0.111
5) Pyridine	(1)	3.009	79	13108M	0.181
7) 2-Picoline	(1)	4.087	93	9261	0.125
8) N-Nitrosomethylethylamine	(1)	4.204	88	3797M	0.120
9) Methyl methanesulfonate	(1)	4.629	80	3926	0.109
11)$2-Fluorophenol	(1)	4.845	112	15227	0.261
13) N-Nitrosodiethylamine	(1)	5.183	102	3805	0.130
15) Ethyl methanesulfonate	(1)	5.638	109	4358	0.138
42) Total Cresols	(1)			16162	0.261
16) Benzaldehyde	(1)	6.086	77	6440	0.118
17)$Phenol-d6	(1)	6.215	99	21222	0.268
18) Phenol	(1)	6.238	94	11906	0.133
19) Aniline	(1)	6.244	93	13804	0.131
20) a-methylstyrene	(1)	6.325	118	6707	0.104
22) bis(2-Chloroethyl)ether	(1)	6.360	93	9390	0.141
23) 2-Chlorophenol	(1)	6.413	128	7589	0.130
24) 1,3-Dichlorobenzene	(1)	6.640	146	8685	0.137
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	187845	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	8784	0.136
27) Benzyl alcohol	(1)	6.949	108	4113	0.099
28) 1,2-Dichlorobenzene	(1)	6.967	146	8149	0.134
30) Indene	(1)	7.106	115	12031	0.106
31) 2-Methylphenol	(1)	7.130	108	7163	0.125
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.159	45	14162	0.144
34) bis(2-Chloroisopropyl)ether	(1)	7.159	45	14162	0.144
35) N-Nitrosopyrrolidine	(1)	7.299	100	4081	0.126
36) Acetophenone	(1)	7.334	105	10103	0.117
38) N-Nitroso-di-n-propylamine	(1)	7.351	70	6949	0.133
39) N-Nitrosomorpholine	(1)	7.363	56	7276	0.164
37) 4-Methylphenol	(1)	7.369	108	8999	0.136
97) Isosafrole	(3)			5999	0.126
40) o-Toluidine	(1)	7.386	106	13299	0.131
43) Hexachloroethane	(1)	7.474	117	3386	0.128
44)$Nitrobenzene-d5	(2)	7.549	82	19368	0.263
45) Nitrobenzene	(2)	7.579	77	10052	0.135
48) N-Nitrosopiperidine	(2)	7.812	114	3983	0.136
50) Isophorone	(2)	7.963	82	17538	0.138
120) 2,4_2,6-Dinitrotoluenes	(3)			6765	0.222
51) 2-Nitrophenol	(2)	8.068	139	3635	0.124

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	7994	0.127
56) Benzoic acid	(2)	8.261	105	2246	2.258
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	3948	0.132
55) bis(2-Chloroethoxy)methane	(2)	8.330	93	10326	0.127
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.418	104	9575	0.103
60) 2,4-Dichlorophenol	(2)	8.447	162	6448	0.138
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	7928	0.144
65)*Naphthalene-d8	(2)	8.657	136	710787	5.000
146) Diallate trans/cis	(4)			7497	0.130
67) 4-Chloroaniline	(2)	8.791	127	9491	0.138
68) 2,6-Dichlorophenol	(2)	8.803	162	5712	0.123
69) Hexachloropropene	(2)	8.838	213	5009	0.135
71) Hexachlorobutadiene	(2)	8.919	225	4741	0.146
75) Quinoline	(2)	9.216	129	15782	0.151
76) Caprolactam	(2)	9.310	113	1242	0.085
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	6633	0.128
80) 4-Chloro-3-methylphenol	(2)	9.595	107	6563	0.123
82) Safrole	(2)	9.683	162	5361	0.127
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	7707	0.133
85) Hexachlorocyclopentadiene	(3)	10.062	237	3038	0.110
88) cis-Isosafrole	(3)	10.149	162	841	0.019
90) 2,4,6-Trichlorophenol	(3)	10.254	196	3984	0.113
92) 2,4,5-Trichlorophenol	(3)	10.306	196	4252	0.112
93)$2-Fluorobiphenyl	(3)	10.400	172	34812	0.277
94) trans-Isosafrole	(3)	10.510	162	5158	0.107
95) 1,1'-Biphenyl	(3)	10.551	154	15002	0.124
96) 2-Chloronaphthalene	(3)	10.557	162	13319	0.131
98) 1-Chloronaphthalene	(3)	10.586	162	12874	0.132
100) 2-Nitroaniline	(3)	10.732	138	3889	0.123
99) Diphenyl ether	(3)	10.732	170	10321	0.145
104) 1,4-Naphthoquinone	(3)	10.843	158	4667	0.110
105) 1,4-Dinitrobenzene	(3)	10.965	168	1710	0.102
106) Dimethylphthalate	(3)	11.076	163	15356	0.130
107) 1,3-Dinitrobenzene	(3)	11.082	168	2028	0.111
108) 2,6-Dinitrotoluene	(3)	11.146	165	2989	0.115
112) 3-Nitroaniline	(3)	11.390	138	3274	0.121
113)*Acenaphthene-d10	(3)	11.443	164	404578	5.000
115) 2,4-Dinitrophenol	(3)	11.560	184	5567	0.366
116) 4-Nitrophenol	(3)	11.682	109	7343	0.368
117) Pentachlorobenzene	(3)	11.694	250	5945	0.127

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
119) Dibenzofuran	(3)	11.746	168	19211	0.129
118) 2,4-Dinitrotoluene	(3)	11.752	165	3776	0.108
121) 1-Naphthylamine	(3)	11.851	143	12328	0.117
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	3065	0.107
123) 2-Naphthylamine	(3)	11.962	143	13630	0.131
124) Diethylphthalate	(3)	12.113	149	15855	0.139
125) Thionazin	(3)	12.212	107	2940	0.129
128) 5-Nitro-o-toluidine	(3)	12.218	152	3503	0.107
129) 4-Nitroaniline	(3)	12.224	138	2910	0.108
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	8588	0.148
130) 4,6-Dinitro-2-methylphenol	(4)	12.276	198	6487	0.307
131) N-Nitrosodiphenylamine	(4)	12.370	169	12428	0.128
132) NDPA as diphenylamine	(4)	12.370	169	12428	0.128
134) 1,2-Diphenylhydrazine	(4)	12.416	77	18174	0.132
135)$2,4,6-Tribromophenol	(3)	12.486	330	3877	0.257
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	3291	0.147
139) 1,3,5-Trinitrobenzene	(4)	12.684	213	1115	0.081
141) Phorate	(4)	12.737	75	11019	0.125
140) Diallate (peak 1)	(4)	12.737	86	6469	0.109
142) Phenacetin	(4)	12.749	108	7335	0.113
143) 4-Bromophenyl-phenylether	(4)	12.807	248	4925	0.147
144) Diallate (peak 2)	(4)	12.836	86	1028	0.021
147) Dimethoate	(4)	12.918	87	6542	0.115
148) Atrazine	(4)	13.028	200	3233	0.105
149) Pentachlorophenol	(4)	13.110	266	890	0.046
150) 4-Aminobiphenyl	(4)	13.122	169	13660	0.126
151) Pentachloronitrobenzene	(4)	13.122	237	2179	0.142
152) Pronamide	(4)	13.221	173	6213	0.111
153)*Phenanthrene-d10	(4)	13.331	188	784836	5.000
154) Dinoseb	(4)	13.361	211	2069	0.064
163) Carbazole	(4)	13.640	167	20710	0.128
164) Methyl parathion	(4)	13.844	109	4489	0.102
165) Di-n-butylphthalate	(4)	14.153	149	24830	0.124
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	1072	0.058
167) Parathion	(4)	14.381	109	2601	0.093
169) Octachlorostyrene	(4)	14.730	308	1376	0.104
171) Isodrin	(4)	14.771	193	3124	0.147
174) Benzidine	(5)	15.202	184	108184	0.876
175)*Pyrene-d10	(5)	15.290	212	933299	5.000
179)$Terphenyl-d14	(5)	15.605	244	36023	0.263

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

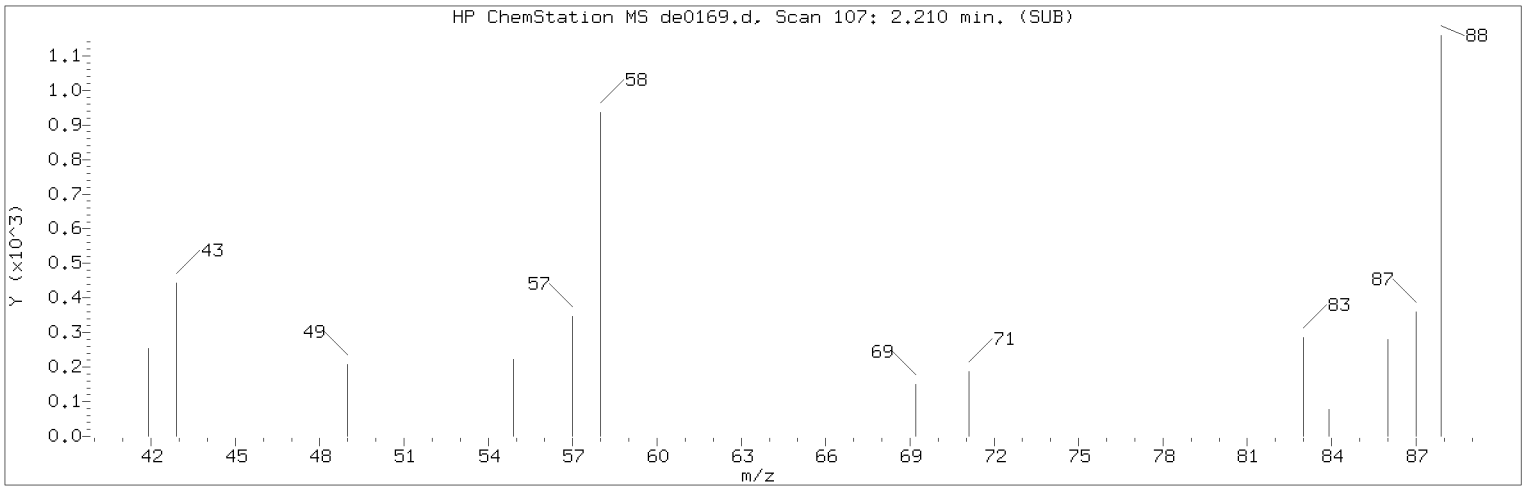
Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	15.832	225	3419	0.101
185) Chlorobenzilate	(5)	15.925	139	7473	0.120
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	15708	0.115
188) Butylbenzylphthalate	(5)	16.450	149	10451	0.111
191) 2-Acetylaminofluorene	(5)	16.794	181	6717	0.077
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	8768	0.115
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	4535	0.109
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	16003	0.114
203) 6-Methylchrysene	(5)	18.158	242	16465	0.121
205) Di-n-octylphthalate	(6)	18.670	149	26218	0.110
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.143	256	8696	0.108
213)*Perylene-d12	(6)	19.755	264	730227	5.000
215) 3-Methylcholanthrene	(6)	20.238	268	9771	0.119
217) Dibenz(a,h)acridine	(6)	21.037	279	14595	0.110
218) Dibenz(a,j)acridine	(6)	21.107	279	12940	0.100

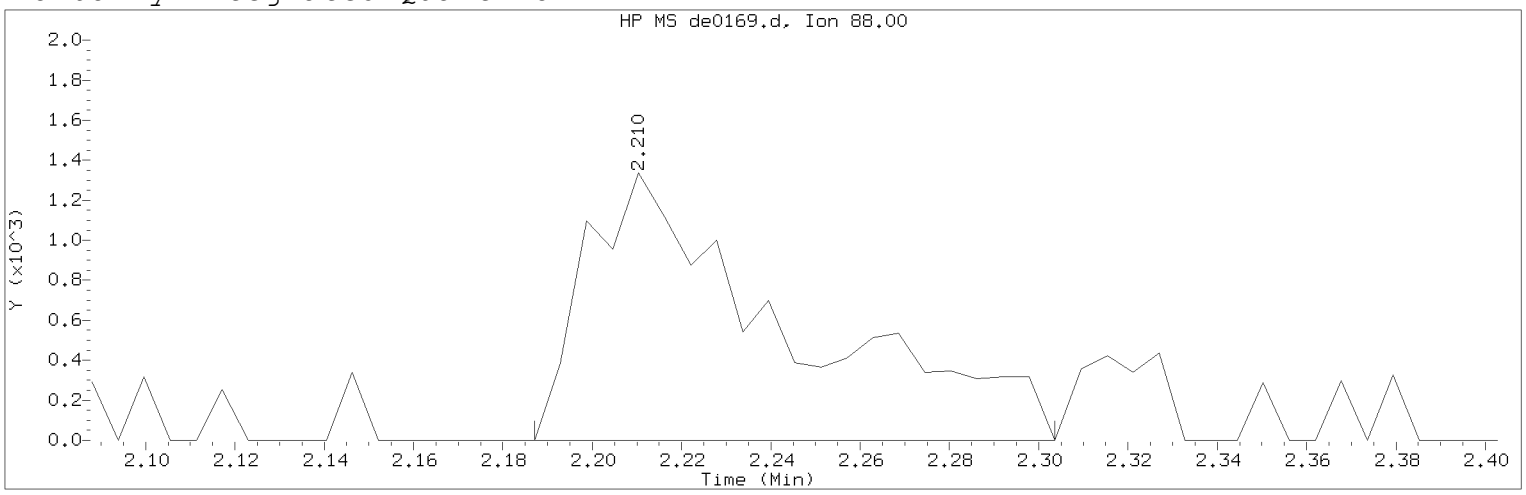
* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

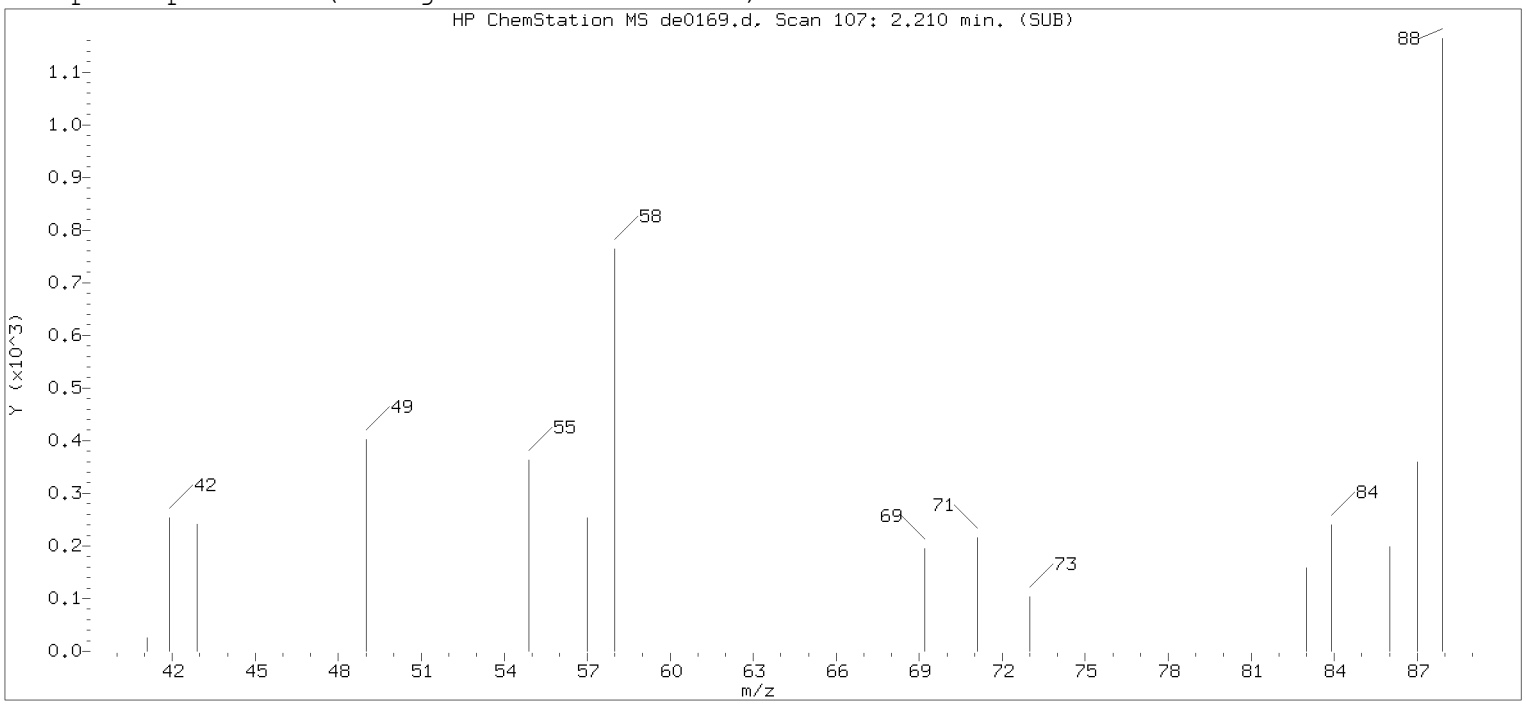
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 107
Retention Time (minutes) : 2.210
Quant Ion : 88.00
Area (flag) : 4144M
On-Column Amount (ng/ul) : 0.1509
Integration start scan : 102 Integration stop scan: 122
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

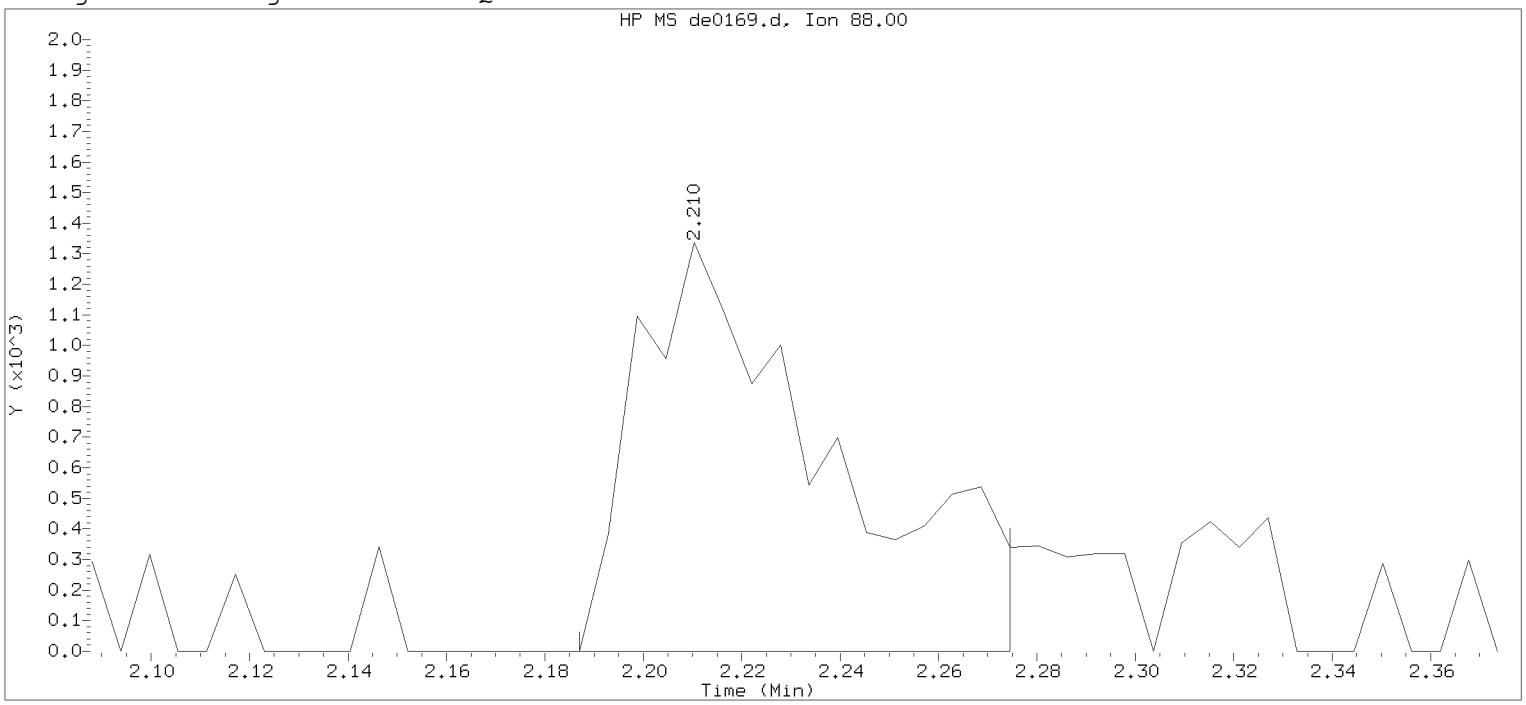
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

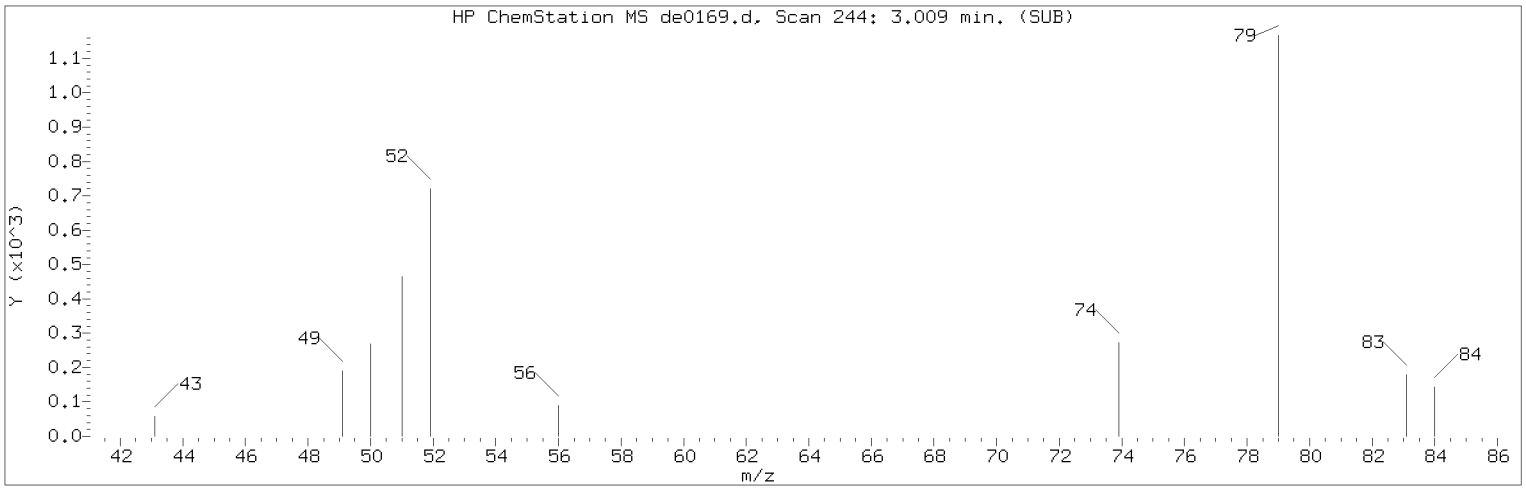
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

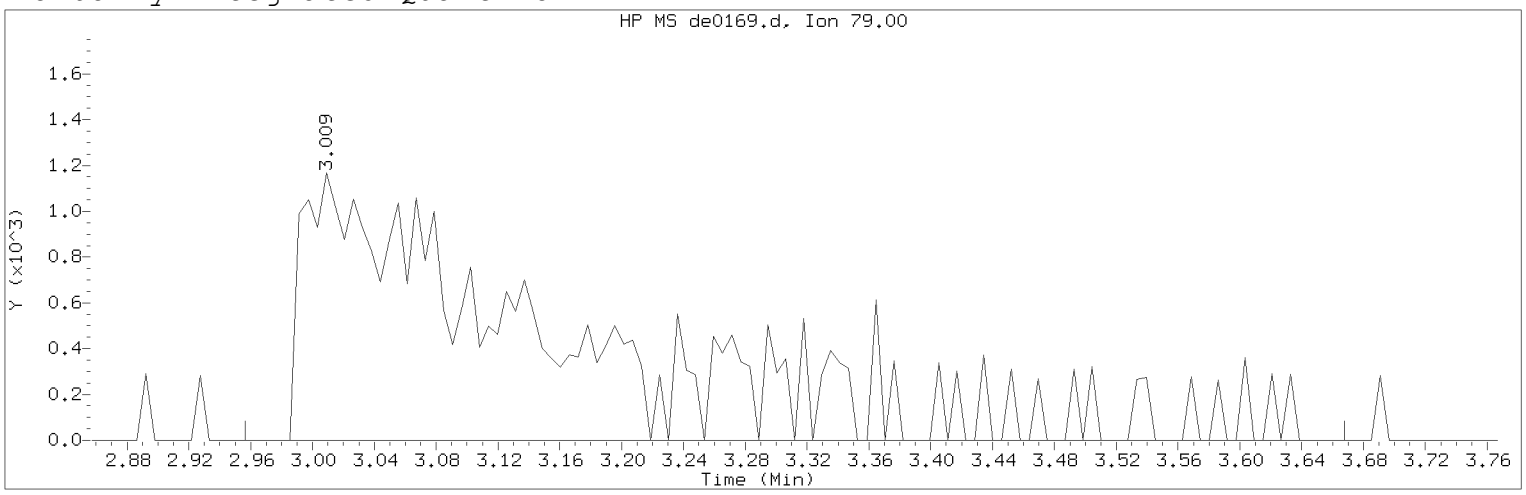
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 107		
Retention Time (minutes)	: 2.210		
Quant Ion	: 88.00		
Area	: 3633		
On-column Amount (ng/ul)	: 0.1323		
Integration start scan	: 102	Integration stop scan:	117
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user name: bsmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

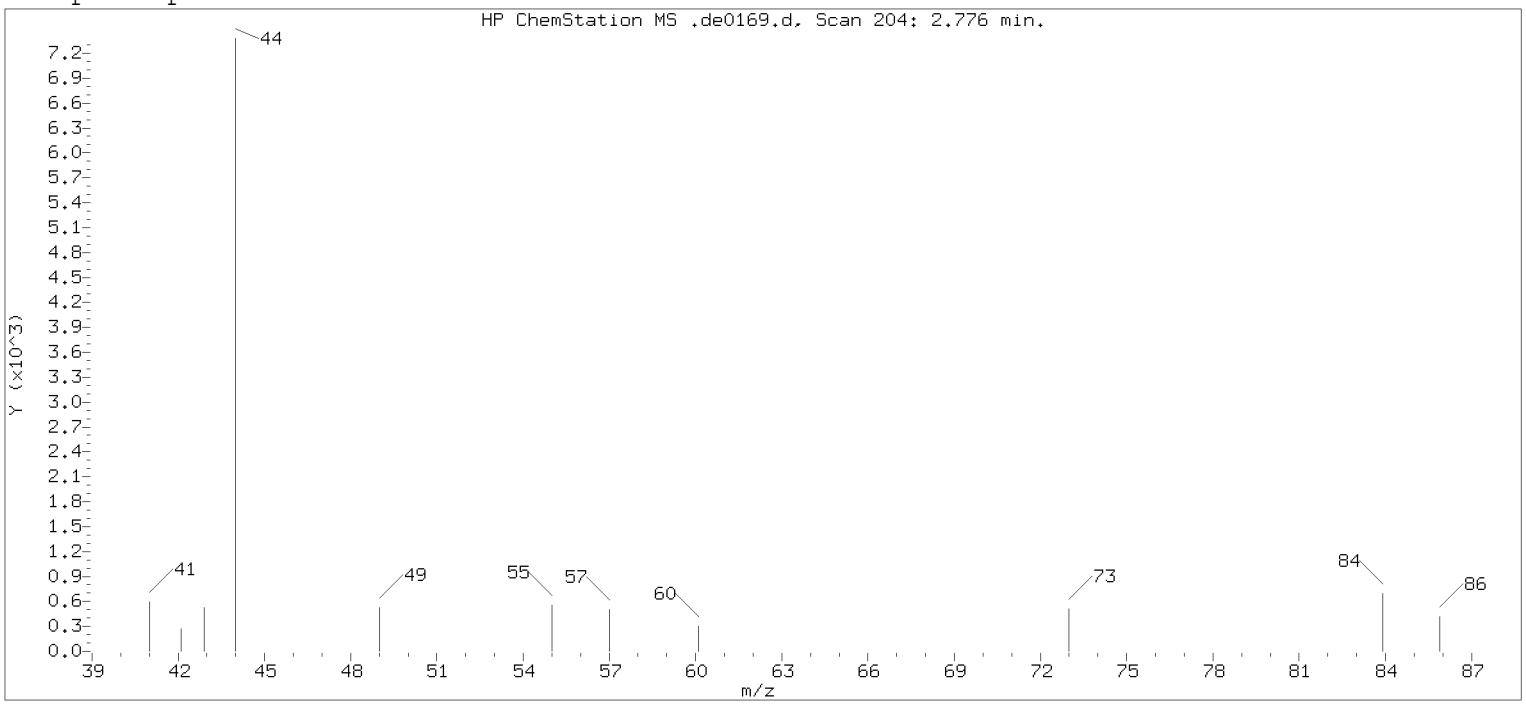
Compound Number : 5
Compound Name : Pyridine
Scan Number : 244
Retention Time (minutes) : 3.009
Quant Ion : 79.00
Area (flag) : 13108M
On-Column Amount (ng/ul) : 0.1809
Integration start scan : 234 Integration stop scan: 356
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

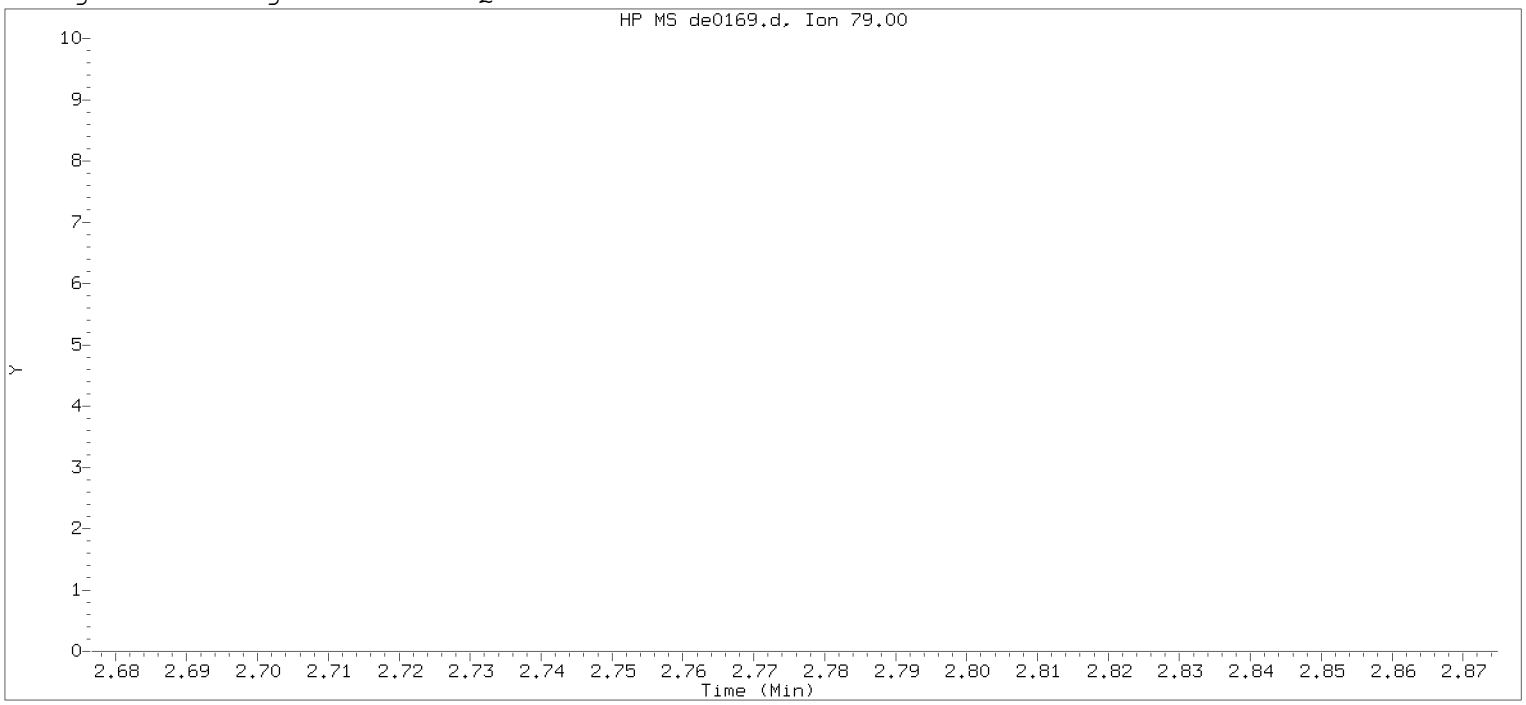
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

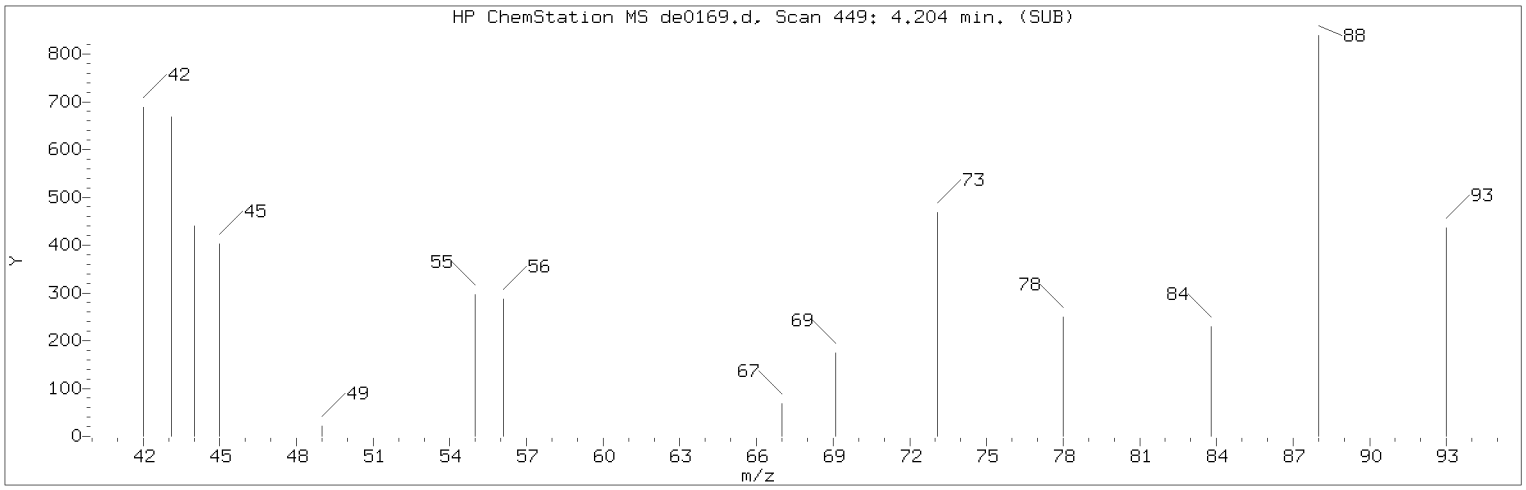
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

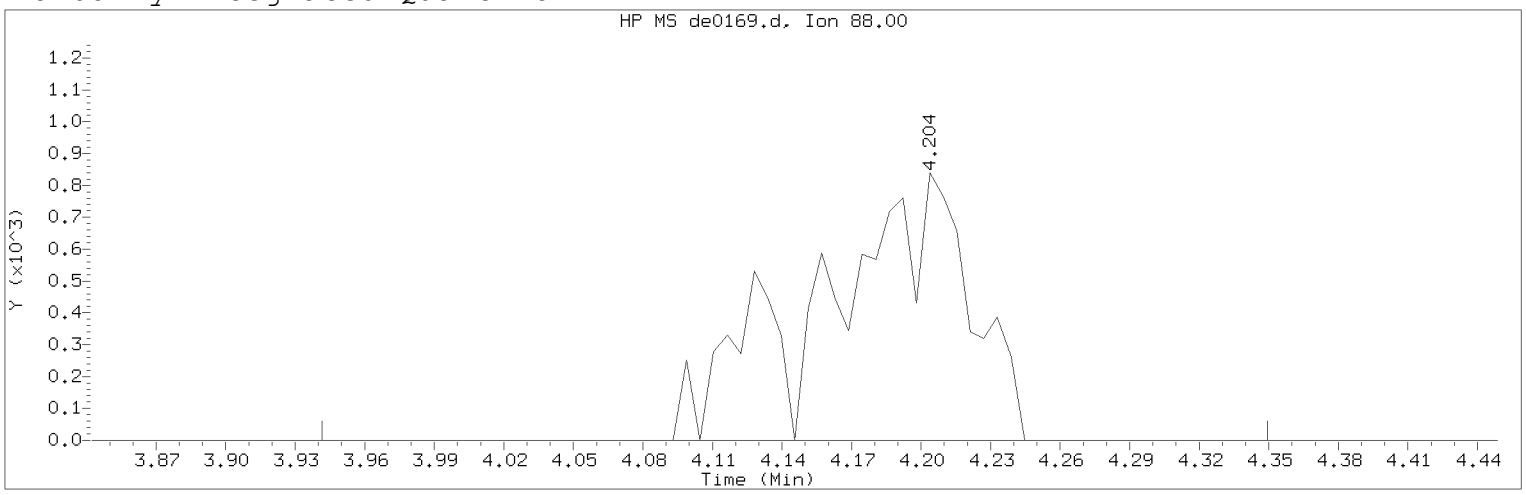
Compound Number : 5
Compound Name : Pyridine
Expected RT (minutes) : 2.776
Quant Ion : 79.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0514

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

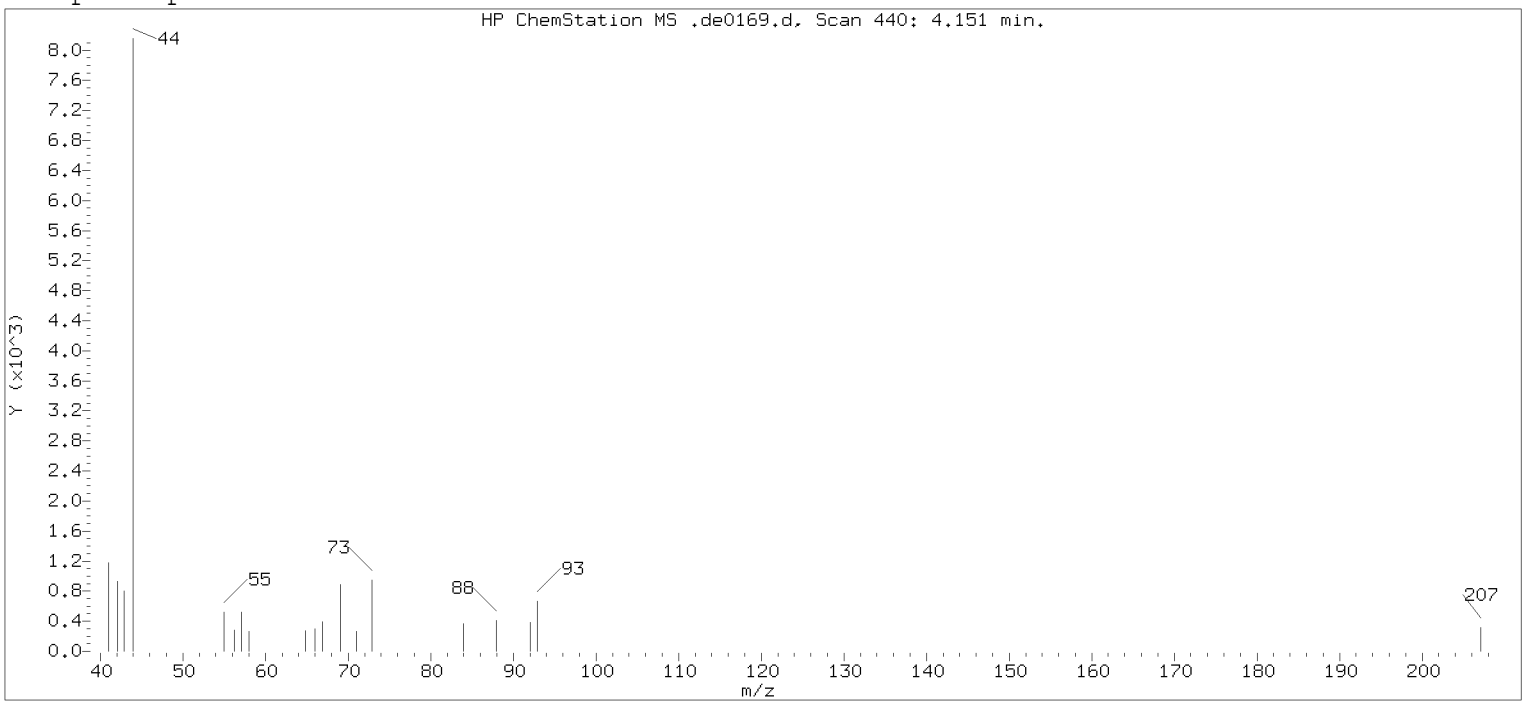
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 449
Retention Time (minutes) : 4.204
Quant Ion : 88.00
Area (flag) : 3797M
On-Column Amount (ng/ul) : 0.1202
Integration start scan : 403 Integration stop scan: 473
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion

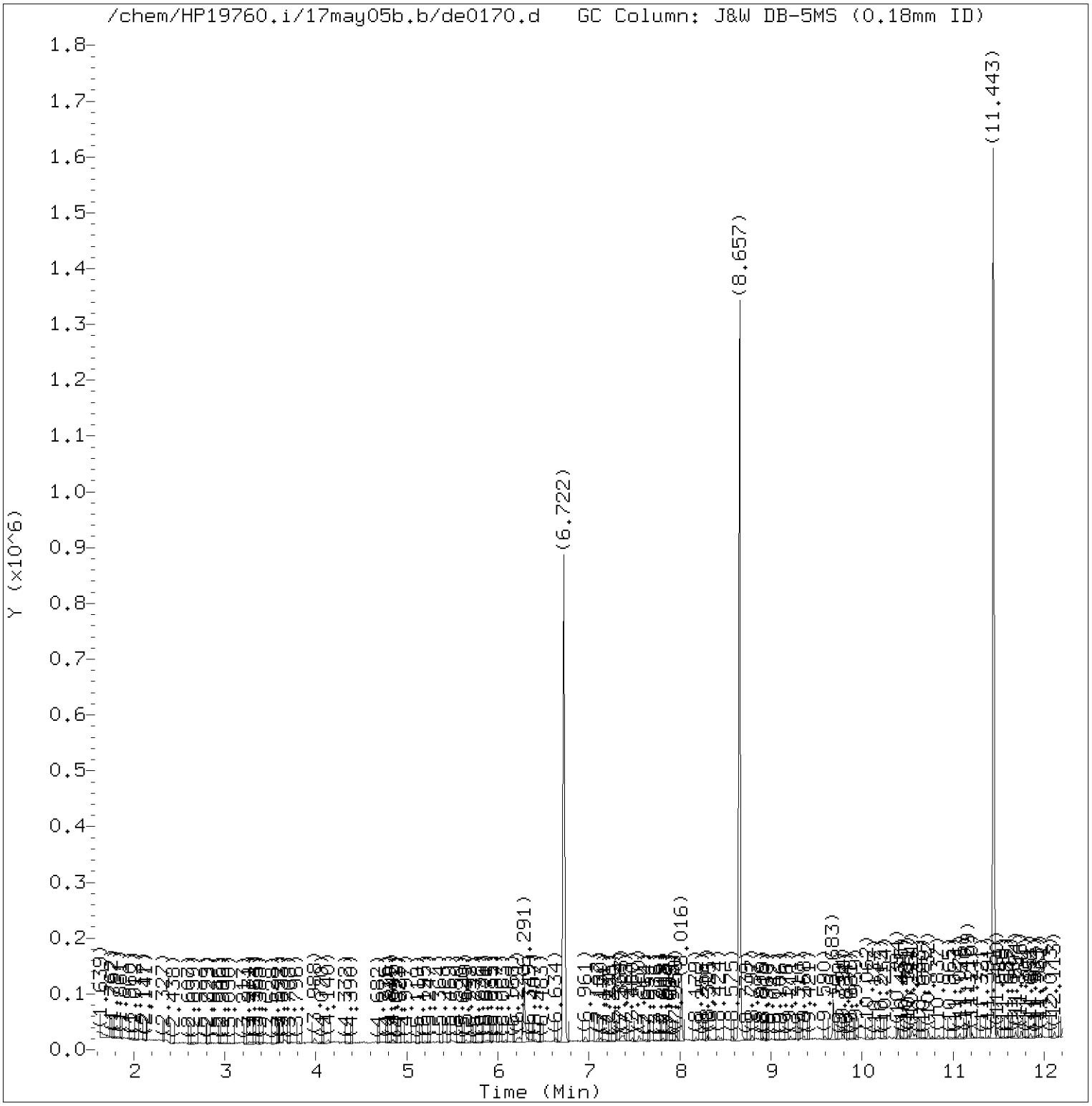
Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.151
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bsmith0516



Total Ion Chromatogram (TIC)

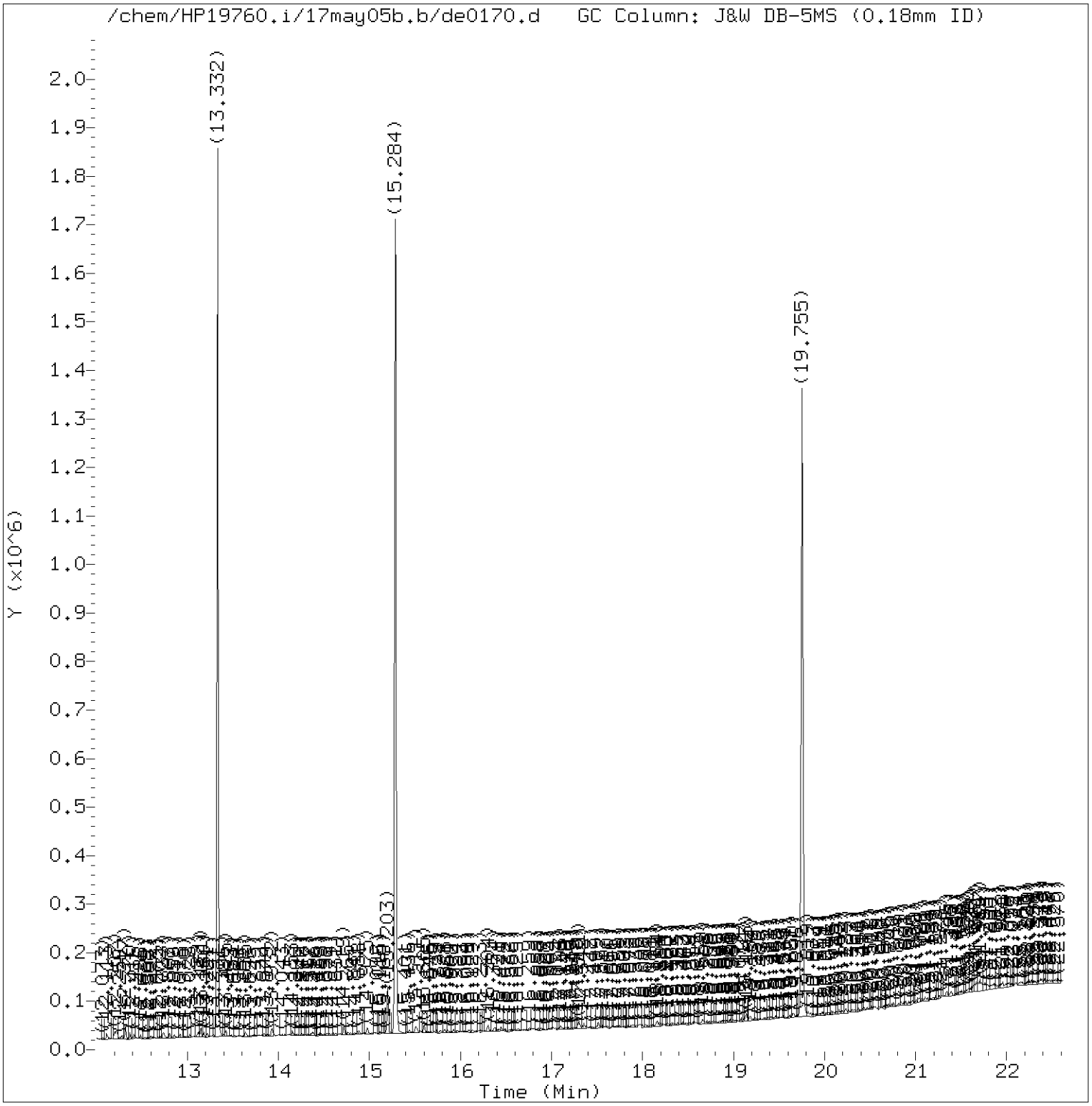
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

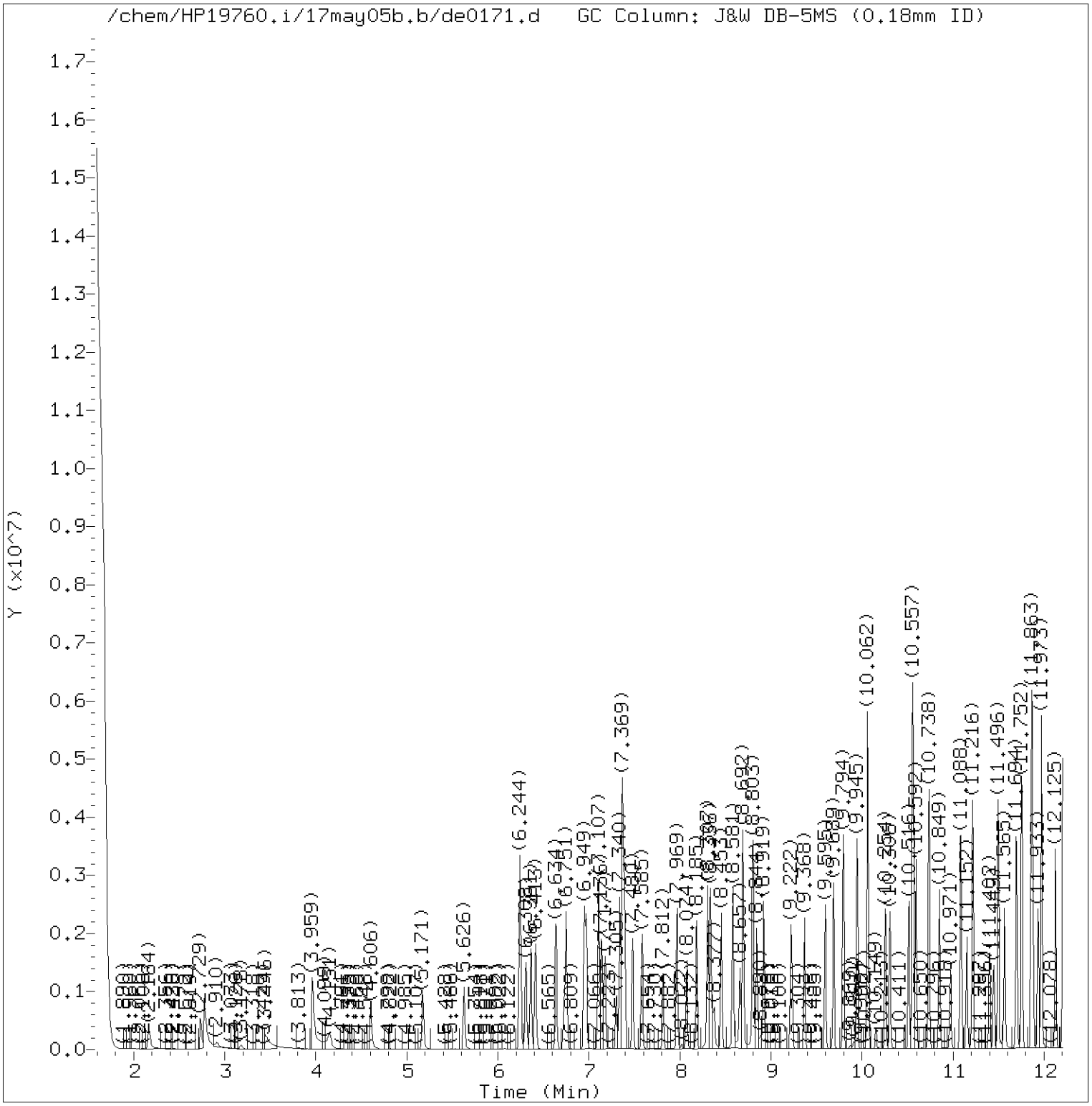
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	179192	5.000
44)$Nitrobenzene-d5	(2)	7.550	82	4793	0.067
65)*Naphthalene-d8	(2)	8.657	136	690119	5.000
66) Naphthalene	(2)	8.686	128	4768	0.029
83) 2-Methylnaphthalene	(2)	9.788	142	3007	0.028
84) 1-Methylnaphthalene	(2)	9.939	142	2859	0.029
93)$2-Fluorobiphenyl	(3)	10.400	172	7596	0.062
109) Acenaphthylene	(3)	11.210	152	3657	0.025
113)*Acenaphthene-d10	(3)	11.443	164	392493	5.000
114) Acenaphthene	(3)	11.490	153	3199	0.030
126) Fluorene	(3)	12.201	166	3512	0.030
145) Hexachlorobenzene	(4)	12.859	284	938	0.028
153)*Phenanthrene-d10	(4)	13.332	188	735590	5.000
155) Phenanthrene	(4)	13.361	178	4945	0.030
157) Anthracene	(4)	13.425	178	4728	0.029
173) Fluoranthene	(4)	14.981	202	4864	0.026
222) Total PAHs	(6)			77015	0.497
175)*Pyrene-d10	(5)	15.284	212	879792	5.000
177) Pyrene	(5)	15.313	202	5972	0.030
179)$Terphenyl-d14	(5)	15.605	244	7429	0.058
195) Benzo(a)anthracene	(5)	17.301	228	4919	0.026
196) Chrysene	(5)	17.359	228	4820	0.027
206) Benzo(b)fluoranthene	(6)	19.137	252	4687	0.025
208) Benzo(k)fluoranthene	(6)	19.184	252	4390	0.025
211) Benzo(a)pyrene	(6)	19.656	252	6710	0.040
213)*Perylene-d12	(6)	19.755	264	674780	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	3506	0.021
220) Dibenz(a,h)anthracene	(6)	21.381	278	2959	0.021
221) Benzo(g,h,i)perylene	(6)	21.707	276	3513	0.026

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

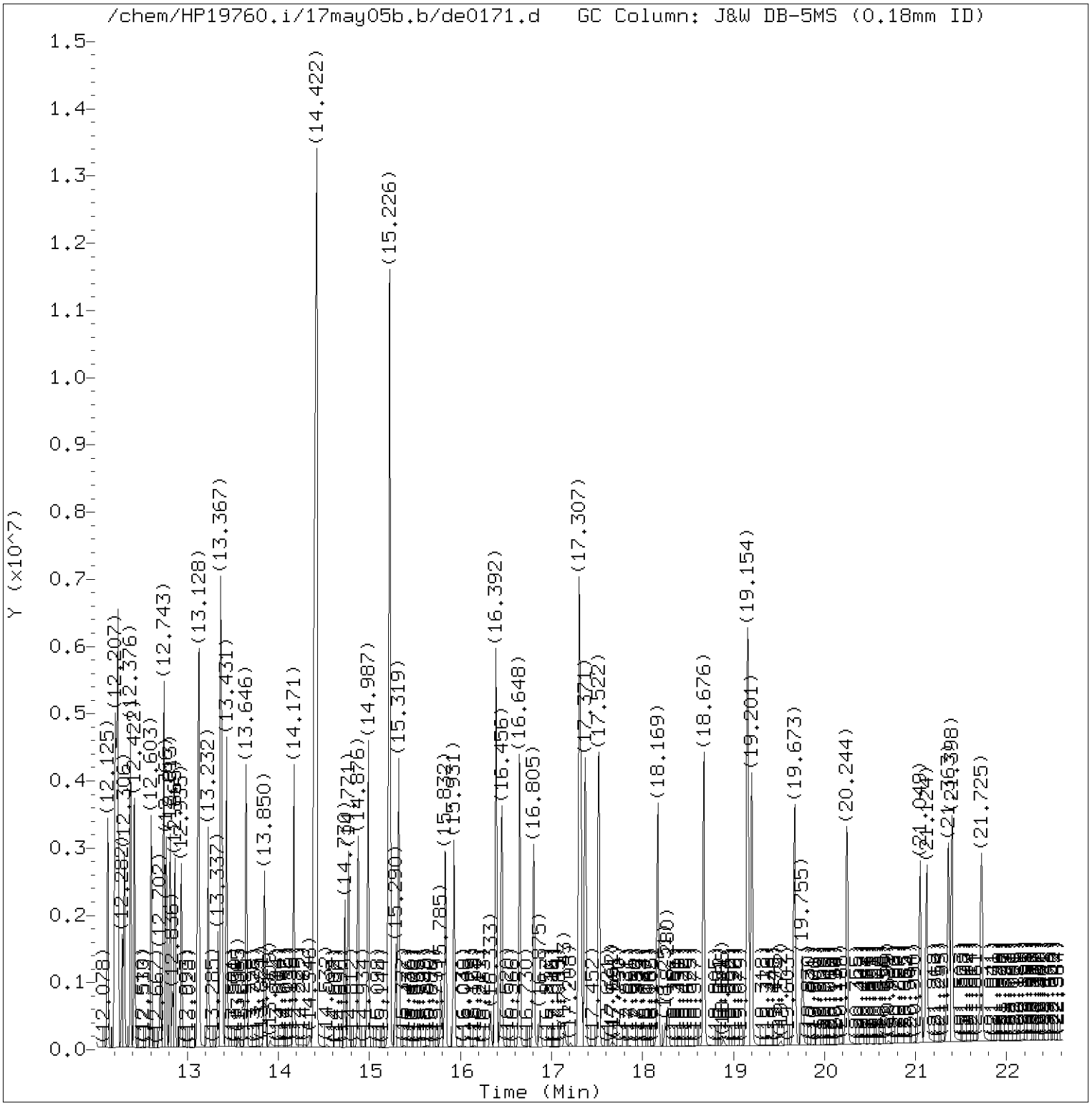
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.164	88	286467	11.221
4) N-Nitrosodimethylamine	(1)	2.729	74	493118	12.012
5) Pyridine	(1)	2.776	79	795551	11.810
7) 2-Picoline	(1)	3.959	93	842387	12.247
8) N-Nitrosomethylethylamine	(1)	4.157	88	336872	11.476
9) Methyl methanesulfonate	(1)	4.606	80	410504	12.222
13) N-Nitrosodiethylamine	(1)	5.177	102	323476	11.864
15) Ethyl methanesulfonate	(1)	5.632	109	341981	11.613
42) Total Cresols	(1)	5.660	100	1362544	23.780
18) Phenol	(1)	6.238	94	1010546	12.133
19) Aniline	(1)	6.244	93	1082011	11.055
22) bis(2-Chloroethyl)ether	(1)	6.361	93	740079	11.960
23) 2-Chlorophenol	(1)	6.413	128	656584	12.103
24) 1,3-Dichlorobenzene	(1)	6.634	146	722849	12.300
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	174596	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	737871	12.287
27) Benzyl alcohol	(1)	6.949	108	465564	12.028
28) 1,2-Dichlorobenzene	(1)	6.973	146	694875	12.281
30) Indene	(1)	7.107	115	1234850	11.700
31) 2-Methylphenol	(1)	7.136	108	645147	12.092
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	1074534	11.753
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	1074534	11.753
35) N-Nitrosopyrrolidine	(1)	7.305	100	346907	11.544
36) Acetophenone	(1)	7.340	105	1000576	12.468
38) N-Nitroso-di-n-propylamine	(1)	7.363	70	577447	11.931
39) N-Nitrosomorpholine	(1)	7.369	56	485592	11.792
37) 4-Methylphenol	(1)	7.375	108	717397	11.688
97) Isosafrole	(3)	7.383	162	559531	13.014
40) o-Toluidine	(1)	7.392	106	1093466	11.627
43) Hexachloroethane	(1)	7.480	117	293182	11.920
45) Nitrobenzene	(2)	7.585	77	831866	12.529
48) N-Nitrosopiperidine	(2)	7.818	114	310544	11.845
50) Isophorone	(2)	7.969	82	1418082	12.488
120) 2,4_2,6-Dinitrotoluenes	(3)	8.050	165	680188	24.675
51) 2-Nitrophenol	(2)	8.074	139	330300	12.597
53) 2,4-Dimethylphenol	(2)	8.185	107	557597	9.862
57) O,O,O-Triethylphosphorothioate	(2)	8.307	198	326490	12.239
55) bis(2-Chloroethoxy)methane	(2)	8.336	93	941319	12.966
56) Benzoic acid	(2)	8.377	105	753692	17.653
60) 2,4-Dichlorophenol	(2)	8.453	162	534920	12.784

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	622637	12.651
65)*Naphthalene-d8	(2)	8.657	136	636078	5.000
66) Naphthalene	(2)	8.692	128	1861272	12.249
146) Diallate trans/cis	(4)	8.775	86	616612	12.147
67) 4-Chloroaniline	(2)	8.797	127	745873	12.109
68) 2,6-Dichlorophenol	(2)	8.809	162	496019	11.957
69) Hexachloropropene	(2)	8.844	213	432213	13.007
71) Hexachlorobutadiene	(2)	8.919	225	364731	12.542
75) Quinoline	(2)	9.222	129	1147470	12.287
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	517937	11.140
80) 4-Chloro-3-methylphenol	(2)	9.595	107	597332	12.525
82) Safrole	(2)	9.689	162	459140	12.113
83) 2-Methylnaphthalene	(2)	9.794	142	1226550	12.329
84) 1-Methylnaphthalene	(2)	9.945	142	1135967	12.414
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	636050	12.194
85) Hexachlorocyclopentadiene	(3)	10.062	237	602758	24.240
88) cis-Isosafrole	(3)	10.149	162	62420	1.527
90) 2,4,6-Trichlorophenol	(3)	10.254	196	412531	12.985
92) 2,4,5-Trichlorophenol	(3)	10.306	196	432420	12.604
94) trans-Isosafrole	(3)	10.516	162	497111	11.486
95) 1,1'-Biphenyl	(3)	10.551	154	1450958	13.285
96) 2-Chloronaphthalene	(3)	10.563	162	1184091	12.880
98) 1-Chloronaphthalene	(3)	10.592	162	1023204	11.655
99) Diphenyl ether	(3)	10.732	170	787145	12.232
100) 2-Nitroaniline	(3)	10.744	138	355977	12.461
104) 1,4-Naphthoquinone	(3)	10.849	158	586501	15.347
105) 1,4-Dinitrobenzene	(3)	10.971	168	186371	12.397
106) Dimethylphthalate	(3)	11.082	163	1313414	12.364
107) 1,3-Dinitrobenzene	(3)	11.088	168	204452	12.369
108) 2,6-Dinitrotoluene	(3)	11.152	165	288836	12.292
109) Acenaphthylene	(3)	11.216	152	1656681	12.315
112) 3-Nitroaniline	(3)	11.402	138	301465	12.411
113)*Acenaphthene-d10	(3)	11.449	164	364584	5.000
114) Acenaphthene	(3)	11.496	153	1233435	12.597
115) 2,4-Dinitrophenol	(3)	11.565	184	359554	26.250
116) 4-Nitrophenol	(3)	11.694	109	225796	12.571
117) Pentachlorobenzene	(3)	11.700	250	499800	11.865
119) Dibenzofuran	(3)	11.752	168	1643220	12.289
118) 2,4-Dinitrotoluene	(3)	11.764	165	391352	12.383
121) 1-Naphthylamine	(3)	11.863	143	2092863	22.063

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	331111	12.815
123) 2-Naphthylamine	(3)	11.973	143	2000222	21.280
124) Diethylphthalate	(3)	12.125	149	1313402	12.740
126) Fluorene	(3)	12.207	166	1300150	12.119
125) Thionazin	(3)	12.218	107	254570	12.416
128) 5-Nitro-o-toluidine	(3)	12.236	152	352342	11.935
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	644065	12.328
129) 4-Nitroaniline	(3)	12.242	138	297292	12.294
130) 4,6-Dinitro-2-methylphenol	(4)	12.288	198	232418	12.155
131) N-Nitrosodiphenylamine	(4)	12.376	169	1091421	12.411
132) NDPA as diphenylamine	(4)	12.376	169	1091421	12.411
134) 1,2-Diphenylhydrazine	(4)	12.422	77	1562208	12.574
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	243739	12.040
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	148541	12.008
140) Diallate (peak 1)	(4)	12.737	86	464318	8.648
141) Phorate	(4)	12.743	75	972710	12.180
142) Phenacetin	(4)	12.766	108	718901	12.284
143) 4-Bromophenyl-phenylether	(4)	12.813	248	375922	12.459
144) Diallate (peak 2)	(4)	12.836	86	152294	3.498
145) Hexachlorobenzene	(4)	12.865	284	371828	11.701
147) Dimethoate	(4)	12.935	87	615207	11.961
149) Pentachlorophenol	(4)	13.116	266	245239	14.037
150) 4-Aminobiphenyl	(4)	13.128	169	1403113	14.371
151) Pentachloronitrobenzene	(4)	13.128	237	170761	12.310
152) Pronamide	(4)	13.232	173	633360	12.511
153)*Phenanthrene-d10	(4)	13.337	188	709116	5.000
154) Dinoseb	(4)	13.367	211	369067	12.573
155) Phenanthrene	(4)	13.367	178	1893347	11.945
157) Anthracene	(4)	13.431	178	1925453	12.200
163) Carbazole	(4)	13.646	167	1836834	12.534
164) Methyl parathion	(4)	13.850	109	482998	12.195
165) Di-n-butylphthalate	(4)	14.171	149	2315070	12.789
167) Parathion	(4)	14.392	109	328130	12.992
168) 4-Nitroquinoline-1-oxide	(4)	14.422	190	2988203	180.320
171) Isodrin	(4)	14.771	193	230026	11.970
173) Fluoranthene	(4)	14.987	202	2226577	12.268
222) Total PAHs	(6)	15.000	100	33857908	223.300
174) Benzidine	(5)	15.226	184	6337940	57.599
175)*Pyrene-d10	(5)	15.290	212	831669	5.000
177) Pyrene	(5)	15.319	202	2269547	12.019

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

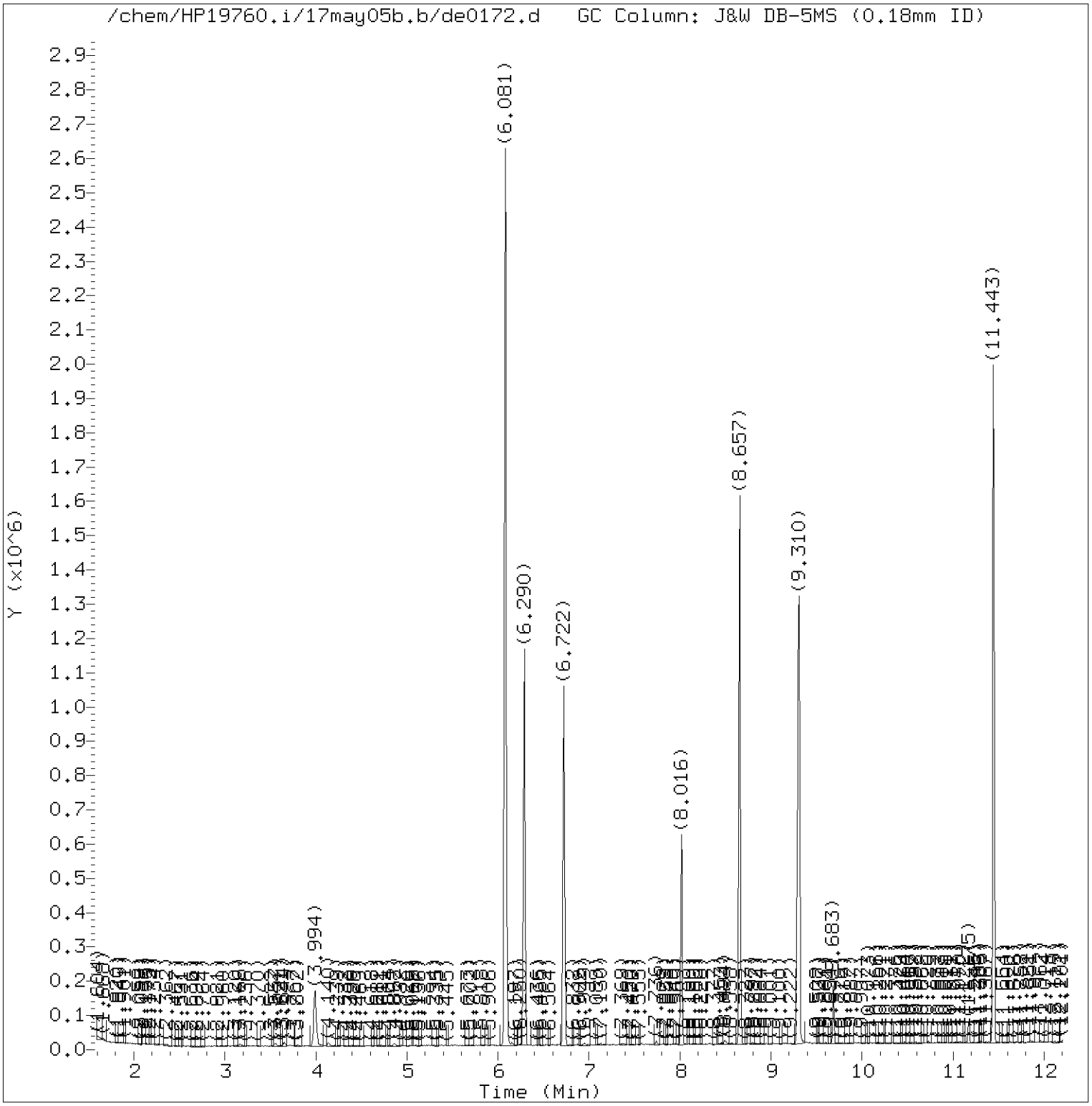
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icval1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	15.838	225	437213	14.542
185) Chlorobenzilate	(5)	15.931	139	733328	13.205
187) 3,3'-Dimethylbenzidine	(5)	16.392	212	2816547	23.100
188) Butylbenzylphthalate	(5)	16.456	149	1076053	12.874
191) 2-Acetylaminofluorene	(5)	16.805	181	952285	12.234
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	813346	11.924
195) Benzo(a)anthracene	(5)	17.307	228	2298359	12.696
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	459554	12.442
196) Chrysene	(5)	17.371	228	2176689	12.768
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1620720	12.953
203) 6-Methylchrysene	(5)	18.169	242	1481718	12.209
205) Di-n-octylphthalate	(6)	18.676	149	2919786	12.739
206) Benzo(b)fluoranthene	(6)	19.149	252	2358323	12.347
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	1023626	13.199
208) Benzo(k)fluoranthene	(6)	19.201	252	2231840	12.149
211) Benzo(a)pyrene	(6)	19.673	252	2143043	12.143
213)*Perylene-d12	(6)	19.761	264	701134	5.000
215) 3-Methylcholanthrene	(6)	20.244	268	1063335	13.539
217) Dibenz(a,h)acridine	(6)	21.049	279	1588090	12.498
218) Dibenz(a,j)acridine	(6)	21.124	279	1575964	12.643
219) Indeno(1,2,3-cd)pyrene	(6)	21.363	276	2231087	12.897
220) Dibenz(a,h)anthracene	(6)	21.398	278	1915052	13.309
221) Benzo(g,h,i)perylene	(6)	21.725	276	1774536	12.536

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

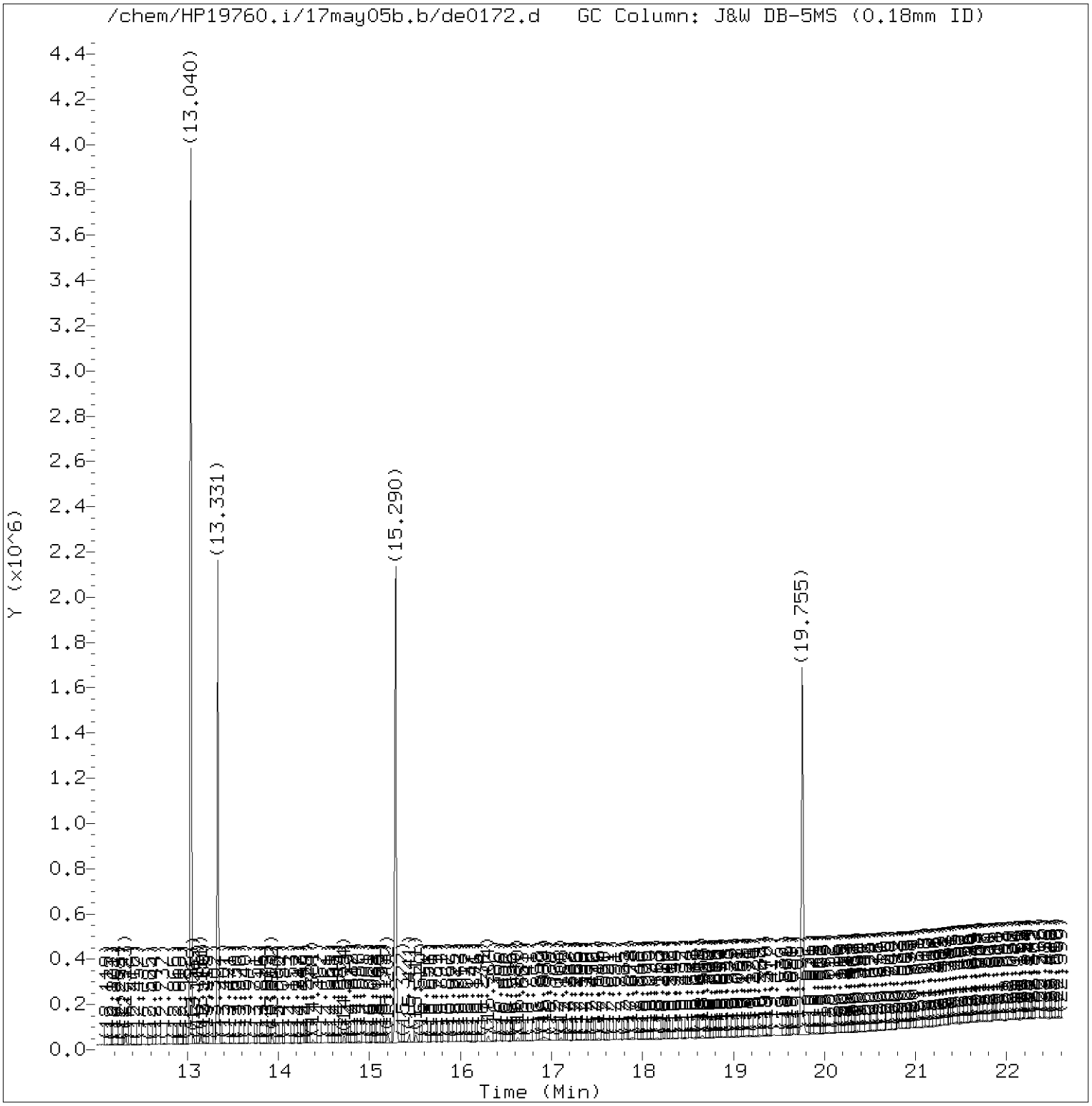
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

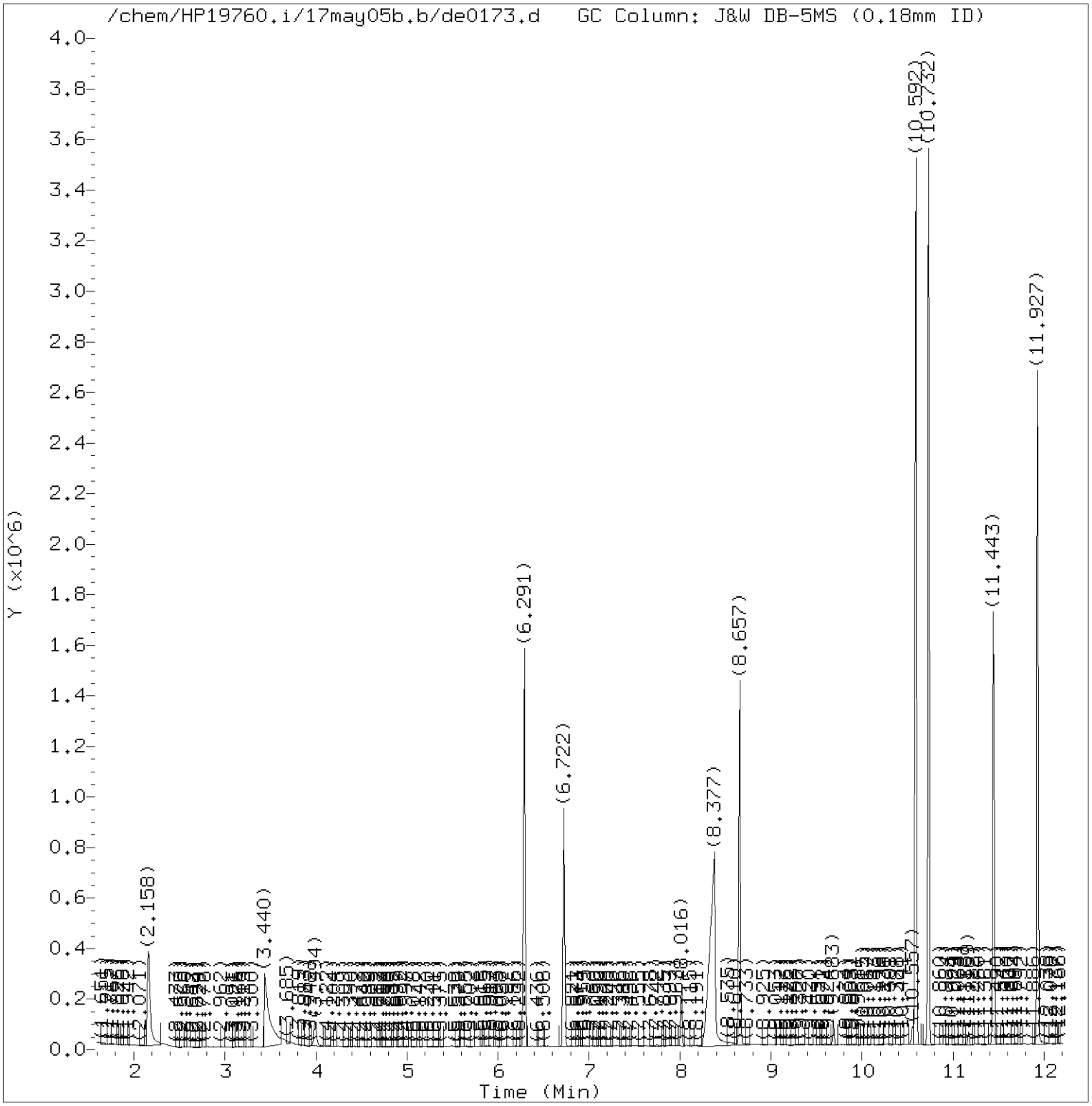
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
16) Benzaldehyde	(1)	6.081	77	850488	12.837
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	227886	5.000
65)*Naphthalene-d8	(2)	8.657	136	836562	5.000
76) Caprolactam	(2)	9.310	113	209229	12.183
113)*Acenaphthene-d10	(3)	11.443	164	478137	5.000
148) Atrazine	(4)	13.040	200	488478	13.489
153)*Phenanthrene-d10	(4)	13.337	188	924312	5.000
175)*Pyrene-d10	(5)	15.290	212	1107203	5.000
213)*Perylene-d12	(6)	19.755	264	861987	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

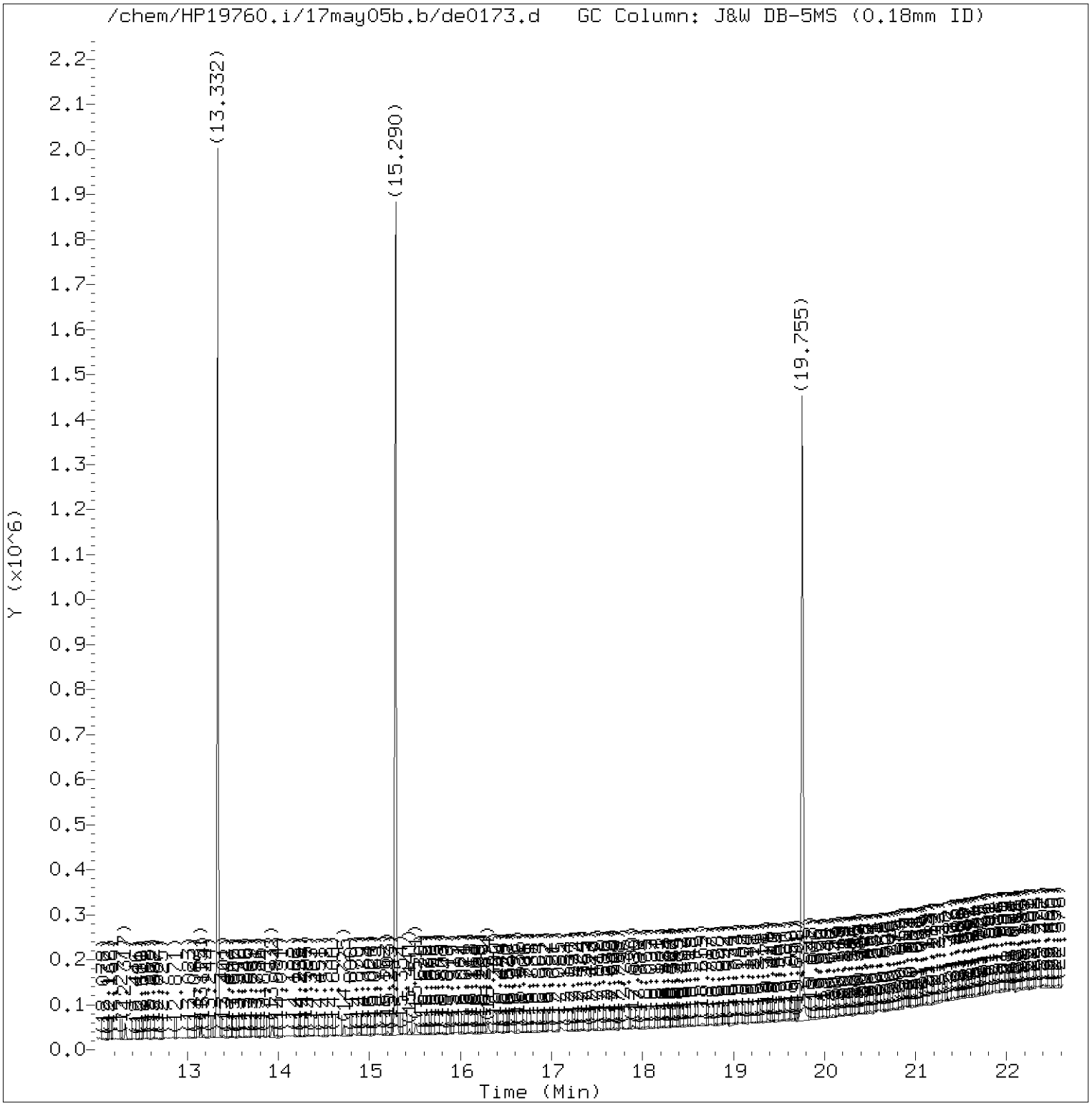
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	195592	5.000
56) Benzoic acid	(2)	8.377	105	792981	16.203
65)*Naphthalene-d8	(2)	8.657	136	738642	5.000
113)*Acenaphthene-d10	(3)	11.443	164	419970	5.000
153)*Phenanthrene-d10	(4)	13.332	188	811786	5.000
175)*Pyrene-d10	(5)	15.290	212	959935	5.000
213)*Perylene-d12	(6)	19.755	264	736778	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP19760.i/17may28.b/de0820.d

Date : 27-MAY-2017 23:39

Client ID: DFTPP12.5

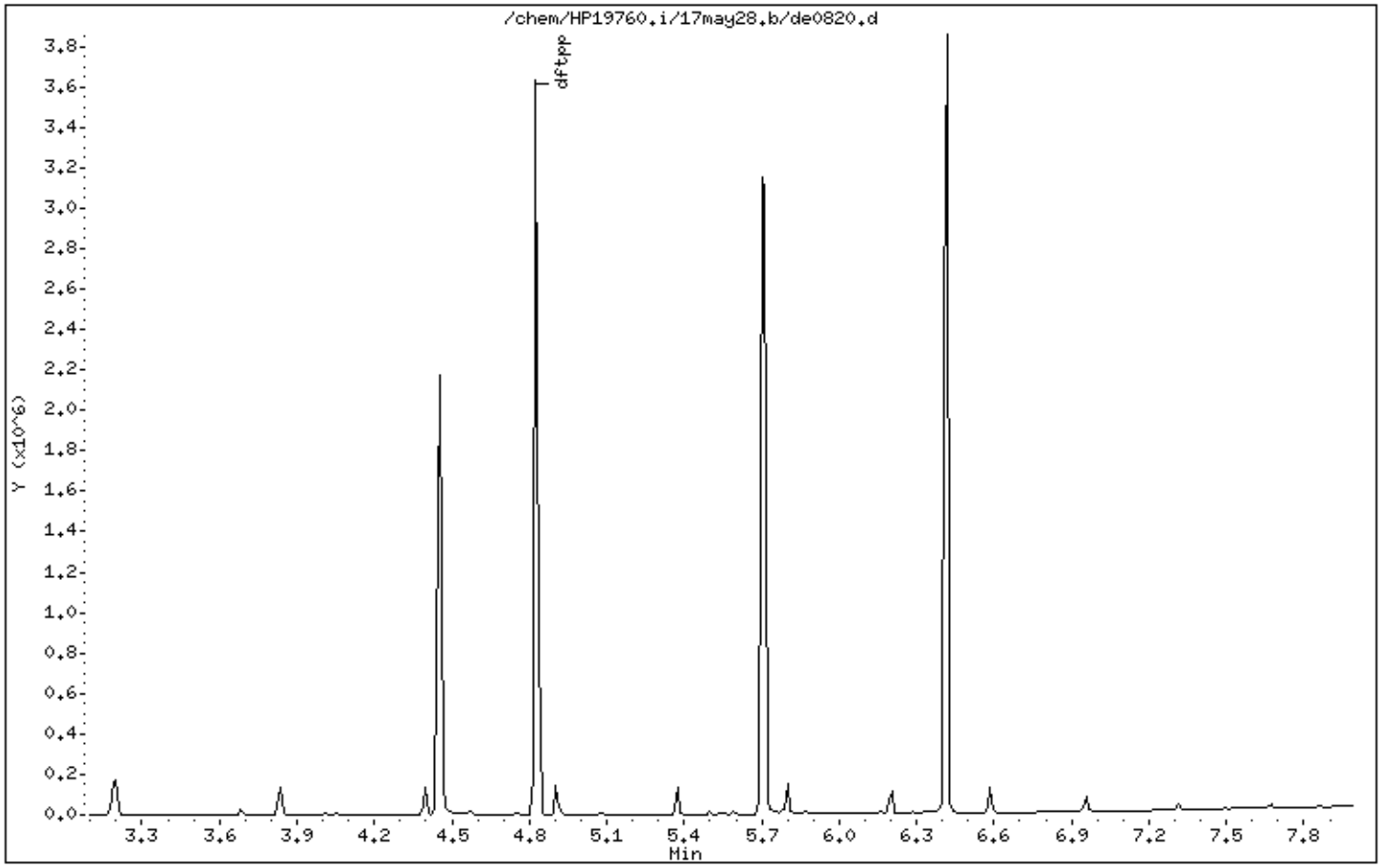
Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1247;1;3;DFTPP;

Operator: apb10206

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Anthony P. Bauer on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Data File: /chem/HP19760.i/17may28.b/de0820.d

Date : 27-MAY-2017 23:39

Client ID: DFTPP12.5

Instrument: HP19760.i

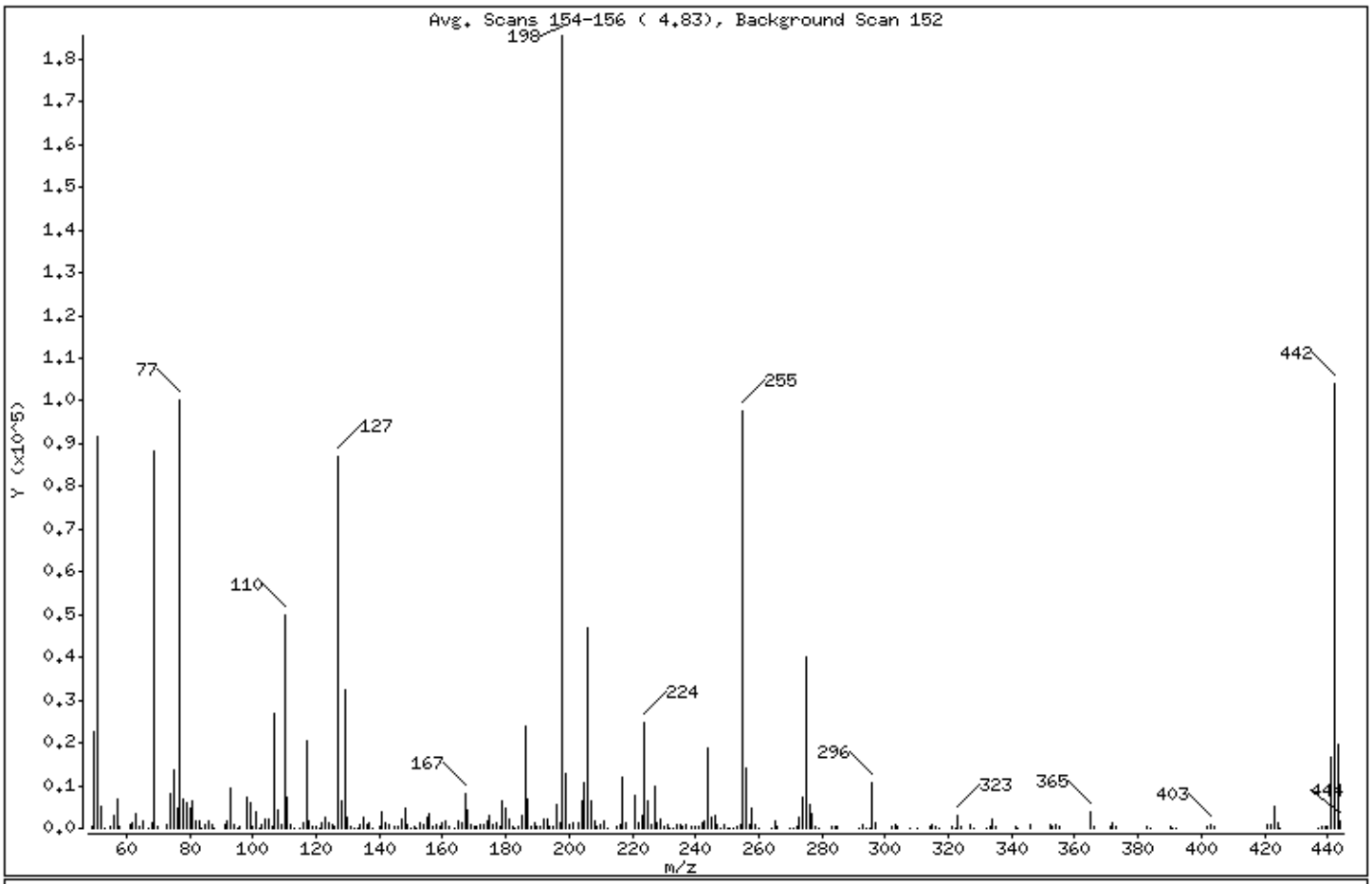
Sample Info: DFTPP12.5;DFTPP1247;1;3;DFTPP;

Operator: apb10206

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	49.46
68	Less than 2.00% of mass 69	0.67 (1.41)
69	Mass 69 relative abundance	47.51
70	Less than 2.00% of mass 69	0.16 (0.34)
127	10.00 - 80.00% of mass 198	46.99
197	Less than 2.00% of mass 198	0.76
199	5.00 - 9.00% of mass 198	6.97
275	10.00 - 60.00% of mass 198	21.56
365	Greater than 1.00% of mass 198	2.07
441	0.01 - 24.00% of mass 442	8.90 (15.89)
442	50.00 - 99.99% of mass 198	56.02
443	15.00 - 24.00% of mass 442	10.60 (18.92)

Digitally signed by Anthony P. Bauer on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Date : 27-MAY-2017 23:39

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1247;1;3;DFTPP;

Operator: apb10206

Column phase: DB-5MS Column diameter: 0.18

Data File: de0820.d
Spectrum: Avg. Scans 154-156 (4.83), Background Scan 152
Location of Maximum: 198.00
Number of points: 267

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	509	126.00	425	196.00	5592	275.00	39984
50.00	22576	127.00	87176	197.00	1414	276.00	5533
51.00	91760	128.00	6564	198.00	185472	277.00	3238
52.00	4941	129.00	32456	199.00	12936	278.00	525
53.00	159	130.00	2524	200.00	980	279.00	99
55.00	340	131.00	387	201.00	1234	283.00	252
56.00	2794	132.00	174	203.00	1246	284.00	284
57.00	6702	133.00	130	204.00	6512	285.00	527
58.00	296	134.00	865	205.00	10608	292.00	120
61.00	1033	135.00	2442	206.00	46872	293.00	759
62.00	1201	136.00	954	207.00	6388	294.00	146
63.00	3493	137.00	1243	208.00	1668	295.00	189
64.00	365	138.00	164	209.00	335	296.00	10651
65.00	1795	140.00	292	210.00	840	297.00	1326
67.00	125	141.00	4031	211.00	1733	302.00	231
68.00	1241	142.00	1227	212.00	173	303.00	1055
69.00	88128	143.00	834	215.00	424	304.00	344
70.00	300	145.00	225	216.00	889	308.00	85
73.00	803	146.00	558	217.00	11857	310.00	95
74.00	8311	147.00	2197	218.00	1453	314.00	453
75.00	13514	148.00	4728	221.00	7516	315.00	1063
76.00	4583	149.00	858	222.00	1152	316.00	614
77.00	100168	150.00	161	223.00	2801	317.00	88
78.00	6654	151.00	399	224.00	24824	321.00	302
79.00	5856	152.00	120	225.00	6305	322.00	203
80.00	4510	153.00	1259	226.00	657	323.00	3141
81.00	6472	154.00	835	227.00	9780	324.00	522
82.00	1701	155.00	2369	228.00	1462	327.00	681
83.00	1520	156.00	3514	229.00	2188	328.00	139
84.00	105	157.00	583	230.00	343	332.00	194
85.00	965	158.00	675	231.00	810	333.00	263
86.00	1610	159.00	437	232.00	110	334.00	2028
87.00	786	160.00	1352	233.00	164	335.00	475
88.00	196	161.00	1789	234.00	645	341.00	406
91.00	777	162.00	453	235.00	664	342.00	89

Digitally signed by Anthony P. Bauer on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Date : 27-MAY-2017 23:39

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1247;1;3;DFTPP;

Operator: apb10206

Column phase: DB-5MS Column diameter: 0.18

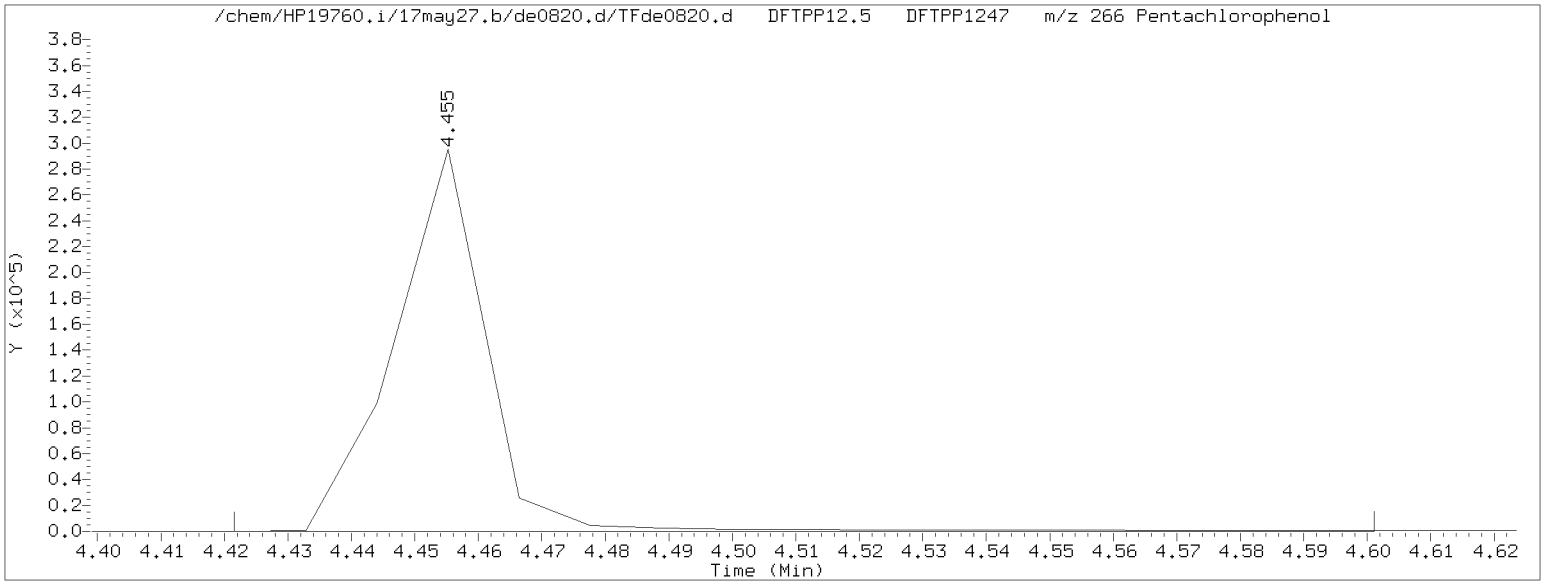
Data File: de0820.d
Spectrum: Avg. Scans 154-156 (4.83), Background Scan 152
Location of Maximum: 198.00
Number of points: 267

m/z	Y	m/z	Y	m/z	Y	m/z	Y
92.00	1635	164.00	151	236.00	488	346.00	668
93.00	9571	165.00	1517	237.00	784	352.00	926
94.00	748	166.00	1255	239.00	440	353.00	590
95.00	124	167.00	8016	240.00	233	354.00	884
96.00	465	168.00	4439	241.00	545	355.00	278
98.00	7132	169.00	821	242.00	1241	365.00	3843
99.00	5980	170.00	229	243.00	1505	366.00	547
100.00	587	171.00	265	244.00	18920	371.00	331
101.00	3659	172.00	795	245.00	2626	372.00	1471
102.00	127	173.00	908	246.00	3156	373.00	380
103.00	970	174.00	1537	247.00	686	383.00	354
104.00	2062	175.00	3188	248.00	121	384.00	178
105.00	2145	176.00	1000	249.00	765	390.00	233
106.00	639	177.00	1330	250.00	129	391.00	84
107.00	26680	178.00	384	251.00	94	392.00	91
108.00	4164	179.00	6227	252.00	168	402.00	629
109.00	669	180.00	4822	253.00	478	403.00	709
110.00	50048	181.00	2099	254.00	979	404.00	279
111.00	7282	182.00	247	255.00	97680	421.00	691
112.00	698	183.00	112	256.00	14282	422.00	687
113.00	178	184.00	518	257.00	1039	423.00	4976
115.00	107	185.00	3148	258.00	4828	424.00	1231
116.00	1223	186.00	23712	259.00	754	425.00	88
117.00	20600	187.00	6734	260.00	84	437.00	212
118.00	1675	188.00	633	264.00	200	438.00	316
119.00	237	189.00	1357	265.00	1892	439.00	365
120.00	266	190.00	254	266.00	409	440.00	516
121.00	99	191.00	613	270.00	106	441.00	16512
122.00	1428	192.00	2138	271.00	128	442.00	103928
123.00	2556	193.00	2325	272.00	224	443.00	19656
124.00	1178	194.00	430	273.00	2524	444.00	1901
125.00	961	195.00	448	274.00	7047		

Digitally signed by Anthony P. Bauer on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Assessment of GC Column Performance and Injection Port Inertness for

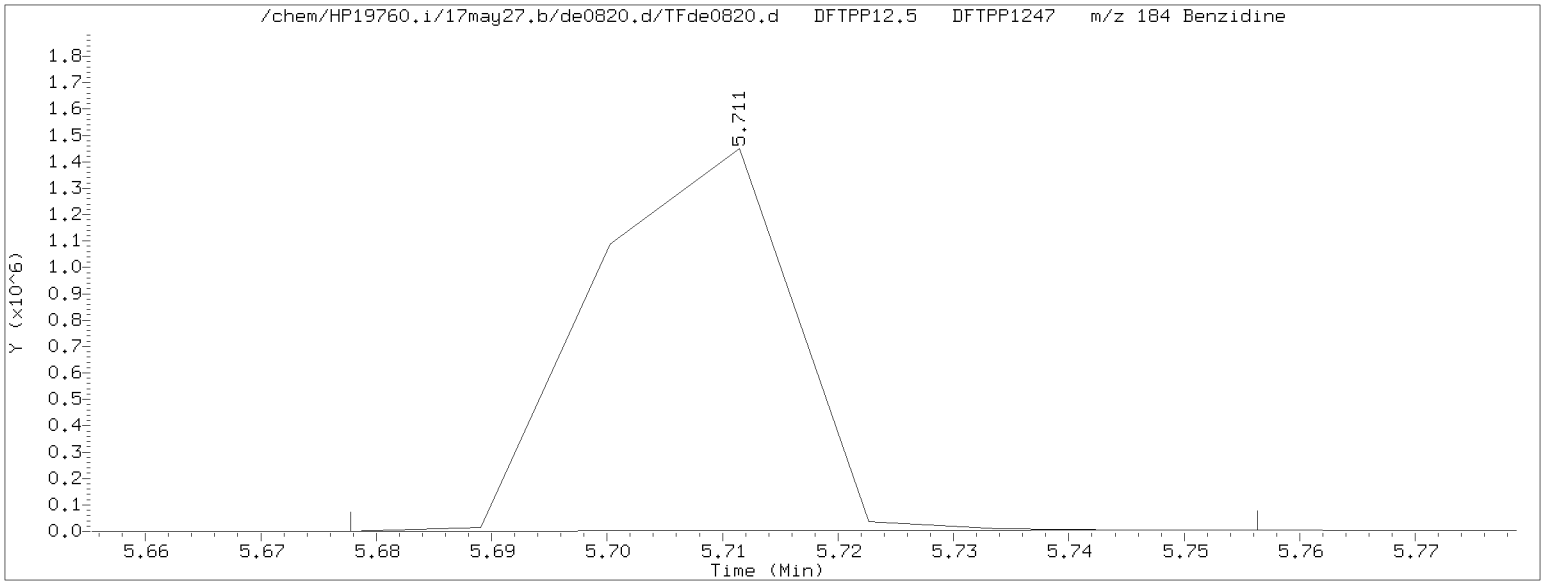
Instrument ID: HP19760.i Injection Date: 27-MAY-2017 23:39 Operator: apb10206



Pentachlorophenol EICP peak height = 295424 EICP peak height at 10% = 29542 Pentachlorophenol EICP area = 293925

Pentachlorophenol EICP peak apex (min.) = 4.455
RT at 5% of front half of EICP (min.) = 4.434 'Front' peak width (min.) = 0.0208000000
RT at 5% of back half of EICP (min.) = 4.472 'Tailing' peak width (min.) = 0.0170500000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0170500000}{0.0208000000} = 0.820$$



Benzidine EICP peak height = 1448281 EICP peak height at 1.25% = 18104 Benzidine EICP area = 1746115

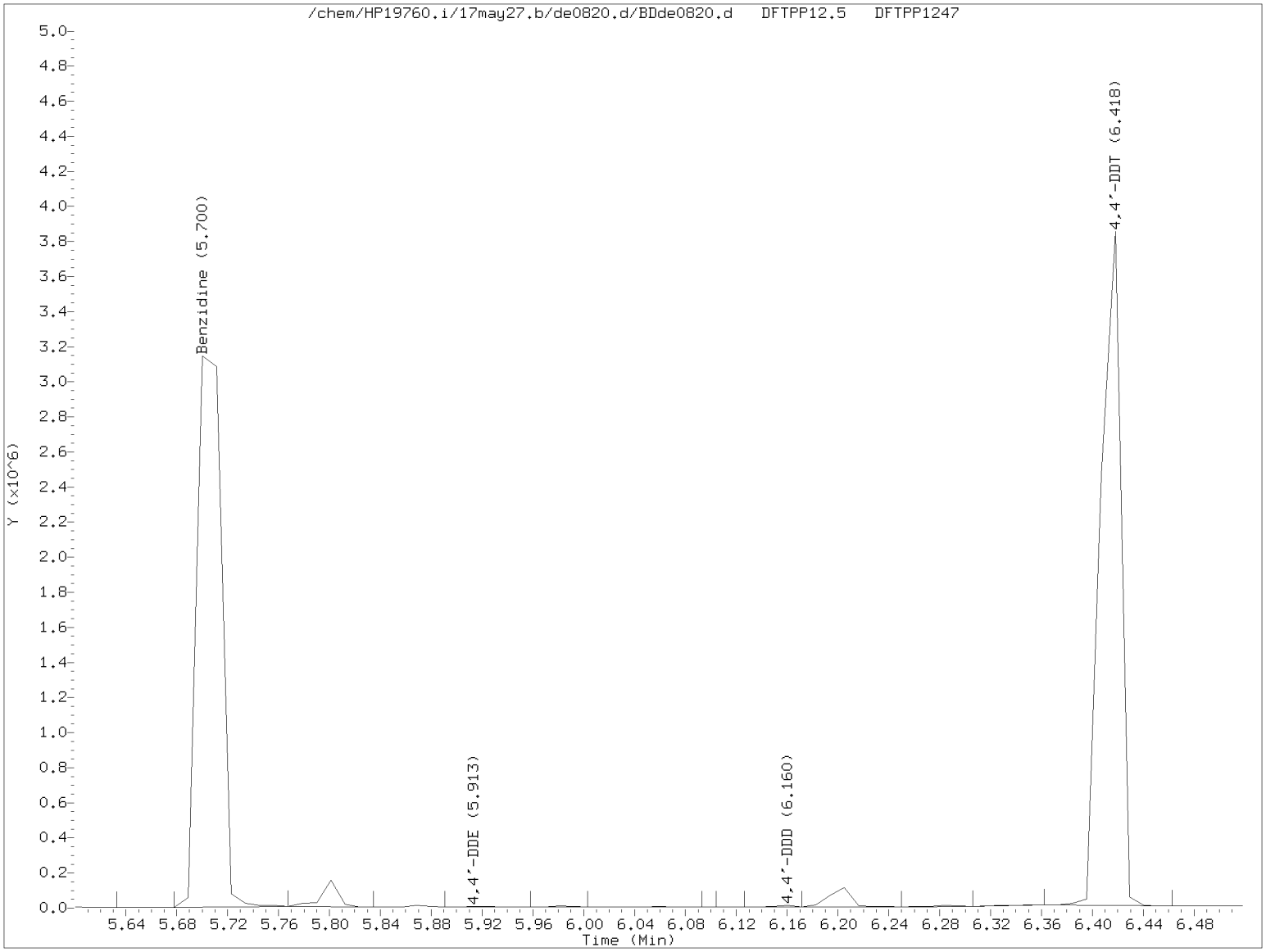
Benzidine EICP peak apex (min.) = 5.711
RT at 1.25% of front half of EICP (min.) = 5.689 'Front' peak width (min.) = 0.0223833333
RT at 1.25% of back half of EICP (min.) = 5.730 'Tailing' peak width (min.) = 0.0184500000

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0184500000}{0.0223833333} = 0.824$$

Secondary review performed and digitally signed by Matthew E. Barton on 06/02/2017 at 09:53. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

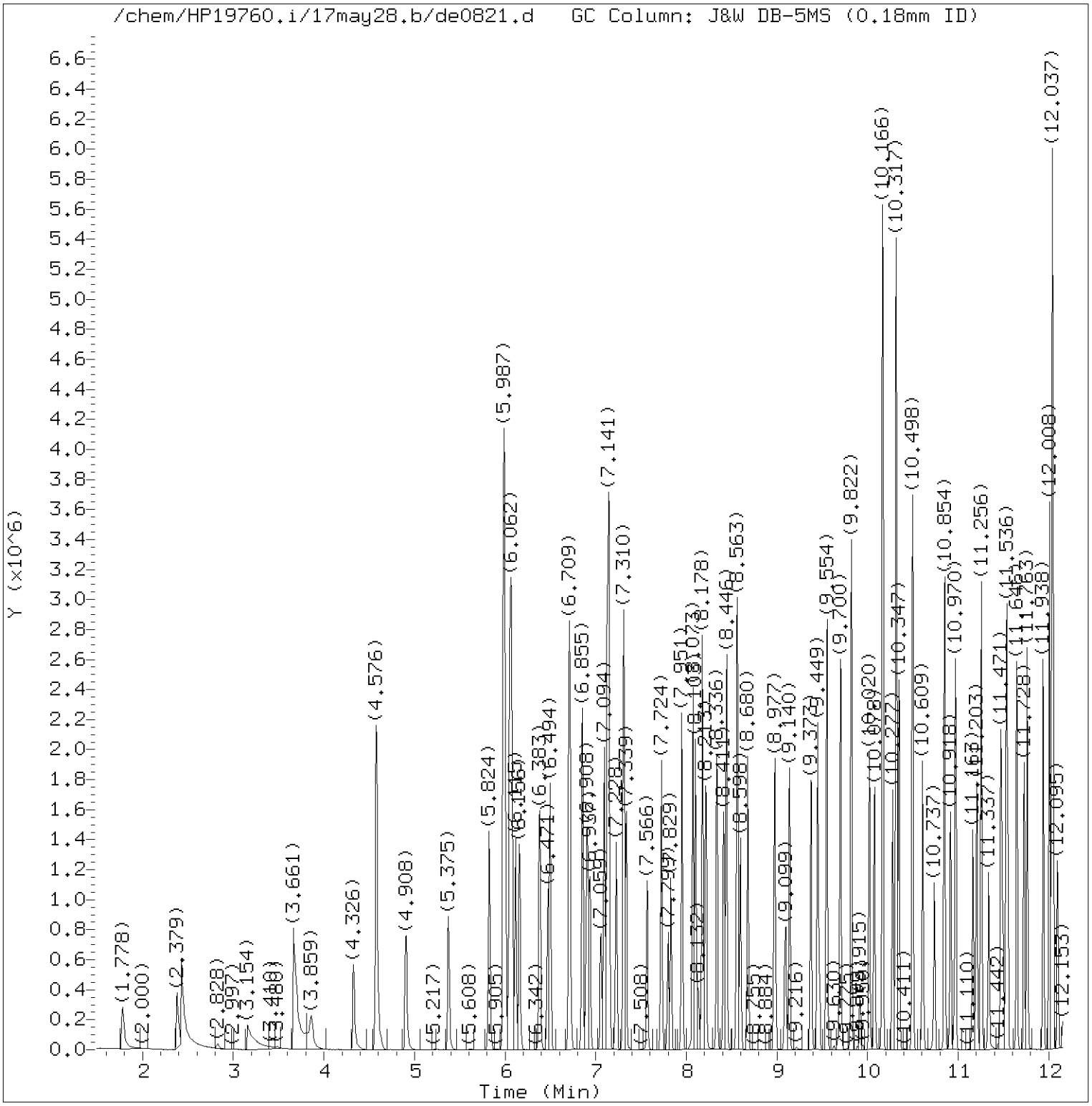
Instrument ID: HP19760.i Injection Date: 27-MAY-2017 23:39 Operator: apb10206



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{5124 + 7233}{5124 + 7233 + 4309145} \times 100 = 0.3$$

Secondary review performed and digitally signed by Matthew E. Barton on 06/02/2017 at 09:53. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

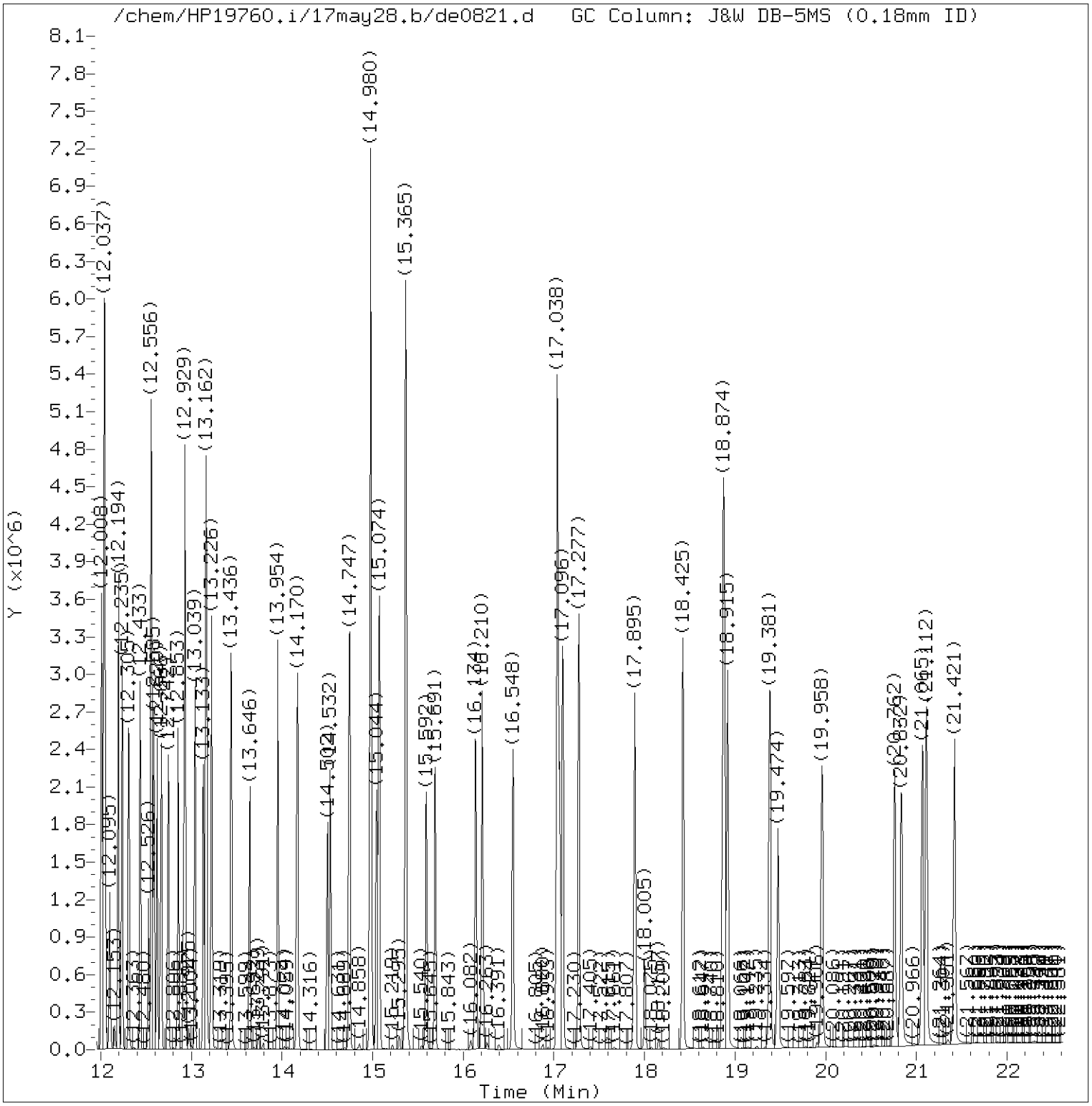
Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0821.d Instrument ID: HP19760.i
Injection date and time: 27-MAY-2017 23:52 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: all1
Calibration date and time: 28-MAY-2017 06:38
Date, time and analyst ID of latest file update: 28-May-2017 06:38 apb10206

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Digitally signed by Anthony P. Bauer
on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0821.d Instrument ID: HP19760.i
Injection date and time: 27-MAY-2017 23:52 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: all1
Calibration date and time: 28-MAY-2017 06:38
Date, time and analyst ID of latest file update: 28-May-2017 06:38 apb10206

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Digitally signed by Anthony P. Bauer
on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0821.d Instrument ID: HP19760.i
Injection date and time: 27-MAY-2017 23:52 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: all1
Calibration date and time: 28-MAY-2017 06:38
Date, time and analyst ID of latest file update: 28-May-2017 06:38 apb10206

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.778	88	248893	7.846
4) N-Nitrosodimethylamine	(1)	2.379	74	394388	7.732
5) Pyridine	(1)	2.425	79	595420	7.113
7) 2-Picoline	(1)	3.661	93	645270	7.550
8) N-Nitrosomethylethylamine	(1)	3.859	88	276419	7.579
9) Methyl methanesulfonate	(1)	4.326	80	318737	7.637
11)$2-Fluorophenol	(1)	4.576	112	1019867	15.152
13) N-Nitrosodiethylamine	(1)	4.908	102	258557	7.632
15) Ethyl methanesulfonate	(1)	5.375	109	276061	7.544
42) Total Cresols	(1)			1065542	14.950
16) Benzaldehyde	(1)	5.824	77	494872	7.846
17)$Phenol-d6	(1)	5.981	99	1384481	15.155
19) Aniline	(1)	5.993	93	909967	7.483
18) Phenol	(1)	5.998	94	824649	7.968
20) a-methylstyrene	(1)	6.074	118	582997	7.827
22) bis(2-Chloroethyl)ether	(1)	6.115	93	575998	7.491
23) 2-Chlorophenol	(1)	6.156	128	504838	7.489
24) 1,3-Dichlorobenzene	(1)	6.383	146	543127	7.438
25)*1,4-Dichlorobenzene-d4	(1)	6.471	152	216947	5.000
26) 1,4-Dichlorobenzene	(1)	6.494	146	546428	7.323
27) Benzyl alcohol	(1)	6.704	108	359902	7.483
28) 1,2-Dichlorobenzene	(1)	6.715	146	516525	7.347
30) Indene	(1)	6.855	115	999840	7.624
31) 2-Methylphenol	(1)	6.902	108	496297	7.486
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.937	45	887472	7.812
34) bis(2-Chloroisopropyl)ether	(1)	6.937	45	887472	7.812
35) N-Nitrosopyrrolidine	(1)	7.059	100	280981	7.525
36) Acetophenone	(1)	7.094	105	770439	7.726
38) N-Nitroso-di-n-propylamine	(1)	7.123	70	446021	7.416
39) N-Nitrosomorpholine	(1)	7.129	56	400220	7.821
37) 4-Methylphenol	(1)	7.141	108	569245	7.464
40) o-Toluidine	(1)	7.147	106	874586	7.484
43) Hexachloroethane	(1)	7.228	117	228567	7.479
44)$Nitrobenzene-d5	(2)	7.310	82	1256534	14.800
45) Nitrobenzene	(2)	7.339	77	650878	7.611
97) Isosafrole	(3)			403758	7.233
48) N-Nitrosopiperidine	(2)	7.566	114	255158	7.556
50) Isophorone	(2)	7.724	82	1111949	7.603
51) 2-Nitrophenol	(2)	7.829	139	252838	7.487
53) 2,4-Dimethylphenol	(2)	7.951	107	544192	7.473

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0821.d Instrument ID: HP19760.i
Injection date and time: 27-MAY-2017 23:52 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: all1
Calibration date and time: 28-MAY-2017 06:38
Date, time and analyst ID of latest file update: 28-May-2017 06:38 apb10206

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			528031	14.717
57) O,O,O-Triethylphosphorothioate	(2)	8.073	198	251893	7.332
55) bis(2-Chloroethoxy)methane	(2)	8.103	93	703595	7.525
56) Benzoic acid	(2)	8.132	105	466264M	9.631
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.178	104	813884	7.578
60) 2,4-Dichlorophenol	(2)	8.213	162	405260	7.520
62) 1,2,4-Trichlorobenzene	(2)	8.336	180	463108	7.306
65)*Naphthalene-d8	(2)	8.411	136	819237	5.000
66) Naphthalene	(2)	8.446	128	1413496	7.222
67) 4-Chloroaniline	(2)	8.557	127	589707	7.433
68) 2,6-Dichlorophenol	(2)	8.569	162	399652	7.480
69) Hexachloropropene	(2)	8.598	213	307443	7.184
71) Hexachlorobutadiene	(2)	8.680	225	273296	7.297
146) Diallate trans/cis	(4)			516149	7.788
75) Quinoline	(2)	8.977	129	909783	7.564
76) Caprolactam	(2)	9.099	113	124839	7.423
77) N-Nitrosodi-n-butylamine	(2)	9.140	84	420470	7.021
80) 4-Chloro-3-methylphenol	(2)	9.373	107	460860	7.503
82) Safrole	(2)	9.449	162	365988	7.497
83) 2-Methylnaphthalene	(2)	9.554	142	950691	7.419
84) 1-Methylnaphthalene	(2)	9.700	142	862852	7.321
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.822	216	494799	7.286
85) Hexachlorocyclopentadiene	(3)	9.822	237	230218	7.112
88) cis-Isosafrole	(3)	9.915	162	64439	1.211
90) 2,4,6-Trichlorophenol	(3)	10.020	196	312050	7.545
92) 2,4,5-Trichlorophenol	(3)	10.078	196	328858	7.363
93)$2-Fluorobiphenyl	(3)	10.166	172	2156734	14.619
94) trans-Isosafrole	(3)	10.277	162	339319	6.023
96) 2-Chloronaphthalene	(3)	10.317	162	902396	7.540
95) 1,1'-Biphenyl	(3)	10.317	154	1094770	7.700
98) 1-Chloronaphthalene	(3)	10.347	162	805747	7.050
99) Diphenyl ether	(3)	10.498	170	606456	7.239
100) 2-Nitroaniline	(3)	10.504	138	276703	7.440
104) 1,4-Naphthoquinone	(3)	10.609	158	374596	7.529
105) 1,4-Dinitrobenzene	(3)	10.737	168	142573	7.284
106) Dimethylphthalate	(3)	10.854	163	1015687	7.345
107) 1,3-Dinitrobenzene	(3)	10.854	168	160016	7.436
108) 2,6-Dinitrotoluene	(3)	10.918	165	224562	7.341
109) Acenaphthylene	(3)	10.970	152	1299996	7.423
112) 3-Nitroaniline	(3)	11.163	138	241700	7.643

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0821.d Instrument ID: HP19760.i
Injection date and time: 27-MAY-2017 23:52 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: all1
Calibration date and time: 28-MAY-2017 06:38
Date, time and analyst ID of latest file update: 28-May-2017 06:38 apb10206

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.203	164	474638	5.000
114) Acenaphthene	(3)	11.256	153	925467	7.260
115) 2,4-Dinitrophenol	(3)	11.337	184	175854	9.862
117) Pentachlorobenzene	(3)	11.471	250	404241	7.371
116) 4-Nitrophenol	(3)	11.495	109	166599	7.125
119) Dibenzofuran	(3)	11.530	168	1267402	7.281
118) 2,4-Dinitrotoluene	(3)	11.547	165	303469	7.376
121) 1-Naphthylamine	(3)	11.646	143	897158	7.265
122) 2,3,4,6-Tetrachlorophenol	(3)	11.728	232	254992	7.581
123) 2-Naphthylamine	(3)	11.763	143	881722	7.205
124) Diethylphthalate	(3)	11.938	149	1001877	7.465
126) Fluorene	(3)	12.008	166	1029270	7.369
125) Thionazin	(3)	12.037	107	198260	7.427
128) 5-Nitro-o-toluidine	(3)	12.043	152	281024	7.312
127) 4-Chlorophenyl-phenylether	(3)	12.043	204	505587	7.434
129) 4-Nitroaniline	(3)	12.049	138	237802	7.554
130) 4,6-Dinitro-2-methylphenol	(4)	12.101	198	182726	7.502
131) N-Nitrosodiphenylamine	(4)	12.194	169	854709	7.630
132) NDPA as diphenylamine	(4)	12.194	169	854709	7.630
134) 1,2-Diphenylhydrazine	(4)	12.235	77	1240982	7.842
135)$2,4,6-Tribromophenol	(3)	12.311	330	261935	14.827
137) Tetraethyldithiopyrophosphate	(4)	12.433	97	193743	7.514
139) 1,3,5-Trinitrobenzene	(4)	12.526	213	112518	7.141
140) Diallate (peak 1)	(4)	12.556	86	445613	6.516
141) Phorate	(4)	12.561	75	820255	8.063
142) Phenacetin	(4)	12.585	108	562418	7.544
143) 4-Bromophenyl-phenylether	(4)	12.620	248	289230	7.526
144) Diallate (peak 2)	(4)	12.655	86	70536	1.272
145) Hexachlorobenzene	(4)	12.666	284	293450	7.250
147) Dimethoate	(4)	12.742	87	521066	7.953
148) Atrazine	(4)	12.853	200	273510	7.729
149) Pentachlorophenol	(4)	12.917	266	176336	7.923
150) 4-Aminobiphenyl	(4)	12.929	169	938677	7.548
151) Pentachloronitrobenzene	(4)	12.929	237	130165	7.367
152) Pronamide	(4)	13.039	173	494268	7.665
153)*Phenanthrene-d10	(4)	13.133	188	903267	5.000
155) Phenanthrene	(4)	13.162	178	1486734	7.363
154) Dinoseb	(4)	13.168	211	287080	7.678
157) Anthracene	(4)	13.226	178	1507700	7.500
163) Carbazole	(4)	13.436	167	1430430	7.663

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0821.d Instrument ID: HP19760.i
Injection date and time: 27-MAY-2017 23:52 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: all1
Calibration date and time: 28-MAY-2017 06:38
Date, time and analyst ID of latest file update: 28-May-2017 06:38 apb10206

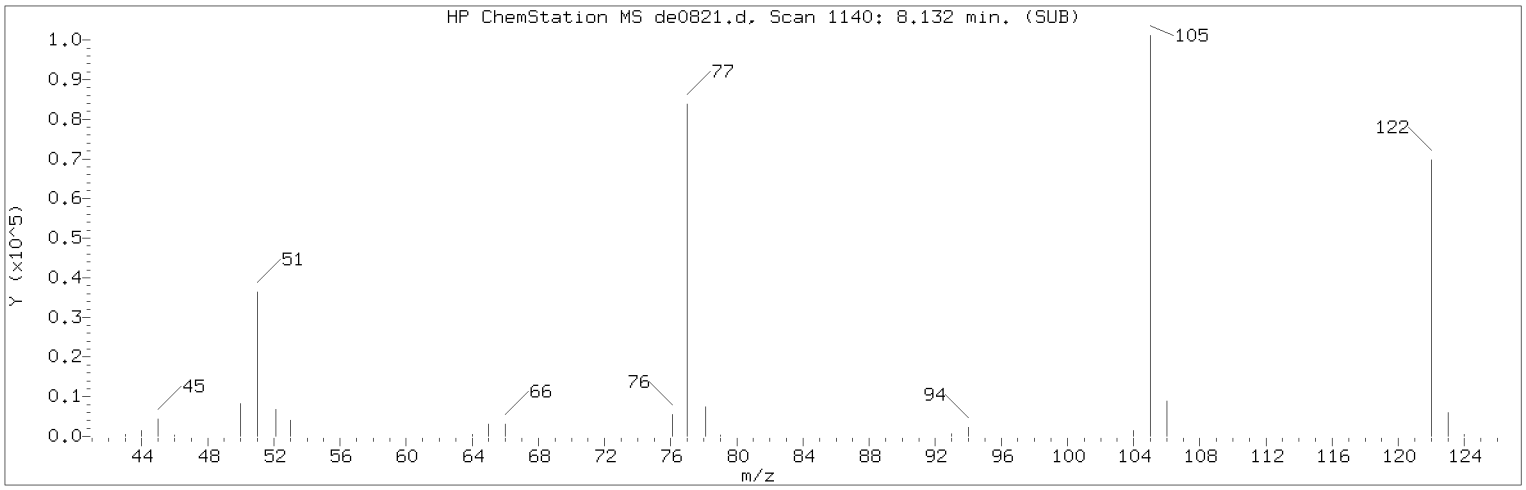
Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.646	109	399421	7.917
165) Di-n-butylphthalate	(4)	13.954	149	1768444	7.670
168) 4-Nitroquinoline-1-oxide	(4)	14.164	190	134742	6.383
167) Parathion	(4)	14.170	109	252818	7.858
169) Octachlorostyrene	(4)	14.502	308	115748	7.601
171) Isodrin	(4)	14.532	193	182768	7.467
173) Fluoranthene	(4)	14.747	202	1760227	7.614
174) Benzidine	(5)	14.980	184	3351886	23.116
222) Total PAHs	(6)			26629009	135.129
175)*Pyrene-d10	(5)	15.044	212	1095970	5.000
177) Pyrene	(5)	15.074	202	1821077	7.318
179)$Terphenyl-d14	(5)	15.365	244	2431501	15.118
182) p-Dimethylaminoazobenzene	(5)	15.592	225	297224	7.502
185) Chlorobenzilate	(5)	15.691	139	540782	7.390
187) 3,3'-Dimethylbenzidine	(5)	16.140	212	1166166	7.258
188) Butylbenzylphthalate	(5)	16.210	149	831147	7.546
191) 2-Acetylaminofluorene	(5)	16.548	181	739414	7.208
195) Benzo(a)anthracene	(5)	17.038	228	1774877	7.440
193) 3,3'-Dichlorobenzidine	(5)	17.044	252	664917	7.397
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.067	231	357335	7.342
196) Chrysene	(5)	17.096	228	1676397	7.462
199) bis(2-Ethylhexyl)phthalate	(5)	17.277	149	1231574	7.469
203) 6-Methylchrysene	(5)	17.895	242	1190173	7.442
205) Di-n-octylphthalate	(6)	18.425	149	2142870	7.188
206) Benzo(b)fluoranthene	(6)	18.868	252	1792884	7.217
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.880	256	755084	7.486
208) Benzo(k)fluoranthene	(6)	18.920	252	1812365	7.585
211) Benzo(a)pyrene	(6)	19.387	252	1708351	7.442
213)*Perylene-d12	(6)	19.474	264	911974	5.000
215) 3-Methylcholanthrene	(6)	19.958	268	742678	7.270
217) Dibenz(a,h)acridine	(6)	20.762	279	1249989	7.563
218) Dibenz(a,j)acridine	(6)	20.838	279	1294544	7.984
219) Indeno(1,2,3-cd)pyrene	(6)	21.071	276	1824535	8.108
220) Dibenz(a,h)anthracene	(6)	21.112	278	1503692	8.034
221) Benzo(g,h,i)perylene	(6)	21.421	276	1478398	8.029

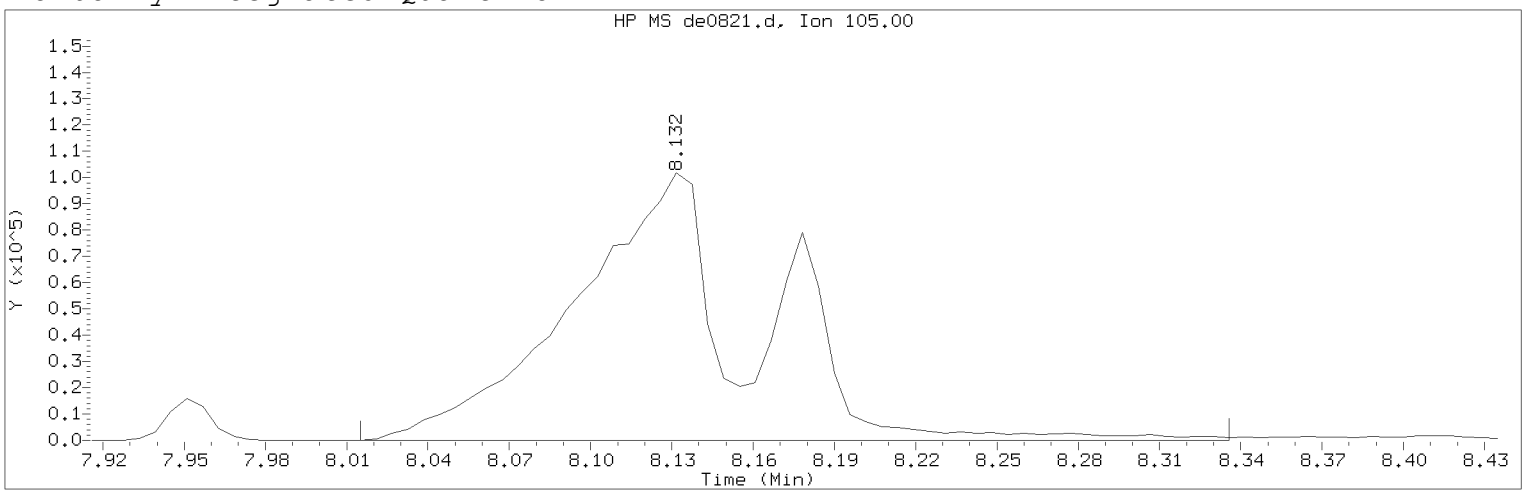
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may28.b/de0821.d Instrument ID: HP19760.i
Injection date and time: 27-MAY-2017 23:52 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: all1
Calibration date and time: 28-MAY-2017 06:38
Date, time and analyst ID of latest file update: 28-May-2017 06:38 apb10206

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

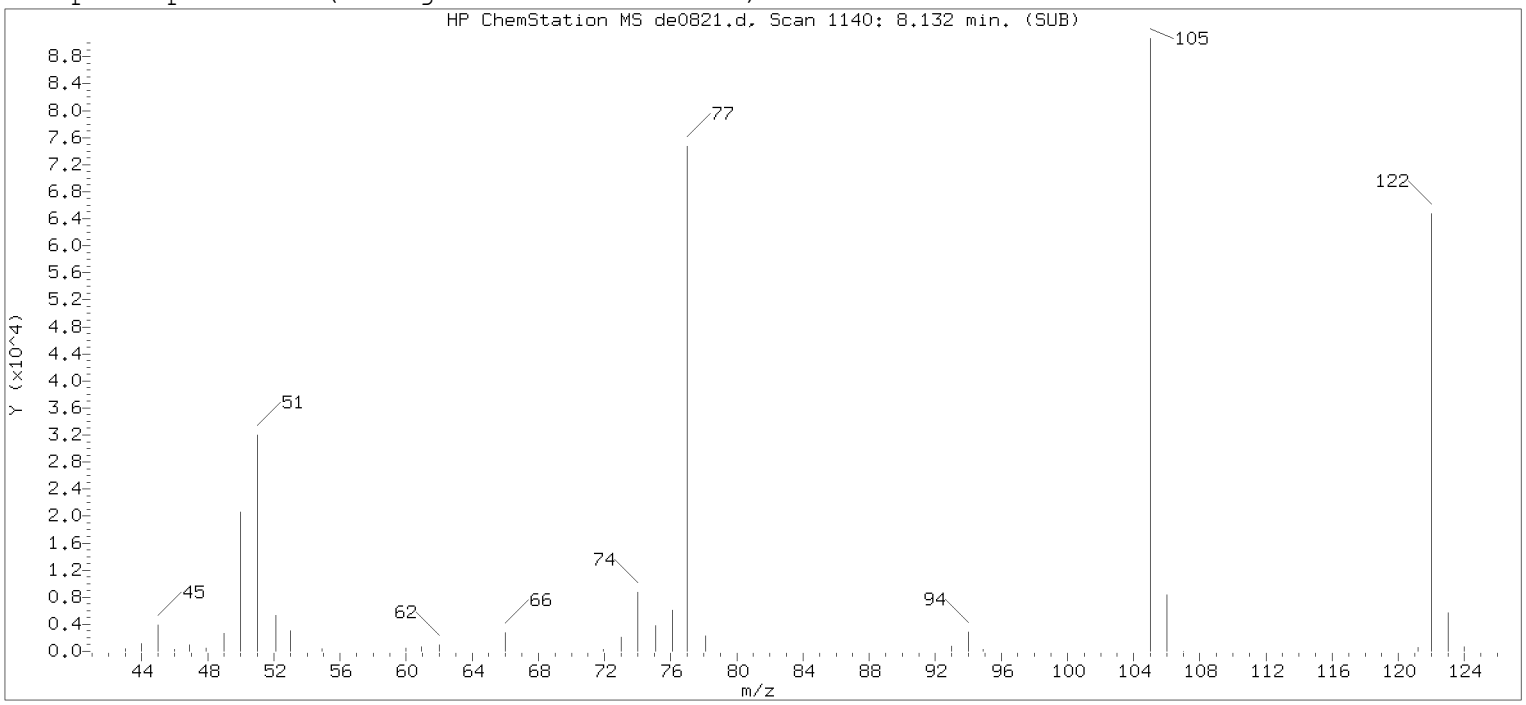
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1140
Retention Time (minutes) : 8.132
Quant Ion : 105.00
Area (flag) : 466264M
On-Column Amount (ng/ul) : 9.6314
Integration start scan : 1119 Integration stop scan: 1174
Y at integration start : 87 Y at integration end: 87

Reason for manual integration: improper integration

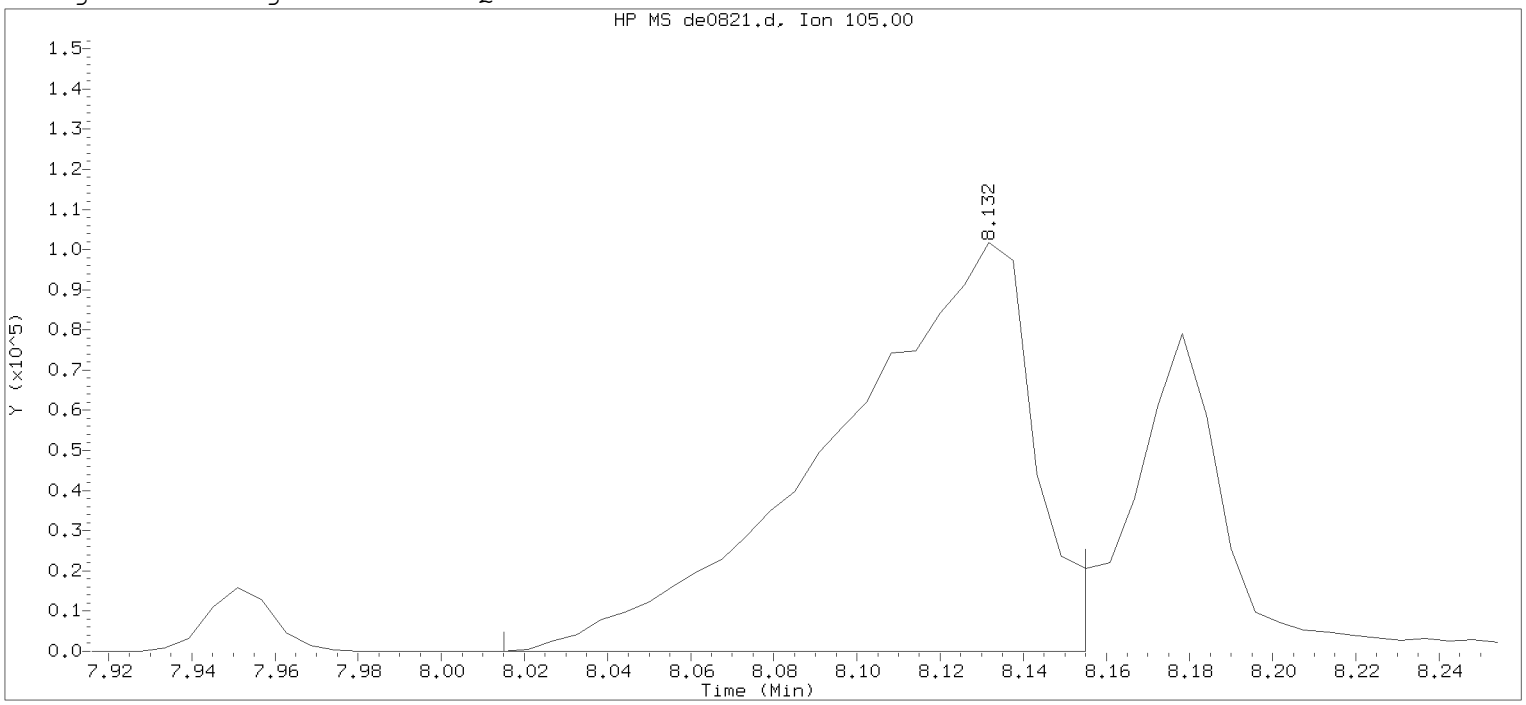
Analyst responsible for change: Digitally signed by Anthony P. Bauer
on 05/28/2017 at 06:39.
Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Matthew E. Barton on 06/02/2017 at 09:53.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may28.b/de0821.d Instrument ID: HP19760.i
Injection date and time: 27-MAY-2017 23:52 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: all1
Calibration date and time: 28-MAY-2017 06:37
Date, time and analyst ID of latest file update: 28-May-2017 06:37 apb10206

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1140
Retention Time (minutes) : 8.132
Quant Ion : 105.00
Area : 339023
On-column Amount (ng/ul) : 7.6080
Integration start scan : 1119 Integration stop scan: 1143
Y at integration start : 0 Y at integration end: 0

Digitally signed by Anthony P. Bauer on 05/28/2017 at 06:39.
Target 3.5 esignature user apb10206

Raw QC Data

Semivolatiles by GC/MS

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may28.b/de0822.d Injection date and time: **28-MAY-2017 00:40**
Data file Sample Info. Line: SBLKWX142;SBLKWX142;1;3;BLANK;;DRRAAP; Instrument ID: **HP19760.i** Batch: **17142WAX**
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Blank Data file reference: **/chem/HP19760.i/17may28.b/de0822.d**

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 28-MAY-2017 23:52
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may28.b/de0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.470(0.000)	855	152	177668 (-18)	5.00	
65) Naphthalene-d8	8.411(0.000)	1188	136	658330 (-20)	5.00	
113) Acenaphthene-d10	11.203(0.000)	1667	164	367971 (-22)	5.00	
153) Phenanthrene-d10	13.127(0.006)	1997	188	692866 (-23)	5.00	
175) Pyrene-d10	15.044(0.000)	2326	212	815010 (-26)	5.00	
213) Perylene-d12	19.474(0.000)	3086	264	631490 (-31)	5.00	

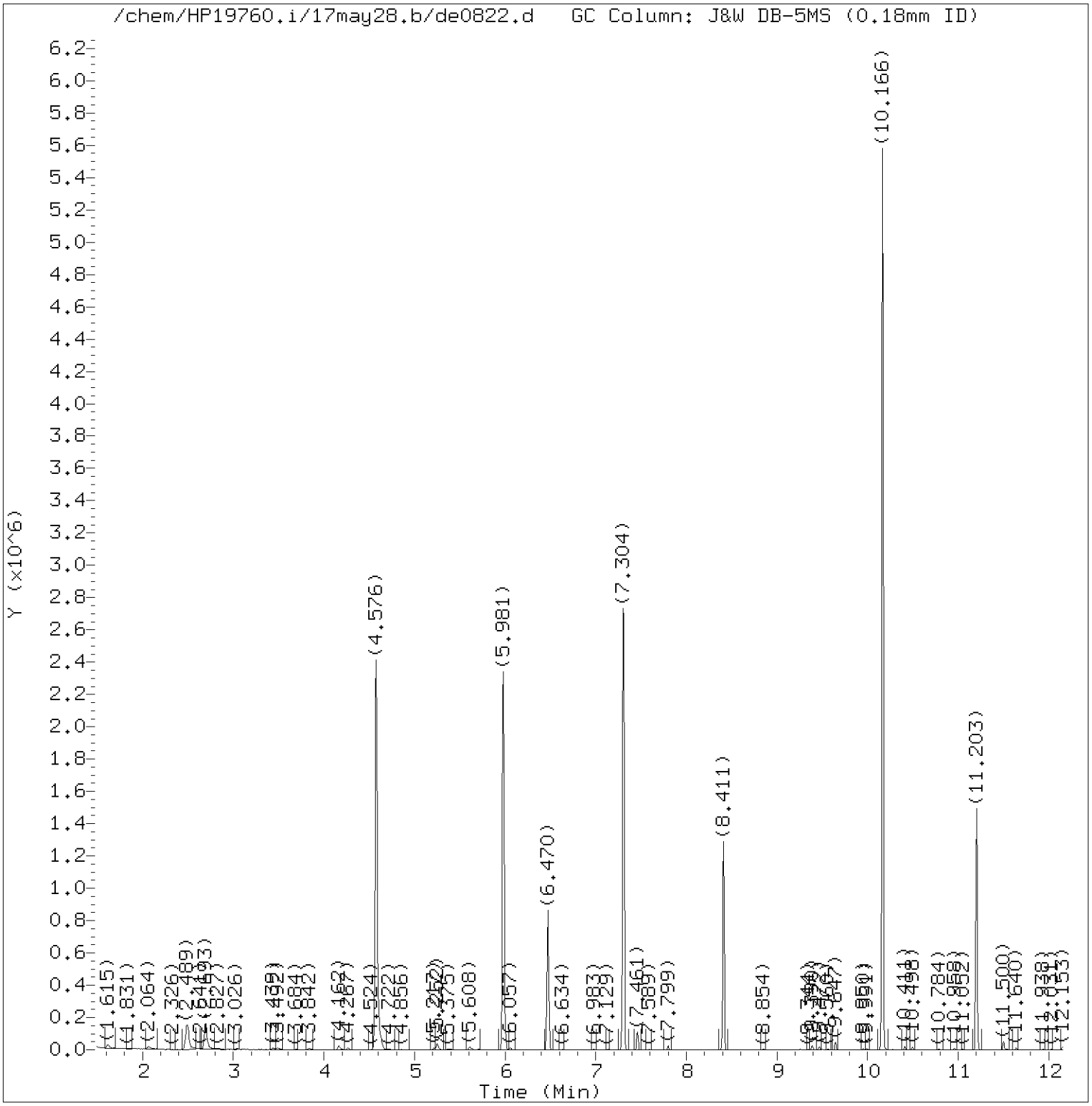
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.304(0.001)	82	1232505	18.065	72%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.166(0.000)	172	2008865	17.563	70%		41 - 112
179) Terphenyl-d14	(5)	15.371(0.000)	244	2190238	18.313	73%		38 - 125

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)			Not Detected					0.2
100) 2-Nitroaniline	(3)			Not Detected					0.2
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.2
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.2
124) Diethylphthalate	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.3
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.4

Total number of targets = 7

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:00. Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Matthew E. Barton on 06/05/2017 at 10:48. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

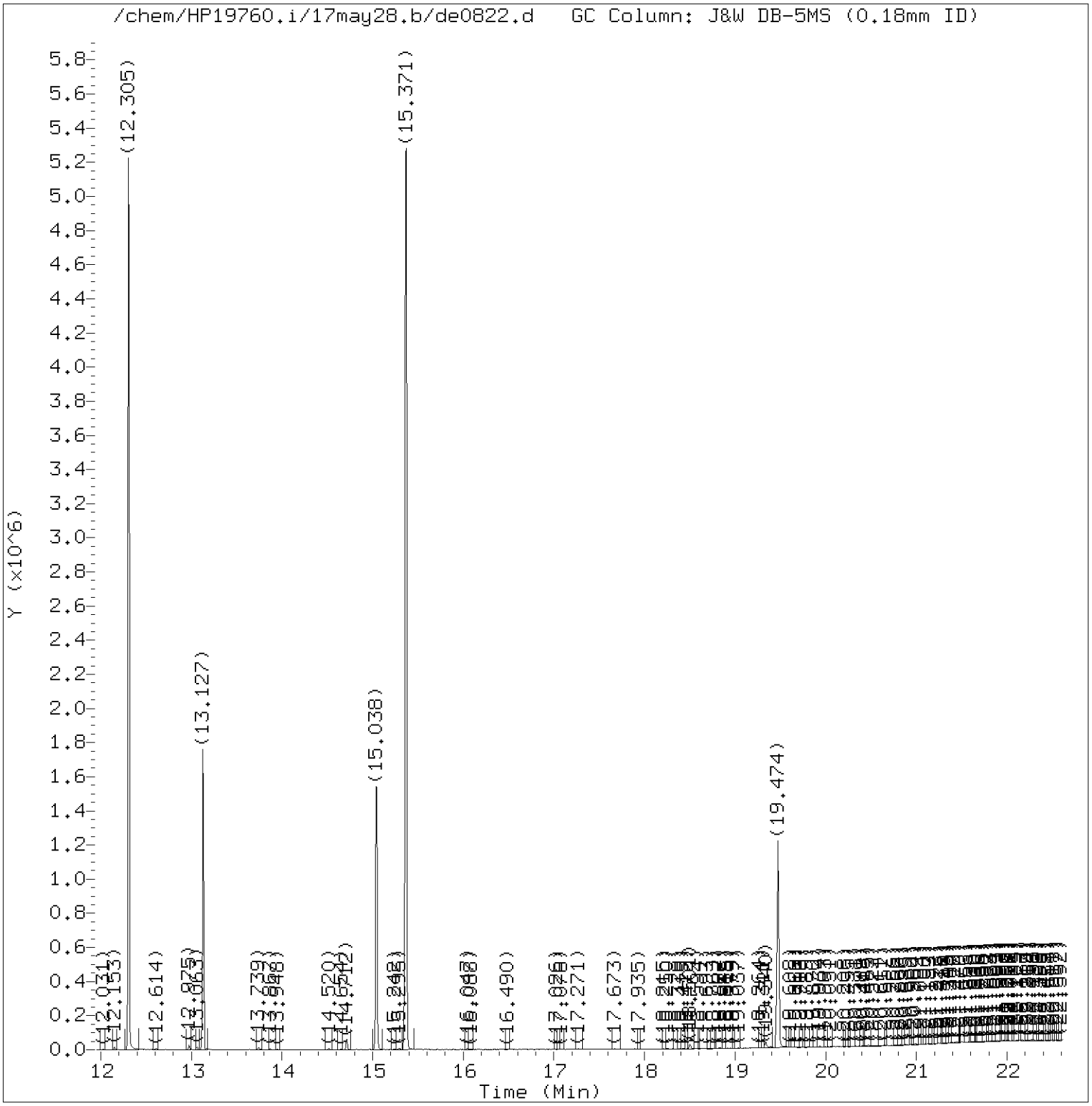
Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0822.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 00:40 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: SBLKWX142 Lab Sample ID: SBLKWX142

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0822.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 00:40 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: SBLKWX142 Lab Sample ID: SBLKWX142

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0822.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 00:40 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: SBLKWX142 Lab Sample ID: SBLKWX142

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.470	152	177668	5.000
44)$Nitrobenzene-d5	(2)	7.304	82	1232505	18.065
65)*Naphthalene-d8	(2)	8.411	136	658330	5.000
93)$2-Fluorobiphenyl	(3)	10.166	172	2008865	17.563
113)*Acenaphthene-d10	(3)	11.203	164	367971	5.000
153)*Phenanthrene-d10	(4)	13.127	188	692866	5.000
175)*Pyrene-d10	(5)	15.044	212	815010	5.000
179)$Terphenyl-d14	(5)	15.371	244	2190238	18.313
213)*Perylene-d12	(6)	19.474	264	631490	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

142WXLCS

Data file: /chem/HP19760.i/17may28.b/de0823.d
Injection date and time: **28-MAY-2017 01:07**
Data file Sample Info. Line: 142WXLCS;142WXLCS;1;3;LCS;;DRRAAP;
Instrument ID: **HP19760.i** Batch: **17142WAX**
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Blank Data file reference: **/chem/HP19760.i/17may28.b/de0822.d**

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: **22228M**
Calibration date and time (Last Method Edit): 28-MAY-2017 23:52
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may28.b/de0821.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.476	(-0.006)	856	152	166637	(-23)	5.00	
65) Naphthalene-d8	8.411	(0.000)	1188	136	619042	(-24)	5.00	
113) Acenaphthene-d10	11.203	(0.000)	1667	164	351640	(-26)	5.00	
153) Phenanthrene-d10	13.127	(0.006)	1997	188	671139	(-26)	5.00	
175) Pyrene-d10	15.044	(0.000)	2326	212	804721	(-27)	5.00	
213) Perylene-d12	19.474	(0.000)	3086	264	678621	(-26)	5.00	

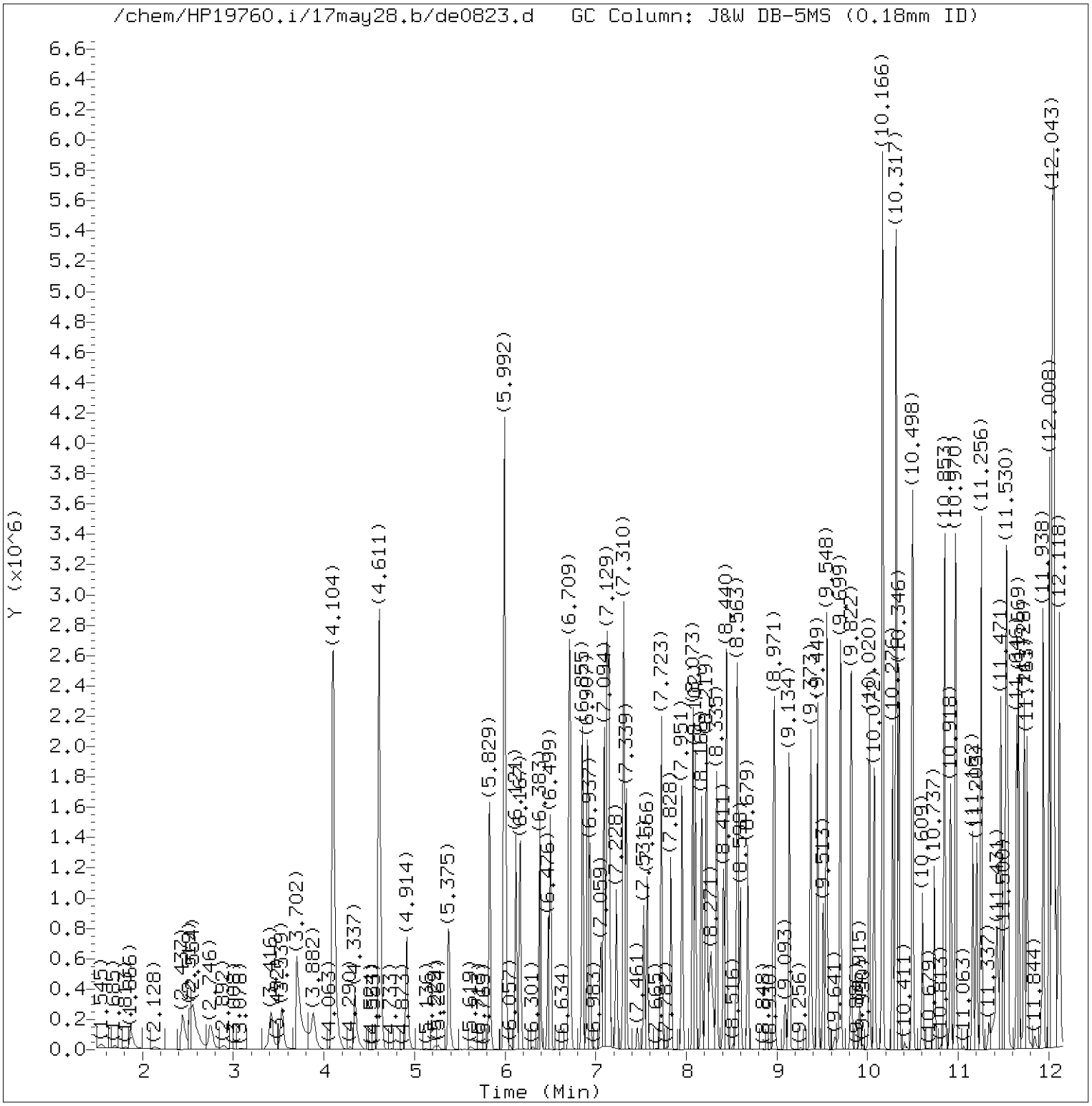
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.310	(0.000)	82	1281745	19.979	80%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.166	(0.000)	172	2212441	20.242	81%		41 - 112
179) Terphenyl-d14	(5)	15.365	(0.000)	244	2360528	19.989	80%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
45) Nitrobenzene	(2)	7.339	(0.000)	77	708458	10.964	43.86			0.2
100) 2-Nitroaniline	(3)	10.504	(0.000)	138	306801	11.135	44.54			0.2
108) 2,6-Dinitrotoluene	(3)	10.918	(0.000)	165	253794	11.199	44.79			0.2
118) 2,4-Dinitrotoluene	(3)	11.547	(0.000)	165	346340	11.362	45.45			0.2
124) Diethylphthalate	(3)	11.938	(0.000)	149	1120093	11.265	45.06			0.1
129) 4-Nitroaniline	(3)	12.054	(-0.000)	138	244366	10.477	41.91			0.3
199) bis(2-Ethylhexyl)phthalate	(5)	17.277	(-0.000)	149	1417264	11.706	46.83			0.4

Total number of targets = 7

Digitally signed by Anthony P. Bauer on 05/29/2017 at 07:00. Target 3.5 esignature user ID: apb10206

Secondary review performed and digitally signed by Matthew E. Barton on 06/05/2017 at 10:48. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

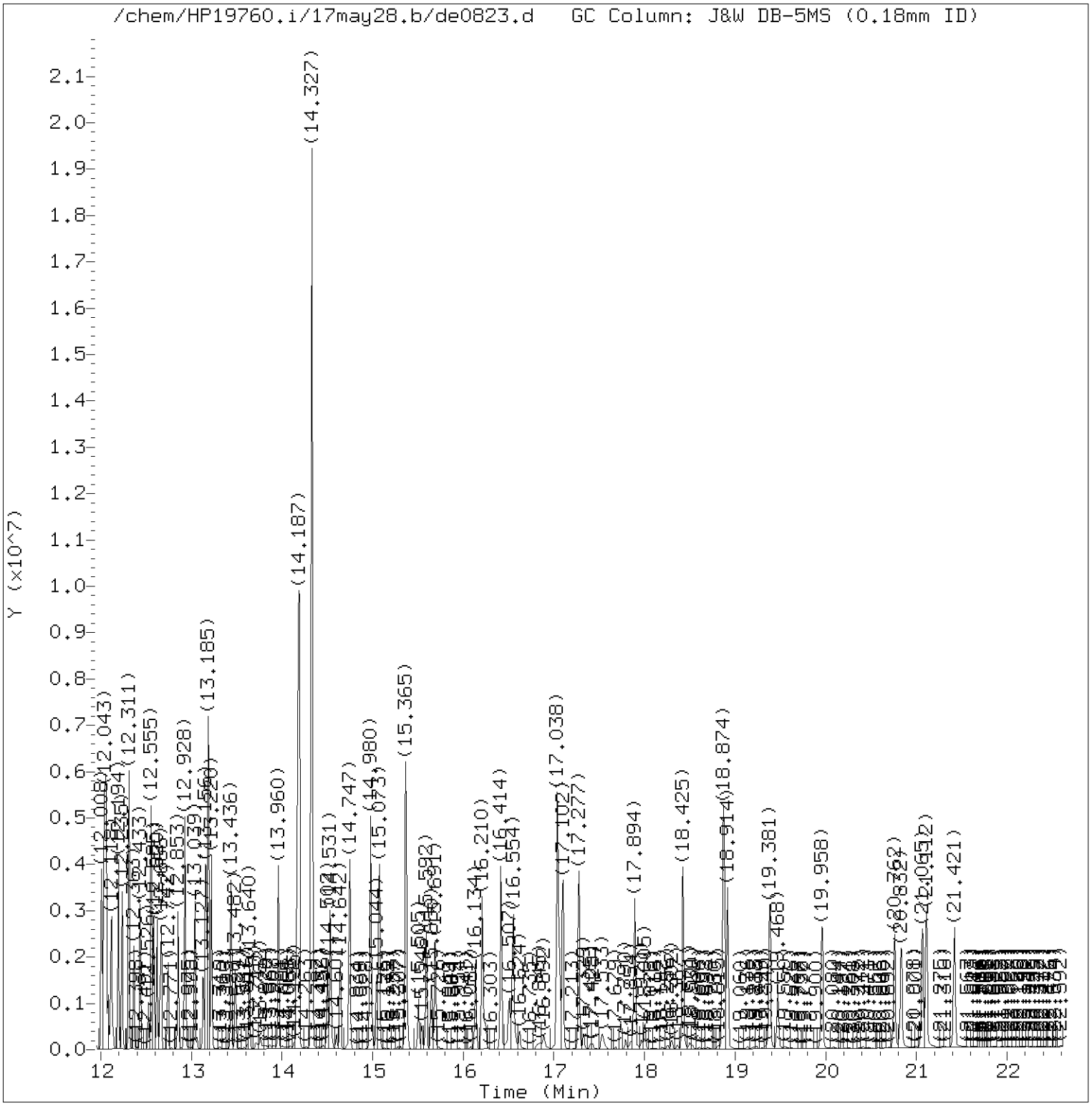
Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0823.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 01:07 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: 142WXLCS Lab Sample ID: 142WXLCS

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0823.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 01:07 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: 142WXLCS Lab Sample ID: 142WXLCS

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may28.b/de0823.d Instrument ID: HP19760.i
Injection date and time: 28-MAY-2017 01:07 Analyst ID: apb10206

Method used: /chem/HP19760.i/17may28.b/rv8270d.m Sublist used: 22228M
Calibration date and time: 28-MAY-2017 23:52
Date, time and analyst ID of latest file update: 29-May-2017 06:59 apb10206

Sample Name: 142WXLCS Lab Sample ID: 142WXLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.476	152	166637	5.000
44)$Nitrobenzene-d5	(2)	7.310	82	1281745	19.979
45) Nitrobenzene	(2)	7.339	77	708458	10.964
65)*Naphthalene-d8	(2)	8.411	136	619042	5.000
93)$2-Fluorobiphenyl	(3)	10.166	172	2212441	20.242
100) 2-Nitroaniline	(3)	10.504	138	306801	11.135
108) 2,6-Dinitrotoluene	(3)	10.918	165	253794	11.199
113)*Acenaphthene-d10	(3)	11.203	164	351640	5.000
118) 2,4-Dinitrotoluene	(3)	11.547	165	346340	11.362
124) Diethylphthalate	(3)	11.938	149	1120093	11.265
129) 4-Nitroaniline	(3)	12.054	138	244366	10.477
153)*Phenanthrene-d10	(4)	13.127	188	671139	5.000
175)*Pyrene-d10	(5)	15.044	212	804721	5.000
179)$Terphenyl-d14	(5)	15.365	244	2360528	19.989
199) bis(2-Ethylhexyl)phthalate	(5)	17.277	149	1417264	11.706
213)*Perylene-d12	(6)	19.474	264	678621	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Anthony P. Bauer
on 05/29/2017 at 07:00.
Target 3.5 esignature user ID: apb10206

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 11067 Osvaldo Sanchez Reviewed by: APB 10200 05/28/17 Start Date: _____ Start time: _____

17142WAX026 (8)

Tech 1: _____ Tech 2: _____

Dept: 26 Prep Analysis: 11010 8270D BNA Extraction SVOAs 8270D MINI

QC	Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
142WXMSD	142WXMSD		SS1714326A		MS1713526B MS1713526C MS1713826A						
142WXMS	142WXMS		SS1714326A		MS1713526B MS1713526C MS1713826A						
BLANKA	SBLKWX142		SS1714326A								
LCSA	142WXLCS		SS1714326A		MS1713526B MS1713526C MS1713826A						
LCSAP2	142WXLCS		SS1714326A		MS1712226C						
LCSDAP2	142WXLCSD		SS1714326A		MS1712226C						

Solvent Used	Lot No.
10N NaOH	
Methylene Chloride	
Sodium Sulfate	
Sulfuric Acid	

+not needed MB21666 5/25/17

(8) See attached batchlog for extraction information MB21666 5/25/17

Spike Solutions: Witness: _____

MS1713826A	APPIX #1 MINI SPIKE
MS1712226C	APPIX MIX #2
MS1713526B	MINI SEP. LCS SPIKE #1
MS1713526C	MINI SEP. LCS SPIKE #2
SS1714326A	MINI SEP. BNA SURROGATE

Sample #		Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
1	142WX R	142WXUS		SS1714326A							14241			
2	9009414	R8801		SS1714326A							14241	22228	06/05/2017	N
3	9009415	R8802		SS1714326A							14241	22228	06/05/2017	N
4	9009416	R8803		SS1714326A							14241	22228	06/05/2017	N
5	9009417	R8804		SS1714326A							14241	22228	06/05/2017	N
6	9009418	R8805		SS1714326A							14241	22228	06/05/2017	N

RAE88 Page 556 of 558

Bench#	Bench#	Bench#		
Rack ID:	_____	Work Station		Micro Temp 100?
Internal Standard	rvISTD1317	Balance #		

R-VAP ID	C	R-VAP ID	C	R-VAP ID	C		
S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C

17142WAX026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

ganic Extraction Batchlog

Assigned to: 11067 Osvaldo Sanchez Reviewed by: _____ Start Date: 5/24/17 Start time: 8:00

Sample # 17143WAW026

Tech 1: 0511067 Tech 2: BV 9121

Dept: 26 Prep Analysis: 11010 8270D BNA Extraction SVOAs 8270D MINI

QC	Sample Code	Amt mL	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
8999789MS	R8504	249	SS1714326A	1.0	~~MS1713526B~~ MS1713526C MS1713826A	⑧A 1.0	1	✓	✓	153A	Clear
8999790MSD	R8504	249	SS1714326A	↓	~~MS1713526B~~ MS1713526C MS1713826A	⑧A ↓	1	✓	✓	153A	↓
BLANKA	SBLKWW143	250	SS1714326A				1	✓	✓		tap H2O
LCSA	143WWLCS	250	SS1714326A		~~MS1713526B~~ MS1713526C MS1713826A	⑧A 1.0	1	✓	✓		
LCSAP2	143WWLCS	250	SS1714326A		MS1712226C	0.25	1	✓	✓		
LCSDAP2	143WWLCSD	250	SS1714326A	↓	MS1712226C	0.25	1	✓	✓		

Solvent Used	Lot No.
10N NaOH	4701F35
Methylene Chloride	170933
Sodium Sulfate	17137A
Sulfuric Acid	1616942

Spike Solutions: Witness: N/A

MS1713826A	APPIX #1 MINI SPIKE
MS1712226C	APPIX MIX #2
~~MS1713526B~~	MINI SEP. LCS SPIKE #1
MS1713526C	MINI SEP. LCS SPIKE #2
SS1714326A	MINI SEP. BNA SURROGATE

⑧A BV 9121 5/24/17 MS17143326A

⑧ Not needed CMB 5/24/17

Sample #	Sample Code	Amt mL	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
1 8999785 R	R8501	265	SS1714326A	1.0	1	✓	✓	153A	Clear	14241	22229	05/31/2017	N
2 8999786 R	R8502	247	SS1714326A	↓	1	✓	✓	153A	↓	14241	22229	05/31/2017	N
3 8999787 R	R8503	269	SS1714326A		1	✓	✓	153A		14241	22229	05/31/2017	N
4 8999788BKG R	R8504	265	SS1714326A		1	✓	✓	153A		14241	22229	05/31/2017	N
5 8999791 R	R8505	247	SS1714326A		1	✓	✓	153A		14241	22229	05/31/2017	N
6 8999792 R	R8506	246	SS1714326A		1	✓	✓	153A		14241	22229	05/31/2017	N
~~7 8999793 R~~	~~R8507~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~
~~8 8999794 R~~	~~R8508~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~
~~9 8999795 R~~	~~R8509~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~
~~10 8999796 R~~	~~R8510~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~
~~11 8999797 R~~	~~R8511~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~

Bench#	Bench#	Bench#		
Rack ID:		Work Station	Tumble	Micro Temp 100?
Internal Standard		Balance #	25996	

R-VAP ID 4	89 C	R-VAP ID 5	89 C	R-VAP ID	C
~~S-bath ID~~	~~C~~	~~S-bath ID~~	~~C~~	N-Evap	C ~~M-vap C~~

17143WAW026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

Sample #	Sample Code	Amt (uL)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
12 9008979	5-WE2	243	SS1714326A	1.0	1	✓	✓	153A	clear	14241	24413	06/05/2017	N
13 9008980	6-WE2	246	SS1714326A	↓	1	✓	✓	153A	↓	14241	24413	06/05/2017	N
+ 14 9009414	R8801	247	SS1714326A	↓	1	✓	✓	153A	Clear	14241	22228	06/05/2017	N
15 9009415	R8802	249	SS1714326A	↓	1	✓	✓	153A	↓	14241	22228	06/05/2017	N
16 9009416	R8803	246	SS1714326A	↓	1	✓	✓	153A	↓	14241	22228	06/05/2017	N
17 9009417	R8804	247	SS1714326A	↓	1	✓	✓	153A	↓	14241	22228	06/05/2017	N
18 9009418	R8805	249	SS1714326A	↓	1	✓	✓	153A	↓	14241	22228	06/05/2017	N

+ Moved to 17142WAX026 HB2 Well 6 5/25/17

N/A

Bench#	Bench#	Bench#		
Rack ID:		Work Station	Tumble	Micro Temp 100?
Internal Standard		Balance #	25996	

R-VAP ID 4	89 C	R-VAP ID 5	89 C	R-VAP ID	C		
~~S-bath ID~~	~~C~~	S-bath ID	~~C~~	~~N-Evap~~	~~C~~	M-vap	~~C~~

17143WAW026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Type I Data Package

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Project: RAAP - Radford, VA - HWMU-5
Groundwater Samples
Collected on 05/17/17

SDG# RAE87-V.2

GROUP	SAMPLE NUMBERS
1804027	9006554-9006559

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman

Dana M. Kauffman
Manager

Date: 07/13/2017

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Table of Contents for SDG# RAE87

1. Sample Reference List 3
2. Preservation Data 4
3. Methodology Summary/Reference 5
4. Analysis Reports / Field Chain of Custody 6
5. Metals in Liquid Data 28
    a. Case Narrative/Conformance Summary 29
    b. Sample Data 32
    c. Quality Control and Calibration Summary Forms 39
    d. Raw Data 89
        i. ICP-MS Data 90
        ii. Mercury Data 198
    e. Extraction/Distillation/Digestion Logs 215

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Reference List for SDG Number RAE87
with a Data Package Type of I

11200 - Draper Aden Associates, Inc.

Project: RAAP - Radford, VA - HWMU-5

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9006554	5W8B	05/17/2017 11:55	05/20/2017 10:00
9006555	5W7B	05/17/2017 13:35	05/20/2017 10:00
9006556	5W7B Matrix Spike	05/17/2017 13:35	05/20/2017 10:00
9006557	5W7B Matrix Spike Dup	05/17/2017 13:35	05/20/2017 10:00
9006558	5W7B Duplicate	05/17/2017 13:35	05/20/2017 10:00
9006559	5W12A	05/17/2017 12:50	05/20/2017 10:00

eurofins | Lancaster Laboratories

Sample pH Log

SDG: RAE87

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #	Record Date	Employee
9006554	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 1:45:07AM	1201
9006555	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 1:45:06AM	1201
9006556	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 1:45:30AM	1201
9006557	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 1:45:03AM	1201
9006559	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 1:52:28AM	1201

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

00259 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

10639 ICPMS - Water, 3020A - U4

The sample is digested with nitric and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3020A, July 1992

05713 WW SW846 Hg Digest

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

06024 Antimony
06025 Arsenic
06026 Barium
06027 Beryllium
06028 Cadmium
06031 Chromium
06032 Cobalt
06033 Copper
06035 Lead
06039 Nickel
06041 Selenium
06042 Silver
06045 Thallium
06048 Vanadium
06049 Zinc

The solution resulting from the metals digestion is analyzed by ICP/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6020A, February 2007.

Analysis Reports / Field Chain of Custody

REVISED

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Report Date: July 13, 2017

Project: RAAP - Radford, VA - HWMU-5

Submittal Date: 05/20/2017
Group Number: 1804027
SDG: RAE87
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
5W8B Grab Groundwater	9006554
5W7B Grab Groundwater	9006555
5W7B Matrix Spike Grab Groundwater	9006556
5W7B Matrix Spike Dup Grab Groundwater	9006557
5W7B Duplicate Grab Groundwater	9006558
5W12A Grab Groundwater	9006559

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Draper Aden Associates, Inc.	Attn: Kathy Olsen
Electronic Copy To	Draper Aden Associates, Inc.	Attn: Janet Frazier

Respectfully Submitted,

Barbara Weyandt

Barbara A. Weyandt
Specialist

(717) 556-7264

Project Name: RAAP - Radford, VA - HWMU-5
LL Group #: 1804027

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 6020A, Metals

Batch #: 171441063901A (Sample number(s): 9006555-9006558 UNSPK: 9006555 BKG: 9006555)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Chromium

July 10, 2017

Ms. Janet Frazier
Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg, VA 24060

Dear Ms. Frazier:

I am writing to inform you of revised analytical reports that are being issued for the following:

Project: RAAP - Radford, VA - HWMU-5
Group No.: 1804027, 1804693 **SDG.: RAE87, RAE89**

ELLE Sample No.	Client Sample Identification	Collection Date
9006555	5W7B Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/17/2017
9006556	5W7B Matrix Spike Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/17/2017
9006557	5W7B Matrix Spike Dup Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/17/2017
9006558	5W7B Duplicate Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/17/2017
9009420	5W5B Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017
9009421	5WC21 Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017
9009422	5WDUP Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017
9009423	5WC22 Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017
9009424	5WC23 Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017

The correction to the data affects the arsenic analysis only.

During an additional review of the data it was determined that default laboratory Method Detection Limit (MDL) of 0.68 µg/L was used instead of the client required MDL of 2.0 µg/L. This has been corrected and affects the analysis report and the QC summary.

The revised analytical report reflects this correction and is enclosed.

You are a valued client and we apologize for any inconvenience that this incident may have caused. If you have any questions or require further assistance, please call me at 717-656-2300, Ext. 1283. We appreciate your business and look forward to continuing to serve your laboratory needs.

Sincerely,

Nina C. Haller
Senior Specialist/Group Leader
Metals

NCH/mc
Enclosures

cc: Barbara A. Weyandt

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

REVISED

Sample Description: 5W8B Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006554
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 11:55 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE871 SDG#: RAE87-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**	**ug/l**	**ug/l**	
06032	Cobalt	7440-48-4	N.D.	1.0	5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	171441063902A	06/02/2017 09:39	Scott P Cuff	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063902	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W7B Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006555
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE872 SDG#: RAE87-02BKG

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**		**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	N.D.		0.40	2.0	1
06025	Arsenic	7440-38-2	N.D.		2.0	4.0	1
06026	Barium	7440-39-3	34.8		1.0	4.0	1
06027	Beryllium	7440-41-7	N.D.		0.20	1.0	1
06028	Cadmium	7440-43-9	N.D.		0.20	1.0	1
06031	Chromium	7440-47-3	N.D.		1.0	4.0	1
06032	Cobalt	7440-48-4	N.D.		1.0	5.0	1
06033	Copper	7440-50-8	3.4	J	1.0	4.0	1
06035	Lead	7439-92-1	0.39	J	0.20	2.0	1
06039	Nickel	7440-02-0	N.D.		2.0	4.0	1
06041	Selenium	7782-49-2	N.D.		3.0	4.0	1
06042	Silver	7440-22-4	N.D.		0.20	1.0	1
06045	Thallium	7440-28-0	N.D.		0.20	1.0	1
06048	Vanadium	7440-62-2	N.D.		1.0	10.0	1
06049	Zinc	7440-66-6	12.7	J	7.3	30.0	1
	SW-846 7470A		**ug/l**		**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	N.D.		0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 20:23	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/31/2017 12:02	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/30/2017 20:23	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 20:23	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 06:45	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: **5W7B Grab Groundwater**
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006555
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE872 SDG#: RAE87-02BKG

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W7B Matrix Spike Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006556
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE872 SDG#: RAE87-02MS

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**	**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	7.1	0.40	2.0	1
06025	Arsenic	7440-38-2	10.2	2.0	4.0	1
06026	Barium	7440-39-3	83.9	1.0	4.0	1
06027	Beryllium	7440-41-7	4.0	0.20	1.0	1
06028	Cadmium	7440-43-9	5.0	0.20	1.0	1
06031	Chromium	7440-47-3	53.9	1.0	4.0	1
06032	Cobalt	7440-48-4	247	1.0	5.0	1
06033	Copper	7440-50-8	55.7	1.0	4.0	1
06035	Lead	7439-92-1	15.5	0.20	2.0	1
06039	Nickel	7440-02-0	52.8	2.0	4.0	1
06041	Selenium	7782-49-2	10.2	3.0	4.0	1
06042	Silver	7440-22-4	50.2	0.20	1.0	1
06045	Thallium	7440-28-0	2.1	0.20	1.0	1
06048	Vanadium	7440-62-2	51.9	1.0	10.0	1
06049	Zinc	7440-66-6	508	7.3	30.0	1
	SW-846 7470A		**ug/l**	**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	1.1	0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/31/2017 12:09	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 20:32	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 20:32	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 20:32	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 20:32	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 20:32	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 20:32	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 20:32	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/31/2017 12:09	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/31/2017 12:09	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/30/2017 20:32	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 20:32	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/31/2017 12:09	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 20:32	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 20:32	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 06:49	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: **5W7B Matrix Spike Grab Groundwater**
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006556
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE872 SDG#: RAE87-02MS

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W7B Matrix Spike Dup Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006557
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE872 SDG#: RAE87-02MSD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**	**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	6.8	0.40	2.0	1
06025	Arsenic	7440-38-2	10.8	2.0	4.0	1
06026	Barium	7440-39-3	80.5	1.0	4.0	1
06027	Beryllium	7440-41-7	4.3	0.20	1.0	1
06028	Cadmium	7440-43-9	4.9	0.20	1.0	1
06031	Chromium	7440-47-3	50.8	1.0	4.0	1
06032	Cobalt	7440-48-4	243	1.0	5.0	1
06033	Copper	7440-50-8	52.9	1.0	4.0	1
06035	Lead	7439-92-1	15.4	0.20	2.0	1
06039	Nickel	7440-02-0	51.6	2.0	4.0	1
06041	Selenium	7782-49-2	10.2	3.0	4.0	1
06042	Silver	7440-22-4	49.0	0.20	1.0	1
06045	Thallium	7440-28-0	2.0	0.20	1.0	1
06048	Vanadium	7440-62-2	50.9	1.0	10.0	1
06049	Zinc	7440-66-6	498	7.3	30.0	1
	SW-846 7470A		**ug/l**	**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	1.1	0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/31/2017 12:11	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 20:35	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 20:35	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 20:35	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 20:35	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 20:35	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 20:35	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 20:35	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/31/2017 12:11	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/31/2017 12:11	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/30/2017 20:35	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 20:35	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/31/2017 12:11	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 20:35	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 20:35	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 06:51	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: **5W7B Matrix Spike Dup Grab Groundwater**
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006557
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE872 SDG#: RAE87-02MSD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W7B Duplicate Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006558
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE872 SDG#: RAE87-02DUP

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**		**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	N.D.		0.40	2.0	1
06025	Arsenic	7440-38-2	N.D.		2.0	4.0	1
06026	Barium	7440-39-3	33.1		1.0	4.0	1
06027	Beryllium	7440-41-7	N.D.		0.20	1.0	1
06028	Cadmium	7440-43-9	N.D.		0.20	1.0	1
06031	Chromium	7440-47-3	1.1	J	1.0	4.0	1
06032	Cobalt	7440-48-4	N.D.		1.0	5.0	1
06033	Copper	7440-50-8	3.7	J	1.0	4.0	1
06035	Lead	7439-92-1	0.39	J	0.20	2.0	1
06039	Nickel	7440-02-0	N.D.		2.0	4.0	1
06041	Selenium	7782-49-2	N.D.		3.0	4.0	1
06042	Silver	7440-22-4	N.D.		0.20	1.0	1
06045	Thallium	7440-28-0	N.D.		0.20	1.0	1
06048	Vanadium	7440-62-2	N.D.		1.0	10.0	1
06049	Zinc	7440-66-6	10.5	J	7.3	30.0	1
	SW-846 7470A		**ug/l**		**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	N.D.		0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 20:29	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/31/2017 12:07	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/30/2017 20:29	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 20:29	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 06:47	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: **5W7B Duplicate Grab Groundwater**
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006558
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 13:35 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE872 SDG#: RAE87-02DUP

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5W12A Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9006559
LL Group # 1804027
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/17/2017 12:50 by KC

Submitted: 05/20/2017 10:00
Reported: 07/13/2017 08:33

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

AE873 SDG#: RAE87-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**	**ug/l**	**ug/l**	
06032	Cobalt	7440-48-4	N.D.	1.0	5.0	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06032	Cobalt	SW-846 6020A	1	171441063902A	06/02/2017 09:50	Scott P Cuff	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063902	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804027
Reported: 07/13/2017 08:33

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: 171420571301	Sample number(s): 9006555-9006558		
Mercury	N.D.	0.070	0.20
Batch number: 171441063901A	Sample number(s): 9006555-9006558		
Antimony	N.D.	0.40	2.0
Arsenic	N.D.	0.68	4.0
Beryllium	N.D.	0.20	1.0
Cadmium	N.D.	0.20	1.0
Chromium	N.D.	1.0	4.0
Cobalt	N.D.	1.0	1.0
Copper	N.D.	1.0	4.0
Lead	N.D.	0.20	2.0
Nickel	N.D.	2.0	4.0
Silver	N.D.	0.20	1.0
Thallium	N.D.	0.20	1.0
Vanadium	N.D.	1.0	10.0
Zinc	N.D.	7.3	30.0
Batch number: 171441063901B	Sample number(s): 9006555-9006558		
Selenium	N.D.	3.0	4.0
Batch number: 171441063901D	Sample number(s): 9006555-9006558		
Barium	N.D.	1.0	4.0
Batch number: 171441063902A	Sample number(s): 9006554,9006559		
Cobalt	N.D.	1.0	1.0

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 171420571301	Sample number(s): 9006555-9006558								
Mercury	1.00	1.05			105		80-120		
Batch number: 171441063901A	Sample number(s): 9006555-9006558								
Antimony	6.00	5.97			99		80-120		
Arsenic	10	10.32			103		80-120		
Beryllium	4.00	4.10			102		80-120		
Cadmium	5.00	5.02			100		80-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804027
Reported: 07/13/2017 08:33

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chromium	50	51.29			103		80-120		
Cobalt	250	252.33			101		80-120		
Copper	50	53.15			106		80-120		
Lead	15	14.87			99		80-120		
Nickel	50	49.35			99		80-120		
Silver	50	50.94			102		80-120		
Thallium	2.00	2.03			102		80-120		
Vanadium	50	50.8			102		80-120		
Zinc	500	501.64			100		80-120		
Batch number: 171441063901B	Sample number(s): 9006555-9006558								
Selenium	10	9.97			100		80-120		
Batch number: 171441063901D	Sample number(s): 9006555-9006558								
Barium	50	51.63			103		80-120		
Batch number: 171441063902A	Sample number(s): 9006554,9006559								
Cobalt	250	242.41			97		80-120		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 171420571301	Sample number(s): 9006555-9006558 UNSPK: 9006555									
Mercury	N.D.	1.00	1.07	1.00	1.08	107	108	80-120	1	20
Batch number: 171441063901A	Sample number(s): 9006555-9006558 UNSPK: 9006555									
Antimony	N.D.	6.00	7.10	6.00	6.75	118	113	75-125	5	20
Arsenic	N.D.	10	10.22	10	10.82	102	108	75-125	6	20
Beryllium	N.D.	4.00	4.03	4.00	4.29	101	107	75-125	6	20
Cadmium	N.D.	5.00	4.99	5.00	4.88	100	98	75-125	2	20
Chromium	N.D.	50	53.91	50	50.78	108	102	75-125	6	20
Cobalt	N.D.	250	247.46	250	243.13	99	97	75-125	2	20
Copper	3.43	50	55.74	50	52.94	105	99	75-125	5	20
Lead	0.393	15	15.46	15	15.44	100	100	75-125	0	20
Nickel	N.D.	50	52.83	50	51.61	106	103	75-125	2	20
Silver	N.D.	50	50.23	50	49.01	100	98	75-125	2	20
Thallium	N.D.	2.00	2.13	2.00	2.00	107	100	75-125	6	20
Vanadium	N.D.	50	51.87	50	50.92	104	102	75-125	2	20
Zinc	12.69	500	508.21	500	497.89	99	97	75-125	2	20
Batch number: 171441063901B	Sample number(s): 9006555-9006558 UNSPK: 9006555									
Selenium	N.D.	10	10.17	10	10.24	102	102	75-125	1	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804027
Reported: 07/13/2017 08:33

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 171441063901D	Sample number(s): 9006555-9006558 UNSPK: 9006555									
Barium	34.8	50	83.89	50	80.53	98	91	75-125	4	20
Batch number: 171441063902A	Sample number(s): 9006554,9006559 UNSPK: 9006554									
Cobalt	N.D.	250	238.66	250	240.41	95	96	75-125	1	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 171420571301	Sample number(s): 9006555-9006558 BKG: 9006555			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 171441063901A	Sample number(s): 9006555-9006558 BKG: 9006555			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	1.07	200* (1)	20
Cobalt	N.D.	N.D.	0 (1)	20
Copper	3.43	3.75	9 (1)	20
Lead	0.393	0.392	0 (1)	20
Nickel	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Vanadium	N.D.	N.D.	0 (1)	20
Zinc	12.69	10.46	19 (1)	20
Batch number: 171441063901B	Sample number(s): 9006555-9006558 BKG: 9006555			
Selenium	N.D.	N.D.	0 (1)	20
Batch number: 171441063901D	Sample number(s): 9006555-9006558 BKG: 9006555			
Barium	34.8	33.14	5	20
Batch number: 171441063902A	Sample number(s): 9006554,9006559 BKG: 9006554			
Cobalt	N.D.	N.D.	0 (1)	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11200 | 1804027 | 9006554-59

CHAIN OF CUSTODY RECORD

3/21/17

Laboratory: Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barb Weyandt, Manager/ (717) 656-2300 OK JVE

Client: Draper Aden Associates **Attn:** 0 **Address:** 0 0 **Phone:** 0 **Fax:** 0 **Fax:** 0	**Consultant:** Draper Aden Associates **Attn:** Janet C. Frazier **Address:** 2206 South Main Street Blacksburg, Virginia 24060 **Phone:** (540) 552-0444 **Fax:** (540) 552-0291	**Sample Site:** RFAAP, Radford, Virginia **Location:** HWMU5 **Event:** 2 Qtr 2017 Corrective Action Annual Monitoring Event **DAA JN:** B03204-17A **Lab JN:**	**Project Specific (PS) or Batch (B) QC:** **Sample Collection for Project Complete?** YES WPS: 12-754-02X-X0-5541-9483 **Carrier:** **Tracking Number:**

Box 1: Matrix
SW Surface Water; GW Groundwater; L Leachate; S Soil; T Trip Blank; E Equipment Blank; P Product; O Other

Box 2: Preservative
A HCL; B HNO_3; C H_2SO_4; D $Na_2S_2O_3$; E NaOH; F ZnAc; G Other (Specify); H None

Box 3: Filtered/Unfiltered
F Filtered; U Unfiltered

Box 4: Sample Type
G Grab; C Composite

Box 5: Sample Container Type
P Plastic; V VOA; AG Amber Glass; CG Clear Glass

Invoice
Copy to Consultant: YES
Bill: CLIENT OTHER
Preserved and shipped on Ice: YES

Box 4 - Sample Type					G	G	G	G			
Box 3 - Filtered/Unfiltered					U	U	U	U			
Required pH of Sample					<2	<2	<2				
Box 2 - Preservative					A	B	B	H			
Box 5 - Sample Container Type					3-40ml V	1-500ml P	1-500ml P	2-250mL AG			
Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles	8260C/5030C 25 ml purge Appendix J Analyte List	8260C/5030C 25 ml purge Appendix K Analyte List	(Metals-Total) 6020A(3020A)/ 7470A	Cobalt only-Total 6020A/3020A	8270D/3510C (Semivolatiles)			
5W8B	5/17	1155	GW	4	X			X				
5W5B			GW	6	X	X	X		X			
5W7B	5/17	1335	GW	18	X	X	X		X			
5WC21			GW	6	X	X	X		X			
5WDUP			GW	6	X	X	X		X			
5WC22			GW	6	X	X	X		X			
5WC23			GW	6	X	X	X		X			
5W12A	5/17	1250	GW	4	X			X				
Trip Blank 1	5/17	—	T	2	X	X						
Trip Blank 2			T	2	X	X						

GENERAL NOTES:
1. See attached analyte list.
2. Report permit required LOQ/MDL or lab MDL if higher than permit MDL. Report Results to MDL with "J" Flags.
3. VELAP accreditation required.
4. Project specific MDL/QL's attached.

5. Cobalt = QL = 5ug/L / DL = 1mg/L
JVE 3/21/17

upgradient monitoring well
will be shipped at later date JVE 5-19-17

USE FOR QC
will be shipped at later date 5-19-17 JVE

plume well

Clients Special Instructions: level 1 with edd.

Received by lab in Good Condition ____ Yes ____ No Custody Seal Intact ____ Yes ____ No Temperature upon arrival ____ Received on Ice ____ Yes ____ No
Describe problems, if any:

Sampler Name (Print): KEN CODDINGTON	Date: 5/17/17	#1 Relinquished by (Signature):	Date: 5/19/17	#2 Relinquished by (Signature):	Date:	Sample Storage Time Requested:
Sampler Signature:	Time: 0800	Company Name: DAA	Time: 1700	Company Name:	Time:	
Sampler Name (Print):	Date:	#1 Received by (Signature):	Date:	#2 Received by (Signature):	Date: 5-20-17	30 DYS ORG/6 MTHS INORG
Sampler Signature:	Time:	Company Name:	Time:	Company Name: ELLE	Time: 1080	

1/C JVE 3/21/17

1804027

HWMU5 - Appendix K
Radford Army Ammunition Plant
Groundwater Corrective Action Annual Monitoring Event
DAA JN: B03204-17A

ANALYTICAL METHOD: SEE BELOW
TYPE METHOD: SEE BELOW
CLASS: TOTAL

Method SW 846-6020A (ICP/MS)/3020A

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL (µg/l)
1.	Antimony	7440-36-0	2	0.4
2.	Arsenic	7440-38-2	10	2
3.	Barium	7440-39-3	10	1
4.	Beryllium	7440-41-7	1	0.2
5.	Cadmium	7440-43-9	1	0.2
6.	Chromium	7440-47-3	5	1
7.	Cobalt	7440-48-4	5	1
8.	Copper	7440-50-8	5	1
9.	Lead	7440-92-1	2	0.2
10.	Nickel	7440-02-0	10	2
11.	Selenium	7782-49-2	10	3
12.	Silver	7440-22-4	2	0.2 ✓
13.	Thallium	7440-28-0	1	0.2 ✓
14.	Vanadium	7440-62-2	10	1 ✓
15.	Zinc	7440-66-6	30	7.3 ✓

Method SW 7470A/CVAA

16.	Mercury	7439-97-6	2	0.2

(A) updated ovr 3/21/17

Final Report must list the project required MDLs listed above. Report results between the project required QL noted above and MDL above as estimated value. Report lab's current MDL, if higher than listed above.

. **Note: # 6 added on Jan 2004 due To 4Q2003 detection.**

Reviewed:
Revised and updated 1/15/2004 JCF.
Revised and updated 10/1/06.
Reviewed 4 Q 2006 -3/23/2017 3:41 PM
10/9/2007 JCF – 2007 switched to semiannual monitoring 2/4 Q.
Revised and updated 2/12/2010 kfc
QLs and MDLs noted above reflect permit modification data Nov 5, 2009. JCF
Revised 4/2017 due to class 1 permit mod dec 2016.

.t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-5\hwmu5 - coc rev 2010\hwmu 5 - appendix k cap target analtye list - rev 2015.doc

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 184307

Group Number(s): 1804027

Client: Draper Aden Associates

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	05/20/2017 10:00
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	VA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Melvin Sanchez (8943) at 16:25 on 05/20/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.5	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	none detected
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE87

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9006554	5W8B	X		1	
9006555	5W7B	X		1	Background/Unspiked
9006556	5W7B Matrix Spike	X		1	Matrix Spike
9006557	5W7B Matrix Spike Dup	X		1	Matrix Spike Duplicate
9006558	5W7B Duplicate	X		1	Duplicate
9006559	5W12A	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Sample Duplicate

Batch#: 171441063901A (Sample number(s): 9006555-9006558, UNSPK: 9006555, BKG: 9006555)
The duplicate RPD for the following analyte(s) is outside the acceptance window:
Chromium

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE87

ICP Metals

Fraction: Metals in Liquid

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9006554BKG % Solids: 0.0
Concentration Units: UG/L Date Received: 05/20/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	1.0	U		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9006555BKG % Solids: 0.0
Concentration Units: UG/L Date Received: 05/20/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.40	U		MS
7440-38-2	Arsenic	2.0	U		MS
7440-39-3	Barium	34.8			MS
7440-41-7	Beryllium	0.20	U		MS
7440-43-9	Cadmium	0.20	U		MS
7440-47-3	Chromium	1.0	U		MS
7440-48-4	Cobalt	1.0	U		MS
7440-50-8	Copper	3.4	B		MS
7439-92-1	Lead	0.39	B		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	2.0	U		MS
7782-49-2	Selenium	3.0	U		MS
7440-22-4	Silver	0.20	U		MS
7440-28-0	Thallium	0.20	U		MS
7440-62-2	Vanadium	1.0	U		MS
7440-66-6	Zinc	12.7	B		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9006556MS % Solids: 0.0
Concentration Units: UG/L Date Received: 05/20/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	7.1			MS
7440-38-2	Arsenic	10.2			MS
7440-39-3	Barium	83.9			MS
7440-41-7	Beryllium	4.0			MS
7440-43-9	Cadmium	5.0			MS
7440-47-3	Chromium	53.9			MS
7440-48-4	Cobalt	247			MS
7440-50-8	Copper	55.7			MS
7439-92-1	Lead	15.5			MS
7439-97-6	Mercury	1.1			CV
7440-02-0	Nickel	52.8			MS
7782-49-2	Selenium	10.2			MS
7440-22-4	Silver	50.2			MS
7440-28-0	Thallium	2.1			MS
7440-62-2	Vanadium	51.9			MS
7440-66-6	Zinc	508			MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9006557MSD % Solids: 0.0
Concentration Units: UG/L Date Received: 05/20/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	6.8			MS
7440-38-2	Arsenic	10.8			MS
7440-39-3	Barium	80.5			MS
7440-41-7	Beryllium	4.3			MS
7440-43-9	Cadmium	4.9			MS
7440-47-3	Chromium	50.8			MS
7440-48-4	Cobalt	243			MS
7440-50-8	Copper	52.9			MS
7439-92-1	Lead	15.4			MS
7439-97-6	Mercury	1.1			CV
7440-02-0	Nickel	51.6			MS
7782-49-2	Selenium	10.2			MS
7440-22-4	Silver	49.0			MS
7440-28-0	Thallium	2.0			MS
7440-62-2	Vanadium	50.9			MS
7440-66-6	Zinc	498			MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9006558DUP % Solids: 0.0
Concentration Units: UG/L Date Received: 05/20/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.40	U		MS
7440-38-2	Arsenic	2.0	U		MS
7440-39-3	Barium	33.1			MS
7440-41-7	Beryllium	0.20	U		MS
7440-43-9	Cadmium	0.20	U		MS
7440-47-3	Chromium	1.1	B		MS
7440-48-4	Cobalt	1.0	U		MS
7440-50-8	Copper	3.7	B		MS
7439-92-1	Lead	0.39	B		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	2.0	U		MS
7782-49-2	Selenium	3.0	U		MS
7440-22-4	Silver	0.20	U		MS
7440-28-0	Thallium	0.20	U		MS
7440-62-2	Vanadium	1.0	U		MS
7440-66-6	Zinc	10.5	B		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9006559 % Solids: 0.0
Concentration Units: UG/L Date Received: 05/20/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-48-4	Cobalt	1.0	U		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

QUALITY CONTROL REFERENCE LIST

SDG No.: RAE87
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Antimony	171441063901	9006555BKG
Arsenic		9006556MS
Barium		9006557MSD
Beryllium		9006558DUP
Cadmium		P14463AB
Chromium		P14463AQ
Cobalt		
Copper		
Lead		
Nickel		
Selenium		
Silver		
Thallium		
Vanadium		
Zinc		

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY CONTROL REFERENCE LIST

SDG No.: RAE87
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Cobalt	171441063902	9006554BKG
		9006554MS
		9006554MSD
		9006554DUP
		9006559
		P14463BB
		P14463BQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

eurofins | Lancaster Laboratories Environmental

QUALITY CONTROL REFERENCE LIST

SDG No.: RAE87
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Mercury	171420571301	9006555BKG
		9006556MS
		9006557MSD
		9006558DUP
		P14271AB
		P14271AQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: RAE87

Method: MS
Run Name: 1715008E05
Calibration Date(s): 05/30/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony	121	50.0	51.38	102.8	25.0	28.21	112.8*	25.0	24.11	96.4
Arsenic	75	500.0	494.77	99.0	250.0	266.04	106.4	250.0	246.58	98.6
Barium	137	500.0	499.85	100.0	250.0	268.37	107.3	250.0	257.02	102.8
Beryllium	9	50.0	51.80	103.6	25.0	26.22	104.9	25.0	25.99	104.0
Cadmium	111	50.0	48.20	96.4	25.0	26.65	106.6	25.0	24.67	98.7
Chromium	52	500.0	521.92	104.4	250.0	271.62	108.6	250.0	260.46	104.2
Cobalt	59	500.0	486.91	97.4	250.0	270.50	108.2	250.0	253.49	101.4
Copper	63	500.0	499.85	100.0	250.0	270.34	108.1	250.0	256.69	102.7
Lead										
Nickel	60	500.0	540.53	108.1	250.0	278.17	111.3*	250.0	256.00	102.4
Selenium	78	50.0	51.34	102.7	25.0	25.07	100.3	25.0	24.95	99.8
Silver	107	50.0	49.62	99.2	25.0	26.71	106.8	25.0	25.78	103.1
Thallium	203	50.0	52.00	104.0	25.0	28.41	113.6*	25.0	25.78	103.1
Vanadium	51	500.0	522.37	104.5	250.0	264.50	105.8	250.0	254.16	101.7
Zinc	66	500.0	481.23	96.2	250.0	265.87	106.3	250.0	253.11	101.2

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: RAE87

Method: MS
Run Name: 1715008E05
Calibration Date(s): 05/30/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony	121				25.0	25.46	101.8			
Arsenic	75				250.0	248.82	99.5			
Barium	137				250.0	271.21	108.5			
Beryllium	9				25.0	26.66	106.6			
Cadmium	111				25.0	25.67	102.7			
Chromium	52				250.0	267.59	107.0			
Cobalt	59				250.0	252.56	101.0			
Copper	63				250.0	253.07	101.2			
Lead										
Nickel	60				250.0	271.92	108.8			
Selenium	78				25.0	25.49	102.0			
Silver	107				25.0	25.94	103.8			
Thallium	203				25.0	26.24	105.0			
Vanadium	51				250.0	268.16	107.3			
Zinc	66				250.0	250.93	100.4			

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: RAE87

Method: MS
Run Name: 1715106E05
Calibration Date(s): 05/31/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony	121	50.0	53.99	108.0	25.0	25.26	101.0	25.0	24.02	96.1
Arsenic										
Barium										
Beryllium										
Cadmium										
Chromium										
Cobalt										
Copper										
Lead	208	50.0	52.31	104.6	25.0	24.49	98.0	25.0	24.52	98.1
Nickel	60	500.0	526.91	105.4	250.0	250.13	100.1	250.0	246.72	98.7
Selenium										
Silver										
Thallium	203	50.0	50.59	101.2	25.0	24.07	96.3	25.0	24.12	96.5
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: RAE87

Method: MS
Run Name: 1715106E05
Calibration Date(s): 05/31/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony	121				25.0	26.13	104.5			
Arsenic										
Barium										
Beryllium										
Cadmium										
Chromium										
Cobalt										
Copper										
Lead	208				25.0	24.75	99.0			
Nickel	60				250.0	253.96	101.6			
Selenium										
Silver										
Thallium	203				25.0	24.51	98.0			
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: RAE87

Method: MS
Run Name: 1715307E05
Calibration Date(s): 06/02/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Chromium										
Cobalt	59	500.0	516.70	103.3	250.0	245.57	98.2	250.0	240.07	96.0
Copper										
Lead										
Nickel										
Selenium										
Silver										
Thallium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1715307E05
Calibration Date(s): 06/02/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Chromium										
Cobalt	59				250.0	244.05	97.6			
Copper										
Lead										
Nickel										
Selenium										
Silver										
Thallium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1714901M09
Calibration Date(s): 05/29/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.46	98.4	1.0	0.99	99.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1715008E05
Calibration Date(s): 05/30/2017
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Antimony	121	2.0	2.17	108.5	2.03	101.5
Arsenic	75	4.0	4.18	104.5	4.08	102.0
Barium	137	4.0	3.38	84.5	3.16	79.0
Beryllium	9	1.0	1.08	108.0	1.00	100.0
Cadmium	111	1.0	1.16	116.0	1.14	114.0
Chromium	52	4.0	4.30	107.5	4.64	116.0
Cobalt	59	1.0	0.98	98.0	0.98	98.0
Copper	63	4.0	4.26	106.5	4.13	103.3
Lead						
Nickel	60	4.0	3.83	95.8	4.70	117.5
Selenium	78	4.0	3.88	97.0	4.34	108.5
Silver	107	1.0	1.00	100.0	1.10	110.0
Thallium	203	1.0	1.06	106.0	0.93	93.0
Vanadium	51	1.0	0.93	93.0	0.94	94.0
Zinc	66	30.0	28.65	95.5	29.01	96.7

Control limits: 70% - 130%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1715106E05
Calibration Date(s): 05/31/2017
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Antimony	121	2.0	2.02	101.0	2.11	105.5
Arsenic						
Barium						
Beryllium						
Cadmium						
Chromium						
Cobalt						
Copper						
Lead	208	2.0	2.07	103.5	2.07	103.5
Nickel	60	4.0	3.79	94.8	4.25	106.3
Selenium						
Silver						
Thallium	203	1.0	1.04	104.0	1.19	119.0
Vanadium						
Zinc						

Control limits: 70% - 130%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: RAE87

Method: MS
Run Name: 1715307E05
Calibration Date(s): 06/02/2017
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Chromium						
Cobalt	59	1.0	1.04	104.0	1.03	103.0
Copper						
Lead						
Nickel						
Selenium						
Silver						
Thallium						
Vanadium						
Zinc						

Control limits: 70% - 130%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: RAE87

Method: CV
Run Name: 1714901M09
Calibration Date(s): 05/29/2017
Concentration Units: UG/L

			Initial		Final	
Analyte	Mass	True	Found	%R	Found	%R
Mercury		0.2	0.21	105.0		

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1715008E05
Calibration Date(s): 05/30/2017
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Antimony	121	0.34	U	0.34	U	0.39	B	0.34	U				
Arsenic	75	0.64	U	0.64	U	0.64	U	0.64	U	75	2.000	U	171441063901A
Barium	137	0.66	U	0.66	U	0.66	U	0.66	U	137	1.000	U	171441063901A
Beryllium	9	0.029	U	0.029	U	0.029	U	0.029	U	9	0.200	U	171441063901A
Cadmium	111	0.16	U	0.16	U	0.16	U	0.16	U	111	0.200	U	171441063901A
Chromium	52	0.87	U	0.87	U	0.87	U	0.87	U	52	1.000	U	171441063901A
Cobalt	59	0.16	U	0.16	U	0.16	U	0.16	U	59	1.000	U	171441063901A
Copper	63	0.54	U	0.54	U	0.54	U	0.54	U	63	1.000	U	171441063901A
Lead													
Nickel	60	1.0	U	1.0	U	1.0	U	1.0	U				
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U	78	3.000	U	171441063901A
Silver	107	0.15	U	0.15	U	0.15	U	0.15	U	107	0.200	U	171441063901A
Thallium	203	0.15	U	0.15	U	0.15	U	0.15	U				
Vanadium	51	0.22	U	0.22	U	0.22	U	0.22	U	51	1.000	U	171441063901A
Zinc	66	4.0	U	4.0	U	4.0	U	4.0	U	66	7.300	U	171441063901A

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: RAE87

Method: MS
Run Name: 1715106E05
Calibration Date(s): 05/31/2017
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Antimony	121	0.34	U	0.34	U	0.34	U	0.34	U	121	0.400	U	171441063901A
Arsenic													
Barium													
Beryllium													
Cadmium													
Chromium													
Cobalt													
Copper													
Lead	208	0.12	U	0.12	U	0.12	U	0.12	U	208	0.200	U	171441063901A
Nickel	60	1.0	U	1.0	U	1.0	U	1.0	U	60	2.000	U	171441063901A
Selenium													
Silver													
Thallium	203	0.15	U	0.15	U	0.15	U	0.15	U	203	0.200	U	171441063901A
Vanadium													
Zinc													

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: RAE87

Method: MS
Run Name: 1715307E05
Calibration Date(s): 06/02/2017
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Chromium													
Cobalt	59	0.16	U	0.16	U	0.16	U	0.16	U	59	1.000	U	171441063902A
Copper													
Lead													
Nickel													
Selenium													
Silver													
Thallium													
Vanadium													
Zinc													

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: RAE87

Method: CV
Run Name: 1714901M09
Calibration Date(s): 05/29/2017
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury		-0.062	B	-0.058	B	-0.066	B				0.050	U	171420571301

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715008E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	104603	104.6	107077.2	107.1
Antimony	121	0	0	0		0.1	
Arsenic	75	0	100	1		98.2	98.2
Barium	137	0	0	3		3.3	
Beryllium	9	0	0	0		0.0	
Cadmium	111	0	100	0		94.4	94.4
Calcium	44	300000	300000	280155	93.4	287924.7	96.0
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	200	3		209.3	104.7
Cobalt	59	0	205	3		193.4	94.3
Copper	63	0	200	2		191.8	95.9
Iron	57	250000	250000	244060	97.6	251775.8	100.7
Lead							
Magnesium	24	100000	100000	97460	97.5	100555.5	100.6
Molybdenum	98	2000	2000	2121	106.1	2026.4	101.3
Nickel	60	0	200	2		205.7	102.9
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	100891	100.9	103173.0	103.2
Selenium	78	0	100	0		98.0	98.0
Silver	107	0	50	0		48.5	97.0
Sodium	23	250000	250000	245685	98.3	255756.1	102.3
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	2000	2000	2076	103.8	2170.8	108.5
Vanadium	51	0	200	0		211.9	106.0
Zinc	66	0	100	2		97.5	97.5

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715008E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	108405	108.4	108572.6	108.6
Antimony	121	0	0	0		0.0	
Arsenic	75	0	100	0		109.9	109.9
Barium	137	0	0	4		5.1	
Beryllium	9	0	0	0		0.0	
Cadmium	111	0	100	0		102.0	102.0
Calcium	44	300000	300000	290072	96.7	288824.2	96.3
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	200	4		213.5	106.8
Cobalt	59	0	205	3		208.7	101.8
Copper	63	0	200	2		211.1	105.6
Iron	57	250000	250000	253338	101.3	253672.3	101.5
Lead							
Magnesium	24	100000	100000	101661	101.7	101191.1	101.2
Molybdenum	98	2000	2000	2145	107.3	2243.3	112.2
Nickel	60	0	200	2		203.9	102.0
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	103131	103.1	102264.8	102.3
Selenium	78	0	100	0		100.7	100.7
Silver	107	0	50	0		53.3	106.6
Sodium	23	250000	250000	256317	102.5	256935.4	102.8
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	2000	2000	2183	109.2	2170.0	108.5
Vanadium	51	0	200	0		214.8	107.4
Zinc	66	0	100	3		103.1	103.1

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715106E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	98890	98.9	106264.2	106.3
Antimony	121	0	0	0		0.1	
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	252112	84.0	275059.8	91.7
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	234305	93.7	254798.4	101.9
Lead	208	0	0	0		0.3	
Magnesium	24	100000	100000	93746	93.7	102626.7	102.6
Molybdenum	98	2000	2000	2000	100.0	2039.9	102.0
Nickel	60	0	200	1		204.6	102.3
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	96708	96.7	104838.6	104.8
Selenium							
Silver							
Sodium	23	250000	250000	237435	95.0	257023.6	102.8
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	2000	2000	2044	102.2	2192.4	109.6
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715106E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	103058	103.1	103443.6	103.4
Antimony	121	0	0	0		0.1	
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	265827	88.6	266392.7	88.8
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	249615	99.8	245974.6	98.4
Lead	208	0	0	0		0.3	
Magnesium	24	100000	100000	98377	98.4	98954.1	99.0
Molybdenum	98	2000	2000	2065	103.3	1999.1	100.0
Nickel	60	0	200	2		199.5	99.8
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	100351	100.4	100654.4	100.7
Selenium							
Silver							
Sodium	23	250000	250000	249923	100.0	250048.9	100.0
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	2000	2000	2035	101.8	2118.3	105.9
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715307E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	119257	119.3	114873.7	114.9
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	296255	98.8	281008.3	93.7
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt	59	0	205	3		197.8	96.5
Copper							
Iron	57	250000	250000	304570	121.8	291767.7	116.7
Lead							
Magnesium	24	100000	100000	125972	126.0	120848.7	120.8
Molybdenum	98	2000	2000	2328	116.4	2346.2	117.3
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	131315	131.3	126252.2	126.3
Selenium							
Silver							
Sodium	23	250000	250000	306992	122.8	294631.5	117.9
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	2370	118.5	2275.4	113.8
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715307E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	115343	115.3	119491.0	119.5
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	289547	96.5	294832.4	98.3
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt	59	0	205	3		194.5	94.9
Copper							
Iron	57	250000	250000	296210	118.5	303965.5	121.6
Lead							
Magnesium	24	100000	100000	122488	122.5	126022.8	126.0
Molybdenum	98	2000	2000	2269	113.5	2298.0	114.9
Nickel							
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	126714	126.7	131746.8	131.7
Selenium							
Silver							
Sodium	23	250000	250000	297029	118.8	307008.0	122.8
Sulfur	34	10000	10000	NA		NA	
Thallium							
Titanium	47	2000	2000	2303	115.2	2321.6	116.1
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9006554BKG Matrix Spike Lab Sample ID: 9006554MS Matrix Spike Duplicate Lab Sample ID: 9006554MSD
Batch Number(s): 171441063902

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Cobalt	59	1.0000	U	238.6640		240.4050		250.0000	250.0000	UG/L	95		96		1		75 - 125	20	MS

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 5A(MS/MSD)
MATRIX SPIKE/MATRIX SPIKE DUPLICATE
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9006555BKG Matrix Spike Lab Sample ID: 9006556MS Matrix Spike Duplicate Lab Sample ID: 9006557MSD
Batch Number(s): 171441063901, 171420571301

		BKG Sample		MS Sample		MSD Sample		MS Spike	MSD Spike		MS		MSD				Control Limit		
Analyte	Mass	Result	C	Result	C	Result	C	Added	Added	Units	%R	Q	%R	Q	RPD	Q	%R	RPD	M
Antimony	121	0.4000	U	7.0990		6.7510		6.0000	6.0000	UG/L	118		113		5		75 - 125	20	MS
Arsenic	75	2.0000	U	10.2160		10.8210		10.0000	10.0000	UG/L	102		108		6		75 - 125	20	MS
Barium	137	34.7980		83.8890		80.5290		50.0000	50.0000	UG/L	98		91		4		75 - 125	20	MS
Beryllium	9	0.2000	U	4.0340		4.2920		4.0000	4.0000	UG/L	101		107		6		75 - 125	20	MS
Cadmium	111	0.2000	U	4.9850		4.8800		5.0000	5.0000	UG/L	100		98		2		75 - 125	20	MS
Chromium	52	1.0000	U	53.9090		50.7800		50.0000	50.0000	UG/L	108		102		6		75 - 125	20	MS
Cobalt	59	1.0000	U	247.4580		243.1290		250.0000	250.0000	UG/L	99		97		2		75 - 125	20	MS
Copper	63	3.4340	B	55.7400		52.9350		50.0000	50.0000	UG/L	105		99		5		75 - 125	20	MS
Lead	208	0.3930	B	15.4620		15.4350		15.0000	15.0000	UG/L	100		100		0		75 - 125	20	MS
Mercury		0.0500	U	1.0729		1.0824		1.0000	1.0000	UG/L	107		108		1		80 - 120	20	CV
Nickel	60	2.0000	U	52.8330		51.6100		50.0000	50.0000	UG/L	106		103		2		75 - 125	20	MS
Selenium	78	3.0000	U	10.1680		10.2380		10.0000	10.0000	UG/L	102		102		1		75 - 125	20	MS
Silver	107	0.2000	U	50.2330		49.0060		50.0000	50.0000	UG/L	100		98		2		75 - 125	20	MS
Thallium	203	0.2000	U	2.1330		2.0010		2.0000	2.0000	UG/L	107		100		6		75 - 125	20	MS
Vanadium	51	1.0000	U	51.8670		50.9200		50.0000	50.0000	UG/L	104		102		2		75 - 125	20	MS
Zinc	66	12.6850	B	508.2120		497.8870		500.0000	500.0000	UG/L	99		97		2		75 - 125	20	MS

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer CV = Cold Vapor
MS = ICP Mass Spectrometry AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL, B= Below LOQ
FLAGS:
N = Matrix Spike OOS, * = Duplicate OOS

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9006554BKG Duplicate Lab Sample ID: 9006554DUP
Batch Number(s): 171441063902
Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Cobalt	59		1.0000	U	1.0000	U			MS

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
* = Duplicate Out of Spec

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 6
DUPLICATES
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9006555BKG Duplicate Lab Sample ID: 9006558DUP
Batch Number(s): 171441063901, 171420571301
Concentration Units: UG/L

Analyte	Mass	Control Limit	Samples (S)	C	Duplicate (D)	C	RPD	Q	M
Antimony	121		0.4000	U	0.4000	U			MS
Arsenic	75		2.0000	U	2.0000	U			MS
Barium	137		34.7980		33.1390		5		MS
Beryllium	9		0.2000	U	0.2000	U			MS
Cadmium	111		0.2000	U	0.2000	U			MS
Chromium	52		1.0000	U	1.0690	B	200		MS
Cobalt	59		1.0000	U	1.0000	U			MS
Copper	63		3.4340	B	3.7490	B	9		MS
Lead	208		0.3930	B	0.3920	B	0		MS
Mercury			-0.0524	B	0.0500	U	-200		CV
Nickel	60		2.0000	U	2.0000	U			MS
Selenium	78		3.0000	U	3.0000	U			MS
Silver	107		0.2000	U	0.2000	U			MS
Thallium	203		0.2000	U	0.2000	U			MS
Vanadium	51		1.0000	U	1.0000	U			MS
Zinc	66		12.6850	B	10.4630	B	19		MS

NOTE: An asterisk (*) in column "Q" indicates poor duplicate precision (RPD > 20% OR |(S) - (D)| > LOQ for values < 5x LOQ).
The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample.

Note: Results shown are reported on an as-received basis.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
* = Duplicate Out of Spec

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: RAE87
Matrix: WATER

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Antimony	121	171441063901	UG/L	6.000	5.965		80 - 120	99	MS	Yes
Arsenic	75	171441063901	UG/L	10.000	10.315		80 - 120	103	MS	Yes
Barium	137	171441063901	UG/L	50.000	51.632		80 - 120	103	MS	Yes
Beryllium	9	171441063901	UG/L	4.000	4.097		80 - 120	102	MS	Yes
Cadmium	111	171441063901	UG/L	5.000	5.020		80 - 120	100	MS	Yes
Chromium	52	171441063901	UG/L	50.000	51.294		80 - 120	103	MS	Yes
Cobalt	59	171441063901	UG/L	250.000	252.325		80 - 120	101	MS	Yes
Copper	63	171441063901	UG/L	50.000	53.150		80 - 120	106	MS	Yes
Lead	208	171441063901	UG/L	15.000	14.867		80 - 120	99	MS	Yes
Mercury		171420571301	UG/L	1.000	1.050		80 - 120	105	CV	Yes
Nickel	60	171441063901	UG/L	50.000	49.352		80 - 120	99	MS	Yes
Selenium	78	171441063901	UG/L	10.000	9.972		80 - 120	100	MS	Yes
Silver	107	171441063901	UG/L	50.000	50.936		80 - 120	102	MS	Yes
Thallium	203	171441063901	UG/L	2.000	2.031		80 - 120	102	MS	Yes
Vanadium	51	171441063901	UG/L	50.000	50.800		80 - 120	102	MS	Yes
Zinc	66	171441063901	UG/L	500.000	501.639		80 - 120	100	MS	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: RAE87
Matrix: WATER

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Cobalt	59	171441063902	UG/L	250.000	242.409		80 - 120	97	MS	Yes

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	U= Below MDL B= Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9006554BKG Serial Dilution Lab Sample ID: 9006554L
Batch Number(s): 171441063902
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Cobalt	59	1.0000	U	5.0000	U			MS

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: RAE87
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: 9006555BKG Serial Dilution Lab Sample ID: 9006555L
Batch Number(s): 171441063901
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Antimony	121	0.4000	U	2.0000	U			MS
Arsenic	75	2.0000	U	10.0000	U			MS
Barium	137	34.7980		35.8700		3		MS
Beryllium	9	0.2000	U	1.0000	U			MS
Cadmium	111	0.2000	U	1.0000	U			MS
Chromium	52	1.0000	U	5.0000	U			MS
Cobalt	59	1.0000	U	5.0000	U			MS
Copper	63	3.4340	B	5.0000	U	100		MS
Lead	208	0.3930	B	1.0000	U	100		MS
Nickel	60	2.0000	U	10.0000	U			MS
Selenium	78	3.0000	U	15.0000	U			MS
Silver	107	0.2000	U	1.0000	U			MS
Thallium	203	0.2000	U	1.0000	U			MS
Vanadium	51	1.0000	U	5.0000	U			MS
Zinc	66	12.6850	B	36.5000	U	100		MS

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

Method: MS
Instrument ID: 19204
Date: 04/2017

Analyte	MASS (amu)	Background	IDL (UG/L)
Antimony	121		0.34
Arsenic	75		0.64
Barium	137		0.66
Beryllium	9		0.029
Cadmium	111		0.16
Chromium	52		0.87
Cobalt	59		0.16
Copper	63		0.54
Lead	208		0.12
Nickel	60		1.0
Selenium	78		0.50
Silver	107		0.15
Thallium	203		0.15
Vanadium	51		0.22
Zinc	66		4.0

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 23283
Date: 10/2016

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury			0.050

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: RAE87
Matrix: WATER

Method: MS
Date: 04/2016

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Antimony	121		2.0	0.40
Arsenic				
Barium	137		4.0	1.0
Beryllium	9		1.0	0.20
Cadmium	111		1.0	0.20
Chromium	52		4.0	1.0
Cobalt	59		1.0	1.0
Copper	63		4.0	1.0
Lead	208		2.0	0.20
Nickel	60		4.0	2.0
Selenium	78		4.0	3.0
Silver	107		1.0	0.20
Thallium	203		1.0	0.20
Vanadium	51		1.0	1.0
Zinc				

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: RAE87
Matrix: WATER

Method: MS
Date: 05/2017

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Antimony				
Arsenic	75		4.0	2.0
Barium				
Beryllium				
Cadmium				
Chromium				
Cobalt				
Copper				
Lead				
Nickel				
Selenium				
Silver				
Thallium				
Vanadium				
Zinc	66		30.0	7.3

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: RAE87
Matrix: WATER

Method: CV
Date: 06/2016

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury			0.20	0.050

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Batch Number: 171441063901

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9006555BKG	05/30/2017	50.00	50
9006558DUP	05/30/2017	50.00	50
9006557MSD	05/30/2017	50.00	50
9006556MS	05/30/2017	50.00	50
P14463AB	05/30/2017	50.00	50
P14463AQ	05/30/2017	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: MS
Batch Number: 171441063902

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9006559	05/30/2017	50.00	50
9006554BKG	05/30/2017	50.00	50
9006554DUP	05/30/2017	50.00	50
9006554MSD	05/30/2017	50.00	50
9006554MS	05/30/2017	50.00	50
P14463BB	05/30/2017	50.00	50
P14463BQ	05/30/2017	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: CV
Batch Number: 171420571301

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9006555BKG	05/28/2017	40.00	40
9006558DUP	05/28/2017	40.00	40
9006557MSD	05/28/2017	40.00	40
9006556MS	05/28/2017	40.00	40
P14271AB	05/28/2017	40.00	40
P14271AQ	05/28/2017	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: RAE87

Method: MS
Instrument ID: 19204
Run Name: 1715008E05

Run Start Date: 05/30/2017
Run End Date: 05/30/2017

Lab Sample ID	D/F	Time	Analytes																																			
			SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	NI	SE	AG	TL	V	ZN																				
S0	1.00	19:39	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
S	1.00	19:43	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
CCS	1.00	19:46	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
CCS	1.00	19:49	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ICV	1.00	19:52	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ICB	1.00	19:55	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
LLC	1.00	19:58	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ICSA	1.00	20:01	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ICSAB	1.00	20:04	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ZZZZZZ	1.00	20:07																																				
CCV	1.00	20:10	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
CCB	1.00	20:13	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
P14463AB	1.00	20:17		X	X	X	X	X	X	X				X	X		X	X																				
P14463AQ	1.00	20:20		X	X	X	X	X	X	X				X	X		X	X																				
9006555BKG	1.00	20:23	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
9006555A	1.00	20:26																																				
9006558DUP	1.00	20:29	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
9006556MS	1.00	20:32		X	X	X	X	X	X	X				X	X		X	X																				
9006557MSD	1.00	20:35		X	X	X	X	X	X	X				X	X		X	X																				
9006555L	5.00	20:38	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ZZZZZZ	1.00	20:41																																				
ZZZZZZ	1.00	20:44																																				
CCV	1.00	20:48	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
CCB	1.00	20:51	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ZZZZZZ	1.00	20:54																																				
ZZZZZZ	1.00	20:57																																				
ZZZZZZ	1.00	21:00																																				
LLC	1.00	21:03	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ICSA	1.00	21:06	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ICSAB	1.00	21:09	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
ZZZZZZ	1.00	21:12																																				
CCV	1.00	21:15	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				
CCB	1.00	21:19	X	X	X	X	X	X	X	X			X	X	X	X	X	X																				

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: RAE87

Method: MS
Instrument ID: 19204
Run Name: 1715106E05

Run Start Date: 05/31/2017
Run End Date: 05/31/2017

Lab Sample ID	D/F	Time	Analytes																													
			SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	NI	SE	AG	TL	V	ZN														
S0	1.00	11:28	X								X		X			X																
S	1.00	11:30	X								X		X			X																
CCS	1.00	11:33	X								X		X			X																
CCS	1.00	11:35	X								X		X			X																
ICV	1.00	11:37	X								X		X			X																
ICB	1.00	11:40	X								X		X			X																
LLC	1.00	11:42	X								X		X			X																
ICSA	1.00	11:45	X								X		X			X																
ICSAB	1.00	11:47	X								X		X			X																
ZZZZZZ	1.00	11:49																														
CCV	1.00	11:52	X								X		X			X																
CCB	1.00	11:54	X								X		X			X																
P14463AB	1.00	11:57	X								X		X			X																
P14463AQ	1.00	11:59	X								X		X			X																
9006555BKG	1.00	12:02									X																					
9006555A	1.00	12:04																														
9006558DUP	1.00	12:07									X																					
9006556MS	1.00	12:09	X								X		X			X																
9006557MSD	1.00	12:11	X								X		X			X																
9006555L	5.00	12:14									X																					
ZZZZZZ	1.00	12:16																														
ZZZZZZ	1.00	12:19																														
CCV	1.00	12:21	X								X		X			X																
CCB	1.00	12:23	X								X		X			X																
ZZZZZZ	1.00	12:26																														
ZZZZZZ	1.00	12:28																														
ZZZZZZ	1.00	12:31																														
ZZZZZZ	1.00	12:33																														
ZZZZZZ	1.00	12:36																														
ZZZZZZ	1.00	12:38																														
LLC	1.00	12:40	X								X		X			X																
ICSA	1.00	12:43	X								X		X			X																
ICSAB	1.00	12:45	X								X		X			X																
ZZZZZZ	1.00	12:48																														
CCV	1.00	12:50	X								X		X			X																
CCB	1.00	12:52	X								X		X			X																

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: RAE87

Method: MS
Instrument ID: 19204
Run Name: 1715307E05

Run Start Date: 06/02/2017
Run End Date: 06/02/2017

Lab Sample ID	D/F	Time	Analytes																													
			SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	NI	SE	AG	TL	V	ZN														
S0	1.00	09:13							X																							
S	1.00	09:15							X																							
CCS	1.00	09:17							X																							
CCS	1.00	09:19							X																							
ICV	1.00	09:21							X																							
ICB	1.00	09:22							X																							
LLC	1.00	09:24							X																							
ICSA	1.00	09:26							X																							
ICSAB	1.00	09:28							X																							
ZZZZZZ	1.00	09:30																														
CCV	1.00	09:32							X																							
CCB	1.00	09:33							X																							
P14463BB	1.00	09:35							X																							
P14463BQ	1.00	09:37							X																							
9006554BKG	1.00	09:39							X																							
9006554A	1.00	09:41																														
9006554DUP	1.00	09:43							X																							
9006554MS	1.00	09:45							X																							
9006554MSD	1.00	09:46							X																							
9006554L	5.00	09:48							X																							
9006559	1.00	09:50							X																							
CCV	1.00	09:52							X																							
CCB	1.00	09:54							X																							
LLC	1.00	09:56							X																							
ICSA	1.00	09:57							X																							
ICSAB	1.00	09:59							X																							
ZZZZZZ	1.00	10:01																														
CCV	1.00	10:03							X																							
CCB	1.00	10:05							X																							

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: RAE87

Method: CV
Instrument ID: 23283
Run Name: 1714901M09

Run Start Date: 05/29/2017
Run End Date: 05/29/2017

Lab Sample ID	D/F	Time	Analytes																												
			SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	NI	SE	AG	TL	V	ZN													
S0	1.00	06:16										X																			
S0.2	1.00	06:18										X																			
S0.5	1.00	06:20										X																			
S1.0	1.00	06:22										X																			
S2.5	1.00	06:24										X																			
S5.0	1.00	06:27										X																			
ICV	1.00	06:29										X																			
ICB	1.00	06:32										X																			
CRA	1.00	06:34										X																			
CCV	1.00	06:36										X																			
CCB	1.00	06:38										X																			
P14271AB	1.00	06:40										X																			
P14271AQ	1.00	06:42										X																			
9006555BKG	1.00	06:45										X																			
9006558DUP	1.00	06:47										X																			
9006556MS	1.00	06:49										X																			
9006557MSD	1.00	06:51										X																			
ZZZZZZ	1.00	06:53																													
ZZZZZZ	1.00	06:55																													
ZZZZZZ	1.00	06:57																													
ZZZZZZ	1.00	06:59																													
CCV	1.00	07:01										X																			
CCB	1.00	07:03										X																			

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715008E05

Start Date: 05/30/2017
End Date: 05/30/2017

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	TL	GE-2-72	CR,NI,V
IN-1-115	SE	IN-2-115	AG,AS,BA,CD,CO,CU,SB,ZN
SC-3-45	BE		

Lab Sample ID	Time	Internal Standards %RI For: Element SC-3-45	Q	Element GE-2-72	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q
S0	19:39	100		100		100		100		100					
S	19:43	100		99		100		93		101					
CCS	19:46	99		101		96		97		101					
CCS	19:49	99		99		99		94		100					
ICV	19:52	99		96		99		98		102					
ICB	19:55	97		97		95		96		99					
LLC	19:58	97		98		97		95		101					
ICSA	20:01	95		96		94		89		94					
ICSAB	20:04	94		94		92		94		93					
ZZZZZZ	20:07														
CCV	20:10	98		94		99		89		93					
CCB	20:13	97		98		97		94		102					
P14463AB	20:17	100		99		99		97		107					
P14463AQ	20:20	100		100		100		94		107					
9006555BKG	20:23	98		99		97		95		104					
9006555A	20:26	102		99		96		96							
9006558DUP	20:29	99		97		99		96		105					
9006556MS	20:32	101		97		98		95							
9006557MSD	20:35	101		101		98		98							
9006555L	20:38	98		97		99		94		104					
ZZZZZZ	20:41														
ZZZZZZ	20:44														
CCV	20:48	101		98		99		94		105					
CCB	20:51	97		94		98		90		101					
ZZZZZZ	20:54														
ZZZZZZ	20:57														
ZZZZZZ	21:00														
LLC	21:03	99		96		95		96		103					
ICSA	21:06	91		90		89		86		93					
ICSAB	21:09	90		90		88		84		92					
ZZZZZZ	21:12														

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715008E05

Start Date: 05/30/2017
End Date: 05/30/2017

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	TL	GE-2-72	CR,NI,V
IN-1-115	SE	IN-2-115	AG,AS,BA,CD,CO,CU,SB,ZN
SC-3-45	BE		

Lab Sample ID	Time	Internal Standards %RI For: Element SC-3-45	Q	Element GE-2-72	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q
CCV	21:15	95		92		96		92		102					
CCB	21:19	93		91		69		92		98					

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE87

Instrument ID: 19204
Run Name: 1715106E05

Start Date: 05/31/2017
End Date: 05/31/2017

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB,TL	IN-2-115	NI,SB

Lab Sample ID	Time	Internal Standards %RI For: Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	11:28	100		100											
S	11:30	105		101											
CCS	11:33	103		97											
CCS	11:35	102		98											
ICV	11:37	102		100											
ICB	11:40	102		98											
LLC	11:42	103		101											
ICSA	11:45	98		96											
ICSAB	11:47	98		94											
ZZZZZZ	11:49														
CCV	11:52	103		102											
CCB	11:54	99		98											
P14463AB	11:57	104		106											
P14463AQ	11:59	105		105											
9006555BKG	12:02			106											
9006555A	12:04	104		103											
9006558DUP	12:07			105											
9006556MS	12:09	102		104											
9006557MSD	12:11	104		104											
9006555L	12:14			103											
ZZZZZZ	12:16														
ZZZZZZ	12:19														
CCV	12:21	103		102											
CCB	12:23	100		98											
ZZZZZZ	12:26														
ZZZZZZ	12:28														
ZZZZZZ	12:31														
ZZZZZZ	12:33														
ZZZZZZ	12:36														
ZZZZZZ	12:38														
LLC	12:40	102		101											

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE87

Instrument ID: 19204 Start Date: 05/31/2017
Run Name: 1715106E05 End Date: 05/31/2017

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB,TL	IN-2-115	NI,SB

Lab Sample ID	Time	Internal Standards %RI For: Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
ICSA	12:43	94		93											
ICSAB	12:45	98		94											
ZZZZZZ	12:48														
CCV	12:50	100		100											
CCB	12:52	98		98											

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE87

Instrument ID: 19204 Start Date: 06/02/2017
Run Name: 1715307E05 End Date: 06/02/2017

Standard	Elements Applies to	Standard	Elements Applies to
IN-1-115	CO		

Lab Sample ID	Time	Internal Standards %RI For: Element IN-1-115	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	09:13	100													
S	09:15	102													
CCS	09:17	100													
CCS	09:19	100													
ICV	09:21	104													
ICB	09:22	103													
LLC	09:24	105													
ICSA	09:26	90													
ICSAB	09:28	91													
ZZZZZZ	09:30														
CCV	09:32	105													
CCB	09:33	103													
P14463BB	09:35	106													
P14463BQ	09:37	106													
9006554BKG	09:39	110													
9006554A	09:41	109													
9006554DUP	09:43	110													
9006554MS	09:45	110													
9006554MSD	09:46	108													
9006554L	09:48	107													
9006559	09:50	110													
CCV	09:52	109													
CCB	09:54	106													
LLC	09:56	107													
ICSA	09:57	94													
ICSAB	09:59	93													
ZZZZZZ	10:01														
CCV	10:03	104													
CCB	10:05	104													

LEGEND:
BKG = Background MS = Matrix Spike
DUP = Duplicate MSD = Matrix Spike Duplicate
L = Serial Dilution A = Post Digest Spike
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium LI = Lithium
BI = Bismuth SC = Scandium
GE = Germanium TB = Terbium
HO = Holmium Y = Yttrium
IN = Indium

Raw Data

Metals in Liquid

ICP-MS Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 17E30H00.E05

Run Name: 1715008E05

Analyst: 8381

Reviewed By:	Reviewed Date
Deborah A Krady	06/08/2017 13:12
Nina C Haller	06/19/2017 08:43
Sarah L Burt	05/30/2017 23:16

Verified By:	Verified Date
Deborah A Krady	06/08/2017 13:26
Nina C Haller	07/12/2017 12:54
Tara L Snyder	05/31/2017 13:31

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-3		45
	BE	9
	B	11
GE-2		72
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
	NI	60
IN-1		115
	SE	78
IN-2		115
	CO	59
	CU	63
	ZN	66
	AS	75
	RB	85
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208
	U	238

Run Name: 1715008E05 Date/Time: 05/30/2017 19:39:55
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
BE	9	0.00000	3.33000	0.000	-0.00105	0.00209	-0.00104
B	11	0.00000	9583.82000	0.000	0.07241	-0.37246	0.30005
NA	23	0.00000	10570.06000	0.000	1.29254	-1.22031	-0.07223
MG	24	0.00000	6.67000	0.000	-0.28236	-0.28236	0.56471
AL	27	0.00000	13.33000	0.000	1.45163	1.40464	-2.85627
K	39	0.00000	2750.31000	0.000	6.45917	-26.58602	20.12685
CA	44	0.00000	10.00000	0.000	-16.70354	33.40708	-16.70354
SC-1	45	333446.83000	0.00000	0.000	335476.95000	328000.50000	336863.04000
SC-2	45	11280.58000	0.00000	0.000	10753.61000	11273.92000	11814.21000
SC-3	45	1512976	0	0.000	1515161	1522312	1501455
TI	47	0.00000	6.67000	0.000	2.44516	-1.22258	-1.22258
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CR	52	0.00000	43.33000	0.000	-0.00566	-0.05814	0.06380
MN	55	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
FE	57	0.00000	20.00000	0.000	-3.08832	1.62852	1.45981
CO	59	0.00000	16.67000	0.000	0.03131	-0.00978	-0.02153
NI	60	0.00000	3.33000	0.000	0.03079	-0.01540	-0.01540
CU	63	0.00000	63.34000	0.000	-0.03250	-0.03951	0.07202
ZN	66	0.00000	100.00000	0.000	-0.08239	-0.10003	0.18243
GE-1	72	368668.77000	0.00000	0.000	370518.71000	356205.42000	379282.18000
GE-2	72	32420.55000	0.00000	0.000	31789.40000	32140.01000	33332.24000
GE-3	72	1167933	0	0.000	1186941	1182608	1134249
AS	75	0.00000	1.33000	0.000	-0.04003	-0.04003	0.08005
SE	78	0.00000	1.56000	0.000	0.00523	-0.01841	0.01318
RB	85	0.00000	3.33000	0.000	0.10376	-0.05188	-0.05188
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	23.33000	0.000	0.08878	-0.03373	-0.05505
AG	107	0.00000	10.00000	0.000	-0.01060	-0.00056	0.01117
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	302768.87000	0.00000	0.000	306720.94000	295081.54000	306504.13000
IN-2	115	11607.38000	0.00000	0.000	11013.57000	12384.40000	11424.17000
SN	120	0.00000	3.33000	0.000	-0.01652	0.03304	-0.01652
SB	121	0.00000	3.33000	0.000	-0.02214	-0.02214	0.04429
BA	137	0.00000	3.33000	0.000	0.14471	-0.07236	-0.07236
TB-2	159	66105.66000	0.00000	0.000	64857.12000	67186.88000	66272.99000
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
PB	208	0.00000	6.67000	0.000	-0.00310	0.00619	-0.00310
BI-2	209	51707.73000	0.00000	0.000	49095.67000	53049.65000	52977.88000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:43:02
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1510637	0	0.000	1498946	1518156	1514811
B	11	1000.00000	695862.88000	0.900	1009.83171	998.43133	991.73696
BE	9	100.00000	125921.87000	1.600	101.63731	99.85148	98.51121
GE-2	72	32079.75000	0.00000	0.000	30787.41000	32290.08000	33161.75000
AL	27	10000.00000	46810.49000	4.900	10561.87887	9725.85930	9712.26182
CA	44	10000.00000	5981.20000	3.000	10343.24695	9861.06375	9795.68930
CR	52	1000.00000	388615.48000	2.000	1020.69330	999.51149	979.79521
FE	57	10000.00000	63429.02000	4.700	10522.07459	9851.65753	9626.26787
K	39	10000.00000	105541.77000	1.500	10081.86855	10089.02134	9829.11010
MG	24	10000.00000	227092.75000	2.700	10257.07965	10024.63465	9718.28570
MN	55	1000.00000	115907.36000	5.000	1045.63311	1008.00818	946.35871
NA	23	10000.00000	546624.04000	3.200	10347.05181	9930.77891	9722.16928
NI	60	1000.00000	218309.74000	3.200	1035.59684	990.15195	974.25121
TI	47	1000.00000	5507.66000	2.300	1006.32610	1019.04115	974.63275
V	51	1000.00000	286177.79000	2.500	1028.95777	986.93372	984.10851
IN-1	115	303879.97000	0.00000	0.000	305711.04000	303080.13000	302848.73000
IN-2	115	10850.08000	0.00000	0.000	10889.46000	10938.33000	10722.46000
AG	107	100.00000	87247.25000	1.300	98.66093	100.12870	101.21036
AS	75	1000.00000	31635.33000	1.900	986.18523	991.95448	1021.86029
BA	137	1000.00000	45388.51000	1.400	1016.07045	991.59727	992.33227
CD	111	100.00000	8020.56000	4.500	98.23194	96.60555	105.16250
CO	59	1000.00000	745702.23000	2.000	989.54902	987.73566	1022.71532
CU	63	1000.00000	622588.05000	1.900	989.04192	988.87381	1022.08427
MO	98	100.00000	41113.06000	3.400	96.16644	100.98520	102.84836
RB	85	100.00000	6331.38000	3.600	100.08702	96.34661	103.56636
SB	121	100.00000	14296.47000	2.800	98.50321	98.27132	103.22547
SE	78	100.00000	8382.41000	1.200	100.28222	98.72717	100.99062
SN	120	100.00000	17683.18000	2.600	98.33328	103.00491	98.66181
SR	88	100.00000	8665.80000	8.100	107.98372	91.81260	100.20368
ZN	66	1000.00000	59783.90000	2.000	977.00613	1007.63666	1015.35721
BI-2	209	52363.38000	0.00000	0.000	52316.28000	52868.45000	51905.42000
PB	208	100.00000	212581.73000	0.600	99.37443	100.59525	100.03031
TL	203	100.00000	67760.49000	0.900	99.04449	100.67963	100.27589
U	238	100.00000	240879.16000	0.900	100.45715	98.96660	100.57625
SC-1	45	331040.60000	0.00000	0.000	328958.55000	328894.49000	335268.75000
SC-2	45	11523.99000	0.00000	0.000	12024.28000	11413.94000	11133.75000
GE-1	72	365151.31000	0.00000	0.000	368354.96000	364106.71000	362992.26000
GE-3	72	1157294	0	0.000	1135588	1180101	1156194
TB-2	159	65122.66000	0.00000	0.000	65039.10000	65611.35000	64717.52000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:46:08
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1497073	0	0.000	1518839	1460673	1511707
B	11	55.01000	46891.24000	3.200	55.85898	56.20648	52.96524
BE	9	0.00200	5.33000	148.400	0.00368	-0.00099	0.00212
GE-2	72	32734.48000	0.00000	0.000	33122.24000	32670.94000	32410.27000
AL	27	11.08400	66.67000	9.900	11.61464	11.81454	9.82196
CA	44	10.38500	16.67000	324.600	48.12926	-0.27145	-16.70354
CR	52	0.58900	276.68000	36.700	0.51335	0.42093	0.83258
FE	57	3.10200	40.00000	88.300	1.48864	1.55186	6.26669
K	39	-25.20500	2510.28000	0.000	-19.50672	-33.31426	-22.79277
MG	24	1.01100	30.00000	113.200	0.57009	2.31030	0.15323
MN	55	0.30900	36.67000	30.400	0.41730	0.25384	0.25588
NA	23	-19.68900	9592.84000	0.000	-21.41207	-27.61948	-10.03449
NI	60	0.13400	33.33000	50.000	0.20626	0.07449	0.12052
TI	47	-0.63600	3.33000	0.000	0.53750	-1.22258	-1.22258
V	51	0.10200	30.00000	66.800	0.10147	0.17145	0.03457
IN-1	115	290796.06000	0.00000	0.000	282053.55000	295268.61000	295066.03000
IN-2	115	11216.54000	0.00000	0.000	10972.85000	11273.09000	11403.67000
AG	107	0.01200	20.00000	3.800	0.01206	0.01146	0.01121
AS	75	0.73600	25.33000	22.400	0.89759	0.56841	0.74188
BA	137	0.07300	6.67000	345.100	0.36340	-0.07236	-0.07236
CD	111	0.01600	1.33000	86.700	0.02465	0.00000	0.02372
CO	59	0.06400	66.67000	88.900	0.00499	0.06881	0.11882
CU	63	0.08200	113.34000	157.500	0.17421	0.13610	-0.06523
MO	98	0.14900	86.67000	26.500	0.18556	0.15576	0.10701
RB	85	-0.00200	3.33000	0.000	-0.05188	-0.05188	0.09844
SB	121	0.76800	116.67000	28.400	0.87709	0.51645	0.90967
SE	78	0.10400	9.78000	35.500	0.13585	0.11262	0.06355
SN	120	0.60600	113.34000	35.200	0.71068	0.74575	0.36023
SR	88	0.07400	6.67000	86.600	0.00000	0.11105	0.10978
ZN	66	-1.18500	23.33000	0.000	-0.73946	-1.56769	-1.24892
BI-2	209	52005.87000	0.00000	0.000	52196.49000	51282.99000	52538.14000
PB	208	0.01900	46.67000	13.100	0.02050	0.01612	0.02035
TL	203	0.03500	23.33000	88.800	0.00000	0.04521	0.05884
U	238	0.01400	33.33000	18.600	0.01249	0.01695	0.01241
SC-1	45	316882.55000	0.00000	0.000	309794.64000	318709.92000	322143.10000
SC-2	45	11010.49000	0.00000	0.000	10613.57000	11163.89000	11254.00000
GE-1	72	355602.03000	0.00000	0.000	344586.24000	360192.42000	362027.42000
GE-3	72	1154136	0	0.000	1172134	1126907	1163367
TB-2	159	65239.21000	0.00000	0.000	63773.11000	64376.07000	67568.45000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:49:16
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1505400	0	0.000	1537547	1511426	1467227
B	11	28.56900	29071.72000	2.100	28.50609	27.99720	29.20349
BE	9	0.00100	4.00000	288.900	0.00204	0.00054	-0.00100
GE-2	72	32123.26000	0.00000	0.000	31939.65000	32209.88000	32220.24000
AL	27	2.11500	23.33000	57.500	1.43136	1.39539	3.51917
CA	44	-16.70400	0.00000	0.000	-16.70354	-16.70354	-16.70354
CR	52	0.54100	253.35000	30.800	0.53641	0.71035	0.37713
FE	57	3.72300	43.33000	48.000	1.65811	4.75602	4.75350
K	39	-35.14300	2360.26000	0.000	-15.32412	-42.59535	-47.50876
MG	24	1.18200	33.33000	21.100	1.04365	1.03252	1.47026
MN	55	0.17200	20.00000	99.700	0.17310	0.34330	0.00000
NA	23	-20.31200	9382.67000	0.000	-24.35274	-18.17100	-18.41115
NI	60	0.06100	16.67000	114.900	-0.01540	0.07578	0.12132
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.01200	3.33000	173.200	0.00000	0.03478	0.00000
IN-1	115	299877.19000	0.00000	0.000	301888.92000	293685.36000	304057.30000
IN-2	115	10856.85000	0.00000	0.000	10332.94000	10753.48000	11484.13000
AG	107	-0.01100	0.00000	0.000	-0.01060	-0.01060	-0.01060
AS	75	0.04600	2.67000	220.900	0.15911	-0.04003	0.01970
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00900	0.67000	173.200	0.02618	0.00000	0.00000
CO	59	0.03100	40.00000	103.300	0.00663	0.01906	0.06715
CU	63	0.00600	63.33000	614.100	-0.01147	0.05005	-0.01992
MO	98	0.07700	53.33000	88.600	0.14936	0.06771	0.01392
RB	85	0.00300	3.33000	2802.700	0.11401	-0.05188	-0.05188
SB	121	0.18900	30.00000	40.800	0.27166	0.11901	0.17612
SE	78	-0.00200	1.33000	0.000	-0.01036	0.00628	-0.00255
SN	120	0.11800	23.33000	59.500	0.16167	0.15471	0.03692
SR	88	0.11600	10.00000	173.200	0.00000	0.34925	0.00000
ZN	66	-1.06200	30.00000	0.000	-0.86408	-1.22964	-1.09288
BI-2	209	51892.16000	0.00000	0.000	51815.11000	52557.47000	51303.90000
PB	208	0.01700	43.33000	121.600	-0.00310	0.03909	0.01611
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00400	10.00000	100.300	0.00420	0.00000	0.00847
SC-1	45	324464.33000	0.00000	0.000	325939.82000	320865.58000	326587.59000
SC-2	45	10823.69000	0.00000	0.000	10233.31000	10803.60000	11434.17000
GE-1	72	360913.89000	0.00000	0.000	363594.37000	355048.32000	364098.98000
GE-3	72	1176531	0	0.000	1197536	1184058	1148001
TB-2	159	65496.71000	0.00000	0.000	64395.92000	65329.60000	66764.61000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:52:21
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1499756	0	0.000	1485339	1505257	1508671
B	11	535.35800	374262.94000	1.100	539.86035	537.46499	528.74910
BE	9	51.79900	64758.79000	1.100	52.42215	51.30282	51.67337
GE-2	72	31285.22000	0.00000	0.000	31038.09000	30486.93000	32330.64000
AL	27	5380.36000	24590.56000	1.500	5335.14799	5472.11708	5333.81414
CA	44	5186.68900	3033.71000	2.300	5172.86678	5072.96745	5314.23129
CR	52	521.91700	197853.04000	2.500	513.46941	537.05975	515.22272
FE	57	5334.47400	33021.09000	5.800	5113.75278	5686.17674	5203.49292
K	39	5130.99800	54098.05000	3.000	5020.10687	5309.57693	5063.31132
MG	24	5292.47100	117219.82000	3.500	5230.21209	5500.52046	5146.67935
MN	55	524.96100	59395.35000	2.100	517.41315	537.31931	520.15126
NA	23	5283.90000	286555.93000	3.900	5155.86517	5520.68885	5175.14615
NI	60	540.53400	115089.90000	3.800	539.04198	561.59066	520.97035
TI	47	491.06700	2640.30000	9.000	447.72762	536.17638	489.29632
V	51	522.36600	145851.26000	1.400	516.34861	530.74808	520.00179
IN-1	115	300143.43000	0.00000	0.000	300034.13000	310426.17000	289969.99000
IN-2	115	11416.18000	0.00000	0.000	10295.66000	11981.94000	11970.94000
AG	107	49.62200	45333.83000	9.200	54.63725	45.77031	48.45799
AS	75	494.77000	16393.57000	8.400	542.48968	465.04791	476.77352
BA	137	499.84500	23787.35000	6.400	536.01089	488.13806	475.38618
CD	111	48.20200	4048.51000	9.100	53.15191	44.79076	46.66260
CO	59	486.91100	380436.79000	7.700	529.93840	461.05860	469.73592
CU	63	499.85100	325934.89000	8.500	548.88620	471.17398	479.49394
MO	98	49.09300	21166.86000	7.100	53.08672	47.30614	46.88595
RB	85	51.85200	3457.14000	4.700	51.73435	54.32047	49.50050
SB	121	51.37700	7675.35000	12.800	58.96685	47.93993	47.22301
SE	78	51.33900	4248.51000	3.200	50.48651	50.31458	53.21501
SN	120	53.06500	9839.86000	6.200	56.75277	52.04356	50.39856
SR	88	49.79000	4537.43000	4.300	50.46929	51.51876	47.38133
ZN	66	481.23100	30189.62000	7.900	524.80136	454.82762	464.06314
BI-2	209	52644.45000	0.00000	0.000	51835.05000	52577.27000	53521.04000
PB	208	51.63300	110349.31000	1.100	51.42923	52.26784	51.20235
TL	203	51.99900	35426.75000	2.400	52.35775	50.58754	53.05301
U	238	52.21100	126469.62000	1.800	51.52592	51.80389	53.30201
SC-1	45	331698.15000	0.00000	0.000	334045.93000	334582.30000	326466.23000
SC-2	45	10967.09000	0.00000	0.000	10753.62000	10953.82000	11193.84000
GE-1	72	368411.93000	0.00000	0.000	372440.70000	373099.56000	359695.54000
GE-3	72	1158584	0	0.000	1133348	1154289	1188117
TB-2	159	66169.57000	0.00000	0.000	64737.20000	67427.89000	66343.62000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:55:26
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1474618	0	0.000	1500300	1478736	1444816
B	11	46.06800	40197.30000	2.000	45.17799	46.01944	47.00570
BE	9	0.00400	8.00000	40.600	0.00536	0.00223	0.00401
GE-2	72	31345.23000	0.00000	0.000	30697.43000	30877.56000	32460.70000
AL	27	4.55300	33.33000	148.900	6.06601	10.44907	-2.85627
CA	44	5.91300	13.33000	331.500	-16.70354	18.06941	16.37350
CR	52	0.41000	196.68000	42.800	0.32063	0.61208	0.29726
FE	57	0.13500	20.00000	1212.600	-1.44216	1.82137	0.02517
K	39	-16.02100	2496.94000	0.000	-26.58728	-10.80125	-10.67493
MG	24	2.41200	60.00000	30.900	1.55720	2.91808	2.76199
MN	55	0.27000	30.00000	120.400	0.63037	0.17905	0.00000
NA	23	-21.61900	9082.55000	0.000	-26.02215	-12.47935	-26.35469
NI	60	0.06300	16.67000	45.800	0.08027	0.07971	0.02984
TI	47	-0.62400	3.33000	0.000	-1.22258	-1.22258	0.57337
V	51	0.05900	16.67000	90.400	0.07299	0.00000	0.10354
IN-1	115	288978.28000	0.00000	0.000	285542.40000	286277.82000	295114.61000
IN-2	115	11086.69000	0.00000	0.000	10893.17000	11083.53000	11283.38000
AG	107	0.00100	10.00000	2435.200	0.02365	-0.01060	-0.01060
AS	75	0.25100	9.33000	111.500	0.27480	0.51693	-0.04003
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00800	0.67000	173.200	0.02483	0.00000	0.00000
CO	59	0.03100	40.00000	39.600	0.01854	0.03098	0.04294
CU	63	0.00400	63.33000	204.200	0.00019	-0.00146	0.01232
MO	98	0.06400	50.00000	64.500	0.04190	0.11170	0.03855
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	0.27500	43.33000	77.100	0.46556	0.04633	0.31417
SE	78	0.04600	5.11000	60.300	0.06629	0.05758	0.01440
SN	120	0.20600	40.00000	71.800	0.26520	0.31573	0.03787
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.07200	30.00000	0.000	-0.90026	-0.74773	-1.56769
BI-2	209	51002.11000	0.00000	0.000	51142.62000	50410.15000	51453.56000
PB	208	0.01900	46.67000	27.700	0.01617	0.01645	0.02563
TL	203	0.00500	3.33000	173.200	0.00000	0.00000	0.01502
U	238	0.00900	20.00000	87.600	0.00425	0.01725	0.00422
SC-1	45	316340.65000	0.00000	0.000	315510.58000	309757.03000	323754.33000
SC-2	45	11207.17000	0.00000	0.000	11414.04000	10903.57000	11303.89000
GE-1	72	353872.91000	0.00000	0.000	350003.90000	347229.21000	364385.62000
GE-3	72	1146336	0	0.000	1173894	1159144	1105969
TB-2	159	64687.34000	0.00000	0.000	62770.12000	64998.45000	66293.45000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:58:32
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1464067	0	0.000	1448389	1484659	1459153
B	11	130.97300	96380.44000	2.100	134.14965	129.08662	129.68285
BE	9	1.07500	1314.72000	6.300	1.15199	1.04621	1.02672
GE-2	72	31662.21000	0.00000	0.000	30326.55000	31839.07000	32821.01000
AL	27	242.22600	1133.42000	0.500	241.01147	242.32787	243.33951
CA	44	447.84300	273.35000	22.300	532.08770	337.40310	474.03790
CR	52	4.30000	1693.49000	7.200	4.02666	4.63372	4.24032
FE	57	215.36200	1363.44000	17.600	258.54225	187.38130	200.16178
K	39	391.74100	6658.10000	4.400	393.99715	407.80059	373.42538
MG	24	215.69600	4830.80000	11.100	243.22417	202.38184	201.48271
MN	55	3.89600	443.36000	24.200	4.83144	3.90724	2.94809
NA	23	387.37600	30826.57000	2.500	398.56316	381.28191	382.28258
NI	60	3.82500	830.05000	10.300	3.37399	4.08930	4.01118
TI	47	37.40700	210.01000	37.700	29.53667	53.70962	28.97514
V	51	0.93400	263.34000	16.000	1.07134	0.77414	0.95578
IN-1	115	295149.95000	0.00000	0.000	303819.75000	290052.34000	291577.77000
IN-2	115	10973.46000	0.00000	0.000	10665.24000	10606.66000	11648.47000
AG	107	0.99600	886.73000	5.900	1.02727	1.03301	0.92901
AS	75	4.17500	134.67000	5.500	4.14017	4.42192	3.96397
BA	137	3.38100	156.67000	56.000	2.39341	5.56284	2.18528
CD	111	1.16400	94.00000	15.300	1.14120	1.35151	0.99844
CO	59	0.97900	753.38000	16.300	0.85155	1.15816	0.92773
CU	63	4.26200	2733.63000	11.600	4.33275	4.71875	3.73452
MO	98	1.10400	483.36000	10.700	1.00947	1.06513	1.23698
RB	85	1.29900	86.67000	50.500	0.59102	1.88748	1.41971
SB	121	2.17200	316.69000	9.500	2.04169	2.41086	2.06295
SE	78	3.88100	317.56000	10.000	3.96767	3.45682	4.21797
SN	120	4.74800	850.05000	6.500	4.81778	5.01802	4.40967
SR	88	1.84900	160.01000	36.800	2.34773	2.12463	1.07473
ZN	66	28.64800	1820.17000	8.700	31.32727	28.25250	26.36549
BI-2	209	52249.70000	0.00000	0.000	51423.70000	52848.16000	52477.23000
PB	208	2.02300	4297.06000	2.500	2.07607	1.97342	2.02025
TL	203	1.05600	713.38000	5.100	1.09710	0.99440	1.07506
U	238	1.02200	2456.96000	0.700	1.02308	1.02841	1.01497
SC-1	45	314997.88000	0.00000	0.000	323885.89000	312214.19000	308893.55000
SC-2	45	10626.90000	0.00000	0.000	10393.51000	10763.68000	10723.51000
GE-1	72	349192.83000	0.00000	0.000	358188.35000	345575.07000	343815.07000
GE-3	72	1138966	0	0.000	1110456	1169714	1136727
TB-2	159	66383.59000	0.00000	0.000	66313.29000	67026.72000	65810.75000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:01:37
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1442726	0	0.000	1479609	1422073	1426497
B	11	33.96400	31390.07000	3.700	32.53149	34.95767	34.40412
BE	9	0.00400	8.00000	83.700	0.00385	0.00074	0.00745
GE-2	72	31268.47000	0.00000	0.000	31629.13000	30957.46000	31218.83000
AL	27	104602.86100	477624.39000	2.300	101914.36687	105412.93798	106481.27907
CA	44	280154.73700	163151.04000	4.200	267954.44762	280962.52020	291547.24459
CR	52	3.19900	1253.43000	9.600	2.94309	3.11599	3.53832
FE	57	244060.23300	1510070.55000	2.500	238611.18034	242780.29020	250789.22902
K	39	100891.33600	1013935.35000	2.400	98066.11668	102098.22860	102509.66242
MG	24	97459.85900	2158363.82000	2.200	95056.19896	98064.77144	99258.60613
MN	55	1.50100	170.01000	20.100	1.83549	1.25024	1.41687
NA	23	245684.70900	12858517.73000	1.600	241120.91688	248769.71812	247163.49296
NI	60	1.61200	346.68000	18.600	1.60951	1.31270	1.91306
TI	47	2076.21500	11140.51000	2.600	2014.02671	2112.42810	2102.18871
V	51	0.15500	43.34000	153.900	0.03542	0.00000	0.43066
IN-1	115	284481.33000	0.00000	0.000	283118.56000	284651.85000	285673.57000
IN-2	115	10366.55000	0.00000	0.000	10303.47000	10222.87000	10573.30000
AG	107	0.22500	196.68000	33.300	0.14632	0.23272	0.29523
AS	75	0.50900	16.67000	43.600	0.49252	0.29544	0.73841
BA	137	2.76800	123.34000	15.900	2.94428	2.26625	3.09341
CD	111	0.09500	7.33000	68.900	0.15750	0.02646	0.10232
CO	59	3.20900	2300.25000	6.400	3.28289	3.36588	2.97844
CU	63	1.71700	1080.08000	20.500	1.35887	1.72834	2.06349
MO	98	2121.18100	832880.48000	2.800	2055.97028	2173.62776	2133.94558
RB	85	0.00200	3.33000	4332.800	-0.05188	-0.05188	0.11024
SB	121	0.07500	13.33000	112.300	0.12518	-0.02214	0.12142
SE	78	0.05000	5.33000	52.000	0.07547	0.04948	0.02386
SN	120	0.26000	46.67000	27.000	0.34089	0.22363	0.21567
SR	88	3.18700	263.35000	20.300	3.76668	3.30666	2.48654
ZN	66	1.76600	190.01000	31.000	1.25500	2.34404	1.69868
BI-2	209	48538.02000	0.00000	0.000	47701.87000	49477.89000	48434.30000
PB	208	0.32800	653.37000	9.400	0.29643	0.33049	0.35803
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.02200	50.00000	70.500	0.00911	0.03954	0.01795
SC-1	45	313770.64000	0.00000	0.000	319549.53000	310687.59000	311074.80000
SC-2	45	10950.34000	0.00000	0.000	10663.48000	11344.01000	10843.54000
GE-1	72	344040.33000	0.00000	0.000	343793.55000	345205.97000	343121.48000
GE-3	72	1148811	0	0.000	1155244	1148010	1143179
TB-2	159	62140.72000	0.00000	0.000	61053.01000	63503.20000	61865.96000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:04:42
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1424412	0	0.000	1394877	1437748	1440612
B	11	25.99800	25837.72000	5.200	27.50035	25.64511	24.84742
BE	9	0.00800	12.00000	47.300	0.01112	0.00738	0.00403
GE-2	72	30340.15000	0.00000	0.000	30346.75000	30376.86000	30296.85000
AL	27	107077.19500	474458.55000	2.800	106052.83166	104725.03947	110453.71477
CA	44	287924.69800	162728.11000	2.000	282237.73433	287831.35137	293705.00781
CR	52	209.30700	77001.56000	2.500	209.22026	214.49661	204.20426
FE	57	251775.81100	1511674.51000	0.900	249828.72076	251063.42680	254435.28592
K	39	103173.00300	1006174.41000	2.200	100611.96372	104043.71098	104863.33310
MG	24	100555.49700	2161051.64000	1.800	98959.93081	100242.66804	102463.89171
MN	55	208.11600	22841.88000	2.200	211.20645	210.17598	202.96621
NA	23	255756.10400	12989267.72000	1.400	251669.15386	256897.82905	258701.32900
NI	60	205.74000	42514.71000	2.300	202.08697	204.06427	211.06771
TI	47	2170.81700	11303.99000	6.900	1997.31279	2268.06020	2247.07748
V	51	211.89300	57384.98000	3.100	204.46546	216.65604	214.55705
IN-1	115	279477.24000	0.00000	0.000	282052.62000	275444.65000	280934.45000
IN-2	115	10897.05000	0.00000	0.000	10783.59000	10753.55000	11154.02000
AG	107	48.47600	42466.12000	3.200	49.04203	49.65455	46.73135
AS	75	98.18200	3120.96000	1.600	96.58475	99.78931	98.17314
BA	137	3.28600	153.34000	14.800	3.25337	2.81780	3.78594
CD	111	94.37900	7607.06000	2.400	92.29611	94.11373	96.72718
CO	59	193.37200	144824.64000	1.500	194.63616	195.50789	189.97295
CU	63	191.81200	119949.14000	3.400	192.49741	197.89372	185.04370
MO	98	2026.39700	836238.32000	1.500	2026.55935	2056.71092	1995.92008
RB	85	0.15700	13.33000	115.300	-0.05188	0.26693	0.25548
SB	121	0.11700	20.00000	60.100	0.18900	0.04843	0.11394
SE	78	98.03500	7557.83000	1.100	99.06656	98.16901	96.87008
SN	120	0.24500	46.67000	56.000	0.26806	0.09763	0.36866
SR	88	2.80000	243.35000	36.900	1.97368	3.95839	2.46932
ZN	66	97.47100	5931.20000	8.300	99.58453	104.26341	88.56420
BI-2	209	48153.60000	0.00000	0.000	46759.54000	48323.75000	49377.51000
PB	208	0.33100	653.37000	8.000	0.36042	0.30787	0.32618
TL	203	0.02100	13.33000	86.600	0.00000	0.03198	0.03130
U	238	0.01500	33.33000	63.900	0.02324	0.01799	0.00440
SC-1	45	307625.29000	0.00000	0.000	314169.84000	305786.99000	302919.04000
SC-2	45	10680.20000	0.00000	0.000	11053.82000	10493.41000	10493.37000
GE-1	72	341665.33000	0.00000	0.000	347121.71000	341085.46000	336788.82000
GE-3	72	1110543	0	0.000	1113195	1113795	1104639
TB-2	159	61297.49000	0.00000	0.000	60982.87000	59898.94000	63010.66000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:07:47
Tube Number: 10
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1448358	0	0.000	1483478	1445488	1416110
B	11	14.03800	18409.02000	2.700	13.61057	14.16398	14.33949
BE	9	-0.00200	1.33000	0.000	-0.00264	-0.00264	0.00075
GE-2	72	30443.55000	0.00000	0.000	29074.36000	30306.64000	31949.64000
AL	27	3.21900	26.67000	90.100	6.56409	1.66239	1.43002
CA	44	-4.39400	6.67000	0.000	20.22604	-16.70354	-16.70354
CR	52	0.56800	250.01000	17.000	0.51492	0.68012	0.51038
FE	57	17.23100	123.34000	28.100	12.55425	16.92040	22.21963
K	39	-2.31800	2550.27000	0.000	24.23731	-6.02345	-25.16920
MG	24	4.56100	103.34000	35.700	6.03043	4.84165	2.81069
MN	55	0.32900	36.67000	52.500	0.28524	0.18243	0.51914
NA	23	-2.57300	9779.60000	0.000	9.12028	-6.47569	-10.36304
NI	60	0.06500	16.67000	86.100	0.03511	0.12995	0.03056
TI	47	-0.55400	3.33000	0.000	0.78254	-1.22258	-1.22258
V	51	0.03800	10.00000	101.400	0.07706	0.03697	0.00000
IN-1	115	290581.46000	0.00000	0.000	283327.04000	290870.95000	297546.39000
IN-2	115	10653.52000	0.00000	0.000	10523.63000	10302.97000	11133.95000
AG	107	-0.00700	3.33000	0.000	0.00121	-0.01060	-0.01060
AS	75	0.00100	1.33000	6818.000	-0.04003	-0.04003	0.08318
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.01000	23.33000	150.700	0.01995	-0.00741	0.01767
CU	63	-0.00400	56.67000	0.000	0.02012	-0.04505	0.01377
MO	98	1.91900	793.38000	16.400	2.12775	2.07202	1.55753
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	0.06900	13.33000	229.000	-0.02214	-0.02214	0.25052
SE	78	0.05400	5.78000	52.900	0.05838	0.02310	0.07908
SN	120	0.00200	3.33000	1715.400	-0.01652	-0.01652	0.03860
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.27800	16.67000	0.000	-1.56769	-0.86203	-1.40444
BI-2	209	51688.48000	0.00000	0.000	49959.57000	51303.09000	53802.78000
PB	208	0.00500	16.67000	117.600	0.01170	0.00171	0.00148
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SC-1	45	316276.02000	0.00000	0.000	313552.42000	314848.41000	320427.22000
SC-2	45	10783.63000	0.00000	0.000	10653.55000	10583.49000	11113.84000
GE-1	72	349764.56000	0.00000	0.000	348947.26000	348495.15000	351851.28000
GE-3	72	1138994	0	0.000	1155520	1114404	1147056
TB-2	159	63907.41000	0.00000	0.000	62258.13000	65108.40000	64355.70000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:10:51
Tube Number: 11
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1488975	0	0.000	1499281	1459397	1508247
B	11	264.12900	188066.05000	2.200	263.66872	270.09071	258.62715
BE	9	26.21800	32541.36000	1.100	26.03692	26.53935	26.07815
GE-2	72	30380.32000	0.00000	0.000	30226.58000	28584.39000	32329.99000
AL	27	2762.01100	12251.23000	3.400	2734.66687	2865.54124	2685.82554
CA	44	2740.48300	1553.47000	14.500	2452.25971	3195.23602	2573.95210
CR	52	271.62000	99801.87000	6.200	266.72254	290.35672	257.77971
FE	57	2693.85000	16191.20000	3.600	2664.73735	2802.07889	2614.73465
K	39	2599.81400	27811.97000	9.100	2500.05219	2870.91924	2428.47165
MG	24	2710.80000	58192.40000	6.700	2649.20970	2914.39433	2568.79603
MN	55	273.96900	30062.68000	4.900	264.70935	289.41115	267.78797
NA	23	2668.56300	145159.83000	6.500	2637.99605	2854.41532	2513.27807
NI	60	278.17200	57449.50000	4.600	278.44082	290.82733	265.24891
TI	47	302.15600	1576.79000	6.600	299.67635	323.08369	283.70789
V	51	264.50400	71622.29000	3.900	260.73201	276.10491	256.67513
IN-1	115	298315.93000	0.00000	0.000	299695.96000	301825.89000	293425.93000
IN-2	115	10301.01000	0.00000	0.000	9857.78000	10071.64000	10973.61000
AG	107	26.71100	22098.12000	4.200	27.75058	26.87662	25.50637
AS	75	266.04100	7972.49000	6.900	284.88143	265.27252	247.96805
BA	137	268.36600	11550.96000	4.000	270.43810	277.99337	256.66664
CD	111	26.64600	2026.80000	4.400	26.78051	27.74284	25.41324
CO	59	270.49500	191323.36000	3.100	273.92324	276.65445	260.90798
CU	63	270.34000	159564.35000	4.800	282.00259	272.74844	256.26755
MO	98	27.40000	10680.33000	8.400	28.18354	29.21054	24.80650
RB	85	27.33700	1650.14000	15.700	29.33815	22.41588	30.25554
SB	121	28.20900	3810.57000	14.500	30.77868	30.35095	23.49641
SE	78	25.06700	2064.57000	4.200	24.76094	26.22804	24.21116
SN	120	27.24400	4557.43000	12.800	27.50711	30.58035	23.64565
SR	88	28.80900	2376.92000	7.200	26.92552	28.46723	31.03393
ZN	66	265.86600	15120.22000	6.400	275.68845	275.57836	246.33064
BI-2	209	47993.89000	0.00000	0.000	48997.35000	44984.71000	49999.62000
PB	208	28.36500	55156.23000	5.900	27.22986	30.27890	27.58678
TL	203	28.41300	17610.20000	5.700	27.33248	30.26995	27.63548
U	238	29.03900	63941.57000	7.400	28.03753	31.50417	27.57592
SC-1	45	324088.22000	0.00000	0.000	325290.72000	330392.96000	316580.97000
SC-2	45	10600.20000	0.00000	0.000	10593.59000	9863.02000	11344.00000
GE-1	72	361322.62000	0.00000	0.000	357099.92000	370004.17000	356863.78000
GE-3	72	1156658	0	0.000	1174265	1132043	1163665
TB-2	159	61499.20000	0.00000	0.000	61034.26000	58635.74000	64827.60000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:13:57
Tube Number: 12
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1469105	0	0.000	1506289	1482942	1418084
B	11	24.18500	25440.49000	3.300	23.25256	24.59921	24.70198
BE	9	0.00200	5.33000	144.500	0.00214	0.00384	-0.00094
GE-2	72	31645.87000	0.00000	0.000	32099.79000	31288.58000	31549.25000
AL	27	5.77500	40.00000	63.800	7.80933	1.52058	7.99545
CA	44	11.51000	16.67000	83.200	16.74540	0.45454	17.32909
CR	52	0.52400	243.35000	37.100	0.68743	0.57625	0.30901
FE	57	5.40800	53.33000	42.900	7.93143	3.37194	4.92028
K	39	-21.33100	2466.94000	0.000	-5.87921	-26.09355	-32.02071
MG	24	3.58400	86.67000	40.100	4.11562	4.68084	1.95500
MN	55	0.08700	10.00000	1.300	0.08612	0.08835	0.08762
NA	23	-28.44300	8812.46000	0.000	-28.92821	-31.12511	-25.27496
NI	60	0.10800	26.67000	87.900	0.21332	0.03153	0.07768
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.01200	3.33000	173.200	0.00000	0.03581	0.00000
IN-1	115	293276.74000	0.00000	0.000	294016.01000	294338.05000	291476.16000
IN-2	115	10879.97000	0.00000	0.000	11333.53000	10553.01000	10753.37000
AG	107	-0.00700	3.33000	0.000	-0.01060	-0.01060	0.00096
AS	75	0.15100	6.00000	76.700	0.08101	0.28495	0.08754
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.01600	1.33000	86.800	0.02386	0.02563	0.00000
CO	59	0.01400	26.67000	192.800	0.04265	0.00604	-0.00800
CU	63	0.04400	86.67000	181.500	0.01184	0.13541	-0.01477
MO	98	0.16500	90.00000	34.000	0.10802	0.22015	0.16592
RB	85	0.05400	6.67000	338.400	-0.05188	-0.05188	0.26694
SB	121	0.07300	13.33000	150.100	-0.02214	0.19361	0.04843
SE	78	0.02800	3.78000	17.400	0.03092	0.02261	0.03135
SN	120	0.17100	33.33000	36.100	0.20010	0.09980	0.21178
SR	88	0.11600	10.00000	102.400	0.11046	0.23726	0.00000
ZN	66	-1.17600	23.33000	0.000	-1.40732	-1.56769	-0.55353
BI-2	209	52771.25000	0.00000	0.000	52577.21000	53109.28000	52627.25000
PB	208	0.01600	40.00000	79.400	0.02502	0.02010	0.00159
TL	203	0.01500	10.00000	100.000	0.01470	0.00000	0.02937
U	238	0.00300	6.67000	86.600	0.00413	0.00409	0.00000
SC-1	45	318836.57000	0.00000	0.000	317583.47000	317281.17000	321645.07000
SC-2	45	10229.89000	0.00000	0.000	10143.11000	10713.53000	9833.02000
GE-1	72	353847.25000	0.00000	0.000	344824.14000	352631.95000	364085.66000
GE-3	72	1141007	0	0.000	1182468	1134116	1106437
TB-2	159	65895.65000	0.00000	0.000	65630.18000	66133.84000	65922.93000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:17:02
Tube Number: 13 Batch: 171441063901A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1520329	0	0.000	1518538	1567187	1475263
B	11	15.23300	20146.14000	4.700	15.81829	14.44166	15.43971
BE	9	0.00000	3.33000	8569.200	0.00052	-0.00111	0.00062
GE-2	72	32190.07000	0.00000	0.000	30937.90000	32781.29000	32851.02000
AL	27	2.79400	26.67000	84.000	1.57020	5.49883	1.31241
CA	44	5.76000	13.33000	338.200	18.00159	-16.70354	15.98049
CR	52	0.40400	200.01000	31.600	0.42397	0.51983	0.26731
FE	57	1.59400	30.00000	91.000	0.17842	3.07777	1.52643
K	39	-32.89000	2386.91000	0.000	-22.38654	-39.80180	-36.48068
MG	24	1.33900	36.67000	77.200	1.99921	1.87091	0.14738
MN	55	0.57900	66.67000	49.300	0.89353	0.50597	0.33660
NA	23	-37.19900	8482.24000	0.000	-27.33591	-48.80309	-35.45661
NI	60	0.14900	36.67000	105.800	-0.01540	0.29814	0.16339
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.01200	3.33000	173.200	0.03621	0.00000	0.00000
IN-1	115	299809.03000	0.00000	0.000	303671.03000	297885.77000	297870.30000
IN-2	115	11300.30000	0.00000	0.000	11143.24000	11343.82000	11413.85000
AG	107	-0.01100	0.00000	0.000	-0.01060	-0.01060	-0.01060
AS	75	0.08100	4.00000	73.400	0.02153	0.08090	0.14025
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	-0.00400	13.33000	0.000	0.01764	-0.00870	-0.02153
CU	63	0.04800	93.33000	17.800	0.04495	0.05783	0.04162
MO	98	0.09200	63.33000	71.600	0.01603	0.13114	0.13000
RB	85	-0.00100	3.33000	0.000	0.10195	-0.05188	-0.05188
SB	121	0.02300	6.67000	171.000	0.04596	-0.02214	0.04435
SE	78	-0.01000	0.67000	0.000	-0.01841	-0.00222	-0.01025
SN	120	0.11000	23.33000	27.400	0.09364	0.09169	0.14480
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.13700	26.67000	0.000	-0.91524	-1.08701	-1.40845
BI-2	209	55122.56000	0.00000	0.000	54714.57000	55286.47000	55366.63000
PB	208	0.00900	26.67000	106.200	0.01942	0.00582	0.00135
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SC-1	45	325160.59000	0.00000	0.000	329330.03000	323840.95000	322310.80000
SC-2	45	11574.12000	0.00000	0.000	11554.11000	11944.28000	11223.98000
GE-1	72	358893.77000	0.00000	0.000	368683.94000	358646.28000	349351.09000
GE-3	72	1162961	0	0.000	1151545	1188582	1148757
TB-2	159	68532.14000	0.00000	0.000	68170.67000	70008.66000	67417.10000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:20:11
Tube Number: 14 Batch: 171441063901A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1519767	0	0.000	1478824	1545501	1534977
B	11	259.84800	188975.53000	2.600	267.39076	257.42342	254.72839
BE	9	4.09700	5190.08000	3.900	4.28275	4.00781	3.99935
GE-2	72	32343.79000	0.00000	0.000	31418.84000	33011.42000	32601.11000
AL	27	2084.77500	9866.39000	3.100	2011.42669	2136.35145	2106.54543
CA	44	4018.68900	2433.60000	6.400	3725.74666	4114.47118	4215.85058
CR	52	51.29400	20135.35000	4.400	53.26273	48.86156	51.75908
FE	57	1041.47900	6688.15000	3.100	1010.39335	1039.60291	1074.44207
K	39	10167.14700	108186.10000	2.600	10010.67437	10013.65704	10477.11073
MG	24	2041.68300	46803.76000	3.000	1972.42024	2060.30655	2092.32218
MN	55	50.44500	5901.17000	4.100	50.42557	48.41090	52.49854
NA	23	10027.35100	553008.29000	1.000	10028.75863	9926.75420	10126.54024
NI	60	51.23900	11287.27000	2.500	52.39110	51.46543	49.86027
TI	47	253.44800	1413.45000	2.200	247.43514	258.39866	254.51156
V	51	50.80000	14663.12000	3.100	51.11829	49.09407	52.18853
IN-1	115	302061.03000	0.00000	0.000	302127.85000	303518.43000	300536.82000
IN-2	115	10868.05000	0.00000	0.000	10514.65000	10991.20000	11098.31000
AG	107	50.93600	44511.38000	1.300	51.63652	50.37303	50.79722
AS	75	10.31500	328.01000	2.500	10.59276	10.25686	10.09569
BA	137	51.63200	2350.25000	3.400	51.54681	53.44148	49.90858
CD	111	5.02000	403.34000	1.700	5.06762	5.06937	4.92296
CO	59	252.32500	188441.39000	2.000	257.34174	252.21187	247.42058
CU	63	53.15000	33198.45000	1.400	53.80301	53.34028	52.30621
MO	98	52.28900	21554.01000	2.300	51.37607	51.84000	53.64966
RB	85	0.05200	6.67000	173.700	-0.05188	0.10408	0.10257
SB	121	6.17000	886.73000	3.400	6.11360	6.40012	5.99614
SE	78	9.97200	832.24000	4.800	10.44688	9.49102	9.97951
SN	120	52.26200	9256.16000	3.100	52.29953	53.88647	50.59985
SR	88	42.61500	3700.52000	4.000	42.27256	41.12336	44.44989
ZN	66	501.63900	30092.97000	2.100	495.14161	513.52936	496.24682
BI-2	209	55289.64000	0.00000	0.000	54824.51000	54965.30000	56079.12000
PB	208	14.98700	33645.47000	1.300	14.80379	15.18321	14.97403
TL	203	2.10000	1503.47000	9.900	2.08635	1.89821	2.31529
U	238	0.00100	3.33000	173.200	0.00000	0.00395	0.00000
SC-1	45	327836.49000	0.00000	0.000	335855.50000	326043.86000	321610.11000
SC-2	45	12091.11000	0.00000	0.000	11614.14000	11884.30000	12774.90000
GE-1	72	358469.11000	0.00000	0.000	360418.59000	365859.14000	349129.60000
GE-3	72	1159281	0	0.000	1133407	1181557	1162880
TB-2	159	67551.98000	0.00000	0.000	66795.25000	66765.57000	69095.11000

Run Name: 1715008E05
Tube Number: 15
Sample Number: **9006555**

Date/Time: 05/30/2017 20:23:17
Batch: 171441063901A
Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1482496	0	0.000	1493910	1461775	1491802
B	11	27.29600	27773.74000	2.500	27.50611	27.85330	26.52741
BE	9	0.04100	54.00000	25.400	0.03430	0.05317	0.03596
GE-2	72	32166.57000	0.00000	0.000	31629.18000	32270.13000	32600.40000
AL	27	198.92100	946.72000	14.200	230.96358	177.51243	188.28732
CA	44	7119.38700	4277.34000	4.600	6909.49313	6954.88964	7493.77843
CR	52	0.97600	423.35000	25.500	0.96020	0.73436	1.23209
FE	57	15.27200	116.67000	25.000	17.68303	17.27047	10.86236
K	39	415.82400	7018.32000	9.800	389.57433	394.95567	462.94245
MG	24	3899.12200	88869.82000	2.600	3781.71922	3966.39249	3949.25500
MN	55	17.52700	2040.19000	10.900	17.56905	15.59205	19.42036
NA	23	6429.93000	356392.47000	1.500	6536.80746	6402.69213	6350.28931
NI	60	0.57900	130.01000	17.400	0.68100	0.57616	0.48009
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.16200	46.67000	31.500	0.10626	0.17358	0.20619
IN-1	115	294270.97000	0.00000	0.000	293547.50000	301375.03000	287890.38000
IN-2	115	11036.79000	0.00000	0.000	10782.98000	11213.77000	11113.62000
AG	107	-0.00300	6.67000	0.000	-0.01060	0.01158	-0.01060
AS	75	0.18900	7.33000	115.000	0.21441	-0.04003	0.39199
BA	137	34.79800	1610.14000	2.400	34.29628	35.74752	34.34915
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.81300	633.37000	9.100	0.73407	0.82182	0.88178
CU	63	3.43400	2233.56000	7.500	3.60553	3.13696	3.55815
MO	98	0.15200	86.67000	31.400	0.11634	0.13330	0.20627
RB	85	1.55000	103.33000	21.600	1.37886	1.93535	1.33629
SB	121	0.25400	40.00000	56.200	0.40016	0.24858	0.11444
SE	78	0.22000	19.33000	33.200	0.30274	0.19009	0.16635
SN	120	0.48300	90.00000	9.500	0.43883	0.53080	0.48051
SR	88	17.90600	1583.46000	22.700	13.23607	20.65505	19.82704
ZN	66	12.68500	866.72000	15.800	11.24374	14.96632	11.84420
BI-2	209	53567.14000	0.00000	0.000	52707.65000	54092.34000	53901.42000
PB	208	0.40200	880.04000	18.600	0.46896	0.41590	0.32139
TL	203	0.03800	26.67000	113.700	0.02932	0.00000	0.08602
U	238	0.01100	26.67000	77.200	0.00825	0.02009	0.00403
SC-1	45	322303.83000	0.00000	0.000	322958.45000	322783.02000	321170.03000
SC-2	45	10863.61000	0.00000	0.000	11113.81000	10663.42000	10813.61000
GE-1	72	357581.73000	0.00000	0.000	355826.05000	364457.89000	352461.24000
GE-3	72	1153849	0	0.000	1163058	1135730	1162760
TB-2	159	66306.48000	0.00000	0.000	66072.33000	67889.02000	64958.09000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:26:25
Tube Number: 16 Batch: 171441063901A
Sample Number: **9006555** Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1539182	0	0.000	1562587	1556869	1498089
B	11	122.92100	95701.31000	0.900	123.46035	121.64274	123.65849
BE	9	0.99400	1278.72000	5.200	1.04150	0.93900	1.00157
GE-2	72	32116.83000	0.00000	0.000	31018.00000	32160.53000	33171.95000
AL	27	360.46900	1700.15000	10.800	403.36398	350.60263	327.44055
CA	44	7289.80300	4367.37000	4.700	7461.49173	7513.07071	6894.84583
CR	52	5.36000	2130.21000	7.900	5.39779	4.91983	5.76169
FE	57	213.13400	1373.44000	3.100	216.86537	216.90928	205.62683
K	39	820.00400	11167.13000	7.600	848.15352	748.44632	863.41291
MG	24	3936.01700	89496.87000	2.700	4029.56199	3959.63467	3818.85356
MN	55	23.64700	2750.33000	5.700	22.10433	24.50045	24.33719
NA	23	6611.11200	365529.25000	1.600	6659.66503	6681.76170	6491.90797
NI	60	4.84600	1063.40000	2.900	4.90806	4.68750	4.94248
TI	47	35.19500	200.01000	16.800	42.00735	31.40802	32.17055
V	51	1.11500	320.01000	24.800	0.90298	1.42829	1.01321
IN-1	115	291460.61000	0.00000	0.000	290043.48000	287013.81000	297324.55000
IN-2	115	11157.32000	0.00000	0.000	10928.31000	10867.32000	11676.32000
AG	107	0.96400	873.39000	3.400	0.99092	0.97364	0.92676
AS	75	4.02200	132.00000	20.000	4.91822	3.36818	3.77820
BA	137	38.00300	1776.84000	3.500	36.68339	39.31047	38.01465
CD	111	1.03100	85.33000	12.700	0.96523	0.94576	1.18137
CO	59	1.76000	1370.11000	19.700	1.36308	1.91980	1.99714
CU	63	8.25200	5341.01000	2.800	8.45315	8.30867	7.99496
MO	98	1.23200	543.37000	5.700	1.22548	1.30553	1.16604
RB	85	8.68000	570.03000	11.500	8.41886	7.83545	9.78471
SB	121	1.85100	276.68000	22.100	1.43635	1.86356	2.25297
SE	78	4.15400	335.34000	3.700	4.33201	4.06640	4.06292
SN	120	4.39000	800.06000	16.200	3.80271	5.17976	4.18891
SR	88	20.63300	1840.17000	5.300	19.36137	21.19811	21.33827
ZN	66	41.11600	2620.30000	4.800	39.01894	42.92716	41.40113
BI-2	209	54306.68000	0.00000	0.000	52587.59000	55427.30000	54905.16000
PB	208	2.25200	4973.85000	4.700	2.18935	2.37485	2.19105
TL	203	1.15000	806.72000	10.800	1.27855	1.03180	1.14015
U	238	10.13200	25311.26000	0.800	10.16437	10.19362	10.03682
SC-1	45	319152.61000	0.00000	0.000	316923.61000	312948.82000	327585.39000
SC-2	45	10770.28000	0.00000	0.000	10453.29000	10493.46000	11364.09000
GE-1	72	352513.54000	0.00000	0.000	355971.52000	345571.17000	355997.92000
GE-3	72	1193294	0	0.000	1216854	1202548	1160481
TB-2	159	67979.95000	0.00000	0.000	66323.12000	68622.48000	68994.24000

Run Name: 1715008E05
Tube Number: 17
Sample Number: **9006558**

Date/Time: 05/30/2017 20:29:29
Batch: 171441063901A
Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1491707	0	0.000	1520665	1442120	1512336
B	11	18.84800	22212.46000	5.000	18.59373	19.89517	18.05602
BE	9	0.04000	53.33000	35.700	0.05574	0.03729	0.02751
GE-2	72	31511.96000	0.00000	0.000	31418.25000	31428.40000	31689.23000
AL	27	195.69500	913.39000	14.300	223.81579	195.41746	167.85210
CA	44	7122.71400	4190.64000	2.000	6990.15038	7278.31128	7099.67892
CR	52	1.06900	450.03000	14.600	1.15125	0.88826	1.16651
FE	57	11.34000	90.00000	51.000	4.95367	16.20784	12.85813
K	39	486.74000	7588.52000	1.700	479.37838	496.01236	484.82853
MG	24	4055.69300	90535.34000	0.700	4022.96423	4082.58977	4061.52486
MN	55	17.90000	2040.21000	7.100	19.35919	17.06567	17.27397
NA	23	6724.16600	364685.76000	1.400	6745.29564	6803.07814	6624.12323
NI	60	0.73100	160.01000	33.500	0.87261	0.87232	0.44795
TI	47	-0.60400	3.33000	0.000	-1.22258	0.63236	-1.22258
V	51	0.21400	60.00000	29.200	0.24960	0.24952	0.14141
IN-1	115	299262.20000	0.00000	0.000	292311.29000	304941.07000	300534.23000
IN-2	115	11097.24000	0.00000	0.000	10743.62000	10693.75000	11854.34000
AG	107	-0.00700	3.33000	0.000	-0.01060	0.00102	-0.01060
AS	75	0.10500	4.67000	38.600	0.15150	0.08825	0.07569
BA	137	33.13900	1536.79000	9.000	33.08637	36.14800	30.18137
CD	111	0.00800	0.67000	173.200	0.02518	0.00000	0.00000
CO	59	0.91300	710.04000	16.000	0.84517	1.08052	0.81308
CU	63	3.74900	2433.59000	15.800	4.13823	4.04390	3.06518
MO	98	0.04700	43.33000	64.000	0.01867	0.04371	0.07858
RB	85	1.60800	106.67000	19.900	1.86292	1.71139	1.24955
SB	121	0.07000	13.33000	155.700	-0.02214	0.19077	0.04188
SE	78	0.19300	17.55000	41.500	0.10563	0.21143	0.26306
SN	120	0.24700	46.67000	73.000	0.21199	0.44263	0.08703
SR	88	18.39400	1630.14000	0.600	18.41244	18.49818	18.27154
ZN	66	10.46300	736.72000	15.200	11.29084	8.63113	11.46614
BI-2	209	54042.35000	0.00000	0.000	54172.64000	53701.87000	54252.55000
PB	208	0.44800	990.05000	11.000	0.46984	0.39141	0.48277
TL	203	0.03300	23.33000	24.500	0.04280	0.02878	0.02849
U	238	0.01600	40.00000	66.000	0.02408	0.00405	0.02003
SC-1	45	324485.13000	0.00000	0.000	312369.49000	332353.94000	328731.95000
SC-2	45	11270.60000	0.00000	0.000	11393.93000	11614.22000	10803.66000
GE-1	72	364644.16000	0.00000	0.000	352742.65000	369337.96000	371851.87000
GE-3	72	1168689	0	0.000	1181207	1134957	1189904
TB-2	159	67391.42000	0.00000	0.000	68663.29000	66183.92000	67327.06000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:32:35
Tube Number: 18 Batch: 171441063901A
Sample Number: **9006556** Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1531220	0	0.000	1560944	1531443	1501271
B	11	269.96400	197462.39000	1.800	265.48621	269.31301	275.09301
BE	9	4.03400	5152.07000	2.200	4.03731	3.94590	4.11958
GE-2	72	31345.06000	0.00000	0.000	30416.98000	32470.38000	31147.82000
AL	27	2406.08700	11026.97000	0.300	2406.64482	2397.72986	2413.88674
CA	44	11328.06000	6624.83000	6.200	10751.91630	11129.38142	12102.88191
CR	52	53.90900	20502.19000	4.400	54.96602	51.20317	55.55760
FE	57	1028.10900	6398.01000	2.700	998.90200	1030.50445	1054.92160
K	39	10696.36000	110107.46000	2.100	10794.57128	10441.03102	10853.47713
MG	24	6084.73800	135045.23000	2.500	6134.00340	5915.56913	6204.64100
MN	55	66.73400	7565.19000	3.200	68.81558	66.84797	64.53734
NA	23	16903.99100	895920.56000	3.300	17154.58172	16258.35600	17299.03590
NI	60	54.73000	11684.17000	3.300	53.97276	53.40942	56.80916
TI	47	262.05600	1413.45000	8.600	288.21165	248.35953	249.59686
V	51	51.86700	14519.65000	4.900	49.11638	52.29480	54.19081
IN-1	115	298113.32000	0.00000	0.000	301903.77000	288699.88000	303736.32000
IN-2	115	10973.89000	0.00000	0.000	10741.38000	11019.59000	11160.71000
AG	107	50.23300	44334.62000	0.300	50.29153	50.07384	50.33473
AS	75	10.21600	328.01000	13.200	11.19875	8.67396	10.77649
BA	137	83.88900	3857.26000	6.600	78.06147	84.55237	89.05329
CD	111	4.98500	404.68000	4.000	4.83475	4.90904	5.21048
CO	59	247.45800	186648.45000	1.500	249.14344	250.04208	243.18826
CU	63	55.74000	35152.15000	1.900	56.97304	55.12014	55.12582
MO	98	51.74700	21527.31000	2.900	53.04692	50.09913	52.09387
RB	85	1.81000	120.01000	54.900	0.74605	1.97052	2.71290
SB	121	5.63400	816.72000	10.200	6.26671	5.48808	5.14639
SE	78	10.16800	837.36000	1.300	10.02228	10.28896	10.19257
SN	120	50.80100	9089.44000	5.500	48.33663	53.85966	50.20692
SR	88	56.64000	4967.57000	4.900	54.78718	55.33652	59.79741
ZN	66	508.21200	30777.30000	0.500	510.41973	505.09441	509.12114
BI-2	209	53126.04000	0.00000	0.000	52255.90000	52919.00000	54203.23000
PB	208	15.89300	34275.72000	1.900	16.06003	16.08255	15.53751
TL	203	2.11800	1456.79000	4.400	2.01139	2.16146	2.18155
U	238	0.01600	40.00000	64.300	0.00832	0.01232	0.02807
SC-1	45	319543.09000	0.00000	0.000	329229.33000	302881.46000	326518.49000
SC-2	45	10903.67000	0.00000	0.000	10903.67000	11243.85000	10563.48000
GE-1	72	356889.19000	0.00000	0.000	365517.46000	345977.46000	359172.65000
GE-3	72	1186738	0	0.000	1210352	1192294	1157570
TB-2	159	66771.56000	0.00000	0.000	64836.83000	66162.03000	69315.81000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:35:42
Tube Number: 19 Batch: 171441063901A
Sample Number: **9006557** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1526016	0	0.000	1494695	1530681	1552671
B	11	285.06500	207233.86000	2.800	294.12483	282.27675	278.79326
BE	9	4.29200	5458.83000	6.400	4.57122	4.28653	4.01865
GE-2	72	32644.11000	0.00000	0.000	31388.45000	32941.28000	33602.60000
AL	27	2232.52100	10650.21000	3.900	2321.18110	2149.20215	2227.17975
CA	44	11192.36200	6814.88000	7.500	11547.92016	10236.44279	11792.72432
CR	52	50.78000	20128.57000	1.000	51.31442	50.36995	50.65499
FE	57	1035.95400	6708.16000	2.800	1069.35932	1015.73678	1022.76540
K	39	10410.48100	111657.34000	2.700	10722.30144	10312.84960	10196.29122
MG	24	5909.46100	136569.86000	2.700	6096.83053	5813.77646	5817.77623
MN	55	71.59600	8452.32000	2.500	71.97172	73.19816	69.61756
NA	23	16475.78700	909706.63000	2.700	16958.97629	16390.23450	16078.15061
NI	60	48.85500	10863.65000	1.700	49.39942	47.87260	49.29207
TI	47	263.80900	1486.79000	10.400	234.67108	289.04247	267.71388
V	51	50.92000	14823.25000	4.600	52.84704	51.61536	48.29692
IN-1	115	298093.54000	0.00000	0.000	303592.08000	296322.68000	294365.87000
IN-2	115	11345.80000	0.00000	0.000	11482.38000	11340.48000	11214.55000
AG	107	49.00600	44708.98000	5.300	49.08649	46.35932	51.57172
AS	75	10.82100	359.34000	12.400	10.23453	12.35899	9.86831
BA	137	80.52900	3823.93000	4.200	76.76759	81.52560	83.29482
CD	111	4.88000	409.34000	2.400	4.75830	4.88939	4.99253
CO	59	243.12900	189589.64000	2.400	238.40298	241.43615	249.54807
CU	63	52.93500	34520.88000	2.800	52.48382	51.72568	54.59610
MO	98	48.33900	20793.01000	2.700	46.88016	49.30903	48.82655
RB	85	1.25800	86.67000	66.200	0.69456	2.21561	0.86524
SB	121	6.09300	913.39000	11.900	5.26599	6.40309	6.61052
SE	78	10.23800	842.91000	5.300	9.95844	9.89325	10.86251
SN	120	49.56800	9166.15000	2.900	48.79973	51.25206	48.65150
SR	88	60.84000	5511.10000	7.300	58.01342	58.51887	65.98771
ZN	66	497.88700	31164.80000	5.700	481.02770	481.92606	530.70618
BI-2	209	54718.22000	0.00000	0.000	55999.27000	54313.35000	53842.04000
PB	208	15.36400	34118.96000	3.500	14.83672	15.33358	15.92108
TL	203	2.25000	1593.48000	0.500	2.24959	2.26251	2.23922
U	238	0.01100	26.67000	44.000	0.00776	0.01601	0.00807
SC-1	45	323622.59000	0.00000	0.000	321919.57000	326052.32000	322895.89000
SC-2	45	11137.05000	0.00000	0.000	10953.64000	11473.96000	10983.56000
GE-1	72	359029.39000	0.00000	0.000	362888.90000	361503.00000	352696.28000
GE-3	72	1183103	0	0.000	1158315	1189537	1201455
TB-2	159	68913.87000	0.00000	0.000	69837.72000	66975.84000	69928.05000

Run Name: 1715008E05
Tube Number: 20
Sample Number: **9006555**

Date/Time: 05/30/2017 20:38:48
Batch: 171441063901A
Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1477104	0	0.000	1529811	1429443	1472057
B	11	25.85100	26688.89000	5.500	25.10404	27.48191	24.96802
BE	9	0.00900	14.00000	33.000	0.01148	0.00576	0.00877
GE-2	72	31438.53000	0.00000	0.000	30907.43000	31147.98000	32260.19000
AL	27	39.94300	196.68000	16.500	43.66960	32.31878	43.84116
CA	44	1328.91700	786.72000	12.600	1511.93167	1293.28274	1181.53745
CR	52	0.47800	223.34000	19.900	0.58468	0.44686	0.40210
FE	57	2.85400	36.67000	174.400	1.81662	8.26817	-1.52190
K	39	56.97800	3235.43000	41.600	76.26549	64.11992	30.54986
MG	24	746.44900	16631.30000	3.000	723.09971	766.96715	749.28105
MN	55	3.22800	366.69000	9.500	3.57782	3.10643	2.99934
NA	23	1192.60500	72954.48000	3.100	1172.13891	1234.63995	1171.03520
NI	60	0.06200	16.67000	113.600	-0.01540	0.07888	0.12115
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	301084.58000	0.00000	0.000	304885.93000	308740.74000	289627.06000
IN-2	115	10866.56000	0.00000	0.000	10093.12000	11623.80000	10882.77000
AG	107	0.01600	23.33000	30.800	0.01404	0.02149	0.01225
AS	75	0.02200	2.00000	269.700	0.02793	0.07799	-0.04003
BA	137	7.17400	326.68000	18.400	8.21847	5.68696	7.61667
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.23000	190.01000	24.500	0.18029	0.29140	0.21912
CU	63	0.74600	520.03000	30.300	0.83662	0.48893	0.91308
MO	98	0.03300	36.67000	66.500	0.02342	0.05852	0.01773
RB	85	0.05400	6.67000	171.200	0.11796	0.09559	-0.05188
SB	121	0.00100	3.33000	3654.800	-0.02214	-0.02214	0.04759
SE	78	0.04600	5.34000	62.600	0.06091	0.01295	0.06509
SN	120	0.22900	43.33000	30.200	0.28753	0.24749	0.15267
SR	88	3.12000	266.68000	37.400	4.46547	2.47722	2.41583
ZN	66	0.82900	143.34000	46.300	0.59331	0.62148	1.27176
BI-2	209	53951.67000	0.00000	0.000	54071.71000	53711.19000	54072.11000
PB	208	0.08800	200.01000	31.000	0.11536	0.08863	0.06068
TL	203	0.01000	6.67000	173.200	0.00000	0.00000	0.02858
U	238	0.00100	3.33000	173.200	0.00402	0.00000	0.00000
SC-1	45	327682.74000	0.00000	0.000	324678.78000	329804.96000	328564.49000
SC-2	45	10503.49000	0.00000	0.000	10373.29000	10713.56000	10423.61000
GE-1	72	366413.72000	0.00000	0.000	364562.57000	369619.76000	365058.82000
GE-3	72	1154365	0	0.000	1207070	1120067	1135958
TB-2	159	66059.02000	0.00000	0.000	64606.24000	65108.24000	68462.57000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:41:54
Tube Number: 21 Batch: 171441063901A
Sample Number: **9009420** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1482554	0	0.000	1468000	1503608	1476055
B	11	21.56300	23909.84000	5.300	22.75137	20.45190	21.48513
BE	9	0.01500	21.33000	50.600	0.01534	0.00694	0.02175
GE-2	72	32580.76000	0.00000	0.000	31428.71000	32420.54000	33893.04000
AL	27	36.77100	190.01000	47.900	16.75174	49.94835	43.61169
CA	44	35699.71500	21676.93000	0.800	35431.57892	36022.06559	35645.50056
CR	52	0.92100	410.02000	35.900	0.62568	0.85773	1.27833
FE	57	37.78100	263.34000	6.600	37.10989	40.55614	35.67807
K	39	2309.65500	26857.34000	5.100	2434.11139	2294.72730	2200.12627
MG	24	16135.13600	372146.02000	2.500	16488.46298	16217.85804	15699.08639
MN	55	47.49900	5601.10000	3.700	47.59395	45.71159	49.19217
NA	23	7492.22600	418789.51000	1.800	7519.79491	7613.74281	7343.13954
NI	60	0.55700	126.67000	15.100	0.59200	0.61866	0.46115
TI	47	-0.64900	3.33000	0.000	-1.22258	-1.22258	0.49747
V	51	0.12900	36.67000	106.100	0.28517	0.03456	0.06611
IN-1	115	297161.01000	0.00000	0.000	303670.55000	287925.72000	299886.77000
IN-2	115	10923.50000	0.00000	0.000	10933.89000	11033.55000	10803.06000
AG	107	-0.01100	0.00000	0.000	-0.01060	-0.01060	-0.01060
AS	75	0.06500	3.33000	147.600	0.14817	-0.04003	0.08695
BA	137	28.01000	1283.43000	5.000	29.22955	28.31464	26.48576
CD	111	0.00800	0.67000	173.200	0.02474	0.00000	0.00000
CO	59	0.14200	123.34000	31.600	0.13814	0.18946	0.09969
CU	63	1.46800	980.06000	7.900	1.33876	1.56271	1.50130
MO	98	-0.01400	16.67000	0.000	-0.05505	-0.03112	0.04271
RB	85	1.99100	130.00000	22.000	1.82944	1.65709	2.48708
SB	121	0.02400	6.67000	166.800	0.04727	0.04664	-0.02214
SE	78	1.63100	135.33000	13.100	1.57358	1.45084	1.86777
SN	120	0.32000	60.00000	29.600	0.37641	0.37286	0.21073
SR	88	78.89800	6884.94000	3.900	82.34256	77.96666	76.38436
ZN	66	4.96900	393.35000	25.700	4.74961	6.34006	3.81645
BI-2	209	53453.71000	0.00000	0.000	52667.82000	54162.88000	53530.44000
PB	208	0.11800	263.33000	5.700	0.12319	0.11060	0.12115
TL	203	0.02400	16.67000	69.100	0.01467	0.01427	0.04331
U	238	0.02200	53.33000	53.500	0.00825	0.02809	0.02843
SC-1	45	322420.74000	0.00000	0.000	327556.38000	313794.66000	325911.19000
SC-2	45	11313.93000	0.00000	0.000	11153.96000	11674.07000	11113.75000
GE-1	72	357188.72000	0.00000	0.000	358659.02000	350412.85000	362494.29000
GE-3	72	1157517	0	0.000	1122345	1186746	1163460
TB-2	159	66738.83000	0.00000	0.000	65943.03000	66504.29000	67769.16000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:44:58
Tube Number: 22 Batch: 171441063901A
Sample Number: **9009421** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1536242	0	0.000	1561986	1518081	1528658
B	11	27.60700	28997.92000	1.400	27.20158	27.95937	27.66000
BE	9	1.04300	1338.06000	4.700	1.01119	1.09898	1.01759
GE-2	72	31321.75000	0.00000	0.000	31528.60000	31909.38000	30527.26000
AL	27	4132.47300	18910.50000	2.200	4073.62812	4087.27458	4236.51766
CA	44	49972.89900	29150.93000	3.800	48465.84620	49353.53048	52099.32134
CR	52	3.84400	1500.12000	8.100	4.15686	3.53696	3.83726
FE	57	852.12800	5301.01000	1.600	867.37927	842.73745	846.26665
K	39	2293.64300	25685.64000	4.400	2178.87476	2361.17104	2340.88212
MG	24	22423.34300	497296.74000	3.300	21793.64025	22242.58130	23233.80846
MN	55	6132.01100	694428.14000	3.800	5949.31567	6050.90960	6395.80752
NA	23	19830.43700	1048715.79000	2.900	19449.50827	19540.48277	20501.32028
NI	60	35.13100	7495.16000	2.200	34.45564	34.96492	35.97113
TI	47	1.29600	13.33000	225.800	-1.22258	0.60440	4.50650
V	51	1.04900	293.35000	3.300	1.03049	1.08845	1.02759
IN-1	115	296131.06000	0.00000	0.000	289657.84000	296806.58000	301928.75000
IN-2	115	10893.54000	0.00000	0.000	10813.74000	11163.54000	10703.35000
AG	107	-0.00700	3.33000	0.000	-0.01060	0.00054	-0.01060
AS	75	1.19600	39.33000	16.400	1.22853	1.37310	0.98528
BA	137	13.82500	633.38000	12.400	15.62582	13.63442	12.21326
CD	111	0.32400	26.00000	62.700	0.12506	0.31497	0.53067
CO	59	66.83400	50037.41000	3.000	67.41003	64.59090	68.50075
CU	63	3.14600	2026.86000	4.100	2.99865	3.24515	3.19340
MO	98	0.04200	40.00000	98.600	0.06703	0.06320	-0.00572
RB	85	11.87100	756.71000	12.300	11.04506	11.00445	13.56214
SB	121	-0.02200	0.00000	0.000	-0.02214	-0.02214	-0.02214
SE	78	1.52900	126.22000	9.800	1.70067	1.46380	1.42268
SN	120	0.07800	16.67000	43.800	0.09699	0.03846	0.09816
SR	88	65.18500	5671.14000	2.000	64.38013	64.49408	66.68218
ZN	66	27.45100	1736.81000	11.300	26.67262	24.81067	30.87017
BI-2	209	52667.92000	0.00000	0.000	53441.25000	51613.92000	52948.58000
PB	208	0.19500	423.34000	6.700	0.20894	0.18304	0.19231
TL	203	0.16200	110.00000	19.600	0.15906	0.19466	0.13135
U	238	0.28900	700.04000	0.600	0.28881	0.29061	0.28739
SC-1	45	322251.33000	0.00000	0.000	319409.29000	321268.06000	326076.64000
SC-2	45	11177.19000	0.00000	0.000	10993.73000	11383.99000	11153.84000
GE-1	72	351944.63000	0.00000	0.000	344111.36000	354277.07000	357445.46000
GE-3	72	1184148	0	0.000	1200766	1175186	1176491
TB-2	159	67782.55000	0.00000	0.000	68090.21000	68260.80000	66996.65000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:48:02
Tube Number: 23
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1534137	0	0.000	1507927	1554655	1539830
B	11	263.66900	193441.70000	2.900	272.36137	258.77806	259.86798
BE	9	25.99300	33237.20000	2.100	26.53950	25.47111	25.96771
GE-2	72	31892.87000	0.00000	0.000	30717.44000	32450.40000	32510.78000
AL	27	2576.47400	12014.37000	4.700	2574.90963	2456.24528	2698.26662
CA	44	2146.29100	1283.43000	7.100	2290.44886	1985.22467	2163.19962
CR	52	260.45500	100643.45000	3.100	269.67305	256.56792	255.12257
FE	57	2613.15100	16498.15000	3.900	2730.77756	2553.59933	2555.07614
K	39	2469.11500	27922.06000	5.500	2621.65532	2361.65250	2424.03866
MG	24	2536.84400	57282.98000	2.900	2617.01160	2519.56709	2473.95245
MN	55	257.01700	29648.71000	0.700	258.58811	257.32157	255.14043
NA	23	2489.42400	143149.41000	1.800	2541.55283	2454.43252	2472.28806
NI	60	255.99500	55617.06000	1.900	253.61568	252.68257	261.68558
TI	47	231.49500	1273.42000	1.700	228.43496	235.93577	230.11398
V	51	254.15600	72348.83000	1.400	255.09973	250.31874	257.04891
IN-1	115	300110.23000	0.00000	0.000	307541.79000	300990.01000	291798.89000
IN-2	115	10961.98000	0.00000	0.000	11231.18000	10746.48000	10908.27000
AG	107	25.77800	22708.88000	6.600	23.82348	26.92635	26.58394
AS	75	246.57700	7876.45000	5.500	231.71004	258.12682	249.89375
BA	137	257.02200	11784.49000	5.900	245.66698	251.18338	274.21440
CD	111	24.66700	1998.79000	3.000	23.86690	24.84269	25.29259
CO	59	253.48900	190975.79000	2.000	248.40571	253.75358	258.30691
CU	63	256.68600	161477.30000	1.900	251.58973	261.52199	256.94750
MO	98	25.56800	10630.30000	6.700	23.71903	25.87297	27.11104
RB	85	28.42600	1820.16000	5.800	26.81274	28.34360	30.12248
SB	121	24.10800	3483.82000	8.200	22.68634	23.28675	26.35132
SE	78	24.94800	2066.12000	1.400	24.96988	24.59020	25.28244
SN	120	26.59800	4750.84000	3.900	25.39889	27.28777	27.10820
SR	88	26.82300	2346.92000	5.700	25.08233	27.49528	27.89106
ZN	66	253.11200	15353.73000	3.000	247.28769	261.72965	250.31960
BI-2	209	54463.90000	0.00000	0.000	53370.05000	55046.22000	54975.43000
PB	208	25.60700	56624.83000	0.200	25.58556	25.65316	25.58350
TL	203	25.77500	18167.56000	1.500	25.51377	25.59420	26.21801
U	238	25.47000	63811.44000	1.600	25.65477	25.76156	24.99294
SC-1	45	320819.89000	0.00000	0.000	325516.75000	323701.11000	313241.81000
SC-2	45	10850.31000	0.00000	0.000	10513.40000	11193.79000	10843.75000
GE-1	72	361971.35000	0.00000	0.000	373105.93000	362731.60000	350076.52000
GE-3	72	1194795	0	0.000	1174896	1211718	1197771
TB-2	159	67227.12000	0.00000	0.000	66644.15000	67589.01000	67448.21000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:51:09
Tube Number: 24
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1462846	0	0.000	1509377	1417225	1461935
B	11	22.48400	24198.88000	3.700	21.76009	23.37873	22.31274
BE	9	0.00100	4.00000	259.700	0.00054	0.00244	-0.00100
GE-2	72	30330.12000	0.00000	0.000	29124.78000	31208.59000	30656.98000
AL	27	6.29900	40.00000	113.000	13.60082	5.91987	-0.62275
CA	44	-4.72200	6.67000	0.000	1.72928	-16.70354	0.80803
CR	52	0.57000	250.01000	5.600	0.54217	0.60442	0.56344
FE	57	1.89500	30.00000	149.000	0.38179	0.15009	5.15337
K	39	-26.90500	2303.58000	0.000	5.53099	-31.48230	-54.76469
MG	24	4.40100	100.00000	35.100	6.01950	4.24120	2.94111
MN	55	0.12100	13.33000	40.500	0.09492	0.17716	0.09017
NA	23	-61.11300	6791.53000	0.000	-63.31470	-56.96105	-63.06410
NI	60	0.09700	23.33000	73.100	0.08543	0.17280	0.03250
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.02500	6.67000	86.700	0.03847	0.00000	0.03654
IN-1	115	296359.13000	0.00000	0.000	295346.05000	302986.31000	290745.03000
IN-2	115	10463.40000	0.00000	0.000	9883.19000	10673.37000	10833.65000
AG	107	0.00100	10.00000	1231.500	-0.01060	0.00105	0.01235
AS	75	0.06700	3.33000	276.600	-0.04003	0.28128	-0.04003
BA	137	0.14800	10.00000	257.700	-0.07236	-0.07236	0.58967
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.03400	40.00000	34.100	0.02263	0.03299	0.04562
CU	63	0.00500	60.00000	722.000	0.04527	0.00217	-0.03145
MO	98	0.01100	26.67000	641.800	-0.02834	-0.03031	0.09117
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	0.38800	56.67000	5.900	0.36182	0.40450	0.39819
SE	78	0.02200	3.34000	63.600	0.03892	0.01354	0.01489
SN	120	0.21700	40.00000	44.500	0.16978	0.32850	0.15344
SR	88	0.12700	10.00000	173.200	0.38001	0.00000	0.00000
ZN	66	-0.94300	36.67000	0.000	-1.38378	-0.71623	-0.72882
BI-2	209	52417.00000	0.00000	0.000	51685.02000	53389.83000	52176.15000
PB	208	0.00900	26.67000	115.300	-0.00310	0.01536	0.01579
TL	203	0.01000	6.67000	86.600	0.01495	0.01447	0.00000
U	238	0.00700	16.67000	92.200	0.00000	0.00814	0.01250
SC-1	45	319534.09000	0.00000	0.000	316921.11000	326949.23000	314731.93000
SC-2	45	10686.93000	0.00000	0.000	10573.48000	10443.44000	11043.87000
GE-1	72	354612.64000	0.00000	0.000	353362.57000	363975.39000	346499.96000
GE-3	72	1142611	0	0.000	1177426	1109093	1141313
TB-2	159	66407.07000	0.00000	0.000	66021.82000	65962.36000	67237.04000

Run Name: 1715008E05
Tube Number: 25
Sample Number: **9009422**

Date/Time: 05/30/2017 20:54:16
Batch: 171441063901A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1542163	0	0.000	1558607	1559409	1508471
B	11	27.81600	29251.97000	2.700	27.21120	27.57169	28.66380
BE	9	1.00200	1290.72000	5.500	1.01800	0.94054	1.04714
GE-2	72	32731.09000	0.00000	0.000	31388.82000	32019.72000	34784.74000
AL	27	4226.34500	20178.33000	5.600	4303.56175	4413.50636	3961.96765
CA	44	47763.31800	29100.62000	2.800	48749.88710	48309.45779	46230.61023
CR	52	3.74600	1526.79000	16.300	3.36084	4.45228	3.42534
FE	57	815.77200	5304.31000	0.200	814.88632	814.56070	817.86813
K	39	2201.96100	25885.89000	2.000	2232.55652	2150.19039	2223.13688
MG	24	21481.23000	497072.94000	5.300	22325.92904	21936.37492	20181.38574
MN	55	5869.02600	694109.70000	3.500	6084.00753	5844.46175	5678.60830
NA	23	19140.83500	1056695.19000	5.000	19872.79414	19480.40977	18069.30121
NI	60	35.40100	7885.35000	4.500	37.23006	34.66095	34.31155
TI	47	2.19000	20.00000	201.000	0.63469	-1.22258	7.15720
V	51	0.77900	226.68000	12.800	0.78524	0.87473	0.67637
IN-1	115	303188.81000	0.00000	0.000	301420.96000	300809.03000	307336.45000
IN-2	115	11467.36000	0.00000	0.000	11564.13000	11063.90000	11774.04000
AG	107	0.00400	13.33000	320.700	-0.01060	0.01188	0.01052
AS	75	1.39300	48.00000	8.700	1.50208	1.26184	1.41633
BA	137	13.90100	670.05000	5.900	12.95287	14.40633	14.34526
CD	111	0.40700	34.67000	31.100	0.35083	0.31780	0.55132
CO	59	63.57700	50124.11000	1.700	62.33989	64.27573	64.11607
CU	63	3.21000	2173.55000	4.700	3.12945	3.38551	3.11634
MO	98	0.01300	30.00000	600.800	-0.03222	-0.03119	0.10194
RB	85	13.69800	920.06000	8.800	12.40039	13.89316	14.79915
SB	121	0.06500	13.33000	116.300	0.10912	-0.02214	0.10678
SE	78	1.37600	116.67000	6.800	1.31288	1.33162	1.48381
SN	120	0.14200	30.00000	72.300	0.14270	0.03895	0.24412
SR	88	62.53200	5734.50000	5.500	62.80135	58.96249	65.83067
ZN	66	23.82500	1603.47000	9.100	22.01063	23.24096	26.22242
BI-2	209	55386.78000	0.00000	0.000	54524.28000	55436.75000	56199.31000
PB	208	0.16300	373.34000	3.900	0.15955	0.17021	0.15909
TL	203	0.14400	103.34000	5.700	0.14175	0.15335	0.13752
U	238	0.22000	560.03000	6.700	0.20333	0.22352	0.23209
SC-1	45	334138.13000	0.00000	0.000	329278.82000	331305.50000	341830.07000
SC-2	45	11410.59000	0.00000	0.000	11413.94000	11083.72000	11734.12000
GE-1	72	367272.00000	0.00000	0.000	363632.85000	359987.69000	378195.46000
GE-3	72	1183990	0	0.000	1185583	1209013	1157375
TB-2	159	69098.49000	0.00000	0.000	67188.22000	69295.28000	70811.97000

Run Name: 1715008E05
Tube Number: 26
Sample Number: **9009423**

Date/Time: 05/30/2017 20:57:23
Batch: 171441063901A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1527718	0	0.000	1533048	1521153	1528954
B	11	26.25100	27898.63000	2.000	26.78728	26.23916	25.72575
BE	9	0.04800	64.00000	23.700	0.05683	0.05099	0.03502
GE-2	72	32223.49000	0.00000	0.000	31899.46000	32861.39000	31909.61000
AL	27	16.90500	93.34000	42.100	16.46452	24.23160	10.01873
CA	44	118206.29300	70928.87000	5.500	116531.24952	112743.34692	125344.28260
CR	52	0.51500	243.34000	17.000	0.58896	0.41785	0.53702
FE	57	68.56900	456.69000	11.500	63.44857	64.57641	77.68168
K	39	3429.90100	38177.89000	4.300	3261.16871	3540.31649	3488.21906
MG	24	37129.64800	847362.33000	1.700	37103.41300	36497.12210	37788.40967
MN	55	2860.38700	333339.44000	2.500	2864.31474	2785.87710	2930.96879
NA	23	22262.60200	1210230.14000	2.100	22167.81922	21849.19948	22770.78651
NI	60	4.60800	1013.41000	12.800	4.63393	4.00628	5.18472
TI	47	-0.61300	3.33000	0.000	0.60496	-1.22258	-1.22258
V	51	0.33700	96.67000	17.300	0.35120	0.27273	0.38623
IN-1	115	301624.40000	0.00000	0.000	308167.54000	290909.84000	305795.83000
IN-2	115	10796.79000	0.00000	0.000	10403.38000	11253.31000	10733.69000
AG	107	-0.00700	3.33000	0.000	-0.01060	-0.01060	0.00098
AS	75	0.10600	4.67000	85.300	0.09183	0.20377	0.02387
BA	137	26.35200	1193.42000	1.000	26.12703	26.27294	26.65740
CD	111	0.20700	16.67000	34.500	0.15599	0.28842	0.17639
CO	59	7.81700	5811.15000	5.200	7.89520	7.37480	8.18037
CU	63	0.44100	330.02000	32.600	0.54078	0.27588	0.50495
MO	98	0.07400	53.33000	63.000	0.02108	0.10918	0.09253
RB	85	4.62400	293.35000	39.300	4.06757	3.14713	6.65588
SB	121	0.05000	10.00000	145.800	0.12376	-0.02214	0.04856
SE	78	0.56000	48.00000	17.400	0.46011	0.65465	0.56651
SN	120	0.02100	6.67000	154.000	0.04248	0.03802	-0.01652
SR	88	119.21200	10260.02000	8.100	126.03283	108.16545	123.43758
ZN	66	-0.33000	73.34000	0.000	-0.69413	-0.76011	0.46452
BI-2	209	54232.74000	0.00000	0.000	53108.50000	54975.24000	54614.47000
PB	208	0.04200	100.00000	35.800	0.03401	0.05964	0.03299
TL	203	0.04700	33.33000	44.400	0.02910	0.07028	0.04245
U	238	0.58400	1456.78000	2.000	0.57716	0.59711	0.57716
SC-1	45	328073.28000	0.00000	0.000	324740.37000	328217.73000	331261.75000
SC-2	45	10833.64000	0.00000	0.000	9923.06000	11003.79000	11574.07000
GE-1	72	362539.88000	0.00000	0.000	366643.78000	363735.23000	357240.62000
GE-3	72	1181398	0	0.000	1179609	1185832	1178753
TB-2	159	66735.56000	0.00000	0.000	65710.74000	67017.17000	67478.77000

Run Name: 1715008E05
Tube Number: 27
Sample Number: **9009424**

Date/Time: 05/30/2017 21:00:29
Batch: 171441063901A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1540296	0	0.000	1548373	1505126	1567388
B	11	24.31600	26763.03000	5.400	24.69866	25.39019	22.86000
BE	9	0.02300	33.33000	53.400	0.03765	0.01649	0.01573
GE-2	72	31201.47000	0.00000	0.000	30887.72000	30807.43000	31909.26000
AL	27	172.99100	800.06000	18.000	207.75770	163.85009	147.36442
CA	44	143140.85200	83206.91000	1.900	140072.14065	145298.88062	144051.53481
CR	52	0.69200	303.35000	17.500	0.79887	0.56015	0.71804
FE	57	218.03600	1366.77000	9.100	199.79355	215.08490	239.22911
K	39	3773.28400	40389.08000	3.600	3639.68075	3913.68691	3766.48477
MG	24	46678.93200	1031392.75000	2.100	47041.00857	47437.24124	45558.54754
MN	55	1981.60400	223628.28000	1.600	1970.90208	2017.16075	1956.75032
NA	23	28097.76400	1476353.78000	1.600	27975.77297	28603.17930	27714.33934
NI	60	2.64000	563.36000	14.200	2.97961	2.70144	2.23946
TI	47	2.55900	20.00000	147.900	2.55223	6.34673	-1.22258
V	51	0.55000	153.34000	18.600	0.43524	0.58187	0.63200
IN-1	115	293620.95000	0.00000	0.000	289278.51000	293360.31000	298224.03000
IN-2	115	11103.49000	0.00000	0.000	11183.33000	10633.33000	11493.80000
AG	107	0.01200	20.00000	191.900	-0.01060	0.03618	0.01104
AS	75	0.18600	7.33000	37.500	0.26663	0.15349	0.13900
BA	137	20.96100	976.73000	10.100	18.52723	21.96267	22.39347
CD	111	0.14700	12.00000	18.000	0.16930	0.15262	0.11766
CO	59	2.96600	2273.56000	10.900	2.85374	3.33093	2.71280
CU	63	0.31700	263.35000	19.100	0.38729	0.28116	0.28328
MO	98	0.12700	76.67000	21.100	0.15742	0.11876	0.10574
RB	85	5.89600	383.35000	21.700	5.00666	7.36402	5.31744
SB	121	0.02300	6.67000	339.300	0.11359	-0.02214	-0.02214
SE	78	0.31900	27.34000	13.000	0.36602	0.28651	0.30585
SN	120	0.17000	33.33000	102.700	-0.01652	0.32980	0.19708
SR	88	118.72500	10530.25000	0.200	119.03534	118.59460	118.54631
ZN	66	-0.26800	80.00000	0.000	-0.10494	-0.71302	0.01369
BI-2	209	54540.64000	0.00000	0.000	54283.13000	53681.14000	55657.64000
PB	208	0.07500	173.34000	50.900	0.11943	0.05656	0.05001
TL	203	0.04300	30.00000	58.500	0.05694	0.05758	0.01388
U	238	0.84600	2123.57000	6.700	0.78895	0.84641	0.90228
SC-1	45	318066.45000	0.00000	0.000	310914.57000	319390.97000	323893.82000
SC-2	45	11437.36000	0.00000	0.000	11223.85000	10873.61000	12214.61000
GE-1	72	351814.36000	0.00000	0.000	341664.60000	353185.27000	360593.20000
GE-3	72	1178345	0	0.000	1193119	1154749	1187167
TB-2	159	66902.22000	0.00000	0.000	66192.62000	67266.94000	67247.09000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:03:34
Tube Number: 28
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1491527	0	0.000	1493571	1488892	1492116
B	11	108.75400	83144.19000	0.800	109.02845	109.50708	107.72669
BE	9	0.99700	1242.72000	0.300	0.99657	0.99971	0.99433
GE-2	72	30984.40000	0.00000	0.000	30246.33000	30136.37000	32570.51000
AL	27	186.84200	860.05000	6.600	180.52340	178.92269	201.07858
CA	44	306.00000	186.67000	38.200	409.29795	179.25140	329.45089
CR	52	4.63700	1773.48000	19.700	5.53827	4.65517	3.71631
FE	57	197.69200	1226.76000	13.300	199.08362	223.30004	170.69191
K	39	395.72200	6548.09000	8.000	416.38087	411.60857	359.17725
MG	24	213.75400	4700.78000	4.000	218.19188	203.99394	219.07701
MN	55	4.61900	520.02000	15.400	4.29579	4.12800	5.43219
NA	23	355.20600	28495.98000	3.800	351.23119	370.31615	344.07002
NI	60	4.70000	990.07000	18.700	5.51918	4.80853	3.77171
TI	47	35.03500	193.34000	18.500	27.69082	37.46864	39.94675
V	51	0.93900	260.01000	11.400	0.81490	1.00375	0.99753
IN-1	115	287051.97000	0.00000	0.000	293407.81000	282153.88000	285594.21000
IN-2	115	11086.18000	0.00000	0.000	10845.57000	10966.18000	11446.79000
AG	107	1.09700	986.74000	1.700	1.10177	1.11222	1.07594
AS	75	4.07800	133.33000	9.300	3.88094	3.83782	4.51388
BA	137	3.16000	150.01000	4.200	3.01393	3.19800	3.26954
CD	111	1.13800	93.33000	5.400	1.12223	1.08522	1.20506
CO	59	0.98100	763.39000	7.600	0.94436	1.06642	0.93176
CU	63	4.12500	2686.96000	4.400	4.09843	3.95695	4.31972
MO	98	1.01000	446.69000	10.600	0.99177	1.12471	0.91372
RB	85	2.12200	140.01000	35.000	2.00297	2.91826	1.44564
SB	121	2.03100	300.01000	4.900	2.07728	1.91577	2.09969
SE	78	4.33700	344.67000	6.000	4.27397	4.62509	4.11210
SN	120	4.34300	786.71000	5.700	4.45439	4.51710	4.05871
SR	88	1.54100	136.68000	8.900	1.38526	1.59834	1.64060
ZN	66	29.00800	1863.50000	8.300	28.09822	31.75069	27.17538
BI-2	209	53303.08000	0.00000	0.000	53841.75000	52196.20000	53871.29000
PB	208	2.17300	4710.45000	3.000	2.23895	2.10666	2.17369
TL	203	0.92900	640.04000	7.100	0.86123	0.99202	0.93248
U	238	0.95500	2340.25000	5.400	0.99328	0.97460	0.89588
SC-1	45	311494.65000	0.00000	0.000	311339.29000	307416.09000	315728.57000
SC-2	45	10726.84000	0.00000	0.000	10543.41000	10583.42000	11053.69000
GE-1	72	344645.93000	0.00000	0.000	345145.85000	334238.63000	354553.32000
GE-3	72	1164088	0	0.000	1165386	1166770	1160108
TB-2	159	64900.67000	0.00000	0.000	63160.74000	63622.47000	67918.80000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:06:39
Tube Number: 29
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1369842	0	0.000	1372619	1372611	1364297
B	11	18.84100	20403.72000	0.800	18.71250	19.01771	18.79218
BE	9	0.00600	9.33000	80.000	0.00086	0.00610	0.00967
GE-2	72	29154.83000	0.00000	0.000	28153.39000	30126.29000	29184.80000
AL	27	108405.34900	461390.48000	2.700	109391.75633	105159.99992	110664.29110
CA	44	290071.81500	157475.79000	2.600	292117.98839	281596.01168	296501.44633
CR	52	3.53100	1290.10000	14.300	2.96824	3.94457	3.67946
FE	57	253338.43100	1461165.55000	2.300	254524.33402	246969.55513	258521.40445
K	39	103130.83500	966206.02000	2.400	103261.42788	100579.93393	105551.14322
MG	24	101661.43600	2097994.34000	3.500	104004.35497	97513.05731	103466.89470
MN	55	1.79600	190.01000	20.100	1.66933	2.20233	1.51562
NA	23	256317.35300	12500749.40000	3.100	263233.11573	247729.37171	257989.57193
NI	60	1.67900	336.69000	5.900	1.65365	1.78804	1.59466
TI	47	2182.58000	10910.30000	7.500	2208.95618	2008.05209	2330.73260
V	51	0.16600	43.33000	47.200	0.19896	0.22312	0.07677
IN-1	115	268046.80000	0.00000	0.000	260981.58000	273413.47000	269745.35000
IN-2	115	9936.24000	0.00000	0.000	9662.98000	9722.86000	10422.89000
AG	107	0.20300	170.01000	22.300	0.24681	0.20686	0.15644
AS	75	0.26400	8.67000	69.700	0.45684	0.24215	0.09159
BA	137	3.69400	156.68000	7.100	3.39165	3.86209	3.82721
CD	111	0.13400	10.00000	68.000	0.05598	0.11127	0.23355
CO	59	3.12800	2153.54000	9.400	2.79418	3.34552	3.24503
CU	63	1.69600	1016.73000	20.600	1.74384	2.01932	1.32546
MO	98	2145.07300	806747.20000	2.500	2172.16240	2179.30427	2083.75241
RB	85	0.00700	3.33000	1412.400	0.12552	-0.05188	-0.05188
SB	121	0.00400	3.33000	1123.500	0.05640	-0.02214	-0.02214
SE	78	0.08700	7.78000	44.700	0.12052	0.09657	0.04436
SN	120	0.19100	33.33000	52.300	0.17403	0.29910	0.10125
SR	88	3.69400	290.02000	40.000	4.14603	4.89304	2.04199
ZN	66	2.80800	240.01000	36.500	1.63020	3.47992	3.31529
BI-2	209	47959.94000	0.00000	0.000	47532.09000	46829.70000	49518.02000
PB	208	0.37000	726.71000	3.700	0.38043	0.35462	0.37500
TL	203	0.02700	16.67000	90.400	0.00000	0.03300	0.04682
U	238	0.01200	26.67000	24.000	0.01372	0.01393	0.00878
SC-1	45	289688.54000	0.00000	0.000	281711.13000	298963.90000	288390.60000
SC-2	45	9846.41000	0.00000	0.000	10003.09000	9482.98000	10053.15000
GE-1	72	323567.11000	0.00000	0.000	317008.63000	332919.88000	320772.81000
GE-3	72	1108992	0	0.000	1115842	1104431	1106702
TB-2	159	59694.96000	0.00000	0.000	58233.03000	60149.87000	60701.97000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:09:46
Tube Number: 30
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1368003	0	0.000	1392140	1394215	1317655
B	11	14.16000	17464.82000	2.000	13.83585	14.26537	14.37962
BE	9	0.00700	11.33000	87.300	0.00081	0.00769	0.01375
GE-2	72	29061.19000	0.00000	0.000	28663.72000	29094.69000	29425.15000
AL	27	108572.64300	460848.77000	0.800	107612.04404	108763.72323	109342.16119
CA	44	288824.22000	156360.07000	0.500	287557.09122	290296.78320	288618.78681
CR	52	213.51600	75244.26000	3.200	207.69314	221.07795	211.77753
FE	57	253672.33900	1459053.47000	1.500	249592.22181	254542.87608	256881.91796
K	39	102264.80100	955396.49000	1.100	101112.97468	102293.17322	103388.25579
MG	24	101191.06200	2083097.16000	0.200	101049.01936	101056.41493	101467.75111
MN	55	209.33000	22007.49000	1.900	206.03424	213.82413	208.13230
NA	23	256935.43400	12498416.06000	0.800	259229.65033	255372.65051	256204.00065
NI	60	203.91500	40359.50000	1.100	204.55549	205.77422	201.41409
TI	47	2169.97400	10823.59000	0.500	2167.57222	2161.50902	2180.84095
V	51	214.78500	55720.10000	0.900	213.29649	214.19340	216.86489
IN-1	115	267114.89000	0.00000	0.000	267085.35000	263928.41000	270330.92000
IN-2	115	9706.18000	0.00000	0.000	9022.81000	10032.74000	10063.00000
AG	107	53.27300	41547.78000	2.300	54.65007	52.22939	52.93929
AS	75	109.94900	3103.62000	7.400	119.31849	105.73071	104.79888
BA	137	5.12300	210.01000	11.000	5.75714	4.93203	4.67940
CD	111	102.02400	7318.93000	2.100	103.49984	99.52706	103.04603
CO	59	208.70000	138905.86000	6.200	223.42632	199.41596	203.25641
CU	63	211.06700	117430.71000	4.000	220.34225	203.65985	209.19801
MO	98	2243.29200	823220.15000	4.500	2359.93143	2175.26300	2194.68180
RB	85	0.42300	26.67000	28.200	0.51807	0.46070	0.28881
SB	121	0.03100	6.67000	149.100	0.06197	-0.02214	0.05328
SE	78	100.69200	7418.66000	1.100	100.12848	101.94940	99.99941
SN	120	0.25300	43.33000	47.300	0.11953	0.35053	0.28844
SR	88	3.65200	283.35000	25.500	3.60757	2.74530	4.60324
ZN	66	103.05900	5567.75000	9.300	113.27936	101.71756	94.18062
BI-2	209	47461.30000	0.00000	0.000	46548.34000	48133.53000	47702.02000
PB	208	0.33800	656.70000	2.700	0.33032	0.33469	0.34807
TL	203	0.00500	3.33000	173.200	0.00000	0.00000	0.01620
U	238	0.02100	46.67000	69.400	0.03269	0.02710	0.00456
SC-1	45	292458.26000	0.00000	0.000	296206.58000	289367.61000	291800.60000
SC-2	45	9783.00000	0.00000	0.000	9883.00000	9693.02000	9772.98000
GE-1	72	321995.71000	0.00000	0.000	320485.74000	321431.67000	324069.72000
GE-3	72	1096197	0	0.000	1119953	1093624	1075014
TB-2	159	59504.34000	0.00000	0.000	57138.91000	59678.10000	61696.02000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:12:51
Tube Number: 31
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1454669	0	0.000	1446163	1438680	1479162
B	11	4.15600	11962.50000	2.700	4.23766	4.02910	4.20130
BE	9	0.00000	2.67000	0.000	0.00068	-0.00264	0.00061
GE-2	72	29461.85000	0.00000	0.000	29915.90000	28994.51000	29475.13000
AL	27	8.82800	50.00000	72.100	4.01025	16.03869	6.43600
CA	44	1.43200	10.00000	1253.400	19.18720	1.81210	-16.70354
CR	52	0.41400	186.68000	35.600	0.38703	0.57356	0.28247
FE	57	21.47500	143.34000	10.400	23.94012	19.56873	20.91543
K	39	11.29200	2603.63000	217.000	-5.77899	0.28710	39.36902
MG	24	6.09100	133.34000	30.200	8.21237	5.07353	4.98620
MN	55	0.18700	20.00000	48.700	0.27722	0.09534	0.18757
NA	23	-31.65000	8045.39000	0.000	-28.00754	-26.00698	-40.93432
NI	60	0.06800	16.67000	112.700	-0.01540	0.13653	0.08423
TI	47	-0.56300	3.33000	0.000	-1.22258	-1.22258	0.75528
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	284427.06000	0.00000	0.000	285763.12000	290208.50000	277309.57000
IN-2	115	10520.22000	0.00000	0.000	10243.33000	10393.54000	10923.79000
AG	107	-0.00700	3.33000	0.000	-0.01060	0.00136	-0.01060
AS	75	0.04600	2.67000	161.400	0.09389	-0.04003	0.08555
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.02400	33.33000	80.200	0.00688	0.02046	0.04506
CU	63	0.06500	96.67000	58.600	0.10837	0.03834	0.04778
MO	98	1.77400	726.72000	12.000	1.95553	1.82484	1.54021
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	-0.02200	0.00000	0.000	-0.02214	-0.02214	-0.02214
SE	78	0.04100	4.67000	43.900	0.02384	0.03994	0.06004
SN	120	0.07900	16.67000	79.400	0.04340	0.04253	0.15204
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.27400	16.67000	0.000	-1.03536	-1.21794	-1.56769
BI-2	209	50958.84000	0.00000	0.000	50069.32000	51744.93000	51062.28000
PB	208	0.00000	6.67000	7042.500	-0.00310	0.00643	-0.00310
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00100	3.33000	173.200	0.00000	0.00420	0.00000
SC-1	45	306715.68000	0.00000	0.000	308997.71000	315412.51000	295736.83000
SC-2	45	10913.71000	0.00000	0.000	10493.47000	10703.48000	11544.18000
GE-1	72	339618.68000	0.00000	0.000	337803.28000	348553.32000	332499.45000
GE-3	72	1124147	0	0.000	1120697	1112635	1139110
TB-2	159	62994.00000	0.00000	0.000	62447.41000	63201.59000	63333.01000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:15:55
Tube Number: 32
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1433905	0	0.000	1462863	1423536	1415316
B	11	260.99800	179061.70000	2.500	253.35744	264.45576	265.17976
BE	9	26.66300	31868.86000	1.200	26.30399	26.76231	26.92285
GE-2	72	29906.01000	0.00000	0.000	30226.71000	30036.22000	29455.10000
AL	27	2644.26800	11554.09000	7.200	2492.09992	2583.19540	2857.50956
CA	44	2567.79000	1440.11000	3.000	2629.87529	2593.05734	2480.43746
CR	52	267.59100	96997.07000	3.500	257.09116	271.01116	274.67085
FE	57	2641.15400	15640.68000	6.500	2455.53823	2673.21128	2794.71313
K	39	2599.12000	27454.89000	1.400	2561.05835	2634.10917	2602.19244
MG	24	2616.43100	55411.08000	4.200	2527.86700	2582.11633	2739.31009
MN	55	262.23500	28366.39000	2.100	263.42318	256.34081	266.94184
NA	23	2612.25500	140415.02000	0.800	2605.26876	2594.95405	2636.54320
NI	60	271.92400	55372.85000	3.400	261.48187	275.00758	279.28164
TI	47	266.40900	1370.11000	23.000	212.87662	253.05855	333.29106
V	51	268.16300	71569.15000	2.600	264.45309	263.96012	276.07650
IN-1	115	289187.61000	0.00000	0.000	291079.62000	284497.56000	291985.65000
IN-2	115	10734.34000	0.00000	0.000	9786.54000	11216.65000	11199.83000
AG	107	25.94100	22315.03000	7.500	28.15595	24.46500	25.20237
AS	75	248.82000	7763.74000	6.500	267.39337	238.12884	240.93678
BA	137	271.21400	12134.71000	7.400	294.40753	258.78059	260.45267
CD	111	25.66600	2028.13000	9.300	28.24703	23.56023	25.18972
CO	59	252.55700	185840.68000	5.500	268.51071	244.08889	245.07234
CU	63	253.06600	155467.95000	6.000	270.36925	241.66348	247.16477
MO	98	26.74300	10850.47000	8.700	29.22609	24.59771	26.40402
RB	85	25.70600	1606.81000	11.700	27.97568	26.84785	22.29571
SB	121	25.45700	3600.53000	2.600	25.96113	25.69417	24.71550
SE	78	25.48600	2033.90000	1.500	25.08748	25.84675	25.52294
SN	120	24.47300	4274.03000	5.700	25.63766	22.91412	24.86690
SR	88	23.48500	2010.19000	7.900	24.43495	24.66816	21.35154
ZN	66	250.92700	14870.00000	5.500	266.92294	242.42007	243.43840
BI-2	209	52808.21000	0.00000	0.000	54383.28000	52647.51000	51393.84000
PB	208	26.03600	55803.79000	2.100	25.74840	25.68410	26.67500
TL	203	26.24000	17917.21000	4.500	25.32268	25.83450	27.56343
U	238	25.81700	62666.08000	4.600	24.45816	26.29656	26.69610
SC-1	45	312297.67000	0.00000	0.000	314859.06000	310857.77000	311176.19000
SC-2	45	10536.80000	0.00000	0.000	10873.69000	10603.49000	10133.22000
GE-1	72	341898.75000	0.00000	0.000	346183.12000	332919.80000	346593.32000
GE-3	72	1121903	0	0.000	1129706	1116093	1119909
TB-2	159	63475.41000	0.00000	0.000	63221.25000	63361.39000	63843.59000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:19:01
Tube Number: 33
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1400122	0	0.000	1393537	1399360	1407469
B	11	17.93700	20278.28000	3.800	18.46585	18.18298	17.16182
BE	9	0.00300	6.67000	140.500	0.00769	0.00251	-0.00093
GE-2	72	29615.54000	0.00000	0.000	29164.82000	29405.17000	30276.63000
AL	27	3.30900	26.67000	215.500	-2.85627	11.11530	1.66687
CA	44	7.11400	13.33000	380.000	-16.70354	1.55352	36.49114
CR	52	0.67100	280.01000	23.600	0.82421	0.50790	0.68093
FE	57	2.07400	30.00000	168.600	5.57504	2.06721	-1.41928
K	39	-45.04700	2083.53000	0.000	-47.25111	-53.27073	-34.61851
MG	24	3.35900	76.67000	33.800	2.13792	3.55844	4.38045
MN	55	0.37700	40.00000	99.700	0.37914	0.75208	0.00000
NA	23	-54.52200	6951.54000	0.000	-53.44728	-48.90926	-61.21019
NI	60	0.13300	30.00000	35.200	0.08530	0.13441	0.17859
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.01300	3.33000	173.200	0.00000	0.03810	0.00000
IN-1	115	209193.14000	0.00000	0.000	218436.23000	176005.28000	233137.92000
IN-2	115	10673.54000	0.00000	0.000	9833.12000	10733.55000	11453.95000
AG	107	0.00500	13.33000	153.200	0.01469	0.00098	0.00025
AS	75	0.11300	4.67000	125.300	0.23899	-0.04003	0.13962
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00800	0.67000	173.200	0.00000	0.00000	0.02361
CO	59	0.01700	26.67000	327.900	0.08204	-0.02153	-0.00883
CU	63	0.06000	96.67000	62.900	0.02826	0.05033	0.10201
MO	98	0.25100	120.01000	75.800	0.40143	0.31394	0.03715
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	0.14300	23.33000	21.100	0.13222	0.11927	0.17664
SE	78	0.05700	4.00000	115.200	0.02591	0.13260	0.01270
SN	120	0.13800	26.67000	26.800	0.17073	0.09784	0.14423
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.09700	26.67000	0.000	-0.64347	-1.39835	-1.25032
BI-2	209	50470.96000	0.00000	0.000	49959.23000	50561.16000	50892.50000
PB	208	0.00800	23.33000	188.900	0.00184	-0.00310	0.02595
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00700	16.67000	125.300	0.01740	0.00430	0.00000
SC-1	45	220507.61000	0.00000	0.000	233615.13000	183822.13000	244085.56000
SC-2	45	10446.73000	0.00000	0.000	9983.10000	10403.38000	10953.72000
GE-1	72	250014.47000	0.00000	0.000	250899.90000	217530.43000	281613.08000
GE-3	72	1129121	0	0.000	1139315	1139603	1108445
TB-2	159	63528.99000	0.00000	0.000	62126.99000	63301.21000	65158.78000

Tune Report

Batch Folder D:\Agilent\ICPMH\1\DATA\~EPATUNE.b
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

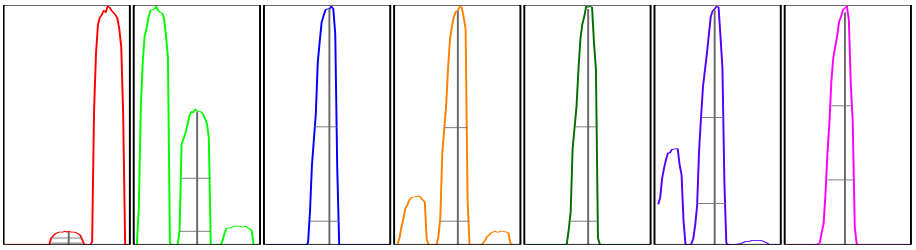
[No Gas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
6		9598	9597.77			NaN	-	
24		16893	16893.25			NaN	-	
103		44898	44897.95			NaN	-	
115		47427	47427.47			NaN	-	
140		50914	50913.71			NaN	-	
208		26606	26605.55			NaN	-	
238		55900	55899.70			NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
6	0.54	5.00				
24	0.33	5.00				
103	0.34	5.00				
115	0.78	5.00				
140	0.69	5.00				
208	0.37	5.00				
238	0.50	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
6	9564	9536	9651	9589	9650
24	16901	16883	16926	16953	16803
103	44957	44764	44742	45118	44908
115	47672	46905	47720	47163	47677
140	51063	50458	50650	51072	51326
208	26504	26720	26637	26504	26663
238	55724	55919	55808	56373	55674

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
6	1397.45	6.05	5.9 - 6.1		0.72	0.786	0.900	
24	2560.57	24.00	23.9 - 24.1		0.69	0.747	0.900	
103	8317.86	103.05	102.9 - 103.1		0.55	0.699	0.900	
115	8786.13	115.00	114.9 - 115.1		0.55	0.683	0.900	
140	9814.81	140.00	139.9 - 140.1		0.54	0.670	0.900	
208	5193.14	207.90	207.9 - 208.1		0.52	0.666	0.900	
238	10974.67	237.90	237.9 - 238.1		0.51	0.661	0.900	

X = 10 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 260.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.25 L/min	S/C Temp	20 ℃
RF Matching	0.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.80 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Tune Report

Extract 1	0.0 V	Omega Lens	6.1 V	Deflect	16.8 V				
Extract 2	-160.0 V	Cell Entrance	-30 V	Plate Bias	-40 V				
Mass	**Peak Height**	**Axis (Actual)**	**Axis (Required)**	**Axis (Flag)**	**W-50%**	**W-X% (Actual)**	**W-X% (Required)**	**W-X% (Flag)**	
Omega Bias	-75 V	Cell Exit	-50 V						

Cell Parameters

OctP Bias	-6.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	200 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 17E31E00.E05

Run Name: 1715106E05

Analyst: 8381

Reviewed By: Scott P Cuff
Reviewed Date: 05/31/2017 13:05

Verified By: Tara L Snyder
Verified Date: 05/31/2017 13:31

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-2		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	SE	78
IN-2		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	RB	85
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208
	U	238

Run Name: 1715106E05 Date/Time: 05/31/2017 11:28:24
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
NA	23	0.00000	6397.99000	0.000	-2.72643	5.17325	-2.44682
MG	24	0.00000	26.67000	0.000	-0.76636	0.42574	0.34062
AL	27	0.00000	30.00000	0.000	-0.03436	0.14998	-0.11562
K	39	0.00000	4617.45000	0.000	34.14245	-3.17251	-30.96995
CA	44	0.00000	10.00000	0.000	-8.33598	8.74246	-0.40647
SC-1	45	424104.88000	0.00000	0.000	424673.94000	419855.46000	427785.23000
SC-2	45	19828.18000	0.00000	0.000	20001.72000	19010.53000	20472.28000
TI	47	0.00000	3.33000	0.000	-0.34192	0.68384	-0.34192
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CR	52	0.00000	93.34000	0.000	0.01012	-0.04687	0.03675
MN	55	0.00000	70.00000	0.000	0.08506	0.05885	-0.14391
FE	57	0.00000	73.34000	0.000	0.45345	3.70744	-4.16089
CO	59	0.00000	13.33000	0.000	-0.01265	0.02530	-0.01265
NI	60	0.00000	26.67000	0.000	-0.02453	-0.05446	0.07899
CU	63	0.00000	80.00000	0.000	-0.03658	0.02318	0.01340
ZN	66	0.00000	143.34000	0.000	-0.69457	0.17469	0.51988
GE-1	72	487958.12000	0.00000	0.000	489214.21000	491110.93000	483549.21000
GE-2	72	57670.86000	0.00000	0.000	58888.08000	57443.11000	56681.40000
AS	75	0.00000	4.67000	0.000	-0.04970	0.09727	-0.04757
SE	78	0.00000	1.11000	0.000	-0.00416	0.00204	0.00212
RB	85	0.00000	6.67000	0.000	0.09194	-0.04597	-0.04597
SR	88	0.00000	3.33000	0.000	-0.01778	-0.01778	0.03556
MO	98	0.00000	90.00000	0.000	0.03935	-0.01304	-0.02631
AG	107	0.00000	3.33000	0.000	-0.00259	-0.00259	0.00518
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	364650.72000	0.00000	0.000	366373.07000	365045.97000	362533.12000
IN-2	115	23179.51000	0.00000	0.000	23977.32000	22965.68000	22595.52000
SN	120	0.00000	16.67000	0.000	0.03560	-0.01803	-0.01757
SB	121	0.00000	3.33000	0.000	-0.01201	-0.01201	0.02403
BA	137	0.00000	3.33000	0.000	-0.03467	0.06934	-0.03467
TB-2	159	116457.56000	0.00000	0.000	115793.41000	116961.54000	116617.73000
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
PB	208	0.00000	103.33000	0.000	-0.00662	0.00803	-0.00141
BI-2	209	86054.69000	0.00000	0.000	85468.99000	85357.15000	87337.94000
U	238	0.00000	3.33000	0.000	0.00189	-0.00094	-0.00094

Run Name: 1715106E05 Date/Time: 05/31/2017 11:30:47
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19217.52000	0.00000	0.000	19241.01000	18880.44000	19531.10000
AL	27	10000.00000	81537.19000	2.300	9889.74859	10264.29583	9845.95558
CA	44	10000.00000	11840.99000	6.000	10288.50085	10399.24194	9312.25721
CR	52	1000.00000	621724.31000	1.700	1001.32392	1015.89337	982.78271
FE	57	10000.00000	105612.48000	0.400	10017.53518	10033.30137	9949.16345
K	39	10000.00000	195623.07000	1.300	10043.46611	10097.54318	9858.99071
MG	24	10000.00000	339178.99000	1.300	10080.59618	10071.02874	9848.37508
MN	55	1000.00000	213693.54000	1.400	999.22071	1014.16952	986.60977
NA	23	10000.00000	785922.31000	1.700	10154.37846	10022.51630	9823.10523
TI	47	1000.00000	9859.76000	1.800	986.07311	993.54905	1020.37784
V	51	1000.00000	460972.45000	2.900	1006.24122	1025.36019	968.39859
IN-1	115	368855.16000	0.00000	0.000	370579.54000	375709.82000	360276.11000
IN-2	115	24236.83000	0.00000	0.000	23920.55000	24075.23000	24714.70000
AG	107	100.00000	138044.89000	0.500	99.41957	100.18611	100.39431
AS	75	1000.00000	58031.66000	3.300	1025.05451	1012.79664	962.14885
BA	137	1000.00000	101457.49000	1.500	1010.79040	1006.20988	982.99972
CD	111	100.00000	14857.08000	1.600	101.65515	98.37068	99.97418
CO	59	1000.00000	1112128.29000	1.900	1014.95036	1006.56487	978.48478
CU	63	1000.00000	920172.41000	2.300	1026.17293	991.59277	982.23430
MO	98	100.00000	70466.75000	1.600	101.69205	99.88859	98.41936
NI	60	1000.00000	322761.87000	2.200	1016.43772	1008.50656	975.05572
RB	85	100.00000	14656.65000	5.500	104.85702	101.08875	94.05423
SB	121	100.00000	29756.75000	2.000	102.18882	99.53332	98.27786
SE	78	100.00000	10798.37000	2.300	98.93955	98.43120	102.62925
SN	120	100.00000	36874.09000	2.200	102.56111	98.97384	98.46505
SR	88	100.00000	20108.80000	1.600	101.78376	98.87442	99.34182
ZN	66	1000.00000	101376.46000	1.000	1007.89666	1003.00919	989.09415
BI-2	209	86759.53000	0.00000	0.000	86514.25000	86494.74000	87269.60000
PB	208	100.00000	347860.64000	1.100	101.18570	99.71808	99.09622
TL	203	100.00000	112379.07000	1.400	101.65001	99.18346	99.16654
U	238	100.00000	358392.68000	2.300	102.34526	99.80590	97.84884
SC-1	45	431594.27000	0.00000	0.000	433689.10000	437953.47000	423140.23000
GE-1	72	489963.09000	0.00000	0.000	486606.16000	494055.66000	489227.45000
GE-2	72	56671.30000	0.00000	0.000	55978.96000	57273.59000	56761.34000
TB-2	159	118337.32000	0.00000	0.000	117848.13000	116315.63000	120848.21000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:33:11
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19824.85000	0.00000	0.000	18950.49000	20312.06000	20212.00000
AL	27	1.60600	43.33000	56.300	2.64948	1.07210	1.09508
CA	44	5.76300	16.67000	311.000	25.92911	-8.33598	-0.30436
CR	52	0.48000	400.02000	6.200	0.50802	0.44907	0.48259
FE	57	0.20500	76.67000	130.500	-0.10338	0.34218	0.37768
K	39	-18.68900	4250.66000	0.000	-15.70460	-18.47620	-21.88503
MG	24	0.38400	40.00000	133.700	0.72849	0.62829	-0.20574
MN	55	-0.01800	66.67000	0.000	-0.03488	0.16744	-0.18615
NA	23	-1.68100	6261.28000	0.000	3.62088	-0.86716	-7.79522
TI	47	0.34400	6.67000	345.300	1.71610	-0.34192	-0.34192
V	51	0.04800	23.33000	135.700	0.02199	0.12311	0.00000
IN-1	115	361031.47000	0.00000	0.000	377713.32000	334550.24000	370830.86000
IN-2	115	23868.98000	0.00000	0.000	23074.85000	24986.97000	23545.11000
AG	107	0.01000	16.67000	114.400	0.01263	0.01849	-0.00259
AS	75	0.14600	13.33000	89.900	0.13260	0.28308	0.02187
BA	137	-0.03500	0.00000	0.000	-0.03467	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.04200	60.00000	45.800	0.06289	0.03967	0.02437
CU	63	0.08100	156.67000	67.000	0.12537	0.09823	0.02036
MO	98	0.04900	126.67000	73.900	0.01626	0.08752	0.04251
NI	60	-0.02400	20.00000	0.000	-0.02208	-0.05710	0.00851
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.77200	230.01000	8.800	0.69393	0.80288	0.81819
SE	78	0.08400	9.78000	57.300	0.06193	0.13935	0.05102
SN	120	0.51400	203.34000	9.200	0.49473	0.47961	0.56769
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.22700	26.67000	0.000	-1.07834	-1.11009	-1.49335
BI-2	209	83632.63000	0.00000	0.000	84203.06000	83206.99000	83487.83000
PB	208	0.00400	113.33000	295.200	-0.00923	0.01201	0.00888
TL	203	0.03100	33.33000	69.800	0.01834	0.05567	0.01849
U	238	0.01500	53.33000	50.500	0.00768	0.01360	0.02225
SC-1	45	424441.77000	0.00000	0.000	438576.09000	389815.78000	444933.43000
GE-1	72	481645.26000	0.00000	0.000	497893.70000	451846.67000	495195.42000
GE-2	72	57319.77000	0.00000	0.000	57744.50000	55607.73000	58607.07000
TB-2	159	115547.07000	0.00000	0.000	114815.12000	115459.47000	116366.61000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:35:35
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19488.00000	0.00000	0.000	19601.65000	19561.41000	19300.94000
AL	27	0.04700	30.00000	4382.500	1.24034	1.25023	-2.34854
CA	44	0.03700	10.00000	22476.200	-8.33598	-0.03724	8.48549
CR	52	0.45400	376.69000	32.900	0.39173	0.34542	0.62430
FE	57	0.64600	80.00000	9.700	0.60209	0.61737	0.71786
K	39	-11.91000	4314.04000	0.000	12.43115	-5.56584	-42.59598
MG	24	0.30100	36.67000	223.700	0.67883	-0.47673	0.70135
MN	55	-0.05800	56.67000	0.000	-0.04434	-0.04377	-0.08665
NA	23	1.44600	6411.36000	271.000	-1.28201	5.93605	-0.31691
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	355214.33000	0.00000	0.000	358254.37000	359590.34000	347798.27000
IN-2	115	23619.80000	0.00000	0.000	23746.24000	23286.61000	23826.56000
AG	107	0.00700	13.33000	60.400	0.00480	0.01249	0.00478
AS	75	0.08000	9.33000	89.900	0.05613	0.02305	0.16080
BA	137	0.00000	3.33000	0.000	-0.03467	0.06790	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.03300	50.00000	47.000	0.05158	0.02478	0.02393
CU	63	-0.01000	73.33000	0.000	0.05268	-0.00102	-0.08045
MO	98	0.02300	106.67000	451.800	0.04104	0.11841	-0.08963
NI	60	0.03000	36.67000	167.200	-0.02392	0.07406	0.03889
RB	85	-0.02200	3.33000	0.000	-0.04597	0.02503	-0.04597
SB	121	0.19500	60.00000	35.000	0.12518	0.19783	0.26147
SE	78	0.00700	1.78000	201.000	0.00227	-0.00404	0.02229
SN	120	0.09300	50.00000	109.200	-0.01898	0.17921	0.11890
SR	88	0.01600	6.67000	366.400	-0.01778	-0.01778	0.08340
ZN	66	-1.18800	30.00000	0.000	-0.98925	-1.08211	-1.49335
BI-2	209	84000.77000	0.00000	0.000	85749.70000	82030.97000	84221.65000
PB	208	0.00100	103.34000	658.600	-0.00379	0.00653	-0.00035
TL	203	0.00900	10.00000	99.400	0.01801	0.00000	0.00917
U	238	0.00200	10.00000	260.200	0.00752	-0.00094	-0.00094
SC-1	45	416234.92000	0.00000	0.000	416705.97000	421776.95000	410221.83000
GE-1	72	479958.83000	0.00000	0.000	481200.97000	484082.41000	474593.12000
GE-2	72	56748.62000	0.00000	0.000	58115.95000	55578.09000	56551.83000
TB-2	159	113950.00000	0.00000	0.000	116033.77000	113446.36000	112369.88000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:37:59
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19180.77000	0.00000	0.000	18990.61000	19040.48000	19511.21000
AL	27	5198.93700	42312.85000	6.200	5552.82416	5122.54046	4921.44545
CA	44	4592.43700	5437.70000	3.500	4420.41463	4613.51921	4743.37764
CR	52	502.21900	311680.56000	2.100	509.96508	506.76376	489.92755
FE	57	5255.63500	55429.44000	1.300	5306.40085	5282.79478	5177.70964
K	39	5222.21100	104092.37000	2.100	5256.35524	5310.92702	5099.34946
MG	24	5165.10300	174847.26000	2.300	5251.65175	5216.78282	5026.87443
MN	55	514.83800	109826.20000	3.000	519.64588	527.40346	497.46518
NA	23	5114.82400	404222.08000	2.200	5245.45557	5069.53203	5029.48402
TI	47	512.73900	5047.57000	2.700	496.73749	520.01720	521.46112
V	51	511.29200	235299.93000	0.900	516.80298	509.38903	507.68501
IN-1	115	364612.87000	0.00000	0.000	368600.04000	367953.21000	357285.37000
IN-2	115	23700.89000	0.00000	0.000	23487.03000	23619.43000	23996.22000
AG	107	52.20600	70467.49000	1.100	52.48759	52.57424	51.55696
AS	75	519.23400	29477.00000	1.300	526.72199	517.21712	513.76410
BA	137	532.96600	52880.56000	2.300	546.95077	528.97845	522.96780
CD	111	51.59400	7494.99000	2.100	52.61635	51.68566	50.47960
CO	59	524.28700	570230.43000	2.000	533.02770	526.90087	512.93172
CU	63	518.49400	466649.75000	1.300	525.36135	518.16838	511.95206
MO	98	51.99200	35871.22000	3.800	54.26068	50.56541	51.15014
NI	60	526.90800	166339.07000	2.100	539.62352	522.50430	518.59501
RB	85	54.39600	7805.33000	2.500	54.24244	53.09722	55.84754
SB	121	53.98600	15714.37000	1.400	54.38633	53.11546	54.45508
SE	78	51.05400	5451.28000	2.300	49.71975	51.88685	51.55596
SN	120	51.45500	18560.66000	4.400	53.98369	50.72676	49.65542
SR	88	51.59800	10149.91000	1.600	51.47383	50.82765	52.49186
ZN	66	525.80600	52190.22000	3.200	543.43866	523.71164	510.26729
BI-2	209	85918.17000	0.00000	0.000	86585.68000	86613.37000	84555.46000
PB	208	52.30600	180224.85000	1.100	52.28444	51.75110	52.88184
TL	203	50.58800	56292.69000	1.500	50.15246	50.17244	51.43871
U	238	52.71000	187074.16000	1.200	52.73224	52.08815	53.31055
SC-1	45	429677.00000	0.00000	0.000	433596.01000	434436.83000	420998.16000
GE-1	72	486391.31000	0.00000	0.000	489119.95000	490652.14000	479401.83000
GE-2	72	57875.41000	0.00000	0.000	57585.03000	56781.88000	59259.33000
TB-2	159	116342.98000	0.00000	0.000	120404.68000	112781.85000	115842.42000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:40:23
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19404.45000	0.00000	0.000	19281.04000	19521.14000	19411.16000
AL	27	0.88700	36.67000	210.800	2.54286	1.26018	-1.14113
CA	44	27.96300	43.33000	105.100	25.34168	-0.02012	58.56784
CR	52	0.46700	383.35000	31.600	0.60905	0.31476	0.47661
FE	57	0.99300	83.33000	198.500	2.61433	1.56546	-1.20101
K	39	-0.28000	4517.40000	0.000	-0.67578	8.29599	-8.46098
MG	24	0.98200	60.00000	128.400	0.40902	2.42647	0.10926
MN	55	0.06700	83.34000	177.600	0.19354	-0.04320	0.05104
NA	23	1.89500	6418.02000	173.500	5.51861	1.06151	-0.89509
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.01400	6.67000	173.200	0.00000	0.00000	0.04294
IN-1	115	360699.76000	0.00000	0.000	358037.38000	357552.01000	366509.90000
IN-2	115	23575.28000	0.00000	0.000	23724.39000	23956.06000	23045.38000
AG	107	0.01000	16.67000	90.000	0.00481	0.00474	0.02027
AS	75	0.01000	5.33000	209.700	-0.01413	0.02004	0.02418
BA	137	-0.00100	3.33000	0.000	-0.03467	0.06504	-0.03467
CD	111	0.02300	3.33000	92.400	0.02750	0.00000	0.04247
CO	59	0.03400	50.00000	49.100	0.04245	0.01464	0.04408
CU	63	0.02000	100.00000	336.600	-0.01379	0.09540	-0.02293
MO	98	-0.00200	90.01000	0.000	0.04120	0.03951	-0.08816
NI	60	-0.03300	16.67000	0.000	-0.05551	-0.08715	0.04316
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.20700	63.33000	11.800	0.19396	0.19197	0.23537
SE	78	0.07200	8.67000	53.300	0.03414	0.11061	0.07038
SN	120	0.30500	126.67000	48.400	0.20275	0.47482	0.23863
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.12000	36.67000	0.000	-1.08970	-1.19354	-1.07781
BI-2	209	84235.89000	0.00000	0.000	83508.08000	84464.83000	84734.77000
PB	208	0.00500	116.67000	70.800	0.00289	0.00252	0.00830
TL	203	0.01800	20.00000	0.800	0.01849	0.01828	0.01822
U	238	0.00900	33.33000	83.200	0.00775	0.00192	0.01620
SC-1	45	422834.73000	0.00000	0.000	421288.55000	423321.71000	423893.94000
GE-1	72	483346.22000	0.00000	0.000	484705.42000	479656.48000	485676.75000
GE-2	72	57446.98000	0.00000	0.000	57232.73000	57122.84000	57985.37000
TB-2	159	115282.85000	0.00000	0.000	114543.92000	115247.80000	116056.84000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:42:47
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18753.58000	0.00000	0.000	18179.51000	18840.47000	19240.76000
AL	27	216.40300	1746.81000	10.600	236.32226	221.65328	191.23461
CA	44	456.41700	536.69000	13.000	491.74638	388.03093	489.47479
CR	52	4.63000	2890.34000	15.100	5.05879	5.00759	3.82383
FE	57	215.32600	2286.91000	11.700	232.56738	186.47362	226.93841
K	39	442.25200	12614.74000	5.000	467.13093	424.90380	434.72206
MG	24	212.76300	7068.28000	2.100	210.26675	217.90544	210.11619
MN	55	4.34200	970.07000	12.800	4.97463	3.92952	4.12165
NA	23	414.09000	37562.33000	2.500	416.21842	423.06712	402.98574
TI	47	30.75500	300.01000	18.100	24.33016	33.81587	34.11772
V	51	0.84500	380.02000	15.900	0.80241	0.99546	0.73647
IN-1	115	369897.87000	0.00000	0.000	362827.50000	376250.91000	370615.20000
IN-2	115	23813.96000	0.00000	0.000	22496.19000	23851.53000	25094.15000
AG	107	1.02200	1390.10000	3.800	0.98092	1.05756	1.02605
AS	75	4.39900	254.67000	12.600	5.03795	4.11668	4.04175
BA	137	3.42100	343.35000	28.600	3.25697	4.47191	2.53537
CD	111	1.02500	149.33000	11.700	1.01518	1.14900	0.91008
CO	59	1.04800	1166.76000	18.400	0.83973	1.08365	1.22041
CU	63	4.38000	4030.61000	9.300	4.72079	4.49154	3.92868
MO	98	1.00000	780.05000	17.700	1.06102	1.13755	0.80017
NI	60	3.79200	1226.76000	10.800	4.25184	3.47013	3.65303
RB	85	1.64800	243.34000	20.700	1.93848	1.27116	1.73303
SB	121	2.01500	593.37000	14.400	1.79822	2.34423	1.90294
SE	78	3.95900	429.56000	7.500	4.30061	3.80189	3.77380
SN	120	4.75600	1736.82000	4.700	4.95138	4.80523	4.51254
SR	88	2.06900	410.02000	16.200	2.44714	1.95326	1.80762
ZN	66	27.97000	2930.35000	3.600	28.62731	26.81546	28.46724
BI-2	209	86695.31000	0.00000	0.000	84192.61000	87287.96000	88605.36000
PB	208	2.07100	7297.62000	3.200	2.11267	2.10532	1.99471
TL	203	1.04100	1170.08000	4.300	0.99954	1.08794	1.03691
U	238	0.97000	3477.20000	6.100	0.97389	1.02808	0.90893
SC-1	45	433593.78000	0.00000	0.000	431878.47000	437173.35000	431729.52000
GE-1	72	492485.77000	0.00000	0.000	482200.07000	500410.38000	494846.87000
GE-2	72	56588.27000	0.00000	0.000	52739.61000	56029.96000	60995.24000
TB-2	159	114541.81000	0.00000	0.000	109916.13000	114775.01000	118934.30000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:45:10
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19207.39000	0.00000	0.000	19180.69000	19420.97000	19020.50000
AL	27	98889.79600	805781.47000	1.800	97187.69535	98684.90932	100796.78404
CA	44	252112.31000	298295.11000	0.900	250551.14147	251221.95511	254563.83308
CR	52	3.15000	2046.87000	2.900	3.25608	3.08670	3.10591
FE	57	234305.04100	2471549.55000	1.200	234141.95717	231661.37668	237111.78908
K	39	96707.61600	1852174.30000	1.000	95911.88452	96414.12646	97796.83816
MG	24	93746.46300	3177861.52000	2.500	91739.21500	93227.03524	96273.13834
MN	55	1.06900	296.68000	27.700	0.75894	1.34772	1.09909
NA	23	237434.91200	18510481.39000	1.300	234664.71879	236723.84428	240916.17194
TI	47	2044.34900	20141.87000	1.500	2048.42020	2073.33901	2011.28762
V	51	0.20200	93.34000	60.800	0.30421	0.23607	0.06573
IN-1	115	345586.19000	0.00000	0.000	348906.05000	341938.15000	345914.37000
IN-2	115	22734.54000	0.00000	0.000	22424.66000	22703.83000	23075.12000
AG	107	0.20800	273.34000	19.400	0.20883	0.16756	0.24852
AS	75	0.34400	23.33000	6.300	0.36232	0.32005	0.34973
BA	137	3.82500	366.69000	28.800	5.07831	3.01646	3.38141
CD	111	0.19200	26.67000	56.500	0.18914	0.30177	0.08483
CO	59	3.22000	3373.80000	3.100	3.10674	3.25073	3.30214
CU	63	1.68300	1533.45000	15.800	1.38838	1.90384	1.75760
MO	98	1999.55400	1320131.88000	1.000	2010.56960	2012.37914	1975.71284
NI	60	1.24500	403.36000	29.300	1.01778	1.66561	1.05171
RB	85	0.07400	16.67000	201.700	-0.04597	0.02685	0.24064
SB	121	0.08300	26.67000	47.900	0.06062	0.05973	0.12917
SE	78	0.08600	9.78000	15.100	0.10049	0.08278	0.07519
SN	120	0.09800	50.00000	28.200	0.09993	0.06917	0.12429
SR	88	3.50400	663.37000	15.400	4.12143	3.27406	3.11662
ZN	66	2.54200	383.35000	10.200	2.24350	2.72479	2.65692
BI-2	209	82372.23000	0.00000	0.000	82523.41000	82442.03000	82151.24000
PB	208	0.34400	1233.41000	13.800	0.31166	0.32108	0.39825
TL	203	0.00900	10.00000	100.000	0.00936	0.01873	0.00000
U	238	0.01100	40.00000	27.000	0.01079	0.01374	0.00790
SC-1	45	413464.69000	0.00000	0.000	427799.25000	402022.06000	410572.77000
GE-1	72	469631.15000	0.00000	0.000	475245.07000	466208.70000	467439.68000
GE-2	72	56721.30000	0.00000	0.000	56720.69000	56561.07000	56882.15000
TB-2	159	111594.83000	0.00000	0.000	111927.82000	110367.40000	112489.27000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:47:34
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17859.30000	0.00000	0.000	18039.33000	17659.03000	17879.53000
AL	27	106264.16600	805078.95000	1.200	105061.55510	107543.89279	106187.05128
CA	44	275059.78600	302583.46000	1.500	270586.23931	279053.38837	275539.73125
CR	52	210.47000	121683.89000	1.200	208.32089	213.35817	209.73049
FE	57	254798.36300	2498977.31000	1.700	249930.24208	258677.33875	255787.50672
K	39	104838.58500	1866557.63000	1.600	102942.72850	105500.40665	106072.62057
MG	24	102626.65200	3234867.24000	1.500	100994.92744	102713.96543	104171.06191
MN	55	209.19500	41598.82000	0.900	208.79405	211.25495	207.53488
NA	23	257023.57500	18629214.31000	2.100	251030.91990	261260.85364	258778.95258
TI	47	2192.44700	20078.43000	3.800	2096.88071	2233.79401	2246.66746
V	51	214.57600	91943.38000	1.300	212.01972	217.53688	214.17051
IN-1	115	344504.79000	0.00000	0.000	342652.93000	338568.84000	352292.60000
IN-2	115	22718.09000	0.00000	0.000	23395.30000	22033.78000	22725.20000
AG	107	50.42700	65233.60000	1.600	50.19143	51.33300	49.75665
AS	75	104.82100	5706.28000	1.600	103.19217	106.50336	104.76732
BA	137	4.14200	400.02000	37.100	5.88713	3.00073	3.53912
CD	111	101.26500	14093.79000	3.500	97.14048	103.63218	103.02211
CO	59	205.10200	213692.72000	4.100	197.60705	214.07772	203.62194
CU	63	201.94000	174168.05000	3.200	196.38143	208.89345	200.54649
MO	98	2039.85200	1345171.75000	2.600	1987.72310	2095.02177	2036.81133
NI	60	204.55900	61870.61000	4.300	196.32994	213.76778	203.57927
RB	85	0.14800	26.67000	28.800	0.16604	0.17914	0.09954
SB	121	0.12000	36.67000	47.500	0.12723	0.17280	0.05966
SE	78	98.92600	9977.24000	2.400	98.70035	101.43196	96.64604
SN	120	0.18800	80.00000	74.900	0.06575	0.34128	0.15586
SR	88	3.84000	726.71000	3.300	3.69204	3.92133	3.90752
ZN	66	97.28200	9362.78000	5.700	92.47426	103.28191	96.08852
BI-2	209	81226.49000	0.00000	0.000	81317.26000	79738.28000	82623.93000
PB	208	0.32800	1166.73000	2.800	0.33820	0.32672	0.32030
TL	203	0.00900	10.00000	99.500	0.00949	0.00000	0.01869
U	238	0.01100	40.00000	26.100	0.00799	0.01120	0.01370
SC-1	45	410968.92000	0.00000	0.000	406332.88000	406861.79000	419712.10000
GE-1	72	474054.94000	0.00000	0.000	473302.14000	464938.90000	483923.78000
GE-2	72	54601.48000	0.00000	0.000	55487.77000	53260.54000	55056.14000
TB-2	159	109245.27000	0.00000	0.000	107607.37000	110537.47000	109590.97000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:49:58
Tube Number: 10
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18860.43000	0.00000	0.000	18419.96000	19160.74000	19000.59000
AL	27	2.70400	50.00000	124.900	5.38797	3.81144	-1.08865
CA	44	34.41900	50.00000	64.600	9.29002	42.49768	51.46983
CR	52	0.36900	313.35000	18.300	0.35901	0.30727	0.44123
FE	57	15.42500	230.01000	25.500	19.86100	14.07779	12.33745
K	39	-2.97400	4337.33000	0.000	8.60288	-9.18152	-8.34387
MG	24	3.86200	153.34000	41.300	5.69316	2.78221	3.11031
MN	55	-0.17600	30.00000	0.000	-0.12433	-0.17883	-0.22498
NA	23	19.92000	7611.81000	37.300	25.82734	11.58651	22.34492
TI	47	0.68400	10.00000	259.700	-0.34192	-0.34192	2.73698
V	51	0.01500	6.67000	86.700	0.02263	0.02175	0.00000
IN-1	115	361124.43000	0.00000	0.000	365665.62000	359682.04000	358025.63000
IN-2	115	23633.26000	0.00000	0.000	23867.03000	23756.90000	23275.86000
AG	107	0.01000	16.67000	116.000	0.01948	0.01219	-0.00259
AS	75	0.01000	5.33000	420.900	-0.01455	-0.01423	0.05898
BA	137	0.03400	6.67000	351.200	-0.03467	-0.03467	0.17057
CD	111	0.01800	2.67000	113.600	0.04101	0.00000	0.01402
CO	59	0.03600	53.33000	13.400	0.04213	0.03321	0.03416
CU	63	0.06000	136.67000	90.800	0.05196	0.11914	0.01034
MO	98	1.35000	1016.73000	14.600	1.13673	1.38902	1.52405
NI	60	0.00900	30.00000	970.200	-0.08715	0.03926	0.07413
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.02200	10.00000	154.000	0.05623	0.02227	-0.01201
SE	78	0.04700	6.00000	72.900	0.02069	0.03394	0.08498
SN	120	0.04600	33.33000	125.400	-0.01912	0.09171	0.06632
SR	88	0.01600	6.67000	365.200	-0.01778	0.08369	-0.01778
ZN	66	-1.32500	16.67000	0.000	-1.39304	-1.19102	-1.39049
BI-2	209	86702.32000	0.00000	0.000	85236.99000	87943.77000	86926.20000
PB	208	-0.00200	96.67000	0.000	-0.00656	-0.01579	0.01595
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	-0.00100	0.00000	0.000	-0.00094	-0.00094	-0.00094
SC-1	45	415199.66000	0.00000	0.000	417430.38000	418216.17000	409952.42000
GE-1	72	475427.58000	0.00000	0.000	480329.56000	477182.02000	468771.16000
GE-2	72	56507.60000	0.00000	0.000	56400.70000	56541.08000	56581.01000
TB-2	159	115107.95000	0.00000	0.000	114211.58000	114059.15000	117053.11000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:52:21
Tube Number: 11
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19798.10000	0.00000	0.000	19521.13000	20542.16000	19331.00000
AL	27	2370.28800	19928.14000	2.300	2393.46329	2307.65516	2409.74501
CA	44	2273.30800	2780.34000	7.600	2470.08303	2149.33207	2200.50795
CR	52	232.14600	148739.46000	1.600	232.46750	228.21628	235.75542
FE	57	2415.86100	26326.62000	3.300	2402.30420	2344.71487	2500.56460
K	39	2326.67800	50403.47000	3.800	2407.58241	2230.63912	2341.81169
MG	24	2308.91600	80666.05000	2.500	2325.84776	2244.80995	2356.08938
MN	55	233.89700	51537.76000	1.800	238.09876	229.58594	234.00525
NA	23	2298.99800	190920.38000	4.100	2334.73728	2191.56950	2370.68686
TI	47	252.39300	2563.61000	4.400	260.40953	239.85201	256.91858
V	51	233.64400	110955.35000	1.800	232.61228	229.97184	238.34767
IN-1	115	376625.66000	0.00000	0.000	380424.54000	369717.18000	379735.27000
IN-2	115	23914.43000	0.00000	0.000	23957.65000	24493.51000	23292.12000
AG	107	25.15600	34251.56000	2.700	25.37462	24.40248	25.69162
AS	75	242.78300	13908.82000	0.900	243.71877	240.26104	244.37004
BA	137	239.34500	23954.38000	3.200	238.51984	232.22609	247.28849
CD	111	24.86200	3641.74000	5.300	24.35155	23.88547	26.35036
CO	59	248.93700	273155.61000	2.300	244.40054	246.95826	255.45260
CU	63	243.01400	220659.85000	2.600	239.86367	238.83438	250.34412
MO	98	24.22500	16912.08000	1.700	24.05500	23.91962	24.70173
NI	60	250.12700	79676.98000	1.700	249.03965	246.64034	254.70244
RB	85	24.09800	3490.48000	4.000	23.28326	23.85304	25.15686
SB	121	25.26200	7421.89000	2.000	25.83071	25.09901	24.85501
SE	78	23.90600	2637.53000	1.700	24.25955	24.00169	23.45814
SN	120	24.76000	9022.70000	3.100	25.62044	24.19954	24.46132
SR	88	25.84800	5130.97000	1.800	26.30099	25.38037	25.86258
ZN	66	251.69200	25271.86000	4.900	256.91887	237.56016	260.59570
BI-2	209	87794.52000	0.00000	0.000	87097.02000	89139.09000	87147.44000
PB	208	24.49200	86287.82000	1.200	24.52754	24.18318	24.76510
TL	203	24.06800	27374.05000	3.300	23.17185	24.41909	24.61342
U	238	23.73800	86090.30000	1.100	23.86066	23.42879	23.92518
SC-1	45	436765.47000	0.00000	0.000	446958.70000	431016.09000	432321.63000
GE-1	72	499019.01000	0.00000	0.000	499159.91000	496115.85000	501781.28000
GE-2	72	56918.42000	0.00000	0.000	57112.48000	56901.66000	56741.12000
TB-2	159	118255.18000	0.00000	0.000	118893.20000	118036.10000	117836.25000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:54:46
Tube Number: 12
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19063.94000	0.00000	0.000	19100.76000	19290.86000	18800.19000
AL	27	3.85600	60.00000	33.900	2.60055	3.76166	5.20680
CA	44	8.78700	20.00000	196.600	-8.33598	8.49428	26.20305
CR	52	0.46100	373.35000	17.000	0.55143	0.41639	0.41459
FE	57	-2.08600	50.00000	0.000	-2.06280	1.66567	-5.86057
K	39	-8.39800	4284.02000	0.000	6.26528	-16.43158	-15.02651
MG	24	1.41600	73.33000	25.700	1.60658	0.99581	1.64452
MN	55	-0.14700	36.67000	0.000	-0.13130	-0.08653	-0.22397
NA	23	5.45600	6581.41000	10.000	4.90221	5.47527	5.99092
TI	47	0.33200	6.67000	351.600	-0.34192	1.67979	-0.34192
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	361080.05000	0.00000	0.000	350073.65000	367990.74000	365175.75000
IN-2	115	23055.28000	0.00000	0.000	23145.71000	22394.39000	23625.75000
AG	107	0.01700	26.67000	87.400	0.01258	0.00525	0.03457
AS	75	0.01300	5.33000	585.700	-0.01237	0.10191	-0.04918
BA	137	0.03400	6.67000	349.100	0.17172	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.06300	80.00000	32.400	0.04383	0.08465	0.06113
CU	63	0.07600	146.68000	11.200	0.06781	0.08492	0.07572
MO	98	0.08700	146.67000	113.200	0.17945	0.09767	-0.01639
NI	60	0.08900	53.33000	142.700	0.13991	0.18106	-0.05537
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.31900	93.34000	39.400	0.44546	0.31530	0.19482
SE	78	0.01500	2.67000	110.500	0.00257	0.03293	0.00830
SN	120	0.18100	80.00000	45.500	0.09537	0.18821	0.25945
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.28100	20.00000	0.000	-1.49335	-0.95882	-1.39201
BI-2	209	84744.81000	0.00000	0.000	84232.66000	85910.39000	84091.39000
PB	208	0.00100	106.67000	767.000	0.01446	-0.00674	-0.00327
TL	203	0.00900	10.00000	99.300	0.00917	0.01797	0.00000
U	238	0.00300	13.33000	151.900	0.00768	-0.00094	0.00193
SC-1	45	417216.45000	0.00000	0.000	409169.25000	424184.17000	418295.93000
GE-1	72	478977.51000	0.00000	0.000	469078.51000	481680.23000	486173.78000
GE-2	72	55474.41000	0.00000	0.000	54243.65000	55016.51000	57163.07000
TB-2	159	114977.39000	0.00000	0.000	113758.73000	113780.53000	117392.92000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:57:21
Tube Number: 13 Batch: 171441063901A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19601.18000	0.00000	0.000	19210.72000	19531.13000	20061.70000
AL	27	3.66700	60.00000	143.900	1.33822	9.70707	-0.04493
CA	44	5.60900	16.67000	226.900	8.56449	16.59884	-8.33598
CR	52	0.36100	320.02000	16.100	0.41873	0.36202	0.30239
FE	57	-2.20800	50.00000	0.000	-2.09008	-4.96456	0.43168
K	39	-0.96800	4550.78000	0.000	-7.15025	1.48188	2.76521
MG	24	0.96800	60.00000	51.500	1.29808	0.39397	1.21051
MN	55	0.14200	100.01000	145.400	0.24223	0.27907	-0.09548
NA	23	9.67600	7104.98000	37.800	5.70148	12.88620	10.43967
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.01400	6.67000	86.600	0.00000	0.02134	0.02077
IN-1	115	376214.63000	0.00000	0.000	377828.71000	373387.10000	377428.09000
IN-2	115	24177.26000	0.00000	0.000	24136.92000	23887.39000	24507.48000
AG	107	0.01200	20.00000	105.500	0.01923	-0.00259	0.01890
AS	75	-0.00300	4.67000	0.000	-0.01534	0.05530	-0.05046
BA	137	-0.03500	0.00000	0.000	-0.03467	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.02300	40.00000	101.900	0.04151	-0.00353	0.03180
CU	63	0.07100	150.01000	112.700	0.08309	-0.01432	0.14493
MO	98	0.04800	126.67000	107.500	-0.00459	0.09767	0.04967
NI	60	0.03600	40.00000	220.400	0.00617	-0.02429	0.12730
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.05500	20.00000	105.500	0.08921	-0.01201	0.08768
SE	78	-0.00400	0.67000	0.000	-0.01041	-0.01041	0.00769
SN	120	0.04400	33.33000	156.300	0.11677	-0.01914	0.03382
SR	88	-0.00100	3.33000	0.000	-0.01778	-0.01778	0.03140
ZN	66	-0.50100	100.00000	0.000	-0.10463	-0.49111	-0.90722
BI-2	209	91458.44000	0.00000	0.000	92648.58000	89791.94000	91934.79000
PB	208	-0.01500	53.33000	0.000	-0.00843	-0.01608	-0.02183
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00000	3.33000	0.000	-0.00094	0.00175	-0.00094
SC-1	45	428540.94000	0.00000	0.000	432177.06000	423828.24000	429617.53000
GE-1	72	496374.37000	0.00000	0.000	507488.08000	482077.06000	499557.96000
GE-2	72	57912.07000	0.00000	0.000	58215.67000	58838.72000	56681.82000
TB-2	159	118914.73000	0.00000	0.000	121139.53000	118984.28000	116620.38000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:59:46
Tube Number: 14 Batch: 171441063901A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19964.97000	0.00000	0.000	19851.44000	19931.79000	20111.69000
AL	27	1887.50500	16014.16000	4.700	1925.69483	1951.04974	1785.76894
CA	44	3908.44200	4817.48000	3.100	3925.69434	3779.49020	4020.14185
CR	52	48.38000	31338.15000	3.700	49.56947	49.27623	46.29294
FE	57	1011.20100	11163.84000	3.100	974.90481	1030.36537	1028.33302
K	39	9576.38600	194831.16000	1.600	9733.34725	9577.39506	9418.41497
MG	24	1954.44800	68895.78000	2.600	2009.47244	1906.91329	1946.95930
MN	55	48.70000	10880.32000	3.600	47.95043	50.69095	47.45993
NA	23	9412.37100	768936.89000	1.000	9456.82176	9479.01646	9301.27580
TI	47	242.26500	2483.59000	6.100	237.40203	258.94767	230.44620
V	51	48.62300	23292.32000	2.800	47.85542	50.17504	47.83800
IN-1	115	372950.85000	0.00000	0.000	369546.28000	377723.57000	371582.69000
IN-2	115	24299.66000	0.00000	0.000	24933.10000	24323.59000	23642.29000
AG	107	51.37300	71096.72000	0.800	51.44454	50.95012	51.72519
AS	75	9.53700	560.68000	7.900	10.39862	9.18492	9.02820
BA	137	49.03300	4987.61000	7.900	48.54430	45.43931	53.11643
CD	111	4.94100	736.69000	5.500	5.24729	4.84225	4.73340
CO	59	251.88100	280756.62000	3.300	243.57464	251.70434	260.36304
CU	63	51.19100	47287.15000	3.700	49.70488	50.57277	53.29531
MO	98	50.30000	35577.44000	2.000	49.54194	49.92148	51.43609
NI	60	49.35200	15994.31000	2.400	48.05566	49.60148	50.39757
RB	85	0.02000	10.00000	564.600	0.15297	-0.04597	-0.04597
SB	121	5.96500	1783.51000	7.100	5.73755	6.45091	5.70698
SE	78	10.28500	1124.26000	0.800	10.27865	10.20662	10.36931
SN	120	50.66400	18730.95000	3.700	49.31975	49.85217	52.82152
SR	88	40.49000	8165.55000	1.200	40.65181	39.93492	40.88240
ZN	66	497.60500	50632.57000	3.000	481.30616	501.60510	509.90401
BI-2	209	90091.02000	0.00000	0.000	88837.68000	90868.95000	90566.44000
PB	208	14.86700	53787.00000	2.800	15.20952	14.99279	14.39750
TL	203	2.03100	2370.27000	4.800	2.09456	2.08173	1.91814
U	238	0.00200	10.00000	267.800	-0.00094	-0.00094	0.00707
SC-1	45	431778.16000	0.00000	0.000	431189.29000	436545.85000	427599.33000
GE-1	72	492154.35000	0.00000	0.000	484823.04000	499564.99000	492075.03000
GE-2	72	57600.82000	0.00000	0.000	59019.21000	56671.14000	57112.12000
TB-2	159	120445.25000	0.00000	0.000	121581.48000	121232.24000	118522.02000

Run Name: 1715106E05
Tube Number: 15
Sample Number: **9006555**

Date/Time: 05/31/2017 12:02:12
Batch: 171441063901A
Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19941.70000	0.00000	0.000	19851.61000	20182.05000	19791.44000
AL	27	191.52300	1650.14000	4.000	188.80488	185.65397	200.10879
CA	44	6137.12400	7551.86000	4.900	6044.39113	6476.46922	5890.51179
CR	52	0.91500	683.37000	5.300	0.86768	0.91237	0.96446
FE	57	12.03100	206.68000	14.200	10.59860	13.92198	11.57157
K	39	437.86400	13331.93000	3.600	453.15369	421.45431	438.98390
MG	24	3690.19800	129906.62000	0.900	3679.97446	3663.74294	3726.87565
MN	55	18.27800	4123.97000	2.500	17.98776	18.80268	18.04342
NA	23	6061.95000	496919.50000	1.300	6092.53386	5974.22971	6119.08685
TI	47	0.31500	6.67000	361.200	-0.34192	-0.34192	1.62866
V	51	0.16000	76.67000	48.200	0.10497	0.24782	0.12635
IN-1	115	376006.64000	0.00000	0.000	387457.96000	362260.75000	378301.22000
IN-2	115	24196.37000	0.00000	0.000	23485.39000	24987.95000	24115.76000
AG	107	0.02200	33.33000	166.800	0.06470	0.00444	-0.00259
AS	75	0.00800	5.33000	646.500	0.02214	-0.05111	0.05398
BA	137	34.57300	3507.18000	7.000	32.41318	34.09485	37.21185
CD	111	0.01800	2.67000	40.100	0.01389	0.02611	0.01353
CO	59	0.95000	1066.74000	10.400	1.06362	0.89426	0.89092
CU	63	3.91800	3683.84000	10.200	3.63199	3.74546	4.37574
MO	98	0.05700	133.34000	30.200	0.07230	0.05995	0.03836
NI	60	0.51000	193.34000	23.700	0.39241	0.63399	0.50441
RB	85	1.23400	186.68000	20.200	1.36209	0.94659	1.39385
SB	121	0.08800	30.00000	115.000	-0.01201	0.08576	0.19062
SE	78	0.19900	23.11000	3.400	0.20704	0.19699	0.19425
SN	120	0.25900	113.34000	47.600	0.17730	0.40066	0.19870
SR	88	16.36100	3290.46000	4.000	15.68982	17.01280	16.37896
ZN	66	12.75900	1440.10000	9.100	12.16739	12.01671	14.09381
BI-2	209	90895.75000	0.00000	0.000	93151.82000	90899.82000	88635.60000
PB	208	0.39300	1540.10000	8.900	0.35839	0.42840	0.39225
TL	203	0.03100	36.67000	16.000	0.03315	0.02548	0.03484
U	238	0.01200	50.00000	76.600	0.01984	0.00172	0.01544
SC-1	45	431440.41000	0.00000	0.000	437822.88000	422896.09000	433602.26000
GE-1	72	494871.10000	0.00000	0.000	509318.78000	481755.50000	493539.02000
GE-2	72	58791.19000	0.00000	0.000	59239.34000	59931.56000	57202.68000
TB-2	159	118487.04000	0.00000	0.000	118419.35000	118854.19000	118187.57000

Run Name: 1715106E05
Tube Number: 16
Sample Number: **9006555**

Date/Time: 05/31/2017 12:04:36
Batch: 171441063901A
Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18987.20000	0.00000	0.000	19290.69000	19080.85000	18590.07000
AL	27	387.23400	3147.06000	2.300	380.16491	384.38006	397.15793
CA	44	6830.13200	7992.09000	6.800	6329.85269	6910.31061	7250.23340
CR	52	4.59000	2910.35000	7.100	4.96742	4.40801	4.39510
FE	57	210.64300	2263.57000	15.600	178.18672	209.80687	243.93471
K	39	835.54700	20198.38000	4.500	796.00967	839.51672	871.11581
MG	24	3936.87100	131910.88000	3.000	3837.23351	3903.44199	4069.93864
MN	55	24.68500	5277.64000	2.400	24.02360	25.14024	24.89257
NA	23	6580.47900	512952.91000	2.700	6407.94545	6565.36244	6768.12775
TI	47	32.29300	316.68000	27.500	23.91987	31.34159	41.61870
V	51	1.15200	526.70000	27.600	1.33954	1.33241	0.78469
IN-1	115	369021.77000	0.00000	0.000	366388.14000	369840.11000	370837.07000
IN-2	115	24043.29000	0.00000	0.000	23272.23000	23994.15000	24863.49000
AG	107	0.98400	1346.77000	15.700	1.03867	1.10250	0.80958
AS	75	4.06400	238.67000	5.800	4.32891	3.88290	3.97928
BA	137	35.41600	3563.86000	7.400	36.40595	37.40063	32.44025
CD	111	1.06700	157.33000	7.000	1.06545	0.99260	1.14160
CO	59	1.85500	2060.19000	1.900	1.88812	1.85816	1.81906
CU	63	7.90900	7301.78000	2.400	7.94518	8.07681	7.70635
MO	98	0.91700	733.38000	7.100	0.96202	0.84295	0.94733
NI	60	4.18700	1370.11000	7.600	3.84903	4.48164	4.23133
RB	85	11.10900	1620.13000	6.200	11.60633	11.39356	10.32847
SB	121	1.99800	596.70000	26.900	1.59787	1.78707	2.60865
SE	78	3.91800	424.45000	2.100	3.91067	4.00335	3.83913
SN	120	4.25100	1566.80000	17.300	4.53046	4.80373	3.41765
SR	88	21.16300	4220.68000	6.800	21.37673	22.49221	19.61969
ZN	66	59.10200	6077.93000	7.100	63.94804	56.48903	56.86931
BI-2	209	88405.22000	0.00000	0.000	87429.17000	89220.05000	88566.44000
PB	208	2.45600	8804.64000	6.800	2.60419	2.27443	2.48866
TL	203	0.89400	1023.41000	5.100	0.94489	0.85669	0.88045
U	238	9.83700	35935.84000	2.800	9.52046	9.99014	10.00069
SC-1	45	427337.28000	0.00000	0.000	428789.80000	429501.63000	423720.42000
GE-1	72	488991.85000	0.00000	0.000	486097.88000	490091.83000	490785.85000
GE-2	72	56019.21000	0.00000	0.000	56259.42000	55617.94000	56180.27000
TB-2	159	117163.52000	0.00000	0.000	115994.72000	116679.88000	118815.97000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:07:02
Tube Number: 17 Batch: 171441063901A
Sample Number: **9006558** Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18820.44000	0.00000	0.000	18249.91000	18820.38000	19391.03000
AL	27	192.13800	1563.46000	2.900	187.60353	190.57476	198.23660
CA	44	6957.32200	8078.83000	1.900	6815.92700	6971.57846	7084.46014
CR	52	1.18200	806.72000	5.500	1.24446	1.18594	1.11489
FE	57	11.87900	193.34000	30.600	14.12353	7.68371	13.82949
K	39	510.02900	13919.09000	8.900	542.70813	529.31019	458.06806
MG	24	3888.98100	129175.31000	1.500	3928.56988	3918.33177	3820.04144
MN	55	17.85900	3800.53000	10.000	17.72118	19.70785	16.14919
NA	23	6511.76700	503078.03000	2.900	6690.68144	6535.30829	6309.31226
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.14700	66.67000	6.300	0.13702	0.15501	0.15045
IN-1	115	370143.78000	0.00000	0.000	374094.80000	364374.80000	371961.74000
IN-2	115	24003.27000	0.00000	0.000	23425.63000	25048.61000	23535.58000
AG	107	0.00700	13.33000	158.900	-0.00259	0.00442	0.01979
AS	75	-0.01400	4.00000	0.000	-0.04888	-0.08453	0.09287
BA	137	33.74200	3393.81000	6.500	31.78171	33.34452	36.09999
CD	111	0.00900	1.33000	173.200	0.00000	0.00000	0.02772
CO	59	0.98600	1100.07000	6.000	1.03846	0.99644	0.92244
CU	63	4.02800	3747.22000	10.200	4.48491	3.68358	3.91512
MO	98	-0.00400	90.00000	0.000	0.04342	-0.00926	-0.04520
NI	60	0.49700	186.68000	16.000	0.42568	0.48237	0.58279
RB	85	1.13700	173.34000	44.800	1.08337	1.67026	0.65653
SB	121	0.05500	20.00000	57.000	0.02275	0.08553	0.05719
SE	78	0.16600	19.11000	19.000	0.19043	0.17704	0.13034
SN	120	0.11700	60.00000	42.000	0.06560	0.16332	0.12095
SR	88	19.09800	3803.90000	3.000	19.64114	18.51184	19.13973
ZN	66	11.00000	1250.10000	11.700	10.87355	9.78572	12.34190
BI-2	209	90372.11000	0.00000	0.000	89469.57000	90004.13000	91642.63000
PB	208	0.39200	1526.75000	10.700	0.40225	0.42741	0.34572
TL	203	0.02600	30.00000	88.100	0.03451	0.04289	0.00000
U	238	0.00800	33.33000	84.900	0.00176	0.01519	0.00698
SC-1	45	425565.55000	0.00000	0.000	427488.31000	423439.33000	425769.02000
GE-1	72	491475.19000	0.00000	0.000	497672.92000	486733.66000	490018.98000
GE-2	72	58102.26000	0.00000	0.000	58456.19000	57483.88000	58366.71000
TB-2	159	120626.38000	0.00000	0.000	120504.08000	118099.72000	123275.33000

Run Name: 1715106E05
Tube Number: 18
Sample Number: **9006556**

Date/Time: 05/31/2017 12:09:33
Batch: 171441063901A
Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19748.06000	0.00000	0.000	19841.62000	19801.42000	19601.14000
AL	27	2103.22000	17649.02000	2.600	2039.60050	2130.76945	2139.29047
CA	44	10262.59100	12494.73000	0.300	10287.98211	10267.86170	10231.92810
CR	52	49.12500	31475.18000	2.800	47.84613	48.96057	50.56772
FE	57	991.52200	10827.02000	5.000	935.90934	1030.76115	1007.89598
K	39	9956.32400	200186.18000	0.800	9869.41781	9978.72316	10020.83228
MG	24	5580.94200	194536.38000	2.300	5467.05296	5559.67967	5716.09299
MN	55	64.20800	14166.03000	2.300	63.39844	63.29991	65.92460
NA	23	15518.31000	1249816.07000	1.600	15281.65270	15506.89126	15766.38639
TI	47	235.73200	2390.24000	10.100	246.36586	208.45487	252.37621
V	51	47.27200	22397.90000	3.700	45.27145	48.50315	48.04124
IN-1	115	364763.01000	0.00000	0.000	364389.80000	361454.73000	368444.49000
IN-2	115	23595.98000	0.00000	0.000	23496.94000	23255.97000	24035.04000
AG	107	51.71400	69473.46000	4.700	50.11689	54.52524	50.49845
AS	75	10.00400	570.01000	6.600	9.33334	10.65175	10.02580
BA	137	87.15500	8612.53000	2.400	89.54872	86.26394	85.65296
CD	111	5.42100	784.02000	2.100	5.54024	5.41527	5.30761
CO	59	255.72000	276936.60000	1.300	252.25499	258.85633	256.04928
CU	63	54.60100	48994.44000	1.800	53.99565	55.74788	54.05907
MO	98	50.20300	34488.34000	2.200	51.41764	49.93404	49.25818
NI	60	52.83300	16631.48000	0.200	52.98030	52.78715	52.73072
RB	85	1.28800	190.01000	43.800	1.92432	1.09161	0.84830
SB	121	7.09900	2060.22000	9.500	6.33167	7.58830	7.37570
SE	78	10.40600	1112.48000	0.800	10.43671	10.46486	10.31563
SN	120	51.90300	18644.24000	2.800	50.29195	53.02065	52.39611
SR	88	57.68600	11297.43000	1.500	56.99657	57.37949	58.68095
ZN	66	536.19200	52983.01000	3.400	521.54971	556.60868	530.41681
BI-2	209	89797.81000	0.00000	0.000	90455.27000	90142.74000	88795.43000
PB	208	15.46200	55753.53000	2.000	15.18850	15.39107	15.80512
TL	203	2.13300	2480.29000	3.800	2.05710	2.12418	2.21731
U	238	0.01800	70.00000	69.500	0.00441	0.02054	0.02904
SC-1	45	428195.75000	0.00000	0.000	424459.60000	428500.81000	431626.83000
GE-1	72	489661.83000	0.00000	0.000	485437.49000	488970.97000	494577.02000
GE-2	72	58079.15000	0.00000	0.000	57022.32000	57905.06000	59310.08000
TB-2	159	118162.01000	0.00000	0.000	116406.42000	117483.57000	120596.05000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:11:58
Tube Number: 19 Batch: 171441063901A
Sample Number: **9006557** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19077.34000	0.00000	0.000	18419.99000	19150.80000	19661.24000
AL	27	2243.61000	18169.58000	5.200	2320.28106	2300.60603	2109.94329
CA	44	10529.09900	12361.36000	8.400	11532.50569	10192.84986	9861.93997
CR	52	49.07900	30352.83000	4.400	51.11301	49.35037	46.77416
FE	57	1082.71500	11400.71000	6.200	1145.18298	1091.69084	1011.27025
K	39	10586.25600	205218.55000	3.300	10984.73061	10375.67316	10398.36551
MG	24	5851.12500	196880.39000	3.800	6081.42947	5838.55629	5633.38925
MN	55	68.71300	14649.89000	3.800	65.97091	71.10260	69.06500
NA	23	16178.41600	1257904.15000	2.600	16487.05434	16355.03200	15693.16173
TI	47	252.53400	2473.60000	5.600	247.40835	268.50658	241.68656
V	51	49.42300	22611.54000	3.000	50.30543	50.23927	47.72420
IN-1	115	369187.67000	0.00000	0.000	365649.49000	375418.80000	366494.71000
IN-2	115	24025.35000	0.00000	0.000	25615.02000	23308.92000	23152.10000
AG	107	51.73800	70637.95000	6.000	48.19561	54.03052	52.98765
AS	75	11.02900	638.69000	4.300	10.57593	11.52317	10.98864
BA	137	87.02300	8729.25000	8.800	78.59571	93.44924	89.02457
CD	111	5.13400	753.36000	11.200	4.57265	5.10903	5.72147
CO	59	256.70200	282438.21000	5.800	239.44657	265.48910	265.16985
CU	63	55.14400	50244.55000	7.800	50.45106	56.16507	58.81606
MO	98	49.33100	34448.22000	4.800	46.60228	50.38274	51.00802
NI	60	51.61000	16508.10000	5.700	48.26997	53.69887	52.86239
RB	85	1.10400	166.67000	39.400	0.98684	1.58555	0.73957
SB	121	6.75100	1993.54000	4.000	6.60209	6.59248	7.05938
SE	78	9.81000	1061.37000	3.100	9.87769	9.48093	10.07238
SN	120	52.42900	19121.32000	7.600	48.00485	53.60642	55.67456
SR	88	57.94200	11527.61000	8.100	53.97704	63.09773	56.75135
ZN	66	530.94800	53326.99000	5.200	499.57478	541.52422	551.74496
BI-2	209	89688.11000	0.00000	0.000	88333.23000	90737.44000	89993.67000
PB	208	15.43500	55593.30000	1.800	15.45803	15.15221	15.69425
TL	203	2.00100	2323.59000	5.700	2.13275	1.94006	1.93036
U	238	0.01600	63.34000	69.000	0.02920	0.00973	0.00982
SC-1	45	427970.66000	0.00000	0.000	427282.69000	432944.37000	423684.92000
GE-1	72	492542.43000	0.00000	0.000	497917.10000	500810.46000	478899.72000
GE-2	72	58761.43000	0.00000	0.000	57945.35000	59149.48000	59189.45000
TB-2	159	118939.84000	0.00000	0.000	119194.67000	118811.32000	118813.53000

Run Name: 1715106E05
Tube Number: 20
Sample Number: **9006555**

Date/Time: 05/31/2017 12:14:22
Batch: 171441063901A
Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18446.71000	0.00000	0.000	18209.90000	18319.79000	18810.44000
AL	27	51.57300	430.04000	32.000	63.75427	58.19342	32.77188
CA	44	1359.64200	1553.47000	7.100	1364.65560	1453.88401	1260.38537
CR	52	0.47600	370.02000	14.800	0.55153	0.41238	0.46356
FE	57	3.38800	103.34000	120.000	1.17003	8.08027	0.91466
K	39	81.43800	5787.79000	34.000	102.52522	91.71860	50.06941
MG	24	767.13300	24997.69000	3.100	757.05032	794.30714	750.04293
MN	55	4.31100	950.07000	9.500	3.87909	4.68860	4.36670
NA	23	1221.50500	97378.24000	2.200	1213.71414	1251.38784	1199.41192
TI	47	1.08400	13.33000	151.000	2.87067	0.72252	-0.34192
V	51	0.02300	10.00000	100.200	0.04577	0.02275	0.00000
IN-1	115	362818.22000	0.00000	0.000	379175.32000	346902.51000	362376.84000
IN-2	115	23671.76000	0.00000	0.000	23845.19000	24025.35000	23144.74000
AG	107	0.01700	26.67000	52.300	0.01214	0.01203	0.02776
AS	75	-0.06100	1.33000	0.000	-0.04951	-0.08453	-0.04845
BA	137	6.86000	683.37000	1.500	6.97752	6.82552	6.77694
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.28200	320.01000	13.800	0.32546	0.25036	0.26978
CU	63	0.69800	710.04000	13.600	0.79213	0.69780	0.60265
MO	98	-0.03600	66.67000	0.000	-0.00302	-0.06132	-0.04372
NI	60	2.23300	730.04000	19.400	2.33741	1.75670	2.60545
RB	85	0.30000	50.00000	115.600	0.64747	0.29812	-0.04597
SB	121	0.03400	13.33000	156.300	-0.01201	0.02188	0.09355
SE	78	0.03800	5.11000	91.500	0.01364	0.02238	0.07752
SN	120	0.29500	123.34000	17.700	0.33938	0.30909	0.23741
SR	88	3.84800	760.04000	8.500	4.02650	4.04629	3.47175
ZN	66	2.29000	373.35000	46.100	1.11717	2.59242	3.16163
BI-2	209	88216.81000	0.00000	0.000	87619.80000	88204.17000	88826.46000
PB	208	0.06700	343.35000	35.000	0.09247	0.06337	0.04586
TL	203	0.00600	6.67000	173.200	0.01762	0.00000	0.00000
U	238	0.00300	13.33000	116.900	-0.00094	0.00454	0.00451
SC-1	45	414741.43000	0.00000	0.000	429945.62000	400361.17000	413917.49000
GE-1	72	482143.20000	0.00000	0.000	498051.71000	465170.93000	483206.95000
GE-2	72	55570.83000	0.00000	0.000	56399.93000	55537.18000	54775.37000
TB-2	159	115940.84000	0.00000	0.000	115934.12000	115440.40000	116447.99000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:16:46
Tube Number: 21 Batch: 171441063901A
Sample Number: **9009421** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	20048.29000	0.00000	0.000	19871.51000	20281.90000	19991.47000
AL	27	3809.88600	32432.52000	1.700	3789.73078	3757.23159	3882.69639
CA	44	42584.65000	52593.52000	2.500	43762.55534	41632.05346	42359.33970
CR	52	3.22300	2183.54000	9.900	3.58897	3.08667	2.99443
FE	57	803.83300	8922.50000	5.800	835.46634	750.16266	825.87095
K	39	2119.35600	46931.13000	2.900	2174.86645	2054.05015	2129.15079
MG	24	19986.96800	707175.54000	2.100	20289.78120	19496.65552	20174.46719
MN	55	5456.01000	1216139.20000	0.700	5470.04083	5415.61425	5482.37426
NA	23	17609.11600	1438957.53000	0.400	17603.52708	17533.12044	17690.70095
TI	47	1.60000	20.00000	122.000	-0.34192	1.58101	3.55980
V	51	1.03300	496.69000	13.900	1.00675	0.90417	1.18833
IN-1	115	369804.72000	0.00000	0.000	366431.91000	379378.27000	363603.98000
IN-2	115	23626.14000	0.00000	0.000	24066.88000	24076.62000	22734.93000
AG	107	0.01000	16.67000	117.200	-0.00259	0.01200	0.02058
AS	75	1.04100	64.00000	24.800	1.26865	1.09469	0.76025
BA	137	14.98200	1486.79000	12.000	13.66234	17.03029	14.25467
CD	111	0.45400	65.33000	29.000	0.35246	0.40652	0.60271
CO	59	67.34600	72978.66000	3.800	65.70327	66.04015	70.29389
CU	63	3.40000	3127.05000	7.500	3.19177	3.32174	3.68540
MO	98	-0.04100	63.33000	0.000	-0.01852	-0.04718	-0.05726
NI	60	34.29200	10810.28000	3.600	33.42885	33.75837	35.68940
RB	85	11.24600	1610.14000	10.600	10.19097	11.01102	12.53637
SB	121	0.01100	6.67000	179.700	0.02183	-0.01201	0.02381
SE	78	1.58800	173.11000	8.200	1.43726	1.66394	1.66144
SN	120	0.20300	90.00000	10.400	0.19920	0.22644	0.18469
SR	88	63.71000	12484.90000	2.200	63.06389	62.73753	65.32718
ZN	66	25.43100	2660.30000	9.700	28.25354	24.36272	23.67690
BI-2	209	89383.13000	0.00000	0.000	88887.13000	90062.95000	89199.32000
PB	208	0.13800	603.36000	18.900	0.14405	0.16117	0.10988
TL	203	0.11500	133.34000	44.200	0.09554	0.07715	0.17311
U	238	0.27200	1006.74000	18.400	0.25779	0.23022	0.32745
SC-1	45	437086.20000	0.00000	0.000	430645.93000	438944.17000	441668.51000
GE-1	72	497082.67000	0.00000	0.000	490552.73000	504010.30000	496684.99000
GE-2	72	58634.81000	0.00000	0.000	57815.36000	58116.43000	59972.64000
TB-2	159	121680.96000	0.00000	0.000	121330.80000	119570.02000	124142.07000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:19:12
Tube Number: 22 Batch: 171441063901A
Sample Number: **9009422** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19564.49000	0.00000	0.000	20652.27000	19160.66000	18880.54000
AL	27	3972.81000	32970.32000	3.300	3837.30096	3982.25955	4098.86945
CA	44	43566.26500	52429.86000	5.200	41138.16738	43992.65138	45567.97580
CR	52	3.51100	2313.56000	3.500	3.50767	3.38870	3.63761
FE	57	761.93600	8242.26000	6.800	702.19787	784.96600	798.64409
K	39	2212.91000	47562.70000	6.100	2080.35799	2352.06944	2206.30271
MG	24	20657.20000	712105.04000	5.500	19355.27655	21295.27538	21321.04770
MN	55	5652.85900	1228109.72000	4.000	5410.90961	5691.95778	5855.70825
NA	23	18280.56200	1455392.74000	4.700	17284.35904	18847.53084	18709.79469
TI	47	3.03100	33.33000	136.300	0.60230	7.79989	0.69090
V	51	0.82800	386.69000	20.400	0.68615	0.78307	1.01542
IN-1	115	372283.04000	0.00000	0.000	371875.23000	371108.06000	373865.83000
IN-2	115	23829.64000	0.00000	0.000	23686.02000	24337.16000	23465.74000
AG	107	0.00700	13.33000	237.000	-0.00259	0.02627	-0.00259
AS	75	1.37300	83.33000	16.700	1.29041	1.63105	1.19656
BA	137	14.75700	1473.46000	13.700	14.28595	13.01951	16.96559
CD	111	0.34200	50.00000	10.700	0.30303	0.37536	0.34759
CO	59	68.34000	74749.52000	0.800	68.82929	67.80554	68.38408
CU	63	3.22100	2997.02000	1.000	3.24457	3.23106	3.18608
MO	98	0.01200	100.00000	450.500	-0.00215	-0.03395	0.07247
NI	60	34.53300	10990.39000	1.600	34.44308	35.12489	34.03117
RB	85	12.28100	1776.83000	1.500	12.38016	12.38744	12.07398
SB	121	0.00000	3.33000	0.000	-0.01201	-0.01201	0.02269
SE	78	1.51700	166.45000	7.600	1.59367	1.57242	1.38417
SN	120	0.10900	56.67000	26.200	0.09213	0.14244	0.09343
SR	88	64.16800	12688.36000	3.600	61.68475	64.49389	66.32495
ZN	66	26.67000	2803.67000	7.100	28.63098	26.54588	24.83178
BI-2	209	87301.89000	0.00000	0.000	85830.74000	89360.26000	86714.66000
PB	208	0.15300	640.03000	2.800	0.15316	0.15709	0.14841
TL	203	0.12900	146.67000	23.600	0.10793	0.16415	0.11575
U	238	0.22700	820.05000	10.600	0.23597	0.19952	0.24473
SC-1	45	437161.20000	0.00000	0.000	436303.55000	431325.03000	443855.03000
GE-1	72	499349.65000	0.00000	0.000	504594.17000	487660.42000	505794.37000
GE-2	72	57982.18000	0.00000	0.000	58727.58000	58035.86000	57183.09000
TB-2	159	121509.05000	0.00000	0.000	120928.13000	120051.94000	123547.08000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:21:35
Tube Number: 23
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19094.03000	0.00000	0.000	18870.46000	19441.15000	18970.49000
AL	27	2380.51000	19307.34000	2.300	2417.35339	2318.35625	2405.81940
CA	44	2354.23300	2543.62000	1.600	2125.34207	2146.23431	2191.12364
CR	52	237.82000	146965.14000	2.500	240.65297	230.87640	241.92919
FE	57	2446.78700	25722.43000	3.400	2536.61058	2373.79188	2429.95772
K	39	2351.12100	49100.26000	1.600	2383.31560	2311.16428	2358.88214
MG	24	2335.12900	78711.16000	2.600	2404.54053	2307.01266	2293.83279
MN	55	243.08000	51665.36000	1.600	241.87536	240.01129	247.35332
NA	23	2377.33500	190323.29000	1.900	2408.60752	2324.56713	2398.82967
TI	47	246.72200	2416.92000	15.200	235.29180	216.33632	288.53876
V	51	237.09000	108598.25000	2.500	238.49886	230.48412	242.28733
IN-1	115	364479.58000	0.00000	0.000	362792.65000	367073.57000	363572.51000
IN-2	115	23790.48000	0.00000	0.000	23874.16000	24077.10000	23420.17000
AG	107	25.58500	34655.81000	4.900	26.10446	24.14522	26.50522
AS	75	243.23000	13862.79000	1.100	241.28074	242.05801	246.35206
BA	137	249.36300	24835.74000	2.200	246.97206	245.58244	255.53530
CD	111	24.69000	3599.73000	3.200	24.38205	24.10886	25.57921
CO	59	249.01900	271849.76000	2.600	244.74100	245.82301	256.49367
CU	63	244.94200	221337.08000	1.200	247.60198	241.91869	245.30389
MO	98	23.56400	16364.99000	5.100	23.87949	22.24579	24.56639
NI	60	246.72200	78204.18000	2.100	240.78598	249.96919	249.41143
RB	85	24.26400	3497.14000	3.000	23.78029	23.92309	25.08952
SB	121	24.01500	7015.02000	6.100	22.88347	23.50296	25.65822
SE	78	24.32400	2597.08000	0.500	24.44738	24.21807	24.30728
SN	120	24.63600	8932.61000	3.400	23.89137	25.54794	24.46763
SR	88	24.50600	4837.53000	6.100	23.61517	23.66645	26.23565
ZN	66	242.07200	24200.41000	2.500	246.67525	235.32414	244.21724
BI-2	209	88146.36000	0.00000	0.000	86785.95000	87528.74000	90124.38000
PB	208	24.52200	86724.37000	2.000	24.83947	24.75723	23.96813
TL	203	24.11700	27530.83000	1.800	24.60004	23.95853	23.79161
U	238	24.40800	88849.47000	2.800	24.92534	24.65523	23.64278
SC-1	45	422210.12000	0.00000	0.000	416910.03000	423966.71000	425753.63000
GE-1	72	486783.27000	0.00000	0.000	482984.09000	483837.92000	493527.81000
GE-2	72	56520.78000	0.00000	0.000	56430.63000	57162.71000	55969.00000
TB-2	159	117967.95000	0.00000	0.000	116557.42000	118713.68000	118632.74000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:23:59
Tube Number: 24
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19003.93000	0.00000	0.000	18299.76000	18309.90000	20402.13000
AL	27	-1.12700	20.00000	0.000	-2.28172	-0.99506	-0.10374
CA	44	19.09900	33.33000	130.200	9.40579	0.52999	47.36142
CR	52	0.42100	346.68000	15.700	0.37919	0.49708	0.38585
FE	57	0.29500	73.33000	931.200	0.13578	3.11520	-2.36682
K	39	-20.13000	4033.95000	0.000	1.95890	-21.23707	-41.11324
MG	24	0.43000	40.00000	288.800	1.71045	-0.76636	0.34443
MN	55	0.01100	70.00000	1145.800	0.12270	-0.12316	0.03303
NA	23	2.53900	6324.63000	139.700	3.75234	5.32118	-1.45645
TI	47	0.01300	3.33000	4632.600	0.72368	-0.34192	-0.34192
V	51	0.04500	20.00000	53.500	0.04555	0.06828	0.02043
IN-1	115	355921.63000	0.00000	0.000	358909.84000	358419.80000	350435.25000
IN-2	115	23198.66000	0.00000	0.000	22844.73000	23114.83000	23636.42000
AG	107	0.00800	13.33000	116.100	0.01278	0.01260	-0.00259
AS	75	0.08300	9.33000	86.600	0.02513	0.05998	0.16277
BA	137	-0.03500	0.00000	0.000	-0.03467	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.03400	50.00000	29.600	0.04458	0.03448	0.02422
CU	63	0.00700	86.67000	507.000	-0.02233	0.04523	-0.00236
MO	98	-0.04800	56.67000	0.000	0.00267	-0.04360	-0.10385
NI	60	0.04300	40.00000	227.200	0.04431	0.14022	-0.05539
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.28000	83.33000	29.700	0.20189	0.26986	0.36701
SE	78	0.03400	4.67000	35.900	0.04669	0.03409	0.02205
SN	120	0.12300	60.00000	37.300	0.09724	0.09556	0.17586
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.11300	36.67000	0.000	-1.17895	-0.76833	-1.39206
BI-2	209	84660.86000	0.00000	0.000	83859.89000	83849.44000	86273.26000
PB	208	-0.01100	63.33000	0.000	-0.01510	-0.01807	-0.00105
TL	203	0.00600	6.67000	86.600	0.00921	0.00000	0.00895
U	238	0.00500	20.00000	58.300	0.00194	0.00483	0.00747
SC-1	45	406866.78000	0.00000	0.000	413847.85000	408690.89000	398061.60000
GE-1	72	471921.15000	0.00000	0.000	482259.60000	471641.09000	461862.77000
GE-2	72	55427.31000	0.00000	0.000	56550.96000	54875.28000	54855.69000
TB-2	159	114412.63000	0.00000	0.000	115179.84000	113867.00000	114191.04000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:26:24
Tube Number: 25 Batch: 171441063901A
Sample Number: **9009423** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19618.09000	0.00000	0.000	18970.74000	20402.31000	19481.21000
AL	27	20.89800	203.34000	7.200	22.52456	19.53825	20.63083
CA	44	107233.05600	129465.00000	4.200	111174.83426	102253.60454	108270.72918
CR	52	0.46400	386.68000	15.600	0.39326	0.46159	0.53784
FE	57	98.31500	1130.08000	18.900	118.91145	93.13225	82.90159
K	39	3352.40400	69947.98000	3.000	3445.99850	3247.66483	3363.54771
MG	24	34734.62000	1201696.52000	3.600	35768.55568	33341.98462	35093.31929
MN	55	2760.16600	601464.17000	4.300	2853.39138	2626.93633	2800.17144
NA	23	21125.78700	1686878.05000	3.100	21458.17898	20367.94213	21551.24125
TI	47	-0.02300	3.33000	0.000	-0.34192	0.61387	-0.34192
V	51	0.47500	223.34000	26.500	0.59317	0.49027	0.34231
IN-1	115	368622.45000	0.00000	0.000	367380.60000	366177.26000	372309.50000
IN-2	115	23726.31000	0.00000	0.000	23966.78000	23816.02000	23396.12000
AG	107	0.00000	3.33000	0.000	-0.00259	-0.00259	0.00491
AS	75	0.10300	10.67000	50.200	0.15936	0.09078	0.05824
BA	137	28.23300	2807.01000	7.100	28.67108	26.04414	29.98380
CD	111	0.16500	24.00000	15.900	0.16335	0.19179	0.13945
CO	59	7.78000	8485.65000	1.200	7.75340	7.88485	7.70052
CU	63	0.27400	330.02000	28.000	0.29313	0.33979	0.18993
MO	98	0.09900	160.01000	53.700	0.03944	0.14174	0.11723
NI	60	4.81000	1546.79000	6.200	4.58087	4.70499	5.14399
RB	85	4.30100	623.37000	9.300	4.02439	4.11965	4.75969
SB	121	0.03400	13.33000	58.200	0.02197	0.05638	0.02280
SE	78	0.53300	58.67000	5.300	0.55971	0.53677	0.50327
SN	120	0.09100	50.00000	108.700	0.11793	0.17419	-0.01856
SR	88	117.65900	23162.53000	0.300	117.24756	117.78763	117.94152
ZN	66	-0.34800	113.34000	0.000	-0.59432	-0.28706	-0.16298
BI-2	209	87228.13000	0.00000	0.000	86996.42000	88826.20000	85861.78000
PB	208	0.00000	103.34000	0.000	-0.00416	-0.01312	0.01652
TL	203	0.06500	73.33000	43.000	0.07099	0.03476	0.08991
U	238	0.60500	2183.58000	2.000	0.61406	0.60956	0.59117
SC-1	45	430273.99000	0.00000	0.000	430724.60000	425252.18000	434845.19000
GE-1	72	494795.72000	0.00000	0.000	496869.76000	487036.01000	500481.40000
GE-2	72	56310.18000	0.00000	0.000	55006.39000	57182.24000	56741.90000
TB-2	159	118850.80000	0.00000	0.000	121826.51000	116124.31000	118601.58000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:28:49
Tube Number: 26 Batch: 171441063901A
Sample Number: **9009424** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19738.08000	0.00000	0.000	19220.87000	19951.52000	20041.86000
AL	27	141.92100	1216.76000	16.300	153.41780	157.11913	115.22694
CA	44	125836.26300	152938.49000	3.300	130591.23577	122567.65697	124349.89740
CR	52	0.62700	493.36000	24.100	0.57925	0.50627	0.79637
FE	57	269.22400	2993.69000	2.600	261.28483	271.54801	274.84020
K	39	3567.14200	74606.19000	3.200	3697.90950	3517.00976	3486.50568
MG	24	42532.04100	1481254.14000	2.300	43632.43377	42176.60440	41787.08435
MN	55	1855.16200	407085.35000	2.100	1884.06082	1870.20257	1811.22187
NA	23	26044.11000	2091970.70000	1.200	26330.42597	26084.67833	25717.22693
TI	47	-0.01800	3.33000	0.000	-0.34192	-0.34192	0.63106
V	51	0.56200	266.68000	29.700	0.49872	0.75203	0.43670
IN-1	115	369677.08000	0.00000	0.000	373136.41000	368765.39000	367129.45000
IN-2	115	24307.09000	0.00000	0.000	23996.81000	24026.70000	24897.77000
AG	107	0.01200	20.00000	58.800	0.01204	0.00472	0.01857
AS	75	0.05500	8.00000	254.900	0.05466	0.19351	-0.08453
BA	137	24.99500	2543.64000	11.400	25.05108	27.80430	22.12871
CD	111	0.09800	14.67000	51.400	0.04079	0.13579	0.11793
CO	59	2.87400	3220.41000	5.500	3.01132	2.69916	2.91066
CU	63	0.30600	366.69000	1.300	0.30362	0.30313	0.31048
MO	98	0.06600	140.00000	41.300	0.09662	0.05333	0.04681
NI	60	2.43600	816.72000	3.900	2.35338	2.53786	2.41590
RB	85	5.62600	833.39000	17.100	4.84616	6.69825	5.33333
SB	121	0.01000	6.67000	188.800	-0.01201	0.02188	0.02070
SE	78	0.31600	35.33000	10.400	0.29465	0.35383	0.29964
SN	120	0.08000	46.67000	72.200	0.03553	0.14489	0.05896
SR	88	117.53500	23700.02000	1.800	117.50462	119.66843	115.43245
ZN	66	0.48500	200.01000	133.700	1.00091	0.69888	-0.24332
BI-2	209	90056.88000	0.00000	0.000	89479.24000	92086.26000	88605.15000
PB	208	0.05100	293.35000	65.200	0.08992	0.03505	0.02916
TL	203	0.07100	83.33000	34.300	0.04314	0.08384	0.08713
U	238	0.89300	3327.15000	5.200	0.84322	0.93502	0.90074
SC-1	45	423394.10000	0.00000	0.000	428571.60000	420923.27000	420687.42000
GE-1	72	487853.79000	0.00000	0.000	494680.38000	486057.84000	482823.16000
GE-2	72	58691.03000	0.00000	0.000	58727.42000	58095.53000	59250.13000
TB-2	159	121862.14000	0.00000	0.000	119990.98000	124575.32000	121020.12000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:31:14
Tube Number: 27 Batch: 171501063902A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19798.17000	0.00000	0.000	20162.19000	19851.51000	19380.80000
AL	27	3.14500	56.67000	84.500	4.61392	4.74200	0.07891
CA	44	7.95900	20.00000	99.100	15.81840	8.01895	0.04010
CR	52	0.45500	383.35000	9.600	0.40749	0.46284	0.49353
FE	57	-1.28500	60.00000	0.000	-3.21678	-1.32585	0.68677
K	39	-7.29300	4470.73000	0.000	-5.90109	-8.91084	-7.06569
MG	24	2.67200	120.00000	49.300	1.48166	4.08574	2.44930
MN	55	-0.06300	56.67000	0.000	0.03723	-0.13842	-0.08761
NA	23	1.42300	6514.75000	283.600	3.14219	4.31438	-3.18790
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.00700	3.33000	173.200	0.00000	0.02099	0.00000
IN-1	115	375005.41000	0.00000	0.000	371506.51000	376686.22000	376823.51000
IN-2	115	23910.17000	0.00000	0.000	23305.68000	24958.31000	23466.53000
AG	107	0.00500	10.00000	153.200	-0.00259	0.01148	0.00489
AS	75	-0.01500	4.00000	0.000	-0.01287	-0.01761	-0.01336
BA	137	0.09900	13.33000	157.700	-0.03467	0.06103	0.27069
CD	111	0.00500	0.67000	173.200	0.01400	0.00000	0.00000
CO	59	-0.00300	10.00000	0.000	0.01540	-0.01265	-0.01265
CU	63	0.05300	130.00000	116.900	0.03281	0.00347	0.12175
MO	98	-0.04100	63.33000	0.000	-0.01479	-0.07780	-0.03027
NI	60	0.07200	50.00000	203.300	0.04171	-0.05707	0.23279
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.00000	3.33000	0.000	0.02293	-0.01201	-0.01201
SE	78	-0.00400	0.67000	0.000	-0.00425	0.00165	-0.01041
SN	120	0.20100	90.00000	28.800	0.26365	0.19042	0.14946
SR	88	0.10000	23.33000	129.700	-0.01778	0.07881	0.23905
ZN	66	-1.22700	26.67000	0.000	-1.28790	-1.20558	-1.18728
BI-2	209	90490.09000	0.00000	0.000	90255.88000	89580.29000	91634.10000
PB	208	-0.01500	53.33000	0.000	-0.01891	-0.01048	-0.01636
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	-0.00100	0.00000	0.000	-0.00094	-0.00094	-0.00094
SC-1	45	432038.86000	0.00000	0.000	425820.38000	434529.92000	435766.28000
GE-1	72	492128.81000	0.00000	0.000	483492.02000	494439.41000	498454.99000
GE-2	72	58567.78000	0.00000	0.000	58116.25000	57865.25000	59721.84000
TB-2	159	122145.17000	0.00000	0.000	122077.31000	121233.46000	123124.73000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:33:39
Tube Number: 28 Batch: 171501063902A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	20098.56000	0.00000	0.000	19481.12000	20532.56000	20281.99000
AL	27	1905.98700	16277.76000	2.700	1924.81328	1847.90598	1945.24179
CA	44	3702.18700	4587.45000	8.000	4008.85161	3415.59822	3682.11191
CR	52	47.32200	30850.44000	3.300	48.95654	47.13587	45.87262
FE	57	992.99700	11033.76000	1.800	1011.33707	992.03137	975.62256
K	39	9536.74400	195283.51000	2.200	9775.31847	9428.33306	9406.57942
MG	24	1911.25600	67818.41000	2.000	1918.64387	1870.19071	1944.93337
MN	55	48.74900	10957.03000	4.700	51.17804	48.40925	46.65931
NA	23	9375.07800	770558.90000	3.900	9791.91170	9192.32063	9141.00039
TI	47	229.61500	2370.26000	4.800	225.90460	220.96790	241.97263
V	51	47.93100	23112.19000	1.800	48.48677	48.34141	46.96332
IN-1	115	372868.02000	0.00000	0.000	380789.53000	373088.38000	364726.16000
IN-2	115	23840.87000	0.00000	0.000	23237.89000	23949.79000	24334.92000
AG	107	52.61900	71411.15000	3.500	54.46860	52.59189	50.79654
AS	75	10.38800	598.02000	2.000	10.40874	10.16639	10.58768
BA	137	52.69600	5257.68000	6.800	56.50950	52.13441	49.44328
CD	111	5.14700	752.69000	3.900	4.99829	5.06768	5.37627
CO	59	254.07200	277931.22000	2.000	258.90055	254.72340	248.59176
CU	63	51.86800	47015.85000	3.000	53.24612	52.14561	50.21253
MO	98	50.75000	35209.73000	4.200	52.30429	51.59501	48.35180
NI	60	50.48000	16044.36000	5.400	53.60445	49.12253	48.71361
RB	85	0.07000	16.67000	59.500	0.09633	0.09210	0.02197
SB	121	6.09300	1786.83000	3.200	6.22704	5.87152	6.18012
SE	78	10.02000	1094.48000	6.100	9.82535	9.53408	10.70180
SN	120	51.92800	18840.87000	2.100	53.03333	51.92240	50.82953
SR	88	39.36400	7788.65000	0.600	39.62181	39.19904	39.27209
ZN	66	505.67000	50502.61000	1.000	509.10255	499.82932	508.07774
BI-2	209	90161.69000	0.00000	0.000	89883.31000	92337.96000	88263.80000
PB	208	15.12500	54761.95000	1.300	15.28820	14.89987	15.18711
TL	203	1.89600	2213.58000	4.500	1.98428	1.81448	1.88947
U	238	0.00100	6.67000	358.100	-0.00094	-0.00094	0.00454
SC-1	45	427783.43000	0.00000	0.000	435010.35000	425533.94000	422806.01000
GE-1	72	497458.24000	0.00000	0.000	501388.43000	497806.09000	493180.19000
GE-2	72	57982.22000	0.00000	0.000	58668.09000	58537.30000	56741.28000
TB-2	159	119458.43000	0.00000	0.000	117836.06000	123054.33000	117484.91000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:36:03
Tube Number: 29 Batch: 171501063902A
Sample Number: **LCSWD** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19234.31000	0.00000	0.000	19030.69000	19531.26000	19140.97000
AL	27	2025.93900	16557.99000	1.700	2053.53311	1986.30467	2037.97935
CA	44	3775.28200	4484.03000	5.300	3856.42987	3923.66836	3545.74886
CR	52	50.41500	31465.13000	0.800	50.00562	50.84370	50.39588
FE	57	1072.98700	11407.26000	1.600	1055.53626	1073.07585	1090.34774
K	39	10174.28300	199120.09000	1.900	10334.75122	9958.31747	10229.78165
MG	24	2080.05700	70638.59000	0.600	2083.60127	2066.55330	2090.01532
MN	55	49.60300	10676.89000	3.400	47.80947	49.89390	51.10588
NA	23	9906.85900	779381.26000	0.600	9975.21286	9852.75405	9892.61122
TI	47	265.88600	2626.95000	7.400	271.22807	282.24042	244.18901
V	51	49.50600	22848.55000	2.400	50.46776	49.90090	48.14977
IN-1	115	368797.01000	0.00000	0.000	370877.36000	364427.41000	371086.25000
IN-2	115	24254.13000	0.00000	0.000	24864.45000	24507.92000	23390.02000
AG	107	51.68500	71367.93000	2.800	50.03291	52.48133	52.53955
AS	75	9.62700	564.68000	7.900	10.49473	9.04706	9.34069
BA	137	52.53500	5334.40000	4.300	49.92800	53.57843	54.09866
CD	111	5.22100	776.69000	11.700	5.82606	4.60615	5.23080
CO	59	254.30500	282931.75000	3.200	245.22541	256.71862	260.97240
CU	63	51.83000	47794.27000	2.300	50.75475	51.64534	53.09111
MO	98	50.07700	35333.74000	4.400	48.72210	48.88324	52.62670
NI	60	50.53400	16334.57000	5.300	48.61156	49.38060	53.60887
RB	85	0.06800	16.67000	60.800	0.02052	0.08895	0.09540
SB	121	6.04500	1803.51000	6.000	5.72060	6.43559	5.97754
SE	78	10.11900	1093.81000	4.300	10.50572	10.21073	9.64079
SN	120	51.94600	19167.91000	3.500	51.46673	50.39000	53.98229
SR	88	39.46800	7935.42000	5.900	37.22330	39.28990	41.89066
ZN	66	514.22300	52213.67000	3.300	496.45202	516.43198	529.78580
BI-2	209	89533.57000	0.00000	0.000	90878.10000	89671.04000	88051.58000
PB	208	15.31000	55045.81000	3.000	14.84269	15.77041	15.31746
TL	203	2.05700	2383.61000	8.000	1.86910	2.12675	2.17465
U	238	-0.00100	0.00000	0.000	-0.00094	-0.00094	-0.00094
SC-1	45	423182.87000	0.00000	0.000	429855.77000	417617.49000	422075.35000
GE-1	72	480435.77000	0.00000	0.000	487837.10000	472516.09000	480954.13000
GE-2	72	57086.10000	0.00000	0.000	57855.11000	58186.32000	55216.88000
TB-2	159	119841.23000	0.00000	0.000	120204.24000	119719.63000	119599.83000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:38:27
Tube Number: 30 Batch: 171501063902A
Sample Number: **8996725** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19711.30000	0.00000	0.000	19951.62000	19971.42000	19210.85000
AL	27	101.74700	883.39000	21.800	115.76544	113.28540	76.18887
CA	44	40.56300	60.00000	86.900	56.75551	64.81935	0.11420
CR	52	0.58800	466.69000	10.900	0.56823	0.53657	0.66008
FE	57	110.08500	1266.76000	6.200	113.64319	114.43545	102.17523
K	39	17.47200	4937.53000	95.300	35.82219	3.33145	13.26233
MG	24	22.04800	793.38000	5.000	22.52080	20.79502	22.82862
MN	55	9.39500	2130.22000	4.100	9.64440	9.58953	8.95157
NA	23	100.07100	14356.08000	14.200	93.74605	90.11593	116.34985
TI	47	2.28900	26.67000	48.400	3.56760	1.61090	1.68821
V	51	0.22700	106.67000	30.900	0.20888	0.16694	0.30374
IN-1	115	375357.90000	0.00000	0.000	373363.23000	383015.12000	369695.36000
IN-2	115	24099.18000	0.00000	0.000	25177.57000	23685.46000	23434.51000
AG	107	0.00700	13.33000	159.100	0.00438	0.01965	-0.00259
AS	75	1.18300	73.33000	30.900	1.37479	0.76161	1.41206
BA	137	0.46400	50.00000	25.000	0.34480	0.46955	0.57688
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.12700	153.34000	42.000	0.07389	0.18054	0.12682
CU	63	0.21900	283.34000	31.200	0.18048	0.29768	0.17823
MO	98	-0.02600	73.34000	0.000	-0.11931	0.01241	0.02865
NI	60	2.25500	750.05000	14.600	2.06003	2.06847	2.63624
RB	85	0.11200	23.33000	87.200	0.21670	0.09364	0.02458
SB	121	0.20400	63.33000	37.600	0.11738	0.26307	0.23126
SE	78	0.02400	3.78000	128.400	0.05664	0.01929	-0.00422
SN	120	0.47300	190.01000	34.300	0.42340	0.34198	0.65475
SR	88	0.20000	43.33000	59.800	0.12584	0.33846	0.13653
ZN	66	11.64400	1323.43000	5.000	12.01014	11.95102	10.97102
BI-2	209	89715.81000	0.00000	0.000	88525.73000	90024.89000	90596.81000
PB	208	0.59500	2246.82000	3.600	0.59288	0.57419	0.61719
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00100	6.67000	359.300	0.00452	-0.00094	-0.00094
SC-1	45	428892.21000	0.00000	0.000	423008.98000	438497.42000	425170.23000
GE-1	72	491650.29000	0.00000	0.000	485008.98000	504180.93000	485760.97000
GE-2	72	57326.68000	0.00000	0.000	57795.09000	57032.37000	57152.59000
TB-2	159	119648.15000	0.00000	0.000	118953.24000	121672.00000	118319.22000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:40:51
Tube Number: 31
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19010.62000	0.00000	0.000	19481.26000	17839.32000	19711.29000
AL	27	195.99900	1596.80000	22.800	168.25782	247.50624	172.23424
CA	44	365.08500	436.69000	4.600	349.99473	382.97567	362.28430
CR	52	4.56600	2897.00000	8.800	4.13982	4.62076	4.93679
FE	57	206.53300	2220.22000	9.900	193.20399	229.98799	196.40828
K	39	406.33400	12094.39000	8.500	374.82179	443.29043	400.88849
MG	24	201.88600	6784.87000	6.300	193.54825	216.51804	195.59293
MN	55	4.25700	963.40000	12.300	4.15911	4.82354	3.78743
NA	23	400.32000	36984.29000	3.500	396.01249	416.11483	388.83234
TI	47	30.07100	296.68000	20.900	23.68254	30.26728	36.26401
V	51	0.99100	453.36000	13.200	0.91993	0.91116	1.14179
IN-1	115	364534.21000	0.00000	0.000	366452.49000	363750.59000	363399.56000
IN-2	115	23727.22000	0.00000	0.000	23162.06000	24349.83000	23669.76000
AG	107	1.02600	1390.11000	1.500	1.01331	1.04308	1.02119
AS	75	3.81400	221.33000	6.800	4.09753	3.58489	3.76088
BA	137	4.27000	426.69000	15.200	5.01855	3.88923	3.90106
CD	111	1.02700	149.33000	7.400	1.02826	0.95130	1.10269
CO	59	1.19400	1313.43000	10.100	1.30443	1.21335	1.06443
CU	63	4.47200	4113.93000	5.500	4.40047	4.74389	4.27072
MO	98	0.87400	693.38000	6.500	0.93749	0.82869	0.85632
NI	60	4.24900	1370.10000	5.100	4.41883	4.32240	4.00499
RB	85	1.96900	290.01000	31.800	1.95281	2.60228	1.35113
SB	121	2.10600	616.70000	6.500	2.06268	1.99492	2.25910
SE	78	4.09500	438.23000	1.600	4.15228	4.02050	4.11207
SN	120	4.72700	1720.16000	11.000	4.92127	4.13883	5.12031
SR	88	2.30400	456.69000	5.400	2.37627	2.16044	2.37580
ZN	66	30.98100	3217.09000	3.800	32.31045	30.56340	30.06780
BI-2	209	87074.11000	0.00000	0.000	87086.98000	87620.51000	86514.84000
PB	208	2.06900	7327.62000	4.900	1.95838	2.15415	2.09555
TL	203	1.18500	1336.79000	12.700	1.34758	1.04857	1.16014
U	238	0.93300	3357.15000	7.100	0.89699	0.89152	1.00928
SC-1	45	415965.44000	0.00000	0.000	418198.98000	416273.04000	413424.29000
GE-1	72	480153.20000	0.00000	0.000	489515.93000	470691.28000	480252.38000
GE-2	72	54511.17000	0.00000	0.000	55397.35000	54223.80000	53912.37000
TB-2	159	116736.29000	0.00000	0.000	119015.49000	117019.95000	114173.43000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:43:14
Tube Number: 32
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17826.15000	0.00000	0.000	17429.21000	18239.96000	17809.28000
AL	27	103057.83400	779087.64000	3.100	104775.99211	99384.00502	105013.50505
CA	44	265826.80600	291817.63000	2.300	270829.69982	259146.62810	267504.08867
CR	52	3.09300	1866.84000	6.000	3.26083	3.12637	2.89305
FE	57	249615.20800	2443234.44000	1.800	253360.69700	244572.30880	250912.61789
K	39	100351.43000	1783080.55000	2.200	102266.95236	97901.51998	100885.81746
MG	24	98377.33900	3094650.06000	1.600	99309.81405	96520.23920	99301.96410
MN	55	1.50400	360.01000	37.700	2.15753	1.20907	1.14503
NA	23	249923.18900	18075125.98000	3.100	256748.09296	241404.87822	251616.59587
TI	47	2035.20100	18603.53000	1.600	2072.87101	2009.61732	2023.11325
V	51	0.16400	70.00000	76.300	0.26305	0.20564	0.02340
IN-1	115	338620.78000	0.00000	0.000	330817.92000	340287.06000	344757.36000
IN-2	115	21702.53000	0.00000	0.000	20541.07000	22332.79000	22233.73000
AG	107	0.24600	306.68000	23.700	0.27951	0.28046	0.17905
AS	75	0.29200	19.33000	59.600	0.44395	0.10243	0.32860
BA	137	3.82900	350.02000	10.400	4.26796	3.49496	3.72554
CD	111	0.20300	27.33000	39.800	0.11118	0.26296	0.23478
CO	59	3.06800	3077.04000	8.600	2.76678	3.25615	3.18250
CU	63	1.96100	1686.82000	8.500	2.15243	1.85446	1.87497
MO	98	2065.15900	1299809.43000	4.700	2173.97815	1990.29156	2031.20665
NI	60	1.51000	460.02000	13.200	1.74050	1.39213	1.39872
RB	85	0.16000	26.67000	111.800	0.27599	0.25016	-0.04597
SB	121	0.03700	13.33000	152.200	-0.01201	0.02445	0.09788
SE	78	0.08800	9.78000	6.300	0.09283	0.08995	0.08202
SN	120	0.17600	73.34000	75.800	0.17739	0.04166	0.30822
SR	88	3.58200	650.04000	14.900	3.20988	4.19244	3.34371
ZN	66	3.05300	413.35000	17.900	2.58616	3.65247	2.92165
BI-2	209	79742.17000	0.00000	0.000	79064.33000	80151.43000	80010.74000
PB	208	0.27400	970.04000	11.300	0.30767	0.26574	0.24755
TL	203	0.01300	13.33000	86.600	0.00000	0.01926	0.01930
U	238	0.01600	56.67000	94.600	0.03274	0.00208	0.01418
SC-1	45	392038.52000	0.00000	0.000	389609.41000	392223.82000	394282.34000
GE-1	72	453732.04000	0.00000	0.000	444250.38000	453267.42000	463678.31000
GE-2	72	53715.10000	0.00000	0.000	54534.12000	53511.30000	53099.87000
TB-2	159	109224.49000	0.00000	0.000	110033.28000	109097.19000	108543.01000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:45:38
Tube Number: 33
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18002.93000	0.00000	0.000	18209.83000	17479.03000	18319.94000
AL	27	103443.61700	789730.74000	2.600	102124.52870	106549.75819	101656.56479
CA	44	266392.70100	295347.07000	1.800	264294.29550	271949.86368	262933.94253
CR	52	205.50400	119727.17000	2.700	202.19934	211.84951	202.46298
FE	57	245974.56600	2431543.04000	1.600	242791.40090	250218.57261	244913.72399
K	39	100654.35700	1805804.45000	3.300	99918.93343	104269.64881	97774.48992
MG	24	98954.11100	3142772.04000	3.100	96623.46301	102454.92097	97783.94944
MN	55	207.71400	41628.97000	1.500	205.25130	211.26657	206.62524
NA	23	250048.93600	18264096.81000	2.700	244923.82060	257773.16516	247449.82228
TI	47	2118.31900	19551.06000	2.600	2085.81976	2183.06418	2086.07237
V	51	205.91000	88922.06000	1.900	205.78178	209.80592	202.14303
IN-1	115	345418.86000	0.00000	0.000	349457.30000	350509.60000	336289.67000
IN-2	115	22601.81000	0.00000	0.000	22364.87000	22825.23000	22615.33000
AG	107	50.45100	64939.23000	1.400	50.99877	49.62319	50.73050
AS	75	104.09800	5638.93000	2.100	106.26995	101.92910	104.09478
BA	137	3.66300	350.02000	9.700	3.27619	3.73275	3.97894
CD	111	99.46200	13780.18000	0.700	100.27285	98.89410	99.21991
CO	59	203.67600	211276.69000	1.200	204.86437	200.97402	205.18835
CU	63	198.64800	170550.40000	0.900	200.71157	198.19930	197.03213
MO	98	1999.10100	1312202.45000	0.800	2001.43725	1982.38599	2013.47855
NI	60	199.50500	60081.17000	1.700	202.98850	199.48477	196.04280
RB	85	0.17400	30.00000	43.000	0.24974	0.17134	0.10025
SB	121	0.12100	36.67000	76.100	0.20648	0.02367	0.13204
SE	78	98.56500	9968.35000	1.600	96.92179	98.63254	100.14153
SN	120	0.09900	50.00000	50.900	0.07093	0.06856	0.15684
SR	88	3.05800	576.70000	15.900	2.89278	2.67565	3.60684
ZN	66	100.24600	9606.30000	2.200	97.76849	102.06287	100.90563
BI-2	209	80984.92000	0.00000	0.000	80854.88000	81065.29000	81034.60000
PB	208	0.30200	1076.72000	5.100	0.28477	0.31473	0.30562
TL	203	0.00300	3.33000	173.200	0.00000	0.00000	0.00953
U	238	0.01200	43.33000	62.800	0.02001	0.00503	0.01100
SC-1	45	402142.10000	0.00000	0.000	403288.94000	409218.82000	393918.55000
GE-1	72	465371.67000	0.00000	0.000	461199.17000	483325.07000	451590.77000
GE-2	72	54865.46000	0.00000	0.000	54554.55000	55045.93000	54995.91000
TB-2	159	109081.91000	0.00000	0.000	110396.27000	108213.69000	108635.77000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:48:02
Tube Number: 34
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18426.65000	0.00000	0.000	18419.99000	17649.08000	19210.88000
AL	27	8.27600	93.34000	43.300	6.66764	5.77923	12.38239
CA	44	45.23100	60.00000	102.300	0.47700	92.85050	42.36500
CR	52	0.46500	363.35000	14.800	0.54359	0.41601	0.43482
FE	57	10.38700	173.34000	54.800	15.90703	10.71018	4.54439
K	39	-9.03700	4117.30000	0.000	2.05464	7.82094	-36.98783
MG	24	2.96300	120.00000	46.900	2.92461	4.37022	1.59298
MN	55	-0.18700	26.67000	0.000	-0.22199	-0.06484	-0.27283
NA	23	19.67700	7415.07000	24.000	20.60756	23.86783	14.55617
TI	47	0.33500	6.67000	350.100	-0.34192	-0.34192	1.68821
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	360166.56000	0.00000	0.000	360592.44000	352038.77000	367868.48000
IN-2	115	22601.85000	0.00000	0.000	22374.96000	22505.23000	22925.36000
AG	107	0.00800	13.33000	152.000	0.00526	-0.00259	0.02039
AS	75	-0.02300	3.33000	0.000	-0.08453	0.02678	-0.01168
BA	137	-0.03500	0.00000	0.000	-0.03467	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.02000	33.33000	77.000	0.03604	0.01639	0.00636
CU	63	0.05600	126.67000	91.100	0.00266	0.06063	0.10381
MO	98	1.37500	990.07000	3.100	1.32914	1.41248	1.38416
NI	60	-0.06500	6.67000	0.000	-0.05360	-0.08715	-0.05440
RB	85	0.00300	6.67000	2591.800	0.10182	-0.04597	-0.04597
SB	121	0.00000	3.33000	0.000	-0.01201	-0.01201	0.02351
SE	78	0.05500	6.89000	26.500	0.05276	0.04130	0.07008
SN	120	0.04100	30.00000	189.800	0.12964	0.01177	-0.01798
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.42400	6.67000	0.000	-1.49335	-1.49335	-1.28449
BI-2	209	84286.38000	0.00000	0.000	80804.76000	84503.89000	87550.49000
PB	208	-0.01600	46.67000	0.000	-0.01762	-0.00635	-0.02427
TL	203	0.00300	3.33000	173.200	0.00000	0.00914	0.00000
U	238	-0.00100	0.00000	0.000	-0.00094	-0.00094	-0.00094
SC-1	45	407976.50000	0.00000	0.000	411335.78000	397115.38000	415478.35000
GE-1	72	470880.24000	0.00000	0.000	478447.22000	460416.52000	473776.99000
GE-2	72	55213.40000	0.00000	0.000	53711.90000	55788.63000	56139.66000
TB-2	159	113245.38000	0.00000	0.000	111050.83000	113790.15000	114895.15000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:50:26
Tube Number: 35
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18723.49000	0.00000	0.000	18900.36000	18389.84000	18880.28000
AL	27	2350.48200	18700.09000	2.200	2409.77458	2333.06729	2308.60356
CA	44	2276.34300	2636.96000	8.100	2276.59430	2092.80510	2459.62814
CR	52	238.12500	144311.07000	1.700	235.40914	242.72963	236.23764
FE	57	2436.27300	25114.85000	3.500	2427.41698	2525.75159	2355.64998
K	39	2389.27200	48849.36000	3.500	2331.70005	2484.06286	2352.05285
MG	24	2396.87500	79227.22000	1.100	2389.02512	2426.58857	2375.01091
MN	55	239.61200	49930.25000	3.000	236.05179	247.91208	234.87175
NA	23	2356.94000	185071.42000	2.600	2305.76714	2424.21078	2340.84072
TI	47	227.96400	2190.22000	8.500	213.24935	249.93530	220.70846
V	51	240.54500	108034.55000	3.100	234.37705	248.94937	238.30901
IN-1	115	366699.90000	0.00000	0.000	366045.27000	372174.13000	361880.29000
IN-2	115	23122.78000	0.00000	0.000	23174.28000	23552.27000	22641.78000
AG	107	25.70100	33844.04000	1.700	25.26818	25.68407	26.14991
AS	75	245.47400	13593.23000	3.600	241.10586	239.75389	255.56161
BA	137	252.78300	24471.85000	0.900	252.36501	250.85397	255.13028
CD	111	25.27000	3581.73000	0.900	25.03401	25.31114	25.46412
CO	59	253.02100	268485.91000	1.600	255.88167	248.38504	254.79690
CU	63	250.13400	219635.60000	2.100	248.07524	246.27617	256.05193
MO	98	25.39700	17142.28000	4.000	26.53817	24.61767	25.03442
NI	60	253.95900	78227.15000	1.500	251.57040	252.01714	258.29080
RB	85	24.99600	3503.82000	5.700	23.78627	26.56377	24.63915
SB	121	26.12700	7421.91000	0.700	26.10670	26.31003	25.96534
SE	78	23.88800	2565.52000	3.000	23.50224	23.45162	24.71044
SN	120	25.07400	8829.27000	6.000	23.87637	24.58188	26.76362
SR	88	25.21700	4844.19000	11.500	22.40382	28.18741	25.06111
ZN	66	247.90400	24083.67000	1.800	243.72161	247.21989	252.77077
BI-2	209	86185.79000	0.00000	0.000	87508.64000	86404.25000	84644.48000
PB	208	24.74700	85585.11000	1.200	24.52557	24.63669	25.07895
TL	203	24.50800	27354.03000	2.200	24.25546	24.13623	25.13123
U	238	24.59600	87555.47000	2.600	23.86816	24.98475	24.93461
SC-1	45	421283.76000	0.00000	0.000	415793.67000	426720.54000	421337.06000
GE-1	72	485600.42000	0.00000	0.000	474316.87000	494885.50000	487598.90000
GE-2	72	55279.97000	0.00000	0.000	54434.05000	56450.26000	54955.61000
TB-2	159	116903.40000	0.00000	0.000	116386.54000	118560.73000	115762.93000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:52:50
Tube Number: 36
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18489.96000	0.00000	0.000	17969.54000	18369.76000	19130.58000
AL	27	2.37300	46.67000	123.600	4.30075	-1.00345	3.82308
CA	44	12.18100	23.33000	42.900	9.73183	18.17527	8.63529
CR	52	0.31400	273.35000	15.600	0.35441	0.32673	0.25953
FE	57	2.44700	93.34000	179.700	7.35761	1.10042	-1.11846
K	39	-3.28200	4240.67000	0.000	15.81619	0.51086	-26.17303
MG	24	1.79000	83.34000	11.500	1.75597	2.00974	1.60318
MN	55	-0.12500	40.00000	0.000	-0.01933	-0.27069	-0.08457
NA	23	6.64500	6478.05000	59.600	2.12953	8.26576	9.53853
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.01500	6.67000	173.200	0.00000	0.04537	0.00000
IN-1	115	355061.05000	0.00000	0.000	357542.90000	358056.95000	349583.30000
IN-2	115	22801.68000	0.00000	0.000	23385.14000	21554.06000	23465.83000
AG	107	0.01300	20.00000	123.000	-0.00259	0.02999	0.01237
AS	75	0.11000	10.67000	45.200	0.16543	0.07044	0.09340
BA	137	-0.00100	3.33000	0.000	0.06747	-0.03467	-0.03467
CD	111	0.01900	2.67000	86.600	0.02790	0.00000	0.02781
CO	59	0.04100	56.67000	7.300	0.04325	0.03789	0.04306
CU	63	0.06800	140.00000	92.600	0.06617	0.00625	0.13298
MO	98	0.14400	183.34000	36.500	0.19098	0.15459	0.08714
NI	60	-0.03300	16.67000	0.000	0.04127	-0.05232	-0.08715
RB	85	0.00100	6.67000	7013.100	0.09543	-0.04597	-0.04597
SB	121	0.28100	83.34000	66.800	0.47560	0.10134	0.26564
SE	78	0.02600	3.78000	95.400	0.01510	0.00867	0.05475
SN	120	0.18000	76.67000	99.300	0.12203	0.38041	0.03739
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.18400	30.00000	0.000	-1.08384	-1.38227	-1.08525
BI-2	209	84668.35000	0.00000	0.000	82503.84000	86796.75000	84704.46000
PB	208	-0.00700	76.67000	0.000	-0.00880	-0.00410	-0.00935
TL	203	0.00600	6.67000	86.600	0.00936	0.00000	0.00911
U	238	0.00100	6.67000	334.800	0.00492	-0.00094	-0.00094
SC-1	45	406262.40000	0.00000	0.000	413256.71000	406910.62000	398619.88000
GE-1	72	471143.76000	0.00000	0.000	487539.84000	466163.90000	459727.53000
GE-2	72	54775.44000	0.00000	0.000	54925.38000	54314.48000	55086.47000
TB-2	159	114530.32000	0.00000	0.000	114150.33000	114956.87000	114483.77000

Tune Report

Batch Folder D:\Agilent\ICPMH\1\DATA\~EPATUNE.b
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

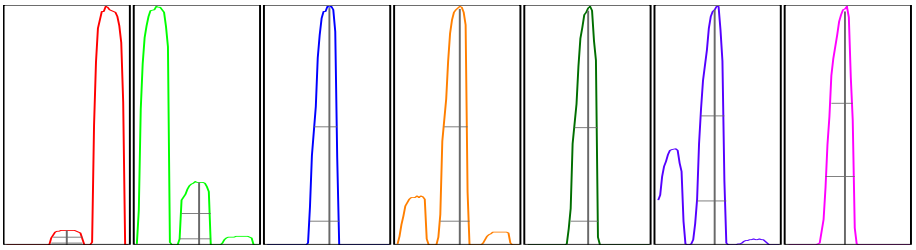
[No Gas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
6		11787	11787.15			NaN	-	
24		16315	16315.45			NaN	-	
103		50549	50548.56			NaN	-	
115		54398	54397.61			NaN	-	
140		58764	58764.43			NaN	-	
208		30067	30067.45			NaN	-	
238		62197	62197.24			NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
6	3.15	5.00				
24	4.59	5.00				
103	2.24	5.00				
115	1.75	5.00				
140	1.88	5.00				
208	1.44	5.00				
238	1.78	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
6	11184	11693	11915	12060	12083
24	15177	16044	16442	16818	17095
103	48923	49907	50800	51519	51594
115	53135	53925	54389	54892	55647
140	57281	57950	59150	59638	59804
208	29443	29818	30399	30201	30476
238	60879	61266	62881	62428	63533

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
6	1699.11	6.00	5.9 - 6.1		0.72	0.785	0.900	
24	2478.86	24.05	23.9 - 24.1		0.69	0.744	0.900	
103	9171.99	103.05	102.9 - 103.1		0.56	0.706	0.900	
115	9908.25	115.05	114.9 - 115.1		0.56	0.692	0.900	
140	11175.80	140.00	139.9 - 140.1		0.55	0.676	0.900	
208	5754.18	207.90	207.9 - 208.1		0.53	0.670	0.900	
238	12126.06	237.90	237.9 - 238.1		0.51	0.663	0.900	

X = 10 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 260.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.25 L/min	S/C Temp	20 ℃
RF Matching	0.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.80 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Tune Report

Extract 1	0.0 V	Omega Lens	6.1 V	Deflect	16.8 V				
Extract 2	-160.0 V	Cell Entrance	-30 V	Plate Bias	-40 V				
Mass	**Peak Height**	**Axis (Actual)**	**Axis (Required)**	**Axis (Flag)**	**W-50%**	**W-X% (Actual)**	**W-X% (Required)**	**W-X% (Flag)**	
Omega Bias	-75 V	Cell Exit	-50 V						

Cell Parameters

OctP Bias	-6.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	200 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 17F02G00.E05

Run Name: 1715307E05

Analyst: 8381

Reviewed By:	Reviewed Date
Scott P Cuff	06/02/2017 11:25

Verified By:	Verified Date
Deborah A Krady	06/08/2017 13:27
Tara L Snyder	06/04/2017 14:09

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-1		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	RB	85
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-1		209
	TL	203
	PB	208
	U	238

Run Name: 1715307E05 Date/Time: 06/02/2017 9:13:45
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
NA	23	0.00000	21946.94000	0.000	0.63588	-3.35732	2.72145
MG	24	0.00000	90.00000	0.000	0.13423	0.08125	-0.21548
AL	27	0.00000	233.44000	0.000	-2.20088	7.14112	-4.94023
K	39	0.00000	2903.67000	0.000	-0.30969	0.48343	-0.17375
CA	44	0.00000	23.33000	0.000	-7.54604	1.87215	5.67388
SC-1	45	45544.86000	0.00000	0.000	44926.78000	47032.07000	44675.72000
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.00000	30.00000	0.000	0.01017	-0.03088	0.02072
CR	52	0.00000	110.00000	0.000	-0.01325	-0.00251	0.01577
MN	55	0.00000	40.00000	0.000	-0.01723	0.03415	-0.01692
FE	57	0.00000	83.33000	0.000	1.45376	-1.36452	-0.08925
CO	59	0.00000	13.33000	0.000	-0.00525	-0.00525	0.01049
NI	60	0.00000	26.67000	0.000	-0.00887	0.04671	-0.03784
CU	63	0.00000	130.01000	0.000	0.02025	0.03210	-0.05235
ZN	66	0.00000	410.02000	0.000	0.34063	-0.02532	-0.31530
GE-1	72	128206.39000	0.00000	0.000	129317.79000	128722.62000	126578.76000
AS	75	0.00000	3.33000	0.000	0.02228	-0.01128	-0.01100
RB	85	0.00000	6.67000	0.000	-0.02119	-0.02119	0.04238
SR	88	0.00000	10.00000	0.000	0.02262	-0.00041	-0.02221
MO	98	0.00000	173.34000	0.000	-0.00121	-0.07380	0.07501
AG	107	0.00000	26.67000	0.000	-0.00485	-0.00204	0.00689
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	53761.28000	0.00000	0.000	53072.57000	54566.51000	53644.75000
SN	120	0.00000	50.00000	0.000	0.00074	-0.01342	0.01268
SB	121	0.00000	3.33000	0.000	0.01327	-0.00663	-0.00663
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-1	159	270315.57000	0.00000	0.000	273739.37000	270850.39000	266356.95000
TL	203	0.00000	6.67000	0.000	-0.00265	0.00133	0.00133
PB	208	0.00000	166.67000	0.000	-0.01127	0.00050	0.01077
BI-1	209	203632.54000	0.00000	0.000	206405.90000	202185.82000	202305.91000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:15:34
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	44321.49000	0.00000	0.000	44876.35000	43462.84000	44625.28000
AL	27	10000.00000	213892.34000	0.800	9960.03496	10090.30452	9949.66052
CA	44	10000.00000	30035.73000	6.300	9360.80117	10029.42055	10609.77828
CR	52	1000.00000	1384634.30000	2.600	975.11854	1026.96824	997.91322
FE	57	10000.00000	252911.34000	1.600	9818.32518	10128.58630	10053.08852
K	39	10000.00000	436125.79000	1.400	9856.69830	10128.00903	10015.29267
MG	24	10000.00000	835463.97000	1.200	9891.99251	10124.90570	9983.10179
MN	55	1000.00000	524372.05000	1.800	980.14150	1014.51981	1005.33868
NA	23	10000.00000	1933233.93000	2.000	9809.44906	10215.54014	9975.01080
TI	47	1000.00000	22711.65000	3.600	983.48132	1041.52734	974.99134
V	51	1000.00000	961168.32000	1.800	988.15950	1021.26514	990.57536
IN-1	115	54750.27000	0.00000	0.000	53970.57000	54828.46000	55451.79000
AG	107	100.00000	346769.38000	2.800	102.41116	100.72347	96.86537
AS	75	1000.00000	124656.94000	1.100	1011.37774	998.53822	990.08405
BA	137	1000.00000	199346.68000	2.500	1025.29849	1000.25351	974.44800
CD	111	100.00000	36182.23000	1.700	101.83152	99.75145	98.41703
CO	59	1000.00000	2593395.53000	1.200	1010.35342	987.01665	1002.62993
CU	63	1000.00000	2134589.19000	0.300	1002.52029	1001.12689	996.35282
MO	98	100.00000	145015.58000	1.500	100.87487	98.30806	100.81707
NI	60	1000.00000	712013.82000	0.300	1003.17016	1000.17018	996.65966
RB	85	100.00000	32110.19000	3.000	103.09406	99.83034	97.07560
SB	121	100.00000	51816.32000	3.500	103.79520	99.31029	96.89451
SN	120	100.00000	80894.54000	0.600	99.27740	100.36690	100.35570
SR	88	100.00000	46018.00000	2.000	102.25603	98.28414	99.45983
ZN	66	1000.00000	257585.31000	1.600	1016.87157	985.29434	997.83409
BI-1	209	202869.32000	0.00000	0.000	204210.72000	202791.68000	201605.56000
PB	208	100.00000	780825.10000	1.100	100.25172	98.75495	100.99333
TL	203	100.00000	251934.94000	0.800	100.35692	100.54593	99.09715
U	238	100.00000	884219.47000	0.500	100.59423	99.75769	99.64808
GE-1	72	124121.23000	0.00000	0.000	122349.17000	123558.61000	126455.92000
TB-1	159	260216.73000	0.00000	0.000	263968.20000	258566.07000	258115.93000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:17:25
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	45337.50000	0.00000	0.000	45267.57000	44756.07000	45988.87000
AL	27	-5.78900	103.34000	0.000	-4.09669	-7.26786	-6.00179
CA	44	0.03400	23.33000	19890.100	-7.54604	2.35110	5.29640
CR	52	0.60500	966.73000	7.400	0.59430	0.56623	0.65336
FE	57	1.67600	126.67000	106.300	-0.13028	3.43014	1.72715
K	39	2.59900	3007.04000	163.900	1.46250	-0.97648	7.31239
MG	24	0.20200	106.67000	368.600	1.06285	-0.21697	-0.23921
MN	55	0.03800	60.00000	98.800	0.07569	0.03963	-0.00016
NA	23	-1.19600	21619.91000	0.000	-4.67025	3.24219	-2.15985
TI	47	1.00500	23.33000	89.700	0.00000	1.74342	1.27252
V	51	0.04700	76.67000	83.600	0.03023	0.09274	0.01924
IN-1	115	53932.02000	0.00000	0.000	54976.62000	52847.00000	53972.43000
AG	107	0.01200	66.67000	111.200	0.02376	0.01309	-0.00197
AS	75	0.54000	70.00000	37.000	0.77147	0.42139	0.42830
BA	137	0.05100	10.00000	101.300	0.04995	0.10392	0.00000
CD	111	0.00600	2.00000	98.700	0.01101	0.00573	0.00000
CO	59	0.04800	136.67000	37.900	0.04851	0.06666	0.02996
CU	63	0.13400	413.36000	33.700	0.18538	0.11768	0.09968
MO	98	0.00800	186.68000	419.700	0.01523	-0.02930	0.03880
NI	60	0.06700	73.34000	49.300	0.04608	0.04946	0.10464
RB	85	-0.02100	0.00000	0.000	-0.02119	-0.02119	-0.02119
SB	121	0.68800	353.35000	37.700	0.39689	0.77300	0.89372
SN	120	0.22200	226.68000	8.300	0.23261	0.23171	0.20046
SR	88	-0.01500	3.33000	0.000	-0.02221	0.00030	-0.02221
ZN	66	-1.50600	30.00000	0.000	-1.54747	-1.46378	-1.50658
BI-1	209	196604.68000	0.00000	0.000	192731.52000	195689.14000	201393.38000
PB	208	0.00500	200.00000	179.700	0.00967	-0.00541	0.01091
TL	203	0.01900	53.33000	55.800	0.03077	0.01792	0.00934
U	238	0.01300	110.00000	38.300	0.01786	0.01290	0.00797
GE-1	72	124390.11000	0.00000	0.000	124040.77000	122057.69000	127071.86000
TB-1	159	266953.55000	0.00000	0.000	264991.13000	263463.30000	272406.21000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:19:15
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	45270.59000	0.00000	0.000	45688.14000	45598.13000	44525.50000
AL	27	-4.84800	123.34000	0.000	-3.24733	-8.23751	-3.05811
CA	44	0.05700	23.33000	3192.000	-1.08255	2.16833	-0.91378
CR	52	0.45000	746.71000	10.400	0.50406	0.42098	0.42579
FE	57	2.72900	153.34000	97.000	-0.15880	3.30718	5.03923
K	39	0.95700	2927.02000	408.300	1.74386	-3.28367	4.41079
MG	24	-0.58100	40.00000	0.000	-0.35001	-0.46498	-0.92753
MN	55	-0.01700	30.00000	0.000	-0.07367	0.00047	0.02124
NA	23	-0.87800	21653.22000	0.000	-3.52235	1.27199	-0.38419
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	-0.00400	26.67000	0.000	-0.00061	0.01967	-0.03088
IN-1	115	53570.19000	0.00000	0.000	53071.56000	53442.28000	54196.72000
AG	107	-0.00600	6.67000	0.000	-0.00782	-0.00782	-0.00200
AS	75	0.12000	18.00000	35.600	0.13813	0.07124	0.15090
BA	137	0.03400	6.67000	86.600	0.05174	0.00000	0.05066
CD	111	0.00400	1.33000	173.200	0.01140	0.00000	0.00000
CO	59	0.01000	40.00000	63.300	0.00669	0.00660	0.01812
CU	63	0.04000	213.34000	66.900	0.06858	0.01488	0.03748
MO	98	-0.02800	133.34000	0.000	-0.00833	-0.03034	-0.04557
NI	60	0.02400	43.33000	90.100	0.00562	0.04849	0.01891
RB	85	-0.02100	0.00000	0.000	-0.02119	-0.02119	-0.02119
SB	121	0.20300	106.67000	39.800	0.23224	0.11196	0.26626
SN	120	0.04200	83.33000	119.600	0.05179	-0.01238	0.08689
SR	88	-0.00700	6.67000	0.000	0.02262	-0.02221	-0.02221
ZN	66	-1.57300	13.33000	0.000	-1.62491	-1.62491	-1.46780
BI-1	209	199688.77000	0.00000	0.000	200372.34000	199623.47000	199070.50000
PB	208	-0.00800	100.00000	0.000	-0.01227	-0.00052	-0.01221
TL	203	0.00100	10.00000	1.000	0.00136	0.00138	0.00139
U	238	0.00300	30.00000	57.600	0.00458	0.00460	0.00115
GE-1	72	125858.99000	0.00000	0.000	128097.75000	123536.70000	125942.52000
TB-1	159	267224.96000	0.00000	0.000	266945.56000	268082.83000	266646.50000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:21:05
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	46313.32000	0.00000	0.000	46219.94000	46690.86000	46029.15000
AL	27	5114.80500	114436.08000	1.300	5158.56091	5038.50672	5147.34593
CA	44	4967.47300	15603.86000	2.000	4901.52285	4918.48909	5082.40842
CR	52	495.59800	717291.81000	1.000	499.67131	490.24681	496.87637
FE	57	5058.93300	133750.12000	2.100	5170.63014	4965.26298	5040.90522
K	39	5189.50700	237938.34000	1.400	5254.50928	5107.84942	5206.16171
MG	24	5137.23500	448586.69000	0.800	5090.95150	5146.51404	5174.24035
MN	55	518.50900	284173.29000	0.800	523.33869	515.79948	516.38892
NA	23	5040.19200	1029453.37000	3.800	4831.59539	5075.61180	5213.36800
TI	47	498.96100	11844.26000	3.500	496.93148	482.72298	517.22781
V	51	509.76700	512078.92000	1.400	514.28282	501.33418	513.68322
IN-1	115	55891.67000	0.00000	0.000	56333.59000	55820.61000	55520.80000
AG	107	51.82600	183524.67000	1.100	52.15659	51.17005	52.15269
AS	75	526.59500	67020.77000	0.800	529.02390	521.67825	529.08332
BA	137	531.50800	108188.78000	0.200	532.58068	530.58041	531.36381
CD	111	52.17000	19271.40000	1.900	51.60465	51.59592	53.30942
CO	59	516.70100	1368003.99000	0.100	515.90940	516.89173	517.30255
CU	63	519.48500	1132071.02000	0.600	516.89535	518.91862	522.64222
MO	98	52.38500	77633.50000	1.200	51.71452	52.53800	52.90362
NI	60	531.42900	386287.36000	0.800	530.05409	527.79838	536.43315
RB	85	54.46300	17863.03000	5.800	57.21365	51.01276	55.16163
SB	121	55.78100	29516.39000	1.100	55.21027	56.45758	55.67576
SN	120	52.21600	43141.94000	1.200	52.01325	51.71358	52.92245
SR	88	51.04000	23983.78000	3.200	50.62142	49.65635	52.84373
ZN	66	525.69100	138442.98000	2.500	525.95417	512.23151	538.88852
BI-1	209	207564.53000	0.00000	0.000	209360.23000	206694.35000	206639.02000
PB	208	52.54600	419867.98000	1.100	52.26880	53.18992	52.18020
TL	203	51.58000	132950.38000	0.600	51.23963	51.71858	51.78033
U	238	52.83200	477939.63000	0.600	52.51401	52.79638	53.18546
GE-1	72	127468.14000	0.00000	0.000	127979.45000	126758.04000	127666.92000
TB-1	159	271406.00000	0.00000	0.000	272512.55000	268059.49000	273645.95000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:22:55
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	45975.81000	0.00000	0.000	45527.71000	46691.30000	45708.43000
AL	27	-6.45900	90.00000	0.000	-7.32284	-5.62498	-6.42790
CA	44	-2.14900	16.67000	0.000	2.18336	-7.54604	-1.08542
CR	52	0.52700	870.05000	19.700	0.49908	0.64237	0.44078
FE	57	-0.69500	66.67000	0.000	-0.91796	0.52605	-1.69402
K	39	8.43600	3310.43000	14.200	7.14738	9.50786	8.65182
MG	24	0.38300	123.34000	185.900	1.05080	-0.36498	0.46221
MN	55	0.03600	60.00000	132.600	-0.01798	0.05304	0.07425
NA	23	1.26400	22414.15000	260.300	-0.54116	-0.72866	5.06035
TI	47	0.71400	16.67000	125.000	1.71387	0.00000	0.42677
V	51	0.00600	36.67000	200.600	0.01975	-0.00126	-0.00062
IN-1	115	55241.26000	0.00000	0.000	55418.97000	55227.85000	55076.95000
AG	107	0.00100	30.00000	1026.300	0.00927	-0.00211	-0.00496
AS	75	0.17900	26.00000	46.100	0.13112	0.27481	0.13210
BA	137	0.05000	10.00000	99.900	0.09909	0.04972	0.00000
CD	111	0.00400	1.33000	86.600	0.00546	0.00548	0.00000
CO	59	0.03400	103.34000	65.400	0.01761	0.05974	0.02542
CU	63	0.08000	306.68000	28.000	0.09545	0.09136	0.05452
MO	98	-0.01700	153.34000	0.000	0.00049	0.00091	-0.05366
NI	60	0.06900	76.67000	84.300	0.08703	0.00393	0.11575
RB	85	0.02000	13.33000	178.200	-0.02119	0.04055	0.04072
SB	121	0.25500	136.67000	51.000	0.29837	0.35680	0.10844
SN	120	0.18200	200.01000	18.100	0.14470	0.20674	0.19518
SR	88	-0.00100	10.00000	0.000	0.02073	-0.02221	-0.00061
ZN	66	-1.04700	150.01000	0.000	-1.04869	-0.93106	-1.16106
BI-1	209	198055.94000	0.00000	0.000	196584.65000	199144.86000	198438.30000
PB	208	-0.00500	126.67000	0.000	0.00113	-0.00830	-0.00694
TL	203	0.00800	26.67000	28.900	0.00963	0.00948	0.00546
U	238	0.01300	113.34000	60.700	0.02218	0.01037	0.00694
GE-1	72	123990.46000	0.00000	0.000	124221.97000	123952.20000	123797.20000
TB-1	159	271814.59000	0.00000	0.000	273055.27000	270838.26000	271550.23000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:24:45
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	47018.58000	0.00000	0.000	47863.81000	46220.20000	46971.74000
AL	27	183.62600	4400.67000	7.600	175.41863	175.74698	199.71113
CA	44	353.87200	1150.09000	12.900	310.21434	350.27129	401.13113
CR	52	4.16000	6221.31000	6.100	3.96193	4.44507	4.07273
FE	57	212.45900	5784.47000	2.500	209.20762	218.65915	209.51097
K	39	407.55300	21726.91000	4.400	400.91217	427.67934	394.06650
MG	24	204.50300	18216.23000	1.400	203.32745	207.72194	202.45937
MN	55	4.00400	2270.23000	5.600	4.23523	3.78495	3.99308
NA	23	386.64700	101088.12000	2.100	377.64186	392.82683	389.47354
TI	47	28.76900	693.38000	7.900	29.75362	30.38920	26.16531
V	51	1.12000	1173.42000	8.000	1.10582	1.21606	1.03905
IN-1	115	56381.79000	0.00000	0.000	56387.74000	56895.72000	55861.92000
AG	107	1.04000	3740.54000	2.900	1.05336	1.00504	1.06052
AS	75	4.38500	566.68000	8.600	4.58359	4.61961	3.95079
BA	137	3.84900	790.05000	16.100	3.16543	4.00597	4.37498
CD	111	1.02100	380.68000	4.000	1.05181	1.03710	0.97504
CO	59	1.03600	2780.32000	5.600	1.04314	0.97441	1.09082
CU	63	4.33200	9656.25000	3.000	4.24714	4.26731	4.48064
MO	98	0.90800	1536.79000	2.900	0.93026	0.91422	0.87926
NI	60	3.96800	2937.01000	4.900	4.16284	3.77388	3.96833
RB	85	2.22800	743.38000	18.300	1.79310	2.28639	2.60382
SB	121	2.29900	1230.10000	10.200	2.48517	2.03584	2.37624
SN	120	4.05800	3430.49000	8.600	3.66084	4.21098	4.30223
SR	88	1.93300	926.73000	12.700	2.17249	1.94371	1.68189
ZN	66	30.33700	8465.67000	1.000	30.51105	30.52402	29.97491
BI-1	209	206819.44000	0.00000	0.000	204735.66000	209304.39000	206418.26000
PB	208	2.11600	17007.64000	1.000	2.13062	2.12465	2.09166
TL	203	1.07000	2753.67000	4.200	1.03586	1.05166	1.12105
U	238	1.03800	9353.15000	4.000	1.08182	1.03186	0.99958
GE-1	72	127325.75000	0.00000	0.000	126767.82000	129155.83000	126053.59000
TB-1	159	276842.16000	0.00000	0.000	277280.52000	275872.40000	277373.55000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:26:34
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	34957.74000	0.00000	0.000	34663.84000	35305.14000	34904.23000
AL	27	119257.06100	2009948.20000	1.900	121844.77694	117723.86948	118202.53637
CA	44	296255.03800	701342.65000	1.900	301025.00533	290263.86814	297476.23966
CR	52	3.61400	4030.60000	8.100	3.94859	3.40396	3.48981
FE	57	304570.12100	6074172.82000	1.000	307336.51426	301542.38255	304831.46515
K	39	131315.12200	4490407.02000	1.000	132848.78052	130410.65701	130685.92770
MG	24	125972.33100	8300797.79000	1.000	127168.11870	124682.62562	126066.24988
MN	55	2.19700	940.07000	17.800	1.80382	2.58370	2.20257
NA	23	306992.46500	46316832.64000	1.200	309714.76379	302944.15438	308318.47559
TI	47	2370.11400	42470.78000	1.600	2412.03582	2355.50536	2342.80049
V	51	0.10600	103.34000	32.000	0.10212	0.07359	0.14084
IN-1	115	48326.98000	0.00000	0.000	47905.01000	47776.45000	49299.49000
AG	107	0.21500	683.37000	4.800	0.20638	0.22678	0.21313
AS	75	0.31300	37.33000	28.900	0.28433	0.41386	0.23988
BA	137	4.32500	760.05000	17.500	5.15903	4.13829	3.67625
CD	111	0.20500	65.33000	19.500	0.22108	0.23434	0.15958
CO	59	2.92600	6708.20000	6.900	2.81571	3.15928	2.80442
CU	63	1.66900	3260.41000	0.700	1.67846	1.67241	1.65526
MO	98	2327.58300	2975352.35000	2.000	2373.94805	2327.58161	2281.21898
NI	60	1.67700	1076.75000	9.600	1.59954	1.86150	1.56884
RB	85	0.21400	66.67000	20.000	0.26354	0.19293	0.18632
SB	121	0.08100	40.00000	48.000	0.10362	0.10392	0.03622
SN	120	0.22200	203.34000	35.500	0.14901	0.30552	0.21170
SR	88	3.43300	1403.44000	1.100	3.40568	3.41488	3.47767
ZN	66	2.43000	920.05000	8.300	2.37467	2.65282	2.26154
BI-1	209	169504.22000	0.00000	0.000	172231.44000	167307.52000	168973.71000
PB	208	0.32300	2243.49000	10.100	0.28648	0.34990	0.33240
TL	203	0.01800	43.33000	54.800	0.02072	0.00697	0.02594
U	238	0.02200	160.01000	28.300	0.01465	0.02469	0.02580
GE-1	72	111722.21000	0.00000	0.000	111195.12000	110643.02000	113328.49000
TB-1	159	183248.96000	0.00000	0.000	182175.84000	182975.31000	184595.74000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:28:24
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	36974.93000	0.00000	0.000	36938.29000	37789.88000	36196.61000
AL	27	114873.70600	2047275.59000	2.800	113131.53022	112858.11828	118631.46988
CA	44	281008.31000	703506.73000	3.100	273615.84777	278610.82658	290798.25515
CR	52	226.65000	261893.88000	3.000	220.06299	226.21628	233.67147
FE	57	291767.68300	6152624.28000	2.700	291625.72305	284051.99933	299625.32708
K	39	126252.20900	4564911.08000	3.400	123575.22233	123989.02958	131192.37439
MG	24	120848.70200	8419877.37000	2.900	119868.55529	117982.97805	124694.57354
MN	55	233.08800	101974.47000	3.300	226.85846	230.82763	241.57863
NA	23	294631.45400	47003659.30000	2.600	293241.75500	287723.05006	302929.55631
TI	47	2275.37700	43122.28000	1.100	2270.94147	2253.90558	2301.28400
V	51	238.46800	191213.10000	3.400	231.70254	236.36652	247.33358
IN-1	115	48681.83000	0.00000	0.000	47524.97000	48708.62000	49811.90000
AG	107	49.49700	152638.19000	1.200	50.15369	49.25466	49.08134
AS	75	106.57900	11814.62000	1.400	107.98001	106.67248	105.08551
BA	137	4.04500	716.71000	5.400	4.10241	4.22821	3.80387
CD	111	98.42600	31665.49000	1.000	99.58614	98.03081	97.66088
CO	59	197.77700	456016.10000	1.100	200.18726	197.26358	195.88150
CU	63	195.39000	370912.13000	0.800	196.36690	196.23608	193.56644
MO	98	2346.21100	3020566.83000	2.500	2408.16514	2340.89009	2289.57869
NI	60	202.14900	127989.38000	1.100	202.52491	204.12102	199.80161
RB	85	0.14300	46.67000	63.500	0.22994	0.04882	0.14995
SB	121	0.10900	53.33000	11.600	0.10450	0.12349	0.09940
SN	120	0.11800	130.01000	17.300	0.10794	0.10380	0.14089
SR	88	3.54400	1456.79000	10.800	3.88380	3.61786	3.13113
ZN	66	99.53300	23129.01000	1.500	100.30223	100.45064	97.84639
BI-1	209	169253.30000	0.00000	0.000	167861.62000	170136.87000	169761.40000
PB	208	0.30600	2130.14000	4.100	0.30687	0.31776	0.29248
TL	203	0.00200	10.00000	1.600	0.00214	0.00208	0.00209
U	238	0.01100	83.33000	29.600	0.00820	0.01483	0.01081
GE-1	72	112542.07000	0.00000	0.000	108340.35000	112836.03000	116449.84000
TB-1	159	185552.41000	0.00000	0.000	184190.78000	184594.51000	187871.95000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:30:16
Tube Number: 10
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	46176.49000	0.00000	0.000	44946.99000	45307.08000	48275.40000
AL	27	0.94800	253.34000	375.100	4.71687	0.47567	-2.34816
CA	44	8.64200	50.00000	165.800	2.30906	25.04646	-1.42895
CR	52	0.45700	773.38000	16.900	0.37835	0.45950	0.53257
FE	57	21.34700	646.70000	9.500	23.68103	19.98502	20.37346
K	39	12.20400	3487.13000	51.600	15.82013	15.85344	4.93778
MG	24	4.46600	480.02000	2.500	4.50075	4.33957	4.55794
MN	55	-0.05500	10.00000	0.000	-0.03606	-0.07367	-0.05616
NA	23	17.47100	25705.20000	41.800	21.65175	21.71776	9.04245
TI	47	0.57500	13.33000	114.300	0.43400	1.29166	0.00000
V	51	-0.00100	30.00000	0.000	-0.00011	-0.01053	0.00732
IN-1	115	55125.63000	0.00000	0.000	54707.13000	55981.39000	54688.37000
AG	107	-0.00100	23.33000	0.000	-0.00782	0.00345	0.00083
AS	75	0.07900	13.33000	112.000	0.18135	0.01970	0.03687
BA	137	0.01700	3.33000	173.200	0.00000	0.00000	0.05021
CD	111	0.00600	2.00000	100.000	0.01106	0.00000	0.00553
CO	59	0.00900	36.67000	110.300	0.01791	0.00984	-0.00139
CU	63	0.06800	280.01000	20.800	0.05530	0.06638	0.08349
MO	98	1.44500	2286.90000	7.700	1.45325	1.55245	1.32936
NI	60	0.03700	53.33000	189.000	0.11677	0.00336	-0.00972
RB	85	0.00900	10.00000	569.200	-0.02119	0.07018	-0.02119
SB	121	0.02500	16.67000	44.900	0.03198	0.01224	0.03200
SN	120	0.00200	53.33000	256.700	-0.00117	0.00952	-0.00115
SR	88	-0.02200	0.00000	0.000	-0.02221	-0.02221	-0.02221
ZN	66	-1.48300	36.67000	0.000	-1.43035	-1.58688	-1.43028
BI-1	209	201653.75000	0.00000	0.000	204738.63000	198622.63000	201600.00000
PB	208	-0.00900	96.67000	0.000	-0.01627	-0.01088	0.00057
TL	203	0.00400	16.67000	152.800	0.00915	-0.00265	0.00533
U	238	0.00000	3.33000	173.200	0.00000	0.00000	0.00114
GE-1	72	124241.75000	0.00000	0.000	124755.22000	123245.80000	124724.22000
TB-1	159	268396.72000	0.00000	0.000	267942.87000	267312.55000	269934.74000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:32:05
Tube Number: 11
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	47229.37000	0.00000	0.000	47634.06000	44946.50000	49107.55000
AL	27	2465.61100	56366.95000	1.100	2446.02398	2496.22665	2454.58372
CA	44	2429.89900	7788.57000	6.200	2271.26994	2571.86647	2446.56027
CR	52	241.12800	355350.46000	5.800	237.87920	256.49059	229.01418
FE	57	2449.90900	66014.81000	4.600	2463.78291	2554.56081	2331.38249
K	39	2475.32700	117225.02000	2.800	2458.86137	2550.88327	2416.23755
MG	24	2457.35700	218626.08000	3.800	2442.94790	2556.38193	2372.74067
MN	55	246.87100	137852.34000	3.600	243.45599	257.01633	240.13988
NA	23	2352.41600	501496.47000	4.600	2307.33066	2475.19582	2274.72108
TI	47	235.86300	5697.77000	9.400	217.08743	260.45697	230.04327
V	51	244.78000	250450.07000	4.500	244.23610	256.16016	233.94274
IN-1	115	56216.61000	0.00000	0.000	56245.52000	54702.71000	57701.60000
AG	107	24.93900	88818.64000	1.400	25.10610	25.16224	24.54724
AS	75	253.39700	32424.71000	2.600	253.95465	259.62183	246.61549
BA	137	250.30300	51198.43000	5.100	250.58325	262.98702	237.33779
CD	111	26.08300	9682.75000	5.300	26.41160	27.26165	24.57506
CO	59	245.57100	653680.21000	2.400	246.59325	250.94163	239.17733
CU	63	246.47300	540163.22000	1.800	247.56411	250.14916	241.70713
MO	98	25.60400	38273.38000	2.800	25.05416	25.34853	26.40830
NI	60	258.94500	189244.69000	2.700	259.65319	265.64328	251.53800
RB	85	25.81900	8515.68000	4.500	24.75137	27.07118	25.63369
SB	121	27.18200	14460.03000	4.900	28.23488	27.64023	25.67157
SN	120	25.90900	21554.24000	1.300	26.18053	26.02796	25.51837
SR	88	26.12700	12348.05000	3.500	26.66426	26.65496	25.06232
ZN	66	253.61000	67377.69000	2.200	251.94178	259.71711	249.17155
BI-1	209	204496.55000	0.00000	0.000	207204.22000	204179.08000	202106.36000
PB	208	25.95900	204435.12000	1.200	25.89076	25.68433	26.30174
TL	203	25.55100	64884.89000	2.600	24.98686	26.28405	25.38082
U	238	25.69400	228997.85000	0.800	25.45318	25.85208	25.77742
GE-1	72	127010.44000	0.00000	0.000	127855.17000	122569.96000	130606.19000
TB-1	159	275439.31000	0.00000	0.000	275340.60000	272995.52000	277981.81000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:33:55
Tube Number: 12
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	46072.89000	0.00000	0.000	44375.58000	47573.13000	46269.95000
AL	27	-6.29500	93.34000	0.000	-6.30523	-7.89595	-4.68394
CA	44	3.11100	33.33000	49.400	2.43596	4.86873	2.02728
CR	52	0.44300	750.05000	8.700	0.39865	0.46084	0.46908
FE	57	1.07400	113.34000	40.600	0.72195	1.56214	0.93905
K	39	1.39700	2997.03000	197.700	4.18432	-1.33847	1.34465
MG	24	-0.04900	86.67000	0.000	0.02923	0.06843	-0.24412
MN	55	-0.02600	26.67000	0.000	-0.07367	0.01516	-0.01887
NA	23	6.55600	23498.86000	58.800	10.97332	3.89766	4.79657
TI	47	0.28300	6.67000	86.800	0.43959	0.41005	0.00000
V	51	0.02300	53.33000	166.500	0.04184	-0.02119	0.04883
IN-1	115	55151.63000	0.00000	0.000	56041.20000	55188.43000	54225.26000
AG	107	0.00300	36.67000	57.100	0.00344	0.00362	0.00091
AS	75	0.12700	19.33000	9.000	0.11369	0.13178	0.13461
BA	137	0.01700	3.33000	173.200	0.00000	0.00000	0.05064
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.01800	60.00000	35.400	0.02489	0.01388	0.01422
CU	63	0.11600	383.35000	18.600	0.13033	0.09147	0.12730
MO	98	0.15000	396.69000	17.600	0.14078	0.17909	0.12867
NI	60	0.10600	103.34000	40.300	0.15427	0.07362	0.08978
RB	85	0.00900	10.00000	323.900	0.03966	0.00971	-0.02119
SB	121	0.19900	106.67000	55.000	0.14416	0.12735	0.32456
SN	120	0.06100	100.00000	116.700	-0.00264	0.04738	0.13678
SR	88	-0.00800	6.67000	0.000	-0.02221	-0.02221	0.02167
ZN	66	-1.02000	156.68000	0.000	-1.01710	-1.04628	-0.99674
BI-1	209	198984.33000	0.00000	0.000	196029.49000	201536.66000	199386.83000
PB	208	-0.00800	103.33000	0.000	-0.00809	-0.00200	-0.01353
TL	203	0.00700	23.33000	32.800	0.00556	0.00933	0.00542
U	238	0.00500	43.33000	12.200	0.00468	0.00569	0.00460
GE-1	72	125434.14000	0.00000	0.000	124465.08000	126740.45000	125096.90000
TB-1	159	267335.89000	0.00000	0.000	263601.36000	267366.89000	271039.43000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:35:45
Tube Number: 13 Batch: 171441063902A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	47389.36000	0.00000	0.000	47492.61000	47513.04000	47162.43000
AL	27	-5.40900	116.67000	0.000	-3.08706	-6.14647	-6.99359
CA	44	2.83100	33.33000	253.200	11.10769	-1.33080	-1.28460
CR	52	0.45200	783.38000	11.800	0.41457	0.42783	0.51303
FE	57	1.08600	116.67000	160.100	-0.27541	3.04380	0.48855
K	39	-0.01200	3020.36000	0.000	0.06188	-0.18186	0.08547
MG	24	0.82000	166.68000	67.700	1.18742	0.18160	1.09058
MN	55	0.12900	113.34000	111.700	0.13989	-0.02031	0.26683
NA	23	2.89400	23438.83000	20.600	2.48025	2.62640	3.57643
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	-0.01500	16.67000	0.000	-0.03088	0.00793	-0.02111
IN-1	115	56890.66000	0.00000	0.000	57345.40000	56001.45000	57325.14000
AG	107	0.00000	30.00000	987.200	-0.00232	-0.00219	0.00594
AS	75	0.06500	12.00000	25.400	0.06453	0.08242	0.04924
BA	137	0.01600	3.33000	173.200	0.04788	0.00000	0.00000
CD	111	0.00900	3.33000	124.900	0.02111	0.00000	0.00528
CO	59	0.00800	36.67000	91.400	0.00580	0.00229	0.01685
CU	63	0.06600	283.34000	47.900	0.09911	0.06176	0.03653
MO	98	0.06100	276.68000	52.100	0.08865	0.02621	0.06894
NI	60	0.04800	63.33000	41.600	0.04261	0.03081	0.06947
RB	85	-0.01100	3.33000	0.000	0.00854	-0.02119	-0.02119
SB	121	0.03600	23.33000	162.000	0.10389	0.01223	-0.00663
SN	120	0.05200	96.67000	35.400	0.03142	0.05787	0.06689
SR	88	0.00500	13.33000	439.300	0.01928	-0.02221	0.01930
ZN	66	0.14700	473.36000	270.400	0.49115	0.23779	-0.28798
BI-1	209	212475.19000	0.00000	0.000	210497.71000	211941.79000	214986.07000
PB	208	-0.00500	136.67000	0.000	-0.01147	-0.00173	-0.00080
TL	203	0.00400	16.67000	120.700	0.00882	0.00115	0.00109
U	238	0.00100	6.67000	173.200	0.00000	0.00000	0.00213
GE-1	72	128815.49000	0.00000	0.000	128006.31000	129114.81000	129325.35000
TB-1	159	278225.69000	0.00000	0.000	280343.92000	274290.66000	280042.50000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:37:35
Tube Number: 14 Batch: 171441063902A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	47990.98000	0.00000	0.000	47664.11000	47994.01000	48314.81000
AL	27	2007.40800	46686.64000	1.700	2040.42506	2009.43962	1972.36002
CA	44	3672.06900	11957.70000	3.800	3807.23961	3679.39555	3529.57129
CR	52	48.70300	73145.53000	1.900	49.76459	47.94289	48.40181
FE	57	1004.21300	27585.25000	4.100	1016.56740	957.99186	1038.07977
K	39	10181.79300	480831.79000	0.500	10197.65016	10126.55801	10221.17022
MG	24	1994.56100	180520.22000	1.900	2018.53051	2014.37710	1950.77657
MN	55	48.43600	27548.60000	2.800	46.86160	49.27286	49.17353
NA	23	9718.44600	2035447.42000	0.600	9696.34310	9783.44667	9675.54743
TI	47	236.84200	5824.52000	9.000	261.16944	227.65565	221.70119
V	51	48.75200	50772.51000	3.100	50.28300	48.75142	47.22193
IN-1	115	57206.80000	0.00000	0.000	56350.43000	57631.79000	57638.19000
AG	107	50.73700	183889.16000	0.800	50.93250	50.26749	51.01180
AS	75	10.14800	1325.39000	2.500	10.24516	9.86436	10.33567
BA	137	50.56500	10533.67000	2.000	51.23075	51.09382	49.37146
CD	111	5.12400	1938.12000	3.900	4.92438	5.11947	5.32889
CO	59	242.40900	656844.29000	1.200	245.64965	240.76253	240.81603
CU	63	50.08600	111827.80000	1.700	51.09288	49.56501	49.60066
MO	98	51.66300	78353.54000	2.700	53.26255	50.92179	50.80501
NI	60	52.48800	39069.98000	2.700	53.74661	50.97283	52.74519
RB	85	0.14800	56.67000	12.400	0.16035	0.15631	0.12671
SB	121	5.96900	3237.09000	6.500	5.67419	6.40953	5.82223
SN	120	51.20400	43292.39000	3.500	52.96188	49.36784	51.28219
SR	88	39.53300	19014.34000	3.500	40.39498	37.94631	40.25636
ZN	66	524.71500	141421.45000	2.000	536.14356	515.73892	522.26372
BI-1	209	208484.19000	0.00000	0.000	205536.44000	206587.28000	213328.86000
PB	208	15.62700	125520.18000	1.100	15.77602	15.67271	15.43087
TL	203	1.97300	5114.34000	2.800	1.98023	2.02475	1.91533
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
GE-1	72	130993.33000	0.00000	0.000	128975.66000	132086.96000	131917.38000
TB-1	159	280406.58000	0.00000	0.000	280788.86000	279779.06000	280651.83000

Run Name: 1715307E05
Tube Number: 15
Sample Number: **9006554**

Date/Time: 06/02/2017 9:39:25
Batch: 171441063902A
Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	48154.61000	0.00000	0.000	48124.12000	48074.70000	48265.01000
AL	27	103.06000	2636.96000	9.600	110.18087	91.75039	107.25012
CA	44	1854.08100	6071.24000	3.000	1824.50523	1918.55550	1819.18178
CR	52	0.69600	1163.42000	3.200	0.67415	0.69489	0.71839
FE	57	20.42800	650.04000	19.600	16.80549	19.74281	24.73674
K	39	1361.84700	67190.55000	0.400	1365.37086	1363.86714	1356.30275
MG	24	1689.72200	153477.99000	2.000	1727.26264	1662.65288	1679.25157
MN	55	43.71700	24951.28000	2.600	42.47353	44.03117	44.64657
NA	23	3244.07900	697229.62000	0.400	3258.35973	3241.12143	3232.75671
TI	47	0.27000	6.67000	86.600	0.40535	0.40577	0.00000
V	51	0.11000	146.68000	28.300	0.12241	0.13216	0.07420
IN-1	115	59150.44000	0.00000	0.000	59681.63000	57666.41000	60103.29000
AG	107	0.00900	63.34000	62.100	0.01334	0.01134	0.00268
AS	75	0.11100	18.67000	20.200	0.13452	0.10971	0.08954
BA	137	78.30100	16858.94000	3.600	78.34825	81.13412	75.42015
CD	111	0.02600	10.00000	18.100	0.02535	0.02099	0.03021
CO	59	0.89200	2513.60000	6.000	0.95344	0.86245	0.85889
CU	63	0.18400	566.69000	18.200	0.16158	0.22277	0.16855
MO	98	0.05100	270.01000	77.500	0.01705	0.09403	0.04123
NI	60	1.35000	1066.73000	6.000	1.31510	1.44239	1.29280
RB	85	2.56100	896.72000	7.400	2.69292	2.34425	2.64551
SB	121	0.07800	46.67000	73.400	0.06416	0.13991	0.02852
SN	120	0.24300	266.68000	9.700	0.24334	0.26579	0.21865
SR	88	9.44300	4697.49000	12.000	9.28986	10.64728	8.39282
ZN	66	3.13900	1323.44000	8.000	3.36914	3.17444	2.87356
BI-1	209	214609.29000	0.00000	0.000	213700.74000	213145.54000	216981.58000
PB	208	0.02700	396.68000	11.200	0.02973	0.02377	0.02656
TL	203	0.01900	56.67000	46.100	0.02372	0.00868	0.02332
U	238	0.01200	116.67000	27.000	0.01181	0.01615	0.00952
GE-1	72	132911.72000	0.00000	0.000	135806.99000	133618.83000	129309.35000
TB-1	159	283364.94000	0.00000	0.000	282171.05000	280745.46000	287178.30000

Run Name: 1715307E05
Tube Number: 16
Sample Number: **9006554**

Date/Time: 06/02/2017 9:41:24
Batch: 171441063902A
Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	48311.96000	0.00000	0.000	49879.66000	47612.92000	47443.30000
AL	27	299.88100	7228.37000	1.100	296.02867	301.46856	302.14546
CA	44	2135.49600	7011.64000	2.300	2124.28316	2188.54589	2093.65795
CR	52	4.52400	6948.25000	4.200	4.58820	4.31271	4.67257
FE	57	221.22100	6181.30000	6.100	210.11415	217.32438	236.22485
K	39	1728.67600	84707.40000	2.500	1689.97504	1720.66543	1775.38642
MG	24	1836.68200	167306.78000	2.400	1800.61199	1824.26851	1885.16612
MN	55	47.77700	27348.18000	1.700	47.28845	47.33910	48.70354
NA	23	3508.85400	754306.76000	3.000	3395.07766	3525.26301	3606.22148
TI	47	26.32000	650.04000	23.200	21.51084	33.18803	24.26057
V	51	1.04800	1130.08000	4.800	1.05064	0.99559	1.09646
IN-1	115	58553.86000	0.00000	0.000	58502.33000	58519.61000	58639.64000
AG	107	0.91400	3420.46000	1.900	0.89625	0.91486	0.93183
AS	75	3.89300	522.68000	3.000	3.81629	4.02528	3.83724
BA	137	77.55700	16538.72000	0.400	77.67267	77.17967	77.81979
CD	111	1.07500	416.01000	6.500	1.05517	1.15310	1.01657
CO	59	1.73600	4830.81000	0.600	1.73073	1.74828	1.73027
CU	63	4.16200	9642.99000	5.300	4.27126	3.91041	4.30489
MO	98	1.02900	1783.49000	4.500	1.07962	0.98882	1.01878
NI	60	5.30300	4067.28000	5.700	4.95761	5.52132	5.43119
RB	85	12.48200	4294.01000	4.700	12.54185	11.86769	13.03565
SB	121	2.14600	1193.42000	9.100	2.01586	2.05136	2.37145
SN	120	3.81600	3353.78000	1.500	3.75781	3.87244	3.81814
SR	88	11.64400	5741.15000	1.500	11.81727	11.46792	11.64753
ZN	66	33.38400	9629.58000	6.600	35.10184	30.90535	34.14418
BI-1	209	216315.99000	0.00000	0.000	218924.92000	212534.51000	217488.55000
PB	208	2.00200	16840.78000	1.500	2.03627	1.98681	1.98170
TL	203	1.01900	2747.02000	10.800	1.14148	0.99018	0.92683
U	238	9.81700	92530.16000	3.000	9.50585	10.09899	9.84662
GE-1	72	133878.11000	0.00000	0.000	134354.89000	132703.78000	134575.65000
TB-1	159	286540.60000	0.00000	0.000	284790.13000	282800.91000	292030.76000

Run Name: 1715307E05
Tube Number: 17
Sample Number: **9006554**

Date/Time: 06/02/2017 9:43:15
Batch: 171441063902A
Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	48880.00000	0.00000	0.000	48024.48000	49077.52000	49538.01000
AL	27	109.85600	2833.68000	18.300	117.34414	125.16852	87.05487
CA	44	1652.34400	5494.38000	1.400	1677.60863	1632.41916	1647.00426
CR	52	0.95200	1570.13000	13.200	1.08892	0.84215	0.92406
FE	57	28.07000	873.39000	7.700	25.60675	29.63125	28.97198
K	39	1406.60600	70325.98000	3.100	1431.84403	1431.52012	1356.45377
MG	24	1712.55100	157857.62000	2.200	1756.04676	1693.81350	1687.79422
MN	55	44.69200	25892.73000	1.500	44.46525	44.18235	45.42802
NA	23	3226.19700	703934.47000	0.500	3242.84380	3214.99562	3220.75050
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	0.19200	236.68000	40.700	0.12273	0.17580	0.27625
IN-1	115	59062.15000	0.00000	0.000	58268.11000	60568.30000	58350.03000
AG	107	-0.00100	26.67000	0.000	-0.00241	-0.00261	0.00300
AS	75	0.12200	20.00000	44.000	0.18367	0.08864	0.09305
BA	137	80.48600	17309.51000	1.300	81.66404	79.56179	80.23119
CD	111	0.02000	8.00000	48.100	0.02077	0.02997	0.01037
CO	59	0.91400	2570.28000	8.800	0.99844	0.83832	0.90657
CU	63	0.17900	553.36000	8.600	0.18021	0.16254	0.19306
MO	98	-0.04500	120.01000	0.000	-0.03147	-0.07237	-0.03159
NI	60	1.43100	1130.08000	11.000	1.34792	1.61272	1.33280
RB	85	2.47900	866.72000	6.900	2.29053	2.62504	2.52107
SB	121	0.05900	36.67000	19.700	0.06588	0.04569	0.06578
SN	120	0.10100	143.34000	41.100	0.05317	0.12704	0.12266
SR	88	9.76700	4860.86000	3.000	9.47492	10.05742	9.76754
ZN	66	3.00100	1283.43000	5.400	2.83257	3.01479	3.15469
BI-1	209	217479.50000	0.00000	0.000	215378.38000	217378.96000	219681.15000
PB	208	0.02600	400.01000	15.800	0.02812	0.02169	0.02952
TL	203	0.02000	60.00000	38.500	0.02726	0.01216	0.01934
U	238	0.02000	193.34000	34.900	0.02237	0.02639	0.01253
GE-1	72	136402.77000	0.00000	0.000	135018.83000	136720.52000	137468.97000
TB-1	159	287363.43000	0.00000	0.000	284105.15000	287166.89000	290818.26000

Run Name: 1715307E05
Tube Number: 18
Sample Number: **9006554**

Date/Time: 06/02/2017 9:45:05
Batch: 171441063902A
Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	49886.33000	0.00000	0.000	50932.68000	48104.97000	50621.34000
AL	27	2040.18400	49296.78000	2.800	1980.68272	2096.39610	2043.47394
CA	44	5530.87900	18700.19000	3.300	5358.38668	5723.08007	5511.17046
CR	52	46.86600	73128.01000	3.200	46.13658	48.60611	45.85622
FE	57	997.64000	28463.35000	3.900	976.62951	1042.99009	973.30138
K	39	11133.54200	545998.64000	2.200	11020.80736	11417.40514	10962.41412
MG	24	3600.00000	338413.47000	3.200	3531.32291	3732.90364	3535.77256
MN	55	93.05000	54958.12000	0.900	92.18010	93.90325	93.06728
NA	23	12618.69500	2738084.13000	3.700	12406.56751	13147.60660	12301.91096
TI	47	245.56600	6274.68000	6.400	250.15368	258.36800	228.17632
V	51	48.25000	52192.72000	4.600	47.03483	50.80118	46.91393
IN-1	115	59284.91000	0.00000	0.000	60364.39000	58523.47000	58966.88000
AG	107	48.65800	182752.51000	1.000	48.15814	48.68548	49.13170
AS	75	10.26700	1389.40000	2.700	10.12964	10.58422	10.08727
BA	137	128.84700	27817.07000	0.700	127.88654	129.46511	129.19054
CD	111	5.00200	1960.79000	3.700	5.20856	4.86048	4.93682
CO	59	238.66400	670235.33000	0.500	237.64442	238.31598	240.03214
CU	63	48.61300	112493.85000	0.700	48.23344	48.74691	48.85735
MO	98	50.36900	79190.07000	1.000	50.36019	49.89131	50.85425
NI	60	52.57000	40553.29000	1.500	51.65130	52.88163	53.17672
RB	85	2.54500	893.39000	11.500	2.85999	2.28044	2.49451
SB	121	6.49100	3643.88000	10.200	5.83905	6.47435	7.16029
SN	120	50.42200	44191.08000	1.400	50.14373	49.89092	51.23066
SR	88	50.47600	25152.19000	3.300	48.54236	51.31221	51.57311
ZN	66	512.55100	143171.47000	1.700	504.71726	521.71178	511.22535
BI-1	209	215091.40000	0.00000	0.000	213983.08000	216205.19000	215085.93000
PB	208	15.21400	126095.80000	1.100	15.32540	15.02907	15.28640
TL	203	2.05900	5507.84000	2.000	2.06384	2.09851	2.01580
U	238	0.01300	123.34000	18.700	0.01180	0.01167	0.01600
GE-1	72	136016.09000	0.00000	0.000	137327.41000	133979.46000	136741.41000
TB-1	159	284894.86000	0.00000	0.000	284949.86000	284172.40000	285562.32000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:46:56
Tube Number: 19 Batch: 171441063902A
Sample Number: **9006554** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	49494.88000	0.00000	0.000	48094.24000	50781.63000	49608.76000
AL	27	2060.87900	49430.49000	1.200	2070.09965	2079.14519	2033.39153
CA	44	5509.23500	18489.90000	1.100	5576.78376	5482.03909	5468.88157
CR	52	47.25900	73185.20000	1.800	48.22933	46.57166	46.97562
FE	57	1025.60900	29030.72000	4.200	1074.24197	990.60739	1011.97637
K	39	11091.07900	539697.38000	2.200	11364.06342	10909.41152	10999.76122
MG	24	3534.05700	329623.51000	3.800	3688.95977	3457.52252	3455.68954
MN	55	91.79400	53797.83000	1.200	92.61936	92.25523	90.50725
NA	23	12664.53100	2727053.50000	2.800	12982.82081	12288.94696	12721.82561
TI	47	231.33000	5864.51000	4.900	244.22344	223.22903	226.53903
V	51	47.23800	50738.84000	0.900	47.46769	46.76530	47.48056
IN-1	115	57900.52000	0.00000	0.000	57135.88000	60451.20000	56114.48000
AG	107	49.65700	182036.00000	2.700	49.69058	48.28694	50.99226
AS	75	10.23200	1348.73000	11.000	10.48827	8.99610	11.21195
BA	137	128.20000	27022.40000	2.200	126.54326	126.61039	131.44515
CD	111	5.10200	1951.46000	2.300	5.11621	4.98081	5.20934
CO	59	240.40500	658953.35000	2.500	242.64210	233.66406	244.90926
CU	63	49.33600	111431.84000	2.600	49.95162	47.85268	50.20342
MO	98	50.55300	77549.58000	3.600	51.37181	48.45987	51.82858
NI	60	52.92900	39861.59000	4.200	55.46191	51.21943	52.10476
RB	85	2.29800	790.05000	17.600	2.51542	2.54555	1.83231
SB	121	6.70900	3680.53000	6.200	6.26183	6.77449	7.09145
SN	120	50.64400	43308.75000	3.700	51.47183	48.51088	51.95017
SR	88	50.34600	24481.22000	5.300	49.57649	48.15769	53.30357
ZN	66	511.42600	139425.31000	3.300	515.79127	492.77556	525.71057
BI-1	209	212497.26000	0.00000	0.000	211856.75000	214404.24000	211230.80000
PB	208	15.18200	124313.99000	1.400	15.18543	14.96699	15.39436
TL	203	2.06500	5457.78000	2.100	2.08838	2.09359	2.01447
U	238	0.01800	163.34000	15.400	0.02058	0.01712	0.01521
GE-1	72	132746.45000	0.00000	0.000	135312.96000	134727.47000	128198.93000
TB-1	159	281918.48000	0.00000	0.000	281740.17000	285012.94000	279002.34000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:48:46
Tube Number: 20 Batch: 171441063902A
Sample Number: **9006554** Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	47940.69000	0.00000	0.000	47272.25000	47582.92000	48966.89000
AL	27	19.76100	700.04000	7.600	19.76463	18.25925	21.25830
CA	44	320.02800	1063.40000	4.600	311.06731	336.91455	312.10218
CR	52	0.48300	840.05000	8.000	0.47780	0.44727	0.52395
FE	57	2.75800	163.34000	68.300	4.92965	1.56079	1.78339
K	39	277.90200	16084.24000	1.600	279.17957	272.84215	281.68515
MG	24	341.24200	30926.71000	4.300	357.36690	328.67025	337.68971
MN	55	8.96300	5127.56000	3.700	8.58101	9.14627	9.16185
NA	23	637.18300	154886.79000	1.700	639.21637	646.98848	625.34508
TI	47	0.27300	6.67000	173.200	0.00000	0.81992	0.00000
V	51	0.01700	50.00000	312.200	0.07640	-0.03088	0.00678
IN-1	115	57715.54000	0.00000	0.000	57443.92000	57204.45000	58498.25000
AG	107	0.01400	80.00000	59.700	0.01416	0.02253	0.00567
AS	75	0.04300	9.33000	86.500	0.04908	0.00334	0.07773
BA	137	16.00300	3363.80000	1.500	16.25446	15.79436	15.96155
CD	111	0.00700	2.67000	44.200	0.00527	0.01058	0.00517
CO	59	0.18900	530.03000	9.600	0.20791	0.17190	0.18603
CU	63	0.04200	233.34000	24.900	0.04525	0.05019	0.03017
MO	98	0.01100	203.34000	247.100	0.04222	-0.00335	-0.00598
NI	60	0.27800	236.68000	42.800	0.37714	0.31168	0.14620
RB	85	0.43100	153.34000	31.700	0.27562	0.48552	0.53261
SB	121	0.06700	40.00000	28.300	0.08531	0.06723	0.04754
SN	120	0.18300	210.01000	55.200	0.14917	0.10270	0.29585
SR	88	1.97200	966.73000	16.400	2.33928	1.84992	1.72713
ZN	66	-0.25000	373.35000	0.000	-0.36486	-0.50847	0.12193
BI-1	209	211782.34000	0.00000	0.000	214330.35000	213789.65000	207227.01000
PB	208	0.00200	190.00000	143.400	-0.00073	0.00175	0.00499
TL	203	0.00600	23.33000	92.100	0.01237	0.00111	0.00512
U	238	0.00500	50.00000	1.900	0.00535	0.00537	0.00554
GE-1	72	129316.67000	0.00000	0.000	126566.56000	128460.22000	132923.22000
TB-1	159	279880.12000	0.00000	0.000	280085.99000	276824.98000	282729.39000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:50:36
Tube Number: 21 Batch: 171441063902A
Sample Number: **9006559** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	48251.66000	0.00000	0.000	48245.14000	48676.32000	47833.53000
AL	27	5.24200	366.69000	30.500	4.96598	6.96027	3.79832
CA	44	55172.42300	180309.53000	1.400	55120.68286	54438.18340	55958.40153
CR	52	1.26900	2030.20000	5.400	1.28262	1.32975	1.19396
FE	57	55.99700	1630.15000	8.400	61.08292	51.86977	55.03949
K	39	2055.50900	100046.49000	1.200	2067.30727	2028.13729	2071.08136
MG	24	28322.97600	2576076.47000	1.600	28635.37042	27804.47847	28529.07852
MN	55	2.36200	1390.10000	4.600	2.36149	2.25311	2.47079
NA	23	7927.72100	1673574.04000	1.600	7991.67630	7785.56817	8005.91957
TI	47	0.13600	3.33000	173.200	0.00000	0.00000	0.40781
V	51	0.28100	326.68000	15.800	0.32272	0.23433	0.28720
IN-1	115	59000.67000	0.00000	0.000	60526.81000	56953.37000	59521.84000
AG	107	0.00300	40.00000	11.700	0.00261	0.00326	0.00278
AS	75	0.07300	13.33000	67.600	0.01616	0.09601	0.10544
BA	137	53.83800	11550.99000	7.800	51.91824	58.64888	50.94780
CD	111	0.00700	2.67000	40.800	0.01000	0.00531	0.00508
CO	59	0.04900	150.01000	42.800	0.03312	0.07260	0.04086
CU	63	0.11800	413.35000	10.300	0.12879	0.10473	0.11909
MO	98	-0.01700	166.67000	0.000	0.00262	-0.08247	0.03013
NI	60	0.33700	286.68000	18.800	0.31789	0.40773	0.28514
RB	85	1.64700	576.70000	5.200	1.61269	1.74514	1.58299
SB	121	0.04100	26.67000	165.700	0.01082	-0.00663	0.11760
SN	120	0.07900	123.34000	45.600	0.03764	0.10343	0.09624
SR	88	68.22000	33826.87000	1.800	67.66995	69.65785	67.33189
ZN	66	-0.06100	433.35000	0.000	-0.35873	-0.16712	0.34224
BI-1	209	209952.99000	0.00000	0.000	210712.26000	208848.22000	210298.49000
PB	208	0.01000	250.00000	68.800	0.00209	0.01225	0.01449
TL	203	0.00500	20.00000	76.000	0.00881	0.00120	0.00500
U	238	0.14400	1313.44000	14.900	0.12850	0.13404	0.16803
GE-1	72	133125.01000	0.00000	0.000	131212.56000	132871.41000	135291.05000
TB-1	159	283804.76000	0.00000	0.000	284119.68000	279747.28000	287547.32000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:52:26
Tube Number: 22
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	48619.61000	0.00000	0.000	48716.36000	48706.43000	48436.05000
AL	27	2438.24000	57400.04000	1.600	2394.05605	2465.01810	2455.64664
CA	44	2432.66800	8035.40000	0.900	2445.06578	2445.53853	2407.40025
CR	52	234.80300	356835.17000	0.800	236.39991	232.90853	235.10108
FE	57	2433.58200	67593.73000	1.000	2405.36876	2449.92242	2445.45519
K	39	2489.76700	121461.71000	1.500	2472.89968	2533.25417	2463.14582
MG	24	2439.51700	223671.61000	1.700	2428.66973	2405.57825	2484.30175
MN	55	249.50900	143577.06000	1.300	245.65469	251.58064	251.29296
NA	23	2311.96800	508426.16000	0.500	2303.68332	2306.52362	2325.69681
TI	47	231.28300	5764.47000	3.200	238.30048	223.52437	232.02428
V	51	245.49000	258923.09000	1.000	247.53508	246.04866	242.88612
IN-1	115	58509.10000	0.00000	0.000	59061.13000	58122.09000	58344.08000
AG	107	24.52900	90943.05000	0.400	24.58131	24.41534	24.58943
AS	75	251.96600	33571.47000	0.100	251.63533	251.90116	252.36076
BA	137	259.16900	55224.18000	2.000	257.80403	254.81294	264.89130
CD	111	25.62000	9906.89000	1.400	25.22431	25.91310	25.72110
CO	59	240.06800	665365.30000	0.500	239.09431	239.74388	241.36595
CU	63	242.05100	552281.76000	1.000	243.29921	243.54058	239.31439
MO	98	24.84700	38647.09000	1.000	24.56565	24.95145	25.02485
NI	60	253.00900	192556.74000	1.600	256.73354	248.70269	253.59170
RB	85	25.61400	8795.84000	3.000	24.75420	25.88846	26.19929
SB	121	26.69100	14790.14000	3.700	27.55066	25.59481	26.92896
SN	120	24.95400	21614.29000	3.200	25.33113	24.04972	25.48073
SR	88	25.54900	12574.88000	2.500	25.89595	25.94621	24.80632
ZN	66	252.48900	69837.32000	2.300	249.55144	259.30602	248.60862
BI-1	209	212761.90000	0.00000	0.000	214441.07000	215329.88000	208514.76000
PB	208	25.89500	212131.85000	2.400	25.94618	25.24568	26.49240
TL	203	25.34400	66973.64000	1.300	25.16176	25.71495	25.15552
U	238	25.57200	237089.14000	1.500	25.38095	25.32770	26.00605
GE-1	72	130358.26000	0.00000	0.000	130415.29000	129578.51000	131080.98000
TB-1	159	281004.14000	0.00000	0.000	280803.16000	280138.65000	282070.62000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:54:16
Tube Number: 23
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	46751.31000	0.00000	0.000	47172.80000	46801.83000	46279.29000
AL	27	-1.92700	193.34000	0.000	-3.91610	-0.31842	-1.54786
CA	44	5.09600	40.00000	62.700	1.84406	8.22817	5.21581
CR	52	0.46200	786.72000	24.200	0.37041	0.42869	0.58653
FE	57	-1.48400	46.67000	0.000	-0.62695	-1.35535	-2.47041
K	39	8.02400	3347.09000	28.300	6.79257	10.64237	6.63572
MG	24	-0.06400	86.67000	0.000	-0.03457	-0.02655	-0.12965
MN	55	0.05900	73.33000	49.000	0.03383	0.05274	0.09069
NA	23	1.42000	22821.37000	271.900	-2.84507	2.43113	4.67274
TI	47	0.28100	6.67000	173.200	0.00000	0.00000	0.84302
V	51	0.00200	33.33000	276.000	0.00821	-0.00133	-0.00100
IN-1	115	57060.60000	0.00000	0.000	57214.99000	55518.18000	58448.62000
AG	107	0.00400	43.33000	210.600	-0.00231	0.00071	0.01378
AS	75	0.11200	18.00000	39.100	0.12614	0.14666	0.06279
BA	137	0.04800	10.00000	98.300	0.00000	0.04946	0.09396
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.02400	80.00000	12.100	0.02427	0.02137	0.02726
CU	63	0.05500	260.01000	46.500	0.06362	0.02587	0.07413
MO	98	-0.03600	130.01000	0.000	-0.01658	-0.01335	-0.07702
NI	60	0.02500	46.67000	56.700	0.01592	0.01756	0.04109
RB	85	-0.00200	6.67000	0.000	0.00861	-0.02119	0.00798
SB	121	0.22900	126.67000	26.100	0.19646	0.29782	0.19217
SN	120	0.03200	80.00000	137.000	-0.01572	0.07112	0.04122
SR	88	0.01200	16.67000	92.200	0.01938	-0.00078	0.01850
ZN	66	-1.19300	116.67000	0.000	-1.02957	-1.43319	-1.11501
BI-1	209	204143.96000	0.00000	0.000	202846.09000	206022.46000	203563.34000
PB	208	-0.00300	146.67000	0.000	-0.00853	0.00767	-0.00730
TL	203	0.01300	40.00000	59.400	0.01323	0.02080	0.00526
U	238	0.00500	43.33000	57.300	0.00452	0.00780	0.00225
GE-1	72	130952.01000	0.00000	0.000	130687.01000	132126.12000	130042.91000
TB-1	159	275942.35000	0.00000	0.000	275585.70000	277357.96000	274883.39000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:56:06
Tube Number: 24
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	47235.80000	0.00000	0.000	47904.14000	46770.98000	47032.27000
AL	27	203.13000	4867.50000	5.500	215.97536	196.62140	196.79455
CA	44	456.10800	1483.45000	4.600	457.91001	434.45771	475.95664
CR	52	4.31800	6484.73000	6.300	4.03206	4.56975	4.35329
FE	57	208.06800	5694.45000	0.500	209.03060	208.17561	206.99854
K	39	444.71100	23555.76000	3.500	458.88002	428.21923	447.03237
MG	24	206.09300	18439.89000	2.800	199.71859	210.60283	207.95664
MN	55	4.36800	2483.60000	6.900	4.70802	4.26357	4.13166
NA	23	399.33000	104144.85000	2.900	388.37471	398.29901	411.31636
TI	47	28.37100	686.71000	4.900	26.87767	29.61426	28.62021
V	51	1.00700	1063.41000	7.900	1.04711	0.91550	1.05729
IN-1	115	57397.83000	0.00000	0.000	57511.06000	56430.93000	58251.49000
AG	107	1.06700	3907.25000	4.200	1.01616	1.10291	1.08176
AS	75	4.23500	556.68000	7.400	4.20326	4.56449	3.93839
BA	137	4.12700	863.39000	7.100	4.10629	3.84428	4.43130
CD	111	1.01500	385.34000	10.500	0.94708	0.95985	1.13763
CO	59	1.02600	2800.34000	8.800	1.06306	1.09099	0.92262
CU	63	4.19800	9529.48000	3.400	4.08265	4.35751	4.15330
MO	98	0.96500	1650.13000	10.900	0.85054	1.05674	0.98745
NI	60	4.05700	3057.04000	4.800	3.86682	4.05058	4.25294
RB	85	2.09900	713.37000	6.700	2.20241	2.15430	1.93993
SB	121	2.22000	1210.09000	3.200	2.14258	2.23985	2.27847
SN	120	4.31000	3703.89000	4.800	4.31840	4.51034	4.09986
SR	88	2.12100	1033.41000	8.000	2.27445	2.14971	1.93884
ZN	66	31.67000	8975.89000	1.600	31.84597	32.07182	31.09177
BI-1	209	210038.27000	0.00000	0.000	211630.33000	208143.06000	210341.42000
PB	208	2.20400	17988.01000	1.200	2.18704	2.23404	2.19190
TL	203	1.05700	2763.67000	8.800	1.04769	1.15430	0.96990
U	238	1.05900	9696.70000	2.200	1.08454	1.03762	1.05515
GE-1	72	131548.52000	0.00000	0.000	130669.27000	129430.13000	134546.17000
TB-1	159	281307.77000	0.00000	0.000	279964.16000	282760.60000	281198.55000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:57:56
Tube Number: 25
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	36841.49000	0.00000	0.000	36006.65000	37128.51000	37389.31000
AL	27	115343.31100	2048572.16000	1.500	117018.61385	115469.54051	113541.77895
CA	44	289547.39800	722416.06000	0.800	291576.55119	290237.59178	286828.05028
CR	52	3.26700	3850.55000	3.700	3.26501	3.14676	3.38974
FE	57	296209.92400	6224914.28000	1.500	301422.69572	293323.94283	293883.13297
K	39	126713.81400	4566428.68000	0.900	127669.93618	126965.30675	125506.20045
MG	24	122488.18700	8504872.58000	1.600	124639.60676	122016.72560	120808.22775
MN	55	2.56600	1150.08000	4.800	2.69623	2.45317	2.54864
NA	23	297029.47600	47225112.63000	1.300	300637.94290	297490.79192	292959.69244
TI	47	2303.48200	43513.13000	2.000	2266.73547	2289.83494	2353.87601
V	51	0.13600	133.34000	36.800	0.14839	0.08087	0.17875
IN-1	115	50593.97000	0.00000	0.000	48728.34000	51586.89000	51466.69000
AG	107	0.19800	656.70000	19.200	0.24164	0.17579	0.17622
AS	75	0.46200	56.67000	23.500	0.35116	0.56856	0.46755
BA	137	4.38300	806.72000	7.800	4.62106	3.99230	4.53530
CD	111	0.22400	74.67000	12.400	0.24839	0.19357	0.22929
CO	59	2.86400	6858.25000	13.100	3.29683	2.67986	2.61634
CU	63	1.64400	3360.44000	6.400	1.73857	1.52938	1.66270
MO	98	2268.94700	3035827.97000	1.900	2318.12122	2245.66910	2243.05101
NI	60	1.43500	966.73000	14.700	1.63501	1.21432	1.45635
RB	85	0.22700	73.33000	26.400	0.29372	0.21016	0.17758
SB	121	0.05600	30.00000	73.200	0.05840	0.09575	0.01389
SN	120	0.14600	156.67000	24.500	0.11762	0.18639	0.13434
SR	88	3.52200	1506.80000	3.700	3.56758	3.62242	3.37653
ZN	66	2.61200	1003.40000	27.900	3.39938	1.96541	2.47018
BI-1	209	172827.80000	0.00000	0.000	171851.91000	173582.85000	173048.63000
PB	208	0.32600	2310.15000	7.700	0.30379	0.35295	0.32106
TL	203	0.00200	10.00000	233.200	-0.00265	0.00662	0.00200
U	238	0.01400	103.34000	43.600	0.01335	0.00793	0.01989
GE-1	72	115419.08000	0.00000	0.000	113742.13000	116389.45000	116125.66000
TB-1	159	188798.81000	0.00000	0.000	183510.88000	188301.05000	194584.51000

Run Name: 1715307E05 Date/Time: 06/02/2017 9:59:46
Tube Number: 26
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	35849.46000	0.00000	0.000	35825.91000	36006.22000	35716.24000
AL	27	119490.97400	2065427.26000	0.700	119484.41868	118666.74088	120321.76387
CA	44	294832.36100	715864.34000	0.700	296940.22572	294575.56177	292981.29448
CR	52	233.33100	261453.05000	1.300	233.53063	230.22425	236.23809
FE	57	303965.48500	6217113.03000	0.900	300904.48257	305075.08859	305916.88285
K	39	131746.82100	4620292.64000	0.400	132258.48111	131188.02879	131793.95395
MG	24	126022.83700	8516219.04000	1.300	127379.84523	124130.68986	126557.97473
MN	55	246.16800	104451.17000	1.500	242.01280	248.56866	247.92365
NA	23	307008.00900	47502862.63000	1.000	306267.24192	304393.97048	310362.81524
TI	47	2321.61000	42664.51000	1.400	2297.80677	2309.61783	2357.40570
V	51	247.00600	192086.50000	0.800	247.77988	244.85318	248.38347
IN-1	115	49785.49000	0.00000	0.000	49912.45000	49401.08000	50042.94000
AG	107	47.44600	149638.16000	2.800	46.67584	48.98631	46.67453
AS	75	102.87400	11663.87000	2.200	101.44023	105.42614	101.75504
BA	137	4.33900	786.72000	7.900	4.73149	4.16900	4.11552
CD	111	96.59000	31784.39000	0.000	96.62025	96.57705	96.57408
CO	59	194.49000	458678.12000	0.900	192.51615	195.17201	195.78131
CU	63	189.95200	368781.70000	1.600	188.88310	193.34091	187.63130
MO	98	2298.04200	3026824.43000	0.700	2314.62178	2295.32738	2284.17606
NI	60	198.02000	128227.52000	0.600	197.17853	199.39458	197.48603
RB	85	0.17300	56.67000	70.100	0.18377	0.28946	0.04695
SB	121	0.05700	30.00000	37.800	0.03569	0.07890	0.05669
SN	120	0.17200	173.34000	42.700	0.20833	0.08774	0.22116
SR	88	3.64300	1533.46000	7.800	3.33931	3.68729	3.90130
ZN	66	96.17100	22868.59000	3.800	97.64567	98.84812	92.02011
BI-1	209	170743.13000	0.00000	0.000	173007.52000	170248.67000	168973.20000
PB	208	0.31800	2230.14000	12.300	0.29711	0.36333	0.29395
TL	203	0.00200	10.00000	229.800	0.00665	0.00208	-0.00265
U	238	0.01200	86.67000	47.400	0.01061	0.00674	0.01765
GE-1	72	113748.83000	0.00000	0.000	112120.66000	114820.80000	114305.03000
TB-1	159	187449.45000	0.00000	0.000	185007.11000	188904.14000	188437.09000

Run Name: 1715307E05 Date/Time: 06/02/2017 10:01:37
Tube Number: 27
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	46159.24000	0.00000	0.000	45968.64000	46710.53000	45798.55000
AL	27	1.03200	256.68000	320.300	4.83007	-1.18658	-0.54800
CA	44	2.07700	30.00000	536.300	14.93812	-4.38503	-4.32208
CR	52	0.51700	856.72000	14.700	0.55620	0.42966	0.56555
FE	57	17.13800	536.70000	15.900	18.50706	18.91271	13.99487
K	39	1.16600	2993.69000	499.900	6.89888	-4.75875	1.35917
MG	24	5.35400	556.69000	19.800	6.57022	4.63202	4.86104
MN	55	-0.03700	20.00000	0.000	-0.05528	-0.01939	-0.03676
NA	23	12.50300	24743.87000	8.600	11.51719	12.34252	13.64847
TI	47	1.12600	26.67000	21.400	0.84872	1.25286	1.27780
V	51	-0.01100	20.00000	0.000	-0.03088	-0.00127	-0.00068
IN-1	115	55255.26000	0.00000	0.000	54857.29000	55439.72000	55468.76000
AG	107	-0.00100	23.33000	0.000	-0.00207	0.00072	-0.00213
AS	75	0.03600	8.00000	88.600	0.06870	0.03600	0.00430
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	0.00200	0.67000	173.200	0.00000	0.00546	0.00000
CO	59	0.01800	60.00000	99.700	0.03709	0.00237	0.01378
CU	63	0.04000	220.01000	49.300	0.02693	0.03062	0.06294
MO	98	1.45200	2300.24000	13.000	1.65570	1.41879	1.28167
NI	60	0.01300	36.67000	219.000	0.00421	0.04538	-0.01012
RB	85	-0.00100	6.67000	0.000	-0.02119	-0.02119	0.04029
SB	121	0.00600	6.67000	180.300	0.01262	0.01242	-0.00663
SN	120	0.02700	73.33000	68.400	0.01101	0.02245	0.04682
SR	88	0.00600	13.33000	506.300	-0.00052	-0.02221	0.04214
ZN	66	-1.48400	36.67000	0.000	-1.50849	-1.58651	-1.35627
BI-1	209	202347.99000	0.00000	0.000	203247.38000	202162.63000	201633.96000
PB	208	-0.00700	113.33000	0.000	-0.00217	-0.01363	-0.00459
TL	203	-0.00100	3.33000	0.000	0.00131	-0.00265	-0.00265
U	238	0.00000	3.33000	173.200	0.00000	0.00000	0.00114
GE-1	72	123977.05000	0.00000	0.000	125128.15000	123286.96000	123516.05000
TB-1	159	271461.62000	0.00000	0.000	273338.43000	269618.10000	271428.32000

Run Name: 1715307E05 Date/Time: 06/02/2017 10:03:26
Tube Number: 28
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	46016.06000	0.00000	0.000	45799.19000	46230.07000	46018.91000
AL	27	2536.95100	56521.06000	2.300	2477.69883	2593.60597	2539.54930
CA	44	2527.59300	7902.02000	5.200	2420.64245	2672.81690	2489.31952
CR	52	240.84900	346423.47000	1.700	237.89861	239.14175	245.50644
FE	57	2478.83500	65162.11000	0.400	2485.08164	2468.33017	2483.09399
K	39	2543.82800	117396.45000	2.700	2464.44247	2588.24179	2578.79984
MG	24	2493.87300	216409.28000	1.600	2537.10506	2485.38741	2459.12555
MN	55	252.28400	137396.97000	1.000	254.16645	249.32881	253.35603
NA	23	2385.26800	495753.94000	0.600	2399.66028	2385.78163	2370.36083
TI	47	238.55300	5627.75000	3.800	236.00825	248.58388	231.06678
V	51	248.91800	248479.12000	0.600	247.18545	250.03623	249.53298
IN-1	115	55863.66000	0.00000	0.000	56761.41000	56011.00000	54818.57000
AG	107	25.58200	90537.94000	1.900	25.20266	25.40746	26.13639
AS	75	255.25500	32462.77000	2.500	249.13515	254.92337	261.70594
BA	137	255.37900	51954.36000	0.300	254.76325	255.22024	256.15213
CD	111	26.03100	9609.39000	2.000	25.45684	26.17090	26.46402
CO	59	244.04800	645771.05000	0.700	242.50112	243.82338	245.81951
CU	63	242.80700	528864.00000	1.400	239.34463	242.92240	246.15422
MO	98	25.27100	37528.08000	2.300	25.69956	24.61844	25.49471
NI	60	256.13600	186048.87000	2.800	251.27171	252.78063	264.35668
RB	85	25.44200	8338.89000	4.500	24.49579	25.12881	26.70287
SB	121	26.23300	13876.06000	4.400	27.00956	24.91762	26.77109
SN	120	26.43600	21851.18000	2.700	25.66707	26.58082	27.06146
SR	88	26.01800	12221.24000	3.300	25.24689	25.88310	26.92424
ZN	66	256.57300	67752.19000	1.000	253.70199	258.68404	257.33386
BI-1	209	203338.83000	0.00000	0.000	201120.04000	205658.57000	203237.87000
PB	208	26.32500	206123.86000	2.100	26.97616	26.00194	25.99607
TL	203	25.98600	65624.84000	1.100	25.71861	25.97297	26.26647
U	238	26.09400	231233.55000	1.700	26.41092	25.59180	26.28048
GE-1	72	126045.10000	0.00000	0.000	129549.56000	122986.25000	125599.50000
TB-1	159	276022.33000	0.00000	0.000	281080.66000	274574.90000	272411.42000

Run Name: 1715307E05 Date/Time: 06/02/2017 10:05:17
Tube Number: 29
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-1	45	45013.36000	0.00000	0.000	45688.47000	44946.27000	44405.35000
AL	27	-6.36300	90.00000	0.000	-6.88009	-5.43524	-6.77515
CA	44	11.12300	56.67000	76.400	2.14912	12.16447	19.05478
CR	52	0.47800	783.38000	25.400	0.60914	0.45669	0.36949
FE	57	-0.63500	66.67000	0.000	-0.15882	-0.88808	-0.85957
K	39	9.03500	3263.76000	100.200	-1.39098	14.91170	13.58341
MG	24	0.08800	96.67000	614.600	0.69509	-0.10246	-0.32989
MN	55	-0.01700	30.00000	0.000	0.00032	-0.03606	-0.01657
NA	23	7.00800	23058.24000	56.400	5.82264	3.78745	11.41441
TI	47	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
V	51	-0.01700	13.33000	0.000	-0.01070	-0.03088	-0.01012
IN-1	115	55977.74000	0.00000	0.000	55981.59000	56483.12000	55468.50000
AG	107	0.00200	33.33000	413.300	0.00909	-0.00223	-0.00213
AS	75	0.13500	20.67000	32.900	0.16091	0.15924	0.08347
BA	137	0.01700	3.33000	173.200	0.00000	0.00000	0.04950
CD	111	0.00500	2.00000	173.200	0.00000	0.00000	0.01637
CO	59	0.02100	70.00000	77.500	0.03246	0.02839	0.00236
CU	63	0.05700	260.01000	27.200	0.06180	0.06978	0.03982
MO	98	0.12800	370.02000	46.800	0.13430	0.06510	0.18438
NI	60	0.04900	63.33000	17.600	0.04457	0.04384	0.05920
RB	85	-0.01100	3.33000	0.000	-0.02119	-0.02119	0.00955
SB	121	0.16400	90.00000	31.500	0.14432	0.12428	0.22192
SN	120	0.12300	153.34000	60.300	0.04583	0.12880	0.19335
SR	88	-0.00800	6.67000	0.000	-0.00096	-0.02221	-0.00076
ZN	66	-1.21900	106.67000	0.000	-1.24465	-1.17261	-1.24113
BI-1	209	200252.29000	0.00000	0.000	203004.14000	198482.95000	199269.78000
PB	208	-0.00800	100.00000	0.000	-0.01238	-0.00432	-0.00830
TL	203	0.00400	16.67000	207.500	0.00131	0.01357	-0.00265
U	238	0.00300	30.00000	67.300	0.00113	0.00578	0.00345
GE-1	72	123811.64000	0.00000	0.000	121914.26000	126527.16000	122993.49000
TB-1	159	272241.06000	0.00000	0.000	275323.28000	268510.52000	272889.37000

Tune Report

Batch Folder D:\Agilent\ICPMH\1\DATA\~EPATUNE.b
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

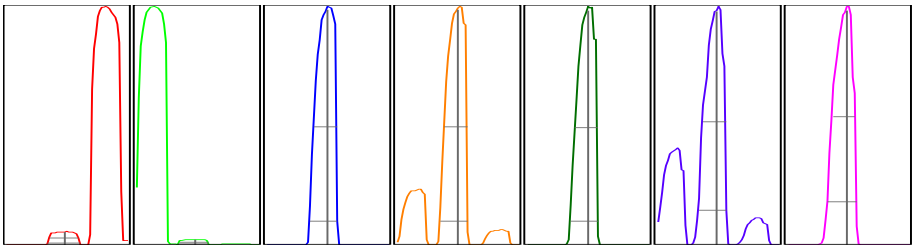
[No Gas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
6		48110	48109.88			NaN	-	
24		80402	80402.21			NaN	-	
103		153582	153581.66			NaN	-	
115		161343	161342.65			NaN	-	
140		156701	156701.05			NaN	-	
208		78084	78084.01			NaN	-	
238		163555	163555.47			NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
6	0.93	5.00				
24	1.55	5.00				
103	0.93	5.00				
115	0.59	5.00				
140	1.07	5.00				
208	0.54	5.00				
238	0.49	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
6	48866	48140	47962	47780	47802
24	78522	79776	81237	81551	80925
103	152161	152331	153513	154305	155598
115	162312	160357	160423	161365	162256
140	155420	156074	155045	158339	158627
208	77389	78469	78119	78078	78364
238	162303	163495	163540	164005	164434

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
6	7047.07	5.95	5.9 - 6.1		0.71	0.787	0.900	
24	12164.29	23.95	23.9 - 24.1		0.69	0.737	0.900	
103	28167.99	103.00	102.9 - 103.1		0.56	0.671	0.900	
115	29970.97	115.00	114.9 - 115.1		0.55	0.667	0.900	
140	29880.87	140.00	139.9 - 140.1		0.54	0.669	0.900	
208	14858.92	207.95	207.9 - 208.1		0.55	0.677	0.900	
238	30658.95	237.95	237.9 - 238.1		0.55	0.693	0.900	

X = 10 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 260.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.25 L/min	S/C Temp	20 ℃
RF Matching	0.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.80 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Tune Report

Extract 1	0.0 V	Omega Lens	6.1 V	Deflect	16.8 V				
Extract 2	-160.0 V	Cell Entrance	-30 V	Plate Bias	-40 V				
Mass	**Peak Height**	**Axis (Actual)**	**Axis (Required)**	**Axis (Flag)**	**W-50%**	**W-X% (Actual)**	**W-X% (Required)**	**W-X% (Flag)**	
Omega Bias	-75 V	Cell Exit	-50 V						

Cell Parameters

OctP Bias	-6.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	200 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

Mercury Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name: 1714902.M09

Run Name: 1714901M09

Instrument No.: 23283

Element: Hg

Analyst Employee ID: 354

Reviewed By
Damary Valentin

Reviewed Date
05/29/2017 11:03AM

Method Reference Name(s):
SW-846 7470A

Verified By:
Parker D Lindstrom

Verified Date
05/29/2017 7:11PM

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

1 Burn Date/Time: 05/29/2017 06:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	152.0

2 Burn Date/Time: 05/29/2017 06:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	2249.0

3 Burn Date/Time: 05/29/2017 06:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	5150.0

4 Burn Date/Time: 05/29/2017 06:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	9937.0

5 Burn Date/Time: 05/29/2017 06:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	26072.0

6 Burn Date/Time: 05/29/2017 06:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	49613.0

CorrelationCoefficient = 1.00000
Slope = 9946.1953000000
Y-Intercept = 278.0005400000

LANCASTER LABORATORIES

Run Name: 1714901M09

Instrument ID: 23283

Analyst ID: 354.00

CV Element: Hg

7 Burn Date/Time: 05/29/2017 06:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.4574	24725.0

8 Burn Date/Time: 05/29/2017 06:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0617	-345.0

9 Burn Date/Time: 05/29/2017 06:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.2062	2321.0

10 Burn Date/Time: 05/29/2017 06:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9879	10100.0

11 Burn Date/Time: 05/29/2017 06:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0581	-310.0

12 Burn Date/Time: 05/29/2017 06:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0179	90.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

13 Burn Date/Time: 05/29/2017 06:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0500	10719.0		

14 Burn Date/Time: 05/29/2017 06:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9006555	U*********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0524	-253.0		

15 Burn Date/Time: 05/29/2017 06:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9006558	D*********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0152	117.0		

16 Burn Date/Time: 05/29/2017 06:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9006556	R*********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0729	10946.0		

17 Burn Date/Time: 05/29/2017 06:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9006557	M*********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0824	11041.0		

18 Burn Date/Time: 05/29/2017 06:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8997579	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0531	-260.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

19 Burn Date/Time: 05/29/2017 06:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009420	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0020	249.0		

20 Burn Date/Time: 05/29/2017 06:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009421	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0126	143.0		

21 Burn Date/Time: 05/29/2017 06:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009422	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0131	138.0		

22 Burn Date/Time: 05/29/2017 07:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9834	10056.0

23 Burn Date/Time: 05/29/2017 07:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0659	-387.0

24 Burn Date/Time: 05/29/2017 07:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009423	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0165	104.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

25 Burn Date/Time: 05/29/2017 07:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009424	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0160	109.0		

26 Burn Date/Time: 05/29/2017 07:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9011409	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.2795	3050.0		

27 Burn Date/Time: 05/29/2017 07:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0398	-128.0		

28 Burn Date/Time: 05/29/2017 07:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0618	10836.0		

29 Burn Date/Time: 05/29/2017 07:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003974	U*********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0590	-319.0		

30 Burn Date/Time: 05/29/2017 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003977	D*********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0191	78.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

31 Burn Date/Time: 05/29/2017 07:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003975	R*********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0348	10567.0		

32 Burn Date/Time: 05/29/2017 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003976	M*********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0275	10495.0		

33 Burn Date/Time: 05/29/2017 07:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003972	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0541	-270.0		

34 Burn Date/Time: 05/29/2017 07:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9828	10050.0

35 Burn Date/Time: 05/29/2017 07:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0607	-336.0

36 Burn Date/Time: 05/29/2017 07:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003973	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0199	71.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

37 Burn Date/Time: 05/29/2017 07:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003978	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0057	325.0		

38 Burn Date/Time: 05/29/2017 07:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003979	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0148	121.0		

39 Burn Date/Time: 05/29/2017 07:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003980	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0187	82.0		

40 Burn Date/Time: 05/29/2017 07:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003981	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0163	106.0		

41 Burn Date/Time: 05/29/2017 07:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003982	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0186	83.0		

42 Burn Date/Time: 05/29/2017 07:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003983	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0166	103.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

43 Burn Date/Time: 05/29/2017 07:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003984	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0156	113.0		

44 Burn Date/Time: 05/29/2017 07:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003985	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0161	108.0		

45 Burn Date/Time: 05/29/2017 07:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003986	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0003	272.0		

46 Burn Date/Time: 05/29/2017 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9634	9857.0

47 Burn Date/Time: 05/29/2017 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0622	-350.0

48 Burn Date/Time: 05/29/2017 07:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003987	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0170	99.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

49 Burn Date/Time: 05/29/2017 07:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003988	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0178	91.0		

50 Burn Date/Time: 05/29/2017 08:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003989	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0190	79.0		

51 Burn Date/Time: 05/29/2017 08:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003990	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0043	226.0		

52 Burn Date/Time: 05/29/2017 08:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003991	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0146	414.0		

53 Burn Date/Time: 05/29/2017 08:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003992	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3330	3583.0		

54 Burn Date/Time: 05/29/2017 08:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003993	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1151	1414.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Instrument ID: 23283

Analyst ID: 354.00

CV Element: Hg

55 Burn Date/Time: 05/29/2017 08:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003994	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0166	434.0		

56 Burn Date/Time: 05/29/2017 08:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171440571306

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0254	16.0		

57 Burn Date/Time: 05/29/2017 08:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171440571306

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0240	10460.0		

58 Burn Date/Time: 05/29/2017 08:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
0.9268	9492.0

59 Burn Date/Time: 05/29/2017 08:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0563	-292.0

60 Burn Date/Time: 05/29/2017 08:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	171440571306

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0374	10593.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Instrument ID: 23283

Analyst ID: 354.00

CV Element: Hg

61 Burn Date/Time: 05/29/2017 08:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007537	**********	40	40	1.00	171440571306

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0573	-302.0		

62 Burn Date/Time: 05/29/2017 08:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0213	57.0		

63 Burn Date/Time: 05/29/2017 08:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9969	10190.0		

64 Burn Date/Time: 05/29/2017 08:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000753	U*********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0526	-255.0		

65 Burn Date/Time: 05/29/2017 08:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000756	D*********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0174	95.0		

66 Burn Date/Time: 05/29/2017 08:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000754	R*********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9806	10028.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

67 Burn Date/Time: 05/29/2017 08:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000755	M*********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9822	10044.0		

68 Burn Date/Time: 05/29/2017 08:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000758	**********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0570	-299.0		

69 Burn Date/Time: 05/29/2017 08:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000764	**********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0147	122.0		

70 Burn Date/Time: 05/29/2017 08:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9742	9964.0

71 Burn Date/Time: 05/29/2017 08:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0601	-330.0

72 Burn Date/Time: 05/29/2017 08:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000767	**********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0219	51.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

73 Burn Date/Time: 05/29/2017 08:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0207	63.0		

74 Burn Date/Time: 05/29/2017 08:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.3089	13295.0		

75 Burn Date/Time: 05/29/2017 08:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007551	U*********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0593	-322.0		

76 Burn Date/Time: 05/29/2017 08:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007551	D*********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0201	69.0		

77 Burn Date/Time: 05/29/2017 08:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007551	R*********	4	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7907	18090.0		

78 Burn Date/Time: 05/29/2017 08:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007551	M*********	4	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7049	17236.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

79 Burn Date/Time: 05/29/2017 09:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007554	**********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0633	-361.0		

80 Burn Date/Time: 05/29/2017 09:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007557	**********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0225	45.0		

81 Burn Date/Time: 05/29/2017 09:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171460571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0204	66.0		

82 Burn Date/Time: 05/29/2017 09:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00

AVG (ppb)	Intensity
0.9512	9735.0

83 Burn Date/Time: 05/29/2017 09:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00

AVG (ppb)	Intensity
-0.0610	-339.0

84 Burn Date/Time: 05/29/2017 09:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171460571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9576	9799.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

85 Burn Date/Time: 05/29/2017 09:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	171460571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9777	9999.0		

86 Burn Date/Time: 05/29/2017 09:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9014452	**********	8	40	1.00	171460571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0646	-374.0		

87 Burn Date/Time: 05/29/2017 09:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 8		1	1	1.00

AVG (ppb)	Intensity
0.9643	9866.0

88 Burn Date/Time: 05/29/2017 09:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 8		1	1	1.00

AVG (ppb)	Intensity
-0.0650	-378.0

Extraction/Distillation/Digestion Logs

Metals in Liquid

LLENS Worksheet for 0639 ICP/MS SW846 Water

Batch# 17 144 10639 01

Balance ID#: 10685 **Start Time:** 5/30/17 5:35 **End Time:** 5/30/17 10:45 **Hot Block:** 15

Pipette ID: JU06758

Reflux Cap Lot#: 1610138-7081-KN

Spike/Reagent	Lot#	Volume Added(mL)
HNO3	152495	3.00
ICP/MS Spike	1709742#4	0.50
LCS	1709742#4	0.50

Method Ref:

	SampleID	Date Due		ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1612138	Batch alone
2)	LCSW	.							1612138	
3)	8997579EB	05/30/17 09:20		WW	P8				1612138	
4)	**9006555U**	06/02/17 10:00		WW	N8			008a	1612138	
5)	**9006556R**	06/02/17 10:00		WW	N8			008a	1612138	
6)	**9006557M**	06/02/17 10:00		WW	N8			008a	1612138	
7)	**9006558D**	06/02/17 10:00		WW	N8			008a	1612138	
8)	9009420	06/05/17 09:40		WW	N8			008a	1612138	
9)	9009421	06/05/17 09:40		WW	N8			008a	1612138	
10)	9009422FD	06/05/17 09:40		WW	N8			008a	1612138	
11)	9009423	06/05/17 09:40		WW	N8			008a	1612138	
12)	9009424	06/05/17 09:40		WW	N8			008a	1612138	

Prep Employee: 943

5/30/2017

v 1.0.1

Batch# 17 144 1063 901

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		5/24/17 0:00	943
2)	Sample Vol		5/25/17 7:59	943
3)	Final Vol	10685	5/25/17 7:59	943
4)	Trial		5/25/17 7:59	943
5)	Upload Prep	US19PCC06698	5/30/17 11:23	943

Sample ID	Analysis	D	Operation	Measurement	Original Entry Date/Time	Data	Units	Analyst	Data Changed Date/Time	Analyst	Reason

Analysis: 0639 ICP/MS SW846 Water

Batch# 17 144 1063 901

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8997579EB	05/30/17	P8	LYN11	LYN11-01EB*	50.0000	50.0000	1
9006555U	06/02/17	N8	AE872	RAE87-02BKG	50.0000	50.0000	1
9006556R	06/02/17	N8	AE872	RAE87-02MS	50.0000	50.0000	1
9006557M	06/02/17	N8	AE872	RAE87-02MSD	50.0000	50.0000	1
9006558D	06/02/17	N8	AE872	RAE87-02DUP	50.0000	50.0000	1
9009420	06/05/17	N8	89R01	RAE89-01	50.0000	50.0000	1
9009421	06/05/17	N8	89R02	RAE89-02	50.0000	50.0000	1
9009422FD	06/05/17	N8	89R03	RAE89-03FD	50.0000	50.0000	1
9009423	06/05/17	N8	89R04	RAE89-04	50.0000	50.0000	1
9009424	06/05/17	N8	89R05	RAE89-05*	50.0000	50.0000	1

LLENS Worksheet for 0639 ICP/MS SW846 Water

Batch# 17 144 10639 02

Balance ID#: 10685 **Start Time:** 5/30/17 5:35 **End Time:** 5/30/17 10:45 **Hot Block:** 15

Pipette ID: JU06758

Reflux Cap Lot#: 1610138-7081-KN

Spike/Reagent	Lot#	Volume Added(mL)
HNO3	152495	3.00
ICP/MS Spike	1709742#4	0.50
LCS	1709742#4	0.50

Method Ref:

	SampleID	Date Due		ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1612138	Batch alone
2)	LCSW	.							1612138	
3)	**9006554U**	06/02/17 10:00		WW	N8			008a	1612138	
4)	**9006554R**	06/02/17 10:00		WW	N8			008a	1612138	
5)	**9006554M**	06/02/17 10:00		WW	N8			008a	1612138	
6)	**9006554D**	06/02/17 10:00		WW	N8			008a	1612138	
7)	9006559	06/02/17 10:00		WW	N8			008a	1612138	

Prep Employee: 943

5/30/2017

v 1.0.1

Batch# 17 144 1063 902

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		5/24/17 0:00	943
2)	Sample Vol		5/25/17 7:59	943
3)	Final Vol	10685	5/25/17 7:59	943
4)	Trial		5/25/17 7:59	943
5)	Upload Prep	US19PCC06698	5/30/17 11:23	943

Sample ID	Analysis	D	Operation	Measurement	Original Entry Date/Time	Data	Units	Analyst	Data Changed Date/Time	Analyst	Reason

Analysis: 0639 ICP/MS SW846 Water

Batch# 17 144 1063 902

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
9006554U	06/02/17	N8	AE871	RAE87-01	50.0000	50.0000	1
9006554R	06/02/17	N8	AE871	RAE87-01	50.0000	50.0000	1
9006554M	06/02/17	N8	AE871	RAE87-01	50.0000	50.0000	1
9006554D	06/02/17	N8	AE871	RAE87-01	50.0000	50.0000	1
9006559	06/02/17	N8	AE873	RAE87-03*	50.0000	50.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 17 142 05713 01

Balance ID#: 10685 **Start Time:** 5/28/17 8:15 **End Time:** 5/28/17 10:15 **Hot Block:** 11

Pipette ID: W/1000

Reflux Cap Lot#: 1610138-7081-KN

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P17-137J	3.20
5%KMnO4	P17-142B	6.00
H2SO4	166942	2.00
HNO3	152495	1.00
LCS 40ppb Hg	P17-143I	1.00
NaCl/NH2OH.HCl	P17-142H	2.40
Spike 40ppb Hg	P17-143I	1.00

Method Ref:

	SampleID	Date Due		ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1612138	Batch alone
2)	LCSW	.							1612138	
3)	8997579EB	05/30/17 09:20		WW	P8				1612138	
4)	**9006555U**	06/02/17 10:00		WW	N8			008a	1612138	
5)	**9006556R**	06/02/17 10:00		WW	N8			008a	1612138	
6)	**9006557M**	06/02/17 10:00		WW	N8			008a	1612138	
7)	**9006558D**	06/02/17 10:00		WW	N8			008a	1612138	
8)	9009420	06/05/17 09:40		WW	N8			008a	1612138	
9)	9009421	06/05/17 09:40		WW	N8			008a	1612138	
10)	9009422FD	06/05/17 09:40		WW	N8			008a	1612138	
11)	9009423	06/05/17 09:40		WW	N8			008a	1612138	
12)	9009424	06/05/17 09:40		WW	N8			008a	1612138	
13)	9011409	06/06/17 09:30		WW	N8			008a	1612138	

Prep Employee: 943

5/28/2017

v 1.0.1

Batch# 17 142 0571 301

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		5/22/17 0:00	943
2)	Sample Vol		5/25/17 8:00	943
3)	Final Vol	10685	5/25/17 8:00	943
4)	Trial		5/25/17 8:00	943
5)	Upload Prep	US19PCC06698	5/28/17 12:27	943

Sample ID	Analysis	D	Operation	Measurement	Original Entry Date/Time	Data	Units	Analyst	Data Changed Date/Time	Analyst	Reason

Analysis: 5713 Hg SW846 Digest Water

Batch# 17 142 0571 301

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Dilution	Final Volume	Trial
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
8997579EB	05/30/17	P8	LYN11	LYN11-01EB*	40.0000		40.0000	1
9006555U	06/02/17	N8	AE872	RAE87-02BKG	40.0000		40.0000	1
9006556R	06/02/17	N8	AE872	RAE87-02MS	40.0000		40.0000	1
9006557M	06/02/17	N8	AE872	RAE87-02MSD	40.0000		40.0000	1
9006558D	06/02/17	N8	AE872	RAE87-02DUP	40.0000		40.0000	1
9009420	06/05/17	N8	89R01	RAE89-01	40.0000		40.0000	1
9009421	06/05/17	N8	89R02	RAE89-02	40.0000		40.0000	1
9009422FD	06/05/17	N8	89R03	RAE89-03FD	40.0000		40.0000	1
9009423	06/05/17	N8	89R04	RAE89-04	40.0000		40.0000	1
9009424	06/05/17	N8	89R05	RAE89-05*	40.0000		40.0000	1
9011409	06/06/17	N8	MW-4-	ACG36-01*	40.0000		40.0000	1

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 Std Cal	H17120N	Hg 1.0 mg/L Cal	15	5-16-17	H17-128A	0.25ml			
2	↓ ↓	O	↓	↓		↓	0.50ml			
3	↓ ↓	P								
4	↓ ICV	Q	Hg 1.0 mg/L Cont	15	5-16-17	H17-128C	0.25ml			
5	Aqua Regia	R						16.5	6	152495
6	Hg 1.0 mg/L InterCal	H17130A	Hg 10 mg/L Cal	15	7-30-17	H17-103B	1.0ml			
7	0.1 mg/L InterCal	B	1.0 mg/L Cal	15	5-17-17	H17-130A	↓			
8	1.0 mg/L InterCont	C	10 mg/L Cont	16	12-05-17	K2HG850192				
9	↓ 0.1 mg/L InterCont	D	↓ 1.0 mg/L Cont	15	5-17-17	H17-130C	↓			
10	Hg 5700 ICV	E	↓	↓	↓	↓	0.25ml	1	6	152495
11	↓ CCV	F	Hg 1.0 mg/L Cal	↓	↓	H17-130A	0.20ml	↓	↓	↓
12 (3)	CCV									
13	CCV		↓			↓				
14	Hg 5700 CRA1	H17130G	Hg 0.1 mg/L Cont	5	5-17-17	H17-130D	0.20ml	1	6	152495
15	Std Cal	H	Hg 0.1 mg/L Cal	↓	↓	H17-130B	0.20	↓	↓	↓
16	↓ ↓	I	↓			↓	0.50			
17	↓ ↓	J	Hg 1.0 mg/L Cal			H17-130A	0.20			
18	↓ ↓	K	↓			↓	0.25			
19	↓ ↓	L	↓	↓	↓	↓	0.50 ↓	↓	↓	↓
20	↓ ↓	M								

5-10-17 DV354

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml KMnO4		H17-129 H17-0945	100	2.5ug/L	DV354	5-09-17	5-16-17	RT
2								5.0				
3								0.0				
4								2.5				
5	49.5	6	147777				66	1:3			5-09-17	
6				To vol w/ 0.15% HNO3		H17-116C	10	1.0	DV354	5-10-17	5-17-17	RT
7								0.1				
8								1.0				
9								0.1				
10	2ml H2SO4	4	166942	3.2ml K2S2O8 1ml KMnO4		H17-0521 H17-0947	100	2.5ug/L				
11							200	1.0ug/L				
12												
13												5-10-17 DV354
14	2ml H2SO4	4	166942	3.2ml K2S2O8 1ml KMnO4		H17-0521 H17-0947	100	0.2ug/L	DV354	5-10-17	5-17-17	RT
15								0.2				
16								0.5				
17							200	1.0				
18							100	2.5				
19								5.0				
20								0.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

RAE87 Page 226 of 248

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ICV	H17130N	Hg 1.0mg/L Cont	15	5-17-17	H17-130C	0.25ml	1	6	152495
2	CCV	O	Hg 1.0mg/L Cal			H17-130A	0.20			
3	CRA	P	Hg 0.1mg/L Cont			H17-130D	0.20			
4	Hg 1.0mg/L Inter Cont	H17131A	Hg 10mg/L Cont	16	12-05-17	K2HG850192	1.0ml			
5	Hg 0.1mg/L Inter Cont	B	Hg 1.0mg/L Cont	15	5-18-17	H17-131A	1.0ml			
6	Stannous Chloride	C	SnCl2	6	4-13-18	16950275	200.02g			
7		D				516	200.00g			
8	Hg 1.0mg/L Inter Cal	H17132A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
9	Hg 0.1mg/L Inter Cal	B	Hg 1.0mg/L Cal	15	5-19-17	H17-132A	1.0ml			
10	Stannous Chloride	C	SnCl2	6	4-13-18	16950276	200.00g			
11	Hg 1.0mg/L Inter Cal	H17133A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
12	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	5-20-17	H17-133A				
13	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	K2HG850192				
14	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	5-20-17	H17-133C				
15	Hg 5700 ICV	E					0.25ml	1	6	152495
16	CCV	F	Hg 1.0mg/L Cal			H17-133A	0.20			
17	CRA	G	Hg 0.1mg/L Cont			H17-133D	0.20			
18	Std Cal	H								
19		I								
20		J								

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference :	Revision:	Historical Reference:
T-MET-FRM9079	3	1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 — Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 1ml KMnO4		H17-052D H17-094T	100	2.5ug/L	DU354	5-10-17	5-17-17	RT
2							200	1.0				
3							100	0.2				
4				To vol w/ 0.15% HNO_3		H17-110C	10	1.0	DU354	5-11-17	5-18-17	RT
5							10	0.1				
6	200	6	147777				2000	10%			11-11-17	
7												
8				To vol w/ 0.15% HNO_3		H17-110C	10	1.0	DU354	5-12-17	5-19-17	RT
9							10	0.1				
10	200	6	147777				2000	10%			11-12-17	
11				To vol w/ 0.15% HNO_3		H17-110C	10	1.0	DU354	5-13-17	5-20-17	RT
12								0.1				
13								1.0				
14								0.1				
15	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 1ml KMnO4		H17-052D H17-094T	100	2.5ug/L				
16							200	1.0				
17							100	0.2				
18								0.2				
19								0.5				
20							200	1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H171335A	Hg 1.0mg/L Cal	15	5-20-17	H17-133A	0.25ml	1	6	152495
2	↓	L	↓	↓	↓	↓	0.50	↓	↓	↓
3	↓	M	—							
4	ICV	N	Hg 1.0mg/L Cont	15	5-20-17	H17-133C	0.25ml			
5	CCV	O	Hg 1.0mg/L Cal			H17-133A	0.20			
6	↓ CRA	P	Hg 0.1mg/L Cont	↓	↓	H17-133D	0.20	↓	↓	↓
7	Hg 4792 ICV	Q	Hg 1.0mg/L Cont			H171335C	0.25	—		
8	CCV	R	Hg 1.0mg/L Cal			H17-133A	0.10			
9	CCV	S	↓			↓	0.10			
10	CRA	T	Hg 0.1mg/L Cont			H17-133D	0.20			
11	Std Cal	U	Hg 0.1mg/L Cal			H17-133B	0.20			
12		V	↓			↓	0.50			
13		W	Hg 1.0mg/L Cal			H17-133A	0.10			
14		X	↓			↓	0.25			
15		Y	↓	↓	↓	↓	0.50	↓	↓	↓
16	↓	Z	—					—		
17	Hg 1.0mg/L InterCal	H171354	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
18	0.1mg/L InterCal	B	1.0mg/L Cal	15	5-22-17	H17-135A	↓			
19	1.0mg/L InterCont	C	10mg/L Cont	16	12-05-17	K2H685192				
20	↓ 0.1mg/L InterCont	↓ D	↓ 1.0mg/L Cont	15	5-22-17	H17-135C				

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	166962	5.2ml $K_2Cr_2O_7$ 1ml $KMnO_4$		H17-052D H17-094T	100	2.5ug/L	DL354	5-13-17	5-26-17	RT
2								5.0				
3								0.0				
4							↓	25				
5							200	1.0				
6	↓	↓	↓	↓		↓	100	0.2				
7	5	6	147777	—		—		2.5				
8								1.0				
9								1.0				
10								0.2				
11								0.2				
12								0.5				
13								1.0				
14								2.5				
15								5.0				
16	↓	↓	↓	—		—	↓	0.0	↓	↓	↓	↓
17	—	—	—	Total w/ 0.15% HNO_3 H17-110C			10	1.0	DL354	5-15-17	5-22-17	RT
18								0.1				
19								1.0				
20				↓	↓	↓	↓	0.1	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

RAE87 Page 230 of 248

b

250966 42

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ICV	H17135E	Hg 1.0mg/L Cal	15	5-22-17	H17-135C	0.25ml	1	6	152495
2	CCV	F	Hg 1.0mg/L Cal			H17-135A	0.20			
3	CRA	G	Hg 0.1mg/L Cont			H17-135D	0.20			
4	Std Cal	H	Hg 0.1mg/L Cal			H17-135B	0.20			
5		I	↓			↓	0.50			
6		J	Hg 1.0mg/L Cal			H17-135A	0.20			
7		K	↓			↓	0.25			
8		L	↓	↓	↓	↓	0.50	↓		
9	↓	M	—							
10	ICV	N	Hg 1.0mg/L Cont	15	5-22-17	H17-135C	0.25ml			
11	CCV	O	Hg 1.0mg/L Cal			H17-135A	0.20			
12	CRA	P	Hg 0.1mg/L Cont	↓	↓	H17-135D	0.20	↓	↓	↓
13	Hg 1.0mg/L Inter Cal	H171360A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml	—		
14	0.1mg/L Inter Cal	B	10mg/L Cal	15	5-23-17	H17-136A				
15	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	K2HG850192				
16	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	5-23-17	H17-136C	↓			
17	Hg 5701 ICV	E	↓			↓	0.25ml			
18	CCV	F	Hg 1.0mg/L Cal			H17-136A	0.10			
19	CCV	G	↓			↓	0.10			
20	CCV	H	↓	↓	↓	↓	0.10			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H2SO4	4	161942	3.2ml K2Cr2O7 1ml KMnO4		H17-052D H17-094T	100	2.5ug/L	DJ 354	5-15-17	5-22-17	RT
2							200	1.0				
3							100	0.2				
4								0.2				
5								0.5				
6							200	1.0				
7							100	2.5				
8								5.0				
9								0.0				
10								2.5				
11							200	1.0				
12							100	0.2				
13				Toxol w/a 1%		H17-110C	10	1.0	DJ 354	5-16-17	5-23-17	RT
14								0.1				
15								1.0				
16								0.1				
17				5ml Aqua Regia 15ml KMnO4		H17-136 H17-094T	100	2.5ug/L				
18								1.0				
19								1.0				
20								1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified.
** units are mg/L unless otherwise specified

b

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-5701 CCV	H171361	Hg-1.0mg/L Cal	15	5-23-17	H17-136A	0.10ml			
2	CRA	J	Hg-0.1mg/L Cont			H17-136D	0.20			
3	Std Cal	K	Hg-0.1mg/L Cal			H17-136B	0.20			
4		L	↓			↓	0.50			
5		M	Hg-1.0mg/L Cal			H17-136A	0.10			
6		N	↓			↓	6.25			
7		O	↓	↓	↓	↓	0.50			
8	↓	P								
9	↓ ICV	Q	Hg-1.0mg/L Cont	15	5-23-17	H17-136C	0.25ml			
10	Aqua Regia	↓ R						10.5	6	159495
11	Waters-Blank	H171365						25	↓	↓
12	↓	↓								
13	Hg-1.0mg/L-InterCal	H171371	Hg-1.0mg/L Cal	15	7-30-17	H17-103R	1.0ml			
14	0.1mg/L-InterCal	B	1.0mg/L Cal	15	5-24-17	H17-137A	↓			
15	10mg/L-InterCont	C	10mg/L Cont	16	12-05-17	K2HG850PB				
16	↓ 0.1mg/L-InterCont	D	↓ 1.0mg/L Cont	15	5-24-17	H17-137C	↓			
17	Hg-5700 ICV	E	↓	↓	↓	↓	0.25ml	1	6	159495
18	↓ CCV	F	Hg-1.0mg/L Cal			H17-137A	0.20	↓	↓	↓
19	CRA	G	Hg-0.1mg/L Cont			H17-137D	0.20			
20	↓ Std Cal	↓ H	Hg-0.1mg/L Cal	↓	↓	H17-137D	0.20 ↓			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml Hmno3		H17-1316 H17-0947	100	1.0		5-16-17	5-23-17	RT
2								0.2				
3								0.2				
4								0.5				
5								1.0				
6								2.5				
7								5.0				
8								0.0				
9								2.5				
10	49.5	6	147777				66	1:3			5-16-17	
11	50ml H2SO4	4	166942	80ml H2O 150ml Hmno3		H17-0944 H17-1090	1000	0.0			10-04-17	
12				60ml Hydrox		H17-1256						
13				To volume 0.15% HNO3		H17-1105	10	1.0		5-17-17	5-24-17	RT
14								0.1				
15								1.0				
16								0.1				
17	2ml H2SO4	4	166942	2.2ml H2O 1ml Hmno3		H17-0944 H17-0947	100	2.5				
18							200	1.6				
19							100	0.2				
20							100	0.2				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

RAF87 Page 234 of 248

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-5700 Std Cal	H17137I	Hg-0.1mg/L Cal	15	5-24-17	H17-137B	0.50ml	1	6	152495
2		J	Hg-1.0mg/L Cal			H17-137A	0.20			
3		K					0.25			
4		L					0.50			
5		M								
6	ICV	N	Hg-1.0mg/L Cont	15	5-24-17	H17-137C	0.25ml			
7	CCV	O	Hg-1.0mg/L Cal			H17-137A	0.20			
8	CRA	P	Hg-0.1mg/L Cont			H17-137D	0.20			
9	Stannous Chloride	Q	SnCl2	6	4-07-18	169502 #7	200.04g			
10		R				#7	250.04g			
11	Hg-1.0mg/L Inter Cal	H17138A	Hg-10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
12	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	5-25-17	H17-137A				
13	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	K2H6850PD				
14	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	5-25-17	H17-137C				
15	Hg-5700 ICV	E					0.25ml	1	6	152495
16	CCV	F	Hg-1.0mg/L Cal			H17-138A	0.20			
17	CRA	G	Hg-0.1mg/L Cont			H17-138D	0.20			
18	Std Cal	H	Hg-0.1mg/L Cal			H17-138B	0.20			
19		I					0.50			
20		J	Hg-1.0mg/L Cal			H17-138A	0.20			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 6ml $KMnO_4$		H17-0944 H17-094T	100	0.5ug/L	DW354	5-17-17	5-24-17	RT
2							200	1.0				
3							100	2.5				
4								5.0				
5								0.0				
6							✓	2.5				
7							200	1.0				
8							100	0.2				
9	200	4	147777				2000	10%			11-17-17	
10												
11				To vol w/ 0.15% HNO3		H17-110C	10	1.0	DW354	5-18-17	5-25-17	RT
12								0.1				
13								1.0				
14								0.1				
15	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 6ml $KMnO_4$		H17-0944 H17-094T	100	2.5ug/L				
16							200	1.0				
17							100	0.2				
18								0.2				
19							✓	0.5				
20							200	1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009618; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H17138K	Hg 1.0 mg/L Cal	15	5-25-17	H17-138M	0.25 ml	1	6	152495
2	↓	L	↓	↓	↓	↓	0.50 ml	↓	↓	↓
3	↓	M	—							
4	ICV	N	Hg 1.0 mg/L Cont	15	5-25-17	H17-138C	0.25 ml			
5	CCV	O	Hg 1.0 mg/L Cal	↓	↓	H17-138M	0.20			
6	CRA	P	Hg 0.1 mg/L Cont	↓	↓	H17-138D	0.20	↓	↓	↓
7	Hg 5701 ICV	Q	Hg 1.0 mg/L Cont			H17-138C	0.25	—		
8	CCV	R	Hg 1.0 mg/L Cal			H17-138M	0.10			
9	CCV	S	↓			↓	0.10			
10	CCV	T					0.10			
11	CCV	U	↓			↓	0.10			
12	CRA	V	Hg 0.1 mg/L Cont			H17-138D	0.20			
13	Std Cal	W	Hg 0.1 mg/L Cal			H17-138B	0.20			
14	↓	X	↓			↓	0.50			
15	↓	Y	Hg 1.0 mg/L Cal			H17-138M	0.10			
16	↓	Z	↓			↓	0.25			
17	↓	AA	↓	↓	↓	↓	0.50			
18	↓	BB	—							
19	ICV	CC	Hg 1.0 mg/L Cont	15	5-25-17	H17-138C	0.25 ml	—		
20	Aqua Regia	DD	—					16.5	6	152495

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079 | Revision: 3 | Historical Reference: 1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 | Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	166942	3.2ml $K_2Cr_2O_7$ 6ml KMnO4	0.08	H17-0944 H17-0947	100	2.5ug/L	DL 354	5-18-17	5-25-17	RT
2								5.0				
3								0.0				
4							↓	2.5				
5							200	1.0				
6	↓	↓	↓	↓	↓	↓	100	0.2				
7				5ml Aqua Regia 15ml KMnO4		H17-1038W H17-0947		2.5				
8								1.0				
9								1.0				
10								1.0				
11								1.0				
12								0.2				
13								0.2				
14								0.5				
15								1.0				
16								2.5				
17								5.0				
18								0.0				
19				↓	↓	X	↓	2.5 ✓			↓	
20	49.5	6	147777				66	1:3	↓	↓	5-18-17	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

RAE87 Page 238 of 248

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Potassium Persulfate	H17138EE	$K_2S_2O_8$	6	12-2-17	151924 #4	100.02g			
2	Permanganate	↓ FF	$KMnO_4$	6	2-20-18	162452 #2	100.03g			
3	Hg 1.0mg/L InterCal	H17144A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
4	0.1mg/L InterCal	B	1.0mg/L Cal	15	5-31-17	H17-144A	↓			
5	1.0mg/L InterCont	C	10mg/L Cont	16	12-05-17	K_2HgCl_4 (2)				
6	↓ 0.1mg/L InterCont	D	↓ 1.0mg/L Cont	15	5-31-17	H17-144C	↓			
7	Hg 5700 ICV	E	↓	↓	↓	↓	0.25ml	1	6	152495
8	CCV	F	Hg 1.0mg/L Cal			H17-144A	0.20			
9	CRA	G	Hg 0.1mg/L Cont			H17-144D	0.20			
10	Std Cal	H	Hg 0.1mg/L Cal			H17-144B	0.20			
11	↓	I	↓			↓	0.50			
12		J	Hg 1.0mg/L Cal			H17-144A	0.20			
13		K	↓			↓	0.25			
14		L	↓	↓	↓	↓	0.50 ↓			
15	↓	m	—							
16	ICV	N	Hg 1.0mg/L Cont	15	5-31-17	H17-144C	0.25ml			
17	CCV	O	Hg 1.0mg/L Cal	↓	↓	H17-144A	0.20			
18	↓ CRA	↓ P	Hg 0.1mg/L Cont	↓	↓	H17-144D	0.20 ↓	↓	↓	↓
19	Hg 1.0mg/L InterCal	H17145A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
20	Hg 0.1mg/L InterCal	↓ B	Hg 1.0mg/L Cal	15	6-01-17	H17-145A	1.0ml			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1							2000	5%	DJL354	5-18-17	11-18-17	RT
2							200	5%	↓	↓	↓	↓
3				To vol w/ 0.15%	HNO3	H17-110C	10	1.0	DJL354	5-24-17	5-31-17	RT
4				↓	↓	↓	↓	0.1	↓	↓	↓	↓
5								1.0				
6				↓	↓	↓	↓	0.1				
7	2ml H2SO4	4	Hg 0.4%	3.2ml Na2S2O8 6ml KMnO4		H17-094H H17-094T	100	2.5 ug/L				
8	↓	↓	↓	↓	↓	↓	200	1.0				
9							100	0.2				
10							↓	0.2				
11								0.5				
12							200	1.0				
13							100	2.5				
14							↓	5.0				
15								0.0				
16							↓	2.5				
17							200	1.0				
18	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
19				To vol w/ 0.15%	HNO3	H17-110C	10	1.0	DJL354	5-25-17	6-01-17	RT
20				↓	↓	↓	10	0.1	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

	Standard/Reagent Prepared			Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 1.0mg/L InterCont	H171450	Hg 10mg/L Cont	16	12-05-17	K2HG850193	1.0 ml			
2	Hg 0.1mg/L InterCont	D	Hg 1.0mg/L Cont	15	6-01-17	H17-145C	1.0 ml			
3	Hg 5700 ICV	E	↓	↓	↓	↓	0.25ml	1	6	152495
4	CCV	F	Hg 1.0mg/L Cal			H17-145A	0.20	↓	↓	↓
5	CRA	G	Hg 0.1mg/L Cont			H17-145D	0.20			
6	Std. Cal	H	Hg 0.1mg/L Cal			H17-145B	0.20			
7	↓	I	↓			↓	0.50			
8		J	Hg 1.0mg/L Cal			H17-145A	0.20			
9		K	↓			↓	0.25			
10		L	↓	↓	↓	↓	0.50 ↓			
11	↓	M								
12	ICV	N	Hg 1.0mg/L Cont	15	6-01-17	H17-145C	0.25ml			
13	CCV	O	Hg 1.0mg/L Cal			H17-145A	0.20			
14	↓ CRA	P	Hg 0.1mg/L Cont			H17-145D	0.20	↓	↓	↓
15	Hg 5701 ICV	Q	Hg 1.0mg/L Cont			H17 145C	0.25			
16	CCV	R	Hg 1.0mg/L Cal			H17-145A	0.10			
17	CCV	S					0.10			
18	CCV	T					0.10			
19	CCV	U	↓			↓	0.10			
20	↓ CRA	V	Hg 0.1mg/L Cont	↓	↓	H17-145D	0.20 ↓			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079 | Revision: 3 | Historical Reference: 1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 | Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				To vol w/ 0.15% HNO3		H17-110C	10	1.0	DW354	5-25-17	6-01-17	RT
2				↓	↓	↓	10	0.1				
3	2ml H2SO4	4	166942	2.2ml K2S2O8 6ml KMnO4		H17-0944 H17-1947	100	2.5ug/L				
4							250	1.0				
5							100	0.2				
6							↓	0.2				
7							↓	0.5				
8							200	1.0				
9							100	2.5				
10							↓	5.0				
11								0.0				
12							↓	2.5				
13							200	1.0				
14	↓	↓	↓	↓	↓	↓	100	0.2				
15				5ml Aqua Regia 15ml AgKMnO4		H17-145 H17-0947	↓	2.5				
16				↓	↓	↓		1.0				
17								1.0				
18								1.0				
19								1.0				
20	↓	↓	↓	↓	↓	↓	↓	0.2	↓	↓	↓	↓

5-25-17 ACT

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 Std Cal	H17145W	Hg 0.1mg/L Cal	15	6-01-17	H17-145B	0.20ml			
2	↓	X	↓	↓	↓	↓	0.50			
3	↓	Y	Hg 1.0mg/L Cal	↓	↓	H17-145A	0.10			
4	↓	Z	↓	↓	↓	↓	0.25			
5	↓	AA	↓	↓	↓	↓	0.50			
6	↓	BB	—	—	—	—	—			
7	ICV	CC	Hg 1.0mg/L Cont	15	6-01-17	H17-145C	0.25ml			
8	Aqua Regia	DD	—	—	—	—	—	16.5	6	152495
9	Hg 1.0mg/L InterCal	H17146A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
10	Hg 0.1mg/L InterCal	B	Hg 1.0mg/L Cal	15	6-02-17	H17-146A	1.0ml			
11	Hg 1.0mg/L InterCont	C	Hg 10mg/L Cont	16	12-05-17	K2116830192				
12	Hg 0.1mg/L InterCont	D	Hg 1.0mg/L Cont	15	6-02-17	H17-146C	↓			
13	Hg 4792 ICV	E	↓	↓	↓	↓	0.25ml			
14	CCV	F	Hg 1.0mg/L Cal			H17-146A	0.10			
15	CRA	G	Hg 0.1mg/L Cont			H17-146D	0.20			
16	Std Cal	H	Hg 0.1mg/L Cal			H17-146B	0.25			
17	↓	I	↓			↓	0.50			
18	↓	J	Hg 1.0mg/L Cal			H17-146A	0.10			
19	↓	K	↓			↓	0.25			
20	↓	L	↓	↓	↓	↓	0.50			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5mi Aqua Regia 15ml DI		H17-145 DI H17-094T	100	0.2ug/L	DW354	5-25-17	6-01-17	RT
2								0.5				
3								1.0				
4								2.5				
5								5.0				
6								0.0				
7								2.5				
8	49.5	6	147777				66	1:3			5-25-17	
9				To vol w/o.15% HNO3		H17-110C	10	1.0	DW354	5-26-17	6-02-17	RT
10							10	0.1				
11								1.0				
12								0.1				
13	5	6	147777				100	2.5ug/L				
14								1.0				
15								0.2				
16								0.2				
17								0.5				
18								1.0				
19								2.5				
20								5.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-4792 Std Cal	H17H46M								
2	Stannous Chloride	H17147A	SnCl2	6	2-07-18	169502 #7	200.02g			
3	↓	B	↓	↓	↓	#7+8	200.00g			
4	↓	C	↓	↓	↓	#8	200.01g			
5	Permanganate	D	KMnO4	6	2-20-18	162452 #2	100.04g			
6	Hg-1.0mg/L Inter Cal	H17149A	Hg-10mg/L Cal	15	7-20-17	H17-103R	1.0ml			
7	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	6-05-17	H17-149A				
8	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	K2H685082				
9	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	6-05-17	H17-149C	↓			
10	Hg-5700 ICV	E	↓			↓	0.25ml	1	6	152495
11	CCV	F	Hg-1.0mg/L Cal			H17-149A	0.20			
12	CRA	G	Hg-0.1mg/L Cont			H17-149D	0.20			
13	Std Cal	H	Hg-0.1mg/L Cal			H17-149B	0.20			
14	↓	I	↓			↓	0.50			
15		J	Hg-1.0mg/L Cal			H17-149A	0.20			
16		K	↓			↓	0.25			
17		L	↓	↓	↓	↓	0.50	↓	↓	↓
18	↓	M								
19	ICV	N	Hg-1.0mg/L Cont	15	6-05-17	H17-149C	0.25ml			
20	CCV	O	Hg-1.0mg/L Cal	↓	↓	H17-149A	0.20ml	↓	↓	↓

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079 | Revision: 3 | Historical Reference: 1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 | Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	5	6	147777				100	0.04ug/L	DW354	5-26-17	6-02-17	RT
2	200	6	147777				2000	10%	DW354	5-27-17	11-27-17	RT
3	↓	↓	↓				↓	↓	↓	↓	↓	↓
4	↓	↓	↓				↓	↓	↓	↓	↓	↓
5							2000	5%	↓	↓	↓	↓
6				Triton/0.15%	HNO3	H17-110C	10	1.0	DW354	5-29-17	6-05-17	RT
7				↓	↓	↓	↓	0.1				
8								1.0				
9								0.1				
10	2ml H2SO4	4	166942	3.2ml KaSb Tart 8 1.6ml KMnO4		H17-0944 H17-09447③ 10900	5-26-17 100	2.5ug/L				
11	↓	↓	↓	↓	↓	↓	200	1.0				
12							100	0.2				
13							↓	0.2				
14								0.5				
15							200	1.0				
16							100	2.5				
17							↓	5.0				
18								6.0				
19							↓	2.5				
20	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 CRA	H17149P	Hg 0.1mg/L Cont	15	6-05-17	H17-149D	0.20ml	1	6	152495
2	Stannous Chloride	↓ 2	$SnCl_2$	6	2-07 18	169508 #8-9	200.03g	—	—	—
3	Hg 1.0 mg/L Inter Cal	H17150A	Hg 10mg/L Cal	15	7-30-17	H17-103B	1.0ml	—	—	—
4	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	6-06-17	H17-150A		—	—	—
5	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	KaH6850198		—	—	—
6	↓ 0.1mg/L Inter Cont	D	↓ 1.0mg/L Cont	15	6-06-17	H17-150C	↓	—	—	—
7	Hg 5700 ICV	E	↓			↓	0.25ml	1	6	152495
8	CCV	F	Hg 1.0mg/L Cal			H17-150A	0.20			
9	CRA	G	Hg 0.1mg/L Cont			H17-150D	0.20			
10	Std Cal	H	Hg 0.1mg/L Cal			H17-150B	0.20			
11		I	↓			↓	0.50			
12		J	Hg 1.0mg/L Cal			H17-150A	0.20			
13		K	↓			↓	0.25			
14		L	↓	↓	↓	↓	0.50			
15	↓	M	—	—	—	—	—			
16	ICV	N	Hg 1.0mg/L Cont	15	6-06-17	H17-150C	0.25ml			
17	CCV	O	Hg 1.0mg/L Cal			H17-150A	0.20			
18	↓ CRA	P	Hg 0.1mg/L Cont			H17-150D	0.20 ↓	↓	↓	↓
19	Hg 5701 ICV	Q	Hg 1.0mg/L Cont			H17-150C	0.25	—	—	—
20	↓ CCV	↓ R	Hg 1.0mg/L Cal	↓	↓	H17-150A	0.10 ↓			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H17-0944 H17-109DD	100	0.2ug/L	DJ 1354	5-29-17	6-05-17	RT
2	300	6	147777	—		—	2000	10%	↓	↓	11-29-17	↓
3	↓	↓	↓	*To vol w/ 0.15%	HNO_3	H17-110C	10	1.0	DJ 1354	5-30-17	6-06-17	RT
4								0.1				
5								1.0				
6				↓	↓	↓	↓	0.1				
7	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H17-0944 H17-109DD	100	2.5ug/L				
8							200	1.0				
9							100	0.2				
10								0.2				
11							↓	0.5				
12							200	1.0				
13							100	2.5				
14								5.0				
15								0.0				
16							↓	2.5				
17							200	1.0				
18	↓	↓	↓				100	0.2				
19	—	—	—	5ml H_2O_2 15ml $KMnO_4$	Pregis	H17-150 H17-109DD		2.5				
20	—	—	—	↓	↓	↓	↓	1.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Type I Data Package

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Project: RAAP - Radford, VA - HWMU-5
Groundwater Samples
Collected on 05/22/17

SDG# RAE89-V.2

GROUP	SAMPLE NUMBERS
1804693	9009420-9009424

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman

Dana M. Kauffman
Manager

Date: 07/13/2017

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Table of Contents for SDG# RAE89

1. Sample Reference List 3
2. Preservation Data 4
3. Methodology Summary/Reference 5
4. Analysis Reports / Field Chain of Custody 6
5. Metals in Liquid Data 28
    a. Case Narrative/Conformance Summary 29
    b. Sample Data 32
    c. Quality Control and Calibration Summary Forms 38
    d. Raw Data 73
        i. ICP-MS Data 74
        ii. Mercury Data 150
    e. Extraction/Distillation/Digestion Logs 167

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Reference List for SDG Number RAE89
with a Data Package Type of I

11200 - Draper Aden Associates, Inc.
Project: RAAP - Radford, VA - HWMU-5

Lab Sample Number	Client Sample ID	Collection Date	Date Received
9009420	5W5B	05/22/2017 09:15	05/23/2017 09:40
9009421	5WC21	05/22/2017 11:40	05/23/2017 09:40
9009422	5WDUP	05/22/2017 11:50	05/23/2017 09:40
9009423	5WC22	05/22/2017 10:10	05/23/2017 09:40
9009424	5WC23	05/22/2017 10:55	05/23/2017 09:40

eurofins | Lancaster Laboratories

Sample pH Log

SDG: RAE89

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #	Record Date	Employee
9009420	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/24/2017 10:54:59AM	1382
9009421	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/24/2017 10:54:58AM	1382
9009422	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/24/2017 10:55:00AM	1382
9009423	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/24/2017 10:55:00AM	1382
9009424	008A	<2	<2	PK	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/24/2017 10:54:59AM	1382

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

00259 Mercury

The solution resulting from the mercury digestion is analyzed by Cold Vapor AA.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

10639 ICPMS - Water, 3020A - U4

The sample is digested with nitric and hydrochloric acid.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3020A, July 1992

05713 WW SW846 Hg Digest

The sample is heated at 95 c with nitric acid, sulfuric acid, potassium persulfate, and potassium permanganate. Excess potassium permanganate is reduced with sodium chloride/hydroxylamine hydrochloride. Mercuric ions are reduced to mercury metal using stannous chloride.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 7470A, September 1994

06024 Antimony
06025 Arsenic
06026 Barium
06027 Beryllium
06028 Cadmium
06031 Chromium
06032 Cobalt
06033 Copper
06035 Lead
06039 Nickel
06041 Selenium
06042 Silver
06045 Thallium
06048 Vanadium
06049 Zinc

The solution resulting from the metals digestion is analyzed by ICP/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 6020A, February 2007.

Analysis Reports / Field Chain of Custody

REVISED

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Report Date: July 13, 2017

Project: RAAP - Radford, VA - HWMU-5

Submittal Date: 05/23/2017
Group Number: 1804693
SDG: RAE89
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
5W5B Grab Groundwater	9009420
5WC21 Grab Groundwater	9009421
5WDUP Grab Groundwater	9009422
5WC22 Grab Groundwater	9009423
5WC23 Grab Groundwater	9009424

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Draper Aden Associates, Inc.	Attn: Kathy Olsen
Electronic Copy To	Draper Aden Associates, Inc.	Attn: Janet Frazier

Respectfully Submitted,

Barbara Weyandt

Barbara A. Weyandt
Specialist

(717) 556-7264

Project Name: RAAP - Radford, VA - HWMU-5
LL Group #: 1804693

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 6020A, Metals

Batch #: 171441063901A (Sample number(s): 9009420-9009424 UNSPK: P6555 BKG: P6555)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Chromium

July 10, 2017

Ms. Janet Frazier
Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg, VA 24060

Dear Ms. Frazier:

I am writing to inform you of revised analytical reports that are being issued for the following:

Project: RAAP - Radford, VA - HWMU-5
Group No.: 1804027, 1804693 **SDG.: RAE87, RAE89**

ELLE Sample No.	Client Sample Identification	Collection Date
9006555	5W7B Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/17/2017
9006556	5W7B Matrix Spike Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/17/2017
9006557	5W7B Matrix Spike Dup Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/17/2017
9006558	5W7B Duplicate Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/17/2017
9009420	5W5B Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017
9009421	5WC21 Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017
9009422	5WDUP Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017
9009423	5WC22 Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017
9009424	5WC23 Grab Groundwater, 2 Qtr 2017 Corrective Action Annual Monitoring	05/22/2017

The correction to the data affects the arsenic analysis only.

During an additional review of the data it was determined that default laboratory Method Detection Limit (MDL) of 0.68 µg/L was used instead of the client required MDL of 2.0 µg/L. This has been corrected and affects the analysis report and the QC summary.

The revised analytical report reflects this correction and is enclosed.

You are a valued client and we apologize for any inconvenience that this incident may have caused. If you have any questions or require further assistance, please call me at 717-656-2300, Ext. 1283. We appreciate your business and look forward to continuing to serve your laboratory needs.

Sincerely,

Nina C. Haller
Senior Specialist/Group Leader
Metals

NCH/mc
Enclosures

cc: Barbara A. Weyandt

REVISED

Sample Description: 5W5B Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009420
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 09:15 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R01 SDG#: RAE89-01

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**		**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	N.D.		0.40	2.0	1
06025	Arsenic	7440-38-2	N.D.		2.0	4.0	1
06026	Barium	7440-39-3	28.0		1.0	4.0	1
06027	Beryllium	7440-41-7	N.D.		0.20	1.0	1
06028	Cadmium	7440-43-9	N.D.		0.20	1.0	1
06031	Chromium	7440-47-3	N.D.		1.0	4.0	1
06032	Cobalt	7440-48-4	N.D.		1.0	5.0	1
06033	Copper	7440-50-8	1.5	J	1.0	4.0	1
06035	Lead	7439-92-1	N.D.		0.20	2.0	1
06039	Nickel	7440-02-0	N.D.		2.0	4.0	1
06041	Selenium	7782-49-2	N.D.		3.0	4.0	1
06042	Silver	7440-22-4	N.D.		0.20	1.0	1
06045	Thallium	7440-28-0	N.D.		0.20	1.0	1
06048	Vanadium	7440-62-2	N.D.		1.0	10.0	1
06049	Zinc	7440-66-6	N.D.		7.3	30.0	1
	SW-846 7470A		**ug/l**		**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	N.D.		0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 20:41	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/30/2017 20:41	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 20:41	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 06:55	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: **5W5B Grab Groundwater**
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009420
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 09:15 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R01 SDG#: RAE89-01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

REVISED

Sample Description: 5WC21 Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009421
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 11:40 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R02 SDG#: RAE89-02

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**		**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	N.D.		0.40	2.0	1
06025	Arsenic	7440-38-2	N.D.		2.0	4.0	1
06026	Barium	7440-39-3	13.8		1.0	4.0	1
06027	Beryllium	7440-41-7	1.0		0.20	1.0	1
06028	Cadmium	7440-43-9	0.32	J	0.20	1.0	1
06031	Chromium	7440-47-3	3.8	J	1.0	4.0	1
06032	Cobalt	7440-48-4	66.8		1.0	5.0	1
06033	Copper	7440-50-8	3.1	J	1.0	4.0	1
06035	Lead	7439-92-1	N.D.		0.20	2.0	1
06039	Nickel	7440-02-0	34.3		2.0	4.0	1
06041	Selenium	7782-49-2	N.D.		3.0	4.0	1
06042	Silver	7440-22-4	N.D.		0.20	1.0	1
06045	Thallium	7440-28-0	N.D.		0.20	1.0	1
06048	Vanadium	7440-62-2	1.0	J	1.0	10.0	1
06049	Zinc	7440-66-6	27.5	J	7.3	30.0	1
	SW-846 7470A		**ug/l**		**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	N.D.		0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 20:44	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/31/2017 12:16	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/30/2017 20:44	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 20:44	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 06:57	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: **5WC21 Grab Groundwater**
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009421
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 11:40 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R02 SDG#: RAE89-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

REVISED

Sample Description: 5WDUP Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009422
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 11:50 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R03 SDG#: RAE89-03FD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**		**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	N.D.		0.40	2.0	1
06025	Arsenic	7440-38-2	N.D.		2.0	4.0	1
06026	Barium	7440-39-3	13.9		1.0	4.0	1
06027	Beryllium	7440-41-7	1.0		0.20	1.0	1
06028	Cadmium	7440-43-9	0.41	J	0.20	1.0	1
06031	Chromium	7440-47-3	3.7	J	1.0	4.0	1
06032	Cobalt	7440-48-4	63.6		1.0	5.0	1
06033	Copper	7440-50-8	3.2	J	1.0	4.0	1
06035	Lead	7439-92-1	N.D.		0.20	2.0	1
06039	Nickel	7440-02-0	34.5		2.0	4.0	1
06041	Selenium	7782-49-2	N.D.		3.0	4.0	1
06042	Silver	7440-22-4	N.D.		0.20	1.0	1
06045	Thallium	7440-28-0	N.D.		0.20	1.0	1
06048	Vanadium	7440-62-2	N.D.		1.0	10.0	1
06049	Zinc	7440-66-6	23.8	J	7.3	30.0	1
	SW-846 7470A		**ug/l**		**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	N.D.		0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 20:54	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/31/2017 12:19	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/31/2017 12:19	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 20:54	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 06:59	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: **5WDUP Grab Groundwater**
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009422
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 11:50 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R03 SDG#: RAE89-03FD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5WC22 Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009423
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 10:10 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R04 SDG#: RAE89-04

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**		**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	N.D.		0.40	2.0	1
06025	Arsenic	7440-38-2	N.D.		2.0	4.0	1
06026	Barium	7440-39-3	26.4		1.0	4.0	1
06027	Beryllium	7440-41-7	N.D.		0.20	1.0	1
06028	Cadmium	7440-43-9	0.21	J	0.20	1.0	1
06031	Chromium	7440-47-3	N.D.		1.0	4.0	1
06032	Cobalt	7440-48-4	7.8		1.0	5.0	1
06033	Copper	7440-50-8	N.D.		1.0	4.0	1
06035	Lead	7439-92-1	N.D.		0.20	2.0	1
06039	Nickel	7440-02-0	4.8		2.0	4.0	1
06041	Selenium	7782-49-2	N.D.		3.0	4.0	1
06042	Silver	7440-22-4	N.D.		0.20	1.0	1
06045	Thallium	7440-28-0	N.D.		0.20	1.0	1
06048	Vanadium	7440-62-2	N.D.		1.0	10.0	1
06049	Zinc	7440-66-6	N.D.		7.3	30.0	1
	SW-846 7470A		**ug/l**		**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	N.D.		0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 20:57	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/31/2017 12:26	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/31/2017 12:26	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 20:57	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 07:06	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: **5WC22 Grab Groundwater**
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009423
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 10:10 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R04 SDG#: RAE89-04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5WC23 Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009424
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 10:55 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R05 SDG#: RAE89-05

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
Metals	**SW-846 6020A**		**ug/l**		**ug/l**	**ug/l**	
06024	Antimony	7440-36-0	N.D.		0.40	2.0	1
06025	Arsenic	7440-38-2	N.D.		2.0	4.0	1
06026	Barium	7440-39-3	21.0		1.0	4.0	1
06027	Beryllium	7440-41-7	N.D.		0.20	1.0	1
06028	Cadmium	7440-43-9	N.D.		0.20	1.0	1
06031	Chromium	7440-47-3	N.D.		1.0	4.0	1
06032	Cobalt	7440-48-4	3.0	J	1.0	5.0	1
06033	Copper	7440-50-8	N.D.		1.0	4.0	1
06035	Lead	7439-92-1	N.D.		0.20	2.0	1
06039	Nickel	7440-02-0	2.4	J	2.0	4.0	1
06041	Selenium	7782-49-2	N.D.		3.0	4.0	1
06042	Silver	7440-22-4	N.D.		0.20	1.0	1
06045	Thallium	7440-28-0	N.D.		0.20	1.0	1
06048	Vanadium	7440-62-2	N.D.		1.0	10.0	1
06049	Zinc	7440-66-6	N.D.		7.3	30.0	1
	SW-846 7470A		**ug/l**		**ug/l**	**ug/l**	
00259	Mercury	7439-97-6	N.D.		0.070	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06024	Antimony	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06025	Arsenic	SW-846 6020A	3	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06026	Barium	SW-846 6020A	1	171441063901D	05/30/2017 21:00	Scott P Cuff	1
06027	Beryllium	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06028	Cadmium	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06031	Chromium	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06032	Cobalt	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06033	Copper	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06035	Lead	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06039	Nickel	SW-846 6020A	1	171441063901A	05/31/2017 12:28	Scott P Cuff	1
06041	Selenium	SW-846 6020A	1	171441063901B	05/31/2017 12:28	Scott P Cuff	1
06042	Silver	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06045	Thallium	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06048	Vanadium	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
06049	Zinc	SW-846 6020A	1	171441063901A	05/30/2017 21:00	Scott P Cuff	1
00259	Mercury	SW-846 7470A	1	171420571301	05/29/2017 07:08	Damary Valentin	1
10639	ICPMS - Water, 3020A - U4	SW-846 3020A	1	171441063901	05/30/2017 05:35	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 5WC23 Grab Groundwater
2 Qtr 2017 Corrective Action Annual Monitoring
RAAP, Radford, VA - HWMU 5

LL Sample # WW 9009424
LL Group # 1804693
Account # 11200

Project Name: RAAP - Radford, VA - HWMU-5

Collected: 05/22/2017 10:55 by KC

Submitted: 05/23/2017 09:40
Reported: 07/13/2017 08:35

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

89R05 SDG#: RAE89-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05713	WW SW846 Hg Digest	SW-846 7470A	1	171420571301	05/28/2017 08:15	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804693
Reported: 07/13/2017 08:35

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: 171420571301	Sample number(s): 9009420-9009424		
Mercury	N.D.	0.070	0.20
Batch number: 171441063901A	Sample number(s): 9009420-9009424		
Antimony	N.D.	0.40	2.0
Arsenic	N.D.	0.68	4.0
Beryllium	N.D.	0.20	1.0
Cadmium	N.D.	0.20	1.0
Chromium	N.D.	1.0	4.0
Cobalt	N.D.	1.0	1.0
Copper	N.D.	1.0	4.0
Lead	N.D.	0.20	2.0
Nickel	N.D.	2.0	4.0
Silver	N.D.	0.20	1.0
Thallium	N.D.	0.20	1.0
Vanadium	N.D.	1.0	10.0
Zinc	N.D.	7.3	30.0
Batch number: 171441063901B	Sample number(s): 9009420-9009424		
Selenium	N.D.	3.0	4.0
Batch number: 171441063901D	Sample number(s): 9009420-9009424		
Barium	N.D.	1.0	4.0

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 171420571301	Sample number(s): 9009420-9009424								
Mercury	1.00	1.05			105		80-120		
Batch number: 171441063901A	Sample number(s): 9009420-9009424								
Antimony	6.00	5.97			99		80-120		
Arsenic	10	10.32			103		80-120		
Beryllium	4.00	4.10			102		80-120		
Cadmium	5.00	5.02			100		80-120		
Chromium	50	51.29			103		80-120		
Cobalt	250	252.33			101		80-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804693
Reported: 07/13/2017 08:35

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Copper	50	53.15			106		80-120		
Lead	15	14.87			99		80-120		
Nickel	50	49.35			99		80-120		
Silver	50	50.94			102		80-120		
Thallium	2.00	2.03			102		80-120		
Vanadium	50	50.8			102		80-120		
Zinc	500	501.64			100		80-120		
Batch number: 171441063901B	Sample number(s): 9009420-9009424								
Selenium	10	9.97			100		80-120		
Batch number: 171441063901D	Sample number(s): 9009420-9009424								
Barium	50	51.63			103		80-120		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 171420571301	Sample number(s): 9009420-9009424 UNSPK: P006555									
Mercury	N.D.	1.00	1.07	1.00	1.08	107	108	80-120	1	20
Batch number: 171441063901A	Sample number(s): 9009420-9009424 UNSPK: P006555									
Antimony	N.D.	6.00	7.10	6.00	6.75	118	113	75-125	5	20
Arsenic	N.D.	10	10.22	10	10.82	102	108	75-125	6	20
Beryllium	N.D.	4.00	4.03	4.00	4.29	101	107	75-125	6	20
Cadmium	N.D.	5.00	4.99	5.00	4.88	100	98	75-125	2	20
Chromium	N.D.	50	53.91	50	50.78	108	102	75-125	6	20
Cobalt	N.D.	250	247.46	250	243.13	99	97	75-125	2	20
Copper	3.43	50	55.74	50	52.94	105	99	75-125	5	20
Lead	0.393	15	15.46	15	15.44	100	100	75-125	0	20
Nickel	N.D.	50	52.83	50	51.61	106	103	75-125	2	20
Silver	N.D.	50	50.23	50	49.01	100	98	75-125	2	20
Thallium	N.D.	2.00	2.13	2.00	2.00	107	100	75-125	6	20
Vanadium	N.D.	50	51.87	50	50.92	104	102	75-125	2	20
Zinc	12.69	500	508.21	500	497.89	99	97	75-125	2	20
Batch number: 171441063901B	Sample number(s): 9009420-9009424 UNSPK: P006555									
Selenium	N.D.	10	10.17	10	10.24	102	102	75-125	1	20
Batch number: 171441063901D	Sample number(s): 9009420-9009424 UNSPK: P006555									
Barium	34.8	50	83.89	50	80.53	98	91	75-125	4	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1804693
Reported: 07/13/2017 08:35

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 171420571301	Sample number(s): 9009420-9009424 BKG: P006555			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 171441063901A	Sample number(s): 9009420-9009424 BKG: P006555			
Antimony	N.D.	N.D.	0 (1)	20
Arsenic	N.D.	N.D.	0 (1)	20
Beryllium	N.D.	N.D.	0 (1)	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	N.D.	1.07	200* (1)	20
Cobalt	N.D.	N.D.	0 (1)	20
Copper	3.43	3.75	9 (1)	20
Lead	0.393	0.392	0 (1)	20
Nickel	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
Thallium	N.D.	N.D.	0 (1)	20
Vanadium	N.D.	N.D.	0 (1)	20
Zinc	12.69	10.46	19 (1)	20
Batch number: 171441063901B	Sample number(s): 9009420-9009424 BKG: P006555			
Selenium	N.D.	N.D.	0 (1)	20
Batch number: 171441063901D	Sample number(s): 9009420-9009424 BKG: P006555			
Barium	34.8	33.14	5	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11200 | 1804693 | 9009420 - 24

CHAIN OF CUSTODY RECORD

3/24/17

Laboratory: Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barb Weyandt, Manager/ (717) 656-2300 OK JVZ

Client: Draper Aden Associates **Attn:** 0 **Address:** 0 0 **Phone:** 0 **Fax:** 0 **Fax:** 0	**Consultant:** Draper Aden Associates **Attn:** Janet C. Frazier **Address:** 2206 South Main Street Blacksburg, Virginia 24060 **Phone:** (540) 552-0444 **Fax:** (540) 552-0291	**Sample Site:** RFAAP, Radford, Virginia **Location:** HWMU5 **Event:** 2 Qtr 2017 Corrective Action Annual Monitoring Event **DAA JN:** B03204-17A **Lab JN:**	**Project Specific (PS) or Batch (B) QC:** **Sample Collection for Project Complete?** YES UPS: **Carrier:** 1Z 751-02X-Y0-5695-1879 **Tracking Number:**		

Box 1: Matrix SW Surface Water GW Groundwater L Leachate S Soil T Trip Blank E Equipment Blank P Product O Other	**Box 2: Preservative** A HCL B HNO_3 C H_2SO_4 D $Na_2S_2O_3$ E NaOH F ZnAc G Other (Specify) H None	**Box 3: Filtered/Unfiltered** F Filtered U Unfiltered **Box 5: Sample Container Type** P Plastic AG Amber Glass V VOA CG Clear Glass	**Box 4: Sample Type** G Grab C Composite	**Invoice** **Copy to Consultant:** YES **Bill:** CLIENT OTHER_____ **Preserved and shipped on Ice:** YES

Box 4 - Sample Type					G		G	G	G				
Box 3 - Filtered/Unfiltered					U		U	U	U				
Required pH of Sample					<2		<2	<2					
Box 2 - Preservative					A		B	B	H				
Box 5 - Sample Container Type					3-40ml V		1-500ml P	1-500ml P	2-250mL AG				
Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles	8260C/5030C 25 ml purge Appendix J Analyte List	8260C/5030C 25 ml purge Appendix K Analyte List	(Metals-Total) 6020A(3020A)/ 7470A	Cobalt only-Total 6020A/3020A	8270D/3510C (Semivolatiles)				
5W8B	5/17	1155	GW	4	X			X					shipped 5/19/17 upgradient monitoring well
5W6B	5/22	0915	GW	6	X	X	X		X				
5W7B	5/17	1335	GW	18	X	X	X		X				shipped 5/19/17 USE FOR QC
5WC21	5/22	1140	GW	6	X	X	X		X				
5WDUP	5/22	1150	GW	6	X	X	X		X				
5WC22	5/22	1010	GW	6	X	X	X		X				
5WC23	5/22	1055	GW	6	X	X	X		X				
5WH2A	5/17	1250	GW	6	X			X					shipped 5/19/17 plume well
Trip Blank 1	5/17	—	T	2	X	X							
Trip Blank 2	5/22	—	T	2	X	X							

GENERAL NOTES:

1. See attached analyte list.
2. Report permit required LOQ/MDL or lab MDL if higher than permit MDL. Report Results to MDL with "J" Flags.
3. VELAP accreditation required.
4. Project specific MDL/QL's attached.

5- Cobalt = QL = 5ug/L / DL = 1ug/L

JVZ 3/24/17

Clients Special Instructions: level 1 with edd.

Received by lab in Good Condition ____ Yes ____ No Custody Seal Intact ____ Yes ____ No Temperature upon arrival ____ Received on Ice ____ Yes ____ No

Describe problems, if any:

Sampler Name (Print): KEN CODDINGTON	Date: 5/17/17	#1 Relinquished by (Signature):	Date: 5/22/17	#2 Relinquished by (Signature):	Date:	Sample Storage Time Requested:
Sampler Signature:	Time: 0800	Company Name: DAA	Time: 1700	Company Name:	Time:	
Sampler Name (Print): Ian McGregor	Date: 5/17/17	#1 Received by (Signature):	Date:	#2 Received by (Signature):	Date: 5/23/17	30 DYS ORG/6 MTHS INORG
Sampler Signature:	Time: 0800	Company Name:	Time:	Company Name: ELLE	Time: 0940	

1/5 JVZ 3/24/17

11200 | 1804693 | 9009420-24

JJ 5/4/17

5/5

HWMU5 - Appendix K
Radford Army Ammunition Plant
Groundwater Corrective Action Annual Monitoring Event
DAA JN: B03204-17A

ANALYTICAL METHOD: SEE BELOW
TYPE METHOD: SEE BELOW
CLASS: TOTAL

Method SW 846-6020A (ICP/MS)/3020A

No.	ANALYTE	CAS RN	Required QL (µg/l)	Required MDL (µg/l)
1.	Antimony	7440-36-0	2	0.4
2.	Arsenic	7440-38-2	10	2
3.	Barium	7440-39-3	10	1
4.	Beryllium	7440-41-7	1	0.2
5.	Cadmium	7440-43-9	1	0.2
6.	Chromium	7440-47-3	5	1
7.	Cobalt	7440-48-4	5	1
8.	Copper	7440-50-8	5	1
9.	Lead	7440-92-1	2	0.2
10.	Nickel	7440-02-0	10	2
11.	Selenium	7782-49-2	10	3
12.	Silver	7440-22-4	2	0.2 ✓
13.	Thallium	7440-28-0	1	0.2 ✓
14.	Vanadium	7440-62-2	10	1 ✓
15.	Zinc	7440-66-6	30	7.3 ✓

(4) updated on 3/21/17

Method SW 7470A/CVAA

16.	Mercury	7439-97-6	2	0.2

Final Report must list the project required MDLs listed above. Report results between the project required QL noted above and MDL above as estimated value. Report lab's current MDL, if higher than listed above.

Note: # 6 added on Jan 2004 due To 4Q2003 detection.

Reviewed:
Revised and updated 1/15/2004 JCF.
Revised and updated 10/1/06.
Reviewed 4 Q 2006 -3/23/2017 3:41 PM
10/9/2007 JCF – 2007 switched to semiannual monitoring 2/4 Q.
Revised and updated 2/12/2010 kfc
QLs and MDLs noted above reflect permit modification data Nov 5, 2009. JCF
Revised 4/2017 due to class 1 permit mod dec 2016

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 184413

Group Number(s): 1804693

Client: DRAPER ADEN

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	05/23/2017 9:40
Number of Packages:	1	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Evelyn Shank (12390) at 12:56 on 05/23/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.0	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	none detected
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Metals in Liquid Data

Case Narrative/Conformance Summary

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE89

ICP Metals

Fraction: Metals in Liquid

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
9009420	5W5B	X		1	
9009421	5WC21	X		1	
9009422	5WDUP	X		1	Field Duplicate Sample
9009423	5WC22	X		1	
9009424	5WC23	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE89

ICP Metals

Fraction: Metals in Liquid

Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

Sample Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE89
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9009420 % Solids: 0.0
Concentration Units: UG/L Date Received: 05/23/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.40	U		MS
7440-38-2	Arsenic	2.0	U		MS
7440-39-3	Barium	28.0			MS
7440-41-7	Beryllium	0.20	U		MS
7440-43-9	Cadmium	0.20	U		MS
7440-47-3	Chromium	1.0	U		MS
7440-48-4	Cobalt	1.0	U		MS
7440-50-8	Copper	1.5	B		MS
7439-92-1	Lead	0.20	U		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	2.0	U		MS
7782-49-2	Selenium	3.0	U		MS
7440-22-4	Silver	0.20	U		MS
7440-28-0	Thallium	0.20	U		MS
7440-62-2	Vanadium	1.0	U		MS
7440-66-6	Zinc	7.3	U		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE89
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9009421 % Solids: 0.0
Concentration Units: UG/L Date Received: 05/23/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.40	U		MS
7440-38-2	Arsenic	2.0	U		MS
7440-39-3	Barium	13.8			MS
7440-41-7	Beryllium	1.0			MS
7440-43-9	Cadmium	0.32	B		MS
7440-47-3	Chromium	3.8	B		MS
7440-48-4	Cobalt	66.8			MS
7440-50-8	Copper	3.1	B		MS
7439-92-1	Lead	0.20	U		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	34.3			MS
7782-49-2	Selenium	3.0	U		MS
7440-22-4	Silver	0.20	U		MS
7440-28-0	Thallium	0.20	U		MS
7440-62-2	Vanadium	1.0			MS
7440-66-6	Zinc	27.5	B		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE89
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9009422 % Solids: 0.0
Concentration Units: UG/L Date Received: 05/23/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.40	U		MS
7440-38-2	Arsenic	2.0	U		MS
7440-39-3	Barium	13.9			MS
7440-41-7	Beryllium	1.0			MS
7440-43-9	Cadmium	0.41	B		MS
7440-47-3	Chromium	3.7	B		MS
7440-48-4	Cobalt	63.6			MS
7440-50-8	Copper	3.2	B		MS
7439-92-1	Lead	0.20	U		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	34.5			MS
7782-49-2	Selenium	3.0	U		MS
7440-22-4	Silver	0.20	U		MS
7440-28-0	Thallium	0.20	U		MS
7440-62-2	Vanadium	1.0	U		MS
7440-66-6	Zinc	23.8	B		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE89
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9009423 % Solids: 0.0
Concentration Units: UG/L Date Received: 05/23/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.40	U		MS
7440-38-2	Arsenic	2.0	U		MS
7440-39-3	Barium	26.4			MS
7440-41-7	Beryllium	0.20	U		MS
7440-43-9	Cadmium	0.21	B		MS
7440-47-3	Chromium	1.0	U		MS
7440-48-4	Cobalt	7.8			MS
7440-50-8	Copper	1.0	U		MS
7439-92-1	Lead	0.20	U		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	4.8			MS
7782-49-2	Selenium	3.0	U		MS
7440-22-4	Silver	0.20	U		MS
7440-28-0	Thallium	0.20	U		MS
7440-62-2	Vanadium	1.0	U		MS
7440-66-6	Zinc	7.3	U		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 1
INORGANIC ANALYSIS DATA SHEET
SDG No.: RAE89
Matrix: WATER Level (low/med): LOW

Lab Sample ID: 9009424 % Solids: 0.0
Concentration Units: UG/L Date Received: 05/23/2017

CAS No.	Analyte	Concentration	C	Q	M
7440-36-0	Antimony	0.40	U		MS
7440-38-2	Arsenic	2.0	U		MS
7440-39-3	Barium	21.0			MS
7440-41-7	Beryllium	0.20	U		MS
7440-43-9	Cadmium	0.20	U		MS
7440-47-3	Chromium	1.0	U		MS
7440-48-4	Cobalt	3.0			MS
7440-50-8	Copper	1.0	U		MS
7439-92-1	Lead	0.20	U		MS
7439-97-6	Mercury	0.050	U		CV
7440-02-0	Nickel	2.4	B		MS
7782-49-2	Selenium	3.0	U		MS
7440-22-4	Silver	0.20	U		MS
7440-28-0	Thallium	0.20	U		MS
7440-62-2	Vanadium	1.0	U		MS
7440-66-6	Zinc	7.3	U		MS

Comments:

_____
_____
_____
_____

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence NR = Not Required	U = Below MDL, B = Below LOQ

Quality Control and Calibration Summary Forms

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

QUALITY CONTROL REFERENCE LIST

SDG No.: RAE89
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Antimony	171441063901	*06555BKG
Arsenic		9009420
Barium		9009421
Beryllium		9009422
Cadmium		9009423
Chromium		9009424
Cobalt		P14463AB
Copper		P14463AQ
Lead		
Nickel		
Selenium		
Silver		
Thallium		
Vanadium		
Zinc		

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

QUALITY CONTROL REFERENCE LIST

SDG No.: RAE89
Matrix: WATER

Analyte	Batch Number	Lab Sample ID
Mercury	171420571301	*06555BKG
		9009420
		9009421
		9009422
		9009423
		9009424
		P14271AB
		P14271AQ

LEGEND:

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: RAE89

Method: MS
Run Name: 1715008E05
Calibration Date(s): 05/30/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony	121	50.0	51.38	102.8	25.0	28.21	112.8*	25.0	24.11	96.4
Arsenic	75	500.0	494.77	99.0	250.0	266.04	106.4	250.0	246.58	98.6
Barium	137	500.0	499.85	100.0	250.0	268.37	107.3	250.0	257.02	102.8
Beryllium	9	50.0	51.80	103.6	25.0	26.22	104.9	25.0	25.99	104.0
Cadmium	111	50.0	48.20	96.4	25.0	26.65	106.6	25.0	24.67	98.7
Chromium	52	500.0	521.92	104.4	250.0	271.62	108.6	250.0	260.46	104.2
Cobalt	59	500.0	486.91	97.4	250.0	270.50	108.2	250.0	253.49	101.4
Copper	63	500.0	499.85	100.0	250.0	270.34	108.1	250.0	256.69	102.7
Lead	208	50.0	51.63	103.3	25.0	28.37	113.5*	25.0	25.61	102.4
Nickel	60	500.0	540.53	108.1	250.0	278.17	111.3*	250.0	256.00	102.4
Selenium	78	50.0	51.34	102.7	25.0	25.07	100.3	25.0	24.95	99.8
Silver	107	50.0	49.62	99.2	25.0	26.71	106.8	25.0	25.78	103.1
Thallium	203	50.0	52.00	104.0	25.0	28.41	113.6*	25.0	25.78	103.1
Vanadium	51	500.0	522.37	104.5	250.0	264.50	105.8	250.0	254.16	101.7
Zinc	66	500.0	481.23	96.2	250.0	265.87	106.3	250.0	253.11	101.2

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1715008E05
Calibration Date(s): 05/30/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony	121				25.0	25.46	101.8			
Arsenic	75				250.0	248.82	99.5			
Barium	137				250.0	271.21	108.5			
Beryllium	9				25.0	26.66	106.6			
Cadmium	111				25.0	25.67	102.7			
Chromium	52				250.0	267.59	107.0			
Cobalt	59				250.0	252.56	101.0			
Copper	63				250.0	253.07	101.2			
Lead	208				25.0	26.04	104.2			
Nickel	60				250.0	271.92	108.8			
Selenium	78				25.0	25.49	102.0			
Silver	107				25.0	25.94	103.8			
Thallium	203				25.0	26.24	105.0			
Vanadium	51				250.0	268.16	107.3			
Zinc	66				250.0	250.93	100.4			

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: RAE89

Method: MS
Run Name: 1715106E05
Calibration Date(s): 05/31/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony	121	50.0	53.99	108.0	25.0	25.26	101.0	25.0	24.02	96.1
Arsenic										
Barium										
Beryllium										
Cadmium										
Chromium										
Cobalt										
Copper										
Lead	208	50.0	52.31	104.6	25.0	24.49	98.0	25.0	24.52	98.1
Nickel	60	500.0	526.91	105.4	250.0	250.13	100.1	250.0	246.72	98.7
Selenium	78	50.0	51.05	102.1	25.0	23.91	95.6	25.0	24.32	97.3
Silver										
Thallium	203	50.0	50.59	101.2	25.0	24.07	96.3	25.0	24.12	96.5
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

QUALITY ASSURANCE SUMMARY
FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
SDG No.: RAE89

Method: MS
Run Name: 1715106E05
Calibration Date(s): 05/31/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Antimony	121				25.0	26.13	104.5			
Arsenic										
Barium										
Beryllium										
Cadmium										
Chromium										
Cobalt										
Copper										
Lead	208				25.0	24.75	99.0			
Nickel	60				250.0	253.96	101.6			
Selenium	78				25.0	23.89	95.6			
Silver										
Thallium	203				25.0	24.51	98.0			
Vanadium										
Zinc										

(1) Control Limits: 90 - 110
(2) Control Limits: 90 - 110
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1714901M09
Calibration Date(s): 05/29/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.46	98.4	1.0	0.99	99.0	1.0	0.98	98.0

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Run Name: 1714901M09
Calibration Date(s): 05/29/2017
Concentration Units: UG/L

Analyte	Mass	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0			

(1) Control Limits: 90 - 110
(2) Control Limits: 80 - 120
* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1715008E05
Calibration Date(s): 05/30/2017
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Antimony	121	2.0	2.17	108.5	2.03	101.5
Arsenic	75	4.0	4.18	104.5	4.08	102.0
Barium	137	4.0	3.38	84.5	3.16	79.0
Beryllium	9	1.0	1.08	108.0	1.00	100.0
Cadmium	111	1.0	1.16	116.0	1.14	114.0
Chromium	52	4.0	4.30	107.5	4.64	116.0
Cobalt	59	1.0	0.98	98.0	0.98	98.0
Copper	63	4.0	4.26	106.5	4.13	103.3
Lead	208	2.0	2.02	101.0	2.17	108.5
Nickel	60	4.0	3.83	95.8	4.70	117.5
Selenium	78	4.0	3.88	97.0	4.34	108.5
Silver	107	1.0	1.00	100.0	1.10	110.0
Thallium	203	1.0	1.06	106.0	0.93	93.0
Vanadium	51	1.0	0.93	93.0	0.94	94.0
Zinc	66	30.0	28.65	95.5	29.01	96.7

Control limits: 70% - 130%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Run Name: 1715106E05
Calibration Date(s): 05/31/2017
Concentration Units: UG/L

Analyte	Mass	Initial True	Initial Found	Initial %R	Final Found	Final %R
Antimony	121	2.0	2.02	101.0	2.11	105.5
Arsenic						
Barium						
Beryllium						
Cadmium						
Chromium						
Cobalt						
Copper						
Lead	208	2.0	2.07	103.5	2.07	103.5
Nickel	60	4.0	3.79	94.8	4.25	106.3
Selenium	78	4.0	3.96	99.0	4.10	102.5
Silver						
Thallium	203	1.0	1.04	104.0	1.19	119.0
Vanadium						
Zinc						

Control limits: 70% - 130%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 2B
LOW LEVEL CHECK STANDARD
SDG No.: RAE89

Method: CV
Run Name: 1714901M09
Calibration Date(s): 05/29/2017
Concentration Units: UG/L

			Initial		Final	
Analyte	Mass	True	Found	%R	Found	%R
Mercury		0.2	0.21	105.0		

Control limits: 50% - 150%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.
For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 3
BLANKS
SDG No.: RAE89

Method: MS
Run Name: 1715008E05
Calibration Date(s): 05/30/2017
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)							Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Antimony	121	0.34	U	0.34	U	0.39	B	0.34	U				
Arsenic	75	0.64	U	0.64	U	0.64	U	0.64	U	75	2.000	U	171441063901A
Barium	137	0.66	U	0.66	U	0.66	U	0.66	U	137	1.000	U	171441063901A
Beryllium	9	0.029	U	0.029	U	0.029	U	0.029	U	9	0.200	U	171441063901A
Cadmium	111	0.16	U	0.16	U	0.16	U	0.16	U	111	0.200	U	171441063901A
Chromium	52	0.87	U	0.87	U	0.87	U	0.87	U	52	1.000	U	171441063901A
Cobalt	59	0.16	U	0.16	U	0.16	U	0.16	U	59	1.000	U	171441063901A
Copper	63	0.54	U	0.54	U	0.54	U	0.54	U	63	1.000	U	171441063901A
Lead	208	0.12	U	0.12	U	0.12	U	0.12	U				
Nickel	60	1.0	U	1.0	U	1.0	U	1.0	U				
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U	78	3.000	U	171441063901A
Silver	107	0.15	U	0.15	U	0.15	U	0.15	U	107	0.200	U	171441063901A
Thallium	203	0.15	U	0.15	U	0.15	U	0.15	U				
Vanadium	51	0.22	U	0.22	U	0.22	U	0.22	U	51	1.000	U	171441063901A
Zinc	66	4.0	U	4.0	U	4.0	U	4.0	U	66	7.300	U	171441063901A

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

Method: MS
Run Name: 1715106E05
Calibration Date(s): 05/31/2017
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Antimony	121	0.34	U	0.34	U	0.34	U	0.34	U	121	0.400	U	171441063901A
Arsenic													
Barium													
Beryllium													
Cadmium													
Chromium													
Cobalt													
Copper													
Lead	208	0.12	U	0.12	U	0.12	U	0.12	U	208	0.200	U	171441063901A
Nickel	60	1.0	U	1.0	U	1.0	U	1.0	U	60	2.000	U	171441063901A
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U				
Silver													
Thallium	203	0.15	U	0.15	U	0.15	U	0.15	U	203	0.200	U	171441063901A
Vanadium													
Zinc													

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below IDL/MDL
B= Below LOQ

Method: CV
Run Name: 1714901M09
Calibration Date(s): 05/29/2017
Preparation Blank Matrix: WATER

		Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (UG/L)			
Analyte	Mass		C	1	C	2	C	3	C	Mass		C	Batch Number
Mercury		-0.062	B	-0.058	B	-0.066	B	-0.061	B		0.050	U	171420571301

METHODS:	CONCENTRATION QUALIFIERS:
P = ICP Atomic Emission Spectrometer	U= Below IDL/MDL
MS = ICP Mass Spectrometry	B= Below LOQ
CV = Cold Vapor	
AF = Cold Vapor Atomic Fluorescence	

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE89

Instrument ID: 19204
Run Name: 1715008E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	104603	104.6	107077.2	107.1
Antimony	121	0	0	0		0.1	
Arsenic	75	0	100	1		98.2	98.2
Barium	137	0	0	3		3.3	
Beryllium	9	0	0	0		0.0	
Cadmium	111	0	100	0		94.4	94.4
Calcium	44	300000	300000	280155	93.4	287924.7	96.0
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	200	3		209.3	104.7
Cobalt	59	0	205	3		193.4	94.3
Copper	63	0	200	2		191.8	95.9
Iron	57	250000	250000	244060	97.6	251775.8	100.7
Lead	208	0	0	0		0.3	
Magnesium	24	100000	100000	97460	97.5	100555.5	100.6
Molybdenum	98	2000	2000	2121	106.1	2026.4	101.3
Nickel	60	0	200	2		205.7	102.9
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	100891	100.9	103173.0	103.2
Selenium	78	0	100	0		98.0	98.0
Silver	107	0	50	0		48.5	97.0
Sodium	23	250000	250000	245685	98.3	255756.1	102.3
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	2000	2000	2076	103.8	2170.8	108.5
Vanadium	51	0	200	0		211.9	106.0
Zinc	66	0	100	2		97.5	97.5

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE89

Instrument ID: 19204
Run Name: 1715008E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	108405	108.4	108572.6	108.6
Antimony	121	0	0	0		0.0	
Arsenic	75	0	100	0		109.9	109.9
Barium	137	0	0	4		5.1	
Beryllium	9	0	0	0		0.0	
Cadmium	111	0	100	0		102.0	102.0
Calcium	44	300000	300000	290072	96.7	288824.2	96.3
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium	52	0	200	4		213.5	106.8
Cobalt	59	0	205	3		208.7	101.8
Copper	63	0	200	2		211.1	105.6
Iron	57	250000	250000	253338	101.3	253672.3	101.5
Lead	208	0	0	0		0.3	
Magnesium	24	100000	100000	101661	101.7	101191.1	101.2
Molybdenum	98	2000	2000	2145	107.3	2243.3	112.2
Nickel	60	0	200	2		203.9	102.0
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	103131	103.1	102264.8	102.3
Selenium	78	0	100	0		100.7	100.7
Silver	107	0	50	0		53.3	106.6
Sodium	23	250000	250000	256317	102.5	256935.4	102.8
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	2000	2000	2183	109.2	2170.0	108.5
Vanadium	51	0	200	0		214.8	107.4
Zinc	66	0	100	3		103.1	103.1

Control Limits: All Metals 80%-120%

Instrument ID: 19204
Run Name: 1715106E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	98890	98.9	106264.2	106.3
Antimony	121	0	0	0		0.1	
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	252112	84.0	275059.8	91.7
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	234305	93.7	254798.4	101.9
Lead	208	0	0	0		0.3	
Magnesium	24	100000	100000	93746	93.7	102626.7	102.6
Molybdenum	98	2000	2000	2000	100.0	2039.9	102.0
Nickel	60	0	200	1		204.6	102.3
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	96708	96.7	104838.6	104.8
Selenium	78	0	100	0		98.9	98.9
Silver							
Sodium	23	250000	250000	237435	95.0	257023.6	102.8
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	2000	2000	2044	102.2	2192.4	109.6
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

QUALITY ASSURANCE SUMMARY
FORM 4B
ICP-MS INTERFERENCE CHECK SAMPLE
SDG No.: RAE89

Instrument ID: 19204
Run Name: 1715106E05
Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000	100000	103058	103.1	103443.6	103.4
Antimony	121	0	0	0		0.1	
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000	300000	265827	88.6	266392.7	88.8
Carbon	13	20000	20000	NA		NA	
Chloride	37	100000	100000	NA		NA	
Chromium							
Cobalt							
Copper							
Iron	57	250000	250000	249615	99.8	245974.6	98.4
Lead	208	0	0	0		0.3	
Magnesium	24	100000	100000	98377	98.4	98954.1	99.0
Molybdenum	98	2000	2000	2065	103.3	1999.1	100.0
Nickel	60	0	200	2		199.5	99.8
Phosphorus	31	10000	10000	NA		NA	
Potassium	39	100000	100000	100351	100.4	100654.4	100.7
Selenium	78	0	100	0		98.6	98.6
Silver							
Sodium	23	250000	250000	249923	100.0	250048.9	100.0
Sulfur	34	10000	10000	NA		NA	
Thallium	203	0	0	0		0.0	
Titanium	47	2000	2000	2035	101.8	2118.3	105.9
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 7
LABORATORY CONTROL SAMPLE
SDG No.: RAE89
Matrix: WATER

Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Antimony	121	171441063901	UG/L	6.000	5.965		80 - 120	99	MS	Yes
Arsenic	75	171441063901	UG/L	10.000	10.315		80 - 120	103	MS	Yes
Barium	137	171441063901	UG/L	50.000	51.632		80 - 120	103	MS	Yes
Beryllium	9	171441063901	UG/L	4.000	4.097		80 - 120	102	MS	Yes
Cadmium	111	171441063901	UG/L	5.000	5.020		80 - 120	100	MS	Yes
Chromium	52	171441063901	UG/L	50.000	51.294		80 - 120	103	MS	Yes
Cobalt	59	171441063901	UG/L	250.000	252.325		80 - 120	101	MS	Yes
Copper	63	171441063901	UG/L	50.000	53.150		80 - 120	106	MS	Yes
Lead	208	171441063901	UG/L	15.000	14.867		80 - 120	99	MS	Yes
Mercury		171420571301	UG/L	1.000	1.050		80 - 120	105	CV	Yes
Nickel	60	171441063901	UG/L	50.000	49.352		80 - 120	99	MS	Yes
Selenium	78	171441063901	UG/L	10.000	9.972		80 - 120	100	MS	Yes
Silver	107	171441063901	UG/L	50.000	50.936		80 - 120	102	MS	Yes
Thallium	203	171441063901	UG/L	2.000	2.031		80 - 120	102	MS	Yes
Vanadium	51	171441063901	UG/L	50.000	50.800		80 - 120	102	MS	Yes
Zinc	66	171441063901	UG/L	500.000	501.639		80 - 120	100	MS	Yes

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 9
SERIAL DILUTIONS
SDG No.: RAE89
Matrix: WATER Level (low/med): LOW

Background Lab Sample ID: *06555BKG Serial Dilution Lab Sample ID: *06555L
Batch Number(s): 171441063901
Concentration Units: UG/L

Analyte	Mass	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Diff.	Q	M
Antimony	121	0.4000	U	2.0000	U			MS
Arsenic	75	2.0000	U	10.0000	U			MS
Barium	137	34.7980		35.8700		3		MS
Beryllium	9	0.2000	U	1.0000	U			MS
Cadmium	111	0.2000	U	1.0000	U			MS
Chromium	52	1.0000	U	5.0000	U			MS
Cobalt	59	1.0000	U	5.0000	U			MS
Copper	63	3.4340	B	5.0000	U	100		MS
Lead	208	0.3930	B	1.0000	U	100		MS
Nickel	60	2.0000	U	10.0000	U			MS
Selenium	78	3.0000	U	15.0000	U			MS
Silver	107	0.2000	U	1.0000	U			MS
Thallium	203	0.2000	U	1.0000	U			MS
Vanadium	51	1.0000	U	5.0000	U			MS
Zinc	66	12.6850	B	36.5000	U	100		MS

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:
U= Below MDL
B= Below LOQ
FLAGS:
E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

QUALITY ASSURANCE SUMMARY
FORM 10
INSTRUMENT DETECTION LIMITS (QUARTERLY)
SDG No.: RAE89

Method: MS
Instrument ID: 19204
Date: 04/2017

Analyte	MASS (amu)	Background	IDL (UG/L)
Antimony	121		0.34
Arsenic	75		0.64
Barium	137		0.66
Beryllium	9		0.029
Cadmium	111		0.16
Chromium	52		0.87
Cobalt	59		0.16
Copper	63		0.54
Lead	208		0.12
Nickel	60		1.0
Selenium	78		0.50
Silver	107		0.15
Thallium	203		0.15
Vanadium	51		0.22
Zinc	66		4.0

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: CV
Instrument ID: 23283
Date: 10/2016

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury			0.050

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: RAE89
Matrix: WATER

Method: MS
Date: 04/2016

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Antimony	121		2.0	0.40
Arsenic				
Barium	137		4.0	1.0
Beryllium	9		1.0	0.20
Cadmium	111		1.0	0.20
Chromium	52		4.0	1.0
Cobalt	59		1.0	1.0
Copper	63		4.0	1.0
Lead	208		2.0	0.20
Nickel	60		4.0	2.0
Selenium	78		4.0	3.0
Silver	107		1.0	0.20
Thallium	203		1.0	0.20
Vanadium	51		1.0	1.0
Zinc				

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: RAE89
Matrix: WATER

Method: MS
Date: 05/2017

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Antimony				
Arsenic	75		4.0	2.0
Barium				
Beryllium				
Cadmium				
Chromium				
Cobalt				
Copper				
Lead				
Nickel				
Selenium				
Silver				
Thallium				
Vanadium				
Zinc	66		30.0	7.3

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:
_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 10 MDL
METHOD DETECTION LIMITS (ANNUALLY)
SDG No.: RAE89
Matrix: WATER

Method: CV
Date: 06/2016

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury			0.20	0.050

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

_____
_____
_____
_____

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

Method: MS
Batch Number: 171441063901

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9009420	05/30/2017	50.00	50
9009421	05/30/2017	50.00	50
9009422	05/30/2017	50.00	50
9009423	05/30/2017	50.00	50
9009424	05/30/2017	50.00	50
*06555BKG	05/30/2017	50.00	50
P14463AB	05/30/2017	50.00	50
P14463AQ	05/30/2017	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

Method: CV
Batch Number: 171420571301

Lab Sample ID	Date	Initial Volume(ml)	Final Volume(ml)
9009420	05/28/2017	40.00	40
9009421	05/28/2017	40.00	40
9009422	05/28/2017	40.00	40
9009423	05/28/2017	40.00	40
9009424	05/28/2017	40.00	40
*06555BKG	05/28/2017	40.00	40
P14271AB	05/28/2017	40.00	40
P14271AQ	05/28/2017	1.00	1

METHODS:
P = ICP Atomic Emission Spectrometer
MS = ICP Mass Spectrometry
CV = Cold Vapor
AF = Cold Vapor Atomic Fluorescence

LEGEND:
BKG = Background
DUP = Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: RAE89

Method: MS
Instrument ID: 19204
Run Name: 1715008E05

Run Start Date: 05/30/2017
Run End Date: 05/30/2017

| Lab Sample ID | D/F | Time | Analytes | | |

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: RAE89

Method: MS
Instrument ID: 19204
Run Name: 1715106E05

Run Start Date: 05/31/2017
Run End Date: 05/31/2017

Lab Sample ID	D/F	Time	Analytes																													
			SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	NI	SE	AG	TL	V	ZN														
S0	1.00	11:28	X								X		X	X		X																
S	1.00	11:30	X								X		X	X		X																
CCS	1.00	11:33	X								X		X	X		X																
CCS	1.00	11:35	X								X		X	X		X																
ICV	1.00	11:37	X								X		X	X		X																
ICB	1.00	11:40	X								X		X	X		X																
LLC	1.00	11:42	X								X		X	X		X																
ICSA	1.00	11:45	X								X		X	X		X																
ICSAB	1.00	11:47	X								X		X	X		X																
ZZZZZZ	1.00	11:49																														
CCV	1.00	11:52	X								X		X	X		X																
CCB	1.00	11:54	X								X		X	X		X																
P14463AB	1.00	11:57	X								X		X			X																
P14463AQ	1.00	11:59	X								X		X			X																
*06555BKG	1.00	12:02									X																					
ZZZZZZ	1.00	12:04																														
ZZZZZZ	1.00	12:07																														
ZZZZZZ	1.00	12:09																														
ZZZZZZ	1.00	12:11																														
*06555L	5.00	12:14									X																					
9009421	1.00	12:16											X																			
9009422	1.00	12:19											X	X																		
CCV	1.00	12:21	X								X		X	X		X																
CCB	1.00	12:23	X								X		X	X		X																
9009423	1.00	12:26											X	X																		
9009424	1.00	12:28											X	X																		
ZZZZZZ	1.00	12:31																														
ZZZZZZ	1.00	12:33																														
ZZZZZZ	1.00	12:36																														
ZZZZZZ	1.00	12:38																														
LLC	1.00	12:40	X								X		X	X		X																
ICSA	1.00	12:43	X								X		X	X		X																
ICSAB	1.00	12:45	X								X		X	X		X																
ZZZZZZ	1.00	12:48																														
CCV	1.00	12:50	X								X		X	X		X																
CCB	1.00	12:52	X								X		X	X		X																

METHODS:	LEGEND:
P = ICP Atomic Emission Spectrometer	BKG = Background
MS = ICP Mass Spectrometry	DUP = Duplicate
CV = Cold Vapor	MS = Matrix Spike
AF = Cold Vapor Atomic Fluorescence	MSD = Matrix Spike Duplicate
	A = Post Digest Spike
	L = Serial Dilution
	B = Blank
	Q = Laboratory Control Sample
	Y = Laboratory Control Sample Duplicate

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 14
ANALYSIS RUN LOG
SDG No.: RAE89

Method: CV
Instrument ID: 23283
Run Name: 1714901M09

Run Start Date: 05/29/2017
Run End Date: 05/29/2017

Lab Sample ID	D/F	Time	Analytes																												
			SB	AS	BA	BE	CD	CR	CO	CU	PB	HG	NI	SE	AG	TL	V	ZN													
S0	1.00	06:16										X																			
S0.2	1.00	06:18										X																			
S0.5	1.00	06:20										X																			
S1.0	1.00	06:22										X																			
S2.5	1.00	06:24										X																			
S5.0	1.00	06:27										X																			
ICV	1.00	06:29										X																			
ICB	1.00	06:32										X																			
CRA	1.00	06:34										X																			
CCV	1.00	06:36										X																			
CCB	1.00	06:38										X																			
P14271AB	1.00	06:40										X																			
P14271AQ	1.00	06:42										X																			
*06555BKG	1.00	06:45										X																			
ZZZZZZ	1.00	06:47																													
ZZZZZZ	1.00	06:49																													
ZZZZZZ	1.00	06:51																													
ZZZZZZ	1.00	06:53																													
9009420	1.00	06:55										X																			
9009421	1.00	06:57										X																			
9009422	1.00	06:59										X																			
CCV	1.00	07:01										X																			
CCB	1.00	07:03										X																			
9009423	1.00	07:06										X																			
9009424	1.00	07:08										X																			
ZZZZZZ	1.00	07:10																													
ZZZZZZ	1.00	07:12																													
ZZZZZZ	1.00	07:14																													
ZZZZZZ	1.00	07:16																													
ZZZZZZ	1.00	07:18																													
ZZZZZZ	1.00	07:20																													
ZZZZZZ	1.00	07:22																													
ZZZZZZ	1.00	07:24																													
CCV	1.00	07:27										X																			
CCB	1.00	07:29										X																			

METHODS:
- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

LEGEND:
- BKG = Background
- DUP = Duplicate
- MS = Matrix Spike
- MSD = Matrix Spike Duplicate
- A = Post Digest Spike
- L = Serial Dilution
- B = Blank
- Q = Laboratory Control Sample
- Y = Laboratory Control Sample Duplicate

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE89

Instrument ID: 19204
Run Name: 1715008E05

Start Date: 05/30/2017
End Date: 05/30/2017

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB,TL	GE-2-72	CR,NI,V
IN-1-115	SE	IN-2-115	AG,AS,BA,CD,CO,CU,SB,ZN
SC-3-45	BE		

Lab Sample ID	Time	Internal Standards %RI For: Element SC-3-45	Q	Element GE-2-72	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q
S0	19:39	100		100		100		100		100					
S	19:43	100		99		100		93		101					
CCS	19:46	99		101		96		97		101					
CCS	19:49	99		99		99		94		100					
ICV	19:52	99		96		99		98		102					
ICB	19:55	97		97		95		96		99					
LLC	19:58	97		98		97		95		101					
ICSA	20:01	95		96		94		89		94					
ICSAB	20:04	94		94		92		94		93					
ZZZZZZ	20:07														
CCV	20:10	98		94		99		89		93					
CCB	20:13	97		98		97		94		102					
P14463AB	20:17	100		99		99		97		107					
P14463AQ	20:20	100		100		100		94		107					
*06555BKG	20:23	98		99		97		95		104					
ZZZZZZ	20:26														
ZZZZZZ	20:29														
ZZZZZZ	20:32														
ZZZZZZ	20:35														
*06555L	20:38	98		97		99		94		104					
9009420	20:41	98		100		98		94		103					
9009421	20:44	102		97		98		94		102					
CCV	20:48	101		98		99		94		105					
CCB	20:51	97		94		98		90		101					
9009422	20:54	102		101				99		107					
9009423	20:57	101		99				93		105					
9009424	21:00	102		96				96		105					
LLC	21:03	99		96		95		96		103					
ICSA	21:06	91		90		89		86		93					
ICSAB	21:09	90		90		88		84		92					
ZZZZZZ	21:12														

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE89

Instrument ID: 19204
Run Name: 1715008E05

Start Date: 05/30/2017
End Date: 05/30/2017

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB,TL	GE-2-72	CR,NI,V
IN-1-115	SE	IN-2-115	AG,AS,BA,CD,CO,CU,SB,ZN
SC-3-45	BE		

Lab Sample ID	Time	Internal Standards %RI For: Element SC-3-45	Q	Element GE-2-72	Q	Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q
CCV	21:15	95		92		96		92		102					
CCB	21:19	93		91		69		92		98					

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE89

Instrument ID: 19204
Run Name: 1715106E05

Start Date: 05/31/2017
End Date: 05/31/2017

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB,TL	IN-1-115	SE
IN-2-115	NI,SB		

Lab Sample ID	Time	Internal Standards %RI For: Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	11:28	100		100		100									
S	11:30	101		105		101									
CCS	11:33	99		103		97									
CCS	11:35	97		102		98									
ICV	11:37	100		102		100									
ICB	11:40	99		102		98									
LLC	11:42	101		103		101									
ICSA	11:45	95		98		96									
ICSAB	11:47	94		98		94									
ZZZZZZ	11:49														
CCV	11:52	103		103		102									
CCB	11:54	99		99		98									
P14463AB	11:57	103		104		106									
P14463AQ	11:59	102		105		105									
*06555BKG	12:02					106									
ZZZZZZ	12:04														
ZZZZZZ	12:07														
ZZZZZZ	12:09														
ZZZZZZ	12:11														
*06555L	12:14					103									
9009421	12:16			102											
9009422	12:19	102		103											
CCV	12:21	100		103		102									
CCB	12:23	98		100		98									
9009423	12:26	101		102											
9009424	12:28	101		105											
ZZZZZZ	12:31														
ZZZZZZ	12:33														
ZZZZZZ	12:36														
ZZZZZZ	12:38														
LLC	12:40	100		102		101									
ICSA	12:43	93		94		93									

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike

FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

eurofins | Lancaster Laboratories Environmental

QUALITY ASSURANCE SUMMARY
FORM 16
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
SDG No.: RAE89

Instrument ID: 19204
Run Name: 1715106E05

Start Date: 05/31/2017
End Date: 05/31/2017

Standard	Elements Applies to	Standard	Elements Applies to
BI-2-209	PB,TL	IN-1-115	SE
IN-2-115	NI,SB		

Lab Sample ID	Time	Internal Standards %RI For: Element IN-1-115	Q	Element IN-2-115	Q	Element BI-2-209	Q	Element	Q	Element	Q	Element	Q	Element	Q
ICSAB	12:45	95		98		94									
ZZZZZZ	12:48														
CCV	12:50	101		100		100									
CCB	12:52	97		98		98									

LEGEND:
BKG = Background
DUP = Duplicate
L = Serial Dilution
B = Blank
Q = Laboratory Control Sample
Y = Laboratory Control Sample Duplicate
MS = Matrix Spike
MSD = Matrix Spike Duplicate
A = Post Digest Spike
FLAG:
R = Internal Standard Relative Intensity OOS

INTERNAL STANDARD ELEMENTS:
BE = Beryllium
BI = Bismuth
GE = Germanium
HO = Holmium
IN = Indium
LI = Lithium
SC = Scandium
TB = Terbium
Y = Yttrium

Raw Data

Metals in Liquid

ICP-MS Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 17E30H00.E05

Run Name: 1715008E05

Analyst: 8381

Reviewed By:	Reviewed Date
Deborah A Krady	06/08/2017 13:12
Nina C Haller	06/19/2017 08:43
Sarah L Burt	05/30/2017 23:16

Verified By:	Verified Date
Deborah A Krady	06/08/2017 13:26
Nina C Haller	07/12/2017 12:54
Tara L Snyder	05/31/2017 13:31

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-3		45
	BE	9
	B	11
GE-2		72
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
	NI	60
IN-1		115
	SE	78
IN-2		115
	CO	59
	CU	63
	ZN	66
	AS	75
	RB	85
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208
	U	238

Run Name: 1715008E05 Date/Time: 05/30/2017 19:39:55
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
BE	9	0.00000	3.33000	0.000	-0.00105	0.00209	-0.00104
B	11	0.00000	9583.82000	0.000	0.07241	-0.37246	0.30005
NA	23	0.00000	10570.06000	0.000	1.29254	-1.22031	-0.07223
MG	24	0.00000	6.67000	0.000	-0.28236	-0.28236	0.56471
AL	27	0.00000	13.33000	0.000	1.45163	1.40464	-2.85627
K	39	0.00000	2750.31000	0.000	6.45917	-26.58602	20.12685
CA	44	0.00000	10.00000	0.000	-16.70354	33.40708	-16.70354
SC-1	45	333446.83000	0.00000	0.000	335476.95000	328000.50000	336863.04000
SC-2	45	11280.58000	0.00000	0.000	10753.61000	11273.92000	11814.21000
SC-3	45	1512976	0	0.000	1515161	1522312	1501455
TI	47	0.00000	6.67000	0.000	2.44516	-1.22258	-1.22258
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CR	52	0.00000	43.33000	0.000	-0.00566	-0.05814	0.06380
MN	55	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
FE	57	0.00000	20.00000	0.000	-3.08832	1.62852	1.45981
CO	59	0.00000	16.67000	0.000	0.03131	-0.00978	-0.02153
NI	60	0.00000	3.33000	0.000	0.03079	-0.01540	-0.01540
CU	63	0.00000	63.34000	0.000	-0.03250	-0.03951	0.07202
ZN	66	0.00000	100.00000	0.000	-0.08239	-0.10003	0.18243
GE-1	72	368668.77000	0.00000	0.000	370518.71000	356205.42000	379282.18000
GE-2	72	32420.55000	0.00000	0.000	31789.40000	32140.01000	33332.24000
GE-3	72	1167933	0	0.000	1186941	1182608	1134249
AS	75	0.00000	1.33000	0.000	-0.04003	-0.04003	0.08005
SE	78	0.00000	1.56000	0.000	0.00523	-0.01841	0.01318
RB	85	0.00000	3.33000	0.000	0.10376	-0.05188	-0.05188
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	23.33000	0.000	0.08878	-0.03373	-0.05505
AG	107	0.00000	10.00000	0.000	-0.01060	-0.00056	0.01117
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	302768.87000	0.00000	0.000	306720.94000	295081.54000	306504.13000
IN-2	115	11607.38000	0.00000	0.000	11013.57000	12384.40000	11424.17000
SN	120	0.00000	3.33000	0.000	-0.01652	0.03304	-0.01652
SB	121	0.00000	3.33000	0.000	-0.02214	-0.02214	0.04429
BA	137	0.00000	3.33000	0.000	0.14471	-0.07236	-0.07236
TB-2	159	66105.66000	0.00000	0.000	64857.12000	67186.88000	66272.99000
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
PB	208	0.00000	6.67000	0.000	-0.00310	0.00619	-0.00310
BI-2	209	51707.73000	0.00000	0.000	49095.67000	53049.65000	52977.88000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:43:02
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1510637	0	0.000	1498946	1518156	1514811
B	11	1000.00000	695862.88000	0.900	1009.83171	998.43133	991.73696
BE	9	100.00000	125921.87000	1.600	101.63731	99.85148	98.51121
GE-2	72	32079.75000	0.00000	0.000	30787.41000	32290.08000	33161.75000
AL	27	10000.00000	46810.49000	4.900	10561.87887	9725.85930	9712.26182
CA	44	10000.00000	5981.20000	3.000	10343.24695	9861.06375	9795.68930
CR	52	1000.00000	388615.48000	2.000	1020.69330	999.51149	979.79521
FE	57	10000.00000	63429.02000	4.700	10522.07459	9851.65753	9626.26787
K	39	10000.00000	105541.77000	1.500	10081.86855	10089.02134	9829.11010
MG	24	10000.00000	227092.75000	2.700	10257.07965	10024.63465	9718.28570
MN	55	1000.00000	115907.36000	5.000	1045.63311	1008.00818	946.35871
NA	23	10000.00000	546624.04000	3.200	10347.05181	9930.77891	9722.16928
NI	60	1000.00000	218309.74000	3.200	1035.59684	990.15195	974.25121
TI	47	1000.00000	5507.66000	2.300	1006.32610	1019.04115	974.63275
V	51	1000.00000	286177.79000	2.500	1028.95777	986.93372	984.10851
IN-1	115	303879.97000	0.00000	0.000	305711.04000	303080.13000	302848.73000
IN-2	115	10850.08000	0.00000	0.000	10889.46000	10938.33000	10722.46000
AG	107	100.00000	87247.25000	1.300	98.66093	100.12870	101.21036
AS	75	1000.00000	31635.33000	1.900	986.18523	991.95448	1021.86029
BA	137	1000.00000	45388.51000	1.400	1016.07045	991.59727	992.33227
CD	111	100.00000	8020.56000	4.500	98.23194	96.60555	105.16250
CO	59	1000.00000	745702.23000	2.000	989.54902	987.73566	1022.71532
CU	63	1000.00000	622588.05000	1.900	989.04192	988.87381	1022.08427
MO	98	100.00000	41113.06000	3.400	96.16644	100.98520	102.84836
RB	85	100.00000	6331.38000	3.600	100.08702	96.34661	103.56636
SB	121	100.00000	14296.47000	2.800	98.50321	98.27132	103.22547
SE	78	100.00000	8382.41000	1.200	100.28222	98.72717	100.99062
SN	120	100.00000	17683.18000	2.600	98.33328	103.00491	98.66181
SR	88	100.00000	8665.80000	8.100	107.98372	91.81260	100.20368
ZN	66	1000.00000	59783.90000	2.000	977.00613	1007.63666	1015.35721
BI-2	209	52363.38000	0.00000	0.000	52316.28000	52868.45000	51905.42000
PB	208	100.00000	212581.73000	0.600	99.37443	100.59525	100.03031
TL	203	100.00000	67760.49000	0.900	99.04449	100.67963	100.27589
U	238	100.00000	240879.16000	0.900	100.45715	98.96660	100.57625
SC-1	45	331040.60000	0.00000	0.000	328958.55000	328894.49000	335268.75000
SC-2	45	11523.99000	0.00000	0.000	12024.28000	11413.94000	11133.75000
GE-1	72	365151.31000	0.00000	0.000	368354.96000	364106.71000	362992.26000
GE-3	72	1157294	0	0.000	1135588	1180101	1156194
TB-2	159	65122.66000	0.00000	0.000	65039.10000	65611.35000	64717.52000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:46:08
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1497073	0	0.000	1518839	1460673	1511707
B	11	55.01000	46891.24000	3.200	55.85898	56.20648	52.96524
BE	9	0.00200	5.33000	148.400	0.00368	-0.00099	0.00212
GE-2	72	32734.48000	0.00000	0.000	33122.24000	32670.94000	32410.27000
AL	27	11.08400	66.67000	9.900	11.61464	11.81454	9.82196
CA	44	10.38500	16.67000	324.600	48.12926	-0.27145	-16.70354
CR	52	0.58900	276.68000	36.700	0.51335	0.42093	0.83258
FE	57	3.10200	40.00000	88.300	1.48864	1.55186	6.26669
K	39	-25.20500	2510.28000	0.000	-19.50672	-33.31426	-22.79277
MG	24	1.01100	30.00000	113.200	0.57009	2.31030	0.15323
MN	55	0.30900	36.67000	30.400	0.41730	0.25384	0.25588
NA	23	-19.68900	9592.84000	0.000	-21.41207	-27.61948	-10.03449
NI	60	0.13400	33.33000	50.000	0.20626	0.07449	0.12052
TI	47	-0.63600	3.33000	0.000	0.53750	-1.22258	-1.22258
V	51	0.10200	30.00000	66.800	0.10147	0.17145	0.03457
IN-1	115	290796.06000	0.00000	0.000	282053.55000	295268.61000	295066.03000
IN-2	115	11216.54000	0.00000	0.000	10972.85000	11273.09000	11403.67000
AG	107	0.01200	20.00000	3.800	0.01206	0.01146	0.01121
AS	75	0.73600	25.33000	22.400	0.89759	0.56841	0.74188
BA	137	0.07300	6.67000	345.100	0.36340	-0.07236	-0.07236
CD	111	0.01600	1.33000	86.700	0.02465	0.00000	0.02372
CO	59	0.06400	66.67000	88.900	0.00499	0.06881	0.11882
CU	63	0.08200	113.34000	157.500	0.17421	0.13610	-0.06523
MO	98	0.14900	86.67000	26.500	0.18556	0.15576	0.10701
RB	85	-0.00200	3.33000	0.000	-0.05188	-0.05188	0.09844
SB	121	0.76800	116.67000	28.400	0.87709	0.51645	0.90967
SE	78	0.10400	9.78000	35.500	0.13585	0.11262	0.06355
SN	120	0.60600	113.34000	35.200	0.71068	0.74575	0.36023
SR	88	0.07400	6.67000	86.600	0.00000	0.11105	0.10978
ZN	66	-1.18500	23.33000	0.000	-0.73946	-1.56769	-1.24892
BI-2	209	52005.87000	0.00000	0.000	52196.49000	51282.99000	52538.14000
PB	208	0.01900	46.67000	13.100	0.02050	0.01612	0.02035
TL	203	0.03500	23.33000	88.800	0.00000	0.04521	0.05884
U	238	0.01400	33.33000	18.600	0.01249	0.01695	0.01241
SC-1	45	316882.55000	0.00000	0.000	309794.64000	318709.92000	322143.10000
SC-2	45	11010.49000	0.00000	0.000	10613.57000	11163.89000	11254.00000
GE-1	72	355602.03000	0.00000	0.000	344586.24000	360192.42000	362027.42000
GE-3	72	1154136	0	0.000	1172134	1126907	1163367
TB-2	159	65239.21000	0.00000	0.000	63773.11000	64376.07000	67568.45000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:49:16
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1505400	0	0.000	1537547	1511426	1467227
B	11	28.56900	29071.72000	2.100	28.50609	27.99720	29.20349
BE	9	0.00100	4.00000	288.900	0.00204	0.00054	-0.00100
GE-2	72	32123.26000	0.00000	0.000	31939.65000	32209.88000	32220.24000
AL	27	2.11500	23.33000	57.500	1.43136	1.39539	3.51917
CA	44	-16.70400	0.00000	0.000	-16.70354	-16.70354	-16.70354
CR	52	0.54100	253.35000	30.800	0.53641	0.71035	0.37713
FE	57	3.72300	43.33000	48.000	1.65811	4.75602	4.75350
K	39	-35.14300	2360.26000	0.000	-15.32412	-42.59535	-47.50876
MG	24	1.18200	33.33000	21.100	1.04365	1.03252	1.47026
MN	55	0.17200	20.00000	99.700	0.17310	0.34330	0.00000
NA	23	-20.31200	9382.67000	0.000	-24.35274	-18.17100	-18.41115
NI	60	0.06100	16.67000	114.900	-0.01540	0.07578	0.12132
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.01200	3.33000	173.200	0.00000	0.03478	0.00000
IN-1	115	299877.19000	0.00000	0.000	301888.92000	293685.36000	304057.30000
IN-2	115	10856.85000	0.00000	0.000	10332.94000	10753.48000	11484.13000
AG	107	-0.01100	0.00000	0.000	-0.01060	-0.01060	-0.01060
AS	75	0.04600	2.67000	220.900	0.15911	-0.04003	0.01970
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00900	0.67000	173.200	0.02618	0.00000	0.00000
CO	59	0.03100	40.00000	103.300	0.00663	0.01906	0.06715
CU	63	0.00600	63.33000	614.100	-0.01147	0.05005	-0.01992
MO	98	0.07700	53.33000	88.600	0.14936	0.06771	0.01392
RB	85	0.00300	3.33000	2802.700	0.11401	-0.05188	-0.05188
SB	121	0.18900	30.00000	40.800	0.27166	0.11901	0.17612
SE	78	-0.00200	1.33000	0.000	-0.01036	0.00628	-0.00255
SN	120	0.11800	23.33000	59.500	0.16167	0.15471	0.03692
SR	88	0.11600	10.00000	173.200	0.00000	0.34925	0.00000
ZN	66	-1.06200	30.00000	0.000	-0.86408	-1.22964	-1.09288
BI-2	209	51892.16000	0.00000	0.000	51815.11000	52557.47000	51303.90000
PB	208	0.01700	43.33000	121.600	-0.00310	0.03909	0.01611
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00400	10.00000	100.300	0.00420	0.00000	0.00847
SC-1	45	324464.33000	0.00000	0.000	325939.82000	320865.58000	326587.59000
SC-2	45	10823.69000	0.00000	0.000	10233.31000	10803.60000	11434.17000
GE-1	72	360913.89000	0.00000	0.000	363594.37000	355048.32000	364098.98000
GE-3	72	1176531	0	0.000	1197536	1184058	1148001
TB-2	159	65496.71000	0.00000	0.000	64395.92000	65329.60000	66764.61000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:52:21
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1499756	0	0.000	1485339	1505257	1508671
B	11	535.35800	374262.94000	1.100	539.86035	537.46499	528.74910
BE	9	51.79900	64758.79000	1.100	52.42215	51.30282	51.67337
GE-2	72	31285.22000	0.00000	0.000	31038.09000	30486.93000	32330.64000
AL	27	5380.36000	24590.56000	1.500	5335.14799	5472.11708	5333.81414
CA	44	5186.68900	3033.71000	2.300	5172.86678	5072.96745	5314.23129
CR	52	521.91700	197853.04000	2.500	513.46941	537.05975	515.22272
FE	57	5334.47400	33021.09000	5.800	5113.75278	5686.17674	5203.49292
K	39	5130.99800	54098.05000	3.000	5020.10687	5309.57693	5063.31132
MG	24	5292.47100	117219.82000	3.500	5230.21209	5500.52046	5146.67935
MN	55	524.96100	59395.35000	2.100	517.41315	537.31931	520.15126
NA	23	5283.90000	286555.93000	3.900	5155.86517	5520.68885	5175.14615
NI	60	540.53400	115089.90000	3.800	539.04198	561.59066	520.97035
TI	47	491.06700	2640.30000	9.000	447.72762	536.17638	489.29632
V	51	522.36600	145851.26000	1.400	516.34861	530.74808	520.00179
IN-1	115	300143.43000	0.00000	0.000	300034.13000	310426.17000	289969.99000
IN-2	115	11416.18000	0.00000	0.000	10295.66000	11981.94000	11970.94000
AG	107	49.62200	45333.83000	9.200	54.63725	45.77031	48.45799
AS	75	494.77000	16393.57000	8.400	542.48968	465.04791	476.77352
BA	137	499.84500	23787.35000	6.400	536.01089	488.13806	475.38618
CD	111	48.20200	4048.51000	9.100	53.15191	44.79076	46.66260
CO	59	486.91100	380436.79000	7.700	529.93840	461.05860	469.73592
CU	63	499.85100	325934.89000	8.500	548.88620	471.17398	479.49394
MO	98	49.09300	21166.86000	7.100	53.08672	47.30614	46.88595
RB	85	51.85200	3457.14000	4.700	51.73435	54.32047	49.50050
SB	121	51.37700	7675.35000	12.800	58.96685	47.93993	47.22301
SE	78	51.33900	4248.51000	3.200	50.48651	50.31458	53.21501
SN	120	53.06500	9839.86000	6.200	56.75277	52.04356	50.39856
SR	88	49.79000	4537.43000	4.300	50.46929	51.51876	47.38133
ZN	66	481.23100	30189.62000	7.900	524.80136	454.82762	464.06314
BI-2	209	52644.45000	0.00000	0.000	51835.05000	52577.27000	53521.04000
PB	208	51.63300	110349.31000	1.100	51.42923	52.26784	51.20235
TL	203	51.99900	35426.75000	2.400	52.35775	50.58754	53.05301
U	238	52.21100	126469.62000	1.800	51.52592	51.80389	53.30201
SC-1	45	331698.15000	0.00000	0.000	334045.93000	334582.30000	326466.23000
SC-2	45	10967.09000	0.00000	0.000	10753.62000	10953.82000	11193.84000
GE-1	72	368411.93000	0.00000	0.000	372440.70000	373099.56000	359695.54000
GE-3	72	1158584	0	0.000	1133348	1154289	1188117
TB-2	159	66169.57000	0.00000	0.000	64737.20000	67427.89000	66343.62000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:55:26
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1474618	0	0.000	1500300	1478736	1444816
B	11	46.06800	40197.30000	2.000	45.17799	46.01944	47.00570
BE	9	0.00400	8.00000	40.600	0.00536	0.00223	0.00401
GE-2	72	31345.23000	0.00000	0.000	30697.43000	30877.56000	32460.70000
AL	27	4.55300	33.33000	148.900	6.06601	10.44907	-2.85627
CA	44	5.91300	13.33000	331.500	-16.70354	18.06941	16.37350
CR	52	0.41000	196.68000	42.800	0.32063	0.61208	0.29726
FE	57	0.13500	20.00000	1212.600	-1.44216	1.82137	0.02517
K	39	-16.02100	2496.94000	0.000	-26.58728	-10.80125	-10.67493
MG	24	2.41200	60.00000	30.900	1.55720	2.91808	2.76199
MN	55	0.27000	30.00000	120.400	0.63037	0.17905	0.00000
NA	23	-21.61900	9082.55000	0.000	-26.02215	-12.47935	-26.35469
NI	60	0.06300	16.67000	45.800	0.08027	0.07971	0.02984
TI	47	-0.62400	3.33000	0.000	-1.22258	-1.22258	0.57337
V	51	0.05900	16.67000	90.400	0.07299	0.00000	0.10354
IN-1	115	288978.28000	0.00000	0.000	285542.40000	286277.82000	295114.61000
IN-2	115	11086.69000	0.00000	0.000	10893.17000	11083.53000	11283.38000
AG	107	0.00100	10.00000	2435.200	0.02365	-0.01060	-0.01060
AS	75	0.25100	9.33000	111.500	0.27480	0.51693	-0.04003
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00800	0.67000	173.200	0.02483	0.00000	0.00000
CO	59	0.03100	40.00000	39.600	0.01854	0.03098	0.04294
CU	63	0.00400	63.33000	204.200	0.00019	-0.00146	0.01232
MO	98	0.06400	50.00000	64.500	0.04190	0.11170	0.03855
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	0.27500	43.33000	77.100	0.46556	0.04633	0.31417
SE	78	0.04600	5.11000	60.300	0.06629	0.05758	0.01440
SN	120	0.20600	40.00000	71.800	0.26520	0.31573	0.03787
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.07200	30.00000	0.000	-0.90026	-0.74773	-1.56769
BI-2	209	51002.11000	0.00000	0.000	51142.62000	50410.15000	51453.56000
PB	208	0.01900	46.67000	27.700	0.01617	0.01645	0.02563
TL	203	0.00500	3.33000	173.200	0.00000	0.00000	0.01502
U	238	0.00900	20.00000	87.600	0.00425	0.01725	0.00422
SC-1	45	316340.65000	0.00000	0.000	315510.58000	309757.03000	323754.33000
SC-2	45	11207.17000	0.00000	0.000	11414.04000	10903.57000	11303.89000
GE-1	72	353872.91000	0.00000	0.000	350003.90000	347229.21000	364385.62000
GE-3	72	1146336	0	0.000	1173894	1159144	1105969
TB-2	159	64687.34000	0.00000	0.000	62770.12000	64998.45000	66293.45000

Run Name: 1715008E05 Date/Time: 05/30/2017 19:58:32
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1464067	0	0.000	1448389	1484659	1459153
B	11	130.97300	96380.44000	2.100	134.14965	129.08662	129.68285
BE	9	1.07500	1314.72000	6.300	1.15199	1.04621	1.02672
GE-2	72	31662.21000	0.00000	0.000	30326.55000	31839.07000	32821.01000
AL	27	242.22600	1133.42000	0.500	241.01147	242.32787	243.33951
CA	44	447.84300	273.35000	22.300	532.08770	337.40310	474.03790
CR	52	4.30000	1693.49000	7.200	4.02666	4.63372	4.24032
FE	57	215.36200	1363.44000	17.600	258.54225	187.38130	200.16178
K	39	391.74100	6658.10000	4.400	393.99715	407.80059	373.42538
MG	24	215.69600	4830.80000	11.100	243.22417	202.38184	201.48271
MN	55	3.89600	443.36000	24.200	4.83144	3.90724	2.94809
NA	23	387.37600	30826.57000	2.500	398.56316	381.28191	382.28258
NI	60	3.82500	830.05000	10.300	3.37399	4.08930	4.01118
TI	47	37.40700	210.01000	37.700	29.53667	53.70962	28.97514
V	51	0.93400	263.34000	16.000	1.07134	0.77414	0.95578
IN-1	115	295149.95000	0.00000	0.000	303819.75000	290052.34000	291577.77000
IN-2	115	10973.46000	0.00000	0.000	10665.24000	10606.66000	11648.47000
AG	107	0.99600	886.73000	5.900	1.02727	1.03301	0.92901
AS	75	4.17500	134.67000	5.500	4.14017	4.42192	3.96397
BA	137	3.38100	156.67000	56.000	2.39341	5.56284	2.18528
CD	111	1.16400	94.00000	15.300	1.14120	1.35151	0.99844
CO	59	0.97900	753.38000	16.300	0.85155	1.15816	0.92773
CU	63	4.26200	2733.63000	11.600	4.33275	4.71875	3.73452
MO	98	1.10400	483.36000	10.700	1.00947	1.06513	1.23698
RB	85	1.29900	86.67000	50.500	0.59102	1.88748	1.41971
SB	121	2.17200	316.69000	9.500	2.04169	2.41086	2.06295
SE	78	3.88100	317.56000	10.000	3.96767	3.45682	4.21797
SN	120	4.74800	850.05000	6.500	4.81778	5.01802	4.40967
SR	88	1.84900	160.01000	36.800	2.34773	2.12463	1.07473
ZN	66	28.64800	1820.17000	8.700	31.32727	28.25250	26.36549
BI-2	209	52249.70000	0.00000	0.000	51423.70000	52848.16000	52477.23000
PB	208	2.02300	4297.06000	2.500	2.07607	1.97342	2.02025
TL	203	1.05600	713.38000	5.100	1.09710	0.99440	1.07506
U	238	1.02200	2456.96000	0.700	1.02308	1.02841	1.01497
SC-1	45	314997.88000	0.00000	0.000	323885.89000	312214.19000	308893.55000
SC-2	45	10626.90000	0.00000	0.000	10393.51000	10763.68000	10723.51000
GE-1	72	349192.83000	0.00000	0.000	358188.35000	345575.07000	343815.07000
GE-3	72	1138966	0	0.000	1110456	1169714	1136727
TB-2	159	66383.59000	0.00000	0.000	66313.29000	67026.72000	65810.75000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:01:37
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1442726	0	0.000	1479609	1422073	1426497
B	11	33.96400	31390.07000	3.700	32.53149	34.95767	34.40412
BE	9	0.00400	8.00000	83.700	0.00385	0.00074	0.00745
GE-2	72	31268.47000	0.00000	0.000	31629.13000	30957.46000	31218.83000
AL	27	104602.86100	477624.39000	2.300	101914.36687	105412.93798	106481.27907
CA	44	280154.73700	163151.04000	4.200	267954.44762	280962.52020	291547.24459
CR	52	3.19900	1253.43000	9.600	2.94309	3.11599	3.53832
FE	57	244060.23300	1510070.55000	2.500	238611.18034	242780.29020	250789.22902
K	39	100891.33600	1013935.35000	2.400	98066.11668	102098.22860	102509.66242
MG	24	97459.85900	2158363.82000	2.200	95056.19896	98064.77144	99258.60613
MN	55	1.50100	170.01000	20.100	1.83549	1.25024	1.41687
NA	23	245684.70900	12858517.73000	1.600	241120.91688	248769.71812	247163.49296
NI	60	1.61200	346.68000	18.600	1.60951	1.31270	1.91306
TI	47	2076.21500	11140.51000	2.600	2014.02671	2112.42810	2102.18871
V	51	0.15500	43.34000	153.900	0.03542	0.00000	0.43066
IN-1	115	284481.33000	0.00000	0.000	283118.56000	284651.85000	285673.57000
IN-2	115	10366.55000	0.00000	0.000	10303.47000	10222.87000	10573.30000
AG	107	0.22500	196.68000	33.300	0.14632	0.23272	0.29523
AS	75	0.50900	16.67000	43.600	0.49252	0.29544	0.73841
BA	137	2.76800	123.34000	15.900	2.94428	2.26625	3.09341
CD	111	0.09500	7.33000	68.900	0.15750	0.02646	0.10232
CO	59	3.20900	2300.25000	6.400	3.28289	3.36588	2.97844
CU	63	1.71700	1080.08000	20.500	1.35887	1.72834	2.06349
MO	98	2121.18100	832880.48000	2.800	2055.97028	2173.62776	2133.94558
RB	85	0.00200	3.33000	4332.800	-0.05188	-0.05188	0.11024
SB	121	0.07500	13.33000	112.300	0.12518	-0.02214	0.12142
SE	78	0.05000	5.33000	52.000	0.07547	0.04948	0.02386
SN	120	0.26000	46.67000	27.000	0.34089	0.22363	0.21567
SR	88	3.18700	263.35000	20.300	3.76668	3.30666	2.48654
ZN	66	1.76600	190.01000	31.000	1.25500	2.34404	1.69868
BI-2	209	48538.02000	0.00000	0.000	47701.87000	49477.89000	48434.30000
PB	208	0.32800	653.37000	9.400	0.29643	0.33049	0.35803
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.02200	50.00000	70.500	0.00911	0.03954	0.01795
SC-1	45	313770.64000	0.00000	0.000	319549.53000	310687.59000	311074.80000
SC-2	45	10950.34000	0.00000	0.000	10663.48000	11344.01000	10843.54000
GE-1	72	344040.33000	0.00000	0.000	343793.55000	345205.97000	343121.48000
GE-3	72	1148811	0	0.000	1155244	1148010	1143179
TB-2	159	62140.72000	0.00000	0.000	61053.01000	63503.20000	61865.96000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:04:42
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1424412	0	0.000	1394877	1437748	1440612
B	11	25.99800	25837.72000	5.200	27.50035	25.64511	24.84742
BE	9	0.00800	12.00000	47.300	0.01112	0.00738	0.00403
GE-2	72	30340.15000	0.00000	0.000	30346.75000	30376.86000	30296.85000
AL	27	107077.19500	474458.55000	2.800	106052.83166	104725.03947	110453.71477
CA	44	287924.69800	162728.11000	2.000	282237.73433	287831.35137	293705.00781
CR	52	209.30700	77001.56000	2.500	209.22026	214.49661	204.20426
FE	57	251775.81100	1511674.51000	0.900	249828.72076	251063.42680	254435.28592
K	39	103173.00300	1006174.41000	2.200	100611.96372	104043.71098	104863.33310
MG	24	100555.49700	2161051.64000	1.800	98959.93081	100242.66804	102463.89171
MN	55	208.11600	22841.88000	2.200	211.20645	210.17598	202.96621
NA	23	255756.10400	12989267.72000	1.400	251669.15386	256897.82905	258701.32900
NI	60	205.74000	42514.71000	2.300	202.08697	204.06427	211.06771
TI	47	2170.81700	11303.99000	6.900	1997.31279	2268.06020	2247.07748
V	51	211.89300	57384.98000	3.100	204.46546	216.65604	214.55705
IN-1	115	279477.24000	0.00000	0.000	282052.62000	275444.65000	280934.45000
IN-2	115	10897.05000	0.00000	0.000	10783.59000	10753.55000	11154.02000
AG	107	48.47600	42466.12000	3.200	49.04203	49.65455	46.73135
AS	75	98.18200	3120.96000	1.600	96.58475	99.78931	98.17314
BA	137	3.28600	153.34000	14.800	3.25337	2.81780	3.78594
CD	111	94.37900	7607.06000	2.400	92.29611	94.11373	96.72718
CO	59	193.37200	144824.64000	1.500	194.63616	195.50789	189.97295
CU	63	191.81200	119949.14000	3.400	192.49741	197.89372	185.04370
MO	98	2026.39700	836238.32000	1.500	2026.55935	2056.71092	1995.92008
RB	85	0.15700	13.33000	115.300	-0.05188	0.26693	0.25548
SB	121	0.11700	20.00000	60.100	0.18900	0.04843	0.11394
SE	78	98.03500	7557.83000	1.100	99.06656	98.16901	96.87008
SN	120	0.24500	46.67000	56.000	0.26806	0.09763	0.36866
SR	88	2.80000	243.35000	36.900	1.97368	3.95839	2.46932
ZN	66	97.47100	5931.20000	8.300	99.58453	104.26341	88.56420
BI-2	209	48153.60000	0.00000	0.000	46759.54000	48323.75000	49377.51000
PB	208	0.33100	653.37000	8.000	0.36042	0.30787	0.32618
TL	203	0.02100	13.33000	86.600	0.00000	0.03198	0.03130
U	238	0.01500	33.33000	63.900	0.02324	0.01799	0.00440
SC-1	45	307625.29000	0.00000	0.000	314169.84000	305786.99000	302919.04000
SC-2	45	10680.20000	0.00000	0.000	11053.82000	10493.41000	10493.37000
GE-1	72	341665.33000	0.00000	0.000	347121.71000	341085.46000	336788.82000
GE-3	72	1110543	0	0.000	1113195	1113795	1104639
TB-2	159	61297.49000	0.00000	0.000	60982.87000	59898.94000	63010.66000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:07:47
Tube Number: 10
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1448358	0	0.000	1483478	1445488	1416110
B	11	14.03800	18409.02000	2.700	13.61057	14.16398	14.33949
BE	9	-0.00200	1.33000	0.000	-0.00264	-0.00264	0.00075
GE-2	72	30443.55000	0.00000	0.000	29074.36000	30306.64000	31949.64000
AL	27	3.21900	26.67000	90.100	6.56409	1.66239	1.43002
CA	44	-4.39400	6.67000	0.000	20.22604	-16.70354	-16.70354
CR	52	0.56800	250.01000	17.000	0.51492	0.68012	0.51038
FE	57	17.23100	123.34000	28.100	12.55425	16.92040	22.21963
K	39	-2.31800	2550.27000	0.000	24.23731	-6.02345	-25.16920
MG	24	4.56100	103.34000	35.700	6.03043	4.84165	2.81069
MN	55	0.32900	36.67000	52.500	0.28524	0.18243	0.51914
NA	23	-2.57300	9779.60000	0.000	9.12028	-6.47569	-10.36304
NI	60	0.06500	16.67000	86.100	0.03511	0.12995	0.03056
TI	47	-0.55400	3.33000	0.000	0.78254	-1.22258	-1.22258
V	51	0.03800	10.00000	101.400	0.07706	0.03697	0.00000
IN-1	115	290581.46000	0.00000	0.000	283327.04000	290870.95000	297546.39000
IN-2	115	10653.52000	0.00000	0.000	10523.63000	10302.97000	11133.95000
AG	107	-0.00700	3.33000	0.000	0.00121	-0.01060	-0.01060
AS	75	0.00100	1.33000	6818.000	-0.04003	-0.04003	0.08318
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.01000	23.33000	150.700	0.01995	-0.00741	0.01767
CU	63	-0.00400	56.67000	0.000	0.02012	-0.04505	0.01377
MO	98	1.91900	793.38000	16.400	2.12775	2.07202	1.55753
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	0.06900	13.33000	229.000	-0.02214	-0.02214	0.25052
SE	78	0.05400	5.78000	52.900	0.05838	0.02310	0.07908
SN	120	0.00200	3.33000	1715.400	-0.01652	-0.01652	0.03860
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.27800	16.67000	0.000	-1.56769	-0.86203	-1.40444
BI-2	209	51688.48000	0.00000	0.000	49959.57000	51303.09000	53802.78000
PB	208	0.00500	16.67000	117.600	0.01170	0.00171	0.00148
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SC-1	45	316276.02000	0.00000	0.000	313552.42000	314848.41000	320427.22000
SC-2	45	10783.63000	0.00000	0.000	10653.55000	10583.49000	11113.84000
GE-1	72	349764.56000	0.00000	0.000	348947.26000	348495.15000	351851.28000
GE-3	72	1138994	0	0.000	1155520	1114404	1147056
TB-2	159	63907.41000	0.00000	0.000	62258.13000	65108.40000	64355.70000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:10:51
Tube Number: 11
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1488975	0	0.000	1499281	1459397	1508247
B	11	264.12900	188066.05000	2.200	263.66872	270.09071	258.62715
BE	9	26.21800	32541.36000	1.100	26.03692	26.53935	26.07815
GE-2	72	30380.32000	0.00000	0.000	30226.58000	28584.39000	32329.99000
AL	27	2762.01100	12251.23000	3.400	2734.66687	2865.54124	2685.82554
CA	44	2740.48300	1553.47000	14.500	2452.25971	3195.23602	2573.95210
CR	52	271.62000	99801.87000	6.200	266.72254	290.35672	257.77971
FE	57	2693.85000	16191.20000	3.600	2664.73735	2802.07889	2614.73465
K	39	2599.81400	27811.97000	9.100	2500.05219	2870.91924	2428.47165
MG	24	2710.80000	58192.40000	6.700	2649.20970	2914.39433	2568.79603
MN	55	273.96900	30062.68000	4.900	264.70935	289.41115	267.78797
NA	23	2668.56300	145159.83000	6.500	2637.99605	2854.41532	2513.27807
NI	60	278.17200	57449.50000	4.600	278.44082	290.82733	265.24891
TI	47	302.15600	1576.79000	6.600	299.67635	323.08369	283.70789
V	51	264.50400	71622.29000	3.900	260.73201	276.10491	256.67513
IN-1	115	298315.93000	0.00000	0.000	299695.96000	301825.89000	293425.93000
IN-2	115	10301.01000	0.00000	0.000	9857.78000	10071.64000	10973.61000
AG	107	26.71100	22098.12000	4.200	27.75058	26.87662	25.50637
AS	75	266.04100	7972.49000	6.900	284.88143	265.27252	247.96805
BA	137	268.36600	11550.96000	4.000	270.43810	277.99337	256.66664
CD	111	26.64600	2026.80000	4.400	26.78051	27.74284	25.41324
CO	59	270.49500	191323.36000	3.100	273.92324	276.65445	260.90798
CU	63	270.34000	159564.35000	4.800	282.00259	272.74844	256.26755
MO	98	27.40000	10680.33000	8.400	28.18354	29.21054	24.80650
RB	85	27.33700	1650.14000	15.700	29.33815	22.41588	30.25554
SB	121	28.20900	3810.57000	14.500	30.77868	30.35095	23.49641
SE	78	25.06700	2064.57000	4.200	24.76094	26.22804	24.21116
SN	120	27.24400	4557.43000	12.800	27.50711	30.58035	23.64565
SR	88	28.80900	2376.92000	7.200	26.92552	28.46723	31.03393
ZN	66	265.86600	15120.22000	6.400	275.68845	275.57836	246.33064
BI-2	209	47993.89000	0.00000	0.000	48997.35000	44984.71000	49999.62000
PB	208	28.36500	55156.23000	5.900	27.22986	30.27890	27.58678
TL	203	28.41300	17610.20000	5.700	27.33248	30.26995	27.63548
U	238	29.03900	63941.57000	7.400	28.03753	31.50417	27.57592
SC-1	45	324088.22000	0.00000	0.000	325290.72000	330392.96000	316580.97000
SC-2	45	10600.20000	0.00000	0.000	10593.59000	9863.02000	11344.00000
GE-1	72	361322.62000	0.00000	0.000	357099.92000	370004.17000	356863.78000
GE-3	72	1156658	0	0.000	1174265	1132043	1163665
TB-2	159	61499.20000	0.00000	0.000	61034.26000	58635.74000	64827.60000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:13:57
Tube Number: 12
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1469105	0	0.000	1506289	1482942	1418084
B	11	24.18500	25440.49000	3.300	23.25256	24.59921	24.70198
BE	9	0.00200	5.33000	144.500	0.00214	0.00384	-0.00094
GE-2	72	31645.87000	0.00000	0.000	32099.79000	31288.58000	31549.25000
AL	27	5.77500	40.00000	63.800	7.80933	1.52058	7.99545
CA	44	11.51000	16.67000	83.200	16.74540	0.45454	17.32909
CR	52	0.52400	243.35000	37.100	0.68743	0.57625	0.30901
FE	57	5.40800	53.33000	42.900	7.93143	3.37194	4.92028
K	39	-21.33100	2466.94000	0.000	-5.87921	-26.09355	-32.02071
MG	24	3.58400	86.67000	40.100	4.11562	4.68084	1.95500
MN	55	0.08700	10.00000	1.300	0.08612	0.08835	0.08762
NA	23	-28.44300	8812.46000	0.000	-28.92821	-31.12511	-25.27496
NI	60	0.10800	26.67000	87.900	0.21332	0.03153	0.07768
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.01200	3.33000	173.200	0.00000	0.03581	0.00000
IN-1	115	293276.74000	0.00000	0.000	294016.01000	294338.05000	291476.16000
IN-2	115	10879.97000	0.00000	0.000	11333.53000	10553.01000	10753.37000
AG	107	-0.00700	3.33000	0.000	-0.01060	-0.01060	0.00096
AS	75	0.15100	6.00000	76.700	0.08101	0.28495	0.08754
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.01600	1.33000	86.800	0.02386	0.02563	0.00000
CO	59	0.01400	26.67000	192.800	0.04265	0.00604	-0.00800
CU	63	0.04400	86.67000	181.500	0.01184	0.13541	-0.01477
MO	98	0.16500	90.00000	34.000	0.10802	0.22015	0.16592
RB	85	0.05400	6.67000	338.400	-0.05188	-0.05188	0.26694
SB	121	0.07300	13.33000	150.100	-0.02214	0.19361	0.04843
SE	78	0.02800	3.78000	17.400	0.03092	0.02261	0.03135
SN	120	0.17100	33.33000	36.100	0.20010	0.09980	0.21178
SR	88	0.11600	10.00000	102.400	0.11046	0.23726	0.00000
ZN	66	-1.17600	23.33000	0.000	-1.40732	-1.56769	-0.55353
BI-2	209	52771.25000	0.00000	0.000	52577.21000	53109.28000	52627.25000
PB	208	0.01600	40.00000	79.400	0.02502	0.02010	0.00159
TL	203	0.01500	10.00000	100.000	0.01470	0.00000	0.02937
U	238	0.00300	6.67000	86.600	0.00413	0.00409	0.00000
SC-1	45	318836.57000	0.00000	0.000	317583.47000	317281.17000	321645.07000
SC-2	45	10229.89000	0.00000	0.000	10143.11000	10713.53000	9833.02000
GE-1	72	353847.25000	0.00000	0.000	344824.14000	352631.95000	364085.66000
GE-3	72	1141007	0	0.000	1182468	1134116	1106437
TB-2	159	65895.65000	0.00000	0.000	65630.18000	66133.84000	65922.93000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:17:02
Tube Number: 13 Batch: 171441063901A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1520329	0	0.000	1518538	1567187	1475263
B	11	15.23300	20146.14000	4.700	15.81829	14.44166	15.43971
BE	9	0.00000	3.33000	8569.200	0.00052	-0.00111	0.00062
GE-2	72	32190.07000	0.00000	0.000	30937.90000	32781.29000	32851.02000
AL	27	2.79400	26.67000	84.000	1.57020	5.49883	1.31241
CA	44	5.76000	13.33000	338.200	18.00159	-16.70354	15.98049
CR	52	0.40400	200.01000	31.600	0.42397	0.51983	0.26731
FE	57	1.59400	30.00000	91.000	0.17842	3.07777	1.52643
K	39	-32.89000	2386.91000	0.000	-22.38654	-39.80180	-36.48068
MG	24	1.33900	36.67000	77.200	1.99921	1.87091	0.14738
MN	55	0.57900	66.67000	49.300	0.89353	0.50597	0.33660
NA	23	-37.19900	8482.24000	0.000	-27.33591	-48.80309	-35.45661
NI	60	0.14900	36.67000	105.800	-0.01540	0.29814	0.16339
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.01200	3.33000	173.200	0.03621	0.00000	0.00000
IN-1	115	299809.03000	0.00000	0.000	303671.03000	297885.77000	297870.30000
IN-2	115	11300.30000	0.00000	0.000	11143.24000	11343.82000	11413.85000
AG	107	-0.01100	0.00000	0.000	-0.01060	-0.01060	-0.01060
AS	75	0.08100	4.00000	73.400	0.02153	0.08090	0.14025
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	-0.00400	13.33000	0.000	0.01764	-0.00870	-0.02153
CU	63	0.04800	93.33000	17.800	0.04495	0.05783	0.04162
MO	98	0.09200	63.33000	71.600	0.01603	0.13114	0.13000
RB	85	-0.00100	3.33000	0.000	0.10195	-0.05188	-0.05188
SB	121	0.02300	6.67000	171.000	0.04596	-0.02214	0.04435
SE	78	-0.01000	0.67000	0.000	-0.01841	-0.00222	-0.01025
SN	120	0.11000	23.33000	27.400	0.09364	0.09169	0.14480
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.13700	26.67000	0.000	-0.91524	-1.08701	-1.40845
BI-2	209	55122.56000	0.00000	0.000	54714.57000	55286.47000	55366.63000
PB	208	0.00900	26.67000	106.200	0.01942	0.00582	0.00135
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SC-1	45	325160.59000	0.00000	0.000	329330.03000	323840.95000	322310.80000
SC-2	45	11574.12000	0.00000	0.000	11554.11000	11944.28000	11223.98000
GE-1	72	358893.77000	0.00000	0.000	368683.94000	358646.28000	349351.09000
GE-3	72	1162961	0	0.000	1151545	1188582	1148757
TB-2	159	68532.14000	0.00000	0.000	68170.67000	70008.66000	67417.10000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:20:11
Tube Number: 14 Batch: 171441063901A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1519767	0	0.000	1478824	1545501	1534977
B	11	259.84800	188975.53000	2.600	267.39076	257.42342	254.72839
BE	9	4.09700	5190.08000	3.900	4.28275	4.00781	3.99935
GE-2	72	32343.79000	0.00000	0.000	31418.84000	33011.42000	32601.11000
AL	27	2084.77500	9866.39000	3.100	2011.42669	2136.35145	2106.54543
CA	44	4018.68900	2433.60000	6.400	3725.74666	4114.47118	4215.85058
CR	52	51.29400	20135.35000	4.400	53.26273	48.86156	51.75908
FE	57	1041.47900	6688.15000	3.100	1010.39335	1039.60291	1074.44207
K	39	10167.14700	108186.10000	2.600	10010.67437	10013.65704	10477.11073
MG	24	2041.68300	46803.76000	3.000	1972.42024	2060.30655	2092.32218
MN	55	50.44500	5901.17000	4.100	50.42557	48.41090	52.49854
NA	23	10027.35100	553008.29000	1.000	10028.75863	9926.75420	10126.54024
NI	60	51.23900	11287.27000	2.500	52.39110	51.46543	49.86027
TI	47	253.44800	1413.45000	2.200	247.43514	258.39866	254.51156
V	51	50.80000	14663.12000	3.100	51.11829	49.09407	52.18853
IN-1	115	302061.03000	0.00000	0.000	302127.85000	303518.43000	300536.82000
IN-2	115	10868.05000	0.00000	0.000	10514.65000	10991.20000	11098.31000
AG	107	50.93600	44511.38000	1.300	51.63652	50.37303	50.79722
AS	75	10.31500	328.01000	2.500	10.59276	10.25686	10.09569
BA	137	51.63200	2350.25000	3.400	51.54681	53.44148	49.90858
CD	111	5.02000	403.34000	1.700	5.06762	5.06937	4.92296
CO	59	252.32500	188441.39000	2.000	257.34174	252.21187	247.42058
CU	63	53.15000	33198.45000	1.400	53.80301	53.34028	52.30621
MO	98	52.28900	21554.01000	2.300	51.37607	51.84000	53.64966
RB	85	0.05200	6.67000	173.700	-0.05188	0.10408	0.10257
SB	121	6.17000	886.73000	3.400	6.11360	6.40012	5.99614
SE	78	9.97200	832.24000	4.800	10.44688	9.49102	9.97951
SN	120	52.26200	9256.16000	3.100	52.29953	53.88647	50.59985
SR	88	42.61500	3700.52000	4.000	42.27256	41.12336	44.44989
ZN	66	501.63900	30092.97000	2.100	495.14161	513.52936	496.24682
BI-2	209	55289.64000	0.00000	0.000	54824.51000	54965.30000	56079.12000
PB	208	14.98700	33645.47000	1.300	14.80379	15.18321	14.97403
TL	203	2.10000	1503.47000	9.900	2.08635	1.89821	2.31529
U	238	0.00100	3.33000	173.200	0.00000	0.00395	0.00000
SC-1	45	327836.49000	0.00000	0.000	335855.50000	326043.86000	321610.11000
SC-2	45	12091.11000	0.00000	0.000	11614.14000	11884.30000	12774.90000
GE-1	72	358469.11000	0.00000	0.000	360418.59000	365859.14000	349129.60000
GE-3	72	1159281	0	0.000	1133407	1181557	1162880
TB-2	159	67551.98000	0.00000	0.000	66795.25000	66765.57000	69095.11000

Run Name: 1715008E05
Tube Number: 15
Sample Number: **9006555**

Date/Time: 05/30/2017 20:23:17
Batch: 171441063901A
Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1482496	0	0.000	1493910	1461775	1491802
B	11	27.29600	27773.74000	2.500	27.50611	27.85330	26.52741
BE	9	0.04100	54.00000	25.400	0.03430	0.05317	0.03596
GE-2	72	32166.57000	0.00000	0.000	31629.18000	32270.13000	32600.40000
AL	27	198.92100	946.72000	14.200	230.96358	177.51243	188.28732
CA	44	7119.38700	4277.34000	4.600	6909.49313	6954.88964	7493.77843
CR	52	0.97600	423.35000	25.500	0.96020	0.73436	1.23209
FE	57	15.27200	116.67000	25.000	17.68303	17.27047	10.86236
K	39	415.82400	7018.32000	9.800	389.57433	394.95567	462.94245
MG	24	3899.12200	88869.82000	2.600	3781.71922	3966.39249	3949.25500
MN	55	17.52700	2040.19000	10.900	17.56905	15.59205	19.42036
NA	23	6429.93000	356392.47000	1.500	6536.80746	6402.69213	6350.28931
NI	60	0.57900	130.01000	17.400	0.68100	0.57616	0.48009
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.16200	46.67000	31.500	0.10626	0.17358	0.20619
IN-1	115	294270.97000	0.00000	0.000	293547.50000	301375.03000	287890.38000
IN-2	115	11036.79000	0.00000	0.000	10782.98000	11213.77000	11113.62000
AG	107	-0.00300	6.67000	0.000	-0.01060	0.01158	-0.01060
AS	75	0.18900	7.33000	115.000	0.21441	-0.04003	0.39199
BA	137	34.79800	1610.14000	2.400	34.29628	35.74752	34.34915
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.81300	633.37000	9.100	0.73407	0.82182	0.88178
CU	63	3.43400	2233.56000	7.500	3.60553	3.13696	3.55815
MO	98	0.15200	86.67000	31.400	0.11634	0.13330	0.20627
RB	85	1.55000	103.33000	21.600	1.37886	1.93535	1.33629
SB	121	0.25400	40.00000	56.200	0.40016	0.24858	0.11444
SE	78	0.22000	19.33000	33.200	0.30274	0.19009	0.16635
SN	120	0.48300	90.00000	9.500	0.43883	0.53080	0.48051
SR	88	17.90600	1583.46000	22.700	13.23607	20.65505	19.82704
ZN	66	12.68500	866.72000	15.800	11.24374	14.96632	11.84420
BI-2	209	53567.14000	0.00000	0.000	52707.65000	54092.34000	53901.42000
PB	208	0.40200	880.04000	18.600	0.46896	0.41590	0.32139
TL	203	0.03800	26.67000	113.700	0.02932	0.00000	0.08602
U	238	0.01100	26.67000	77.200	0.00825	0.02009	0.00403
SC-1	45	322303.83000	0.00000	0.000	322958.45000	322783.02000	321170.03000
SC-2	45	10863.61000	0.00000	0.000	11113.81000	10663.42000	10813.61000
GE-1	72	357581.73000	0.00000	0.000	355826.05000	364457.89000	352461.24000
GE-3	72	1153849	0	0.000	1163058	1135730	1162760
TB-2	159	66306.48000	0.00000	0.000	66072.33000	67889.02000	64958.09000

Run Name: 1715008E05
Tube Number: 16
Sample Number: **9006555**

Date/Time: 05/30/2017 20:26:25
Batch: 171441063901A
Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1539182	0	0.000	1562587	1556869	1498089
B	11	122.92100	95701.31000	0.900	123.46035	121.64274	123.65849
BE	9	0.99400	1278.72000	5.200	1.04150	0.93900	1.00157
GE-2	72	32116.83000	0.00000	0.000	31018.00000	32160.53000	33171.95000
AL	27	360.46900	1700.15000	10.800	403.36398	350.60263	327.44055
CA	44	7289.80300	4367.37000	4.700	7461.49173	7513.07071	6894.84583
CR	52	5.36000	2130.21000	7.900	5.39779	4.91983	5.76169
FE	57	213.13400	1373.44000	3.100	216.86537	216.90928	205.62683
K	39	820.00400	11167.13000	7.600	848.15352	748.44632	863.41291
MG	24	3936.01700	89496.87000	2.700	4029.56199	3959.63467	3818.85356
MN	55	23.64700	2750.33000	5.700	22.10433	24.50045	24.33719
NA	23	6611.11200	365529.25000	1.600	6659.66503	6681.76170	6491.90797
NI	60	4.84600	1063.40000	2.900	4.90806	4.68750	4.94248
TI	47	35.19500	200.01000	16.800	42.00735	31.40802	32.17055
V	51	1.11500	320.01000	24.800	0.90298	1.42829	1.01321
IN-1	115	291460.61000	0.00000	0.000	290043.48000	287013.81000	297324.55000
IN-2	115	11157.32000	0.00000	0.000	10928.31000	10867.32000	11676.32000
AG	107	0.96400	873.39000	3.400	0.99092	0.97364	0.92676
AS	75	4.02200	132.00000	20.000	4.91822	3.36818	3.77820
BA	137	38.00300	1776.84000	3.500	36.68339	39.31047	38.01465
CD	111	1.03100	85.33000	12.700	0.96523	0.94576	1.18137
CO	59	1.76000	1370.11000	19.700	1.36308	1.91980	1.99714
CU	63	8.25200	5341.01000	2.800	8.45315	8.30867	7.99496
MO	98	1.23200	543.37000	5.700	1.22548	1.30553	1.16604
RB	85	8.68000	570.03000	11.500	8.41886	7.83545	9.78471
SB	121	1.85100	276.68000	22.100	1.43635	1.86356	2.25297
SE	78	4.15400	335.34000	3.700	4.33201	4.06640	4.06292
SN	120	4.39000	800.06000	16.200	3.80271	5.17976	4.18891
SR	88	20.63300	1840.17000	5.300	19.36137	21.19811	21.33827
ZN	66	41.11600	2620.30000	4.800	39.01894	42.92716	41.40113
BI-2	209	54306.68000	0.00000	0.000	52587.59000	55427.30000	54905.16000
PB	208	2.25200	4973.85000	4.700	2.18935	2.37485	2.19105
TL	203	1.15000	806.72000	10.800	1.27855	1.03180	1.14015
U	238	10.13200	25311.26000	0.800	10.16437	10.19362	10.03682
SC-1	45	319152.61000	0.00000	0.000	316923.61000	312948.82000	327585.39000
SC-2	45	10770.28000	0.00000	0.000	10453.29000	10493.46000	11364.09000
GE-1	72	352513.54000	0.00000	0.000	355971.52000	345571.17000	355997.92000
GE-3	72	1193294	0	0.000	1216854	1202548	1160481
TB-2	159	67979.95000	0.00000	0.000	66323.12000	68622.48000	68994.24000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:29:29
Tube Number: 17 Batch: 171441063901A
Sample Number: **9006558** Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1491707	0	0.000	1520665	1442120	1512336
B	11	18.84800	22212.46000	5.000	18.59373	19.89517	18.05602
BE	9	0.04000	53.33000	35.700	0.05574	0.03729	0.02751
GE-2	72	31511.96000	0.00000	0.000	31418.25000	31428.40000	31689.23000
AL	27	195.69500	913.39000	14.300	223.81579	195.41746	167.85210
CA	44	7122.71400	4190.64000	2.000	6990.15038	7278.31128	7099.67892
CR	52	1.06900	450.03000	14.600	1.15125	0.88826	1.16651
FE	57	11.34000	90.00000	51.000	4.95367	16.20784	12.85813
K	39	486.74000	7588.52000	1.700	479.37838	496.01236	484.82853
MG	24	4055.69300	90535.34000	0.700	4022.96423	4082.58977	4061.52486
MN	55	17.90000	2040.21000	7.100	19.35919	17.06567	17.27397
NA	23	6724.16600	364685.76000	1.400	6745.29564	6803.07814	6624.12323
NI	60	0.73100	160.01000	33.500	0.87261	0.87232	0.44795
TI	47	-0.60400	3.33000	0.000	-1.22258	0.63236	-1.22258
V	51	0.21400	60.00000	29.200	0.24960	0.24952	0.14141
IN-1	115	299262.20000	0.00000	0.000	292311.29000	304941.07000	300534.23000
IN-2	115	11097.24000	0.00000	0.000	10743.62000	10693.75000	11854.34000
AG	107	-0.00700	3.33000	0.000	-0.01060	0.00102	-0.01060
AS	75	0.10500	4.67000	38.600	0.15150	0.08825	0.07569
BA	137	33.13900	1536.79000	9.000	33.08637	36.14800	30.18137
CD	111	0.00800	0.67000	173.200	0.02518	0.00000	0.00000
CO	59	0.91300	710.04000	16.000	0.84517	1.08052	0.81308
CU	63	3.74900	2433.59000	15.800	4.13823	4.04390	3.06518
MO	98	0.04700	43.33000	64.000	0.01867	0.04371	0.07858
RB	85	1.60800	106.67000	19.900	1.86292	1.71139	1.24955
SB	121	0.07000	13.33000	155.700	-0.02214	0.19077	0.04188
SE	78	0.19300	17.55000	41.500	0.10563	0.21143	0.26306
SN	120	0.24700	46.67000	73.000	0.21199	0.44263	0.08703
SR	88	18.39400	1630.14000	0.600	18.41244	18.49818	18.27154
ZN	66	10.46300	736.72000	15.200	11.29084	8.63113	11.46614
BI-2	209	54042.35000	0.00000	0.000	54172.64000	53701.87000	54252.55000
PB	208	0.44800	990.05000	11.000	0.46984	0.39141	0.48277
TL	203	0.03300	23.33000	24.500	0.04280	0.02878	0.02849
U	238	0.01600	40.00000	66.000	0.02408	0.00405	0.02003
SC-1	45	324485.13000	0.00000	0.000	312369.49000	332353.94000	328731.95000
SC-2	45	11270.60000	0.00000	0.000	11393.93000	11614.22000	10803.66000
GE-1	72	364644.16000	0.00000	0.000	352742.65000	369337.96000	371851.87000
GE-3	72	1168689	0	0.000	1181207	1134957	1189904
TB-2	159	67391.42000	0.00000	0.000	68663.29000	66183.92000	67327.06000

Run Name: 1715008E05
Tube Number: 18
Sample Number: **9006556**

Date/Time: 05/30/2017 20:32:35
Batch: 171441063901A
Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1531220	0	0.000	1560944	1531443	1501271
B	11	269.96400	197462.39000	1.800	265.48621	269.31301	275.09301
BE	9	4.03400	5152.07000	2.200	4.03731	3.94590	4.11958
GE-2	72	31345.06000	0.00000	0.000	30416.98000	32470.38000	31147.82000
AL	27	2406.08700	11026.97000	0.300	2406.64482	2397.72986	2413.88674
CA	44	11328.06000	6624.83000	6.200	10751.91630	11129.38142	12102.88191
CR	52	53.90900	20502.19000	4.400	54.96602	51.20317	55.55760
FE	57	1028.10900	6398.01000	2.700	998.90200	1030.50445	1054.92160
K	39	10696.36000	110107.46000	2.100	10794.57128	10441.03102	10853.47713
MG	24	6084.73800	135045.23000	2.500	6134.00340	5915.56913	6204.64100
MN	55	66.73400	7565.19000	3.200	68.81558	66.84797	64.53734
NA	23	16903.99100	895920.56000	3.300	17154.58172	16258.35600	17299.03590
NI	60	54.73000	11684.17000	3.300	53.97276	53.40942	56.80916
TI	47	262.05600	1413.45000	8.600	288.21165	248.35953	249.59686
V	51	51.86700	14519.65000	4.900	49.11638	52.29480	54.19081
IN-1	115	298113.32000	0.00000	0.000	301903.77000	288699.88000	303736.32000
IN-2	115	10973.89000	0.00000	0.000	10741.38000	11019.59000	11160.71000
AG	107	50.23300	44334.62000	0.300	50.29153	50.07384	50.33473
AS	75	10.21600	328.01000	13.200	11.19875	8.67396	10.77649
BA	137	83.88900	3857.26000	6.600	78.06147	84.55237	89.05329
CD	111	4.98500	404.68000	4.000	4.83475	4.90904	5.21048
CO	59	247.45800	186648.45000	1.500	249.14344	250.04208	243.18826
CU	63	55.74000	35152.15000	1.900	56.97304	55.12014	55.12582
MO	98	51.74700	21527.31000	2.900	53.04692	50.09913	52.09387
RB	85	1.81000	120.01000	54.900	0.74605	1.97052	2.71290
SB	121	5.63400	816.72000	10.200	6.26671	5.48808	5.14639
SE	78	10.16800	837.36000	1.300	10.02228	10.28896	10.19257
SN	120	50.80100	9089.44000	5.500	48.33663	53.85966	50.20692
SR	88	56.64000	4967.57000	4.900	54.78718	55.33652	59.79741
ZN	66	508.21200	30777.30000	0.500	510.41973	505.09441	509.12114
BI-2	209	53126.04000	0.00000	0.000	52255.90000	52919.00000	54203.23000
PB	208	15.89300	34275.72000	1.900	16.06003	16.08255	15.53751
TL	203	2.11800	1456.79000	4.400	2.01139	2.16146	2.18155
U	238	0.01600	40.00000	64.300	0.00832	0.01232	0.02807
SC-1	45	319543.09000	0.00000	0.000	329229.33000	302881.46000	326518.49000
SC-2	45	10903.67000	0.00000	0.000	10903.67000	11243.85000	10563.48000
GE-1	72	356889.19000	0.00000	0.000	365517.46000	345977.46000	359172.65000
GE-3	72	1186738	0	0.000	1210352	1192294	1157570
TB-2	159	66771.56000	0.00000	0.000	64836.83000	66162.03000	69315.81000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:35:42
Tube Number: 19 Batch: 171441063901A
Sample Number: **9006557** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1526016	0	0.000	1494695	1530681	1552671
B	11	285.06500	207233.86000	2.800	294.12483	282.27675	278.79326
BE	9	4.29200	5458.83000	6.400	4.57122	4.28653	4.01865
GE-2	72	32644.11000	0.00000	0.000	31388.45000	32941.28000	33602.60000
AL	27	2232.52100	10650.21000	3.900	2321.18110	2149.20215	2227.17975
CA	44	11192.36200	6814.88000	7.500	11547.92016	10236.44279	11792.72432
CR	52	50.78000	20128.57000	1.000	51.31442	50.36995	50.65499
FE	57	1035.95400	6708.16000	2.800	1069.35932	1015.73678	1022.76540
K	39	10410.48100	111657.34000	2.700	10722.30144	10312.84960	10196.29122
MG	24	5909.46100	136569.86000	2.700	6096.83053	5813.77646	5817.77623
MN	55	71.59600	8452.32000	2.500	71.97172	73.19816	69.61756
NA	23	16475.78700	909706.63000	2.700	16958.97629	16390.23450	16078.15061
NI	60	48.85500	10863.65000	1.700	49.39942	47.87260	49.29207
TI	47	263.80900	1486.79000	10.400	234.67108	289.04247	267.71388
V	51	50.92000	14823.25000	4.600	52.84704	51.61536	48.29692
IN-1	115	298093.54000	0.00000	0.000	303592.08000	296322.68000	294365.87000
IN-2	115	11345.80000	0.00000	0.000	11482.38000	11340.48000	11214.55000
AG	107	49.00600	44708.98000	5.300	49.08649	46.35932	51.57172
AS	75	10.82100	359.34000	12.400	10.23453	12.35899	9.86831
BA	137	80.52900	3823.93000	4.200	76.76759	81.52560	83.29482
CD	111	4.88000	409.34000	2.400	4.75830	4.88939	4.99253
CO	59	243.12900	189589.64000	2.400	238.40298	241.43615	249.54807
CU	63	52.93500	34520.88000	2.800	52.48382	51.72568	54.59610
MO	98	48.33900	20793.01000	2.700	46.88016	49.30903	48.82655
RB	85	1.25800	86.67000	66.200	0.69456	2.21561	0.86524
SB	121	6.09300	913.39000	11.900	5.26599	6.40309	6.61052
SE	78	10.23800	842.91000	5.300	9.95844	9.89325	10.86251
SN	120	49.56800	9166.15000	2.900	48.79973	51.25206	48.65150
SR	88	60.84000	5511.10000	7.300	58.01342	58.51887	65.98771
ZN	66	497.88700	31164.80000	5.700	481.02770	481.92606	530.70618
BI-2	209	54718.22000	0.00000	0.000	55999.27000	54313.35000	53842.04000
PB	208	15.36400	34118.96000	3.500	14.83672	15.33358	15.92108
TL	203	2.25000	1593.48000	0.500	2.24959	2.26251	2.23922
U	238	0.01100	26.67000	44.000	0.00776	0.01601	0.00807
SC-1	45	323622.59000	0.00000	0.000	321919.57000	326052.32000	322895.89000
SC-2	45	11137.05000	0.00000	0.000	10953.64000	11473.96000	10983.56000
GE-1	72	359029.39000	0.00000	0.000	362888.90000	361503.00000	352696.28000
GE-3	72	1183103	0	0.000	1158315	1189537	1201455
TB-2	159	68913.87000	0.00000	0.000	69837.72000	66975.84000	69928.05000

Run Name: 1715008E05
Tube Number: 20
Sample Number: **9006555**

Date/Time: 05/30/2017 20:38:48
Batch: 171441063901A
Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1477104	0	0.000	1529811	1429443	1472057
B	11	25.85100	26688.89000	5.500	25.10404	27.48191	24.96802
BE	9	0.00900	14.00000	33.000	0.01148	0.00576	0.00877
GE-2	72	31438.53000	0.00000	0.000	30907.43000	31147.98000	32260.19000
AL	27	39.94300	196.68000	16.500	43.66960	32.31878	43.84116
CA	44	1328.91700	786.72000	12.600	1511.93167	1293.28274	1181.53745
CR	52	0.47800	223.34000	19.900	0.58468	0.44686	0.40210
FE	57	2.85400	36.67000	174.400	1.81662	8.26817	-1.52190
K	39	56.97800	3235.43000	41.600	76.26549	64.11992	30.54986
MG	24	746.44900	16631.30000	3.000	723.09971	766.96715	749.28105
MN	55	3.22800	366.69000	9.500	3.57782	3.10643	2.99934
NA	23	1192.60500	72954.48000	3.100	1172.13891	1234.63995	1171.03520
NI	60	0.06200	16.67000	113.600	-0.01540	0.07888	0.12115
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	301084.58000	0.00000	0.000	304885.93000	308740.74000	289627.06000
IN-2	115	10866.56000	0.00000	0.000	10093.12000	11623.80000	10882.77000
AG	107	0.01600	23.33000	30.800	0.01404	0.02149	0.01225
AS	75	0.02200	2.00000	269.700	0.02793	0.07799	-0.04003
BA	137	7.17400	326.68000	18.400	8.21847	5.68696	7.61667
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.23000	190.01000	24.500	0.18029	0.29140	0.21912
CU	63	0.74600	520.03000	30.300	0.83662	0.48893	0.91308
MO	98	0.03300	36.67000	66.500	0.02342	0.05852	0.01773
RB	85	0.05400	6.67000	171.200	0.11796	0.09559	-0.05188
SB	121	0.00100	3.33000	3654.800	-0.02214	-0.02214	0.04759
SE	78	0.04600	5.34000	62.600	0.06091	0.01295	0.06509
SN	120	0.22900	43.33000	30.200	0.28753	0.24749	0.15267
SR	88	3.12000	266.68000	37.400	4.46547	2.47722	2.41583
ZN	66	0.82900	143.34000	46.300	0.59331	0.62148	1.27176
BI-2	209	53951.67000	0.00000	0.000	54071.71000	53711.19000	54072.11000
PB	208	0.08800	200.01000	31.000	0.11536	0.08863	0.06068
TL	203	0.01000	6.67000	173.200	0.00000	0.00000	0.02858
U	238	0.00100	3.33000	173.200	0.00402	0.00000	0.00000
SC-1	45	327682.74000	0.00000	0.000	324678.78000	329804.96000	328564.49000
SC-2	45	10503.49000	0.00000	0.000	10373.29000	10713.56000	10423.61000
GE-1	72	366413.72000	0.00000	0.000	364562.57000	369619.76000	365058.82000
GE-3	72	1154365	0	0.000	1207070	1120067	1135958
TB-2	159	66059.02000	0.00000	0.000	64606.24000	65108.24000	68462.57000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:41:54
Tube Number: 21 Batch: 171441063901A
Sample Number: **9009420** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1482554	0	0.000	1468000	1503608	1476055
B	11	21.56300	23909.84000	5.300	22.75137	20.45190	21.48513
BE	9	0.01500	21.33000	50.600	0.01534	0.00694	0.02175
GE-2	72	32580.76000	0.00000	0.000	31428.71000	32420.54000	33893.04000
AL	27	36.77100	190.01000	47.900	16.75174	49.94835	43.61169
CA	44	35699.71500	21676.93000	0.800	35431.57892	36022.06559	35645.50056
CR	52	0.92100	410.02000	35.900	0.62568	0.85773	1.27833
FE	57	37.78100	263.34000	6.600	37.10989	40.55614	35.67807
K	39	2309.65500	26857.34000	5.100	2434.11139	2294.72730	2200.12627
MG	24	16135.13600	372146.02000	2.500	16488.46298	16217.85804	15699.08639
MN	55	47.49900	5601.10000	3.700	47.59395	45.71159	49.19217
NA	23	7492.22600	418789.51000	1.800	7519.79491	7613.74281	7343.13954
NI	60	0.55700	126.67000	15.100	0.59200	0.61866	0.46115
TI	47	-0.64900	3.33000	0.000	-1.22258	-1.22258	0.49747
V	51	0.12900	36.67000	106.100	0.28517	0.03456	0.06611
IN-1	115	297161.01000	0.00000	0.000	303670.55000	287925.72000	299886.77000
IN-2	115	10923.50000	0.00000	0.000	10933.89000	11033.55000	10803.06000
AG	107	-0.01100	0.00000	0.000	-0.01060	-0.01060	-0.01060
AS	75	0.06500	3.33000	147.600	0.14817	-0.04003	0.08695
BA	137	28.01000	1283.43000	5.000	29.22955	28.31464	26.48576
CD	111	0.00800	0.67000	173.200	0.02474	0.00000	0.00000
CO	59	0.14200	123.34000	31.600	0.13814	0.18946	0.09969
CU	63	1.46800	980.06000	7.900	1.33876	1.56271	1.50130
MO	98	-0.01400	16.67000	0.000	-0.05505	-0.03112	0.04271
RB	85	1.99100	130.00000	22.000	1.82944	1.65709	2.48708
SB	121	0.02400	6.67000	166.800	0.04727	0.04664	-0.02214
SE	78	1.63100	135.33000	13.100	1.57358	1.45084	1.86777
SN	120	0.32000	60.00000	29.600	0.37641	0.37286	0.21073
SR	88	78.89800	6884.94000	3.900	82.34256	77.96666	76.38436
ZN	66	4.96900	393.35000	25.700	4.74961	6.34006	3.81645
BI-2	209	53453.71000	0.00000	0.000	52667.82000	54162.88000	53530.44000
PB	208	0.11800	263.33000	5.700	0.12319	0.11060	0.12115
TL	203	0.02400	16.67000	69.100	0.01467	0.01427	0.04331
U	238	0.02200	53.33000	53.500	0.00825	0.02809	0.02843
SC-1	45	322420.74000	0.00000	0.000	327556.38000	313794.66000	325911.19000
SC-2	45	11313.93000	0.00000	0.000	11153.96000	11674.07000	11113.75000
GE-1	72	357188.72000	0.00000	0.000	358659.02000	350412.85000	362494.29000
GE-3	72	1157517	0	0.000	1122345	1186746	1163460
TB-2	159	66738.83000	0.00000	0.000	65943.03000	66504.29000	67769.16000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:44:58
Tube Number: 22 Batch: 171441063901A
Sample Number: **9009421** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1536242	0	0.000	1561986	1518081	1528658
B	11	27.60700	28997.92000	1.400	27.20158	27.95937	27.66000
BE	9	1.04300	1338.06000	4.700	1.01119	1.09898	1.01759
GE-2	72	31321.75000	0.00000	0.000	31528.60000	31909.38000	30527.26000
AL	27	4132.47300	18910.50000	2.200	4073.62812	4087.27458	4236.51766
CA	44	49972.89900	29150.93000	3.800	48465.84620	49353.53048	52099.32134
CR	52	3.84400	1500.12000	8.100	4.15686	3.53696	3.83726
FE	57	852.12800	5301.01000	1.600	867.37927	842.73745	846.26665
K	39	2293.64300	25685.64000	4.400	2178.87476	2361.17104	2340.88212
MG	24	22423.34300	497296.74000	3.300	21793.64025	22242.58130	23233.80846
MN	55	6132.01100	694428.14000	3.800	5949.31567	6050.90960	6395.80752
NA	23	19830.43700	1048715.79000	2.900	19449.50827	19540.48277	20501.32028
NI	60	35.13100	7495.16000	2.200	34.45564	34.96492	35.97113
TI	47	1.29600	13.33000	225.800	-1.22258	0.60440	4.50650
V	51	1.04900	293.35000	3.300	1.03049	1.08845	1.02759
IN-1	115	296131.06000	0.00000	0.000	289657.84000	296806.58000	301928.75000
IN-2	115	10893.54000	0.00000	0.000	10813.74000	11163.54000	10703.35000
AG	107	-0.00700	3.33000	0.000	-0.01060	0.00054	-0.01060
AS	75	1.19600	39.33000	16.400	1.22853	1.37310	0.98528
BA	137	13.82500	633.38000	12.400	15.62582	13.63442	12.21326
CD	111	0.32400	26.00000	62.700	0.12506	0.31497	0.53067
CO	59	66.83400	50037.41000	3.000	67.41003	64.59090	68.50075
CU	63	3.14600	2026.86000	4.100	2.99865	3.24515	3.19340
MO	98	0.04200	40.00000	98.600	0.06703	0.06320	-0.00572
RB	85	11.87100	756.71000	12.300	11.04506	11.00445	13.56214
SB	121	-0.02200	0.00000	0.000	-0.02214	-0.02214	-0.02214
SE	78	1.52900	126.22000	9.800	1.70067	1.46380	1.42268
SN	120	0.07800	16.67000	43.800	0.09699	0.03846	0.09816
SR	88	65.18500	5671.14000	2.000	64.38013	64.49408	66.68218
ZN	66	27.45100	1736.81000	11.300	26.67262	24.81067	30.87017
BI-2	209	52667.92000	0.00000	0.000	53441.25000	51613.92000	52948.58000
PB	208	0.19500	423.34000	6.700	0.20894	0.18304	0.19231
TL	203	0.16200	110.00000	19.600	0.15906	0.19466	0.13135
U	238	0.28900	700.04000	0.600	0.28881	0.29061	0.28739
SC-1	45	322251.33000	0.00000	0.000	319409.29000	321268.06000	326076.64000
SC-2	45	11177.19000	0.00000	0.000	10993.73000	11383.99000	11153.84000
GE-1	72	351944.63000	0.00000	0.000	344111.36000	354277.07000	357445.46000
GE-3	72	1184148	0	0.000	1200766	1175186	1176491
TB-2	159	67782.55000	0.00000	0.000	68090.21000	68260.80000	66996.65000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:48:02
Tube Number: 23
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1534137	0	0.000	1507927	1554655	1539830
B	11	263.66900	193441.70000	2.900	272.36137	258.77806	259.86798
BE	9	25.99300	33237.20000	2.100	26.53950	25.47111	25.96771
GE-2	72	31892.87000	0.00000	0.000	30717.44000	32450.40000	32510.78000
AL	27	2576.47400	12014.37000	4.700	2574.90963	2456.24528	2698.26662
CA	44	2146.29100	1283.43000	7.100	2290.44886	1985.22467	2163.19962
CR	52	260.45500	100643.45000	3.100	269.67305	256.56792	255.12257
FE	57	2613.15100	16498.15000	3.900	2730.77756	2553.59933	2555.07614
K	39	2469.11500	27922.06000	5.500	2621.65532	2361.65250	2424.03866
MG	24	2536.84400	57282.98000	2.900	2617.01160	2519.56709	2473.95245
MN	55	257.01700	29648.71000	0.700	258.58811	257.32157	255.14043
NA	23	2489.42400	143149.41000	1.800	2541.55283	2454.43252	2472.28806
NI	60	255.99500	55617.06000	1.900	253.61568	252.68257	261.68558
TI	47	231.49500	1273.42000	1.700	228.43496	235.93577	230.11398
V	51	254.15600	72348.83000	1.400	255.09973	250.31874	257.04891
IN-1	115	300110.23000	0.00000	0.000	307541.79000	300990.01000	291798.89000
IN-2	115	10961.98000	0.00000	0.000	11231.18000	10746.48000	10908.27000
AG	107	25.77800	22708.88000	6.600	23.82348	26.92635	26.58394
AS	75	246.57700	7876.45000	5.500	231.71004	258.12682	249.89375
BA	137	257.02200	11784.49000	5.900	245.66698	251.18338	274.21440
CD	111	24.66700	1998.79000	3.000	23.86690	24.84269	25.29259
CO	59	253.48900	190975.79000	2.000	248.40571	253.75358	258.30691
CU	63	256.68600	161477.30000	1.900	251.58973	261.52199	256.94750
MO	98	25.56800	10630.30000	6.700	23.71903	25.87297	27.11104
RB	85	28.42600	1820.16000	5.800	26.81274	28.34360	30.12248
SB	121	24.10800	3483.82000	8.200	22.68634	23.28675	26.35132
SE	78	24.94800	2066.12000	1.400	24.96988	24.59020	25.28244
SN	120	26.59800	4750.84000	3.900	25.39889	27.28777	27.10820
SR	88	26.82300	2346.92000	5.700	25.08233	27.49528	27.89106
ZN	66	253.11200	15353.73000	3.000	247.28769	261.72965	250.31960
BI-2	209	54463.90000	0.00000	0.000	53370.05000	55046.22000	54975.43000
PB	208	25.60700	56624.83000	0.200	25.58556	25.65316	25.58350
TL	203	25.77500	18167.56000	1.500	25.51377	25.59420	26.21801
U	238	25.47000	63811.44000	1.600	25.65477	25.76156	24.99294
SC-1	45	320819.89000	0.00000	0.000	325516.75000	323701.11000	313241.81000
SC-2	45	10850.31000	0.00000	0.000	10513.40000	11193.79000	10843.75000
GE-1	72	361971.35000	0.00000	0.000	373105.93000	362731.60000	350076.52000
GE-3	72	1194795	0	0.000	1174896	1211718	1197771
TB-2	159	67227.12000	0.00000	0.000	66644.15000	67589.01000	67448.21000

Run Name: 1715008E05 Date/Time: 05/30/2017 20:51:09
Tube Number: 24
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1462846	0	0.000	1509377	1417225	1461935
B	11	22.48400	24198.88000	3.700	21.76009	23.37873	22.31274
BE	9	0.00100	4.00000	259.700	0.00054	0.00244	-0.00100
GE-2	72	30330.12000	0.00000	0.000	29124.78000	31208.59000	30656.98000
AL	27	6.29900	40.00000	113.000	13.60082	5.91987	-0.62275
CA	44	-4.72200	6.67000	0.000	1.72928	-16.70354	0.80803
CR	52	0.57000	250.01000	5.600	0.54217	0.60442	0.56344
FE	57	1.89500	30.00000	149.000	0.38179	0.15009	5.15337
K	39	-26.90500	2303.58000	0.000	5.53099	-31.48230	-54.76469
MG	24	4.40100	100.00000	35.100	6.01950	4.24120	2.94111
MN	55	0.12100	13.33000	40.500	0.09492	0.17716	0.09017
NA	23	-61.11300	6791.53000	0.000	-63.31470	-56.96105	-63.06410
NI	60	0.09700	23.33000	73.100	0.08543	0.17280	0.03250
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.02500	6.67000	86.700	0.03847	0.00000	0.03654
IN-1	115	296359.13000	0.00000	0.000	295346.05000	302986.31000	290745.03000
IN-2	115	10463.40000	0.00000	0.000	9883.19000	10673.37000	10833.65000
AG	107	0.00100	10.00000	1231.500	-0.01060	0.00105	0.01235
AS	75	0.06700	3.33000	276.600	-0.04003	0.28128	-0.04003
BA	137	0.14800	10.00000	257.700	-0.07236	-0.07236	0.58967
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.03400	40.00000	34.100	0.02263	0.03299	0.04562
CU	63	0.00500	60.00000	722.000	0.04527	0.00217	-0.03145
MO	98	0.01100	26.67000	641.800	-0.02834	-0.03031	0.09117
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	0.38800	56.67000	5.900	0.36182	0.40450	0.39819
SE	78	0.02200	3.34000	63.600	0.03892	0.01354	0.01489
SN	120	0.21700	40.00000	44.500	0.16978	0.32850	0.15344
SR	88	0.12700	10.00000	173.200	0.38001	0.00000	0.00000
ZN	66	-0.94300	36.67000	0.000	-1.38378	-0.71623	-0.72882
BI-2	209	52417.00000	0.00000	0.000	51685.02000	53389.83000	52176.15000
PB	208	0.00900	26.67000	115.300	-0.00310	0.01536	0.01579
TL	203	0.01000	6.67000	86.600	0.01495	0.01447	0.00000
U	238	0.00700	16.67000	92.200	0.00000	0.00814	0.01250
SC-1	45	319534.09000	0.00000	0.000	316921.11000	326949.23000	314731.93000
SC-2	45	10686.93000	0.00000	0.000	10573.48000	10443.44000	11043.87000
GE-1	72	354612.64000	0.00000	0.000	353362.57000	363975.39000	346499.96000
GE-3	72	1142611	0	0.000	1177426	1109093	1141313
TB-2	159	66407.07000	0.00000	0.000	66021.82000	65962.36000	67237.04000

Run Name: 1715008E05
Tube Number: 25
Sample Number: **9009422**

Date/Time: 05/30/2017 20:54:16
Batch: 171441063901A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1542163	0	0.000	1558607	1559409	1508471
B	11	27.81600	29251.97000	2.700	27.21120	27.57169	28.66380
BE	9	1.00200	1290.72000	5.500	1.01800	0.94054	1.04714
GE-2	72	32731.09000	0.00000	0.000	31388.82000	32019.72000	34784.74000
AL	27	4226.34500	20178.33000	5.600	4303.56175	4413.50636	3961.96765
CA	44	47763.31800	29100.62000	2.800	48749.88710	48309.45779	46230.61023
CR	52	3.74600	1526.79000	16.300	3.36084	4.45228	3.42534
FE	57	815.77200	5304.31000	0.200	814.88632	814.56070	817.86813
K	39	2201.96100	25885.89000	2.000	2232.55652	2150.19039	2223.13688
MG	24	21481.23000	497072.94000	5.300	22325.92904	21936.37492	20181.38574
MN	55	5869.02600	694109.70000	3.500	6084.00753	5844.46175	5678.60830
NA	23	19140.83500	1056695.19000	5.000	19872.79414	19480.40977	18069.30121
NI	60	35.40100	7885.35000	4.500	37.23006	34.66095	34.31155
TI	47	2.19000	20.00000	201.000	0.63469	-1.22258	7.15720
V	51	0.77900	226.68000	12.800	0.78524	0.87473	0.67637
IN-1	115	303188.81000	0.00000	0.000	301420.96000	300809.03000	307336.45000
IN-2	115	11467.36000	0.00000	0.000	11564.13000	11063.90000	11774.04000
AG	107	0.00400	13.33000	320.700	-0.01060	0.01188	0.01052
AS	75	1.39300	48.00000	8.700	1.50208	1.26184	1.41633
BA	137	13.90100	670.05000	5.900	12.95287	14.40633	14.34526
CD	111	0.40700	34.67000	31.100	0.35083	0.31780	0.55132
CO	59	63.57700	50124.11000	1.700	62.33989	64.27573	64.11607
CU	63	3.21000	2173.55000	4.700	3.12945	3.38551	3.11634
MO	98	0.01300	30.00000	600.800	-0.03222	-0.03119	0.10194
RB	85	13.69800	920.06000	8.800	12.40039	13.89316	14.79915
SB	121	0.06500	13.33000	116.300	0.10912	-0.02214	0.10678
SE	78	1.37600	116.67000	6.800	1.31288	1.33162	1.48381
SN	120	0.14200	30.00000	72.300	0.14270	0.03895	0.24412
SR	88	62.53200	5734.50000	5.500	62.80135	58.96249	65.83067
ZN	66	23.82500	1603.47000	9.100	22.01063	23.24096	26.22242
BI-2	209	55386.78000	0.00000	0.000	54524.28000	55436.75000	56199.31000
PB	208	0.16300	373.34000	3.900	0.15955	0.17021	0.15909
TL	203	0.14400	103.34000	5.700	0.14175	0.15335	0.13752
U	238	0.22000	560.03000	6.700	0.20333	0.22352	0.23209
SC-1	45	334138.13000	0.00000	0.000	329278.82000	331305.50000	341830.07000
SC-2	45	11410.59000	0.00000	0.000	11413.94000	11083.72000	11734.12000
GE-1	72	367272.00000	0.00000	0.000	363632.85000	359987.69000	378195.46000
GE-3	72	1183990	0	0.000	1185583	1209013	1157375
TB-2	159	69098.49000	0.00000	0.000	67188.22000	69295.28000	70811.97000

Run Name: 1715008E05
Tube Number: 26
Sample Number: **9009423**

Date/Time: 05/30/2017 20:57:23
Batch: 171441063901A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1527718	0	0.000	1533048	1521153	1528954
B	11	26.25100	27898.63000	2.000	26.78728	26.23916	25.72575
BE	9	0.04800	64.00000	23.700	0.05683	0.05099	0.03502
GE-2	72	32223.49000	0.00000	0.000	31899.46000	32861.39000	31909.61000
AL	27	16.90500	93.34000	42.100	16.46452	24.23160	10.01873
CA	44	118206.29300	70928.87000	5.500	116531.24952	112743.34692	125344.28260
CR	52	0.51500	243.34000	17.000	0.58896	0.41785	0.53702
FE	57	68.56900	456.69000	11.500	63.44857	64.57641	77.68168
K	39	3429.90100	38177.89000	4.300	3261.16871	3540.31649	3488.21906
MG	24	37129.64800	847362.33000	1.700	37103.41300	36497.12210	37788.40967
MN	55	2860.38700	333339.44000	2.500	2864.31474	2785.87710	2930.96879
NA	23	22262.60200	1210230.14000	2.100	22167.81922	21849.19948	22770.78651
NI	60	4.60800	1013.41000	12.800	4.63393	4.00628	5.18472
TI	47	-0.61300	3.33000	0.000	0.60496	-1.22258	-1.22258
V	51	0.33700	96.67000	17.300	0.35120	0.27273	0.38623
IN-1	115	301624.40000	0.00000	0.000	308167.54000	290909.84000	305795.83000
IN-2	115	10796.79000	0.00000	0.000	10403.38000	11253.31000	10733.69000
AG	107	-0.00700	3.33000	0.000	-0.01060	-0.01060	0.00098
AS	75	0.10600	4.67000	85.300	0.09183	0.20377	0.02387
BA	137	26.35200	1193.42000	1.000	26.12703	26.27294	26.65740
CD	111	0.20700	16.67000	34.500	0.15599	0.28842	0.17639
CO	59	7.81700	5811.15000	5.200	7.89520	7.37480	8.18037
CU	63	0.44100	330.02000	32.600	0.54078	0.27588	0.50495
MO	98	0.07400	53.33000	63.000	0.02108	0.10918	0.09253
RB	85	4.62400	293.35000	39.300	4.06757	3.14713	6.65588
SB	121	0.05000	10.00000	145.800	0.12376	-0.02214	0.04856
SE	78	0.56000	48.00000	17.400	0.46011	0.65465	0.56651
SN	120	0.02100	6.67000	154.000	0.04248	0.03802	-0.01652
SR	88	119.21200	10260.02000	8.100	126.03283	108.16545	123.43758
ZN	66	-0.33000	73.34000	0.000	-0.69413	-0.76011	0.46452
BI-2	209	54232.74000	0.00000	0.000	53108.50000	54975.24000	54614.47000
PB	208	0.04200	100.00000	35.800	0.03401	0.05964	0.03299
TL	203	0.04700	33.33000	44.400	0.02910	0.07028	0.04245
U	238	0.58400	1456.78000	2.000	0.57716	0.59711	0.57716
SC-1	45	328073.28000	0.00000	0.000	324740.37000	328217.73000	331261.75000
SC-2	45	10833.64000	0.00000	0.000	9923.06000	11003.79000	11574.07000
GE-1	72	362539.88000	0.00000	0.000	366643.78000	363735.23000	357240.62000
GE-3	72	1181398	0	0.000	1179609	1185832	1178753
TB-2	159	66735.56000	0.00000	0.000	65710.74000	67017.17000	67478.77000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:00:29
Tube Number: 27 Batch: 171441063901A
Sample Number: **9009424** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1540296	0	0.000	1548373	1505126	1567388
B	11	24.31600	26763.03000	5.400	24.69866	25.39019	22.86000
BE	9	0.02300	33.33000	53.400	0.03765	0.01649	0.01573
GE-2	72	31201.47000	0.00000	0.000	30887.72000	30807.43000	31909.26000
AL	27	172.99100	800.06000	18.000	207.75770	163.85009	147.36442
CA	44	143140.85200	83206.91000	1.900	140072.14065	145298.88062	144051.53481
CR	52	0.69200	303.35000	17.500	0.79887	0.56015	0.71804
FE	57	218.03600	1366.77000	9.100	199.79355	215.08490	239.22911
K	39	3773.28400	40389.08000	3.600	3639.68075	3913.68691	3766.48477
MG	24	46678.93200	1031392.75000	2.100	47041.00857	47437.24124	45558.54754
MN	55	1981.60400	223628.28000	1.600	1970.90208	2017.16075	1956.75032
NA	23	28097.76400	1476353.78000	1.600	27975.77297	28603.17930	27714.33934
NI	60	2.64000	563.36000	14.200	2.97961	2.70144	2.23946
TI	47	2.55900	20.00000	147.900	2.55223	6.34673	-1.22258
V	51	0.55000	153.34000	18.600	0.43524	0.58187	0.63200
IN-1	115	293620.95000	0.00000	0.000	289278.51000	293360.31000	298224.03000
IN-2	115	11103.49000	0.00000	0.000	11183.33000	10633.33000	11493.80000
AG	107	0.01200	20.00000	191.900	-0.01060	0.03618	0.01104
AS	75	0.18600	7.33000	37.500	0.26663	0.15349	0.13900
BA	137	20.96100	976.73000	10.100	18.52723	21.96267	22.39347
CD	111	0.14700	12.00000	18.000	0.16930	0.15262	0.11766
CO	59	2.96600	2273.56000	10.900	2.85374	3.33093	2.71280
CU	63	0.31700	263.35000	19.100	0.38729	0.28116	0.28328
MO	98	0.12700	76.67000	21.100	0.15742	0.11876	0.10574
RB	85	5.89600	383.35000	21.700	5.00666	7.36402	5.31744
SB	121	0.02300	6.67000	339.300	0.11359	-0.02214	-0.02214
SE	78	0.31900	27.34000	13.000	0.36602	0.28651	0.30585
SN	120	0.17000	33.33000	102.700	-0.01652	0.32980	0.19708
SR	88	118.72500	10530.25000	0.200	119.03534	118.59460	118.54631
ZN	66	-0.26800	80.00000	0.000	-0.10494	-0.71302	0.01369
BI-2	209	54540.64000	0.00000	0.000	54283.13000	53681.14000	55657.64000
PB	208	0.07500	173.34000	50.900	0.11943	0.05656	0.05001
TL	203	0.04300	30.00000	58.500	0.05694	0.05758	0.01388
U	238	0.84600	2123.57000	6.700	0.78895	0.84641	0.90228
SC-1	45	318066.45000	0.00000	0.000	310914.57000	319390.97000	323893.82000
SC-2	45	11437.36000	0.00000	0.000	11223.85000	10873.61000	12214.61000
GE-1	72	351814.36000	0.00000	0.000	341664.60000	353185.27000	360593.20000
GE-3	72	1178345	0	0.000	1193119	1154749	1187167
TB-2	159	66902.22000	0.00000	0.000	66192.62000	67266.94000	67247.09000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:03:34
Tube Number: 28
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1491527	0	0.000	1493571	1488892	1492116
B	11	108.75400	83144.19000	0.800	109.02845	109.50708	107.72669
BE	9	0.99700	1242.72000	0.300	0.99657	0.99971	0.99433
GE-2	72	30984.40000	0.00000	0.000	30246.33000	30136.37000	32570.51000
AL	27	186.84200	860.05000	6.600	180.52340	178.92269	201.07858
CA	44	306.00000	186.67000	38.200	409.29795	179.25140	329.45089
CR	52	4.63700	1773.48000	19.700	5.53827	4.65517	3.71631
FE	57	197.69200	1226.76000	13.300	199.08362	223.30004	170.69191
K	39	395.72200	6548.09000	8.000	416.38087	411.60857	359.17725
MG	24	213.75400	4700.78000	4.000	218.19188	203.99394	219.07701
MN	55	4.61900	520.02000	15.400	4.29579	4.12800	5.43219
NA	23	355.20600	28495.98000	3.800	351.23119	370.31615	344.07002
NI	60	4.70000	990.07000	18.700	5.51918	4.80853	3.77171
TI	47	35.03500	193.34000	18.500	27.69082	37.46864	39.94675
V	51	0.93900	260.01000	11.400	0.81490	1.00375	0.99753
IN-1	115	287051.97000	0.00000	0.000	293407.81000	282153.88000	285594.21000
IN-2	115	11086.18000	0.00000	0.000	10845.57000	10966.18000	11446.79000
AG	107	1.09700	986.74000	1.700	1.10177	1.11222	1.07594
AS	75	4.07800	133.33000	9.300	3.88094	3.83782	4.51388
BA	137	3.16000	150.01000	4.200	3.01393	3.19800	3.26954
CD	111	1.13800	93.33000	5.400	1.12223	1.08522	1.20506
CO	59	0.98100	763.39000	7.600	0.94436	1.06642	0.93176
CU	63	4.12500	2686.96000	4.400	4.09843	3.95695	4.31972
MO	98	1.01000	446.69000	10.600	0.99177	1.12471	0.91372
RB	85	2.12200	140.01000	35.000	2.00297	2.91826	1.44564
SB	121	2.03100	300.01000	4.900	2.07728	1.91577	2.09969
SE	78	4.33700	344.67000	6.000	4.27397	4.62509	4.11210
SN	120	4.34300	786.71000	5.700	4.45439	4.51710	4.05871
SR	88	1.54100	136.68000	8.900	1.38526	1.59834	1.64060
ZN	66	29.00800	1863.50000	8.300	28.09822	31.75069	27.17538
BI-2	209	53303.08000	0.00000	0.000	53841.75000	52196.20000	53871.29000
PB	208	2.17300	4710.45000	3.000	2.23895	2.10666	2.17369
TL	203	0.92900	640.04000	7.100	0.86123	0.99202	0.93248
U	238	0.95500	2340.25000	5.400	0.99328	0.97460	0.89588
SC-1	45	311494.65000	0.00000	0.000	311339.29000	307416.09000	315728.57000
SC-2	45	10726.84000	0.00000	0.000	10543.41000	10583.42000	11053.69000
GE-1	72	344645.93000	0.00000	0.000	345145.85000	334238.63000	354553.32000
GE-3	72	1164088	0	0.000	1165386	1166770	1160108
TB-2	159	64900.67000	0.00000	0.000	63160.74000	63622.47000	67918.80000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:06:39
Tube Number: 29
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1369842	0	0.000	1372619	1372611	1364297
B	11	18.84100	20403.72000	0.800	18.71250	19.01771	18.79218
BE	9	0.00600	9.33000	80.000	0.00086	0.00610	0.00967
GE-2	72	29154.83000	0.00000	0.000	28153.39000	30126.29000	29184.80000
AL	27	108405.34900	461390.48000	2.700	109391.75633	105159.99992	110664.29110
CA	44	290071.81500	157475.79000	2.600	292117.98839	281596.01168	296501.44633
CR	52	3.53100	1290.10000	14.300	2.96824	3.94457	3.67946
FE	57	253338.43100	1461165.55000	2.300	254524.33402	246969.55513	258521.40445
K	39	103130.83500	966206.02000	2.400	103261.42788	100579.93393	105551.14322
MG	24	101661.43600	2097994.34000	3.500	104004.35497	97513.05731	103466.89470
MN	55	1.79600	190.01000	20.100	1.66933	2.20233	1.51562
NA	23	256317.35300	12500749.40000	3.100	263233.11573	247729.37171	257989.57193
NI	60	1.67900	336.69000	5.900	1.65365	1.78804	1.59466
TI	47	2182.58000	10910.30000	7.500	2208.95618	2008.05209	2330.73260
V	51	0.16600	43.33000	47.200	0.19896	0.22312	0.07677
IN-1	115	268046.80000	0.00000	0.000	260981.58000	273413.47000	269745.35000
IN-2	115	9936.24000	0.00000	0.000	9662.98000	9722.86000	10422.89000
AG	107	0.20300	170.01000	22.300	0.24681	0.20686	0.15644
AS	75	0.26400	8.67000	69.700	0.45684	0.24215	0.09159
BA	137	3.69400	156.68000	7.100	3.39165	3.86209	3.82721
CD	111	0.13400	10.00000	68.000	0.05598	0.11127	0.23355
CO	59	3.12800	2153.54000	9.400	2.79418	3.34552	3.24503
CU	63	1.69600	1016.73000	20.600	1.74384	2.01932	1.32546
MO	98	2145.07300	806747.20000	2.500	2172.16240	2179.30427	2083.75241
RB	85	0.00700	3.33000	1412.400	0.12552	-0.05188	-0.05188
SB	121	0.00400	3.33000	1123.500	0.05640	-0.02214	-0.02214
SE	78	0.08700	7.78000	44.700	0.12052	0.09657	0.04436
SN	120	0.19100	33.33000	52.300	0.17403	0.29910	0.10125
SR	88	3.69400	290.02000	40.000	4.14603	4.89304	2.04199
ZN	66	2.80800	240.01000	36.500	1.63020	3.47992	3.31529
BI-2	209	47959.94000	0.00000	0.000	47532.09000	46829.70000	49518.02000
PB	208	0.37000	726.71000	3.700	0.38043	0.35462	0.37500
TL	203	0.02700	16.67000	90.400	0.00000	0.03300	0.04682
U	238	0.01200	26.67000	24.000	0.01372	0.01393	0.00878
SC-1	45	289688.54000	0.00000	0.000	281711.13000	298963.90000	288390.60000
SC-2	45	9846.41000	0.00000	0.000	10003.09000	9482.98000	10053.15000
GE-1	72	323567.11000	0.00000	0.000	317008.63000	332919.88000	320772.81000
GE-3	72	1108992	0	0.000	1115842	1104431	1106702
TB-2	159	59694.96000	0.00000	0.000	58233.03000	60149.87000	60701.97000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:09:46
Tube Number: 30
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1368003	0	0.000	1392140	1394215	1317655
B	11	14.16000	17464.82000	2.000	13.83585	14.26537	14.37962
BE	9	0.00700	11.33000	87.300	0.00081	0.00769	0.01375
GE-2	72	29061.19000	0.00000	0.000	28663.72000	29094.69000	29425.15000
AL	27	108572.64300	460848.77000	0.800	107612.04404	108763.72323	109342.16119
CA	44	288824.22000	156360.07000	0.500	287557.09122	290296.78320	288618.78681
CR	52	213.51600	75244.26000	3.200	207.69314	221.07795	211.77753
FE	57	253672.33900	1459053.47000	1.500	249592.22181	254542.87608	256881.91796
K	39	102264.80100	955396.49000	1.100	101112.97468	102293.17322	103388.25579
MG	24	101191.06200	2083097.16000	0.200	101049.01936	101056.41493	101467.75111
MN	55	209.33000	22007.49000	1.900	206.03424	213.82413	208.13230
NA	23	256935.43400	12498416.06000	0.800	259229.65033	255372.65051	256204.00065
NI	60	203.91500	40359.50000	1.100	204.55549	205.77422	201.41409
TI	47	2169.97400	10823.59000	0.500	2167.57222	2161.50902	2180.84095
V	51	214.78500	55720.10000	0.900	213.29649	214.19340	216.86489
IN-1	115	267114.89000	0.00000	0.000	267085.35000	263928.41000	270330.92000
IN-2	115	9706.18000	0.00000	0.000	9022.81000	10032.74000	10063.00000
AG	107	53.27300	41547.78000	2.300	54.65007	52.22939	52.93929
AS	75	109.94900	3103.62000	7.400	119.31849	105.73071	104.79888
BA	137	5.12300	210.01000	11.000	5.75714	4.93203	4.67940
CD	111	102.02400	7318.93000	2.100	103.49984	99.52706	103.04603
CO	59	208.70000	138905.86000	6.200	223.42632	199.41596	203.25641
CU	63	211.06700	117430.71000	4.000	220.34225	203.65985	209.19801
MO	98	2243.29200	823220.15000	4.500	2359.93143	2175.26300	2194.68180
RB	85	0.42300	26.67000	28.200	0.51807	0.46070	0.28881
SB	121	0.03100	6.67000	149.100	0.06197	-0.02214	0.05328
SE	78	100.69200	7418.66000	1.100	100.12848	101.94940	99.99941
SN	120	0.25300	43.33000	47.300	0.11953	0.35053	0.28844
SR	88	3.65200	283.35000	25.500	3.60757	2.74530	4.60324
ZN	66	103.05900	5567.75000	9.300	113.27936	101.71756	94.18062
BI-2	209	47461.30000	0.00000	0.000	46548.34000	48133.53000	47702.02000
PB	208	0.33800	656.70000	2.700	0.33032	0.33469	0.34807
TL	203	0.00500	3.33000	173.200	0.00000	0.00000	0.01620
U	238	0.02100	46.67000	69.400	0.03269	0.02710	0.00456
SC-1	45	292458.26000	0.00000	0.000	296206.58000	289367.61000	291800.60000
SC-2	45	9783.00000	0.00000	0.000	9883.00000	9693.02000	9772.98000
GE-1	72	321995.71000	0.00000	0.000	320485.74000	321431.67000	324069.72000
GE-3	72	1096197	0	0.000	1119953	1093624	1075014
TB-2	159	59504.34000	0.00000	0.000	57138.91000	59678.10000	61696.02000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:12:51
Tube Number: 31
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1454669	0	0.000	1446163	1438680	1479162
B	11	4.15600	11962.50000	2.700	4.23766	4.02910	4.20130
BE	9	0.00000	2.67000	0.000	0.00068	-0.00264	0.00061
GE-2	72	29461.85000	0.00000	0.000	29915.90000	28994.51000	29475.13000
AL	27	8.82800	50.00000	72.100	4.01025	16.03869	6.43600
CA	44	1.43200	10.00000	1253.400	19.18720	1.81210	-16.70354
CR	52	0.41400	186.68000	35.600	0.38703	0.57356	0.28247
FE	57	21.47500	143.34000	10.400	23.94012	19.56873	20.91543
K	39	11.29200	2603.63000	217.000	-5.77899	0.28710	39.36902
MG	24	6.09100	133.34000	30.200	8.21237	5.07353	4.98620
MN	55	0.18700	20.00000	48.700	0.27722	0.09534	0.18757
NA	23	-31.65000	8045.39000	0.000	-28.00754	-26.00698	-40.93432
NI	60	0.06800	16.67000	112.700	-0.01540	0.13653	0.08423
TI	47	-0.56300	3.33000	0.000	-1.22258	-1.22258	0.75528
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	284427.06000	0.00000	0.000	285763.12000	290208.50000	277309.57000
IN-2	115	10520.22000	0.00000	0.000	10243.33000	10393.54000	10923.79000
AG	107	-0.00700	3.33000	0.000	-0.01060	0.00136	-0.01060
AS	75	0.04600	2.67000	161.400	0.09389	-0.04003	0.08555
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.02400	33.33000	80.200	0.00688	0.02046	0.04506
CU	63	0.06500	96.67000	58.600	0.10837	0.03834	0.04778
MO	98	1.77400	726.72000	12.000	1.95553	1.82484	1.54021
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	-0.02200	0.00000	0.000	-0.02214	-0.02214	-0.02214
SE	78	0.04100	4.67000	43.900	0.02384	0.03994	0.06004
SN	120	0.07900	16.67000	79.400	0.04340	0.04253	0.15204
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.27400	16.67000	0.000	-1.03536	-1.21794	-1.56769
BI-2	209	50958.84000	0.00000	0.000	50069.32000	51744.93000	51062.28000
PB	208	0.00000	6.67000	7042.500	-0.00310	0.00643	-0.00310
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00100	3.33000	173.200	0.00000	0.00420	0.00000
SC-1	45	306715.68000	0.00000	0.000	308997.71000	315412.51000	295736.83000
SC-2	45	10913.71000	0.00000	0.000	10493.47000	10703.48000	11544.18000
GE-1	72	339618.68000	0.00000	0.000	337803.28000	348553.32000	332499.45000
GE-3	72	1124147	0	0.000	1120697	1112635	1139110
TB-2	159	62994.00000	0.00000	0.000	62447.41000	63201.59000	63333.01000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:15:55
Tube Number: 32
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1433905	0	0.000	1462863	1423536	1415316
B	11	260.99800	179061.70000	2.500	253.35744	264.45576	265.17976
BE	9	26.66300	31868.86000	1.200	26.30399	26.76231	26.92285
GE-2	72	29906.01000	0.00000	0.000	30226.71000	30036.22000	29455.10000
AL	27	2644.26800	11554.09000	7.200	2492.09992	2583.19540	2857.50956
CA	44	2567.79000	1440.11000	3.000	2629.87529	2593.05734	2480.43746
CR	52	267.59100	96997.07000	3.500	257.09116	271.01116	274.67085
FE	57	2641.15400	15640.68000	6.500	2455.53823	2673.21128	2794.71313
K	39	2599.12000	27454.89000	1.400	2561.05835	2634.10917	2602.19244
MG	24	2616.43100	55411.08000	4.200	2527.86700	2582.11633	2739.31009
MN	55	262.23500	28366.39000	2.100	263.42318	256.34081	266.94184
NA	23	2612.25500	140415.02000	0.800	2605.26876	2594.95405	2636.54320
NI	60	271.92400	55372.85000	3.400	261.48187	275.00758	279.28164
TI	47	266.40900	1370.11000	23.000	212.87662	253.05855	333.29106
V	51	268.16300	71569.15000	2.600	264.45309	263.96012	276.07650
IN-1	115	289187.61000	0.00000	0.000	291079.62000	284497.56000	291985.65000
IN-2	115	10734.34000	0.00000	0.000	9786.54000	11216.65000	11199.83000
AG	107	25.94100	22315.03000	7.500	28.15595	24.46500	25.20237
AS	75	248.82000	7763.74000	6.500	267.39337	238.12884	240.93678
BA	137	271.21400	12134.71000	7.400	294.40753	258.78059	260.45267
CD	111	25.66600	2028.13000	9.300	28.24703	23.56023	25.18972
CO	59	252.55700	185840.68000	5.500	268.51071	244.08889	245.07234
CU	63	253.06600	155467.95000	6.000	270.36925	241.66348	247.16477
MO	98	26.74300	10850.47000	8.700	29.22609	24.59771	26.40402
RB	85	25.70600	1606.81000	11.700	27.97568	26.84785	22.29571
SB	121	25.45700	3600.53000	2.600	25.96113	25.69417	24.71550
SE	78	25.48600	2033.90000	1.500	25.08748	25.84675	25.52294
SN	120	24.47300	4274.03000	5.700	25.63766	22.91412	24.86690
SR	88	23.48500	2010.19000	7.900	24.43495	24.66816	21.35154
ZN	66	250.92700	14870.00000	5.500	266.92294	242.42007	243.43840
BI-2	209	52808.21000	0.00000	0.000	54383.28000	52647.51000	51393.84000
PB	208	26.03600	55803.79000	2.100	25.74840	25.68410	26.67500
TL	203	26.24000	17917.21000	4.500	25.32268	25.83450	27.56343
U	238	25.81700	62666.08000	4.600	24.45816	26.29656	26.69610
SC-1	45	312297.67000	0.00000	0.000	314859.06000	310857.77000	311176.19000
SC-2	45	10536.80000	0.00000	0.000	10873.69000	10603.49000	10133.22000
GE-1	72	341898.75000	0.00000	0.000	346183.12000	332919.80000	346593.32000
GE-3	72	1121903	0	0.000	1129706	1116093	1119909
TB-2	159	63475.41000	0.00000	0.000	63221.25000	63361.39000	63843.59000

Run Name: 1715008E05 Date/Time: 05/30/2017 21:19:01
Tube Number: 33
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-3	45	1400122	0	0.000	1393537	1399360	1407469
B	11	17.93700	20278.28000	3.800	18.46585	18.18298	17.16182
BE	9	0.00300	6.67000	140.500	0.00769	0.00251	-0.00093
GE-2	72	29615.54000	0.00000	0.000	29164.82000	29405.17000	30276.63000
AL	27	3.30900	26.67000	215.500	-2.85627	11.11530	1.66687
CA	44	7.11400	13.33000	380.000	-16.70354	1.55352	36.49114
CR	52	0.67100	280.01000	23.600	0.82421	0.50790	0.68093
FE	57	2.07400	30.00000	168.600	5.57504	2.06721	-1.41928
K	39	-45.04700	2083.53000	0.000	-47.25111	-53.27073	-34.61851
MG	24	3.35900	76.67000	33.800	2.13792	3.55844	4.38045
MN	55	0.37700	40.00000	99.700	0.37914	0.75208	0.00000
NA	23	-54.52200	6951.54000	0.000	-53.44728	-48.90926	-61.21019
NI	60	0.13300	30.00000	35.200	0.08530	0.13441	0.17859
TI	47	-1.22300	0.00000	0.000	-1.22258	-1.22258	-1.22258
V	51	0.01300	3.33000	173.200	0.00000	0.03810	0.00000
IN-1	115	209193.14000	0.00000	0.000	218436.23000	176005.28000	233137.92000
IN-2	115	10673.54000	0.00000	0.000	9833.12000	10733.55000	11453.95000
AG	107	0.00500	13.33000	153.200	0.01469	0.00098	0.00025
AS	75	0.11300	4.67000	125.300	0.23899	-0.04003	0.13962
BA	137	-0.07200	0.00000	0.000	-0.07236	-0.07236	-0.07236
CD	111	0.00800	0.67000	173.200	0.00000	0.00000	0.02361
CO	59	0.01700	26.67000	327.900	0.08204	-0.02153	-0.00883
CU	63	0.06000	96.67000	62.900	0.02826	0.05033	0.10201
MO	98	0.25100	120.01000	75.800	0.40143	0.31394	0.03715
RB	85	-0.05200	0.00000	0.000	-0.05188	-0.05188	-0.05188
SB	121	0.14300	23.33000	21.100	0.13222	0.11927	0.17664
SE	78	0.05700	4.00000	115.200	0.02591	0.13260	0.01270
SN	120	0.13800	26.67000	26.800	0.17073	0.09784	0.14423
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-1.09700	26.67000	0.000	-0.64347	-1.39835	-1.25032
BI-2	209	50470.96000	0.00000	0.000	49959.23000	50561.16000	50892.50000
PB	208	0.00800	23.33000	188.900	0.00184	-0.00310	0.02595
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00700	16.67000	125.300	0.01740	0.00430	0.00000
SC-1	45	220507.61000	0.00000	0.000	233615.13000	183822.13000	244085.56000
SC-2	45	10446.73000	0.00000	0.000	9983.10000	10403.38000	10953.72000
GE-1	72	250014.47000	0.00000	0.000	250899.90000	217530.43000	281613.08000
GE-3	72	1129121	0	0.000	1139315	1139603	1108445
TB-2	159	63528.99000	0.00000	0.000	62126.99000	63301.21000	65158.78000

Tune Report

Batch Folder D:\Agilent\ICPMH\1\DATA\~EPATUNE.b
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

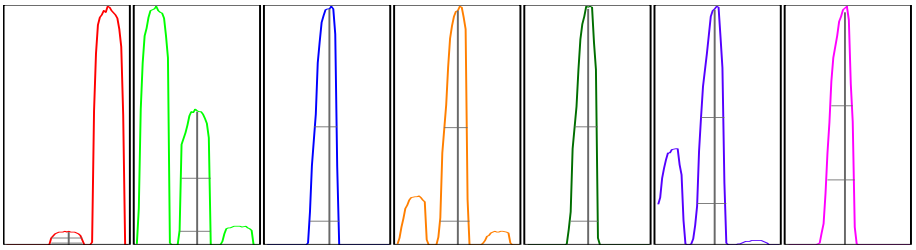
[No Gas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
6		9598	9597.77			NaN	-	
24		16893	16893.25			NaN	-	
103		44898	44897.95			NaN	-	
115		47427	47427.47			NaN	-	
140		50914	50913.71			NaN	-	
208		26606	26605.55			NaN	-	
238		55900	55899.70			NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
6	0.54	5.00				
24	0.33	5.00				
103	0.34	5.00				
115	0.78	5.00				
140	0.69	5.00				
208	0.37	5.00				
238	0.50	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
6	9564	9536	9651	9589	9650
24	16901	16883	16926	16953	16803
103	44957	44764	44742	45118	44908
115	47672	46905	47720	47163	47677
140	51063	50458	50650	51072	51326
208	26504	26720	26637	26504	26663
238	55724	55919	55808	56373	55674

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
6	1397.45	6.05	5.9 - 6.1		0.72	0.786	0.900	
24	2560.57	24.00	23.9 - 24.1		0.69	0.747	0.900	
103	8317.86	103.05	102.9 - 103.1		0.55	0.699	0.900	
115	8786.13	115.00	114.9 - 115.1		0.55	0.683	0.900	
140	9814.81	140.00	139.9 - 140.1		0.54	0.670	0.900	
208	5193.14	207.90	207.9 - 208.1		0.52	0.666	0.900	
238	10974.67	237.90	237.9 - 238.1		0.51	0.661	0.900	

X = 10 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 260.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.25 L/min	S/C Temp	20 ℃
RF Matching	0.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.80 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Tune Report

Extract 1	0.0 V	Omega Lens	6.1 V	Deflect	16.8 V				
Extract 2	-160.0 V	Cell Entrance	-30 V	Plate Bias	-40 V				
Mass	**Peak Height**	**Axis (Actual)**	**Axis (Required)**	**Axis (Flag)**	**W-50%**	**W-X% (Actual)**	**W-X% (Required)**	**W-X% (Flag)**	
Omega Bias	-75 V	Cell Exit	-50 V						

Cell Parameters

OctP Bias	-6.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	200 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

eurofins | Lancaster Laboratories Environmental

ICP-MS Run Data Report

Method Reference Name(s):

Date File Name: 17E31E00.E05

Run Name: 1715106E05

Analyst: 8381

Reviewed By: Scott P Cuff
Reviewed Date: 05/31/2017 13:05

Verified By: Tara L Snyder
Verified Date: 05/31/2017 13:31

Instrument Parameters:

Rinse Time (sec): 25.00

INTERNAL STD.	ELEMENT	MASS
SC-2		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
IN-1		115
	SE	78
IN-2		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	RB	85
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
BI-2		209
	TL	203
	PB	208
	U	238

Run Name: 1715106E05 Date/Time: 05/31/2017 11:28:24
Tube Number: 1
Sample Number: **S0**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
NA	23	0.00000	6397.99000	0.000	-2.72643	5.17325	-2.44682
MG	24	0.00000	26.67000	0.000	-0.76636	0.42574	0.34062
AL	27	0.00000	30.00000	0.000	-0.03436	0.14998	-0.11562
K	39	0.00000	4617.45000	0.000	34.14245	-3.17251	-30.96995
CA	44	0.00000	10.00000	0.000	-8.33598	8.74246	-0.40647
SC-1	45	424104.88000	0.00000	0.000	424673.94000	419855.46000	427785.23000
SC-2	45	19828.18000	0.00000	0.000	20001.72000	19010.53000	20472.28000
TI	47	0.00000	3.33000	0.000	-0.34192	0.68384	-0.34192
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CR	52	0.00000	93.34000	0.000	0.01012	-0.04687	0.03675
MN	55	0.00000	70.00000	0.000	0.08506	0.05885	-0.14391
FE	57	0.00000	73.34000	0.000	0.45345	3.70744	-4.16089
CO	59	0.00000	13.33000	0.000	-0.01265	0.02530	-0.01265
NI	60	0.00000	26.67000	0.000	-0.02453	-0.05446	0.07899
CU	63	0.00000	80.00000	0.000	-0.03658	0.02318	0.01340
ZN	66	0.00000	143.34000	0.000	-0.69457	0.17469	0.51988
GE-1	72	487958.12000	0.00000	0.000	489214.21000	491110.93000	483549.21000
GE-2	72	57670.86000	0.00000	0.000	58888.08000	57443.11000	56681.40000
AS	75	0.00000	4.67000	0.000	-0.04970	0.09727	-0.04757
SE	78	0.00000	1.11000	0.000	-0.00416	0.00204	0.00212
RB	85	0.00000	6.67000	0.000	0.09194	-0.04597	-0.04597
SR	88	0.00000	3.33000	0.000	-0.01778	-0.01778	0.03556
MO	98	0.00000	90.00000	0.000	0.03935	-0.01304	-0.02631
AG	107	0.00000	3.33000	0.000	-0.00259	-0.00259	0.00518
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	364650.72000	0.00000	0.000	366373.07000	365045.97000	362533.12000
IN-2	115	23179.51000	0.00000	0.000	23977.32000	22965.68000	22595.52000
SN	120	0.00000	16.67000	0.000	0.03560	-0.01803	-0.01757
SB	121	0.00000	3.33000	0.000	-0.01201	-0.01201	0.02403
BA	137	0.00000	3.33000	0.000	-0.03467	0.06934	-0.03467
TB-2	159	116457.56000	0.00000	0.000	115793.41000	116961.54000	116617.73000
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
PB	208	0.00000	103.33000	0.000	-0.00662	0.00803	-0.00141
BI-2	209	86054.69000	0.00000	0.000	85468.99000	85357.15000	87337.94000
U	238	0.00000	3.33000	0.000	0.00189	-0.00094	-0.00094

Run Name: 1715106E05 Date/Time: 05/31/2017 11:30:47
Tube Number: 2
Sample Number: **S1**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19217.52000	0.00000	0.000	19241.01000	18880.44000	19531.10000
AL	27	10000.00000	81537.19000	2.300	9889.74859	10264.29583	9845.95558
CA	44	10000.00000	11840.99000	6.000	10288.50085	10399.24194	9312.25721
CR	52	1000.00000	621724.31000	1.700	1001.32392	1015.89337	982.78271
FE	57	10000.00000	105612.48000	0.400	10017.53518	10033.30137	9949.16345
K	39	10000.00000	195623.07000	1.300	10043.46611	10097.54318	9858.99071
MG	24	10000.00000	339178.99000	1.300	10080.59618	10071.02874	9848.37508
MN	55	1000.00000	213693.54000	1.400	999.22071	1014.16952	986.60977
NA	23	10000.00000	785922.31000	1.700	10154.37846	10022.51630	9823.10523
TI	47	1000.00000	9859.76000	1.800	986.07311	993.54905	1020.37784
V	51	1000.00000	460972.45000	2.900	1006.24122	1025.36019	968.39859
IN-1	115	368855.16000	0.00000	0.000	370579.54000	375709.82000	360276.11000
IN-2	115	24236.83000	0.00000	0.000	23920.55000	24075.23000	24714.70000
AG	107	100.00000	138044.89000	0.500	99.41957	100.18611	100.39431
AS	75	1000.00000	58031.66000	3.300	1025.05451	1012.79664	962.14885
BA	137	1000.00000	101457.49000	1.500	1010.79040	1006.20988	982.99972
CD	111	100.00000	14857.08000	1.600	101.65515	98.37068	99.97418
CO	59	1000.00000	1112128.29000	1.900	1014.95036	1006.56487	978.48478
CU	63	1000.00000	920172.41000	2.300	1026.17293	991.59277	982.23430
MO	98	100.00000	70466.75000	1.600	101.69205	99.88859	98.41936
NI	60	1000.00000	322761.87000	2.200	1016.43772	1008.50656	975.05572
RB	85	100.00000	14656.65000	5.500	104.85702	101.08875	94.05423
SB	121	100.00000	29756.75000	2.000	102.18882	99.53332	98.27786
SE	78	100.00000	10798.37000	2.300	98.93955	98.43120	102.62925
SN	120	100.00000	36874.09000	2.200	102.56111	98.97384	98.46505
SR	88	100.00000	20108.80000	1.600	101.78376	98.87442	99.34182
ZN	66	1000.00000	101376.46000	1.000	1007.89666	1003.00919	989.09415
BI-2	209	86759.53000	0.00000	0.000	86514.25000	86494.74000	87269.60000
PB	208	100.00000	347860.64000	1.100	101.18570	99.71808	99.09622
TL	203	100.00000	112379.07000	1.400	101.65001	99.18346	99.16654
U	238	100.00000	358392.68000	2.300	102.34526	99.80590	97.84884
SC-1	45	431594.27000	0.00000	0.000	433689.10000	437953.47000	423140.23000
GE-1	72	489963.09000	0.00000	0.000	486606.16000	494055.66000	489227.45000
GE-2	72	56671.30000	0.00000	0.000	55978.96000	57273.59000	56761.34000
TB-2	159	118337.32000	0.00000	0.000	117848.13000	116315.63000	120848.21000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:33:11
Tube Number: 3
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19824.85000	0.00000	0.000	18950.49000	20312.06000	20212.00000
AL	27	1.60600	43.33000	56.300	2.64948	1.07210	1.09508
CA	44	5.76300	16.67000	311.000	25.92911	-8.33598	-0.30436
CR	52	0.48000	400.02000	6.200	0.50802	0.44907	0.48259
FE	57	0.20500	76.67000	130.500	-0.10338	0.34218	0.37768
K	39	-18.68900	4250.66000	0.000	-15.70460	-18.47620	-21.88503
MG	24	0.38400	40.00000	133.700	0.72849	0.62829	-0.20574
MN	55	-0.01800	66.67000	0.000	-0.03488	0.16744	-0.18615
NA	23	-1.68100	6261.28000	0.000	3.62088	-0.86716	-7.79522
TI	47	0.34400	6.67000	345.300	1.71610	-0.34192	-0.34192
V	51	0.04800	23.33000	135.700	0.02199	0.12311	0.00000
IN-1	115	361031.47000	0.00000	0.000	377713.32000	334550.24000	370830.86000
IN-2	115	23868.98000	0.00000	0.000	23074.85000	24986.97000	23545.11000
AG	107	0.01000	16.67000	114.400	0.01263	0.01849	-0.00259
AS	75	0.14600	13.33000	89.900	0.13260	0.28308	0.02187
BA	137	-0.03500	0.00000	0.000	-0.03467	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.04200	60.00000	45.800	0.06289	0.03967	0.02437
CU	63	0.08100	156.67000	67.000	0.12537	0.09823	0.02036
MO	98	0.04900	126.67000	73.900	0.01626	0.08752	0.04251
NI	60	-0.02400	20.00000	0.000	-0.02208	-0.05710	0.00851
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.77200	230.01000	8.800	0.69393	0.80288	0.81819
SE	78	0.08400	9.78000	57.300	0.06193	0.13935	0.05102
SN	120	0.51400	203.34000	9.200	0.49473	0.47961	0.56769
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.22700	26.67000	0.000	-1.07834	-1.11009	-1.49335
BI-2	209	83632.63000	0.00000	0.000	84203.06000	83206.99000	83487.83000
PB	208	0.00400	113.33000	295.200	-0.00923	0.01201	0.00888
TL	203	0.03100	33.33000	69.800	0.01834	0.05567	0.01849
U	238	0.01500	53.33000	50.500	0.00768	0.01360	0.02225
SC-1	45	424441.77000	0.00000	0.000	438576.09000	389815.78000	444933.43000
GE-1	72	481645.26000	0.00000	0.000	497893.70000	451846.67000	495195.42000
GE-2	72	57319.77000	0.00000	0.000	57744.50000	55607.73000	58607.07000
TB-2	159	115547.07000	0.00000	0.000	114815.12000	115459.47000	116366.61000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:35:35
Tube Number: 4
Sample Number: **CCS**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19488.00000	0.00000	0.000	19601.65000	19561.41000	19300.94000
AL	27	0.04700	30.00000	4382.500	1.24034	1.25023	-2.34854
CA	44	0.03700	10.00000	22476.200	-8.33598	-0.03724	8.48549
CR	52	0.45400	376.69000	32.900	0.39173	0.34542	0.62430
FE	57	0.64600	80.00000	9.700	0.60209	0.61737	0.71786
K	39	-11.91000	4314.04000	0.000	12.43115	-5.56584	-42.59598
MG	24	0.30100	36.67000	223.700	0.67883	-0.47673	0.70135
MN	55	-0.05800	56.67000	0.000	-0.04434	-0.04377	-0.08665
NA	23	1.44600	6411.36000	271.000	-1.28201	5.93605	-0.31691
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	355214.33000	0.00000	0.000	358254.37000	359590.34000	347798.27000
IN-2	115	23619.80000	0.00000	0.000	23746.24000	23286.61000	23826.56000
AG	107	0.00700	13.33000	60.400	0.00480	0.01249	0.00478
AS	75	0.08000	9.33000	89.900	0.05613	0.02305	0.16080
BA	137	0.00000	3.33000	0.000	-0.03467	0.06790	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.03300	50.00000	47.000	0.05158	0.02478	0.02393
CU	63	-0.01000	73.33000	0.000	0.05268	-0.00102	-0.08045
MO	98	0.02300	106.67000	451.800	0.04104	0.11841	-0.08963
NI	60	0.03000	36.67000	167.200	-0.02392	0.07406	0.03889
RB	85	-0.02200	3.33000	0.000	-0.04597	0.02503	-0.04597
SB	121	0.19500	60.00000	35.000	0.12518	0.19783	0.26147
SE	78	0.00700	1.78000	201.000	0.00227	-0.00404	0.02229
SN	120	0.09300	50.00000	109.200	-0.01898	0.17921	0.11890
SR	88	0.01600	6.67000	366.400	-0.01778	-0.01778	0.08340
ZN	66	-1.18800	30.00000	0.000	-0.98925	-1.08211	-1.49335
BI-2	209	84000.77000	0.00000	0.000	85749.70000	82030.97000	84221.65000
PB	208	0.00100	103.34000	658.600	-0.00379	0.00653	-0.00035
TL	203	0.00900	10.00000	99.400	0.01801	0.00000	0.00917
U	238	0.00200	10.00000	260.200	0.00752	-0.00094	-0.00094
SC-1	45	416234.92000	0.00000	0.000	416705.97000	421776.95000	410221.83000
GE-1	72	479958.83000	0.00000	0.000	481200.97000	484082.41000	474593.12000
GE-2	72	56748.62000	0.00000	0.000	58115.95000	55578.09000	56551.83000
TB-2	159	113950.00000	0.00000	0.000	116033.77000	113446.36000	112369.88000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:37:59
Tube Number: 5
Sample Number: **ICV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19180.77000	0.00000	0.000	18990.61000	19040.48000	19511.21000
AL	27	5198.93700	42312.85000	6.200	5552.82416	5122.54046	4921.44545
CA	44	4592.43700	5437.70000	3.500	4420.41463	4613.51921	4743.37764
CR	52	502.21900	311680.56000	2.100	509.96508	506.76376	489.92755
FE	57	5255.63500	55429.44000	1.300	5306.40085	5282.79478	5177.70964
K	39	5222.21100	104092.37000	2.100	5256.35524	5310.92702	5099.34946
MG	24	5165.10300	174847.26000	2.300	5251.65175	5216.78282	5026.87443
MN	55	514.83800	109826.20000	3.000	519.64588	527.40346	497.46518
NA	23	5114.82400	404222.08000	2.200	5245.45557	5069.53203	5029.48402
TI	47	512.73900	5047.57000	2.700	496.73749	520.01720	521.46112
V	51	511.29200	235299.93000	0.900	516.80298	509.38903	507.68501
IN-1	115	364612.87000	0.00000	0.000	368600.04000	367953.21000	357285.37000
IN-2	115	23700.89000	0.00000	0.000	23487.03000	23619.43000	23996.22000
AG	107	52.20600	70467.49000	1.100	52.48759	52.57424	51.55696
AS	75	519.23400	29477.00000	1.300	526.72199	517.21712	513.76410
BA	137	532.96600	52880.56000	2.300	546.95077	528.97845	522.96780
CD	111	51.59400	7494.99000	2.100	52.61635	51.68566	50.47960
CO	59	524.28700	570230.43000	2.000	533.02770	526.90087	512.93172
CU	63	518.49400	466649.75000	1.300	525.36135	518.16838	511.95206
MO	98	51.99200	35871.22000	3.800	54.26068	50.56541	51.15014
NI	60	526.90800	166339.07000	2.100	539.62352	522.50430	518.59501
RB	85	54.39600	7805.33000	2.500	54.24244	53.09722	55.84754
SB	121	53.98600	15714.37000	1.400	54.38633	53.11546	54.45508
SE	78	51.05400	5451.28000	2.300	49.71975	51.88685	51.55596
SN	120	51.45500	18560.66000	4.400	53.98369	50.72676	49.65542
SR	88	51.59800	10149.91000	1.600	51.47383	50.82765	52.49186
ZN	66	525.80600	52190.22000	3.200	543.43866	523.71164	510.26729
BI-2	209	85918.17000	0.00000	0.000	86585.68000	86613.37000	84555.46000
PB	208	52.30600	180224.85000	1.100	52.28444	51.75110	52.88184
TL	203	50.58800	56292.69000	1.500	50.15246	50.17244	51.43871
U	238	52.71000	187074.16000	1.200	52.73224	52.08815	53.31055
SC-1	45	429677.00000	0.00000	0.000	433596.01000	434436.83000	420998.16000
GE-1	72	486391.31000	0.00000	0.000	489119.95000	490652.14000	479401.83000
GE-2	72	57875.41000	0.00000	0.000	57585.03000	56781.88000	59259.33000
TB-2	159	116342.98000	0.00000	0.000	120404.68000	112781.85000	115842.42000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:40:23
Tube Number: 6
Sample Number: **ICB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19404.45000	0.00000	0.000	19281.04000	19521.14000	19411.16000
AL	27	0.88700	36.67000	210.800	2.54286	1.26018	-1.14113
CA	44	27.96300	43.33000	105.100	25.34168	-0.02012	58.56784
CR	52	0.46700	383.35000	31.600	0.60905	0.31476	0.47661
FE	57	0.99300	83.33000	198.500	2.61433	1.56546	-1.20101
K	39	-0.28000	4517.40000	0.000	-0.67578	8.29599	-8.46098
MG	24	0.98200	60.00000	128.400	0.40902	2.42647	0.10926
MN	55	0.06700	83.34000	177.600	0.19354	-0.04320	0.05104
NA	23	1.89500	6418.02000	173.500	5.51861	1.06151	-0.89509
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.01400	6.67000	173.200	0.00000	0.00000	0.04294
IN-1	115	360699.76000	0.00000	0.000	358037.38000	357552.01000	366509.90000
IN-2	115	23575.28000	0.00000	0.000	23724.39000	23956.06000	23045.38000
AG	107	0.01000	16.67000	90.000	0.00481	0.00474	0.02027
AS	75	0.01000	5.33000	209.700	-0.01413	0.02004	0.02418
BA	137	-0.00100	3.33000	0.000	-0.03467	0.06504	-0.03467
CD	111	0.02300	3.33000	92.400	0.02750	0.00000	0.04247
CO	59	0.03400	50.00000	49.100	0.04245	0.01464	0.04408
CU	63	0.02000	100.00000	336.600	-0.01379	0.09540	-0.02293
MO	98	-0.00200	90.01000	0.000	0.04120	0.03951	-0.08816
NI	60	-0.03300	16.67000	0.000	-0.05551	-0.08715	0.04316
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.20700	63.33000	11.800	0.19396	0.19197	0.23537
SE	78	0.07200	8.67000	53.300	0.03414	0.11061	0.07038
SN	120	0.30500	126.67000	48.400	0.20275	0.47482	0.23863
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.12000	36.67000	0.000	-1.08970	-1.19354	-1.07781
BI-2	209	84235.89000	0.00000	0.000	83508.08000	84464.83000	84734.77000
PB	208	0.00500	116.67000	70.800	0.00289	0.00252	0.00830
TL	203	0.01800	20.00000	0.800	0.01849	0.01828	0.01822
U	238	0.00900	33.33000	83.200	0.00775	0.00192	0.01620
SC-1	45	422834.73000	0.00000	0.000	421288.55000	423321.71000	423893.94000
GE-1	72	483346.22000	0.00000	0.000	484705.42000	479656.48000	485676.75000
GE-2	72	57446.98000	0.00000	0.000	57232.73000	57122.84000	57985.37000
TB-2	159	115282.85000	0.00000	0.000	114543.92000	115247.80000	116056.84000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:42:47
Tube Number: 7
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18753.58000	0.00000	0.000	18179.51000	18840.47000	19240.76000
AL	27	216.40300	1746.81000	10.600	236.32226	221.65328	191.23461
CA	44	456.41700	536.69000	13.000	491.74638	388.03093	489.47479
CR	52	4.63000	2890.34000	15.100	5.05879	5.00759	3.82383
FE	57	215.32600	2286.91000	11.700	232.56738	186.47362	226.93841
K	39	442.25200	12614.74000	5.000	467.13093	424.90380	434.72206
MG	24	212.76300	7068.28000	2.100	210.26675	217.90544	210.11619
MN	55	4.34200	970.07000	12.800	4.97463	3.92952	4.12165
NA	23	414.09000	37562.33000	2.500	416.21842	423.06712	402.98574
TI	47	30.75500	300.01000	18.100	24.33016	33.81587	34.11772
V	51	0.84500	380.02000	15.900	0.80241	0.99546	0.73647
IN-1	115	369897.87000	0.00000	0.000	362827.50000	376250.91000	370615.20000
IN-2	115	23813.96000	0.00000	0.000	22496.19000	23851.53000	25094.15000
AG	107	1.02200	1390.10000	3.800	0.98092	1.05756	1.02605
AS	75	4.39900	254.67000	12.600	5.03795	4.11668	4.04175
BA	137	3.42100	343.35000	28.600	3.25697	4.47191	2.53537
CD	111	1.02500	149.33000	11.700	1.01518	1.14900	0.91008
CO	59	1.04800	1166.76000	18.400	0.83973	1.08365	1.22041
CU	63	4.38000	4030.61000	9.300	4.72079	4.49154	3.92868
MO	98	1.00000	780.05000	17.700	1.06102	1.13755	0.80017
NI	60	3.79200	1226.76000	10.800	4.25184	3.47013	3.65303
RB	85	1.64800	243.34000	20.700	1.93848	1.27116	1.73303
SB	121	2.01500	593.37000	14.400	1.79822	2.34423	1.90294
SE	78	3.95900	429.56000	7.500	4.30061	3.80189	3.77380
SN	120	4.75600	1736.82000	4.700	4.95138	4.80523	4.51254
SR	88	2.06900	410.02000	16.200	2.44714	1.95326	1.80762
ZN	66	27.97000	2930.35000	3.600	28.62731	26.81546	28.46724
BI-2	209	86695.31000	0.00000	0.000	84192.61000	87287.96000	88605.36000
PB	208	2.07100	7297.62000	3.200	2.11267	2.10532	1.99471
TL	203	1.04100	1170.08000	4.300	0.99954	1.08794	1.03691
U	238	0.97000	3477.20000	6.100	0.97389	1.02808	0.90893
SC-1	45	433593.78000	0.00000	0.000	431878.47000	437173.35000	431729.52000
GE-1	72	492485.77000	0.00000	0.000	482200.07000	500410.38000	494846.87000
GE-2	72	56588.27000	0.00000	0.000	52739.61000	56029.96000	60995.24000
TB-2	159	114541.81000	0.00000	0.000	109916.13000	114775.01000	118934.30000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:45:10
Tube Number: 8
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19207.39000	0.00000	0.000	19180.69000	19420.97000	19020.50000
AL	27	98889.79600	805781.47000	1.800	97187.69535	98684.90932	100796.78404
CA	44	252112.31000	298295.11000	0.900	250551.14147	251221.95511	254563.83308
CR	52	3.15000	2046.87000	2.900	3.25608	3.08670	3.10591
FE	57	234305.04100	2471549.55000	1.200	234141.95717	231661.37668	237111.78908
K	39	96707.61600	1852174.30000	1.000	95911.88452	96414.12646	97796.83816
MG	24	93746.46300	3177861.52000	2.500	91739.21500	93227.03524	96273.13834
MN	55	1.06900	296.68000	27.700	0.75894	1.34772	1.09909
NA	23	237434.91200	18510481.39000	1.300	234664.71879	236723.84428	240916.17194
TI	47	2044.34900	20141.87000	1.500	2048.42020	2073.33901	2011.28762
V	51	0.20200	93.34000	60.800	0.30421	0.23607	0.06573
IN-1	115	345586.19000	0.00000	0.000	348906.05000	341938.15000	345914.37000
IN-2	115	22734.54000	0.00000	0.000	22424.66000	22703.83000	23075.12000
AG	107	0.20800	273.34000	19.400	0.20883	0.16756	0.24852
AS	75	0.34400	23.33000	6.300	0.36232	0.32005	0.34973
BA	137	3.82500	366.69000	28.800	5.07831	3.01646	3.38141
CD	111	0.19200	26.67000	56.500	0.18914	0.30177	0.08483
CO	59	3.22000	3373.80000	3.100	3.10674	3.25073	3.30214
CU	63	1.68300	1533.45000	15.800	1.38838	1.90384	1.75760
MO	98	1999.55400	1320131.88000	1.000	2010.56960	2012.37914	1975.71284
NI	60	1.24500	403.36000	29.300	1.01778	1.66561	1.05171
RB	85	0.07400	16.67000	201.700	-0.04597	0.02685	0.24064
SB	121	0.08300	26.67000	47.900	0.06062	0.05973	0.12917
SE	78	0.08600	9.78000	15.100	0.10049	0.08278	0.07519
SN	120	0.09800	50.00000	28.200	0.09993	0.06917	0.12429
SR	88	3.50400	663.37000	15.400	4.12143	3.27406	3.11662
ZN	66	2.54200	383.35000	10.200	2.24350	2.72479	2.65692
BI-2	209	82372.23000	0.00000	0.000	82523.41000	82442.03000	82151.24000
PB	208	0.34400	1233.41000	13.800	0.31166	0.32108	0.39825
TL	203	0.00900	10.00000	100.000	0.00936	0.01873	0.00000
U	238	0.01100	40.00000	27.000	0.01079	0.01374	0.00790
SC-1	45	413464.69000	0.00000	0.000	427799.25000	402022.06000	410572.77000
GE-1	72	469631.15000	0.00000	0.000	475245.07000	466208.70000	467439.68000
GE-2	72	56721.30000	0.00000	0.000	56720.69000	56561.07000	56882.15000
TB-2	159	111594.83000	0.00000	0.000	111927.82000	110367.40000	112489.27000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:47:34
Tube Number: 9
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17859.30000	0.00000	0.000	18039.33000	17659.03000	17879.53000
AL	27	106264.16600	805078.95000	1.200	105061.55510	107543.89279	106187.05128
CA	44	275059.78600	302583.46000	1.500	270586.23931	279053.38837	275539.73125
CR	52	210.47000	121683.89000	1.200	208.32089	213.35817	209.73049
FE	57	254798.36300	2498977.31000	1.700	249930.24208	258677.33875	255787.50672
K	39	104838.58500	1866557.63000	1.600	102942.72850	105500.40665	106072.62057
MG	24	102626.65200	3234867.24000	1.500	100994.92744	102713.96543	104171.06191
MN	55	209.19500	41598.82000	0.900	208.79405	211.25495	207.53488
NA	23	257023.57500	18629214.31000	2.100	251030.91990	261260.85364	258778.95258
TI	47	2192.44700	20078.43000	3.800	2096.88071	2233.79401	2246.66746
V	51	214.57600	91943.38000	1.300	212.01972	217.53688	214.17051
IN-1	115	344504.79000	0.00000	0.000	342652.93000	338568.84000	352292.60000
IN-2	115	22718.09000	0.00000	0.000	23395.30000	22033.78000	22725.20000
AG	107	50.42700	65233.60000	1.600	50.19143	51.33300	49.75665
AS	75	104.82100	5706.28000	1.600	103.19217	106.50336	104.76732
BA	137	4.14200	400.02000	37.100	5.88713	3.00073	3.53912
CD	111	101.26500	14093.79000	3.500	97.14048	103.63218	103.02211
CO	59	205.10200	213692.72000	4.100	197.60705	214.07772	203.62194
CU	63	201.94000	174168.05000	3.200	196.38143	208.89345	200.54649
MO	98	2039.85200	1345171.75000	2.600	1987.72310	2095.02177	2036.81133
NI	60	204.55900	61870.61000	4.300	196.32994	213.76778	203.57927
RB	85	0.14800	26.67000	28.800	0.16604	0.17914	0.09954
SB	121	0.12000	36.67000	47.500	0.12723	0.17280	0.05966
SE	78	98.92600	9977.24000	2.400	98.70035	101.43196	96.64604
SN	120	0.18800	80.00000	74.900	0.06575	0.34128	0.15586
SR	88	3.84000	726.71000	3.300	3.69204	3.92133	3.90752
ZN	66	97.28200	9362.78000	5.700	92.47426	103.28191	96.08852
BI-2	209	81226.49000	0.00000	0.000	81317.26000	79738.28000	82623.93000
PB	208	0.32800	1166.73000	2.800	0.33820	0.32672	0.32030
TL	203	0.00900	10.00000	99.500	0.00949	0.00000	0.01869
U	238	0.01100	40.00000	26.100	0.00799	0.01120	0.01370
SC-1	45	410968.92000	0.00000	0.000	406332.88000	406861.79000	419712.10000
GE-1	72	474054.94000	0.00000	0.000	473302.14000	464938.90000	483923.78000
GE-2	72	54601.48000	0.00000	0.000	55487.77000	53260.54000	55056.14000
TB-2	159	109245.27000	0.00000	0.000	107607.37000	110537.47000	109590.97000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:49:58
Tube Number: 10
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18860.43000	0.00000	0.000	18419.96000	19160.74000	19000.59000
AL	27	2.70400	50.00000	124.900	5.38797	3.81144	-1.08865
CA	44	34.41900	50.00000	64.600	9.29002	42.49768	51.46983
CR	52	0.36900	313.35000	18.300	0.35901	0.30727	0.44123
FE	57	15.42500	230.01000	25.500	19.86100	14.07779	12.33745
K	39	-2.97400	4337.33000	0.000	8.60288	-9.18152	-8.34387
MG	24	3.86200	153.34000	41.300	5.69316	2.78221	3.11031
MN	55	-0.17600	30.00000	0.000	-0.12433	-0.17883	-0.22498
NA	23	19.92000	7611.81000	37.300	25.82734	11.58651	22.34492
TI	47	0.68400	10.00000	259.700	-0.34192	-0.34192	2.73698
V	51	0.01500	6.67000	86.700	0.02263	0.02175	0.00000
IN-1	115	361124.43000	0.00000	0.000	365665.62000	359682.04000	358025.63000
IN-2	115	23633.26000	0.00000	0.000	23867.03000	23756.90000	23275.86000
AG	107	0.01000	16.67000	116.000	0.01948	0.01219	-0.00259
AS	75	0.01000	5.33000	420.900	-0.01455	-0.01423	0.05898
BA	137	0.03400	6.67000	351.200	-0.03467	-0.03467	0.17057
CD	111	0.01800	2.67000	113.600	0.04101	0.00000	0.01402
CO	59	0.03600	53.33000	13.400	0.04213	0.03321	0.03416
CU	63	0.06000	136.67000	90.800	0.05196	0.11914	0.01034
MO	98	1.35000	1016.73000	14.600	1.13673	1.38902	1.52405
NI	60	0.00900	30.00000	970.200	-0.08715	0.03926	0.07413
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.02200	10.00000	154.000	0.05623	0.02227	-0.01201
SE	78	0.04700	6.00000	72.900	0.02069	0.03394	0.08498
SN	120	0.04600	33.33000	125.400	-0.01912	0.09171	0.06632
SR	88	0.01600	6.67000	365.200	-0.01778	0.08369	-0.01778
ZN	66	-1.32500	16.67000	0.000	-1.39304	-1.19102	-1.39049
BI-2	209	86702.32000	0.00000	0.000	85236.99000	87943.77000	86926.20000
PB	208	-0.00200	96.67000	0.000	-0.00656	-0.01579	0.01595
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	-0.00100	0.00000	0.000	-0.00094	-0.00094	-0.00094
SC-1	45	415199.66000	0.00000	0.000	417430.38000	418216.17000	409952.42000
GE-1	72	475427.58000	0.00000	0.000	480329.56000	477182.02000	468771.16000
GE-2	72	56507.60000	0.00000	0.000	56400.70000	56541.08000	56581.01000
TB-2	159	115107.95000	0.00000	0.000	114211.58000	114059.15000	117053.11000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:52:21
Tube Number: 11
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19798.10000	0.00000	0.000	19521.13000	20542.16000	19331.00000
AL	27	2370.28800	19928.14000	2.300	2393.46329	2307.65516	2409.74501
CA	44	2273.30800	2780.34000	7.600	2470.08303	2149.33207	2200.50795
CR	52	232.14600	148739.46000	1.600	232.46750	228.21628	235.75542
FE	57	2415.86100	26326.62000	3.300	2402.30420	2344.71487	2500.56460
K	39	2326.67800	50403.47000	3.800	2407.58241	2230.63912	2341.81169
MG	24	2308.91600	80666.05000	2.500	2325.84776	2244.80995	2356.08938
MN	55	233.89700	51537.76000	1.800	238.09876	229.58594	234.00525
NA	23	2298.99800	190920.38000	4.100	2334.73728	2191.56950	2370.68686
TI	47	252.39300	2563.61000	4.400	260.40953	239.85201	256.91858
V	51	233.64400	110955.35000	1.800	232.61228	229.97184	238.34767
IN-1	115	376625.66000	0.00000	0.000	380424.54000	369717.18000	379735.27000
IN-2	115	23914.43000	0.00000	0.000	23957.65000	24493.51000	23292.12000
AG	107	25.15600	34251.56000	2.700	25.37462	24.40248	25.69162
AS	75	242.78300	13908.82000	0.900	243.71877	240.26104	244.37004
BA	137	239.34500	23954.38000	3.200	238.51984	232.22609	247.28849
CD	111	24.86200	3641.74000	5.300	24.35155	23.88547	26.35036
CO	59	248.93700	273155.61000	2.300	244.40054	246.95826	255.45260
CU	63	243.01400	220659.85000	2.600	239.86367	238.83438	250.34412
MO	98	24.22500	16912.08000	1.700	24.05500	23.91962	24.70173
NI	60	250.12700	79676.98000	1.700	249.03965	246.64034	254.70244
RB	85	24.09800	3490.48000	4.000	23.28326	23.85304	25.15686
SB	121	25.26200	7421.89000	2.000	25.83071	25.09901	24.85501
SE	78	23.90600	2637.53000	1.700	24.25955	24.00169	23.45814
SN	120	24.76000	9022.70000	3.100	25.62044	24.19954	24.46132
SR	88	25.84800	5130.97000	1.800	26.30099	25.38037	25.86258
ZN	66	251.69200	25271.86000	4.900	256.91887	237.56016	260.59570
BI-2	209	87794.52000	0.00000	0.000	87097.02000	89139.09000	87147.44000
PB	208	24.49200	86287.82000	1.200	24.52754	24.18318	24.76510
TL	203	24.06800	27374.05000	3.300	23.17185	24.41909	24.61342
U	238	23.73800	86090.30000	1.100	23.86066	23.42879	23.92518
SC-1	45	436765.47000	0.00000	0.000	446958.70000	431016.09000	432321.63000
GE-1	72	499019.01000	0.00000	0.000	499159.91000	496115.85000	501781.28000
GE-2	72	56918.42000	0.00000	0.000	57112.48000	56901.66000	56741.12000
TB-2	159	118255.18000	0.00000	0.000	118893.20000	118036.10000	117836.25000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:54:46
Tube Number: 12
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19063.94000	0.00000	0.000	19100.76000	19290.86000	18800.19000
AL	27	3.85600	60.00000	33.900	2.60055	3.76166	5.20680
CA	44	8.78700	20.00000	196.600	-8.33598	8.49428	26.20305
CR	52	0.46100	373.35000	17.000	0.55143	0.41639	0.41459
FE	57	-2.08600	50.00000	0.000	-2.06280	1.66567	-5.86057
K	39	-8.39800	4284.02000	0.000	6.26528	-16.43158	-15.02651
MG	24	1.41600	73.33000	25.700	1.60658	0.99581	1.64452
MN	55	-0.14700	36.67000	0.000	-0.13130	-0.08653	-0.22397
NA	23	5.45600	6581.41000	10.000	4.90221	5.47527	5.99092
TI	47	0.33200	6.67000	351.600	-0.34192	1.67979	-0.34192
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	361080.05000	0.00000	0.000	350073.65000	367990.74000	365175.75000
IN-2	115	23055.28000	0.00000	0.000	23145.71000	22394.39000	23625.75000
AG	107	0.01700	26.67000	87.400	0.01258	0.00525	0.03457
AS	75	0.01300	5.33000	585.700	-0.01237	0.10191	-0.04918
BA	137	0.03400	6.67000	349.100	0.17172	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.06300	80.00000	32.400	0.04383	0.08465	0.06113
CU	63	0.07600	146.68000	11.200	0.06781	0.08492	0.07572
MO	98	0.08700	146.67000	113.200	0.17945	0.09767	-0.01639
NI	60	0.08900	53.33000	142.700	0.13991	0.18106	-0.05537
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.31900	93.34000	39.400	0.44546	0.31530	0.19482
SE	78	0.01500	2.67000	110.500	0.00257	0.03293	0.00830
SN	120	0.18100	80.00000	45.500	0.09537	0.18821	0.25945
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.28100	20.00000	0.000	-1.49335	-0.95882	-1.39201
BI-2	209	84744.81000	0.00000	0.000	84232.66000	85910.39000	84091.39000
PB	208	0.00100	106.67000	767.000	0.01446	-0.00674	-0.00327
TL	203	0.00900	10.00000	99.300	0.00917	0.01797	0.00000
U	238	0.00300	13.33000	151.900	0.00768	-0.00094	0.00193
SC-1	45	417216.45000	0.00000	0.000	409169.25000	424184.17000	418295.93000
GE-1	72	478977.51000	0.00000	0.000	469078.51000	481680.23000	486173.78000
GE-2	72	55474.41000	0.00000	0.000	54243.65000	55016.51000	57163.07000
TB-2	159	114977.39000	0.00000	0.000	113758.73000	113780.53000	117392.92000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:57:21
Tube Number: 13 Batch: 171441063901A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19601.18000	0.00000	0.000	19210.72000	19531.13000	20061.70000
AL	27	3.66700	60.00000	143.900	1.33822	9.70707	-0.04493
CA	44	5.60900	16.67000	226.900	8.56449	16.59884	-8.33598
CR	52	0.36100	320.02000	16.100	0.41873	0.36202	0.30239
FE	57	-2.20800	50.00000	0.000	-2.09008	-4.96456	0.43168
K	39	-0.96800	4550.78000	0.000	-7.15025	1.48188	2.76521
MG	24	0.96800	60.00000	51.500	1.29808	0.39397	1.21051
MN	55	0.14200	100.01000	145.400	0.24223	0.27907	-0.09548
NA	23	9.67600	7104.98000	37.800	5.70148	12.88620	10.43967
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.01400	6.67000	86.600	0.00000	0.02134	0.02077
IN-1	115	376214.63000	0.00000	0.000	377828.71000	373387.10000	377428.09000
IN-2	115	24177.26000	0.00000	0.000	24136.92000	23887.39000	24507.48000
AG	107	0.01200	20.00000	105.500	0.01923	-0.00259	0.01890
AS	75	-0.00300	4.67000	0.000	-0.01534	0.05530	-0.05046
BA	137	-0.03500	0.00000	0.000	-0.03467	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.02300	40.00000	101.900	0.04151	-0.00353	0.03180
CU	63	0.07100	150.01000	112.700	0.08309	-0.01432	0.14493
MO	98	0.04800	126.67000	107.500	-0.00459	0.09767	0.04967
NI	60	0.03600	40.00000	220.400	0.00617	-0.02429	0.12730
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.05500	20.00000	105.500	0.08921	-0.01201	0.08768
SE	78	-0.00400	0.67000	0.000	-0.01041	-0.01041	0.00769
SN	120	0.04400	33.33000	156.300	0.11677	-0.01914	0.03382
SR	88	-0.00100	3.33000	0.000	-0.01778	-0.01778	0.03140
ZN	66	-0.50100	100.00000	0.000	-0.10463	-0.49111	-0.90722
BI-2	209	91458.44000	0.00000	0.000	92648.58000	89791.94000	91934.79000
PB	208	-0.01500	53.33000	0.000	-0.00843	-0.01608	-0.02183
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00000	3.33000	0.000	-0.00094	0.00175	-0.00094
SC-1	45	428540.94000	0.00000	0.000	432177.06000	423828.24000	429617.53000
GE-1	72	496374.37000	0.00000	0.000	507488.08000	482077.06000	499557.96000
GE-2	72	57912.07000	0.00000	0.000	58215.67000	58838.72000	56681.82000
TB-2	159	118914.73000	0.00000	0.000	121139.53000	118984.28000	116620.38000

Run Name: 1715106E05 Date/Time: 05/31/2017 11:59:46
Tube Number: 14 Batch: 171441063901A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19964.97000	0.00000	0.000	19851.44000	19931.79000	20111.69000
AL	27	1887.50500	16014.16000	4.700	1925.69483	1951.04974	1785.76894
CA	44	3908.44200	4817.48000	3.100	3925.69434	3779.49020	4020.14185
CR	52	48.38000	31338.15000	3.700	49.56947	49.27623	46.29294
FE	57	1011.20100	11163.84000	3.100	974.90481	1030.36537	1028.33302
K	39	9576.38600	194831.16000	1.600	9733.34725	9577.39506	9418.41497
MG	24	1954.44800	68895.78000	2.600	2009.47244	1906.91329	1946.95930
MN	55	48.70000	10880.32000	3.600	47.95043	50.69095	47.45993
NA	23	9412.37100	768936.89000	1.000	9456.82176	9479.01646	9301.27580
TI	47	242.26500	2483.59000	6.100	237.40203	258.94767	230.44620
V	51	48.62300	23292.32000	2.800	47.85542	50.17504	47.83800
IN-1	115	372950.85000	0.00000	0.000	369546.28000	377723.57000	371582.69000
IN-2	115	24299.66000	0.00000	0.000	24933.10000	24323.59000	23642.29000
AG	107	51.37300	71096.72000	0.800	51.44454	50.95012	51.72519
AS	75	9.53700	560.68000	7.900	10.39862	9.18492	9.02820
BA	137	49.03300	4987.61000	7.900	48.54430	45.43931	53.11643
CD	111	4.94100	736.69000	5.500	5.24729	4.84225	4.73340
CO	59	251.88100	280756.62000	3.300	243.57464	251.70434	260.36304
CU	63	51.19100	47287.15000	3.700	49.70488	50.57277	53.29531
MO	98	50.30000	35577.44000	2.000	49.54194	49.92148	51.43609
NI	60	49.35200	15994.31000	2.400	48.05566	49.60148	50.39757
RB	85	0.02000	10.00000	564.600	0.15297	-0.04597	-0.04597
SB	121	5.96500	1783.51000	7.100	5.73755	6.45091	5.70698
SE	78	10.28500	1124.26000	0.800	10.27865	10.20662	10.36931
SN	120	50.66400	18730.95000	3.700	49.31975	49.85217	52.82152
SR	88	40.49000	8165.55000	1.200	40.65181	39.93492	40.88240
ZN	66	497.60500	50632.57000	3.000	481.30616	501.60510	509.90401
BI-2	209	90091.02000	0.00000	0.000	88837.68000	90868.95000	90566.44000
PB	208	14.86700	53787.00000	2.800	15.20952	14.99279	14.39750
TL	203	2.03100	2370.27000	4.800	2.09456	2.08173	1.91814
U	238	0.00200	10.00000	267.800	-0.00094	-0.00094	0.00707
SC-1	45	431778.16000	0.00000	0.000	431189.29000	436545.85000	427599.33000
GE-1	72	492154.35000	0.00000	0.000	484823.04000	499564.99000	492075.03000
GE-2	72	57600.82000	0.00000	0.000	59019.21000	56671.14000	57112.12000
TB-2	159	120445.25000	0.00000	0.000	121581.48000	121232.24000	118522.02000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:02:12
Tube Number: 15 Batch: 171441063901A
Sample Number: **9006555** Class: U*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19941.70000	0.00000	0.000	19851.61000	20182.05000	19791.44000
AL	27	191.52300	1650.14000	4.000	188.80488	185.65397	200.10879
CA	44	6137.12400	7551.86000	4.900	6044.39113	6476.46922	5890.51179
CR	52	0.91500	683.37000	5.300	0.86768	0.91237	0.96446
FE	57	12.03100	206.68000	14.200	10.59860	13.92198	11.57157
K	39	437.86400	13331.93000	3.600	453.15369	421.45431	438.98390
MG	24	3690.19800	129906.62000	0.900	3679.97446	3663.74294	3726.87565
MN	55	18.27800	4123.97000	2.500	17.98776	18.80268	18.04342
NA	23	6061.95000	496919.50000	1.300	6092.53386	5974.22971	6119.08685
TI	47	0.31500	6.67000	361.200	-0.34192	-0.34192	1.62866
V	51	0.16000	76.67000	48.200	0.10497	0.24782	0.12635
IN-1	115	376006.64000	0.00000	0.000	387457.96000	362260.75000	378301.22000
IN-2	115	24196.37000	0.00000	0.000	23485.39000	24987.95000	24115.76000
AG	107	0.02200	33.33000	166.800	0.06470	0.00444	-0.00259
AS	75	0.00800	5.33000	646.500	0.02214	-0.05111	0.05398
BA	137	34.57300	3507.18000	7.000	32.41318	34.09485	37.21185
CD	111	0.01800	2.67000	40.100	0.01389	0.02611	0.01353
CO	59	0.95000	1066.74000	10.400	1.06362	0.89426	0.89092
CU	63	3.91800	3683.84000	10.200	3.63199	3.74546	4.37574
MO	98	0.05700	133.34000	30.200	0.07230	0.05995	0.03836
NI	60	0.51000	193.34000	23.700	0.39241	0.63399	0.50441
RB	85	1.23400	186.68000	20.200	1.36209	0.94659	1.39385
SB	121	0.08800	30.00000	115.000	-0.01201	0.08576	0.19062
SE	78	0.19900	23.11000	3.400	0.20704	0.19699	0.19425
SN	120	0.25900	113.34000	47.600	0.17730	0.40066	0.19870
SR	88	16.36100	3290.46000	4.000	15.68982	17.01280	16.37896
ZN	66	12.75900	1440.10000	9.100	12.16739	12.01671	14.09381
BI-2	209	90895.75000	0.00000	0.000	93151.82000	90899.82000	88635.60000
PB	208	0.39300	1540.10000	8.900	0.35839	0.42840	0.39225
TL	203	0.03100	36.67000	16.000	0.03315	0.02548	0.03484
U	238	0.01200	50.00000	76.600	0.01984	0.00172	0.01544
SC-1	45	431440.41000	0.00000	0.000	437822.88000	422896.09000	433602.26000
GE-1	72	494871.10000	0.00000	0.000	509318.78000	481755.50000	493539.02000
GE-2	72	58791.19000	0.00000	0.000	59239.34000	59931.56000	57202.68000
TB-2	159	118487.04000	0.00000	0.000	118419.35000	118854.19000	118187.57000

Run Name: 1715106E05
Tube Number: 16
Sample Number: **9006555**

Date/Time: 05/31/2017 12:04:36
Batch: 171441063901A
Class: UP********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18987.20000	0.00000	0.000	19290.69000	19080.85000	18590.07000
AL	27	387.23400	3147.06000	2.300	380.16491	384.38006	397.15793
CA	44	6830.13200	7992.09000	6.800	6329.85269	6910.31061	7250.23340
CR	52	4.59000	2910.35000	7.100	4.96742	4.40801	4.39510
FE	57	210.64300	2263.57000	15.600	178.18672	209.80687	243.93471
K	39	835.54700	20198.38000	4.500	796.00967	839.51672	871.11581
MG	24	3936.87100	131910.88000	3.000	3837.23351	3903.44199	4069.93864
MN	55	24.68500	5277.64000	2.400	24.02360	25.14024	24.89257
NA	23	6580.47900	512952.91000	2.700	6407.94545	6565.36244	6768.12775
TI	47	32.29300	316.68000	27.500	23.91987	31.34159	41.61870
V	51	1.15200	526.70000	27.600	1.33954	1.33241	0.78469
IN-1	115	369021.77000	0.00000	0.000	366388.14000	369840.11000	370837.07000
IN-2	115	24043.29000	0.00000	0.000	23272.23000	23994.15000	24863.49000
AG	107	0.98400	1346.77000	15.700	1.03867	1.10250	0.80958
AS	75	4.06400	238.67000	5.800	4.32891	3.88290	3.97928
BA	137	35.41600	3563.86000	7.400	36.40595	37.40063	32.44025
CD	111	1.06700	157.33000	7.000	1.06545	0.99260	1.14160
CO	59	1.85500	2060.19000	1.900	1.88812	1.85816	1.81906
CU	63	7.90900	7301.78000	2.400	7.94518	8.07681	7.70635
MO	98	0.91700	733.38000	7.100	0.96202	0.84295	0.94733
NI	60	4.18700	1370.11000	7.600	3.84903	4.48164	4.23133
RB	85	11.10900	1620.13000	6.200	11.60633	11.39356	10.32847
SB	121	1.99800	596.70000	26.900	1.59787	1.78707	2.60865
SE	78	3.91800	424.45000	2.100	3.91067	4.00335	3.83913
SN	120	4.25100	1566.80000	17.300	4.53046	4.80373	3.41765
SR	88	21.16300	4220.68000	6.800	21.37673	22.49221	19.61969
ZN	66	59.10200	6077.93000	7.100	63.94804	56.48903	56.86931
BI-2	209	88405.22000	0.00000	0.000	87429.17000	89220.05000	88566.44000
PB	208	2.45600	8804.64000	6.800	2.60419	2.27443	2.48866
TL	203	0.89400	1023.41000	5.100	0.94489	0.85669	0.88045
U	238	9.83700	35935.84000	2.800	9.52046	9.99014	10.00069
SC-1	45	427337.28000	0.00000	0.000	428789.80000	429501.63000	423720.42000
GE-1	72	488991.85000	0.00000	0.000	486097.88000	490091.83000	490785.85000
GE-2	72	56019.21000	0.00000	0.000	56259.42000	55617.94000	56180.27000
TB-2	159	117163.52000	0.00000	0.000	115994.72000	116679.88000	118815.97000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:07:02
Tube Number: 17 Batch: 171441063901A
Sample Number: **9006558** Class: D*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18820.44000	0.00000	0.000	18249.91000	18820.38000	19391.03000
AL	27	192.13800	1563.46000	2.900	187.60353	190.57476	198.23660
CA	44	6957.32200	8078.83000	1.900	6815.92700	6971.57846	7084.46014
CR	52	1.18200	806.72000	5.500	1.24446	1.18594	1.11489
FE	57	11.87900	193.34000	30.600	14.12353	7.68371	13.82949
K	39	510.02900	13919.09000	8.900	542.70813	529.31019	458.06806
MG	24	3888.98100	129175.31000	1.500	3928.56988	3918.33177	3820.04144
MN	55	17.85900	3800.53000	10.000	17.72118	19.70785	16.14919
NA	23	6511.76700	503078.03000	2.900	6690.68144	6535.30829	6309.31226
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.14700	66.67000	6.300	0.13702	0.15501	0.15045
IN-1	115	370143.78000	0.00000	0.000	374094.80000	364374.80000	371961.74000
IN-2	115	24003.27000	0.00000	0.000	23425.63000	25048.61000	23535.58000
AG	107	0.00700	13.33000	158.900	-0.00259	0.00442	0.01979
AS	75	-0.01400	4.00000	0.000	-0.04888	-0.08453	0.09287
BA	137	33.74200	3393.81000	6.500	31.78171	33.34452	36.09999
CD	111	0.00900	1.33000	173.200	0.00000	0.00000	0.02772
CO	59	0.98600	1100.07000	6.000	1.03846	0.99644	0.92244
CU	63	4.02800	3747.22000	10.200	4.48491	3.68358	3.91512
MO	98	-0.00400	90.00000	0.000	0.04342	-0.00926	-0.04520
NI	60	0.49700	186.68000	16.000	0.42568	0.48237	0.58279
RB	85	1.13700	173.34000	44.800	1.08337	1.67026	0.65653
SB	121	0.05500	20.00000	57.000	0.02275	0.08553	0.05719
SE	78	0.16600	19.11000	19.000	0.19043	0.17704	0.13034
SN	120	0.11700	60.00000	42.000	0.06560	0.16332	0.12095
SR	88	19.09800	3803.90000	3.000	19.64114	18.51184	19.13973
ZN	66	11.00000	1250.10000	11.700	10.87355	9.78572	12.34190
BI-2	209	90372.11000	0.00000	0.000	89469.57000	90004.13000	91642.63000
PB	208	0.39200	1526.75000	10.700	0.40225	0.42741	0.34572
TL	203	0.02600	30.00000	88.100	0.03451	0.04289	0.00000
U	238	0.00800	33.33000	84.900	0.00176	0.01519	0.00698
SC-1	45	425565.55000	0.00000	0.000	427488.31000	423439.33000	425769.02000
GE-1	72	491475.19000	0.00000	0.000	497672.92000	486733.66000	490018.98000
GE-2	72	58102.26000	0.00000	0.000	58456.19000	57483.88000	58366.71000
TB-2	159	120626.38000	0.00000	0.000	120504.08000	118099.72000	123275.33000

Run Name: 1715106E05
Tube Number: 18
Sample Number: **9006556**

Date/Time: 05/31/2017 12:09:33
Batch: 171441063901A
Class: R*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19748.06000	0.00000	0.000	19841.62000	19801.42000	19601.14000
AL	27	2103.22000	17649.02000	2.600	2039.60050	2130.76945	2139.29047
CA	44	10262.59100	12494.73000	0.300	10287.98211	10267.86170	10231.92810
CR	52	49.12500	31475.18000	2.800	47.84613	48.96057	50.56772
FE	57	991.52200	10827.02000	5.000	935.90934	1030.76115	1007.89598
K	39	9956.32400	200186.18000	0.800	9869.41781	9978.72316	10020.83228
MG	24	5580.94200	194536.38000	2.300	5467.05296	5559.67967	5716.09299
MN	55	64.20800	14166.03000	2.300	63.39844	63.29991	65.92460
NA	23	15518.31000	1249816.07000	1.600	15281.65270	15506.89126	15766.38639
TI	47	235.73200	2390.24000	10.100	246.36586	208.45487	252.37621
V	51	47.27200	22397.90000	3.700	45.27145	48.50315	48.04124
IN-1	115	364763.01000	0.00000	0.000	364389.80000	361454.73000	368444.49000
IN-2	115	23595.98000	0.00000	0.000	23496.94000	23255.97000	24035.04000
AG	107	51.71400	69473.46000	4.700	50.11689	54.52524	50.49845
AS	75	10.00400	570.01000	6.600	9.33334	10.65175	10.02580
BA	137	87.15500	8612.53000	2.400	89.54872	86.26394	85.65296
CD	111	5.42100	784.02000	2.100	5.54024	5.41527	5.30761
CO	59	255.72000	276936.60000	1.300	252.25499	258.85633	256.04928
CU	63	54.60100	48994.44000	1.800	53.99565	55.74788	54.05907
MO	98	50.20300	34488.34000	2.200	51.41764	49.93404	49.25818
NI	60	52.83300	16631.48000	0.200	52.98030	52.78715	52.73072
RB	85	1.28800	190.01000	43.800	1.92432	1.09161	0.84830
SB	121	7.09900	2060.22000	9.500	6.33167	7.58830	7.37570
SE	78	10.40600	1112.48000	0.800	10.43671	10.46486	10.31563
SN	120	51.90300	18644.24000	2.800	50.29195	53.02065	52.39611
SR	88	57.68600	11297.43000	1.500	56.99657	57.37949	58.68095
ZN	66	536.19200	52983.01000	3.400	521.54971	556.60868	530.41681
BI-2	209	89797.81000	0.00000	0.000	90455.27000	90142.74000	88795.43000
PB	208	15.46200	55753.53000	2.000	15.18850	15.39107	15.80512
TL	203	2.13300	2480.29000	3.800	2.05710	2.12418	2.21731
U	238	0.01800	70.00000	69.500	0.00441	0.02054	0.02904
SC-1	45	428195.75000	0.00000	0.000	424459.60000	428500.81000	431626.83000
GE-1	72	489661.83000	0.00000	0.000	485437.49000	488970.97000	494577.02000
GE-2	72	58079.15000	0.00000	0.000	57022.32000	57905.06000	59310.08000
TB-2	159	118162.01000	0.00000	0.000	116406.42000	117483.57000	120596.05000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:11:58
Tube Number: 19 Batch: 171441063901A
Sample Number: **9006557** Class: M*********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19077.34000	0.00000	0.000	18419.99000	19150.80000	19661.24000
AL	27	2243.61000	18169.58000	5.200	2320.28106	2300.60603	2109.94329
CA	44	10529.09900	12361.36000	8.400	11532.50569	10192.84986	9861.93997
CR	52	49.07900	30352.83000	4.400	51.11301	49.35037	46.77416
FE	57	1082.71500	11400.71000	6.200	1145.18298	1091.69084	1011.27025
K	39	10586.25600	205218.55000	3.300	10984.73061	10375.67316	10398.36551
MG	24	5851.12500	196880.39000	3.800	6081.42947	5838.55629	5633.38925
MN	55	68.71300	14649.89000	3.800	65.97091	71.10260	69.06500
NA	23	16178.41600	1257904.15000	2.600	16487.05434	16355.03200	15693.16173
TI	47	252.53400	2473.60000	5.600	247.40835	268.50658	241.68656
V	51	49.42300	22611.54000	3.000	50.30543	50.23927	47.72420
IN-1	115	369187.67000	0.00000	0.000	365649.49000	375418.80000	366494.71000
IN-2	115	24025.35000	0.00000	0.000	25615.02000	23308.92000	23152.10000
AG	107	51.73800	70637.95000	6.000	48.19561	54.03052	52.98765
AS	75	11.02900	638.69000	4.300	10.57593	11.52317	10.98864
BA	137	87.02300	8729.25000	8.800	78.59571	93.44924	89.02457
CD	111	5.13400	753.36000	11.200	4.57265	5.10903	5.72147
CO	59	256.70200	282438.21000	5.800	239.44657	265.48910	265.16985
CU	63	55.14400	50244.55000	7.800	50.45106	56.16507	58.81606
MO	98	49.33100	34448.22000	4.800	46.60228	50.38274	51.00802
NI	60	51.61000	16508.10000	5.700	48.26997	53.69887	52.86239
RB	85	1.10400	166.67000	39.400	0.98684	1.58555	0.73957
SB	121	6.75100	1993.54000	4.000	6.60209	6.59248	7.05938
SE	78	9.81000	1061.37000	3.100	9.87769	9.48093	10.07238
SN	120	52.42900	19121.32000	7.600	48.00485	53.60642	55.67456
SR	88	57.94200	11527.61000	8.100	53.97704	63.09773	56.75135
ZN	66	530.94800	53326.99000	5.200	499.57478	541.52422	551.74496
BI-2	209	89688.11000	0.00000	0.000	88333.23000	90737.44000	89993.67000
PB	208	15.43500	55593.30000	1.800	15.45803	15.15221	15.69425
TL	203	2.00100	2323.59000	5.700	2.13275	1.94006	1.93036
U	238	0.01600	63.34000	69.000	0.02920	0.00973	0.00982
SC-1	45	427970.66000	0.00000	0.000	427282.69000	432944.37000	423684.92000
GE-1	72	492542.43000	0.00000	0.000	497917.10000	500810.46000	478899.72000
GE-2	72	58761.43000	0.00000	0.000	57945.35000	59149.48000	59189.45000
TB-2	159	118939.84000	0.00000	0.000	119194.67000	118811.32000	118813.53000

Run Name: 1715106E05
Tube Number: 20
Sample Number: **9006555**

Date/Time: 05/31/2017 12:14:22
Batch: 171441063901A
Class: UL********

Initial Vol: 50.00 Final Vol: 50.00 DF: 5.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18446.71000	0.00000	0.000	18209.90000	18319.79000	18810.44000
AL	27	51.57300	430.04000	32.000	63.75427	58.19342	32.77188
CA	44	1359.64200	1553.47000	7.100	1364.65560	1453.88401	1260.38537
CR	52	0.47600	370.02000	14.800	0.55153	0.41238	0.46356
FE	57	3.38800	103.34000	120.000	1.17003	8.08027	0.91466
K	39	81.43800	5787.79000	34.000	102.52522	91.71860	50.06941
MG	24	767.13300	24997.69000	3.100	757.05032	794.30714	750.04293
MN	55	4.31100	950.07000	9.500	3.87909	4.68860	4.36670
NA	23	1221.50500	97378.24000	2.200	1213.71414	1251.38784	1199.41192
TI	47	1.08400	13.33000	151.000	2.87067	0.72252	-0.34192
V	51	0.02300	10.00000	100.200	0.04577	0.02275	0.00000
IN-1	115	362818.22000	0.00000	0.000	379175.32000	346902.51000	362376.84000
IN-2	115	23671.76000	0.00000	0.000	23845.19000	24025.35000	23144.74000
AG	107	0.01700	26.67000	52.300	0.01214	0.01203	0.02776
AS	75	-0.06100	1.33000	0.000	-0.04951	-0.08453	-0.04845
BA	137	6.86000	683.37000	1.500	6.97752	6.82552	6.77694
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.28200	320.01000	13.800	0.32546	0.25036	0.26978
CU	63	0.69800	710.04000	13.600	0.79213	0.69780	0.60265
MO	98	-0.03600	66.67000	0.000	-0.00302	-0.06132	-0.04372
NI	60	2.23300	730.04000	19.400	2.33741	1.75670	2.60545
RB	85	0.30000	50.00000	115.600	0.64747	0.29812	-0.04597
SB	121	0.03400	13.33000	156.300	-0.01201	0.02188	0.09355
SE	78	0.03800	5.11000	91.500	0.01364	0.02238	0.07752
SN	120	0.29500	123.34000	17.700	0.33938	0.30909	0.23741
SR	88	3.84800	760.04000	8.500	4.02650	4.04629	3.47175
ZN	66	2.29000	373.35000	46.100	1.11717	2.59242	3.16163
BI-2	209	88216.81000	0.00000	0.000	87619.80000	88204.17000	88826.46000
PB	208	0.06700	343.35000	35.000	0.09247	0.06337	0.04586
TL	203	0.00600	6.67000	173.200	0.01762	0.00000	0.00000
U	238	0.00300	13.33000	116.900	-0.00094	0.00454	0.00451
SC-1	45	414741.43000	0.00000	0.000	429945.62000	400361.17000	413917.49000
GE-1	72	482143.20000	0.00000	0.000	498051.71000	465170.93000	483206.95000
GE-2	72	55570.83000	0.00000	0.000	56399.93000	55537.18000	54775.37000
TB-2	159	115940.84000	0.00000	0.000	115934.12000	115440.40000	116447.99000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:16:46
Tube Number: 21 Batch: 171441063901A
Sample Number: **9009421** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	20048.29000	0.00000	0.000	19871.51000	20281.90000	19991.47000
AL	27	3809.88600	32432.52000	1.700	3789.73078	3757.23159	3882.69639
CA	44	42584.65000	52593.52000	2.500	43762.55534	41632.05346	42359.33970
CR	52	3.22300	2183.54000	9.900	3.58897	3.08667	2.99443
FE	57	803.83300	8922.50000	5.800	835.46634	750.16266	825.87095
K	39	2119.35600	46931.13000	2.900	2174.86645	2054.05015	2129.15079
MG	24	19986.96800	707175.54000	2.100	20289.78120	19496.65552	20174.46719
MN	55	5456.01000	1216139.20000	0.700	5470.04083	5415.61425	5482.37426
NA	23	17609.11600	1438957.53000	0.400	17603.52708	17533.12044	17690.70095
TI	47	1.60000	20.00000	122.000	-0.34192	1.58101	3.55980
V	51	1.03300	496.69000	13.900	1.00675	0.90417	1.18833
IN-1	115	369804.72000	0.00000	0.000	366431.91000	379378.27000	363603.98000
IN-2	115	23626.14000	0.00000	0.000	24066.88000	24076.62000	22734.93000
AG	107	0.01000	16.67000	117.200	-0.00259	0.01200	0.02058
AS	75	1.04100	64.00000	24.800	1.26865	1.09469	0.76025
BA	137	14.98200	1486.79000	12.000	13.66234	17.03029	14.25467
CD	111	0.45400	65.33000	29.000	0.35246	0.40652	0.60271
CO	59	67.34600	72978.66000	3.800	65.70327	66.04015	70.29389
CU	63	3.40000	3127.05000	7.500	3.19177	3.32174	3.68540
MO	98	-0.04100	63.33000	0.000	-0.01852	-0.04718	-0.05726
NI	60	34.29200	10810.28000	3.600	33.42885	33.75837	35.68940
RB	85	11.24600	1610.14000	10.600	10.19097	11.01102	12.53637
SB	121	0.01100	6.67000	179.700	0.02183	-0.01201	0.02381
SE	78	1.58800	173.11000	8.200	1.43726	1.66394	1.66144
SN	120	0.20300	90.00000	10.400	0.19920	0.22644	0.18469
SR	88	63.71000	12484.90000	2.200	63.06389	62.73753	65.32718
ZN	66	25.43100	2660.30000	9.700	28.25354	24.36272	23.67690
BI-2	209	89383.13000	0.00000	0.000	88887.13000	90062.95000	89199.32000
PB	208	0.13800	603.36000	18.900	0.14405	0.16117	0.10988
TL	203	0.11500	133.34000	44.200	0.09554	0.07715	0.17311
U	238	0.27200	1006.74000	18.400	0.25779	0.23022	0.32745
SC-1	45	437086.20000	0.00000	0.000	430645.93000	438944.17000	441668.51000
GE-1	72	497082.67000	0.00000	0.000	490552.73000	504010.30000	496684.99000
GE-2	72	58634.81000	0.00000	0.000	57815.36000	58116.43000	59972.64000
TB-2	159	121680.96000	0.00000	0.000	121330.80000	119570.02000	124142.07000

Run Name: 1715106E05
Tube Number: 22
Sample Number: **9009422**

Date/Time: 05/31/2017 12:19:12
Batch: 171441063901A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19564.49000	0.00000	0.000	20652.27000	19160.66000	18880.54000
AL	27	3972.81000	32970.32000	3.300	3837.30096	3982.25955	4098.86945
CA	44	43566.26500	52429.86000	5.200	41138.16738	43992.65138	45567.97580
CR	52	3.51100	2313.56000	3.500	3.50767	3.38870	3.63761
FE	57	761.93600	8242.26000	6.800	702.19787	784.96600	798.64409
K	39	2212.91000	47562.70000	6.100	2080.35799	2352.06944	2206.30271
MG	24	20657.20000	712105.04000	5.500	19355.27655	21295.27538	21321.04770
MN	55	5652.85900	1228109.72000	4.000	5410.90961	5691.95778	5855.70825
NA	23	18280.56200	1455392.74000	4.700	17284.35904	18847.53084	18709.79469
TI	47	3.03100	33.33000	136.300	0.60230	7.79989	0.69090
V	51	0.82800	386.69000	20.400	0.68615	0.78307	1.01542
IN-1	115	372283.04000	0.00000	0.000	371875.23000	371108.06000	373865.83000
IN-2	115	23829.64000	0.00000	0.000	23686.02000	24337.16000	23465.74000
AG	107	0.00700	13.33000	237.000	-0.00259	0.02627	-0.00259
AS	75	1.37300	83.33000	16.700	1.29041	1.63105	1.19656
BA	137	14.75700	1473.46000	13.700	14.28595	13.01951	16.96559
CD	111	0.34200	50.00000	10.700	0.30303	0.37536	0.34759
CO	59	68.34000	74749.52000	0.800	68.82929	67.80554	68.38408
CU	63	3.22100	2997.02000	1.000	3.24457	3.23106	3.18608
MO	98	0.01200	100.00000	450.500	-0.00215	-0.03395	0.07247
NI	60	34.53300	10990.39000	1.600	34.44308	35.12489	34.03117
RB	85	12.28100	1776.83000	1.500	12.38016	12.38744	12.07398
SB	121	0.00000	3.33000	0.000	-0.01201	-0.01201	0.02269
SE	78	1.51700	166.45000	7.600	1.59367	1.57242	1.38417
SN	120	0.10900	56.67000	26.200	0.09213	0.14244	0.09343
SR	88	64.16800	12688.36000	3.600	61.68475	64.49389	66.32495
ZN	66	26.67000	2803.67000	7.100	28.63098	26.54588	24.83178
BI-2	209	87301.89000	0.00000	0.000	85830.74000	89360.26000	86714.66000
PB	208	0.15300	640.03000	2.800	0.15316	0.15709	0.14841
TL	203	0.12900	146.67000	23.600	0.10793	0.16415	0.11575
U	238	0.22700	820.05000	10.600	0.23597	0.19952	0.24473
SC-1	45	437161.20000	0.00000	0.000	436303.55000	431325.03000	443855.03000
GE-1	72	499349.65000	0.00000	0.000	504594.17000	487660.42000	505794.37000
GE-2	72	57982.18000	0.00000	0.000	58727.58000	58035.86000	57183.09000
TB-2	159	121509.05000	0.00000	0.000	120928.13000	120051.94000	123547.08000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:21:35
Tube Number: 23
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19094.03000	0.00000	0.000	18870.46000	19441.15000	18970.49000
AL	27	2380.51000	19307.34000	2.300	2417.35339	2318.35625	2405.81940
CA	44	2354.23300	2543.62000	1.600	2125.34207	2146.23431	2191.12364
CR	52	237.82000	146965.14000	2.500	240.65297	230.87640	241.92919
FE	57	2446.78700	25722.43000	3.400	2536.61058	2373.79188	2429.95772
K	39	2351.12100	49100.26000	1.600	2383.31560	2311.16428	2358.88214
MG	24	2335.12900	78711.16000	2.600	2404.54053	2307.01266	2293.83279
MN	55	243.08000	51665.36000	1.600	241.87536	240.01129	247.35332
NA	23	2377.33500	190323.29000	1.900	2408.60752	2324.56713	2398.82967
TI	47	246.72200	2416.92000	15.200	235.29180	216.33632	288.53876
V	51	237.09000	108598.25000	2.500	238.49886	230.48412	242.28733
IN-1	115	364479.58000	0.00000	0.000	362792.65000	367073.57000	363572.51000
IN-2	115	23790.48000	0.00000	0.000	23874.16000	24077.10000	23420.17000
AG	107	25.58500	34655.81000	4.900	26.10446	24.14522	26.50522
AS	75	243.23000	13862.79000	1.100	241.28074	242.05801	246.35206
BA	137	249.36300	24835.74000	2.200	246.97206	245.58244	255.53530
CD	111	24.69000	3599.73000	3.200	24.38205	24.10886	25.57921
CO	59	249.01900	271849.76000	2.600	244.74100	245.82301	256.49367
CU	63	244.94200	221337.08000	1.200	247.60198	241.91869	245.30389
MO	98	23.56400	16364.99000	5.100	23.87949	22.24579	24.56639
NI	60	246.72200	78204.18000	2.100	240.78598	249.96919	249.41143
RB	85	24.26400	3497.14000	3.000	23.78029	23.92309	25.08952
SB	121	24.01500	7015.02000	6.100	22.88347	23.50296	25.65822
SE	78	24.32400	2597.08000	0.500	24.44738	24.21807	24.30728
SN	120	24.63600	8932.61000	3.400	23.89137	25.54794	24.46763
SR	88	24.50600	4837.53000	6.100	23.61517	23.66645	26.23565
ZN	66	242.07200	24200.41000	2.500	246.67525	235.32414	244.21724
BI-2	209	88146.36000	0.00000	0.000	86785.95000	87528.74000	90124.38000
PB	208	24.52200	86724.37000	2.000	24.83947	24.75723	23.96813
TL	203	24.11700	27530.83000	1.800	24.60004	23.95853	23.79161
U	238	24.40800	88849.47000	2.800	24.92534	24.65523	23.64278
SC-1	45	422210.12000	0.00000	0.000	416910.03000	423966.71000	425753.63000
GE-1	72	486783.27000	0.00000	0.000	482984.09000	483837.92000	493527.81000
GE-2	72	56520.78000	0.00000	0.000	56430.63000	57162.71000	55969.00000
TB-2	159	117967.95000	0.00000	0.000	116557.42000	118713.68000	118632.74000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:23:59
Tube Number: 24
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19003.93000	0.00000	0.000	18299.76000	18309.90000	20402.13000
AL	27	-1.12700	20.00000	0.000	-2.28172	-0.99506	-0.10374
CA	44	19.09900	33.33000	130.200	9.40579	0.52999	47.36142
CR	52	0.42100	346.68000	15.700	0.37919	0.49708	0.38585
FE	57	0.29500	73.33000	931.200	0.13578	3.11520	-2.36682
K	39	-20.13000	4033.95000	0.000	1.95890	-21.23707	-41.11324
MG	24	0.43000	40.00000	288.800	1.71045	-0.76636	0.34443
MN	55	0.01100	70.00000	1145.800	0.12270	-0.12316	0.03303
NA	23	2.53900	6324.63000	139.700	3.75234	5.32118	-1.45645
TI	47	0.01300	3.33000	4632.600	0.72368	-0.34192	-0.34192
V	51	0.04500	20.00000	53.500	0.04555	0.06828	0.02043
IN-1	115	355921.63000	0.00000	0.000	358909.84000	358419.80000	350435.25000
IN-2	115	23198.66000	0.00000	0.000	22844.73000	23114.83000	23636.42000
AG	107	0.00800	13.33000	116.100	0.01278	0.01260	-0.00259
AS	75	0.08300	9.33000	86.600	0.02513	0.05998	0.16277
BA	137	-0.03500	0.00000	0.000	-0.03467	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.03400	50.00000	29.600	0.04458	0.03448	0.02422
CU	63	0.00700	86.67000	507.000	-0.02233	0.04523	-0.00236
MO	98	-0.04800	56.67000	0.000	0.00267	-0.04360	-0.10385
NI	60	0.04300	40.00000	227.200	0.04431	0.14022	-0.05539
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.28000	83.33000	29.700	0.20189	0.26986	0.36701
SE	78	0.03400	4.67000	35.900	0.04669	0.03409	0.02205
SN	120	0.12300	60.00000	37.300	0.09724	0.09556	0.17586
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.11300	36.67000	0.000	-1.17895	-0.76833	-1.39206
BI-2	209	84660.86000	0.00000	0.000	83859.89000	83849.44000	86273.26000
PB	208	-0.01100	63.33000	0.000	-0.01510	-0.01807	-0.00105
TL	203	0.00600	6.67000	86.600	0.00921	0.00000	0.00895
U	238	0.00500	20.00000	58.300	0.00194	0.00483	0.00747
SC-1	45	406866.78000	0.00000	0.000	413847.85000	408690.89000	398061.60000
GE-1	72	471921.15000	0.00000	0.000	482259.60000	471641.09000	461862.77000
GE-2	72	55427.31000	0.00000	0.000	56550.96000	54875.28000	54855.69000
TB-2	159	114412.63000	0.00000	0.000	115179.84000	113867.00000	114191.04000

Run Name: 1715106E05
Tube Number: 25
Sample Number: **9009423**

Date/Time: 05/31/2017 12:26:24
Batch: 171441063901A
Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19618.09000	0.00000	0.000	18970.74000	20402.31000	19481.21000
AL	27	20.89800	203.34000	7.200	22.52456	19.53825	20.63083
CA	44	107233.05600	129465.00000	4.200	111174.83426	102253.60454	108270.72918
CR	52	0.46400	386.68000	15.600	0.39326	0.46159	0.53784
FE	57	98.31500	1130.08000	18.900	118.91145	93.13225	82.90159
K	39	3352.40400	69947.98000	3.000	3445.99850	3247.66483	3363.54771
MG	24	34734.62000	1201696.52000	3.600	35768.55568	33341.98462	35093.31929
MN	55	2760.16600	601464.17000	4.300	2853.39138	2626.93633	2800.17144
NA	23	21125.78700	1686878.05000	3.100	21458.17898	20367.94213	21551.24125
TI	47	-0.02300	3.33000	0.000	-0.34192	0.61387	-0.34192
V	51	0.47500	223.34000	26.500	0.59317	0.49027	0.34231
IN-1	115	368622.45000	0.00000	0.000	367380.60000	366177.26000	372309.50000
IN-2	115	23726.31000	0.00000	0.000	23966.78000	23816.02000	23396.12000
AG	107	0.00000	3.33000	0.000	-0.00259	-0.00259	0.00491
AS	75	0.10300	10.67000	50.200	0.15936	0.09078	0.05824
BA	137	28.23300	2807.01000	7.100	28.67108	26.04414	29.98380
CD	111	0.16500	24.00000	15.900	0.16335	0.19179	0.13945
CO	59	7.78000	8485.65000	1.200	7.75340	7.88485	7.70052
CU	63	0.27400	330.02000	28.000	0.29313	0.33979	0.18993
MO	98	0.09900	160.01000	53.700	0.03944	0.14174	0.11723
NI	60	4.81000	1546.79000	6.200	4.58087	4.70499	5.14399
RB	85	4.30100	623.37000	9.300	4.02439	4.11965	4.75969
SB	121	0.03400	13.33000	58.200	0.02197	0.05638	0.02280
SE	78	0.53300	58.67000	5.300	0.55971	0.53677	0.50327
SN	120	0.09100	50.00000	108.700	0.11793	0.17419	-0.01856
SR	88	117.65900	23162.53000	0.300	117.24756	117.78763	117.94152
ZN	66	-0.34800	113.34000	0.000	-0.59432	-0.28706	-0.16298
BI-2	209	87228.13000	0.00000	0.000	86996.42000	88826.20000	85861.78000
PB	208	0.00000	103.34000	0.000	-0.00416	-0.01312	0.01652
TL	203	0.06500	73.33000	43.000	0.07099	0.03476	0.08991
U	238	0.60500	2183.58000	2.000	0.61406	0.60956	0.59117
SC-1	45	430273.99000	0.00000	0.000	430724.60000	425252.18000	434845.19000
GE-1	72	494795.72000	0.00000	0.000	496869.76000	487036.01000	500481.40000
GE-2	72	56310.18000	0.00000	0.000	55006.39000	57182.24000	56741.90000
TB-2	159	118850.80000	0.00000	0.000	121826.51000	116124.31000	118601.58000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:28:49
Tube Number: 26 Batch: 171441063901A
Sample Number: **9009424** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: RAAP RADFORD, DA

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19738.08000	0.00000	0.000	19220.87000	19951.52000	20041.86000
AL	27	141.92100	1216.76000	16.300	153.41780	157.11913	115.22694
CA	44	125836.26300	152938.49000	3.300	130591.23577	122567.65697	124349.89740
CR	52	0.62700	493.36000	24.100	0.57925	0.50627	0.79637
FE	57	269.22400	2993.69000	2.600	261.28483	271.54801	274.84020
K	39	3567.14200	74606.19000	3.200	3697.90950	3517.00976	3486.50568
MG	24	42532.04100	1481254.14000	2.300	43632.43377	42176.60440	41787.08435
MN	55	1855.16200	407085.35000	2.100	1884.06082	1870.20257	1811.22187
NA	23	26044.11000	2091970.70000	1.200	26330.42597	26084.67833	25717.22693
TI	47	-0.01800	3.33000	0.000	-0.34192	-0.34192	0.63106
V	51	0.56200	266.68000	29.700	0.49872	0.75203	0.43670
IN-1	115	369677.08000	0.00000	0.000	373136.41000	368765.39000	367129.45000
IN-2	115	24307.09000	0.00000	0.000	23996.81000	24026.70000	24897.77000
AG	107	0.01200	20.00000	58.800	0.01204	0.00472	0.01857
AS	75	0.05500	8.00000	254.900	0.05466	0.19351	-0.08453
BA	137	24.99500	2543.64000	11.400	25.05108	27.80430	22.12871
CD	111	0.09800	14.67000	51.400	0.04079	0.13579	0.11793
CO	59	2.87400	3220.41000	5.500	3.01132	2.69916	2.91066
CU	63	0.30600	366.69000	1.300	0.30362	0.30313	0.31048
MO	98	0.06600	140.00000	41.300	0.09662	0.05333	0.04681
NI	60	2.43600	816.72000	3.900	2.35338	2.53786	2.41590
RB	85	5.62600	833.39000	17.100	4.84616	6.69825	5.33333
SB	121	0.01000	6.67000	188.800	-0.01201	0.02188	0.02070
SE	78	0.31600	35.33000	10.400	0.29465	0.35383	0.29964
SN	120	0.08000	46.67000	72.200	0.03553	0.14489	0.05896
SR	88	117.53500	23700.02000	1.800	117.50462	119.66843	115.43245
ZN	66	0.48500	200.01000	133.700	1.00091	0.69888	-0.24332
BI-2	209	90056.88000	0.00000	0.000	89479.24000	92086.26000	88605.15000
PB	208	0.05100	293.35000	65.200	0.08992	0.03505	0.02916
TL	203	0.07100	83.33000	34.300	0.04314	0.08384	0.08713
U	238	0.89300	3327.15000	5.200	0.84322	0.93502	0.90074
SC-1	45	423394.10000	0.00000	0.000	428571.60000	420923.27000	420687.42000
GE-1	72	487853.79000	0.00000	0.000	494680.38000	486057.84000	482823.16000
GE-2	72	58691.03000	0.00000	0.000	58727.42000	58095.53000	59250.13000
TB-2	159	121862.14000	0.00000	0.000	119990.98000	124575.32000	121020.12000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:31:14
Tube Number: 27 Batch: 171501063902A
Sample Number: **PBW** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19798.17000	0.00000	0.000	20162.19000	19851.51000	19380.80000
AL	27	3.14500	56.67000	84.500	4.61392	4.74200	0.07891
CA	44	7.95900	20.00000	99.100	15.81840	8.01895	0.04010
CR	52	0.45500	383.35000	9.600	0.40749	0.46284	0.49353
FE	57	-1.28500	60.00000	0.000	-3.21678	-1.32585	0.68677
K	39	-7.29300	4470.73000	0.000	-5.90109	-8.91084	-7.06569
MG	24	2.67200	120.00000	49.300	1.48166	4.08574	2.44930
MN	55	-0.06300	56.67000	0.000	0.03723	-0.13842	-0.08761
NA	23	1.42300	6514.75000	283.600	3.14219	4.31438	-3.18790
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.00700	3.33000	173.200	0.00000	0.02099	0.00000
IN-1	115	375005.41000	0.00000	0.000	371506.51000	376686.22000	376823.51000
IN-2	115	23910.17000	0.00000	0.000	23305.68000	24958.31000	23466.53000
AG	107	0.00500	10.00000	153.200	-0.00259	0.01148	0.00489
AS	75	-0.01500	4.00000	0.000	-0.01287	-0.01761	-0.01336
BA	137	0.09900	13.33000	157.700	-0.03467	0.06103	0.27069
CD	111	0.00500	0.67000	173.200	0.01400	0.00000	0.00000
CO	59	-0.00300	10.00000	0.000	0.01540	-0.01265	-0.01265
CU	63	0.05300	130.00000	116.900	0.03281	0.00347	0.12175
MO	98	-0.04100	63.33000	0.000	-0.01479	-0.07780	-0.03027
NI	60	0.07200	50.00000	203.300	0.04171	-0.05707	0.23279
RB	85	-0.04600	0.00000	0.000	-0.04597	-0.04597	-0.04597
SB	121	0.00000	3.33000	0.000	0.02293	-0.01201	-0.01201
SE	78	-0.00400	0.67000	0.000	-0.00425	0.00165	-0.01041
SN	120	0.20100	90.00000	28.800	0.26365	0.19042	0.14946
SR	88	0.10000	23.33000	129.700	-0.01778	0.07881	0.23905
ZN	66	-1.22700	26.67000	0.000	-1.28790	-1.20558	-1.18728
BI-2	209	90490.09000	0.00000	0.000	90255.88000	89580.29000	91634.10000
PB	208	-0.01500	53.33000	0.000	-0.01891	-0.01048	-0.01636
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	-0.00100	0.00000	0.000	-0.00094	-0.00094	-0.00094
SC-1	45	432038.86000	0.00000	0.000	425820.38000	434529.92000	435766.28000
GE-1	72	492128.81000	0.00000	0.000	483492.02000	494439.41000	498454.99000
GE-2	72	58567.78000	0.00000	0.000	58116.25000	57865.25000	59721.84000
TB-2	159	122145.17000	0.00000	0.000	122077.31000	121233.46000	123124.73000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:33:39
Tube Number: 28 Batch: 171501063902A
Sample Number: **LCSW** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	20098.56000	0.00000	0.000	19481.12000	20532.56000	20281.99000
AL	27	1905.98700	16277.76000	2.700	1924.81328	1847.90598	1945.24179
CA	44	3702.18700	4587.45000	8.000	4008.85161	3415.59822	3682.11191
CR	52	47.32200	30850.44000	3.300	48.95654	47.13587	45.87262
FE	57	992.99700	11033.76000	1.800	1011.33707	992.03137	975.62256
K	39	9536.74400	195283.51000	2.200	9775.31847	9428.33306	9406.57942
MG	24	1911.25600	67818.41000	2.000	1918.64387	1870.19071	1944.93337
MN	55	48.74900	10957.03000	4.700	51.17804	48.40925	46.65931
NA	23	9375.07800	770558.90000	3.900	9791.91170	9192.32063	9141.00039
TI	47	229.61500	2370.26000	4.800	225.90460	220.96790	241.97263
V	51	47.93100	23112.19000	1.800	48.48677	48.34141	46.96332
IN-1	115	372868.02000	0.00000	0.000	380789.53000	373088.38000	364726.16000
IN-2	115	23840.87000	0.00000	0.000	23237.89000	23949.79000	24334.92000
AG	107	52.61900	71411.15000	3.500	54.46860	52.59189	50.79654
AS	75	10.38800	598.02000	2.000	10.40874	10.16639	10.58768
BA	137	52.69600	5257.68000	6.800	56.50950	52.13441	49.44328
CD	111	5.14700	752.69000	3.900	4.99829	5.06768	5.37627
CO	59	254.07200	277931.22000	2.000	258.90055	254.72340	248.59176
CU	63	51.86800	47015.85000	3.000	53.24612	52.14561	50.21253
MO	98	50.75000	35209.73000	4.200	52.30429	51.59501	48.35180
NI	60	50.48000	16044.36000	5.400	53.60445	49.12253	48.71361
RB	85	0.07000	16.67000	59.500	0.09633	0.09210	0.02197
SB	121	6.09300	1786.83000	3.200	6.22704	5.87152	6.18012
SE	78	10.02000	1094.48000	6.100	9.82535	9.53408	10.70180
SN	120	51.92800	18840.87000	2.100	53.03333	51.92240	50.82953
SR	88	39.36400	7788.65000	0.600	39.62181	39.19904	39.27209
ZN	66	505.67000	50502.61000	1.000	509.10255	499.82932	508.07774
BI-2	209	90161.69000	0.00000	0.000	89883.31000	92337.96000	88263.80000
PB	208	15.12500	54761.95000	1.300	15.28820	14.89987	15.18711
TL	203	1.89600	2213.58000	4.500	1.98428	1.81448	1.88947
U	238	0.00100	6.67000	358.100	-0.00094	-0.00094	0.00454
SC-1	45	427783.43000	0.00000	0.000	435010.35000	425533.94000	422806.01000
GE-1	72	497458.24000	0.00000	0.000	501388.43000	497806.09000	493180.19000
GE-2	72	57982.22000	0.00000	0.000	58668.09000	58537.30000	56741.28000
TB-2	159	119458.43000	0.00000	0.000	117836.06000	123054.33000	117484.91000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:36:03
Tube Number: 29 Batch: 171501063902A
Sample Number: **LCSWD** Class: **********

Initial Vol: 1.00 Final Vol: 1.00 DF: 1.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19234.31000	0.00000	0.000	19030.69000	19531.26000	19140.97000
AL	27	2025.93900	16557.99000	1.700	2053.53311	1986.30467	2037.97935
CA	44	3775.28200	4484.03000	5.300	3856.42987	3923.66836	3545.74886
CR	52	50.41500	31465.13000	0.800	50.00562	50.84370	50.39588
FE	57	1072.98700	11407.26000	1.600	1055.53626	1073.07585	1090.34774
K	39	10174.28300	199120.09000	1.900	10334.75122	9958.31747	10229.78165
MG	24	2080.05700	70638.59000	0.600	2083.60127	2066.55330	2090.01532
MN	55	49.60300	10676.89000	3.400	47.80947	49.89390	51.10588
NA	23	9906.85900	779381.26000	0.600	9975.21286	9852.75405	9892.61122
TI	47	265.88600	2626.95000	7.400	271.22807	282.24042	244.18901
V	51	49.50600	22848.55000	2.400	50.46776	49.90090	48.14977
IN-1	115	368797.01000	0.00000	0.000	370877.36000	364427.41000	371086.25000
IN-2	115	24254.13000	0.00000	0.000	24864.45000	24507.92000	23390.02000
AG	107	51.68500	71367.93000	2.800	50.03291	52.48133	52.53955
AS	75	9.62700	564.68000	7.900	10.49473	9.04706	9.34069
BA	137	52.53500	5334.40000	4.300	49.92800	53.57843	54.09866
CD	111	5.22100	776.69000	11.700	5.82606	4.60615	5.23080
CO	59	254.30500	282931.75000	3.200	245.22541	256.71862	260.97240
CU	63	51.83000	47794.27000	2.300	50.75475	51.64534	53.09111
MO	98	50.07700	35333.74000	4.400	48.72210	48.88324	52.62670
NI	60	50.53400	16334.57000	5.300	48.61156	49.38060	53.60887
RB	85	0.06800	16.67000	60.800	0.02052	0.08895	0.09540
SB	121	6.04500	1803.51000	6.000	5.72060	6.43559	5.97754
SE	78	10.11900	1093.81000	4.300	10.50572	10.21073	9.64079
SN	120	51.94600	19167.91000	3.500	51.46673	50.39000	53.98229
SR	88	39.46800	7935.42000	5.900	37.22330	39.28990	41.89066
ZN	66	514.22300	52213.67000	3.300	496.45202	516.43198	529.78580
BI-2	209	89533.57000	0.00000	0.000	90878.10000	89671.04000	88051.58000
PB	208	15.31000	55045.81000	3.000	14.84269	15.77041	15.31746
TL	203	2.05700	2383.61000	8.000	1.86910	2.12675	2.17465
U	238	-0.00100	0.00000	0.000	-0.00094	-0.00094	-0.00094
SC-1	45	423182.87000	0.00000	0.000	429855.77000	417617.49000	422075.35000
GE-1	72	480435.77000	0.00000	0.000	487837.10000	472516.09000	480954.13000
GE-2	72	57086.10000	0.00000	0.000	57855.11000	58186.32000	55216.88000
TB-2	159	119841.23000	0.00000	0.000	120204.24000	119719.63000	119599.83000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:38:27
Tube Number: 30 Batch: 171501063902A
Sample Number: **8996725** Class: **********

Initial Vol: 50.00 Final Vol: 50.00 DF: 1.00 Protocol: SW846-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19711.30000	0.00000	0.000	19951.62000	19971.42000	19210.85000
AL	27	101.74700	883.39000	21.800	115.76544	113.28540	76.18887
CA	44	40.56300	60.00000	86.900	56.75551	64.81935	0.11420
CR	52	0.58800	466.69000	10.900	0.56823	0.53657	0.66008
FE	57	110.08500	1266.76000	6.200	113.64319	114.43545	102.17523
K	39	17.47200	4937.53000	95.300	35.82219	3.33145	13.26233
MG	24	22.04800	793.38000	5.000	22.52080	20.79502	22.82862
MN	55	9.39500	2130.22000	4.100	9.64440	9.58953	8.95157
NA	23	100.07100	14356.08000	14.200	93.74605	90.11593	116.34985
TI	47	2.28900	26.67000	48.400	3.56760	1.61090	1.68821
V	51	0.22700	106.67000	30.900	0.20888	0.16694	0.30374
IN-1	115	375357.90000	0.00000	0.000	373363.23000	383015.12000	369695.36000
IN-2	115	24099.18000	0.00000	0.000	25177.57000	23685.46000	23434.51000
AG	107	0.00700	13.33000	159.100	0.00438	0.01965	-0.00259
AS	75	1.18300	73.33000	30.900	1.37479	0.76161	1.41206
BA	137	0.46400	50.00000	25.000	0.34480	0.46955	0.57688
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.12700	153.34000	42.000	0.07389	0.18054	0.12682
CU	63	0.21900	283.34000	31.200	0.18048	0.29768	0.17823
MO	98	-0.02600	73.34000	0.000	-0.11931	0.01241	0.02865
NI	60	2.25500	750.05000	14.600	2.06003	2.06847	2.63624
RB	85	0.11200	23.33000	87.200	0.21670	0.09364	0.02458
SB	121	0.20400	63.33000	37.600	0.11738	0.26307	0.23126
SE	78	0.02400	3.78000	128.400	0.05664	0.01929	-0.00422
SN	120	0.47300	190.01000	34.300	0.42340	0.34198	0.65475
SR	88	0.20000	43.33000	59.800	0.12584	0.33846	0.13653
ZN	66	11.64400	1323.43000	5.000	12.01014	11.95102	10.97102
BI-2	209	89715.81000	0.00000	0.000	88525.73000	90024.89000	90596.81000
PB	208	0.59500	2246.82000	3.600	0.59288	0.57419	0.61719
TL	203	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
U	238	0.00100	6.67000	359.300	0.00452	-0.00094	-0.00094
SC-1	45	428892.21000	0.00000	0.000	423008.98000	438497.42000	425170.23000
GE-1	72	491650.29000	0.00000	0.000	485008.98000	504180.93000	485760.97000
GE-2	72	57326.68000	0.00000	0.000	57795.09000	57032.37000	57152.59000
TB-2	159	119648.15000	0.00000	0.000	118953.24000	121672.00000	118319.22000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:40:51
Tube Number: 31
Sample Number: **LLC**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	19010.62000	0.00000	0.000	19481.26000	17839.32000	19711.29000
AL	27	195.99900	1596.80000	22.800	168.25782	247.50624	172.23424
CA	44	365.08500	436.69000	4.600	349.99473	382.97567	362.28430
CR	52	4.56600	2897.00000	8.800	4.13982	4.62076	4.93679
FE	57	206.53300	2220.22000	9.900	193.20399	229.98799	196.40828
K	39	406.33400	12094.39000	8.500	374.82179	443.29043	400.88849
MG	24	201.88600	6784.87000	6.300	193.54825	216.51804	195.59293
MN	55	4.25700	963.40000	12.300	4.15911	4.82354	3.78743
NA	23	400.32000	36984.29000	3.500	396.01249	416.11483	388.83234
TI	47	30.07100	296.68000	20.900	23.68254	30.26728	36.26401
V	51	0.99100	453.36000	13.200	0.91993	0.91116	1.14179
IN-1	115	364534.21000	0.00000	0.000	366452.49000	363750.59000	363399.56000
IN-2	115	23727.22000	0.00000	0.000	23162.06000	24349.83000	23669.76000
AG	107	1.02600	1390.11000	1.500	1.01331	1.04308	1.02119
AS	75	3.81400	221.33000	6.800	4.09753	3.58489	3.76088
BA	137	4.27000	426.69000	15.200	5.01855	3.88923	3.90106
CD	111	1.02700	149.33000	7.400	1.02826	0.95130	1.10269
CO	59	1.19400	1313.43000	10.100	1.30443	1.21335	1.06443
CU	63	4.47200	4113.93000	5.500	4.40047	4.74389	4.27072
MO	98	0.87400	693.38000	6.500	0.93749	0.82869	0.85632
NI	60	4.24900	1370.10000	5.100	4.41883	4.32240	4.00499
RB	85	1.96900	290.01000	31.800	1.95281	2.60228	1.35113
SB	121	2.10600	616.70000	6.500	2.06268	1.99492	2.25910
SE	78	4.09500	438.23000	1.600	4.15228	4.02050	4.11207
SN	120	4.72700	1720.16000	11.000	4.92127	4.13883	5.12031
SR	88	2.30400	456.69000	5.400	2.37627	2.16044	2.37580
ZN	66	30.98100	3217.09000	3.800	32.31045	30.56340	30.06780
BI-2	209	87074.11000	0.00000	0.000	87086.98000	87620.51000	86514.84000
PB	208	2.06900	7327.62000	4.900	1.95838	2.15415	2.09555
TL	203	1.18500	1336.79000	12.700	1.34758	1.04857	1.16014
U	238	0.93300	3357.15000	7.100	0.89699	0.89152	1.00928
SC-1	45	415965.44000	0.00000	0.000	418198.98000	416273.04000	413424.29000
GE-1	72	480153.20000	0.00000	0.000	489515.93000	470691.28000	480252.38000
GE-2	72	54511.17000	0.00000	0.000	55397.35000	54223.80000	53912.37000
TB-2	159	116736.29000	0.00000	0.000	119015.49000	117019.95000	114173.43000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:43:14
Tube Number: 32
Sample Number: **ICSA**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	17826.15000	0.00000	0.000	17429.21000	18239.96000	17809.28000
AL	27	103057.83400	779087.64000	3.100	104775.99211	99384.00502	105013.50505
CA	44	265826.80600	291817.63000	2.300	270829.69982	259146.62810	267504.08867
CR	52	3.09300	1866.84000	6.000	3.26083	3.12637	2.89305
FE	57	249615.20800	2443234.44000	1.800	253360.69700	244572.30880	250912.61789
K	39	100351.43000	1783080.55000	2.200	102266.95236	97901.51998	100885.81746
MG	24	98377.33900	3094650.06000	1.600	99309.81405	96520.23920	99301.96410
MN	55	1.50400	360.01000	37.700	2.15753	1.20907	1.14503
NA	23	249923.18900	18075125.98000	3.100	256748.09296	241404.87822	251616.59587
TI	47	2035.20100	18603.53000	1.600	2072.87101	2009.61732	2023.11325
V	51	0.16400	70.00000	76.300	0.26305	0.20564	0.02340
IN-1	115	338620.78000	0.00000	0.000	330817.92000	340287.06000	344757.36000
IN-2	115	21702.53000	0.00000	0.000	20541.07000	22332.79000	22233.73000
AG	107	0.24600	306.68000	23.700	0.27951	0.28046	0.17905
AS	75	0.29200	19.33000	59.600	0.44395	0.10243	0.32860
BA	137	3.82900	350.02000	10.400	4.26796	3.49496	3.72554
CD	111	0.20300	27.33000	39.800	0.11118	0.26296	0.23478
CO	59	3.06800	3077.04000	8.600	2.76678	3.25615	3.18250
CU	63	1.96100	1686.82000	8.500	2.15243	1.85446	1.87497
MO	98	2065.15900	1299809.43000	4.700	2173.97815	1990.29156	2031.20665
NI	60	1.51000	460.02000	13.200	1.74050	1.39213	1.39872
RB	85	0.16000	26.67000	111.800	0.27599	0.25016	-0.04597
SB	121	0.03700	13.33000	152.200	-0.01201	0.02445	0.09788
SE	78	0.08800	9.78000	6.300	0.09283	0.08995	0.08202
SN	120	0.17600	73.34000	75.800	0.17739	0.04166	0.30822
SR	88	3.58200	650.04000	14.900	3.20988	4.19244	3.34371
ZN	66	3.05300	413.35000	17.900	2.58616	3.65247	2.92165
BI-2	209	79742.17000	0.00000	0.000	79064.33000	80151.43000	80010.74000
PB	208	0.27400	970.04000	11.300	0.30767	0.26574	0.24755
TL	203	0.01300	13.33000	86.600	0.00000	0.01926	0.01930
U	238	0.01600	56.67000	94.600	0.03274	0.00208	0.01418
SC-1	45	392038.52000	0.00000	0.000	389609.41000	392223.82000	394282.34000
GE-1	72	453732.04000	0.00000	0.000	444250.38000	453267.42000	463678.31000
GE-2	72	53715.10000	0.00000	0.000	54534.12000	53511.30000	53099.87000
TB-2	159	109224.49000	0.00000	0.000	110033.28000	109097.19000	108543.01000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:45:38
Tube Number: 33
Sample Number: **ICSAB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18002.93000	0.00000	0.000	18209.83000	17479.03000	18319.94000
AL	27	103443.61700	789730.74000	2.600	102124.52870	106549.75819	101656.56479
CA	44	266392.70100	295347.07000	1.800	264294.29550	271949.86368	262933.94253
CR	52	205.50400	119727.17000	2.700	202.19934	211.84951	202.46298
FE	57	245974.56600	2431543.04000	1.600	242791.40090	250218.57261	244913.72399
K	39	100654.35700	1805804.45000	3.300	99918.93343	104269.64881	97774.48992
MG	24	98954.11100	3142772.04000	3.100	96623.46301	102454.92097	97783.94944
MN	55	207.71400	41628.97000	1.500	205.25130	211.26657	206.62524
NA	23	250048.93600	18264096.81000	2.700	244923.82060	257773.16516	247449.82228
TI	47	2118.31900	19551.06000	2.600	2085.81976	2183.06418	2086.07237
V	51	205.91000	88922.06000	1.900	205.78178	209.80592	202.14303
IN-1	115	345418.86000	0.00000	0.000	349457.30000	350509.60000	336289.67000
IN-2	115	22601.81000	0.00000	0.000	22364.87000	22825.23000	22615.33000
AG	107	50.45100	64939.23000	1.400	50.99877	49.62319	50.73050
AS	75	104.09800	5638.93000	2.100	106.26995	101.92910	104.09478
BA	137	3.66300	350.02000	9.700	3.27619	3.73275	3.97894
CD	111	99.46200	13780.18000	0.700	100.27285	98.89410	99.21991
CO	59	203.67600	211276.69000	1.200	204.86437	200.97402	205.18835
CU	63	198.64800	170550.40000	0.900	200.71157	198.19930	197.03213
MO	98	1999.10100	1312202.45000	0.800	2001.43725	1982.38599	2013.47855
NI	60	199.50500	60081.17000	1.700	202.98850	199.48477	196.04280
RB	85	0.17400	30.00000	43.000	0.24974	0.17134	0.10025
SB	121	0.12100	36.67000	76.100	0.20648	0.02367	0.13204
SE	78	98.56500	9968.35000	1.600	96.92179	98.63254	100.14153
SN	120	0.09900	50.00000	50.900	0.07093	0.06856	0.15684
SR	88	3.05800	576.70000	15.900	2.89278	2.67565	3.60684
ZN	66	100.24600	9606.30000	2.200	97.76849	102.06287	100.90563
BI-2	209	80984.92000	0.00000	0.000	80854.88000	81065.29000	81034.60000
PB	208	0.30200	1076.72000	5.100	0.28477	0.31473	0.30562
TL	203	0.00300	3.33000	173.200	0.00000	0.00000	0.00953
U	238	0.01200	43.33000	62.800	0.02001	0.00503	0.01100
SC-1	45	402142.10000	0.00000	0.000	403288.94000	409218.82000	393918.55000
GE-1	72	465371.67000	0.00000	0.000	461199.17000	483325.07000	451590.77000
GE-2	72	54865.46000	0.00000	0.000	54554.55000	55045.93000	54995.91000
TB-2	159	109081.91000	0.00000	0.000	110396.27000	108213.69000	108635.77000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:48:02
Tube Number: 34
Sample Number: **RINSE**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18426.65000	0.00000	0.000	18419.99000	17649.08000	19210.88000
AL	27	8.27600	93.34000	43.300	6.66764	5.77923	12.38239
CA	44	45.23100	60.00000	102.300	0.47700	92.85050	42.36500
CR	52	0.46500	363.35000	14.800	0.54359	0.41601	0.43482
FE	57	10.38700	173.34000	54.800	15.90703	10.71018	4.54439
K	39	-9.03700	4117.30000	0.000	2.05464	7.82094	-36.98783
MG	24	2.96300	120.00000	46.900	2.92461	4.37022	1.59298
MN	55	-0.18700	26.67000	0.000	-0.22199	-0.06484	-0.27283
NA	23	19.67700	7415.07000	24.000	20.60756	23.86783	14.55617
TI	47	0.33500	6.67000	350.100	-0.34192	-0.34192	1.68821
V	51	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
IN-1	115	360166.56000	0.00000	0.000	360592.44000	352038.77000	367868.48000
IN-2	115	22601.85000	0.00000	0.000	22374.96000	22505.23000	22925.36000
AG	107	0.00800	13.33000	152.000	0.00526	-0.00259	0.02039
AS	75	-0.02300	3.33000	0.000	-0.08453	0.02678	-0.01168
BA	137	-0.03500	0.00000	0.000	-0.03467	-0.03467	-0.03467
CD	111	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CO	59	0.02000	33.33000	77.000	0.03604	0.01639	0.00636
CU	63	0.05600	126.67000	91.100	0.00266	0.06063	0.10381
MO	98	1.37500	990.07000	3.100	1.32914	1.41248	1.38416
NI	60	-0.06500	6.67000	0.000	-0.05360	-0.08715	-0.05440
RB	85	0.00300	6.67000	2591.800	0.10182	-0.04597	-0.04597
SB	121	0.00000	3.33000	0.000	-0.01201	-0.01201	0.02351
SE	78	0.05500	6.89000	26.500	0.05276	0.04130	0.07008
SN	120	0.04100	30.00000	189.800	0.12964	0.01177	-0.01798
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.42400	6.67000	0.000	-1.49335	-1.49335	-1.28449
BI-2	209	84286.38000	0.00000	0.000	80804.76000	84503.89000	87550.49000
PB	208	-0.01600	46.67000	0.000	-0.01762	-0.00635	-0.02427
TL	203	0.00300	3.33000	173.200	0.00000	0.00914	0.00000
U	238	-0.00100	0.00000	0.000	-0.00094	-0.00094	-0.00094
SC-1	45	407976.50000	0.00000	0.000	411335.78000	397115.38000	415478.35000
GE-1	72	470880.24000	0.00000	0.000	478447.22000	460416.52000	473776.99000
GE-2	72	55213.40000	0.00000	0.000	53711.90000	55788.63000	56139.66000
TB-2	159	113245.38000	0.00000	0.000	111050.83000	113790.15000	114895.15000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:50:26
Tube Number: 35
Sample Number: **CCV**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18723.49000	0.00000	0.000	18900.36000	18389.84000	18880.28000
AL	27	2350.48200	18700.09000	2.200	2409.77458	2333.06729	2308.60356
CA	44	2276.34300	2636.96000	8.100	2276.59430	2092.80510	2459.62814
CR	52	238.12500	144311.07000	1.700	235.40914	242.72963	236.23764
FE	57	2436.27300	25114.85000	3.500	2427.41698	2525.75159	2355.64998
K	39	2389.27200	48849.36000	3.500	2331.70005	2484.06286	2352.05285
MG	24	2396.87500	79227.22000	1.100	2389.02512	2426.58857	2375.01091
MN	55	239.61200	49930.25000	3.000	236.05179	247.91208	234.87175
NA	23	2356.94000	185071.42000	2.600	2305.76714	2424.21078	2340.84072
TI	47	227.96400	2190.22000	8.500	213.24935	249.93530	220.70846
V	51	240.54500	108034.55000	3.100	234.37705	248.94937	238.30901
IN-1	115	366699.90000	0.00000	0.000	366045.27000	372174.13000	361880.29000
IN-2	115	23122.78000	0.00000	0.000	23174.28000	23552.27000	22641.78000
AG	107	25.70100	33844.04000	1.700	25.26818	25.68407	26.14991
AS	75	245.47400	13593.23000	3.600	241.10586	239.75389	255.56161
BA	137	252.78300	24471.85000	0.900	252.36501	250.85397	255.13028
CD	111	25.27000	3581.73000	0.900	25.03401	25.31114	25.46412
CO	59	253.02100	268485.91000	1.600	255.88167	248.38504	254.79690
CU	63	250.13400	219635.60000	2.100	248.07524	246.27617	256.05193
MO	98	25.39700	17142.28000	4.000	26.53817	24.61767	25.03442
NI	60	253.95900	78227.15000	1.500	251.57040	252.01714	258.29080
RB	85	24.99600	3503.82000	5.700	23.78627	26.56377	24.63915
SB	121	26.12700	7421.91000	0.700	26.10670	26.31003	25.96534
SE	78	23.88800	2565.52000	3.000	23.50224	23.45162	24.71044
SN	120	25.07400	8829.27000	6.000	23.87637	24.58188	26.76362
SR	88	25.21700	4844.19000	11.500	22.40382	28.18741	25.06111
ZN	66	247.90400	24083.67000	1.800	243.72161	247.21989	252.77077
BI-2	209	86185.79000	0.00000	0.000	87508.64000	86404.25000	84644.48000
PB	208	24.74700	85585.11000	1.200	24.52557	24.63669	25.07895
TL	203	24.50800	27354.03000	2.200	24.25546	24.13623	25.13123
U	238	24.59600	87555.47000	2.600	23.86816	24.98475	24.93461
SC-1	45	421283.76000	0.00000	0.000	415793.67000	426720.54000	421337.06000
GE-1	72	485600.42000	0.00000	0.000	474316.87000	494885.50000	487598.90000
GE-2	72	55279.97000	0.00000	0.000	54434.05000	56450.26000	54955.61000
TB-2	159	116903.40000	0.00000	0.000	116386.54000	118560.73000	115762.93000

Run Name: 1715106E05 Date/Time: 05/31/2017 12:52:50
Tube Number: 36
Sample Number: **CCB**

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

					INTEGRATIONS		
Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	#1	#2	#3
SC-2	45	18489.96000	0.00000	0.000	17969.54000	18369.76000	19130.58000
AL	27	2.37300	46.67000	123.600	4.30075	-1.00345	3.82308
CA	44	12.18100	23.33000	42.900	9.73183	18.17527	8.63529
CR	52	0.31400	273.35000	15.600	0.35441	0.32673	0.25953
FE	57	2.44700	93.34000	179.700	7.35761	1.10042	-1.11846
K	39	-3.28200	4240.67000	0.000	15.81619	0.51086	-26.17303
MG	24	1.79000	83.34000	11.500	1.75597	2.00974	1.60318
MN	55	-0.12500	40.00000	0.000	-0.01933	-0.27069	-0.08457
NA	23	6.64500	6478.05000	59.600	2.12953	8.26576	9.53853
TI	47	-0.34200	0.00000	0.000	-0.34192	-0.34192	-0.34192
V	51	0.01500	6.67000	173.200	0.00000	0.04537	0.00000
IN-1	115	355061.05000	0.00000	0.000	357542.90000	358056.95000	349583.30000
IN-2	115	22801.68000	0.00000	0.000	23385.14000	21554.06000	23465.83000
AG	107	0.01300	20.00000	123.000	-0.00259	0.02999	0.01237
AS	75	0.11000	10.67000	45.200	0.16543	0.07044	0.09340
BA	137	-0.00100	3.33000	0.000	0.06747	-0.03467	-0.03467
CD	111	0.01900	2.67000	86.600	0.02790	0.00000	0.02781
CO	59	0.04100	56.67000	7.300	0.04325	0.03789	0.04306
CU	63	0.06800	140.00000	92.600	0.06617	0.00625	0.13298
MO	98	0.14400	183.34000	36.500	0.19098	0.15459	0.08714
NI	60	-0.03300	16.67000	0.000	0.04127	-0.05232	-0.08715
RB	85	0.00100	6.67000	7013.100	0.09543	-0.04597	-0.04597
SB	121	0.28100	83.34000	66.800	0.47560	0.10134	0.26564
SE	78	0.02600	3.78000	95.400	0.01510	0.00867	0.05475
SN	120	0.18000	76.67000	99.300	0.12203	0.38041	0.03739
SR	88	-0.01800	0.00000	0.000	-0.01778	-0.01778	-0.01778
ZN	66	-1.18400	30.00000	0.000	-1.08384	-1.38227	-1.08525
BI-2	209	84668.35000	0.00000	0.000	82503.84000	86796.75000	84704.46000
PB	208	-0.00700	76.67000	0.000	-0.00880	-0.00410	-0.00935
TL	203	0.00600	6.67000	86.600	0.00936	0.00000	0.00911
U	238	0.00100	6.67000	334.800	0.00492	-0.00094	-0.00094
SC-1	45	406262.40000	0.00000	0.000	413256.71000	406910.62000	398619.88000
GE-1	72	471143.76000	0.00000	0.000	487539.84000	466163.90000	459727.53000
GE-2	72	54775.44000	0.00000	0.000	54925.38000	54314.48000	55086.47000
TB-2	159	114530.32000	0.00000	0.000	114150.33000	114956.87000	114483.77000

Tune Report

Batch Folder D:\Agilent\ICPMH\1\DATA\~EPATUNE.b
Report Comment ICP-MS #19204 (E05) Daily Tune Check
Instrument Name G3281A JP12071581

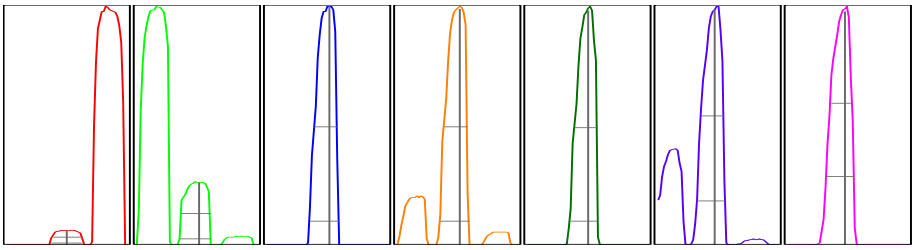
[No Gas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
6		11787	11787.15			NaN	-	
24		16315	16315.45			NaN	-	
103		50549	50548.56			NaN	-	
115		54398	54397.61			NaN	-	
140		58764	58764.43			NaN	-	
208		30067	30067.45			NaN	-	
238		62197	62197.24			NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
6	3.15	5.00				
24	4.59	5.00				
103	2.24	5.00				
115	1.75	5.00				
140	1.88	5.00				
208	1.44	5.00				
238	1.78	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
6	11184	11693	11915	12060	12083
24	15177	16044	16442	16818	17095
103	48923	49907	50800	51519	51594
115	53135	53925	54389	54892	55647
140	57281	57950	59150	59638	59804
208	29443	29818	30399	30201	30476
238	60879	61266	62881	62428	63533

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
6	1699.11	6.00	5.9 - 6.1		0.72	0.785	0.900	
24	2478.86	24.05	23.9 - 24.1		0.69	0.744	0.900	
103	9171.99	103.05	102.9 - 103.1		0.56	0.706	0.900	
115	9908.25	115.05	114.9 - 115.1		0.56	0.692	0.900	
140	11175.80	140.00	139.9 - 140.1		0.55	0.676	0.900	
208	5754.18	207.90	207.9 - 208.1		0.53	0.670	0.900	
238	12126.06	237.90	237.9 - 238.1		0.51	0.663	0.900	

X = 10 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 260.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.25 L/min	S/C Temp	20 ℃
RF Matching	0.80 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.80 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Tune Report

Extract 1	0.0 V	Omega Lens	6.1 V	Deflect	16.8 V				
Extract 2	-160.0 V	Cell Entrance	-30 V	Plate Bias	-40 V				
Mass	**Peak Height**	**Axis (Actual)**	**Axis (Required)**	**Axis (Flag)**	**W-50%**	**W-X% (Actual)**	**W-X% (Required)**	**W-X% (Flag)**	
Omega Bias	-75 V	Cell Exit	-50 V						

Cell Parameters

OctP Bias	-6.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	200 V	H2 Flow	0.0 mL/min		
Use Gas	false	3rd Gas Flow	0 %		

Mercury Data

Metals in Liquid

eurofins | Lancaster Laboratories Environmental

Mercury Run Data Report

Data File Name: 1714902.M09

Run Name: 1714901M09

Instrument No.: 23283

Element: Hg

Analyst Employee ID: 354

Reviewed By
Damary Valentin

Reviewed Date
05/29/2017 11:03AM

Method Reference Name(s):
SW-846 7470A

Verified By:
Parker D Lindstrom

Verified Date
05/29/2017 7:11PM

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

1 Burn Date/Time: 05/29/2017 06:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00

AVG (ppb)	Intensity
0.0000	152.0

2 Burn Date/Time: 05/29/2017 06:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00

AVG (ppb)	Intensity
0.0000	2249.0

3 Burn Date/Time: 05/29/2017 06:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	5150.0

4 Burn Date/Time: 05/29/2017 06:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	9937.0

5 Burn Date/Time: 05/29/2017 06:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00

AVG (ppb)	Intensity
0.0000	26072.0

6 Burn Date/Time: 05/29/2017 06:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00

AVG (ppb)	Intensity
0.0000	49613.0

CorrelationCoefficient = 1.00000
Slope = 9946.1953000000
Y-Intercept = 278.0005400000

LANCASTER LABORATORIES

Run Name: 1714901M09

Instrument ID: 23283

Analyst ID: 354.00

CV Element: Hg

7 Burn Date/Time: 05/29/2017 06:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00

AVG (ppb)	Intensity
2.4574	24725.0

8 Burn Date/Time: 05/29/2017 06:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00

AVG (ppb)	Intensity
-0.0617	-345.0

9 Burn Date/Time: 05/29/2017 06:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00

AVG (ppb)	Intensity
0.2062	2321.0

10 Burn Date/Time: 05/29/2017 06:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00

AVG (ppb)	Intensity
0.9879	10100.0

11 Burn Date/Time: 05/29/2017 06:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00

AVG (ppb)	Intensity
-0.0581	-310.0

12 Burn Date/Time: 05/29/2017 06:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0179	90.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

13 Burn Date/Time: 05/29/2017 06:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0500	10719.0		

14 Burn Date/Time: 05/29/2017 06:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9006555	U*********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0524	-253.0		

15 Burn Date/Time: 05/29/2017 06:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9006558	D*********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0152	117.0		

16 Burn Date/Time: 05/29/2017 06:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9006556	R*********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0729	10946.0		

17 Burn Date/Time: 05/29/2017 06:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9006557	M*********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0824	11041.0		

18 Burn Date/Time: 05/29/2017 06:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
8997579	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0531	-260.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

19 Burn Date/Time: 05/29/2017 06:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009420	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0020	249.0		

20 Burn Date/Time: 05/29/2017 06:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009421	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0126	143.0		

21 Burn Date/Time: 05/29/2017 06:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009422	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0131	138.0		

22 Burn Date/Time: 05/29/2017 07:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00

AVG (ppb)	Intensity
0.9834	10056.0

23 Burn Date/Time: 05/29/2017 07:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00

AVG (ppb)	Intensity
-0.0659	-387.0

24 Burn Date/Time: 05/29/2017 07:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009423	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0165	104.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

25 Burn Date/Time: 05/29/2017 07:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9009424	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0160	109.0		

26 Burn Date/Time: 05/29/2017 07:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9011409	**********	40	40	1.00	171420571301

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.2795	3050.0		

27 Burn Date/Time: 05/29/2017 07:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0398	-128.0		

28 Burn Date/Time: 05/29/2017 07:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0618	10836.0		

29 Burn Date/Time: 05/29/2017 07:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003974	U*********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0590	-319.0		

30 Burn Date/Time: 05/29/2017 07:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003977	D*********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0191	78.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

31 Burn Date/Time: 05/29/2017 07:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003975	R*********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0348	10567.0		

32 Burn Date/Time: 05/29/2017 07:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003976	M*********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0275	10495.0		

33 Burn Date/Time: 05/29/2017 07:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003972	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0541	-270.0		

34 Burn Date/Time: 05/29/2017 07:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00

AVG (ppb)	Intensity
0.9828	10050.0

35 Burn Date/Time: 05/29/2017 07:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00

AVG (ppb)	Intensity
-0.0607	-336.0

36 Burn Date/Time: 05/29/2017 07:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003973	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0199	71.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

37 Burn Date/Time: 05/29/2017 07:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003978	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0057	325.0		

38 Burn Date/Time: 05/29/2017 07:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003979	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0148	121.0		

39 Burn Date/Time: 05/29/2017 07:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003980	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0187	82.0		

40 Burn Date/Time: 05/29/2017 07:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003981	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0163	106.0		

41 Burn Date/Time: 05/29/2017 07:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003982	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0186	83.0		

42 Burn Date/Time: 05/29/2017 07:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003983	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0166	103.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

43 Burn Date/Time: 05/29/2017 07:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003984	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0156	113.0		

44 Burn Date/Time: 05/29/2017 07:47

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003985	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0161	108.0		

45 Burn Date/Time: 05/29/2017 07:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003986	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0003	272.0		

46 Burn Date/Time: 05/29/2017 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00

AVG (ppb)	Intensity
0.9634	9857.0

47 Burn Date/Time: 05/29/2017 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 4		1	1	1.00

AVG (ppb)	Intensity
-0.0622	-350.0

48 Burn Date/Time: 05/29/2017 07:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003987	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0170	99.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

49 Burn Date/Time: 05/29/2017 07:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003988	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0178	91.0		

50 Burn Date/Time: 05/29/2017 08:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003989	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0190	79.0		

51 Burn Date/Time: 05/29/2017 08:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003990	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0043	226.0		

52 Burn Date/Time: 05/29/2017 08:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003991	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0146	414.0		

53 Burn Date/Time: 05/29/2017 08:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003992	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.3330	3583.0		

54 Burn Date/Time: 05/29/2017 08:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003993	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.1151	1414.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

55 Burn Date/Time: 05/29/2017 08:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9003994	**********	40	40	1.00	171420571311

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.0166	434.0		

56 Burn Date/Time: 05/29/2017 08:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171440571306

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0254	16.0		

57 Burn Date/Time: 05/29/2017 08:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171440571306

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0240	10460.0		

58 Burn Date/Time: 05/29/2017 08:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00

AVG (ppb)	Intensity
0.9268	9492.0

59 Burn Date/Time: 05/29/2017 08:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00

AVG (ppb)	Intensity
-0.0563	-292.0

60 Burn Date/Time: 05/29/2017 08:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	171440571306

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.0374	10593.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

61 Burn Date/Time: 05/29/2017 08:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007537	**********	40	40	1.00	171440571306

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0573	-302.0		

62 Burn Date/Time: 05/29/2017 08:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0213	57.0		

63 Burn Date/Time: 05/29/2017 08:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9969	10190.0		

64 Burn Date/Time: 05/29/2017 08:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000753	U*********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0526	-255.0		

65 Burn Date/Time: 05/29/2017 08:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000756	D*********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0174	95.0		

66 Burn Date/Time: 05/29/2017 08:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000754	R*********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9806	10028.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

67 Burn Date/Time: 05/29/2017 08:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000755	M*********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9822	10044.0		

68 Burn Date/Time: 05/29/2017 08:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000758	**********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0570	-299.0		

69 Burn Date/Time: 05/29/2017 08:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000764	**********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0147	122.0		

70 Burn Date/Time: 05/29/2017 08:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 6		1	1	1.00

AVG (ppb)	Intensity
0.9742	9964.0

71 Burn Date/Time: 05/29/2017 08:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 6		1	1	1.00

AVG (ppb)	Intensity
-0.0601	-330.0

72 Burn Date/Time: 05/29/2017 08:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9000767	**********	40	40	1.00	171440571308

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0219	51.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

73 Burn Date/Time: 05/29/2017 08:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0207	63.0		

74 Burn Date/Time: 05/29/2017 08:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.3089	13295.0		

75 Burn Date/Time: 05/29/2017 08:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007551	U*********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0593	-322.0		

76 Burn Date/Time: 05/29/2017 08:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007551	D*********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0201	69.0		

77 Burn Date/Time: 05/29/2017 08:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007551	R*********	4	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7907	18090.0		

78 Burn Date/Time: 05/29/2017 08:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007551	M*********	4	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	1.7049	17236.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

79 Burn Date/Time: 05/29/2017 09:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007554	**********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0633	-361.0		

80 Burn Date/Time: 05/29/2017 09:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9007557	**********	40	40	1.00	171460571304

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0225	45.0		

81 Burn Date/Time: 05/29/2017 09:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBW	**********	40	40	1.00	171460571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0204	66.0		

82 Burn Date/Time: 05/29/2017 09:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 7		1	1	1.00

AVG (ppb)	Intensity
0.9512	9735.0

83 Burn Date/Time: 05/29/2017 09:10

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 7		1	1	1.00

AVG (ppb)	Intensity
-0.0610	-339.0

84 Burn Date/Time: 05/29/2017 09:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	**********	1	1	1.00	171460571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9576	9799.0		

LANCASTER LABORATORIES

Run Name: 1714901M09

Analyst ID: 354.00

Instrument ID: 23283

CV Element: Hg

85 Burn Date/Time: 05/29/2017 09:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSWD	**********	1	1	1.00	171460571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	0.9777	9999.0		

86 Burn Date/Time: 05/29/2017 09:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9014452	**********	8	40	1.00	171460571305

V	AVG (ppb)	Intensity	Re-read	Re-digest
	-0.0646	-374.0		

87 Burn Date/Time: 05/29/2017 09:21

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 8		1	1	1.00

AVG (ppb)	Intensity
0.9643	9866.0

88 Burn Date/Time: 05/29/2017 09:23

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 8		1	1	1.00

AVG (ppb)	Intensity
-0.0650	-378.0

Extraction/Distillation/Digestion Logs

Metals in Liquid

LLENS Worksheet for 0639 ICP/MS SW846 Water

Batch# 17 144 10639 01

Balance ID#: 10685 **Start Time:** 5/30/17 5:35 **End Time:** 5/30/17 10:45 **Hot Block:** 15

Pipette ID: JU06758
Reflux Cap Lot#: 1610138-7081-KN

Spike/Reagent	Lot#	Volume Added(mL)
HNO3	152495	3.00
ICP/MS Spike	1709742#4	0.50
LCS	1709742#4	0.50

Method Ref:

	SampleID	Date Due		ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1612138	Batch alone
2)	LCSW	.							1612138	
3)	8997579EB	05/30/17 09:20		WW	P8				1612138	
4)	**9006555U**	06/02/17 10:00		WW	N8			008a	1612138	
5)	**9006556R**	06/02/17 10:00		WW	N8			008a	1612138	
6)	**9006557M**	06/02/17 10:00		WW	N8			008a	1612138	
7)	**9006558D**	06/02/17 10:00		WW	N8			008a	1612138	
8)	9009420	06/05/17 09:40		WW	N8			008a	1612138	
9)	9009421	06/05/17 09:40		WW	N8			008a	1612138	
10)	9009422FD	06/05/17 09:40		WW	N8			008a	1612138	
11)	9009423	06/05/17 09:40		WW	N8			008a	1612138	
12)	9009424	06/05/17 09:40		WW	N8			008a	1612138	

Prep Employee: 943
5/30/2017
v 1.0.1

Batch# 17 144 1063 901

LLENS Batch Chronology and Change Log - ICP/MS SW846 Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		5/24/17 0:00	943
2)	Sample Vol		5/25/17 7:59	943
3)	Final Vol	10685	5/25/17 7:59	943
4)	Trial		5/25/17 7:59	943
5)	Upload Prep	US19PCC06698	5/30/17 11:23	943

Sample ID	Analysis	D	Operation	Measurement	Original Entry Date/Time	Data	Units	Analyst	Data Changed Date/Time	Analyst	Reason

Analysis: 0639 ICP/MS SW846 Water

Batch# 17 144 1063 901

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Final Volume	Trial
PBW					50.0000	50.0000	1
LCSW					1.0000	1.0000	1
8997579EB	05/30/17	P8	LYN11	LYN11-01EB*	50.0000	50.0000	1
9006555U	06/02/17	N8	AE872	RAE87-02BKG	50.0000	50.0000	1
9006556R	06/02/17	N8	AE872	RAE87-02MS	50.0000	50.0000	1
9006557M	06/02/17	N8	AE872	RAE87-02MSD	50.0000	50.0000	1
9006558D	06/02/17	N8	AE872	RAE87-02DUP	50.0000	50.0000	1
9009420	06/05/17	N8	89R01	RAE89-01	50.0000	50.0000	1
9009421	06/05/17	N8	89R02	RAE89-02	50.0000	50.0000	1
9009422FD	06/05/17	N8	89R03	RAE89-03FD	50.0000	50.0000	1
9009423	06/05/17	N8	89R04	RAE89-04	50.0000	50.0000	1
9009424	06/05/17	N8	89R05	RAE89-05*	50.0000	50.0000	1

LLENS Worksheet for 5713 Hg SW846 Digest Water

Batch# 17 142 05713 01

Balance ID#: 10685 **Start Time:** 5/28/17 8:15 **End Time:** 5/28/17 10:15 **Hot Block:** 11

Pipette ID: W/1000

Reflux Cap Lot#: 1610138-7081-KN

Spike/Reagent	Lot#	Volume Added(mL)
5%K2S2O8	P17-137J	3.20
5%KMnO4	P17-142B	6.00
H2SO4	166942	2.00
HNO3	152495	1.00
LCS 40ppb Hg	P17-143I	1.00
NaCl/NH2OH.HCl	P17-142H	2.40
Spike 40ppb Hg	P17-143I	1.00

Method Ref:

	SampleID	Date Due		ST	P	H	PH<2	BC	Vessel Lot#	Comments
1)	PBW	.							1612138	Batch alone
2)	LCSW	.							1612138	
3)	8997579EB	05/30/17 09:20		WW	P8				1612138	
4)	**9006555U**	06/02/17 10:00		WW	N8			008a	1612138	
5)	**9006556R**	06/02/17 10:00		WW	N8			008a	1612138	
6)	**9006557M**	06/02/17 10:00		WW	N8			008a	1612138	
7)	**9006558D**	06/02/17 10:00		WW	N8			008a	1612138	
8)	9009420	06/05/17 09:40		WW	N8			008a	1612138	
9)	9009421	06/05/17 09:40		WW	N8			008a	1612138	
10)	9009422FD	06/05/17 09:40		WW	N8			008a	1612138	
11)	9009423	06/05/17 09:40		WW	N8			008a	1612138	
12)	9009424	06/05/17 09:40		WW	N8			008a	1612138	
13)	9011409	06/06/17 09:30		WW	N8			008a	1612138	

Prep Employee: 943

5/28/2017

v 1.0.1

Batch# 17 142 0571 301

LLENS Batch Chronology and Change Log - Hg SW846 Digest Water

	Operation	Instrument	Operation Date	ANALYST
1)	Batch Creation		5/22/17 0:00	943
2)	Sample Vol		5/25/17 8:00	943
3)	Final Vol	10685	5/25/17 8:00	943
4)	Trial		5/25/17 8:00	943
5)	Upload Prep	US19PCC06698	5/28/17 12:27	943

Sample ID	Analysis	D	Operation	Measurement	Original Entry Date/Time	Data	Units	Analyst	Data Changed Date/Time	Analyst	Reason

Analysis: 5713 Hg SW846 Digest Water

Batch# 17 142 0571 301

Sample ID	Due Date	P	EPA#	SDG#	Initial Volume	Dilution	Final Volume	Trial
PBW					40.0000		40.0000	1
LCSW					1.0000		1.0000	1
8997579EB	05/30/17	P8	LYN11	LYN11-01EB*	40.0000		40.0000	1
9006555U	06/02/17	N8	AE872	RAE87-02BKG	40.0000		40.0000	1
9006556R	06/02/17	N8	AE872	RAE87-02MS	40.0000		40.0000	1
9006557M	06/02/17	N8	AE872	RAE87-02MSD	40.0000		40.0000	1
9006558D	06/02/17	N8	AE872	RAE87-02DUP	40.0000		40.0000	1
9009420	06/05/17	N8	89R01	RAE89-01	40.0000		40.0000	1
9009421	06/05/17	N8	89R02	RAE89-02	40.0000		40.0000	1
9009422FD	06/05/17	N8	89R03	RAE89-03FD	40.0000		40.0000	1
9009423	06/05/17	N8	89R04	RAE89-04	40.0000		40.0000	1
9009424	06/05/17	N8	89R05	RAE89-05*	40.0000		40.0000	1
9011409	06/06/17	N8	MW-4-	ACG36-01*	40.0000		40.0000	1

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 Std Cal	H17 [illegible] N	Hg 1.0 mg/L Cal	15	5-16-17	H17-128A	0.25ml			
2	↓	O	↓	↓		↓	0.50ml			
3	↓	P								
4	↓ ICV	Q	Hg 1.0 mg/L Cont	15	5-16-17	H17-128C	0.25ml			
5	Aqua Regia	R						16.5	6	152495
6	Hg 1.0 mg/L InterCal	H17130A	Hg 10 mg/L Cal	15	7-30-17	H17-103A	1.0ml			
7	0.1 mg/L InterCal	B	1.0 mg/L Cal	15	5-17-17	H17-130A	↓			
8	1.0 mg/L InterCont	C	10 mg/L Cont	16	12-05-17	K2HG850192				
9	↓ 0.1 mg/L InterCont	D	↓ 1.0 mg/L Cont	15	5-17-17	H17-130C	↓			
10	Hg 5700 ICV	E	↓	↓	↓	↓	0.25ml	1	6	152495
11	↓ CCV	F	Hg 1.0 mg/L Cal	↓	↓	H17-130A	0.20ml	↓	↓	↓
12 (3)	CCV									
13	CCV		↓			↓				
14	Hg 5700 CRA1	H17130G	Hg 0.1 mg/L Cont	15	5-17-17	H17-130D	0.20ml	1	6	152495
15	Std Cal	H	Hg 0.1 mg/L Cal	↓	↓	H17-130B	0.20	↓	↓	↓
16	↓	I	↓			↓	0.50			
17	↓	J	Hg 1.0 mg/L Cal			H17-130A	0.20			
18	↓	K	↓			↓	0.25			
19	↓	L	↓	↓	↓	↓	0.50 ↓	↓	↓	↓
20	↓	M								

5-10-17 DV354

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml KMnO4		H17-129 H17-0945	100	2.5ug/L	DV354	5-09-17	5-16-17	RT
2								5.0				
3								0.0				
4								2.5				
5	49.5	6	147777				66	1:3			5-09-17	
6				To vol w/ 0.15% HNO3		H17-116C	10	1.0	DV354	5-10-17	5-17-17	RT
7								0.1				
8								1.0				
9								0.1				
10	2ml H2SO4	4	166942	3.2ml K2S2O8 1ml KMnO4		H17-0521 H17-0947	100	2.5ug/L				
11							200	1.0ug/L				
12												
13												5/10/17 DV354
14	2ml H2SO4	4	166942	3.2ml K2S2O8 1ml KMnO4		H17-0521 H17-0947	100	0.2ug/L	DV354	5-10-17	5-17-17	RT
15								0.2				
16								0.5				
17							200	1.0				
18							100	2.5				
19								5.0				
20								0.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ICV	H17130N	Hg 1.0mg/L Cont	15	5-17-17	H17-130C	0.25ml	1	6	152495
2	CCV	O	Hg 1.0mg/L Cal			H17-130A	0.20			
3	CRA	P	Hg 0.1mg/L Cont			H17-130D	0.20			
4	Hg 1.0mg/L Inter Cont	H17131A	Hg 10mg/L Cont	16	12-05-17	K2HG850192	1.0ml			
5	Hg 0.1mg/L Inter Cont	B	Hg 1.0mg/L Cont	15	5-18-17	H17-131A	1.0ml			
6	Stannous Chloride	C	SnCl2	6	4-13-18	169502 #5 #6	200.02g			
7		D					200.00g			
8	Hg 1.0mg/L Inter Cal	H17132A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
9	Hg 0.1mg/L Inter Cal	B	Hg 1.0mg/L Cal	15	5-19-17	H17-132A	1.0ml			
10	Stannous Chloride	C	SnCl2	6	4-13-18	169502 #5 #6	200.00g			
11	Hg 1.0mg/L Inter Cal	H17133A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
12	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	5-20-17	H17-133A				
13	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	K2HG850192				
14	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	5-20-17	H17-133C				
15	Hg 5700 ICV	E					0.25ml	1	6	152495
16	CCV	F	Hg 1.0mg/L Cal			H17-133A	0.20			
17	CRA	G	Hg 0.1mg/L Cont			H17-133D	0.20			
18	Std Cal	H								
19		I								
20		J								

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2mlH2SO4	4	166942	3.2mlK2C2O8 1mlKMnO4		H17-052D H17-094T	100	2.5ug/L	DU354	5-10-17	5-17-17	RT
2	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓
3	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
4	—	—	—	To vol w/ 0.15% HNO3		H17-110C	10	1.0	DU354	5-11-17	5-18-17	RT
5	—	—	—	↓	↓	↓	10	0.1	↓	↓	↓	↓
6	200	6	147777	—	—	—	2000	10%	↓	↓	11-11-17	↓
7	↓	↓	↓	—	—	—	↓	↓	↓	↓	↓	↓
8	—	—	—	To vol w/ 0.15% HNO3		H17-110C	10	1.0	DU354	5-12-17	5-19-17	RT
9	—	—	—	↓	↓	↓	10	0.1	↓	↓	↓	↓
10	200	6	147777	—	—	—	2000	10%	↓	↓	11-12-17	↓
11	—	—	—	To vol w/ 0.15% HNO3		H17-110C	10	1.0	DU354	5-13-17	5-20-17	RT
12	—	—	—	↓	↓	↓	↓	0.1	↓	↓	↓	↓
13	—	—	—	—	—	—	—	1.0	—	—	—	—
14	—	—	—	↓	↓	↓	↓	0.1	↓	↓	↓	↓
15	2mlH2SO4	4	166942	3.2mlK2C2O8 1mlKMnO4		H17-052D H17-094T	100	2.5ug/L				
16	↓	↓	↓	↓	↓	↓	200	1.0				
17							100	0.2				
18							↓	6.2				
19							↓	0.5				
20	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H171335A	Hg 1.0mg/L Cal	15	5-20-17	H17-133A	0.25ml	1	6	152495
2	↓	L	↓	↓	↓	↓	0.50	↓	↓	↓
3	↓	M	—							
4	ICV	N	Hg 1.0mg/L Cont	15	5-20-17	H17-133C	0.25ml			
5	CCV	O	Hg 1.0mg/L Cal	↓	↓	H17-133A	0.20			
6	↓ CRA	P	Hg 0.1mg/L Cont	↓	↓	H17-133D	0.20 ✓			
7	Hg 4792 ICV	Q	Hg 1.0mg/L Cont			H17133C	0.25			
8	CCV	R	Hg 1.0mg/L Cal			H17-133A	0.10			
9	CCV	S	↓			↓	0.10			
10	CRA	T	Hg 0.1mg/L Cont			H17-133D	0.20			
11	Std Cal	U	Hg 0.1mg/L Cal			H17-133B	0.20			
12	↓	V	↓			↓	0.50			
13		W	Hg 1.0mg/L Cal			H17-133A	0.10			
14		X	↓			↓	0.25			
15		Y	↓	↓	↓	↓	0.50 ✓			
16	↓	↓ Z	—							
17	Hg 1.0mg/L InterCal	H171354	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
18	0.1mg/L InterCal	B	1.0mg/L Cal	15	5-22-17	H17-135A	↓			
19	1.0mg/L InterCont	C	10mg/L Cont	16	12-05-17	K2H685192				
20	↓ 0.1mg/L InterCont	↓ D	↓ 1.0mg/L Cont	15	5-22-17	H17-135C				

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used								
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	166962	5.2ml $K_2Cr_2O_7$ 1ml KMnO4		H17-052D H17-094T	100	2.5ug/L	DL354	5-13-17	5-26-17	RT
2								5.0				
3								0.0				
4							↓	25				
5							200	1.0				
6	↓	↓	↓	↓		↓	100	0.2				
7	5	6	147777	—		—		2.5				
8								1.0				
9								1.0				
10								0.2				
11								0.2				
12								0.5				
13								1.0				
14								2.5				
15								5.0				
16	↓	↓	↓	—		—	↓	0.0	↓	↓	↓	↓
17	—	—	—	Total w/ 0.15% HNO3 H17-110C			10	1.0	DL354	5-15-17	5-22-17	RT
18								0.1				
19								1.0				
20				↓	↓	↓	↓	0.1	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

RAE89 Page 179 of 197

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 ICV	H17135E	Hg 1.0mg/L Cal	15	5-22-17	H17-135C	0.25ml	1	6	152495
2	CCV	F	Hg 1.0mg/L Cal			H17-135A	0.20			
3	CRA	G	Hg 0.1mg/L Cont			H17-135D	0.20			
4	Std Cal	H	Hg 0.1mg/L Cal			H17-135B	0.20			
5		I	↓			↓	0.50			
6		J	Hg 1.0mg/L Cal			H17-135A	0.20			
7		K					0.25			
8		L	↓	↓	↓	↓	0.50 ↓			
9	↓	M								
10	ICV	N	Hg 1.0mg/L Cont	15	5-22-17	H17-135C	0.25ml			
11	CCV	O	Hg 1.0mg/L Cal			H17-135A	0.20			
12	CRA	P	Hg 0.1mg/L Cont	↓	↓	H17-135D	0.20 ↓	↓	↓	↓
13	Hg 1.0mg/L InterCal	H171360A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
14	0.1mg/L InterCal	B	10mg/L Cal	15	5-23-17	H17-136A				
15	1.0mg/L InterCont	C	10mg/L Cont	16	12-05-17	K2HG850192				
16	0.1mg/L InterCont	D	1.0mg/L Cont	15	5-23-17	H17-136C	↓			
17	Hg 5701 ICV	E	↓			↓	0.25ml			
18	CCV	F	Hg 1.0mg/L Cal			H17-136A	0.10			
19	CCV	G					0.10			
20	↓ CCV	↓ H	↓	↓	↓	↓	0.10			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H2SO4	4	161942	3.2ml K2Cr2O7 1ml KMnO4		H17-052D H17-094T	100	2.5ug/L	DJ 354	5-15-17	5-22-17	RT
2							200	1.0				
3							100	0.2				
4								0.2				
5								0.5				
6							200	1.0				
7							100	2.5				
8								5.0				
9								0.0				
10								2.5				
11							200	1.0				
12							100	0.2				
13				Toxol w/a 1%		H17-110C	10	1.0	DJ 354	5-16-17	5-23-17	RT
14								0.1				
15								1.0				
16								0.1				
17				5ml Aqua Regia 15ml KMnO4		H17-136 H17-094T	100	2.5ug/L				
18								1.0				
19								1.0				
20								1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified.
** units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-5701 CCV	H171361	Hg-1.0mg/L Cal	15	5-23-17	H17-136A	0.10ml			
2	CRA	J	Hg-0.1mg/L Cont			H17-136D	0.20			
3	Std Cal	K	Hg-0.1mg/L Cal			H17-136B	0.20			
4		L	↓			↓	0.50			
5		M	Hg-1.0mg/L Cal			H17-136A	0.10			
6		N	↓			↓	6.25			
7		O	↓	↓	↓	↓	0.50			
8	↓	P								
9	↓ ICV	Q	Hg-1.0mg/L Cont	15	5-23-17	H17-136C	0.25ml			
10	Aqua Regia	↓ R						10.5	6	159495
11	Waters-Blank	H171365						25	↓	↓
12	↓	↓								
13	Hg-1.0mg/L-InterCal	H171371	Hg-10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
14	0.1mg/L-InterCal	B	1.0mg/L Cal	15	5-24-17	H17-137A	↓			
15	10mg/L-InterCont	C	10mg/L Cont	16	12-05-17	K2HG850PB				
16	↓ 0.1mg/L-InterCont	D	↓ 1.0mg/L Cont	15	5-24-17	H17-137C	↓			
17	Hg-5700 ICV	E	↓	↓	↓	↓	0.25ml	1	6	159495
18	↓ CCV	F	Hg-1.0mg/L Cal			H17-137A	0.20	↓	↓	↓
19	CRA	G	Hg-0.1mg/L Cont			H17-137D	0.20			
20	↓ Std Cal	↓ H	Hg-0.1mg/L Cal	↓	↓	H17-137D	0.20 ↓			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				5ml Aqua Regia 15ml Kimmnx		H17-1316 H17-0947	100	1.0	DW354	5-16-17	5-23-17	RT
2								0.2				
3								0.2				
4								0.5				
5								1.0				
6								2.5				
7								5.0				
8								0.0				
9								2.5				
10	49.5	6	147777				66	1:3			5-16-17	
11	50ml H2SO4	4	166942	80ml K2S2O8 150ml Kimnox		H17-0944 H17-1090	1000	0.0			10-04-17	
12				60ml HydroX		H17-1256						
13				To vol w/ 0.15% HNO3		H17-1105	10	1.0	DW354	5-17-17	5-24-17	RT
14								0.1				
15								1.0				
16								0.1				
17	2ml H2SO4	4	166942	2.2ml K2S2O8 1ml Kimnox		H17-0944 H17-0947	100	2.5				
18							200	1.6				
19							100	0.2				
20							100	0.2				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

RAF89 Page 183 of 197

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-5700 Std Cal	H17137I	Hg-0.1mg/L Cal	15	5-24-17	H17-137B	0.50ml	1	6	152495
2		J	Hg-1.0mg/L Cal			H17-137A	0.20			
3		K					0.25			
4		L					0.50			
5		M								
6	ICV	N	Hg-1.0mg/L Cont	15	5-24-17	H17-137C	0.25ml			
7	CCV	O	Hg-1.0mg/L Cal			H17-137A	0.20			
8	CRA	P	Hg-0.1mg/L Cont			H17-137D	0.20			
9	Stannous Chloride	Q	SnCl2	6	8-07-18	169502 #7	200.04g			
10		R				#7	200.04g			
11	Hg-1.0mg/L Inter Cal	H17138A	Hg-10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
12	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	5-25-17	H17-137A				
13	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	K2H6850PD				
14	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	5-25-17	H17-137C				
15	Hg-5700 ICV	E					0.25ml	1	6	152495
16	CCV	F	Hg-1.0mg/L Cal			H17-138A	0.20			
17	CRA	G	Hg-0.1mg/L Cont			H17-138D	0.20			
18	Std Cal	H	Hg-0.1mg/L Cal			H17-138B	0.20			
19		I					0.50			
20		J	Hg-1.0mg/L Cal			H17-138A	0.20			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 6ml $KMnO_4$		H17-0944 H17-094T	100	0.5ug/L	DLJ354	5-17-17	5-24-17	RT
2							200	1.0				
3							100	2.5				
4								5.0				
5								0.0				
6							✓	2.5				
7							200	1.0				
8							100	0.2				
9	200	4	147777				2000	10%			11-17-17	
10												
11				To vol w/ 0.15% HNO_3		H17-110C	10	1.0	DLJ354	5-18-17	5-25-17	RT
12								0.1				
13								1.0				
14								0.1				
15	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 6ml $KMnO_4$		H17-0944 H17-094T	100	2.5ug/L				
16							200	1.0				
17							100	0.2				
18								0.2				
19							✓	0.5				
20							200	1.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009618; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 Std Cal	H17138K	Hg 1.0 mg/L Cal	15	5-25-17	H17-138M	0.25 ml	1	4	152495
2		L	↓	↓	↓	↓	0.50 ml			
3	↓	M								
4	ICV	N	Hg 1.0 mg/L Cont	15	5-25-17	H17-138C	0.25 ml			
5	CCV	O	Hg 1.0 mg/L Cal			H17-138M	0.20			
6	CRA	P	Hg 0.1 mg/L Cont	↓	↓	H17-138D	0.20	↓	↓	↓
7	Hg 5701 ICV	Q	Hg 1.0 mg/L Cont			H17-138C	0.25			
8	CCV	R	Hg 1.0 mg/L Cal			H17-138M	0.10			
9	CCV	S					0.10			
10	CCV	T					0.10			
11	CCV	U	↓			↓	0.10			
12	CRA	V	Hg 0.1 mg/L Cont			H17-138D	0.20			
13	Std Cal	W	Hg 0.1 mg/L Cal			H17-138B	0.20			
14		X	↓			↓	0.50			
15		Y	Hg 1.0 mg/L Cal			H17-138M	0.10			
16		Z					0.25			
17		AA	↓	↓	↓	↓	0.50			
18	↓	BB								
19	ICV	CC	Hg 1.0 mg/L Cont	15	5-25-17	H17-138C	0.25 ml			
20	Aqua Regia	DD						16.5	6	152495

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 6ml KMnO4	2.08	H17-0944 H17-0947	100	2.5ug/L	DI 354	5-18-17	5-25-17	RT
2								5.0				
3								0.0				
4							↓	2.5				
5							200	1.0				
6	↓	↓	↓	↓	↓	↓	100	0.2				
7				5ml Aqua Regia 15ml KMnO4		H17-1038U H17-0947		2.5				
8								1.0				
9								1.0				
10								1.0				
11								1.0				
12								0.2				
13								0.2				
14								0.5				
15								1.0				
16								2.5				
17								5.0				
18								0.0				
19				↓	↓	✗	↓	2.5 ✓			↓	
20	49.5	6	147777				66	1:3	↓	↓	5-18-17	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

RAE89 Page 187 of 197

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Potassium Persulfate	H17138EE	$K_2S_2O_8$	6	12-2-17	151924 #4	100.02g			
2	Permanganate	↓ FF	$KMnO_4$	6	2-20-18	162452 #2	100.03g			
3	Hg 1.0mg/L InterCal	H17144A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
4	0.1mg/L InterCal	B	1.0mg/L Cal	15	5-31-17	H17-144A	↓			
5	1.0mg/L InterCont	C	10mg/L Cont	16	12-05-17	K_2HgCl_4 (2)				
6	0.1mg/L InterCont	D	1.0mg/L Cont	15	5-31-17	H17-144C	↓			
7	Hg 5700 ICV	E	↓	↓	↓	↓	0.25ml	1	6	152495
8	CCV	F	Hg 1.0mg/L Cal			H17-144A	0.20			
9	CRA	G	Hg 0.1mg/L Cont			H17-144D	0.20			
10	Std Cal	H	Hg 0.1mg/L Cal			H17-144B	0.20			
11	↓	I	↓			↓	0.50			
12		J	Hg 1.0mg/L Cal			H17-144A	0.20			
13		K	↓			↓	0.25			
14		L	↓	↓	↓	↓	0.50 ↓			
15	↓	m	—	—	—	—	—			
16	ICV	N	Hg 1.0mg/L Cont	15	5-31-17	H17-144C	0.25ml			
17	CCV	O	Hg 1.0mg/L Cal	↓	↓	H17-144A	0.20			
18	↓ CRA	↓ P	Hg 0.1mg/L Cont	↓	↓	H17-144D	0.20 ↓	↓	↓	↓
19	Hg 1.0mg/L InterCal	H17145A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
20	Hg 0.1mg/L InterCal	↓ B	Hg 1.0mg/L Cal	15	6-01-17	H17-145A	1.0ml			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1							2000	5%	DLJ354	5-18-17	11-18-17	RT
2							200	5%	↓	↓	↓	↓
3				To vol w/ 0.15%	HNO3	H17-110C	10	1.0	DLJ354	5-24-17	5-31-17	RT
4				↓	↓	↓	↓	0.1	↓	↓	↓	↓
5								1.0				
6				↓	↓	↓	↓	0.1				
7	2ml H2SO4	4	Hg 0.4%	3.2ml Na2S2O8 6ml KMnO4		H17-094U H17-094T	100	2.5 ug/L				
8	↓	↓	↓	↓	↓	↓	200	1.0				
9							100	0.2				
10							↓	0.2				
11								0.5				
12							200	1.0				
13							100	2.5				
14							↓	5.0				
15								0.0				
16							↓	2.5				
17							200	1.0				
18	↓	↓	↓	↓	↓	↓	100	0.2	↓	↓	↓	↓
19				To vol w/ 0.15%	HNO3	H17-110C	10	1.0	DLJ354	5-25-17	6-01-17	RT
20				↓	↓	↓	10	0.1	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 1.0mg/L InterCont	H171450	Hg 10mg/L Cont	16	12-05-17	K2HG850193	1.0 ml			
2	Hg 0.1mg/L InterCont	D	Hg 1.0mg/L Cont	15	6-01-17	H17-145C	1.0 ml			
3	Hg 5700 ICV	E	↓	↓	↓	↓	0.25ml	1	6	152495
4	CCV	F	Hg 1.0mg/L Cal			H17-145A	0.20	↓	↓	↓
5	CRA	G	Hg 0.1mg/L Cont			H17-145D	0.20			
6	Std. Cal	H	Hg 0.1mg/L Cal			H17-145B	0.20			
7	↓	I	↓			↓	0.50			
8		J	Hg 1.0mg/L Cal			H17-145A	0.20			
9		K	↓			↓	0.25			
10		L	↓	↓	↓	↓	0.50 ↓			
11	↓	M								
12	ICV	N	Hg 1.0mg/L Cont	15	6-01-17	H17-145C	0.25ml			
13	CCV	O	Hg 1.0mg/L Cal			H17-145A	0.20			
14	↓ CRA	P	Hg 0.1mg/L Cont			H17-145D	0.20	↓	↓	↓
15	Hg 5701 ICV	Q	Hg 1.0mg/L Cont			H17 145C	0.25			
16	CCV	R	Hg 1.0mg/L Cal			H17-145A	0.10			
17	CCV	S					0.10			
18	CCV	T					0.10			
19	CCV	U	↓			↓	0.10			
20	↓ CRA	V	Hg 0.1mg/L Cont	↓	↓	H17-145D	0.20 ↓			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079 | Revision: 3 | Historical Reference: 1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 | Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1				To vol w/ 0.15% HNO3		H17-110C	10	1.0	DW354	5-25-17	6-01-17	RT
2				↓	↓	↓	10	0.1				
3	2ml H2SO4	4	166942	2.2ml K2S2O8 6ml KMnO4		H17-0944 H17-1947	100	2.5ug/L				
4							250	1.0				
5							100	0.2				
6							↓	0.2				
7							↓	0.5				
8							200	1.0				
9							100	2.5				
10							↓	5.0				
11							↓	0.0				
12							↓	2.5				
13							200	1.0				
14	↓	↓	↓	↓	↓	↓	100	0.2				
15				5ml Aqua Regia 15ml AgKMnO4		H17-145 H17-0947	↓	2.5				
16				↓	↓	↓		1.0				
17								1.0				
18								1.0				
19								1.0				
20	↓	↓	↓	↓	↓	↓	↓	0.2	↓	↓	↓	↓

5-25-17 AGC

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

b

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5701 Std Cal	H17145W	Hg 0.1mg/L Cal	15	6-01-17	H17-145B	0.20ml			
2	↓	X	↓	↓	↓	↓	0.50			
3	↓	Y	Hg 1.0mg/L Cal	↓	↓	H17-145A	0.10			
4	↓	Z	↓	↓	↓	↓	0.25			
5	↓	AA	↓	↓	↓	↓	0.50			
6	↓	BB	—	—	—	—	—			
7	ICV	CC	Hg 1.0mg/L Cont	15	6-01-17	H17-145C	0.25ml			
8	Aqua Regia	DD	—	—	—	—	—	16.5	6	152495
9	Hg 1.0mg/L InterCal	H17146A	Hg 10mg/L Cal	15	7-30-17	H17-103R	1.0ml			
10	Hg 0.1mg/L InterCal	B	Hg 1.0mg/L Cal	15	6-02-17	H17-146A	1.0ml			
11	Hg 1.0mg/L InterCont	C	Hg 10mg/L Cont	16	12-05-17	K2116830192	↓			
12	Hg 0.1mg/L InterCont	D	Hg 1.0mg/L Cont	15	6-02-17	H17-146C	↓			
13	Hg 4792 ICV	E	↓	↓	↓	↓	0.25ml			
14	CCV	F	Hg 1.0mg/L Cal	↓	↓	H17-146A	0.10			
15	CRA	G	Hg 0.1mg/L Cont	↓	↓	H17-146D	0.20			
16	Std Cal	H	Hg 0.1mg/L Cal	↓	↓	H17-146B	0.25			
17	↓	I	↓	↓	↓	↓	0.50			
18	↓	J	Hg 1.0mg/L Cal	↓	↓	H17-146A	0.10			
19	↓	K	↓	↓	↓	↓	0.25			
20	↓	L	↓	↓	↓	↓	0.50			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference :	Revision:	Historical Reference:
T-MET-FRM9079	3	1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 — Effective

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1				5ml Aqua Regia 15ml DMNO4		HI7-145DJ HI7-094T	100	0.2ug/L	DJ354	5-25-17	6-01-17	RT
2								0.5				
3								1.0				
4								2.5				
5								5.0				
6								0.0				
7								2.5				
8	49.5	6	147777				46	1:3			5-25-17	
9				To vol w/a 15% HNO3		HI7-110C	10	1.0	DJ354	5-26-17	6-02-17	RT
10							10	0.1				
11								1.0				
12								0.1				
13	5	6	147777				100	2.5ug/L				
14								1.0				
15								0.2				
16								0.2				
17								0.5				
18								1.0				
19								2.5				
20								5.0				

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg-4792 Std Cal	H17H46M								
2	Stannous Chloride	H17147A	SnCl2	6	2-07-18	169502 #7	200.02g			
3	↓	B	↓	↓	↓	#7+8	200.00g			
4	↓	C	↓	↓	↓	#8	200.01g			
5	Permanganate	D	KMnO4	6	2-20-18	162452 #2	100.04g			
6	Hg-1.0mg/L Inter Cal	H17149A	Hg-10mg/L Cal	15	7-20-17	H17-103R	1.0ml			
7	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	6-05-17	H17-149M				
8	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	K2H685082				
9	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	6-05-17	H17-149C	↓			
10	Hg-5700 ICV	E	↓			↓	0.25ml	1	6	152495
11	CCV	F	Hg-1.0mg/L Cal			H17-149A	0.20			
12	CRA	G	Hg-0.1mg/L Cont			H17-149D	0.20			
13	Std Cal	H	Hg-0.1mg/L Cal			H17-149B	0.20			
14	↓	I	↓			↓	0.50			
15		J	Hg-1.0mg/L Cal			H17-149A	0.20			
16		K	↓			↓	0.25			
17		L	↓	↓	↓	↓	0.50	↓	↓	↓
18	↓	M								
19	ICV	N	Hg-1.0mg/L Cont	15	6-05-17	H17-149C	0.25ml			
20	CCV	O	Hg-1.0mg/L Cal	↓	↓	H17-149A	0.20ml	↓	↓	↓

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook

Eurofins Document Reference : T-MET-FRM9079 | Revision: 3 | Historical Reference: 1-P-QM-FOR-9009818; Form 1105

Effective date : 02 Feb 2017 | Effective

	HCl Used			Other Used									
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #	Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
1	5	6	147777				100	0.04ug/L	DW354	5-26-17	6-02-17	RT
2	200	6	147777				2000	10%	DW354	5-27-17	11-27-17	RT
3	↓	↓	↓				↓	↓	↓	↓	↓	↓
4	↓	↓	↓				↓	↓	↓	↓	↓	↓
5							2000	5%	↓	↓	↓	↓
6				Toxolin 0.15	HNO3	H17-110C	10	1.0	DW354	5-29-17	6-05-17	RT
7				↓	↓	↓	↓	0.1				
8								1.0				
9								0.1				
10	2ml H_2SO_4	4	166942	3.2ml KaS2O8 1.6ml KMnO4		H17-0944 H17-09447③ 10900	5-26-17 100	2.5ug/L				
11							200	1.0				
12							100	0.2				
13							↓	0.2				
14								0.5				
15							200	1.0				
16							100	2.5				
17							↓	5.0				
18								6.0				
19							↓	2.5				
20	↓	↓	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = $Al(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	Standard/Reagent Prepared		Standards/Reagents Used					HNO_3 Used		
	Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1	Hg 5700 CRA	H17149P	Hg 0.1mg/L Cont	15	6-05-17	H17-149D	0.20ml	1	6	152495
2	Stannous Chloride	↓ 6	$SnCl_2$	6	2-07 18	169508 #8-9	200.03g			
3	Hg 1.0 mg/L Inter Cal	H17150A	Hg 10mg/L Cal	15	7-30-17	H17-103B	1.0ml			
4	0.1mg/L Inter Cal	B	1.0mg/L Cal	15	6-06-17	H17-150A				
5	1.0mg/L Inter Cont	C	10mg/L Cont	16	12-05-17	KaH6850198				
6	0.1mg/L Inter Cont	D	1.0mg/L Cont	15	6-06-17	H17-150C				
7	Hg 5700 ICV	E					0.25ml	1	6	152495
8	CCV	F	Hg 1.0mg/L Cal			H17-150A	0.20			
9	CRA	G	Hg 0.1mg/L Cont			H17-150D	0.20			
10	Std Cal	H	Hg 0.1mg/L Cal			H17-150B	0.20			
11		I					0.50			
12		J	Hg 1.0mg/L Cal			H17-150A	0.20			
13		K					0.25			
14		L					0.50			
15		M								
16	ICV	N	Hg 1.0mg/L Cont	15	6-06-17	H17-150C	0.25ml			
17	CCV	O	Hg 1.0mg/L Cal			H17-150A	0.20			
18	CRA	P	Hg 0.1mg/L Cont			H17-150D	0.20			
19	Hg 5701 ICV	Q	Hg 1.0mg/L Cont			H17-150C	0.25			
20	CCV	R	Hg 1.0mg/L Cal			H17-150A	0.10			

Key – Manufacturer (M•)

1 – Aldrich Chemical
2 – Conostan Specialty Products
3 – EM Science
4 – Fisher Scientific
5 – High-Purity Standards
6 – J. T. Baker
7 – Johnson Matthey
8 – Leeman Labs
9 – Mallinckrodt
10 – Plasma Pure
11 – Solutions Plus
12 – SPEX Industries
13 – VWR Scientific
14 – EMD
15 – Prepared in house
16-Inorganic Ventures
XX – Other (footnote Manuf.)

a

eurofins | Lancaster Laboratories Environmental

Document Title: Standard/Reagent Preparation Logbook		
Eurofins Document Reference : T-MET-FRM9079	Revision: 3	Historical Reference: 1-P-QM-FOR-9009818; Form 1105
Effective date : 02 Feb 2017	Effective	

	HCl Used			Other Used			Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Lot #	Vol (mL*)	•• M•	Lot #						
1	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H17-0944 H17-109DD	100	0.2ug/L	DJ 1354	5-29-17	6-05-17	RT
2	300	6	147777	—		—	2000	10%	↓	↓	11-29-17	↓
3	↓	↓	↓	*To vol w/ 0.15%	HNO_3	H17-110C	10	1.0	DJ 1354	5-30-17	6-06-17	RT
4								0.1				
5								1.0				
6				↓	↓	↓	↓	0.1				
7	2ml H_2SO_4	4	166942	3.2ml $K_2S_2O_8$ 1ml $KMnO_4$		H17-0944 H17-109DD	100	2.5ug/L				
8							200	1.0				
9							100	0.2				
10								0.2				
11							↓	0.5				
12							200	1.0				
13							100	2.5				
14								5.0				
15								0.0				
16							↓	2.5				
17							200	1.0				
18	↓	↓	↓				100	0.2				
19	—	—	—	5ml Aqua Regia 15ml $KMnO_4$		H17-150 H17-109DD		2.5				
20	—	—	—	↓	↓	↓	↓	1.0	↓	↓	↓	↓

Footnotes

Key (••) – Other Used

A = $CaCl_2$ (0.053%)
B = CsCl (10%)
C = KCl
D = La_2O_3 (10%)
E = Al $(NO_3)_3$ (40%)
F = Element Specific

RT = Room Temperature Storage

* units are mL unless otherwise specified
** units are mg/L unless otherwise specified

SW-846 METHOD 8270D SEMIVOLATILE DATA REVIEW SUMMARY

Draper Aden Associates performed a comprehensive manual review of the analytical results for the May 15-17, 2017 groundwater monitoring event at Hazardous Waste Management Unit 16 (HWMU 16) located at the Radford Army Ammunition Plant (RFAAP), Radford, Virginia. Draper Aden Associates collected groundwater samples from monitoring wells 16C1, 16MW8, 16MW9, 16WC1A, 16WC1B, 16-2, 16-3, 16-5, 16WC2B, and 16Spring. Groundwater sample 16WDUP was submitted to the laboratory as a blind sample duplicate for 16WC1A.

Samples 16C1, 16MW8, 16MW9, 16WC1A, and 16WC1B (compliance monitoring wells) were analyzed for 114 semivolatile target analytes. Samples 16-2, 16-3, 16-5, 16WC2B, and 16Spring (plume wells) were analyzed for three semivolatile target analytes per USEPA SW-846 Method 8270D. The following information and attached table summarize the Method 8270D data validation results. Validation of other required methods are presented on separate reports.

Draper Aden Associates sent samples to Eurofins Lancaster Laboratories Environmental (ELLE), of Lancaster, Pennsylvania and to TestAmerica North Canton, (TestAmerica), of North Canton, Ohio. Each laboratory is a VELAP accredited laboratory for the analytes, method and matrix as reported on the certificates of analysis. Both laboratories submitted results to Draper Aden Associates in a final certificate of analysis that included sample analytical results as well as relevant QA/QC and method performance criteria documentation to verify and validate the results. TestAmerica analyzed hexachlorophene and sulfotep only (Job Number: 240-79703-1). ELLE reported the remaining target analytes (SDG#: RAE85-V.2).

The evaluation of each laboratory's compliance with Method 8270D and validation of the results was based on a review of the following items: QC deliverables package, QC history documentation, case narrative, technical holding time and preservation requirements, instrument performance (tune) check, instrument calibrations, blank analysis, surrogate spike recoveries, matrix spike and matrix spike duplicate (MS/MSD) analyses, laboratory control sample (LCS) data, and internal standard requirements. A review of the transcriptions from instrument data to sample summary sheets was performed. Calculation verifications were performed on ten percent of the data set, where applicable. The following information is intended to summarize data review results and any observed significant deviations from method and/or contractual requirements.

Each laboratory received the samples on ice and in good condition, with custody seals intact. The chain of custody was appropriately signed and dated by field and laboratory personnel. Technical holding time and sample preservation were met.

The revised certificate of analysis was received on July 17, 2017. The original certificate of analysis was revised to reflect the permit required QLs and MDLs for Method 8270D. Each certificate of analysis appeared complete and the data were of acceptable quality, except where noted below. The data set demonstrated the laboratory's ability to achieve the reported permit required quantitation limit (QL) or detection limit (DL), unless noted below.

QC history documentation, instrument performance check (tuning) criteria, calibration, blank, surrogate, MS/MSD, LCS and internal standard requirements were met, except where noted below. Sample results were reviewed for transcription errors from the instrument data to the laboratory report and no errors were noted. Deviations from specific QA/QC criteria that were identified during the data review process are summarized below.

4-Aminobiphenyl and famphur did not meet the initial calibration verification (ICV) standard percent difference/drift requirement (±30%). This applied to 16C1 only. 4-Aminobiphenyl and famphur were not detected at or above the detection limit or permit QL. 4-Aminobiphenyl and famphur results were validated and qualified "UJ" to note that the DL and QL were estimated due to the observed QC deficiency. The remaining ICV standard criteria were met.

One acid surrogate recovered low in sample 16WC1B. 16WC1B was re-extracted outside holding time criteria with similar surrogate recoveries. The original results were reported as the final results. The remaining two acid surrogates recovered within criteria; therefore, no data qualification was required. The remaining surrogate criteria were met.

Due to QC issues, all samples were re-extracted outside holding time criteria. The re-extracted samples produced similar results and the original results were reported as the final results.

Nine analytes recovered low or did not recover in the MS and/or MSD. Five analytes recovered low or did not recover in the LCS. These analytes were not detected at or above the detection limit or permit QL in any compliance well sample. Associated results for these five analytes were validated and qualified "UJ" to note that the DL and QL were estimated due to the observed QC deficiency. The remaining LCS criteria were met or no data qualifications were required.

Hexachlorophene was not included in the calibration standards and was reported by the laboratory as a tentatively identified compound (TIC). Hexachlorophene was not detected in any sample and hexachlorophene results were qualified as estimated, "UJ" to note that the detection limit and QL are estimated due to the observed QC deficiency.

Hexachloroethane was analyzed by SW-846 Method 8260C and 8270D; however, final results were reported by 8260C.

Due to analytical limitations, 3-methylphenol and 4-methylphenol cannot be analyzed separately. 3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The results reported for 3-methylphenol and 4-methylphenol represent the combined total for both compounds. N-Nitrosodiphenylamine decomposes during analysis to form diphenylamine. The results reported for diphenylamine represent the combined total for both compounds.

For this Appendix IX monitoring event, results for compliance wells (16C1, 16MW8, 16MW9, 16WC1A and 16WC1B) were reported to at or above the detection limit. The detection limit was based on the current laboratory MDL study. For plume wells (16-2, 16-3, 16-5, 16WC2B, and 16Spring), results were reported to at or above the permit required QL. The sample results unaffected by the data validation process, and not detected at or above the detection limit and/or QL, were validated and reported as "U."

No target analytes were detected.

No results were rejected based on the data validation criteria.

SW-846 METHOD 8270D (GC/MS) SEMIVOLATILE ORGANIC DATA VALIDATION

Comments: *Semivolatile (a.k.a, base/neutral and acid extractables) analysis involves sample preparation using SW-846 Method 3510C. The semivolatile extracts are concentrated through evaporation. Target analytes are separated and quantified using a capillary column gas chromatograph (GC)/mass spectrometer (MS).*

A. QC DELIVERABLES PACKAGE:

1.	Was the case narrative present/signed by a lab representative?	☑ YES ☐ NO
2.	Was the Chain of Custody present/signed by a lab representative?	☑ YES ☐ NO
3.	Were the sample results included for the sample locations?	☑ YES ☐ NO
4.	Did the data correspond to the project specific analyte list?	☑ YES ☐ NO
5.	Were target analyte QLs reported on sample summary sheets in agreement with the instrument specific MDL study?	☑ YES ☐ NO

Comments: QC deliverables package criteria were met.

B. QC HISTORY DOCUMENTATION CRITERIA:

1.	Were instrument specific detection limits provided for the analytes?	☑ YES ☐ NO
2.	Were the instrument specific QLs for target analytes provided?	☑ YES ☐ NO
3.	Was calibration range specified for the target analytes?	☑ YES ☐ NO

Comments: QC history documentation criteria were met.

C. TECHNICAL HOLDING TIME AND PRESERVATION CRITERIA:

1.	Was the 7-day sample collection to extraction holding time met?	☑ YES ☐ NO
2.	Was the 40-day extraction to analysis holding time met?	☑ YES ☐ NO
3.	Were the samples received at ≤6°C?	☑ YES ☐ NO

Comments: The sample collection to extraction/analysis holding times and preservation criteria were met.

D. GC/MS INSTRUMENT PERFORMANCE CHECK CRITERIA:
(Tuning, Injection Port and Column Performance)

1.	Was analysis of the instrument performance check solution performed at the beginning of each 12-hour period of standard and/or sample analysis?	☑ YES ☐ NO
2.	Was there documentation of the injection of 50 ng of DFTPP?	☑ YES ☐ NO
3.	Were ion abundance criteria met?	☑ YES ☐ NO
4.	Was the injection port inertness verified by analysis of 4,4'-DDT?	☑ YES ☐ NO
5.	Was the degradation of DDT to DDE and DDD <20%?	☑ YES ☐ NO
	• If no, does associated data require qualification?	☑ NA ☐ YES ☐ NO

- Was the injection port inertness check acceptable? ☑ YES ☐ NO

6. Was column performance checked through the analysis of peak tailing (<2 tailing factor) of pentachlorophenol and benzidine? ☑ YES ☐ NO
   - If no, does associated data require qualification? ☑ NA ☐ YES ☐ NO
   - Was column performance check acceptable? ☑ YES ☐ NO

Comments: Instrument performance check criteria were met. Laboratory tune criteria windows are within those specified by 8270D.

E. INITIAL GC/MS CALIBRATION CRITERIA:

SW-846 Criteria:

1. Were the initial calibrations (ICAL) and any directly associated blanks and samples analyzed within 12-hours of the associated instrument performance (tune) check? ☑ YES ☐ NO
2. Were quantitation ions, used and listed on data, randomly checked against primary quantitation ions as required by Method 8270D and the RFP? ☑ YES ☐ NO
3. Were target analytes included in the ICAL? ☑ YES ☐ NO
4. Did the ICAL consist of a minimum of 5 calibration levels? *See comment*
5. Was the lowest concentration calibration standard at or below the associated MCL, regulatory compliance, or action limit? ☑ YES ☐ NO
6. Were calibration standards dropped to meet calibration criteria? ☐ YES ☑ NO
7. Were 8270D minimum RRF criteria met?
   Relative Response Factor-range (RRF 0.010-0.900) ☑ YES ☐ NO
   **Refer to Table 4 of SW-846 Method 8270D (Rev4 2/07) for specific analyte RRFs*
8. Was each target analyte %RSD ≤ 20%? ☐ YES ☑ NO
9. Was the correlation coefficient or coefficient of determination >0.99 for target analytes with > 20% RSD? ☑ YES ☐ NO
   **System recalibrated if >10% analytes fail above condition*
10. Was an initial calibration verification (ICV) standard analyzed immediately following the ICAL? ☑ YES ☐ NO
11. Was the recovery within 70-130%? ☑ YES ☐ NO
12. Was the ICV standard prepared from a different source from the ICAL ? ☑ YES ☐ NO

Method Validation Performance Criteria:

1. Did target analytes and surrogates that have RSDs > 20% have ≥0.99 correlation coefficient or coefficient of determination? ☑ YES ☐ NO
2. For linear regression curves, was the recalculated concentration of the low calibration point within ±30%? ☑ YES ☐ NO
3. For quadratic curves, was a minimum six standards used? ☑ NA ☐ YES ☐ NO

Comments: Initial calibration criteria were met except where noted above.

F. CALIBRATION VERIFICATION CRITERIA:

SW-846 Criteria:

1. Was a calibration verification analyzed at the beginning

of each 12-hour period following the analysis of the instrument performance check and prior to analysis of the method blank and samples? The calibration verification may be part of the ICAL or analyzed independently during another 12-hour analysis period. ☑ YES ☐ NO

2. Were 8260C minimum Relative Response Factor (RRF) criteria met?
Refer to Table 4- SW-846 Method 8260C (Rev4 2/07) for specific analyte RRFs ☑ YES ☐ NO
3. Did the target analytes and system monitoring analytes (surrogates) have the % D within ± 20%? ☐ YES ☑ NO

If criteria not met for more than 20% of analytes in the initial calibration, then corrective action must be taken prior to the analysis of samples.

If "NO", list analytes that exceed these criteria: *See data validation report*

Draper Aden Associates Contractual Requirements:

1. Did the target analytes and system monitoring analytes (surrogates) have % Ds within ± 20%? ☐ YES ☑ NO

Comments: The CV standard criteria were met except where noted above.

G. BLANK CRITERIA:

1. Was a method/extraction blank analyzed on each GC/MS system used for sample analysis? ☑ YES ☐ NO
2. Was a trip blank analyzed with this sample batch? ☑ NA ☐ YES ☐ NO
3. Were the blank samples interference free? ☑ YES ☐ NO
4. Was the level of blank contamination > 5% of the MCL? ☑ NA ☐ YES ☐ NO
5. List target analytes detected in the blanks: *None*

Comments: Blank criteria were met.

H. SURROGATE CRITERIA:

1. Were the following surrogates used? ☑ YES ☐ NO
   - phenol - d_6 (10%-94%)
   - 2-fluorophenol (21%-100%)
   - 2,4,6-tribromophenol (10%-123%)
   - nitrobenzene – d_5 (43%-108%)
   - 2-fluorobiphenyl (43%-116%)
   - p-terphenyl - d_{14} (33%-141%)
2. Were recoveries within the specified ranges? *See Comment*
3. Were any two base/neutral or acid surrogates out of specification or did any one base/neutral or acid extractable surrogate have a recovery of less than 10%? ☐ YES ☑ NO
   If yes, was a re-extraction and reanalysis performed to confirm that the non-compliance was due to sample matrix effects rather than laboratory deficiencies? ☑ NA ☐ YES ☐ NO

Comments: Surrogate recovery criteria were met or no data qualification was required.

I. MATRIX SPIKE/ MATRIX SPIKE DUPLICATE (MS/MSD) CRITERIA:

(MS/MSD Requirements - CLP Guidelines)

Analyte	% R Water	% RPD Water
Phenol	12-110	42
2-Chlorophenol	27-123	40
N-Nitroso-di-n-propylamine	41-116	38
4-Chloro-3-methylphenol	23-97	42
Acenaphthene	46-118	31
4-Nitrophenol	10-80	50
2,4-Dinitrotoluene	24-96	38
Pyrene	26-127	31

1. Was a MS/MSD analyzed per sample batch or every 20 samples, whichever may occur first? ☑ YES ☐ NO
2. Did the MS/MSD spike contain additional target analytes? ☑ YES ☐ NO
3. Was the MS/MSD analyzed on the specific project matrix? ☑ YES ☐ NO
4. List MS/MSD target analytes not within laboratory recovery ranges: *None*
5. Was a LCS analyzed to address failed MS spike criteria? ☑ YES ☐ NO
6. Did the LCS for the failed MS analyte(s) fall within the recovery ranges and was the problem identified as matrix interference? ☐ YES ☑ NO
7. Were analytes qualified as estimated due to MS/MSD criteria? ☑ YES ☐ NO
   - If yes, and the LCS for the analyte(s) recovered within control limits, matrix interference is suspected.

Comments: MS/MSD criteria were met except where noted above.

J. LABORATORY CONTROL SAMPLE (LCS) CRITERIA:

1. Was a LCS included in the sample analysis? ☑ YES ☐ NO
2. Did the LCS contain the required target analytes? ☑ YES ☐ NO
3. List the LCS target analytes and laboratory recovery range.
   See semivolatile certificate of analysis.
4. Were any analytes qualified as estimated due to LCS criteria? ☑ YES ☐ NO

Comments: LCS criteria were met except where noted above.

K. INTERNAL STANDARDS CRITERIA:

1. Were the following internal standards (IS) used? ☑ YES ☐ NO
   - 1,4-Dichlorobenzene-d_4
   - Naphthalene-d_8
   - Acenapththene-d_{10}
   - Phenanthrene-d_{10}
   - Pyrene-d_{10} (Chrysene-d_{12}-TestAmerica)
   - Perylene-d_{12}
2. Were IS areas within ± 50% of last CV? ☑ YES ☐ NO

3. Were IS RTs within ± 30 seconds of last CV? ☑ YES ☐ NO

Comments: Internal standard criteria were met or no data qualification was required.

L. TARGET ANALYTE IDENTIFICATION:

1. Were the RRTs of the reported analytes within ± 0.06 RRT units of the standard RRT? ☑ NA YES ☐ NO
2. Check the sample spectra against the laboratory standard spectra to see that the following criteria were met: ☑ NA YES ☐ NO
   * Did characteristic ions maximize in the same scan or within one scan of each other?
   * Were the characteristic ions present in the standard spectra present in the sample spectra for analytes detected above the QL?
   * Were the relative ion intensities between the standard and sample spectra within ± 30%?
3. Were the reported analytes confirmed? ☑ NA YES ☐ NO

Comments: Target analyte identification criteria were met. No target analytes were detected at or above the detection limit or permit QL (compliance samples) or the permit QL (plume samples).

M. TARGET ANALYTE QUANTITATION:

* If the %RSD of an analyte was 20% or less, then the average relative response factor should have been used for quantitation.
* If the %RSD of an analyte was greater than 20%, then the quantitation should be based on a calibration curve using the first or higher order regression fit of the five calibration points (6 calibration points for 2nd order).

1. List the analytes detected above the QL whose %RSD was >20%: *None*
   a. Was quantitation based on a linear regression fit? ☑ NA ☐ YES ☐ NO
   b. Was the curve forced through the origin? ☑ NA ☐ YES ☐ NO
2. Did the initial analysis of any sample have a concentration of a target analyte that exceeded the initial calibration range? ☐ YES ☑ NO
   -If so, was the sample reanalyzed at a higher dilution? ☑ NA ☐ YES ☐ NO
3. Were the analyte concentrations that were recorded on the raw sample quantitation reports accurately transferred to the sample summary sheets? ☑ YES ☐ NO

Comments: Target analyte quantitation criteria were met.

N. LIBRARY SEARCHES: Library searches were not requested with this data set.

O. CORRECTIVE ACTION TAKEN AND GENERAL COMMENTS:

Comments: The initial demonstration of capability (IDOC) for analysts TMH (TestAmerica), C. Bachman and E. Monborne (ELLE) was submitted previously. No corrective action was taken.

REFERENCES:

Draper Aden Associates conducted data validation of the above noted data set using summary tables and instrument data provided by the analyzing laboratory. Data were evaluated in general accordance with SW-846 Method requirements (Test Methods for Evaluating Solid Wastes - Physical and Chemical Methods, USEPA SW-846, 3rd edition - Final Update I, II/IIA, III and subsequent updates) and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review, January 2017, where applicable). Where QA/QC criteria differed, the analytical method acceptance criteria were used. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

LIMITATIONS:

Draper Aden Associates prepared this document (which may include drawings, specifications, reports, studies and attachments) in accordance with the agreement between Draper Aden Associates and BAE SYSTEMS, Ordnance Systems, Inc. The standard of care for all professional engineering, environmental and surveying and related services performed or furnished by Draper Aden Associates under this Agreement are the care and skill ordinarily used by members of these professions practicing under similar circumstances at the same time and in the same locality. Draper Aden Associates makes no warranties, express or implied, under this Agreement in connection with Draper Aden Associates' services. Conclusions presented are based upon a review of available information, the results of our field studies, and/or professional judgment. To the best of our knowledge, information provided by others is true and accurate, unless otherwise noted. Draper Aden Associates' liability, hereunder, shall be limited to amounts due Draper Aden Associates for services actually rendered, or reimbursable expenses actually incurred. Any reuse or modification of any of the aforementioned documents (whether hard copies or electronic transmittals) prepared by Draper Aden Associates without written verification or adaptation by Draper Aden Associates will be at the sole risk of the individual or entity utilizing said documents and such use is without the authorization of Draper Aden Associates. Draper Aden Associates shall have no legal liability resulting from any and all claims, damages, losses, and expenses, including attorney's fees arising out of the unauthorized reuse or modification of these documents. Client shall indemnify Draper Aden Associates from any claims arising out of unauthorized use or modification of the documents whether hard copy or electronic.

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Draper Aden Associates
Engineering ♦ Surveying ♦ Environmental Services

This Report has been prepared by:

_____JCF/AT 2-25-17_____ _____
Ashley Thacker, Staff Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; athacker@daa.com, www.daa.com

This Report has been subjected to technical and quality review by:

_____JCF/KP 2-25-17_____ _____
Kathy Olsen, Project Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; kolsen@daa.com, www.daa.com

SW-846 METHODS 6020A & 7470A INORGANIC DATA REVIEW SUMMARY

Draper Aden Associates performed a comprehensive manual review of the analytical results for the May 15-17, 2017 and July 19-20, 2017 groundwater monitoring event at Hazardous Waste Management Unit 16 (HWMU 16) located at the Radford Army Ammunition Plant (RFAAP), Radford, Virginia. Draper Aden Associates collected the groundwater samples from monitoring wells 16C1, 16MW8, 16MW9, 16WC1A, 16WC1B, 16-2, 16-3, 16-5, 16WC2B, and 16SPRING. Sample 16WDUP was submitted to the laboratory as a blind sample duplicate for sample 16WC1A. Validation of other required methods is presented on separate reports.

Samples 16C1, 16MW8, 16MW9, 16WC1A and 16WC1B (compliance wells) were analyzed for fifteen (15) metals by SW-846 Method 6020A and mercury by SW-846 Method 7470A. Samples 16-2, 16-3, 16-5, 16WC2B and 16SPRING (plume wells) were analyzed for eleven (11) metals by SW-846 Method 6020A and mercury by SW-846 Method 7470A. The following information and attached table summarize the inorganic data validation results.

Techniques used for metals analysis include inductively coupled plasma ICP-Mass Spectrometry (ICP-MS) and cold vapor atomic absorption (CVAA). Samples 16C1, 16MW8, 16MW9, 16WC1A, 16WC1B were analyzed for antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium and zinc by ICP-MS Method 6020A and mercury by CVAA Method 7470A. The remaining plume monitoring well samples were analyzed for arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, vanadium, and zinc by ICP-MS Method 6020A and mercury by CVAA Method 7470A. Total (T) concentrations were determined for the inorganic (metal) analytes.

Draper Aden Associates sent samples to Shealy Environmental Services (Shealy), of West Columbia, South Carolina for the inorganic analyses. On behalf of RFAAP, Shealy submitted results to Draper Aden Associates in a final certificate of analysis which included sample analytical results as well as relevant documentation to verify and validate the results. Shealy is a VELAP accredited laboratory for the above analytes, methods and matrix as reported on the certificate of analysis.

The evaluation of Shealy's compliance with the method and validation of results presented here are based upon a limited review of QA/QC information including holding times, preservation procedures, instrument tuning, calibration and calibration verification data, QL standards, blank samples (method, calibration, and others), interference check sample, pre-digestion matrix spike and matrix spike duplicate (MS/MSD), laboratory control sample (LCS), internal standard, and serial dilution results, where applicable. A review of transcriptions from instrument data to sample summary sheets was performed. Calculation checks were performed on ten percent of the data set, where applicable. The following information is intended to summarize data review results and any observed significant deviations from method and/or contractual requirements.

Shealy received the samples on ice and in good condition, with custody seals intact. Applicable holding time and preservation criteria were met. The chain of custody was appropriately signed and dated by field and laboratory personnel.

The laboratory inadvertently failed to analyze total mercury although total mercury was requested on the chain of custody. Mercury was resampled on July 19-20, 2017 and no data qualification was needed.

Method 6020A (ICP-MS)

The original certificates of analysis were received on June 14, 2017. The certificates of analysis appeared complete in their presentation and the data were of acceptable quality. The data set demonstrated the laboratory's ability to achieve the reported permit quantitation limit (QL) or detection limit (DL).

QC documentation criteria were met. Applicable instrument tune, calibration and calibration verification requirements were met. Blank, interference check samples, pre-digestion MS/MSD, LCS, internal standard and serial dilution results were within control limits, except where noted below. Deviations from QA/QC control limits that were identified during the data review process are summarized below.

Silver recovered low in the interference check sample (ICSAB) for samples 16WDUP and 16WC1B. Total silver was not detected at or above the detection limit or QL in any sample and associated sample results for total silver were validated and qualified "UJ" to note that the DL and QL were estimated due to the observed QC deficiency. The remaining ICS criteria were met.

Chromium and lead recovered low in the MSD. Total chromium was not detected in any sample and total chromium sample results in compliance wells were qualified as "UJ" to note that the DL and QL were estimated. Total chromium results in plume wells were qualified as "UJ" to note that the QL was estimated. Results for total lead less than the QL in 16MW8 and 16WC1A were qualified as estimated. Total lead was not detected in other remaining samples. Remaining total lead results in compliance wells were validated and qualified "UJ" to note that the DL and QL were estimated due to the observed QC deficiency. Remaining total lead results in plume wells were validated and qualified "UJ" to note that the QL was estimated due to the observed QC deficiency. The remaining MS/MSD criteria were met.

An alternate source demonstration (ASD) for cobalt is ongoing as directed by the DEQ for cobalt for 16WC1A, 16WC1B, and 16MW9.

Field duplicate/sample results exhibited acceptable precision, where applicable.

Target analytes detected at or above the permit detection limit or QL and/or analytical data that required a data validation qualifier due to quality control deviations noted above are summarized on the attached table. The reported concentration for target analytes detected less than the QL should be considered estimated.

For this Appendix IX groundwater monitoring event, results for samples 16C1, 16MW8, 16MW9, 16WC1A, 16WC1B, and 16WDUP were reported to at or above the laboratory detection limit. Sample results unaffected by the data validation process, and not detected at or above the detection limit or QL, were validated and reported as "U." The reported concentration for target analytes detected less than the QL were validated and qualified "J" to note that the reported concentration should be considered estimated.

Sample results for 16-2, 16-3, 16-5, 16WC2B, and 16SPRING were reported at or above the permit required QL. Sample results unaffected by the data validation process, and not detected at or above the permit QL, were validated and reported as "U." No results were rejected based on the data validation criteria. All QLs were at or below the applicable groundwater protection standard (GPS).

Method 7470A (CVAA)

The original certificates of analysis were received on August 11, 2017. The certificates of analysis appeared complete in its presentation and the final data were of acceptable quality. The certificate of analysis demonstrated the ability of the laboratory to achieve the reported permit required QL or DL for mercury.

QC documentation criteria were met. Instrument calibration and calibration verification criteria were met. QL standards, blank samples, MS/MSD, and LCS were analyzed as required and applicable criteria were met unless noted below. No deviations from QA/QC control limits were identified during the data review process.

The laboratory inadvertently logged in the sampled time for 16-2 as 01:10 instead of 11:10 as stated on the chain of custody; however, this was a typographical error and no data qualification was required.

Field duplicate/sample results exhibited acceptable precision, where applicable.

Target analytes detected at or above the permit detection limit or QL and/or analytical data that required a data validation qualifier due to quality control deviations noted above are summarized on the attached table.

For samples 16-2, 16-3, 16-5, 16WC2B and 16SPRING, results were reported at or above the permit required QL. For this Appendix IX groundwater monitoring event, results for samples

16C1, 16MW8, 16MW9, 16WC1A, 16WC1B were reported to at or above the permit detection limit. Sample results unaffected by the data validation process, and not detected at or above the detection limit or QL, were validated and reported as "U." No results were rejected based on the data validation criteria.

INORGANIC DATA EVALUATION FOR ICP/MS SW-846 METHOD 6020A

Shealy, West Columbia, South Carolina; Lot Numbers: SE19003, SE18010
Preparation Method: 3005A
"☑" denotes items reviewed. See Data Validation Summary for additional comments.

A. DOCUMENTION COMPLETENESS CRITERIA:
Data Quality Objective: Representativeness
- ☑ Chain of custody – Custody transfers must be signed and dated
- ☑ Chain of custody properly and completely filled out including sampler signatures, date and time of sampling, sample ID, analysis requested

B. DETECTION LIMIT AND QUANTITATION LIMIT CRITERIA:
Data Quality Objective: Analytical Sensitivity
- ☑ Specific detection limit reported
- ☑ Specific quantitation limit reported
- ☑ Standard analyzed at the QL (LLQC), digested, 70-130% recovery, analyzed after MDL determination and as needed
- ☑ Method detection limit (MDL) less than QL
- ☑ VELAP accredited within 12 months

C. INITIAL DEMONSTRATION OF CAPABILITY (IDOC) CRITERIA:
Data Quality Objective: Laboratory Method Sensitivity
- ☑ IDOC for analyst BNW submitted previously

D. SAMPLE AND STANDARD PREPARATION CRITERIA:
Data Quality Objective: Accuracy and Representativeness
- ☑ Digestion prior to analysis
- ☑ Digestion method: 3005A
- ☑ Samples and standards matrix matched or internal standard used

E. TECHNICAL HOLDING TIME / PRESERVATION REQUIREMENTS:
Data Quality Objective: Representativeness
- ☑ 6 month holding time, pH<2 with Nitric Acid (HNO_3)

F. INSTRUMENT TUNE CRITERIA:
Data Quality Objective: Verify Operating Conditions
- ☑ Prior to calibration
- ☑ Relative Standard Deviation (RSD) </=5%
- ☑ Resolution < 0.9 amu full width at 10% peak height (or lower)
- ☑ Mass calibration </=0.1 amu difference from true value

G. INITIAL CALIBRATION CRITERIA:
Data Quality Objective: Laboratory Accuracy
- ☑ 1 calibration blank and 3 standards,
- ☑ Linear curve fit with correlation coefficient $r \geq 0.998$
- ☑ Daily calibration following tuning and prior to sample analysis

H. INITIAL CALIBRATION VERIFICATION (ICV) CRITERIA:

Data Quality Objective: Laboratory Accuracy

- ☑ Daily following initial calibration, independent/second source used for ICV
- ☑ ICV concentration near mid-point of calibration curve, 90-110% recovery
- ☑ Low level ICV (LLICV) – prior to analysis, at QL concentration, 70-130% recovery

I. INITIAL CALIBRATION BLANK CRITERIA:

Data Quality Objective: Laboratory Analytical Sensitivity/Instrument Drift/Contamination Evaluation

- ☑ Daily following ICV
- ☑ Interference free

J. CONTINUING CALIBRATION VERIFICATION (CCV) CRITERIA:

Data Quality Objective: Laboratory Analytical Accuracy

- ☑ CCV, prior to analysis, after every 10 samples, at end of analysis
- ☑ CCV recovery within 90-110%, mid-point of curve concentration
- ☑ Low level CCV (LLCCV), concentration at QL, prior to analysis, end of analysis, after every 10 samples, if necessary (70-130% R)

K. CONTINUING CALIBRATION BLANK CRITERIA:

Data Quality Objective: Laboratory Analytical Sensitivity/Instrument Drift/Contamination Evaluation

- ☑ Immediately after the CCV, 10 sample frequency
- ☑ Interference free

L. BLANK CRITERIA:

Data Quality Objective: Sensitivity/Instrument Drift/Contamination Evaluation

- N/A Trip Blank (check only if analyzed)
- ☑ Method/Other Lab Blanks (check only if analyzed), one per digestion batch
- ☑ Interference free

M. INTERFERENCE CHECK SAMPLE (ICS) CRITERIA:

Data Quality Objective: Analytical Accuracy/Verification of Isobaric Interference Corrections

- ☑ At beginning of analytical run
- ☑ Recovery: 80-120% (ICSAB)

N. MATRIX SPIKE DUPLICATE (MSD) CRITERIA:

Data Quality Objective: Method Precision in Sample Matrix

- ☑ All analytes, one MSD or sample duplicate per batch of 20 samples
- ☑ Spiked prior to sample preparation
- ☑ RPD ≤ 20 between MS and MSD results or sample and duplicate results
- ☑ MSD analyte recovery 75-125%

O. MATRIX SPIKE (MS) CRITERIA:

Data Quality Objective: Method Accuracy in Sample Matrix

- ☑ All analytes, one MS per digestion batch of 20 samples
- ☑ Spiked prior to sample preparation
- ☑ Recovery: 75-125%
- ☑ Post digestion spike if MS/MSD recoveries fail
- ☑ Recovery of post digestion spike analytes within 80-120%

P. LABORATORY CONTROL SAMPLE (LCS) CRITERIA:

Data Quality Objective: Laboratory Method Accuracy, Laboratory Performance

- ☑ LCS for all target analytes, one LCS per 20 sample batch
- ☑ LCS concentration at approximately mid-point of analytical curve
- ☑ Recovery within 80-120% for all analytes

Q. INTERNAL STANDARDS (IS) CRITERIA:

Data Quality Objective: Analytical Accuracy in Sample Matrix

- ☑ IS added to each sample and QC sample
- ☑ % Relative intensity (RI) within 70-125%

R. SERIAL DILUTION (DILUTION TEST) TEST CRITERIA:

Data Quality Objective: Accuracy in Sample Matrix

- ☑ <10% Difference (applicable when sample concentration >10X QL)

S. SAMPLE QUANTITATION AND GENERAL REPORTING CRITERIA:

Data Quality Objective: n/a

- ☑ Sample results reported within instrument linear dynamic range
- ☑ Sample results reported to the detection limit (compliance wells)
- ☑ Sample results reported to the quantitation limit (plume wells)

Draper Aden Associates conducted a limited data validation of the above noted data set using the data package provided by the analyzing laboratory. Data evaluation was conducted using SW-846 (Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, USEPA, SW-846, 3rd Edition-Final Update I, II/IIA, III, and subsequent updates) method requirements and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017, where applicable). Validation of this data set is limited to review of items detailed in this data review report. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

INORGANIC DATA EVALUATION FOR MERCURY BY COLD VAPOR AA SW-846 METHOD 7470A

Shealy, West Columbia, South Carolina; Lot Numbers: SG21005, SG21006
"☑" denotes items were reviewed. See Data Validation Summary for additional comments.

A. QC DOCUMENTATION CRITERIA:
- ☑ Specific detection limits/quantitation limit (QLs) for target analyte
- ☑ Standard analyzed at the QL (70-130% Recovery)
- ☑ VELAP accredited within 12 months
- ☑ IDOC for analyst COH submitted previously

B. METHOD INFORMATION DOCUMENTATION:
- ☑ Mercury analyzed by requested method

C. TECHNICAL HOLDING TIME / PRESERVATION REQUIREMENTS:
- ☑ 28 day holding time
- ☑ Adjust pH <2 w/ HNO_3

D. INSTRUMENT CALIBRATION CRITERIA:
- ☑ 1 calibration blank and at least 3 standards, correlation coefficient >0.995
- ☑ Instrument calibrated for every analytical sequence for every method

E. INITIAL / CONTINUING CALIBRATION VERIFICATION CRITERIA:
- ☑ 10 sample frequency for CCV
- ☑ Recovery within 80-120%

F. BLANK SAMPLE CRITERIA:
- N/A Trip Blank (check only if analyzed)
- N/A Equipment Blank (check only if analyzed)
- ☑ Method/other laboratory blanks (check only if analyzed)
- ☑ Interference free

G. MATRIX SPIKE DUPLICATE (MSD) SAMPLE CRITERIA:
- ☑ One MSD or sample duplicate per batch of 20 samples
- ☑ RPD ≤20 between MS and MSD or sample and duplicate results
- ☑ Recovery 75-125% for MSD

H. MATRIX SPIKE (MS) SAMPLE CRITERIA:
- ☑ Recovery within 75-125% range
- ☑ One MS per batch of 20 samples
- ☑ MS added prior to digestion

I. LABORATORY CONTROL SAMPLE (LCS) CRITERIA:
- ☑ LCS for mercury
- ☑ Recovery within 80-120%
- ☑ Independent source for LCS

J. SAMPLE RESULTS CRITERIA:

- ☑ Results reported within instrument calibration range
- ☑ Results reported to laboratory detection limit (compliance wells)
- ☑ Results reported to laboratory quantitation limit (plume wells)

Draper Aden Associates conducted a limited data validation of the above noted data set using the data package provided by the analyzing laboratory. Data evaluation was conducted using SW-846 (Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, USEPA, SW-846, 3rd Edition-Final Update I, II/IIA, III, and subsequent updates) method requirements and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017, where applicable). Validation of this data set is limited to review of items detailed in this data review report. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

LIMITATIONS:

Draper Aden Associates prepared this document (which may include drawings, specifications, reports, studies and attachments) in accordance with the agreement between Draper Aden Associates and BAE Systems, Ordnance Systems, Inc.

The standard of care for all professional engineering, environmental and surveying and related services performed or furnished by Draper Aden Associates under this Agreement are the care and skill ordinarily used by members of these professions practicing under similar circumstances at the same time and in the same locality. Draper Aden Associates makes no warranties, express or implied, under this Agreement in connection with Draper Aden Associates' services.

Conclusions presented are based upon a review of available information, the results of our field studies, and/or professional judgment. To the best of our knowledge, information provided by others is true and accurate, unless otherwise noted. Draper Aden Associates' liability, hereunder, shall be limited to amounts due Draper Aden Associates for services actually rendered, or reimbursable expenses actually incurred.

Any reuse or modification of any of the aforementioned documents (whether hard copies or electronic transmittals) prepared by Draper Aden Associates without written verification or adaptation by Draper Aden Associates will be at the sole risk of the individual or entity utilizing said documents and such use is without the authorization of Draper Aden Associates. Draper Aden Associates shall have no legal liability resulting from any and all claims, damages, losses, and expenses, including attorney's fees arising out of the unauthorized reuse or modification of these documents. Client shall indemnify Draper Aden Associates from any claims arising out of unauthorized use or modification of the documents whether hard copy or electronic.

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Draper Aden Associates
Engineering ♦ Surveying ♦ Environmental Services

This Report has been prepared by:

_____JCF/AT 9-25-17_____ _____
Ashley Thacker, Staff Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; athacker@daa.com, www.daa.com

This Report has been subjected to technical and quality review by:

_____JCF/KO 9-25-17 _____
Kathy Olsen, Project Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; kolsen@daa.com, www.daa.com

SW-846 METHOD 8260C VOLATILE ORGANICS DATA REVIEW SUMMARY

Draper Aden Associates performed a comprehensive manual review of the analytical results for the May 15-17, 2017 monitoring event at Hazardous Waste Management Unit 16 (HWMU 16) located at the Radford Army Ammunition Plant (RFAAP), Radford, Virginia. Draper Aden Associates collected groundwater samples from monitoring wells 16C1, 16MW8, 16MW9, 16WC1A, 16WC1B, 16-2, 16-3, 16-5, 16WC2B, and 16Spring. Groundwater sample 16WDUP was submitted to the laboratory as a blind field duplicate for 16WC1A.

Samples 16C1, 16MW8, 16MW9, 16WC1A, and 16WC1B (compliance monitoring wells) were analyzed for 66 volatile organic target analytes and samples 16-2, 16-3, 16-5, 16WC2B, and 16Spring (plume wells) were analyzed for 20 volatile organic target analytes per USEPA SW-846 Method 8260C. The following information and attached table summarize the Method 8260C data validation results.

Draper Aden Associates sent samples to Eurofins Lancaster Laboratories Environmental (ELLE), of Lancaster, Pennsylvania. ELLE performed the SW-846 Method 8260C volatile analysis. ELLE is a VELAP accredited laboratory for the analytes, method and matrix as reported on the certificate of analysis. ELLE submitted results to Draper Aden Associates in a final certificate of analysis, which included sample analytical results as well as relevant documentation to validate and verify the results (SDG#: RAE85-V.2).

The evaluation of ELLE's compliance with Method 8260C and validation of the results were based on a review of the following items: QC deliverables package, QC history documentation, technical holding times and preservation requirements, instrument performance (tune) check, instrument calibration and calibration verification data, blank, surrogate spike, matrix spike and matrix spike duplicate (MS/MSD), laboratory control sample (LCS), internal standards results, and/or target analyte identification and quantitation. A review of transcriptions from instrument data to sample summary sheets was performed. Calculation verifications were performed on ten percent of the data set, where applicable. The following information is intended to summarize data review results and any observed significant deviations from method and/or contractual requirements.

ELLE received the samples on ice and in good condition, with custody seals intact. The chain of custody (COC) was appropriately signed and dated by field and laboratory personnel. Technical holding time and preservation criteria were met, except where noted below.

The revised certificate of analysis was received on July 17, 2017. The original certificate of analysis was revised to reflect the permit required QLs and MDLs. The certificate of analysis appeared complete in its presentation and the data were of acceptable quality. The certificates of analysis demonstrated the ability of the laboratory to achieve the quantitation

limit (QL) and method detection limit/detection (MDL/DL) for each target analyte, unless noted below.

QC deliverables package requirements were met. QC history documentation and instrument performance check criteria were met. Tuning, initial calibration, calibration verification, blanks, surrogates, MS/MSD, LCS and internal standards criteria were met, except where noted below. Sample results were verified and no transcription errors were observed.

Acrolein was analyzed using a sample aliquot adjusted to pH <2 SU. Acrolein was not detected at or above the detection limit or QL in any sample. Acrolein sample results were validated and qualified "UJ" to note that the DL and QL were estimated due to the observed QC deficiency. Acrolein is not a target analyte for the plume well samples.

Acrolein and trans-1,4-dichloro-2-butene did not meet the continuing calibration verification (CV) standard percent difference/drift requirement (±20%). These analytes were not detected at or above the detection limit or QL in any sample and sample results were validated and qualified "UJ" to note that the DL and QL were estimated due to the observed QC deficiency. Acrolein and trans-1,4-dichloro-2-butene were not target analytes for the plume well samples. The remaining CV standard criteria were met.

Acrolein, naphthalene, 1,2,4-trichlorobenzene, and trans-1,4-dichloro-2-butene recovered low in the LCS. These analytes were not detected at or above the detection limit or QL in any sample and sample results were validated and qualified "UJ" to note that the DL and QL were estimated due to the observed QC deficiency. Acrolein, naphthalene, 1,2,4-trichlorobenzene and trans-1,4-dichloro-2-butene were not target analytes for the plume well samples. The remaining LCS criteria were met.

Acrolein recovered low in the MS/MSD. Acrolein sample results were validated and qualified "UJ" to note that the DL and QL were estimated due to the low MS/MSD recovery. Chloroethane and 1,1-dichloroethene recovered high in the MS/MSD. Detected chloroethane and 1,1-dichloroethene results were validated and qualified as "J" to note the result was considered estimated. The remaining MS/MSD criteria were met.

For sample 16C1, 16MW9, and 16WC1A, the initial results for diethyl ether exceeded the instrument calibration range. These samples were reanalyzed in dilution and diethyl ether results from the dilution analysis were reported for these samples.

Laboratory analysis was performed using a 25 ml purge volume for the analytes except 2-propanol. 2-Propanol analysis was performed using a 5 ml purge volume.

Field duplicate/sample results for 16WC1A exhibited acceptable precision, where applicable. A trip blank was submitted and analyzed for each day of sampling.

For compliance well samples 16C1, 16MW8, 16MW9, 16WC1A, 16WDUP, and 16WC1B, results were reported to at or above the permit detection limit for this Appendix IX monitoring event. Where permit MDLs were lower than the laboratory's current MDL study, results were reported to the laboratory MDL. For the remaining samples (plume wells), target analytes were reported to at or above the permit QL.

Target analytes detected at or above the detection limit or QL and/or analytical data that required a data validation qualifier due to quality control deviations noted above are summarized on the attached table. The reported concentration for target analytes detected less than the QL should be considered estimated.

Results for samples unaffected by the data validation process, and not detected at or above the detection limit and/or QL, were validated and reported as "U." No results were rejected based on the data validation criteria.

SW-846 METHOD 8260C (GC/MS) VOLATILE ORGANICS DATA VALIDATION

Comments: *Volatile organic analysis uses a purge and trap system to remove volatile organic target analytes from a 5 or 25 ml water sample (SW-846 5030C). Target analytes are separated and quantified using a capillary column gas chromatograph (GC)/mass spectrometer (MS).*

A. QC DELIVERABLES PACKAGE:

1.	Was the case narrative present/signed by a lab representative?	☑ YES ☐ NO
2.	Was the Chain of Custody present/signed by a lab representative?	☑ YES ☐ NO
3.	Were the sample results included for the sample locations?	☑ YES ☐ NO
4.	Did the results correspond to the project specific analyte list?	☑ YES ☐ NO
5.	Were the analyte QLs reported on sample summary sheets in agreement with the MDL study?	☑ YES ☐ NO
6.	Were sample locations, analytes and QLs in agreement with the electronic deliverable (EDD)?	☑ YES ☐ NO
7.	Currently VELAP accredited?	☑ YES ☐ NO

Comments: QC deliverables package requirements were met. The Appendix IX monitoring target analyte list was modified per the 2014 permit modification.

B. QC HISTORY DOCUMENTATION CRITERIA:

1.	Was an instrument specific MDL study provided which included DL and QL values for the target analytes?	☑ YES ☐ NO
2.	Was the instrument calibration range provided?	☑ YES ☐ NO
3.	Were the instrument specific check sample data provided for the target analytes?	☑ YES ☐ NO

Comments: Except as noted above, QC history documentation was provided and met criteria. The laboratory analyzed a MDL check sample at 1 µg/l (5 ml purge) and at 0.1 µg/l (25 ml purge) for most target analytes.

C. TECHNICAL HOLDING TIME AND PRESERVATION CRITERIA:

1.	Was the 14-day sample collection to analysis holding time met?	☑ YES ☐ NO
2.	Were the samples received at ≤6°C, zero headspace?	☑ YES ☐ NO
3.	Were the sample pHs adjusted to < 2 with HCl?	☑ YES ☐ NO
4.	Were the sample pHs adjusted to 4-5 with HCl? (Acrolein only)	☐ YES ☑ NO
5.	Were samples analyzed unpreserved (2-chloroethyl vinyl only)	☑ NA ☐ YES ☐ NO

Comments: Technical holding time and sample preservation criteria were met except where noted above.

D. GC/MS INSTRUMENT PERFORMANCE (TUNING) CHECK CRITERIA:

1.	Was the instrument performance check solution analyzed at the beginning of each 12-hour period prior to standards/samples analysis?	☑ YES ☐ NO
2.	Was there documentation of the injection of 5-50 ng bromofluorobenzene (BFB)?	☑ YES ☐ NO
3.	Were the ion abundance criteria met?	☑ YES ☐ NO
4.	Were calibration, blank, and sample analyses performed within 12 hours of tuning?	☑ YES ☐ NO

Comments: Instrument performance check criteria were met.

E. INITIAL GC/MS CALIBRATION CRITERIA:

SW-846 Criteria*:*

1.	Was the internal standard (IS) which was selected for target analyte RF calculation the IS which had the closest retention time?	☑ YES ☐ NO
2.	Were the target analytes included in the ICAL?	☑ YES ☐ NO
3.	Were any calibration levels removed from the curve that would negatively influence the data integrity?	☐ YES ☑ NO
4.	Did the ICALs consist of a minimum of 5 calibration levels?	☑ YES ☐ NO
5.	Was the lowest concentration calibration standard at or below the associated MCL?	☑ YES ☐ NO
6.	Was the calibration curve developed using the same purge volume used for sample analysis?	☑ YES ☐ NO
7	Were 8260C minimum Relative Response Factor (RRF) criteria met? *Refer to Table 4- SW-846 Method 8260C (Rev3 8/06) for specific analyte RRFs*	☑ YES ☐ NO
8.	Was each target analyte %RSD ≤ 20%?	☐ YES ☑ NO
9.	Was the correlation coefficient >0.99 for target analytes with ≥20 % RSD? (*System recalibrated if >10% analytes fail above condition)*	☑ YES ☐ NO
10.	Was an initial calibration verification (ICV) standard analyzed immediately following the ICAL?	☑ YES ☐ NO
11.	Was the recovery within 70-130%?	☑ YES ☐ NO
12.	Was the ICV standard prepared from a different source from the ICAL ?	☑ YES ☐ NO

Method Validation Performance Criteria:

1.	Did target analytes and surrogates that have RSDs > 20% have ≥0.99 correlation coefficient or coefficient of determination?	☑ YES ☐ NO
2.	For linear regression curves, was the recalculated concentration of the low calibration point within ±30%?	☑ NA ☐ YES ☐ NO
3.	For quadratic curves, was a minimum six standards used?	☑ YES ☐ NO

Comments: Initial calibration criteria were met.

F. CALIBRATION VERIFICATION CRITERIA:

SW-846 Criteria:

1. Was a calibration verification analyzed at the beginning of each 12-hour period following the analysis of the instrument performance check and prior to analysis of the method blank and samples? The calibration verification may be part of the ICAL or analyzed independently during another 12-hour analysis period. ☑ YES ☐ NO
2. Were 8260C minimum Relative Response Factor (RRF) criteria met? *Refer to Table 4- SW-846 Method 8260C (Rev3 8/06) for specific analyte RRFs* ☑ YES ☐ NO
3. Did the target analytes and system monitoring analytes (surrogates) have the % D within ± 20%? ☐ YES ☑ NO

If criteria not met for more than 20% of analytes in the initial calibration, then corrective action must be taken prior to the analysis of samples.

If "NO", list analytes that exceed these criteria: *See data validation report*

Draper Aden Associates Contractual Requirements:

1. Did the target analytes and system monitoring analytes (surrogates) have % Ds within ± 20%? ☐ YES ☑ NO

Comments: The CV standard criteria were met except where noted above.

G. BLANK CRITERIA:

1. Was a method blank analyzed after the calibration standards, prior to sample analysis, and once for every 12-hour period beginning with the injection of BFB? ☑ YES ☐ NO
2. Was a trip blank analyzed with this sample batch? ☑ YES ☐ NO
3. Were the trip blanks and method blanks interference free? ☑ YES ☐ NO
4. Was the level of blank contamination less than 5% of the regulatory limit associated with an analyte or less than 5% of the sample result for the same analyte, whichever is greater? ☑ NA ☐ YES ☐ NO
5. List target analytes detected in the blanks: *None*
6. Did any result exceed the calibration range? ☑ YES ☐ NO
7. Were one or more blanks analyzed following the high concentration sample to prevent cross contamination? ☐ YES ☑ NO

Comments: Blank criteria were met or no data qualification was required.

H. SURROGATE CRITERIA:

SW-846 Criteria:

1. Were the following surrogates used? ☑ YES ☐ NO
   - dibromofluoromethane (77-114%)
   - 4-bromofluorobenzene (78-110%)

- toluene-d8 (77-110%)
- 1,2-dichloroethane-d4 (74-113%)

2. Were recoveries within specified ranges? ☑ YES ☐ NO
   If "NO", corrective action is required. Flagging of the data as estimated is not acceptable until corrective action has been attempted
3. Were samples with surrogates outside the QC window reanalyzed as required? ☑ NA ☐ YES ☐ NO

Comments: Surrogate criteria were met.

I. MATRIX SPIKE, MATRIX SPIKE DUPLICATE (MS/MSD) CRITERIA:

(MS/MSD Requirements - CLP Guidelines)

Analyte	*% R Water*	*% RPD Water*
1,1-dichloroethene	61-145	14
trichloroethene	71-120	14
benzene	76-127	11
toluene	76-125	13
chlorobenzene	75-130	13

1. Was a matrix spike and matrix spike duplicate (MS/MSD) analyzed per sample batch or every 20 samples, whichever may occur first? ☑ YES ☐ NO
2. Did the MS/MSD spike contain additional target analytes? ☑ YES ☐ NO
3. Was the MS/MSD analyzed on the specific project matrix? ☑ YES ☐ NO
4. MS/MSD acceptance range: 75-125%; 70-130% poor purge analytes; RPD ≤20
5. Were analytes qualified as estimated due to MS/MSD criteria? ☑ YES ☐ NO
   - If yes, and the LCS for the analyte(s) recovered within control limits, matrix interference is suspected.

Comments: MS/MSD criteria were met except where noted above.

J. LABORATORY CONTROL SAMPLE (LCS) CRITERIA:

1. Was a LCS included in the sample batch analysis? ☑ YES ☐ NO
2. Did the LCS contain the required target analytes? (No TICs) ☑ YES ☐ NO
3. List the LCS acceptance criteria: 80-120%; 70-130% for poor purge analytes
4. Were any analytes qualified as estimated? ☑ YES ☐ NO

Comments: LCS criteria were met except where noted above.

K. INTERNAL STANDARDS (IS) CRITERIA:

1. Were the following internal standards (IS) used? ☑ YES ☐ NO
   t-butyl alcohol-d_{10}, fluorobenzene, chlorobenzene-d_5, 1,4-dichlorobenzene-d_4
2. Were IS areas within - 50% to + 100% of the last CV? ☑ YES ☐ NO
3. Were IS RTs within ± 30 seconds of the last CV? ☑ YES ☐ NO
4. Were samples failing Items 2 and/or 3 above reanalyzed as required by the method? ☑ NA ☐ YES ☐ NO

Comments: Internal standards criteria were met.

L. TARGET ANALYTE IDENTIFICATION:

1. Were the RRTs of the reported analytes within ± 0.06 RRT units of the standard RRT? ☑ YES ☐ NO
2. Check the sample spectra against the laboratory standard spectra to see that the following criteria were met:
   * Characteristic ions maximize in the same scan or within one scan of each other
   * Characteristic ions present in the standard spectra present in the sample spectra for analytes detected above the QL
   * Relative intensities of the ions between the standard and sample spectra within ± 30%
3. Were the reported analytes confirmed? ☑ YES ☐ NO

Comments: Target analyte identification criteria were met. See attached table for detected analytes. Identification criteria were met.

M. TARGET ANALYTE QUANTITATION:

* If the %RSD of an analyte was 20% or less, then the average relative response factor should have been used for quantitation.
* If the %RSD of an analyte was greater than 20%, then the quantitation should have been based on a calibration curve using the first or higher order regression fit of the five calibration points. (6 calibration points for 2nd order).

1. List the detected analytes whose %RSD was > 20%: *None*
   - Was quantitation based on a linear regression fit? ☑ NA ☐ YES ☐ NO
2. Did the initial analysis of any sample have a concentration of an analyte which exceeded the initial calibration range? ☑ YES ☐ NO
   -If so, was the sample reanalyzed at a higher dilution? ☑ YES ☐ NO
3. Were the analyte concentrations that were recorded on the raw sample quantitation reports accurately transferred to the sample summary sheets? ☑ YES ☐ NO
4. Were field sample duplicate RPDs <20 where applicable? ☑ YES ☐ NO

Comments: Target analyte quantitation criteria were met, where applicable.

N. LIBRARY SEARCHES: Library searches were not requested with this data set.

O. CORRECTIVE ACTION TAKEN AND GENERAL COMMENTS:

The initial demonstration of capability (IDOC) for analysts K. Legerlotz, A. Sneeringer, and D. Viray was submitted previously by the laboratory. No corrective action was taken.

REFERENCES:

Draper Aden Associates conducted data validation of the above noted data set using summary tables and instrument data provided by the analyzing laboratory. Data were evaluated in general accordance with SW-846 Method requirements (Test Methods for Evaluating Solid Wastes - Physical and Chemical Methods, USEPA SW-846, 3rd edition - Final Update I, II/IIA, III and subsequent updates) and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Organic Superfund Methods Data Review, January 2017, where applicable). Where QA/QC criteria differed, the analytical method acceptance criteria were used. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

LIMITATIONS:

Draper Aden Associates prepared this document (which may include drawings, specifications, reports, studies and attachments) in accordance with the agreement between Draper Aden Associates and BAE Systems, Ordnance Systems, Inc. The standard of care for all professional engineering, environmental and surveying and related services performed or furnished by Draper Aden Associates under this Agreement are the care and skill ordinarily used by members of these professions practicing under similar circumstances at the same time and in the same locality. Draper Aden Associates makes no warranties, express or implied, under this Agreement in connection with Draper Aden Associates' services. Conclusions presented are based upon a review of available information, the results of our field studies, and/or professional judgment. To the best of our knowledge, information provided by others is true and accurate, unless otherwise noted. Draper Aden Associates' liability, hereunder, shall be limited to amounts due Draper Aden Associates for services actually rendered, or reimbursable expenses actually incurred. Any reuse or modification of any of the aforementioned documents (whether hard copies or electronic transmittals) prepared by Draper Aden Associates without written verification or adaptation by Draper Aden Associates will be at the sole risk of the individual or entity utilizing said documents and such use is without the authorization of Draper Aden Associates. Draper Aden Associates shall have no legal liability resulting from any and all claims, damages, losses, and expenses, including attorney's fees arising out of the unauthorized reuse or modification of these documents. Client shall indemnify Draper Aden Associates from any claims arising out of unauthorized use or modification of the documents whether hard copy or electronic.

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Draper Aden Associates
Engineering ♦ Surveying ♦ Environmental Services

This Report has been prepared by:

_____JCF/AT 9-25-2017_____ _____
Ashley Thacker, Staff Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444, athacker@daa.com, www.daa.com

This Report has been subjected to technical and quality review by:

_____JCF/KO 9-25-2017_____ _____
Kathy Olsen, Project Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444, kolsen@daa.com, www.daa.com

Comprehensive Data Validation Report
Radford Army Ammunition Plant (RFAAP), Radford, Virginia
Facility: HWMU-16 Monitoring Event: Second Quarter 2017

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 6020A							
Laboratory: Shealy Environmental Services, West Columbia, SC							
Antimony	16C1	2	U	U		2	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		2	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		2	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		2	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		2	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		2	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Arsenic	16C1	10	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	10	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	10	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	10	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	10	U	U		10	Analyte not detected at or above the DL or QL.
	16WC2B	10	U	U		10	Analyte not detected at or above the QL.
	16-2	10	U	U		10	Analyte not detected at or above the QL.
	16-3	10	U	U		10	Analyte not detected at or above the QL.
	16-5	10	U	U		10	Analyte not detected at or above the QL.
	16SPRING	10	U	U		10	Analyte not detected at or above the QL.
	16WDUP	10	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Barium	16C1	170		170		10	No action taken.
	16MW8	120		120		10	No action taken.
	16MW9	520		520		10	No action taken.
	16WC1A	270		270		10	No action taken. Blind field duplicate of 16WDUP.
	16WC1B	130		130		10	No action taken.
	16WC2B	100		100		10	No action taken.
	16-2	190		190		10	No action taken.
	16-3	660		660		10	No action taken.
	16-5	150		150		10	No action taken.
	16SPRING	180		180		10	No action taken.
	16WDUP	260		260		10	No action taken. Blind field duplicate of 16WC1A.
Beryllium	16C1	1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.21	J	0.21	J	1	Result < QL.
	16MW9	1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 6020A							
Laboratory: Shealy Environmental Services, West Columbia, SC							
Beryllium	16WC1B	1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Cadmium	16C1	1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.21	J	0.21	J	1	Result < QL.
	16MW9	1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Chromium	16C1	5	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (74%).
	16MW8	5	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (74%).
	16MW9	5	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (74%).
	16WC1A	5	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (74%). Blind field duplicate of 16WDUP.
	16WC1B	5	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (74%).
	16WC2B	5	U	U	J	5	Analyte not detected at or above the QL. MSD recovered low (74%).
	16-2	5	U	U	J	5	Analyte not detected at or above the QL. MSD recovered low (74%).
	16-3	5	U	U	J	5	Analyte not detected at or above the QL. MSD recovered low (74%).
	16-5	5	U	U	J	5	Analyte not detected at or above the QL. MSD recovered low (74%).
	16SPRING	5	U	U	J	5	Analyte not detected at or above the QL. MSD recovered low (74%).
	16WDUP	5	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (74%). Blind field duplicate of 16WC1A.
Cobalt	16C1	5	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	5	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2.7	J	2.7	J	5	Result < QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 6020A							
Laboratory: Shealy Environmental Services, West Columbia, SC							
Cobalt	16WC1A	6.4		6.4		5	No action taken. Blind field duplicate of 16WDUP.
	16WC1B	7.4		7.4		5	No action taken.
	16WC2B	5	U	U		5	Analyte not detected at or above the QL.
	16-2	5	U	U		5	Analyte not detected at or above the QL.
	16-3	5	U	U		5	Analyte not detected at or above the QL.
	16-5	5	U	U		5	Analyte not detected at or above the QL.
	16SPRING	5	U	U		5	Analyte not detected at or above the QL.
	16WDUP	6.2		6.2		5	No action taken. Blind field duplicate of 16WC1A.
Copper	16C1	5	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	5.6		5.6		5	No action taken.
	16MW9	5	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	5.8		5.8		5	Blind field duplicate of 16WDUP - (Copper - ND).
	16WC1B	5	U	U		5	Analyte not detected at or above the DL or QL.
	16WC2B	5	U	U		5	Analyte not detected at or above the QL.
	16-2	5	U	U		5	Analyte not detected at or above the QL.
	16-3	5	U	U		5	Analyte not detected at or above the QL.
	16-5	5	U	U		5	Analyte not detected at or above the QL.
	16SPRING	5	U	U		5	Analyte not detected at or above the QL.
	16WDUP	5	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Lead	16C1	2	U	U	J	2	Analyte not detected at or above the DL or QL. MSD recovered low (72%).
	16MW8	0.24	J	0.24	J	2	Result < QL. MSD recovered low (72%).
	16MW9	2	U	U	J	2	Analyte not detected at or above the DL or QL. MSD recovered low (72%).
	16WC1A	0.34	J	0.34	J	2	Result < QL. MSD recovered low (72%). Blind field duplicate of 16WDUP.
	16WC1B	2	U	U	J	2	Analyte not detected at or above the DL or QL. MSD recovered low (72%).
	16WC2B	2	U	U	J	2	Analyte not detected at or above the QL. MSD recovered low (72%).
	16-2	2	U	U	J	2	Analyte not detected at or above the QL. MSD recovered low (72%).
	16-3	2	U	U	J	2	Analyte not detected at or above the QL. MSD recovered low (72%).
	16-5	2	U	U	J	2	Analyte not detected at or above the QL. MSD recovered low (72%).
	16SPRING	2	U	U	J	2	Analyte not detected at or above the QL. MSD recovered low (72%).
	16WDUP	2	U	U	J	2	Analyte not detected at or above the DL or QL. MSD recovered low (72%). Blind field duplicate of 16WC1A.
Nickel	16C1	4.6	J	4.6	J	10	Result < QL.
	16MW8	3.4	J	3.4	J	10	Result < QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 6020A							
Laboratory: Shealy Environmental Services, West Columbia, SC							
Nickel	16MW9	15		15		10	No action taken.
	16WC1A	9.9	J	9.9	J	10	Result < QL. Blind field duplicate of 16WDUP.
	16WC1B	3.4	J	3.4	J	10	Result < QL.
	16WC2B	10	U	U		10	Analyte not detected at or above the QL.
	16-2	10	U	U		10	Analyte not detected at or above the QL.
	16-3	10	U	U		10	Analyte not detected at or above the QL.
	16-5	10	U	U		10	Analyte not detected at or above the QL.
	16SPRING	10	U	U		10	Analyte not detected at or above the QL.
	16WDUP	9.8	J	9.8	J	10	Result < QL. Blind field duplicate of 16WC1A.
Selenium	16C1	10	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	10	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	10	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	10	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	10	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	10	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Silver	16C1	2	U	U		2	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		2	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		2	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		2	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U	J	2	Analyte not detected at or above the DL or QL. ICSAB recovered low (58%).
	16WDUP	2	U	U	J	2	Analyte not detected at or above the DL or QL. ICSAB recovered low (58%). Blind field duplicate of 16WC1A.
Thallium	16C1	1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Vanadium	16C1	10	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	10	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	10	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	10	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	10	U	U		10	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 6020A							
Laboratory: Shealy Environmental Services, West Columbia, SC							
Vanadium	16WC2B	10	U	U		10	Analyte not detected at or above the QL.
	16-2	10	U	U		10	Analyte not detected at or above the QL.
	16-3	10	U	U		10	Analyte not detected at or above the QL.
	16-5	10	U	U		10	Analyte not detected at or above the QL.
	16SPRING	10	U	U		10	Analyte not detected at or above the QL.
	16WDUP	10	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Zinc	16C1	13	J	13	J	30	Result < QL.
	16MW8	32		32		30	No action taken.
	16MW9	30	U	U		30	Analyte not detected at or above the DL or QL.
	16WC1A	16	J	16	J	30	Result < QL. Blind field duplicate of 16WDUP.
	16WC1B	30	U	U		30	Analyte not detected at or above the DL or QL.
	16WC2B	30	U	U		30	Analyte not detected at or above the QL.
	16-2	30	U	U		30	Analyte not detected at or above the QL.
	16-3	30	U	U		30	Analyte not detected at or above the QL.
	16-5	30	U	U		30	Analyte not detected at or above the QL.
	16SPRING	30	U	U		30	Analyte not detected at or above the QL.
	16WDUP	9.4	J	9.4	J	30	Result < QL. Blind field duplicate of 16WC1A.
Method: 7470A							
Laboratory: Shealy, West Columbia, SC							
Mercury	16C1	2	U	U		2	Analyte not detected at or above the DL or QL. Re-sampled 7/19/2017.
	16MW8	2	U	U		2	Analyte not detected at or above the DL or QL. Re-sampled 7/19/2017.
	16MW9	2	U	U		2	Analyte not detected at or above the DL or QL. Re-sampled 7/19/2017.
	16WC1A	2	U	U		2	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP. Re-sampled 7/19/2017.
	16WC1B	2	U	U		2	Analyte not detected at or above the DL or QL. Re-sampled 7/19/2017.
	16WC2B	2	U	U		2	Analyte not detected at or above the QL. Re-sampled 7/19/2017.
	16-2	2	U	U		2	Analyte not detected at or above the QL. Re-sampled 7/19/2017.
	16-3	2	U	U		2	Analyte not detected at or above the QL. Re-sampled 7/19/2017.
	16-5	2	U	U		2	Analyte not detected at or above the QL. Re-sampled 7/19/2017.
	16SPRING	2	U	U		2	Analyte not detected at or above the QL. Re-sampled 7/19/2017.
	16WDUP	2	U	U		2	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Acetone	16C1	3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	3	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	3	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	3	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	3	U	U		10	Analyte not detected at or above the DL or QL.
Acetonitrile	16C1	32	U	U		100	Analyte not detected at or above the DL or QL.
	16MW8	32	U	U		100	Analyte not detected at or above the DL or QL.
	16MW9	32	U	U		100	Analyte not detected at or above the DL or QL.
	16WC1A	32	U	U		100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	32	U	U		100	Analyte not detected at or above the DL or QL.
	16WDUP	32	U	U		100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	32	U	U		100	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	32	U	U		100	Analyte not detected at or above the DL or QL.
Acrolein	16C1	5	U	U	J	25	Analyte not detected at or above the DL or QL. Aliquot < 2 SU. CV %D > +/-20% (-28%). MS/MSD/LCS recovered low (63%/61%/63%).
	16MW8	5	U	U	J	25	Analyte not detected at or above the DL or QL. Aliquot < 2 SU. CV %D > +/-20% (-28%). MS/MSD/LCS recovered low (63%/61%/63%).
	16MW9	5	U	U	J	25	Analyte not detected at or above the DL or QL. Aliquot < 2 SU. CV %D > +/-20% (-28%). MS/MSD/LCS recovered low (63%/61%/63%).
	16WC1A	5	U	U	J	25	Analyte not detected at or above the DL or QL. Aliquot < 2 SU. CV %D > +/-20% (-28%). MS/MSD/LCS recovered low (63%/61%/63%). Blind field duplicate of 16WDUP.
	16WC1B	5	U	U	J	25	Analyte not detected at or above the DL or QL. Aliquot < 2 SU. CV %D > +/-20% (-28%). MS/MSD/LCS recovered low (63%/61%/63%).
	16WDUP	5	U	U	J	25	Analyte not detected at or above the DL or QL. Aliquot < 2 SU. CV %D > +/-20% (-28%). MS/MSD/LCS recovered low (63%/61%/63%). Blind field duplicate of 16WC1A.
	Trip_Blank_1	5	U	U	J	25	Analyte not detected at or above the DL or QL. Aliquot < 2 SU. CV %D > +/-20% (-28%). MS/MSD/LCS recovered low (63%/61%/63%).
	Trip_Blank_2	5	U	U	J	25	Analyte not detected at or above the DL or QL. Aliquot < 2 SU. CV %D > +/-20% (-28%). MS/MSD/LCS recovered low (63%/61%/63%).
Acrylonitrile	16C1	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		10	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Acrylonitrile	16WC1A	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	1	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	1	U	U		10	Analyte not detected at or above the DL or QL.
Allyl chloride	16C1	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	0.8	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	0.8	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.8	U	U		10	Analyte not detected at or above the DL or QL.
Benzene	16C1	0.3	J	0.3	J	1	Result < QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.3	J	0.3	J	1	Result < QL.
	16WC1A	0.2	J	0.2	J	1	Result < QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	J	0.2	J	1	Result < QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Bromodichloromethane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Bromodichloromethane	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Bromoform	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
2-Butanone	16C1	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC2B	10	U	U		10	Analyte not detected at or above the QL.
	16-2	10	U	U		10	Analyte not detected at or above the QL.
	16-3	10	U	U		10	Analyte not detected at or above the QL.
	16-5	10	U	U		10	Analyte not detected at or above the QL.
	16SPRING	10	U	U		10	Analyte not detected at or above the QL.
	16WDUP	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	1	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	1	U	U		10	Analyte not detected at or above the DL or QL.
Carbon disulfide	16C1	0.4	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	0.4	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	0.4	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	0.4	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.4	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	0.4	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.4	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.4	U	U		10	Analyte not detected at or above the DL or QL.
Carbon tetrachloride	16C1	0.2	U	U		1	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Carbon tetrachloride	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
Chloroethane	16C1	4		4	J	1	MS/MSD recovered high (126%/140%).
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	2.2		2.2	J	1	MS/MSD recovered high (126%/140%).
	16WC1A	1.2		1.2	J	1	MS/MSD recovered high (126%/140%). Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	1.3		1.3	J	1	MS/MSD recovered high (126%/140%). Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Chloroform	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Chloroform	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Chloroprene	16C1	0.5	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	0.5	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	0.5	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	0.5	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.5	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	0.5	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.5	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.5	U	U		10	Analyte not detected at or above the DL or QL.
Dibromochloromethane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,2-Dibromo-3-chloropropane	16C1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
1,2-Dibromoethane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
1,2-Dibromoethane	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,2-Dichlorobenzene	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,3-Dichlorobenzene	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,4-Dichlorobenzene	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
trans-1,4-Dichloro-2-butene	16C1	1	U	U	J	10	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-32%). LCS recovered low (68%).
	16MW8	1	U	U	J	10	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-32%). LCS recovered low (68%).
	16MW9	1	U	U	J	10	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-32%). LCS recovered low (68%).
	16WC1A	1	U	U	J	10	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-32%). LCS recovered low (68%). Blind field duplicate of 16WDUP.
	16WC1B	1	U	U	J	10	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-32%). LCS recovered low (68%).
	16WDUP	1	U	U	J	10	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-32%). LCS recovered low (68%). Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
trans-1,4-Dichloro-2-butene	Trip_Blank_1	1	U	U	J	10	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-32%). LCS recovered low (68%).
	Trip_Blank_2	1	U	U	J	10	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-32%). LCS recovered low (68%).
Dichlorodifluoromethane	16C1	0.2	J	0.2	J	1	Result < QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,1-Dichloroethane	16C1	6.8		6.8		1	No action taken.
	16MW8	0.4	J	0.4	J	1	Result < QL.
	16MW9	7.4		7.4		1	No action taken.
	16WC1A	3.8		3.8		1	No action taken. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	3.7		3.7		1	No action taken. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,2-Dichloroethane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
1,2-Dichloroethane	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,1-Dichloroethene	16C1	0.3	J	0.3	J	1	Result < QL. MS/MSD recovered high (128%/128%).
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	J	0.2	J	1	Result < QL. MS/MSD recovered high (128%/128%).
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
trans-1,2-Dichloroethene	16C1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
1,2-Dichloropropane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
1,2-Dichloropropane	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,3-Dichloropropane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
trans-1,3-Dichloropropene	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Diethyl ether	16C1	54		54		13	Analyzed in dilution (1:5). Actual laboratory adjusted QL 5 ug/L.
	16MW8	14		14		13	No action taken.
	16MW9	56		56		13	Analyzed in dilution (1:5). Actual laboratory adjusted QL 5 ug/L.
	16WC1A	24		24		13	Analyzed in dilution (1:10). Actual laboratory adjusted QL 10 ug/L. Blind field duplicate of 16WDUP.
	16WC1B	1.1	U	U		13	Analyte not detected at or above the DL or QL.
	16WC2B	13	U	U		13	Analyte not detected at or above the QL.
	16-2	13	U	U		13	Analyte not detected at or above the QL.
	16-3	13	U	U		13	Analyte not detected at or above the QL.
	16-5	13	U	U		13	Analyte not detected at or above the QL.
	16SPRING	13	U	U		13	Analyte not detected at or above the QL.
	16WDUP	25		25		13	No action taken. Blind field duplicate of 16WC1A.
	Trip_Blank_1	1.1	U	U		13	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	1.1	U	U		13	Analyte not detected at or above the DL or QL.
Dimethyl ether	16C1	8.4	J	8.4	J	13	Result < QL.
	16MW8	0.4	J	0.4	J	13	Result < QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Dimethyl ether	16MW9	1.6	J	1.6	J	13	Result < QL.
	16WC1A	1.6	J	1.6	J	13	Result < QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	J	0.2	J	13	Result < QL.
	16WC2B	13	U	U		13	Analyte not detected at or above the QL.
	16-2	13	U	U		13	Analyte not detected at or above the QL.
	16-3	13	U	U		13	Analyte not detected at or above the QL.
	16-5	13	U	U		13	Analyte not detected at or above the QL.
	16SPRING	13	U	U		13	Analyte not detected at or above the QL.
	16WDUP	1.6	J	1.6	J	13	Result < QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		13	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		13	Analyte not detected at or above the DL or QL.
1,4-Dioxane	16C1	45	U	U		200	Analyte not detected at or above the DL or QL.
	16MW8	45	U	U		200	Analyte not detected at or above the DL or QL.
	16MW9	45	U	U		200	Analyte not detected at or above the DL or QL.
	16WC1A	45	U	U		200	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	16WC1B	45	U	U		200	Analyte not detected at or above the DL or QL.
	16WDUP	45	U	U		200	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	45	U	U		200	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	45	U	U		200	Analyte not detected at or above the DL or QL.
Ethylbenzene	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Ethyl methacrylate	16C1	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	0.8	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	0.8	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.8	U	U		10	Analyte not detected at or above the DL or QL.
Hexachlorobutadiene	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Hexachloroethane	16C1	0.1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		10	Analyte not detected at or above the DL or QL.
2-Hexanone	16C1	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	1	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	1	U	U		10	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Isobutyl alcohol	16C1	10	U	U		200	Analyte not detected at or above the DL or QL.
	16MW8	10	U	U		200	Analyte not detected at or above the DL or QL.
	16MW9	10	U	U		200	Analyte not detected at or above the DL or QL.
	16WC1A	10	U	U		200	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	10	U	U		200	Analyte not detected at or above the DL or QL.
	16WDUP	10	U	U		200	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	10	U	U		200	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	10	U	U		200	Analyte not detected at or above the DL or QL.
Methacrylonitrile	16C1	9.8	U	U		100	Analyte not detected at or above the DL or QL.
	16MW8	9.8	U	U		100	Analyte not detected at or above the DL or QL.
	16MW9	9.8	U	U		100	Analyte not detected at or above the DL or QL.
	16WC1A	9.8	U	U		100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	9.8	U	U		100	Analyte not detected at or above the DL or QL.
	16WDUP	9.8	U	U		100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	9.8	U	U		100	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	9.8	U	U		100	Analyte not detected at or above the DL or QL.
Bromomethane	16C1	0.5	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.5	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.5	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.5	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.5	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.5	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.5	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.5	U	U		1	Analyte not detected at or above the DL or QL.
Chloromethane	16C1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Chloromethane	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
Iodomethane	16C1	0.6	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	0.6	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	0.6	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	0.6	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.6	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	0.6	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.6	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.6	U	U		10	Analyte not detected at or above the DL or QL.
Methyl methacrylate	16C1	3.6	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	3.6	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	3.6	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	3.6	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	3.6	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	3.6	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	3.6	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	3.6	U	U		10	Analyte not detected at or above the DL or QL.
4-Methyl-2-pentanone	16C1	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	1	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	1	U	U		10	Analyte not detected at or above the DL or QL.
Dibromomethane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Dibromomethane	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Methylene chloride	16C1	1.3		1.3		1	No action taken.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
Naphthalene	16C1	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (72%).
	16MW8	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (72%).
	16MW9	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (72%).
	16WC1A	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (72%). Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (72%).
	16WDUP	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (72%). Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (72%).
	Trip_Blank_2	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (72%).
Pentachloroethane	16C1	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	0.8	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	0.8	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Pentachloroethane	Trip_Blank_1	0.8	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.8	U	U		10	Analyte not detected at or above the DL or QL.
2-Propanol	16C1	50	U	U		100	Analyte not detected at or above the DL or QL.
	16MW8	50	U	U		100	Analyte not detected at or above the DL or QL.
	16MW9	50	U	U		100	Analyte not detected at or above the DL or QL.
	16WC1A	50	U	U		100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	50	U	U		100	Analyte not detected at or above the DL or QL.
	16WDUP	50	U	U		100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Propionitrile	16C1	10	U	U		100	Analyte not detected at or above the DL or QL.
	16MW8	10	U	U		100	Analyte not detected at or above the DL or QL.
	16MW9	10	U	U		100	Analyte not detected at or above the DL or QL.
	16WC1A	10	U	U		100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	10	U	U		100	Analyte not detected at or above the DL or QL.
	16WDUP	10	U	U		100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	10	U	U		100	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	10	U	U		100	Analyte not detected at or above the DL or QL.
Styrene	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,1,1,2-Tetrachloroethane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
1,1,2,2-Tetrachloroethane	16C1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
Tetrachloroethene	16C1	0.3	J	0.3	J	1	Result < QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	J	0.2	J	1	Result < QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	J	0.2	J	1	Result < QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Tetrahydrofuran	16C1	14	J	14	J	25	Result < QL.
	16MW8	2	U	U		25	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		25	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		25	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		25	Analyte not detected at or above the DL or QL.
	16WC2B	25	U	U		25	Analyte not detected at or above the QL.
	16-2	25	U	U		25	Analyte not detected at or above the QL.
	16-3	25	U	U		25	Analyte not detected at or above the QL.
	16-5	25	U	U		25	Analyte not detected at or above the QL.
	16SPRING	25	U	U		25	Analyte not detected at or above the QL.
	16WDUP	2	U	U		25	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Tetrahydrofuran	Trip_Blank_1	2	U	U		25	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	2	U	U		25	Analyte not detected at or above the DL or QL.
Toluene	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,2,4-Trichlorobenzene	16C1	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (78%).
	16MW8	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (78%).
	16MW9	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (78%).
	16WC1A	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP. LCS recovered low (78%).
	16WC1B	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (78%).
	16WDUP	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A. LCS recovered low (78%).
	Trip_Blank_1	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (78%).
	Trip_Blank_2	0.1	U	U	J	1	Analyte not detected at or above the DL or QL. LCS recovered low (78%).
1,1,1-Trichloroethane	16C1	0.2	J	0.2	J	1	Result < QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
1,1,1-Trichloroethane	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
1,1,2-Trichloroethane	16C1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.1	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.1	U	U		1	Analyte not detected at or above the DL or QL.
Trichloroethene	16C1	0.2	J	0.2	J	1	Result < QL.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
Trichlorofluoromethane	16C1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Trichlorofluoromethane	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
1,2,3-Trichloropropane	16C1	0.3	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.3	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.3	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.3	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.3	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.3	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.3	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.3	U	U		1	Analyte not detected at or above the DL or QL.
1,1,2-Trichloro-1,2,2-Trifluoroethane	16C1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC2B	1	U	U		1	Analyte not detected at or above the QL.
	16-2	1	U	U		1	Analyte not detected at or above the QL.
	16-3	1	U	U		1	Analyte not detected at or above the QL.
	16-5	1	U	U		1	Analyte not detected at or above the QL.
	16SPRING	1	U	U		1	Analyte not detected at or above the QL.
	16WDUP	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
Vinyl acetate	16C1	3.3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	3.3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	3.3	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	3.3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	3.3	U	U		10	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Vinyl acetate	16WDUP	3.3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	3.3	U	U		10	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	3.3	U	U		10	Analyte not detected at or above the DL or QL.
Vinyl chloride	16C1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		1	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	16WDUP	0.2	U	U		1	Result (0.16 J) < 0.2 ug/l. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		1	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		1	Analyte not detected at or above the DL or QL.
Xylenes (Total)	16C1	0.2	U	U		3	Analyte not detected at or above the DL or QL.
	16MW8	0.2	U	U		3	Analyte not detected at or above the DL or QL.
	16MW9	0.2	U	U		3	Analyte not detected at or above the DL or QL.
	16WC1A	0.2	U	U		3	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.2	U	U		3	Analyte not detected at or above the DL or QL.
	16WC2B	3	U	U		3	Analyte not detected at or above the QL.
	16-2	3	U	U		3	Analyte not detected at or above the QL.
	16-3	3	U	U		3	Analyte not detected at or above the QL.
	16-5	3	U	U		3	Analyte not detected at or above the QL.
	16SPRING	3	U	U		3	Analyte not detected at or above the QL.
	16WDUP	0.2	U	U		3	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	Trip_Blank_1	0.2	U	U		3	Analyte not detected at or above the DL or QL.
	Trip_Blank_2	0.2	U	U		3	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Acenaphthene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Acenaphthylene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Acetophenone	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2-Acetylaminofluorene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
4-Aminobiphenyl	16C1	2	U	U	J	5	Analyte not detected at or above the DL or QL. CV %D > +/-20% (-46%).
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Aniline	16C1	0.5	U	U		1	Analyte not detected at or above the DL or QL.
	16MW8	0.5	U	U		1	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Aniline	**16MW9**	**0.5**	**U**	**U**		**1**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**0.5**	**U**	**U**		**1**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**0.5**	**U**	**U**		**1**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**0.5**	**U**	**U**		**1**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Anthracene	**16C1**	**0.9**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Aramite	**16C1**	**5**	**U**	**U**		**15**	**Analyte not detected at or above the DL or QL.**
	16MW8	**5**	**U**	**U**		**15**	**Analyte not detected at or above the DL or QL.**
	16MW9	**5**	**U**	**U**		**15**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**5**	**U**	**U**		**15**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**5**	**U**	**U**		**15**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**5**	**U**	**U**		**15**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Benzo[a]anthracene	**16C1**	**0.9**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Benzo[b]fluoranthene	**16C1**	**0.9**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Benzo[k]fluoranthene	**16C1**	**0.9**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Benzo[k]fluoranthene	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Benzo[ghi]perylene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Benzo(a)pyrene	16C1	0.09	U	U		0.5	Analyte not detected at or above the DL or QL.
	16MW8	0.1	U	U		0.5	Analyte not detected at or above the DL or QL.
	16MW9	0.1	U	U		0.5	Analyte not detected at or above the DL or QL.
	16WC1A	0.1	U	U		0.5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	0.1	U	U		0.5	Analyte not detected at or above the DL or QL.
	16WDUP	0.1	U	U		0.5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
1,4-Benzenediamine	16C1	71	U	U	J	250	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (28%).
	16MW8	76	U	U	J	250	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (8%).
	16MW9	75	U	U	J	250	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (8%).
	16WC1A	76	U	U	J	250	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (8%). Blind field duplicate of 16WDUP.
	16WC1B	75	U	U	J	250	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (8%).
	16WDUP	75	U	U	J	250	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (8%). Blind field duplicate of 16WC1A.
Benzyl alcohol	16C1	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW8	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW9	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WC1A	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WDUP	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
bis(2-Chloroethoxy)methane	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
bis(2-Chloroethoxy)methane	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
bis(2-Chloroethyl)ether	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
bis(2-Chloro-1-methylethyl)ether	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
bis(2-Ethylhexyl)phthalate	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
4-Bromophenyl phenyl ether	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Butyl benzyl phthalate	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
p-Chloroaniline	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
p-Chloroaniline	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Chlorobenzilate	16C1	3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	3	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	3	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
p-Chloro-m-cresol	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2-Chloronaphthalene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2-Chlorophenol	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
4-Chlorophenyl phenyl ether	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
4-Chlorophenyl phenyl ether	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Chrysene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Diallate	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Dibenz(a,h)anthracene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Dibenzofuran	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Di-n-butyl phthalate	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Di-n-butyl phthalate	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
3,3'-Dichlorobenzidine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2,4-Dichlorophenol	16C1	0.9	U	U	J	5	Analyte not detected at or above the DL or QL. MS recovered low (59%).
	16MW8	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS recovered low (59%).
	16MW9	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS recovered low (59%).
	16WC1A	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS recovered low (59%). Blind field duplicate of 16WDUP.
	16WC1B	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS recovered low (59%).
	16WDUP	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS recovered low (59%). Blind field duplicate of 16WC1A.
2,6-Dichlorophenol	16C1	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (53%/56%).
	16MW8	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (53%/56%).
	16MW9	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (53%/56%).
	16WC1A	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (53%/56%). Blind field duplicate of 16WDUP.
	16WC1B	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (53%/56%).
	16WDUP	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (53%/56%). Blind field duplicate of 16WC1A.
Diethyl phthalate	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC2B	5	U	U		5	Analyte not detected at or above the QL.
	16-2	5	U	U		5	Analyte not detected at or above the QL.
	16-3	5	U	U		5	Analyte not detected at or above the QL.
	16-5	5	U	U		5	Analyte not detected at or above the QL.
	16SPRING	5	U	U		5	Analyte not detected at or above the QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
O,O-Diethyl O-2-pyrazinyl	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
O,O-Diethyl O-2-pyrazinyl	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Dimethoate	16C1	3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	3	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	3	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
p-(Dimethylamino)azobenzene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
7,12-Dimethylbenz[a]anthracene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
3,3'-Dimethylbenzidine	16C1	24	U	U		75	Analyte not detected at or above the DL or QL.
	16MW8	25	U	U		75	Analyte not detected at or above the DL or QL.
	16MW9	25	U	U		75	Analyte not detected at or above the DL or QL.
	16WC1A	25	U	U		75	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	25	U	U		75	Analyte not detected at or above the DL or QL.
	16WDUP	25	U	U		75	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
a,a-Dimethylphenethylamine	16C1	5	U	U		50	Analyte not detected at or above the DL or QL.
	16MW8	5	U	U		50	Analyte not detected at or above the DL or QL.
	16MW9	5	U	U		50	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
a,a-Dimethylphenethylamine	16WC1A	5	U	U		50	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	5	U	U		50	Analyte not detected at or above the DL or QL.
	16WDUP	5	U	U		50	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2,4-Dimethylphenol	16C1	3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	3	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	3	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	3	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	3	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Dimethyl phthalate	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
m-Dinitrobenzene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
4,6-Dinitro-o-cresol	16C1	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW8	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW9	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WC1A	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WDUP	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2,4-Dinitrophenol	16C1	9	U	U		30	Analyte not detected at or above the DL or QL.
	16MW8	10	U	U		30	Analyte not detected at or above the DL or QL.
	16MW9	10	U	U		30	Analyte not detected at or above the DL or QL.
	16WC1A	10	U	U		30	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	10	U	U		30	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
2,4-Dinitrophenol	16WDUP	10	U	U		30	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2,4-Dinitrotoluene	16C1	0.9	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC2B	10	U	U		10	Analyte not detected at or above the QL.
	16-2	10	U	U		10	Analyte not detected at or above the QL.
	16-3	10	U	U		10	Analyte not detected at or above the QL.
	16-5	10	U	U		10	Analyte not detected at or above the QL.
	16SPRING	10	U	U		10	Analyte not detected at or above the QL.
	16WDUP	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2,6-Dinitrotoluene	16C1	0.9	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		10	Analyte not detected at or above the DL or QL.
	16WC2B	10	U	U		10	Analyte not detected at or above the QL.
	16-2	10	U	U		10	Analyte not detected at or above the QL.
	16-3	10	U	U		10	Analyte not detected at or above the QL.
	16-5	10	U	U		10	Analyte not detected at or above the QL.
	16SPRING	10	U	U		10	Analyte not detected at or above the QL.
	16WDUP	1	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Di-n-octyl phthalate	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Disulfoton	16C1	24	U	U		50	Analyte not detected at or above the DL or QL.
	16MW8	25	U	U		50	Analyte not detected at or above the DL or QL.
	16MW9	25	U	U		50	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Disulfoton	16WC1A	25	U	U		50	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	25	U	U		50	Analyte not detected at or above the DL or QL.
	16WDUP	25	U	U		50	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Ethyl methanesulfonate	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Famphur	16C1	24	U	U	J	50	Analyte not detected at or above the DL or QL. CV %D > +/-20% (60%). MS/MSD did not recover (0%/0%). LCS recovered low (2%).
	16MW8	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (4%).
	16MW9	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (4%).
	16WC1A	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (4%). Blind field duplicate of 16WDUP.
	16WC1B	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (4%).
	16WDUP	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (4%). Blind field duplicate of 16WC1A.
Fluoranthene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Fluorene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Hexachlorobenzene	16C1	0.5	U	U		0.5	Analyte not detected at or above the DL or QL.
	16MW8	0.5	U	U		0.5	Analyte not detected at or above the DL or QL.
	16MW9	0.5	U	U		0.5	Analyte not detected at or above the DL or QL.
	16WC1A	0.5	U	U		0.5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Hexachlorobenzene	16WC1B	0.5	U	U		0.5	Analyte not detected at or above the DL or QL.
	16WDUP	0.5	U	U		0.5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Hexachlorocyclopentadiene	16C1	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW8	5	U	U	J	15	Analyte not detected at or above the DL or QL. LCS recovered low (6%).
	16MW9	5	U	U	J	15	Analyte not detected at or above the DL or QL. LCS recovered low (6%).
	16WC1A	5	U	U	J	15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP. LCS recovered low (6%).
	16WC1B	5	U	U	J	15	Analyte not detected at or above the DL or QL. LCS recovered low (6%).
	16WDUP	5	U	U	J	15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A. LCS recovered low (6%).
Hexachlorophene	16C1	89	U	U	J	100	Analyte not detected at or above the DL or QL. Reported by Tentatively Identified Compound (TIC).
	16MW8	100	U	U	J	100	Analyte not detected at or above the DL or QL. Reported by Tentatively Identified Compound (TIC).
	16MW9	89	U	U	J	100	Analyte not detected at or above the DL or QL. Reported by Tentatively Identified Compound (TIC).
	16WC1A	89	U	U	J	100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP. Reported by Tentatively Identified Compound (TIC).
	16WC1B	100	U	U	J	100	Analyte not detected at or above the DL or QL. Reported by Tentatively Identified Compound (TIC).
	16WDUP	89	U	U	J	100	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A. Reported by Tentatively Identified Compound (TIC).
Hexachloropropene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Indeno[1,2,3-cd]pyrene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Isodrin	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Isodrin	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Isophorone	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Isosafrole	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Kepone	16C1	24	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD did not recover (0%/0%). LCS recovered low (31%).
	16MW8	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD/LCS did not recover (0%/0%/0%).
	16MW9	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD/LCS did not recover (0%/0%/0%).
	16WC1A	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD/LCS did not recover (0%/0%/0%). Blind field duplicate of 16WDUP.
	16WC1B	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD/LCS did not recover (0%/0%/0%).
	16WDUP	25	U	U	J	50	Analyte not detected at or above the DL or QL. MS/MSD/LCS did not recover (0%/0%/0%). Blind field duplicate of 16WC1A.
Methapyrilene	16C1	14	U	U		50	Analyte not detected at or above the DL or QL.
	16MW8	15	U	U		50	Analyte not detected at or above the DL or QL.
	16MW9	15	U	U		50	Analyte not detected at or above the DL or QL.
	16WC1A	15	U	U		50	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	15	U	U		50	Analyte not detected at or above the DL or QL.
	16WDUP	15	U	U		50	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
3-Methylcholanthrene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Methyl methane sulfonate	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2-Methylnaphthalene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Methyl parathion	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2-Methylphenol	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
3 & 4-Methylphenol	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
1,4-Naphthoquinone	16C1	9	U	U	J	30	Analyte not detected at or above the DL or QL. LCS recovered low (21%).
	16MW8	10	U	U	J	30	Analyte not detected at or above the DL or QL. LCS did not recover (0%).

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
1,4-Naphthoquinone	16MW9	10	U	U	J	30	Analyte not detected at or above the DL or QL. LCS did not recover (0%).
	16WC1A	10	U	U	J	30	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A. LCS did not recover (0%).
	16WC1B	10	U	U	J	30	Analyte not detected at or above the DL or QL. LCS did not recover (0%).
	16WDUP	10	U	U	J	30	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A. LCS did not recover (0%).
1-Naphthylamine	16C1	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW8	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW9	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WC1A	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
	16WC1B	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WDUP	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2-Naphthylamine	16C1	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW8	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW9	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WC1A	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WDUP	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
o-Nitroaniline	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
m-Nitroaniline	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
p-Nitroaniline	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
p-Nitroaniline	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Nitrobenzene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
o-Nitrophenol	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
p-Nitrophenol	16C1	9	U	U		30	Analyte not detected at or above the DL or QL.
	16MW8	10	U	U		30	Analyte not detected at or above the DL or QL.
	16MW9	10	U	U		30	Analyte not detected at or above the DL or QL.
	16WC1A	10	U	U		30	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	10	U	U		30	Analyte not detected at or above the DL or QL.
	16WDUP	10	U	U		30	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
4-Nitroquinoline-1-oxide	16C1	19	U	U		60	Analyte not detected at or above the DL or QL.
	16MW8	20	U	U		60	Analyte not detected at or above the DL or QL.
	16MW9	20	U	U		60	Analyte not detected at or above the DL or QL.
	16WC1A	20	U	U		60	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	20	U	U		60	Analyte not detected at or above the DL or QL.
	16WDUP	20	U	U		60	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
N-Nitrosodi-n-butylamine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
N-Nitrosodiethylamine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
N-Nitrosodimethylamine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
N-Nitrosodiphenylamine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
N-Nitrosodipropylamine	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
N-Nitrosomethylethylamine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
N-Nitrosomorpholine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
N-Nitrosomorpholine	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
N-Nitrosopiperidine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
N-Nitrosopyrrolidine	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
5-Nitroso-o-toluidine	16C1	3	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	3	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	3	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	3	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	3	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	3	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Parathion	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Pentachlorobenzene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Pentachlorobenzene	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Pentachloronitrobenzene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Pentachlorophenol	16C1	0.9	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (47%).
	16MW8	1	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (47%).
	16MW9	1	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (47%).
	16WC1A	1	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (47%). Blind field duplicate of 16WDUP.
	16WC1B	1	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (47%).
	16WDUP	1	U	U	J	5	Analyte not detected at or above the DL or QL. MSD recovered low (47%). Blind field duplicate of 16WC1A.
Phenacetin	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Phenanthrene	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Phenol	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Phorate	**16C1**	**0.9**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
2-Picoline	**16C1**	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Pronamide	**16C1**	**0.9**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Pyrene	**16C1**	**0.9**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**1**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Pyridine	**16C1**	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW9	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WC1A	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.**
	16WC1B	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16WDUP	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.**
Safrole	**16C1**	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**
	16MW8	**2**	**U**	**U**		**5**	**Analyte not detected at or above the DL or QL.**

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
Safrole	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Sulfotep	16C1	8.9	U	U		10	Analyte not detected at or above the DL or QL.
	16MW8	10	U	U		10	Analyte not detected at or above the DL or QL.
	16MW9	8.9	U	U		10	Analyte not detected at or above the DL or QL.
	16WC1A	8.9	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	10	U	U		10	Analyte not detected at or above the DL or QL.
	16WDUP	8.9	U	U		10	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
1,2,4,5-Tetrachlorobenzene	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2,3,4,6-Tetrachlorophenol	16C1	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (46%/41%).
	16MW8	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (46%/41%).
	16MW9	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (46%/41%).
	16WC1A	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (46%/41%). Blind field duplicate of 16WDUP.
	16WC1B	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (46%/41%).
	16WDUP	2	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (46%/41%). Blind field duplicate of 16WC1A.
o-Toluidine	16C1	0.9	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	1	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	1	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	1	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
2,4,5-Trichlorophenol	16C1	0.9	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (65%/67%).
	16MW8	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (65%/67%).
	16MW9	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (65%/67%).

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 8270D							
Laboratory: ELLE, Lancaster, PA							
2,4,5-Trichlorophenol	16WC1A	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (65%/67%). Blind field duplicate of 16WDUP.
	16WC1B	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (65%/67%).
	16WDUP	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (65%/67%). Blind field duplicate of 16WC1A.
2,4,6-Trichlorophenol	16C1	0.9	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (42%/43%).
	16MW8	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (42%/43%).
	16MW9	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (42%/43%).
	16WC1A	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (42%/43%). Blind field duplicate of 16WDUP.
	16WC1B	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (42%/43%).
	16WDUP	1	U	U	J	5	Analyte not detected at or above the DL or QL. MS/MSD recovered low (42%/43%). Blind field duplicate of 16WC1A.
O,O,O-Triethyl phosphorothioate	16C1	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW8	2	U	U		5	Analyte not detected at or above the DL or QL.
	16MW9	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WC1A	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	2	U	U		5	Analyte not detected at or above the DL or QL.
	16WDUP	2	U	U		5	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
sym-Trinitrobenzene	16C1	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW8	5	U	U		15	Analyte not detected at or above the DL or QL.
	16MW9	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WC1A	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	5	U	U		15	Analyte not detected at or above the DL or QL.
	16WDUP	5	U	U		15	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.
Method: 9012B							
Laboratory: Shealy Environmental Services, West Columbia, SC							
Cyanide	16C1	20	U	U		20	Analyte not detected at or above the DL or QL.
	16MW8	20	U	U		20	Analyte not detected at or above the DL or QL.
	16MW9	20	U	U		20	Analyte not detected at or above the DL or QL.
	16WC1A	20	U	U		20	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WDUP.
	16WC1B	20	U	U		20	Analyte not detected at or above the DL or QL.
	16WDUP	20	U	U		20	Analyte not detected at or above the DL or QL. Blind field duplicate of 16WC1A.

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes

Definitions:

Appendix IX monitoring events and compliance monitoring wells:
For Appendix IX monitoring events, all compliance well results evaluated to the project detection limit.
See separate table for Appendix IX monitoring event detection limits.
QLDenotes permit quantitation limit.
Q Denotes data qualifier.
U Denotes analyte not detected at or above laboratory detection limit (DL) or QL.
J Denotes analyte reported at or above laboratory detection limit and associated result is estimated. When used with "U" (i.e., "UJ"), denotes analyte not detected at or above laboratory detection limit and project required quantitation limit/detection limit is estimated.
UA Denotes analyte not detected at or above adjusted sample detection limit /QL.
UN Denotes analyte concentration is less than the quantitation limit and five times the blank concentration. Analyte was not reliably detected due to blank contamination.
R Denotes result rejected.
Laboratory Data Qualifiers,
"U" and "<", denote not detected at or above the detection limit or QL.
B or J denote result detected between DL and QL, associated value should be considered an estimated concentration.

Appendix IX monitoring events:
Third Quarter 2003, Second Quarter 2004, Second Quarter 2005, Third Quarter 2006, Second Quarter 2007, Second Quarter 2008, Second Quarter 2009, Second Quarter 2010, 2Q 2011, 2Q 2012, 2Q 2013. 2Q 2014, 2Q 2015, 2Q 2016, 2Q 2017

Definitions for Non-Appendix IX Monitoring Events and plume monitoring wells:
QL Denotes permit quantitation limit.
Q Denotes data qualifier.
U Denotes analyte not detected at or above QL.
UA Denotes analyte not detected at or above adjusted sample QL. See data validation report for further explanation.
UN Denotes analyte concentration is less than five times the blank concentration. Analyte was not reliably detected due to blank contamination.

J Denotes analyte reported at or above QL and associated result is estimated. When used with "U" (i.e., "UJ"), denotes analyte not detected at or above **QL and QL is estimated. When used with "UA"**(i.e., "**UAJ**"), denotes analyte not detected at or above adjusted QL and **adjusted QL is estimated.**
R Denotes result rejected. See data validation report for further explanation.
Laboratory Data Qualifiers, "U" and "<", denote not detected at or above the QL.

Comprehensive Data Validation Report

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Radford Army Ammunition Plant (RFAAP), Radford, Virginia

Sample/Blind Field Duplicate Results Greater Than the Quantitation Limit

Facility: HWMU-16 Monitoring Event: Second Quarter 2017

Analyte	Sample ID	Laboratory Result (ug/L)	Q	Validated Result (ug/L)	Q	QL (ug/L)	Validation Notes
Method: 6020A							
Laboratory: Shealy Environmental Services, West Columbia, SC							
Barium	16WC1A	270		270		10	No action taken. Blind field duplicate of 16WDUP.
	16WDUP	260		260		10	No action taken. Blind field duplicate of 16WC1A.
Cobalt	16WC1A	6.4		6.4		5	No action taken. Blind field duplicate of 16WDUP.
	16WDUP	6.2		6.2		5	No action taken. Blind field duplicate of 16WC1A.
Copper	16WC1A	5.8		5.8	J	5	Blind field duplicate of 16WDUP.
Method: 8260C							
Laboratory: ELLE, Lancaster, PA							
Chloroethane	16WC1A	1.2		1.2	J	1	MS/MSD recovered high (126%/140%). Blind field duplicate of 16WDUP.
	16WDUP	1.3		1.3	J	1	MS/MSD recovered high (126%/140%). Blind field duplicate of 16WC1A.
1,1-Dichloroethane	16WC1A	3.8		3.8		1	No action taken. Blind field duplicate of 16WDUP.
	16WDUP	3.7		3.7		1	No action taken. Blind field duplicate of 16WC1A.
Diethyl ether	16WC1A	24		24		13	Analyzed in dilution (1:10). Actual laboratory adjusted QL 10 ug/L. Blind field duplicate of 16WDUP.
	16WDUP	25		25		13	No action taken. Blind field duplicate of 16WC1A.

Definitions:
Data Validation Qualifiers:
QL Denotes permit quantitation limit. Q Denotes data qualifier.
J Denotes analyte reported at or above quantitation limit and associated result is estimated.

Summary of Quantitation Limits and Detection Limits
Radford Army Ammunition Plant (RFAAP), Radford, VA
Appendix IX Monitoring Event
Monitoring Event: **Second Quarter 2017**

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Analyte	Quantitation Limit/QL (ug/L)	Detection Limit/DL (ug/L)
Method: **6020A**		
Laboratory: ***Shealy Environmental Services, West Columbia, SC***		
Antimony	2	0.4
Arsenic	10	2
Barium	10	1
Beryllium	1	0.2
Cadmium	1	0.2
Chromium	5	1
Cobalt	5	1
Copper	5	1
Lead	2	0.2
Nickel	10	2
Selenium	10	3
Silver	2	0.2
Thallium	1	0.2
Vanadium	10	1
Zinc	30	7.3
Method: **7470A**		
Laboratory: ***Shealy, West Columbia, SC***		
Mercury	2	0.2

Summary of Quantitation Limits and Detection Limits
Radford Army Ammunition Plant (RFAAP), Radford, VA
Appendix IX Monitoring Event
Monitoring Event: **Second Quarter 2017**

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Analyte	Quantitation Limit/QL (ug/L)	Detection Limit/DL (ug/L)
Method: **8260C**		
Laboratory: ELLE, Lancaster, PA		
Acetone	10	3
Acetonitrile	100	32
Acrolein	25	5
Acrylonitrile	10	1
Allyl chloride	10	0.8
Benzene	1	0.1
Bromodichloromethane	1	0.1
Bromoform	1	0.1
2-Butanone	10	1
Carbon disulfide	10	0.4
Carbon tetrachloride	1	0.2
Chloroethane	1	0.1
Chloroform	1	0.1
Chloroprene	10	0.5
Dibromochloromethane	1	0.1
1,2-Dibromo-3-chloropropane	1	0.2
1,2-Dibromoethane	1	0.1
1,2-Dichlorobenzene	1	0.1
1,3-Dichlorobenzene	1	0.1
1,4-Dichlorobenzene	1	0.1
trans-1,4-Dichloro-2-butene	10	1
Dichlorodifluoromethane	1	0.1
1,1-Dichloroethane	1	0.1
1,2-Dichloroethane	1	0.1
1,1-Dichloroethene	1	0.2
trans-1,2-Dichloroethene	1	0.2
1,2-Dichloropropane	1	0.1
1,3-Dichloropropane	1	0.1
trans-1,3-Dichloropropene	1	0.1
Diethyl ether	13	5.6
Dimethyl ether	13	0.1
1,4-Dioxane	200	45
Ethylbenzene	1	0.1
Ethyl methacrylate	10	0.8
Hexachlorobutadiene	1	0.1
Hexachloroethane	10	0.1
2-Hexanone	10	1
Isobutyl alcohol	200	10
Methacrylonitrile	100	9.8
Bromomethane	1	0.5
Chloromethane	1	0.2
Iodomethane	10	0.6
Methyl methacrylate	10	3.6
4-Methyl-2-pentanone	10	1
Dibromomethane	1	0.1
Methylene chloride	1	0.2
Naphthalene	1	0.1
Pentachloroethane	10	0.8
2-Propanol	100	50
Propionitrile	100	10

Summary of Quantitation Limits and Detection Limits
Radford Army Ammunition Plant (RFAAP), Radford, VA
Appendix IX Monitoring Event
Monitoring Event: **Second Quarter 2017**

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Analyte	Quantitation Limit/QL (ug/L)	Detection Limit/DL (ug/L)
Method: **8260C**		
Laboratory: ELLE, Lancaster, PA		
Styrene	1	0.1
1,1,1,2-Tetrachloroethane	1	0.1
1,1,2,2-Tetrachloroethane	1	0.2
Tetrachloroethene	1	0.1
Tetrahydrofuran	25	2
Toluene	1	0.1
1,2,4-Trichlorobenzene	1	0.1
1,1,1-Trichloroethane	1	0.1
1,1,2-Trichloroethane	1	0.1
Trichloroethene	1	0.2
Trichlorofluoromethane	1	0.2
1,2,3-Trichloropropane	1	0.3
1,1,2-Trichloro-1,2,2-Trifluoroethane	1	0.2
Vinyl acetate	10	3.3
Vinyl chloride	1	0.2
Xylenes (Total)	3	0.2

Summary of Quantitation Limits and Detection Limits
Radford Army Ammunition Plant (RFAAP), Radford, VA
Appendix IX Monitoring Event
Monitoring Event: **Second Quarter 2017**

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Analyte	Quantitation Limit/QL (ug/L)	Detection Limit/DL (ug/L)
Method: **8270D**		
Laboratory: ELLE, Lancaster, PA		
Acenaphthene	5	0.9
Acenaphthylene	5	0.9
Acetophenone	5	2
2-Acetylaminofluorene	5	2
4-Aminobiphenyl	5	2
Aniline	1	0.5
Anthracene	5	0.9
Aramite	15	5
Benzo[a]anthracene	5	0.9
Benzo[b]fluoranthene	5	0.9
Benzo[k]fluoranthene	5	0.9
Benzo[ghi]perylene	5	0.9
Benzo(a)pyrene	0.5	0.09
1,4-Benzenediamine	250	71
Benzyl alcohol	15	5
bis(2-Chloroethoxy)methane	5	0.9
bis(2-Chloroethyl)ether	5	0.9
bis(2-Chloro-1-methylethyl)ether	5	0.9
bis(2-Ethylhexyl)phthalate	5	2
4-Bromophenyl phenyl ether	5	0.9
Butyl benzyl phthalate	5	2
p-Chloroaniline	5	0.9
Chlorobenzilate	10	3
p-Chloro-m-cresol	5	0.9
2-Chloronaphthalene	5	2
2-Chlorophenol	5	0.9
4-Chlorophenyl phenyl ether	5	2
Chrysene	5	0.9
Diallate	5	0.9
Dibenz(a,h)anthracene	5	0.9
Dibenzofuran	5	0.9
Di-n-butyl phthalate	5	2
3,3'-Dichlorobenzidine	5	2
2,4-Dichlorophenol	5	0.9
2,6-Dichlorophenol	5	2
Diethyl phthalate	5	2
O,O-Diethyl O-2-pyrazinyl	5	2
Dimethoate	10	3
p-(Dimethylamino)azobenzene	5	2
7,12-Dimethylbenz[a]anthracene	5	2
3,3'-Dimethylbenzidine	75	24
a,a-Dimethylphenethylamine	50	5
2,4-Dimethylphenol	10	3
Dimethyl phthalate	5	2
m-Dinitrobenzene	5	2
4,6-Dinitro-o-cresol	15	5
2,4-Dinitrophenol	30	9
2,4-Dinitrotoluene	10	0.9
2,6-Dinitrotoluene	10	0.9
Di-n-octyl phthalate	5	2

Analyte	Quantitation Limit/QL (ug/L)	Detection Limit/DL (ug/L)
Method: **8270D**		
Laboratory: ELLE, Lancaster, PA		
Disulfoton	50	24
Ethyl methanesulfonate	5	2
Famphur	50	24
Fluoranthene	5	0.9
Fluorene	5	0.9
Hexachlorobenzene	0.5	0.5
Hexachlorocyclopentadiene	15	5
Hexachlorophene	100	10
Hexachloropropene	5	2
Indeno[1,2,3-cd]pyrene	5	0.9
Isodrin	5	0.9
Isophorone	5	0.9
Isosafrole	5	2
Kepone	50	24
Methapyrilene	50	14
3-Methylcholanthrene	5	2
Methyl methane sulfonate	5	0.9
2-Methylnaphthalene	5	0.9
Methyl parathion	5	0.9
2-Methylphenol	5	0.9
3 & 4-Methylphenol	5	2
1,4-Naphthoquinone	30	9
1-Naphthylamine	15	5
2-Naphthylamine	15	5
o-Nitroaniline	5	0.9
m-Nitroaniline	5	0.9
p-Nitroaniline	5	0.9
Nitrobenzene	5	0.9
o-Nitrophenol	5	0.9
p-Nitrophenol	30	9
4-Nitroquinoline-1-oxide	60	19
N-Nitrosodi-n-butylamine	5	2
N-Nitrosodiethylamine	5	2
N-Nitrosodimethylamine	5	2
N-Nitrosodiphenylamine	5	2
N-Nitrosodipropylamine	5	0.9
N-Nitrosomethylethylamine	5	2
N-Nitrosomorpholine	5	2
N-Nitrosopiperidine	5	2
N-Nitrosopyrrolidine	5	2
5-Nitroso-o-toluidine	5	3
Parathion	5	2
Pentachlorobenzene	5	2
Pentachloronitrobenzene	5	2
Pentachlorophenol	5	0.9
Phenacetin	5	2
Phenanthrene	5	0.9
Phenol	5	0.9
Phorate	5	0.9
2-Picoline	5	2

Summary of Quantitation Limits and Detection Limits
Radford Army Ammunition Plant (RFAAP), Radford, VA
Appendix IX Monitoring Event
Monitoring Event: **Second Quarter 2017**

Draper Aden Associates
Engineering ◆ Surveying ◆ Environmental Services

Analyte	Quantitation Limit/QL (ug/L)	Detection Limit/DL (ug/L)
Method: **8270D**		
Laboratory: ELLE, Lancaster, PA		
Pronamide	5	0.9
Pyrene	5	0.9
Pyridine	5	2
Safrole	5	2
Sulfotep	10	1
1,2,4,5-Tetrachlorobenzene	5	2
2,3,4,6-Tetrachlorophenol	5	2
o-Toluidine	5	0.9
2,4,5-Trichlorophenol	5	0.9
2,4,6-Trichlorophenol	5	0.9
O,O,O-Triethyl phosphorothioate	5	2
sym-Trinitrobenzene	15	5
Method: **9012B**		
Laboratory: Shealy Environmental Services, West Columbia, SC		
Cyanide	20	5

SW-846 METHOD 9012B DATA REVIEW SUMMARY

Draper Aden Associates performed a comprehensive manual review of the analytical results for the May 15-17, 2017 monitoring event at Hazardous Waste Management Unit 16 (HWMU 16) located at the Radford Army Ammunition Plant (RFAAP), Radford, Virginia. Draper Aden Associates collected groundwater samples from monitoring wells 16C1, 16MW8, 16MW9, 16WC1A, and 16WC1B. Sample 16WDUP was submitted to the laboratory as a blind field sample duplicate for 16WC1A.

The samples were analyzed for cyanide by SW-846 Method 9012B. The following information and attached table summarize the data validation results. Validation of other required methods is presented on separate reports.

Draper Aden Associates sent samples to Shealy Environmental Services (Shealy), of West Columbia, South Carolina. Shealy performed the Method 9012B analysis. The laboratory submitted results to Draper Aden Associates in a final certificate of analysis, which included sample analytical results as well as relevant documentation to validate and verify the results. The laboratory is a VELAP accredited laboratory for the above analyte, method, and matrix reported.

The evaluation of Shealy's compliance with the analytical methods and validation of results presented here are based upon a limited review of quality assurance/quality control (QA/QC) information including holding times, preservation procedures, calibration standards, blank samples (method, calibration and other blanks), matrix spike/matrix spike duplicate (MS/MSD) or matrix spike/sample duplicate (MS/DUP), and laboratory control standard (LCS) results. A review of transcriptions from instrument data to sample summary sheets was performed. Calculation checks were performed on a minimum ten percent of the data set. The following information is intended to summarize data review results and any observed significant deviations from method and/or contractual requirements.

Shealy received the samples in good condition with custody seals intact. Technical holding time and preservation criteria were met.

The original certificate of analysis was received on June 14, 2017. The certificate of analysis appeared complete in its presentation and the data were of acceptable quality. Documentation was provided to demonstrate the ability of the laboratory to achieve the reported project quantitation limit (QL) or detection limit (DL) for cyanide.

QC history documentation, holding time, sample preservation, instrument calibration and calibration verification criteria were met. Blank, MS/MSD, and LCS samples were analyzed as required and results were within control limits. The blanks were interference free.

Field duplicate/sample results exhibited acceptable precision, where applicable.

For this Appendix IX monitoring event, cyanide results were reported to at or above the detection limit. Cyanide was not detected at or above the laboratory detection limit or permit defined QL in any sample and sample results for cyanide were validated and reported as "U." No results were rejected based on data validation criteria.

INORGANIC DATA EVALUATION FOR CYANIDE BY SW-846 METHOD 9012B

Shealy, West Columbia, South Carolina; Lot Numbers: SE19003, SE18010
Preparation Method: 9012B

"☑" denotes items reviewed. See Data Validation Summary for additional comments.

A. QC DOCUMENTATION CRITERIA:
- ☑ Specific detection limit for target analyte
- ☑ Specific QLs for target analyte
- ☑ VELAP accredited within 12 months
- ☑ IDOC for analyst HKL (formerly HKB) submitted previously

B. METHOD INFORMATION DOCUMENTATION:
- ☑ Cyanide analyzed by requested method

C. TECHNICAL HOLDING TIME / PRESERVATION REQUIREMENTS:
- ☑ 14 day holding time
- ☑ Cool ≤6 deg C
- ☑ Adjust pH >12 w/ NaOH

D. INSTRUMENT CALIBRATION CRITERIA:
- ☑ 1 calibration blank and at least 3 standards; correlation coefficient ≥ 0.995

E. INITIAL / CONTINUING CALIBRATION VALIDATION CRITERIA:
- ☑ ICV, 10 sample frequency for CCV
- ☑ Distilled check standards (high/low) per batch of samples (90-110%)
- ☑ CCV Recovery within 85-115%

F. BLANK SAMPLE CRITERIA:
- ☑ Interference free
- ☑ ICB, then 10 sample frequency for CCB
- ☑ One preparation blank per sample batch

G. MATRIX SPIKE DUPLICATE (MSD) SAMPLE CRITERIA:
- ☑ One MSD or sample duplicate for every 20 samples
- ☑ RPD ≤20 between MS and MSD or sample and duplicate results
- ☑ Recovery 75-125% for MSD

H. MATRIX SPIKE (MS) SAMPLE CRITERIA:
- ☑ One MS sample for every 20 samples
- ☑ MS recovered within 75-125%
- ☑ Spike added prior to distillation

I. LABORATORY CONTROL SAMPLE (LCS) SAMPLE CRITERIA:

- ☑ One LCS sample for every 20 samples
- ☑ LCS recovered within 80-120%
- ☑ Spike added prior to distillation

J. SAMPLE RESULTS CRITERIA:

- ☑ Sample results reported within calibration range
- ☑ Sample results reported to the method detection limit

REFERENCES:

Draper Aden Associates conducted a limited data validation of the above noted data set using the data package provided by the analyzing laboratory. Data evaluation was conducted using SW-846 (Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, USEPA, SW-846, 3rd Edition-Final Update I, II/IIA, III, and subsequent updates) method requirements and CLP data validation guidelines (USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Methods Data Review, January 2017, where applicable). Validation of this data set is limited to review of items detailed in this data review report. Additionally, laboratory specific acceptance criteria and/or historical program acceptance criteria were used when no other acceptance criteria was available. Validation of this data set is limited to the items detailed in this report.

LIMITATIONS:

Draper Aden Associates prepared this document (which may include drawings, specifications, reports, studies and attachments) in accordance with the agreement between Draper Aden Associates and BAE Systems, Ordnance Systems, Inc.

The standard of care for all professional engineering, environmental and surveying and related services performed or furnished by Draper Aden Associates under this Agreement are the care and skill ordinarily used by members of these professions practicing under similar circumstances at the same time and in the same locality. Draper Aden Associates makes no warranties, express or implied, under this Agreement in connection with Draper Aden Associates services.

Conclusions presented are based upon a review of available information, the results of our field studies, and/or professional judgment. To the best of our knowledge, information provided by others is true and accurate, unless otherwise noted. Draper Aden Associates liability, hereunder, shall be limited to amounts due Draper Aden Associates for services actually rendered, or reimbursable expenses actually incurred. Any reuse or modification of any of the aforementioned documents (whether hard copies or electronic transmittals) prepared by Draper Aden Associates without written verification or adaptation by Draper Aden Associates will be at the sole risk of the individual or entity utilizing said documents and such use is without the authorization of Draper Aden Associates. Draper Aden Associates shall have no legal liability resulting from any and all claims, damages, losses, and expenses, including attorney's fees arising out of the unauthorized reuse or modification of these documents. Client shall indemnify Draper Aden Associates from any claims arising out of unauthorized use or modification of the documents whether hard copy or electronic.

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦

Draper Aden Associates
Engineering ♦ Surveying ♦ Environmental Services

This Report has been prepared by:

_____JCF/AT 9-25-17_____ _____
Ashley Thacker, Staff Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444, athacker@daa.com, www.daa.com

This Report has been subjected to technical and quality review by:

_____JCF/KO 9-25-17_____ _____
Kathy Olsen, Project Environmental Scientist Date:
2206 South Main Street, Blacksburg, Virginia 24060
540-552-0444; kolsen@daa.com, www.daa.com

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Type I Data Package

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Project: RAAP - Radford, VA - HWMU16
Groundwater and Water Samples
Collected on 05/15/17-05/17/17

SDG# RAE85-V.2

GROUP	SAMPLE NUMBERS
1802908	8999785-8999799

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-13-10
AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** **07/17/2017**

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Barbara Weyandt at (717) 556-7264.

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

Table of Contents for SDG# RAE85

1. Sample Reference List 3
2. Preservation Data 4
3. Methodology Summary/Reference 6
4. Analysis Reports / Field Chain of Custody 7
5. Volatiles by GC/MS Data 95
   a. Case Narrative/Conformance Summary 96
   b. Quality Control and Calibration Summary Forms 100
   c. Sample Data 173
   d. Standards Data 358
   e. Raw QC Data 942
6. Semivolatiles by GC/MS Data 1116
   a. Case Narrative/Conformance Summary 1117
   b. Quality Control and Calibration Summary Forms 1122
   c. Sample Data 1195
   d. Standards Data 1285
   e. Raw QC Data 1503
   f. Extraction/Distillation/Digestion Logs 1706

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Reference List for SDG Number RAE85
with a Data Package Type of I

11200 - Draper Aden Associates, Inc.
Project: RAAP - Radford, VA - HWMU16

Lab Sample Number	Client Sample ID	Collection Date	Date Received
8999785	16C1	05/17/2017 10:35	05/18/2017 09:15
8999786	16MW8	05/15/2017 12:20	05/18/2017 09:15
8999787	16MW9	05/16/2017 11:40	05/18/2017 09:15
8999788	16WC1A	05/16/2017 10:15	05/18/2017 09:15
8999789	16WC1A MS	05/16/2017 10:15	05/18/2017 09:15
8999790	16WC1A MSD	05/16/2017 10:15	05/18/2017 09:15
8999791	16WDUP	05/16/2017 10:30	05/18/2017 09:15
8999792	16WC1B	05/15/2017 15:00	05/18/2017 09:15
8999793	16-2	05/15/2017 13:30	05/18/2017 09:15
8999794	16-3	05/15/2017 14:30	05/18/2017 09:15
8999795	16-5	05/15/2017 09:55	05/18/2017 09:15
8999796	16WC2B	05/15/2017 11:25	05/18/2017 09:15
8999797	16SPRING	05/15/2017 10:10	05/18/2017 09:15
8999798	Trip Blank_1	05/15/2017 00:00	05/18/2017 09:15
8999799	Trip Blank_2	05/15/2017 00:00	05/18/2017 09:15

eurofins | Lancaster Laboratories

Sample pH Log

SDG: RAE85

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #	Record Date	Employee
8999785	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 6:18:21PM	0
8999785	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:10PM	1973
8999785	038C	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 4:45:29PM	7970
8999786	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 6:18:21PM	0
8999786	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999787	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 6:18:21PM	0
8999787	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999787	038C	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 4:45:26PM	7970
8999788	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 6:18:21PM	0
8999788	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999788	038C	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999789	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 6:18:21PM	0
8999789	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999789	038C	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999790	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 6:18:21PM	0
8999790	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999790	038C	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999791	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 6:18:21PM	0
8999791	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999792	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/23/2017 6:18:21PM	0
8999792	038B	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999793	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 10:28:42AM	1973
8999794	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 10:28:39AM	1973
8999795	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 10:28:39AM	1973
8999796	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 10:28:39AM	1973
8999797	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 10:28:39AM	1973
8999798	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973
8999799	038A	<2	<2	NA	NA	NA	NA	NA	NA	Y	NA	NA	NA	NA	NA	NA	5/26/2017 2:06:08PM	1973

LLI Sample Number	Bottle Code	Actual pH	Exp. pH	pH Check Code	Adj. pH	Adjusted Date	Adjusted Time	Preservative Added	Preservative Lot #	LLI Supplied Bottle?	Sulfide Present?	Corrective Substance	CS Lot #	Res. Cl. Present?	Corrective Substance	CS Lot #	Record Date	Employee

Check Code Key
PK = Original container checked - pH is within the correct range. (No preservative was added)
PA = Original container checked - pH adjusted to correct range. (Preservative was added)
PV = Volatile container checked
PC = pH checked (unpreserved container)
SPK = Subsampled from an original container. Original container checked - pH is within correct range
SPA = Subsampled from an original container. Subsample container checked - pH adjusted to correct range.
SPC = Subsampled from an original container. pH checked (unpreserved container).
SUP = Subsampled from original container. Unable to be preserved due to the matrix of the sample.
UP = Unable to preserve due to matrix of the sample.
NA = Not applicable

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

01163 GC/MS VOA Water Prep

An undiluted aliquot of the water sample or a dilution of the sample is purged with an inert gas and the volatiles are collected on an adsorbent trap that is subsequently desorbed onto a gas chromatographic column.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 5030C, May 2003.

11996 VOCs- 25ml Water by 8260C
11997 VOCs- 5ml Water by 8260C

The water sample is purged and the volatile compounds are collected on a sorbent trap that is subsequently desorbed onto the GC/MS system for chromatographic and mass spectral analysis.

Reference: Volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS), SW-846 Method 8260C, August 2006.

11010 8270D BNA Extraction

The sample aliquot is extracted with methylene chloride by either separatory funnel or liquid/liquid apparatus. Extraction is performed at both a pH of 11 and 2. The extract is concentrated prior to analysis.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 3510C, Rev 3, December 1996

14241 SVOAs 8270D MINI

The sample extract is analyzed by capillary column Gas Chromatography/Mass Spectrometry.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8270D, February 2007.

Analysis Reports / Field Chain of Custody

REVISED

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

Report Date: July 17, 2017

Project: RAAP - Radford, VA - HWMU16

Submittal Date: 05/18/2017
Group Number: 1802908
SDG: RAE85
State of Sample Origin: VA

Client Sample Description	Lancaster Labs (LL) #
16C1 Grab Groundwater	8999785
16MW8 Grab Groundwater	8999786
16MW9 Grab Groundwater	8999787
16WC1A Grab Groundwater	8999788
16WC1A MS Grab Groundwater	8999789
16WC1A MSD Grab Groundwater	8999790
16WDUP Grab Groundwater	8999791
16WC1B Grab Groundwater	8999792
16-2 Grab Groundwater	8999793
16-3 Grab Groundwater	8999794
16-5 Grab Groundwater	8999795
16WC2B Grab Groundwater	8999796
16SPRING Grab Groundwater	8999797
Trip Blank_1 Water	8999798
Trip Blank_2 Water	8999799

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Draper Aden Associates, Inc.	Attn: Kathy Olsen
Electronic Copy To	Draper Aden Associates, Inc.	Attn: Janet Frazier

REVISED

Respectfully Submitted,

Barbara Weyandt

Barbara A. Weyandt
Specialist

(717) 556-7264

Project Name: RAAP - Radford, VA - HWMU16
LL Group #: 1802908

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8260C, GC/MS Volatiles

Sample #s: 8999799

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Sample #s: 8999789, 8999790

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Sample #s: 8999785, 8999786, 8999787, 8999788, 8999791, 8999792, 8999798

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Batch #: H171451AA (Sample number(s): 8999785-8999792, 8999798-8999799 UNSPK: 8999788)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: Vinyl Chloride,

Bromomethane, Chloroethane, 1,1-Dichloroethene, Freon 113, Carbon Disulfide, Allyl Chloride, Methylene Chloride, trans-1,2-Dichloroethene, 2-Chloro-1,3-butadiene, 1,2-Dichloropropane, Styrene, 1,1-Dichloroethane, Benzene, Dibromomethane, Xylene (Total)

SW-846 8270D, GC/MS Semivolatiles

Sample #s: 8999785

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the TNI/DoD Standards. The following analytes are accepted based on this allowance:
Parathion

The stated QC limits for 1,4-Phenylenediamine, 1,4-Naphthoquinone, Famphur, and Kepone are advisory only.

Sample #s: 8999786, 8999787, 8999788, 8999789, 8999790, 8999791

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample #s: 8999792

The recovery for the sample surrogate(s and a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Batch #: 17142WAC026 (Sample number(s): 8999786-8999792 UNSPK: 8999788)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Aramite, Methapyrilene

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD were below the acceptance window: 1,4-Phenylenediamine, 1,4-Naphthoquinone, Hexachlorocyclopentadiene, Famphur, Kepone

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: 1,4-Naphthoquinone, Aramite, Methapyrilene

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: 2,3,4,6-Tetrachlorophenol, 2,6-Dichlorophenol, 1,4-Phenylenediamine, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, Pentachlorophenol, Famphur, Kepone, 2,4-Dichlorophenol

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 8999792

Batch #: 17143WAW026 (Sample number(s): 8999785 UNSPK: 8999788)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Methapyrilene

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD were below the acceptance window: 1,4-Phenylenediamine, 1,4-Naphthoquinone, Parathion, Famphur, Kepone

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: 1,4-Naphthoquinone, Aramite, Methapyrilene

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: 2,3,4,6-Tetrachlorophenol, 1,4-Phenylenediamine, 2,4,6-Trichlorophenol, Pentachlorophenol, Parathion, Famphur, Kepone

REVISED

Sample Description: 16C1 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999785
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/17/2017 10:35 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8501 SDG#: RAE85-01

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	Acetonitrile	75-05-8	N.D.		32	100	1
11996	Acrolein	107-02-8	N.D.		5.0	25	1
11996	Acrylonitrile	107-13-1	N.D.		1.0	10	1
11996	Allyl Chloride	107-05-1	N.D.		0.8	10	1
11996	Benzene	71-43-2	0.3	J	0.1	1.0	1
11996	Bromodichloromethane	75-27-4	N.D.		0.1	1.0	1
11996	Bromoform	75-25-2	N.D.		0.1	1.0	1
11996	Bromomethane	74-83-9	N.D.		0.5	1.0	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Carbon Disulfide	75-15-0	N.D.		0.4	10	1
11996	Carbon Tetrachloride	56-23-5	N.D.		0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	N.D.		0.5	10	1
11996	Chloroethane	75-00-3	4.0		0.1	1.0	1
11996	Chloroform	67-66-3	N.D.		0.1	1.0	1
11996	Chloromethane	74-87-3	N.D.		0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1.0	1
11996	Dibromochloromethane	124-48-1	N.D.		0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	N.D.		0.1	1.0	1
11996	Dibromomethane	74-95-3	N.D.		0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	0.2	J	0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	6.8		0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	0.3	J	0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	N.D.		0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	N.D.		0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1.0	1
11996	Dimethyl ether	115-10-6	8.4	J	0.1	13	1
11996	1,4-Dioxane	123-91-1	N.D.		45	200	1
11996	Ethyl ether	60-29-7	54	J	5.6	63	5
11996	Ethyl Methacrylate	97-63-2	N.D.		0.8	10	1
11996	Ethylbenzene	100-41-4	N.D.		0.1	1.0	1
11996	Freon 113	76-13-1	N.D.		0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	N.D.		0.1	1.0	1
11996	Hexachloroethane	67-72-1	N.D.		0.1	10	1
11996	2-Hexanone	591-78-6	N.D.		1.0	10	1
11996	Isobutyl Alcohol	78-83-1	N.D.		10	200	1
11996	Methacrylonitrile	126-98-7	N.D.		9.8	100	1
11996	Methyl Iodide	74-88-4	N.D.		0.6	10	1
11996	Methyl Methacrylate	80-62-6	N.D.		3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	N.D.		1.0	10	1
11996	Methylene Chloride	75-09-2	1.3		0.2	1.0	1
11996	Naphthalene	91-20-3	N.D.		0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16C1 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999785
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/17/2017 10:35 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8501 SDG#: RAE85-01

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Pentachloroethane	76-01-7	N.D.		0.8	10	1
11997	2-Propanol	67-63-0	N.D.		50	100	1
11996	Propionitrile	107-12-0	N.D.		10	100	1
11996	Styrene	100-42-5	N.D.		0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	N.D.		0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		0.2	1.0	1
11996	Tetrachloroethene	127-18-4	0.3	J	0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	14	J	2.0	25	1
11996	Toluene	108-88-3	N.D.		0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	N.D.		0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	0.2	J	0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	N.D.		0.1	1.0	1
11996	Trichloroethene	79-01-6	0.2	J	0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	N.D.		0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	N.D.		0.3	1.0	1
11996	Vinyl Acetate	108-05-4	N.D.		3.3	10	1
11996	Vinyl Chloride	75-01-4	N.D.		0.2	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles	**SW-846 8270D**		ug/l		ug/l	ug/l	
14241	Acenaphthene	83-32-9	N.D.		0.09	0.5	1
14241	Acenaphthylene	208-96-8	N.D.		0.09	0.5	1
14241	Acetophenone	98-86-2	N.D.		0.5	0.9	1
14241	2-Acetylaminofluorene	53-96-3	N.D.		2	5	1
14241	4-Aminobiphenyl	92-67-1	N.D.		0.5	0.9	1
14241	Aniline	62-53-3	N.D.		0.5	0.9	1
14241	Anthracene	120-12-7	N.D.		0.09	0.5	1
14241	Aramite	140-57-8	N.D.		5	14	1
14241	Benzo(a)anthracene	56-55-3	N.D.		0.09	0.5	1
14241	Benzo(a)pyrene	50-32-8	N.D.		0.09	0.5	1
14241	Benzo(b)fluoranthene	205-99-2	N.D.		0.09	0.5	1
14241	Benzo(g,h,i)perylene	191-24-2	N.D.		0.09	0.5	1
14241	Benzo(k)fluoranthene	207-08-9	N.D.		0.09	0.5	1
14241	Benzyl alcohol	100-51-6	N.D.		9	28	1
14241	4-Bromophenyl-phenylether	101-55-3	N.D.		0.5	0.9	1
14241	Butylbenzylphthalate	85-68-7	N.D.		2	5	1
14241	Di-n-butylphthalate	84-74-2	N.D.		2	5	1
14241	4-Chloro-3-methylphenol	59-50-7	N.D.		0.5	0.9	1
14241	4-Chloroaniline	106-47-8	N.D.		2	4	1
14241	Chlorobenzilate	510-15-6	N.D.		3	9	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16C1 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999785
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/17/2017 10:35 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8501 SDG#: RAE85-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			**ug/l**	**ug/l**	**ug/l**	
14241	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	0.9	1
14241	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	0.9	1
14241	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.5	0.9	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
14241	2-Chloronaphthalene	91-58-7	N.D.	0.4	0.9	1
14241	2-Chlorophenol	95-57-8	N.D.	0.5	0.9	1
14241	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	0.9	1
14241	Chrysene	218-01-9	N.D.	0.09	0.5	1
14241	Diallate trans/cis	2303-16-4	N.D.	0.9	5	1
14241	Dibenz(a,h)anthracene	53-70-3	N.D.	0.09	0.5	1
14241	Dibenzofuran	132-64-9	N.D.	0.5	0.9	1
14241	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
14241	2,4-Dichlorophenol	120-83-2	N.D.	0.5	0.9	1
14241	2,6-Dichlorophenol	87-65-0	N.D.	0.5	0.9	1
14241	Diethylphthalate	84-66-2	N.D.	2	5	1
14241	Dimethoate	60-51-5	N.D.	3	9	1
14241	p-Dimethylaminoazobenzene	60-11-7	N.D.	0.5	0.9	1
14241	7,12-Dimethylbenz[a]anthracene	57-97-6	N.D.	0.5	0.9	1
14241	3,3'-Dimethylbenzidine	119-93-7	N.D.	24	71	1
14241	a,a-Dimethylphenethylamine	122-09-8	N.D.	5	47	1
14241	2,4-Dimethylphenol	105-67-9	N.D.	0.5	0.9	1
14241	Dimethylphthalate	131-11-3	N.D.	2	5	1
14241	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	14	1
14241	1,3-Dinitrobenzene	99-65-0	N.D.	2	5	1
14241	2,4-Dinitrophenol	51-28-5	N.D.	9	28	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.	0.9	5	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	0.9	1
14241	Disulfoton	298-04-4	N.D.	24	47	1
14241	Ethyl methanesulfonate	62-50-0	N.D.	0.5	0.9	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
14241	Famphur	52-85-7	N.D.	24	47	1
14241	Fluoranthene	206-44-0	N.D.	0.09	0.5	1
14241	Fluorene	86-73-7	N.D.	0.09	0.5	1
14241	Hexachlorobenzene	118-74-1	N.D.	0.09	0.5	1
14241	Hexachlorocyclopentadiene	77-47-4	N.D.	5	14	1
14241	Hexachloroethane	67-72-1	N.D.	0.9	5	1
14241	Hexachloropropene	1888-71-7	N.D.	2	5	1
14241	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.09	0.5	1
14241	Isodrin	465-73-6	N.D.	0.5	0.9	1
14241	Isophorone	78-59-1	N.D.	0.5	0.9	1
14241	Isosafrole	120-58-1	N.D.	2	5	1
14241	Kepone	143-50-0	N.D.	24	47	1
14241	Methapyrilene	91-80-5	N.D.	14	47	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16C1 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999785
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/17/2017 10:35 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8501 SDG#: RAE85-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
	The QC window for methapyrilene is advisory due to the erratic performance of the compound. The quantitated result is estimated.					
14241	Methyl methanesulfonate	66-27-3	N.D.	0.9	5	1
14241	Methyl parathion	298-00-0	N.D.	0.9	5	1
14241	3-Methylcholanthrene	56-49-5	N.D.	0.5	0.9	1
14241	2-Methylnaphthalene	91-57-6	N.D.	0.09	0.5	1
14241	2-Methylphenol	95-48-7	N.D.	0.5	0.9	1
14241	4-Methylphenol	106-44-5	N.D.	0.5	0.9	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
14241	1,4-Naphthoquinone	130-15-4	N.D.	24	57	1
14241	1-Naphthylamine	134-32-7	N.D.	5	14	1
14241	2-Naphthylamine	91-59-8	N.D.	5	14	1
14241	2-Nitroaniline	88-74-4	N.D.	0.5	0.9	1
14241	3-Nitroaniline	99-09-2	N.D.	0.5	0.9	1
14241	4-Nitroaniline	100-01-6	N.D.	0.5	0.9	1
14241	Nitrobenzene	98-95-3	N.D.	0.5	0.9	1
14241	5-Nitro-o-toluidine	99-55-8	N.D.	0.5	0.9	1
14241	2-Nitrophenol	88-75-5	N.D.	0.5	0.9	1
14241	4-Nitrophenol	100-02-7	N.D.	9	28	1
14241	4-Nitroquinoline-1-oxide	56-57-5	N.D.	19	57	1
14241	N-Nitrosodiethylamine	55-18-5	N.D.	0.5	0.9	1
14241	N-Nitrosodimethylamine	62-75-9	N.D.	2	5	1
14241	N-Nitrosodi-n-butylamine	924-16-3	N.D.	2	5	1
14241	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	0.9	1
14241	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	0.9	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
14241	N-Nitrosomethylethylamine	10595-95-6	N.D.	2	5	1
14241	N-Nitrosomorpholine	59-89-2	N.D.	2	5	1
14241	N-Nitrosopiperidine	100-75-4	N.D.	0.5	0.9	1
14241	N-Nitrosopyrrolidine	930-55-2	N.D.	0.5	0.9	1
14241	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
14241	Parathion	56-38-2	N.D.	2	5	1
14241	Pentachlorobenzene	608-93-5	N.D.	0.5	0.9	1
14241	Pentachloronitrobenzene	82-68-8	N.D.	2	5	1
14241	Pentachlorophenol	87-86-5	N.D.	0.9	5	1
14241	Phenacetin	62-44-2	N.D.	0.5	0.9	1
14241	Phenanthrene	85-01-8	N.D.	0.09	0.5	1
14241	Phenol	108-95-2	N.D.	0.5	0.9	1
14241	1,4-Phenylenediamine	106-50-3	N.D.	71	280	1
14241	Phorate	298-02-2	N.D.	0.5	0.9	1
14241	2-Picoline	109-06-8	N.D.	2	5	1
14241	Pronamide	23950-58-5	N.D.	0.5	0.9	1
14241	Pyrene	129-00-0	N.D.	0.09	0.5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16C1 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999785
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/17/2017 10:35 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8501 SDG#: RAE85-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	Pyridine	110-86-1	N.D.	2	5	1
14241	Safrole	94-59-7	N.D.	2	5	1
14241	1,2,4,5-Tetrachlorobenzene	95-94-3	N.D.	0.5	0.9	1
14241	2,3,4,6-Tetrachlorophenol	58-90-2	N.D.	0.5	0.9	1
14241	Thionazin	297-97-2	N.D.	2	5	1
14241	o-Toluidine	95-53-4	N.D.	0.5	0.9	1
14241	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	0.9	1
14241	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	0.9	1
14241	O,O,O-Triethylphosphorothioate	126-68-1	N.D.	2	5	1
14241	1,3,5-Trinitrobenzene	99-35-4	N.D.	5	14	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the TNI/DoD Standards. The following analytes are accepted based on this allowance:
Parathion

The stated QC limits for 1,4-Phenylenediamine, 1,4-Naphthoquinone, Famphur, and Kepone are advisory only.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 23:24	Don V Viray	1
11996	8260C (25 ml)	SW-846 8260C	1	H171461AA	05/26/2017 16:01	Kerri E Legerlotz	5
11997	2-Propanol	SW-846 8260C	1	L171431AA	05/23/2017 12:43	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L171431AA	05/23/2017 12:43	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H171451AA	05/25/2017 23:24	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	3	H171461AA	05/26/2017 16:01	Kerri E Legerlotz	5
14241	SVOAs 8270D MINI	SW-846 8270D	1	17143WAW026	05/30/2017 13:40	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	2	17143WAW026	05/24/2017 08:00	Osvaldo R Sanchez	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW8 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999786
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 12:20 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8502 SDG#: RAE85-02

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	Acetonitrile	75-05-8	N.D.		32	100	1
11996	Acrolein	107-02-8	N.D.		5.0	25	1
11996	Acrylonitrile	107-13-1	N.D.		1.0	10	1
11996	Allyl Chloride	107-05-1	N.D.		0.8	10	1
11996	Benzene	71-43-2	N.D.		0.1	1.0	1
11996	Bromodichloromethane	75-27-4	N.D.		0.1	1.0	1
11996	Bromoform	75-25-2	N.D.		0.1	1.0	1
11996	Bromomethane	74-83-9	N.D.		0.5	1.0	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Carbon Disulfide	75-15-0	N.D.		0.4	10	1
11996	Carbon Tetrachloride	56-23-5	N.D.		0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	N.D.		0.5	10	1
11996	Chloroethane	75-00-3	N.D.		0.1	1.0	1
11996	Chloroform	67-66-3	N.D.		0.1	1.0	1
11996	Chloromethane	74-87-3	N.D.		0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1.0	1
11996	Dibromochloromethane	124-48-1	N.D.		0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	N.D.		0.1	1.0	1
11996	Dibromomethane	74-95-3	N.D.		0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	0.4	J	0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.		0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	N.D.		0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	N.D.		0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1.0	1
11996	Dimethyl ether	115-10-6	0.4	J	0.1	13	1
11996	1,4-Dioxane	123-91-1	N.D.		45	200	1
11996	Ethyl ether	60-29-7	14		1.1	13	1
11996	Ethyl Methacrylate	97-63-2	N.D.		0.8	10	1
11996	Ethylbenzene	100-41-4	N.D.		0.1	1.0	1
11996	Freon 113	76-13-1	N.D.		0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	N.D.		0.1	1.0	1
11996	Hexachloroethane	67-72-1	N.D.		0.1	10	1
11996	2-Hexanone	591-78-6	N.D.		1.0	10	1
11996	Isobutyl Alcohol	78-83-1	N.D.		10	200	1
11996	Methacrylonitrile	126-98-7	N.D.		9.8	100	1
11996	Methyl Iodide	74-88-4	N.D.		0.6	10	1
11996	Methyl Methacrylate	80-62-6	N.D.		3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	N.D.		1.0	10	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Naphthalene	91-20-3	N.D.		0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW8 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999786
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 12:20 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8502 SDG#: RAE85-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Pentachloroethane	76-01-7	N.D.	0.8	10	1
11997	2-Propanol	67-63-0	N.D.	50	100	1
11996	Propionitrile	107-12-0	N.D.	10	100	1
11996	Styrene	100-42-5	N.D.	0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1.0	1
11996	Tetrachloroethene	127-18-4	N.D.	0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	N.D.	2.0	25	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	N.D.	0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
11996	Vinyl Acetate	108-05-4	N.D.	3.3	10	1
11996	Vinyl Chloride	75-01-4	N.D.	0.2	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14241	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14241	Acetophenone	98-86-2	N.D.	0.5	1	1
14241	2-Acetylaminofluorene	53-96-3	N.D.	2	5	1
14241	4-Aminobiphenyl	92-67-1	N.D.	0.5	1	1
14241	Aniline	62-53-3	N.D.	0.5	1	1
14241	Anthracene	120-12-7	N.D.	0.1	0.5	1
14241	Aramite	140-57-8	N.D.	5	15	1
14241	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14241	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14241	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14241	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14241	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14241	Benzyl alcohol	100-51-6	N.D.	10	30	1
14241	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
14241	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14241	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14241	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
14241	4-Chloroaniline	106-47-8	N.D.	2	4	1
14241	Chlorobenzilate	510-15-6	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW8 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999786
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 12:20 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8502 SDG#: RAE85-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1
14241	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	1	1
14241	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
14241	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14241	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
14241	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
14241	Chrysene	218-01-9	N.D.	0.1	0.5	1
14241	Diallate trans/cis	2303-16-4	N.D.	1	5	1
14241	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14241	Dibenzofuran	132-64-9	N.D.	0.5	1	1
14241	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
14241	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
14241	2,6-Dichlorophenol	87-65-0	N.D.	0.5	1	1
14241	Diethylphthalate	84-66-2	N.D.	2	5	1
14241	Dimethoate	60-51-5	N.D.	3	10	1
14241	p-Dimethylaminoazobenzene	60-11-7	N.D.	0.5	1	1
14241	7,12-Dimethylbenz[a]anthracene	57-97-6	N.D.	0.5	1	1
14241	3,3'-Dimethylbenzidine	119-93-7	N.D.	25	76	1
14241	a,a-Dimethylphenethylamine	122-09-8	N.D.	5	50	1
14241	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
14241	Dimethylphthalate	131-11-3	N.D.	2	5	1
14241	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
14241	1,3-Dinitrobenzene	99-65-0	N.D.	2	5	1
14241	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
14241	Disulfoton	298-04-4	N.D.	25	50	1
14241	Ethyl methanesulfonate	62-50-0	N.D.	0.5	1	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
14241	Famphur	52-85-7	N.D.	25	50	1
14241	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14241	Fluorene	86-73-7	N.D.	0.1	0.5	1
14241	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14241	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
14241	Hexachloroethane	67-72-1	N.D.	1	5	1
14241	Hexachloropropene	1888-71-7	N.D.	2	5	1
14241	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14241	Isodrin	465-73-6	N.D.	0.5	1	1
14241	Isophorone	78-59-1	N.D.	0.5	1	1
14241	Isosafrole	120-58-1	N.D.	2	5	1
14241	Kepone	143-50-0	N.D.	25	50	1
14241	Methapyrilene	91-80-5	N.D.	15	50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW8 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999786
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 12:20 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8502 SDG#: RAE85-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
	The QC window for methapyrilene is advisory due to the erratic performance of the compound. The quantitated result is estimated.					
14241	Methyl methanesulfonate	66-27-3	N.D.	1	5	1
14241	Methyl parathion	298-00-0	N.D.	1	5	1
14241	3-Methylcholanthrene	56-49-5	N.D.	0.5	1	1
14241	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14241	2-Methylphenol	95-48-7	N.D.	0.5	1	1
14241	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
14241	1,4-Naphthoquinone	130-15-4	N.D.	25	60	1
14241	1-Naphthylamine	134-32-7	N.D.	5	15	1
14241	2-Naphthylamine	91-59-8	N.D.	5	15	1
14241	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
14241	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
14241	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
14241	Nitrobenzene	98-95-3	N.D.	0.5	1	1
14241	5-Nitro-o-toluidine	99-55-8	N.D.	0.5	1	1
14241	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
14241	4-Nitrophenol	100-02-7	N.D.	10	30	1
14241	4-Nitroquinoline-1-oxide	56-57-5	N.D.	20	60	1
14241	N-Nitrosodiethylamine	55-18-5	N.D.	0.5	1	1
14241	N-Nitrosodimethylamine	62-75-9	N.D.	2	5	1
14241	N-Nitrosodi-n-butylamine	924-16-3	N.D.	2	5	1
14241	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
14241	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
14241	N-Nitrosomethylethylamine	10595-95-6	N.D.	2	5	1
14241	N-Nitrosomorpholine	59-89-2	N.D.	2	5	1
14241	N-Nitrosopiperidine	100-75-4	N.D.	0.5	1	1
14241	N-Nitrosopyrrolidine	930-55-2	N.D.	0.5	1	1
14241	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
14241	Parathion	56-38-2	N.D.	2	5	1
14241	Pentachlorobenzene	608-93-5	N.D.	0.5	1	1
14241	Pentachloronitrobenzene	82-68-8	N.D.	2	5	1
14241	Pentachlorophenol	87-86-5	N.D.	1	5	1
14241	Phenacetin	62-44-2	N.D.	0.5	1	1
14241	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14241	Phenol	108-95-2	N.D.	0.5	1	1
14241	1,4-Phenylenediamine	106-50-3	N.D.	76	300	1
14241	Phorate	298-02-2	N.D.	0.5	1	1
14241	2-Picoline	109-06-8	N.D.	2	5	1
14241	Pronamide	23950-58-5	N.D.	0.5	1	1
14241	Pyrene	129-00-0	N.D.	0.1	0.5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW8 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999786
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 12:20 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8502 SDG#: RAE85-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Pyridine	110-86-1	N.D.	2	5	1
14241	Safrole	94-59-7	N.D.	2	5	1
14241	1,2,4,5-Tetrachlorobenzene	95-94-3	N.D.	0.5	1	1
14241	2,3,4,6-Tetrachlorophenol	58-90-2	N.D.	0.5	1	1
14241	Thionazin	297-97-2	N.D.	2	5	1
14241	o-Toluidine	95-53-4	N.D.	0.5	1	1
14241	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
14241	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
14241	O,O,O-Triethylphosphorothioate	126-68-1	N.D.	2	5	1
14241	1,3,5-Trinitrobenzene	99-35-4	N.D.	5	15	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 23:44	Don V Viray	1
11997	2-Propanol	SW-846 8260C	1	L171431AA	05/23/2017 13:05	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L171431AA	05/23/2017 13:05	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H171451AA	05/25/2017 23:44	Don V Viray	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAC026	05/23/2017 17:43	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAC026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW9 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999787
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 11:40 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8503 SDG#: RAE85-03

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	Acetonitrile	75-05-8	N.D.		32	100	1
11996	Acrolein	107-02-8	N.D.		5.0	25	1
11996	Acrylonitrile	107-13-1	N.D.		1.0	10	1
11996	Allyl Chloride	107-05-1	N.D.		0.8	10	1
11996	Benzene	71-43-2	0.3	J	0.1	1.0	1
11996	Bromodichloromethane	75-27-4	N.D.		0.1	1.0	1
11996	Bromoform	75-25-2	N.D.		0.1	1.0	1
11996	Bromomethane	74-83-9	N.D.		0.5	1.0	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Carbon Disulfide	75-15-0	N.D.		0.4	10	1
11996	Carbon Tetrachloride	56-23-5	N.D.		0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	N.D.		0.5	10	1
11996	Chloroethane	75-00-3	2.2		0.1	1.0	1
11996	Chloroform	67-66-3	N.D.		0.1	1.0	1
11996	Chloromethane	74-87-3	N.D.		0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1.0	1
11996	Dibromochloromethane	124-48-1	N.D.		0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	N.D.		0.1	1.0	1
11996	Dibromomethane	74-95-3	N.D.		0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	7.4		0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	0.2	J	0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	N.D.		0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	N.D.		0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1.0	1
11996	Dimethyl ether	115-10-6	1.6	J	0.1	13	1
11996	1,4-Dioxane	123-91-1	N.D.		45	200	1
11996	Ethyl ether	60-29-7	56	J	5.6	63	5
11996	Ethyl Methacrylate	97-63-2	N.D.		0.8	10	1
11996	Ethylbenzene	100-41-4	N.D.		0.1	1.0	1
11996	Freon 113	76-13-1	N.D.		0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	N.D.		0.1	1.0	1
11996	Hexachloroethane	67-72-1	N.D.		0.1	10	1
11996	2-Hexanone	591-78-6	N.D.		1.0	10	1
11996	Isobutyl Alcohol	78-83-1	N.D.		10	200	1
11996	Methacrylonitrile	126-98-7	N.D.		9.8	100	1
11996	Methyl Iodide	74-88-4	N.D.		0.6	10	1
11996	Methyl Methacrylate	80-62-6	N.D.		3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	N.D.		1.0	10	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Naphthalene	91-20-3	N.D.		0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW9 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999787
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 11:40 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8503 SDG#: RAE85-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Pentachloroethane	76-01-7	N.D.	0.8	10	1
11997	2-Propanol	67-63-0	N.D.	50	100	1
11996	Propionitrile	107-12-0	N.D.	10	100	1
11996	Styrene	100-42-5	N.D.	0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1.0	1
11996	Tetrachloroethene	127-18-4	N.D.	0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	N.D.	2.0	25	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	N.D.	0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
11996	Vinyl Acetate	108-05-4	N.D.	3.3	10	1
11996	Vinyl Chloride	75-01-4	N.D.	0.2	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14241	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14241	Acetophenone	98-86-2	N.D.	0.5	1	1
14241	2-Acetylaminofluorene	53-96-3	N.D.	2	5	1
14241	4-Aminobiphenyl	92-67-1	N.D.	0.5	1	1
14241	Aniline	62-53-3	N.D.	0.5	1	1
14241	Anthracene	120-12-7	N.D.	0.1	0.5	1
14241	Aramite	140-57-8	N.D.	5	15	1
14241	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14241	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14241	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14241	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14241	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14241	Benzyl alcohol	100-51-6	N.D.	10	30	1
14241	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
14241	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14241	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14241	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
14241	4-Chloroaniline	106-47-8	N.D.	2	4	1
14241	Chlorobenzilate	510-15-6	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW9 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999787
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 11:40 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8503 SDG#: RAE85-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1
14241	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	1	1
14241	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
14241	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14241	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
14241	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
14241	Chrysene	218-01-9	N.D.	0.1	0.5	1
14241	Diallate trans/cis	2303-16-4	N.D.	1	5	1
14241	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14241	Dibenzofuran	132-64-9	N.D.	0.5	1	1
14241	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
14241	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
14241	2,6-Dichlorophenol	87-65-0	N.D.	0.5	1	1
14241	Diethylphthalate	84-66-2	N.D.	2	5	1
14241	Dimethoate	60-51-5	N.D.	3	10	1
14241	p-Dimethylaminoazobenzene	60-11-7	N.D.	0.5	1	1
14241	7,12-Dimethylbenz[a]anthracene	57-97-6	N.D.	0.5	1	1
14241	3,3'-Dimethylbenzidine	119-93-7	N.D.	25	75	1
14241	a,a-Dimethylphenethylamine	122-09-8	N.D.	5	50	1
14241	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
14241	Dimethylphthalate	131-11-3	N.D.	2	5	1
14241	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
14241	1,3-Dinitrobenzene	99-65-0	N.D.	2	5	1
14241	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
14241	Disulfoton	298-04-4	N.D.	25	50	1
14241	Ethyl methanesulfonate	62-50-0	N.D.	0.5	1	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
14241	Famphur	52-85-7	N.D.	25	50	1
14241	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14241	Fluorene	86-73-7	N.D.	0.1	0.5	1
14241	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14241	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
14241	Hexachloroethane	67-72-1	N.D.	1	5	1
14241	Hexachloropropene	1888-71-7	N.D.	2	5	1
14241	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14241	Isodrin	465-73-6	N.D.	0.5	1	1
14241	Isophorone	78-59-1	N.D.	0.5	1	1
14241	Isosafrole	120-58-1	N.D.	2	5	1
14241	Kepone	143-50-0	N.D.	25	50	1
14241	Methapyrilene	91-80-5	N.D.	15	50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW9 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999787
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 11:40 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8503 SDG#: RAE85-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
	The QC window for methapyrilene is advisory due to the erratic performance of the compound. The quantitated result is estimated.					
14241	Methyl methanesulfonate	66-27-3	N.D.	1	5	1
14241	Methyl parathion	298-00-0	N.D.	1	5	1
14241	3-Methylcholanthrene	56-49-5	N.D.	0.5	1	1
14241	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14241	2-Methylphenol	95-48-7	N.D.	0.5	1	1
14241	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
14241	1,4-Naphthoquinone	130-15-4	N.D.	25	60	1
14241	1-Naphthylamine	134-32-7	N.D.	5	15	1
14241	2-Naphthylamine	91-59-8	N.D.	5	15	1
14241	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
14241	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
14241	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
14241	Nitrobenzene	98-95-3	N.D.	0.5	1	1
14241	5-Nitro-o-toluidine	99-55-8	N.D.	0.5	1	1
14241	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
14241	4-Nitrophenol	100-02-7	N.D.	10	30	1
14241	4-Nitroquinoline-1-oxide	56-57-5	N.D.	20	60	1
14241	N-Nitrosodiethylamine	55-18-5	N.D.	0.5	1	1
14241	N-Nitrosodimethylamine	62-75-9	N.D.	2	5	1
14241	N-Nitrosodi-n-butylamine	924-16-3	N.D.	2	5	1
14241	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
14241	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
14241	N-Nitrosomethylethylamine	10595-95-6	N.D.	2	5	1
14241	N-Nitrosomorpholine	59-89-2	N.D.	2	5	1
14241	N-Nitrosopiperidine	100-75-4	N.D.	0.5	1	1
14241	N-Nitrosopyrrolidine	930-55-2	N.D.	0.5	1	1
14241	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
14241	Parathion	56-38-2	N.D.	2	5	1
14241	Pentachlorobenzene	608-93-5	N.D.	0.5	1	1
14241	Pentachloronitrobenzene	82-68-8	N.D.	2	5	1
14241	Pentachlorophenol	87-86-5	N.D.	1	5	1
14241	Phenacetin	62-44-2	N.D.	0.5	1	1
14241	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14241	Phenol	108-95-2	N.D.	0.5	1	1
14241	1,4-Phenylenediamine	106-50-3	N.D.	75	300	1
14241	Phorate	298-02-2	N.D.	0.5	1	1
14241	2-Picoline	109-06-8	N.D.	2	5	1
14241	Pronamide	23950-58-5	N.D.	0.5	1	1
14241	Pyrene	129-00-0	N.D.	0.1	0.5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16MW9 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999787
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 11:40 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8503 SDG#: RAE85-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
14241	Pyridine	110-86-1	N.D.	2	5	1
14241	Safrole	94-59-7	N.D.	2	5	1
14241	1,2,4,5-Tetrachlorobenzene	95-94-3	N.D.	0.5	1	1
14241	2,3,4,6-Tetrachlorophenol	58-90-2	N.D.	0.5	1	1
14241	Thionazin	297-97-2	N.D.	2	5	1
14241	o-Toluidine	95-53-4	N.D.	0.5	1	1
14241	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
14241	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
14241	O,O,O-Triethylphosphorothioate	126-68-1	N.D.	2	5	1
14241	1,3,5-Trinitrobenzene	99-35-4	N.D.	5	15	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/26/2017 00:05	Don V Viray	1
11996	8260C (25 ml)	SW-846 8260C	1	H171461AA	05/26/2017 16:21	Kerri E Legerlotz	5
11997	2-Propanol	SW-846 8260C	1	L171431AA	05/23/2017 13:27	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L171431AA	05/23/2017 13:27	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H171451AA	05/26/2017 00:05	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	3	H171461AA	05/26/2017 16:21	Kerri E Legerlotz	5
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAC026	05/23/2017 18:10	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAC026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999788
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04BKG

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	Acetonitrile	75-05-8	N.D.		32	100	1
11996	Acrolein	107-02-8	N.D.		5.0	25	1
11996	Acrylonitrile	107-13-1	N.D.		1.0	10	1
11996	Allyl Chloride	107-05-1	N.D.		0.8	10	1
11996	Benzene	71-43-2	0.2	J	0.1	1.0	1
11996	Bromodichloromethane	75-27-4	N.D.		0.1	1.0	1
11996	Bromoform	75-25-2	N.D.		0.1	1.0	1
11996	Bromomethane	74-83-9	N.D.		0.5	1.0	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Carbon Disulfide	75-15-0	N.D.		0.4	10	1
11996	Carbon Tetrachloride	56-23-5	N.D.		0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	N.D.		0.5	10	1
11996	Chloroethane	75-00-3	1.2		0.1	1.0	1
11996	Chloroform	67-66-3	N.D.		0.1	1.0	1
11996	Chloromethane	74-87-3	N.D.		0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1.0	1
11996	Dibromochloromethane	124-48-1	N.D.		0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	N.D.		0.1	1.0	1
11996	Dibromomethane	74-95-3	N.D.		0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	3.8		0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.		0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	N.D.		0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	N.D.		0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1.0	1
11996	Dimethyl ether	115-10-6	1.6	J	0.1	13	1
11996	1,4-Dioxane	123-91-1	N.D.		45	200	1
11996	Ethyl ether	60-29-7	24	J	11	130	10
11996	Ethyl Methacrylate	97-63-2	N.D.		0.8	10	1
11996	Ethylbenzene	100-41-4	N.D.		0.1	1.0	1
11996	Freon 113	76-13-1	N.D.		0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	N.D.		0.1	1.0	1
11996	Hexachloroethane	67-72-1	N.D.		0.1	10	1
11996	2-Hexanone	591-78-6	N.D.		1.0	10	1
11996	Isobutyl Alcohol	78-83-1	N.D.		10	200	1
11996	Methacrylonitrile	126-98-7	N.D.		9.8	100	1
11996	Methyl Iodide	74-88-4	N.D.		0.6	10	1
11996	Methyl Methacrylate	80-62-6	N.D.		3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	N.D.		1.0	10	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Naphthalene	91-20-3	N.D.		0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999788
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04BKG

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Pentachloroethane	76-01-7	N.D.		0.8	10	1
11997	2-Propanol	67-63-0	N.D.		50	100	1
11996	Propionitrile	107-12-0	N.D.		10	100	1
11996	Styrene	100-42-5	N.D.		0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	N.D.		0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		0.2	1.0	1
11996	Tetrachloroethene	127-18-4	0.2	J	0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	N.D.		2.0	25	1
11996	Toluene	108-88-3	N.D.		0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	N.D.		0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	N.D.		0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	N.D.		0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.		0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	N.D.		0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	N.D.		0.3	1.0	1
11996	Vinyl Acetate	108-05-4	N.D.		3.3	10	1
11996	Vinyl Chloride	75-01-4	N.D.		0.2	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	**ug/l**	
14241	Acenaphthene	83-32-9	N.D.		0.1	0.5	1
14241	Acenaphthylene	208-96-8	N.D.		0.1	0.5	1
14241	Acetophenone	98-86-2	N.D.		0.5	1	1
14241	2-Acetylaminofluorene	53-96-3	N.D.		2	5	1
14241	4-Aminobiphenyl	92-67-1	N.D.		0.5	1	1
14241	Aniline	62-53-3	N.D.		0.5	1	1
14241	Anthracene	120-12-7	N.D.		0.1	0.5	1
14241	Aramite	140-57-8	N.D.		5	15	1
14241	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14241	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14241	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14241	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14241	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	0.5	1
14241	Benzyl alcohol	100-51-6	N.D.		10	30	1
14241	4-Bromophenyl-phenylether	101-55-3	N.D.		0.5	1	1
14241	Butylbenzylphthalate	85-68-7	N.D.		2	5	1
14241	Di-n-butylphthalate	84-74-2	N.D.		2	5	1
14241	4-Chloro-3-methylphenol	59-50-7	N.D.		0.5	1	1
14241	4-Chloroaniline	106-47-8	N.D.		2	4	1
14241	Chlorobenzilate	510-15-6	N.D.		3	10	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999788
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1
14241	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	1	1
14241	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
14241	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14241	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
14241	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
14241	Chrysene	218-01-9	N.D.	0.1	0.5	1
14241	Diallate trans/cis	2303-16-4	N.D.	1	5	1
14241	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14241	Dibenzofuran	132-64-9	N.D.	0.5	1	1
14241	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
14241	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
14241	2,6-Dichlorophenol	87-65-0	N.D.	0.5	1	1
14241	Diethylphthalate	84-66-2	N.D.	2	5	1
14241	Dimethoate	60-51-5	N.D.	3	10	1
14241	p-Dimethylaminoazobenzene	60-11-7	N.D.	0.5	1	1
14241	7,12-Dimethylbenz[a]anthracene	57-97-6	N.D.	0.5	1	1
14241	3,3'-Dimethylbenzidine	119-93-7	N.D.	25	76	1
14241	a,a-Dimethylphenethylamine	122-09-8	N.D.	5	50	1
14241	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
14241	Dimethylphthalate	131-11-3	N.D.	2	5	1
14241	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
14241	1,3-Dinitrobenzene	99-65-0	N.D.	2	5	1
14241	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
14241	Disulfoton	298-04-4	N.D.	25	50	1
14241	Ethyl methanesulfonate	62-50-0	N.D.	0.5	1	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
14241	Famphur	52-85-7	N.D.	25	50	1
14241	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14241	Fluorene	86-73-7	N.D.	0.1	0.5	1
14241	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14241	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
14241	Hexachloroethane	67-72-1	N.D.	1	5	1
14241	Hexachloropropene	1888-71-7	N.D.	2	5	1
14241	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14241	Isodrin	465-73-6	N.D.	0.5	1	1
14241	Isophorone	78-59-1	N.D.	0.5	1	1
14241	Isosafrole	120-58-1	N.D.	2	5	1
14241	Kepone	143-50-0	N.D.	25	50	1
14241	Methapyrilene	91-80-5	N.D.	15	50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999788
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
	The QC window for methapyrilene is advisory due to the erratic performance of the compound. The quantitated result is estimated.					
14241	Methyl methanesulfonate	66-27-3	N.D.	1	5	1
14241	Methyl parathion	298-00-0	N.D.	1	5	1
14241	3-Methylcholanthrene	56-49-5	N.D.	0.5	1	1
14241	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14241	2-Methylphenol	95-48-7	N.D.	0.5	1	1
14241	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
14241	1,4-Naphthoquinone	130-15-4	N.D.	25	60	1
14241	1-Naphthylamine	134-32-7	N.D.	5	15	1
14241	2-Naphthylamine	91-59-8	N.D.	5	15	1
14241	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
14241	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
14241	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
14241	Nitrobenzene	98-95-3	N.D.	0.5	1	1
14241	5-Nitro-o-toluidine	99-55-8	N.D.	0.5	1	1
14241	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
14241	4-Nitrophenol	100-02-7	N.D.	10	30	1
14241	4-Nitroquinoline-1-oxide	56-57-5	N.D.	20	60	1
14241	N-Nitrosodiethylamine	55-18-5	N.D.	0.5	1	1
14241	N-Nitrosodimethylamine	62-75-9	N.D.	2	5	1
14241	N-Nitrosodi-n-butylamine	924-16-3	N.D.	2	5	1
14241	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
14241	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
14241	N-Nitrosomethylethylamine	10595-95-6	N.D.	2	5	1
14241	N-Nitrosomorpholine	59-89-2	N.D.	2	5	1
14241	N-Nitrosopiperidine	100-75-4	N.D.	0.5	1	1
14241	N-Nitrosopyrrolidine	930-55-2	N.D.	0.5	1	1
14241	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
14241	Parathion	56-38-2	N.D.	2	5	1
14241	Pentachlorobenzene	608-93-5	N.D.	0.5	1	1
14241	Pentachloronitrobenzene	82-68-8	N.D.	2	5	1
14241	Pentachlorophenol	87-86-5	N.D.	1	5	1
14241	Phenacetin	62-44-2	N.D.	0.5	1	1
14241	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14241	Phenol	108-95-2	N.D.	0.5	1	1
14241	1,4-Phenylenediamine	106-50-3	N.D.	76	300	1
14241	Phorate	298-02-2	N.D.	0.5	1	1
14241	2-Picoline	109-06-8	N.D.	2	5	1
14241	Pronamide	23950-58-5	N.D.	0.5	1	1
14241	Pyrene	129-00-0	N.D.	0.1	0.5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999788
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	Pyridine	110-86-1	N.D.	2	5	1
14241	Safrole	94-59-7	N.D.	2	5	1
14241	1,2,4,5-Tetrachlorobenzene	95-94-3	N.D.	0.5	1	1
14241	2,3,4,6-Tetrachlorophenol	58-90-2	N.D.	0.5	1	1
14241	Thionazin	297-97-2	N.D.	2	5	1
14241	o-Toluidine	95-53-4	N.D.	0.5	1	1
14241	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
14241	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
14241	O,O,O-Triethylphosphorothioate	126-68-1	N.D.	2	5	1
14241	1,3,5-Trinitrobenzene	99-35-4	N.D.	5	15	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 21:22	Don V Viray	1
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 23:03	Don V Viray	10
11997	2-Propanol	SW-846 8260C	1	L171431AA	05/23/2017 13:49	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L171431AA	05/23/2017 13:49	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H171451AA	05/25/2017 21:22	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	3	H171451AA	05/25/2017 23:03	Don V Viray	10
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAC026	05/23/2017 15:52	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAC026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MS Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999789
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MS

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Acetone	67-64-1	41		3.0	10	1
11996	Acetonitrile	75-05-8	39	J	32	100	1
11996	Acrolein	107-02-8	24	J	5.0	25	1
11996	Acrylonitrile	107-13-1	26		1.0	10	1
11996	Allyl Chloride	107-05-1	6.2	J	0.8	10	1
11996	Benzene	71-43-2	6.3		0.1	1.0	1
11996	Bromodichloromethane	75-27-4	6.1		0.1	1.0	1
11996	Bromoform	75-25-2	5.9		0.1	1.0	1
11996	Bromomethane	74-83-9	6.3		0.5	1.0	1
11996	2-Butanone	78-93-3	34		1.0	10	1
11996	Carbon Disulfide	75-15-0	6.9	J	0.4	10	1
11996	Carbon Tetrachloride	56-23-5	6.4		0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	6.3	J	0.5	10	1
11996	Chloroethane	75-00-3	7.6		0.1	1.0	1
11996	Chloroform	67-66-3	5.9		0.1	1.0	1
11996	Chloromethane	74-87-3	6.0		0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	4.2		0.2	1.0	1
11996	Dibromochloromethane	124-48-1	5.8		0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	5.5		0.1	1.0	1
11996	Dibromomethane	74-95-3	6.1		0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	18		1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	5.4		0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	5.5		0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	5.3		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	5.9		0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	9.9		0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	6.0		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	6.4		0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	6.3		0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	6.1		0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	5.7		0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	5.8		0.1	1.0	1
11996	Dimethyl ether	115-10-6	6.6	J	0.1	13	1
11996	1,4-Dioxane	123-91-1	170	J	45	200	1
11996	Ethyl ether	60-29-7	31	E	1.1	13	1
11996	Ethyl Methacrylate	97-63-2	5.8	J	0.8	10	1
11996	Ethylbenzene	100-41-4	5.9		0.1	1.0	1
11996	Freon 113	76-13-1	6.6		0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	5.0		0.1	1.0	1
11996	Hexachloroethane	67-72-1	5.4	J	0.1	10	1
11996	2-Hexanone	591-78-6	20		1.0	10	1
11996	Isobutyl Alcohol	78-83-1	150	J	10	200	1
11996	Methacrylonitrile	126-98-7	33	J	9.8	100	1
11996	Methyl Iodide	74-88-4	6.0	J	0.6	10	1
11996	Methyl Methacrylate	80-62-6	4.4	J	3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	21		1.0	10	1
11996	Methylene Chloride	75-09-2	6.1		0.2	1.0	1
11996	Naphthalene	91-20-3	3.9		0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MS Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999789
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MS

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Pentachloroethane	76-01-7	6.0	J	0.8	10	1
11997	2-Propanol	67-63-0	120		50	100	1
11996	Propionitrile	107-12-0	38	J	10	100	1
11996	Styrene	100-42-5	6.2		0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	5.7		0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	5.5		0.2	1.0	1
11996	Tetrachloroethene	127-18-4	6.1		0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	24	J	2.0	25	1
11996	Toluene	108-88-3	5.9		0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	4.3		0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	6.0		0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	5.9		0.1	1.0	1
11996	Trichloroethene	79-01-6	6.0		0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	6.6		0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	5.5		0.3	1.0	1
11996	Vinyl Acetate	108-05-4	13		3.3	10	1
11996	Vinyl Chloride	75-01-4	6.7		0.2	1.0	1
11996	Xylene (Total)	1330-20-7	18		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

GC/MS Semivolatiles	**SW-846 8270D**		ug/l		ug/l	ug/l	
14241	Acenaphthene	83-32-9	45		0.1	0.5	1
14241	Acenaphthylene	208-96-8	43		0.1	0.5	1
14241	Acetophenone	98-86-2	45		0.5	1	1
14241	2-Acetylaminofluorene	53-96-3	51		2	5	1
14241	4-Aminobiphenyl	92-67-1	44		0.5	1	1
14241	Aniline	62-53-3	28		0.5	1	1
14241	Anthracene	120-12-7	45		0.1	0.5	1
14241	Aramite	140-57-8	86	E	5	15	1
14241	Benzo(a)anthracene	56-55-3	48		0.1	0.5	1
14241	Benzo(a)pyrene	50-32-8	44		0.1	0.5	1
14241	Benzo(b)fluoranthene	205-99-2	47		0.1	0.5	1
14241	Benzo(g,h,i)perylene	191-24-2	44		0.1	0.5	1
14241	Benzo(k)fluoranthene	207-08-9	47		0.1	0.5	1
14241	Benzyl alcohol	100-51-6	37		10	30	1
14241	4-Bromophenyl-phenylether	101-55-3	45		0.5	1	1
14241	Butylbenzylphthalate	85-68-7	49		2	5	1
14241	Di-n-butylphthalate	84-74-2	49		2	5	1
14241	4-Chloro-3-methylphenol	59-50-7	42		0.5	1	1
14241	4-Chloroaniline	106-47-8	37		2	4	1
14241	Chlorobenzilate	510-15-6	47		3	10	1
14241	bis(2-Chloroethoxy)methane	111-91-1	45		0.5	1	1
14241	bis(2-Chloroethyl)ether	111-44-4	43		0.5	1	1
14241	bis(2-Chloroisopropyl)ether	39638-32-9	43		0.5	1	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MS Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999789
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MS

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l		ug/l	ug/l	
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14241	2-Chloronaphthalene	91-58-7	44		0.4	1	1
14241	2-Chlorophenol	95-57-8	31		0.5	1	1
14241	4-Chlorophenyl-phenylether	7005-72-3	44		0.5	1	1
14241	Chrysene	218-01-9	49		0.1	0.5	1
14241	Diallate trans/cis	2303-16-4	47		1	5	1
14241	Dibenz(a,h)anthracene	53-70-3	46		0.1	0.5	1
14241	Dibenzofuran	132-64-9	44		0.5	1	1
14241	3,3'-Dichlorobenzidine	91-94-1	41		2	5	1
14241	2,4-Dichlorophenol	120-83-2	30		0.5	1	1
14241	2,6-Dichlorophenol	87-65-0	27		0.5	1	1
14241	Diethylphthalate	84-66-2	46		2	5	1
14241	Dimethoate	60-51-5	30		3	10	1
14241	p-Dimethylaminoazobenzene	60-11-7	51		0.5	1	1
14241	7,12-Dimethylbenz[a]anthracene	57-97-6	46		0.5	1	1
14241	3,3'-Dimethylbenzidine	119-93-7	41	J	25	75	1
14241	a,a-Dimethylphenethylamine	122-09-8	51	E	5	50	1
14241	2,4-Dimethylphenol	105-67-9	32		0.5	1	1
14241	Dimethylphthalate	131-11-3	44		2	5	1
14241	4,6-Dinitro-2-methylphenol	534-52-1	44		5	15	1
14241	1,3-Dinitrobenzene	99-65-0	46		2	5	1
14241	2,4-Dinitrophenol	51-28-5	90		10	30	1
14241	2,4-Dinitrotoluene	121-14-2	46		1	5	1
14241	2,6-Dinitrotoluene	606-20-2	44		0.5	1	1
14241	Disulfoton	298-04-4	110		25	50	1
14241	Ethyl methanesulfonate	62-50-0	39		0.5	1	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	47		2	5	1
14241	Famphur	52-85-7	N.D.		25	50	1
14241	Fluoranthene	206-44-0	47		0.1	0.5	1
14241	Fluorene	86-73-7	44		0.1	0.5	1
14241	Hexachlorobenzene	118-74-1	43		0.1	0.5	1
14241	Hexachlorocyclopentadiene	77-47-4	37		5	15	1
14241	Hexachloroethane	67-72-1	33		1	5	1
14241	Hexachloropropene	1888-71-7	23		2	5	1
14241	Indeno(1,2,3-cd)pyrene	193-39-5	46		0.1	0.5	1
14241	Isodrin	465-73-6	45		0.5	1	1
14241	Isophorone	78-59-1	45		0.5	1	1
14241	Isosafrole	120-58-1	47		2	5	1
14241	Kepone	143-50-0	N.D.		25	50	1
14241	Methapyrilene	91-80-5	570	E	15	50	1
	The QC window for methapyrilene is advisory due to the erratic performance of the compound. The quantitated result is estimated.						
14241	Methyl methanesulfonate	66-27-3	33		1	5	1
14241	Methyl parathion	298-00-0	35		1	5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MS Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999789
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MS

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l		ug/l	ug/l	
14241	3-Methylcholanthrene	56-49-5	48		0.5	1	1
14241	2-Methylnaphthalene	91-57-6	41		0.1	0.5	1
14241	2-Methylphenol	95-48-7	38		0.5	1	1
14241	4-Methylphenol	106-44-5	37		0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14241	1,4-Naphthoquinone	130-15-4	160	E	25	60	1
14241	1-Naphthylamine	134-32-7	57		5	15	1
14241	2-Naphthylamine	91-59-8	46		5	15	1
14241	2-Nitroaniline	88-74-4	45		0.5	1	1
14241	3-Nitroaniline	99-09-2	42		0.5	1	1
14241	4-Nitroaniline	100-01-6	46		0.5	1	1
14241	Nitrobenzene	98-95-3	44		0.5	1	1
14241	5-Nitro-o-toluidine	99-55-8	42		0.5	1	1
14241	2-Nitrophenol	88-75-5	42		0.5	1	1
14241	4-Nitrophenol	100-02-7	32		10	30	1
14241	4-Nitroquinoline-1-oxide	56-57-5	540	E	20	60	1
14241	N-Nitrosodiethylamine	55-18-5	42		0.5	1	1
14241	N-Nitrosodimethylamine	62-75-9	27		2	5	1
14241	N-Nitrosodi-n-butylamine	924-16-3	41		2	5	1
14241	N-Nitroso-di-n-propylamine	621-64-7	44		0.5	1	1
14241	N-Nitrosodiphenylamine	86-30-6	46		0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14241	N-Nitrosomethylethylamine	10595-95-6	40		2	5	1
14241	N-Nitrosomorpholine	59-89-2	41		2	5	1
14241	N-Nitrosopiperidine	100-75-4	42		0.5	1	1
14241	N-Nitrosopyrrolidine	930-55-2	40		0.5	1	1
14241	Di-n-octylphthalate	117-84-0	45		2	5	1
14241	Parathion	56-38-2	49		2	5	1
14241	Pentachlorobenzene	608-93-5	37		0.5	1	1
14241	Pentachloronitrobenzene	82-68-8	45		2	5	1
14241	Pentachlorophenol	87-86-5	30		1	5	1
14241	Phenacetin	62-44-2	46		0.5	1	1
14241	Phenanthrene	85-01-8	45		0.1	0.5	1
14241	Phenol	108-95-2	27		0.5	1	1
14241	1,4-Phenylenediamine	106-50-3	N.D.		75	300	1
14241	Phorate	298-02-2	47		0.5	1	1
14241	2-Picoline	109-06-8	36		2	5	1
14241	Pronamide	23950-58-5	47		0.5	1	1
14241	Pyrene	129-00-0	44		0.1	0.5	1
14241	Pyridine	110-86-1	23		2	5	1
14241	Safrole	94-59-7	41		2	5	1
14241	1,2,4,5-Tetrachlorobenzene	95-94-3	39		0.5	1	1
14241	2,3,4,6-Tetrachlorophenol	58-90-2	23		0.5	1	1
14241	Thionazin	297-97-2	45		2	5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MS Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999789
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MS

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	o-Toluidine	95-53-4	36	0.5	1	1
14241	2,4,5-Trichlorophenol	95-95-4	33	0.5	1	1
14241	2,4,6-Trichlorophenol	88-06-2	21	0.5	1	1
14241	O,O,O-Triethylphosphorothioate	126-68-1	42	2	5	1
14241	1,3,5-Trinitrobenzene	99-35-4	42	5	15	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 21:42	Don V Viray	1
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 22:23	Don V Viray	1
11997	2-Propanol	SW-846 8260C	1	L171431AA	05/23/2017 14:11	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L171431AA	05/23/2017 14:11	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H171451AA	05/25/2017 21:42	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	3	H171451AA	05/25/2017 22:23	Don V Viray	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAC026	05/23/2017 16:20	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAC026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MSD Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999790
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MSD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Acetone	67-64-1	39		3.0	10	1
11996	Acetonitrile	75-05-8	43	J	32	100	1
11996	Acrolein	107-02-8	23	J	5.0	25	1
11996	Acrylonitrile	107-13-1	25		1.0	10	1
11996	Allyl Chloride	107-05-1	6.3	J	0.8	10	1
11996	Benzene	71-43-2	6.2		0.1	1.0	1
11996	Bromodichloromethane	75-27-4	6.0		0.1	1.0	1
11996	Bromoform	75-25-2	5.9		0.1	1.0	1
11996	Bromomethane	74-83-9	6.7		0.5	1.0	1
11996	2-Butanone	78-93-3	34		1.0	10	1
11996	Carbon Disulfide	75-15-0	6.8	J	0.4	10	1
11996	Carbon Tetrachloride	56-23-5	6.3		0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	6.2	J	0.5	10	1
11996	Chloroethane	75-00-3	8.2		0.1	1.0	1
11996	Chloroform	67-66-3	5.9		0.1	1.0	1
11996	Chloromethane	74-87-3	6.0		0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	4.4		0.2	1.0	1
11996	Dibromochloromethane	124-48-1	5.8		0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	5.6		0.1	1.0	1
11996	Dibromomethane	74-95-3	6.0		0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	18		1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	5.4		0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	5.5		0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	5.3		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	5.8		0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	9.8		0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	6.0		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	6.4		0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	6.2		0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	6.0		0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	5.8		0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	6.0		0.1	1.0	1
11996	Dimethyl ether	115-10-6	6.5	J	0.1	13	1
11996	1,4-Dioxane	123-91-1	180	J	45	200	1
11996	Ethyl ether	60-29-7	30	E	1.1	13	1
11996	Ethyl Methacrylate	97-63-2	5.8	J	0.8	10	1
11996	Ethylbenzene	100-41-4	5.9		0.1	1.0	1
11996	Freon 113	76-13-1	6.7		0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	4.9		0.1	1.0	1
11996	Hexachloroethane	67-72-1	5.3	J	0.1	10	1
11996	2-Hexanone	591-78-6	20		1.0	10	1
11996	Isobutyl Alcohol	78-83-1	150	J	10	200	1
11996	Methacrylonitrile	126-98-7	32	J	9.8	100	1
11996	Methyl Iodide	74-88-4	6.0	J	0.6	10	1
11996	Methyl Methacrylate	80-62-6	4.5	J	3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	21		1.0	10	1
11996	Methylene Chloride	75-09-2	6.1		0.2	1.0	1
11996	Naphthalene	91-20-3	4.3		0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MSD Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999790
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MSD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Pentachloroethane	76-01-7	6.1	J	0.8	10	1
11997	2-Propanol	67-63-0	120		50	100	1
11996	Propionitrile	107-12-0	41	J	10	100	1
11996	Styrene	100-42-5	6.1		0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	5.8		0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	5.5		0.2	1.0	1
11996	Tetrachloroethene	127-18-4	6.0		0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	24	J	2.0	25	1
11996	Toluene	108-88-3	5.9		0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	4.3		0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	6.0		0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	5.9		0.1	1.0	1
11996	Trichloroethene	79-01-6	6.0		0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	6.4		0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	5.4		0.3	1.0	1
11996	Vinyl Acetate	108-05-4	13		3.3	10	1
11996	Vinyl Chloride	75-01-4	6.5		0.2	1.0	1
11996	Xylene (Total)	1330-20-7	18		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

GC/MS Semivolatiles	**SW-846 8270D**		ug/l		ug/l	ug/l	
14241	Acenaphthene	83-32-9	44		0.1	0.5	1
14241	Acenaphthylene	208-96-8	43		0.1	0.5	1
14241	Acetophenone	98-86-2	46		0.5	1	1
14241	2-Acetylaminofluorene	53-96-3	52		2	5	1
14241	4-Aminobiphenyl	92-67-1	45		0.5	1	1
14241	Aniline	62-53-3	29		0.5	1	1
14241	Anthracene	120-12-7	45		0.1	0.5	1
14241	Aramite	140-57-8	88	E	5	15	1
14241	Benzo(a)anthracene	56-55-3	48		0.1	0.5	1
14241	Benzo(a)pyrene	50-32-8	43		0.1	0.5	1
14241	Benzo(b)fluoranthene	205-99-2	47		0.1	0.5	1
14241	Benzo(g,h,i)perylene	191-24-2	43		0.1	0.5	1
14241	Benzo(k)fluoranthene	207-08-9	46		0.1	0.5	1
14241	Benzyl alcohol	100-51-6	39		10	30	1
14241	4-Bromophenyl-phenylether	101-55-3	45		0.5	1	1
14241	Butylbenzylphthalate	85-68-7	50		2	5	1
14241	Di-n-butylphthalate	84-74-2	49		2	5	1
14241	4-Chloro-3-methylphenol	59-50-7	43		0.5	1	1
14241	4-Chloroaniline	106-47-8	37		2	4	1
14241	Chlorobenzilate	510-15-6	48		3	10	1
14241	bis(2-Chloroethoxy)methane	111-91-1	45		0.5	1	1
14241	bis(2-Chloroethyl)ether	111-44-4	42		0.5	1	1
14241	bis(2-Chloroisopropyl)ether	39638-32-9	43		0.5	1	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MSD Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999790
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MSD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l		ug/l	ug/l	
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.						
14241	2-Chloronaphthalene	91-58-7	44		0.4	1	1
14241	2-Chlorophenol	95-57-8	34		0.5	1	1
14241	4-Chlorophenyl-phenylether	7005-72-3	43		0.5	1	1
14241	Chrysene	218-01-9	49		0.1	0.5	1
14241	Diallate trans/cis	2303-16-4	46		1	5	1
14241	Dibenz(a,h)anthracene	53-70-3	45		0.1	0.5	1
14241	Dibenzofuran	132-64-9	44		0.5	1	1
14241	3,3'-Dichlorobenzidine	91-94-1	43		2	5	1
14241	2,4-Dichlorophenol	120-83-2	32		0.5	1	1
14241	2,6-Dichlorophenol	87-65-0	28		0.5	1	1
14241	Diethylphthalate	84-66-2	47		2	5	1
14241	Dimethoate	60-51-5	30		3	10	1
14241	p-Dimethylaminoazobenzene	60-11-7	53		0.5	1	1
14241	7,12-Dimethylbenz[a]anthracene	57-97-6	45		0.5	1	1
14241	3,3'-Dimethylbenzidine	119-93-7	45	J	25	75	1
14241	a,a-Dimethylphenethylamine	122-09-8	53	E	5	50	1
14241	2,4-Dimethylphenol	105-67-9	32		0.5	1	1
14241	Dimethylphthalate	131-11-3	44		2	5	1
14241	4,6-Dinitro-2-methylphenol	534-52-1	44		5	15	1
14241	1,3-Dinitrobenzene	99-65-0	46		2	5	1
14241	2,4-Dinitrophenol	51-28-5	93		10	30	1
14241	2,4-Dinitrotoluene	121-14-2	46		1	5	1
14241	2,6-Dinitrotoluene	606-20-2	46		0.5	1	1
14241	Disulfoton	298-04-4	110		25	50	1
14241	Ethyl methanesulfonate	62-50-0	41		0.5	1	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	48		2	5	1
14241	Famphur	52-85-7	N.D.		25	50	1
14241	Fluoranthene	206-44-0	47		0.1	0.5	1
14241	Fluorene	86-73-7	44		0.1	0.5	1
14241	Hexachlorobenzene	118-74-1	43		0.1	0.5	1
14241	Hexachlorocyclopentadiene	77-47-4	36		5	15	1
14241	Hexachloroethane	67-72-1	32		1	5	1
14241	Hexachloropropene	1888-71-7	22		2	5	1
14241	Indeno(1,2,3-cd)pyrene	193-39-5	45		0.1	0.5	1
14241	Isodrin	465-73-6	46		0.5	1	1
14241	Isophorone	78-59-1	45		0.5	1	1
14241	Isosafrole	120-58-1	47		2	5	1
14241	Kepone	143-50-0	N.D.		25	50	1
14241	Methapyrilene	91-80-5	580	E	15	50	1
	The QC window for methapyrilene is advisory due to the erratic performance of the compound. The quantitated result is estimated.						
14241	Methyl methanesulfonate	66-27-3	34		1	5	1
14241	Methyl parathion	298-00-0	35		1	5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MSD Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999790
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MSD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l		ug/l	ug/l	
14241	3-Methylcholanthrene	56-49-5	47		0.5	1	1
14241	2-Methylnaphthalene	91-57-6	40		0.1	0.5	1
14241	2-Methylphenol	95-48-7	39		0.5	1	1
14241	4-Methylphenol	106-44-5	37		0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.						
14241	1,4-Naphthoquinone	130-15-4	160	E	25	60	1
14241	1-Naphthylamine	134-32-7	59		5	15	1
14241	2-Naphthylamine	91-59-8	48		5	15	1
14241	2-Nitroaniline	88-74-4	45		0.5	1	1
14241	3-Nitroaniline	99-09-2	43		0.5	1	1
14241	4-Nitroaniline	100-01-6	46		0.5	1	1
14241	Nitrobenzene	98-95-3	44		0.5	1	1
14241	5-Nitro-o-toluidine	99-55-8	43		0.5	1	1
14241	2-Nitrophenol	88-75-5	43		0.5	1	1
14241	4-Nitrophenol	100-02-7	32		10	30	1
14241	4-Nitroquinoline-1-oxide	56-57-5	560	E	20	60	1
14241	N-Nitrosodiethylamine	55-18-5	43		0.5	1	1
14241	N-Nitrosodimethylamine	62-75-9	28		2	5	1
14241	N-Nitrosodi-n-butylamine	924-16-3	41		2	5	1
14241	N-Nitroso-di-n-propylamine	621-64-7	45		0.5	1	1
14241	N-Nitrosodiphenylamine	86-30-6	46		0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.						
14241	N-Nitrosomethylethylamine	10595-95-6	41		2	5	1
14241	N-Nitrosomorpholine	59-89-2	42		2	5	1
14241	N-Nitrosopiperidine	100-75-4	43		0.5	1	1
14241	N-Nitrosopyrrolidine	930-55-2	42		0.5	1	1
14241	Di-n-octylphthalate	117-84-0	45		2	5	1
14241	Parathion	56-38-2	49		2	5	1
14241	Pentachlorobenzene	608-93-5	39		0.5	1	1
14241	Pentachloronitrobenzene	82-68-8	46		2	5	1
14241	Pentachlorophenol	87-86-5	24		1	5	1
14241	Phenacetin	62-44-2	47		0.5	1	1
14241	Phenanthrene	85-01-8	45		0.1	0.5	1
14241	Phenol	108-95-2	29		0.5	1	1
14241	1,4-Phenylenediamine	106-50-3	N.D.		75	300	1
14241	Phorate	298-02-2	48		0.5	1	1
14241	2-Picoline	109-06-8	37		2	5	1
14241	Pronamide	23950-58-5	48		0.5	1	1
14241	Pyrene	129-00-0	45		0.1	0.5	1
14241	Pyridine	110-86-1	24		2	5	1
14241	Safrole	94-59-7	42		2	5	1
14241	1,2,4,5-Tetrachlorobenzene	95-94-3	37		0.5	1	1
14241	2,3,4,6-Tetrachlorophenol	58-90-2	21		0.5	1	1
14241	Thionazin	297-97-2	46		2	5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1A MSD Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999790
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:15 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8504 SDG#: RAE85-04MSD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	o-Toluidine	95-53-4	37	0.5	1	1
14241	2,4,5-Trichlorophenol	95-95-4	34	0.5	1	1
14241	2,4,6-Trichlorophenol	88-06-2	21	0.5	1	1
14241	O,O,O-Triethylphosphorothioate	126-68-1	42	2	5	1
14241	1,3,5-Trinitrobenzene	99-35-4	42	5	15	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 22:03	Don V Viray	1
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 22:43	Don V Viray	1
11997	2-Propanol	SW-846 8260C	1	L171431AA	05/23/2017 14:33	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L171431AA	05/23/2017 14:33	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H171451AA	05/25/2017 22:03	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	3	H171451AA	05/25/2017 22:43	Don V Viray	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAC026	05/23/2017 16:48	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAC026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WDUP Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999791
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:30 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8505 SDG#: RAE85-05FD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	Acetonitrile	75-05-8	N.D.		32	100	1
11996	Acrolein	107-02-8	N.D.		5.0	25	1
11996	Acrylonitrile	107-13-1	N.D.		1.0	10	1
11996	Allyl Chloride	107-05-1	N.D.		0.8	10	1
11996	Benzene	71-43-2	0.2	J	0.1	1.0	1
11996	Bromodichloromethane	75-27-4	N.D.		0.1	1.0	1
11996	Bromoform	75-25-2	N.D.		0.1	1.0	1
11996	Bromomethane	74-83-9	N.D.		0.5	1.0	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Carbon Disulfide	75-15-0	N.D.		0.4	10	1
11996	Carbon Tetrachloride	56-23-5	N.D.		0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	N.D.		0.5	10	1
11996	Chloroethane	75-00-3	1.3		0.1	1.0	1
11996	Chloroform	67-66-3	N.D.		0.1	1.0	1
11996	Chloromethane	74-87-3	N.D.		0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1.0	1
11996	Dibromochloromethane	124-48-1	N.D.		0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	N.D.		0.1	1.0	1
11996	Dibromomethane	74-95-3	N.D.		0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	3.7		0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.		0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	N.D.		0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	N.D.		0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1.0	1
11996	Dimethyl ether	115-10-6	1.6	J	0.1	13	1
11996	1,4-Dioxane	123-91-1	N.D.		45	200	1
11996	Ethyl ether	60-29-7	25		1.1	13	1
11996	Ethyl Methacrylate	97-63-2	N.D.		0.8	10	1
11996	Ethylbenzene	100-41-4	N.D.		0.1	1.0	1
11996	Freon 113	76-13-1	N.D.		0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	N.D.		0.1	1.0	1
11996	Hexachloroethane	67-72-1	N.D.		0.1	10	1
11996	2-Hexanone	591-78-6	N.D.		1.0	10	1
11996	Isobutyl Alcohol	78-83-1	N.D.		10	200	1
11996	Methacrylonitrile	126-98-7	N.D.		9.8	100	1
11996	Methyl Iodide	74-88-4	N.D.		0.6	10	1
11996	Methyl Methacrylate	80-62-6	N.D.		3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	N.D.		1.0	10	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Naphthalene	91-20-3	N.D.		0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WDUP Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999791
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:30 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8505 SDG#: RAE85-05FD

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		**ug/l**		**ug/l**	**ug/l**	
11996	Pentachloroethane	76-01-7	N.D.		0.8	10	1
11997	2-Propanol	67-63-0	N.D.		50	100	1
11996	Propionitrile	107-12-0	N.D.		10	100	1
11996	Styrene	100-42-5	N.D.		0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	N.D.		0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		0.2	1.0	1
11996	Tetrachloroethene	127-18-4	0.2	J	0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	N.D.		2.0	25	1
11996	Toluene	108-88-3	N.D.		0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	N.D.		0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	N.D.		0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	N.D.		0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.		0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	N.D.		0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	N.D.		0.3	1.0	1
11996	Vinyl Acetate	108-05-4	N.D.		3.3	10	1
11996	Vinyl Chloride	75-01-4	0.2	J	0.2	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.		0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**		**ug/l**	**ug/l**	
14241	Acenaphthene	83-32-9	N.D.		0.1	0.5	1
14241	Acenaphthylene	208-96-8	N.D.		0.1	0.5	1
14241	Acetophenone	98-86-2	N.D.		0.5	1	1
14241	2-Acetylaminofluorene	53-96-3	N.D.		2	5	1
14241	4-Aminobiphenyl	92-67-1	N.D.		0.5	1	1
14241	Aniline	62-53-3	N.D.		0.5	1	1
14241	Anthracene	120-12-7	N.D.		0.1	0.5	1
14241	Aramite	140-57-8	N.D.		5	15	1
14241	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14241	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14241	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14241	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14241	Benzo(k)fluoranthene	207-08-9	N.D.		0.1	0.5	1
14241	Benzyl alcohol	100-51-6	N.D.		10	30	1
14241	4-Bromophenyl-phenylether	101-55-3	N.D.		0.5	1	1
14241	Butylbenzylphthalate	85-68-7	N.D.		2	5	1
14241	Di-n-butylphthalate	84-74-2	N.D.		2	5	1
14241	4-Chloro-3-methylphenol	59-50-7	N.D.		0.5	1	1
14241	4-Chloroaniline	106-47-8	N.D.		2	4	1
14241	Chlorobenzilate	510-15-6	N.D.		3	10	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WDUP Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999791
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:30 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8505 SDG#: RAE85-05FD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1
14241	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	1	1
14241	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
14241	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14241	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
14241	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
14241	Chrysene	218-01-9	N.D.	0.1	0.5	1
14241	Diallate trans/cis	2303-16-4	N.D.	1	5	1
14241	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14241	Dibenzofuran	132-64-9	N.D.	0.5	1	1
14241	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
14241	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
14241	2,6-Dichlorophenol	87-65-0	N.D.	0.5	1	1
14241	Diethylphthalate	84-66-2	N.D.	2	5	1
14241	Dimethoate	60-51-5	N.D.	3	10	1
14241	p-Dimethylaminoazobenzene	60-11-7	N.D.	0.5	1	1
14241	7,12-Dimethylbenz[a]anthracene	57-97-6	N.D.	0.5	1	1
14241	3,3'-Dimethylbenzidine	119-93-7	N.D.	25	75	1
14241	a,a-Dimethylphenethylamine	122-09-8	N.D.	5	50	1
14241	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
14241	Dimethylphthalate	131-11-3	N.D.	2	5	1
14241	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
14241	1,3-Dinitrobenzene	99-65-0	N.D.	2	5	1
14241	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
14241	Disulfoton	298-04-4	N.D.	25	50	1
14241	Ethyl methanesulfonate	62-50-0	N.D.	0.5	1	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
14241	Famphur	52-85-7	N.D.	25	50	1
14241	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14241	Fluorene	86-73-7	N.D.	0.1	0.5	1
14241	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14241	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
14241	Hexachloroethane	67-72-1	N.D.	1	5	1
14241	Hexachloropropene	1888-71-7	N.D.	2	5	1
14241	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14241	Isodrin	465-73-6	N.D.	0.5	1	1
14241	Isophorone	78-59-1	N.D.	0.5	1	1
14241	Isosafrole	120-58-1	N.D.	2	5	1
14241	Kepone	143-50-0	N.D.	25	50	1
14241	Methapyrilene	91-80-5	N.D.	15	50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WDUP Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999791
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:30 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8505 SDG#: RAE85-05FD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
	The QC window for methapyrilene is advisory due to the erratic performance of the compound. The quantitated result is estimated.					
14241	Methyl methanesulfonate	66-27-3	N.D.	1	5	1
14241	Methyl parathion	298-00-0	N.D.	1	5	1
14241	3-Methylcholanthrene	56-49-5	N.D.	0.5	1	1
14241	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14241	2-Methylphenol	95-48-7	N.D.	0.5	1	1
14241	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
14241	1,4-Naphthoquinone	130-15-4	N.D.	25	60	1
14241	1-Naphthylamine	134-32-7	N.D.	5	15	1
14241	2-Naphthylamine	91-59-8	N.D.	5	15	1
14241	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
14241	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
14241	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
14241	Nitrobenzene	98-95-3	N.D.	0.5	1	1
14241	5-Nitro-o-toluidine	99-55-8	N.D.	0.5	1	1
14241	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
14241	4-Nitrophenol	100-02-7	N.D.	10	30	1
14241	4-Nitroquinoline-1-oxide	56-57-5	N.D.	20	60	1
14241	N-Nitrosodiethylamine	55-18-5	N.D.	0.5	1	1
14241	N-Nitrosodimethylamine	62-75-9	N.D.	2	5	1
14241	N-Nitrosodi-n-butylamine	924-16-3	N.D.	2	5	1
14241	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
14241	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
14241	N-Nitrosomethylethylamine	10595-95-6	N.D.	2	5	1
14241	N-Nitrosomorpholine	59-89-2	N.D.	2	5	1
14241	N-Nitrosopiperidine	100-75-4	N.D.	0.5	1	1
14241	N-Nitrosopyrrolidine	930-55-2	N.D.	0.5	1	1
14241	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
14241	Parathion	56-38-2	N.D.	2	5	1
14241	Pentachlorobenzene	608-93-5	N.D.	0.5	1	1
14241	Pentachloronitrobenzene	82-68-8	N.D.	2	5	1
14241	Pentachlorophenol	87-86-5	N.D.	1	5	1
14241	Phenacetin	62-44-2	N.D.	0.5	1	1
14241	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14241	Phenol	108-95-2	N.D.	0.5	1	1
14241	1,4-Phenylenediamine	106-50-3	N.D.	75	300	1
14241	Phorate	298-02-2	N.D.	0.5	1	1
14241	2-Picoline	109-06-8	N.D.	2	5	1
14241	Pronamide	23950-58-5	N.D.	0.5	1	1
14241	Pyrene	129-00-0	N.D.	0.1	0.5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WDUP Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999791
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/16/2017 10:30 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8505 SDG#: RAE85-05FD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	Pyridine	110-86-1	N.D.	2	5	1
14241	Safrole	94-59-7	N.D.	2	5	1
14241	1,2,4,5-Tetrachlorobenzene	95-94-3	N.D.	0.5	1	1
14241	2,3,4,6-Tetrachlorophenol	58-90-2	N.D.	0.5	1	1
14241	Thionazin	297-97-2	N.D.	2	5	1
14241	o-Toluidine	95-53-4	N.D.	0.5	1	1
14241	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
14241	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
14241	O,O,O-Triethylphosphorothioate	126-68-1	N.D.	2	5	1
14241	1,3,5-Trinitrobenzene	99-35-4	N.D.	5	15	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/26/2017 00:25	Don V Viray	1
11997	2-Propanol	SW-846 8260C	1	L171431AA	05/23/2017 14:55	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L171431AA	05/23/2017 14:55	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H171451AA	05/26/2017 00:25	Don V Viray	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAC026	05/23/2017 18:38	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAC026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1B Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999792
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 15:00 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8506 SDG#: RAE85-06

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l		ug/l	ug/l	
11996	Acetone	67-64-1	N.D.		3.0	10	1
11996	Acetonitrile	75-05-8	N.D.		32	100	1
11996	Acrolein	107-02-8	N.D.		5.0	25	1
11996	Acrylonitrile	107-13-1	N.D.		1.0	10	1
11996	Allyl Chloride	107-05-1	N.D.		0.8	10	1
11996	Benzene	71-43-2	N.D.		0.1	1.0	1
11996	Bromodichloromethane	75-27-4	N.D.		0.1	1.0	1
11996	Bromoform	75-25-2	N.D.		0.1	1.0	1
11996	Bromomethane	74-83-9	N.D.		0.5	1.0	1
11996	2-Butanone	78-93-3	N.D.		1.0	10	1
11996	Carbon Disulfide	75-15-0	N.D.		0.4	10	1
11996	Carbon Tetrachloride	56-23-5	N.D.		0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	N.D.		0.5	10	1
11996	Chloroethane	75-00-3	N.D.		0.1	1.0	1
11996	Chloroform	67-66-3	N.D.		0.1	1.0	1
11996	Chloromethane	74-87-3	N.D.		0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.2	1.0	1
11996	Dibromochloromethane	124-48-1	N.D.		0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	N.D.		0.1	1.0	1
11996	Dibromomethane	74-95-3	N.D.		0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	N.D.		1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	N.D.		0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	N.D.		0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	N.D.		0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.		0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	N.D.		0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.		0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.		0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.		0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	N.D.		0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	N.D.		0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.1	1.0	1
11996	Dimethyl ether	115-10-6	0.2	J	0.1	13	1
11996	1,4-Dioxane	123-91-1	N.D.		45	200	1
11996	Ethyl ether	60-29-7	N.D.		1.1	13	1
11996	Ethyl Methacrylate	97-63-2	N.D.		0.8	10	1
11996	Ethylbenzene	100-41-4	N.D.		0.1	1.0	1
11996	Freon 113	76-13-1	N.D.		0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	N.D.		0.1	1.0	1
11996	Hexachloroethane	67-72-1	N.D.		0.1	10	1
11996	2-Hexanone	591-78-6	N.D.		1.0	10	1
11996	Isobutyl Alcohol	78-83-1	N.D.		10	200	1
11996	Methacrylonitrile	126-98-7	N.D.		9.8	100	1
11996	Methyl Iodide	74-88-4	N.D.		0.6	10	1
11996	Methyl Methacrylate	80-62-6	N.D.		3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	N.D.		1.0	10	1
11996	Methylene Chloride	75-09-2	N.D.		0.2	1.0	1
11996	Naphthalene	91-20-3	N.D.		0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1B Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999792
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 15:00 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8506 SDG#: RAE85-06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Pentachloroethane	76-01-7	N.D.	0.8	10	1
11997	2-Propanol	67-63-0	N.D.	50	100	1
11996	Propionitrile	107-12-0	N.D.	10	100	1
11996	Styrene	100-42-5	N.D.	0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1.0	1
11996	Tetrachloroethene	127-18-4	N.D.	0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	N.D.	2.0	25	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	N.D.	0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
11996	Vinyl Acetate	108-05-4	N.D.	3.3	10	1
11996	Vinyl Chloride	75-01-4	N.D.	0.2	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Acenaphthene	83-32-9	N.D.	0.1	0.5	1
14241	Acenaphthylene	208-96-8	N.D.	0.1	0.5	1
14241	Acetophenone	98-86-2	N.D.	0.5	1	1
14241	2-Acetylaminofluorene	53-96-3	N.D.	2	5	1
14241	4-Aminobiphenyl	92-67-1	N.D.	0.5	1	1
14241	Aniline	62-53-3	N.D.	0.5	1	1
14241	Anthracene	120-12-7	N.D.	0.1	0.5	1
14241	Aramite	140-57-8	N.D.	5	15	1
14241	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14241	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14241	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14241	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14241	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	0.5	1
14241	Benzyl alcohol	100-51-6	N.D.	10	30	1
14241	4-Bromophenyl-phenylether	101-55-3	N.D.	0.5	1	1
14241	Butylbenzylphthalate	85-68-7	N.D.	2	5	1
14241	Di-n-butylphthalate	84-74-2	N.D.	2	5	1
14241	4-Chloro-3-methylphenol	59-50-7	N.D.	0.5	1	1
14241	4-Chloroaniline	106-47-8	N.D.	2	4	1
14241	Chlorobenzilate	510-15-6	N.D.	3	10	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1B Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999792
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 15:00 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8506 SDG#: RAE85-06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles SW-846 8270D			ug/l	ug/l	ug/l	
14241	bis(2-Chloroethoxy)methane	111-91-1	N.D.	0.5	1	1
14241	bis(2-Chloroethyl)ether	111-44-4	N.D.	0.5	1	1
14241	bis(2-Chloroisopropyl)ether	39638-32-9	N.D.	0.5	1	1
	Bis(2-chloroisopropyl) ether CAS #39638-32-9 and 2,2'-Oxybis(1-chloropropane) CAS #108-60-1 cannot be separated chromatographically. The reported result represents the combined total of both compounds.					
14241	2-Chloronaphthalene	91-58-7	N.D.	0.4	1	1
14241	2-Chlorophenol	95-57-8	N.D.	0.5	1	1
14241	4-Chlorophenyl-phenylether	7005-72-3	N.D.	0.5	1	1
14241	Chrysene	218-01-9	N.D.	0.1	0.5	1
14241	Diallate trans/cis	2303-16-4	N.D.	1	5	1
14241	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	0.5	1
14241	Dibenzofuran	132-64-9	N.D.	0.5	1	1
14241	3,3'-Dichlorobenzidine	91-94-1	N.D.	2	5	1
14241	2,4-Dichlorophenol	120-83-2	N.D.	0.5	1	1
14241	2,6-Dichlorophenol	87-65-0	N.D.	0.5	1	1
14241	Diethylphthalate	84-66-2	N.D.	2	5	1
14241	Dimethoate	60-51-5	N.D.	3	10	1
14241	p-Dimethylaminoazobenzene	60-11-7	N.D.	0.5	1	1
14241	7,12-Dimethylbenz[a]anthracene	57-97-6	N.D.	0.5	1	1
14241	3,3'-Dimethylbenzidine	119-93-7	N.D.	25	75	1
14241	a,a-Dimethylphenethylamine	122-09-8	N.D.	5	50	1
14241	2,4-Dimethylphenol	105-67-9	N.D.	0.5	1	1
14241	Dimethylphthalate	131-11-3	N.D.	2	5	1
14241	4,6-Dinitro-2-methylphenol	534-52-1	N.D.	5	15	1
14241	1,3-Dinitrobenzene	99-65-0	N.D.	2	5	1
14241	2,4-Dinitrophenol	51-28-5	N.D.	10	30	1
14241	2,4-Dinitrotoluene	121-14-2	N.D.	1	5	1
14241	2,6-Dinitrotoluene	606-20-2	N.D.	0.5	1	1
14241	Disulfoton	298-04-4	N.D.	25	50	1
14241	Ethyl methanesulfonate	62-50-0	N.D.	0.5	1	1
14241	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	2	5	1
14241	Famphur	52-85-7	N.D.	25	50	1
14241	Fluoranthene	206-44-0	N.D.	0.1	0.5	1
14241	Fluorene	86-73-7	N.D.	0.1	0.5	1
14241	Hexachlorobenzene	118-74-1	N.D.	0.1	0.5	1
14241	Hexachlorocyclopentadiene	77-47-4	N.D.	5	15	1
14241	Hexachloroethane	67-72-1	N.D.	1	5	1
14241	Hexachloropropene	1888-71-7	N.D.	2	5	1
14241	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	0.5	1
14241	Isodrin	465-73-6	N.D.	0.5	1	1
14241	Isophorone	78-59-1	N.D.	0.5	1	1
14241	Isosafrole	120-58-1	N.D.	2	5	1
14241	Kepone	143-50-0	N.D.	25	50	1
14241	Methapyrilene	91-80-5	N.D.	15	50	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1B Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999792
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 15:00 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8506 SDG#: RAE85-06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
	The QC window for methapyrilene is advisory due to the erratic performance of the compound. The quantitated result is estimated.					
14241	Methyl methanesulfonate	66-27-3	N.D.	1	5	1
14241	Methyl parathion	298-00-0	N.D.	1	5	1
14241	3-Methylcholanthrene	56-49-5	N.D.	0.5	1	1
14241	2-Methylnaphthalene	91-57-6	N.D.	0.1	0.5	1
14241	2-Methylphenol	95-48-7	N.D.	0.5	1	1
14241	4-Methylphenol	106-44-5	N.D.	0.5	1	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
14241	1,4-Naphthoquinone	130-15-4	N.D.	25	60	1
14241	1-Naphthylamine	134-32-7	N.D.	5	15	1
14241	2-Naphthylamine	91-59-8	N.D.	5	15	1
14241	2-Nitroaniline	88-74-4	N.D.	0.5	1	1
14241	3-Nitroaniline	99-09-2	N.D.	0.5	1	1
14241	4-Nitroaniline	100-01-6	N.D.	0.5	1	1
14241	Nitrobenzene	98-95-3	N.D.	0.5	1	1
14241	5-Nitro-o-toluidine	99-55-8	N.D.	0.5	1	1
14241	2-Nitrophenol	88-75-5	N.D.	0.5	1	1
14241	4-Nitrophenol	100-02-7	N.D.	10	30	1
14241	4-Nitroquinoline-1-oxide	56-57-5	N.D.	20	60	1
14241	N-Nitrosodiethylamine	55-18-5	N.D.	0.5	1	1
14241	N-Nitrosodimethylamine	62-75-9	N.D.	2	5	1
14241	N-Nitrosodi-n-butylamine	924-16-3	N.D.	2	5	1
14241	N-Nitroso-di-n-propylamine	621-64-7	N.D.	0.5	1	1
14241	N-Nitrosodiphenylamine	86-30-6	N.D.	0.5	1	1
	N-nitrosodiphenylamine decomposes in the GC inlet forming diphenylamine. The result reported for N-nitrosodiphenylamine represents the combined total of both compounds.					
14241	N-Nitrosomethylethylamine	10595-95-6	N.D.	2	5	1
14241	N-Nitrosomorpholine	59-89-2	N.D.	2	5	1
14241	N-Nitrosopiperidine	100-75-4	N.D.	0.5	1	1
14241	N-Nitrosopyrrolidine	930-55-2	N.D.	0.5	1	1
14241	Di-n-octylphthalate	117-84-0	N.D.	2	5	1
14241	Parathion	56-38-2	N.D.	2	5	1
14241	Pentachlorobenzene	608-93-5	N.D.	0.5	1	1
14241	Pentachloronitrobenzene	82-68-8	N.D.	2	5	1
14241	Pentachlorophenol	87-86-5	N.D.	1	5	1
14241	Phenacetin	62-44-2	N.D.	0.5	1	1
14241	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14241	Phenol	108-95-2	N.D.	0.5	1	1
14241	1,4-Phenylenediamine	106-50-3	N.D.	75	300	1
14241	Phorate	298-02-2	N.D.	0.5	1	1
14241	2-Picoline	109-06-8	N.D.	2	5	1
14241	Pronamide	23950-58-5	N.D.	0.5	1	1
14241	Pyrene	129-00-0	N.D.	0.1	0.5	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16WC1B Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999792
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 15:00 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8506 SDG#: RAE85-06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D**		**ug/l**	**ug/l**	**ug/l**	
14241	Pyridine	110-86-1	N.D.	2	5	1
14241	Safrole	94-59-7	N.D.	2	5	1
14241	1,2,4,5-Tetrachlorobenzene	95-94-3	N.D.	0.5	1	1
14241	2,3,4,6-Tetrachlorophenol	58-90-2	N.D.	0.5	1	1
14241	Thionazin	297-97-2	N.D.	2	5	1
14241	o-Toluidine	95-53-4	N.D.	0.5	1	1
14241	2,4,5-Trichlorophenol	95-95-4	N.D.	0.5	1	1
14241	2,4,6-Trichlorophenol	88-06-2	N.D.	0.5	1	1
14241	O,O,O-Triethylphosphorothioate	126-68-1	N.D.	2	5	1
14241	1,3,5-Trinitrobenzene	99-35-4	N.D.	5	15	1

The recovery for the sample surrogate(s and a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/26/2017 00:45	Don V Viray	1
11997	2-Propanol	SW-846 8260C	1	L171431AA	05/23/2017 15:17	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	L171431AA	05/23/2017 15:17	Angela D Sneeringer	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	H171451AA	05/26/2017 00:45	Don V Viray	1
14241	SVOAs 8270D MINI	SW-846 8270D	1	17142WAC026	05/23/2017 19:06	Catherine E Bachman	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAC026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16-2 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999793
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 13:30 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8507 SDG#: RAE85-07

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	0.1	1
11996	2-Butanone	78-93-3	< 10	10	1.0	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	0.1	1
11996	Chloroethane	75-00-3	< 1.0	1.0	0.1	1
11996	Chloromethane	74-87-3	< 1.0	1.0	0.2	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	0.1	1
11996	Dimethyl ether	115-10-6	< 13	13	0.1	1
11996	Ethyl ether	60-29-7	< 13	13	0.1	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	0.1	1
11996	Freon 113	76-13-1	< 1.0	1.0	0.2	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	0.2	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	0.1	1
11996	Tetrahydrofuran	109-99-9	< 25	25	2.0	1
11996	Toluene	108-88-3	< 1.0	1.0	0.1	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	0.1	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	0.1	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	0.1	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	0.1	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5	5	2	1
14241	2,4-Dinitrotoluene	121-14-2	< 10	10	1	1
14241	2,6-Dinitrotoluene	606-20-2	< 10	10	0.5	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171452AA	05/26/2017 01:06	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171452AA	05/26/2017 01:06	Don V Viray	1
14241	3 SVOCs 8270D	SW-846 8270D	1	17142WAW026	05/24/2017 01:39	Edward C Monborne	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAW026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16-3 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999794
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 14:30 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8508 SDG#: RAE85-08

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	0.1	1
11996	2-Butanone	78-93-3	< 10	10	1.0	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	0.1	1
11996	Chloroethane	75-00-3	< 1.0	1.0	0.1	1
11996	Chloromethane	74-87-3	< 1.0	1.0	0.2	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	0.1	1
11996	Dimethyl ether	115-10-6	< 13	13	0.1	1
11996	Ethyl ether	60-29-7	< 13	13	0.1	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	0.1	1
11996	Freon 113	76-13-1	< 1.0	1.0	0.2	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	0.2	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	0.1	1
11996	Tetrahydrofuran	109-99-9	< 25	25	2.0	1
11996	Toluene	108-88-3	< 1.0	1.0	0.1	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	0.1	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	0.1	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	0.1	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	0.1	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5	5	2	1
14241	2,4-Dinitrotoluene	121-14-2	< 10	10	1	1
14241	2,6-Dinitrotoluene	606-20-2	< 10	10	0.5	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171452AA	05/26/2017 01:26	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171452AA	05/26/2017 01:26	Don V Viray	1
14241	3 SVOCs 8270D	SW-846 8270D	1	17142WAW026	05/24/2017 02:06	Edward C Monborne	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAW026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16-5 Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999795
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 09:55 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8509 SDG#: RAE85-09

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	0.1	1
11996	2-Butanone	78-93-3	< 10	10	1.0	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	0.1	1
11996	Chloroethane	75-00-3	< 1.0	1.0	0.1	1
11996	Chloromethane	74-87-3	< 1.0	1.0	0.2	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	0.1	1
11996	Dimethyl ether	115-10-6	< 13	13	0.1	1
11996	Ethyl ether	60-29-7	< 13	13	0.1	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	0.1	1
11996	Freon 113	76-13-1	< 1.0	1.0	0.2	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	0.2	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	0.1	1
11996	Tetrahydrofuran	109-99-9	< 25	25	2.0	1
11996	Toluene	108-88-3	< 1.0	1.0	0.1	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	0.1	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	0.1	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	0.1	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	0.1	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5	5	2	1
14241	2,4-Dinitrotoluene	121-14-2	< 10	10	1	1
14241	2,6-Dinitrotoluene	606-20-2	< 10	10	0.5	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171452AA	05/26/2017 01:46	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171452AA	05/26/2017 01:46	Don V Viray	1
14241	3 SVOCs 8270D	SW-846 8270D	1	17142WAW026	05/24/2017 02:34	Edward C Monborne	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAW026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

REVISED

Sample Description: 16WC2B Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999796
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 11:25 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8510 SDG#: RAE85-10

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	0.1	1
11996	2-Butanone	78-93-3	< 10	10	1.0	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	0.1	1
11996	Chloroethane	75-00-3	< 1.0	1.0	0.1	1
11996	Chloromethane	74-87-3	< 1.0	1.0	0.2	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	0.1	1
11996	Dimethyl ether	115-10-6	< 13	13	0.1	1
11996	Ethyl ether	60-29-7	< 13	13	0.1	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	0.1	1
11996	Freon 113	76-13-1	< 1.0	1.0	0.2	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	0.2	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	0.1	1
11996	Tetrahydrofuran	109-99-9	< 25	25	2.0	1
11996	Toluene	108-88-3	< 1.0	1.0	0.1	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	0.1	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	0.1	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	0.1	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	0.1	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5	5	2	1
14241	2,4-Dinitrotoluene	121-14-2	< 10	10	1	1
14241	2,6-Dinitrotoluene	606-20-2	< 10	10	0.5	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171452AA	05/26/2017 02:06	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171452AA	05/26/2017 02:06	Don V Viray	1
14241	3 SVOCs 8270D	SW-846 8270D	1	17142WAW026	05/24/2017 03:01	Edward C Monborne	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAW026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: 16SPRING Grab Groundwater
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999797
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017 10:10 by KC

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8511 SDG#: RAE85-11

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Benzene	71-43-2	< 1.0	1.0	0.1	1
11996	2-Butanone	78-93-3	< 10	10	1.0	1
11996	Carbon Tetrachloride	56-23-5	< 1.0	1.0	0.1	1
11996	Chloroethane	75-00-3	< 1.0	1.0	0.1	1
11996	Chloromethane	74-87-3	< 1.0	1.0	0.2	1
11996	Dichlorodifluoromethane	75-71-8	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethane	75-34-3	< 1.0	1.0	0.1	1
11996	1,1-Dichloroethene	75-35-4	< 1.0	1.0	0.1	1
11996	Dimethyl ether	115-10-6	< 13	13	0.1	1
11996	Ethyl ether	60-29-7	< 13	13	0.1	1
11996	Ethylbenzene	100-41-4	< 1.0	1.0	0.1	1
11996	Freon 113	76-13-1	< 1.0	1.0	0.2	1
11996	Methylene Chloride	75-09-2	< 1.0	1.0	0.2	1
11996	Tetrachloroethene	127-18-4	< 1.0	1.0	0.1	1
11996	Tetrahydrofuran	109-99-9	< 25	25	2.0	1
11996	Toluene	108-88-3	< 1.0	1.0	0.1	1
11996	1,1,1-Trichloroethane	71-55-6	< 1.0	1.0	0.1	1
11996	Trichloroethene	79-01-6	< 1.0	1.0	0.1	1
11996	Trichlorofluoromethane	75-69-4	< 1.0	1.0	0.1	1
11996	Xylene (Total)	1330-20-7	< 3.0	3.0	0.1	1
GC/MS Semivolatiles	**SW-846 8270D**		ug/l	ug/l	ug/l	
14241	Diethylphthalate	84-66-2	< 5	5	2	1
14241	2,4-Dinitrotoluene	121-14-2	< 10	10	1	1
14241	2,6-Dinitrotoluene	606-20-2	< 10	10	0.5	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171452AA	05/26/2017 02:27	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171452AA	05/26/2017 02:27	Don V Viray	1
14241	3 SVOCs 8270D	SW-846 8270D	1	17142WAW026	05/24/2017 03:29	Edward C Monborne	1
11010	8270D BNA Extraction	SW-846 3510C	1	17142WAW026	05/22/2017 16:00	Christine E Gleim	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: Trip Blank_1 Water
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999798
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8512 SDG#: RAE85-12TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Acetone	67-64-1	N.D.	3.0	10	1
11996	Acetonitrile	75-05-8	N.D.	32	100	1
11996	Acrolein	107-02-8	N.D.	5.0	25	1
11996	Acrylonitrile	107-13-1	N.D.	1.0	10	1
11996	Allyl Chloride	107-05-1	N.D.	0.8	10	1
11996	Benzene	71-43-2	N.D.	0.1	1.0	1
11996	Bromodichloromethane	75-27-4	N.D.	0.1	1.0	1
11996	Bromoform	75-25-2	N.D.	0.1	1.0	1
11996	Bromomethane	74-83-9	N.D.	0.5	1.0	1
11996	2-Butanone	78-93-3	N.D.	1.0	10	1
11996	Carbon Disulfide	75-15-0	N.D.	0.4	10	1
11996	Carbon Tetrachloride	56-23-5	N.D.	0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	N.D.	0.5	10	1
11996	Chloroethane	75-00-3	N.D.	0.1	1.0	1
11996	Chloroform	67-66-3	N.D.	0.1	1.0	1
11996	Chloromethane	74-87-3	N.D.	0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	1.0	1
11996	Dibromochloromethane	124-48-1	N.D.	0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	N.D.	0.1	1.0	1
11996	Dibromomethane	74-95-3	N.D.	0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	N.D.	1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.	0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	N.D.	0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.	0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.	0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	N.D.	0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	N.D.	0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	1.0	1
11996	Dimethyl ether	115-10-6	N.D.	0.1	13	1
11996	1,4-Dioxane	123-91-1	N.D.	45	200	1
11996	Ethyl ether	60-29-7	N.D.	1.1	13	1
11996	Ethyl Methacrylate	97-63-2	N.D.	0.8	10	1
11996	Ethylbenzene	100-41-4	N.D.	0.1	1.0	1
11996	Freon 113	76-13-1	N.D.	0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	N.D.	0.1	1.0	1
11996	Hexachloroethane	67-72-1	N.D.	0.1	10	1
11996	2-Hexanone	591-78-6	N.D.	1.0	10	1
11996	Isobutyl Alcohol	78-83-1	N.D.	10	200	1
11996	Methacrylonitrile	126-98-7	N.D.	9.8	100	1
11996	Methyl Iodide	74-88-4	N.D.	0.6	10	1
11996	Methyl Methacrylate	80-62-6	N.D.	3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	N.D.	1.0	10	1
11996	Methylene Chloride	75-09-2	N.D.	0.2	1.0	1
11996	Naphthalene	91-20-3	N.D.	0.1	1.0	1

*=This limit was used in the evaluation of the final result

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

REVISED

Sample Description: Trip Blank_1 Water
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999798
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8512 SDG#: RAE85-12TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Pentachloroethane	76-01-7	N.D.	0.8	10	1
11996	Propionitrile	107-12-0	N.D.	10	100	1
11996	Styrene	100-42-5	N.D.	0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1.0	1
11996	Tetrachloroethene	127-18-4	N.D.	0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	N.D.	2.0	25	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	N.D.	0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
11996	Vinyl Acetate	108-05-4	N.D.	3.3	10	1
11996	Vinyl Chloride	75-01-4	N.D.	0.2	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 20:42	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171451AA	05/25/2017 20:42	Don V Viray	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: Trip Blank_2 Water
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999799
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8513 SDG#: RAE85-13TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Acetone	67-64-1	N.D.	3.0	10	1
11996	Acetonitrile	75-05-8	N.D.	32	100	1
11996	Acrolein	107-02-8	N.D.	5.0	25	1
11996	Acrylonitrile	107-13-1	N.D.	1.0	10	1
11996	Allyl Chloride	107-05-1	N.D.	0.8	10	1
11996	Benzene	71-43-2	N.D.	0.1	1.0	1
11996	Bromodichloromethane	75-27-4	N.D.	0.1	1.0	1
11996	Bromoform	75-25-2	N.D.	0.1	1.0	1
11996	Bromomethane	74-83-9	N.D.	0.5	1.0	1
11996	2-Butanone	78-93-3	N.D.	1.0	10	1
11996	Carbon Disulfide	75-15-0	N.D.	0.4	10	1
11996	Carbon Tetrachloride	56-23-5	N.D.	0.2	1.0	1
11996	2-Chloro-1,3-butadiene	126-99-8	N.D.	0.5	10	1
11996	Chloroethane	75-00-3	N.D.	0.1	1.0	1
11996	Chloroform	67-66-3	N.D.	0.1	1.0	1
11996	Chloromethane	74-87-3	N.D.	0.2	1.0	1
11996	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.2	1.0	1
11996	Dibromochloromethane	124-48-1	N.D.	0.1	1.0	1
11996	1,2-Dibromoethane	106-93-4	N.D.	0.1	1.0	1
11996	Dibromomethane	74-95-3	N.D.	0.1	1.0	1
11996	trans-1,4-Dichloro-2-butene	110-57-6	N.D.	1.0	10	1
11996	1,2-Dichlorobenzene	95-50-1	N.D.	0.1	1.0	1
11996	1,3-Dichlorobenzene	541-73-1	N.D.	0.1	1.0	1
11996	1,4-Dichlorobenzene	106-46-7	N.D.	0.1	1.0	1
11996	Dichlorodifluoromethane	75-71-8	N.D.	0.1	1.0	1
11996	1,1-Dichloroethane	75-34-3	N.D.	0.1	1.0	1
11996	1,2-Dichloroethane	107-06-2	N.D.	0.1	1.0	1
11996	1,1-Dichloroethene	75-35-4	N.D.	0.2	1.0	1
11996	trans-1,2-Dichloroethene	156-60-5	N.D.	0.2	1.0	1
11996	1,2-Dichloropropane	78-87-5	N.D.	0.1	1.0	1
11996	1,3-Dichloropropane	142-28-9	N.D.	0.1	1.0	1
11996	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.1	1.0	1
11996	Dimethyl ether	115-10-6	N.D.	0.1	13	1
11996	1,4-Dioxane	123-91-1	N.D.	45	200	1
11996	Ethyl ether	60-29-7	N.D.	1.1	13	1
11996	Ethyl Methacrylate	97-63-2	N.D.	0.8	10	1
11996	Ethylbenzene	100-41-4	N.D.	0.1	1.0	1
11996	Freon 113	76-13-1	N.D.	0.2	1.0	1
11996	Hexachlorobutadiene	87-68-3	N.D.	0.1	1.0	1
11996	Hexachloroethane	67-72-1	N.D.	0.1	10	1
11996	2-Hexanone	591-78-6	N.D.	1.0	10	1
11996	Isobutyl Alcohol	78-83-1	N.D.	10	200	1
11996	Methacrylonitrile	126-98-7	N.D.	9.8	100	1
11996	Methyl Iodide	74-88-4	N.D.	0.6	10	1
11996	Methyl Methacrylate	80-62-6	N.D.	3.6	10	1
11996	4-Methyl-2-pentanone	108-10-1	N.D.	1.0	10	1
11996	Methylene Chloride	75-09-2	N.D.	0.2	1.0	1
11996	Naphthalene	91-20-3	N.D.	0.1	1.0	1

*=This limit was used in the evaluation of the final result

REVISED

Sample Description: Trip Blank_2 Water
2Q 2017 Annual Groundwater Monitoring Event
RAAP - Radford, VA - HWMU16

LL Sample # WW 8999799
LL Group # 1802908
Account # 11200

Project Name: RAAP - Radford, VA - HWMU16

Collected: 05/15/2017

Submitted: 05/18/2017 09:15
Reported: 07/17/2017 13:42

Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg VA 24060

R8513 SDG#: RAE85-13TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260C**		ug/l	ug/l	ug/l	
11996	Pentachloroethane	76-01-7	N.D.	0.8	10	1
11996	Propionitrile	107-12-0	N.D.	10	100	1
11996	Styrene	100-42-5	N.D.	0.1	1.0	1
11996	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.1	1.0	1
11996	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.2	1.0	1
11996	Tetrachloroethene	127-18-4	N.D.	0.1	1.0	1
11996	Tetrahydrofuran	109-99-9	N.D.	2.0	25	1
11996	Toluene	108-88-3	N.D.	0.1	1.0	1
11996	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.1	1.0	1
11996	1,1,1-Trichloroethane	71-55-6	N.D.	0.1	1.0	1
11996	1,1,2-Trichloroethane	79-00-5	N.D.	0.1	1.0	1
11996	Trichloroethene	79-01-6	N.D.	0.2	1.0	1
11996	Trichlorofluoromethane	75-69-4	N.D.	0.2	1.0	1
11996	1,2,3-Trichloropropane	96-18-4	N.D.	0.3	1.0	1
11996	Vinyl Acetate	108-05-4	N.D.	3.3	10	1
11996	Vinyl Chloride	75-01-4	N.D.	0.2	1.0	1
11996	Xylene (Total)	1330-20-7	N.D.	0.2	3.0	1

A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11996	8260C (25 ml)	SW-846 8260C	1	H171451AA	05/25/2017 21:02	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	H171451AA	05/25/2017 21:02	Don V Viray	1

*=This limit was used in the evaluation of the final result

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
Batch number: H171452AA	Sample number(s): 8999793-8999797		
Benzene	< 1.0	1.0	0.1
2-Butanone	< 10	10	1.0
Carbon Tetrachloride	< 1.0	1.0	0.1
Chloroethane	< 1.0	1.0	0.1
Chloromethane	< 1.0	1.0	0.2
Dichlorodifluoromethane	< 1.0	1.0	0.1
1,1-Dichloroethane	< 1.0	1.0	0.1
1,1-Dichloroethene	< 1.0	1.0	0.1
Dimethyl ether	< 13	13	0.1
Ethyl ether	< 13	13	0.1
Ethylbenzene	< 1.0	1.0	0.1
Freon 113	< 1.0	1.0	0.2
Methylene Chloride	< 1.0	1.0	0.2
Tetrachloroethene	< 1.0	1.0	0.1
Tetrahydrofuran	< 25	25	2.0
Toluene	< 1.0	1.0	0.1
1,1,1-Trichloroethane	< 1.0	1.0	0.1
Trichloroethene	< 1.0	1.0	0.1
Trichlorofluoromethane	< 1.0	1.0	0.1
Xylene (Total)	< 3.0	3.0	0.1

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: H171451AA	Sample number(s): 8999785-8999792,8999798-8999799		
Acetone	N.D.	3.0	10
Acetonitrile	N.D.	32	100
Acrolein	N.D.	5.0	25
Acrylonitrile	N.D.	1.0	10
Allyl Chloride	N.D.	0.8	10
Benzene	N.D.	0.1	1.0
Bromodichloromethane	N.D.	0.1	1.0
Bromoform	N.D.	0.1	1.0
Bromomethane	N.D.	0.5	1.0
2-Butanone	N.D.	1.0	10
Carbon Disulfide	N.D.	0.4	10
Carbon Tetrachloride	N.D.	0.2	1.0
2-Chloro-1,3-butadiene	N.D.	0.5	10
Chloroethane	N.D.	0.1	1.0
Chloroform	N.D.	0.1	1.0
Chloromethane	N.D.	0.2	1.0

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
1,2-Dibromo-3-chloropropane	N.D.	0.2	1.0
Dibromochloromethane	N.D.	0.1	1.0
1,2-Dibromoethane	N.D.	0.1	1.0
Dibromomethane	N.D.	0.1	1.0
trans-1,4-Dichloro-2-butene	N.D.	1.0	10
1,2-Dichlorobenzene	N.D.	0.1	1.0
1,3-Dichlorobenzene	N.D.	0.1	1.0
1,4-Dichlorobenzene	N.D.	0.1	1.0
Dichlorodifluoromethane	N.D.	0.1	1.0
1,1-Dichloroethane	N.D.	0.1	1.0
1,2-Dichloroethane	N.D.	0.1	1.0
1,1-Dichloroethene	N.D.	0.2	1.0
trans-1,2-Dichloroethene	N.D.	0.2	1.0
1,2-Dichloropropane	N.D.	0.1	1.0
1,3-Dichloropropane	N.D.	0.1	1.0
trans-1,3-Dichloropropene	N.D.	0.1	1.0
Dimethyl ether	N.D.	0.1	13
1,4-Dioxane	N.D.	45	200
Ethyl ether	N.D.	1.1	13
Ethyl Methacrylate	N.D.	0.8	10
Ethylbenzene	N.D.	0.1	1.0
Freon 113	N.D.	0.2	1.0
Hexachlorobutadiene	N.D.	0.1	1.0
Hexachloroethane	N.D.	0.1	10
2-Hexanone	N.D.	1.0	10
Isobutyl Alcohol	N.D.	10	200
Methacrylonitrile	N.D.	9.8	100
Methyl Iodide	N.D.	0.6	10
Methyl Methacrylate	N.D.	3.6	10
4-Methyl-2-pentanone	N.D.	1.0	10
Methylene Chloride	N.D.	0.2	1.0
Naphthalene	N.D.	0.1	1.0
Pentachloroethane	N.D.	0.8	10
Propionitrile	N.D.	10	100
Styrene	N.D.	0.1	1.0
1,1,1,2-Tetrachloroethane	N.D.	0.1	1.0
1,1,2,2-Tetrachloroethane	N.D.	0.2	1.0
Tetrachloroethene	N.D.	0.1	1.0
Tetrahydrofuran	N.D.	2.0	25
Toluene	N.D.	0.1	1.0
1,2,4-Trichlorobenzene	N.D.	0.1	1.0
1,1,1-Trichloroethane	N.D.	0.1	1.0
1,1,2-Trichloroethane	N.D.	0.1	1.0
Trichloroethene	N.D.	0.2	1.0
Trichlorofluoromethane	N.D.	0.2	1.0
1,2,3-Trichloropropane	N.D.	0.3	1.0
Vinyl Acetate	N.D.	3.3	10
Vinyl Chloride	N.D.	0.2	1.0
Xylene (Total)	N.D.	0.2	3.0

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: H171461AA	Sample number(s): 8999785,8999787		
Ethyl ether	N.D.	1.1	13
Batch number: L171431AA	Sample number(s): 8999785-8999792		
2-Propanol	N.D.	50	100

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
Batch number: 17142WAW026	Sample number(s): 8999793-8999797		
Diethylphthalate	< 5	5	2
2,4-Dinitrotoluene	< 10	10	1
2,6-Dinitrotoluene	< 10	10	0.5

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Batch number: 17142WAC026	Sample number(s): 8999786-8999792		
Acenaphthene	N.D.	0.1	0.5
Acenaphthylene	N.D.	0.1	0.5
Acetophenone	N.D.	0.5	1
2-Acetylaminofluorene	N.D.	2	5
4-Aminobiphenyl	N.D.	0.5	1
Aniline	N.D.	0.5	1
Anthracene	N.D.	0.1	0.5
Aramite	N.D.	5	15
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Benzo(k)fluoranthene	N.D.	0.1	0.5
Benzyl alcohol	N.D.	10	30
4-Bromophenyl-phenylether	N.D.	0.5	1
Butylbenzylphthalate	N.D.	2	5
Di-n-butylphthalate	N.D.	2	5
4-Chloro-3-methylphenol	N.D.	0.5	1
4-Chloroaniline	N.D.	2	4
Chlorobenzilate	N.D.	3	10
bis(2-Chloroethoxy)methane	N.D.	0.5	1
bis(2-Chloroethyl)ether	N.D.	0.5	1
bis(2-Chloroisopropyl)ether	N.D.	0.5	1
2-Chloronaphthalene	N.D.	0.4	1
2-Chlorophenol	N.D.	0.5	1
4-Chlorophenyl-phenylether	N.D.	0.5	1
Chrysene	N.D.	0.1	0.5
Diallate trans/cis	N.D.	1	5
Dibenz(a,h)anthracene	N.D.	0.1	0.5
Dibenzofuran	N.D.	0.5	1
3,3'-Dichlorobenzidine	N.D.	2	5
2,4-Dichlorophenol	N.D.	0.5	1

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
2,6-Dichlorophenol	N.D.	0.5	1
Diethylphthalate	N.D.	2	5
Dimethoate	N.D.	3	10
p-Dimethylaminoazobenzene	N.D.	0.5	1
7,12-Dimethylbenz[a]anthracene	N.D.	0.5	1
3,3'-Dimethylbenzidine	N.D.	25	75
a,a-Dimethylphenethylamine	N.D.	5	50
2,4-Dimethylphenol	N.D.	0.5	1
Dimethylphthalate	N.D.	2	5
4,6-Dinitro-2-methylphenol	N.D.	5	15
1,3-Dinitrobenzene	N.D.	2	5
2,4-Dinitrophenol	N.D.	10	30
2,4-Dinitrotoluene	N.D.	1	5
2,6-Dinitrotoluene	N.D.	0.5	1
Disulfoton	N.D.	25	50
Ethyl methanesulfonate	N.D.	0.5	1
bis(2-Ethylhexyl)phthalate	N.D.	2	5
Famphur	N.D.	25	50
Fluoranthene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Hexachlorobenzene	N.D.	0.1	0.5
Hexachlorocyclopentadiene	N.D.	5	15
Hexachloroethane	N.D.	1	5
Hexachloropropene	N.D.	2	5
Indeno(1,2,3-cd)pyrene	N.D.	0.1	0.5
Isodrin	N.D.	0.5	1
Isophorone	N.D.	0.5	1
Isosafrole	N.D.	2	5
Kepone	N.D.	25	50
Methapyrilene	N.D.	15	50
Methyl methanesulfonate	N.D.	1	5
Methyl parathion	N.D.	1	5
3-Methylcholanthrene	N.D.	0.5	1
2-Methylnaphthalene	N.D.	0.1	0.5
2-Methylphenol	N.D.	0.5	1
4-Methylphenol	N.D.	0.5	1
1,4-Naphthoquinone	N.D.	25	60
1-Naphthylamine	N.D.	5	15
2-Naphthylamine	N.D.	5	15
2-Nitroaniline	N.D.	0.5	1
3-Nitroaniline	N.D.	0.5	1
4-Nitroaniline	N.D.	0.5	1
Nitrobenzene	N.D.	0.5	1
5-Nitro-o-toluidine	N.D.	0.5	1
2-Nitrophenol	N.D.	0.5	1
4-Nitrophenol	N.D.	10	30
4-Nitroquinoline-1-oxide	N.D.	20	60
N-Nitrosodiethylamine	N.D.	0.5	1

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
N-Nitrosodimethylamine	N.D.	2	5
N-Nitrosodi-n-butylamine	N.D.	2	5
N-Nitroso-di-n-propylamine	N.D.	0.5	1
N-Nitrosodiphenylamine	N.D.	0.5	1
N-Nitrosomethylethylamine	N.D.	2	5
N-Nitrosomorpholine	N.D.	2	5
N-Nitrosopiperidine	N.D.	0.5	1
N-Nitrosopyrrolidine	N.D.	0.5	1
Di-n-octylphthalate	N.D.	2	5
Parathion	N.D.	2	5
Pentachlorobenzene	N.D.	0.5	1
Pentachloronitrobenzene	N.D.	2	5
Pentachlorophenol	N.D.	1	5
Phenacetin	N.D.	0.5	1
Phenanthrene	N.D.	0.1	0.5
Phenol	N.D.	0.5	1
1,4-Phenylenediamine	N.D.	75	300
Phorate	N.D.	0.5	1
2-Picoline	N.D.	2	5
Pronamide	N.D.	0.5	1
Pyrene	N.D.	0.1	0.5
Pyridine	N.D.	2	5
Safrole	N.D.	2	5
1,2,4,5-Tetrachlorobenzene	N.D.	0.5	1
2,3,4,6-Tetrachlorophenol	N.D.	0.5	1
Thionazin	N.D.	2	5
o-Toluidine	N.D.	0.5	1
2,4,5-Trichlorophenol	N.D.	0.5	1
2,4,6-Trichlorophenol	N.D.	0.5	1
O,O,O-Triethylphosphorothioate	N.D.	2	5
1,3,5-Trinitrobenzene	N.D.	5	15
Batch number: 17143WAW026	Sample number(s): 8999785		
Acenaphthene	N.D.	0.1	0.5
Acenaphthylene	N.D.	0.1	0.5
Acetophenone	N.D.	0.5	1
2-Acetylaminofluorene	N.D.	2	5
4-Aminobiphenyl	N.D.	0.5	1
Aniline	N.D.	0.5	1
Anthracene	N.D.	0.1	0.5
Aramite	N.D.	5	15
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Benzo(k)fluoranthene	N.D.	0.1	0.5
Benzyl alcohol	N.D.	10	30
4-Bromophenyl-phenylether	N.D.	0.5	1

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Butylbenzylphthalate	N.D.	2	5
Di-n-butylphthalate	N.D.	2	5
4-Chloro-3-methylphenol	N.D.	0.5	1
4-Chloroaniline	N.D.	2	4
Chlorobenzilate	N.D.	3	10
bis(2-Chloroethoxy)methane	N.D.	0.5	1
bis(2-Chloroethyl)ether	N.D.	0.5	1
bis(2-Chloroisopropyl)ether	N.D.	0.5	1
2-Chloronaphthalene	N.D.	0.4	1
2-Chlorophenol	N.D.	0.5	1
4-Chlorophenyl-phenylether	N.D.	0.5	1
Chrysene	N.D.	0.1	0.5
Diallate trans/cis	N.D.	1	5
Dibenz(a,h)anthracene	N.D.	0.1	0.5
Dibenzofuran	N.D.	0.5	1
3,3'-Dichlorobenzidine	N.D.	2	5
2,4-Dichlorophenol	N.D.	0.5	1
2,6-Dichlorophenol	N.D.	0.5	1
Diethylphthalate	N.D.	2	5
Dimethoate	N.D.	3	10
p-Dimethylaminoazobenzene	N.D.	0.5	1
7,12-Dimethylbenz[a]anthracene	N.D.	0.5	1
3,3'-Dimethylbenzidine	N.D.	25	75
a,a-Dimethylphenethylamine	N.D.	5	50
2,4-Dimethylphenol	N.D.	0.5	1
Dimethylphthalate	N.D.	2	5
4,6-Dinitro-2-methylphenol	N.D.	5	15
1,3-Dinitrobenzene	N.D.	2	5
2,4-Dinitrophenol	N.D.	10	30
2,4-Dinitrotoluene	N.D.	1	5
2,6-Dinitrotoluene	N.D.	0.5	1
Disulfoton	N.D.	25	50
Ethyl methanesulfonate	N.D.	0.5	1
bis(2-Ethylhexyl)phthalate	N.D.	2	5
Famphur	N.D.	25	50
Fluoranthene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Hexachlorobenzene	N.D.	0.1	0.5
Hexachlorocyclopentadiene	N.D.	5	15
Hexachloroethane	N.D.	1	5
Hexachloropropene	N.D.	2	5
Indeno(1,2,3-cd)pyrene	N.D.	0.1	0.5
Isodrin	N.D.	0.5	1
Isophorone	N.D.	0.5	1
Isosafrole	N.D.	2	5
Kepone	N.D.	25	50
Methapyrilene	N.D.	15	50
Methyl methanesulfonate	N.D.	1	5

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l
Methyl parathion	N.D.	1	5
3-Methylcholanthrene	N.D.	0.5	1
2-Methylnaphthalene	N.D.	0.1	0.5
2-Methylphenol	N.D.	0.5	1
4-Methylphenol	N.D.	0.5	1
1,4-Naphthoquinone	N.D.	25	60
1-Naphthylamine	N.D.	5	15
2-Naphthylamine	N.D.	5	15
2-Nitroaniline	N.D.	0.5	1
3-Nitroaniline	N.D.	0.5	1
4-Nitroaniline	N.D.	0.5	1
Nitrobenzene	N.D.	0.5	1
5-Nitro-o-toluidine	N.D.	0.5	1
2-Nitrophenol	N.D.	0.5	1
4-Nitrophenol	N.D.	10	30
4-Nitroquinoline-1-oxide	N.D.	20	60
N-Nitrosodiethylamine	N.D.	0.5	1
N-Nitrosodimethylamine	N.D.	2	5
N-Nitrosodi-n-butylamine	N.D.	2	5
N-Nitroso-di-n-propylamine	N.D.	0.5	1
N-Nitrosodiphenylamine	N.D.	0.5	1
N-Nitrosomethylethylamine	N.D.	2	5
N-Nitrosomorpholine	N.D.	2	5
N-Nitrosopiperidine	N.D.	0.5	1
N-Nitrosopyrrolidine	N.D.	0.5	1
Di-n-octylphthalate	N.D.	2	5
Parathion	N.D.	2	5
Pentachlorobenzene	N.D.	0.5	1
Pentachloronitrobenzene	N.D.	2	5
Pentachlorophenol	N.D.	1	5
Phenacetin	N.D.	0.5	1
Phenanthrene	N.D.	0.1	0.5
Phenol	N.D.	0.5	1
1,4-Phenylenediamine	N.D.	75	300
Phorate	N.D.	0.5	1
2-Picoline	N.D.	2	5
Pronamide	N.D.	0.5	1
Pyrene	N.D.	0.1	0.5
Pyridine	N.D.	2	5
Safrole	N.D.	2	5
1,2,4,5-Tetrachlorobenzene	N.D.	0.5	1
2,3,4,6-Tetrachlorophenol	N.D.	0.5	1
Thionazin	N.D.	2	5
o-Toluidine	N.D.	0.5	1
2,4,5-Trichlorophenol	N.D.	0.5	1
2,4,6-Trichlorophenol	N.D.	0.5	1
O,O,O-Triethylphosphorothioate	N.D.	2	5
1,3,5-Trinitrobenzene	N.D.	5	15

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ug/l	ug/l	ug/l

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: H171452AA	Sample number(s): 8999793-8999797								
Benzene	5.00	5.36	5.00	5.28	107	106	80-120	1	30
2-Butanone	37.5	32.84	37.5	38.46	88	103	57-144	16	30
Carbon Tetrachloride	5.00	5.36	5.00	5.38	107	108	76-129	0	30
Chloroethane	5.00	5.72	5.00	4.55	114	91	63-125	23	30
Chloromethane	5.00	5.19	5.00	5.05	104	101	55-126	3	30
Dichlorodifluoromethane	5.00	4.86	5.00	4.76	97	95	26-144	2	30
1,1-Dichloroethane	5.00	5.49	5.00	5.40	110	108	80-120	1	30
1,1-Dichloroethene	5.00	5.32	5.00	5.22	106	104	76-120	2	30
Dimethyl ether	5.00	4.63	5.00	4.68	93	94	70-130	1	30
Ethyl ether	5.00	4.97	5.00	4.97	99	99	71-120	0	30
Ethylbenzene	5.00	5.22	5.00	5.29	104	106	80-120	1	30
Freon 113	5.00	5.52	5.00	5.43	110	109	75-120	2	30
Methylene Chloride	5.00	5.62	5.00	5.45	112	109	80-120	3	30
Tetrachloroethene	5.00	5.12	5.00	5.15	102	103	80-120	0	30
Tetrahydrofuran	25	21.01	25	25.03	84	100	55-138	17	30
Toluene	5.00	5.29	5.00	5.28	106	106	80-120	0	30
1,1,1-Trichloroethane	5.00	5.11	5.00	5.11	102	102	79-120	0	30
Trichloroethene	5.00	5.13	5.00	5.12	103	102	80-120	0	30
Trichlorofluoromethane	5.00	5.26	5.00	5.14	105	103	65-134	2	30
Xylene (Total)	15	16.09	15	16.04	107	107	80-120	0	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: H171451AA	Sample number(s): 8999785-8999792,8999798-8999799								
Acetone	37.5	37.83			101		60-133		
Acetonitrile	37.5	41.39			110		50-170		
Acrolein	37.5	23.71			63		39-141		
Acrylonitrile	25	24.65			99		63-141		
Allyl Chloride	5.00	5.19			104		68-120		
Benzene	5.00	5.36			107		80-120		
Bromodichloromethane	5.00	5.60			112		80-125		
Bromoform	5.00	5.80			116		62-128		
Bromomethane	5.00	5.76			115		64-125		
2-Butanone	37.5	33.06			88		57-144		
Carbon Disulfide	5.00	5.78			116		62-127		
Carbon Tetrachloride	5.00	5.36			107		76-129		
2-Chloro-1,3-butadiene	5.00	5.35			107		75-122		
Chloroethane	5.00	5.72			114		63-125		
Chloroform	5.00	5.28			106		80-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chloromethane	5.00	5.19			104		55-126		
1,2-Dibromo-3-chloropropane	5.00	4.10			82		47-153		
Dibromochloromethane	5.00	5.68			114		78-127		
1,2-Dibromoethane	5.00	5.29			106		80-120		
Dibromomethane	5.00	5.63			113		80-122		
trans-1,4-Dichloro-2-butene	25	16.93			68		10-176		
1,2-Dichlorobenzene	5.00	5.00			100		80-120		
1,3-Dichlorobenzene	5.00	5.02			100		80-120		
1,4-Dichlorobenzene	5.00	4.72			94		80-120		
Dichlorodifluoromethane	5.00	4.86			97		26-144		
1,1-Dichloroethane	5.00	5.49			110		80-120		
1,2-Dichloroethane	5.00	5.36			107		72-127		
1,1-Dichloroethene	5.00	5.32			106		76-120		
trans-1,2-Dichloroethene	5.00	5.56			111		80-120		
1,2-Dichloropropane	5.00	5.50			110		80-120		
1,3-Dichloropropane	5.00	5.27			105		80-120		
trans-1,3-Dichloropropene	5.00	5.46			109		77-121		
Dimethyl ether	5.00	4.63			93		70-130		
1,4-Dioxane	125	135.91			109		47-174		
Ethyl ether	5.00	4.97			99		71-120		
Ethyl Methacrylate	5.00	5.43			109		75-121		
Ethylbenzene	5.00	5.22			104		80-120		
Freon 113	5.00	5.52			110		75-120		
Hexachlorobutadiene	5.00	4.25			85		74-120		
Hexachloroethane	5.00	4.97			99		62-126		
2-Hexanone	25	18.36			73		61-138		
Isobutyl Alcohol	125	138.25			111		71-140		
Methacrylonitrile	37.5	31.23			83		46-160		
Methyl Iodide	5.00	5.28			106		70-120		
Methyl Methacrylate	5.00	4.21			84		38-156		
4-Methyl-2-pentanone	25	20.38			82		65-135		
Methylene Chloride	5.00	5.62			112		80-120		
Naphthalene	5.00	3.61			72		65-131		
Pentachloroethane	5.00	5.29			106		78-122		
Propionitrile	37.5	39.11			104		75-139		
Styrene	5.00	5.58			112		80-120		
1,1,1,2-Tetrachloroethane	5.00	5.38			108		80-120		
1,1,2,2-Tetrachloroethane	5.00	5.16			103		75-123		
Tetrachloroethene	5.00	5.12			102		80-120		
Tetrahydrofuran	25	21.15			85		55-138		
Toluene	5.00	5.29			106		80-120		
1,2,4-Trichlorobenzene	5.00	3.92			78		67-120		
1,1,1-Trichloroethane	5.00	5.11			102		79-120		
1,1,2-Trichloroethane	5.00	5.58			112		80-120		
Trichloroethene	5.00	5.13			103		80-120		
Trichlorofluoromethane	5.00	5.26			105		65-134		
1,2,3-Trichloropropane	5.00	4.97			99		80-125		
Vinyl Acetate	12.5	11.94			96		55-129		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

LCS/LCSD (continued)

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Vinyl Chloride	5.00	5.24			105		62-128		
Xylene (Total)	15	16.09			107		80-120		
Batch number: H171461AA	Sample number(s): 8999785,8999787								
Ethyl ether	5.00	5.00	5.00	4.96	100	99	71-120	1	30
Batch number: L171431AA	Sample number(s): 8999785-8999792								
2-Propanol	150	112.68			75		53-134		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17142WAW026	Sample number(s): 8999793-8999797								
Diethylphthalate	50	39.98			80		47-122		
2,4-Dinitrotoluene	50	45.18			90		76-122		
2,6-Dinitrotoluene	50	44.15			88		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17142WAC026	Sample number(s): 8999786-8999792								
Acenaphthene	50	41.67			83		64-121		
Acenaphthylene	50	40.77			82		63-120		
Acetophenone	50	45.27			91		56-108		
2-Acetylaminofluorene	50	47.14			94		61-144		
4-Aminobiphenyl	50	37.65			75		26-124		
Aniline	50	27.88			56		26-83		
Anthracene	50	43.34			87		72-120		
Aramite	50	444.16			888*		70-130		
Benzo(a)anthracene	50	46.21			92		74-124		
Benzo(a)pyrene	50	42.84			86		71-119		
Benzo(b)fluoranthene	50	43.99			88		72-124		
Benzo(g,h,i)perylene	50	46.14			92		61-124		
Benzo(k)fluoranthene	50	46.35			93		73-121		
Benzyl alcohol	50	39.29			79		47-113		
4-Bromophenyl-phenylether	50	41.52			83		69-123		
Butylbenzylphthalate	50	39.94			80		44-129		
Di-n-butylphthalate	50	45.11			90		69-117		
4-Chloro-3-methylphenol	50	43.16			86		62-119		
4-Chloroaniline	50	35.51			71		41-94		
Chlorobenzilate	50	23.88			48		10-163		
bis(2-Chloroethoxy)methane	50	45.2			90		53-126		
bis(2-Chloroethyl)ether	50	41.68			83		50-111		
bis(2-Chloroisopropyl)ether	50	41.7			83		48-110		
2-Chloronaphthalene	50	40.29			81		56-116		
2-Chlorophenol	50	40			80		51-106		
4-Chlorophenyl-phenylether	50	39.05			78		65-117		
Chrysene	50	46.76			94		75-129		
Diallate trans/cis	50	44.69			89		65-111		
Dibenz(a,h)anthracene	50	47.37			95		65-126		
Dibenzofuran	50	41.54			83		69-115		
3,3'-Dichlorobenzidine	50	38.54			77		30-108		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2,4-Dichlorophenol	50	43.52			87		62-112		
2,6-Dichlorophenol	50	43.15			86		60-114		
Diethylphthalate	50	39.98			80		47-122		
Dimethoate	50	16.71			33		10-129		
p-Dimethylaminoazobenzene	50	49.34			99		80-120		
7,12-Dimethylbenz[a]anthracene	50	43.83			88		69-108		
3,3'-Dimethylbenzidine	100	31.74			32		10-55		
a,a-Dimethylphenethylamine	50	51.33			103		70-130		
2,4-Dimethylphenol	50	32.28			65		40-99		
Dimethylphthalate	50	29.31			59		10-134		
4,6-Dinitro-2-methylphenol	50	41.37			83		52-129		
1,3-Dinitrobenzene	50	44.19			88		75-123		
2,4-Dinitrophenol	100	82.73			83		29-139		
2,4-Dinitrotoluene	50	45.18			90		76-122		
2,6-Dinitrotoluene	50	44.15			88		80-120		
Disulfoton	100	99.6			100		70-130		
Ethyl methanesulfonate	50	38.74			77		51-111		
bis(2-Ethylhexyl)phthalate	50	46.46			93		64-126		
Famphur	100	3.80			4*		70-130		
Fluoranthene	50	44.63			89		74-126		
Fluorene	50	41.28			83		67-120		
Hexachlorobenzene	50	40.21			80		67-125		
Hexachlorocyclopentadiene	100	5.81			6*		10-81		
Hexachloroethane	50	28.04			56		28-103		
Hexachloropropene	50	18.02			36		10-99		
Indeno(1,2,3-cd)pyrene	50	46.64			93		63-122		
Isodrin	50	44.31			89		66-129		
Isophorone	50	44.92			90		54-117		
Isosafrole	50	45.61			91		64-130		
Kepone	100	N.D.			0*		70-130		
Methapyrilene	400	518.37			130*		58-122		
Methyl methanesulfonate	50	33.43			67		35-102		
Methyl parathion	50	40.28			81		47-120		
3-Methylcholanthrene	50	47.86			96		78-138		
2-Methylnaphthalene	50	37.46			75		54-111		
2-Methylphenol	50	39.45			79		50-104		
4-Methylphenol	50	36.67			73		45-101		
1,4-Naphthoquinone	100	0.447			0*		70-130		
1-Naphthylamine	100	47.6			48		15-70		
2-Naphthylamine	100	38.97			39		10-68		
2-Nitroaniline	50	43.94			88		74-121		
3-Nitroaniline	50	39.51			79		61-114		
4-Nitroaniline	50	43.1			86		57-114		
Nitrobenzene	50	44.16			88		53-119		
5-Nitro-o-toluidine	50	37.66			75		46-117		
2-Nitrophenol	50	42.6			85		56-125		
4-Nitrophenol	50	33.18			66		22-78		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
4-Nitroquinoline-1-oxide	500	456.65			91		47-140		
N-Nitrosodiethylamine	50	41.39			83		42-113		
N-Nitrosodimethylamine	50	29.31			59		10-90		
N-Nitrosodi-n-butylamine	50	41.23			82		47-110		
N-Nitroso-di-n-propylamine	50	43.74			87		52-115		
N-Nitrosodiphenylamine	50	45.69			91		75-116		
N-Nitrosomethylethylamine	50	39.54			79		35-108		
N-Nitrosomorpholine	50	41.99			84		37-103		
N-Nitrosopiperidine	50	42.28			85		55-107		
N-Nitrosopyrrolidine	50	40.33			81		50-107		
Di-n-octylphthalate	50	43.5			87		61-133		
Parathion	50	46.7			93		93-133		
Pentachlorobenzene	50	34.41			69		60-116		
Pentachloronitrobenzene	50	44.53			89		65-121		
Pentachlorophenol	50	48.16			96		59-134		
Phenacetin	50	45.73			91		59-118		
Phenanthrene	50	43.53			87		72-117		
Phenol	50	24.97			50		16-74		
1,4-Phenylenediamine	1000	75.67	1000	73.68	8*	7*	70-130	3	30
Phorate	50	43.53			87		70-130		
2-Picoline	50	36.09			72		27-97		
Pronamide	50	45.57			91		80-120		
Pyrene	50	44.31			89		69-119		
Pyridine	50	23.47			47		19-68		
Safrole	50	40.24			80		57-104		
1,2,4,5-Tetrachlorobenzene	50	33.55			67		50-108		
2,3,4,6-Tetrachlorophenol	50	46.96			94		69-125		
Thionazin	50	43.14			86		66-116		
o-Toluidine	50	33.32			67		22-86		
2,4,5-Trichlorophenol	50	44.4			89		69-122		
2,4,6-Trichlorophenol	50	45.65			91		68-125		
O,O,O-Triethylphosphorothioate	50	40.87			82		54-111		
1,3,5-Trinitrobenzene	50	12.85			26		10-148		
Batch number: 17143WAW026	Sample number(s): 8999785								
Acenaphthene	50	43.31			87		64-121		
Acenaphthylene	50	42.11			84		63-120		
Acetophenone	50	45.34			91		56-108		
2-Acetylaminofluorene	50	48.14			96		61-144		
4-Aminobiphenyl	50	29.74			59		26-124		
Aniline	50	22.95			46		26-83		
Anthracene	50	44.29			89		72-120		
Aramite	50	50.6			101		70-130		
Benzo(a)anthracene	50	46.57			93		74-124		
Benzo(a)pyrene	50	43.25			86		71-119		
Benzo(b)fluoranthene	50	44.61			89		72-124		
Benzo(g,h,i)perylene	50	47.13			94		61-124		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Benzo(k)fluoranthene	50	44.79			90		73-121		
Benzyl alcohol	50	38.72			77		47-113		
4-Bromophenyl-phenylether	50	44.55			89		69-123		
Butylbenzylphthalate	50	46.01			92		44-129		
Di-n-butylphthalate	50	46.04			92		69-117		
4-Chloro-3-methylphenol	50	43.75			88		62-119		
4-Chloroaniline	50	28.11			56		41-94		
Chlorobenzilate	50	42.79			86		10-163		
bis(2-Chloroethoxy)methane	50	45.56			91		53-126		
bis(2-Chloroethyl)ether	50	42.65			85		50-111		
bis(2-Chloroisopropyl)ether	50	43.42			87		48-110		
2-Chloronaphthalene	50	41.14			82		56-116		
2-Chlorophenol	50	41.1			82		51-106		
4-Chlorophenyl-phenylether	50	43.3			87		65-117		
Chrysene	50	46.51			93		75-129		
Diallate trans/cis	50	44.22			88		65-111		
Dibenz(a,h)anthracene	50	47.94			96		65-126		
Dibenzofuran	50	43.08			86		69-115		
3,3'-Dichlorobenzidine	50	36.66			73		30-108		
2,4-Dichlorophenol	50	43.67			87		62-112		
2,6-Dichlorophenol	50	42.11			84		60-114		
Diethylphthalate	50	44.83			90		47-122		
Dimethoate	50	30.37			61		10-129		
p-Dimethylaminoazobenzene	50	47.93			96		80-120		
7,12-Dimethylbenz[a]anthracene	50	45.03			90		69-108		
3,3'-Dimethylbenzidine	100	29.4			29		10-55		
a,a-Dimethylphenethylamine	50	47.52			95		70-130		
2,4-Dimethylphenol	50	32.83			66		40-99		
Dimethylphthalate	50	42.53			85		10-134		
4,6-Dinitro-2-methylphenol	50	41.89			84		52-129		
1,3-Dinitrobenzene	50	39.82			80		75-123		
2,4-Dinitrophenol	100	68.39			68		29-139		
2,4-Dinitrotoluene	50	45.53			91		76-122		
2,6-Dinitrotoluene	50	44.8			90		80-120		
Disulfoton	100	121.42			121		70-130		
Ethyl methanesulfonate	50	41.85			84		51-111		
bis(2-Ethylhexyl)phthalate	50	46.44			93		64-126		
Famphur	100	2.30			2*		70-130		
Fluoranthene	50	44.73			89		74-126		
Fluorene	50	42.97			86		67-120		
Hexachlorobenzene	50	42.84			86		67-125		
Hexachlorocyclopentadiene	100	17.67			18		10-81		
Hexachloroethane	50	28.4			57		28-103		
Hexachloropropene	50	28.13			56		10-99		
Indeno(1,2,3-cd)pyrene	50	47.2			94		63-122		
Isodrin	50	45.76			92		66-129		
Isophorone	50	44.46			89		54-117		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Isosafrole	50	45.77			92		64-130		
Kepone	100	31.04			31*		70-130		
Methapyrilene	400	532.75			133*		58-122		
Methyl methanesulfonate	50	35.72			71		35-102		
Methyl parathion	50	32.76			66		47-120		
3-Methylcholanthrene	50	46.82			94		78-138		
2-Methylnaphthalene	50	39.59			79		54-111		
2-Methylphenol	50	40.67			81		50-104		
4-Methylphenol	50	38.18			76		45-101		
1,4-Naphthoquinone	100	21.27			21*		70-130		
1-Naphthylamine	100	33.67			34		15-70		
2-Naphthylamine	100	30.41			30		10-68		
2-Nitroaniline	50	44.04			88		74-121		
3-Nitroaniline	50	36.81			74		61-114		
4-Nitroaniline	50	41.4			83		57-114		
Nitrobenzene	50	43.62			87		53-119		
5-Nitro-o-toluidine	50	31.4			63		46-117		
2-Nitrophenol	50	43.38			87		56-125		
4-Nitrophenol	50	29.22			58		22-78		
4-Nitroquinoline-1-oxide	500	454.15			91		47-140		
N-Nitrosodiethylamine	50	41.24			82		42-113		
N-Nitrosodimethylamine	50	28.5			57		10-90		
N-Nitrosodi-n-butylamine	50	39.4			79		47-110		
N-Nitroso-di-n-propylamine	50	43.88			88		52-115		
N-Nitrosodiphenylamine	50	45.8			92		75-116		
N-Nitrosomethylethylamine	50	38.92			78		35-108		
N-Nitrosomorpholine	50	41.08			82		37-103		
N-Nitrosopiperidine	50	41.02			82		55-107		
N-Nitrosopyrrolidine	50	39.81			80		50-107		
Di-n-octylphthalate	50	44.31			89		61-133		
Parathion	50	45.75			91*		93-133		
Pentachlorobenzene	50	41.71			83		60-116		
Pentachloronitrobenzene	50	42.99			86		65-121		
Pentachlorophenol	50	45.98			92		59-134		
Phenacetin	50	43.17			86		59-118		
Phenanthrene	50	43.83			88		72-117		
Phenol	50	25.72			51		16-74		
1,4-Phenylenediamine	1000	277.7	1000	270.23	28*	27*	70-130	3	30
Phorate	50	45.97			92		70-130		
2-Picoline	50	35.3			71		27-97		
Pronamide	50	43.78			88		80-120		
Pyrene	50	43.6			87		69-119		
Pyridine	50	22.63			45		19-68		
Safrole	50	40.31			81		57-104		
1,2,4,5-Tetrachlorobenzene	50	36.44			73		50-108		
2,3,4,6-Tetrachlorophenol	50	47.59			95		69-125		
Thionazin	50	42.97			86		66-116		
o-Toluidine	50	21.88			44		22-86		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
2,4,5-Trichlorophenol	50	44.36			89		69-122		
2,4,6-Trichlorophenol	50	45.38			91		68-125		
O,O,O-Triethylphosphorothioate	50	41.84			84		54-111		
1,3,5-Trinitrobenzene	50	34.33			69		10-148		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: H171451AA	Sample number(s): 8999785-8999792,8999798-8999799 UNSPK: 8999788									
Acetone	N.D.	37.5	40.67	37.5	38.83	108	104	60-133	5	30
Acetonitrile	N.D.	37.5	38.53	37.5	43.18	103	115	50-170	11	30
Acrolein	N.D.	37.5	23.55	37.5	23.05	63	61	39-141	2	30
Acrylonitrile	N.D.	25	25.8	25	25.19	103	101	63-141	2	30
Allyl Chloride	N.D.	5.00	6.23	5.00	6.28	125*	126*	68-120	1	30
Benzene	0.185	5.00	6.28	5.00	6.20	122*	120	80-120	1	30
Bromodichloromethane	N.D.	5.00	6.08	5.00	6.04	122	121	80-125	1	30
Bromoform	N.D.	5.00	5.87	5.00	5.89	117	118	62-128	0	30
Bromomethane	N.D.	5.00	6.33	5.00	6.68	127*	134*	64-125	5	30
2-Butanone	N.D.	37.5	34.05	37.5	33.99	91	91	57-144	0	30
Carbon Disulfide	N.D.	5.00	6.87	5.00	6.81	137*	136*	62-127	1	30
Carbon Tetrachloride	N.D.	5.00	6.41	5.00	6.31	128	126	76-129	2	30
2-Chloro-1,3-butadiene	N.D.	5.00	6.28	5.00	6.20	126*	124*	75-122	1	30
Chloroethane	1.23	5.00	7.55	5.00	8.21	126*	140*	63-125	8	30
Chloroform	N.D.	5.00	5.93	5.00	5.92	119	118	80-120	0	30
Chloromethane	N.D.	5.00	6.05	5.00	6.03	121	121	55-126	0	30
1,2-Dibromo-3-chloropropane	N.D.	5.00	4.20	5.00	4.39	84	88	47-153	4	30
Dibromochloromethane	N.D.	5.00	5.77	5.00	5.80	115	116	78-127	0	30
1,2-Dibromoethane	N.D.	5.00	5.46	5.00	5.65	109	113	80-120	3	30
Dibromomethane	N.D.	5.00	6.15	5.00	6.05	123*	121	80-122	2	30
trans-1,4-Dichloro-2-butene	N.D.	25	18.4	25	17.66	74	71	10-176	4	30
1,2-Dichlorobenzene	N.D.	5.00	5.42	5.00	5.35	108	107	80-120	1	30
1,3-Dichlorobenzene	N.D.	5.00	5.52	5.00	5.46	110	109	80-120	1	30
1,4-Dichlorobenzene	N.D.	5.00	5.30	5.00	5.29	106	106	80-120	0	30
Dichlorodifluoromethane	N.D.	5.00	5.88	5.00	5.79	118	116	26-144	2	30
1,1-Dichloroethane	3.79	5.00	9.92	5.00	9.80	122*	120	80-120	1	30
1,2-Dichloroethane	N.D.	5.00	5.97	5.00	6.03	119	121	72-127	1	30
1,1-Dichloroethene	N.D.	5.00	6.42	5.00	6.38	128*	128*	76-120	1	30
trans-1,2-Dichloroethene	N.D.	5.00	6.35	5.00	6.23	127*	125*	80-120	2	30
1,2-Dichloropropane	N.D.	5.00	6.09	5.00	6.04	122*	121*	80-120	1	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
1,3-Dichloropropane	N.D.	5.00	5.67	5.00	5.81	113	116	80-120	2	30
trans-1,3-Dichloropropene	N.D.	5.00	5.77	5.00	6.02	115	120	77-121	4	30
Dimethyl ether	1.58	5.00	6.62	5.00	6.51	101	98	70-130	2	30
1,4-Dioxane	N.D.	125	173.67	125	175.52	139	140	47-174	1	30
Ethyl ether	25.41	5.00	30.74	5.00	30.11	107 (2)	94 (2)	71-120	2	30
Ethyl Methacrylate	N.D.	5.00	5.76	5.00	5.85	115	117	75-121	2	30
Ethylbenzene	N.D.	5.00	5.86	5.00	5.89	117	118	80-120	1	30
Freon 113	N.D.	5.00	6.64	5.00	6.70	133*	134*	75-120	1	30
Hexachlorobutadiene	N.D.	5.00	5.04	5.00	4.89	101	98	74-120	3	30
Hexachloroethane	N.D.	5.00	5.39	5.00	5.30	108	106	62-126	2	30
2-Hexanone	N.D.	25	20.12	25	20.06	80	80	61-138	0	30
Isobutyl Alcohol	N.D.	125	152.7	125	148.79	122	119	71-140	3	30
Methacrylonitrile	N.D.	37.5	32.94	37.5	32.36	88	86	46-160	2	30
Methyl Iodide	N.D.	5.00	5.96	5.00	5.98	119	120	70-120	0	30
Methyl Methacrylate	N.D.	5.00	4.35	5.00	4.50	87	90	38-156	3	30
4-Methyl-2-pentanone	N.D.	25	21.11	25	20.86	84	83	65-135	1	30
Methylene Chloride	N.D.	5.00	6.14	5.00	6.15	123*	123*	80-120	0	30
Naphthalene	N.D.	5.00	3.91	5.00	4.25	78	85	65-131	8	30
Pentachloroethane	N.D.	5.00	6.03	5.00	6.06	121	121	78-122	0	30
Propionitrile	N.D.	37.5	37.88	37.5	40.56	101	108	75-139	7	30
Styrene	N.D.	5.00	6.16	5.00	6.11	123*	122*	80-120	1	30
1,1,1,2-Tetrachloroethane	N.D.	5.00	5.73	5.00	5.76	115	115	80-120	1	30
1,1,2,2-Tetrachloroethane	N.D.	5.00	5.50	5.00	5.51	110	110	75-123	0	30
Tetrachloroethene	0.159	5.00	6.15	5.00	5.97	120	116	80-120	3	30
Tetrahydrofuran	N.D.	25	23.64	25	24.21	95	97	55-138	2	30
Toluene	N.D.	5.00	5.93	5.00	5.93	119	119	80-120	0	30
1,2,4-Trichlorobenzene	N.D.	5.00	4.29	5.00	4.34	86	87	67-120	1	30
1,1,1-Trichloroethane	N.D.	5.00	5.97	5.00	5.95	119	119	79-120	0	30
1,1,2-Trichloroethane	N.D.	5.00	5.87	5.00	5.90	117	118	80-120	1	30
Trichloroethene	N.D.	5.00	6.02	5.00	5.96	120	119	80-120	1	30
Trichlorofluoromethane	N.D.	5.00	6.55	5.00	6.42	131	128	65-134	2	30
1,2,3-Trichloropropane	N.D.	5.00	5.53	5.00	5.40	111	108	80-125	2	30
Vinyl Acetate	N.D.	12.5	12.84	12.5	12.82	103	103	55-129	0	30
Vinyl Chloride	N.D.	5.00	6.73	5.00	6.46	135*	129*	62-128	4	30
Xylene (Total)	N.D.	15	18.1	15	18.01	121*	120	80-120	0	30
Batch number: L171431AA	Sample number(s): 8999785-8999792 UNSPK: 8999788									
2-Propanol	N.D.	150	119.99	150	119.6	80	80	53-134	0	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 17142WAW026	Sample number(s): 8999793-8999797 UNSPK: P42WWUS									
Diethylphthalate	< 5	50.2	46.42	50.2	46.97	92	94	47-122	1	30
2,4-Dinitrotoluene	< 10	50.2	46.25	50.2	46.49	92	93	76-122	1	30
2,6-Dinitrotoluene	< 10	50.2	44.45	50.2	46.41	89	92	80-120	4	30
	ug/l	ug/l	ug/l	ug/l	ug/l					

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 17142WAC026	Sample number(s): 8999786-8999792 UNSPK: 8999788									
Acenaphthene	N.D.	50.2	44.66	50.2	44.49	89	89	64-121	0	30
Acenaphthylene	N.D.	50.2	42.95	50.2	42.95	86	86	63-120	0	30
Acetophenone	N.D.	50.2	45.27	50.2	45.9	90	91	56-108	1	30
2-Acetylaminofluorene	N.D.	50.2	51.05	50.2	52.08	102	104	61-144	2	30
4-Aminobiphenyl	N.D.	50.2	44.27	50.2	45.07	88	90	26-124	2	30
Aniline	N.D.	50.2	27.81	50.2	28.53	55	57	26-83	3	30
Anthracene	N.D.	50.2	44.75	50.2	45.21	89	90	72-120	1	30
Aramite	N.D.	50.2	86.42	50.2	88.06	172*	175*	70-130	2	30
Benzo(a)anthracene	N.D.	50.2	47.65	50.2	48.45	95	97	74-124	2	30
Benzo(a)pyrene	N.D.	50.2	43.63	50.2	42.85	87	85	71-119	2	30
Benzo(b)fluoranthene	N.D.	50.2	46.88	50.2	46.59	93	93	72-124	1	30
Benzo(g,h,i)perylene	N.D.	50.2	44.15	50.2	43.27	88	86	61-124	2	30
Benzo(k)fluoranthene	N.D.	50.2	46.8	50.2	46.32	93	92	73-121	1	30
Benzyl alcohol	N.D.	50.2	37.28	50.2	39.02	74	78	47-113	5	30
4-Bromophenyl-phenylether	N.D.	50.2	45.4	50.2	45.19	90	90	69-123	0	30
Butylbenzylphthalate	N.D.	50.2	48.57	50.2	49.52	97	99	44-129	2	30
Di-n-butylphthalate	N.D.	50.2	49.28	50.2	49.03	98	98	69-117	1	30
4-Chloro-3-methylphenol	N.D.	50.2	42.44	50.2	42.53	85	85	62-119	0	30
4-Chloroaniline	N.D.	50.2	36.77	50.2	36.98	73	74	41-94	1	30
Chlorobenzilate	N.D.	50.2	46.97	50.2	47.68	94	95	10-163	2	30
bis(2-Chloroethoxy)methane	N.D.	50.2	44.92	50.2	45.3	89	90	53-126	1	30
bis(2-Chloroethyl)ether	N.D.	50.2	43.05	50.2	42.48	86	85	50-111	1	30
bis(2-Chloroisopropyl)ether	N.D.	50.2	42.51	50.2	42.72	85	85	48-110	0	30
2-Chloronaphthalene	N.D.	50.2	44.02	50.2	43.5	88	87	56-116	1	30
2-Chlorophenol	N.D.	50.2	30.9	50.2	33.92	62	68	51-106	9	30
4-Chlorophenyl-phenylether	N.D.	50.2	43.72	50.2	43.43	87	87	65-117	1	30
Chrysene	N.D.	50.2	48.65	50.2	49.07	97	98	75-129	1	30
Diallate trans/cis	N.D.	50.2	46.61	50.2	46.38	93	92	65-111	0	30
Dibenz(a,h)anthracene	N.D.	50.2	45.98	50.2	45.49	92	91	65-126	1	30
Dibenzofuran	N.D.	50.2	44.16	50.2	43.69	88	87	69-115	1	30
3,3'-Dichlorobenzidine	N.D.	50.2	40.54	50.2	42.53	81	85	30-108	5	30
2,4-Dichlorophenol	N.D.	50.2	29.83	50.2	32.08	59*	64	62-112	7	30
2,6-Dichlorophenol	N.D.	50.2	26.51	50.2	27.95	53*	56*	60-114	5	30
Diethylphthalate	N.D.	50.2	46.42	50.2	46.97	92	94	47-122	1	30
Dimethoate	N.D.	50.2	30.15	50.2	30.04	60	60	10-129	0	30
p-Dimethylaminoazobenzene	N.D.	50.2	51.43	50.2	53.32	102	106	80-120	4	30
7,12-Dimethylbenz[a]anthracene	N.D.	50.2	45.88	50.2	45.11	91	90	69-108	2	30
3,3'-Dimethylbenzidine	N.D.	100.4	41.44	100.4	44.55	41	44	10-55	7	30
a,a-Dimethylphenethylamine	N.D.	50.2	51.13	50.2	53.49	102	107	70-130	5	30
2,4-Dimethylphenol	N.D.	50.2	31.7	50.2	32.18	63	64	40-99	1	30
Dimethylphthalate	N.D.	50.2	43.94	50.2	43.79	88	87	10-134	0	30
4,6-Dinitro-2-methylphenol	N.D.	50.2	43.73	50.2	44.22	87	88	52-129	1	30
1,3-Dinitrobenzene	N.D.	50.2	45.67	50.2	45.54	91	91	75-123	0	30
2,4-Dinitrophenol	N.D.	100.4	89.9	100.4	93.05	90	93	29-139	3	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
2,4-Dinitrotoluene	N.D.	50.2	46.25	50.2	46.49	92	93	76-122	1	30
2,6-Dinitrotoluene	N.D.	50.2	44.46	50.2	46.41	89	92	80-120	4	30
Disulfoton	N.D.	100.4	105.38	100.4	105.98	105	106	70-130	1	30
Ethyl methanesulfonate	N.D.	50.2	39.13	50.2	40.51	78	81	51-111	3	30
bis(2-Ethylhexyl)phthalate	N.D.	50.2	47.46	50.2	48.09	95	96	64-126	1	30
Famphur	N.D.	100.4	N.D.	100.4	N.D.	0*	0*	70-130	0	30
Fluoranthene	N.D.	50.2	47.09	50.2	46.93	94	93	74-126	0	30
Fluorene	N.D.	50.2	43.73	50.2	43.91	87	87	67-120	0	30
Hexachlorobenzene	N.D.	50.2	42.92	50.2	42.83	85	85	67-125	0	30
Hexachlorocyclopentadiene	N.D.	100.4	37.11	100.4	35.55	37	35	10-81	4	30
Hexachloroethane	N.D.	50.2	33.17	50.2	31.52	66	63	28-103	5	30
Hexachloropropene	N.D.	50.2	23.19	50.2	21.82	46	43	10-99	6	30
Indeno(1,2,3-cd)pyrene	N.D.	50.2	45.68	50.2	44.77	91	89	63-122	2	30
Isodrin	N.D.	50.2	45.35	50.2	46.08	90	92	66-129	2	30
Isophorone	N.D.	50.2	44.84	50.2	45.04	89	90	54-117	0	30
Isosafrole	N.D.	50.2	46.52	50.2	47.2	93	94	64-130	1	30
Kepone	N.D.	100.4	N.D.	100.4	N.D.	0*	0*	70-130	0	30
Methapyrilene	N.D.	401.61	569.24	401.61	577.54	142*	144*	58-122	1	30
Methyl methanesulfonate	N.D.	50.2	32.97	50.2	34.09	66	68	35-102	3	30
Methyl parathion	N.D.	50.2	35.25	50.2	34.76	70	69	47-120	1	30
3-Methylcholanthrene	N.D.	50.2	47.57	50.2	47.18	95	94	78-138	1	30
2-Methylnaphthalene	N.D.	50.2	41.21	50.2	40.23	82	80	54-111	2	30
2-Methylphenol	N.D.	50.2	37.98	50.2	39.29	76	78	50-104	3	30
4-Methylphenol	N.D.	50.2	36.87	50.2	37.28	73	74	45-101	1	30
1,4-Naphthoquinone	N.D.	100.4	156.88	100.4	164.22	156*	164*	70-130	5	30
1-Naphthylamine	N.D.	100.4	57.04	100.4	58.6	57	58	15-70	3	30
2-Naphthylamine	N.D.	100.4	45.7	100.4	48.01	46	48	10-68	5	30
2-Nitroaniline	N.D.	50.2	44.55	50.2	45.12	89	90	74-121	1	30
3-Nitroaniline	N.D.	50.2	42.45	50.2	43.04	85	86	61-114	1	30
4-Nitroaniline	N.D.	50.2	45.76	50.2	45.89	91	91	57-114	0	30
Nitrobenzene	N.D.	50.2	44.14	50.2	44.15	88	88	53-119	0	30
5-Nitro-o-toluidine	N.D.	50.2	41.92	50.2	42.75	84	85	46-117	2	30
2-Nitrophenol	N.D.	50.2	42.45	50.2	43.05	85	86	56-125	1	30
4-Nitrophenol	N.D.	50.2	32.02	50.2	32.38	64	65	22-78	1	30
4-Nitroquinoline-1-oxide	N.D.	502.01	535.03	502.01	557.08	107	111	47-140	4	30
N-Nitrosodiethylamine	N.D.	50.2	42.19	50.2	43.21	84	86	42-113	2	30
N-Nitrosodimethylamine	N.D.	50.2	27.35	50.2	28.02	54	56	10-90	2	30
N-Nitrosodi-n-butylamine	N.D.	50.2	41.35	50.2	41.17	82	82	47-110	0	30
N-Nitroso-di-n-propylamine	N.D.	50.2	43.93	50.2	44.56	88	89	52-115	1	30
N-Nitrosodiphenylamine	N.D.	50.2	46.15	50.2	46.14	92	92	75-116	0	30
N-Nitrosomethylethylamine	N.D.	50.2	40.18	50.2	40.54	80	81	35-108	1	30
N-Nitrosomorpholine	N.D.	50.2	40.78	50.2	42.09	81	84	37-103	3	30
N-Nitrosopiperidine	N.D.	50.2	42.37	50.2	43.13	84	86	55-107	2	30
N-Nitrosopyrrolidine	N.D.	50.2	40.36	50.2	41.61	80	83	50-107	3	30
Di-n-octylphthalate	N.D.	50.2	45.32	50.2	45.45	90	91	61-133	0	30
Parathion	N.D.	50.2	48.86	50.2	49.44	97	98	93-133	1	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Pentachlorobenzene	N.D.	50.2	37.49	50.2	38.96	75	78	60-116	4	30
Pentachloronitrobenzene	N.D.	50.2	44.51	50.2	45.52	89	91	65-121	2	30
Pentachlorophenol	N.D.	50.2	29.67	50.2	23.7	59	47*	59-134	22	30
Phenacetin	N.D.	50.2	46.36	50.2	46.93	92	93	59-118	1	30
Phenanthrene	N.D.	50.2	44.89	50.2	44.68	89	89	72-117	0	30
Phenol	N.D.	50.2	27	50.2	28.86	54	57	16-74	7	30
1,4-Phenylenediamine	N.D.	1004.02	N.D.	1004.02	N.D.	0*	0*	70-130	0	30
Phorate	N.D.	50.2	47.39	50.2	47.58	94	95	70-130	0	30
2-Picoline	N.D.	50.2	35.54	50.2	36.84	71	73	27-97	4	30
Pronamide	N.D.	50.2	47.43	50.2	47.51	93	93	80-120	0	30
Pyrene	N.D.	50.2	44.22	50.2	44.71	88	89	69-119	1	30
Pyridine	N.D.	50.2	22.84	50.2	23.78	45	47	19-68	4	30
Safrole	N.D.	50.2	41.33	50.2	41.69	82	83	57-104	1	30
1,2,4,5-Tetrachlorobenzene	N.D.	50.2	38.65	50.2	37.05	77	74	50-108	4	30
2,3,4,6-Tetrachlorophenol	N.D.	50.2	23.27	50.2	20.74	46*	41*	69-125	11	30
Thionazin	N.D.	50.2	45.23	50.2	46.2	90	92	66-116	2	30
o-Toluidine	N.D.	50.2	36.2	50.2	36.77	72	73	22-86	2	30
2,4,5-Trichlorophenol	N.D.	50.2	32.81	50.2	33.63	65*	67*	69-122	2	30
2,4,6-Trichlorophenol	N.D.	50.2	20.93	50.2	21.35	42*	43*	68-125	2	30
O,O,O-Triethylphosphorothioate	N.D.	50.2	42.09	50.2	42.31	84	84	54-111	1	30
1,3,5-Trinitrobenzene	N.D.	50.2	42.45	50.2	41.87	85	83	10-148	1	30
Batch number: 17143WAW026	Sample number(s): 8999785 UNSPK: P999788									
Acenaphthene	N.D.	50.2	44.08	50.2	44.68	88	89	64-121	1	30
Acenaphthylene	N.D.	50.2	42.02	50.2	43.55	84	87	63-120	4	30
Acetophenone	N.D.	50.2	43.86	50.2	45.93	87	91	56-108	5	30
2-Acetylaminofluorene	N.D.	50.2	48.35	50.2	49.66	96	99	61-144	3	30
4-Aminobiphenyl	N.D.	50.2	30.24	50.2	31.86	60	63	26-124	5	30
Aniline	N.D.	50.2	21.39	50.2	23.31	43	46	26-83	9	30
Anthracene	N.D.	50.2	44.15	50.2	45.64	88	91	72-120	3	30
Aramite	N.D.	50.2	66.44	50.2	70.39	132*	140*	70-130	6	30
Benzo(a)anthracene	N.D.	50.2	46.29	50.2	47.53	92	95	74-124	3	30
Benzo(a)pyrene	N.D.	50.2	43.08	50.2	43.85	86	87	71-119	2	30
Benzo(b)fluoranthene	N.D.	50.2	44.71	50.2	46.15	89	92	72-124	3	30
Benzo(g,h,i)perylene	N.D.	50.2	47.22	50.2	47.38	94	94	61-124	0	30
Benzo(k)fluoranthene	N.D.	50.2	44.16	50.2	45.48	88	91	73-121	3	30
Benzyl alcohol	N.D.	50.2	37.75	50.2	39.76	75	79	47-113	5	30
4-Bromophenyl-phenylether	N.D.	50.2	44.58	50.2	45.66	89	91	69-123	2	30
Butylbenzylphthalate	N.D.	50.2	46.49	50.2	47.81	93	95	44-129	3	30
Di-n-butylphthalate	N.D.	50.2	46.26	50.2	47.66	92	95	69-117	3	30
4-Chloro-3-methylphenol	N.D.	50.2	43.46	50.2	44.61	87	89	62-119	3	30
4-Chloroaniline	N.D.	50.2	27.17	50.2	28.72	54	57	41-94	6	30
Chlorobenzilate	N.D.	50.2	45.31	50.2	46.08	90	92	10-163	2	30
bis(2-Chloroethoxy)methane	N.D.	50.2	45.59	50.2	46.91	91	93	53-126	3	30
bis(2-Chloroethyl)ether	N.D.	50.2	41.46	50.2	42.76	83	85	50-111	3	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
bis(2-Chloroisopropyl)ether	N.D.	50.2	42.58	50.2	44.16	85	88	48-110	4	30
2-Chloronaphthalene	N.D.	50.2	43.91	50.2	42.84	87	85	56-116	2	30
2-Chlorophenol	N.D.	50.2	36.67	50.2	36.04	73	72	51-106	2	30
4-Chlorophenyl-phenylether	N.D.	50.2	43.43	50.2	44.47	87	89	65-117	2	30
Chrysene	N.D.	50.2	46.39	50.2	47.7	92	95	75-129	3	30
Diallate trans/cis	N.D.	50.2	44.44	50.2	45.92	89	91	65-111	3	30
Dibenz(a,h)anthracene	N.D.	50.2	48.29	50.2	48.88	96	97	65-126	1	30
Dibenzofuran	N.D.	50.2	43.23	50.2	44.17	86	88	69-115	2	30
3,3'-Dichlorobenzidine	N.D.	50.2	35.33	50.2	37.08	70	74	30-108	5	30
2,4-Dichlorophenol	N.D.	50.2	37.86	50.2	36.68	75	73	62-112	3	30
2,6-Dichlorophenol	N.D.	50.2	33.65	50.2	33.4	67	67	60-114	1	30
Diethylphthalate	N.D.	50.2	46.19	50.2	47.1	92	94	47-122	2	30
Dimethoate	N.D.	50.2	27.16	50.2	24.05	54	48	10-129	12	30
p-Dimethylaminoazobenzene	N.D.	50.2	50.17	50.2	50.73	100	101	80-120	1	30
7,12-Dimethylbenz[a]anthracene	N.D.	50.2	44.96	50.2	46.63	90	93	69-108	4	30
3,3'-Dimethylbenzidine	N.D.	100.4	27.84	100.4	29.89	28	30	10-55	7	30
a,a-Dimethylphenethylamine	N.D.	50.2	45.49	50.2	49.78	91	99	70-130	9	30
2,4-Dimethylphenol	N.D.	50.2	32.34	50.2	33.6	64	67	40-99	4	30
Dimethylphthalate	N.D.	50.2	44.54	50.2	46.05	89	92	10-134	3	30
4,6-Dinitro-2-methylphenol	N.D.	50.2	40.9	50.2	44.3	81	88	52-129	8	30
1,3-Dinitrobenzene	N.D.	50.2	40.34	50.2	42.48	80	85	75-123	5	30
2,4-Dinitrophenol	N.D.	100.4	77.54	100.4	84.59	77	84	29-139	9	30
2,4-Dinitrotoluene	N.D.	50.2	46.05	50.2	47.73	92	95	76-122	4	30
2,6-Dinitrotoluene	N.D.	50.2	44.32	50.2	46.91	88	93	80-120	6	30
Disulfoton	N.D.	100.4	123.24	100.4	126.46	123	126	70-130	3	30
Ethyl methanesulfonate	N.D.	50.2	41.42	50.2	42.29	83	84	51-111	2	30
bis(2-Ethylhexyl)phthalate	N.D.	50.2	46.65	50.2	47.66	93	95	64-126	2	30
Famphur	N.D.	100.4	N.D.	100.4	N.D.	0*	0*	70-130	0	30
Fluoranthene	N.D.	50.2	44.93	50.2	45.57	90	91	74-126	1	30
Fluorene	N.D.	50.2	43.77	50.2	44.48	87	89	67-120	2	30
Hexachlorobenzene	N.D.	50.2	41.83	50.2	43.39	83	86	67-125	4	30
Hexachlorocyclopentadiene	N.D.	100.4	46.53	100.4	47.82	46	48	10-81	3	30
Hexachloroethane	N.D.	50.2	29.51	50.2	29.4	59	59	28-103	0	30
Hexachloropropene	N.D.	50.2	36.57	50.2	35.55	73	71	10-99	3	30
Indeno(1,2,3-cd)pyrene	N.D.	50.2	47.54	50.2	47.78	95	95	63-122	0	30
Isodrin	N.D.	50.2	46.74	50.2	47.04	91	92	66-129	1	30
Isophorone	N.D.	50.2	44.67	50.2	46.06	89	92	54-117	3	30
Isosafrole	N.D.	50.2	44.35	50.2	48.41	88	96	64-130	9	30
Kepone	N.D.	100.4	35.15	100.4	34.24	35*	34*	70-130	3	30
Methapyrilene	N.D.	401.61	510.49	401.61	517.79	127*	129*	58-122	1	30
Methyl methanesulfonate	N.D.	50.2	34.69	50.2	36.08	69	72	35-102	4	30
Methyl parathion	N.D.	50.2	27.82	50.2	24.85	55	50	47-120	11	30
3-Methylcholanthrene	N.D.	50.2	46.47	50.2	47.83	93	95	78-138	3	30
2-Methylnaphthalene	N.D.	50.2	40.74	50.2	41.61	81	83	54-111	2	30
2-Methylphenol	N.D.	50.2	38.95	50.2	40.1	78	80	50-104	3	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
4-Methylphenol	N.D.	50.2	36.42	50.2	37.57	73	75	45-101	3	30
1,4-Naphthoquinone	N.D.	100.4	313.35	100.4	298.93	312*	298*	70-130	5	30
1-Naphthylamine	N.D.	100.4	32.05	100.4	34.14	32	34	15-70	6	30
2-Naphthylamine	N.D.	100.4	31.29	100.4	33.13	31	33	10-68	6	30
2-Nitroaniline	N.D.	50.2	44.45	50.2	46.33	89	92	74-121	4	30
3-Nitroaniline	N.D.	50.2	36.06	50.2	37.2	72	74	61-114	3	30
4-Nitroaniline	N.D.	50.2	42.18	50.2	42.92	84	85	57-114	2	30
Nitrobenzene	N.D.	50.2	44.43	50.2	45.01	89	90	53-119	1	30
5-Nitro-o-toluidine	N.D.	50.2	32.38	50.2	33.65	64	67	46-117	4	30
2-Nitrophenol	N.D.	50.2	43.42	50.2	44.65	87	89	56-125	3	30
4-Nitrophenol	N.D.	50.2	29.5	50.2	30.88	59	62	22-78	5	30
4-Nitroquinoline-1-oxide	N.D.	502.01	466.3	502.01	455.83	93	91	47-140	2	30
N-Nitrosodiethylamine	N.D.	50.2	41.24	50.2	42.15	82	84	42-113	2	30
N-Nitrosodimethylamine	N.D.	50.2	27.65	50.2	28.64	55	57	10-90	4	30
N-Nitrosodi-n-butylamine	N.D.	50.2	40.38	50.2	42.07	80	84	47-110	4	30
N-Nitroso-di-n-propylamine	N.D.	50.2	43	50.2	45.07	86	90	52-115	5	30
N-Nitrosodiphenylamine	N.D.	50.2	44.4	50.2	46.42	88	92	75-116	4	30
N-Nitrosomethylethylamine	N.D.	50.2	38.67	50.2	39.61	77	79	35-108	2	30
N-Nitrosomorpholine	N.D.	50.2	40.33	50.2	42.61	80	85	37-103	5	30
N-Nitrosopiperidine	N.D.	50.2	41.43	50.2	42.72	83	85	55-107	3	30
N-Nitrosopyrrolidine	N.D.	50.2	39.33	50.2	41.3	78	82	50-107	5	30
Di-n-octylphthalate	N.D.	50.2	45.09	50.2	45.99	90	92	61-133	2	30
Parathion	N.D.	50.2	45.54	50.2	44.98	91*	90*	93-133	1	30
Pentachlorobenzene	N.D.	50.2	42.52	50.2	43.58	85	87	60-116	2	30
Pentachloronitrobenzene	N.D.	50.2	42.59	50.2	43.1	85	86	65-121	1	30
Pentachlorophenol	N.D.	50.2	26.87	50.2	26.24	54*	52*	59-134	2	30
Phenacetin	N.D.	50.2	42.44	50.2	43.23	85	86	59-118	2	30
Phenanthrene	N.D.	50.2	43.33	50.2	44.73	86	89	72-117	3	30
Phenol	N.D.	50.2	31.07	50.2	30.55	62	61	16-74	2	30
1,4-Phenylenediamine	N.D.	1004.02	N.D.	1004.02	N.D.	0*	0*	70-130	0	30
Phorate	N.D.	50.2	45.98	50.2	47.39	92	94	70-130	3	30
2-Picoline	N.D.	50.2	34.12	50.2	35.43	68	71	27-97	4	30
Pronamide	N.D.	50.2	44.8	50.2	45.29	89	90	80-120	1	30
Pyrene	N.D.	50.2	43.7	50.2	44.68	87	89	69-119	2	30
Pyridine	N.D.	50.2	22.15	50.2	22.35	44	45	19-68	1	30
Safrole	N.D.	50.2	41.64	50.2	43.16	83	86	57-104	4	30
1,2,4,5-Tetrachlorobenzene	N.D.	50.2	38.78	50.2	40.4	77	80	50-108	4	30
2,3,4,6-Tetrachlorophenol	N.D.	50.2	27.78	50.2	27.11	55*	54*	69-125	2	30
Thionazin	N.D.	50.2	43.5	50.2	45.25	87	90	66-116	4	30
o-Toluidine	N.D.	50.2	20.2	50.2	21.91	40	44	22-86	8	30
2,4,5-Trichlorophenol	N.D.	50.2	37.26	50.2	38.86	74	77	69-122	4	30
2,4,6-Trichlorophenol	N.D.	50.2	28.28	50.2	28.16	56*	56*	68-125	0	30
O,O,O-Triethylphosphorothioate	N.D.	50.2	42.7	50.2	43.55	85	87	54-111	2	30
1,3,5-Trinitrobenzene	N.D.	50.2	39.79	50.2	40.68	79	81	10-148	2	30

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 8260C (25 ml)
Batch number: H171451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8999785	105	103	103	92
8999786	106	110	102	93
8999787	106	107	102	93
8999788	109	112	99	94
8999789	105	104	97	101
8999790	103	98	99	102
8999791	108	104	101	95
8999792	108	113	100	94
8999798	103	104	105	94
8999799	111	112	98	93
Blank	107	100	101	94
LCS	106	105	99	102
MS	105	104	97	101
MSD	103	98	99	102
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 8260C (25 ml)
Batch number: H171452AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8999793	109	110	99	93
8999794	111	112	99	93
8999795	108	107	102	93
8999796	106	102	100	91
8999797	109	106	102	93
Blank	107	100	101	94
LCS	106	105	99	102
LCSD	103	103	101	102
Limits:	77-114	74-113	77-110	78-110

Analysis Name: 2-Propanol
Batch number: L171431AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8999785	99	101	98	99
8999786	98	100	100	98
8999787	98	100	99	98
8999788	98	99	99	98
8999789	98	98	100	100
8999790	97	99	101	100
8999791	98	100	100	99
8999792	99	102	98	99

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: 2-Propanol
Batch number: L171431AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
Blank	97	99	100	100
LCS	98	100	101	102
MS	98	98	100	100
MSD	97	99	101	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: SVOAs 8270D MINI
Batch number: 17142WAC026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8999786	45	47	75	78	77	84
8999787	43	43	74	78	79	87
8999788	29	17	30	73	77	62
8999789	49	34	29	81	80	85
8999790	52	41	25	81	82	86
8999791	32	23	30	75	77	55
8999792	13	6*	29	77	80	84
Blank	37	50	81	74	67	92
LCS	45	57	84	79	74	84
LCSD				79	66	64
MS	49	34	29	81	80	85
MSD	52	41	25	81	82	86
Limits:	10-71	10-84	13-149	29-119	41-112	38-125

Analysis Name: 3 SVOCs 8270D
Batch number: 17142WAW026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8999793	77	79	87
8999794	79	83	92
8999795	71	73	81
8999796	69	70	83
8999797	81	83	94
Blank	74	67	92
LCS	79	74	84
MS	81	80	85
MSD	81	82	86
Limits:	29-119	41-112	38-125

Analysis Name: SVOAs 8270D MINI
Batch number: 17143WAW026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8999785	41	40	79	75	79	86
Blank	31	41	71	70	70	73

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

REVISED

Quality Control Summary

Client Name: Draper Aden Associates, Inc. Group Number: 1802908
Reported: 07/17/2017 13:42

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: SVOAs 8270D MINI
Batch number: 17143WAW026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
LCS	47	57	83	79	82	79
LCSD				82	81	76
MS	57	49	42	80	82	79
MSD	55	47	32	82	84	83
MSDRE	55	47	32	82	84	83
MSRE	57	49	42	80	82	79
Limits:	10-71	10-84	13-149	29-119	41-112	38-125

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

11200/1802908/8999785-99

CHAIN OF CUSTODY RECORD

Laboratory: Eurofins Lancaster Laboratories Environmental, 2425 New Holland Pike, Lancaster, PA, 17605-2425/ Barb Weyandt, Manager/ (717) 656-2300 x1576

4-17-17

Client: 0 **Attn:** 0 **Address:** 0 0 **Phone:** 0 **Fax:** 0 **Fax:** 0	**Consultant:** Draper Aden Associates **Attn:** Janet C. Frazier **Address:** 2206 South Main Street Blacksburg, Virginia 24060 **Phone:** (540) 552-0444 **Fax:** (540) 552-0291	**Sample Site:** RFAAP, Radford, Virginia **Location:** HWMU16 **Event:** 2Q 2017 Annual Groundwater Monitoring Event **DAA JN:** B03204-17 **Lab JN:**	**Project Specific (PS) or Batch (B) QC:** **Sample Collection for Project Complete?** YES UPS: 1Z 754 02X Y0 4529 0201 **Carrier:** 1Z 754 02X Y0 5562 2897 **Tracking Number:**		

Box 1: Matrix		Box 2: Preservative		Box 3: Filtered/Unfiltered	Box 4: Sample Type	Invoice
SW Surface Water	T Trip Blank	A HCL	E NaOH	F Filtered	G Grab	Copy to Consultant: YES
GW Groundwater	E Equipment Blank	B HNO_3	F ZnAc	U Unfiltered	C Composite	Bill: CLIENT OTHER
L Leachate	P Product	C H_2SO_4	G Other (Specify)	**Box 5: Sample Container Type**		Preserved and shipped on ice: YES
S Soil	O Other	D $Na_2S_2O_3$	H None	P Plastic V VOA AG Amber Glass CG Clear Glass		

Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles	8260C/5030C 25 ml purge volume	8260C/5030C 5 ml purge volume for 2-propanol ONLY	8270D/3510C (Semivolatiles)						GENERAL NOTES:
Box 4 - Sample Type					G	G	G						1. Report results to detection limit, with J flags, for italicized wells.
Box 3 - Filtered/Unfiltered					U	U	U						2. Report results at or greater than QL for non-italicized wells.
Required pH of Sample					<2	<2							3. VELAP accreditation required.
Box 2 - Preservative					A	A	H						4. Level 1 Deliverable with EDD.
Box 5 - Sample Container Type					3-40mL V	3-40mL V	2-250mL AG						
16C1	5/17	1035	GW	8	X	X	X						
16MW8	5/15	1220	GW	8	X	X	X						
16MW9	5/16	1140	GW	8	X	X	X						
16WC1A	5/16	1015	GW	24	X	X	X						USE FOR QC
16WDUP	5/16	1030	GW	8	X	X	X						
16WC1B	5/15	1500	GW	8	X	X	X						
16-2	5/15	1330	GW	5 2 5/16/17	X		X						
16-3	5/15	1130	GW	5 2 5/16/17	X		X						
16-5	5/15	0955	GW	5 2 5/16/17	X		X						
16WC2B	5/15	1125	GW	5 2 5/16/17	X		X						
16SPRING	5/15	1010	GW	5 2 5/16/17	X		X						
Trip Blank 1	5/15	—	T	2	X								one trip blnnk required per day
Trip Blank 2	5/15	—	T	2	X								
Trip Blank 3			T	2	X								Delete if not required

Clients Special Instructions: level 1 with edd. See attached target analyte list.

Received by lab in Good Condition ✓ Yes ____ No Custody Seal Intact ✓ Yes ____ No Temperature upon arrival 0.8°C Received on Ice ✓ Yes ____ No

Describe problems, if any:

Sampler Name (Print): Ken Caldington	Date: 5-15-17	#1 Relinquished by (Signature):	Date: 5/17/17	#2 Relinquished by (Signature):	Date:	Sample Storage Time Requested:
Sampler Signature:	Time: 0800	Company Name: DAA	Time: 1700	Company Name:	Time:	
Sampler Name (Print): Will Mason-Drease	Date: 5-15-17	#1 Received by (Signature):	Date:	#2 Received by (Signature):	Date: 5.18.17	30 DYS ORG/6 MTHS INORG
Sampler Signature:	Time: 0800	Company Name:	Time:	Company Name: ELLE	Time: 915	

WMD 4-17-17

1/7 JW 4/11/17

1802908

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

2/7

* For these wells/ analyte report to at or above QL. JVR 4-11-2017

ANALYTICAL METHOD: 8260C/5030C
TYPE METHOD: GCMS
CLASS: VOLATILE

THIS APPLIES TO WELLS 16-2, 16-3, 16-5, 16WC2B, 16SPRING

JVR 4/12/17

			Permit QL
1.	Carbon tetrachloride	56-23-5	1
2.	chloromethane ; (Methyl chloride)	74-87-3	1
3.	2-butanone (methyl ethyl ketone - MEK)	78-93-3	10
4.	1,1-dichloroethane	75-34-3	1
5.	Dichlorodifluoromethane	75-71-8	1
6.	Ethylbenzene	100-41-4	1
7.	Tetrachloroethene	127-18-4	1
8.	Toluene (methyl benzene)	108-88-3	1
9.	1,1,1-trichloroethane (methyl chloroform)	71-55-6	1
10.	Trichloroethene	79-01-6	1
11.	Trichlorofluoromethane (CFC-11)	75-69-4	1
12.	Xylenes (total)	1330-20-7	3
13	Chloroethane	75-00-3	1
14	Diethyl ether	60-29-7	12.5
15	Dimethyl ether	115-10-6	12.5
16	Methylene chloride	75-09-2	1
17	1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	1
18	Benzene	71-43-2	1
19	1,1-Dichloroethene	75-35-4	1
20	Tetrahydrofuran		25

Notes
13-16 added 10/03. JCF
Revised 10/31/03 JCF

17 added 0704. Revised 7/28/2004
10/2008 JCF
18 added 04 2011. JCF
19 added 04 2014. KPO, location 16-1 removed 2014
20 added 04 2016 JCF

JVR 4/12/17

25 ml purge volume

t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

1802908

3/7

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

* For these wells/analytes - report to at or above QL. JWC 4/11/17

ANALYTICAL METHOD: 8270D/3510C
TYPE METHOD: GCMS
CLASS: SEMIVOLATILE

THIS APPLIES TO WELLS 16-2, 16-3, 16-5, 16WC2B, 16SPRING

No.	PARAMETER	CAS RN	Required LOQ (µg/l)
1.	2,4-dinitrotoluene	121-14-2	10
2.	2,6-dinitrotoluene	606-20-2	10
3.	Diethylphthate		5

Report to at or above the QL.
10/13- diethylphthate added 10/13.

JWC 4/11/2017

t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

* For these wells/analytes — report to MDL w/estimated results. JW 4/11/2017

1802908

4/5

ANALYTICAL METHOD: 8260C/ GCMS/ Volatile (1 of 2 pages)
THIS APPLIES TO WELLS 16C1, 16MW8, 16MW9,16WC1A, 16WDUP, 16WC1B & QC

Analyte	CAS#	SecondaryName	TertiaryName
1. Acetone	67-64-1		
2. Acetonitrile	75-05-8		
3. Acrolein	107-02-8		
4. Acrylonitrile	107-13-1		
5. Allyl chloride	107-05-1		
6. Benzene	71-43-2		
7. Bromodichloromethane	75-27-4		
8. Bromoform	75-25-2	Tribromomethane	
9. Carbon disulfide	75-15-0		
10. Carbon tetrachloride	56-23-5		
11. Chloroethane	75-00-3	Ethyl chloride	
12. Chloroform	67-66-3	Trichloromethane	
13. Chloroprene	126-99-8		
14. Dibromochloromethane	124-48-1		
15. 1,2-Dibromo-3-chloropropane	96-12-8	DBCP	
16. 1,2-Dibromoethane	106-93-4	EDB	Ethylene dibromide
17. 1,2-Dichlorobenzene	95-50-1	o-Dichlorobenzene	
18. 1,3-Dichlorobenzene	541-73-1	m-Dichlorobenzene	
19. 1,4-Dichlorobenzene	106-46-7	p-Dichlorobenzene	
20. trans-1,4-Dichloro-2-butene	110-57-6		
21. Dichlorodifluoromethane	75-71-8		
22. 1,1-Dichloroethane	75-34-3		
23. 1,2-Dichloroethane	107-06-2		
24. 1,1-Dichloroethene	75-35-4		
25. trans-1,2-Dichloroethene	156-60-5		
26. 1,2-Dichloropropane	78-87-5		
27. 1,3-Dichloropropane	142-28-9		
28. trans-1,3-Dichloropropene	10061-02-6		
29. Diethyl ether	60-29-7		
30. Dimethyl ether	115-10-6		
31. 1,4-Dioxane	123-91-1		
32. Ethylbenzene	100-41-4		
33. Ethyl methacrylate	97-63-2		
34. Hexachlorobutadiene	87-68-3		
35. Hexachloroethane	67-72-1		
36. 2-Hexanone	591-78-6	Methyl butyl ketone	MBK
37. Isobutyl alcohol	78-83-1		
38. Methacrylonitrile	126-98-7		
39. Bromomethane	74-83-9	Methyl bromide	
40. Chloromethane	74-87-3	Methyl chloride	
41. 2-Butanone	78-93-3	Methyl ethyl ketone	MEK
42. Iodomethane	74-88-4	methyl iodide	
43. Methyl methacrylate	80-62-6		
44. 4-Methyl-2-pentanone	108-10-1	Methyl isobutyl	
45. Dibromomethane	74-95-3	Methylene bromide	
46. Methylene chloride	75-09-2		
47. Naphthalene	91-20-3		
48. Pentachloroethane	76-01-7		

t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

49. 2-Propanol	67-63-0	Isopropanol	
50. Propionitrile	107-12-0		
51. Styrene	100-42-5		
52. 1,1,1,2-Tetrachloroethane	630-20-6		
53. 1,1,2,2-Tetrachloroethane	79-34-5		
54. Tetrachloroethene	127-18-4	Tetrachloroethylene	
55. Tetrahydrofuran	109-99-9		
56. Toluene	108-88-3		
57. 1,2,4-Trichlorobenzene	120-82-1		
58. 1,1,1-Trichloroethane	71-55-6	Methylchloroform	
59. 1,1,2-Trichloroethane	79-00-5		
60. Trichloroethene	79-01-6	Trichloroethene	
61. Trichlorofluoromethane	75-69-4		
62. 1,2,3-Trichloropropane	96-18-4		
63. 1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	Freon-13	
64. Vinyl acetate	108-05-4		
65. Vinyl chloride	75-01-4		
66. Xylenes (Total)	1330-20-7		

Rev per July 2014 permit renewal. JCF 4-2015

t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

* report to MDL w/ 'J' flags -JWE 4/11/17 1802908

5/7

ANALYTICAL METHOD: 8270D/ GCMS/ Semivolatile
THIS APPLIES TO WELLS 16C1, 16MW8, 16MW9,16WC1A, 16WDUP, 16WC1B & QC

Analyte	CAS#	SecondaryName	TertiaryName
1. Acenaphthene	83-32-9		
2. Acenaphthylene	208-96-8		
3. Acetophenone	98-86-2		
4. 2-Acetylaminofluorene	53-96-3		
5. 4-Aminobiphenyl	92-67-1		
6. Aniline	62-53-3		
7. Anthracene	120-12-7		
8. Aramite	140-57-8		
9. Benzo[a]anthracene	56-55-3		
10. Benzo[b]fluoranthene	205-99-2		
11. Benzo[k]fluoranthene	207-08-9		
12. Benzo[ghi]perylene	191-24-2		
13. Benzo(a)pyrene	50-32-8		
14. 1,4-Benzenediamine	106-50-3	p-Phenylenediamine	
15. Benzyl alcohol	100-51-6		
16. bis(2-Chloroethoxy)methane	111-91-1		
17. bis(2-Chloroethyl)ether	111-44-4		
18. bis(2-Chloro-1-methylethyl)ether	108-60-1		
19. bis(2-Ethylhexyl)phthalate	117-81-7		
20. 4-Bromophenyl phenyl ether	101-55-3		
21. Butyl benzyl phthalate	85-68-7		
22. p-Chloroaniline	106-47-8	4-Chloroaniline	
23. Chlorobenzilate	510-15-6		
24. p-Chloro-m-cresol	59-50-7	4-Chloro-3-methylphenol	
25. 2-Chloronaphthalene	91-58-7		
26. 2-Chlorophenol	95-57-8		
27. 4-Chlorophenyl phenyl ether	7005-72-3		
28. Chrysene	218-01-9		
29. Diallate	2303-16-4		
30. Dibenz(a,h)anthracene	53-70-3		
31. Dibenzofuran	132-64-9		
32. Di-n-butyl phthalate	84-74-2		
33. 3,3'-Dichlorobenzidine	91-94-1		
34. 2,4-Dichlorophenol	120-83-2		
35. 2,6-Dichlorophenol	87-65-0		
36. Diethyl phthalate	84-66-2		
37. O,O-Diethyl O-2-pyrazinyl	297-97-2	Thionazin	
38. Dimethoate	60-51-5		
39. p-(Dimethylamino)azobenzene	60-11-7		
40. 7,12-Dimethylbenz[a]anthracene	57-97-6		
41. 3,3'-Dimethylbenzidine	119-93-7		
42. a,a-Dimethylphenethylamine	122-09-8		
43. 2,4-Dimethylphenol	105-67-9		
44. Dimethyl phthalate	131-11-3		
45. m-Dinitrobenzene	99-65-0	1,3-Dinitrobenzene	
46. 4,6-Dinitro-o-cresol	534-52-1	4,6-Dinitro-2-methylphenol	
47. 2,4-Dinitrophenol	51-28-5		
48. 2,4-Dinitrotoluene	121-14-2		
49. 2,6-Dinitrotoluene	606-20-2		
50. Di-n-octyl phthalate	117-84-0		
51. Diphenylamine	122-39-4		
52. Disulfoton	298-04-4		
53. Ethyl methanesulfonate	62-50-0		
54. Famphur	52-85-7		
55. Fluoranthene	206-44-0		

t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

56. Fluorene	86-73-7		
57. Hexachlorobenzene	118-74-1		
58. Hexachlorocyclopentadiene	77-47-4		
~~59. Hexachlorophene~~	~~70-30-4~~	To be analyzed by Test America. JVE 4/1/17 (NO VELAP)	
60. Hexachloropropene	1888-71-7		
61. Indeno[1,2,3-cd]pyrene	193-39-5		
62. Isodrin	465-73-6		
63. Isophorone	78-59-1		
64. Isosafrole	120-58-1		
65. Kepone	143-50-0		
66. Methapyrilene	91-80-5		
67. 3-Methylcholanthrene	56-49-5		
68. Methyl methane sulfonate	66-27-3		
69. 2-Methylnaphthalene	91-57-6		
70. Methyl parathion	298-00-0		
71. 2-Methylphenol	95-48-7	o-Cresol	
72. 3 & 4-Methylphenol	m 108-39-4 p	m-/p-Cresol	
73. 1,4-Naphthoquinone	130-15-4		
74. 1-Naphthylamine	134-32-7		
75. 2-Naphthylamine	91-59-8		
76. o-Nitroaniline	88-74-4	2-Nitroaniline	
77. m-Nitroaniline	99-09-2	3-Nitroaniline	
78. p-Nitroaniline	100-01-6	4-Nitroaniline	
79. Nitrobenzene	98-95-3		
80. o-Nitrophenol	88-75-5	2-Nitrophenol	
81. p-Nitrophenol	100-02-7	4-Nitrophenol	
82. 4-Nitroquinoline-1-oxide	56-57-5		
83. N-Nitrosodi-n-butylamine	924-16-3		
84. N-Nitrosodiethylamine	55-18-5		
85. N-Nitrosodimethylamine	62-75-9		
86. N-Nitrosodiphenylamine	86-30-6		
87. N-Nitrosodipropylamine	621-64-7		
88. N-Nitrosomethylethylamine	10595-95-6		
89. N-Nitrosomorpholine	59-89-2		
90. N-Nitrosopiperidine	100-75-4		
91. N-Nitrosopyrrolidine	930-55-2		
92. 5-Nitroso-o-toluidine	99-55-8		
93. Parathion	56-38-2		
94. Pentachlorobenzene	608-93-5		
95. Pentachloronitrobenzene	82-68-8		
96. Pentachlorophenol	87-86-5		
97. Phenacetin	62-44-2		
98. Phenanthrene	85-01-8		
99. Phenol	108-95-2		
100. Phorate	298-02-2		
101. 2-Picoline	931-19-1		
102. Pronamide	23950-58-5		
103. Pyrene	129-00-0		
104. Pyridine	110-86-1		
105. Safrole	94-59-7		
~~106. Sulfotep~~	~~3689-24-5~~	To be analyzed by test america. NO VELAP. JVE 4/n/n	
107. 1,2,4,5-Tetrachlorobenzene	95-94-3		
108. 2,3,4,6-Tetrachlorophenol	58-90-2		
109. o-Toluidine	95-53-4		
110. 2,4,5-Trichlorophenol	95-95-4		
111. 2,4,6-Trichlorophenol	88-06-2		
112. O,O,O-Triethyl phosphorothioate	126-68-1		
113. sym-Trinitrobenzene	99-35-4	1,3,5-trinitrobenzene	

114. HEXACHLOROETHANE JCF 4/9/2013

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 184029

Group Number(s): 1802908

Client: Draper Aden

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	05/18/2017 9:15
Number of Packages:	2	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	6
Paperwork Enclosed:	Yes	Trip Blank Type:	HCL
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Timothy Cubberley (6520) at 12:03 on 05/18/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	0.8	DT	Wet	Y	Bagged	N
2	DT131	0.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17601-5425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

eurofins | Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	none detected
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Volatiles by GC/MS Data

Case Narrative/Conformance Summary

Volatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Sample #	Client ID	Matrix Liquid	Matrix Solid	Comments
8999785	16C1	X		
8999786	16MW8	X		
8999787	16MW9	X		
8999788	16WC1A	X		Unspiked
8999789	16WC1A MS	X		Matrix Spike
8999790	16WC1A MSD	X		Matrix Spike Duplicate
8999791	16WDUP	X		Field Duplicate Sample
8999792	16WC1B	X		
8999793	16-2	X		
8999794	16-3	X		
8999795	16-5	X		
8999796	16WC2B	X		
8999797	16SPRING	X		
8999798	Trip Blank_1	X		Trip Blank
8999799	Trip Blank_2	X		Trip Blank

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

GC/MS Volatiles

Fraction: Volatiles by GC/MS

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

MS/MSD

Please note that US EPA Methods for organic compounds do not require action by the laboratory based on out-of-specification MS/MSD results.

Batch#: H171451AA (Sample number(s): 8999785-8999792, 8999798-8999799, UNSPK: 8999788)
The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: 1,1-Dichloroethane, Benzene, Dibromomethane, Xylene (Total)
The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: 1,1-Dichloroethene, 1,2-Dichloropropane, 2-Chloro-1,3-butadiene, Allyl Chloride, Bromomethane, Carbon Disulfide, Chloroethane, Freon 113, Methylene Chloride, Styrene, trans-1,2-Dichloroethene, Vinyl Chloride

SAMPLE ANALYSIS:

Samples	2-Propanol	8260C (25 ml)
8999785	DF1	DF5; DF1
8999786	DF1	DF1
8999787	DF1	DF5; DF1
8999788	UNSPK/ DF1	UNSPK,/ DF10
8999789	MS/ DF1	MS/ DF1
8999790	MSD/ DF1	MSD/ DF1
8999791	DF1	DF1
8999792	DF1	DF1
8999793		DF1
8999794		DF1
8999795		DF1
8999796		DF1
8999797		DF1
8999798		DF1
8999799		DF1

No problems were encountered with the analysis of the samples.

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

GC/MS Volatiles

Fraction: Volatiles by GC/MS

Additional Comments

(Sample number(s): 8999785-8999788, 8999791-8999792, 8999798: Analysis: 11996)
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.

(Sample number(s): 8999789-8999790: Analysis: 11996)
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

(Sample number(s): 8999799: Analysis: 11996)
A Method Detection Limit (MDL) standard is analyzed to confirm sensitivity of the instrument for samples with non-detect analytes associated with a continuing calibration verification standard exhibiting low response (outside the 20%D criteria). The MDL standard shows adequate sensitivity at or below the reporting limit.
Project defined calibration criteria are not met. The calibration is compliant with the method defined criteria.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Volatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Volatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

Fraction: Volatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
2-Propanol	L171431AA	VBLKL17	05/23/2017 09:54:00
		LCSL17	05/23/2017 09:32:00
		8999785	05/23/2017 12:43:00
		8999786	05/23/2017 13:05:00
		8999787	05/23/2017 13:27:00
		8999788 UNSPK	05/23/2017 13:49:00
		8999789 MS	05/23/2017 14:11:00
		8999790 MSD	05/23/2017 14:33:00
		8999791	05/23/2017 14:55:00
		8999792	05/23/2017 15:17:00
8260C (25 ml)	H171451AA	VBLKH05	05/25/2017 20:08:00
		LCSH05	05/25/2017 18:26:00
		LCSH06	05/25/2017 19:27:00
		8999785	05/25/2017 23:24:00
		8999786	05/25/2017 23:44:00
		8999787	05/26/2017 00:05:00
		8999788 UNSPK	05/25/2017 21:22:00
		8999788 UNSPK	05/25/2017 23:03:00
		8999789 MS	05/25/2017 21:42:00
		8999789 MS	05/25/2017 22:23:00
		8999790 MSD	05/25/2017 22:03:00
		8999790 MSD	05/25/2017 22:43:00
		8999791	05/26/2017 00:25:00
		8999792	05/26/2017 00:45:00
		8999798	05/25/2017 20:42:00
		8999799	05/25/2017 21:02:00
8260C (25 ml)	H171452AA	VBLKH07	05/25/2017 20:08:00
		LCSH07	05/25/2017 18:26:00
		LCDH07	05/25/2017 18:46:00
		LCSH08	05/25/2017 19:27:00
		LCDH08	05/25/2017 19:47:00
		8999793	05/26/2017 01:06:00
		8999794	05/26/2017 01:26:00
		8999795	05/26/2017 01:46:00
		8999796	05/26/2017 02:06:00
		8999797	05/26/2017 02:27:00
8260C (25 ml)	H171461AA	VBLKH11	05/26/2017 11:17:00
		LCSH11	05/26/2017 09:35:00
		LCDH11	05/26/2017 09:55:00
		8999785	05/26/2017 16:01:00
		8999787	05/26/2017 16:21:00

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Volatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

Fraction: Volatiles by GC/MS

Quality Control Summary
Method Blank
GC/MS Volatiles
SDG: RAE85
Matrix: LIQUID

Fraction: Volatiles by GC/MS

H171451AA / VBLKH05 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	05/25/17	N.D.	ug/l	0.1	1.0
Chloromethane	05/25/17	N.D.	ug/l	0.2	1.0
Vinyl Chloride	05/25/17	N.D.	ug/l	0.2	1.0
Bromomethane	05/25/17	N.D.	ug/l	0.5	1.0
Chloroethane	05/25/17	N.D.	ug/l	0.1	1.0
Trichlorofluoromethane	05/25/17	N.D.	ug/l	0.2	1.0
Ethyl ether	05/25/17	N.D.	ug/l	1.1	13
Acrolein	05/25/17	N.D.	ug/l	5.0	25
1,1-Dichloroethene	05/25/17	N.D.	ug/l	0.2	1.0
Freon 113	05/25/17	N.D.	ug/l	0.2	1.0
Acetone	05/25/17	N.D.	ug/l	3.0	10
Methyl Iodide	05/25/17	N.D.	ug/l	0.6	10
Carbon Disulfide	05/25/17	N.D.	ug/l	0.4	10
Acetonitrile	05/25/17	N.D.	ug/l	32	100
Allyl Chloride	05/25/17	N.D.	ug/l	0.8	10
Methylene Chloride	05/25/17	N.D.	ug/l	0.2	1.0
Acrylonitrile	05/25/17	N.D.	ug/l	1.0	10
trans-1,2-Dichloroethene	05/25/17	N.D.	ug/l	0.2	1.0
1,1-Dichloroethane	05/25/17	N.D.	ug/l	0.1	1.0
Vinyl Acetate	05/25/17	N.D.	ug/l	3.3	10
2-Chloro-1,3-butadiene	05/25/17	N.D.	ug/l	0.5	10
2-Butanone	05/25/17	N.D.	ug/l	1.0	10
Propionitrile	05/25/17	N.D.	ug/l	10	100
Methacrylonitrile	05/25/17	N.D.	ug/l	9.8	100
Tetrahydrofuran	05/25/17	N.D.	ug/l	2.0	25
Chloroform	05/25/17	N.D.	ug/l	0.1	1.0
1,1,1-Trichloroethane	05/25/17	N.D.	ug/l	0.1	1.0
Carbon Tetrachloride	05/25/17	N.D.	ug/l	0.2	1.0
Isobutyl Alcohol	05/25/17	N.D.	ug/l	10	200
Benzene	05/25/17	N.D.	ug/l	0.1	1.0
1,2-Dichloroethane	05/25/17	N.D.	ug/l	0.1	1.0
Trichloroethene	05/25/17	N.D.	ug/l	0.2	1.0
1,2-Dichloropropane	05/25/17	N.D.	ug/l	0.1	1.0
Dibromomethane	05/25/17	N.D.	ug/l	0.1	1.0
Methyl Methacrylate	05/25/17	N.D.	ug/l	3.6	10
1,4-Dioxane	05/25/17	N.D.	ug/l	45	200
Bromodichloromethane	05/25/17	N.D.	ug/l	0.1	1.0
4-Methyl-2-pentanone	05/25/17	N.D.	ug/l	1.0	10
Toluene	05/25/17	N.D.	ug/l	0.1	1.0
trans-1,3-Dichloropropene	05/25/17	N.D.	ug/l	0.1	1.0
Ethyl Methacrylate	05/25/17	N.D.	ug/l	0.8	10
1,1,2-Trichloroethane	05/25/17	N.D.	ug/l	0.1	1.0
Tetrachloroethene	05/25/17	N.D.	ug/l	0.1	1.0
1,3-Dichloropropane	05/25/17	N.D.	ug/l	0.1	1.0
2-Hexanone	05/25/17	N.D.	ug/l	1.0	10

Fraction: Volatiles by GC/MS

H171451AA / VBLKH05 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dibromochloromethane	05/25/17	N.D.	ug/l	0.1	1.0
1,2-Dibromoethane	05/25/17	N.D.	ug/l	0.1	1.0
1,1,1,2-Tetrachloroethane	05/25/17	N.D.	ug/l	0.1	1.0
Ethylbenzene	05/25/17	N.D.	ug/l	0.1	1.0
Xylene (Total)	05/25/17	N.D.	ug/l	0.2	3.0
Styrene	05/25/17	N.D.	ug/l	0.1	1.0
Bromoform	05/25/17	N.D.	ug/l	0.1	1.0
1,1,2,2-Tetrachloroethane	05/25/17	N.D.	ug/l	0.2	1.0
trans-1,4-Dichloro-2-butene	05/25/17	N.D.	ug/l	1.0	10
1,2,3-Trichloropropane	05/25/17	N.D.	ug/l	0.3	1.0
Pentachloroethane	05/25/17	N.D.	ug/l	0.8	10
1,3-Dichlorobenzene	05/25/17	N.D.	ug/l	0.1	1.0
1,4-Dichlorobenzene	05/25/17	N.D.	ug/l	0.1	1.0
1,2-Dichlorobenzene	05/25/17	N.D.	ug/l	0.1	1.0
1,2-Dibromo-3-chloropropane	05/25/17	N.D.	ug/l	0.2	1.0
1,2,4-Trichlorobenzene	05/25/17	N.D.	ug/l	0.1	1.0
Hexachlorobutadiene	05/25/17	N.D.	ug/l	0.1	1.0
Naphthalene	05/25/17	N.D.	ug/l	0.1	1.0
Hexachloroethane	05/25/17	N.D.	ug/l	0.1	10
Dimethyl ether	05/25/17	N.D.	ug/l	0.1	13

H171452AA / VBLKH07 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Dichlorodifluoromethane	05/25/17	N.D.	ug/l	0.1	1.0
Chloromethane	05/25/17	N.D.	ug/l	0.2	1.0
Chloroethane	05/25/17	N.D.	ug/l	0.1	1.0
Trichlorofluoromethane	05/25/17	N.D.	ug/l	0.1	1.0
Ethyl ether	05/25/17	N.D.	ug/l	0.1	13
1,1-Dichloroethene	05/25/17	N.D.	ug/l	0.1	1.0
Freon 113	05/25/17	N.D.	ug/l	0.2	1.0
Methylene Chloride	05/25/17	N.D.	ug/l	0.2	1.0
1,1-Dichloroethane	05/25/17	N.D.	ug/l	0.1	1.0
2-Butanone	05/25/17	N.D.	ug/l	1.0	10
Tetrahydrofuran	05/25/17	N.D.	ug/l	2.0	25
1,1,1-Trichloroethane	05/25/17	N.D.	ug/l	0.1	1.0
Carbon Tetrachloride	05/25/17	N.D.	ug/l	0.1	1.0
Benzene	05/25/17	N.D.	ug/l	0.1	1.0
Trichloroethene	05/25/17	N.D.	ug/l	0.1	1.0
Toluene	05/25/17	N.D.	ug/l	0.1	1.0
Tetrachloroethene	05/25/17	N.D.	ug/l	0.1	1.0
Ethylbenzene	05/25/17	N.D.	ug/l	0.1	1.0
Xylene (Total)	05/25/17	N.D.	ug/l	0.1	3.0
Dimethyl ether	05/25/17	N.D.	ug/l	0.1	13

Fraction: Volatiles by GC/MS

H171461AA / VBLKH11 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Ethyl ether	05/26/17	N.D.	ug/l	1.1	13

L171431AA / VBLKL17 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
2-Propanol	05/23/17	N.D.	ug/l	50	100

Fraction: Volatiles by GC/MS

H171451AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKH05	100	74 - 113	94	78 - 110	107	77 - 114	101	77 - 110
LCSH05	105	74 - 113	102	78 - 110	106	77 - 114	99	77 - 110
8999785	103	74 - 113	92	78 - 110	105	77 - 114	103	77 - 110
8999786	110	74 - 113	93	78 - 110	106	77 - 114	102	77 - 110
8999787	107	74 - 113	93	78 - 110	106	77 - 114	102	77 - 110
8999788 UNSPK	112	74 - 113	94	78 - 110	109	77 - 114	99	77 - 110
8999789 MS	104	74 - 113	101	78 - 110	105	77 - 114	97	77 - 110
8999790 MSD	98	74 - 113	102	78 - 110	103	77 - 114	99	77 - 110
8999791	104	74 - 113	95	78 - 110	108	77 - 114	101	77 - 110
8999792	113	74 - 113	94	78 - 110	108	77 - 114	100	77 - 110
8999798	104	74 - 113	94	78 - 110	103	77 - 114	105	77 - 110
8999799	112	74 - 113	93	78 - 110	111	77 - 114	98	77 - 110

H171452AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKH07	100	74 - 113	94	78 - 110	107	77 - 114	101	77 - 110
LCSH07	105	74 - 113	102	78 - 110	106	77 - 114	99	77 - 110
LCDH07	103	74 - 113	102	78 - 110	103	77 - 114	101	77 - 110
8999793	110	74 - 113	93	78 - 110	109	77 - 114	99	77 - 110
8999794	112	74 - 113	93	78 - 110	111	77 - 114	99	77 - 110
8999795	107	74 - 113	93	78 - 110	108	77 - 114	102	77 - 110
8999796	102	74 - 113	91	78 - 110	106	77 - 114	100	77 - 110
8999797	106	74 - 113	93	78 - 110	109	77 - 114	102	77 - 110

H171461AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l	Spike Added	10 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKH11	106	74 - 113	93	78 - 110	106	77 - 114	102	77 - 110
LCSH11	107	74 - 113	101	78 - 110	106	77 - 114	99	77 - 110
LCDH11	101	74 - 113	103	78 - 110	103	77 - 114	100	77 - 110

L171431AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
VBLKL17	99	77 - 113	100	78 - 113	97	80 - 116	100	80 - 113
LCSL17	100	77 - 113	102	78 - 113	98	80 - 116	101	80 - 113
8999785	101	77 - 113	99	78 - 113	99	80 - 116	98	80 - 113
8999786	100	77 - 113	98	78 - 113	98	80 - 116	100	80 - 113
8999787	100	77 - 113	98	78 - 113	98	80 - 116	99	80 - 113

Quality Control Summary
Surrogates
GC/MS Volatiles
SDG: RAE85
Matrix: LIQUID

Fraction: Volatiles by GC/MS

L171431AA	1,2-Dichloroethane-d4		4-Bromofluorobenzene		Dibromofluoromethane		Toluene-d8	
	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l	Spike Added	50 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
8999788 UNSPK	99	77 - 113	98	78 - 113	98	80 - 116	99	80 - 113
8999789 MS	98	77 - 113	100	78 - 113	98	80 - 116	100	80 - 113
8999790 MSD	99	77 - 113	100	78 - 113	97	80 - 116	101	80 - 113
8999791	100	77 - 113	99	78 - 113	98	80 - 116	100	80 - 113
8999792	102	77 - 113	99	78 - 113	99	80 - 116	98	80 - 113

GC/MS Volatiles

Fraction: Volatiles by GC/MS

UNSPK: 8999788 MS: 8999789 MSD: 8999790 **Analyte**	Batch: **H171451AA** (Sample number(s): 8999785-8999792, 8999798-8999799)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Dichlorodifluoromethane	5.00	N.D.	5.88	5.79	118	116	26-144	2	30
Chloromethane	5.00	N.D.	6.05	6.03	121	121	55-126	0	30
Vinyl Chloride	5.00	N.D.	6.73	6.46	135 *	129 *	62-128	4	30
Bromomethane	5.00	N.D.	6.33	6.68	127 *	134 *	64-125	5	30
Chloroethane	5.00	1.23	7.55	8.21	126 *	140 *	63-125	8	30
Trichlorofluoromethane	5.00	N.D.	6.55	6.42	131	128	65-134	2	30
Acrolein	37.5	N.D.	23.55	23.05	63	61	39-141	2	30
1,1-Dichloroethene	5.00	N.D.	6.42	6.38	128 *	128 *	76-120	1	30
Freon 113	5.00	N.D.	6.64	6.70	133 *	134 *	75-120	1	30
Acetone	37.5	N.D.	40.67	38.83	108	104	60-133	5	30
Methyl Iodide	5.00	N.D.	5.96	5.98	119	120	70-120	0	30
Carbon Disulfide	5.00	N.D.	6.87	6.81	137 *	136 *	62-127	1	30
Acetonitrile	37.5	N.D.	38.53	43.18	103	115	50-170	11	30
Allyl Chloride	5.00	N.D.	6.23	6.28	125 *	126 *	68-120	1	30
Methylene Chloride	5.00	N.D.	6.14	6.15	123 *	123 *	80-120	0	30
Acrylonitrile	25	N.D.	25.8	25.19	103	101	63-141	2	30
trans-1,2-Dichloroethene	5.00	N.D.	6.35	6.23	127 *	125 *	80-120	2	30
1,1-Dichloroethane	5.00	3.79	9.92	9.80	122 *	120	80-120	1	30
Vinyl Acetate	12.5	N.D.	12.84	12.82	103	103	55-129	0	30
2-Chloro-1,3-butadiene	5.00	N.D.	6.28	6.20	126 *	124 *	75-122	1	30
2-Butanone	37.5	N.D.	34.05	33.99	91	91	57-144	0	30
Propionitrile	37.5	N.D.	37.88	40.56	101	108	75-139	7	30
Methacrylonitrile	37.5	N.D.	32.94	32.36	88	86	46-160	2	30
Tetrahydrofuran	25	N.D.	23.64	24.21	95	97	55-138	2	30
Chloroform	5.00	N.D.	5.93	5.92	119	118	80-120	0	30
1,1,1-Trichloroethane	5.00	N.D.	5.97	5.95	119	119	79-120	0	30
Carbon Tetrachloride	5.00	N.D.	6.41	6.31	128	126	76-129	2	30
Isobutyl Alcohol	125	N.D.	152.7	148.79	122	119	71-140	3	30
Benzene	5.00	0.185	6.28	6.20	122 *	120	80-120	1	30
1,2-Dichloroethane	5.00	N.D.	5.97	6.03	119	121	72-127	1	30
Trichloroethene	5.00	N.D.	6.02	5.96	120	119	80-120	1	30
1,2-Dichloropropane	5.00	N.D.	6.09	6.04	122 *	121 *	80-120	1	30
Dibromomethane	5.00	N.D.	6.15	6.05	123 *	121	80-122	2	30
Methyl Methacrylate	5.00	N.D.	4.35	4.50	87	90	38-156	3	30
1,4-Dioxane	125	N.D.	173.67	175.52	139	140	47-174	1	30
Bromodichloromethane	5.00	N.D.	6.08	6.04	122	121	80-125	1	30
4-Methyl-2-pentanone	25	N.D.	21.11	20.86	84	83	65-135	1	30
Toluene	5.00	N.D.	5.93	5.93	119	119	80-120	0	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Volatiles

Fraction: Volatiles by GC/MS

UNSPK: 8999788 MS: 8999789 MSD: 8999790 **Analyte**	Batch: **H171451AA** (Sample number(s): 8999785-8999792, 8999798-8999799)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
trans-1,3-Dichloropropene	5.00	N.D.	5.77	6.02	115	120	77-121	4	30
Ethyl Methacrylate	5.00	N.D.	5.76	5.85	115	117	75-121	2	30
1,1,2-Trichloroethane	5.00	N.D.	5.87	5.90	117	118	80-120	1	30
Tetrachloroethene	5.00	0.159	6.15	5.97	120	116	80-120	3	30
1,3-Dichloropropane	5.00	N.D.	5.67	5.81	113	116	80-120	2	30
2-Hexanone	25	N.D.	20.11	20.06	80	80	61-138	0	30
Dibromochloromethane	5.00	N.D.	5.77	5.80	115	116	78-127	0	30
1,2-Dibromoethane	5.00	N.D.	5.46	5.65	109	113	80-120	3	30
1,1,1,2-Tetrachloroethane	5.00	N.D.	5.73	5.76	115	115	80-120	1	30
Ethylbenzene	5.00	N.D.	5.86	5.89	117	118	80-120	1	30
Xylene (Total)	15	N.D.	18.1	18.01	121 *	120	80-120	0	30
Styrene	5.00	N.D.	6.16	6.11	123 *	122 *	80-120	1	30
Bromoform	5.00	N.D.	5.87	5.89	117	118	62-128	0	30
1,1,2,2-Tetrachloroethane	5.00	N.D.	5.50	5.51	110	110	75-123	0	30
trans-1,4-Dichloro-2-butene	25	N.D.	18.4	17.66	74	71	10-176	4	30
1,2,3-Trichloropropane	5.00	N.D.	5.53	5.40	111	108	80-125	2	30
Pentachloroethane	5.00	N.D.	6.03	6.06	121	121	78-122	0	30
1,3-Dichlorobenzene	5.00	N.D.	5.52	5.46	110	109	80-120	1	30
1,4-Dichlorobenzene	5.00	N.D.	5.30	5.29	106	106	80-120	0	30
1,2-Dichlorobenzene	5.00	N.D.	5.42	5.35	108	107	80-120	1	30
1,2-Dibromo-3-chloropropane	5.00	N.D.	4.20	4.39	84	88	47-153	4	30
1,2,4-Trichlorobenzene	5.00	N.D.	4.29	4.34	86	87	67-120	1	30
Hexachlorobutadiene	5.00	N.D.	5.04	4.89	101	98	74-120	3	30
Naphthalene	5.00	N.D.	3.91	4.25	78	85	65-131	8	30
Hexachloroethane	5.00	N.D.	5.39	5.30	108	106	62-126	2	30
Dimethyl ether	5.00	1.58	6.62	6.51	101	98	70-130	2	30

UNSPK: 8999788 MS: 8999789 MSD: 8999790 **Analyte**	Batch: **L171431AA** (Sample number(s): 8999785-8999792)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
2-Propanol	150	N.D.	119.99	119.6	80	80	53-134	0	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: RAE85
Matrix: LIQUID

GC/MS Volatiles

Fraction: Volatiles by GC/MS

LCS: LCSH05	Batch: **H171451AA** (Sample number(s): 8999785-8999792, 8999798-8999799)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Dichlorodifluoromethane	5.00	4.86	NA	97	NA	26-144	NA	NA
Chloromethane	5.00	5.19	NA	104	NA	55-126	NA	NA
Vinyl Chloride	5.00	5.24	NA	105	NA	62-128	NA	NA
Bromomethane	5.00	5.76	NA	115	NA	64-125	NA	NA
Chloroethane	5.00	5.72	NA	114	NA	63-125	NA	NA
Trichlorofluoromethane	5.00	5.26	NA	105	NA	65-134	NA	NA
Ethyl ether	5.00	4.97	NA	99	NA	71-120	NA	NA
Acrolein	37.5	23.71	NA	63	NA	39-141	NA	NA
1,1-Dichloroethene	5.00	5.32	NA	106	NA	76-120	NA	NA
Freon 113	5.00	5.52	NA	110	NA	75-120	NA	NA
Acetone	37.5	37.83	NA	101	NA	60-133	NA	NA
Methyl Iodide	5.00	5.28	NA	106	NA	70-120	NA	NA
Carbon Disulfide	5.00	5.78	NA	116	NA	62-127	NA	NA
Allyl Chloride	5.00	5.19	NA	104	NA	68-120	NA	NA
Methylene Chloride	5.00	5.62	NA	112	NA	80-120	NA	NA
Acrylonitrile	25	24.65	NA	99	NA	63-141	NA	NA
trans-1,2-Dichloroethene	5.00	5.56	NA	111	NA	80-120	NA	NA
1,1-Dichloroethane	5.00	5.49	NA	110	NA	80-120	NA	NA
2-Chloro-1,3-butadiene	5.00	5.35	NA	107	NA	75-122	NA	NA
2-Butanone	37.5	33.06	NA	88	NA	57-144	NA	NA
Propionitrile	37.5	39.11	NA	104	NA	75-139	NA	NA
Methacrylonitrile	37.5	31.23	NA	83	NA	46-160	NA	NA
Tetrahydrofuran	25	21.15	NA	85	NA	55-138	NA	NA
Chloroform	5.00	5.28	NA	106	NA	80-120	NA	NA
1,1,1-Trichloroethane	5.00	5.11	NA	102	NA	79-120	NA	NA
Carbon Tetrachloride	5.00	5.36	NA	107	NA	76-129	NA	NA
Isobutyl Alcohol	125	138.25	NA	111	NA	71-140	NA	NA
Benzene	5.00	5.36	NA	107	NA	80-120	NA	NA
1,2-Dichloroethane	5.00	5.36	NA	107	NA	72-127	NA	NA
Trichloroethene	5.00	5.13	NA	103	NA	80-120	NA	NA
1,2-Dichloropropane	5.00	5.50	NA	110	NA	80-120	NA	NA
Dibromomethane	5.00	5.63	NA	113	NA	80-122	NA	NA
Methyl Methacrylate	5.00	4.21	NA	84	NA	38-156	NA	NA
1,4-Dioxane	125	135.91	NA	109	NA	47-174	NA	NA
Bromodichloromethane	5.00	5.60	NA	112	NA	80-125	NA	NA
4-Methyl-2-pentanone	25	20.38	NA	82	NA	65-135	NA	NA
Toluene	5.00	5.29	NA	106	NA	80-120	NA	NA
trans-1,3-Dichloropropene	5.00	5.46	NA	109	NA	77-121	NA	NA
Ethyl Methacrylate	5.00	5.43	NA	109	NA	75-121	NA	NA
1,1,2-Trichloroethane	5.00	5.58	NA	112	NA	80-120	NA	NA
Tetrachloroethene	5.00	5.12	NA	102	NA	80-120	NA	NA
1,3-Dichloropropane	5.00	5.27	NA	105	NA	80-120	NA	NA

GC/MS Volatiles

Fraction: Volatiles by GC/MS

LCS: LCSH05	Batch: **H171451AA** (Sample number(s): 8999785-8999792, 8999798-8999799)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
2-Hexanone	25	18.36	NA	73	NA	61-138	NA	NA
Dibromochloromethane	5.00	5.68	NA	114	NA	78-127	NA	NA
1,2-Dibromoethane	5.00	5.29	NA	106	NA	80-120	NA	NA
1,1,1,2-Tetrachloroethane	5.00	5.38	NA	108	NA	80-120	NA	NA
Ethylbenzene	5.00	5.22	NA	104	NA	80-120	NA	NA
Xylene (Total)	15	16.09	NA	107	NA	80-120	NA	NA
Styrene	5.00	5.58	NA	112	NA	80-120	NA	NA
Bromoform	5.00	5.80	NA	116	NA	62-128	NA	NA
1,1,2,2-Tetrachloroethane	5.00	5.16	NA	103	NA	75-123	NA	NA
trans-1,4-Dichloro-2-butene	25	16.93	NA	68	NA	10-176	NA	NA
1,2,3-Trichloropropane	5.00	4.97	NA	99	NA	80-125	NA	NA
Pentachloroethane	5.00	5.29	NA	106	NA	78-122	NA	NA
1,3-Dichlorobenzene	5.00	5.02	NA	100	NA	80-120	NA	NA
1,4-Dichlorobenzene	5.00	4.72	NA	94	NA	80-120	NA	NA
1,2-Dichlorobenzene	5.00	5.00	NA	100	NA	80-120	NA	NA
1,2-Dibromo-3-chloropropane	5.00	4.10	NA	82	NA	47-153	NA	NA
1,2,4-Trichlorobenzene	5.00	3.92	NA	78	NA	67-120	NA	NA
Hexachlorobutadiene	5.00	4.25	NA	85	NA	74-120	NA	NA
Naphthalene	5.00	3.61	NA	72	NA	65-131	NA	NA

LCS: LCSH06	Batch: **H171451AA** (Sample number(s): 8999785-8999792, 8999798-8999799)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Acetonitrile	37.5	41.39	NA	110	NA	50-170	NA	NA
Vinyl Acetate	12.5	11.94	NA	96	NA	55-129	NA	NA
Hexachloroethane	5.00	4.97	NA	99	NA	62-126	NA	NA
Dimethyl ether	5.00	4.63	NA	93	NA	70-130	NA	NA

LCS: LCSH07 LCSD: LCDH07	Batch: **H171452AA** (Sample number(s): 8999793-8999797)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Dichlorodifluoromethane	5.00	4.86	4.76	97	95	26-144	2	30
Chloromethane	5.00	5.19	5.05	104	101	55-126	3	30
Chloroethane	5.00	5.72	4.55	114	91	63-125	23	30
Trichlorofluoromethane	5.00	5.26	5.14	105	103	65-134	2	30
Ethyl ether	5.00	4.97	4.97	99	99	71-120	0	30
1,1-Dichloroethene	5.00	5.32	5.22	106	104	76-120	2	30
Freon 113	5.00	5.52	5.43	110	109	75-120	2	30
Methylene Chloride	5.00	5.62	5.45	112	109	80-120	3	30
1,1-Dichloroethane	5.00	5.49	5.40	110	108	80-120	1	30

GC/MS Volatiles

Fraction: Volatiles by GC/MS

LCS: LCSH07 LCSD: LCDH07	Batch: **H171452AA** (Sample number(s): 8999793-8999797)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
2-Butanone	37.5	32.84	38.46	88	103	57-144	16	30
Tetrahydrofuran	25	21.01	25.03	84	100	55-138	17	30
1,1,1-Trichloroethane	5.00	5.11	5.11	102	102	79-120	0	30
Carbon Tetrachloride	5.00	5.36	5.38	107	108	76-129	0	30
Benzene	5.00	5.36	5.28	107	106	80-120	1	30
Trichloroethene	5.00	5.13	5.12	103	102	80-120	0	30
Toluene	5.00	5.29	5.28	106	106	80-120	0	30
Tetrachloroethene	5.00	5.12	5.15	102	103	80-120	0	30
Ethylbenzene	5.00	5.22	5.29	104	106	80-120	1	30
Xylene (Total)	15	16.09	16.04	107	107	80-120	0	30

LCS: LCSH08 LCSD: LCDH08	Batch: **H171452AA** (Sample number(s): 8999793-8999797)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Dimethyl ether	5.00	4.63	4.68	93	94	70-130	1	30

LCS: LCSH11 LCSD: LCDH11	Batch: **H171461AA** (Sample number(s): 8999785, 8999787)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Ethyl ether	5.00	5.00	4.96	100	99	71-120	1	30

LCS: LCSL17	Batch: **L171431AA** (Sample number(s): 8999785-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
2-Propanol	150	112.68	NA	75	NA	53-134	NA	NA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: la26t01.d BFB Injection Date: 04/26/17

Instrument ID: HP09915 BFB Injection Time: 12:45

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.10
75	30.0 - 60.0% of mass 95	44.97
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.79
173	Less than 2.0% of mass 174	0.49 (0.54)1
174	Greater than 50.0% of mass 95	90.09
175	5.0 - 9.0% of mass 174	6.12 (6.79)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.74 (96.29)1
177	5.0 - 9.0% of mass 176	5.56 (6.41)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD300	la26i01.d	04/26/17	13:20
02	VSTD100	la26i02.d	04/26/17	13:42
03	VSTD50	la26i03.d	04/26/17	14:04
04	VSTD20	la26i04.d	04/26/17	14:26
05	VSTD10	la26i05.d	04/26/17	14:48
06	VSTD4	la26i06.d	04/26/17	15:10
07	VSTD1	la26i07.d	04/26/17	15:32
08	MDL0.5 - MDL0.5	la26m01.d	04/26/17	15:54
09	VBLKL48	la26b31.d	04/26/17	17:03
10	LCSL46	la26s01.d	04/26/17	17:25
11	LCSL48	la26s31.d	04/26/17	17:25
12	ACRICV	la26s01a.d	04/26/17	18:34
13	8944378	la26s32.d	04/26/17	19:15
14	8944379	la26s33.d	04/26/17	19:37
15	8947184	la26s34.d	04/26/17	19:59
16	8944352	la26s35.d	04/26/17	20:21
17	8944353MS	la26s36.d	04/26/17	20:43
18	8944354MSD	la26s37.d	04/26/17	21:05
19	8944360	la26s38.d	04/26/17	21:27
20	8944366	la26s39.d	04/26/17	21:49
21	8944368	la26s40.d	04/26/17	22:11
22	8944370	la26s41.d	04/26/17	22:33

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: la26t01.d BFB Injection Date: 04/26/17

Instrument ID: HP09915 BFB Injection Time: 12:45

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.10
75	30.0 - 60.0% of mass 95	44.97
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.79
173	Less than 2.0% of mass 174	0.49 (0.54)1
174	Greater than 50.0% of mass 95	90.09
175	5.0 - 9.0% of mass 174	6.12 (6.79)1
176	Greater than 95.0%, but less than 101.0% of mass 174	86.74 (96.29)1
177	5.0 - 9.0% of mass 176	5.56 (6.41)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8947174	la26s42.d	04/26/17	22:55
24	8947180	la26s43.d	04/26/17	23:17
25	SECC050	la26ec1.d	04/26/17	23:38

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: ly23t01.d BFB Injection Date: 05/23/17

Instrument ID: HP09915 BFB Injection Time: 08:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.88
75	30.0 - 60.0% of mass 95	44.91
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.06
173	Less than 2.0% of mass 174	0.54 (0.63)1
174	Greater than 50.0% of mass 95	85.11
175	5.0 - 9.0% of mass 174	6.22 (7.31)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.73 (97.20)1
177	5.0 - 9.0% of mass 176	5.37 (6.49)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD50	ly23c01.d	05/23/17	09:10
02	LCSL17	ly23s01.d	05/23/17	09:32
03	VBLKL17	ly23b01.d	05/23/17	09:54
04	8996725	ly23s02.d	05/23/17	10:32
05	8999397	ly23s03.d	05/23/17	10:54
06	9000612	ly23s04.d	05/23/17	11:16
07	9000613	ly23s05.d	05/23/17	11:37
08	9001163	ly23s06.d	05/23/17	11:59
09	9001164	ly23s07.d	05/23/17	12:21
10	8999785	ly23s08.d	05/23/17	12:43
11	8999786	ly23s09.d	05/23/17	13:05
12	8999787	ly23s10.d	05/23/17	13:27
13	8999788	ly23s11.d	05/23/17	13:49
14	8999789MS	ly23s12.d	05/23/17	14:11
15	8999790MSD	ly23s13.d	05/23/17	14:33
16	8999791	ly23s14.d	05/23/17	14:55
17	8999792	ly23s15.d	05/23/17	15:17
18	9000098	ly23s16.d	05/23/17	15:39
19	9000098DL	ly23s17.d	05/23/17	16:01
20	9000099	ly23s18.d	05/23/17	16:22
21	9000100	ly23s19.d	05/23/17	16:44
22	9000101	ly23s20.d	05/23/17	17:06

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: ly23t01.d BFB Injection Date: 05/23/17

Instrument ID: HP09915 BFB Injection Time: 08:29

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	16.88
75	30.0 - 60.0% of mass 95	44.91
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.06
173	Less than 2.0% of mass 174	0.54 (0.63)1
174	Greater than 50.0% of mass 95	85.11
175	5.0 - 9.0% of mass 174	6.22 (7.31)1
176	Greater than 95.0%, but less than 101.0% of mass 174	82.73 (97.20)1
177	5.0 - 9.0% of mass 176	5.37 (6.49)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	9000102	ly23s21.d	05/23/17	17:28

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: ha19t01.d BFB Injection Date: 04/19/17

Instrument ID: HP19094 BFB Injection Time: 11:06

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.19
75	30.0 - 60.0% of mass 95	48.18
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.59
173	Less than 2.0% of mass 174	1.43 (1.70)1
174	Greater than 50.0% of mass 95	84.20
175	5.0 - 9.0% of mass 174	6.43 (7.64)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.40 (100.241
177	5.0 - 9.0% of mass 176	5.99 (7.09)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD25	ha19i01.d	04/19/17	11:58
02	VSTD10	ha19i02.d	04/19/17	12:18
03	VSTD5	ha19i03.d	04/19/17	12:39
04	VSTD2	ha19i04.d	04/19/17	12:59
05	VSTD1	ha19i05.d	04/19/17	13:19
06	VSTD.5	ha19i06.d	04/19/17	13:40
07	VSTD.2	ha19i07.d	04/19/17	14:00
08	MDL0.1 - MDL0.1	ha19m01.d	04/19/17	14:21
09	MDL0.4 - MDL0.4	ha19m02.d	04/19/17	14:41
10	LCSHLG	ha19v01.d	04/19/17	15:01
11	VSTD25	ha19i11.d	04/19/17	16:03
12	VSTD10	ha19i12.d	04/19/17	16:23
13	VSTD5	ha19i13.d	04/19/17	16:43
14	VSTD2	ha19i14.d	04/19/17	17:03
15	VSTD1	ha19i15.d	04/19/17	17:24
16	VSTD.5	ha19i16.d	04/19/17	17:44
17	VSTD.2	ha19i17.d	04/19/17	18:05
18	MDL0.1 - MDL0.1	ha19m11.d	04/19/17	18:25
19	LCSHSM	ha19v11.d	04/19/17	18:45
20	LCDHSM	ha19v12.d	04/19/17	19:06
21	VBLK99	ha19b01.d	04/19/17	19:52
22	8929590	ha19s07.d	04/19/17	20:26

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: ha19t01.d BFB Injection Date: 04/19/17

Instrument ID: HP19094 BFB Injection Time: 11:06

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.19
75	30.0 - 60.0% of mass 95	48.18
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.59
173	Less than 2.0% of mass 174	1.43 (1.70)1
174	Greater than 50.0% of mass 95	84.20
175	5.0 - 9.0% of mass 174	6.43 (7.64)1
176	Greater than 95.0%, but less than 101.0% of mass 174	84.40 (100.241
177	5.0 - 9.0% of mass 176	5.99 (7.09)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8929590MS	ha19s19.d	04/19/17	20:46
24	8929590MSD	ha19s18.d	04/19/17	21:07
25	8929588	ha19s04.d	04/19/17	21:47
26	8929589	ha19s05.d	04/19/17	22:08
27	8929612	ha19s06.d	04/19/17	22:28

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: hy25t01.d BFB Injection Date: 05/25/17

Instrument ID: HP19094 BFB Injection Time: 10:20

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.50
75	30.0 - 60.0% of mass 95	48.32
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.21
173	Less than 2.0% of mass 174	1.05 (1.24)1
174	Greater than 50.0% of mass 95	84.10
175	5.0 - 9.0% of mass 174	6.56 (7.80)1
176	Greater than 95.0%, but less than 101.0% of mass 174	81.42 (96.82)1
177	5.0 - 9.0% of mass 176	4.72 (5.80)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD25	hy25i01.d	05/25/17	11:03
02	VSTD10	hy25i02.d	05/25/17	11:24
03	VSTD5	hy25i03.d	05/25/17	11:44
04	VSTD2	hy25i04.d	05/25/17	12:04
05	VSTD1	hy25i05.d	05/25/17	12:25
06	VSTD.5	hy25i06.d	05/25/17	12:45
07	VSTD.2	hy25i07.d	05/25/17	13:05
08	MDL0.1 - MDL0.1	hy25m01.d	05/25/17	13:26
09	LCSHSM	hy25v01.d	05/25/17	15:09

FORM V VOA

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: hy25t05.d BFB Injection Date: 05/25/17

Instrument ID: HP19094 BFB Injection Time: 17:03

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.43
75	30.0 - 60.0% of mass 95	47.25
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.32
173	Less than 2.0% of mass 174	1.56 (1.81)1
174	Greater than 50.0% of mass 95	86.16
175	5.0 - 9.0% of mass 174	6.79 (7.89)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.11 (96.46)1
177	5.0 - 9.0% of mass 176	5.11 (6.14)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD10	hy25c05.d	05/25/17	17:45
02	VSTD10	hy25c06.d	05/25/17	18:06
03	LCSH05	hy25s01.d	05/25/17	18:26
04	LCSH07	hy25s31.d	05/25/17	18:26
05	LCSH09	hy25s61.d	05/25/17	18:26
06	LCDH07	hy25s32.d	05/25/17	18:46
07	LCDH09	hy25s62.d	05/25/17	18:46
08	MDLH05 - MDLH05	hy25m05.d	05/25/17	19:07
09	LCSH06	hy25s02.d	05/25/17	19:27
10	LCSH08	hy25s33.d	05/25/17	19:27
11	LCSH10	hy25s63.d	05/25/17	19:27
12	LCDH08	hy25s34.d	05/25/17	19:47
13	LCDH10	hy25s64.d	05/25/17	19:47
14	VBLKH05	hy25b05.d	05/25/17	20:08
15	VBLKH07	hy25b10.d	05/25/17	20:08
16	VBLKH09	hy25b15.d	05/25/17	20:08
17	8999798	hy25s03.d	05/25/17	20:42
18	8999799	hy25s04.d	05/25/17	21:02
19	8999788	hy25s05.d	05/25/17	21:22
20	8999789MS	hy25s06.d	05/25/17	21:42
21	8999790MSD	hy25s07.d	05/25/17	22:03
22	8999789MS1	hy25s08.d	05/25/17	22:23

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: hy25t05.d BFB Injection Date: 05/25/17

Instrument ID: HP19094 BFB Injection Time: 17:03

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.43
75	30.0 - 60.0% of mass 95	47.25
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.32
173	Less than 2.0% of mass 174	1.56 (1.81)1
174	Greater than 50.0% of mass 95	86.16
175	5.0 - 9.0% of mass 174	6.79 (7.89)1
176	Greater than 95.0%, but less than 101.0% of mass 174	83.11 (96.46)1
177	5.0 - 9.0% of mass 176	5.11 (6.14)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	8999790MSD1	hy25s09.d	05/25/17	22:43
24	8999788DL	hy25s15.d	05/25/17	23:03
25	8999785	hy25s10.d	05/25/17	23:24
26	8999786	hy25s11.d	05/25/17	23:44
27	8999787	hy25s12.d	05/26/17	00:05
28	8999791	hy25s13.d	05/26/17	00:25
29	8999792	hy25s14.d	05/26/17	00:45
30	8999793	hy25s35.d	05/26/17	01:06
31	8999794	hy25s36.d	05/26/17	01:26
32	8999795	hy25s37.d	05/26/17	01:46
33	8999796	hy25s38.d	05/26/17	02:06
34	8999797	hy25s39.d	05/26/17	02:27
35	8999425	hy25s65.d	05/26/17	02:47
36	8996419DL	hy25s66.d	05/26/17	03:08
37	8999422DL	hy25s67.d	05/26/17	03:28

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: hy26t02.d BFB Injection Date: 05/26/17

Instrument ID: HP19094 BFB Injection Time: 08:11

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.71
75	30.0 - 60.0% of mass 95	46.02
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.10
173	Less than 2.0% of mass 174	1.10 (1.38)1
174	Greater than 50.0% of mass 95	79.99
175	5.0 - 9.0% of mass 174	6.52 (8.15)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.76 (99.71)1
177	5.0 - 9.0% of mass 176	5.77 (7.23)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD10	hy26c01.d	05/26/17	08:55
02	VSTD10	hy26c02.d	05/26/17	09:15
03	LCSH11	hy26l01.d	05/26/17	09:35
04	LCSH13	hy26l01a.d	05/26/17	09:35
05	LCSH15	hy26l01b.d	05/26/17	09:35
06	LCDH11	hy26l02.d	05/26/17	09:55
07	LCDH13	hy26l02a.d	05/26/17	09:55
08	LCDH15	hy26l02b.d	05/26/17	09:55
09	MDLH11 - MDLH11	hy26m01.d	05/26/17	10:16
10	LCSH12	hy26l03.d	05/26/17	10:36
11	LCSH14	hy26l03a.d	05/26/17	10:36
12	LCDH12	hy26l04.d	05/26/17	10:56
13	LCDH14	hy26l04a.d	05/26/17	10:56
14	VBLKH11	hy26b01.d	05/26/17	11:17
15	VBLKH13	hy26b01a.d	05/26/17	11:17
16	VBLKH15	hy26b01b.d	05/26/17	11:17
17	8999422	hy26s21.d	05/26/17	12:37
18	9000077	hy26s31.d	05/26/17	13:18
19	9002895	hy26s32.d	05/26/17	13:38
20	9000056	hy26s33.d	05/26/17	13:58
21	9000058DL2	hy26s34.d	05/26/17	14:19
22	9000059	hy26s35.d	05/26/17	14:39

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID: hy26t02.d BFB Injection Date: 05/26/17

Instrument ID: HP19094 BFB Injection Time: 08:11

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.71
75	30.0 - 60.0% of mass 95	46.02
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.10
173	Less than 2.0% of mass 174	1.10 (1.38)1
174	Greater than 50.0% of mass 95	79.99
175	5.0 - 9.0% of mass 174	6.52 (8.15)1
176	Greater than 95.0%, but less than 101.0% of mass 174	79.76 (99.71)1
177	5.0 - 9.0% of mass 176	5.77 (7.23)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
23	9000064	hy26s37.d	05/26/17	15:20
24	9002896	hy26s38.d	05/26/17	15:41
25	8999785DL	hy26s03.d	05/26/17	16:01
26	8999787DL	hy26s04.d	05/26/17	16:21
27	9000075	hy26s39.d	05/26/17	16:41
28	9000076	hy26s40.d	05/26/17	17:02
29	9002897	hy26s41.d	05/26/17	17:22
30	9002898	hy26s42.d	05/26/17	17:43
31	9002899	hy26s43.d	05/26/17	18:03
32	9002900	hy26s44.d	05/26/17	18:24
33	9002900DL	hy26s45.d	05/26/17	18:44

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date(s): 04/26/17 04/26/17

Heated Purge: (Y/N) Y Calibration Times: 13:20 15:32

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = la26i07.d RRF 4 = la26i06.d RRF 10= la26i05.d
RRF 20= la26i04.d RRF 50= la26i03.d RRF100= la26i02.d RRF300= la26i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD	
Dichlorodifluoromethane	#0.2475	0.3109	0.2816	0.2855	0.3296	0.3182	0.3116	0.2979	9	AVG	#
Chloromethane	#0.2728	0.3009	0.2971	0.3105	0.3299	0.3276	0.3031	0.3060	6	AVG	#
1,3-Butadiene	0.1870	0.2029	0.1572	0.1857	0.1788	0.1756	0.1743	0.1802	8	AVG	
Vinyl Chloride	#0.2596	0.2956	0.2812	0.2907	0.3269	0.3169	0.2974	0.2955	8	AVG	#
Bromomethane	#0.1784	0.1942	0.1974	0.1985	0.2158	0.2102	0.1966	0.1987	6	AVG	#
Chloroethane	#0.1512	0.1679	0.1637	0.1665	0.1796	0.1749	0.1619	0.1665	6	AVG	#
Dichlorofluoromethane	0.3565	0.4027	0.3929	0.4138	0.4398	0.4365	0.4009	0.4062	7	AVG	
n-Pentane	0.2779	0.3107	0.2558	0.2941	0.2818	0.2797	0.2725	0.2818	6	AVG	
Trichlorofluoromethane	#0.2818	0.3506	0.3242	0.3264	0.3829	0.3708	0.3584	0.3422	10	AVG	#
Ethyl ether	0.1717	0.1900	0.1802	0.1983	0.2030	0.1997	0.1904	0.1905	6	AVG	
Freon 123a	0.2093	0.2464	0.2048	0.2441	0.2326	0.2304	0.2276	0.2279	7	AVG	
Acrolein	1.6997	1.7547	2.0438	2.0158	2.1800	2.3475	2.2840	2.0465	12	AVG	
1,1-Dichloroethene	#0.1731	0.1915	0.1632	0.1881	0.1862	0.1822	0.1833	0.1811	5	AVG	#
1,1-Dichloroethene(2)	#0.0849	0.0966	0.0823	0.0976	0.0939	0.0935	0.0931	0.0917	6	AVG	#<-
Acetone	#0.7871	0.8113	0.9514	0.8091	0.9410	0.9228	0.9949	0.8882	9	AVG	#
Freon 113	#0.1559	0.1939	0.1621	0.1954	0.1881	0.1902	0.1903	0.1823	9	AVG	#
2-Propanol	0.6182	0.6115	0.5764	0.6050	0.5447	0.5811	0.5848	0.5888	4	AVG	
Methyl Iodide	0.3218	0.3593	0.3218	0.3715	0.3659	0.3574	0.3612	0.3513	6	AVG	
Carbon Disulfide	#0.5351	0.6016	0.5236	0.6223	0.6181	0.6105	0.6139	0.5893	7	AVG	#
Allyl Chloride	0.3475	0.3734	0.3447	0.3759	0.3727	0.3634	0.3616	0.3627	3	AVG	
Methyl Acetate	#0.2908	0.2561	0.2535	0.2717	0.2645	0.2509	0.2524	0.2628	5	AVG	#
Methylene Chloride	#0.2903	0.2500	0.2150	0.2388	0.2329	0.2250	0.2226	0.2392	11	AVG	#
t-Butyl alcohol	1.0273	0.9259	0.9637	0.9834	0.9700	0.9707	0.9301	0.9673	4	AVG	
Acrylonitrile	0.1150	0.1324	0.1390	0.1386	0.1542	0.1476	0.1394	0.1380	9	AVG	
trans-1,2-Dichloroethene	#0.1880	0.2213	0.1984	0.2258	0.2203	0.2168	0.2167	0.2125	7	AVG	#
Methyl Tertiary Butyl Ether	#0.6379	0.6679	0.6247	0.7026	0.6961	0.6730	0.6419	0.6634	4	AVG	#
n-Hexane	0.2805	0.3406	0.3182	0.3412	0.3308	0.3375	0.3312	0.3257	7	AVG	
1,1-Dichloroethane	#0.3662	0.4103	0.3686	0.4216	0.4181	0.4088	0.4012	0.3993	6	AVG	#
di-Isopropyl ether	0.7192	0.7694	0.7224	0.8149	0.8086	0.7840	0.7457	0.7663	5	AVG	
2-Chloro-1,3-butadiene	0.2922	0.3422	0.3064	0.3592	0.3555	0.3527	0.3492	0.3368	8	AVG	
Ethyl t-butyl ether	0.6073	0.6490	0.6229	0.7065	0.7083	0.6819	0.6404	0.6595	6	AVG	
cis-1,2-Dichloroethene	#0.2327	0.2468	0.2228	0.2546	0.2536	0.2482	0.2457	0.2435	5	AVG	#
2-Butanone	#0.1686	0.1714	0.1875	0.1858	0.2021	0.1923	0.1859	0.1848	6	AVG	#
2,2-Dichloropropane	0.2099	0.2545	0.2401	0.2836	0.2893	0.2940	0.2945	0.2666	12	AVG	
Propionitrile	1.3266	1.3235	1.3715	1.3990	1.4565	1.5001	1.5052	1.4118	5	AVG	
Methacrylonitrile	0.1279	0.1312	0.1333	0.1469	0.1449	0.1412	0.1379	0.1376	5	AVG	
Bromochloromethane	0.1202	0.1246	0.1239	0.1349	0.1321	0.1301	0.1324	0.1283	4	AVG	
Tetrahydrofuran	1.0421	1.0386	1.2419	1.1297	1.3657	1.4221	1.4886	1.2470	15	AVG	
Chloroform	#0.3575	0.3896	0.3506	0.4000	0.3966	0.3873	0.3822	0.3805	5	AVG	#
1,1,1-Trichloroethane	#0.3319	0.3922	0.3194	0.3655	0.3422	0.3419	0.3412	0.3478	7	AVG	#
Cyclohexane	#0.3470	0.4113	0.3645	0.4180	0.4101	0.4134	0.4075	0.3959	7	AVG	#
Cyclohexane(2)	#0.2687	0.3423	0.2971	0.3432	0.3342	0.3422	0.3382	0.3237	9	AVG	#
Cyclohexane(3)	#0.0964	0.1208	0.1042	0.1221	0.1184	0.1210	0.1205	0.1148	9	AVG	#
1,1-Dichloropropene	0.2765	0.3166	0.2837	0.3287	0.3218	0.3200	0.3194	0.3095	7	AVG	
Carbon Tetrachloride	#0.2046	0.2490	0.2225	0.2690	0.2712	0.2774	0.2834	0.2539	12	AVG	#
Isobutyl Alcohol	0.3182	0.3284	0.3287	0.3597	0.3519	0.3476	0.3429	0.3396	4	AVG	
Benzene	#0.8572	0.9361	0.8525	0.9667	0.9477	0.9252	0.9015	0.9124	5	AVG	#
1,2-Dichloroethane	#0.2889	0.3116	0.2915	0.3214	0.3232	0.3161	0.3080	0.3087	4	AVG	#
1,2-Dichloroethane(2)	#0.0134	0.0275	0.0279	0.0320	0.0308	0.0302	0.0298	0.0274	23	AVG	#<-
t-Amyl methyl ether	0.5956	0.6302	0.6087	0.7002	0.7074	0.6895	0.6501	0.6545	7	AVG	
n-Heptane	0.3402	0.4010	0.3501	0.3663	0.3616	0.3739	0.3594	0.3647	5	AVG	
n-Butanol	0.2321	0.2408	0.2553	0.2948	0.2885	0.3038	0.3010	0.2738	11	AVG	

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

FORM VI VOA

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date(s): 04/26/17 04/26/17

Heated Purge: (Y/N) Y Calibration Times: 13:20 15:32

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = la26i07.d RRF 4 = la26i06.d RRF 10= la26i05.d
RRF 20= la26i04.d RRF 50= la26i03.d RRF100= la26i02.d RRF300= la26i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
Trichloroethene	#0.2291	0.2376	0.2171	0.2444	0.2420	0.2413	0.2390	0.2358	4	AVG #
Methylcyclohexane	#0.3425	0.4354	0.3756	0.4391	0.4392	0.4349	0.4416	0.4155	10	AVG #
Methylcyclohexane(2)	#0.1527	0.1938	0.1685	0.1974	0.1996	0.1987	0.2016	0.1875	10	AVG #
1,2-Dichloropropane	#0.2227	0.2483	0.2358	0.2634	0.2654	0.2596	0.2533	0.2498	6	AVG #
Dibromomethane	0.1469	0.1540	0.1453	0.1634	0.1659	0.1621	0.1620	0.1571	5	AVG
1,4-Dioxane	0.0843	0.0764	0.0797	0.1053	0.0898	0.0835	0.0793	0.0855	11	AVG
Methyl Methacrylate	0.1770	0.2008	0.1983	0.2262	0.2326	0.2311	0.2307	0.2138	10	AVG
Bromodichloromethane	#0.2481	0.2673	0.2555	0.2955	0.3066	0.3052	0.3061	0.2835	9	AVG #
2-Nitropropane	0.0655	0.0668	0.0740	0.0780	0.0927	0.0915	0.0942	0.0804	15	AVG
2-Chloroethyl Vinyl Ether	0.1508	0.1784	0.1836	0.2048	0.2093	0.2102	0.2070	0.1920	12	AVG
cis-1,3-Dichloropropene	#0.2930	0.3410	0.3372	0.3925	0.4071	0.4071	0.4084	0.3695	12	AVG #
4-Methyl-2-pentanone	#0.3194	0.3294	0.3796	0.3953	0.4247	0.4132	0.4041	0.3808	11	AVG #
Toluene	#0.6827	0.7517	0.7064	0.7999	0.7677	0.7520	0.7330	0.7419	5	AVG #
trans-1,3-Dichloropropene	#0.3059	0.3663	0.3795	0.4472	0.4726	0.4689	0.4716	0.4160	16	AVG #
Ethyl Methacrylate	0.3763	0.4210	0.4425	0.5116	0.5217	0.5113	0.4957	0.4686	12	AVG
1,1,2-Trichloroethane	#0.2665	0.2762	0.2728	0.3034	0.3049	0.2920	0.2854	0.2859	5	AVG #
Tetrachloroethene	#0.2930	0.3299	0.3192	0.3548	0.3312	0.3339	0.3351	0.3281	6	AVG #
1,3-Dichloropropane	0.4716	0.4813	0.4656	0.5287	0.5239	0.5079	0.4934	0.4961	5	AVG
2-Hexanone	#0.2828	0.3057	0.3608	0.3898	0.3977	0.3931	0.3768	0.3581	13	AVG #
Dibromochloromethane	#0.2375	0.2630	0.2641	0.3102	0.3298	0.3308	0.3374	0.2961	14	AVG #
1,2-Dibromoethane	#0.2767	0.2967	0.2975	0.3352	0.3339	0.3278	0.3230	0.3130	7	AVG #
1-Chlorohexane	0.4536	0.4352	0.4043	0.4273	0.4181	0.4234	0.4205	0.4261	4	AVG
Chlorobenzene	#0.7867	0.8528	0.8140	0.9180	0.8874	0.8733	0.8605	0.8561	5	AVG #
1,1,1,2-Tetrachloroethane	0.2410	0.2658	0.2572	0.3009	0.3047	0.3045	0.3048	0.2827	10	AVG
Ethylbenzene	#1.3005	1.4333	1.3909	1.5359	1.4779	1.4625	1.4167	1.4311	5	AVG #
m+p-Xylene	#0.4994	0.5538	0.5367	0.5978	0.5772	0.5732	0.5619	0.5571	6	AVG #
o-Xylene	#0.4903	0.5421	0.5360	0.5924	0.5812	0.5730	0.5635	0.5541	6	AVG #
Styrene	#0.7531	0.8692	0.8880	1.0054	0.9833	0.9681	0.9446	0.9159	10	AVG #
Bromoform	#0.1549	0.1771	0.1880	0.2267	0.2449	0.2513	0.2622	0.2150	19	AVG #
Isopropylbenzene	#1.2079	1.4227	1.4232	1.5063	1.4687	1.4666	1.4168	1.4160	7	AVG #
Cyclohexanone	0.2990	0.2968	0.3246	0.3566	0.3401	0.3292	0.3106	0.3224	7	AVG
Bromobenzene	0.6537	0.7071	0.6780	0.7611	0.7396	0.7364	0.7270	0.7147	5	AVG
1,1,2,2-Tetrachloroethane	#0.8142	0.8692	0.8499	0.9481	0.9471	0.9256	0.8583	0.8875	6	AVG #
1,2,3-Trichloropropane	0.2342	0.2517	0.2412	0.2638	0.2643	0.2577	0.2432	0.2509	5	AVG
trans-1,4-Dichloro-2-butene	0.2210	0.2407	0.2456	0.2735	0.2756	0.2705	0.2534	0.2543	8	AVG
n-Propylbenzene	2.8221	3.2015	3.2581	3.3397	3.2365	3.2414	3.0068	3.1580	6	AVG
2-Chlorotoluene	0.5895	0.6545	0.6517	0.6887	0.6778	0.6784	0.6601	0.6573	5	AVG
4-Chlorotoluene	0.6274	0.6695	0.6724	0.7240	0.7029	0.7028	0.6895	0.6841	5	AVG
1,3,5-Trimethylbenzene	1.8650	2.2247	2.2970	2.3886	2.3617	2.3625	2.2642	2.2520	8	AVG
tert-Butylbenzene	0.4332	0.4662	0.4786	0.4996	0.5085	0.5149	0.5065	0.4868	6	AVG
Pentachloroethane	0.3051	0.3420	0.3506	0.4009	0.4186	0.4307	0.4424	0.3843	14	AVG
1,2,4-Trimethylbenzene	1.9827	2.2719	2.3523	2.4469	2.4266	2.4253	2.3321	2.3197	7	AVG
sec-Butylbenzene	2.4903	2.8982	2.9677	2.9884	2.9562	2.9854	2.8220	2.8726	6	AVG
1,3-Dichlorobenzene	#1.3064	1.3716	1.3473	1.4172	1.3858	1.3710	1.3255	1.3607	3	AVG #
p-Isopropyltoluene	2.1849	2.5019	2.5974	2.6342	2.6235	2.6717	2.5408	2.5364	7	AVG
1,4-Dichlorobenzene	#1.4027	1.4149	1.3899	1.4733	1.4246	1.4029	1.3406	1.4070	3	AVG #
1,2,3-Trimethylbenzene	2.2649	2.4023	2.4235	2.6015	2.4902	2.4528	2.3775	2.4304	4	AVG
Benzyl Chloride		1.0778	1.2005	1.5200	1.6375	1.7029	1.6917	1.4717	18	AVG
1,3-Diethylbenzene	1.3296	1.4969	1.5112	1.6363	1.5648	1.5488	1.5197	1.5153	6	AVG
1,4-Diethylbenzene	1.4533	1.6043	1.5938	1.6958	1.6245	1.6050	1.5624	1.5913	5	AVG
1,2-Dichlorobenzene	#1.2897	1.3533	1.3092	1.4015	1.3684	1.3483	1.2923	1.3375	3	AVG #
n-Butylbenzene	1.2065	1.3017	1.3115	1.2971	1.2671	1.2809	1.2043	1.2670	4	AVG

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date(s): 04/26/17 04/26/17

Heated Purge: (Y/N) Y Calibration Times: 13:20 15:32

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

LAB FILE ID: RRF 1 = la26i07.d RRF 4 = la26i06.d RRF 10= la26i05.d
RRF 20= la26i04.d RRF 50= la26i03.d RRF100= la26i02.d RRF300= la26i01.d

COMPOUND	RRF 1	RRF 4	RRF 10	RRF 20	RRF 50	RRF100	RRF300	RRF	% RSD	CAL. METHOD
1,2-Diethylbenzene	1.1319	1.2774	1.2787	1.3659	1.3106	1.2945	1.2676	1.2752	6	AVG
1,2-Dibromo-3-chloropropane#	0.1623	0.1719	0.1751	0.2007	0.2065	0.2045	0.1928	0.1877	9	AVG #
1,3,5-Trichlorobenzene		1.1060	1.0957	1.0943	1.0851	1.0959	1.0293	1.0844	3	AVG
1,2,4-Trichlorobenzene #		1.0544	1.0590	1.0780	1.0666	1.0670	0.9865	1.0519	3	AVG #
Hexachlorobutadiene		0.4890	0.4549	0.4629	0.4481	0.4651	0.4211	0.4568	5	AVG
Naphthalene	3.0754	3.0911	3.1332	3.3963	3.3573	3.2808	2.8858	3.1742	6	AVG
1,2,3-Trichlorobenzene		1.0198	1.0312	1.0550	1.0298	1.0226	0.9306	1.0148	4	AVG
2-Methylnaphthalene		1.9258	2.0069	2.2473	2.1829	2.1335	1.8189	2.0525	8	AVG
Dibromofluoromethane	0.2444	0.2422	0.2443	0.2417	0.2460	0.2463	0.2442	0.2441	1	AVG
Dibromofluoromethane(2)	0.2484	0.2493	0.2512	0.2479	0.2518	0.2517	0.2511	0.2502	1	AVG
1,2-Dichloroethane-d4	0.0609	0.0612	0.0603	0.0600	0.0609	0.0616	0.0602	0.0607	1	AVG
1,2-Dichloroethane-d4(2)	0.2880	0.2902	0.2913	0.2865	0.2857	0.2879	0.2807	0.2872	1	AVG
1,2-Dichloroethane-d4(3)	0.0378	0.0385	0.0394	0.0383	0.0385	0.0387	0.0385	0.0385	1	AVG
Toluene-d8	1.2792	1.2789	1.2799	1.2875	1.2795	1.2720	1.2596	1.2766	1	AVG
Toluene-d8(2)	0.8411	0.8411	0.8400	0.8460	0.8426	0.8383	0.8385	0.8411	0	AVG
4-Bromofluorobenzene	0.4774	0.4787	0.4758	0.4766	0.4724	0.4722	0.4686	0.4745	1	AVG
4-Bromofluorobenzene(2)	0.4208	0.4208	0.4169	0.4148	0.4132	0.4117	0.4155	0.4162	1	AVG

Average %RSD 7

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

FORM VI VOA

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP09915.i/17apr26a.b/la26i01.d	VSTD300
/chem/HP09915.i/17apr26a.b/la26i02.d	VSTD100
/chem/HP09915.i/17apr26a.b/la26i03.d	VSTD050
/chem/HP09915.i/17apr26a.b/la26i04.d	VSTD020
/chem/HP09915.i/17apr26a.b/la26i05.d	VSTD010
/chem/HP09915.i/17apr26a.b/la26i06.d	VSTD004
/chem/HP09915.i/17apr26a.b/la26i07.d	VSTD001

Area Summary

File ID:

Internal Standard Name	la26i01.d	la26i02.d	la26i03.d	la26i04.d	la26i05.d	la26i06.d	la26i07.d	Avg. Area	%RSD	In Spec
t-Butyl alcohol-d10	169188	183612	194134	210810	194850	205105	204400	194586	7	Yes
Fluorobenzene	1047200	1062919	1036296	1038230	1049965	1046774	1036977	1045480	1	Yes
Chlorobenzene-d5	832450	834937	803001	793538	806654	805037	790373	809427	2	Yes
1,4-Dichlorobenzene-d4	451513	443338	430663	425437	429808	433758	428650	434738	2	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	la26i01.d	la26i02.d	la26i03.d	la26i04.d	la26i05.d	la26i06.d	la26i07.d	Avg. RT
t-Butyl alcohol-d10	3.578	3.584	3.565	3.578	3.565	3.574	3.581	3.575
Fluorobenzene	7.057	7.057	7.053	7.053	7.050	7.053	7.050	7.053
Chlorobenzene-d5	10.712	10.713	10.712	10.709	10.709	10.709	10.709	10.711
1,4-Dichlorobenzene-d4	12.642	12.642	12.642	12.642	12.642	12.642	12.642	12.642

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 04/26/2017 at 16:04.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 ICV Date: 04/26/17 Time: 17:25

Lab File ID: la26s01.d Init. Calib. Date(s): 04/26/17 04/26/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.2979	0.2605	17.49	20	-13	#
# Chloromethane	0.3060	0.2823	18.45	20	-8	#
1,3-Butadiene	0.1802	0.2800	31.07	20	55	<-
# Vinyl Chloride	0.2955	0.2777	18.80	20	-6	#
# Bromomethane	0.1987	0.1876	18.88	20	-6	#
# Chloroethane	0.1665	0.1559	18.73	20	-6	#
Dichlorofluoromethane	0.4062	0.4016	19.77	20	-1	
n-Pentane	0.2818	0.3710	26.34	20	32	<-
# Trichlorofluoromethane	0.3422	0.3370	19.70	20	-1	#
Ethyl ether	0.1905	0.1869	19.62	20	-2	
Freon 123a	0.2279	0.2357	20.69	20	3	
Acrolein	2.0465	1.2690	93.01	150	-38	<-
# 1,1-Dichloroethene	0.1811	0.2024	22.36	20	12	#
# Acetone	0.8882	0.8195	138.39	150	-8	#
# Freon 113	0.1823	0.2076	22.78	20	14	#
2-Propanol	0.5888	0.5195	132.34	150	-12	
Methyl Iodide	0.3513	0.3762	21.42	20	7	
# Carbon Disulfide	0.5893	0.6570	22.30	20	11	#
Allyl Chloride	0.3627	0.3572	19.69	20	-2	
# Methyl Acetate	0.2628	0.2584	19.66	20	-2	#
# Methylene Chloride	0.2392	0.2381	19.90	20	0	#
t-Butyl alcohol	0.9673	0.8975	185.56	200	-7	
Acrylonitrile	0.1380	0.1313	95.14	100	-5	
# trans-1,2-Dichloroethene	0.2125	0.2299	21.64	20	8	#
# Methyl Tertiary Butyl Ether	0.6634	0.6558	19.77	20	-1	#
n-Hexane	0.3257	0.3535	21.71	20	9	
# 1,1-Dichloroethane	0.3993	0.4121	20.64	20	3	#
di-Isopropyl ether	0.7663	0.7768	20.28	20	1	
2-Chloro-1,3-butadiene	0.3368	0.3399	20.18	20	1	
Ethyl t-butyl ether	0.6595	0.6369	19.32	20	-3	
# cis-1,2-Dichloroethene	0.2435	0.2490	20.45	20	2	#
# 2-Butanone	0.1848	0.1714	139.09	150	-7	#
2,2-Dichloropropane	0.2666	0.2562	19.23	20	-4	
Propionitrile	1.4118	1.3352	141.87	150	-5	
Methacrylonitrile	0.1376	0.1355	147.71	150	-2	
Bromochloromethane	0.1283	0.1260	19.64	20	-2	

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 ICV Date: 04/26/17 Time: 17:25

Lab File ID: la26s01.d Init. Calib. Date(s): 04/26/17 04/26/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	Tetrahydrofuran	1.2470	1.1660	93.51	100	-6	
#	Chloroform	0.3805	0.3823	20.09	20	0	#
#	1,1,1-Trichloroethane	0.3478	0.3382	19.45	20	-3	#
#	Cyclohexane	0.3959	0.3959	20.00	20	0	#
	1,1-Dichloropropene	0.3095	0.2993	19.34	20	-3	
#	Carbon Tetrachloride	0.2539	0.2483	19.57	20	-2	#
	Isobutyl Alcohol	0.3396	0.3237	476.51	500	-5	
#	Benzene	0.9124	0.9212	20.19	20	1	#
#	1,2-Dichloroethane	0.3087	0.3133	20.30	20	2	#
	t-Amyl methyl ether	0.6545	0.6265	19.14	20	-4	
	n-Heptane	0.3647	0.3640	19.96	20	0	
	n-Butanol	0.2738	0.2575	940.39	1000	-6	
#	Trichloroethene	0.2358	0.2353	19.96	20	0	#
#	Methylcyclohexane	0.4155	0.4168	20.06	20	0	#
#	1,2-Dichloropropane	0.2498	0.2524	20.21	20	1	#
	Dibromomethane	0.1571	0.1582	20.14	20	1	
	1,4-Dioxane	0.0855	0.0944	552.41	500	10	
	Methyl Methacrylate	0.2138	0.2084	19.49	20	-3	
#	Bromodichloromethane	0.2835	0.2745	19.37	20	-3	#
	2-Nitropropane	0.0804	0.0666	16.57	20	-17	
	2-Chloroethyl Vinyl Ether	0.1920	0.1805	18.80	20	-6	
#	cis-1,3-Dichloropropene	0.3695	0.3611	19.55	20	-2	#
#	4-Methyl-2-pentanone	0.3808	0.3600	94.52	100	-5	#
#	Toluene	0.7419	0.7452	20.09	20	0	#
#	trans-1,3-Dichloropropene	0.4160	0.4154	19.97	20	0	#
	Ethyl Methacrylate	0.4686	0.4750	20.27	20	1	
#	1,1,2-Trichloroethane	0.2859	0.2905	20.32	20	2	#
#	Tetrachloroethene	0.3281	0.3228	19.68	20	-2	#
	1,3-Dichloropropane	0.4961	0.4971	20.04	20	0	
#	2-Hexanone	0.3581	0.3396	94.83	100	-5	#
#	Dibromochloromethane	0.2961	0.2792	18.86	20	-6	#
#	1,2-Dibromoethane	0.3130	0.3224	20.60	20	3	#
	1-Chlorohexane	0.4261	0.4012	18.83	20	-6	
#	Chlorobenzene	0.8561	0.8413	19.65	20	-2	#
	1,1,1,2-Tetrachloroethane	0.2827	0.2699	19.10	20	-5	
#	Ethylbenzene	1.4311	1.4100	19.70	20	-1	#

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 ICV Date: 04/26/17 Time: 17:25

Lab File ID: la26s01.d Init. Calib. Date(s): 04/26/17 04/26/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# m+p-Xylene	0.5571	0.5494	39.45	40	-1	#
# o-Xylene	0.5541	0.5404	19.51	20	-2	#
# Styrene	0.9159	0.9324	20.36	20	2	#
# Bromoform	0.2150	0.1947	18.11	20	-9	#
# Isopropylbenzene	1.4160	1.4202	20.06	20	0	#
Cyclohexanone	0.3224	0.3366	522.07	500	4	
Bromobenzene	0.7147	0.6986	19.55	20	-2	
# 1,1,2,2-Tetrachloroethane	0.8875	0.8909	20.08	20	0	#
1,2,3-Trichloropropane	0.2509	0.2569	20.48	20	2	
trans-1,4-Dichloro-2-butene	0.2543	0.2468	97.04	100	-3	
n-Propylbenzene	3.1580	3.0963	19.61	20	-2	
2-Chlorotoluene	0.6573	0.6330	19.26	20	-4	
4-Chlorotoluene	0.6841	0.6691	19.56	20	-2	
1,3,5-Trimethylbenzene	2.2520	2.1982	19.52	20	-2	
tert-Butylbenzene	0.4868	0.4796	19.70	20	-1	
Pentachloroethane	0.3843	0.3671	19.10	20	-4	
1,2,4-Trimethylbenzene	2.3197	2.2673	19.55	20	-2	
sec-Butylbenzene	2.8726	2.8359	19.74	20	-1	
# 1,3-Dichlorobenzene	1.3607	1.2946	19.03	20	-5	#
p-Isopropyltoluene	2.5364	2.4766	19.53	20	-2	
# 1,4-Dichlorobenzene	1.4070	1.3571	19.29	20	-4	#
1,2,3-Trimethylbenzene	2.4304	2.4322	20.02	20	0	
Benzyl Chloride	1.4717	1.2688	17.24	20	-14	
1,3-Diethylbenzene	1.5153	1.4812	19.55	20	-2	
1,4-Diethylbenzene	1.5913	1.5419	19.38	20	-3	
# 1,2-Dichlorobenzene	1.3375	1.2970	19.39	20	-3	#
n-Butylbenzene	1.2670	1.2177	19.22	20	-4	
1,2-Diethylbenzene	1.2752	1.2547	19.68	20	-2	
# 1,2-Dibromo-3-chloropropane	0.1877	0.1770	18.86	20	-6	#
1,3,5-Trichlorobenzene	1.0844	1.0144	18.71	20	-6	
# 1,2,4-Trichlorobenzene	1.0519	0.9806	18.64	20	-7	#
Hexachlorobutadiene	0.4568	0.3983	17.44	20	-13	
Naphthalene	3.1742	3.1214	19.67	20	-2	
1,2,3-Trichlorobenzene	1.0148	0.9259	18.25	20	-9	
2-Methylnaphthalene	2.0525	1.8562	18.09	20	-10	

Average %Drift 5

Compounds with required minimum RRF.
Maximum % Drift = 30 %

^

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 ICV Date: 04/26/17 Time: 18:34

Lab File ID: la26s01a.d Init. Calib. Date(s): 04/26/17 04/26/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acrolein	2.0465	1.8187	133.30	150	-11

Average %Drift 11

Compounds with required minimum RRF.
Maximum % Drift = 30 %

^

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
Dichlorodifluoromethane	#0.3790	0.3676	0.4365	0.4046	0.3679	0.3741	0.3785	0.3869	7	AVG #
Chloromethane	#0.4669	0.4171	0.4256	0.4252	0.3795	0.3814	0.3476	0.4062	10	AVG #
Vinyl Chloride	#0.4012	0.3509	0.3781	0.3763	0.3232	0.3328	0.3334	0.3565	8	AVG #
1,3-Butadiene	0.5570	0.5895	0.6000	0.6500	0.5387	0.5213	0.4747	0.5616	10	AVG
Bromomethane	#0.2389	0.2184	0.2406	0.2363	0.2097	0.2127	0.2110	0.2239	6	AVG #
Chloroethane	#0.2407	0.2078	0.2089	0.2039	0.1951	0.1879	0.1853	0.2042	9	AVG #
Dichlorofluoromethane	0.5050	0.4391	0.5094	0.4860	0.4647	0.4557	0.4298	0.4699	7	AVG
Trichlorofluoromethane	#0.4091	0.3849	0.4556	0.4196	0.4150	0.4133	0.3943	0.4131	5	AVG #
Ethyl ether	0.1744	0.1569	0.1798	0.1582	0.1652	0.1618	0.1494	0.1637	6	AVG
Freon 123a	0.2754	0.2944	0.3351	0.3381	0.3299	0.3150	0.2940	0.3117	8	AVG
Acrolein	3.4256	3.4965	4.0410	3.7566	4.0013	4.0701	3.8401	3.8045	7	AVG
1,1-Dichloroethene	#0.2068	0.2048	0.2314	0.2387	0.2269	0.2225	0.2220	0.2219	6	AVG #
Freon 113	#0.1909	0.2202	0.2523	0.2497	0.2454	0.2368	0.2393	0.2335	9	AVG #
Acetone	#	4.3094	4.9932	4.4615	4.4826	4.7235	4.6721	4.6070	5	AVG #
Methyl Iodide	0.3923	0.4023	0.4192	0.4325	0.4232	0.4077	0.4074	0.4121	3	AVG
Carbon Disulfide	#0.5816	0.5878	0.6352	0.6625	0.6273	0.6260	0.6371	0.6225	5	AVG #
Allyl Chloride	0.4327	0.4242	0.4477	0.4218	0.4308	0.4250	0.4316	0.4306	2	AVG
Methyl Acetate	#13.955	17.996	19.433	13.022	15.227	15.269	14.683	15.655	14	AVG #
Methylene Chloride	#0.2511	0.2385	0.2429	0.2465	0.2447	0.2350	0.2373	0.2423	2	AVG #
t-Butyl Alcohol	1.1333	1.3702	1.2241	1.3424	1.0524	1.2867	1.3480	1.2510	10	AVG
Acrylonitrile	4.6185	5.4946	6.7993	6.5230	6.4918	6.9619	6.6907	6.2257	14	AVG
trans-1,2-Dichloroethene	#0.2299	0.2313	0.2489	0.2570	0.2576	0.2454	0.2450	0.2450	5	AVG #
Methyl Tertiary Butyl Ether	#0.4055	0.4028	0.4407	0.4793	0.4654	0.4632	0.4548	0.4445	7	AVG #
n-Hexane	0.2601	0.3169	0.3765	0.4172	0.4197	0.4135	0.4252	0.3756	17	AVG
1,1-Dichloroethane	#0.4298	0.4860	0.5004	0.5192	0.4996	0.4684	0.4807	0.4834	6	AVG #
di-Isopropyl Ether	0.7503	0.7838	0.8125	0.8746	0.8559	0.8406	0.8495	0.8239	5	AVG
2-Chloro-1,3-Butadiene	0.3458	0.3699	0.4119	0.4432	0.4336	0.4233	0.4314	0.4085	9	AVG
Ethyl t-butyl ether	0.5488	0.5910	0.6320	0.6734	0.6718	0.6617	0.6551	0.6334	7	AVG
cis-1,2-Dichloroethene	#0.2594	0.2611	0.2791	0.2927	0.2749	0.2727	0.2745	0.2735	4	AVG #
2,2-Dichloropropane	0.3512	0.3221	0.3740	0.3888	0.3715	0.3631	0.3647	0.3622	6	AVG
2-Butanone	#7.3613	9.2139	9.5004	9.9612	10.022	10.303	9.4141	9.3967	10	AVG #
Propionitrile	2.0277	2.2150	2.1810	2.2539	2.3400	2.3260	2.2848	2.2326	5	AVG
Methacrylonitrile	8.0361	8.3798	9.8842	9.6450	9.8894	10.315	9.1928	9.3346	9	AVG
Bromochloromethane	0.1223	0.0994	0.1141	0.1068	0.1027	0.1048	0.1070	0.1081	7	AVG
Tetrahydrofuran	1.8359	2.0968	2.5157	2.4948	2.6178	2.5843	2.2868	2.3474	12	AVG
Chloroform	#0.4504	0.4529	0.4564	0.4819	0.4580	0.4465	0.4467	0.4561	3	AVG #
1,1,1-Trichloroethane	#0.3760	0.3828	0.3896	0.4134	0.3935	0.3816	0.3824	0.3884	3	AVG #
Cyclohexane	#0.3690	0.4914	0.4808	0.5104	0.5059	0.4902	0.5046	0.4789	10	AVG #
Cyclohexane(2)	#0.2924	0.3044	0.3866	0.4052	0.3993	0.3950	0.3935	0.3681	13	AVG #
Cyclohexane(3)	#0.0961	0.1236	0.1372	0.1450	0.1474	0.1442	0.1472	0.1344	14	AVG #
1,1-Dichloropropene	0.3100	0.3340	0.3671	0.3946	0.3759	0.3694	0.3745	0.3608	8	AVG
Carbon Tetrachloride	#0.3077	0.2929	0.3357	0.3562	0.3361	0.3236	0.3306	0.3261	6	AVG #
Isobutyl Alcohol	0.6079	0.5272	0.5648	0.5468	0.5031	0.4836	0.5456	0.5398	8	AVG
Benzene	#0.9996	1.0209	1.0627	1.1116	1.0718	1.0302	1.0368	1.0476	4	AVG #
1,2-Dichloroethane	#0.2239	0.2503	0.2618	0.2600	0.2592	0.2487	0.2493	0.2504	5	AVG #
t-Amyl methyl ether	0.4511	0.4582	0.5172	0.5543	0.5472	0.5381	0.5392	0.5150	8	AVG
n-Heptane	0.3652	0.3793	0.4533	0.4740	0.4738	0.4688	0.4807	0.4422	11	AVG
n-Butanol	0.3756	0.3775	0.3257	0.4161	0.4125	0.4191	0.4561	0.3975	11	AVG
Trichloroethene	#0.2869	0.2626	0.2847	0.2858	0.2788	0.2715	0.2710	0.2773	3	AVG #
Methylcyclohexane	#0.4259	0.4067	0.4800	0.4826	0.4968	0.4884	0.4992	0.4685	8	AVG #
1,2-Dichloropropane	#0.2518	0.2771	0.2743	0.2887	0.2769	0.2731	0.2705	0.2732	4	AVG #
Methyl Methacrylate	10.700	14.488	17.862	18.557	19.107	20.292	18.528	17.076	20	AVG

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
Dibromomethane	0.0988	0.1060	0.1052	0.1094	0.1068	0.1058	0.1051	0.1053	3	AVG
1,4-Dioxane		0.0398	0.1001	0.1150	0.1047	0.0926	0.0960	0.0914	29	2NDDEG
Bromodichloromethane	#0.2716	0.2612	0.2906	0.3066	0.2967	0.2913	0.3011	0.2884	6	AVG #
2-Nitropropane	5.3699	4.9092	5.9435	5.7512	5.9604	5.9943	5.4962	5.6321	7	AVG
cis-1,3-Dichloropropene	#0.2697	0.2920	0.3135	0.3485	0.3414	0.3479	0.3631	0.3252	11	AVG #
4-Methyl-2-Pentanone	#21.185	21.526	26.100	25.938	27.194	27.828	24.526	24.899	11	AVG #
Toluene	#0.9682	0.9440	1.0434	0.9799	0.9895	0.9264	0.9101	0.9659	5	AVG #
trans-1,3-Dichloropropene	#0.3748	0.3522	0.3790	0.3666	0.3890	0.3843	0.3883	0.3763	4	AVG #
Ethyl Methacrylate	0.2435	0.2565	0.2637	0.2913	0.3024	0.2964	0.2946	0.2783	8	AVG
1,1,2-Trichloroethane	#0.2221	0.2168	0.2404	0.2284	0.2281	0.2205	0.2144	0.2244	4	AVG #
Tetrachloroethene	#0.4401	0.4235	0.4841	0.4646	0.4578	0.4351	0.4307	0.4480	5	AVG #
1,3-Dichloropropane	0.4247	0.3882	0.4169	0.4054	0.4036	0.3903	0.3819	0.4016	4	AVG
2-Hexanone	#15.093	14.702	18.615	19.535	18.504	19.226	17.165	17.548	11	AVG #
Dibromochloromethane	#0.2747	0.2453	0.2673	0.2780	0.2678	0.2623	0.2659	0.2659	4	AVG #
1,2-Dibromoethane	#0.2135	0.2137	0.2141	0.2253	0.2117	0.2055	0.2015	0.2122	4	AVG #
Chlorobenzene	#1.0347	1.0319	1.1182	1.1247	1.0580	1.0087	0.9964	1.0532	5	AVG #
1,1,1,2-Tetrachloroethane	0.3367	0.3495	0.3743	0.3700	0.3505	0.3354	0.3383	0.3507	5	AVG
Ethylbenzene	#1.7307	1.7411	1.9723	2.0265	1.9369	1.8562	1.8383	1.8717	6	AVG #
m+p-Xylene	#0.6176	0.6748	0.7638	0.7779	0.7373	0.7076	0.7029	0.7117	8	AVG #
o-Xylene	#0.5657	0.6568	0.7079	0.7545	0.7182	0.6919	0.6894	0.6835	9	AVG #
Styrene	#0.8449	0.9067	1.0789	1.1676	1.1231	1.0897	1.0945	1.0436	11	AVG #
Bromoform	#0.1256	0.1135	0.1279	0.1476	0.1339	0.1375	0.1435	0.1328	9	AVG #
Isopropylbenzene	#1.5174	1.6096	1.8688	1.9681	1.8994	1.8371	1.8196	1.7886	9	AVG #
1,1,2,2-Tetrachloroethane	#0.7068	0.6700	0.6639	0.6621	0.6447	0.6054	0.5650	0.6454	7	AVG #
Bromobenzene	1.0211	0.9832	1.0400	1.0475	0.9833	0.9154	0.8981	0.9841	6	AVG
trans-1,4-Dichloro-2-butene		4.5233	6.3094	6.9130	6.8134	7.6912	7.4154	6.6109	17	AVG
1,2,3-Trichloropropane	0.1891	0.1644	0.1625	0.1678	0.1591	0.1469	0.1405	0.1615	10	AVG
n-Propylbenzene	4.9490	5.0042	5.4282	5.7670	5.5222	5.1475	5.0145	5.2618	6	AVG
2-Chlorotoluene	0.9506	1.0147	1.0064	1.0695	1.0420	0.9425	0.9398	0.9951	5	AVG
1,3,5-Trimethylbenzene	3.1964	3.3176	3.7152	3.8908	3.7334	3.4951	3.4349	3.5405	7	AVG
4-Chlorotoluene	0.9230	1.0122	1.0458	1.0924	1.0175	0.9665	0.9440	1.0002	6	AVG
tert-Butylbenzene	0.7440	0.7690	0.7411	0.8560	0.7975	0.7354	0.7396	0.7689	6	AVG
Pentachloroethane	0.5785	0.5422	0.6362	0.5675	0.5765	0.5639	0.5565	0.5745	5	AVG
1,2,4-Trimethylbenzene	3.0734	3.2582	3.6550	3.9181	3.7557	3.5488	3.4936	3.5290	8	AVG
sec-Butylbenzene	4.0161	4.3849	4.6870	5.0446	4.9279	4.6543	4.5839	4.6141	7	AVG
1,3-Dichlorobenzene	#1.9428	1.8895	1.9971	2.0353	1.9652	1.8519	1.8526	1.9335	4	AVG #
p-Isopropyltoluene	3.1144	3.3921	3.8359	4.2226	4.0933	3.8862	3.8836	3.7754	10	AVG
1,4-Dichlorobenzene	#2.2648	2.0212	2.1379	2.1105	1.9446	1.8348	1.7909	2.0150	8	AVG #
1,2,3-Trimethylbenzene	1.7116	1.5253	1.6900	1.5618	1.5056	1.4584	1.4373	1.5557	7	AVG
Benzyl Chloride	0.1657	0.1851	0.1884	0.2234	0.2211	0.2171	0.2228	0.2034	11	AVG
n-Butylbenzene	1.4038	1.4876	1.8295	2.1320	2.1020	1.9986	2.0234	1.8539	16	AVG
1,2-Dichlorobenzene	#1.7896	1.6689	1.8100	1.8311	1.7400	1.6076	1.5741	1.7173	6	AVG #
1,2-Dibromo-3-chloropropane	#3.1316	3.0110	3.3115	4.0366	3.9823	4.3932	3.9506	3.6881	14	AVG #
1,2,4-Trichlorobenzene	#1.1441	1.0231	1.0982	1.1527	1.1162	1.1156	1.1017	1.1074	4	AVG #
Hexachlorobutadiene	0.5522	0.4922	0.5114	0.5909	0.5443	0.5600	0.5885	0.5485	7	AVG
Naphthalene	1.6625	1.5196	1.6072	1.7110	1.7211	1.6352	1.5504	1.6295	5	AVG
1,2,3-Trichlorobenzene	1.0920	0.8579	0.9377	1.0013	0.9292	0.8906	0.8407	0.9356	9	AVG
Dibromofluoromethane	0.2187	0.2258	0.2172	0.2245	0.2240	0.2286	0.2304	0.2242	2	AVG
Dibromofluoromethane(2)	0.2254	0.2319	0.2221	0.2278	0.2306	0.2360	0.2379	0.2302	2	AVG
1,2-Dichloroethane-d4	0.0348	0.0370	0.0360	0.0350	0.0369	0.0364	0.0377	0.0362	3	AVG
1,2-Dichloroethane-d4(2)	0.1766	0.1774	0.1756	0.1761	0.1709	0.1789	0.1797	0.1764	2	AVG

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 04/19/17 04/19/17

Heated Purge: (Y/N) Y Calibration Times: 11:58 14:00

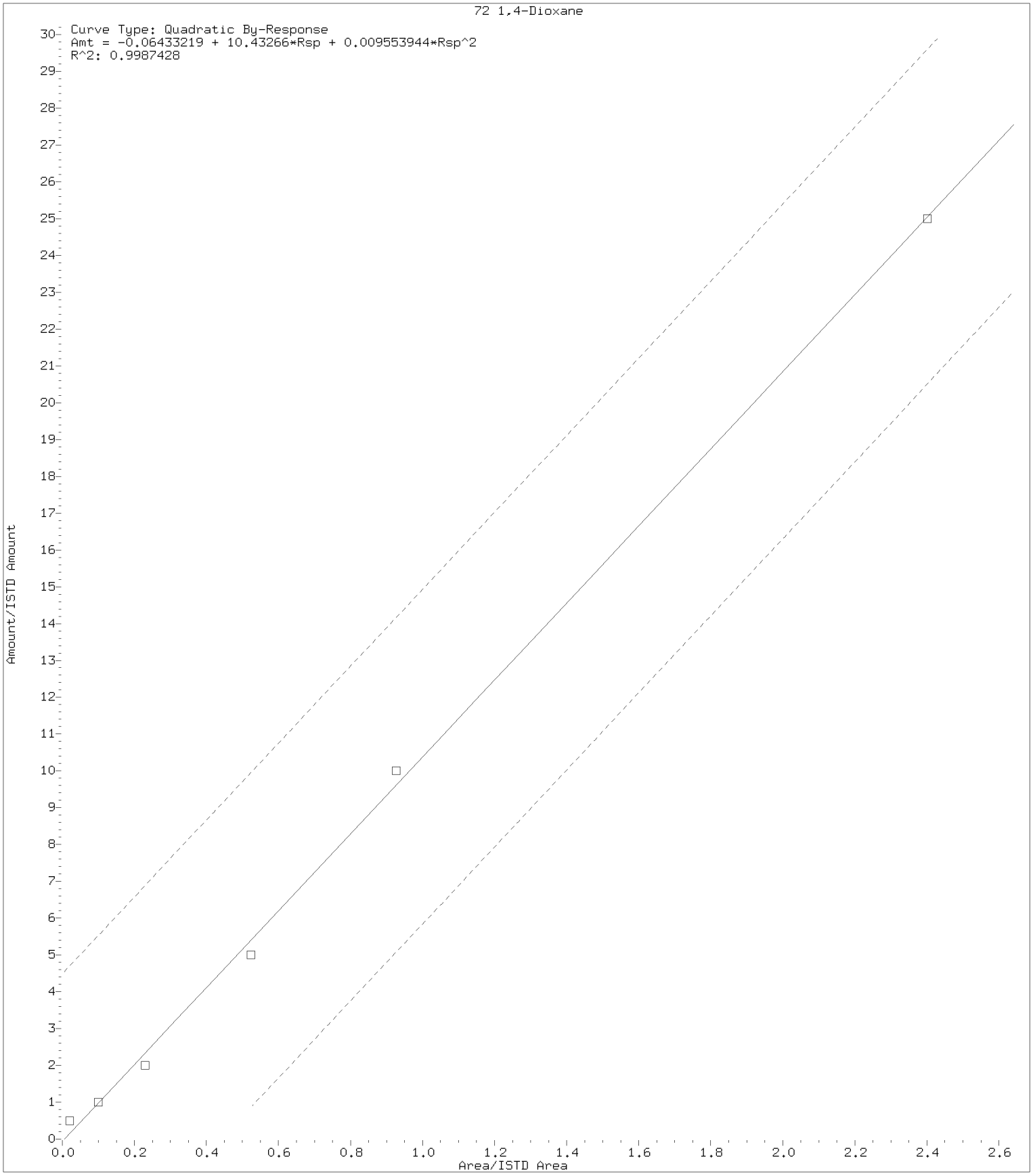
Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID: RRF0.2= ha19i07.d RRF0.5= ha19i06.d RRF 1 = ha19i05.d
RRF 2 = ha19i04.d RRF 5 = ha19i03.d RRF 10= ha19i02.d RRF 25= ha19i01.d

COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
1,2-Dichloroethane-d4(3)	0.0221	0.0218	0.0223	0.0197	0.0222	0.0224	0.0233	0.0220	5	AVG
Toluene-d8	1.5232	1.4867	1.5528	1.3963	1.4522	1.4241	1.3972	1.4618	4	AVG
Toluene-d8(2)	0.9744	0.9598	0.9978	0.8961	0.9367	0.9171	0.9071	0.9413	4	AVG
4-Bromofluorobenzene	0.3973	0.4161	0.4142	0.4209	0.4143	0.4202	0.4243	0.4153	2	AVG
4-Bromofluorobenzene(2)	0.3551	0.3626	0.3720	0.3726	0.3681	0.3778	0.3794	0.3697	2	AVG

Average %RSD 7

Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.



Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:28.
Target 3.5 esignature user ID: kas02648

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP19094.i/17apr19a.b/ha19i01.d	VSTD025
/chem2/HP19094.i/17apr19a.b/ha19i02.d	VSTD010
/chem2/HP19094.i/17apr19a.b/ha19i03.d	VSTD005
/chem2/HP19094.i/17apr19a.b/ha19i04.d	VSTD002
/chem2/HP19094.i/17apr19a.b/ha19i05.d	VSTD001
/chem2/HP19094.i/17apr19a.b/ha19i06.d	VSTD0.5
/chem2/HP19094.i/17apr19a.b/ha19i07.d	VSTD0.2

Area Summary

File ID:

Internal Standard Name	ha19i01.d	ha19i02.d	ha19i03.d	ha19i04.d	ha19i05.d	ha19i06.d	ha19i07.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	74228	67885	71762	68028	62071	75157	69135	69752	6	Yes
Fluorobenzene	2800014	2863672	2875093	2655800	2788645	2807038	2670698	2780137	3	Yes
Chlorobenzene-d5	1967440	1964158	1916028	1854966	1721164	1818984	1665343	1844012	6	Yes
1,4-Dichlorobenzene-d4	879364	868838	817140	790252	738701	760024	671591	789416	9	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	ha19i01.d	ha19i02.d	ha19i03.d	ha19i04.d	ha19i05.d	ha19i06.d	ha19i07.d	Avg. RT
t-Butyl Alcohol-d10	4.239	4.299	4.306	4.257	4.300	4.342	4.269	4.287
Fluorobenzene	7.781	7.781	7.774	7.775	7.775	7.775	7.781	7.777
Chlorobenzene-d5	11.244	11.243	11.243	11.243	11.244	11.243	11.243	11.243
1,4-Dichlorobenzene-d4	13.121	13.121	13.121	13.121	13.127	13.121	13.127	13.123

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 04/20/2017 at 09:58.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.3869	0.4107	5.31	5	6	#
# Chloromethane	0.4062	0.4219	5.19	5	4	#
# Vinyl Chloride	0.3565	0.3654	5.12	5	2	#
1,3-Butadiene	0.5616	0.4618	4.11	5	-18	
# Bromomethane	0.2239	0.2357	5.26	5	5	#
# Chloroethane	0.2042	0.1985	4.86	5	-3	#
Dichlorofluoromethane	0.4699	0.4557	4.85	5	-3	
# Trichlorofluoromethane	0.4131	0.4057	4.91	5	-2	#
Ethyl ether	0.1637	0.1559	4.76	5	-5	
Freon 123a	0.3117	0.3253	5.22	5	4	
Acrolein	3.8045	3.6532	36.01	37.5	-4	
# 1,1-Dichloroethene	0.2219	0.2243	5.06	5	1	#
# Freon 113	0.2335	0.2387	5.11	5	2	#
# Acetone	4.6070	4.2000	34.19	37.5	-9	#
Methyl Iodide	0.4121	0.4105	4.98	5	0	
# Carbon Disulfide	0.6225	0.6304	5.06	5	1	#
Allyl Chloride	0.4306	0.3838	4.46	5	-11	
# Methyl Acetate	15.6550	15.4352	4.93	5	-1	#
# Methylene Chloride	0.2423	0.2387	4.93	5	-1	#
t-Butyl Alcohol	1.2510	1.0623	42.46	50	-15	
Acrylonitrile	6.2257	6.9506	27.91	25	12	
# trans-1,2-Dichloroethene	0.2450	0.2495	5.09	5	2	#
# Methyl Tertiary Butyl Ether	0.4445	0.4618	5.19	5	4	#
n-Hexane	0.3756	0.3750	4.99	5	0	
# 1,1-Dichloroethane	0.4834	0.4829	4.99	5	0	#
di-Isopropyl Ether	0.8239	0.8710	5.29	5	6	
2-Chloro-1,3-Butadiene	0.4085	0.4278	5.24	5	5	
Ethyl t-butyl ether	0.6334	0.6473	5.11	5	2	
# cis-1,2-Dichloroethene	0.2735	0.2705	4.95	5	-1	#
2,2-Dichloropropane	0.3622	0.3581	4.94	5	-1	
# 2-Butanone	9.3967	9.8786	39.42	37.5	5	#
Propionitrile	2.2326	1.9908	33.44	37.5	-11	
Methacrylonitrile	9.3346	9.9059	39.79	37.5	6	
Bromochloromethane	0.1081	0.1030	4.76	5	-5	
Tetrahydrofuran	2.3474	2.5916	27.60	25	10	
# Chloroform	0.4561	0.4474	4.90	5	-2	#

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	$\overline{RRF}$	RRF	CONC.	CONC.	DRIFT	
# 1,1,1-Trichloroethane	0.3884	0.3842	4.95	5	-1	#
# Cyclohexane	0.4789	0.4672	4.88	5	-2	#
1,1-Dichloropropene	0.3608	0.3475	4.82	5	-4	
# Carbon Tetrachloride	0.3261	0.3228	4.95	5	-1	#
Isobutyl Alcohol	0.5398	0.4588	106.24	125	-15	
# Benzene	1.0476	1.0316	4.92	5	-2	#
# 1,2-Dichloroethane	0.2504	0.2480	4.95	5	-1	#
t-Amyl methyl ether	0.5150	0.5312	5.16	5	3	
n-Heptane	0.4422	0.4200	4.75	5	-5	
n-Butanol	0.3975	0.3248	204.31	250	-18	
# Trichloroethene	0.2773	0.2732	4.93	5	-1	#
# Methylcyclohexane	0.4685	0.4354	4.65	5	-7	#
# 1,2-Dichloropropane	0.2732	0.2741	5.02	5	0	#
Methyl Methacrylate	17.076	20.3330	5.95	5	19	
Dibromomethane	0.1053	0.1064	5.05	5	1	
1,4-Dioxane	0.0914	0.0845	106.94	125	-14	
# Bromodichloromethane	0.2884	0.2875	4.98	5	0	#
2-Nitropropane	5.6321	5.9564	5.29	5	6	
# cis-1,3-Dichloropropene	0.3252	0.3228	4.96	5	-1	#
# 4-Methyl-2-Pentanone	24.899	025.8929	26.00	25	4	#
# Toluene	0.9659	1.0092	5.22	5	4	#
# trans-1,3-Dichloropropene	0.3763	0.3939	5.23	5	5	#
Ethyl Methacrylate	0.2783	0.3044	5.47	5	9	
# 1,1,2-Trichloroethane	0.2244	0.2279	5.08	5	2	#
# Tetrachloroethene	0.4480	0.4686	5.23	5	5	#
1,3-Dichloropropane	0.4016	0.4181	5.21	5	4	
# 2-Hexanone	17.548	018.1251	25.82	25	3	#
# Dibromochloromethane	0.2659	0.2644	4.97	5	-1	#
# 1,2-Dibromoethane	0.2122	0.2197	5.18	5	4	#
# Chlorobenzene	1.0532	1.0639	5.05	5	1	#
1,1,1,2-Tetrachloroethane	0.3507	0.3536	5.04	5	1	
# Ethylbenzene	1.8717	1.9345	5.17	5	3	#
# m+p-Xylene	0.7117	0.7507	10.55	10	5	#
# o-Xylene	0.6835	0.7114	5.20	5	4	#
# Styrene	1.0436	1.1469	5.49	5	10	#
# Bromoform	0.1328	0.1344	5.06	5	1	#

Compounds with required minimum RRF.
Maximum % Drift = 30 %

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 04/19/17 Time: 15:01

Lab File ID: ha19v01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

	COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
#	Isopropylbenzene	1.7886	1.9179	5.36	5	7	#
#	1,1,2,2-Tetrachloroethane	0.6454	0.6339	4.91	5	-2	#
	Bromobenzene	0.9841	0.9840	5.00	5	0	
	trans-1,4-Dichloro-2-butene	6.6109	6.5801	24.88	25	0	
	1,2,3-Trichloropropane	0.1615	0.1668	5.17	5	3	
	n-Propylbenzene	5.2618	5.4619	5.19	5	4	
	2-Chlorotoluene	0.9951	1.0144	5.10	5	2	
	1,3,5-Trimethylbenzene	3.5405	3.6946	5.22	5	4	
	4-Chlorotoluene	1.0002	1.0212	5.11	5	2	
	tert-Butylbenzene	0.7689	0.8211	5.34	5	7	
	Pentachloroethane	0.5745	0.6146	5.35	5	7	
	1,2,4-Trimethylbenzene	3.5290	3.7023	5.25	5	5	
	sec-Butylbenzene	4.6141	4.8149	5.22	5	4	
#	1,3-Dichlorobenzene	1.9335	1.9383	5.01	5	0	#
	p-Isopropyltoluene	3.7754	3.9943	5.29	5	6	
#	1,4-Dichlorobenzene	2.0150	1.9524	4.84	5	-3	#
	1,2,3-Trimethylbenzene	1.5557	1.6629	5.34	5	7	
	Benzyl Chloride	0.2034	0.2151	5.29	5	6	
	n-Butylbenzene	1.8539	2.0074	5.41	5	8	
#	1,2-Dichlorobenzene	1.7173	1.7188	5.00	5	0	#
#	1,2-Dibromo-3-chloropropane	3.6881	3.8604	5.23	5	5	#
#	1,2,4-Trichlorobenzene	1.1074	1.0738	4.85	5	-3	#
	Hexachlorobutadiene	0.5485	0.4863	4.43	5	-11	
	Naphthalene	1.6295	1.6181	4.96	5	-1	
	1,2,3-Trichlorobenzene	0.9356	0.8721	4.66	5	-7	

Average %Drift 5

Compounds with required minimum RRF.
Maximum % Drift = 30 %

^

6A

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date(s): 05/25/17 05/25/17

Heated Purge: (Y/N) Y Calibration Times: 11:03 13:05

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

LAB FILE ID: RRF0.2= hy25i07.d RRF0.5= hy25i06.d RRF 1 = hy25i05.d
RRF 2 = hy25i04.d RRF 5 = hy25i03.d RRF 10= hy25i02.d RRF 25= hy25i01.d

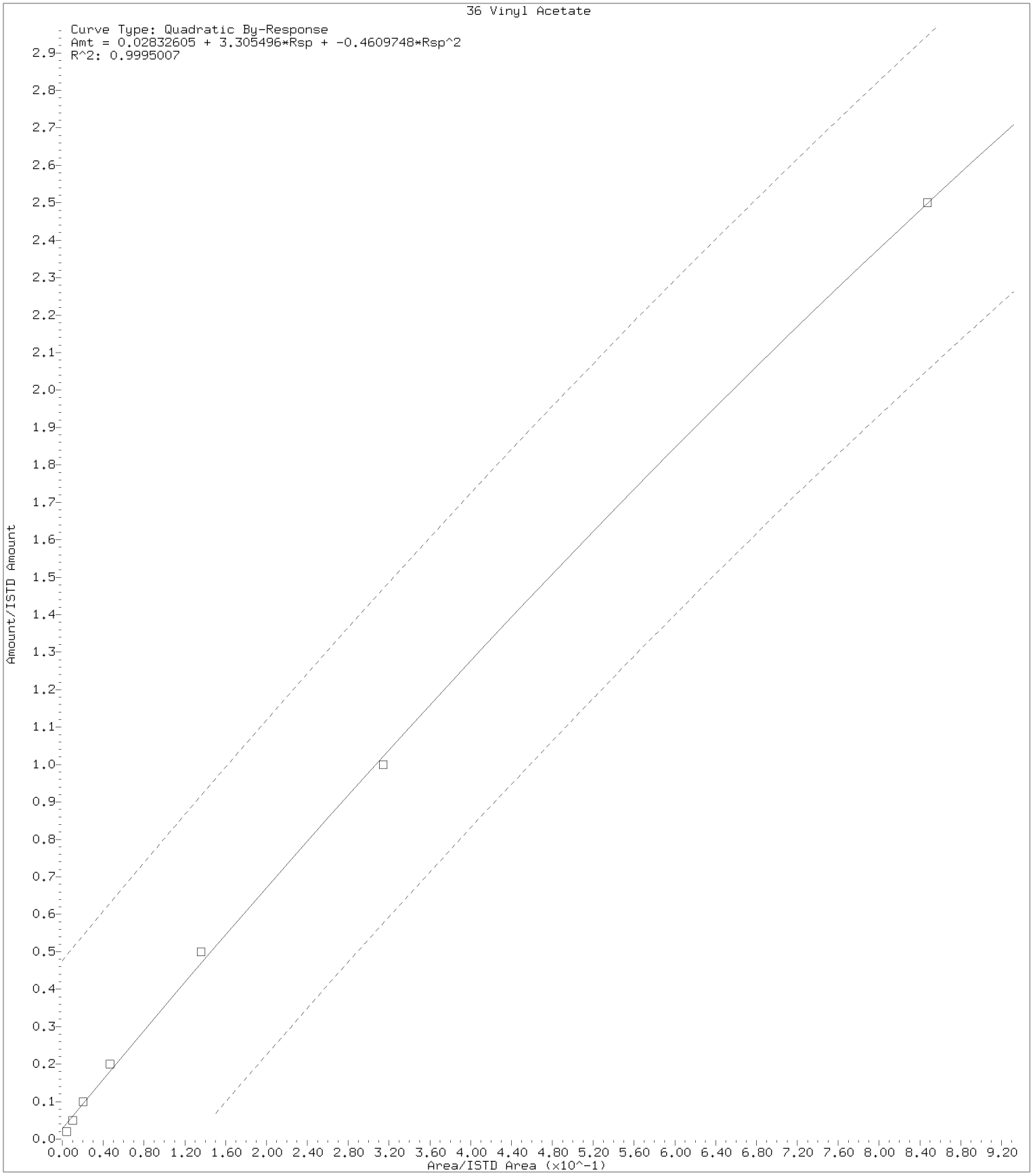
COMPOUND	RRF0.2	RRF0.5	RRF 1	RRF 2	RRF 5	RRF 10	RRF 25	RRF	% RSD	CAL. METHOD
1-Chlorobutane	0.4907	0.4982	0.5136	0.5415	0.5750	0.5826	0.4847	0.5266	8	AVG
2-Chloroethyl vinyl ether		0.0777	0.0780	0.0912	0.1079	0.1143	0.1162	0.0975	18	AVG
Acetonitrile	2.4733	2.5691	2.5970	2.5053	2.3943	2.3986	2.3479	2.4694	4	AVG
Chloroacetonitrile	0.0047	0.0056	0.0060	0.0064	0.0069	0.0072	0.0060	0.0061	13	AVG
Cyclohexanone	0.4640	0.5618	0.6808	0.7024	0.9115	0.9990	1.0966	0.7737	30	2NDDEG
Hexachloroethane	0.9093	0.8632	0.8102	0.8110	0.8063	0.8019	0.6584	0.8086	10	AVG
Methyl Acrylate		0.0713	0.0847	0.0997	0.1118	0.1215	0.1052	0.0990	19	AVG
Vinyl Acetate	0.2039	0.2052	0.2048	0.2344	0.2715	0.3142	0.3389	0.2533	22	2NDDEG
cis-1,4-Dichloro-2-butene		1.9298	2.9329	3.0991	3.2015	3.6294	4.3952	3.1980	25	2NDDEG
Dimethyl ether		0.3851	0.3457	0.3375	0.3616	0.3615	0.4041	0.3659	7	AVG

Average %RSD 16

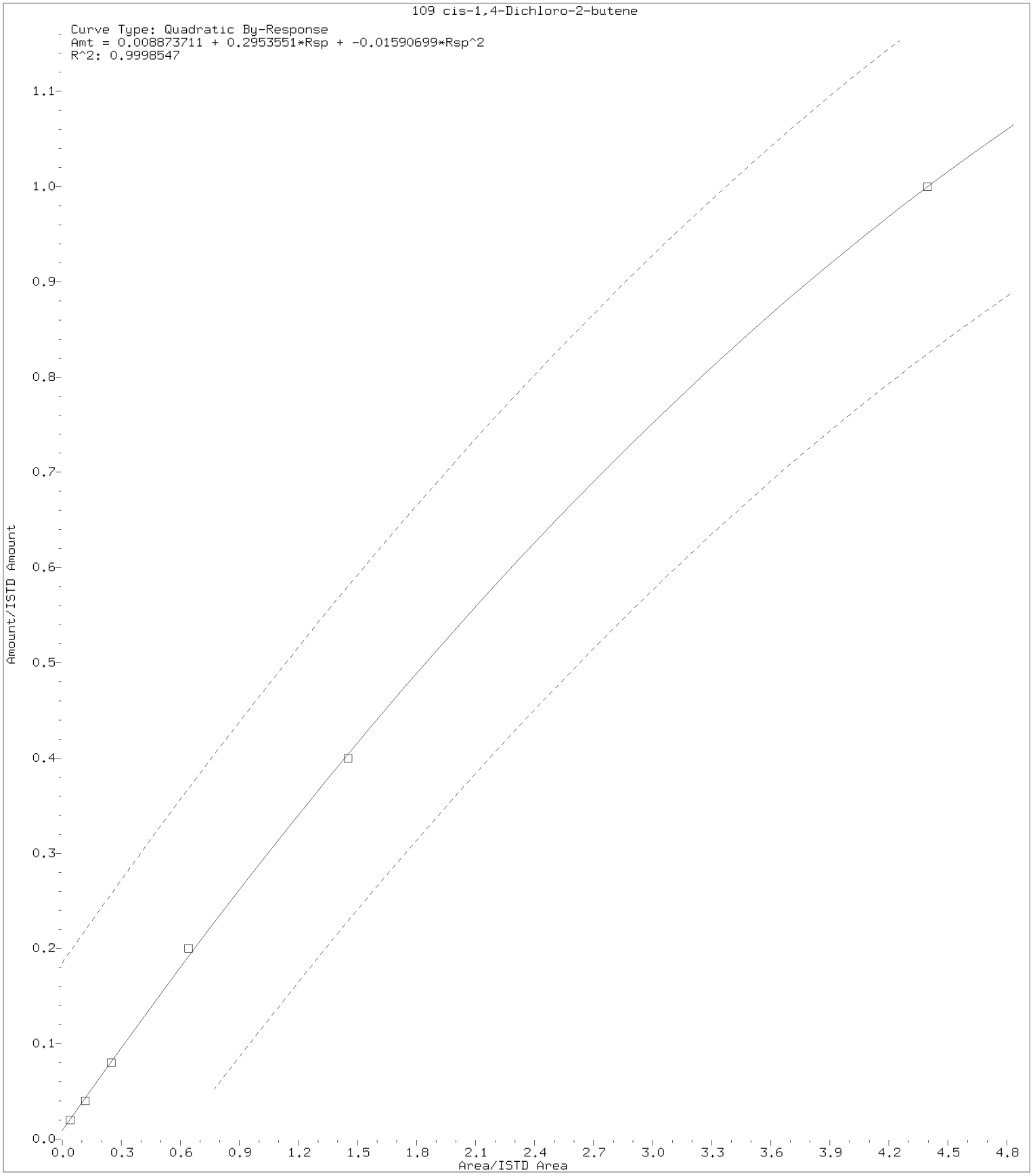
Compounds with required minimum RRF.
All compounds must meet a maximum %RSD of 20.

FORM VI VOA

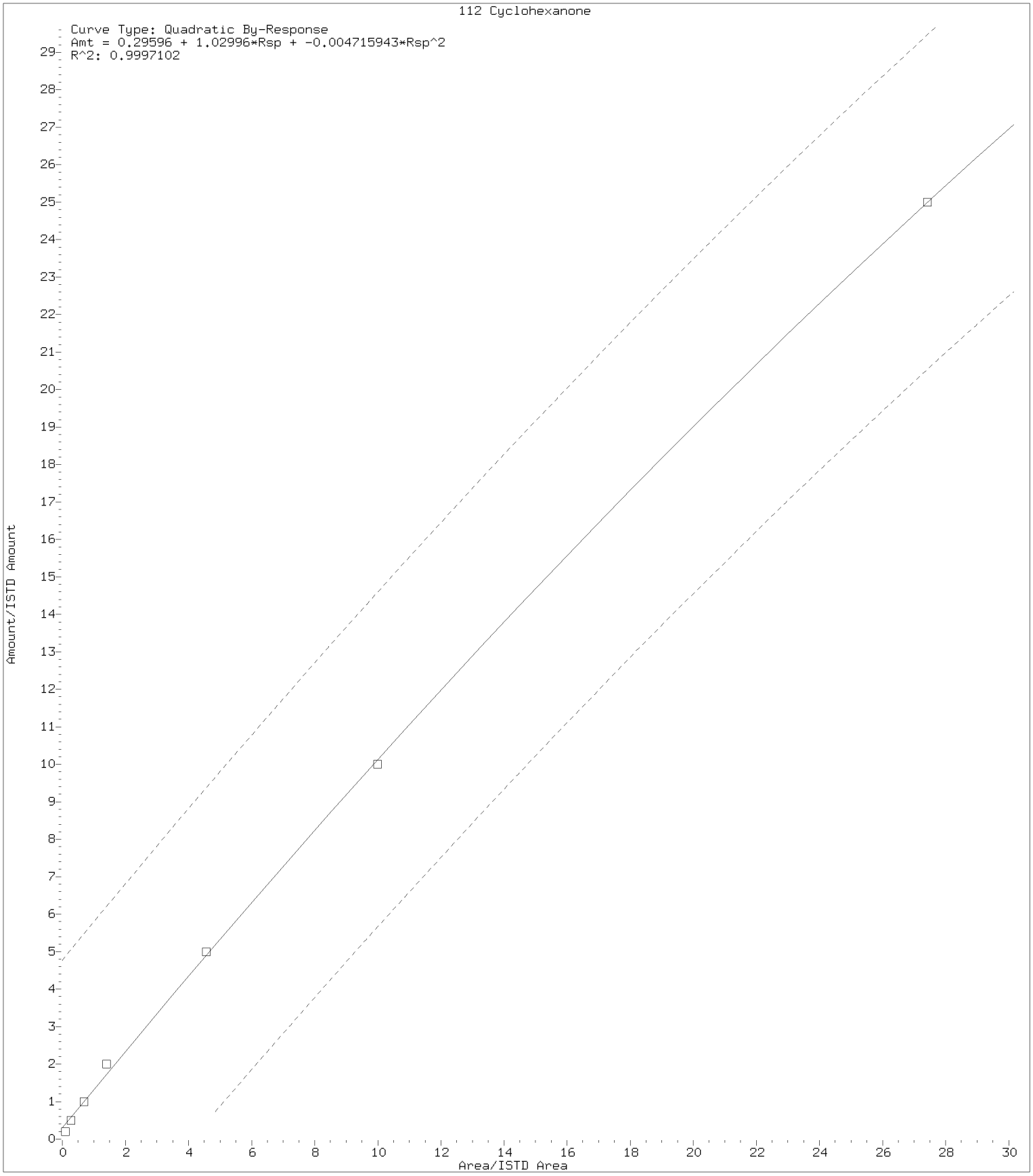
^



Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:10.
Target 3.5 esignature user ID: kel01973



Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:10.
Target 3.5 esignature user ID: kel01973



Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:10.
Target 3.5 esignature user ID: kel01973

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem2/HP19094.i/17may25a.b/hy25i01.d	VSTD025
/chem2/HP19094.i/17may25a.b/hy25i02.d	VSTD010
/chem2/HP19094.i/17may25a.b/hy25i03.d	VSTD005
/chem2/HP19094.i/17may25a.b/hy25i04.d	VSTD002
/chem2/HP19094.i/17may25a.b/hy25i05.d	VSTD001
/chem2/HP19094.i/17may25a.b/hy25i06.d	VSTD0.5
/chem2/HP19094.i/17may25a.b/hy25i07.d	VSTD0.2

Area Summary

File ID:

Internal Standard Name	hy25i01.d	hy25i02.d	hy25i03.d	hy25i04.d	hy25i05.d	hy25i06.d	hy25i07.d	Avg. Area	%RSD	In Spec
t-Butyl Alcohol-d10	91060	86563	83504	77580	74618	79155	69676	80308	9	Yes
Fluorobenzene	2565174	2493799	2442823	2395429	2392493	2355543	2344623	2427126	3	Yes
1,4-Dichlorobenzene-d4	748155	714468	670917	644198	622280	609568	589379	656995	9	Yes
Chlorobenzene-d5	1779509	1712772	1678316	1632772	1610782	1578744	1570922	1651974	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	hy25i01.d	hy25i02.d	hy25i03.d	hy25i04.d	hy25i05.d	hy25i06.d	hy25i07.d	Avg. RT
t-Butyl Alcohol-d10	4.251	4.251	4.257	4.257	4.269	4.275	4.251	4.259
Fluorobenzene	7.775	7.775	7.775	7.775	7.775	7.781	7.775	7.775
1,4-Dichlorobenzene-d4	13.121	13.121	13.121	13.121	13.121	13.121	13.127	13.122
Chlorobenzene-d5	11.237	11.243	11.243	11.237	11.243	11.244	11.243	11.242

* indicates the retention time is greater than 30 seconds from the average RT.

Report generated on 05/25/2017 at 15:41.

INITIAL CALIBRATION VERIFICATION

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 ICV Date: 05/25/17 Time: 15:09

Lab File ID: hy25v01.d Init. Calib. Date(s): 05/25/17 05/25/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	$\overline{RRF}$	RRF	ACTUAL CONC.	TRUE CONC.	% DRIFT	
1-Chlorobutane	0.5266	0.5435	5.16	5	3	
2-Chloroethyl vinyl ether	0.0975	0.1051	5.39	5	8	
Acetonitrile	2.4694	2.9078	44.16	37.5	18	
Chloroacetonitrile	0.0061	0.0065	264.29	250	6	
Cyclohexanone	0.7737	0.5404	83.95	125	-33	<-
Hexachloroethane	0.8086	0.7385	4.57	5	-9	
Methyl Acrylate	0.0990	0.1210	30.56	25	22	
Vinyl Acetate	0.2533	0.2988	11.99	12.5	-4	
cis-1,4-Dichloro-2-butene	3.1980	3.0545	11.26	12.5	-10	
Dimethyl ether	0.3659	0.3589	4.90	5	-2	
			Average %Drift		12	

Compounds with required minimum RRF.
Maximum % Drift = 30 %

page 1 of 1 FORM VII VOA

^

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem/HP09915.i/17apr26a.b/la26i07.d
/chem/HP09915.i/17apr26a.b/la26i06.d
/chem/HP09915.i/17apr26a.b/la26i05.d
/chem/HP09915.i/17apr26a.b/la26i04.d
/chem/HP09915.i/17apr26a.b/la26i03.d
/chem/HP09915.i/17apr26a.b/la26i02.d
/chem/HP09915.i/17apr26a.b/la26i01.d

File /chem/HP09915.i/17apr26a.b/la26i03.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem/HP09915.i/17may23a.b/ly23c01.d

RT Summary

Internal Standard Name	File ID: ly23c01.d	ICAL RT	In Spec
t-Butyl alcohol-d10	3.575	3.565	Yes
Fluorobenzene	7.047	7.053	Yes
Chlorobenzene-d5	10.709	10.712	Yes
1,4-Dichlorobenzene-d4	12.639	12.642	Yes

A "No" indicates the retention time is greater than 10 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: ly23c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl alcohol-d10	237435	194134	97067	388268	Yes
Fluorobenzene	1180273	1036296	518148	2072592	Yes
Chlorobenzene-d5	898036	803001	401500	1606002	Yes
1,4-Dichlorobenzene-d4	484442	430663	215332	861326	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

report generated on 05/23/2017 at 09:57

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date: 05/23/17 Time: 09:10

Lab File ID: ly23c01.d Init. Calib. Date(s): 04/26/17 04/26/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF50	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.2979	0.2889	48.51	50	-3	#
# Chloromethane	0.3060	0.2956	48.31	50	-3	#
1,3-Butadiene	0.1802	0.3406	94.48	50	89	<-
# Vinyl Chloride	0.2955	0.2841	48.07	50	-4	#
# Bromomethane	0.1987	0.1917	48.23	50	-4	#
# Chloroethane	0.1665	0.1599	48.02	50	-4	#
n-Pentane	0.2818	0.2990	53.06	50	6	
# Trichlorofluoromethane	0.3422	0.3168	46.29	50	-7	#
Ethyl ether	0.1905	0.1360	35.71	50	-29	<-
Freon 123a	0.2279	0.2314	50.77	50	2	
Acrolein	2.0465	1.8132	442.99	500	-11	
# 1,1-Dichloroethene	0.1811	0.1766	48.76	50	-2	#
# 1,1-Dichloroethene(2)	0.0917	0.0897	48.90	50	-2	#<-
# Acetone	0.8882	0.8767	98.71	100	-1	#
# Freon 113	0.1823	0.1873	51.37	50	3	#
2-Propanol	0.5888	0.5640	239.46	250	-4	
Methyl Iodide	0.3513	0.3644	51.87	50	4	
# Carbon Disulfide	0.5893	0.6517	55.29	50	11	#
Allyl Chloride	0.3627	0.3326	45.84	50	-8	
# Methyl Acetate	0.2628	0.2555	48.60	50	-3	#
# Methylene Chloride	0.2392	0.2238	46.78	50	-6	#
t-Butyl alcohol	0.9673	1.0127	261.74	250	5	
Acrylonitrile	0.1380	0.1382	50.05	50	0	
# trans-1,2-Dichloroethene	0.2125	0.2107	49.58	50	-1	#
# Methyl Tertiary Butyl Ether	0.6634	0.6872	51.79	50	4	#
n-Hexane	0.3257	0.3260	50.04	50	0	
# 1,1-Dichloroethane	0.3993	0.3895	48.77	50	-2	#
di-Isopropyl ether	0.7663	0.7383	48.17	50	-4	
2-Chloro-1,3-butadiene	0.3368	0.3337	49.55	50	-1	
Ethyl t-butyl ether	0.6595	0.6812	51.65	50	3	
# cis-1,2-Dichloroethene	0.2435	0.2396	49.20	50	-2	#
# 2-Butanone	0.1848	0.1787	96.71	100	-3	#
2,2-Dichloropropane	0.2666	0.2729	51.19	50	2	
Propionitrile	1.4118	1.3324	235.95	250	-6	
Methacrylonitrile	0.1376	0.1373	124.69	125	0	
Bromochloromethane	0.1283	0.1251	48.75	50	-2	

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date: 05/23/17 Time: 09:10

Lab File ID: ly23c01.d Init. Calib. Date(s): 04/26/17 04/26/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	Tetrahydrofuran	1.2470	1.1433	91.68	100	-8	
#	Chloroform	0.3805	0.3677	48.31	50	-3	#
#	1,1,1-Trichloroethane	0.3478	0.2942	42.30	50	-15	#
#	Cyclohexane	0.3959	0.3769	47.59	50	-5	#
#	Cyclohexane(2)	0.3237	0.3155	48.73	50	-3	#
#	Cyclohexane(3)	0.1148	0.1118	48.71	50	-3	#
	1,1-Dichloropropene	0.3095	0.2967	47.93	50	-4	
#	Carbon Tetrachloride	0.2539	0.2423	47.72	50	-5	#
	Isobutyl Alcohol	0.3396	0.3451	635.13	625	2	
#	Benzene	0.9124	0.8867	48.59	50	-3	#
#	1,2-Dichloroethane	0.3087	0.3045	49.32	50	-1	#
#	1,2-Dichloroethane(2)	0.0274	0.0295	53.88	50	8	#<-
	t-Amyl methyl ether	0.6545	0.6657	50.86	50	2	
	n-Heptane	0.3647	0.3470	47.58	50	-5	
	n-Butanol	0.2738	0.2936	1340.43	1250	7	
#	Trichloroethene	0.2358	0.2253	47.78	50	-4	#
#	Methylcyclohexane	0.4155	0.3859	46.44	50	-7	#
#	Methylcyclohexane(2)	0.1875	0.1774	47.30	50	-5	#
#	1,2-Dichloropropane	0.2498	0.2393	47.91	50	-4	#
	Dibromomethane	0.1571	0.1554	49.47	50	-1	
	1,4-Dioxane	0.0855	0.1030	752.92	625	20	
	Methyl Methacrylate	0.2138	0.2204	51.54	50	3	
#	Bromodichloromethane	0.2835	0.2808	49.52	50	-1	#
	2-Nitropropane	0.0804	0.0834	103.70	100	4	
	2-Chloroethyl Vinyl Ether	0.1920	0.1943	50.61	50	1	
#	cis-1,3-Dichloropropene	0.3695	0.3654	49.45	50	-1	#
#	4-Methyl-2-pentanone	0.3808	0.3681	96.66	100	-3	#
#	Toluene	0.7419	0.7356	49.58	50	-1	#
#	trans-1,3-Dichloropropene	0.4160	0.4306	51.76	50	4	#
	Ethyl Methacrylate	0.4686	0.5023	53.60	50	7	
#	1,1,2-Trichloroethane	0.2859	0.2893	50.59	50	1	#
#	Tetrachloroethene	0.3281	0.3100	47.23	50	-6	#
	1,3-Dichloropropane	0.4961	0.4978	50.17	50	0	
#	2-Hexanone	0.3581	0.3555	99.28	100	-1	#
#	Dibromochloromethane	0.2961	0.2924	49.37	50	-1	#
#	1,2-Dibromoethane	0.3130	0.3185	50.88	50	2	#

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date: 05/23/17 Time: 09:10

Lab File ID: ly23c01.d Init. Calib. Date(s): 04/26/17 04/26/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

	COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT	
	1-Chlorohexane	0.4261	0.3970	46.59	50	-7	
#	Chlorobenzene	0.8561	0.8371	48.89	50	-2	#
	1,1,1,2-Tetrachloroethane	0.2827	0.2810	49.70	50	-1	
#	Ethylbenzene	1.4311	1.4216	49.67	50	-1	#
#	m+p-Xylene	0.5571	0.5539	99.41	100	-1	#
#	o-Xylene	0.5541	0.5545	50.04	50	0	#
#	Styrene	0.9159	0.9462	51.65	50	3	#
#	Bromoform	0.2150	0.2097	48.78	50	-2	#
#	Isopropylbenzene	1.4160	1.4100	49.79	50	0	#
	Cyclohexanone	0.3224	0.2873	556.93	625	-11	
	Bromobenzene	0.7147	0.6920	48.41	50	-3	
#	1,1,2,2-Tetrachloroethane	0.8875	0.8756	49.33	50	-1	#
	1,2,3-Trichloropropane	0.2509	0.2518	50.19	50	0	
	trans-1,4-Dichloro-2-butene	0.2543	0.1154	56.73	125	-55	<-
	n-Propylbenzene	3.1580	3.1003	49.09	50	-2	
	2-Chlorotoluene	0.6573	0.6412	48.78	50	-2	
	4-Chlorotoluene	0.6841	0.6648	48.59	50	-3	
	1,3,5-Trimethylbenzene	2.2520	2.2446	49.84	50	0	
	tert-Butylbenzene	0.4868	0.4736	48.65	50	-3	
	Pentachloroethane	0.3843	0.3771	49.05	50	-2	
	1,2,4-Trimethylbenzene	2.3197	2.3090	49.77	50	0	
	sec-Butylbenzene	2.8726	2.8556	49.70	50	-1	
#	1,3-Dichlorobenzene	1.3607	1.3035	47.90	50	-4	#
	p-Isopropyltoluene	2.5364	2.4744	48.78	50	-2	
#	1,4-Dichlorobenzene	1.4070	1.3352	47.45	50	-5	#
	1,2,3-Trimethylbenzene	2.4304	2.4029	49.43	50	-1	
	Benzyl Chloride	1.4717	1.5906	54.04	50	8	
	1,3-Diethylbenzene	1.5153	1.4863	49.04	50	-2	
	1,4-Diethylbenzene	1.5913	1.5352	48.24	50	-4	
#	1,2-Dichlorobenzene	1.3375	1.2841	48.00	50	-4	#
	n-Butylbenzene	1.2670	1.2291	48.50	50	-3	
	1,2-Diethylbenzene	1.2752	1.2444	48.79	50	-2	
#	1,2-Dibromo-3-chloropropane	0.1877	0.1843	49.10	50	-2	#
	1,3,5-Trichlorobenzene	1.0844	0.9737	44.90	50	-10	
#	1,2,4-Trichlorobenzene	1.0519	0.9519	45.25	50	-10	#
	Hexachlorobutadiene	0.4568	0.3849	42.12	50	-16	

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP09915 Calibration Date: 05/23/17 Time: 09:10

Lab File ID: ly23c01.d Init. Calib. Date(s): 04/26/17 04/26/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: Rxi-624Sil .25

COMPOUND	RRF	RRF50	ACTUAL CONC.	TRUE CONC.	% DRIFT
Naphthalene	3.1742	3.0550	48.12	50	-4
1,2,3-Trichlorobenzene	1.0148	0.9199	45.32	50	-9
2-Methylnaphthalene	2.0525	1.7569	42.80	50	-14
Dibromofluoromethane	0.2441	0.2386	48.86	50	-2
Dibromofluoromethane(2)	0.2502	0.2453	49.03	50	-2
1,2-Dichloroethane-d4	0.0607	0.0601	49.48	50	-1
1,2-Dichloroethane-d4(2)	0.2872	0.2842	49.49	50	-1
1,2-Dichloroethane-d4(3)	0.0385	0.0389	50.48	50	1
Toluene-d8	1.2766	1.2800	50.13	50	0
Toluene-d8(2)	0.8411	0.8427	50.10	50	0
4-Bromofluorobenzene	0.4745	0.4796	50.54	50	1
4-Bromofluorobenzene(2)	0.4162	0.4098	49.22	50	-2

Average %Drift 5

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP19094.i/17apr19a.b/ha19i07.d
/chem2/HP19094.i/17apr19a.b/ha19i06.d
/chem2/HP19094.i/17apr19a.b/ha19i05.d
/chem2/HP19094.i/17apr19a.b/ha19i04.d
/chem2/HP19094.i/17apr19a.b/ha19i03.d
/chem2/HP19094.i/17apr19a.b/ha19i02.d
/chem2/HP19094.i/17apr19a.b/ha19i01.d

File /chem2/HP19094.i/17apr19a.b/ha19i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP19094.i/17may26a.b/hy26c01.d

RT Summary

Internal Standard Name	File ID: hy26c01.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.251	4.299	Yes
Fluorobenzene	7.775	7.781	Yes
Chlorobenzene-d5	11.237	11.243	Yes
1,4-Dichlorobenzene-d4	13.121	13.121	Yes

A "No" indicates the retention time is greater than 10 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: hy26c01.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	90802	67885	33942	135770	Yes
Fluorobenzene	2563780	2863672	1431836	5727344	Yes
Chlorobenzene-d5	1785936	1964158	982079	3928316	Yes
1,4-Dichlorobenzene-d4	779232	868838	434419	1737676	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/26/17 Time: 08:55

Lab File ID: hy26c01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.3869	0.3485	9.01	10	-10	#
# Chloromethane	0.4062	0.4336	10.68	10	7	#
# Vinyl Chloride	0.3565	0.3887	10.90	10	9	#
1,3-Butadiene	0.5616	0.5168	9.20	10	-8	
# Bromomethane	0.2239	0.2530	11.30	10	13	#
# Chloroethane	0.2042	0.2284	11.18	10	12	#
Dichlorofluoromethane	0.4699	0.5601	11.92	10	19	
# Trichlorofluoromethane	0.4131	0.4513	10.92	10	9	#
Ethyl ether	0.1637	0.1846	11.28	10	13	
Freon 123a	0.3117	0.3577	11.48	10	15	
Acrolein	3.8045	2.8435	373.70	500	-25	<-
# 1,1-Dichloroethene	0.2219	0.2286	10.30	10	3	#
# Freon 113	0.2335	0.2670	11.43	10	14	#
# Acetone	4.6070	5.0117	108.78	100	9	#
Methyl Iodide	0.4121	0.4569	11.09	10	11	
# Carbon Disulfide	0.6225	0.7391	11.87	10	19	#
Allyl Chloride	0.4306	0.4521	10.50	10	5	
# Methyl Acetate	15.6550	13.3287	8.51	10	-15	#
# Methylene Chloride	0.2423	0.2601	10.74	10	7	#
t-Butyl Alcohol	1.2510	1.4457	231.12	200	16	
Acrylonitrile	6.2257	6.3707	51.16	50	2	
# trans-1,2-Dichloroethene	0.2450	0.2709	11.06	10	11	#
# Methyl Tertiary Butyl Ether	0.4445	0.5032	11.32	10	13	#
n-Hexane	0.3756	0.4378	11.66	10	17	
# 1,1-Dichloroethane	0.4834	0.5330	11.02	10	10	#
di-Isopropyl Ether	0.8239	0.9205	11.17	10	12	
2-Chloro-1,3-Butadiene	0.4085	0.4651	11.39	10	14	
Ethyl t-butyl ether	0.6334	0.7048	11.13	10	11	
# cis-1,2-Dichloroethene	0.2735	0.3033	11.09	10	11	#
2,2-Dichloropropane	0.3622	0.4110	11.35	10	13	
# 2-Butanone	9.3967	8.6255	91.79	100	-8	#
Propionitrile	2.2326	2.4343	218.07	200	9	
Methacrylonitrile	9.3346	8.1246	87.04	100	-13	
Bromochloromethane	0.1081	0.1198	11.08	10	11	
Tetrahydrofuran	2.3474	2.1210	90.35	100	-10	
# Chloroform	0.4561	0.4857	10.65	10	6	#

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/26/17 Time: 08:55

Lab File ID: hy26c01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# 1,1,1-Trichloroethane	0.3884	0.4093	10.54	10	5	#
# Cyclohexane	0.4789	0.5343	11.16	10	12	#
# Cyclohexane(2)	0.3681	0.4243	11.53	10	15	#
# Cyclohexane(3)	0.1344	0.1576	11.73	10	17	#
1,1-Dichloropropene	0.3608	0.4051	11.23	10	12	
# Carbon Tetrachloride	0.3261	0.3633	11.14	10	11	#
Isobutyl Alcohol	0.5398	0.5952	551.29	500	10	
# Benzene	1.0476	1.1557	11.03	10	10	#
# 1,2-Dichloroethane	0.2504	0.2811	11.22	10	12	#
t-Amyl methyl ether	0.5150	0.5901	11.46	10	15	
n-Heptane	0.4422	0.5068	11.46	10	15	
n-Butanol	0.3975	0.4671	1175.10	1000	18	
# Trichloroethene	0.2773	0.2976	10.73	10	7	#
# Methylcyclohexane	0.4685	0.5270	11.25	10	12	#
# 1,2-Dichloropropane	0.2732	0.3017	11.04	10	10	#
Methyl Methacrylate	17.076	15.3425	8.98	10	-10	
Dibromomethane	0.1053	0.1211	11.50	10	15	
1,4-Dioxane	0.0914	0.1153	598.70	500	20	
# Bromodichloromethane	0.2884	0.3333	11.56	10	16	#
2-Nitropropane	5.6321	4.9520	87.92	100	-12	
# cis-1,3-Dichloropropene	0.3252	0.3885	11.95	10	19	#
# 4-Methyl-2-Pentanone	24.899	21.5481	86.54	100	-13	#
# Toluene	0.9659	1.0333	10.70	10	7	#
# trans-1,3-Dichloropropene	0.3763	0.4208	11.18	10	12	#
Ethyl Methacrylate	0.2783	0.3204	11.51	10	15	
# 1,1,2-Trichloroethane	0.2244	0.2410	10.74	10	7	#
# Tetrachloroethene	0.4480	0.4776	10.66	10	7	#
1,3-Dichloropropane	0.4016	0.4346	10.82	10	8	
# 2-Hexanone	17.548	14.4989	82.62	100	-17	#
# Dibromochloromethane	0.2659	0.3013	11.33	10	13	#
# 1,2-Dibromoethane	0.2122	0.2240	10.56	10	6	#
# Chlorobenzene	1.0532	1.1357	10.78	10	8	#
1,1,1,2-Tetrachloroethane	0.3507	0.3798	10.83	10	8	
# Ethylbenzene	1.8717	2.0375	10.89	10	9	#
# m+p-Xylene	0.7117	0.7921	22.26	20	11	#
# o-Xylene	0.6835	0.7609	11.13	10	11	#

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/26/17 Time: 08:55

Lab File ID: hy26c01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# Styrene	1.0436	1.2170	11.66	10	17	#
# Bromoform	0.1328	0.1576	11.87	10	19	#
# Isopropylbenzene	1.7886	1.9815	11.08	10	11	#
# 1,1,2,2-Tetrachloroethane	0.6454	0.6674	10.34	10	3	#
Bromobenzene	0.9841	1.0173	10.34	10	3	
trans-1,4-Dichloro-2-butene	6.6109	5.3077	80.29	100	-20	
1,2,3-Trichloropropane	0.1615	0.1610	9.97	10	0	
n-Propylbenzene	5.2618	5.6766	10.79	10	8	
2-Chlorotoluene	0.9951	1.0749	10.80	10	8	
1,3,5-Trimethylbenzene	3.5405	3.8805	10.96	10	10	
4-Chlorotoluene	1.0002	1.0916	10.91	10	9	
tert-Butylbenzene	0.7689	0.8227	10.70	10	7	
Pentachloroethane	0.5745	0.6538	11.38	10	14	
1,2,4-Trimethylbenzene	3.5290	3.8528	10.92	10	9	
sec-Butylbenzene	4.6141	4.9837	10.80	10	8	
# 1,3-Dichlorobenzene	1.9335	2.0165	10.43	10	4	#
p-Isopropyltoluene	3.7754	4.2025	11.13	10	11	
# 1,4-Dichlorobenzene	2.0150	1.9690	9.77	10	-2	#
1,2,3-Trimethylbenzene	1.5557	1.6719	10.75	10	7	
Benzyl Chloride	0.2034	0.2483	12.21	10	22	<-
n-Butylbenzene	1.8539	2.1713	11.71	10	17	
# 1,2-Dichlorobenzene	1.7173	1.7600	10.25	10	2	#
# 1,2-Dibromo-3-chloropropane	3.6881	3.0547	8.28	10	-17	#
# 1,2,4-Trichlorobenzene	1.1074	0.9411	8.50	10	-15	#
Hexachlorobutadiene	0.5485	0.5041	9.19	10	-8	
Naphthalene	1.6295	1.2797	7.85	10	-21	<-
1,2,3-Trichlorobenzene	0.9356	0.6580	7.03	10	-30	<-
Dibromofluoromethane	0.2242	0.2313	10.32	10	3	
Dibromofluoromethane(2)	0.2302	0.2357	10.24	10	2	
1,2-Dichloroethane-d4	0.0362	0.0377	10.41	10	4	
1,2-Dichloroethane-d4(2)	0.1764	0.1778	10.07	10	1	
1,2-Dichloroethane-d4(3)	0.0220	0.0239	10.88	10	9	
Toluene-d8	1.4618	1.4450	9.89	10	-1	
Toluene-d8(2)	0.9413	0.9309	9.89	10	-1	
4-Bromofluorobenzene	0.4153	0.4218	10.16	10	2	

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/26/17 Time: 08:55

Lab File ID: hy26c01.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
4-Bromofluorobenzene(2)	0.3697	0.3666	9.92	10	-1

Average %Drift 11

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP19094.i/17may25a.b/hy25i07.d
/chem2/HP19094.i/17may25a.b/hy25i06.d
/chem2/HP19094.i/17may25a.b/hy25i05.d
/chem2/HP19094.i/17may25a.b/hy25i04.d
/chem2/HP19094.i/17may25a.b/hy25i03.d
/chem2/HP19094.i/17may25a.b/hy25i02.d
/chem2/HP19094.i/17may25a.b/hy25i01.d

File /chem2/HP19094.i/17may25a.b/hy25i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP19094.i/17may26a.b/hy26c02.d

RT Summary

File ID:

Internal Standard Name	hy26c02.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.239	4.251	Yes
Fluorobenzene	7.775	7.775	Yes
1,4-Dichlorobenzene-d4	13.121	13.121	Yes
Chlorobenzene-d5	11.243	11.243	Yes

A "No" indicates the retention time is greater than 10 seconds from the referenced ICAL standard.

Area Summary

File ID:

Internal Standard Name	hy26c02.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	89333	86563	43282	173126	Yes
Fluorobenzene	2591421	2493799	1246900	4987598	Yes
1,4-Dichlorobenzene-d4	717330	714468	357234	1428936	Yes
Chlorobenzene-d5	1784286	1712772	856386	3425544	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/26/17 Time: 09:15

Lab File ID: hy26c02.d Init. Calib. Date(s): 05/25/17 05/25/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT	
Hexachloroethane	0.8086	0.8123	10.05	10	0	
Vinyl Acetate	0.2533	0.3209	10.42	10	4	
1-Chlorobutane	0.5266	0.5800	11.01	10	10	
2-Chloroethyl vinyl ether	0.0975	0.1136	11.65	10	16	
cis-1,4-Dichloro-2-butene	3.1980	4.9972	25.20	20	26	<-
Methyl Acrylate	0.0990	0.1193	60.25	50	20	
Cyclohexanone	0.7737	0.5391	267.66	500	-46	<-
Acetonitrile	2.4694	2.2201	384.73	400	-4	
Chloroacetonitrile	0.0061	0.0069	566.71	500	13	
Dimethyl ether	0.3659	0.3780	10.59	10	6	

Average %Drift 15

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

Lancaster Laboratories
Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP19094.i/17apr19a.b/ha19i07.d
/chem2/HP19094.i/17apr19a.b/ha19i06.d
/chem2/HP19094.i/17apr19a.b/ha19i05.d
/chem2/HP19094.i/17apr19a.b/ha19i04.d
/chem2/HP19094.i/17apr19a.b/ha19i03.d
/chem2/HP19094.i/17apr19a.b/ha19i02.d
/chem2/HP19094.i/17apr19a.b/ha19i01.d

File /chem2/HP19094.i/17apr19a.b/ha19i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP19094.i/17may25b.b/hy25c05.d

RT Summary

File ID:

Internal Standard Name	hy25c05.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.263	4.299	Yes
Fluorobenzene	7.781	7.781	Yes
Chlorobenzene-d5	11.244	11.243	Yes
1,4-Dichlorobenzene-d4	13.121	13.121	Yes

A "No" indicates the retention time is greater than 10 seconds from the referenced ICAL standard.

Area Summary

File ID:

Internal Standard Name	hy25c05.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	87627	67885	33942	135770	Yes
Fluorobenzene	2615487	2863672	1431836	5727344	Yes
Chlorobenzene-d5	1867782	1964158	982079	3928316	Yes
1,4-Dichlorobenzene-d4	838650	868838	434419	1737676	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments: _____

report generated on 05/25/2017 at 18:15

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/25/17 Time: 17:45

Lab File ID: hy25c05.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# Dichlorodifluoromethane	0.3869	0.3124	8.07	10	-19	#
# Chloromethane	0.4062	0.3790	9.33	10	-7	#
# Vinyl Chloride	0.3565	0.3577	10.03	10	0	#
1,3-Butadiene	0.5616	0.4642	8.27	10	-17	
# Bromomethane	0.2239	0.2398	10.71	10	7	#
# Chloroethane	0.2042	0.2125	10.40	10	4	#
Dichlorofluoromethane	0.4699	0.5181	11.02	10	10	
# Trichlorofluoromethane	0.4131	0.4165	10.08	10	1	#
Ethyl ether	0.1637	0.1827	11.16	10	12	
Freon 123a	0.3117	0.3334	10.69	10	7	
Acrolein	3.8045	2.7343	359.36	500	-28	<-
# 1,1-Dichloroethene	0.2219	0.2204	9.93	10	-1	#
# Freon 113	0.2335	0.2477	10.61	10	6	#
# Acetone	4.6070	4.5655	99.10	100	-1	#
Methyl Iodide	0.4121	0.4398	10.67	10	7	
# Carbon Disulfide	0.6225	0.6985	11.22	10	12	#
Allyl Chloride	0.4306	0.4364	10.14	10	1	
# Methyl Acetate	15.6550	15.2189	9.72	10	-3	#
# Methylene Chloride	0.2423	0.2567	10.60	10	6	#
t-Butyl Alcohol	1.2510	1.1364	181.68	200	-9	
Acrylonitrile	6.2257	6.6274	53.23	50	6	
# trans-1,2-Dichloroethene	0.2450	0.2556	10.43	10	4	#
# Methyl Tertiary Butyl Ether	0.4445	0.4936	11.10	10	11	#
n-Hexane	0.3756	0.3973	10.58	10	6	
# 1,1-Dichloroethane	0.4834	0.5117	10.59	10	6	#
di-Isopropyl Ether	0.8239	0.8797	10.68	10	7	
2-Chloro-1,3-Butadiene	0.4085	0.4410	10.80	10	8	
Ethyl t-butyl ether	0.6334	0.6787	10.72	10	7	
# cis-1,2-Dichloroethene	0.2735	0.2870	10.49	10	5	#
2,2-Dichloropropane	0.3622	0.3839	10.60	10	6	
# 2-Butanone	9.3967	9.1152	97.00	100	-3	#
Propionitrile	2.2326	2.4983	223.80	200	12	
Methacrylonitrile	9.3346	8.5027	91.09	100	-9	
Bromochloromethane	0.1081	0.1198	11.08	10	11	
Tetrahydrofuran	2.3474	2.2293	94.97	100	-5	
# Chloroform	0.4561	0.4645	10.18	10	2	#

Compounds with required minimum RRF.
All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/25/17 Time: 17:45

Lab File ID: hy25c05.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# 1,1,1-Trichloroethane	0.3884	0.3858	9.93	10	-1	#
# Cyclohexane	0.4789	0.4926	10.29	10	3	#
# Cyclohexane(2)	0.3681	0.3869	10.51	10	5	#
# Cyclohexane(3)	0.1344	0.1421	10.57	10	6	#
1,1-Dichloropropene	0.3608	0.3816	10.58	10	6	
# Carbon Tetrachloride	0.3261	0.3415	10.47	10	5	#
Isobutyl Alcohol	0.5398	0.5977	553.61	500	11	
# Benzene	1.0476	1.1123	10.62	10	6	#
# 1,2-Dichloroethane	0.2504	0.2781	11.10	10	11	#
t-Amyl methyl ether	0.5150	0.5803	11.27	10	13	
n-Heptane	0.4422	0.4626	10.46	10	5	
n-Butanol	0.3975	0.4425	1113.34	1000	11	
# Trichloroethene	0.2773	0.2834	10.22	10	2	#
# Methylcyclohexane	0.4685	0.4825	10.30	10	3	#
# 1,2-Dichloropropane	0.2732	0.2907	10.64	10	6	#
Methyl Methacrylate	17.0760	16.1972	9.49	10	-5	
Dibromomethane	0.1053	0.1182	11.23	10	12	
1,4-Dioxane	0.0914	0.0880	456.24	500	-9	
# Bromodichloromethane	0.2884	0.3269	11.33	10	13	#
2-Nitropropane	5.6321	5.1573	91.57	100	-8	
# cis-1,3-Dichloropropene	0.3252	0.3854	11.85	10	19	#
# 4-Methyl-2-Pentanone	24.8990	22.5876	90.71	100	-9	#
# Toluene	0.9659	0.9756	10.10	10	1	#
# trans-1,3-Dichloropropene	0.3763	0.4047	10.75	10	8	#
Ethyl Methacrylate	0.2783	0.3041	10.93	10	9	
# 1,1,2-Trichloroethane	0.2244	0.2318	10.33	10	3	#
# Tetrachloroethene	0.4480	0.4368	9.75	10	-2	#
1,3-Dichloropropane	0.4016	0.4178	10.40	10	4	
# 2-Hexanone	17.5480	15.7414	89.70	100	-10	#
# Dibromochloromethane	0.2659	0.2940	11.06	10	11	#
# 1,2-Dibromoethane	0.2122	0.2170	10.23	10	2	#
# Chlorobenzene	1.0532	1.0706	10.17	10	2	#
1,1,1,2-Tetrachloroethane	0.3507	0.3596	10.26	10	3	
# Ethylbenzene	1.8717	1.9087	10.20	10	2	#
# m+p-Xylene	0.7117	0.7476	21.01	20	5	#
# o-Xylene	0.6835	0.7173	10.50	10	5	#

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/25/17 Time: 17:45

Lab File ID: hy25c05.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

			ACTUAL	TRUE	%	
COMPOUND	RRF	RRF10	CONC.	CONC.	DRIFT	
# Styrene	1.0436	1.1514	11.03	10	10	#
# Bromoform	0.1328	0.1540	11.60	10	16	#
# Isopropylbenzene	1.7886	1.8526	10.36	10	4	#
# 1,1,2,2-Tetrachloroethane	0.6454	0.6238	9.66	10	-3	#
Bromobenzene	0.9841	0.9416	9.57	10	-4	
trans-1,4-Dichloro-2-butene	6.6109	5.0899	68.01	100	-32	<-
1,2,3-Trichloropropane	0.1615	0.1591	9.85	10	-1	
n-Propylbenzene	5.2618	5.1593	9.81	10	-2	
2-Chlorotoluene	0.9951	0.9824	9.87	10	-1	
1,3,5-Trimethylbenzene	3.5405	3.5195	9.94	10	-1	
4-Chlorotoluene	1.0002	1.0013	10.01	10	0	
tert-Butylbenzene	0.7689	0.7437	9.67	10	-3	
Pentachloroethane	0.5745	0.6053	10.54	10	5	
1,2,4-Trimethylbenzene	3.5290	3.5465	10.05	10	0	
sec-Butylbenzene	4.6141	4.5251	9.81	10	-2	
# 1,3-Dichlorobenzene	1.9335	1.8617	9.63	10	-4	#
p-Isopropyltoluene	3.7754	3.8469	10.19	10	2	
# 1,4-Dichlorobenzene	2.0150	1.8401	9.13	10	-9	#
1,2,3-Trimethylbenzene	1.5557	1.5458	9.94	10	-1	
Benzyl Chloride	0.2034	0.2315	11.38	10	14	
n-Butylbenzene	1.8539	1.9810	10.69	10	7	
# 1,2-Dichlorobenzene	1.7173	1.6189	9.43	10	-6	#
# 1,2-Dibromo-3-chloropropane	3.6881	3.3997	9.22	10	-8	#
# 1,2,4-Trichlorobenzene	1.1074	0.8897	8.03	10	-20	#
Hexachlorobutadiene	0.5485	0.4702	8.57	10	-14	
Naphthalene	1.6295	1.2565	7.71	10	-23	<-
1,2,3-Trichlorobenzene	0.9356	0.6591	7.04	10	-30	<-
Dibromofluoromethane	0.2242	0.2377	10.60	10	6	
Dibromofluoromethane(2)	0.2302	0.2434	10.57	10	6	
1,2-Dichloroethane-d4	0.0362	0.0393	10.85	10	9	
1,2-Dichloroethane-d4(2)	0.1764	0.1887	10.69	10	7	
1,2-Dichloroethane-d4(3)	0.0220	0.0242	11.03	10	10	
Toluene-d8	1.4618	1.4127	9.66	10	-3	
Toluene-d8(2)	0.9413	0.9104	9.67	10	-3	
4-Bromofluorobenzene	0.4153	0.4304	10.36	10	4	

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/25/17 Time: 17:45

Lab File ID: hy25c05.d Init. Calib. Date(s): 04/19/17 04/19/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
4-Bromofluorobenzene(2)	0.3697	0.3710	10.03	10	0

Average %Drift 7

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

Lancaster Laboratories

Continuing Calibration Internal Standard Check

Initial Calibration Standards:

/chem2/HP19094.i/17may25a.b/hy25i07.d
/chem2/HP19094.i/17may25a.b/hy25i06.d
/chem2/HP19094.i/17may25a.b/hy25i05.d
/chem2/HP19094.i/17may25a.b/hy25i04.d
/chem2/HP19094.i/17may25a.b/hy25i03.d
/chem2/HP19094.i/17may25a.b/hy25i02.d
/chem2/HP19094.i/17may25a.b/hy25i01.d

File /chem2/HP19094.i/17may25a.b/hy25i02.d is Mid Level Calibration Standard used for comparison.

Current Continuing Calibration Standard:

/chem2/HP19094.i/17may25b.b/hy25c06.d

RT Summary

Internal Standard Name	File ID: hy25c06.d	ICAL RT	In Spec
t-Butyl Alcohol-d10	4.245	4.251	Yes
Fluorobenzene	7.775	7.775	Yes
1,4-Dichlorobenzene-d4	13.121	13.121	Yes
Chlorobenzene-d5	11.243	11.243	Yes

A "No" indicates the retention time is greater than 10 seconds from the referenced ICAL standard.

Area Summary

Internal Standard Name	File ID: hy25c06.d	ICAL Area	Low Limit	High Limit	In Spec
t-Butyl Alcohol-d10	98745	86563	43282	173126	Yes
Fluorobenzene	2594780	2493799	1246900	4987598	Yes
1,4-Dichlorobenzene-d4	725518	714468	357234	1428936	Yes
Chlorobenzene-d5	1799300	1712772	856386	3425544	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

Comments:

report generated on 05/25/2017 at 18:29

7A

VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19094 Calibration Date: 05/25/17 Time: 18:06

Lab File ID: hy25c06.d Init. Calib. Date(s): 05/25/17 05/25/17

Matrix: (soil/water) WATER Level: (low/med) LOW GC Column: RXI-624SILM.25

COMPOUND	RRF	RRF10	ACTUAL CONC.	TRUE CONC.	% DRIFT
Hexachloroethane	0.8086	0.7750	9.58	10	-4
1-Chlorobutane	0.5266	0.5544	10.53	10	5
Vinyl Acetate	0.2533	0.3305	10.70	10	7
2-Chloroethyl vinyl ether	0.0975	0.1126	11.54	10	15
cis-1,4-Dichloro-2-butene	3.1980	3.6486	20.30	20	2
Methyl Acrylate	0.0990	0.1237	62.43	50	25
Acetonitrile	2.4694	2.2910	371.10	400	-7
Chloroacetonitrile	0.0061	0.0067	550.81	500	10
Dimethyl ether	0.3659	0.3464	9.47	10	-5

Average %Drift 9

Compounds with required minimum RRF.

All compounds must meet a maximum % Drift of 20.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID (Standard): ly23c01.d Date Analyzed: 05/23/17

Instrument ID: HP09915 Time Analyzed: 09:10

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	237435	3.575	1180273	7.047	898036	10.709	484442	12.638
UPPER LIMIT	474870	4.075	2360546	7.547	1796072	11.209	968884	13.138
LOWER LIMIT	118718	3.075	590136	6.547	449018	10.209	242221	12.138
LAB SAMPLE ID								
01 LCSL17	228523	3.568	1163804	7.047	880279	10.709	475781	12.642
02 VBLKL17	220736	3.571	1170006	7.047	878755	10.709	465202	12.642
03 8996725	249452	3.568	1236048	7.047	917118	10.709	478269	12.642
04 8999397	215433	3.562	1134120	7.047	850568	10.709	447973	12.642
05 9000612	216176	3.581	1136870	7.050	858664	10.709	451965	12.638
06 9000613	211618	3.568	1129571	7.047	850323	10.709	449577	12.642
07 9001163	210758	3.571	1099061	7.047	832616	10.709	441455	12.642
08 9001164	204003	3.565	1086498	7.047	825066	10.706	436413	12.638
09 8999785	205161	3.571	1084949	7.047	822874	10.709	437474	12.638
10 8999786	204431	3.574	1091893	7.050	824991	10.709	434488	12.642
11 8999787	202696	3.571	1074779	7.047	816634	10.709	424121	12.642
12 8999788	206469	3.574	1092997	7.047	830234	10.709	434763	12.638
13 8999789MS	207011	3.568	1089398	7.047	826975	10.709	439782	12.642
14 8999790MSD	212179	3.574	1059875	7.047	798006	10.709	425844	12.638
15 8999791	206383	3.578	1075462	7.050	808961	10.709	428627	12.642
16 8999792	207716	3.578	1074266	7.050	820649	10.709	434195	12.642
17 9000098	200332	3.565	1086586	7.047	826427	10.709	434961	12.642
18 9000098DL	205990	3.571	1074949	7.047	816440	10.709	428840	12.642
19 9000099	215264	3.565	1075226	7.047	804642	10.706	420981	12.638
20 9000100	210243	3.568	1051099	7.050	795883	10.709	422816	12.642
21 9000101	217624	3.578	1072088	7.050	819314	10.709	431946	12.642
22 9000102	215002	3.568	1109392	7.050	847564	10.709	447183	12.642

IS1 (TBA)=t-Butyl alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID (Standard): hy25c05.d Date Analyzed: 05/25/17

Instrument ID: HP19094 Time Analyzed: 17:45

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	87627	4.263	2615487	7.781	1867782	11.244	838650	13.121
UPPER LIMIT	175254	4.763	5230974	8.281	3735564	11.744	1677300	13.621
LOWER LIMIT	43814	3.763	1307744	7.281	933891	10.744	419325	12.621
LAB SAMPLE ID								
01 LCSH05	94100	4.251	2632488	7.775	1806719	11.237	791859	13.121
02 LCSH07	94727	4.251	2632466	7.775	1806719	11.237	791859	13.121
03 LCSH09	94727	4.251	2632466	7.775	1806719	11.237	791859	13.121
04 LCDH07	79869	4.251	2664533	7.775	1802996	11.244	780514	13.121
05 LCDH09	79869	4.251	2664533	7.775	1802996	11.244	780514	13.121
06 MDLH05 - MD	89738	4.263	2523802	7.775	1669597	11.243	663091	13.121
07 LCSH06	90122	4.239	2590664	7.775	1699337	11.243	644236	13.121
08 LCSH08	90122	4.239	2590664	7.775	1699337	11.243	644236	13.121
09 LCSH10	90122	4.239	2590664	7.775	1699337	11.243	644236	13.121
10 LCDH08	87207	4.251	2542798	7.774	1656646	11.237	622977	13.121
11 LCDH10	87207	4.251	2542798	7.774	1656646	11.237	622977	13.121
12 VBLKH05	77299	4.263	2426522	7.774	1630382	11.243	614796	13.121
13 VBLKH07	77299	4.263	2426522	7.774	1630382	11.243	614796	13.121
14 VBLKH09	77299	4.263	2426522	7.774	1630382	11.243	614796	13.121
15 8999798	90619	4.245	2379147	7.774	1502566	11.243	580336	13.127
16 8999799	69089	4.269	2399572	7.775	1664757	11.244	647414	13.121
17 8999788	81344	4.251	2424940	7.775	1661415	11.243	652008	13.121
18 8999789MS	91906	4.269	2598497	7.775	1803531	11.237	775593	13.121
19 8999790MSD	95842	4.239	2603081	7.774	1791932	11.237	774229	13.121
20 8999789MS1	85347	4.257	2564126	7.774	1706390	11.243	672918	13.121
21 8999790MSD1	88627	4.251	2557327	7.775	1684399	11.237	660469	13.121
22 8999788DL	81685	4.257	2443867	7.774	1637284	11.243	610076	13.121

IS1 (TBA)=t-Butyl Alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID (Standard): hy25c05.d Date Analyzed: 05/25/17

Instrument ID: HP19094 Time Analyzed: 17:45

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	87627	4.263	2615487	7.781	1867782	11.244	838650	13.121
UPPER LIMIT	175254	4.763	5230974	8.281	3735564	11.744	1677300	13.621
LOWER LIMIT	43814	3.763	1307744	7.281	933891	10.744	419325	12.621
LAB SAMPLE ID								
23 8999785	64203	4.257	2462514	7.774	1582091	11.243	605691	13.121
24 8999786	73640	4.269	2376616	7.775	1570101	11.243	582092	13.127
25 8999787	76999	4.257	2400353	7.775	1576093	11.243	601666	13.127
26 8999791	77347	4.245	2407880	7.774	1622669	11.243	642127	13.121
27 8999792	67806	4.263	2378782	7.775	1611954	11.243	615769	13.121
28 8999793	78865	4.245	2387692	7.775	1621607	11.238	628553	13.121
29 8999794	80679	4.269	2345849	7.774	1624723	11.243	629647	13.121
30 8999795	72716	4.257	2315017	7.775	1548077	11.244	594020	13.121
31 8999796	69157	4.263	2354253	7.775	1574657	11.244	591206	13.121
32 8999797	53675	4.232	2338282	7.768	1557659	11.243	611558	13.127
33 8999425	69926	4.257	2266589	7.774	1525935	11.243	582313	13.127
34 8996419DL	81899	4.245	2393906	7.768	1613653	11.237	645453	13.121
35 8999422DL	51246	4.245	2412169	7.775	1679599	11.244	679249	13.121

IS1 (TBA)=t-Butyl Alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID (Standard): hy26c01.d Date Analyzed: 05/26/17

Instrument ID: HP19094 Time Analyzed: 08:55

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	90802	4.251	2563780	7.775	1785936	11.237	779232	13.121
UPPER LIMIT	181604	4.751	5127560	8.275	3571872	11.737	1558464	13.621
LOWER LIMIT	45401	3.751	1281890	7.275	892968	10.737	389616	12.621
LAB SAMPLE ID								
01 LCSH11	96050	4.245	2647447	7.774	1815229	11.237	780366	13.121
02 LCSH13	96050	4.245	2647447	7.774	1815229	11.237	780366	13.121
03 LCSH15	96050	4.245	2647447	7.774	1815229	11.237	780366	13.121
04 LCDH11	96803	4.257	2667694	7.775	1810079	11.243	784621	13.121
05 LCDH13	96231	4.257	2667694	7.775	1810079	11.243	784621	13.121
06 LCDH15	96803	4.257	2667694	7.775	1810079	11.243	784621	13.121
07 MDLH11 - MD	77815	4.245	2547064	7.775	1694793	11.244	694078	13.121
08 LCSH12	80614	4.257	2598189	7.775	1717835	11.237	670672	13.121
09 LCSH14	80520	4.257	2598189	7.775	1717835	11.237	670672	13.121
10 LCDH12	94052	4.251	2547132	7.774	1690233	11.243	661981	13.121
11 LCDH14	94052	4.251	2547132	7.774	1690233	11.243	661981	13.121
12 VBLKH11	68920	4.275	2433967	7.774	1610948	11.243	620074	13.121
13 VBLKH13	62518	4.275	2433967	7.774	1610948	11.243	620074	13.121
14 VBLKH15	68920	4.275	2433967	7.774	1610948	11.243	620074	13.121
15 8999422	85104	4.245	2522794	7.775	1861975	11.237	798165	13.121
16 9000077	69487	4.263	2420046	7.774	1641227	11.243	623003	13.121
17 9002895	80095	4.232	2360013	7.768	1598208	11.243	623046	13.127
18 9000056	78167	4.257	2424996	7.775	1633941	11.243	621190	13.127
19 9000058DL2	75944	4.251	2373878	7.774	1562243	11.243	596875	13.121
20 9000059	75937	4.263	2390715	7.774	1536722	11.243	592153	13.127
21 9000064	73419	4.251	2389883	7.769	1564588	11.244	635844	13.121
22 9002896	74311	4.251	2363426	7.775	1645668	11.244	637626	13.121

IS1 (TBA)=t-Butyl Alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_RAE85___

Lab File ID (Standard): hy26c01.d Date Analyzed: 05/26/17

Instrument ID: HP19094 Time Analyzed: 08:55

Matrix: (soil/water) WATER Level: (low/med) LOW Column: (pack/cap) CAP

	IS1(TBA)		IS2(FBZ)		IS3(CBZ)		IS4(DCB)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	90802	4.251	2563780	7.775	1785936	11.237	779232	13.121
UPPER LIMIT	181604	4.751	5127560	8.275	3571872	11.737	1558464	13.621
LOWER LIMIT	45401	3.751	1281890	7.275	892968	10.737	389616	12.621
LAB SAMPLE ID								
23 8999785DL	73466	4.245	2518486	7.775	1790304	11.243	724054	13.127
24 8999787DL	71274	4.263	2465641	7.775	1706785	11.243	662701	13.121
25 9000075	67357	4.269	2458704	7.775	1699822	11.244	654269	13.121
26 9000076	63507	4.257	2448681	7.775	1663766	11.244	658996	13.121
27 9002897	71472	4.257	2429706	7.781	1627857	11.243	634447	13.121
28 9002898	55320	4.275	2411603	7.774	1660222	11.243	724302	13.121
29 9002899	74962	4.263	2452771	7.775	1673776	11.243	657290	13.127
30 9002900	70492	4.269	2489717	7.774	1667271	11.243	627940	13.127
31 9002900DL	81536	4.263	2474206	7.774	1654340	11.243	637642	13.121

IS1 (TBA)=t-Butyl Alcohol-d10
IS2 (FBZ)=Fluorobenzene
IS3 (CBZ)=Chlorobenzene-d5
IS4 (DCB)=1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area.
LOWER LIMIT = - 50%
of internal standard area.

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

FORM VIII VOA

Sample Data

Volatiles by GC/MS

Fraction: Volatiles by GC/MS

11996: 8260C (25 ml) Analyte Name	Default MDL	Default LOQ	Units
Dichlorodifluoromethane	0.1	1.0	ug/l
Chloromethane	0.2	1.0	ug/l
Vinyl Chloride	0.2	1.0	ug/l
Bromomethane	0.5	1.0	ug/l
Chloroethane	0.1	1.0	ug/l
Trichlorofluoromethane	0.2	1.0	ug/l
Ethyl ether	1.1	13	ug/l
Acrolein	5.0	25	ug/l
1,1-Dichloroethene	0.2	1.0	ug/l
Freon 113	0.2	1.0	ug/l
Acetone	3.0	10	ug/l
Methyl Iodide	0.6	10	ug/l
Carbon Disulfide	0.4	10	ug/l
Acetonitrile	32	100	ug/l
Allyl Chloride	0.8	10	ug/l
Methylene Chloride	0.2	1.0	ug/l
Acrylonitrile	1.0	10	ug/l
trans-1,2-Dichloroethene	0.2	1.0	ug/l
1,1-Dichloroethane	0.1	1.0	ug/l
Vinyl Acetate	3.3	10	ug/l
2-Chloro-1,3-butadiene	0.5	10	ug/l
2-Butanone	1.0	10	ug/l
Propionitrile	10	100	ug/l
Methacrylonitrile	9.8	100	ug/l
Tetrahydrofuran	2.0	25	ug/l
Chloroform	0.1	1.0	ug/l
1,1,1-Trichloroethane	0.1	1.0	ug/l
Carbon Tetrachloride	0.2	1.0	ug/l
Isobutyl Alcohol	10	200	ug/l
Benzene	0.1	1.0	ug/l
1,2-Dichloroethane	0.1	1.0	ug/l
Trichloroethene	0.2	1.0	ug/l
1,2-Dichloropropane	0.1	1.0	ug/l
Dibromomethane	0.1	1.0	ug/l
Methyl Methacrylate	3.6	10	ug/l
1,4-Dioxane	45	200	ug/l
Bromodichloromethane	0.1	1.0	ug/l
4-Methyl-2-pentanone	1.0	10	ug/l
Toluene	0.1	1.0	ug/l
trans-1,3-Dichloropropene	0.1	1.0	ug/l
Ethyl Methacrylate	0.8	10	ug/l
1,1,2-Trichloroethane	0.1	1.0	ug/l
Tetrachloroethene	0.1	1.0	ug/l
1,3-Dichloropropane	0.1	1.0	ug/l
2-Hexanone	1.0	10	ug/l
Dibromochloromethane	0.1	1.0	ug/l
1,2-Dibromoethane	0.1	1.0	ug/l

Fraction: Volatiles by GC/MS

11996: 8260C (25 ml) Analyte Name	Default MDL	Default LOQ	Units
1,1,1,2-Tetrachloroethane	0.1	1.0	ug/l
Ethylbenzene	0.1	1.0	ug/l
Xylene (Total)	0.2	3.0	ug/l
Styrene	0.1	1.0	ug/l
Bromoform	0.1	1.0	ug/l
1,1,2,2-Tetrachloroethane	0.2	1.0	ug/l
trans-1,4-Dichloro-2-butene	1.0	10	ug/l
1,2,3-Trichloropropane	0.3	1.0	ug/l
Pentachloroethane	0.8	10	ug/l
1,3-Dichlorobenzene	0.1	1.0	ug/l
1,4-Dichlorobenzene	0.1	1.0	ug/l
1,2-Dichlorobenzene	0.1	1.0	ug/l
1,2-Dibromo-3-chloropropane	0.2	1.0	ug/l
1,2,4-Trichlorobenzene	0.1	1.0	ug/l
Hexachlorobutadiene	0.1	1.0	ug/l
Naphthalene	0.1	1.0	ug/l
Hexachloroethane	0.1	10	ug/l
Dimethyl ether	0.1	13	ug/l

11997: 2-Propanol Analyte Name	Default MDL	Default LOQ	Units
2-Propanol	50	100	ug/l

R8501 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999785

Data file: /chem/HP09915.i/17may23a.b/ly23s08.d Injection date and time: **23-MAY-2017 12:43**
Data file Sample Info. Line: R8501;8999785;1;0;;RAE85;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 13:01 Automation

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **16342**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.571	(0.003)	650	65	205161	(-14)	250.00	
66) Fluorobenzene	7.047	(0.000)	1731	96	1084949	(-8)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	822874	(-8)	50.00	
131) 1,4-Dichlorobenzene-d4	12.638	(0.000)	3470	152	437474	(-10)	50.00	

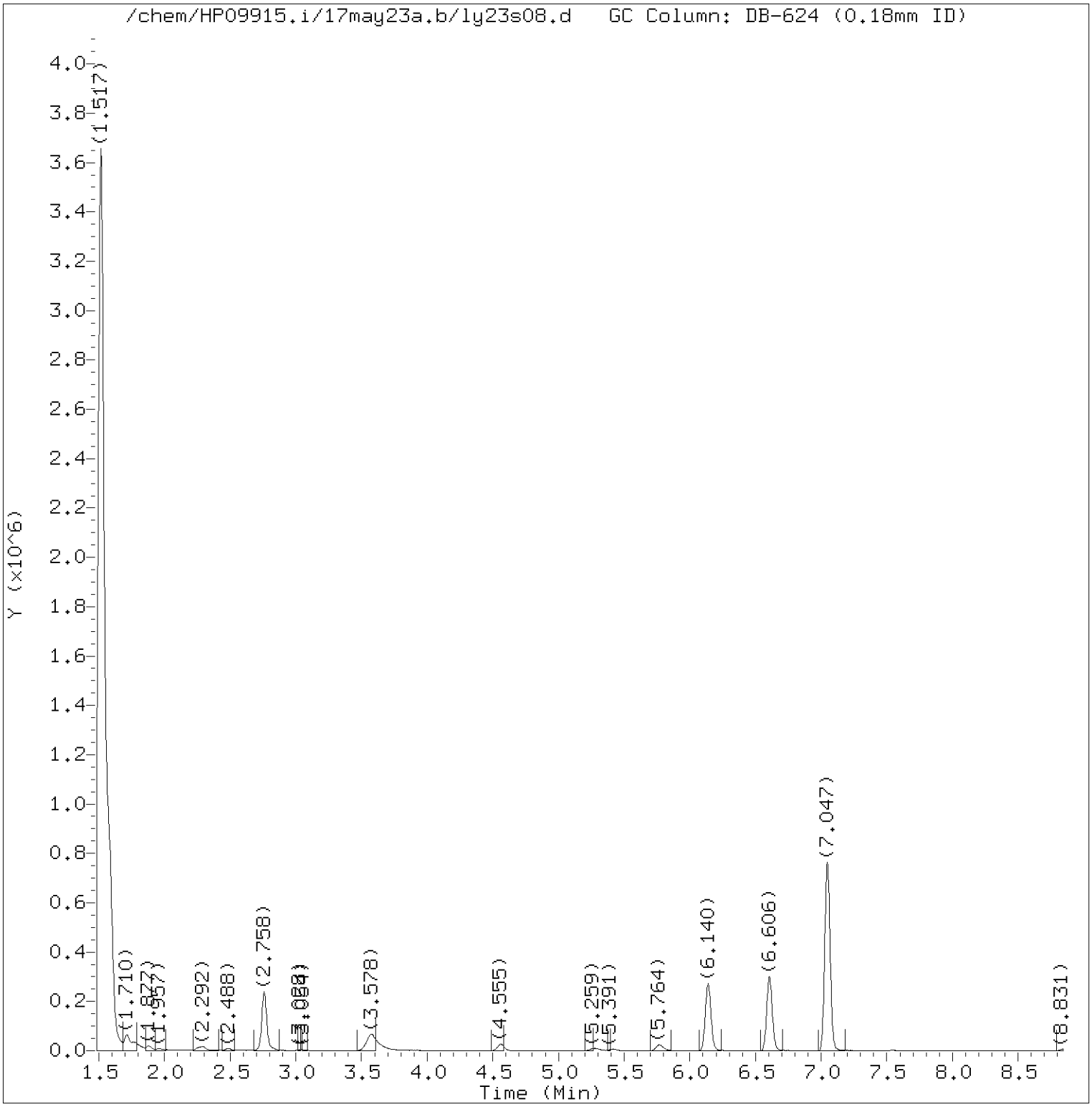
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.140	(0.000)	113	262259	49.501	99%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.606	(0.000)	102	66446	50.436	101%		77 - 113
83) Toluene-d8	(3)	9.137	(0.000)	98	1034634	49.244	98%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.751	(0.000)	95	387613	49.634	99%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
21) 2-Propanol	(1)				Not Detected					50	100

Total number of targets = 1

Digitally signed by Kevin Kelly on 05/23/2017 at 16:07. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:38. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

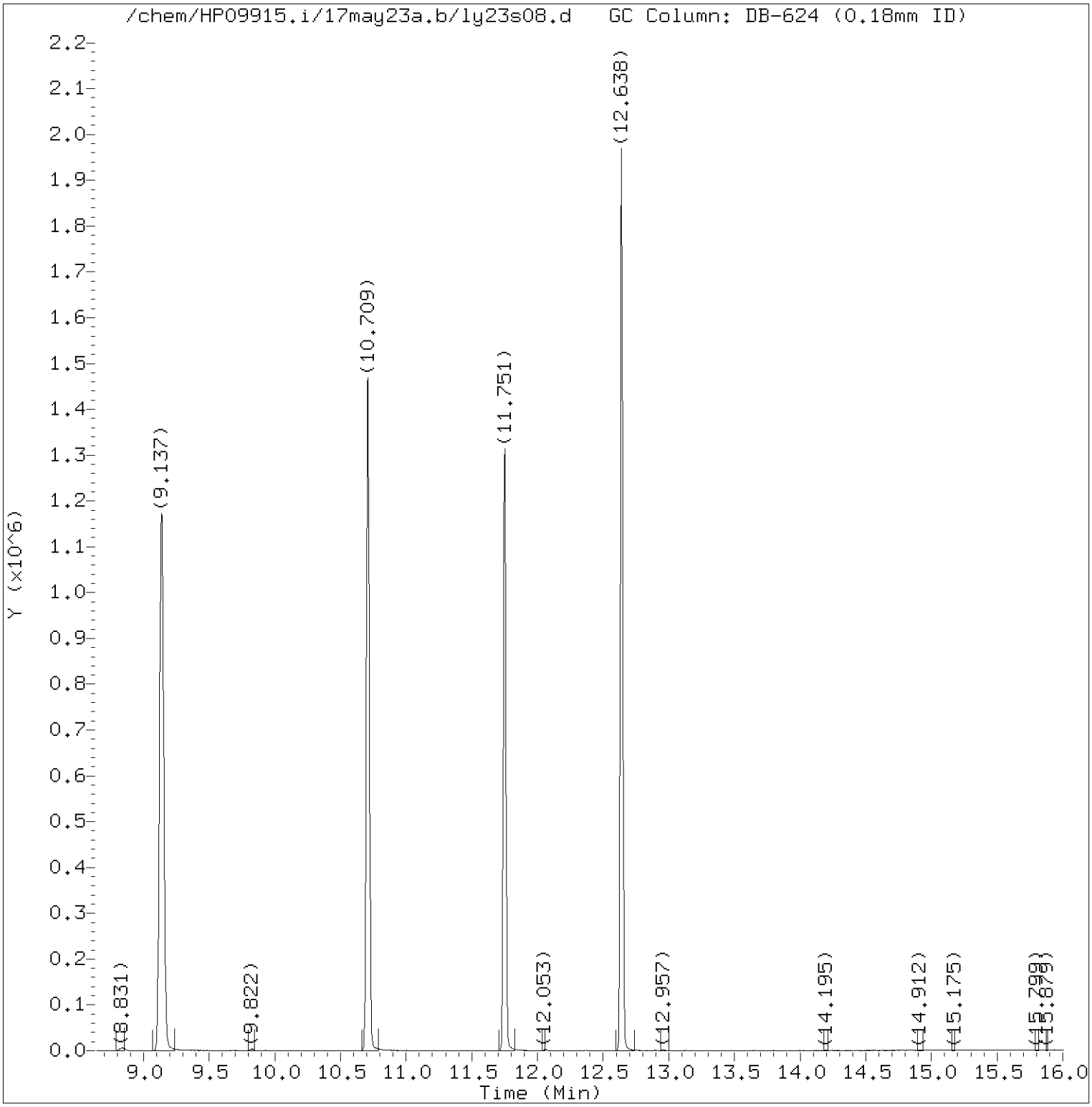
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s08.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 12:43 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:01 Automation

Sample Name: R8501 Lab Sample ID: 8999785

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:07.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s08.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 12:43 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:01 Automation

Sample Name: R8501 Lab Sample ID: 8999785

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:07.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s08.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 12:43 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:01 Automation

Sample Name: R8501 Lab Sample ID: 8999785

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	3.571	65	205161	250.000
52)$Dibromofluoromethane	(2)	6.140	113	262259	49.501
57)$1,2-Dichloroethane-d4	(2)	6.606	102	66446	50.436
66)*Fluorobenzene	(2)	7.047	96	1084949	50.000
83)$Toluene-d8	(3)	9.137	98	1034634	49.244
100)*Chlorobenzene-d5	(3)	10.709	117	822874	50.000
114)$4-Bromofluorobenzene	(3)	11.751	95	387613	49.634
131)*1,4-Dichlorobenzene-d4	(4)	12.638	152	437474	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:07.
Target 3.5 esignature user ID: kk10002

Data file: /chem2/HP19094.i/17may25b.b/hy25s10.d Injection date and time: **25-MAY-2017 23:24**
Data file Sample Info. Line: R8501;8999785;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257	(0.006)	438	65	64203	(-27)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2462514	(-6)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1582091	(-15)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	605691	(-28)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	577702	10.465	105%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.323	(0.001)	102	91500	10.251	103%		74 - 113
82) Toluene-d8	(3)	9.786	(0.001)	98	2387399	10.323	103%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	601682	9.157	92%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)	2.007	(0.001)	85	17563	0.184	0.18		J	0.1	1
4) Dimethyl ether	(2)	2.093	(-0.000)	45	760795	8.443	8.44		J	0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
5) Vinyl Chloride	(2)				Not Detected					0.2	1
7) Bromomethane	(2)				Not Detected					0.5	1
8) Chloroethane	(2)	2.727	(0.000)	64	200797	3.993	3.99			0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.2	1
11) Ethyl ether	(2)	3.300	(0.000)	59	2288369	56.776	56.78		E	1	13
13) Acrolein	(1)				Not Detected					5	25
15) 1,1-Dichloroethene	(2)	3.617	(-0.000)	96	13933	0.255	0.26		J	0.2	1
16) Freon 113	(2)				Not Detected					0.2	1
14) Acetone	(1)				Not Detected					3	10
17) Methyl Iodide	(2)				Not Detected					0.6	10
18) Carbon Disulfide	(2)				Not Detected					0.4	10
25) Acetonitrile	(1)				Not Detected					32	100
22) Allyl Chloride	(2)				Not Detected					0.8	10
23) Methylene Chloride	(2)	4.269	(0.000)	84	78607	1.318	1.32			0.2	1
29) Acrylonitrile	(1)				Not Detected					1	10
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)	5.360	(-0.000)	63	814939	6.845	6.85			0.1	1
36) Vinyl Acetate	(2)				Not Detected					3	10
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					0.5	10
38) 2-Butanone	(1)				Not Detected					1	10
42) Propionitrile	(1)				Not Detected					10	100
45) Methacrylonitrile	(1)				Not Detected					10	100
48) Tetrahydrofuran	(1)	6.531	(-0.000)	71	42522	14.107	14.11		J	2	25
49) Chloroform	(2)				Not Detected					0.1	1
51) 1,1,1-Trichloroethane	(2)	6.909	(-0.001)	97	17497	0.183	0.18		J	0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.2	1
56) Isobutyl Alcohol	(1)				Not Detected					10	200

E = Compound concentration above calibration range.

Digitally signed by Don V. Viray on 05/30/2017 at 22:13. Target 3.5 esignature user ID: dvv10203

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles 8999785

Data file: /chem2/HP19094.i/17may25b.b/hy25s10.d Injection date and time: **25-MAY-2017 23:24**
Data file Sample Info. Line: R8501;8999785;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

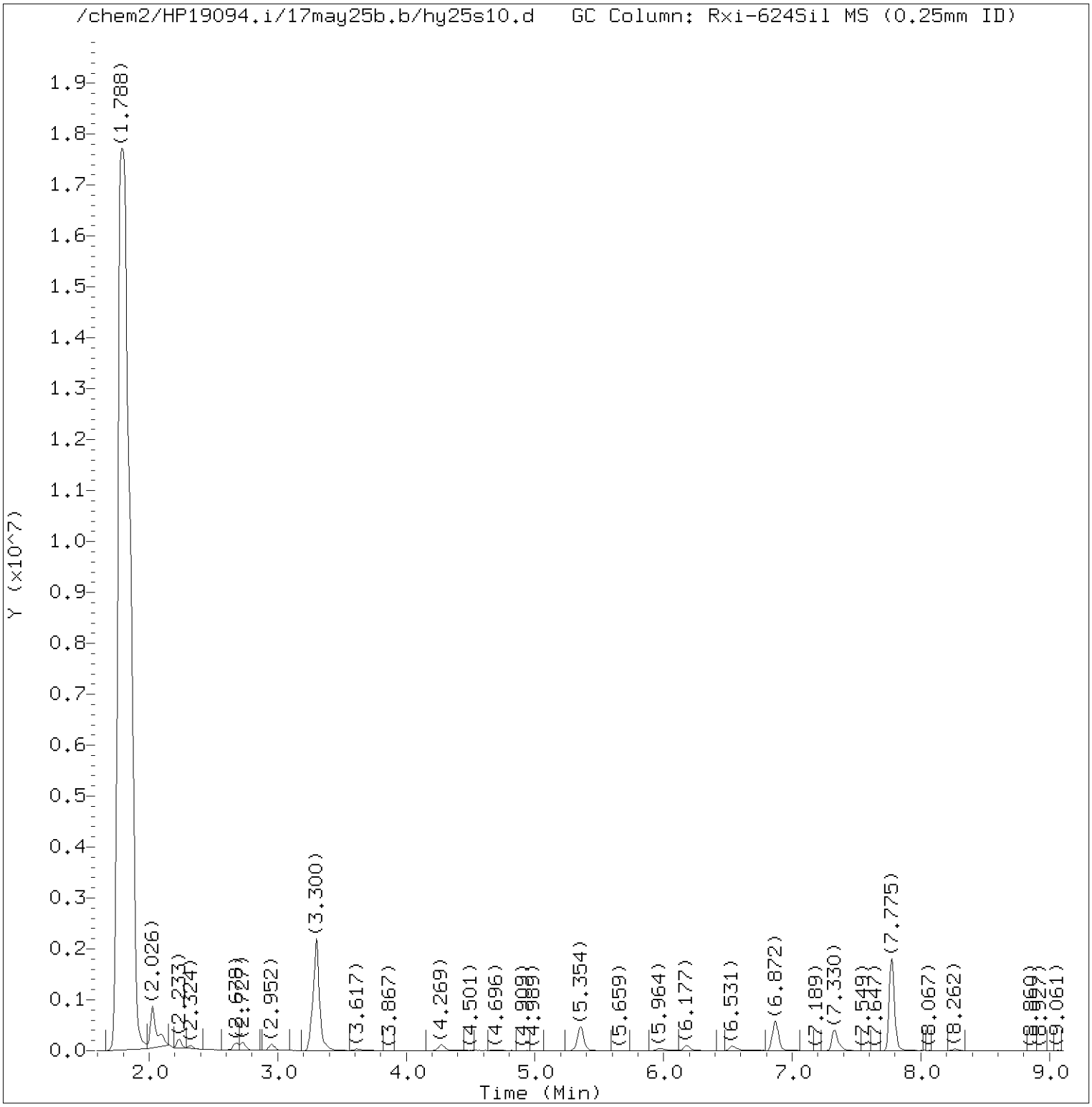
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
58) Benzene	(2)	7.372(0.000)	78	75775	0.294	0.29		J	0.1	1
59) 1,2-Dichloroethane	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)	8.268(-0.001)	95	16983	0.249	0.25		J	0.2	1
70) 1,2-Dichloropropane	(2)			Not Detected					0.1	1
71) Methyl Methacrylate	(1)			Not Detected					4	10
73) Dibromomethane	(2)			Not Detected					0.1	1
72) 1,4-Dioxane	(1)			Not Detected					45	200
74) Bromodichloromethane	(2)			Not Detected					0.1	1
81) 4-Methyl-2-Pentanone	(1)			Not Detected					1	10
83) Toluene	(3)			Not Detected					0.1	1
84) trans-1,3-Dichloropropene	(3)			Not Detected					0.1	1
86) Ethyl Methacrylate	(3)			Not Detected					0.8	10
88) 1,1,2-Trichloroethane	(3)			Not Detected					0.1	1
89) Tetrachloroethene	(3)	10.420(-0.000)	166	20734	0.293	0.29		J	0.1	1
90) 1,3-Dichloropropane	(3)			Not Detected					0.1	1
91) 2-Hexanone	(1)			Not Detected					1	10
93) Dibromochloromethane	(3)			Not Detected					0.1	1
95) 1,2-Dibromoethane	(3)			Not Detected					0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)			Not Detected					0.1	1
100) Ethylbenzene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.2	3
106) Styrene	(3)			Not Detected					0.1	1
107) Bromoform	(3)			Not Detected					0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.2	1
115) trans-1,4-Dichloro-2-butene	(1)			Not Detected					1	10
116) 1,2,3-Trichloropropane	(4)			Not Detected					0.3	1
126) Pentachloroethane	(4)			Not Detected					0.8	10
131) 1,3-Dichlorobenzene	(4)			Not Detected					0.1	1
134) 1,4-Dichlorobenzene	(4)			Not Detected					0.1	1
139) 1,2-Dichlorobenzene	(4)			Not Detected					0.1	1
142) Hexachloroethane	(4)			Not Detected					0.1	10
143) 1,2-Dibromo-3-chloropropane	(1)			Not Detected					0.2	1
145) 1,2,4-Trichlorobenzene	(4)			Not Detected					0.1	1
146) Hexachlorobutadiene	(4)			Not Detected					0.1	1
147) Naphthalene	(4)			Not Detected					0.1	1

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:13. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

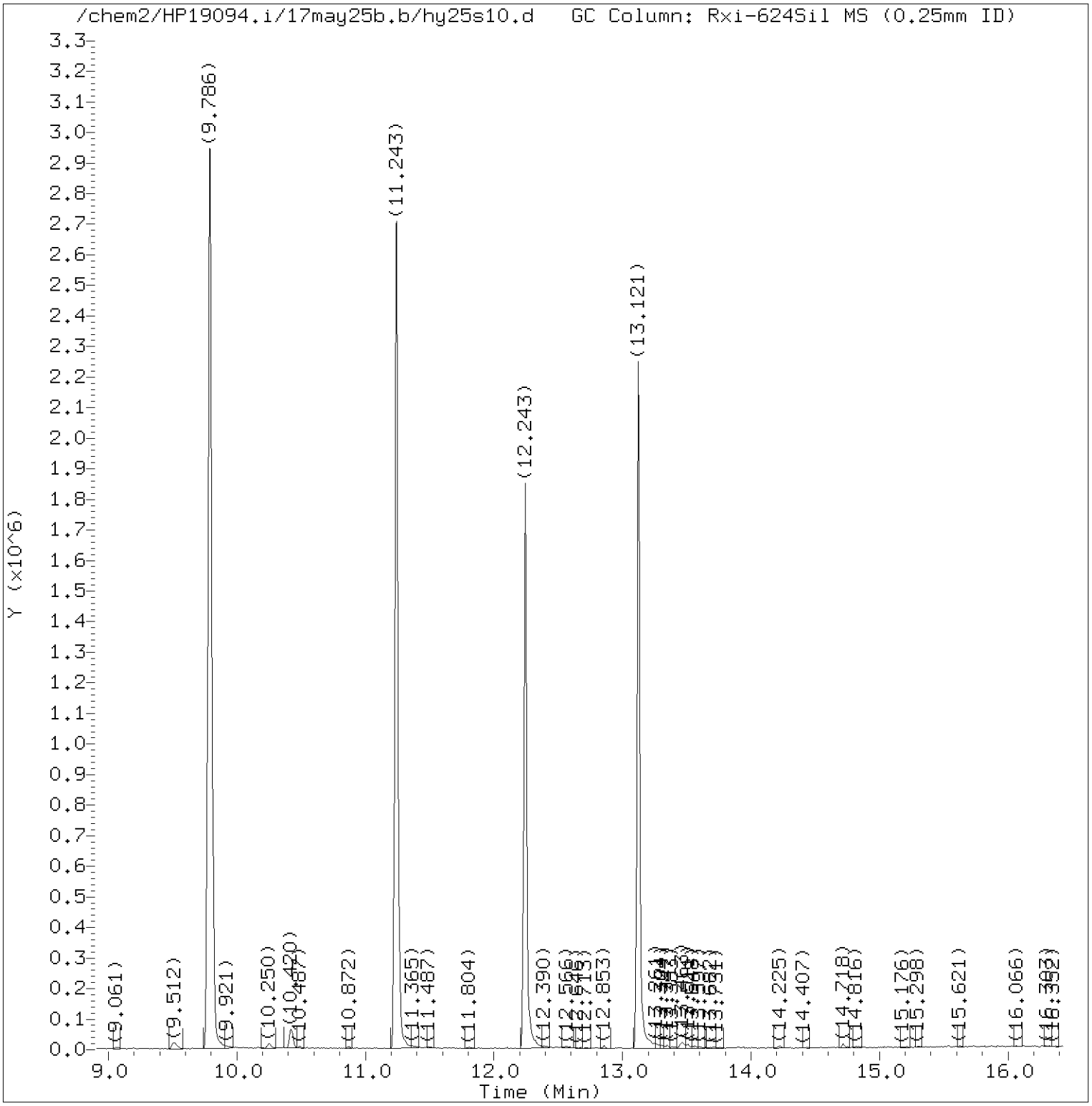
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

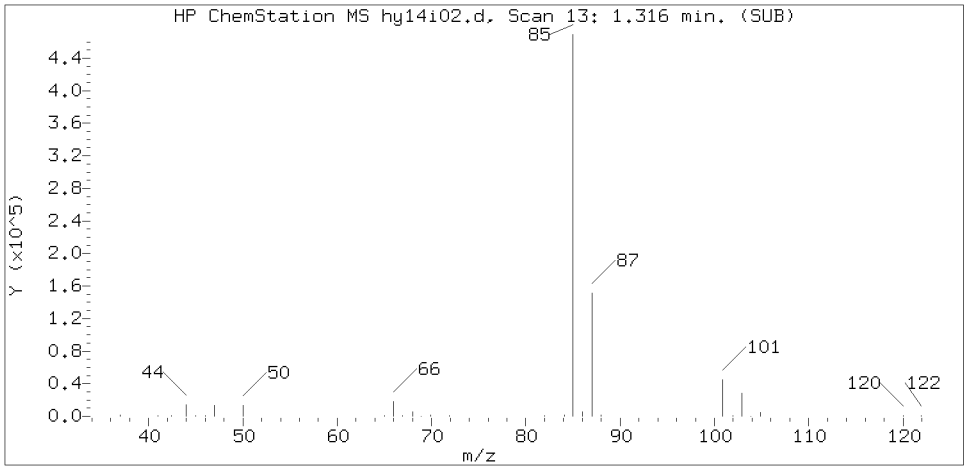
Sample Name: R8501 Lab Sample ID: 8999785

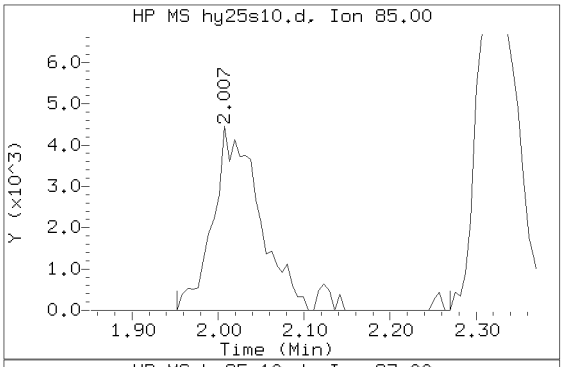
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	17563	0.184
4) Dimethyl ether	(2)	2.093	45	760795	8.443
8) Chloroethane	(2)	2.727	64	200797	3.993
11) Ethyl ether	(2)	3.300	59	2288369	56.776
15) 1,1-Dichloroethene	(2)	3.617	96	13933	0.255
26)*t-Butyl Alcohol-d10	(1)	4.257	65	64203	50.000
23) Methylene Chloride	(2)	4.269	84	78607	1.318
33) 1,1-Dichloroethane	(2)	5.360	63	814939	6.845
48) Tetrahydrofuran	(1)	6.531	71	42522	14.107
50)$Dibromofluoromethane	(2)	6.866	113	577702	10.465
51) 1,1,1-Trichloroethane	(2)	6.909	97	17497	0.183
57)$1,2-Dichloroethane-d4	(2)	7.323	102	91500	10.251
58) Benzene	(2)	7.372	78	75775	0.294
63)*Fluorobenzene	(2)	7.775	96	2462514	10.000
67) Trichloroethene	(2)	8.268	95	16983	0.249
82)$Toluene-d8	(3)	9.786	98	2387399	10.323
89) Tetrachloroethene	(3)	10.420	166	20734	0.293
97)*Chlorobenzene-d5	(3)	11.243	117	1582091	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	601682	9.157
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	605691	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

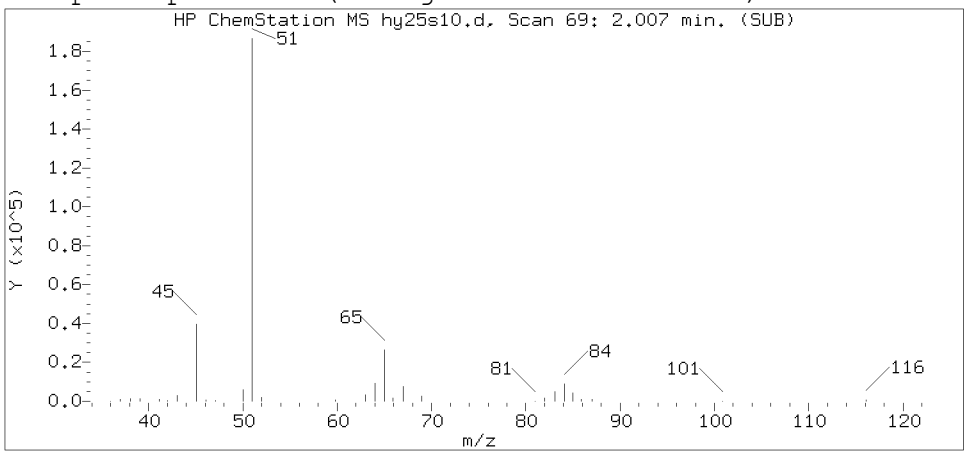
Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

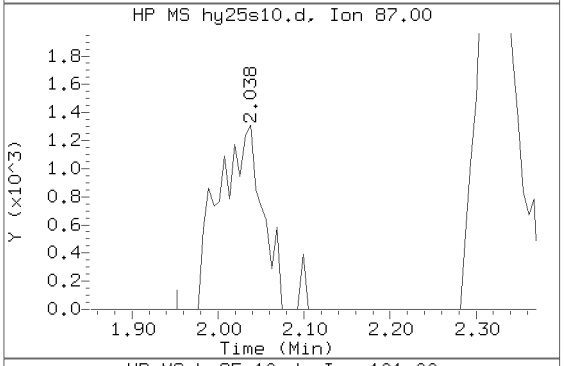
Reference Standard Spectrum for Dichlorodifluoromethane

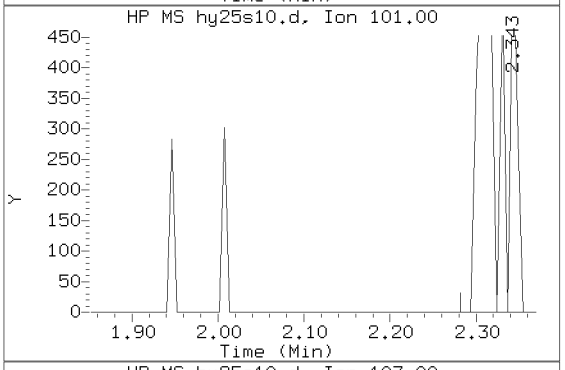




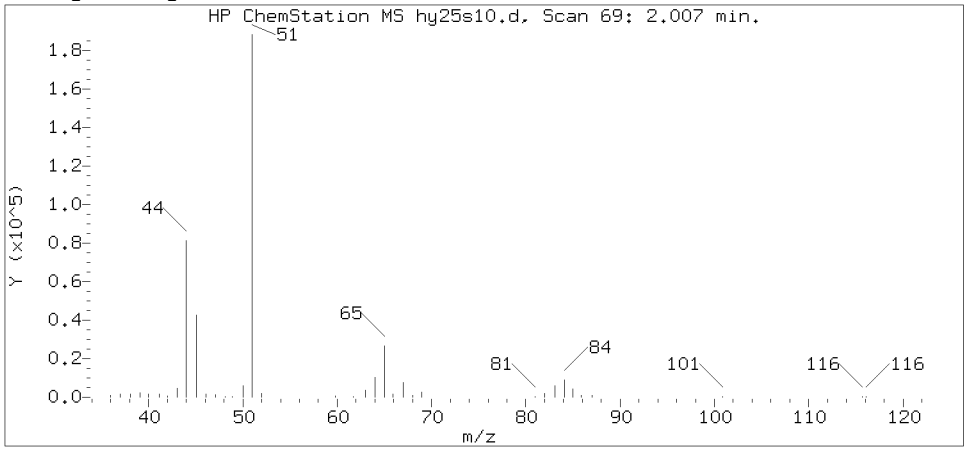
Sample Spectrum (Background Subtracted)

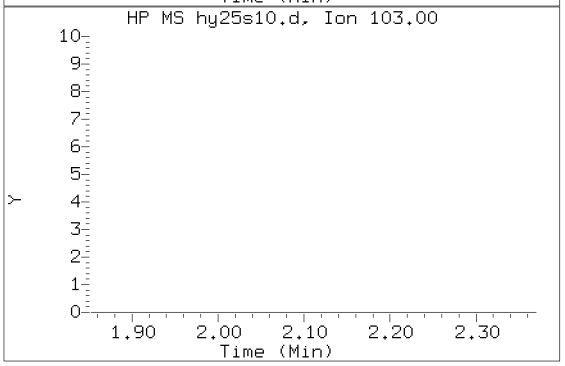






Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

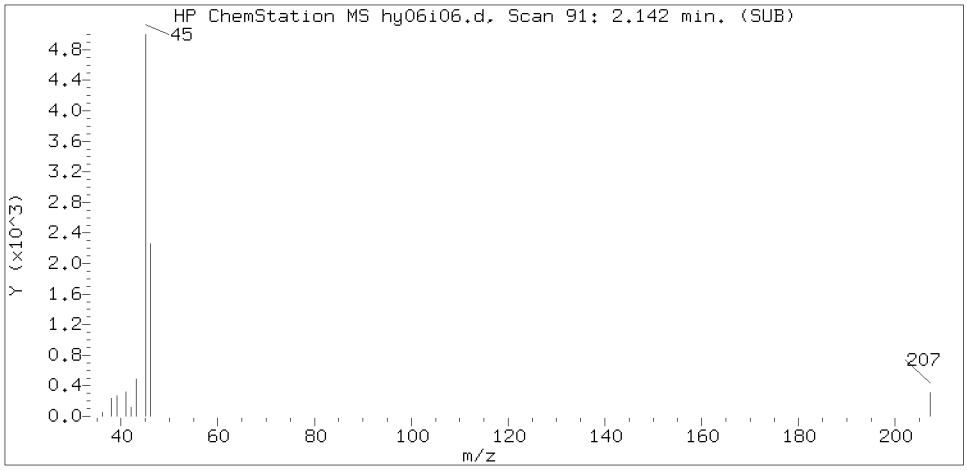
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

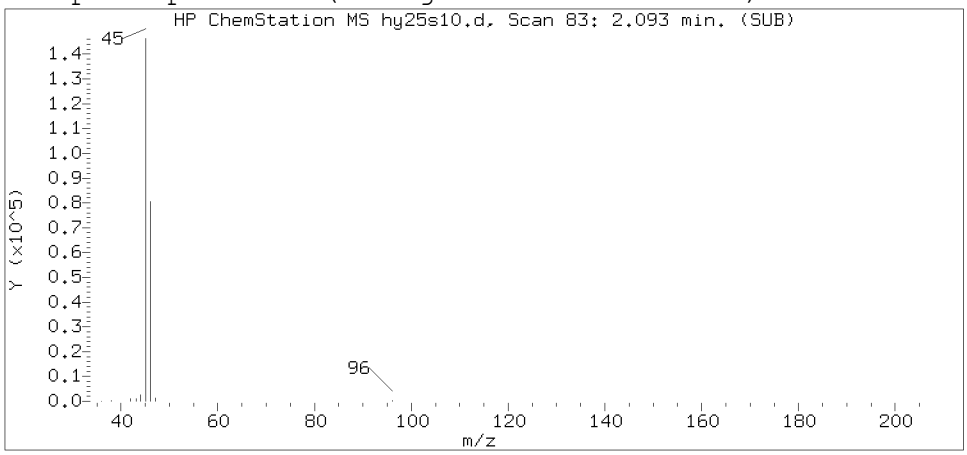
Compound Number	: 1
Compound Name	: Dichlorodifluoromethane
Scan Number	: 69
Retention Time (minutes)	: 2.007
Relative Retention Time	: 0.00138
Quant Ion	: 85.00
Area (flag)	: 17563
On-Column Amount (ng)	: 0.1843

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

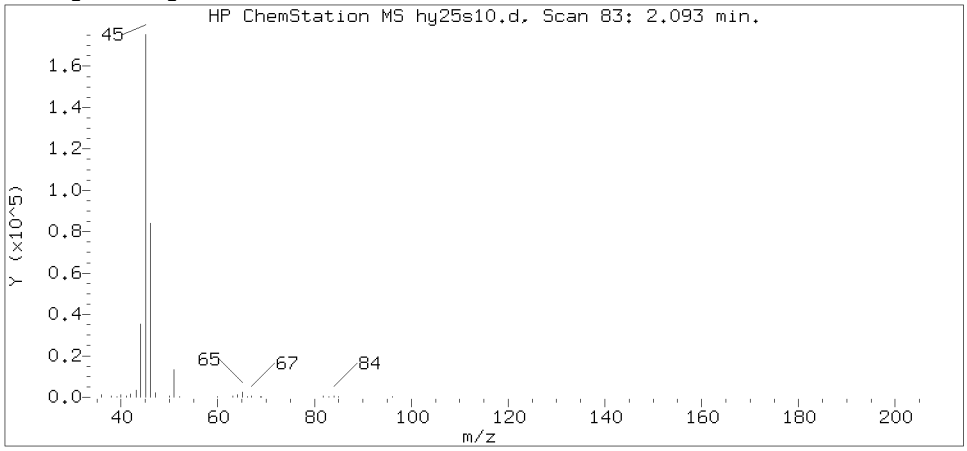
Reference Standard Spectrum for Dimethyl ether

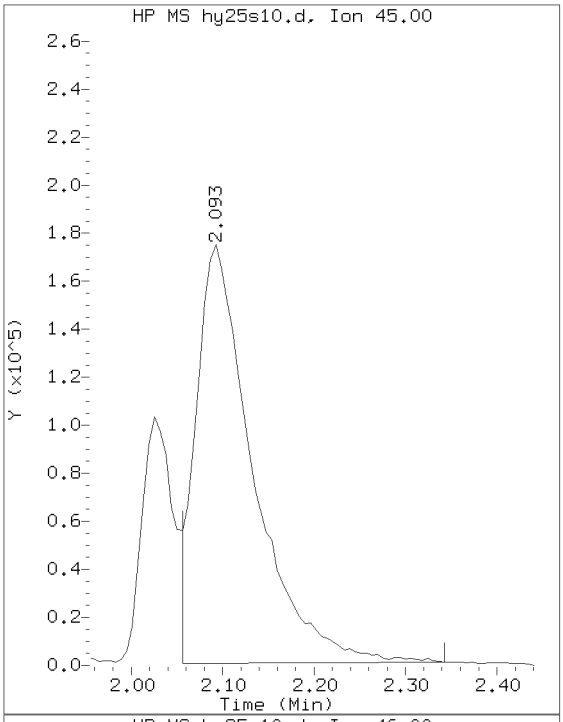


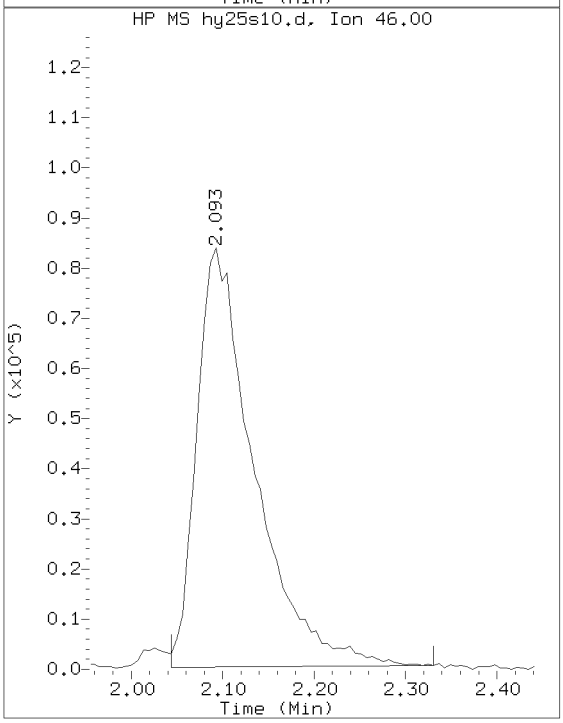
Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)







Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

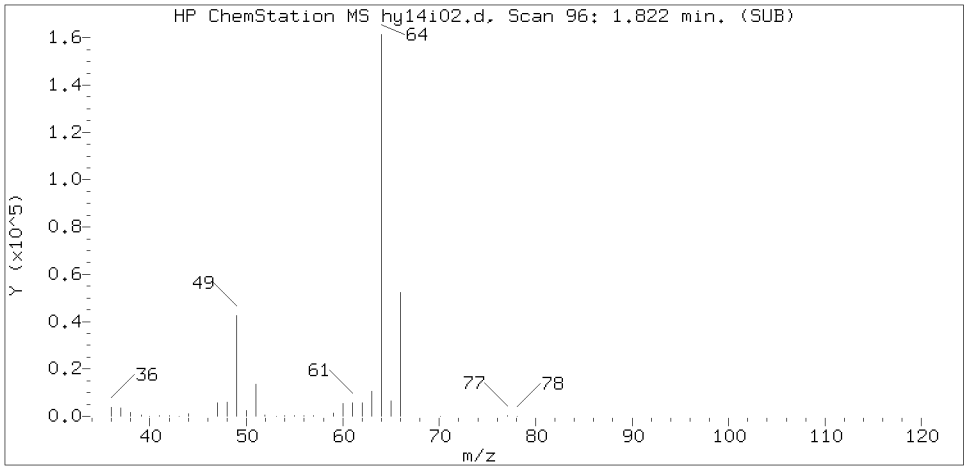
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

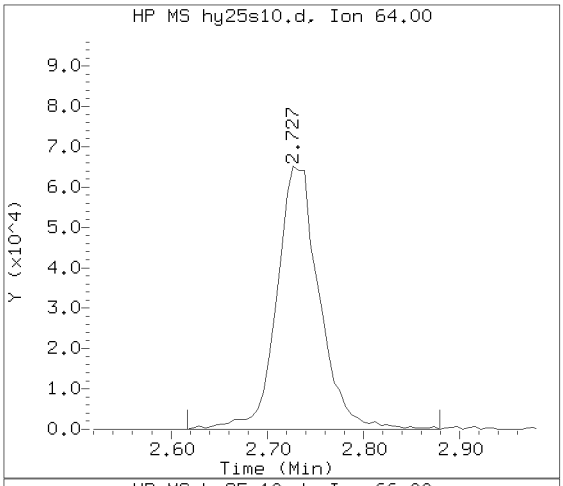
Sample Name: R8501 Lab Sample ID: 8999785

Compound Number	: 4
Compound Name	: Dimethyl ether
Scan Number	: 83
Retention Time (minutes)	: 2.093
Relative Retention Time	:-0.00021
Quant Ion	: 45.00
Area (flag)	: 760795
On-Column Amount (ng)	: 8.4435

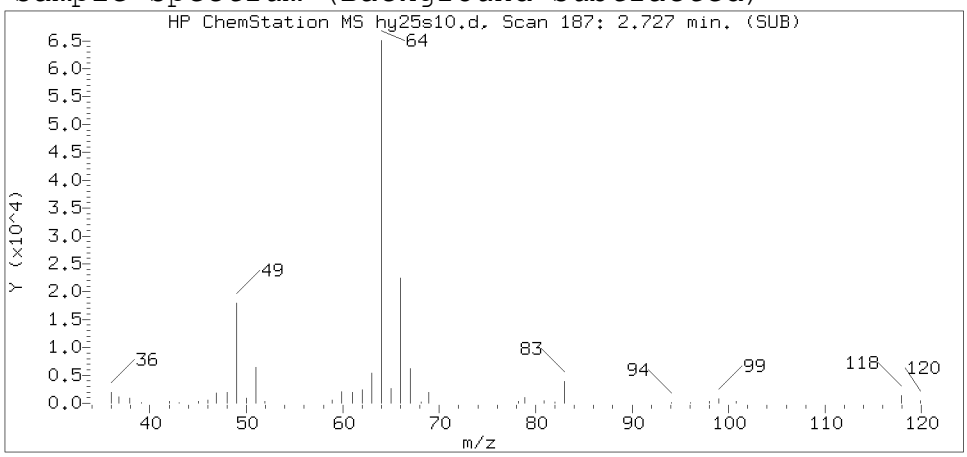
Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

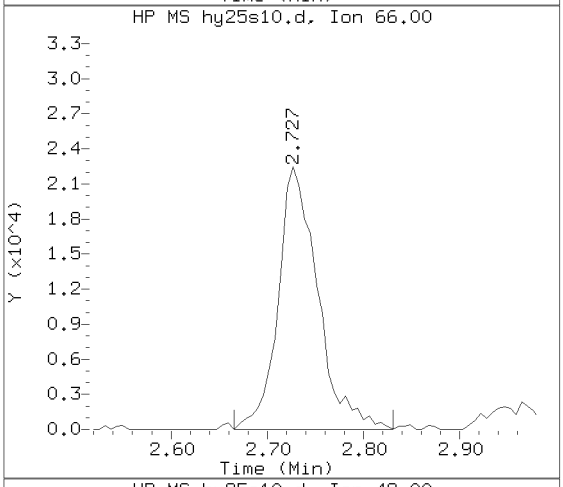
Reference Standard Spectrum for Chloroethane



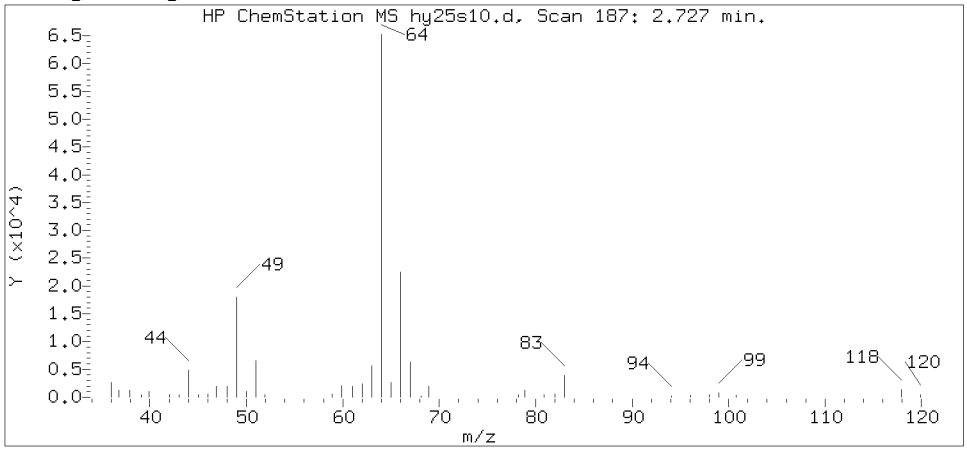


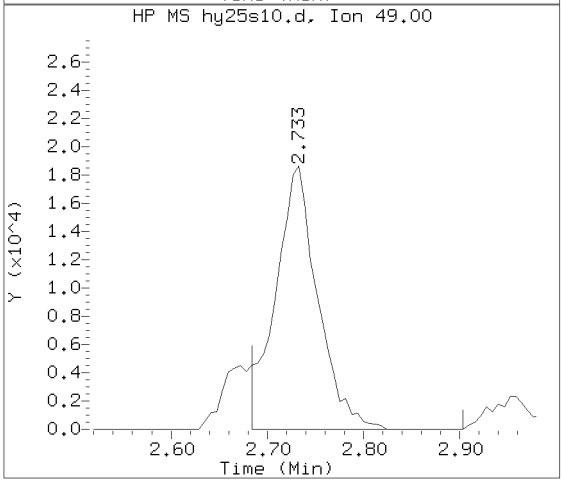
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

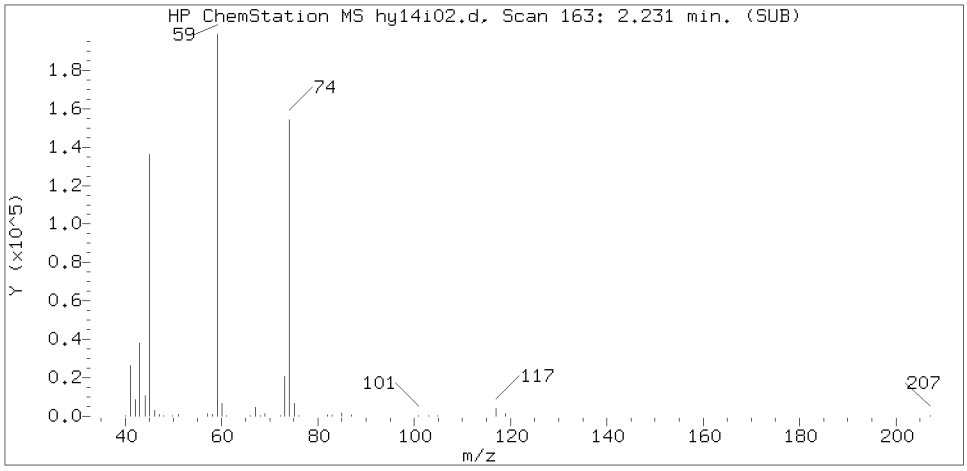
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

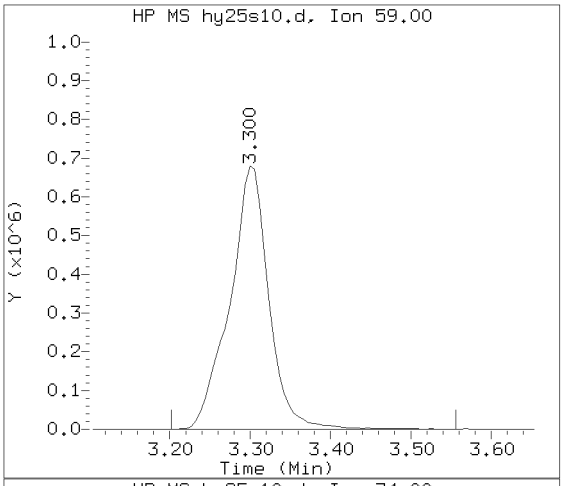
Sample Name: R8501 Lab Sample ID: 8999785

Compound Number	: 8
Compound Name	: Chloroethane
Scan Number	: 187
Retention Time (minutes)	: 2.727
Relative Retention Time	: 0.00052
Quant Ion	: 64.00
Area (flag)	: 200797
On-Column Amount (ng)	: 3.9926

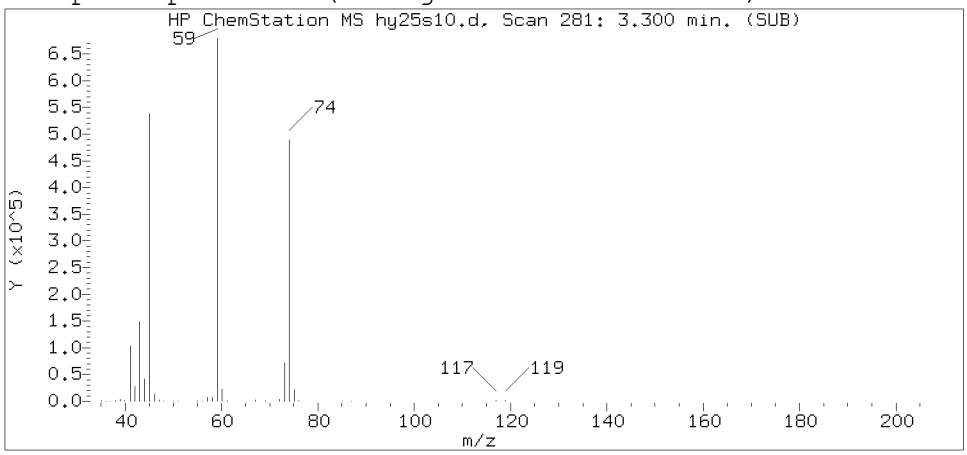
Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

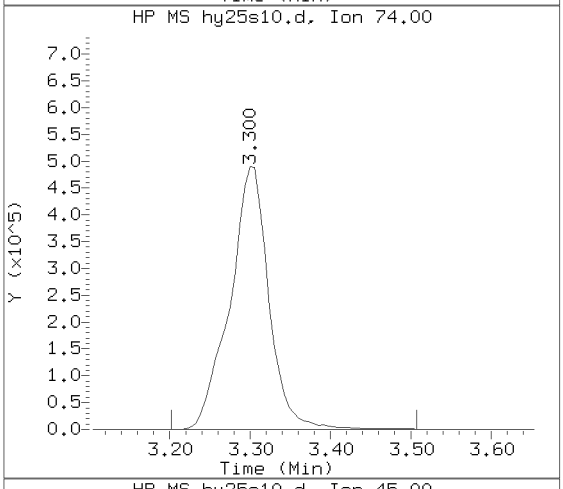
Reference Standard Spectrum for Ethyl ether



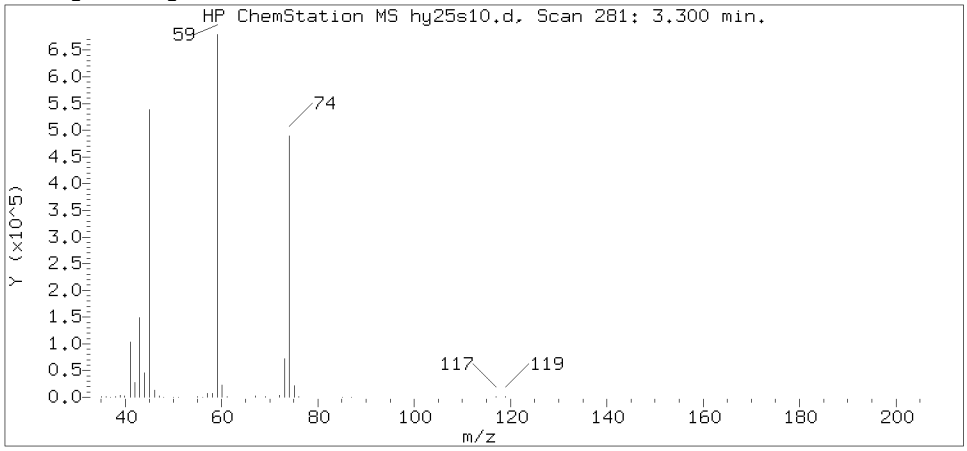


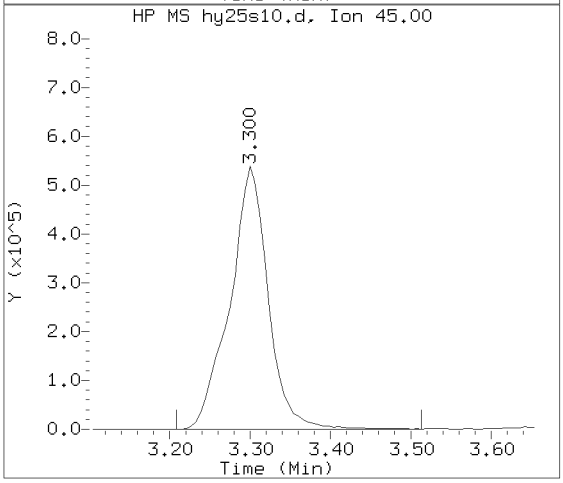
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

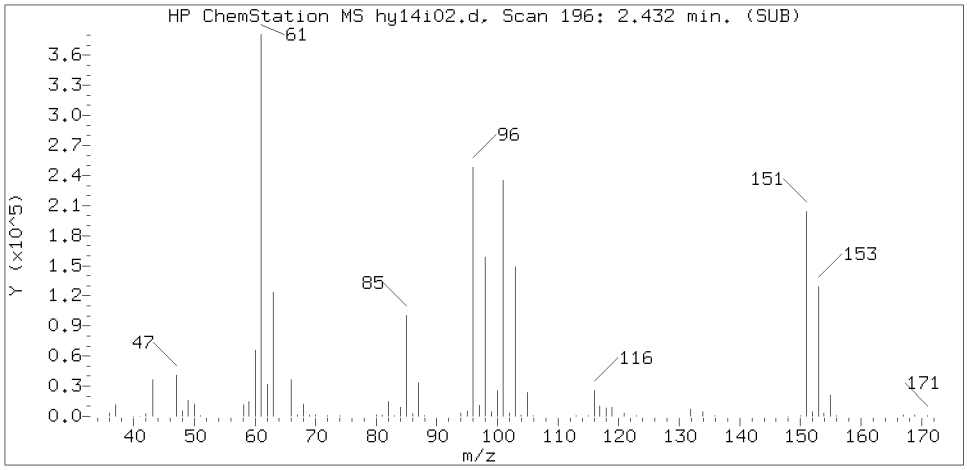
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

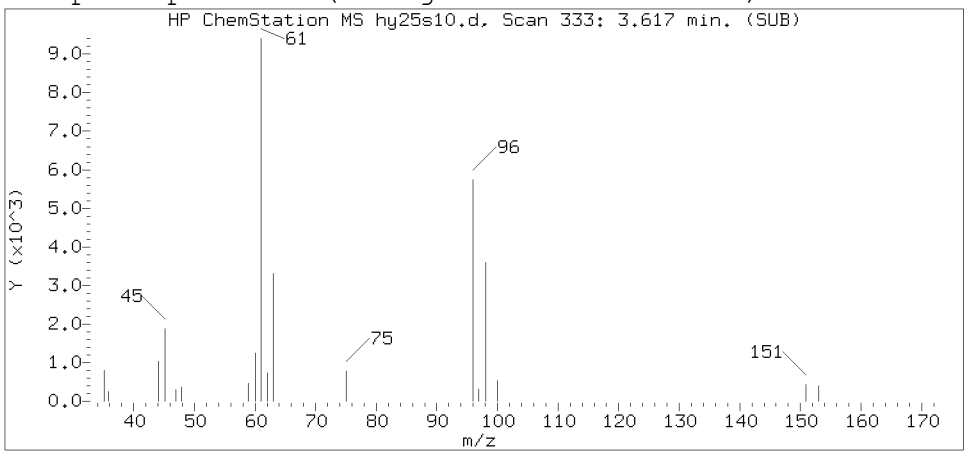
Compound Number	: 11
Compound Name	: Ethyl ether
Scan Number	: 281
Retention Time (minutes)	: 3.300
Relative Retention Time	: 0.00046
Quant Ion	: 59.00
Area (flag)	: 2288369
On-Column Amount (ng)	: 56.7763

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

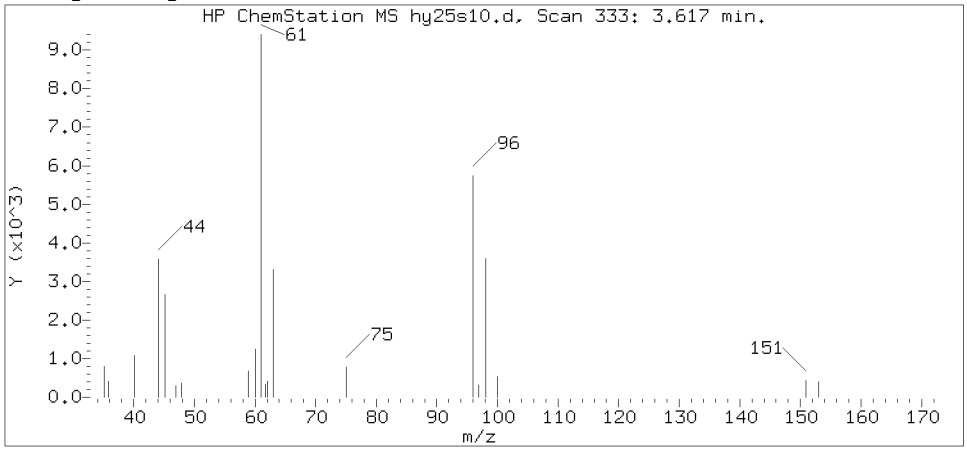
Reference Standard Spectrum for 1,1-Dichloroethene

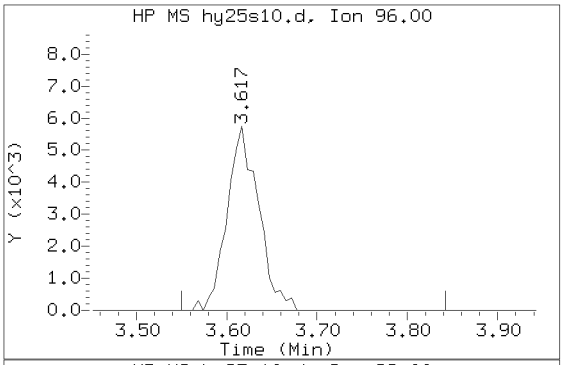


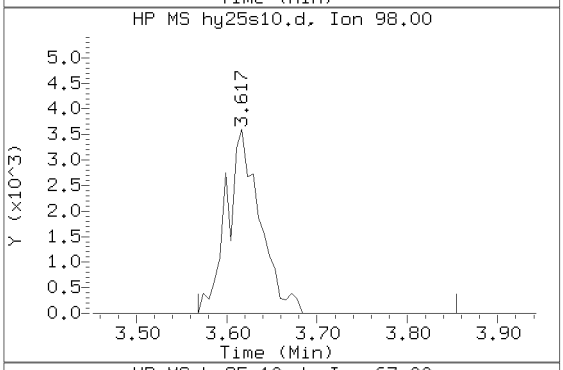
Sample Spectrum (Background Subtracted)

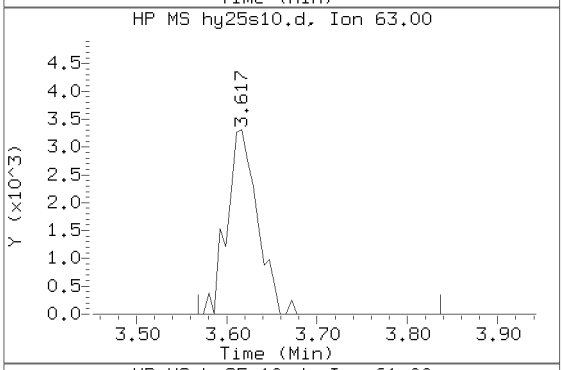


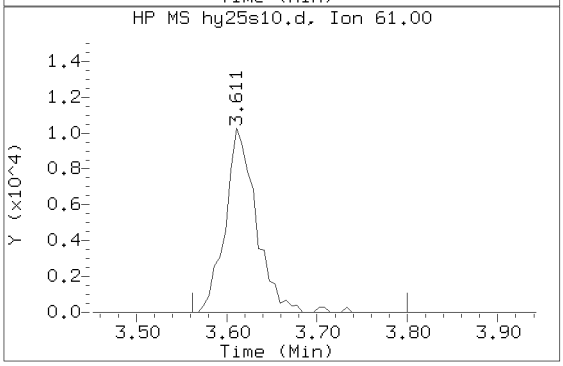
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

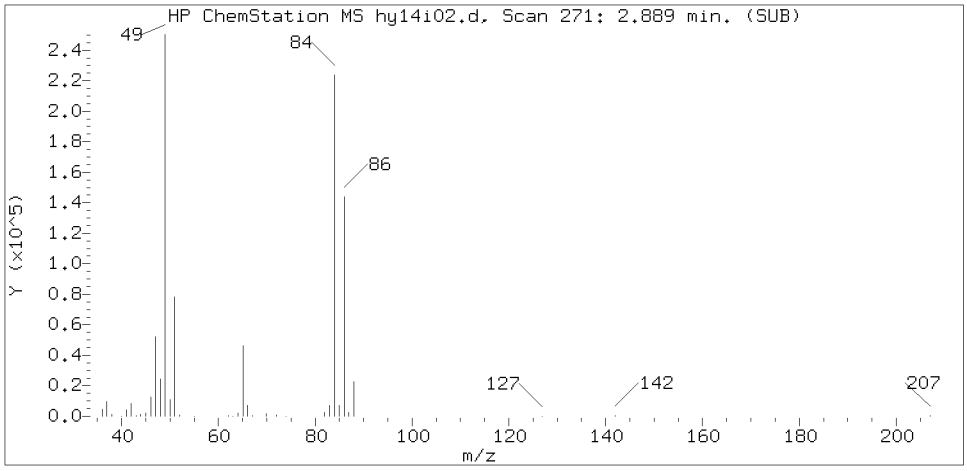
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

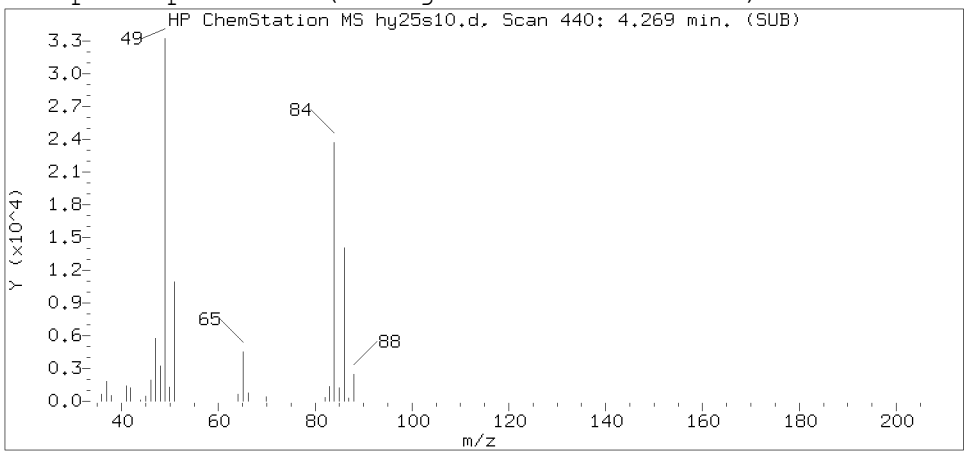
Compound Number	: 15
Compound Name	: 1,1-Dichloroethene
Scan Number	: 333
Retention Time (minutes)	: 3.617
Relative Retention Time	:-0.00036
Quant Ion	: 96.00
Area (flag)	: 13933
On-Column Amount (ng)	: 0.2550

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

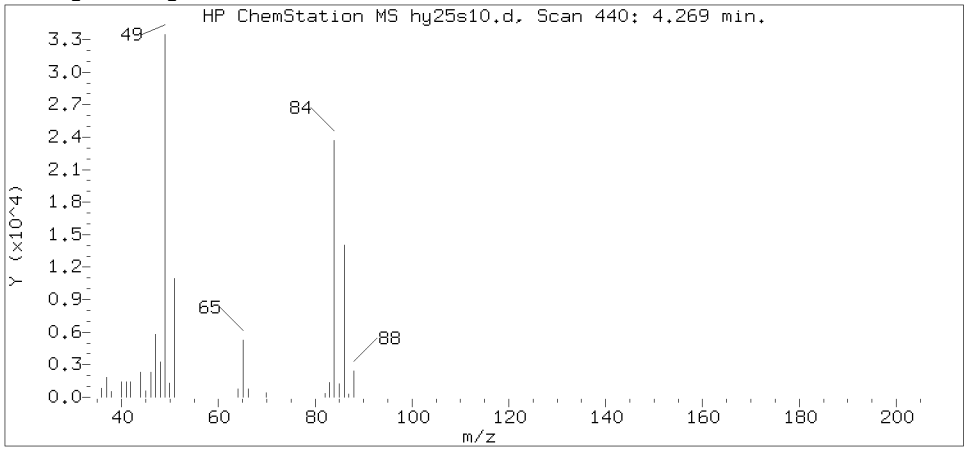
Reference Standard Spectrum for Methylene Chloride

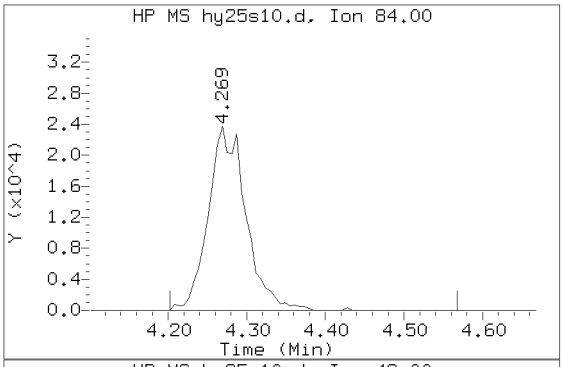


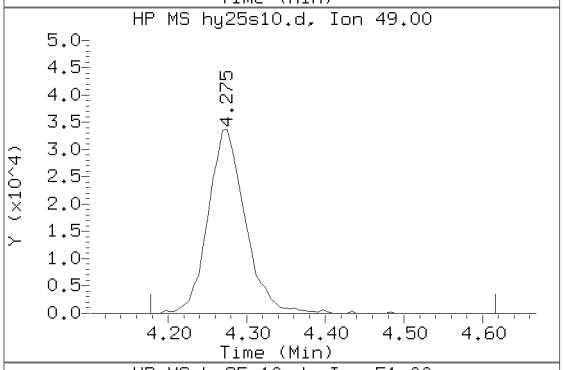
Sample Spectrum (Background Subtracted)

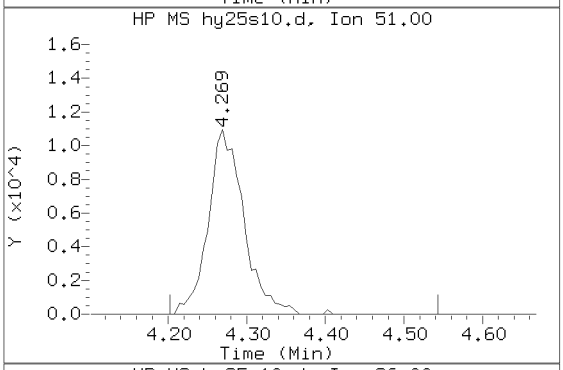


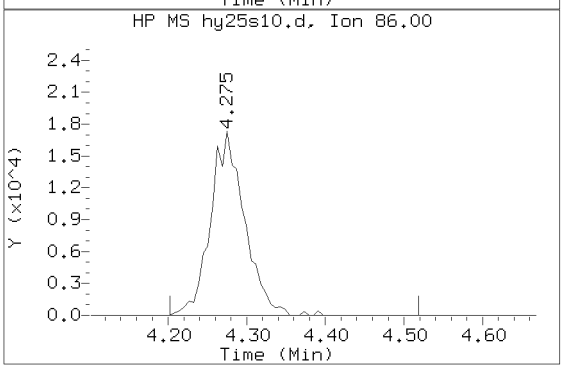
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

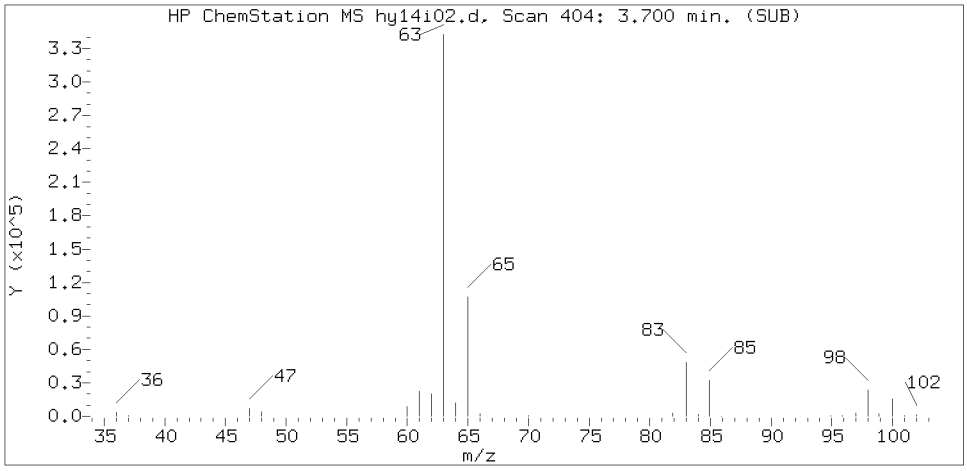
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

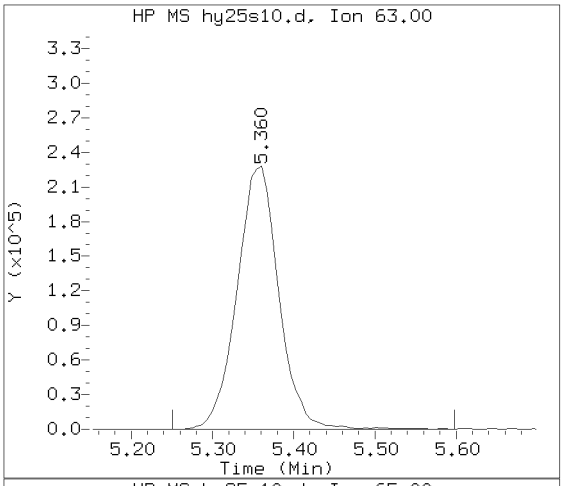
Sample Name: R8501 Lab Sample ID: 8999785

Compound Number	: 23
Compound Name	: Methylene Chloride
Scan Number	: 440
Retention Time (minutes)	: 4.269
Relative Retention Time	: 0.00036
Quant Ion	: 84.00
Area (flag)	: 78607
On-Column Amount (ng)	: 1.3175

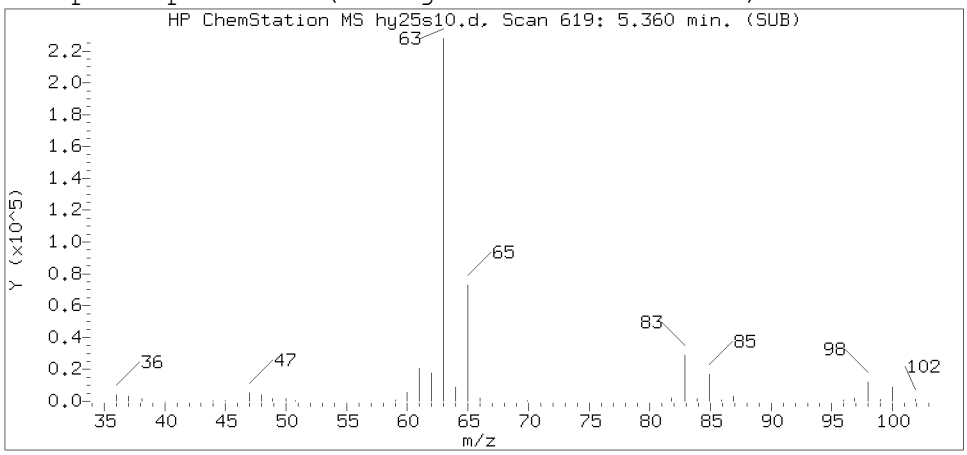
Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user IDs: dvv10203

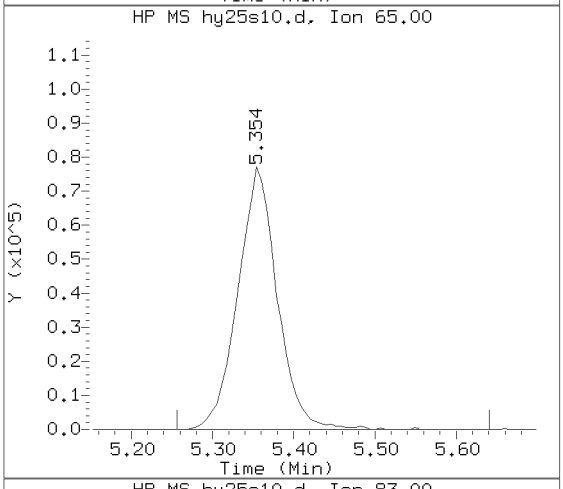
Reference Standard Spectrum for 1,1-Dichloroethane



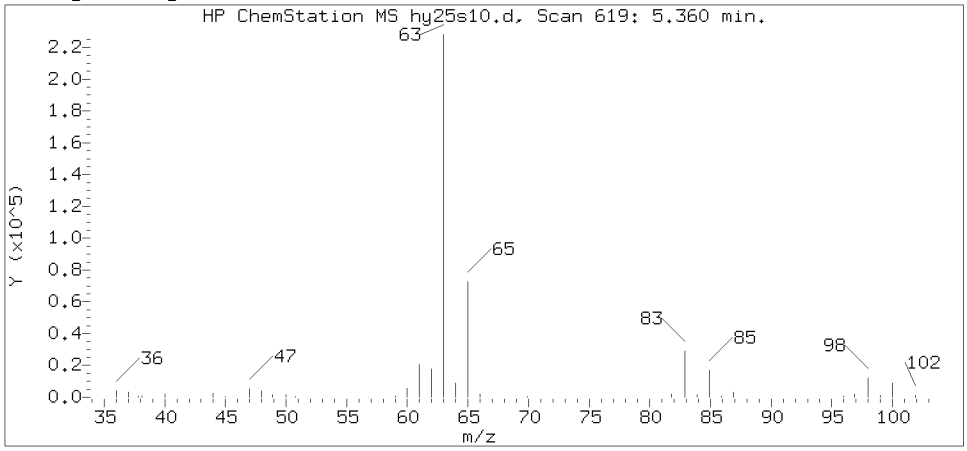


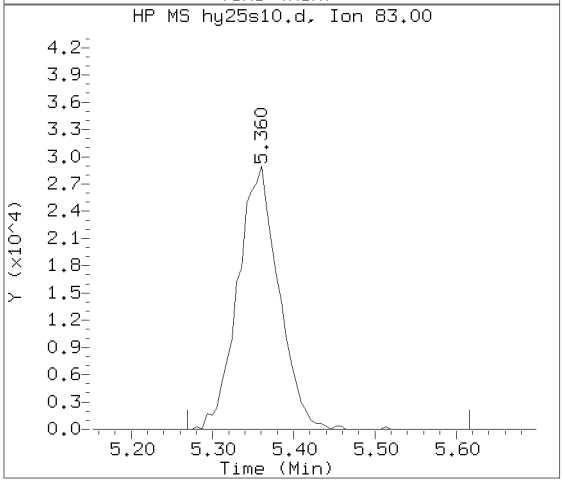
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

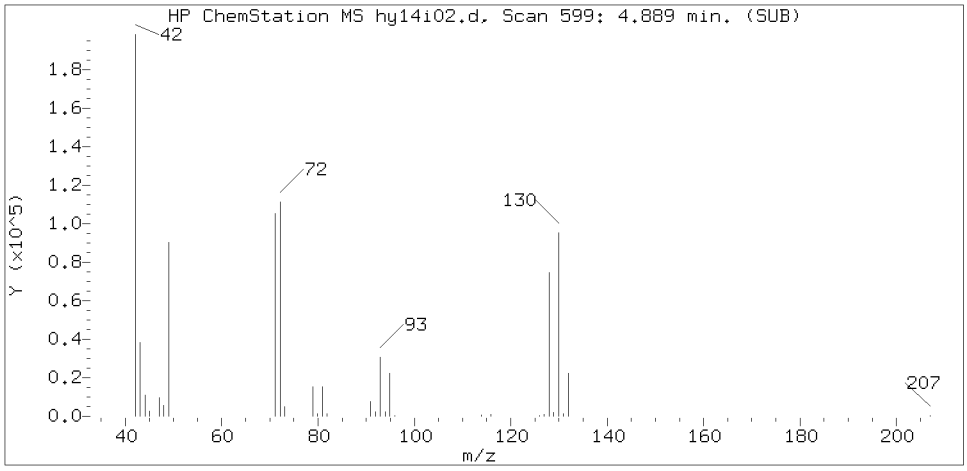
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

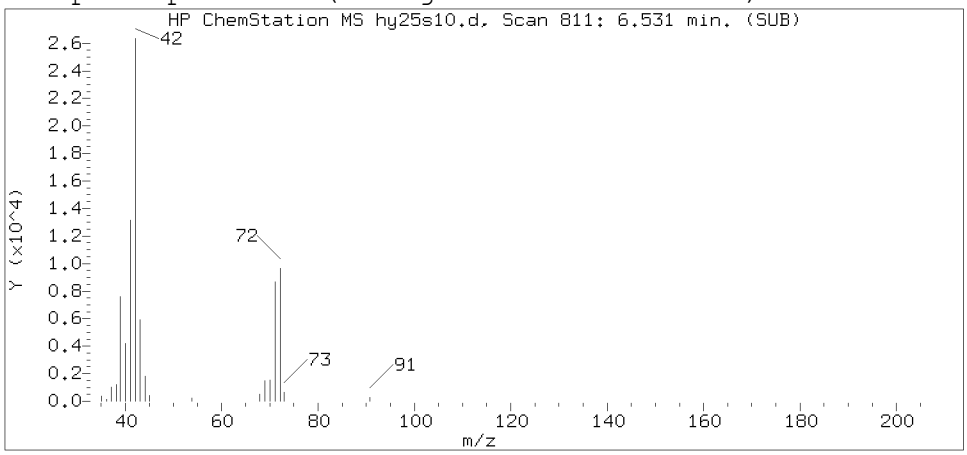
Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 619
Retention Time (minutes): 5.360
Relative Retention Time :-0.00053
Quant Ion : 63.00
Area (flag) : 814939
On-Column Amount (ng) : 6.8453

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

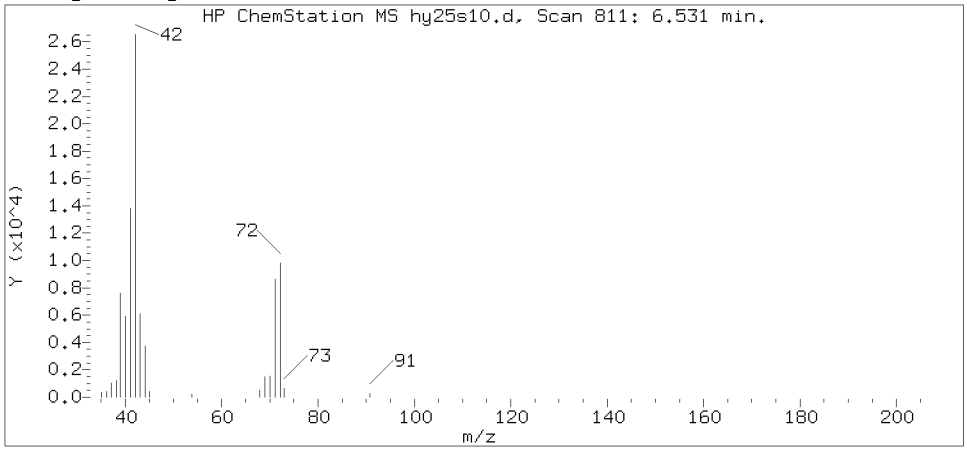
Reference Standard Spectrum for Tetrahydrofuran

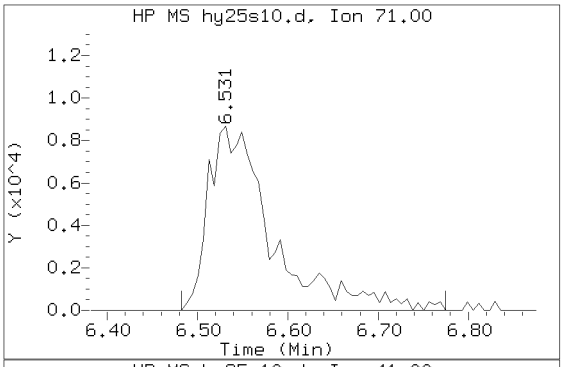


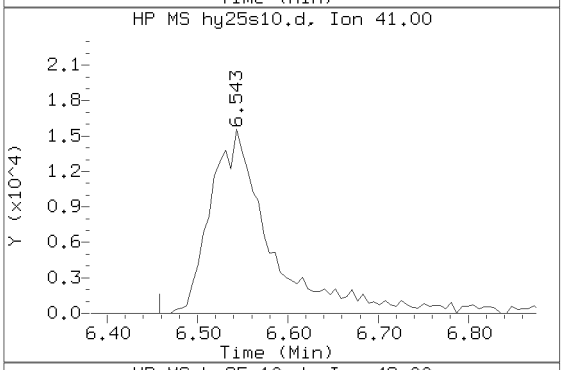
Sample Spectrum (Background Subtracted)

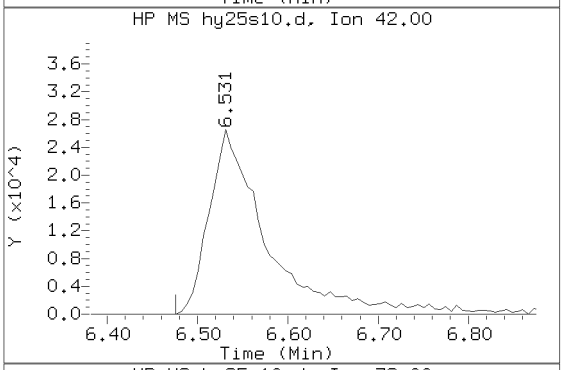


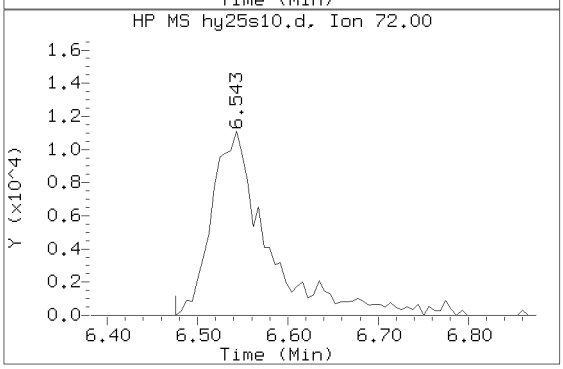
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

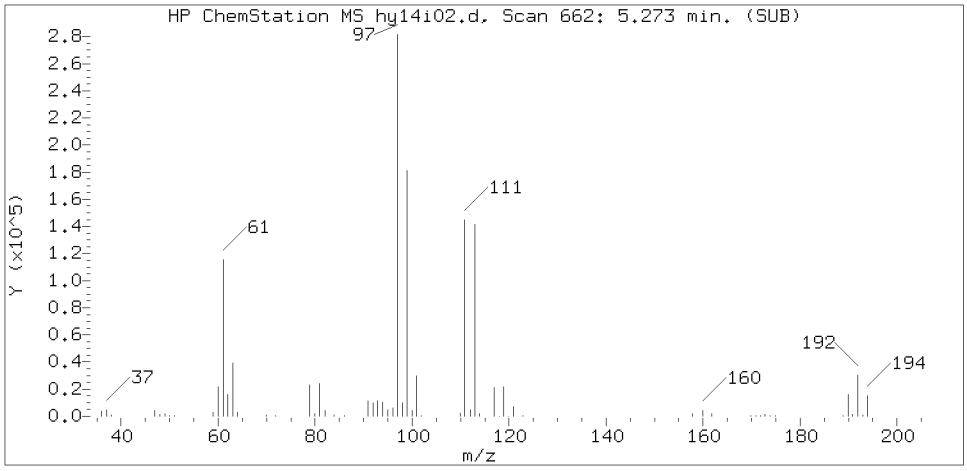
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

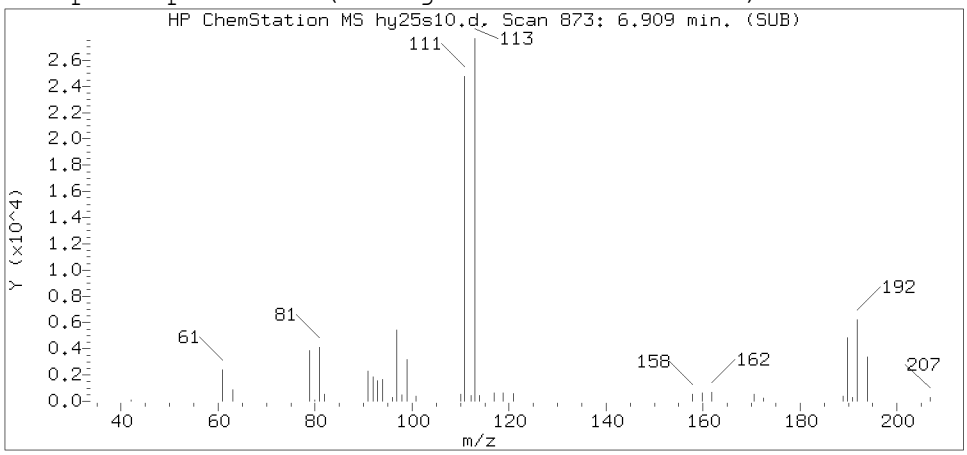
Compound Number : 48
Compound Name : Tetrahydrofuran
Scan Number : 811
Retention Time (minutes): 6.531
Relative Retention Time :-0.00078
Quant Ion : 71.00
Area (flag) : 42522
On-Column Amount (ng) : 14.1071

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user IDs: dvv10203

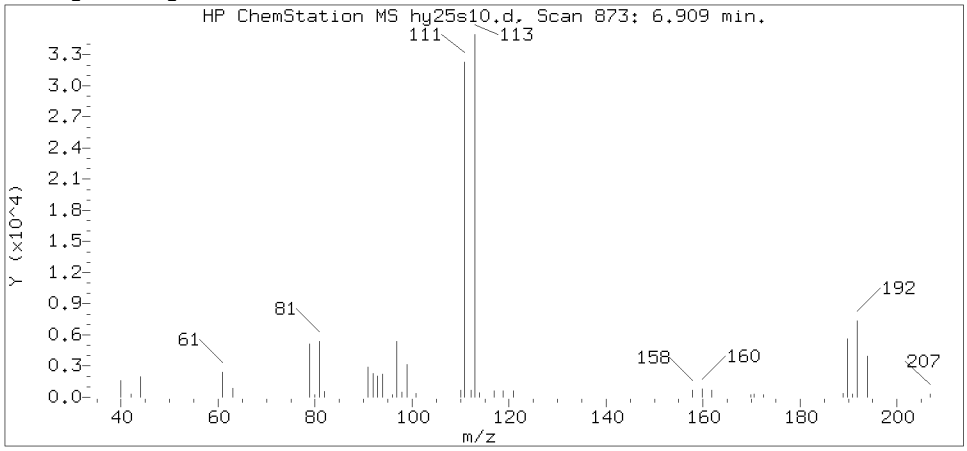
Reference Standard Spectrum for 1,1,1-Trichloroethane

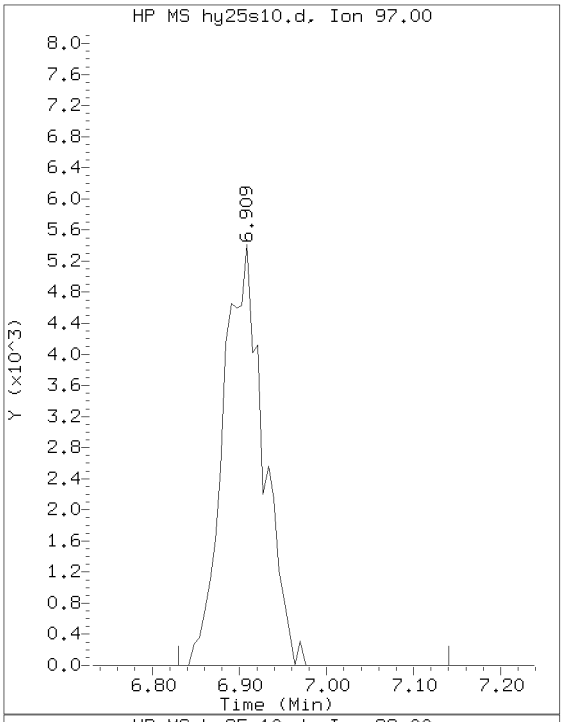


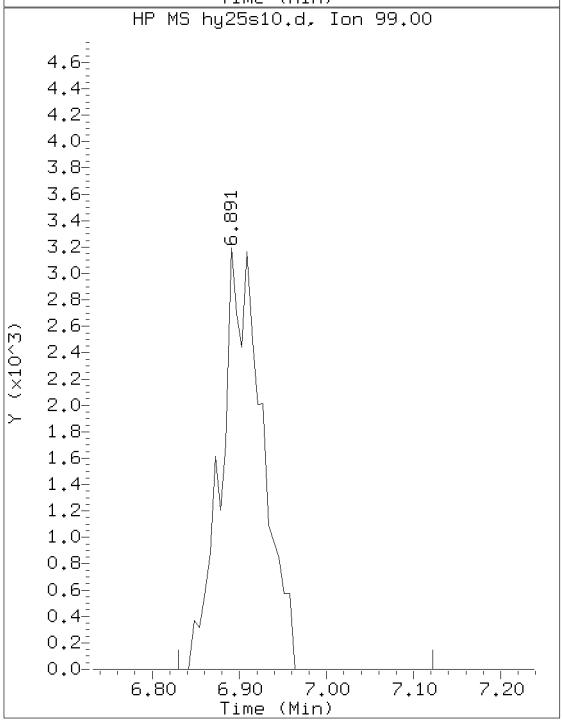
Sample Spectrum (Background Subtracted)



Sample Spectrum (Unaltered)







Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

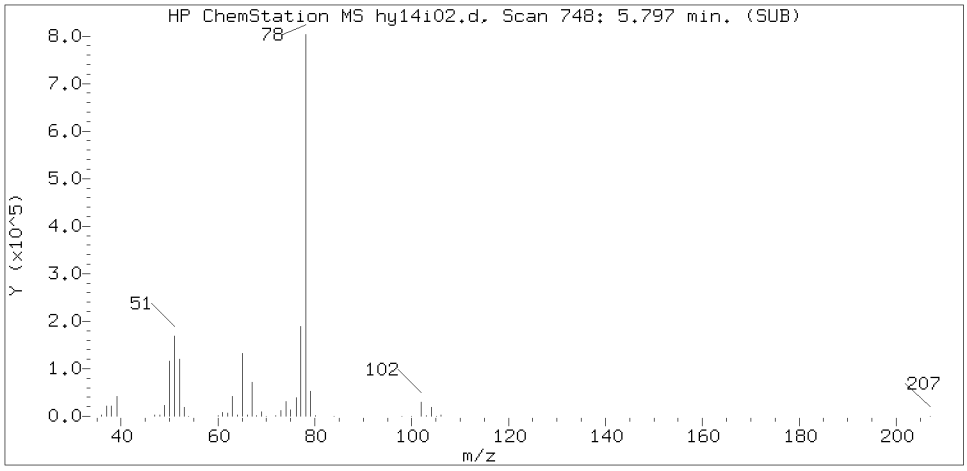
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

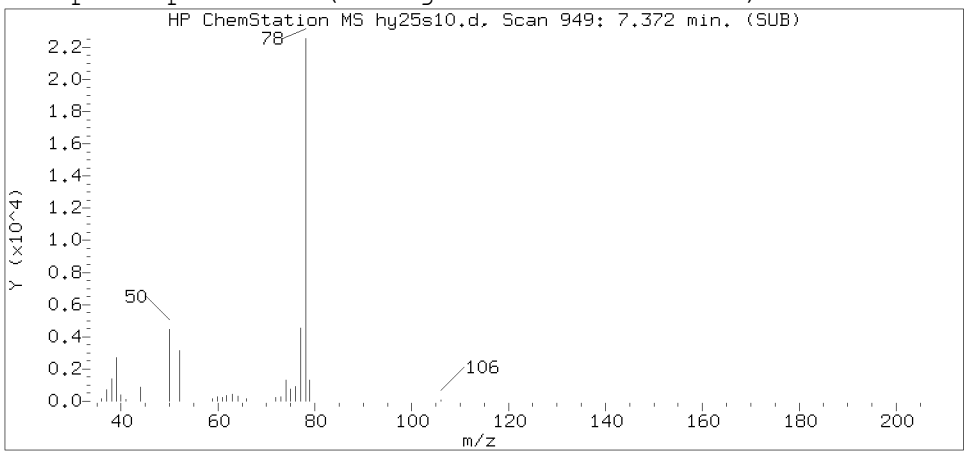
Compound Number : 51
Compound Name : 1,1,1-Trichloroethane
Scan Number : 873
Retention Time (minutes): 6.909
Relative Retention Time :-0.00148
Quant Ion : 97.00
Area (flag) : 17497
On-Column Amount (ng) : 0.1829

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

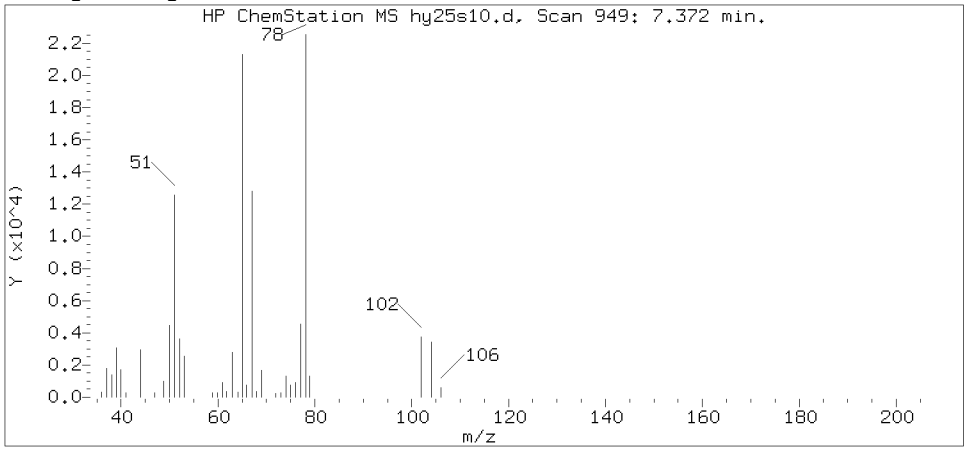
Reference Standard Spectrum for Benzene

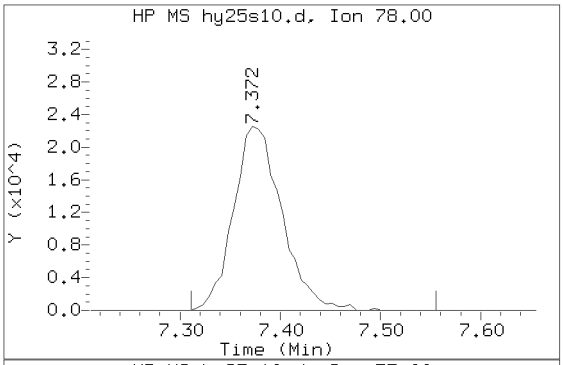


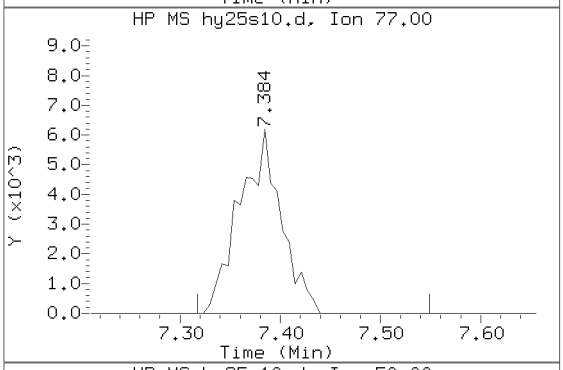
Sample Spectrum (Background Subtracted)

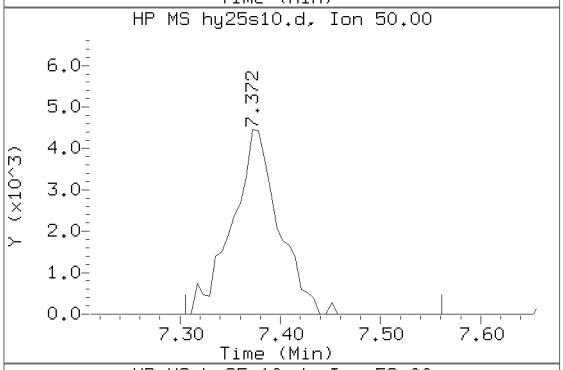


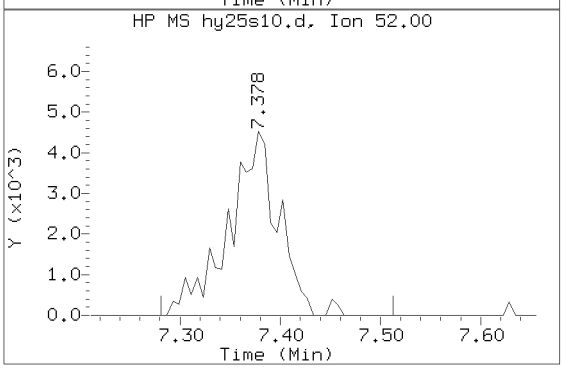
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

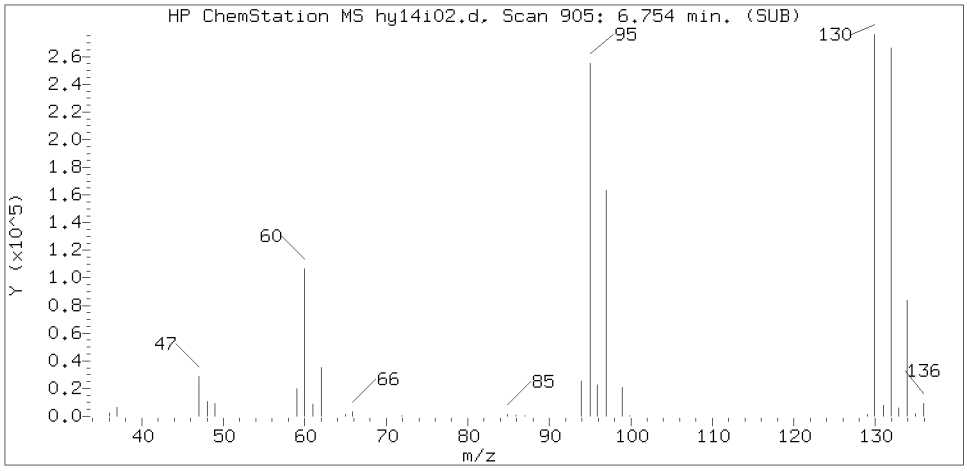
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

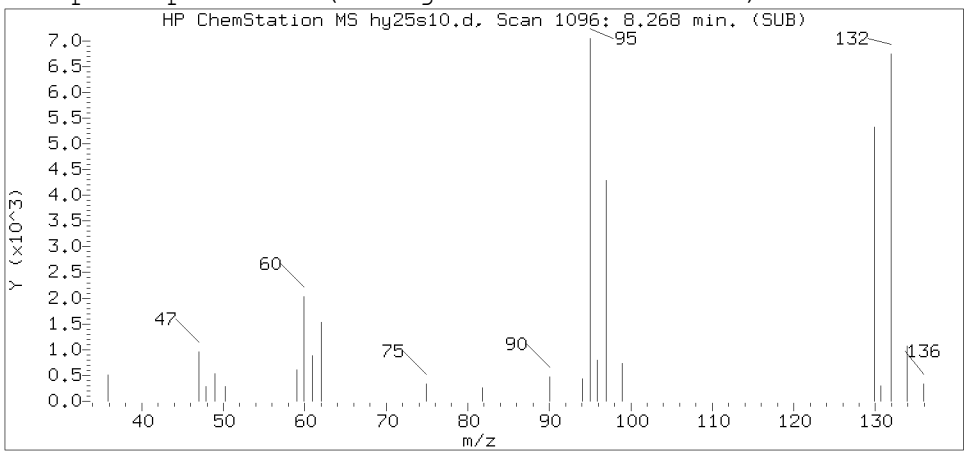
Compound Number	: 58
Compound Name	: Benzene
Scan Number	: 949
Retention Time (minutes)	: 7.372
Relative Retention Time	: 0.00004
Quant Ion	: 78.00
Area (flag)	: 75775
On-Column Amount (ng)	: 0.2937

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

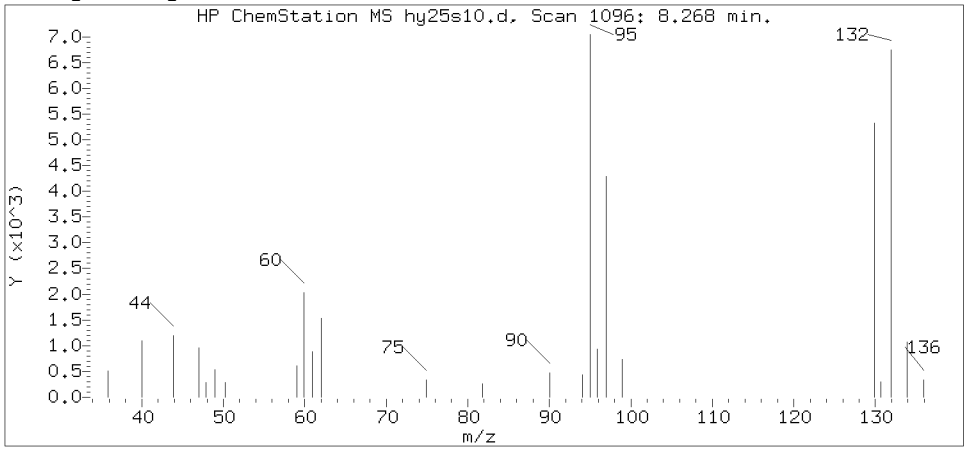
Reference Standard Spectrum for Trichloroethene

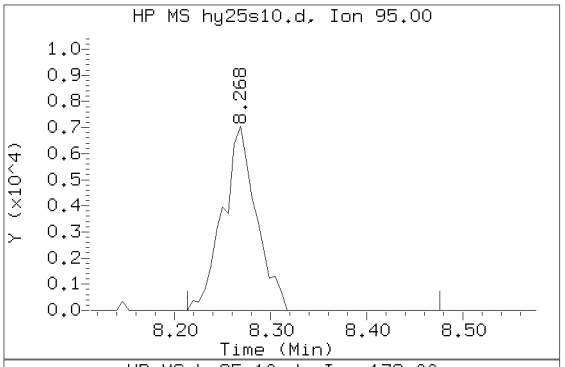


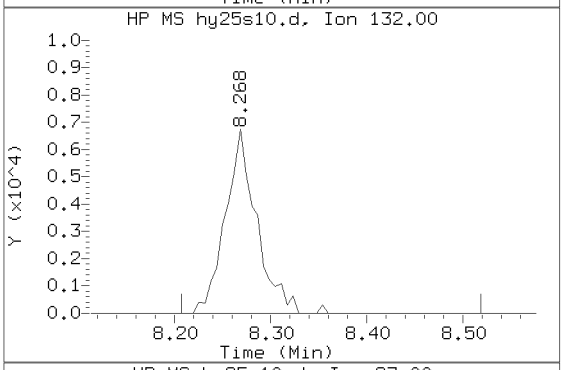
Sample Spectrum (Background Subtracted)

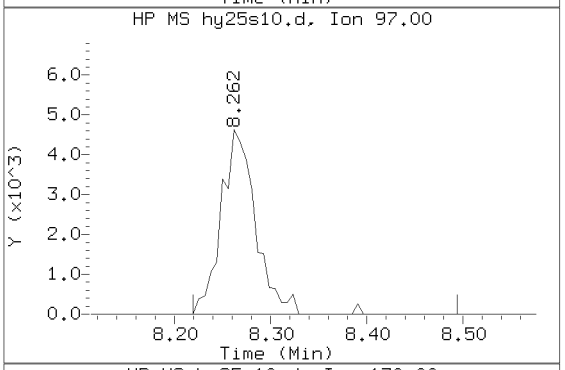


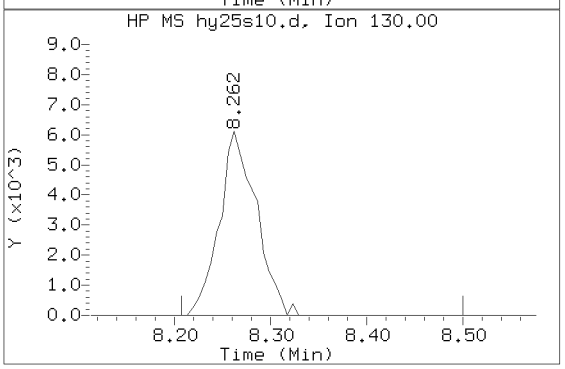
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

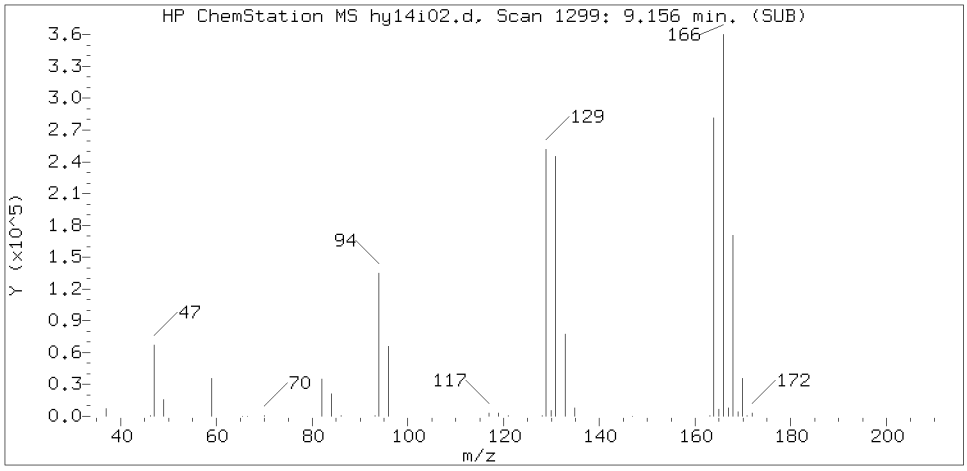
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

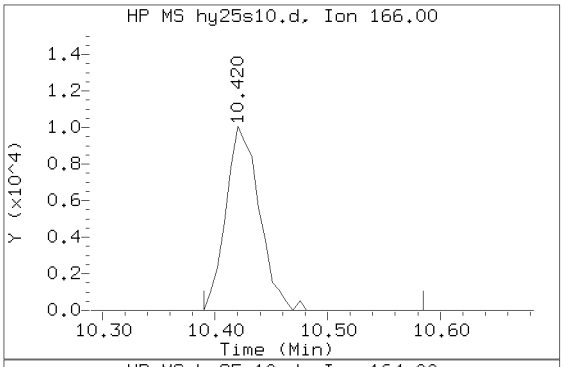
Sample Name: R8501 Lab Sample ID: 8999785

Compound Number : 67
Compound Name : Trichloroethene
Scan Number : 1096
Retention Time (minutes): 8.268
Relative Retention Time :-0.00162
Quant Ion : 95.00
Area (flag) : 16983
On-Column Amount (ng) : 0.2487

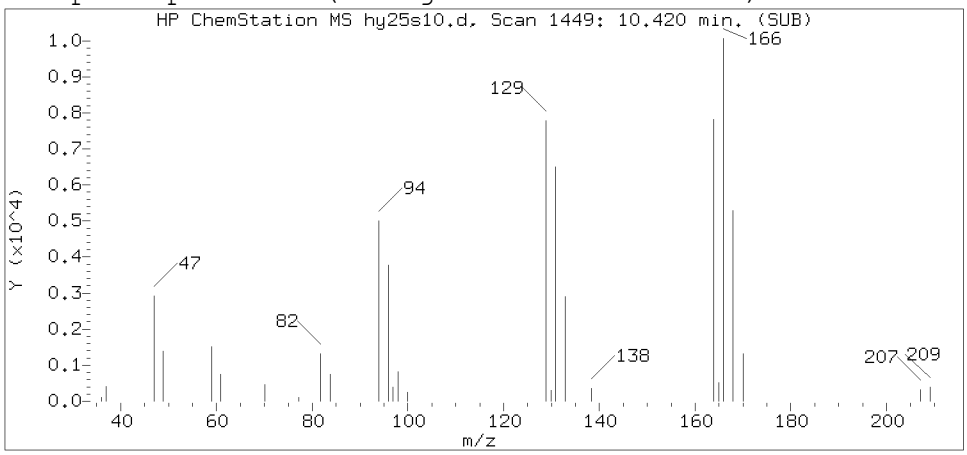
Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user IDs: dvv10203

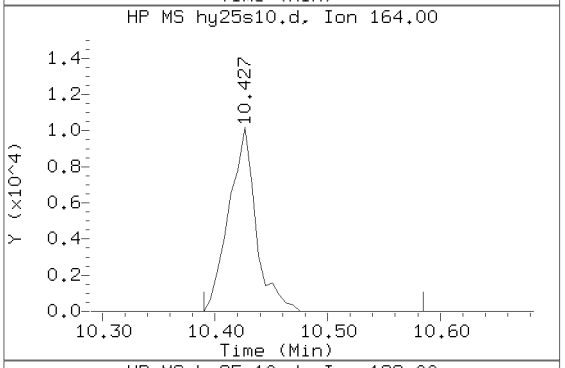
Reference Standard Spectrum for Tetrachloroethene

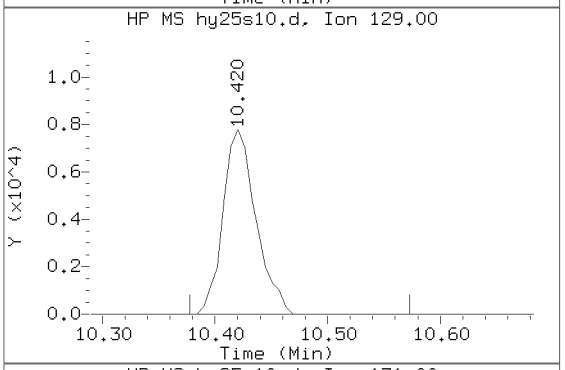




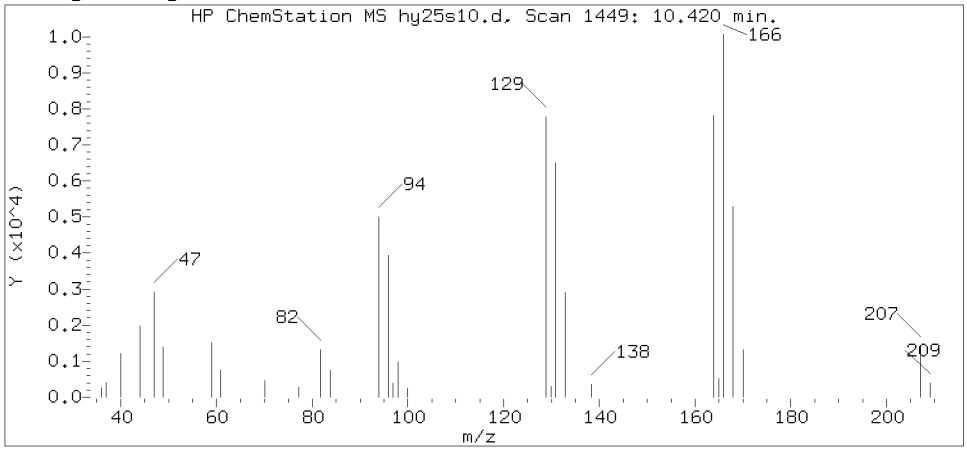
Sample Spectrum (Background Subtracted)

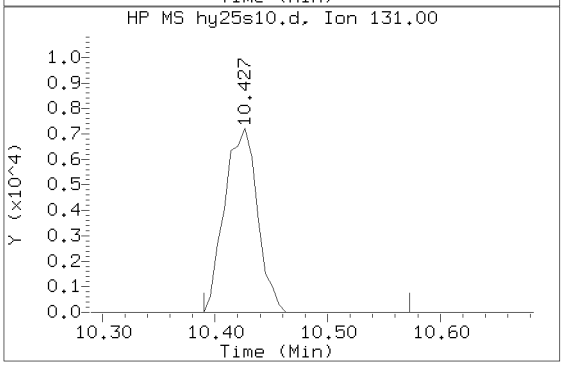






Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s10.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:24 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8501 Lab Sample ID: 8999785

Compound Number : 89
Compound Name : Tetrachloroethene
Scan Number : 1449
Retention Time (minutes): 10.420
Relative Retention Time :-0.00000
Quant Ion : 166.00
Area (flag) : 20734
On-Column Amount (ng) : 0.2926

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

R8501DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8999785DL

Data file: /chem2/HP19094.i/17may26a.b/hy26s03.d Injection date and time: **26-MAY-2017 16:01**
Data file Sample Info. Line: R8501DL;8999785DL;1;0;;RAE85;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **5.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 5 ml

Analysis Comments:9145 9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.245	(0.006)	436	65	73466	(-19)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2518486	(-2)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1790304	(0)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127	(-0.006)	1893	152	724054	(-7)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	638522	11.310	113%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(-0.001)	102	102700	11.250	113%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2533864	9.682	97%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.001)	95	708781	9.532	95%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.7	5
4) Dimethyl ether	(2)	2.093	(-0.000)	45	149828	1.626	8.13		J	0.5	63
2) Chloromethane	(2)				Not Detected					1	5
5) Vinyl Chloride	(2)				Not Detected					0.8	5
7) Bromomethane	(2)				Not Detected					3	5
8) Chloroethane	(2)	2.733	(-0.000)	64	33287	0.647	3.24		J	0.5	5
10) Trichlorofluoromethane	(2)				Not Detected					0.9	5
11) Ethyl ether	(2)	3.300	(-0.000)	59	448244	10.874	54.37		J	6	63
13) Acrolein	(1)				Not Detected					25	130
15) 1,1-Dichloroethene	(2)				Not Detected					1	5
16) Freon 113	(2)				Not Detected					1	5
14) Acetone	(1)				Not Detected					15	50
17) Methyl Iodide	(2)				Not Detected					3	50
18) Carbon Disulfide	(2)				Not Detected					2	50
25) Acetonitrile	(1)				Not Detected					160	500
22) Allyl Chloride	(2)				Not Detected					4	50
23) Methylene Chloride	(2)	4.288	(-0.002)	84	16578	0.272	1.36		J	1	5
29) Acrylonitrile	(1)				Not Detected					5	50
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	5
33) 1,1-Dichloroethane	(2)	5.354	(-0.000)	63	150351	1.235	6.17			0.7	5
36) Vinyl Acetate	(2)				Not Detected					16	50
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					2	50
38) 2-Butanone	(1)				Not Detected					5	50
42) Propionitrile	(1)				Not Detected					51	500
45) Methacrylonitrile	(1)				Not Detected					49	500
48) Tetrahydrofuran	(1)	6.543	(-0.006)	71	7447	2.159	10.80		J	10	130
49) Chloroform	(2)				Not Detected					0.5	5
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.7	5
54) Carbon Tetrachloride	(2)				Not Detected					0.8	5
56) Isobutyl Alcohol	(1)				Not Detected					50	1000

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:45. Target 3.5 esignature user ID: kel01973

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may26a.b/hy26s03.d Injection date and time: **26-MAY-2017 16:01**
Data file Sample Info. Line: R8501DL;8999785DL;1;0;;RAE85;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **5.00**

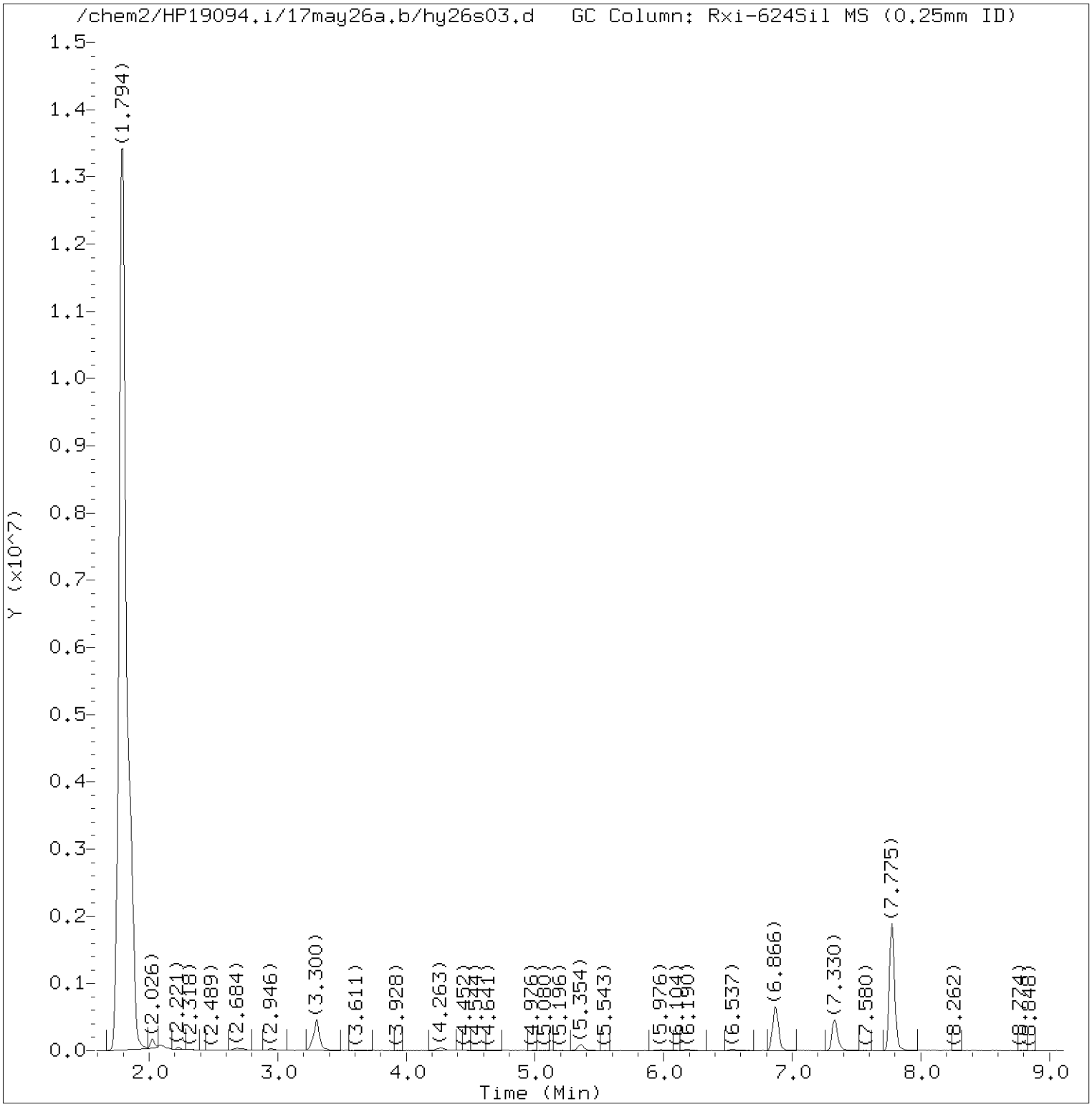
Volume Purged (Vt): 25 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
58) Benzene	(2)				Not Detected					0.5	5
59) 1,2-Dichloroethane	(2)				Not Detected					0.7	5
67) Trichloroethene	(2)				Not Detected					0.9	5
70) 1,2-Dichloropropane	(2)				Not Detected					0.5	5
71) Methyl Methacrylate	(1)				Not Detected					18	50
73) Dibromomethane	(2)				Not Detected					0.5	5
72) 1,4-Dioxane	(1)				Not Detected					230	1000
74) Bromodichloromethane	(2)				Not Detected					0.5	5
81) 4-Methyl-2-Pentanone	(1)				Not Detected					5	50
83) Toluene	(3)				Not Detected					0.5	5
84) trans-1,3-Dichloropropene	(3)				Not Detected					0.5	5
86) Ethyl Methacrylate	(3)				Not Detected					4	50
88) 1,1,2-Trichloroethane	(3)				Not Detected					0.5	5
89) Tetrachloroethene	(3)				Not Detected					0.5	5
90) 1,3-Dichloropropane	(3)				Not Detected					0.5	5
91) 2-Hexanone	(1)				Not Detected					5	50
93) Dibromochloromethane	(3)				Not Detected					0.5	5
95) 1,2-Dibromoethane	(3)				Not Detected					0.5	5
99) 1,1,1,2-Tetrachloroethane	(3)				Not Detected					0.5	5
100) Ethylbenzene	(3)				Not Detected					0.5	5
101) m+p-Xylene	(3)				Not Detected					0.5	3
104) o-Xylene	(3)				Not Detected					0.5	3
105) Xylene (Total)	(3)				Not Detected					1	15
106) Styrene	(3)				Not Detected					0.5	5
107) Bromoform	(3)				Not Detected					0.5	5
113) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					0.9	5
115) trans-1,4-Dichloro-2-butene	(1)				Not Detected					5	50
116) 1,2,3-Trichloropropane	(4)				Not Detected					2	5
126) Pentachloroethane	(4)				Not Detected					4	50
131) 1,3-Dichlorobenzene	(4)				Not Detected					0.5	5
134) 1,4-Dichlorobenzene	(4)				Not Detected					0.5	5
139) 1,2-Dichlorobenzene	(4)				Not Detected					0.5	5
142) Hexachloroethane	(4)				Not Detected					0.6	50
143) 1,2-Dibromo-3-chloropropane	(1)				Not Detected					1	5
145) 1,2,4-Trichlorobenzene	(4)				Not Detected					0.7	5
146) Hexachlorobutadiene	(4)				Not Detected					0.5	5
147) Naphthalene	(4)				Not Detected					0.6	5

Total number of targets = 67

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:45. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 14:05. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

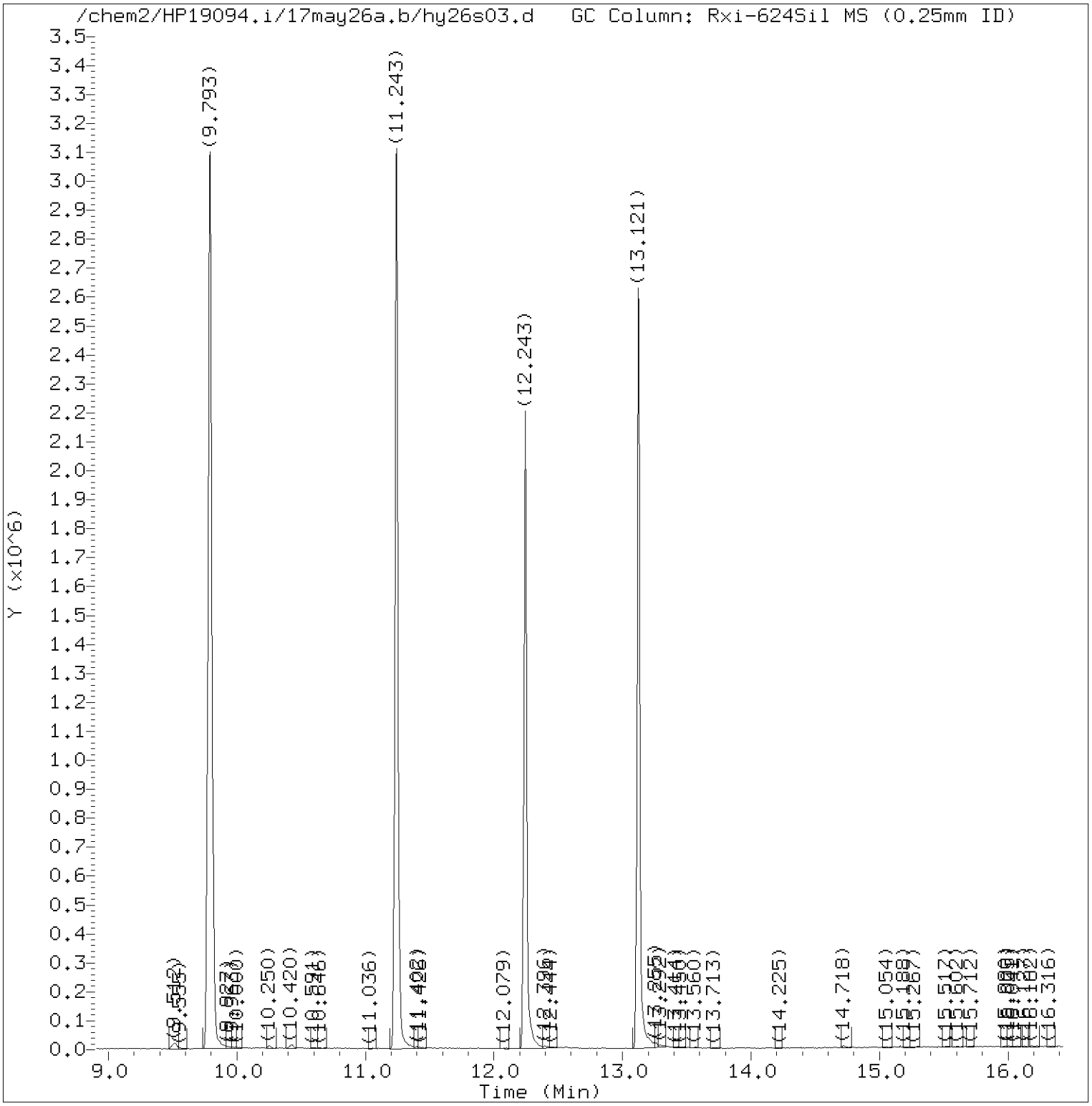
Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

Sample Name: R8501DL Lab Sample ID: 8999785DL

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

Sample Name: R8501DL Lab Sample ID: 8999785DL

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

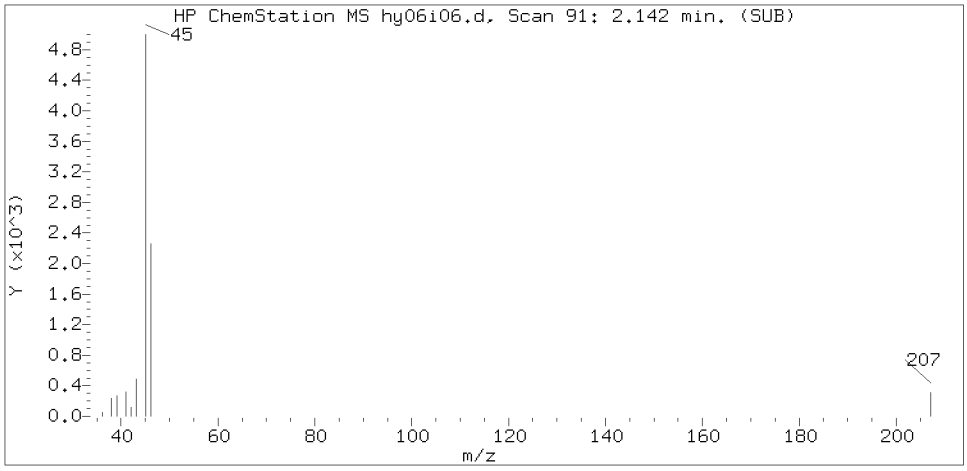
Sample Name: R8501DL Lab Sample ID: 8999785DL

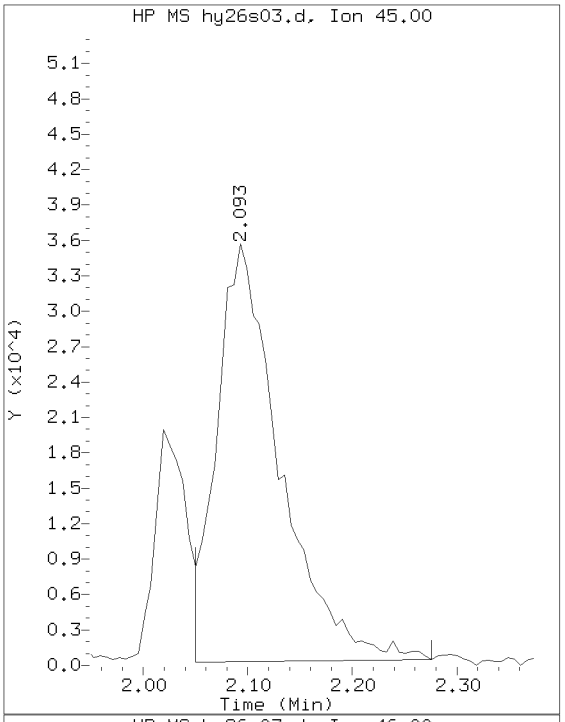
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	149828	1.626
8) Chloroethane	(2)	2.733	64	33287	0.647
11) Ethyl ether	(2)	3.300	59	448244	10.874
26)*t-Butyl Alcohol-d10	(1)	4.245	65	73466	50.000
23) Methylene Chloride	(2)	4.288	84	16578	0.272
33) 1,1-Dichloroethane	(2)	5.354	63	150351	1.235
48) Tetrahydrofuran	(1)	6.543	71	7447	2.159
50)$Dibromofluoromethane	(2)	6.866	113	638522	11.310
57)$1,2-Dichloroethane-d4	(2)	7.330	102	102700	11.250
63)*Fluorobenzene	(2)	7.775	96	2518486	10.000
82)$Toluene-d8	(3)	9.793	98	2533864	9.682
97)*Chlorobenzene-d5	(3)	11.243	117	1790304	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	708781	9.532
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	724054	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

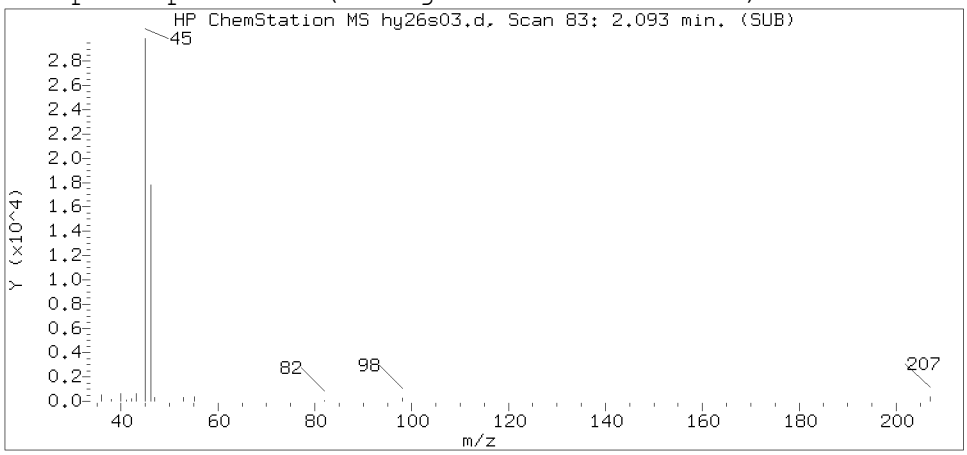
Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973

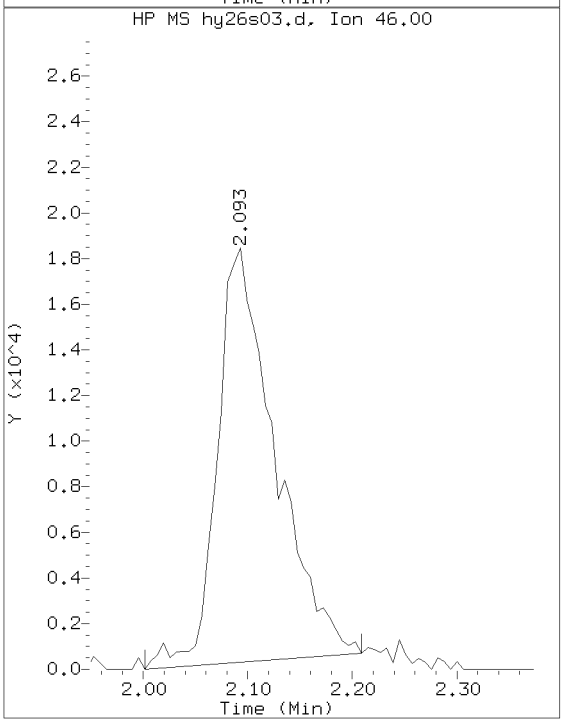
Reference Standard Spectrum for Dimethyl ether



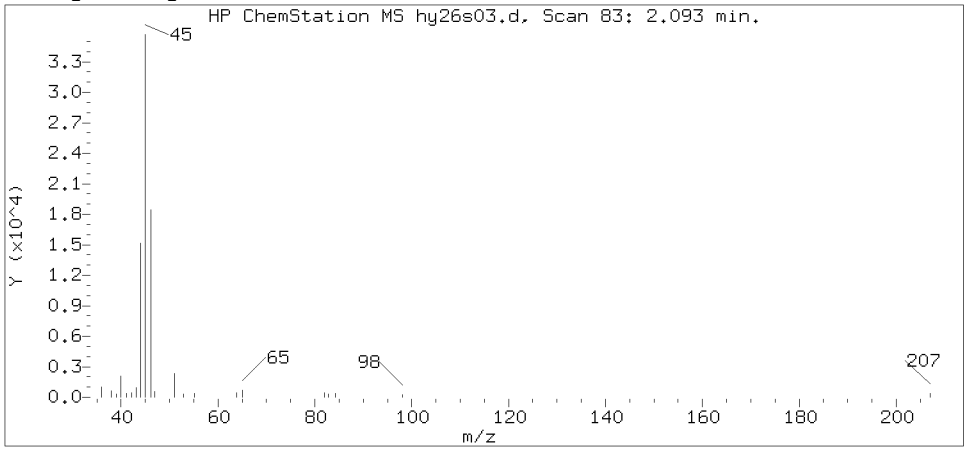


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

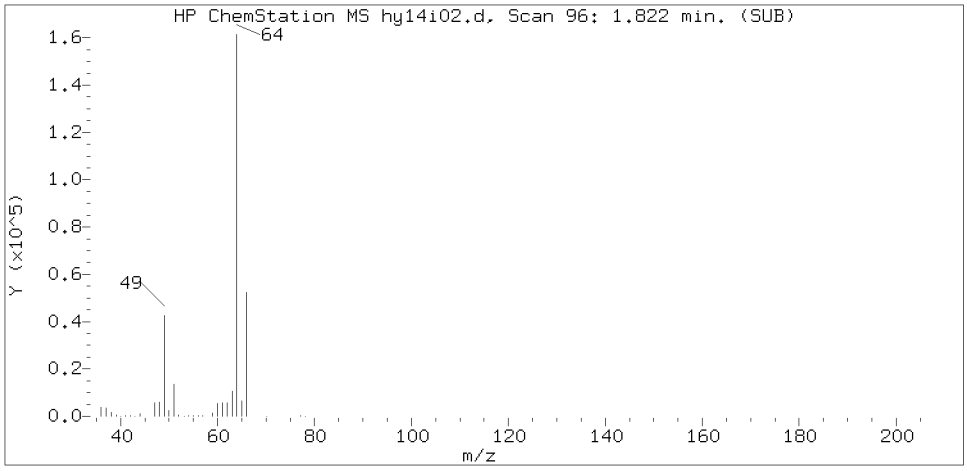
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

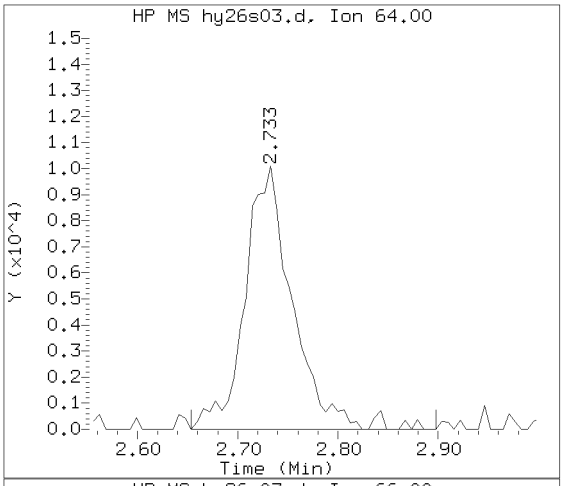
Sample Name: R8501DL Lab Sample ID: 8999785DL

Compound Number	: 4
Compound Name	: Dimethyl ether
Scan Number	: 83
Retention Time (minutes)	: 2.093
Relative Retention Time	:-0.00080
Quant Ion	: 45.00
Area (flag)	: 149828
On-Column Amount (ng)	: 1.6259

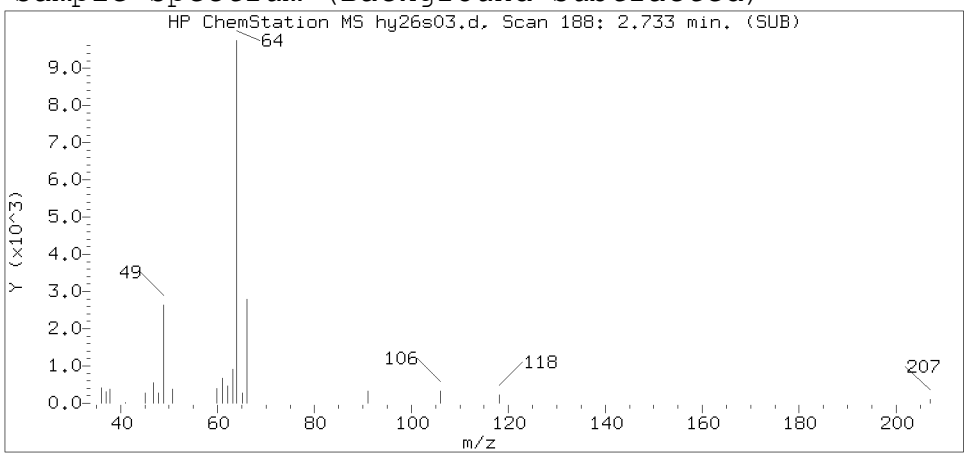
Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973

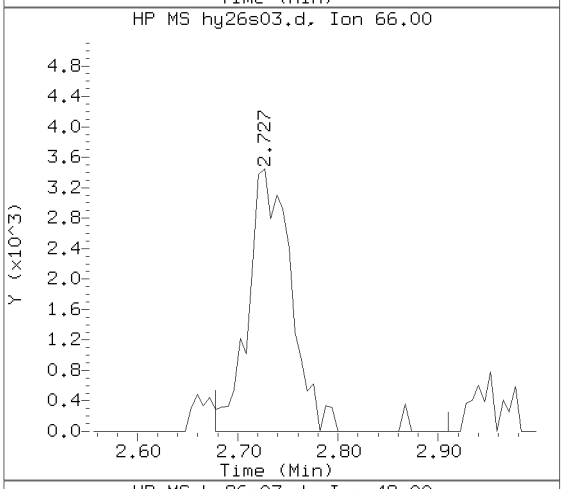
Reference Standard Spectrum for Chloroethane



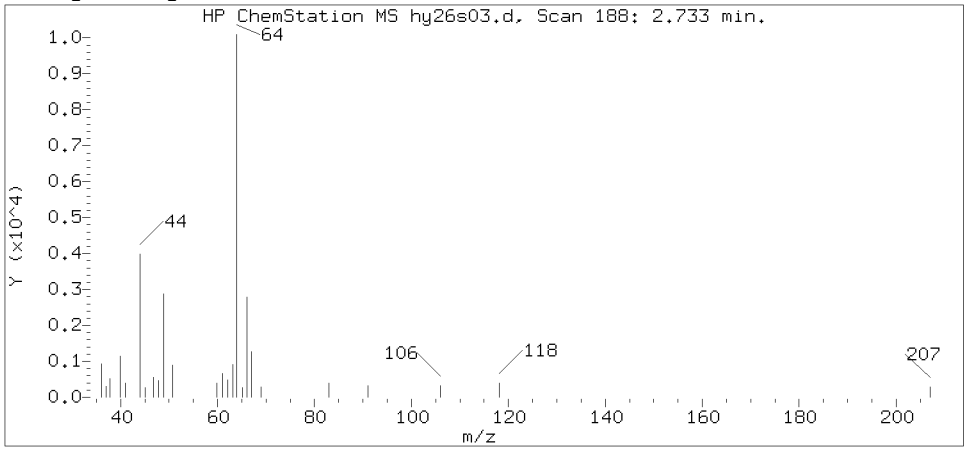


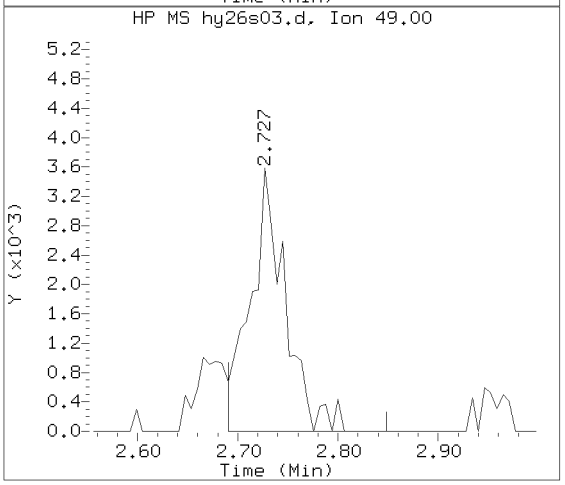
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

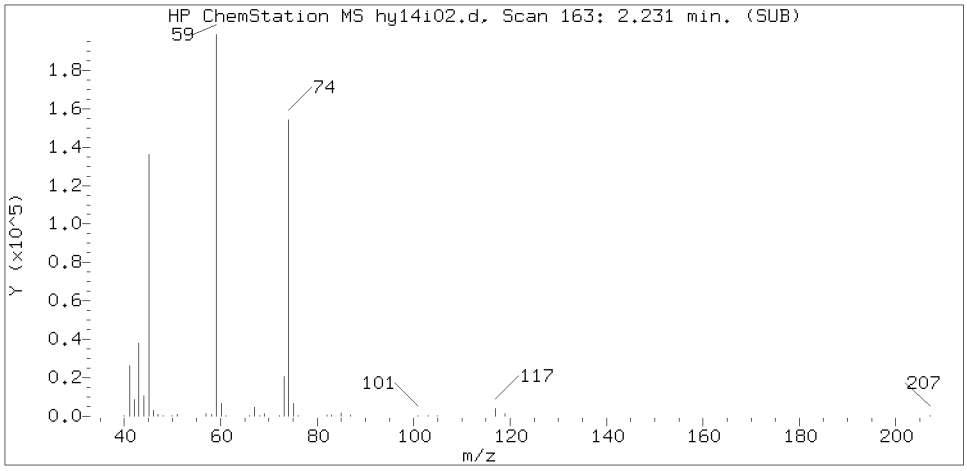
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

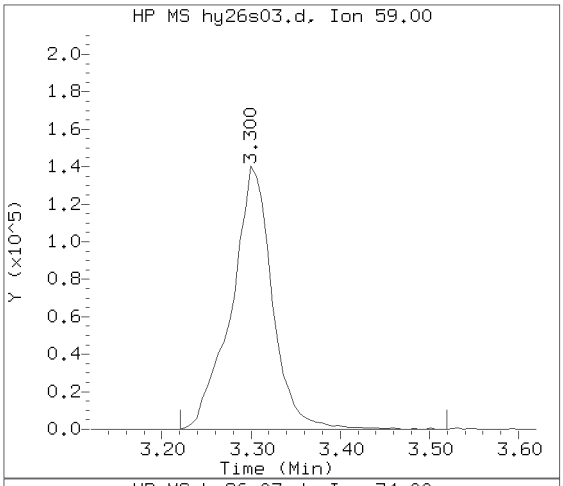
Sample Name: R8501DL Lab Sample ID: 8999785DL

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 188
Retention Time (minutes): 2.733
Relative Retention Time :-0.00000
Quant Ion : 64.00
Area (flag) : 33287
On-Column Amount (ng) : 0.6472

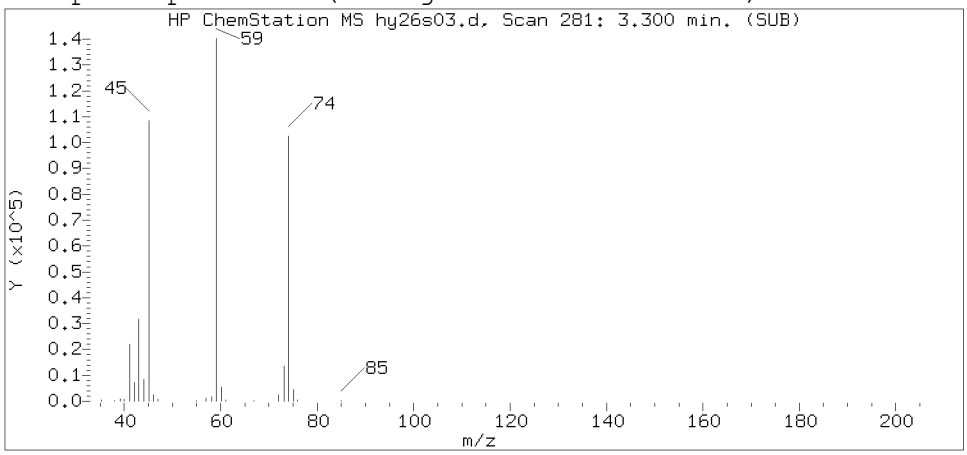
Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973

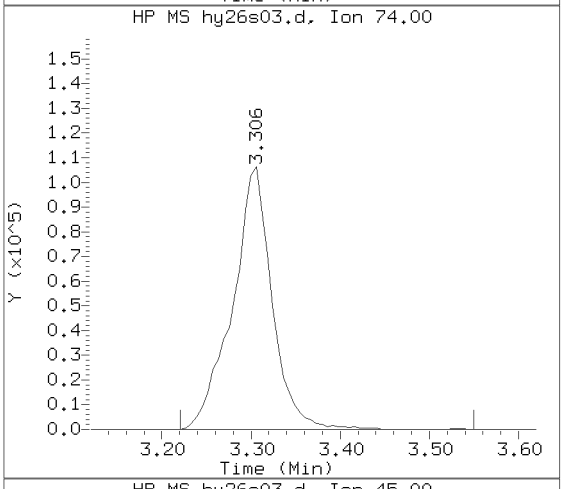
Reference Standard Spectrum for Ethyl ether



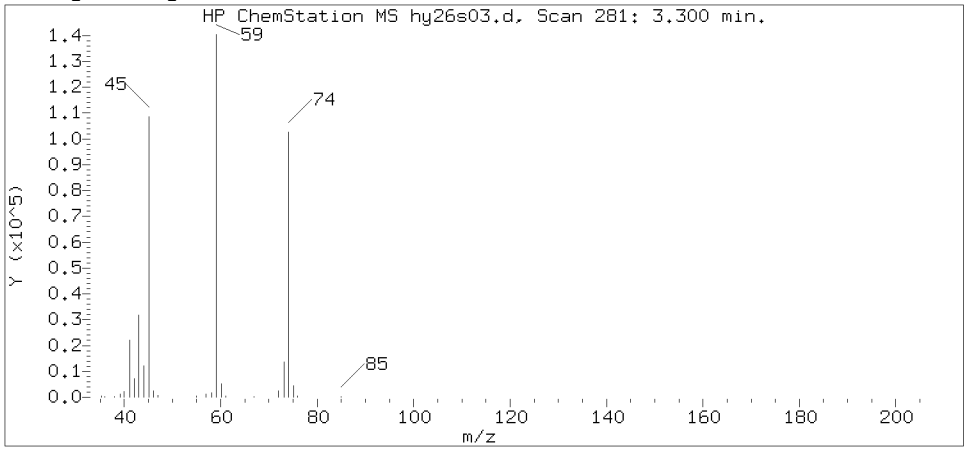


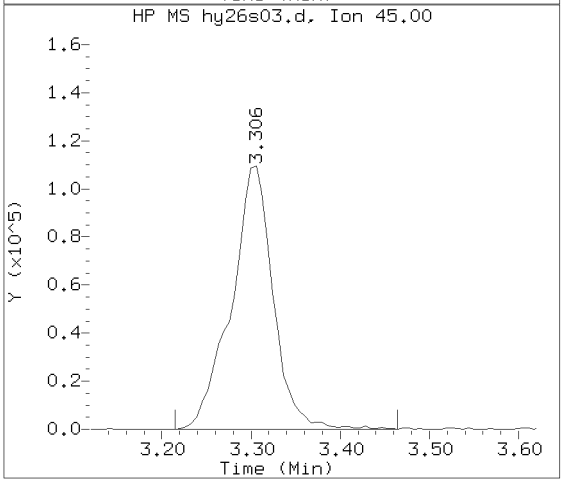
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

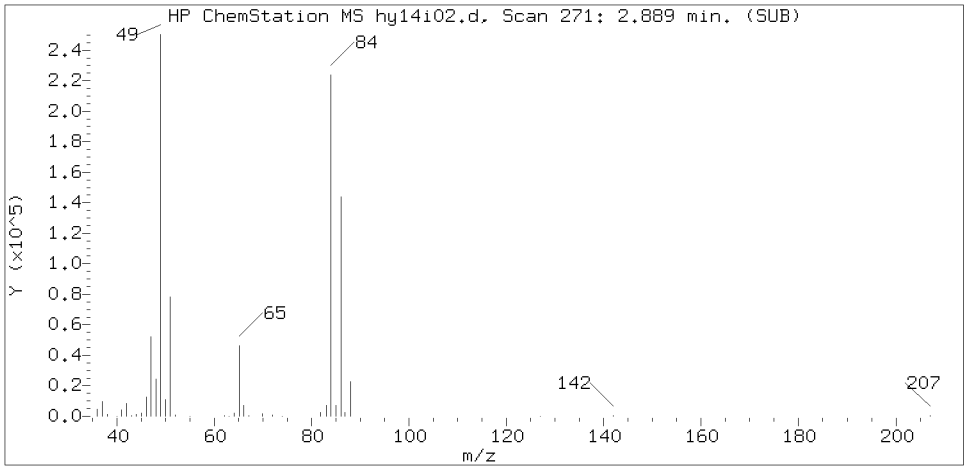
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

Sample Name: R8501DL Lab Sample ID: 8999785DL

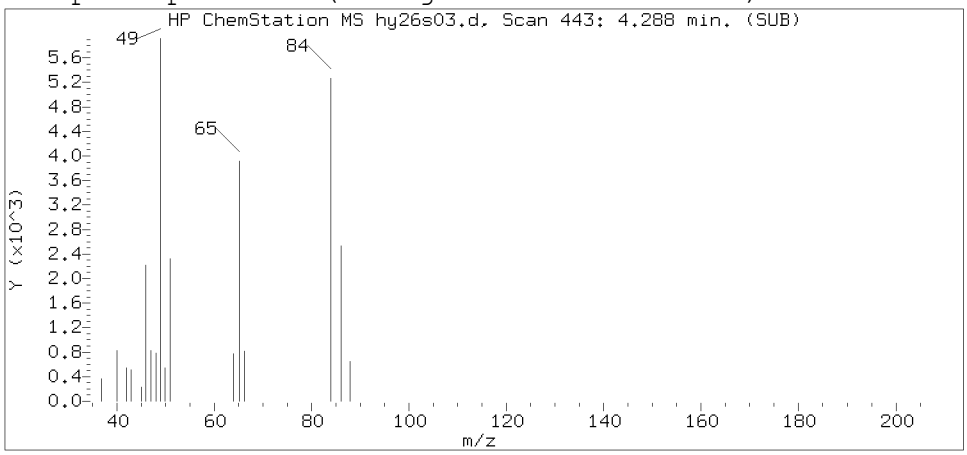
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Relative Retention Time :-0.00000
Quant Ion : 59.00
Area (flag) : 448244
On-Column Amount (ng) : 10.8741

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973

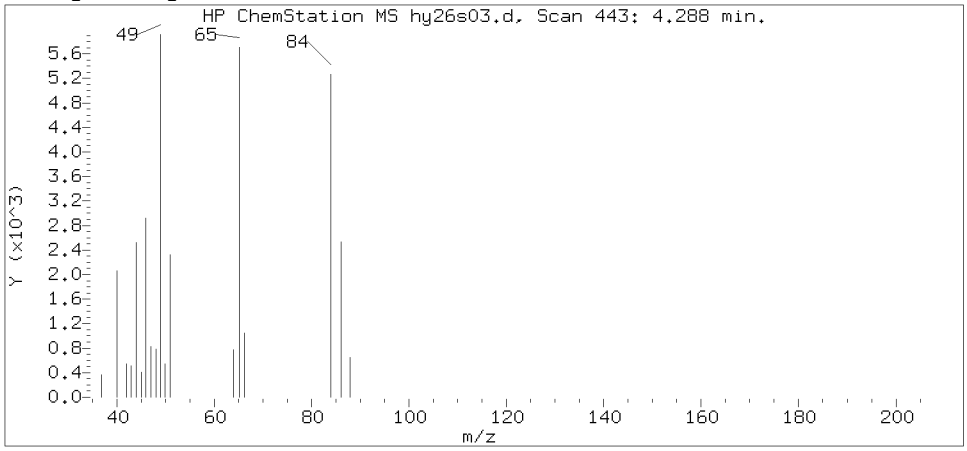
Reference Standard Spectrum for Methylene Chloride

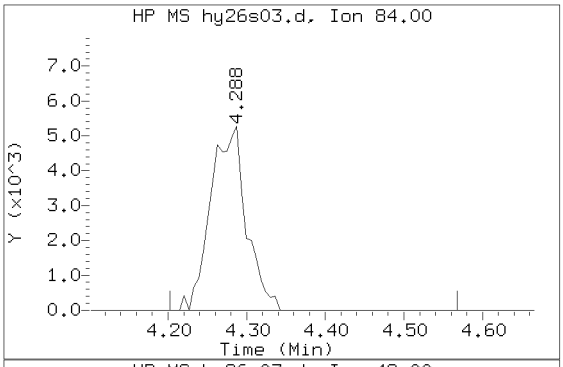


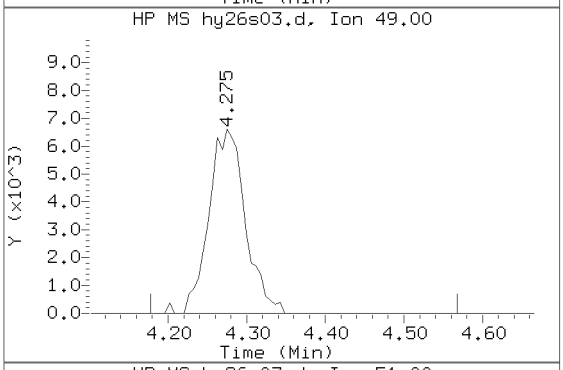
Sample Spectrum (Background Subtracted)

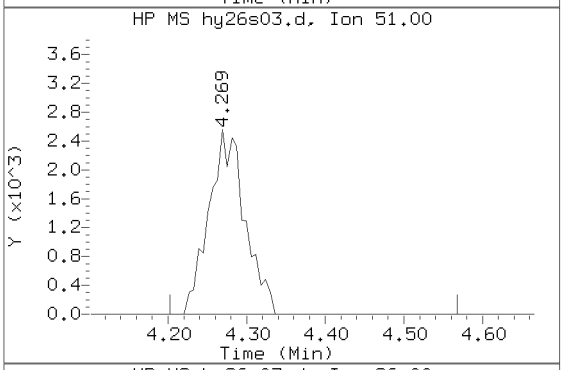


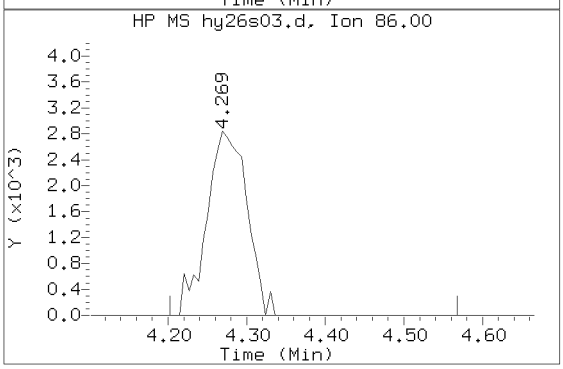
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

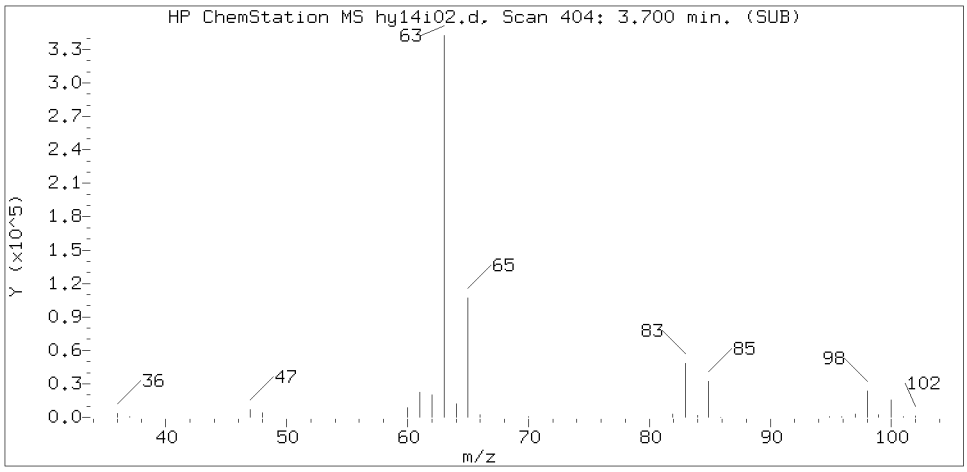
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

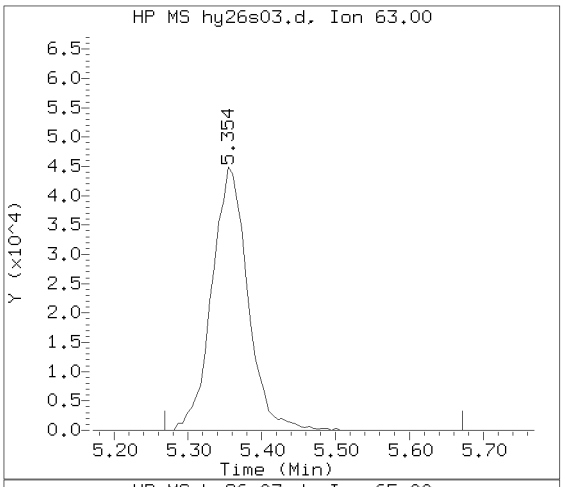
Sample Name: R8501DL Lab Sample ID: 8999785DL

Compound Number : 23
Compound Name : Methylene Chloride
Scan Number : 443
Retention Time (minutes): 4.288
Relative Retention Time :-0.00236
Quant Ion : 84.00
Area (flag) : 16578
On-Column Amount (ng) : 0.2717

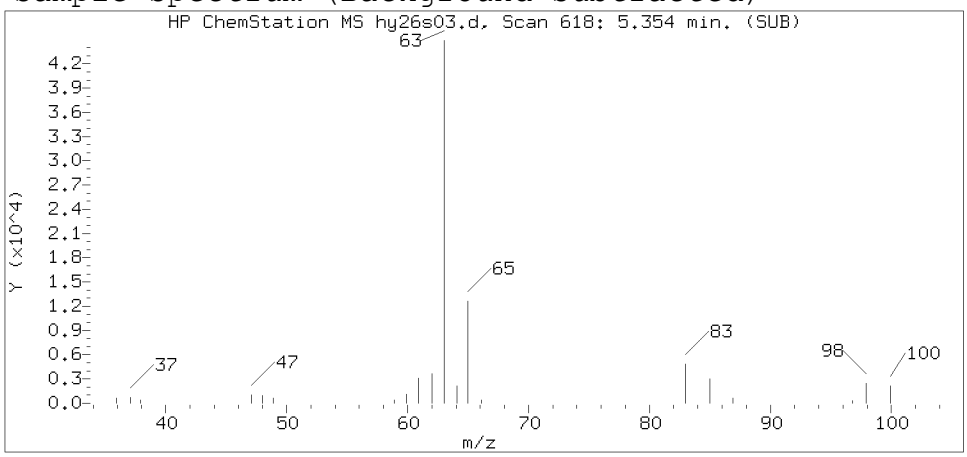
Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973

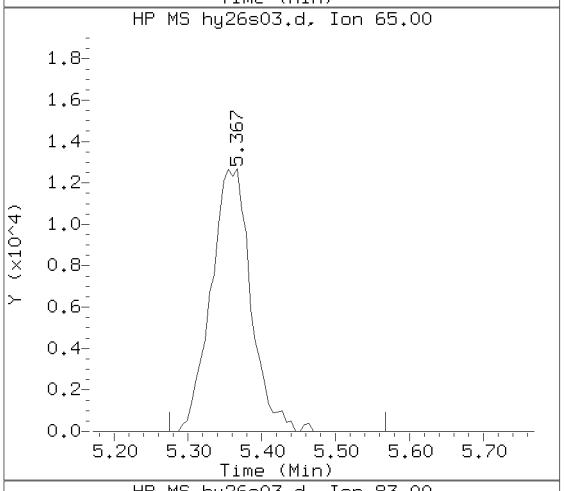
Reference Standard Spectrum for 1,1-Dichloroethane



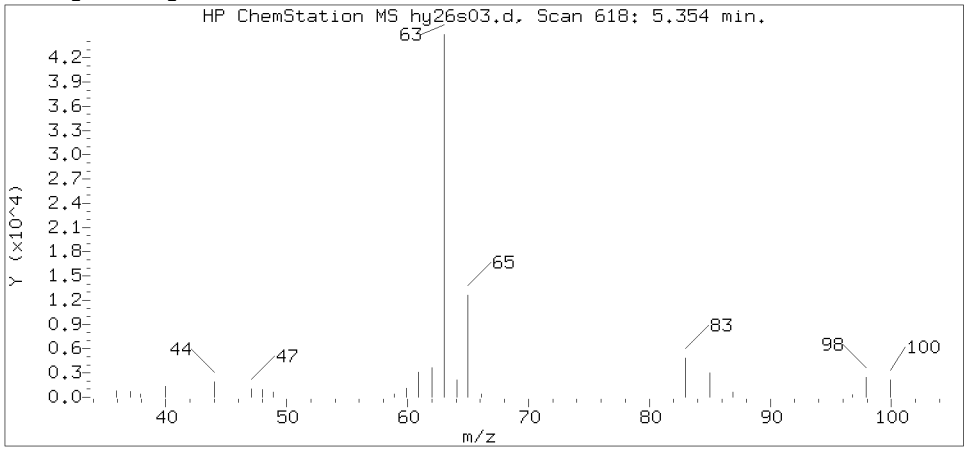


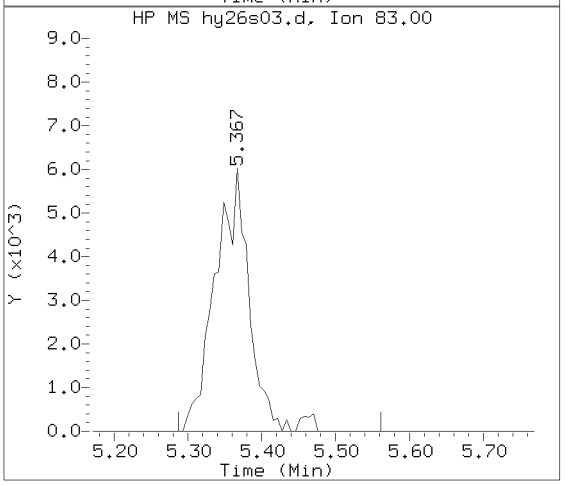
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

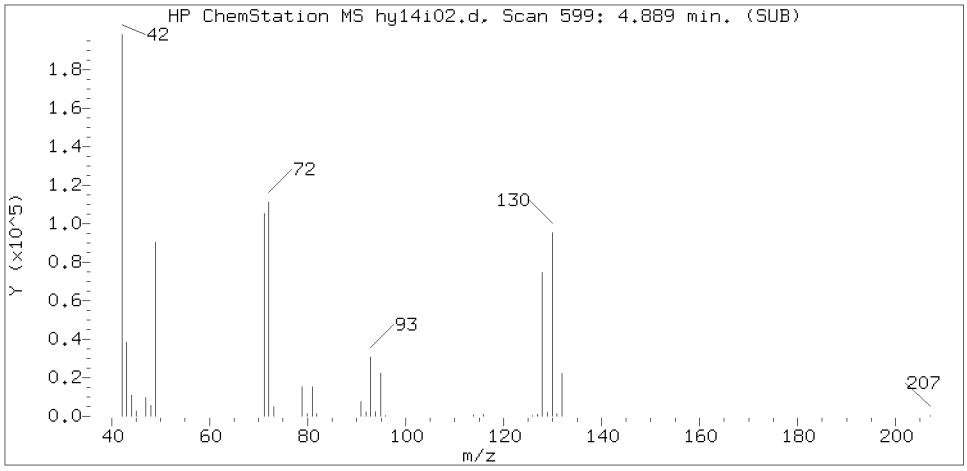
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

Sample Name: R8501DL Lab Sample ID: 8999785DL

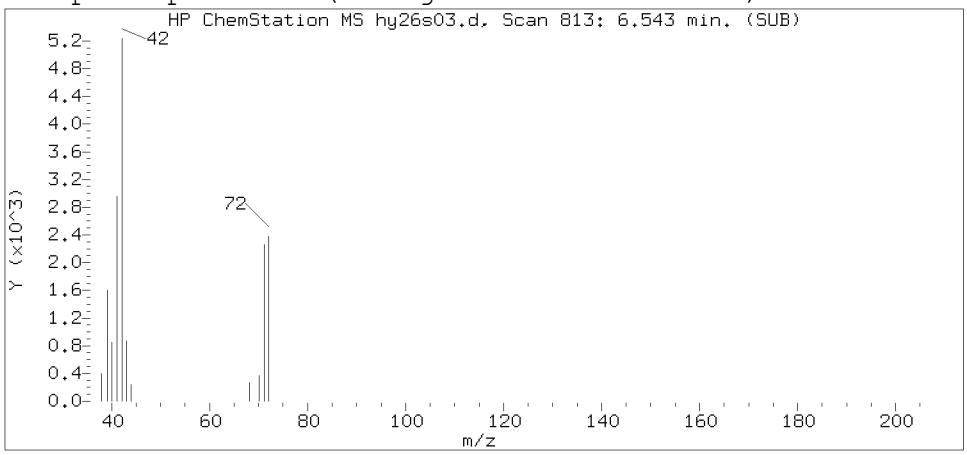
Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 618
Retention Time (minutes): 5.354
Relative Retention Time :-0.00000
Quant Ion : 63.00
Area (flag) : 150351
On-Column Amount (ng) : 1.2348

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973

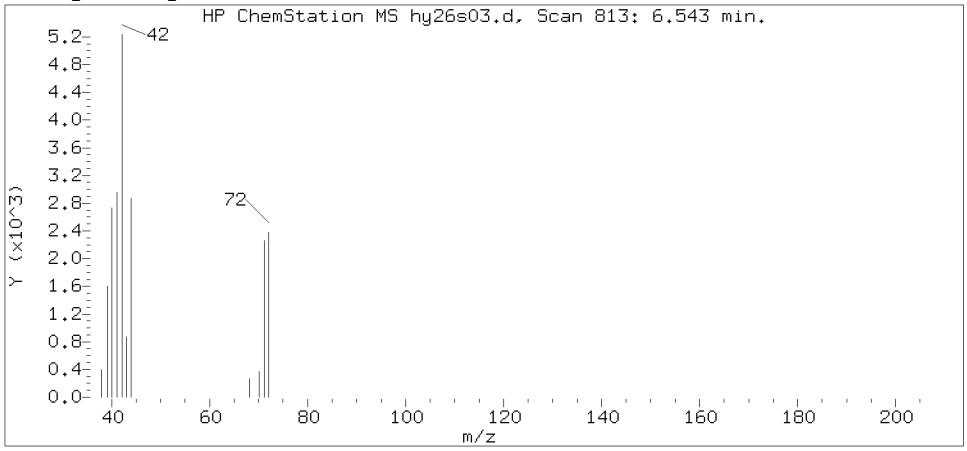
Reference Standard Spectrum for Tetrahydrofuran

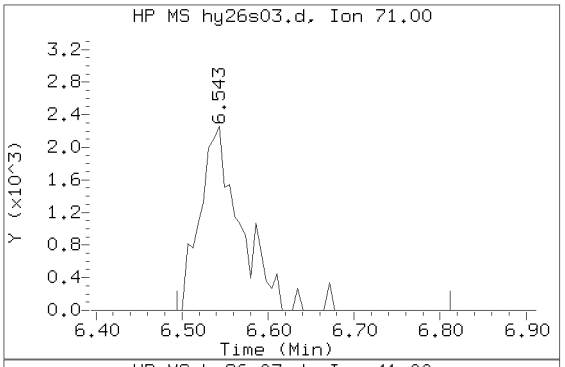


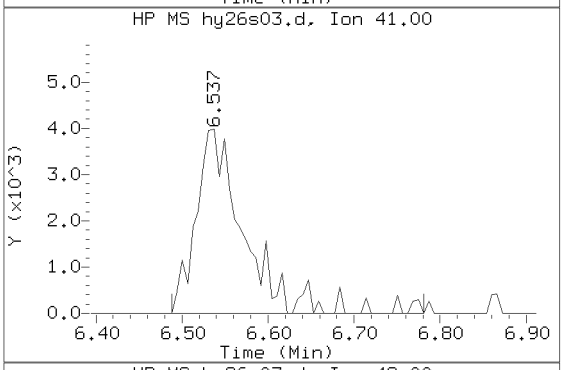
Sample Spectrum (Background Subtracted)

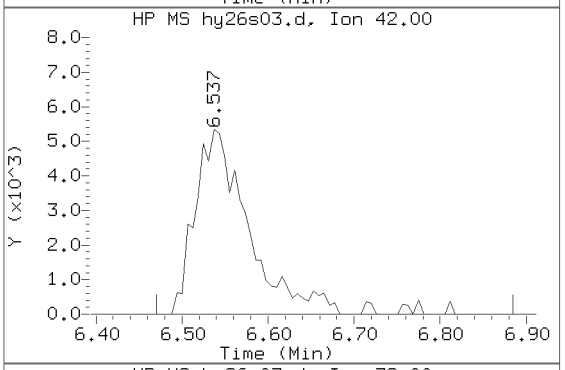


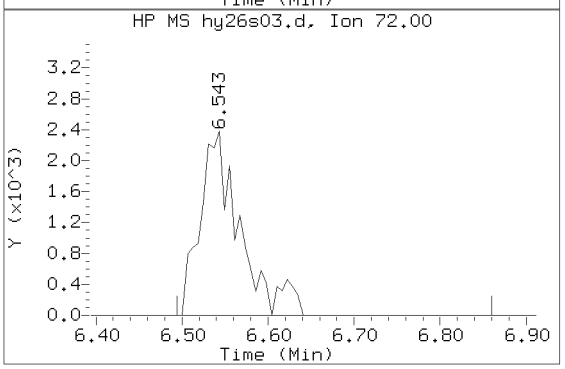
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may26a.b/hy26s03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:01 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:44 kel01973

Sample Name: R8501DL Lab Sample ID: 8999785DL

Compound Number : 48
Compound Name : Tetrahydrofuran
Scan Number : 813
Retention Time (minutes): 6.543
Relative Retention Time :-0.00651
Quant Ion : 71.00
Area (flag) : 7447
On-Column Amount (ng) : 2.1591

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:45.
Target 3.5 esignature user ID: kel01973

R8502 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999786

Data file: /chem/HP09915.i/17may23a.b/ly23s09.d Injection date and time: **23-MAY-2017 13:05**
Data file Sample Info. Line: R8502;8999786;1;0;;RAE85;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 13:23 Automation

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **16342**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.574	(0.000)	651	65	204431	(-14)	250.00	
66) Fluorobenzene	7.050	(-0.003)	1732	96	1091893	(-7)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	824991	(-8)	50.00	
131) 1,4-Dichlorobenzene-d4	12.642	(-0.003)	3471	152	434488	(-10)	50.00	

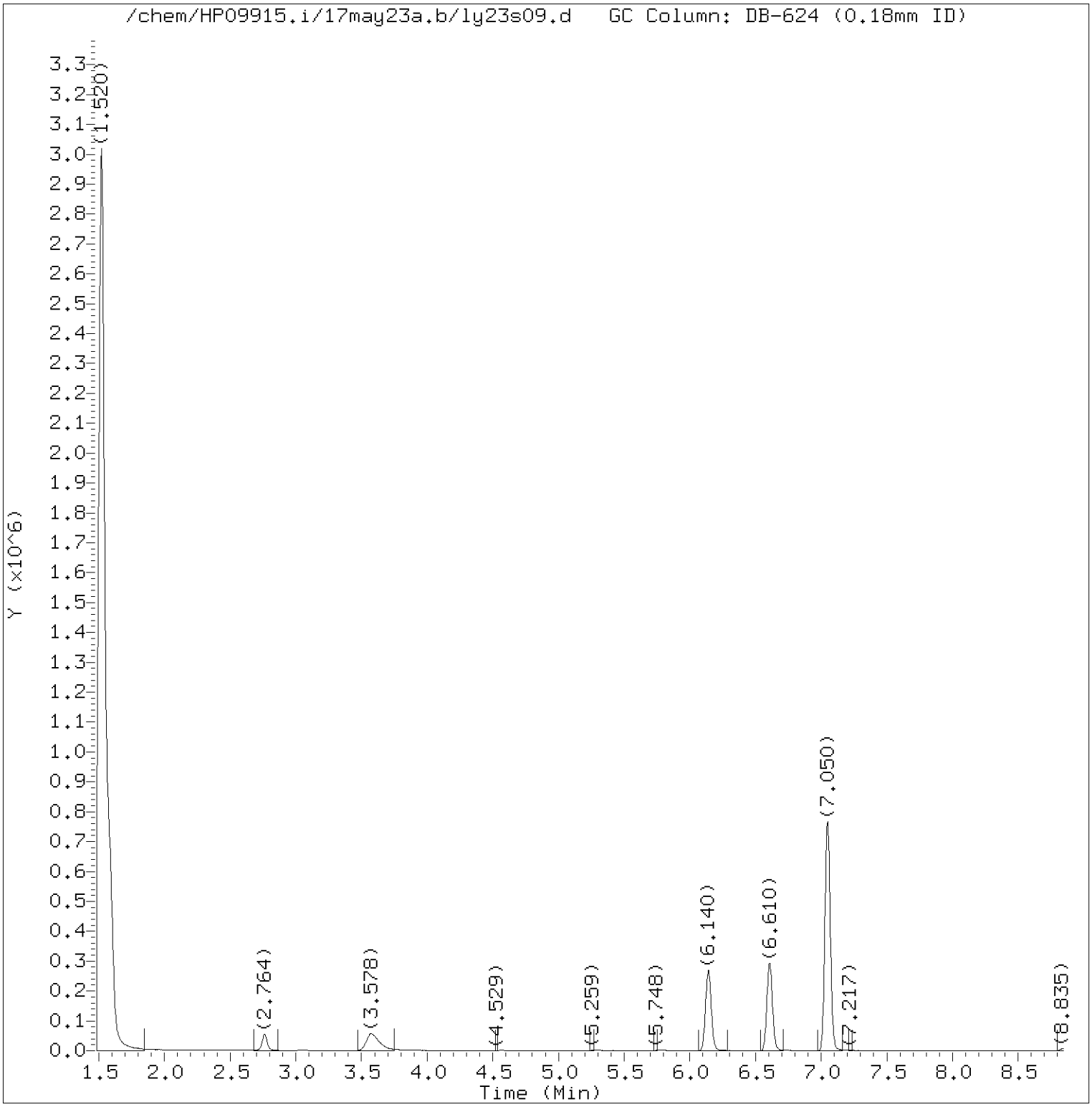
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.140	(0.000)	113	260937	48.939	98%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.610	(0.000)	102	66301	50.006	100%		77 - 113
83) Toluene-d8	(3)	9.140	(0.000)	98	1049049	49.801	100%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.751	(0.000)	95	384503	49.110	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
21) 2-Propanol	(1)				Not Detected					50	100

Total number of targets = 1

Digitally signed by Kevin Kelly on 05/23/2017 at 16:08. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:38. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

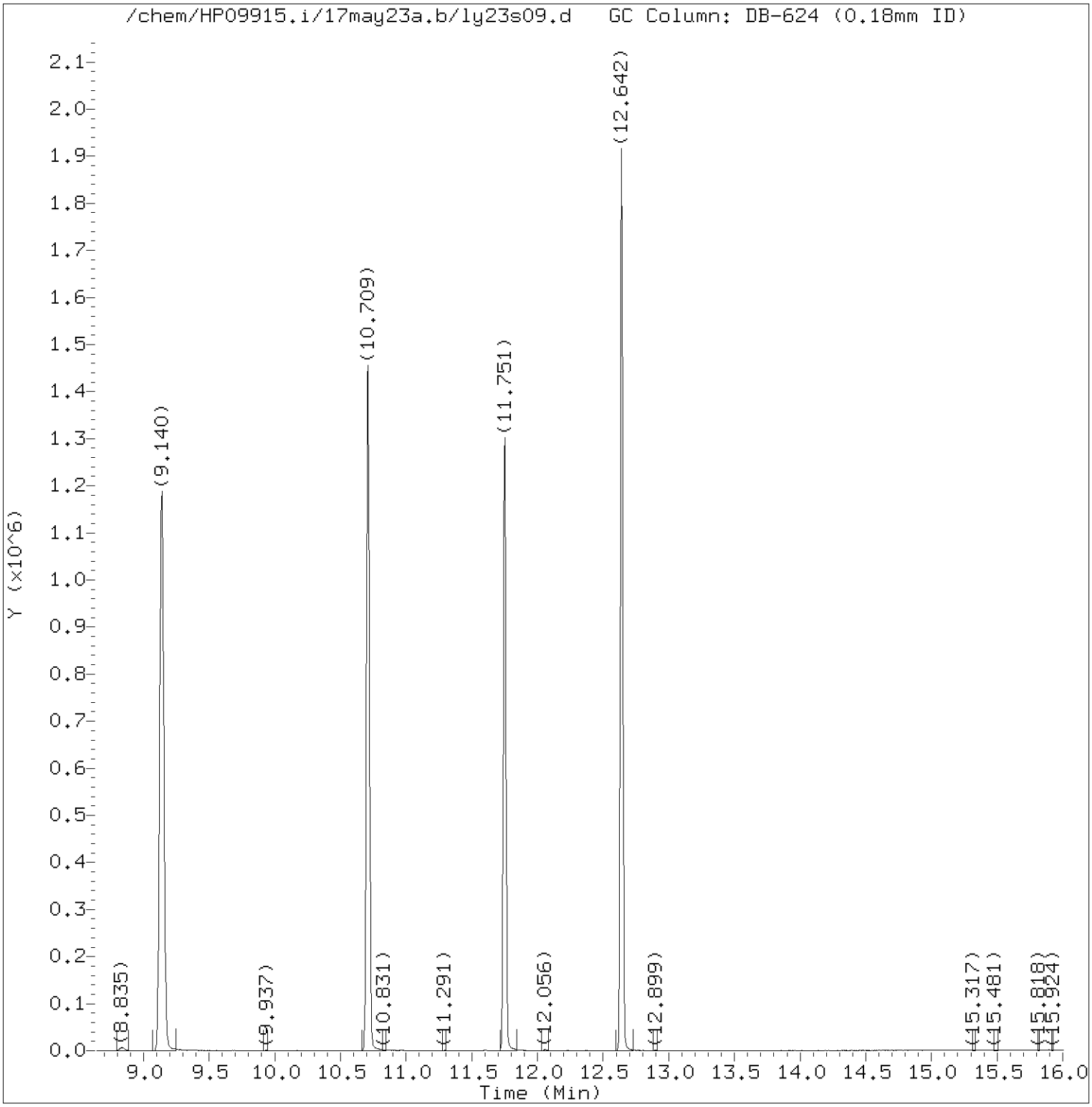
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s09.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:05 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:23 Automation

Sample Name: R8502 Lab Sample ID: 8999786

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:08.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s09.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:05 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:23 Automation

Sample Name: R8502 Lab Sample ID: 8999786

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:08.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s09.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:05 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:23 Automation

Sample Name: R8502 Lab Sample ID: 8999786

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	3.574	65	204431	250.000
52)$Dibromofluoromethane	(2)	6.140	113	260937	48.939
57)$1,2-Dichloroethane-d4	(2)	6.610	102	66301	50.006
66)*Fluorobenzene	(2)	7.050	96	1091893	50.000
83)$Toluene-d8	(3)	9.140	98	1049049	49.801
100)*Chlorobenzene-d5	(3)	10.709	117	824991	50.000
114)$4-Bromofluorobenzene	(3)	11.751	95	384503	49.110
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	434488	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:08.
Target 3.5 esignature user ID: kk10002

R8502 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999786

Data file: /chem2/HP19094.i/17may25b.b/hy25s11.d Injection date and time: **25-MAY-2017 23:44**
Data file Sample Info. Line: R8502;8999786;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269(-0.006)	440	65	73640M (-16)	50.00	
63) Fluorobenzene	7.775(0.006)	1015	96	2376616 (-9)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1570101 (-16)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127(-0.006)	1893	152	582092 (-31)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866(0.000)	113	563383	10.575	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330(0.000)	102	94396	10.958	110%		74 - 113
82) Toluene-d8	(3)	9.786(0.001)	98	2335517	10.176	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	608666	9.334	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)			Not Detected					0.1	1
4) Dimethyl ether	(2)	2.099(-0.000)	45	38245M	0.440	0.44		J	0.1	13
2) Chloromethane	(2)			Not Detected					0.2	1
5) Vinyl Chloride	(2)			Not Detected					0.2	1
7) Bromomethane	(2)			Not Detected					0.5	1
8) Chloroethane	(2)			Not Detected					0.1	1
10) Trichlorofluoromethane	(2)			Not Detected					0.2	1
11) Ethyl ether	(2)	3.300(0.000)	59	526168	13.526	13.53			1	13
13) Acrolein	(1)			Not Detected					5	25
15) 1,1-Dichloroethene	(2)			Not Detected					0.2	1
16) Freon 113	(2)			Not Detected					0.2	1
14) Acetone	(1)			Not Detected					3	10
17) Methyl Iodide	(2)			Not Detected					0.6	10
18) Carbon Disulfide	(2)			Not Detected					0.4	10
25) Acetonitrile	(1)			Not Detected					32	100
22) Allyl Chloride	(2)			Not Detected					0.8	10
23) Methylene Chloride	(2)			Not Detected					0.2	1
29) Acrylonitrile	(1)			Not Detected					1	10
31) trans-1,2-Dichloroethene	(2)			Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)	5.354(0.000)	63	42354	0.369	0.37		J	0.1	1
36) Vinyl Acetate	(2)			Not Detected					3	10
35) 2-Chloro-1,3-Butadiene	(2)			Not Detected					0.5	10
38) 2-Butanone	(1)			Not Detected					1	10
42) Propionitrile	(1)			Not Detected					10	100
45) Methacrylonitrile	(1)			Not Detected					10	100
48) Tetrahydrofuran	(1)			Not Detected					2	25
49) Chloroform	(2)			Not Detected					0.1	1
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1	1
54) Carbon Tetrachloride	(2)			Not Detected					0.2	1

M = Compound was manually integrated.

Digitally signed by Don V. Viray on 05/30/2017 at 22:14. Target 3.5 esignature user ID: dvv10203

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s11.d Injection date and time: **25-MAY-2017 23:44**
Data file Sample Info. Line: R8502;8999786;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

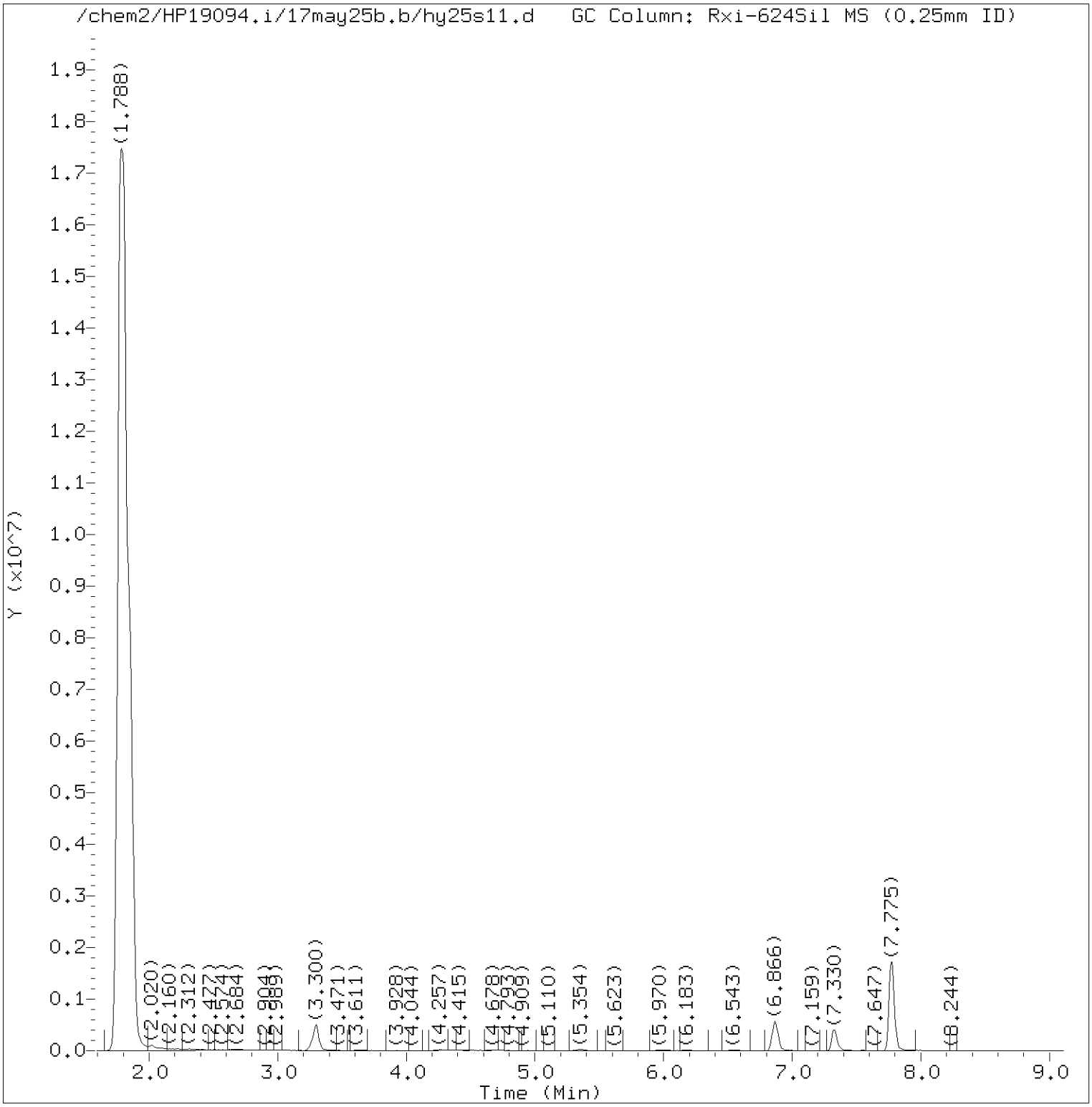
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
56) Isobutyl Alcohol	(1)				Not Detected					10	200
58) Benzene	(2)				Not Detected					0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1
70) 1,2-Dichloropropane	(2)				Not Detected					0.1	1
71) Methyl Methacrylate	(1)				Not Detected					4	10
73) Dibromomethane	(2)				Not Detected					0.1	1
72) 1,4-Dioxane	(1)				Not Detected					45	200
74) Bromodichloromethane	(2)				Not Detected					0.1	1
81) 4-Methyl-2-Pentanone	(1)				Not Detected					1	10
83) Toluene	(3)				Not Detected					0.1	1
84) trans-1,3-Dichloropropene	(3)				Not Detected					0.1	1
86) Ethyl Methacrylate	(3)				Not Detected					0.8	10
88) 1,1,2-Trichloroethane	(3)				Not Detected					0.1	1
89) Tetrachloroethene	(3)				Not Detected					0.1	1
90) 1,3-Dichloropropane	(3)				Not Detected					0.1	1
91) 2-Hexanone	(1)				Not Detected					1	10
93) Dibromochloromethane	(3)				Not Detected					0.1	1
95) 1,2-Dibromoethane	(3)				Not Detected					0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)				Not Detected					0.1	1
100) Ethylbenzene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3
106) Styrene	(3)				Not Detected					0.1	1
107) Bromoform	(3)				Not Detected					0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					0.2	1
115) trans-1,4-Dichloro-2-butene	(1)				Not Detected					1	10
116) 1,2,3-Trichloropropane	(4)				Not Detected					0.3	1
126) Pentachloroethane	(4)				Not Detected					0.8	10
131) 1,3-Dichlorobenzene	(4)				Not Detected					0.1	1
134) 1,4-Dichlorobenzene	(4)				Not Detected					0.1	1
139) 1,2-Dichlorobenzene	(4)				Not Detected					0.1	1
142) Hexachloroethane	(4)				Not Detected					0.1	10
143) 1,2-Dibromo-3-chloropropane	(1)				Not Detected					0.2	1
145) 1,2,4-Trichlorobenzene	(4)				Not Detected					0.1	1
146) Hexachlorobutadiene	(4)				Not Detected					0.1	1
147) Naphthalene	(4)				Not Detected					0.1	1

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:14. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

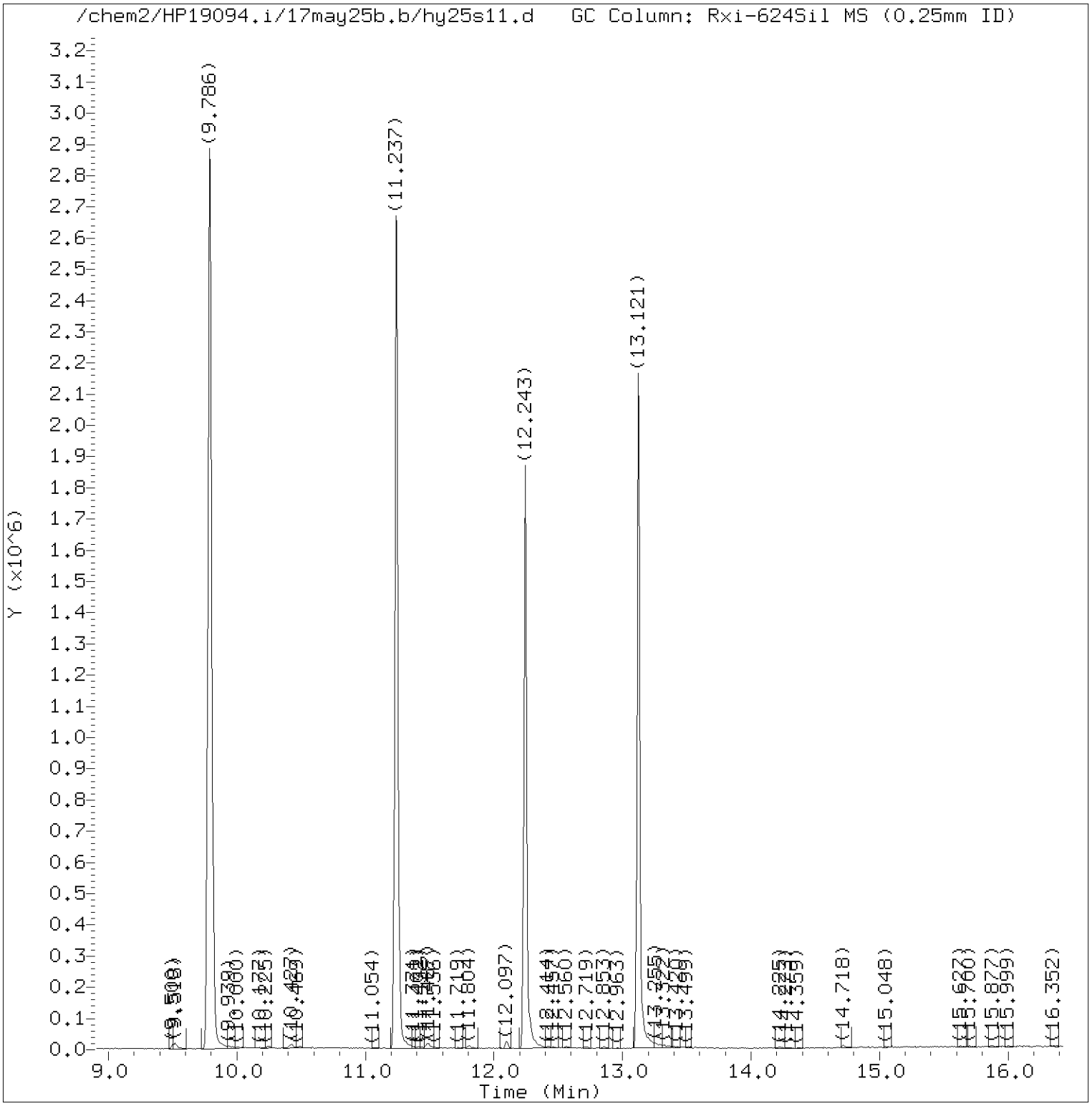
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8502 Lab Sample ID: 8999786

Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8502 Lab Sample ID: 8999786

Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

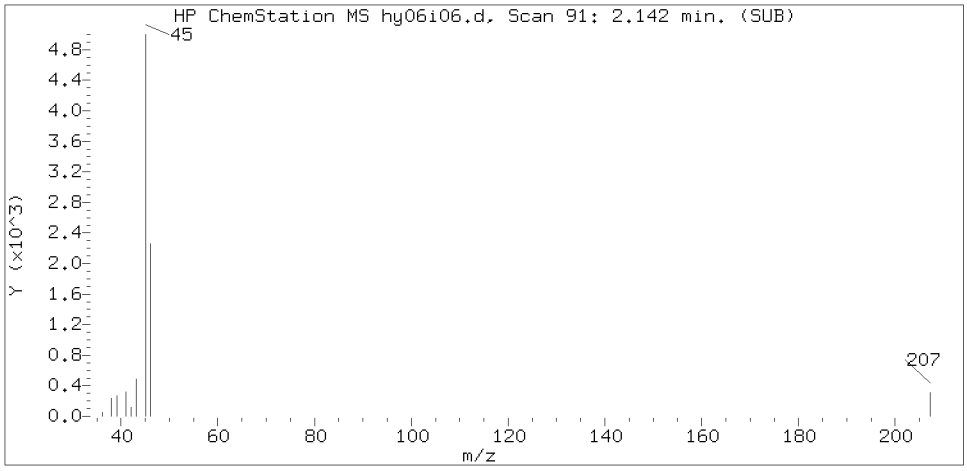
Sample Name: R8502 Lab Sample ID: 8999786

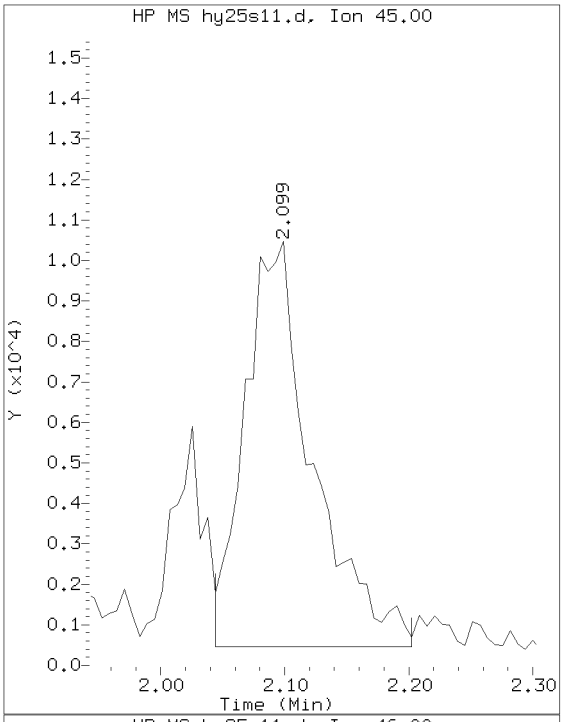
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.099	45	38245M	0.440
11) Ethyl ether	(2)	3.300	59	526168	13.526
26)*t-Butyl Alcohol-d10	(1)	4.269	65	73640M	50.000
33) 1,1-Dichloroethane	(2)	5.354	63	42354	0.369
50)$Dibromofluoromethane	(2)	6.866	113	563383	10.575
57)$1,2-Dichloroethane-d4	(2)	7.330	102	94396	10.958
63)*Fluorobenzene	(2)	7.775	96	2376616	10.000
82)$Toluene-d8	(3)	9.786	98	2335517	10.176
97)*Chlorobenzene-d5	(3)	11.243	117	1570101	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	608666	9.334
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	582092	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

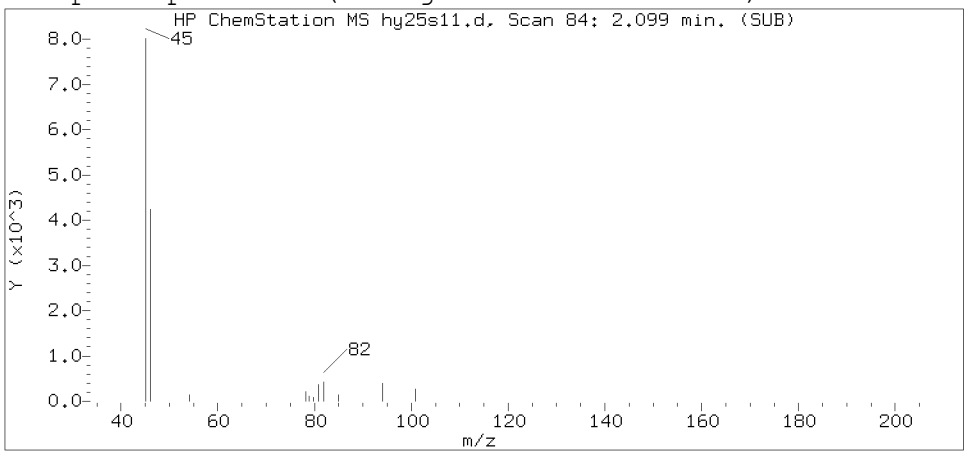
Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

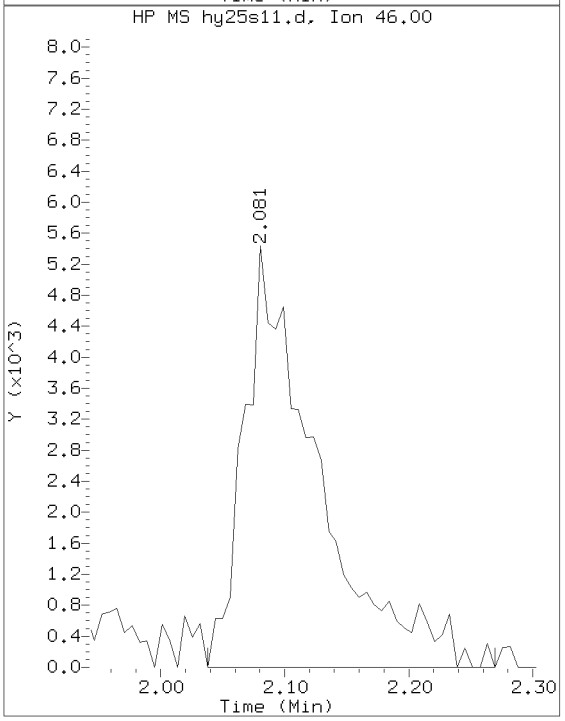
Reference Standard Spectrum for Dimethyl ether



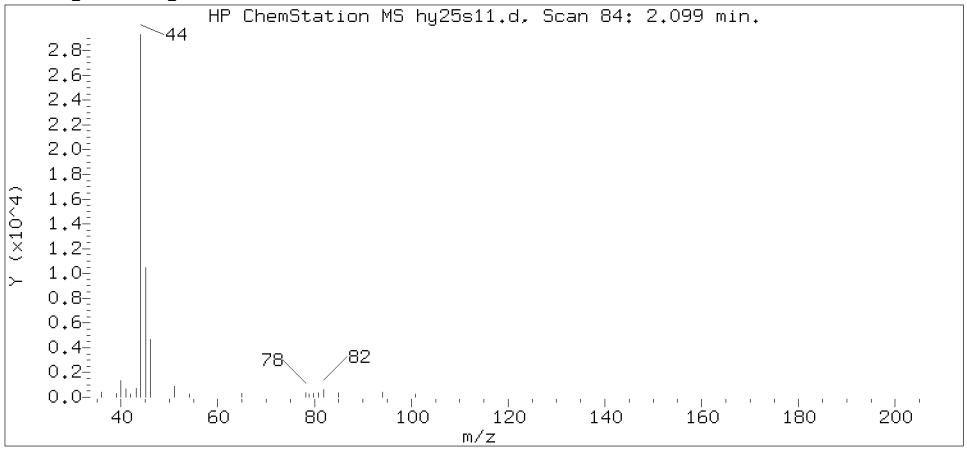


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

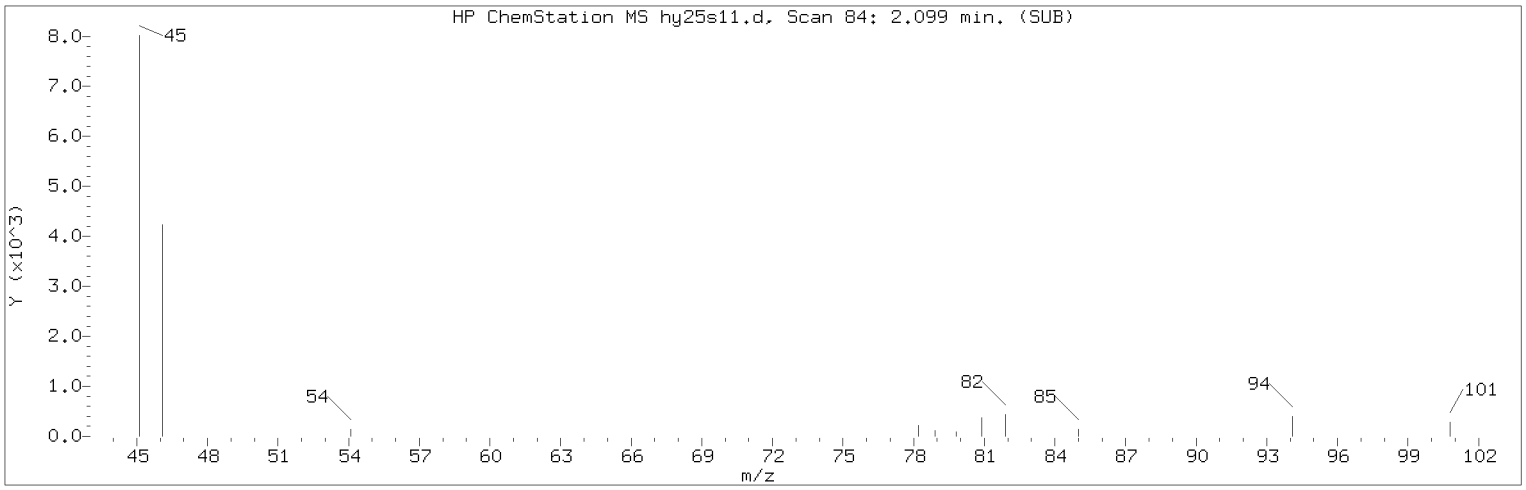
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8502 Lab Sample ID: 8999786

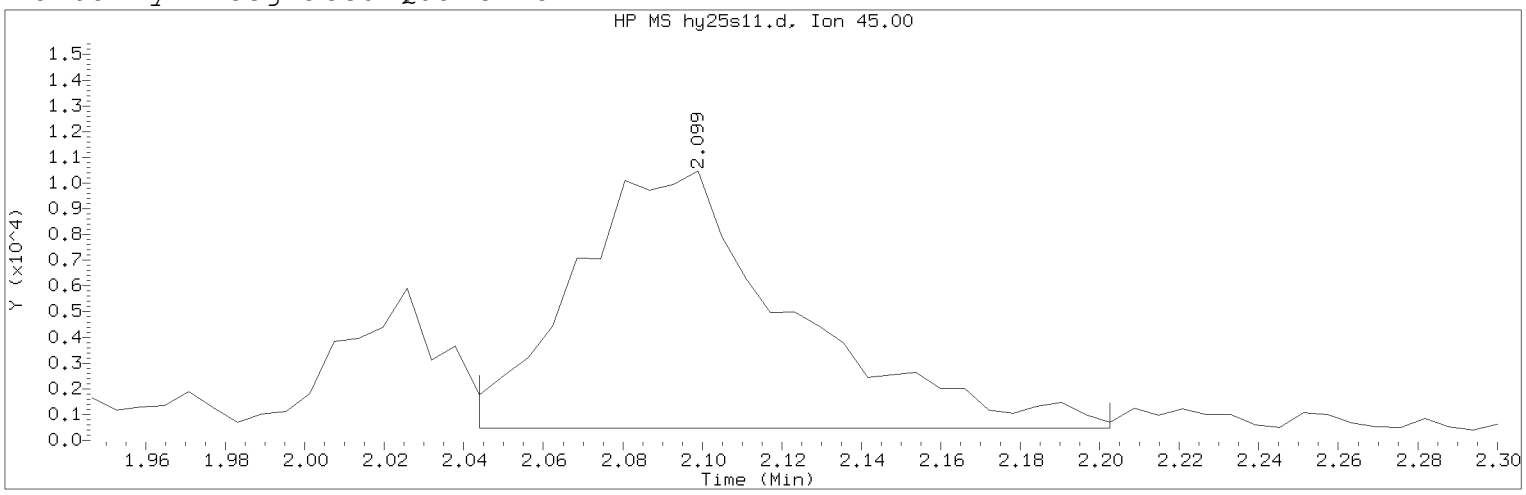
Compound Number	: 4
Compound Name	: Dimethyl ether
Scan Number	: 84
Retention Time (minutes)	: 2.099
Relative Retention Time	:-0.00100
Quant Ion	: 45.00
Area (flag)	: 38245M
On-Column Amount (ng)	: 0.4398

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8502 Lab Sample ID: 8999786

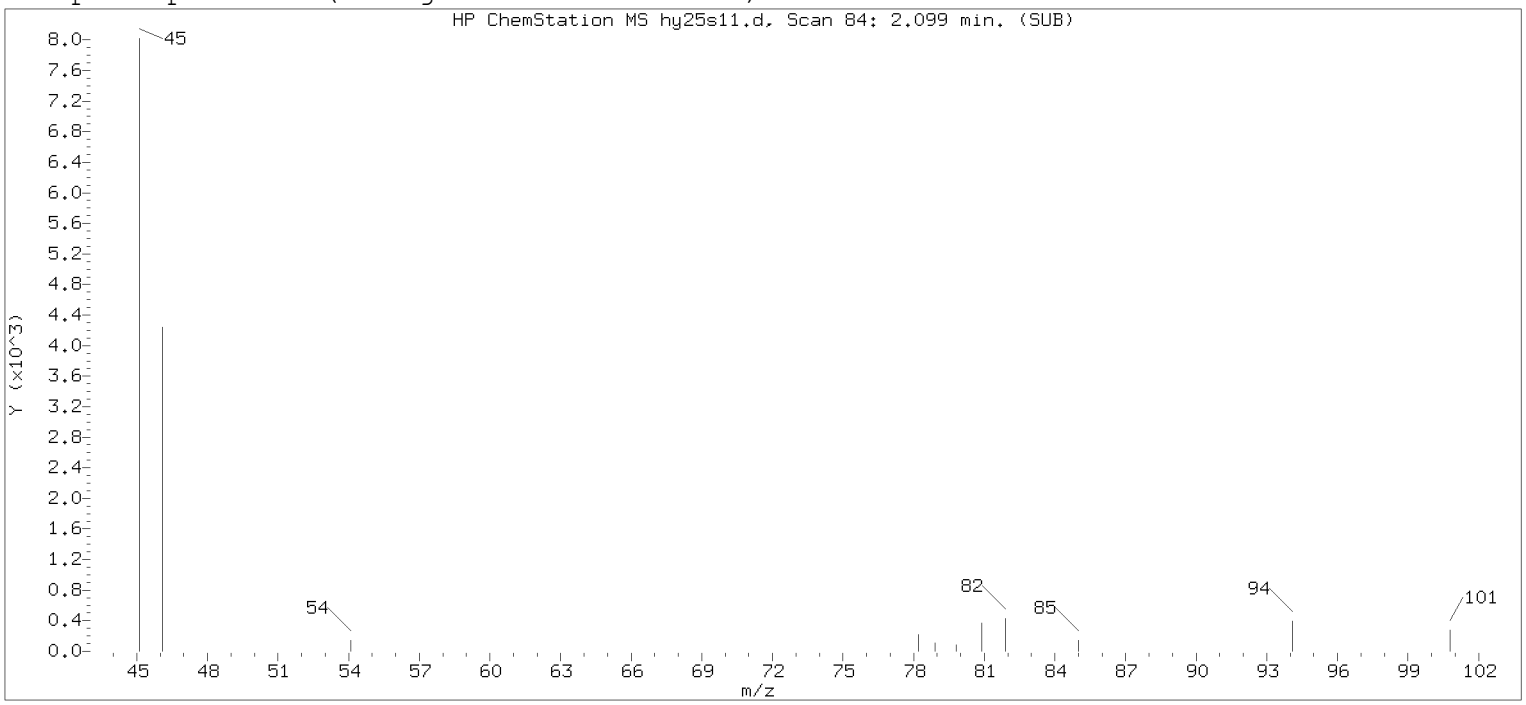
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 84
Retention Time (minutes): 2.099
Quant Ion : 45.00
Area (flag) : 38245M
On-Column Amount (ng) : 0.4398
Integration start scan : 74 Integration stop scan: 100
Y at integration start : 465 Y at integration end: 465

Reason for manual integration: improper integration

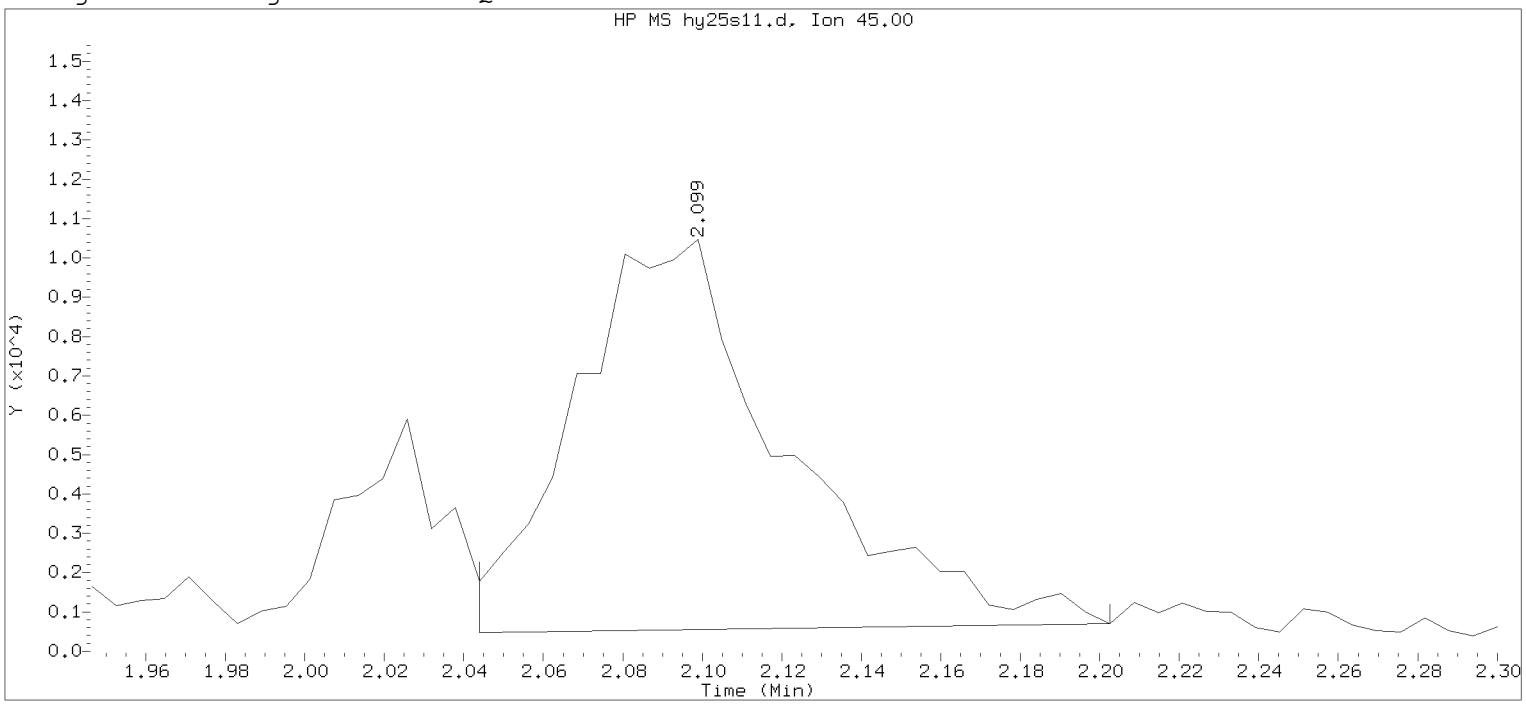
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

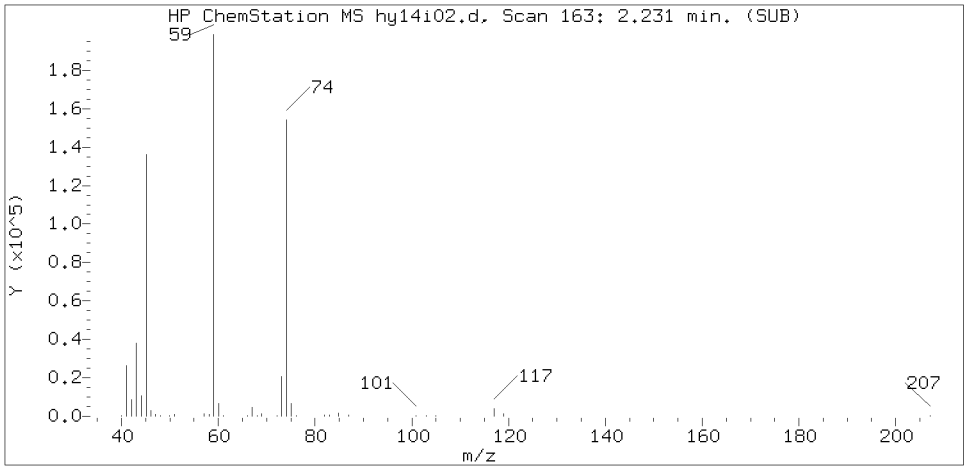
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 00:02 Automation

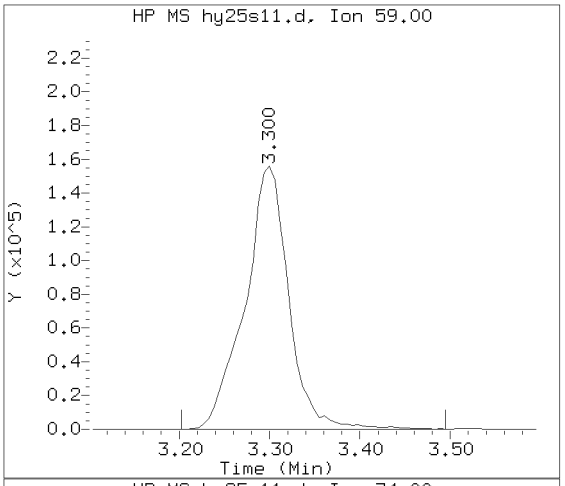
Sample Name: R8502 Lab Sample ID: 8999786

Compound Number	: 4		
Compound Name	: Dimethyl ether		
Scan Number	: 84		
Retention Time (minutes)	: 2.099		
Quant Ion	: 45.00		
Area	: 36812		
On-column Amount (ng)	: 0.4233		
Integration start scan	: 74	Integration stop scan:	100
Y at integration start	: 477	Y at integration end:	695

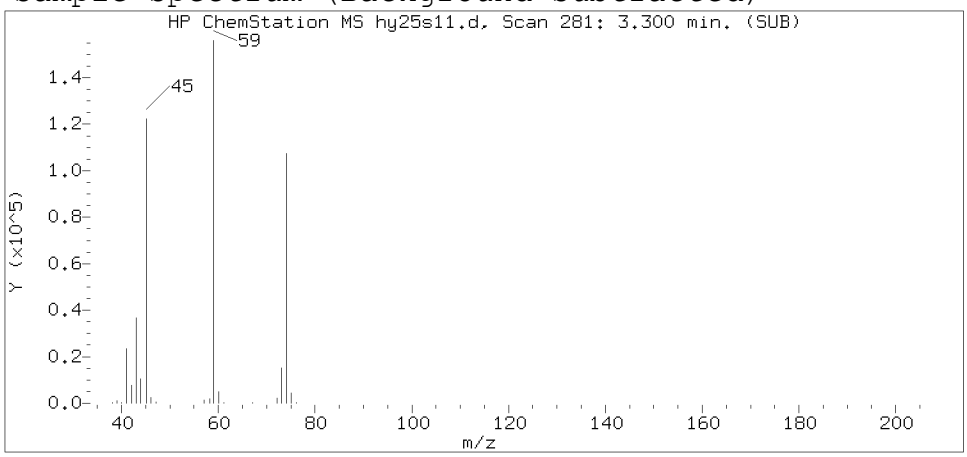
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature used on 05/30/2017

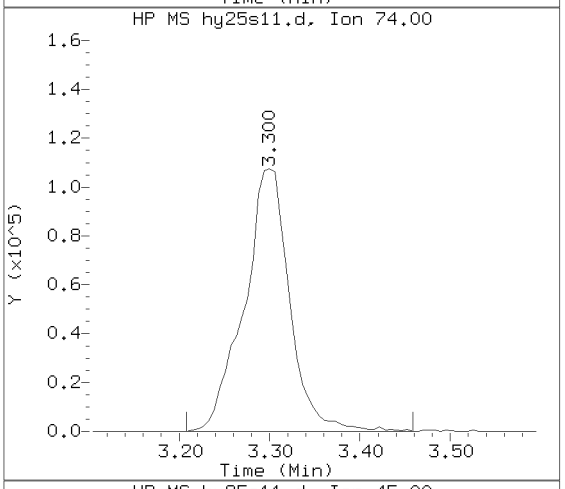
Reference Standard Spectrum for Ethyl ether



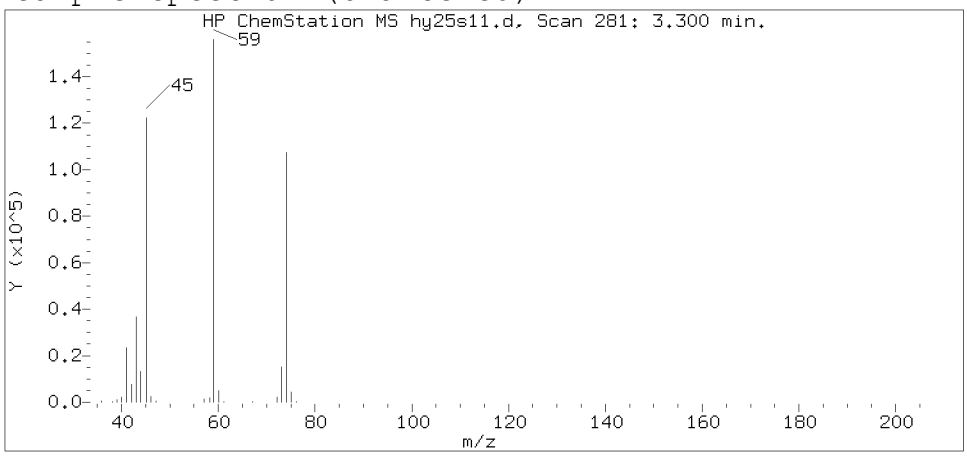


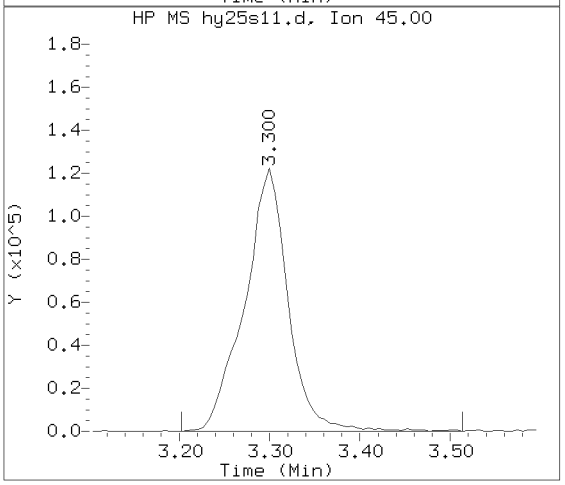
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

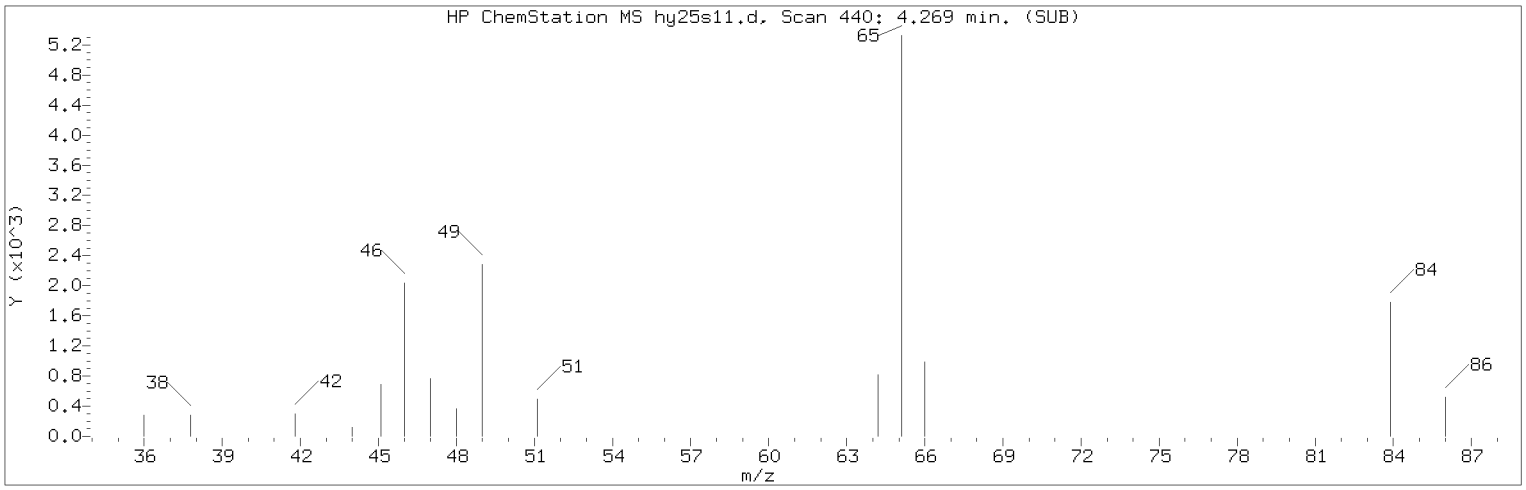
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8502 Lab Sample ID: 8999786

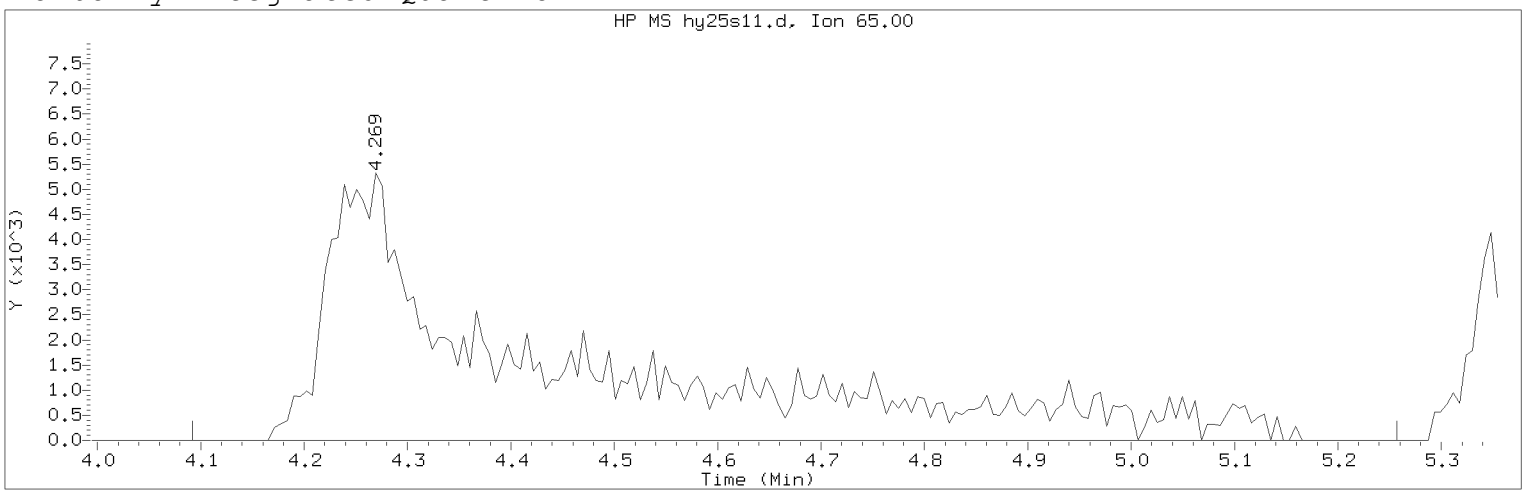
Compound Number	: 11
Compound Name	: Ethyl ether
Scan Number	: 281
Retention Time (minutes)	: 3.300
Relative Retention Time	: 0.00046
Quant Ion	: 59.00
Area (flag)	: 526168
On-Column Amount (ng)	: 13.5265

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8502 Lab Sample ID: 8999786

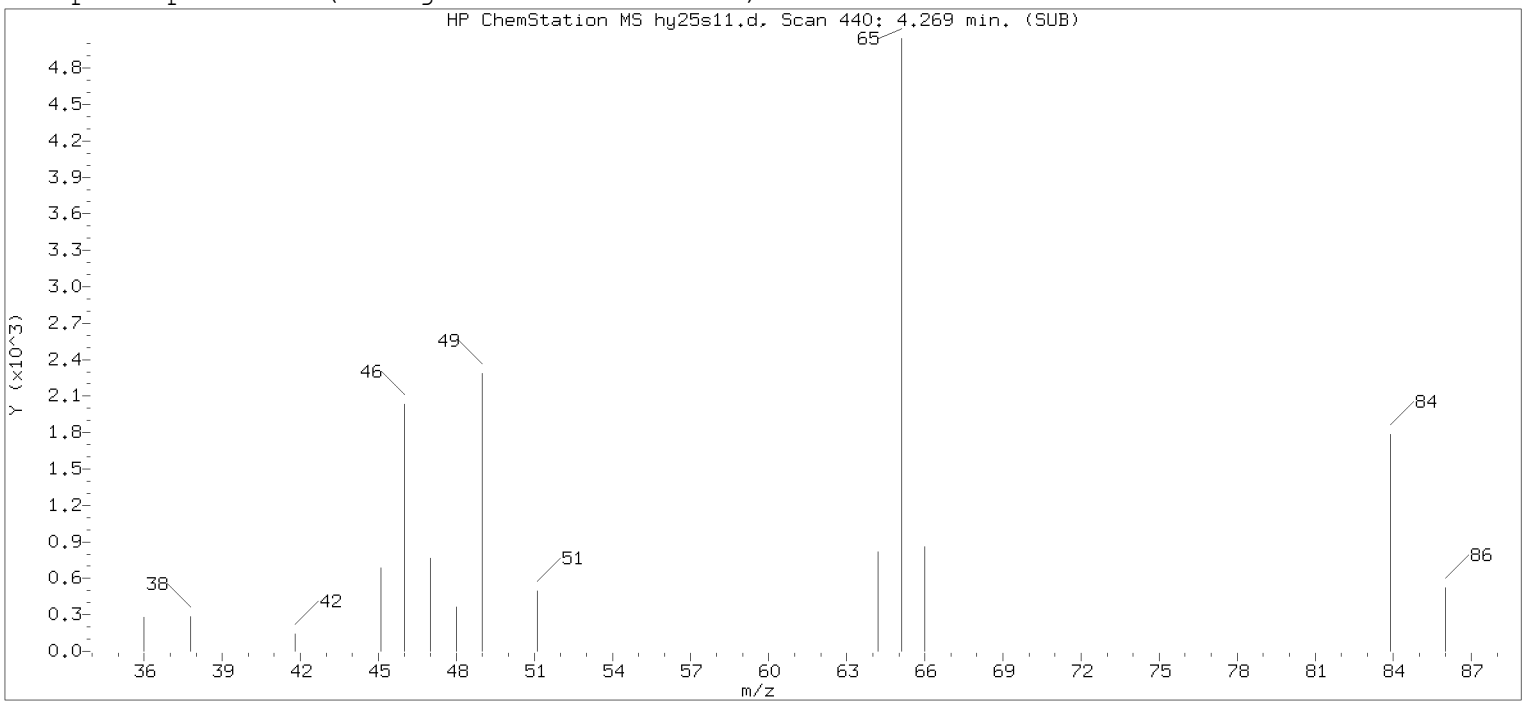
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area (flag) : 73640M
On-Column Amount (ng) : 50.0000
Integration start scan : 410 Integration stop scan: 601
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

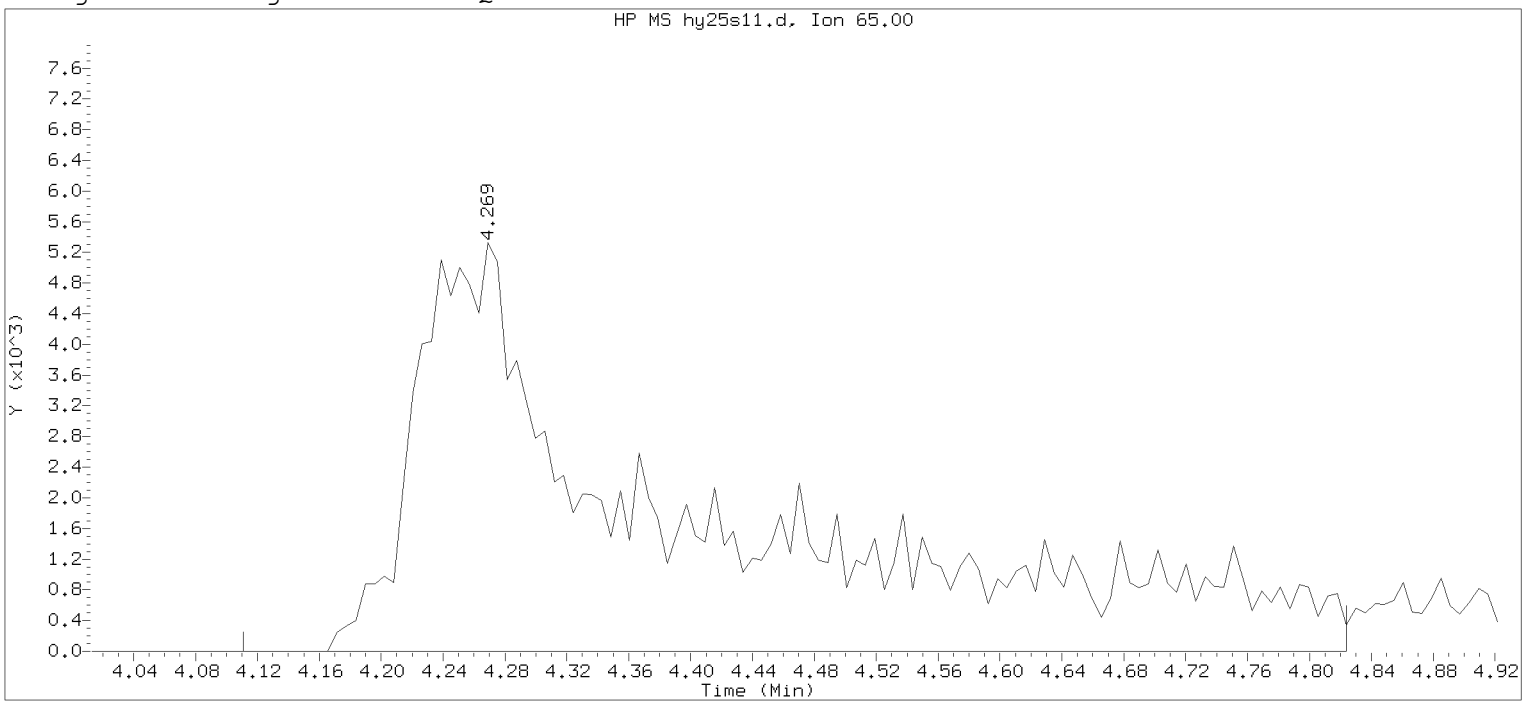
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

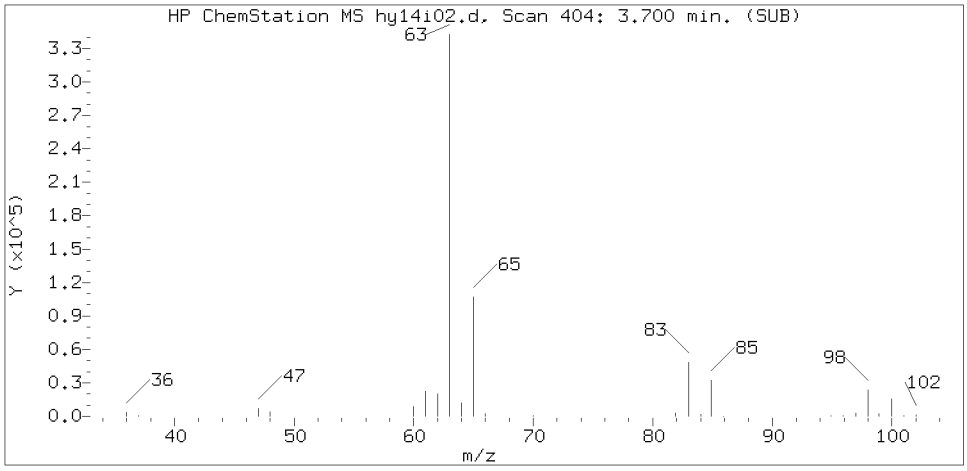
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 00:02 Automation

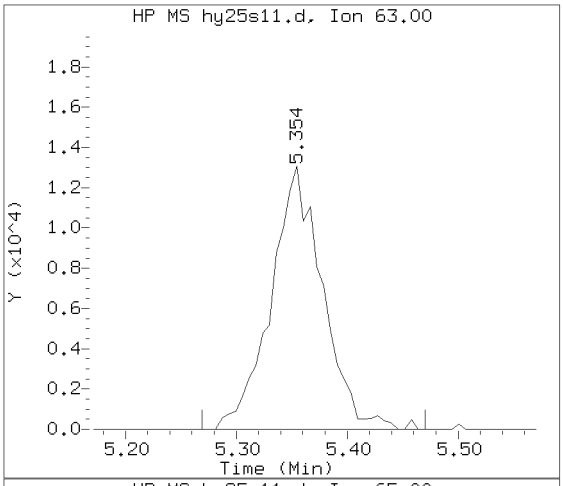
Sample Name: R8502 Lab Sample ID: 8999786

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area : 62736
On-column Amount (ng) : 50.0000
Integration start scan : 413 Integration stop scan: 530
Y at integration start : 0 Y at integration end: 0

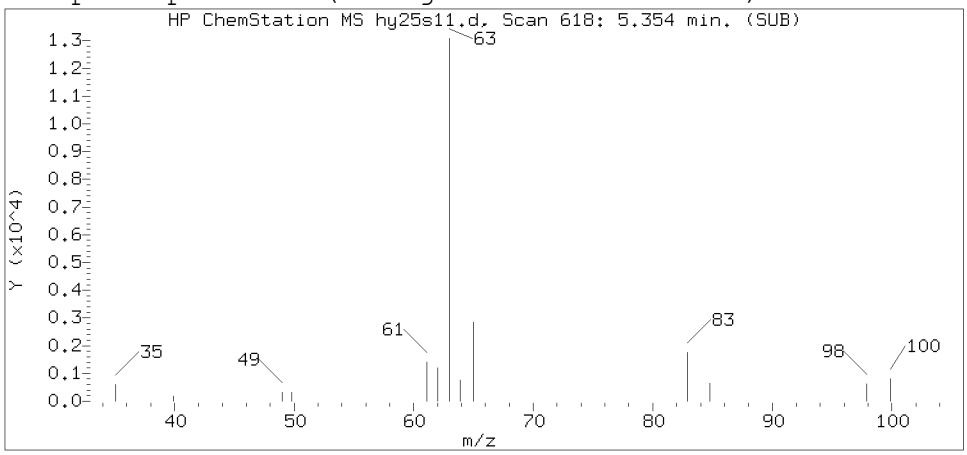
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature used on 05/30/2017

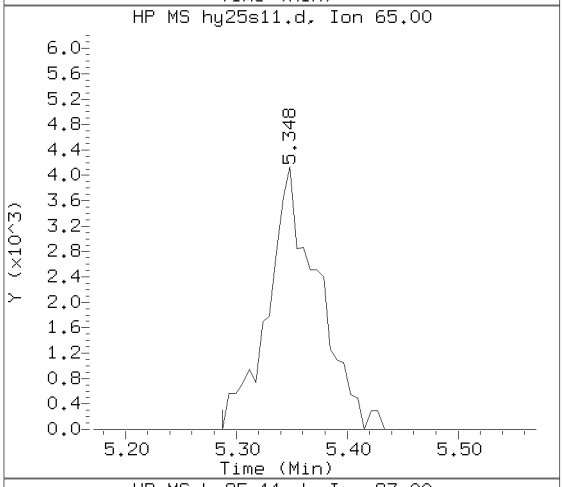
Reference Standard Spectrum for 1,1-Dichloroethane



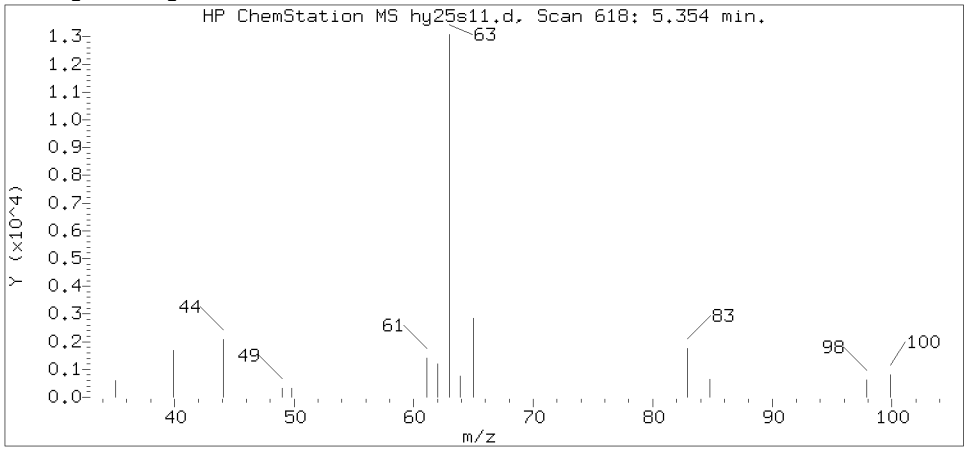


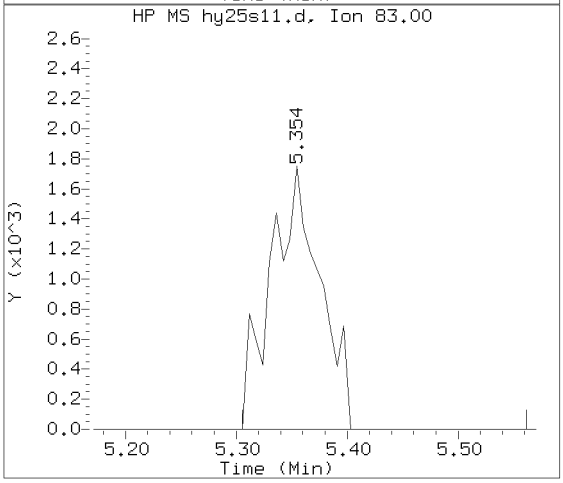
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s11.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:44 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8502 Lab Sample ID: 8999786

Compound Number	: 33
Compound Name	: 1,1-Dichloroethane
Scan Number	: 618
Retention Time (minutes)	: 5.354
Relative Retention Time	: 0.00025
Quant Ion	: 63.00
Area (flag)	: 42354
On-Column Amount (ng)	: 0.3686

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

R8503 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999787

Data file: /chem/HP09915.i/17may23a.b/ly23s10.d Injection date and time: **23-MAY-2017 13:27**
Data file Sample Info. Line: R8503;8999787;1;0;;RAE85;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 13:45 Automation

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **16342**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.571	(0.003)	650	65	202696	(-15)	250.00	
66) Fluorobenzene	7.047	(0.000)	1731	96	1074779	(-9)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	816634	(-9)	50.00	
131) 1,4-Dichlorobenzene-d4	12.642	(-0.003)	3471	152	424121	(-12)	50.00	

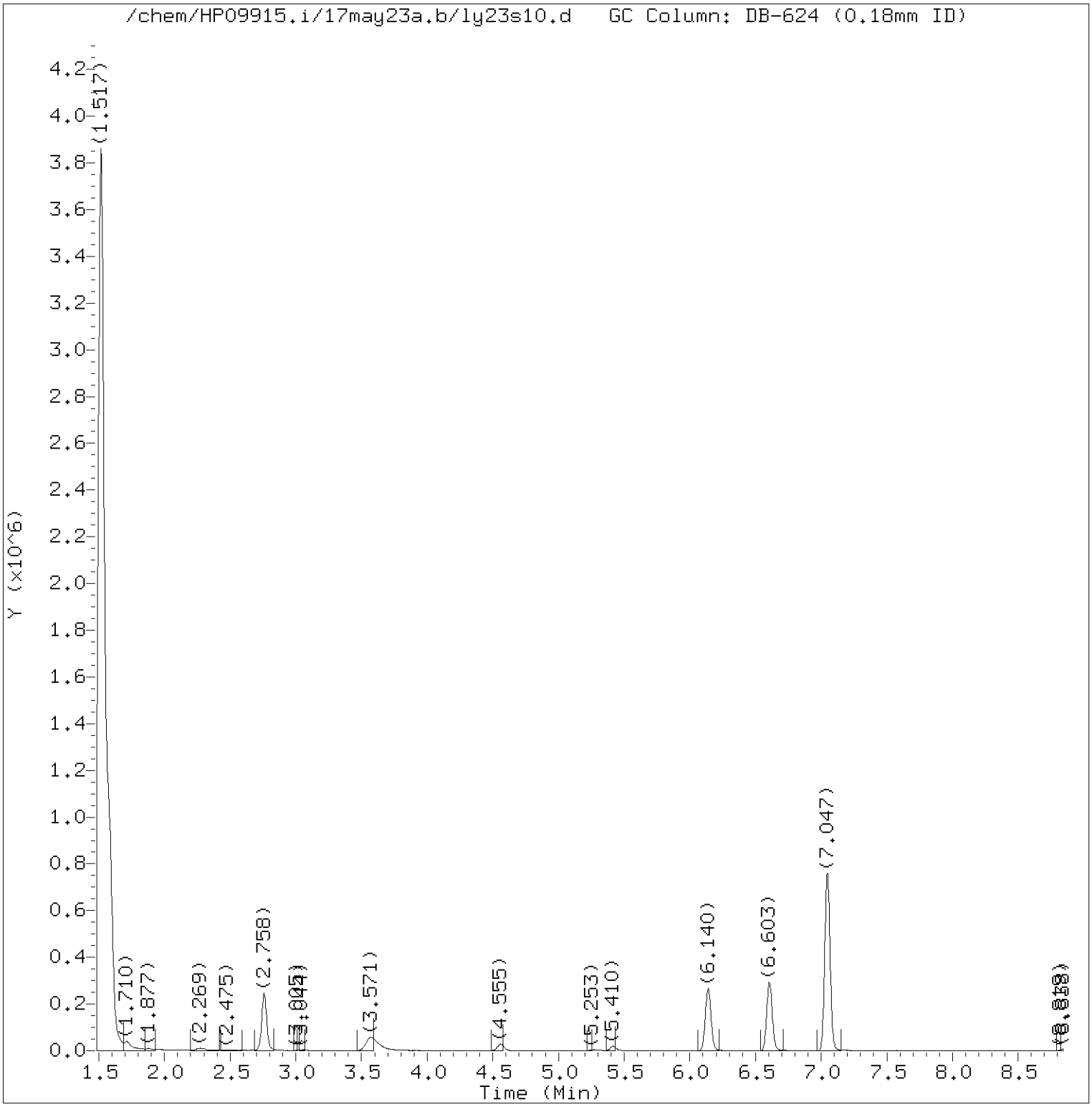
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.140	(0.000)	113	258136	49.184	98%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.603	(0.001)	102	65540	50.219	100%		77 - 113
83) Toluene-d8	(3)	9.140	(0.000)	98	1031063	49.449	99%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.751	(0.000)	95	378148	48.792	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
21) 2-Propanol	(1)				Not Detected					50	100

Total number of targets = 1

Digitally signed by Kevin Kelly on 05/23/2017 at 16:08. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:38. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

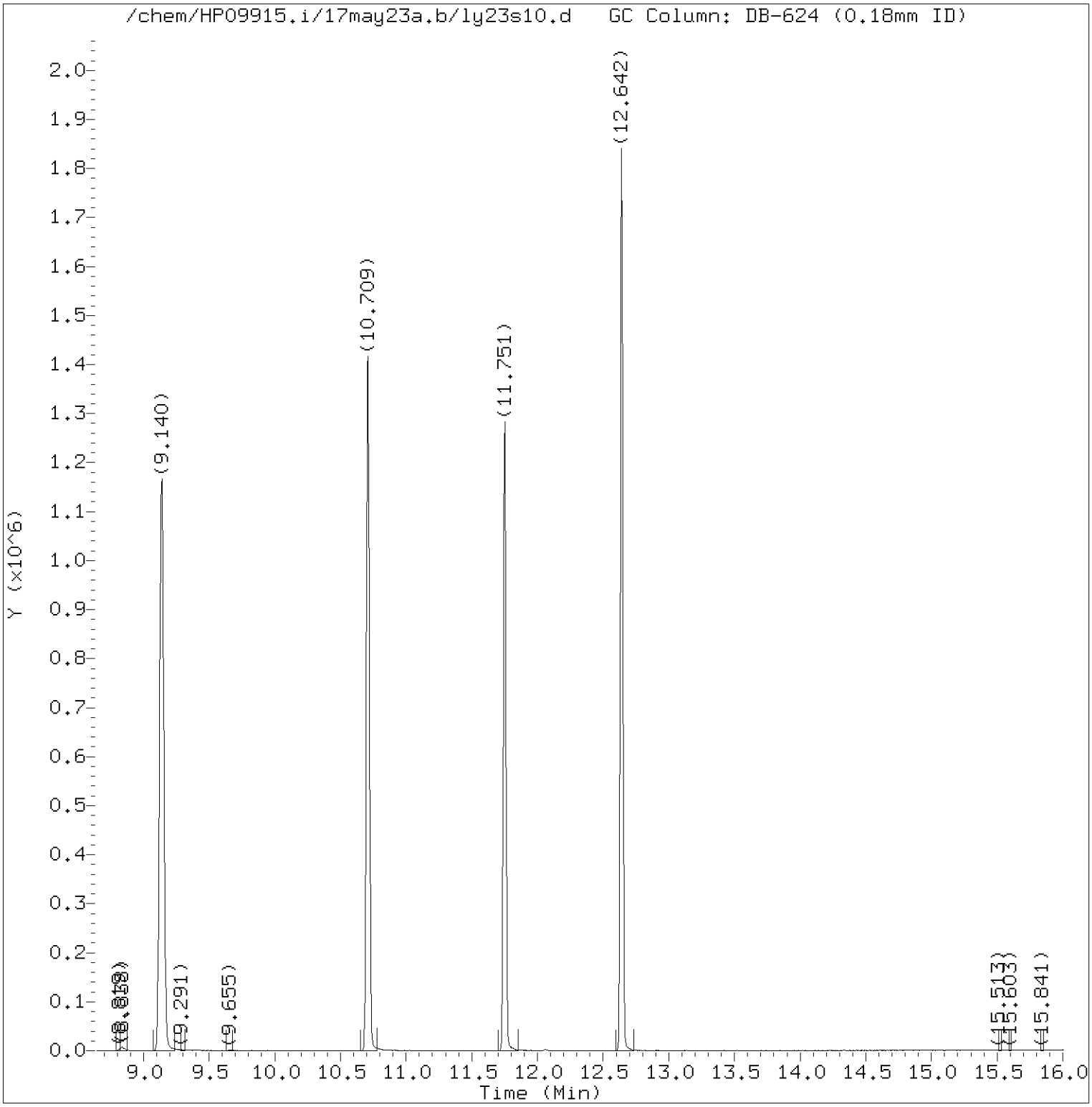
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s10.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:27 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:45 Automation

Sample Name: R8503 Lab Sample ID: 8999787

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:08.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s10.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:27 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:45 Automation

Sample Name: R8503 Lab Sample ID: 8999787

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:08.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s10.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:27 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 13:45 Automation

Sample Name: R8503 Lab Sample ID: 8999787

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	3.571	65	202696	250.000
52)$Dibromofluoromethane	(2)	6.140	113	258136	49.184
57)$1,2-Dichloroethane-d4	(2)	6.603	102	65540	50.219
66)*Fluorobenzene	(2)	7.047	96	1074779	50.000
83)$Toluene-d8	(3)	9.140	98	1031063	49.449
100)*Chlorobenzene-d5	(3)	10.709	117	816634	50.000
114)$4-Bromofluorobenzene	(3)	11.751	95	378148	48.792
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	424121	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:08.
Target 3.5 esignature user ID: kk10002

R8503 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999787

Data file: /chem2/HP19094.i/17may25b.b/hy25s12.d Injection date and time: **26-MAY-2017 00:05**
Data file Sample Info. Line: R8503;8999787;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257	(0.006)	438	65	76999	(-12)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2400353	(-8)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1576093	(-16)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127	(-0.006)	1893	152	601666	(-28)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(-0.001)	113	567970	10.555	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336	(-0.001)	102	93249	10.718	107%		74 - 113
82) Toluene-d8	(3)	9.786	(0.001)	98	2342287	10.167	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	610266	9.323	93%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.1	1
4) Dimethyl ether	(2)	2.032	(0.007)	45	143055M	1.629	1.63		J	0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
5) Vinyl Chloride	(2)				Not Detected					0.2	1
7) Bromomethane	(2)				Not Detected					0.5	1
8) Chloroethane	(2)	2.733	(-0.000)	64	107511	2.193	2.19			0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.2	1
11) Ethyl ether	(2)	3.306	(-0.000)	59	2362453	60.132	60.13		E	1	13
13) Acrolein	(1)				Not Detected					5	25
15) 1,1-Dichloroethene	(2)	3.623	(-0.001)	96	12315	0.231	0.23		J	0.2	1
16) Freon 113	(2)				Not Detected					0.2	1
14) Acetone	(1)				Not Detected					3	10
17) Methyl Iodide	(2)				Not Detected					0.6	10
18) Carbon Disulfide	(2)				Not Detected					0.4	10
25) Acetonitrile	(1)				Not Detected					32	100
22) Allyl Chloride	(2)				Not Detected					0.8	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
29) Acrylonitrile	(1)				Not Detected					1	10
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)	5.360	(-0.000)	63	856094	7.377	7.38			0.1	1
36) Vinyl Acetate	(2)				Not Detected					3	10
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					0.5	10
38) 2-Butanone	(1)				Not Detected					1	10
42) Propionitrile	(1)				Not Detected					10	100
45) Methacrylonitrile	(1)				Not Detected					10	100
48) Tetrahydrofuran	(1)				Not Detected					2	25
49) Chloroform	(2)				Not Detected					0.1	1
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.2	1
56) Isobutyl Alcohol	(1)				Not Detected					10	200

M = Compound was manually integrated. E = Compound concentration above calibration range.

Digitally signed by Don V. Viray on 05/30/2017 at 22:14. Target 3.5 esignature user ID: dvv10203

Data file: /chem2/HP19094.i/17may25b.b/hy25s12.d Injection date and time: **26-MAY-2017 00:05**
Data file Sample Info. Line: R8503;8999787;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

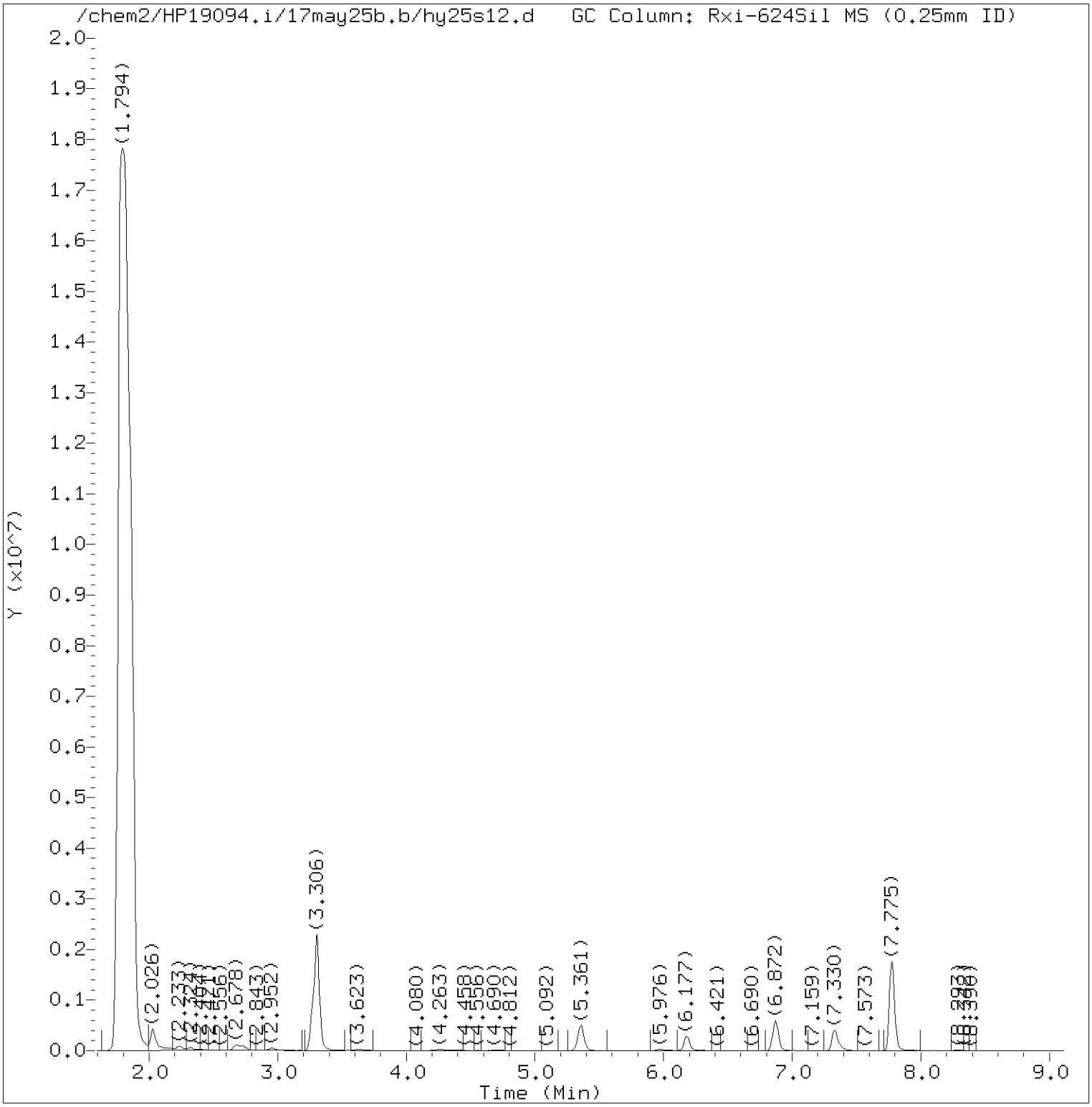
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
58) Benzene	(2)	7.378(-0.000)	78	76179	0.303	0.30		J	0.1	1
59) 1,2-Dichloroethane	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.2	1
70) 1,2-Dichloropropane	(2)			Not Detected					0.1	1
71) Methyl Methacrylate	(1)			Not Detected					4	10
73) Dibromomethane	(2)			Not Detected					0.1	1
72) 1,4-Dioxane	(1)			Not Detected					45	200
74) Bromodichloromethane	(2)			Not Detected					0.1	1
81) 4-Methyl-2-Pentanone	(1)			Not Detected					1	10
83) Toluene	(3)			Not Detected					0.1	1
84) trans-1,3-Dichloropropene	(3)			Not Detected					0.1	1
86) Ethyl Methacrylate	(3)			Not Detected					0.8	10
88) 1,1,2-Trichloroethane	(3)			Not Detected					0.1	1
89) Tetrachloroethene	(3)			Not Detected					0.1	1
90) 1,3-Dichloropropane	(3)			Not Detected					0.1	1
91) 2-Hexanone	(1)			Not Detected					1	10
93) Dibromochloromethane	(3)			Not Detected					0.1	1
95) 1,2-Dibromoethane	(3)			Not Detected					0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)			Not Detected					0.1	1
100) Ethylbenzene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.2	3
106) Styrene	(3)			Not Detected					0.1	1
107) Bromoform	(3)			Not Detected					0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.2	1
115) trans-1,4-Dichloro-2-butene	(1)			Not Detected					1	10
116) 1,2,3-Trichloropropane	(4)			Not Detected					0.3	1
126) Pentachloroethane	(4)			Not Detected					0.8	10
131) 1,3-Dichlorobenzene	(4)			Not Detected					0.1	1
134) 1,4-Dichlorobenzene	(4)			Not Detected					0.1	1
139) 1,2-Dichlorobenzene	(4)			Not Detected					0.1	1
142) Hexachloroethane	(4)			Not Detected					0.1	10
143) 1,2-Dibromo-3-chloropropane	(1)			Not Detected					0.2	1
145) 1,2,4-Trichlorobenzene	(4)			Not Detected					0.1	1
146) Hexachlorobutadiene	(4)			Not Detected					0.1	1
147) Naphthalene	(4)			Not Detected					0.1	1

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:14. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

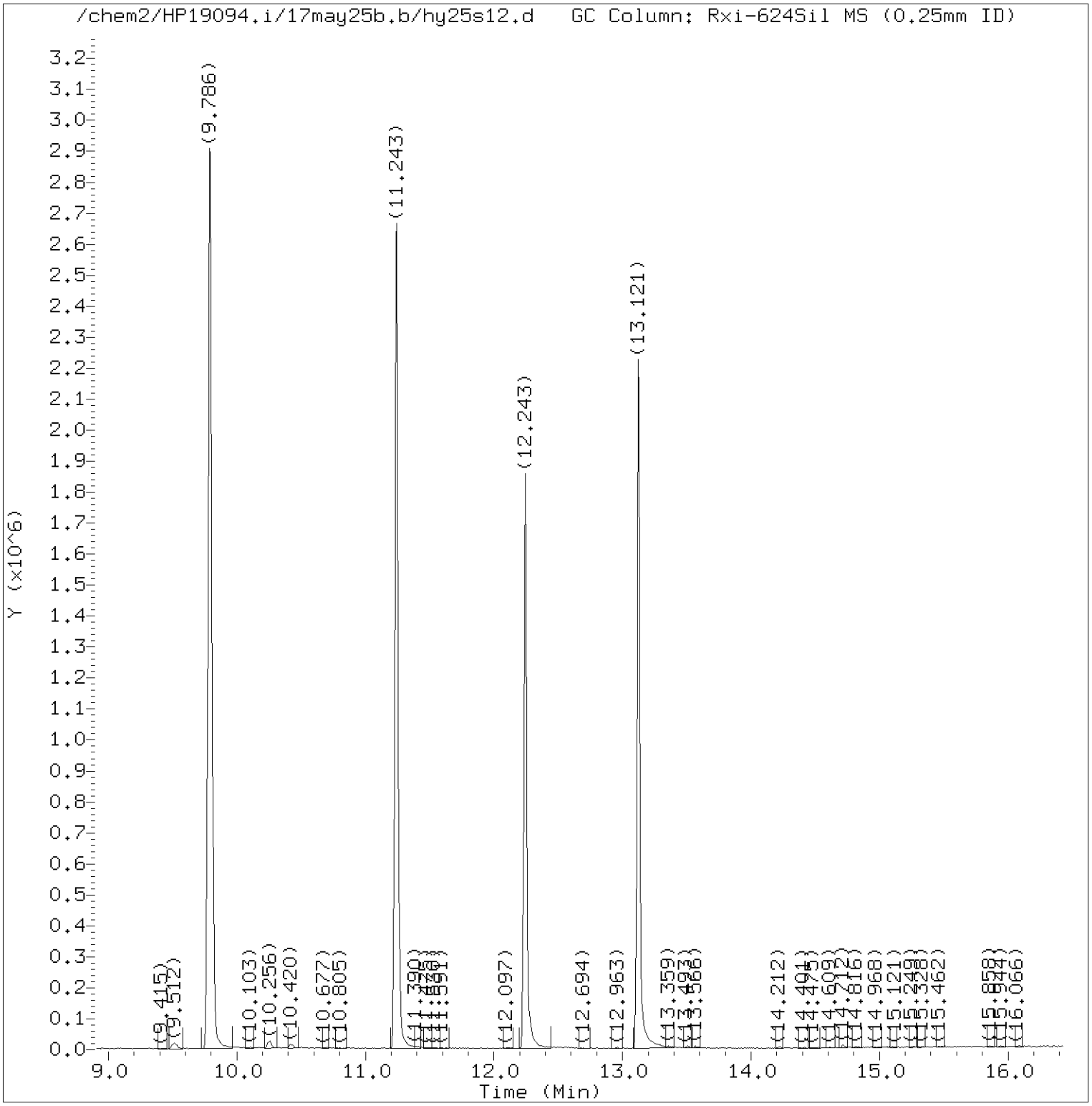
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8503 Lab Sample ID: 8999787

Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8503 Lab Sample ID: 8999787

Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

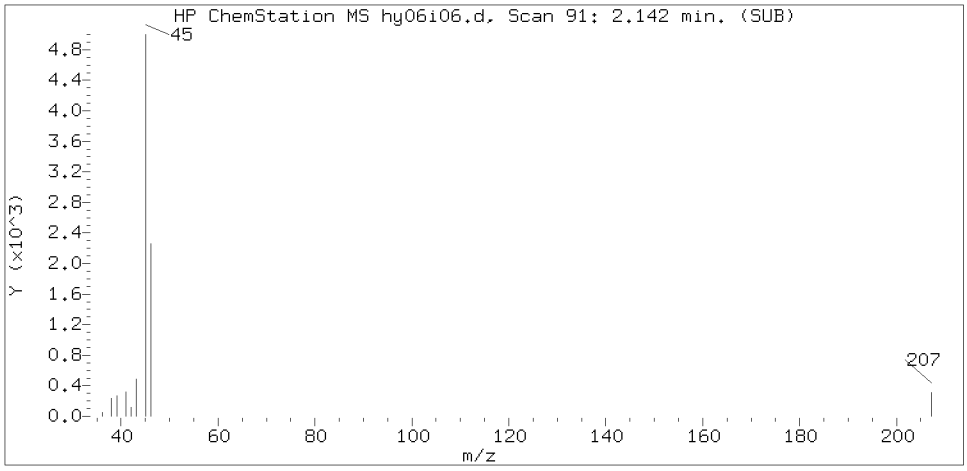
Sample Name: R8503 Lab Sample ID: 8999787

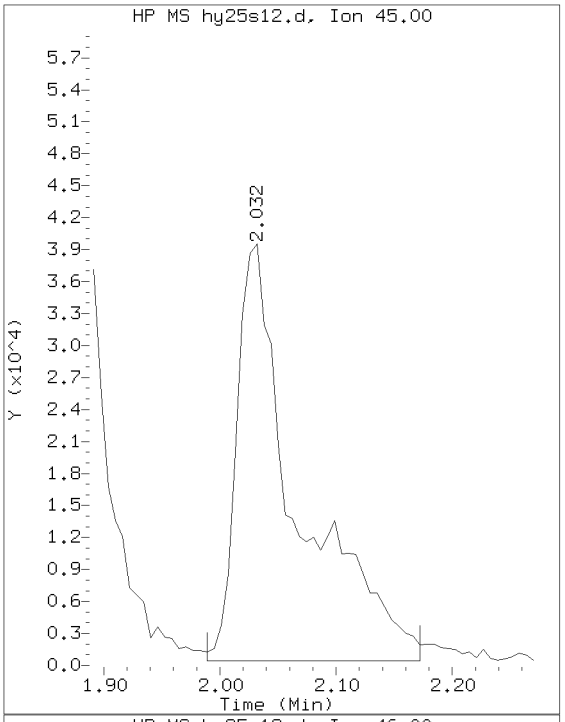
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.032	45	143055M	1.629
8) Chloroethane	(2)	2.733	64	107511	2.193
11) Ethyl ether	(2)	3.306	59	2362453	60.132
15) 1,1-Dichloroethene	(2)	3.623	96	12315	0.231
26)*t-Butyl Alcohol-d10	(1)	4.257	65	76999	50.000
33) 1,1-Dichloroethane	(2)	5.361	63	856094	7.377
50)$Dibromofluoromethane	(2)	6.872	113	567970	10.555
57)$1,2-Dichloroethane-d4	(2)	7.336	102	93249	10.718
58) Benzene	(2)	7.378	78	76179	0.303
63)*Fluorobenzene	(2)	7.775	96	2400353	10.000
82)$Toluene-d8	(3)	9.786	98	2342287	10.167
97)*Chlorobenzene-d5	(3)	11.243	117	1576093	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	610266	9.323
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	601666	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

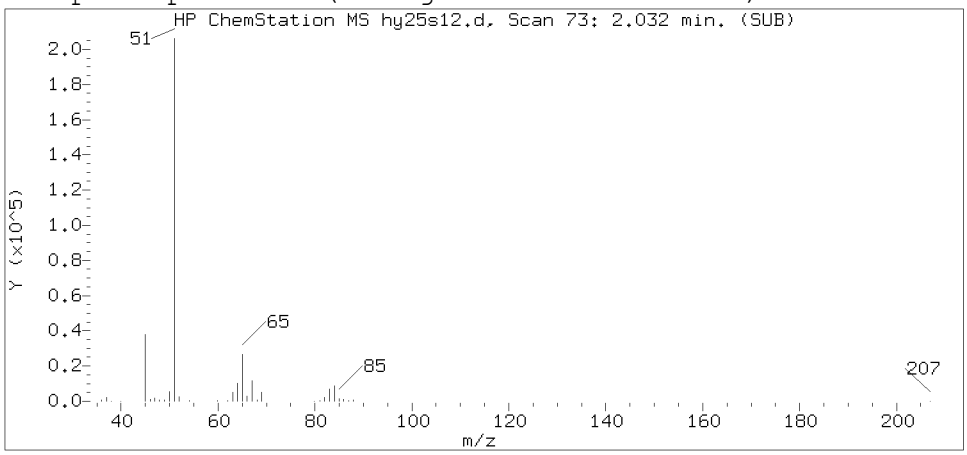
Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

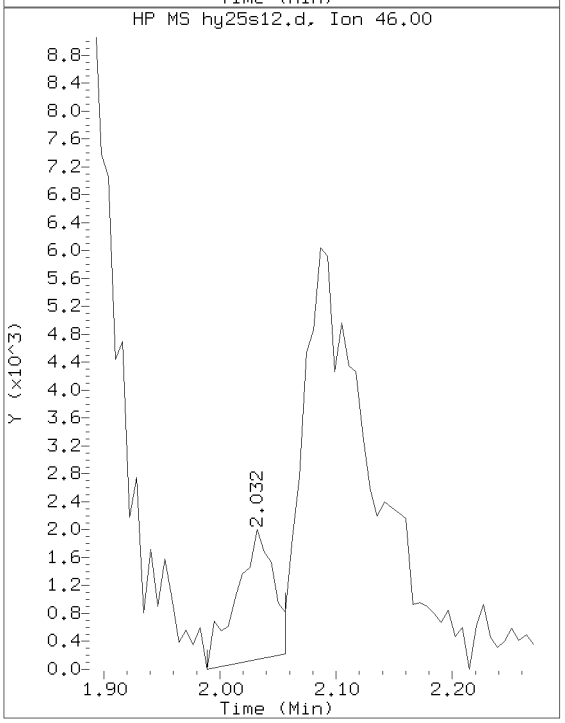
Reference Standard Spectrum for Dimethyl ether



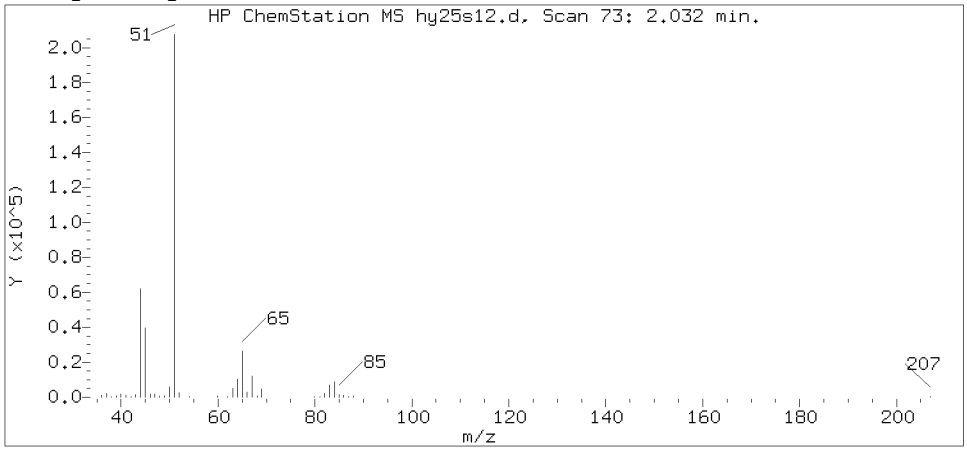


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

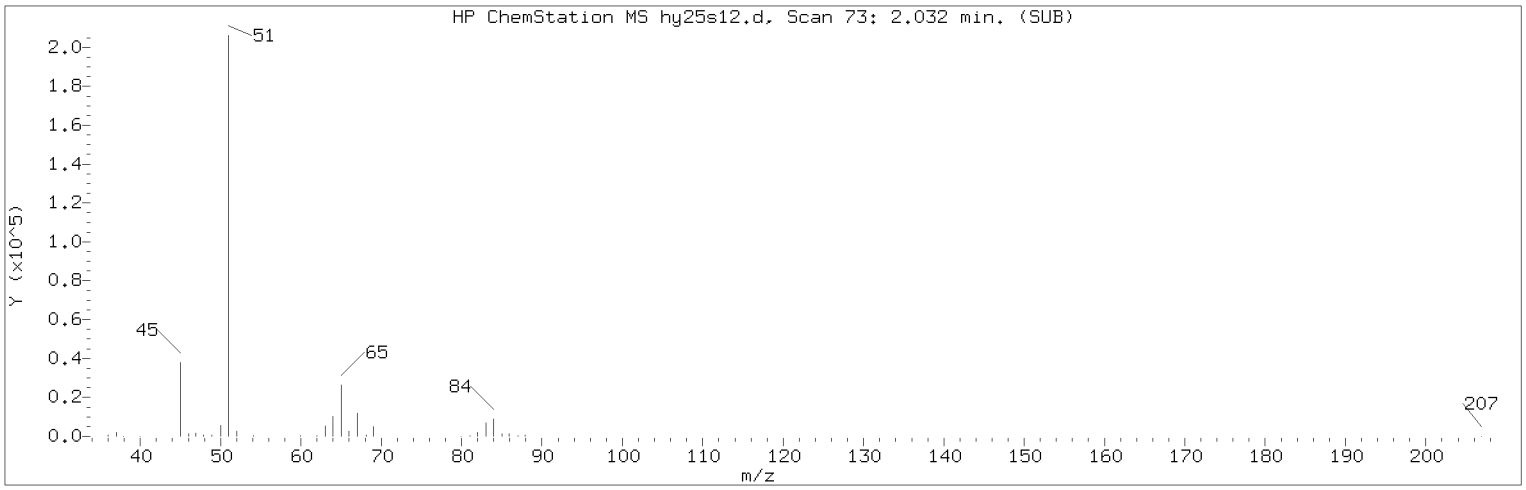
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8503 Lab Sample ID: 8999787

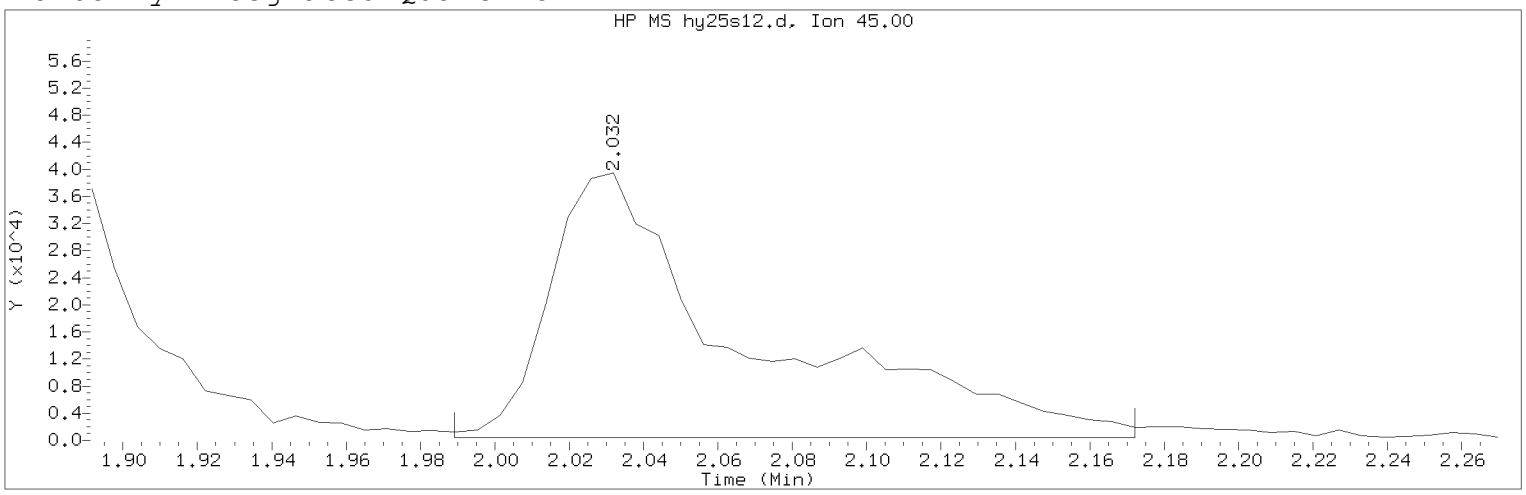
Compound Number	: 4
Compound Name	: Dimethyl ether
Scan Number	: 73
Retention Time (minutes)	: 2.032
Relative Retention Time	: 0.00762
Quant Ion	: 45.00
Area (flag)	: 143055M
On-Column Amount (ng)	: 1.6288

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8503 Lab Sample ID: 8999787

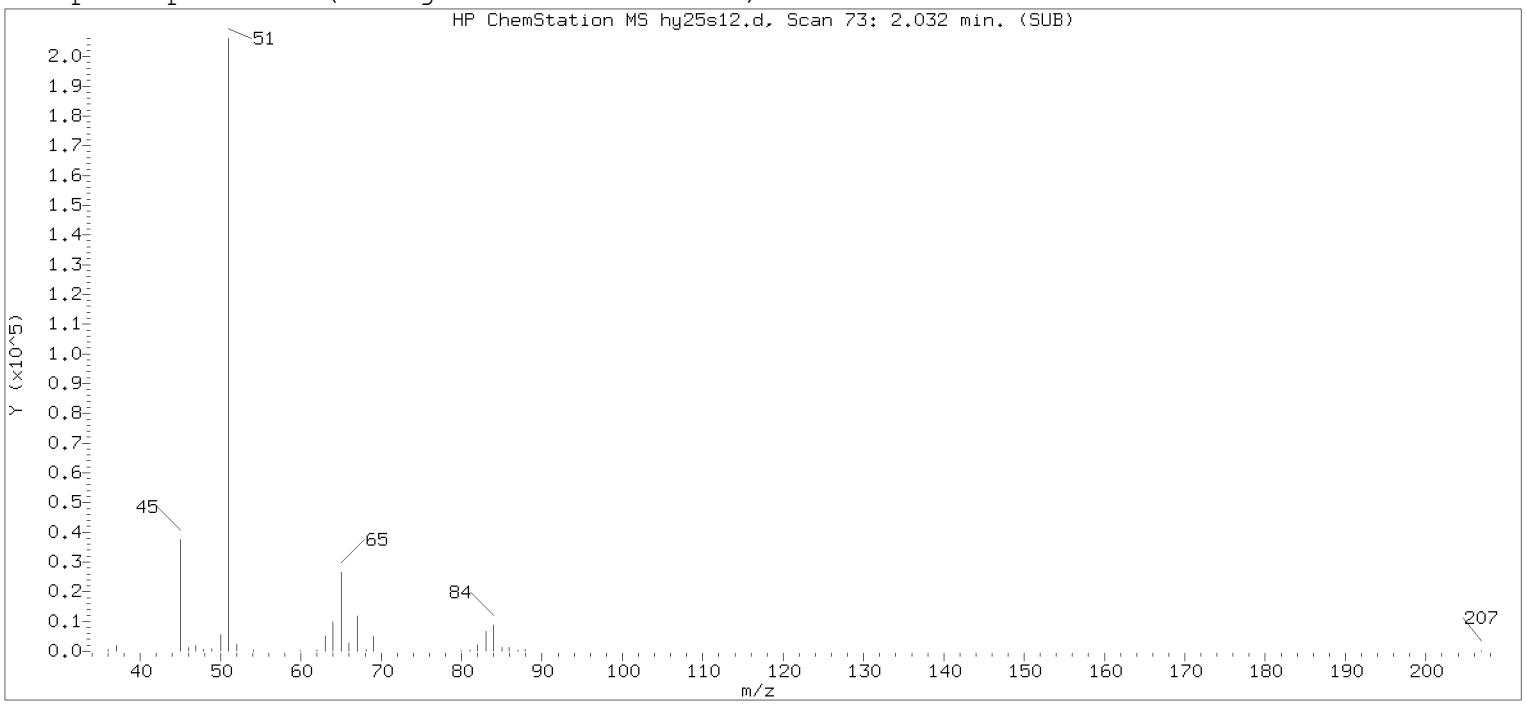
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 73
Retention Time (minutes): 2.032
Quant Ion : 45.00
Area (flag) : 143055M
On-Column Amount (ng) : 1.6288
Integration start scan : 65 Integration stop scan: 95
Y at integration start : 412 Y at integration end: 412

Reason for manual integration: improper integration

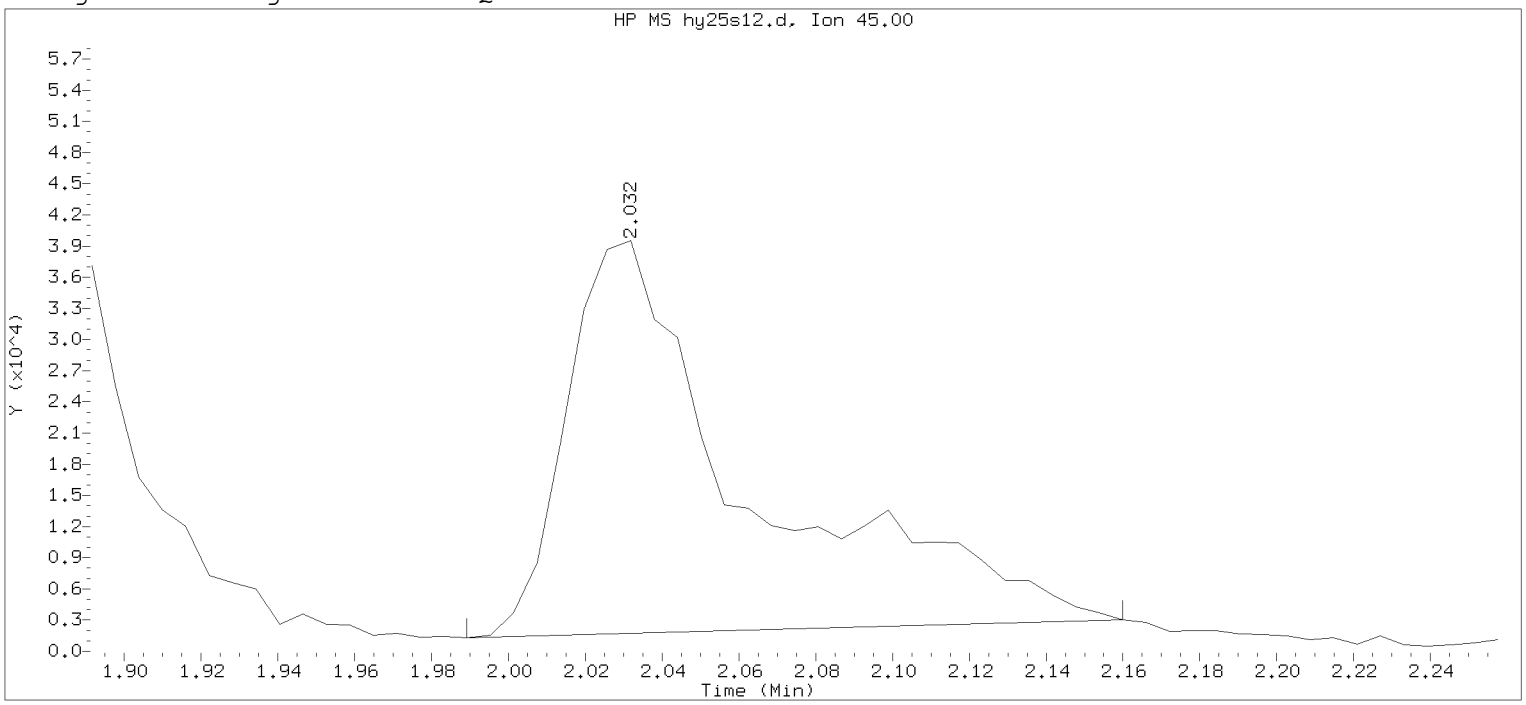
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

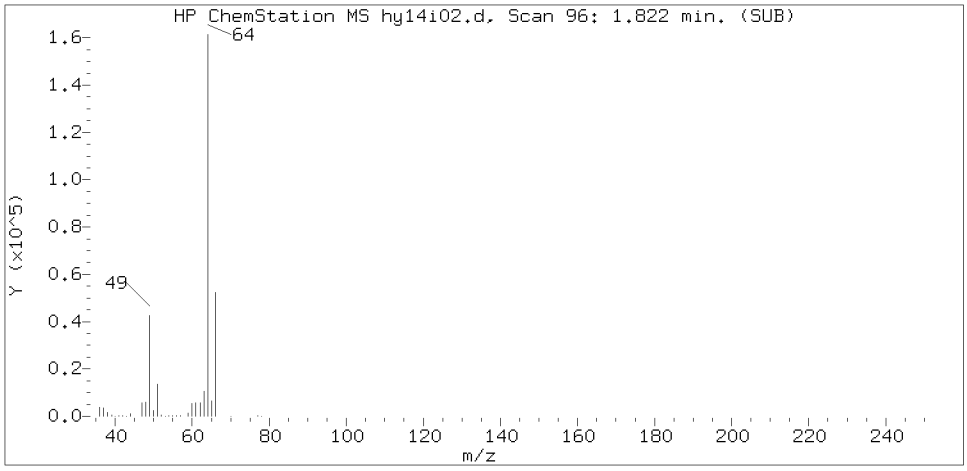
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 00:23 Automation

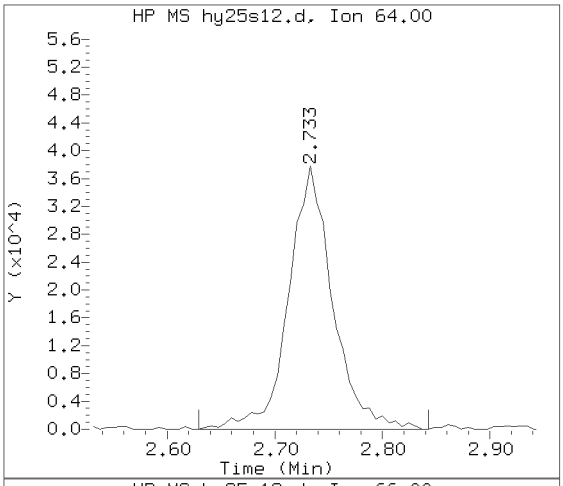
Sample Name: R8503 Lab Sample ID: 8999787

Compound Number	: 4		
Compound Name	: Dimethyl ether		
Scan Number	: 73		
Retention Time (minutes)	: 2.032		
Quant Ion	: 45.00		
Area	: 123304		
On-column Amount (ng)	: 1.4039		
Integration start scan	: 65	Integration stop scan:	93
Y at integration start	: 1268	Y at integration end:	3013

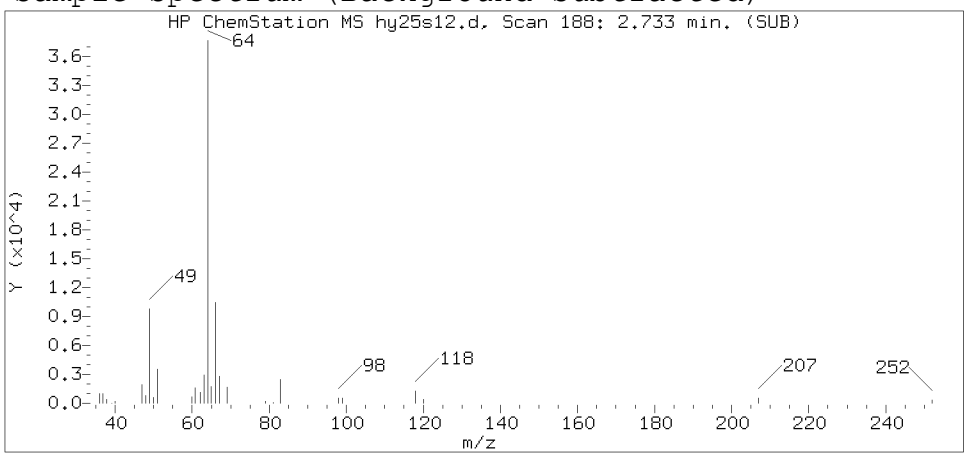
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature used on 05/30/2017.

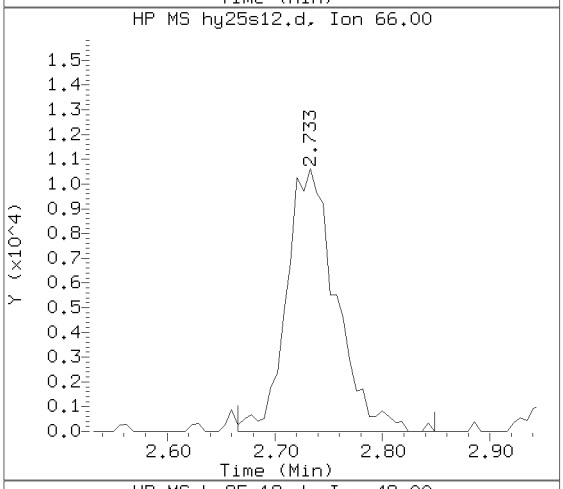
Reference Standard Spectrum for Chloroethane



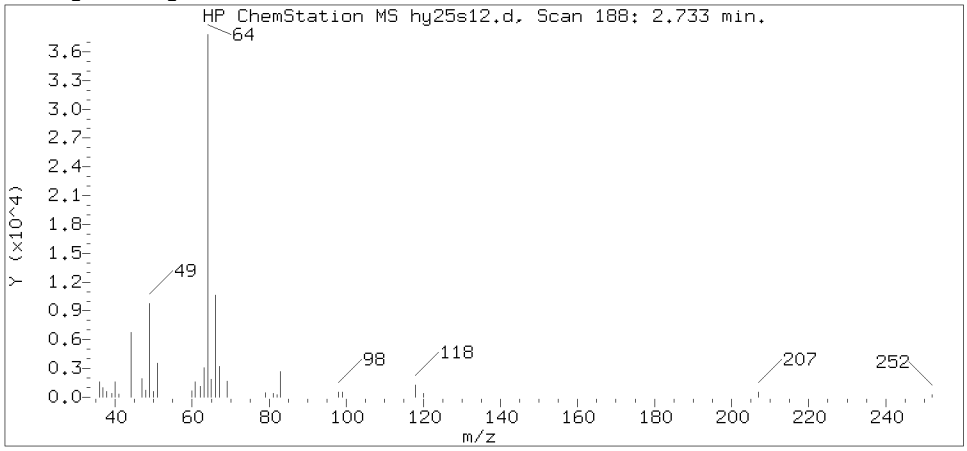


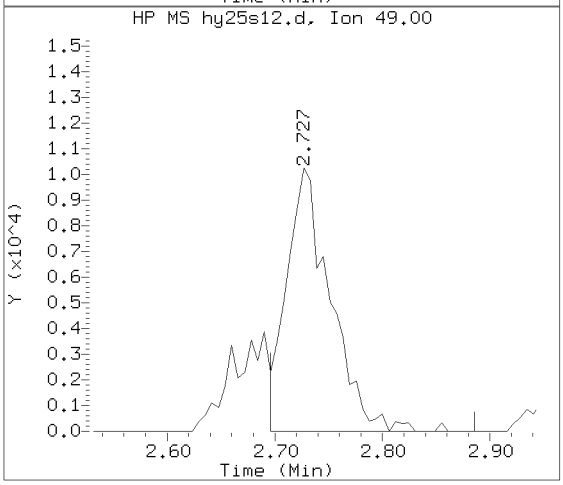
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

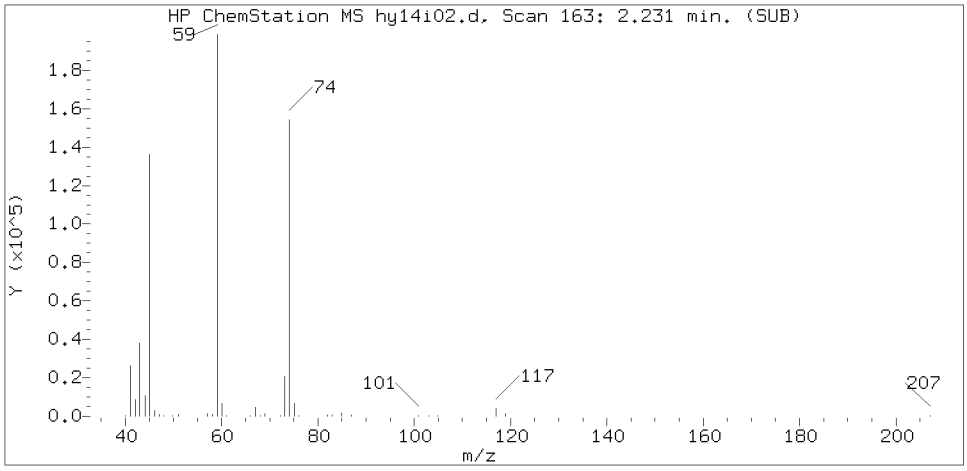
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

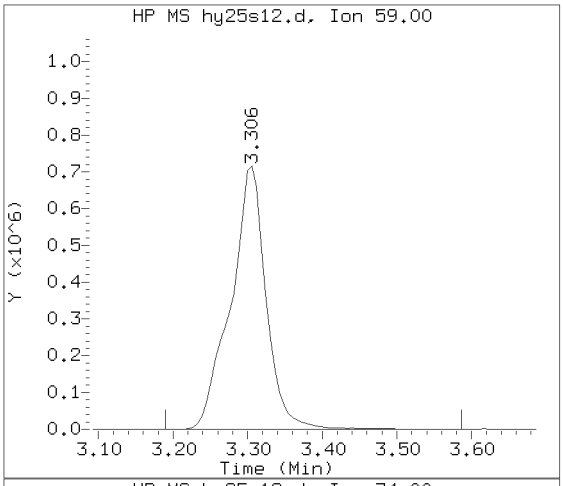
Sample Name: R8503 Lab Sample ID: 8999787

Compound Number	: 8
Compound Name	: Chloroethane
Scan Number	: 188
Retention Time (minutes)	: 2.733
Relative Retention Time	:-0.00027
Quant Ion	: 64.00
Area (flag)	: 107511
On-Column Amount (ng)	: 2.1931

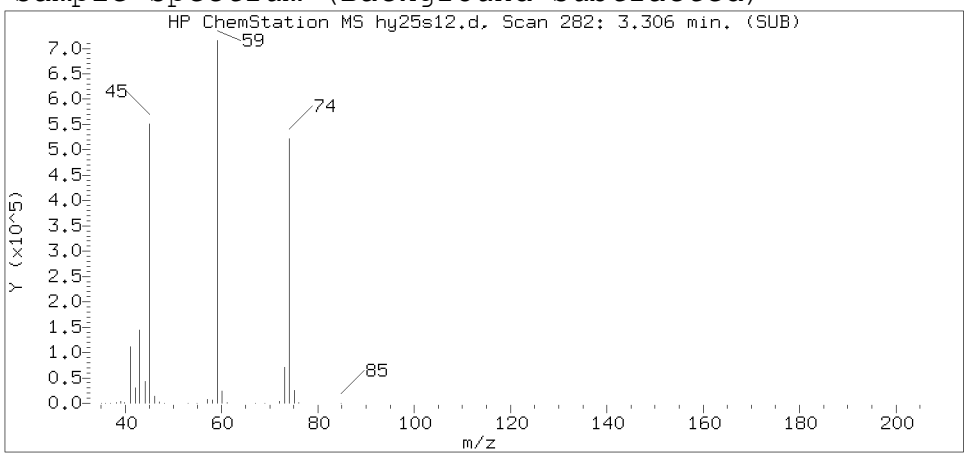
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

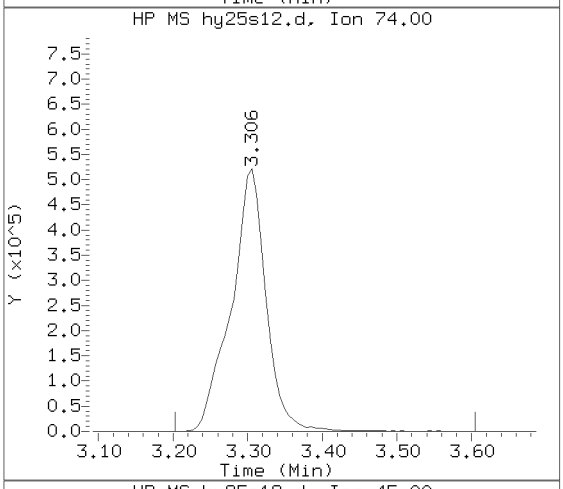
Reference Standard Spectrum for Ethyl ether



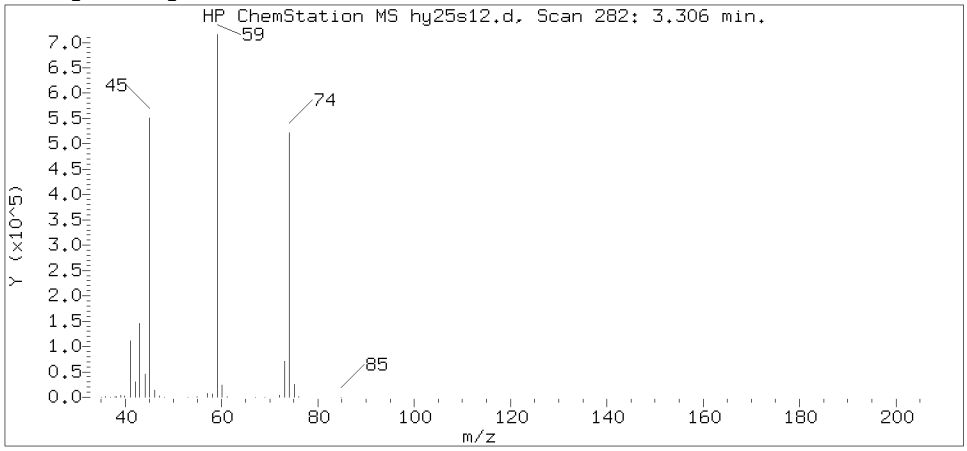


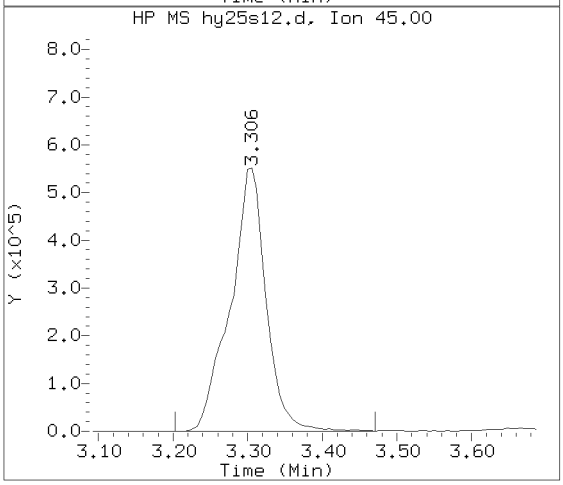
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

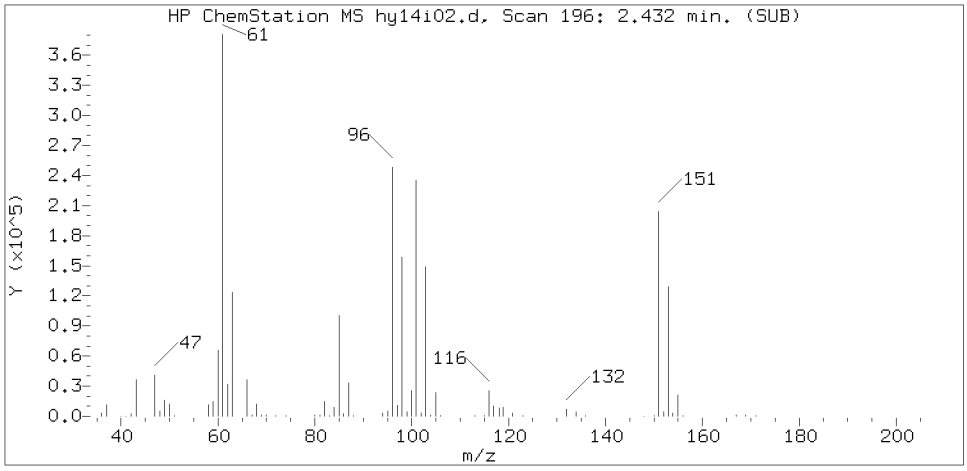
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8503 Lab Sample ID: 8999787

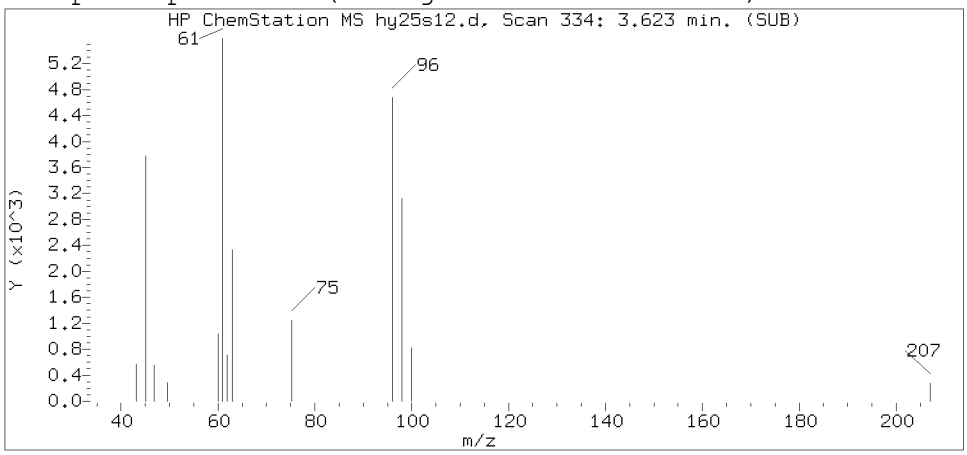
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 282
Retention Time (minutes): 3.306
Relative Retention Time :-0.00033
Quant Ion : 59.00
Area (flag) : 2362453
On-Column Amount (ng) : 60.1323

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

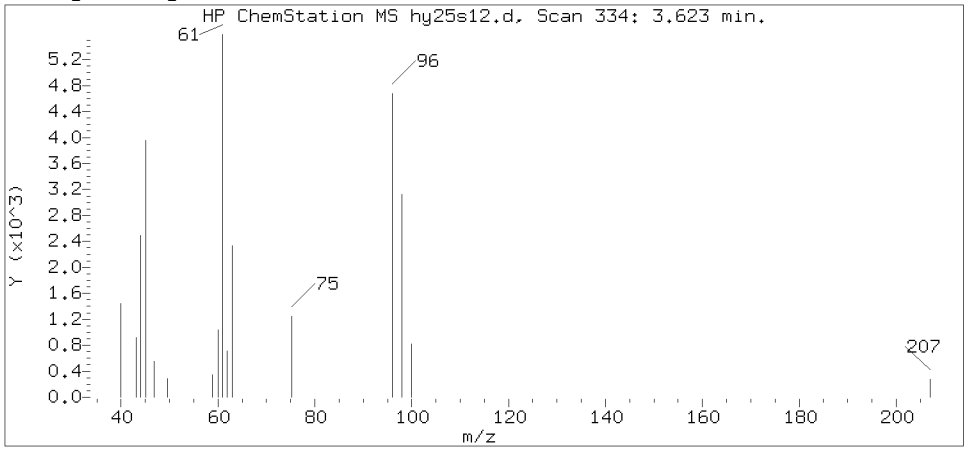
Reference Standard Spectrum for 1,1-Dichloroethene

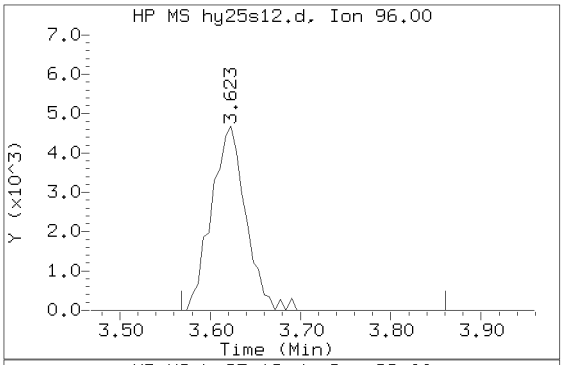


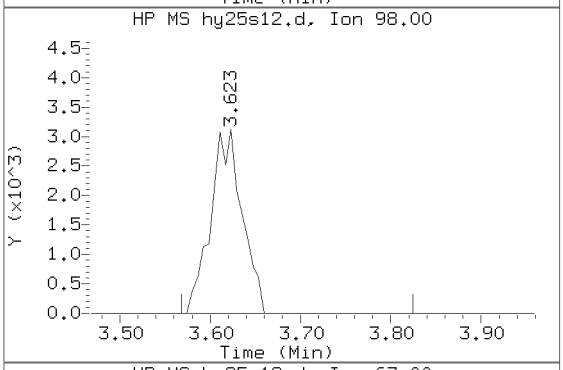
Sample Spectrum (Background Subtracted)

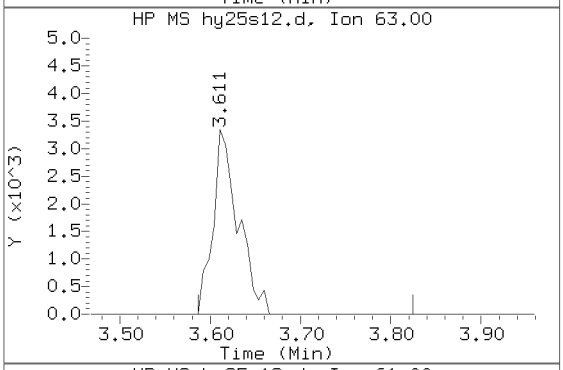


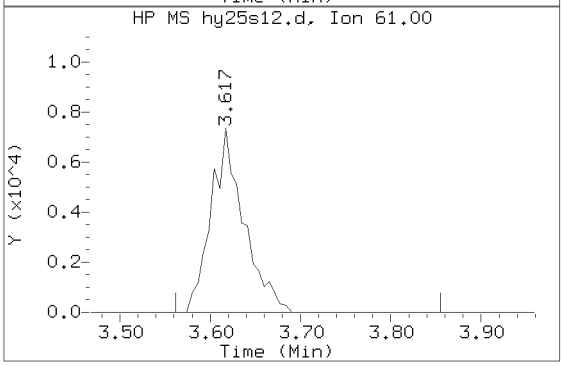
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

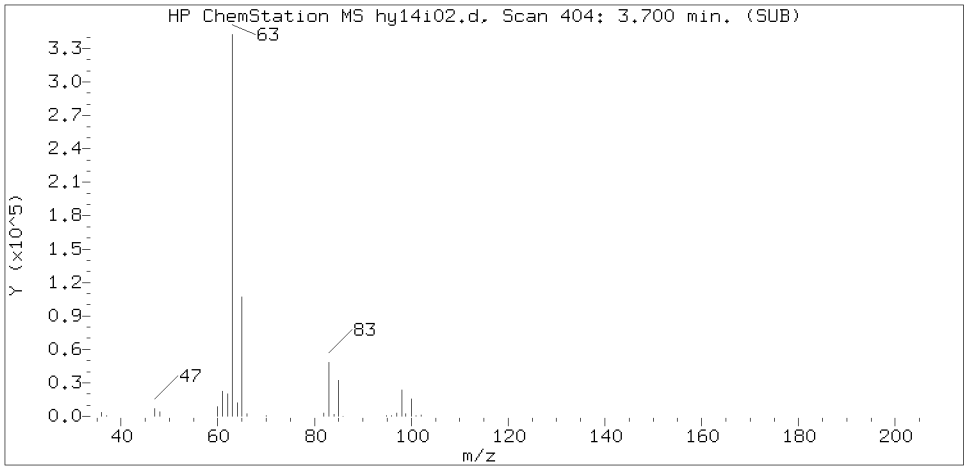
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

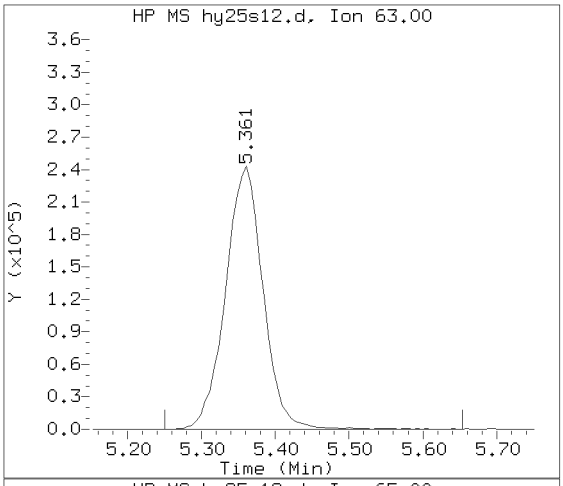
Sample Name: R8503 Lab Sample ID: 8999787

Compound Number : 15
Compound Name : 1,1-Dichloroethene
Scan Number : 334
Retention Time (minutes): 3.623
Relative Retention Time :-0.00114
Quant Ion : 96.00
Area (flag) : 12315
On-Column Amount (ng) : 0.2312

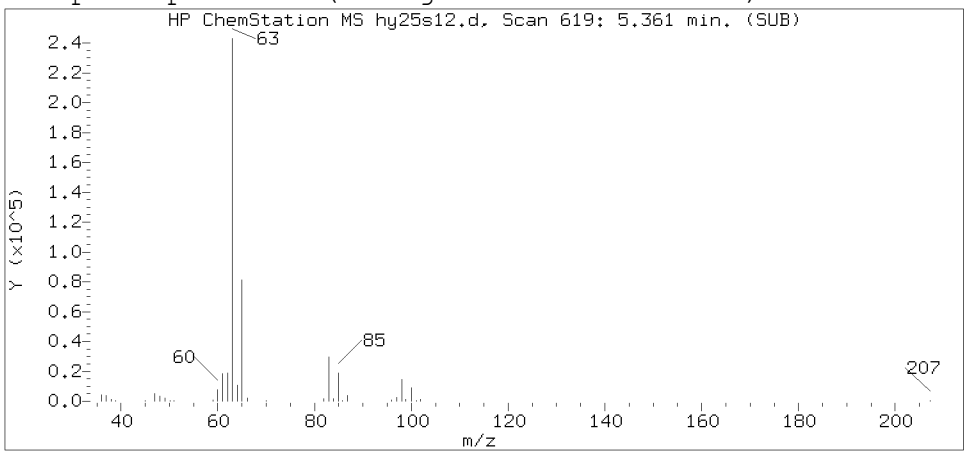
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

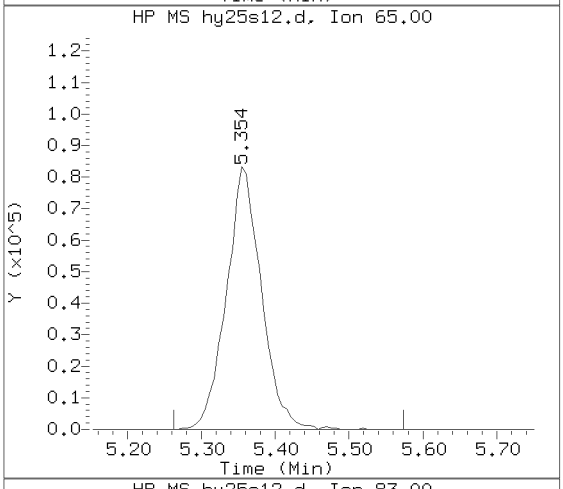
Reference Standard Spectrum for 1,1-Dichloroethane



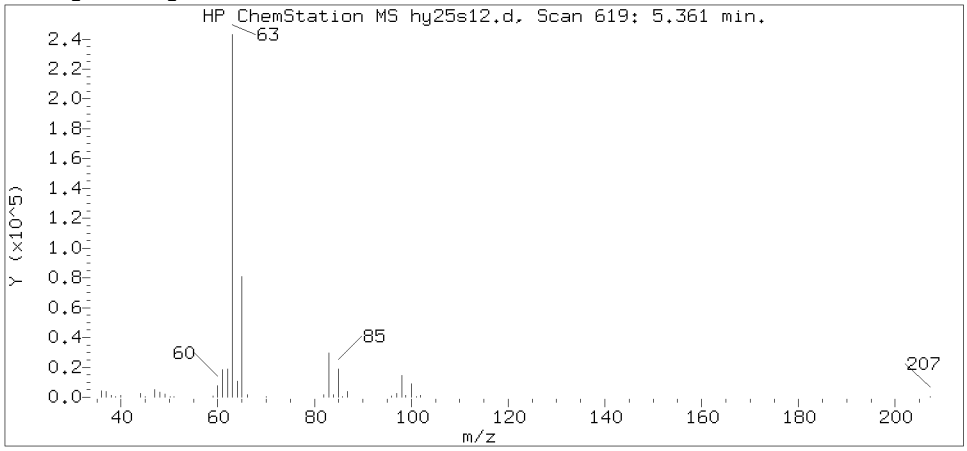


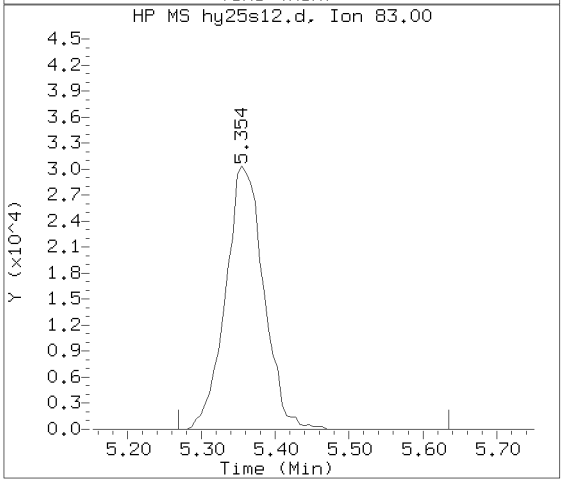
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

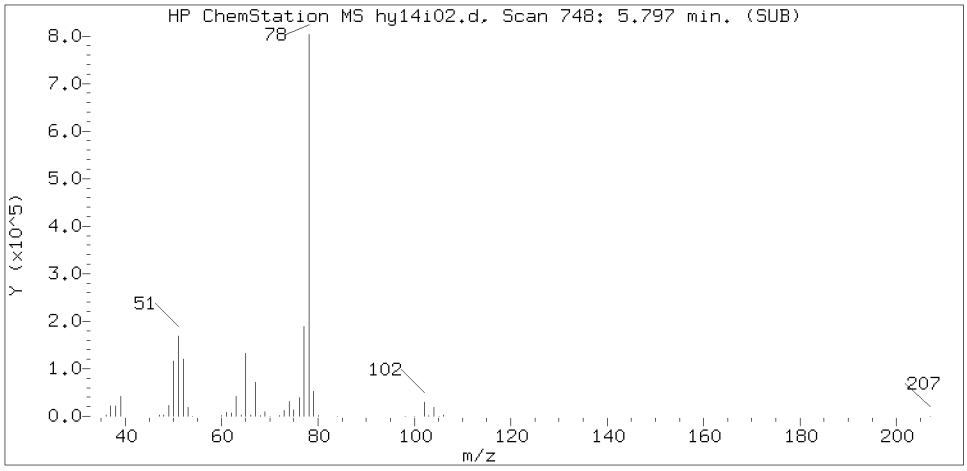
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8503 Lab Sample ID: 8999787

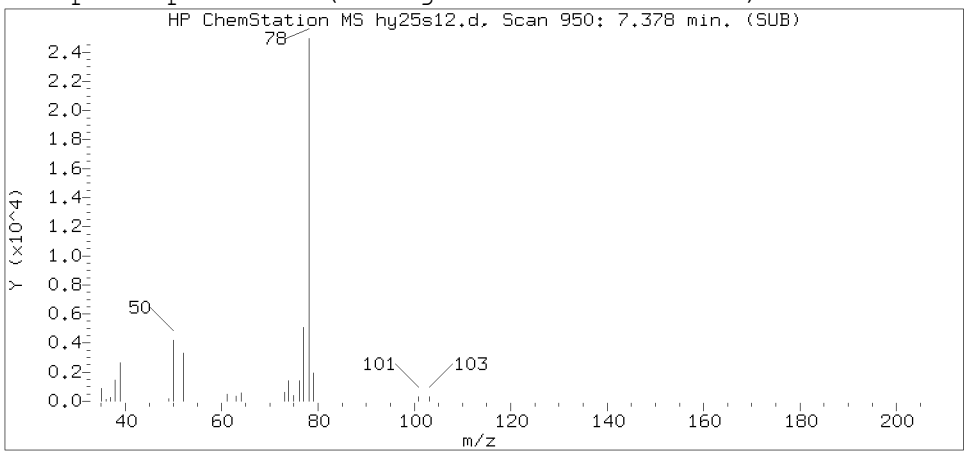
Compound Number	: 33
Compound Name	: 1,1-Dichloroethane
Scan Number	: 619
Retention Time (minutes)	: 5.361
Relative Retention Time	:-0.00054
Quant Ion	: 63.00
Area (flag)	: 856094
On-Column Amount (ng)	: 7.3772

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

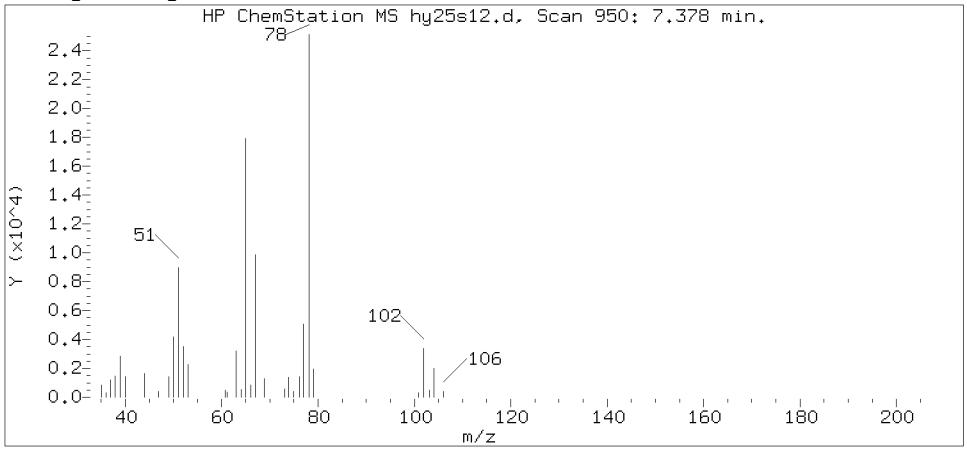
Reference Standard Spectrum for Benzene

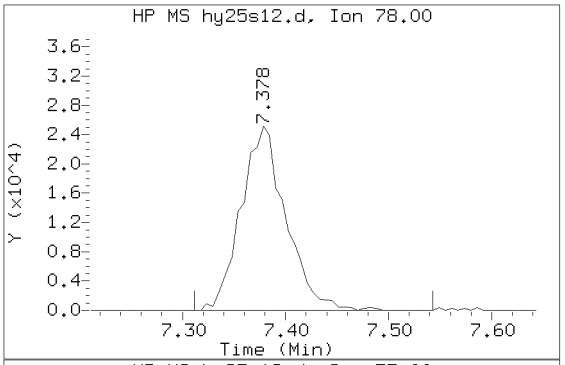


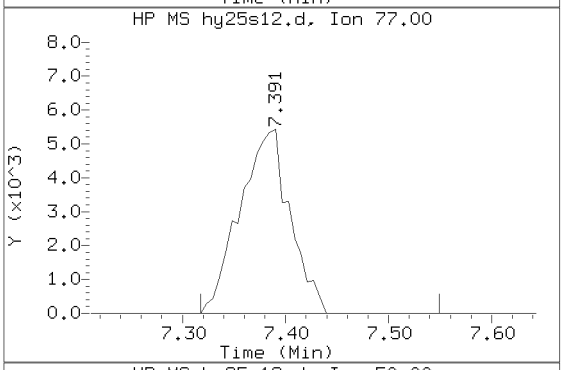
Sample Spectrum (Background Subtracted)

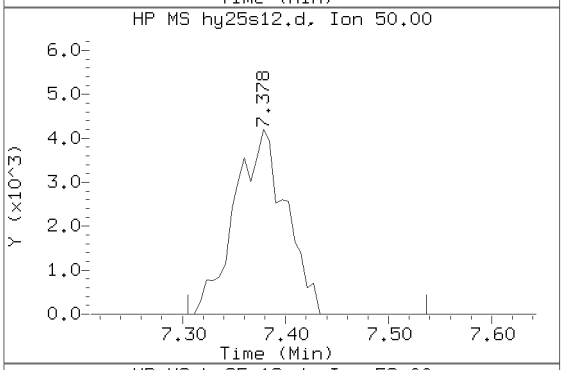


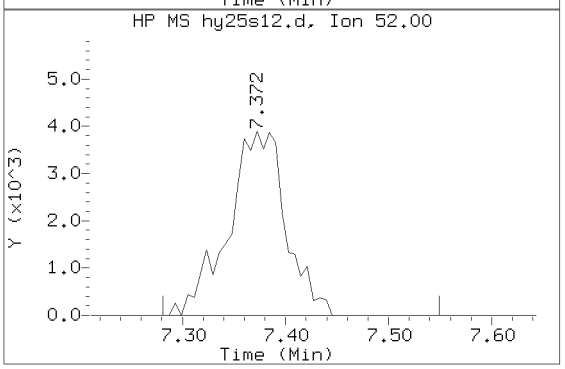
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s12.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:05 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8503 Lab Sample ID: 8999787

Compound Number	: 58
Compound Name	: Benzene
Scan Number	: 950
Retention Time (minutes)	: 7.378
Relative Retention Time	:-0.00074
Quant Ion	: 78.00
Area (flag)	: 76179
On-Column Amount (ng)	: 0.3029

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

Data file: /chem2/HP19094.i/17may26a.b/hy26s04.d Injection date and time: **26-MAY-2017 16:21**
Data file Sample Info. Line: R8503DL;8999787DL;1;0;;RAE85;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **5.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 5 ml

Analysis Comments:9145 9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263	(-0.012)	439	65	71274M	(-22)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2465641	(-4)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1706785	(-4)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	662701	(-15)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(-0.001)	113	615292	11.132	111%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336	(-0.002)	102	99101	11.088	111%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2481033	9.944	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.001)	95	650546	9.177	92%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.7	5
4) Dimethyl ether	(2)				Not Detected					0.5	63
2) Chloromethane	(2)				Not Detected					1	5
5) Vinyl Chloride	(2)				Not Detected					0.8	5
7) Bromomethane	(2)				Not Detected					3	5
8) Chloroethane	(2)	2.733	(-0.000)	64	25071	0.498	2.49		J	0.5	5
10) Trichlorofluoromethane	(2)				Not Detected					0.9	5
11) Ethyl ether	(2)	3.312	(-0.001)	59	452652	11.216	56.08		J	6	63
13) Acrolein	(1)				Not Detected					25	130
15) 1,1-Dichloroethene	(2)				Not Detected					1	5
16) Freon 113	(2)				Not Detected					1	5
14) Acetone	(1)				Not Detected					15	50
17) Methyl Iodide	(2)				Not Detected					3	50
18) Carbon Disulfide	(2)				Not Detected					2	50
25) Acetonitrile	(1)				Not Detected					160	500
22) Allyl Chloride	(2)				Not Detected					4	50
23) Methylene Chloride	(2)				Not Detected					1	5
29) Acrylonitrile	(1)				Not Detected					5	50
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.8	5
33) 1,1-Dichloroethane	(2)	5.366	(-0.001)	63	165001	1.384	6.92			0.7	5
36) Vinyl Acetate	(2)				Not Detected					16	50
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					2	50
38) 2-Butanone	(1)				Not Detected					5	50
42) Propionitrile	(1)				Not Detected					51	500
45) Methacrylonitrile	(1)				Not Detected					49	500
48) Tetrahydrofuran	(1)				Not Detected					10	130
49) Chloroform	(2)				Not Detected					0.5	5
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.7	5
54) Carbon Tetrachloride	(2)				Not Detected					0.8	5

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:49. Target 3.5 esignature user ID: kel01973

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may26a.b/hy26s04.d Injection date and time: **26-MAY-2017 16:21**
Data file Sample Info. Line: R8503DL;8999787DL;1;0;;RAE85;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **5.00**

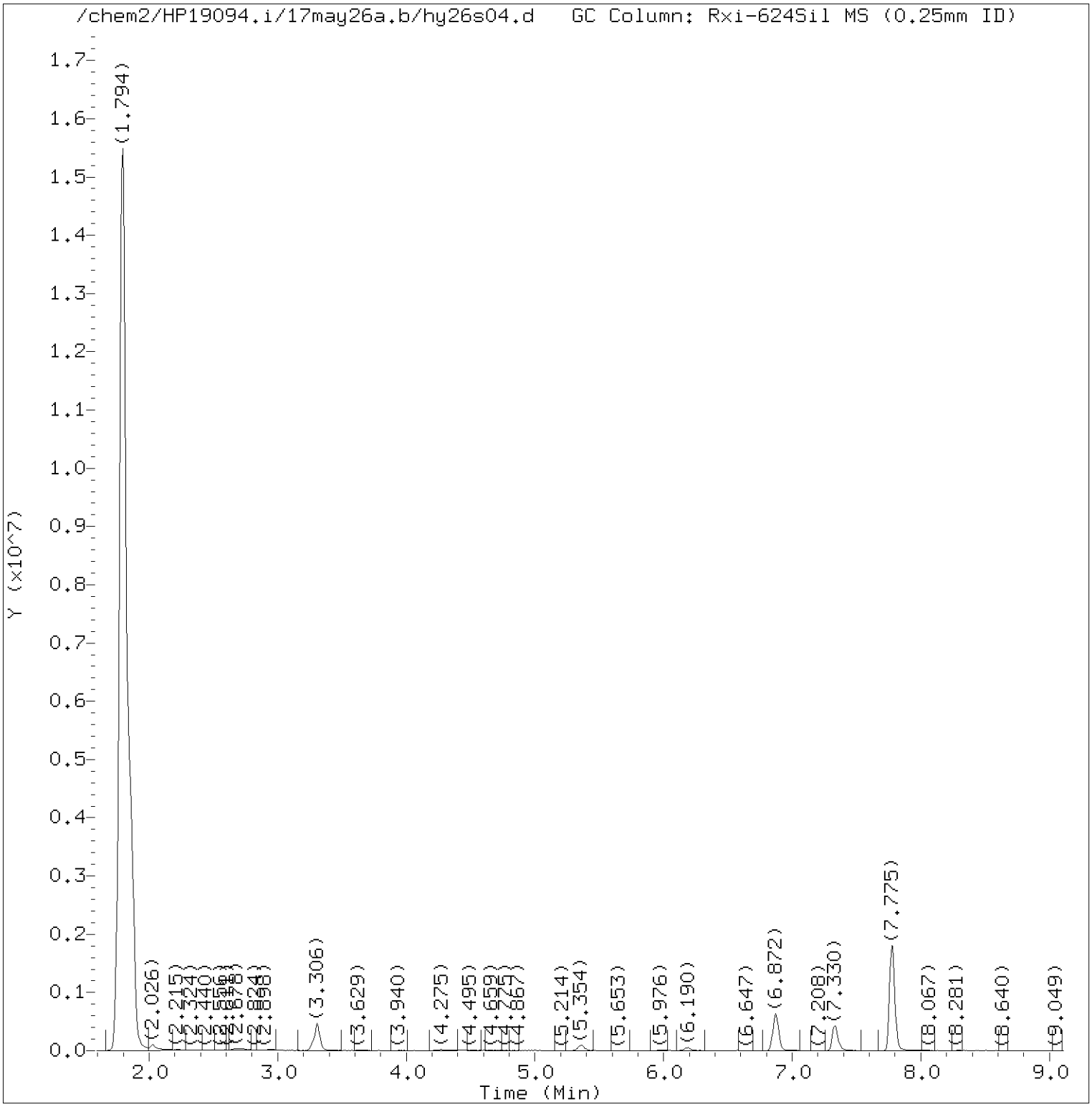
Volume Purged (Vt): 25 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
56) Isobutyl Alcohol	(1)				Not Detected					50	1000
58) Benzene	(2)				Not Detected					0.5	5
59) 1,2-Dichloroethane	(2)				Not Detected					0.7	5
67) Trichloroethene	(2)				Not Detected					0.9	5
70) 1,2-Dichloropropane	(2)				Not Detected					0.5	5
71) Methyl Methacrylate	(1)				Not Detected					18	50
73) Dibromomethane	(2)				Not Detected					0.5	5
72) 1,4-Dioxane	(1)				Not Detected					230	1000
74) Bromodichloromethane	(2)				Not Detected					0.5	5
81) 4-Methyl-2-Pentanone	(1)				Not Detected					5	50
83) Toluene	(3)				Not Detected					0.5	5
84) trans-1,3-Dichloropropene	(3)				Not Detected					0.5	5
86) Ethyl Methacrylate	(3)				Not Detected					4	50
88) 1,1,2-Trichloroethane	(3)				Not Detected					0.5	5
89) Tetrachloroethene	(3)				Not Detected					0.5	5
90) 1,3-Dichloropropane	(3)				Not Detected					0.5	5
91) 2-Hexanone	(1)				Not Detected					5	50
93) Dibromochloromethane	(3)				Not Detected					0.5	5
95) 1,2-Dibromoethane	(3)				Not Detected					0.5	5
99) 1,1,1,2-Tetrachloroethane	(3)				Not Detected					0.5	5
100) Ethylbenzene	(3)				Not Detected					0.5	5
101) m+p-Xylene	(3)				Not Detected					0.5	3
104) o-Xylene	(3)				Not Detected					0.5	3
105) Xylene (Total)	(3)				Not Detected					1	15
106) Styrene	(3)				Not Detected					0.5	5
107) Bromoform	(3)				Not Detected					0.5	5
113) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					0.9	5
115) trans-1,4-Dichloro-2-butene	(1)				Not Detected					5	50
116) 1,2,3-Trichloropropane	(4)				Not Detected					2	5
126) Pentachloroethane	(4)				Not Detected					4	50
131) 1,3-Dichlorobenzene	(4)				Not Detected					0.5	5
134) 1,4-Dichlorobenzene	(4)				Not Detected					0.5	5
139) 1,2-Dichlorobenzene	(4)				Not Detected					0.5	5
142) Hexachloroethane	(4)				Not Detected					0.6	50
143) 1,2-Dibromo-3-chloropropane	(1)				Not Detected					1	5
145) 1,2,4-Trichlorobenzene	(4)				Not Detected					0.7	5
146) Hexachlorobutadiene	(4)				Not Detected					0.5	5
147) Naphthalene	(4)				Not Detected					0.6	5

Total number of targets = 67

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:49. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 15:40. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

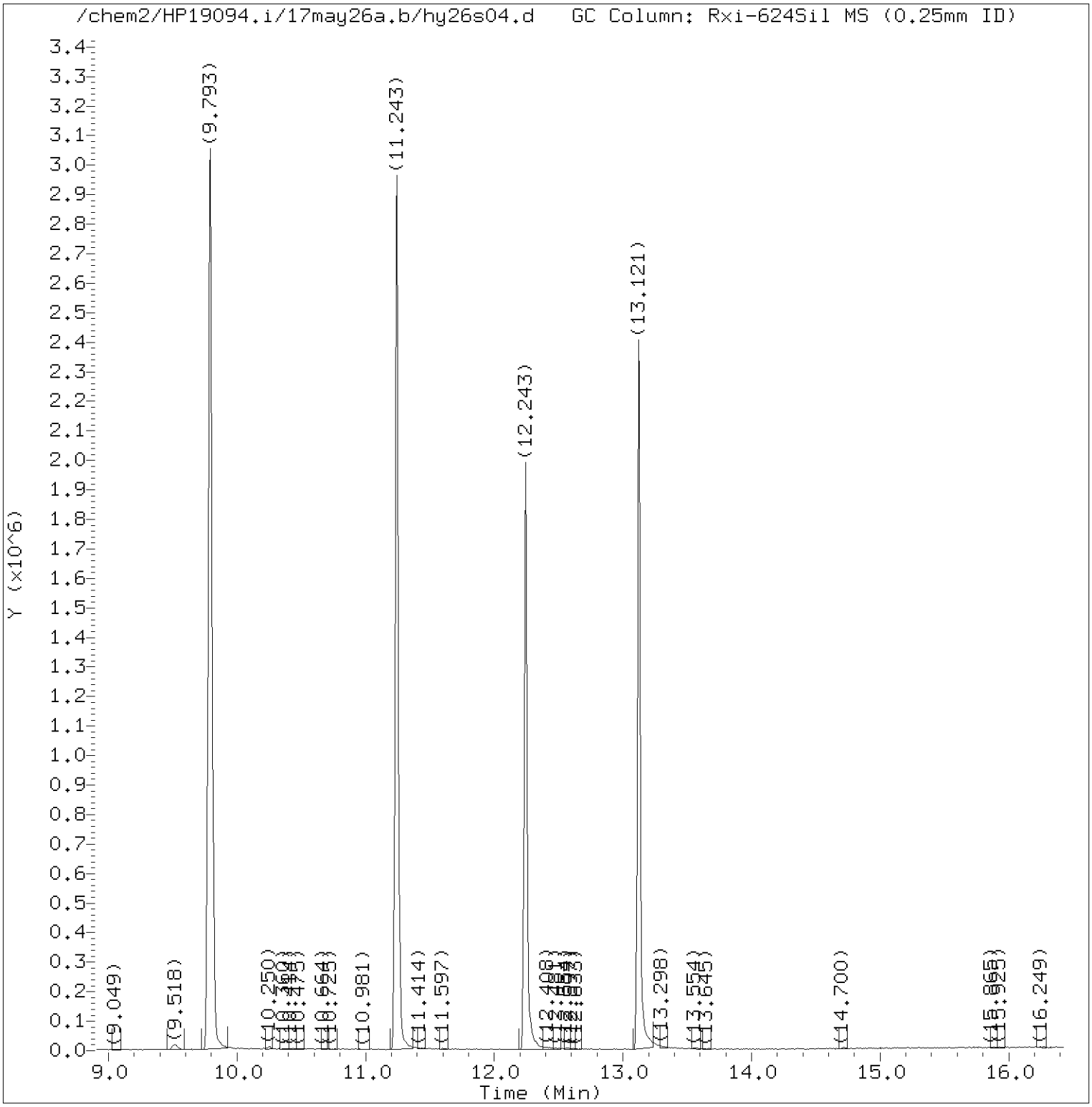
Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26s04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:21 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

Sample Name: R8503DL Lab Sample ID: 8999787DL

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:49.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26s04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:21 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

Sample Name: R8503DL Lab Sample ID: 8999787DL

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:49.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26s04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:21 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

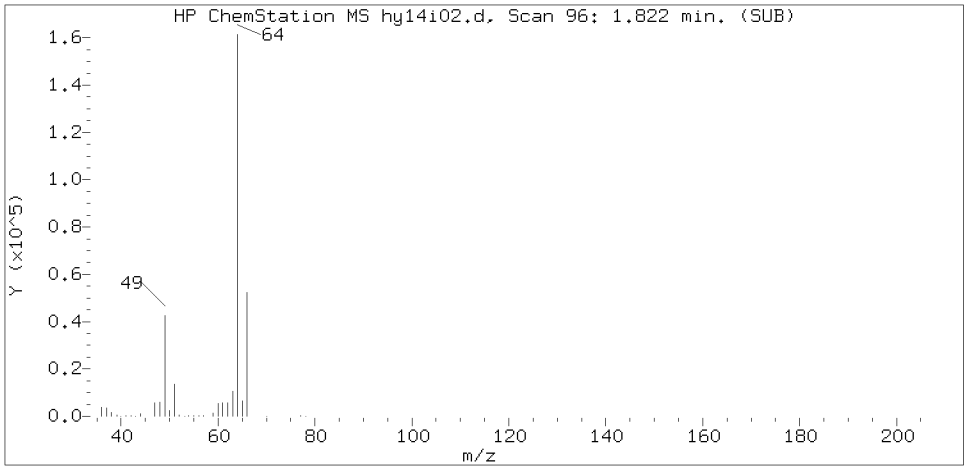
Sample Name: R8503DL Lab Sample ID: 8999787DL

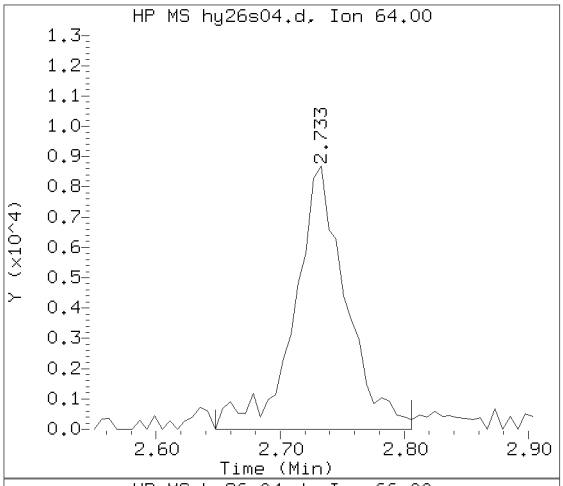
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
8) Chloroethane	(2)	2.733	64	25071	0.498
11) Ethyl ether	(2)	3.312	59	452652	11.216
26)*t-Butyl Alcohol-d10	(1)	4.263	65	71274M	50.000
33) 1,1-Dichloroethane	(2)	5.367	63	165001	1.384
50)$Dibromofluoromethane	(2)	6.872	113	615292	11.132
57)$1,2-Dichloroethane-d4	(2)	7.336	102	99101	11.088
63)*Fluorobenzene	(2)	7.775	96	2465641	10.000
82)$Toluene-d8	(3)	9.793	98	2481033	9.944
97)*Chlorobenzene-d5	(3)	11.243	117	1706785	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	650546	9.177
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	662701	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

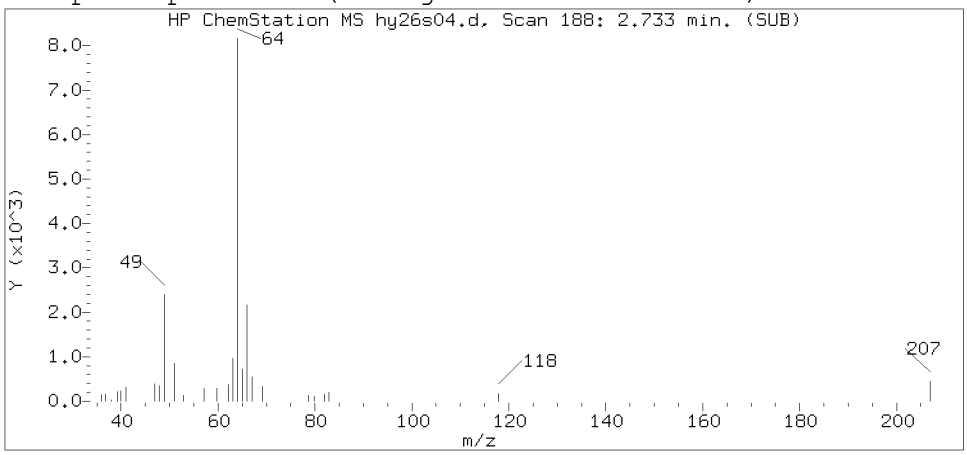
Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 14:49.
Target 3.5 esignature user ID: kel01973

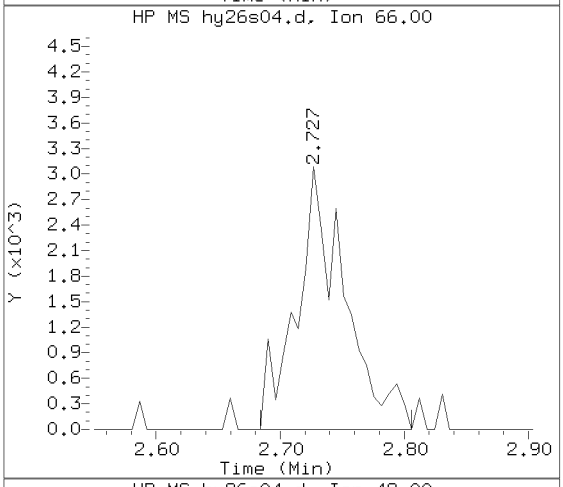
Reference Standard Spectrum for Chloroethane



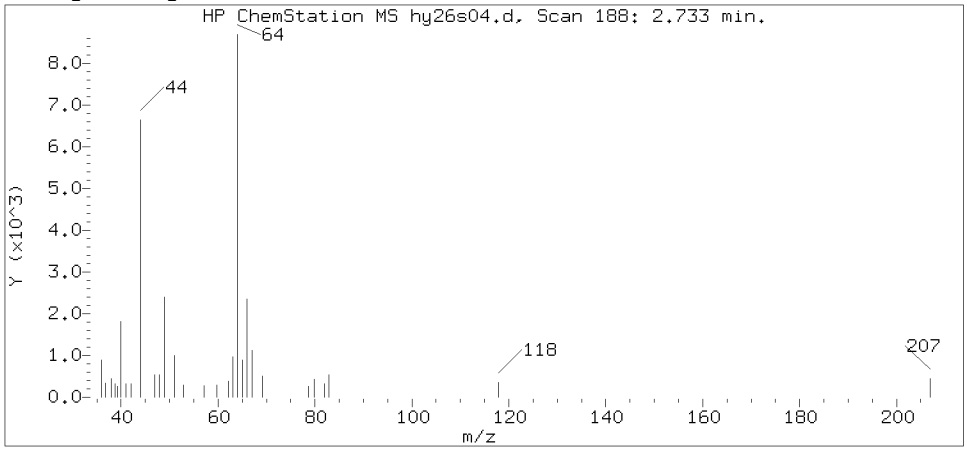


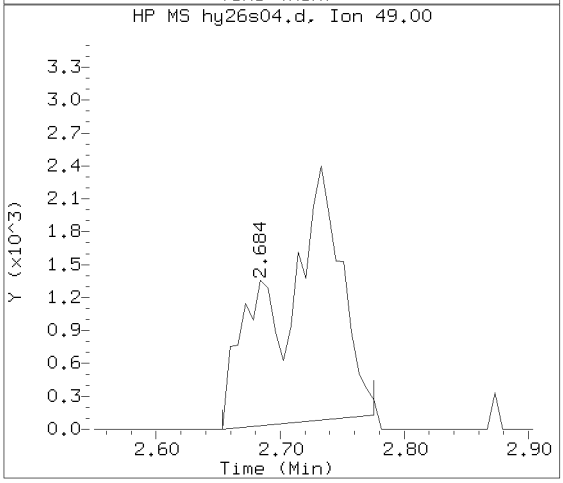
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may26a.b/hy26s04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:21 Analyst ID: KEL01973

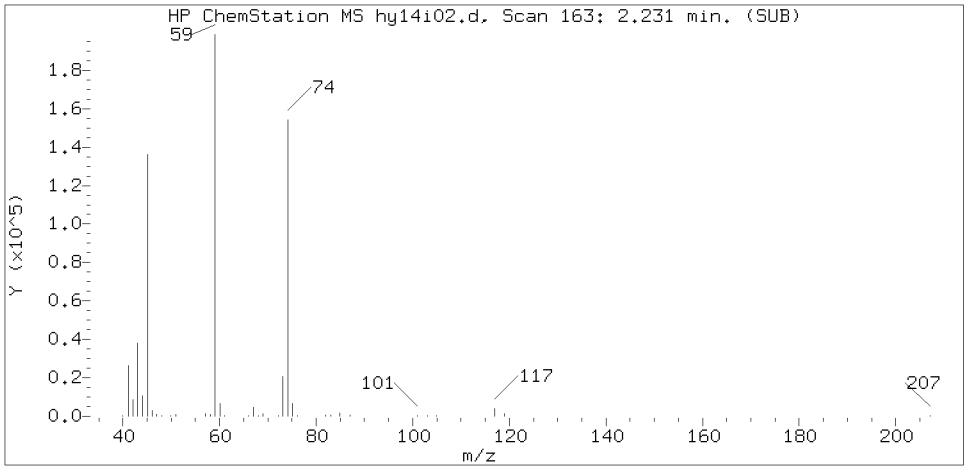
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

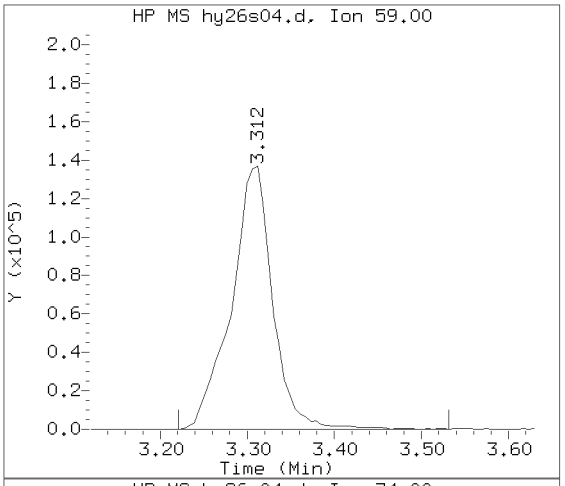
Sample Name: R8503DL Lab Sample ID: 8999787DL

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 188
Retention Time (minutes): 2.733
Relative Retention Time :-0.00000
Quant Ion : 64.00
Area (flag) : 25071
On-Column Amount (ng) : 0.4979

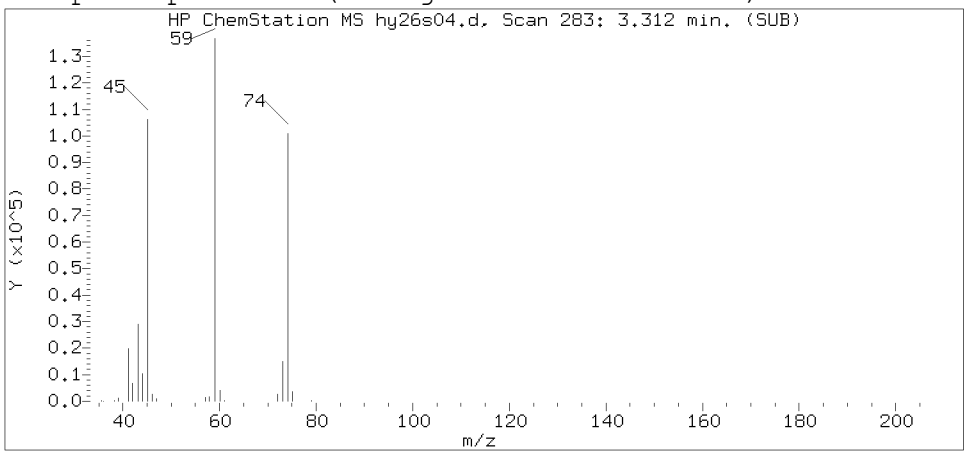
Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:49.
Target 3.5 esignature user ID: kel01973

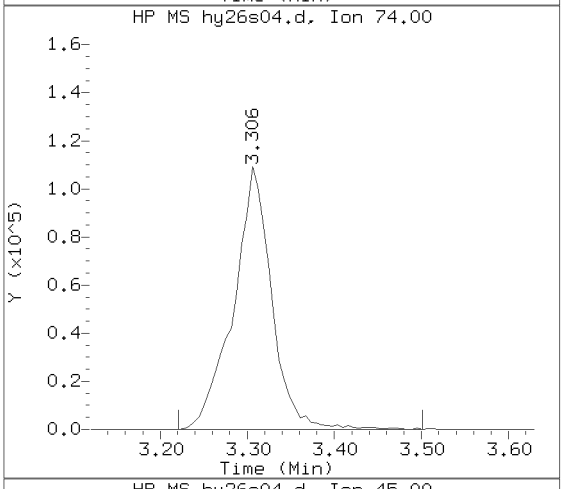
Reference Standard Spectrum for Ethyl ether



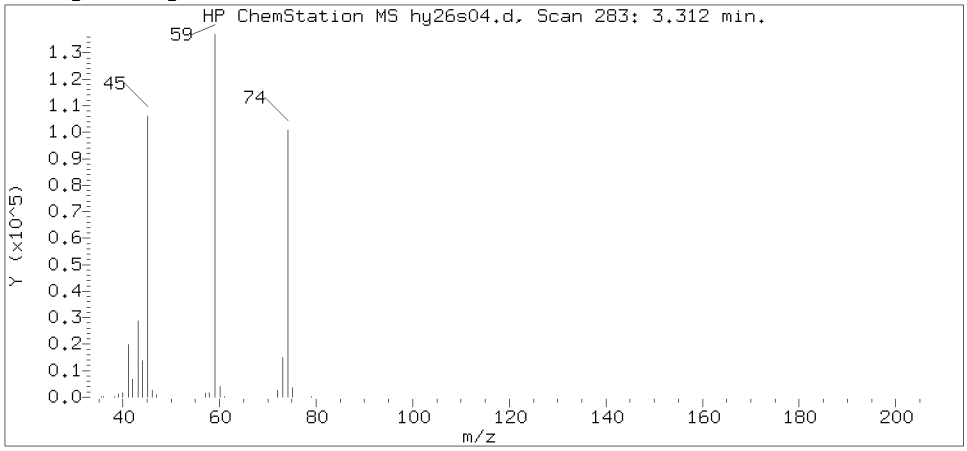


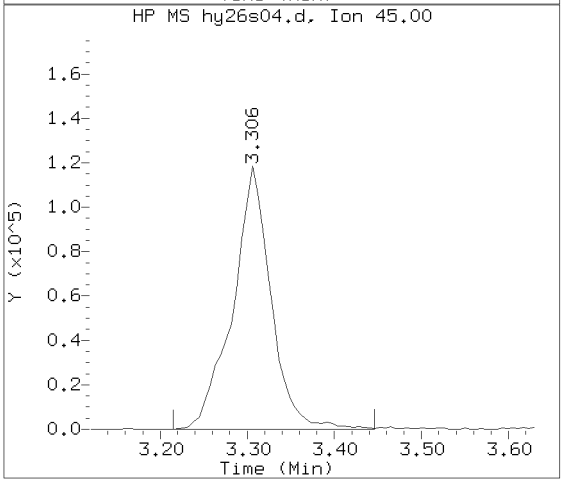
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may26a.b/hy26s04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:21 Analyst ID: KEL01973

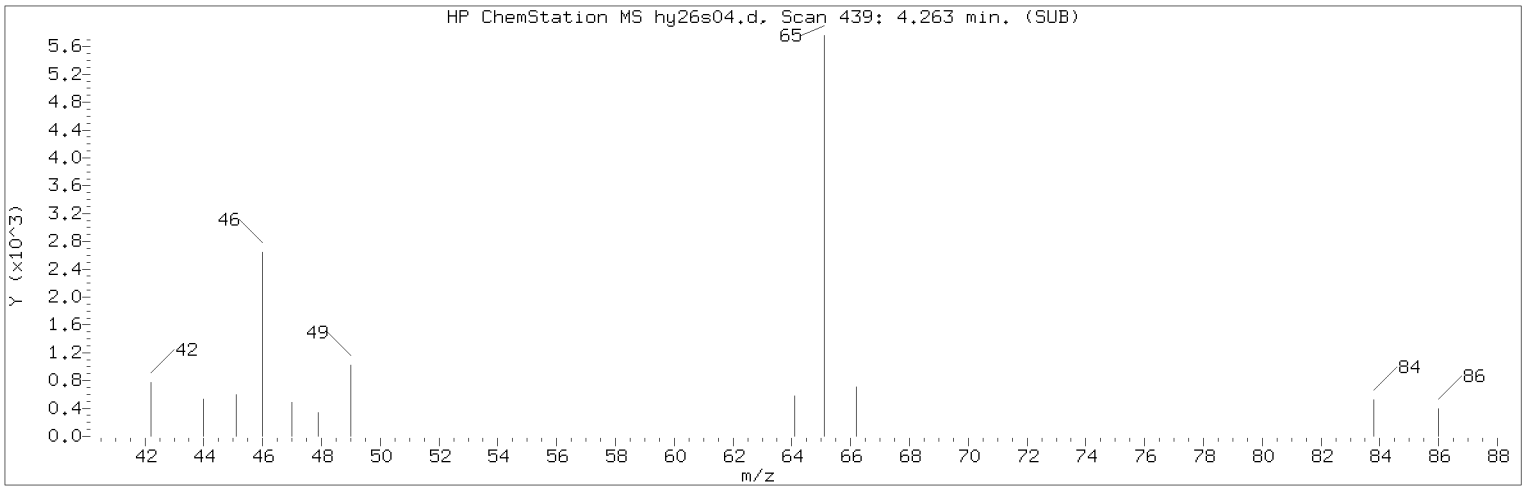
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

Sample Name: R8503DL Lab Sample ID: 8999787DL

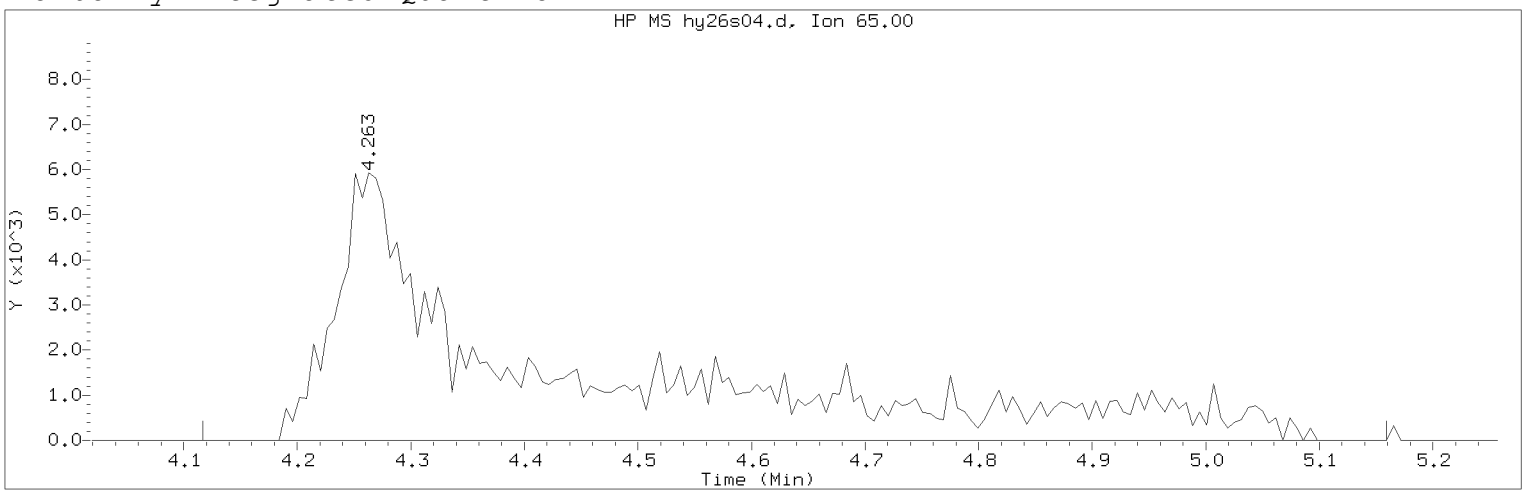
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 283
Retention Time (minutes): 3.312
Relative Retention Time :-0.00158
Quant Ion : 59.00
Area (flag) : 452652
On-Column Amount (ng) : 11.2164

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:49.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26s04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:21 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

Sample Name: R8503DL Lab Sample ID: 8999787DL

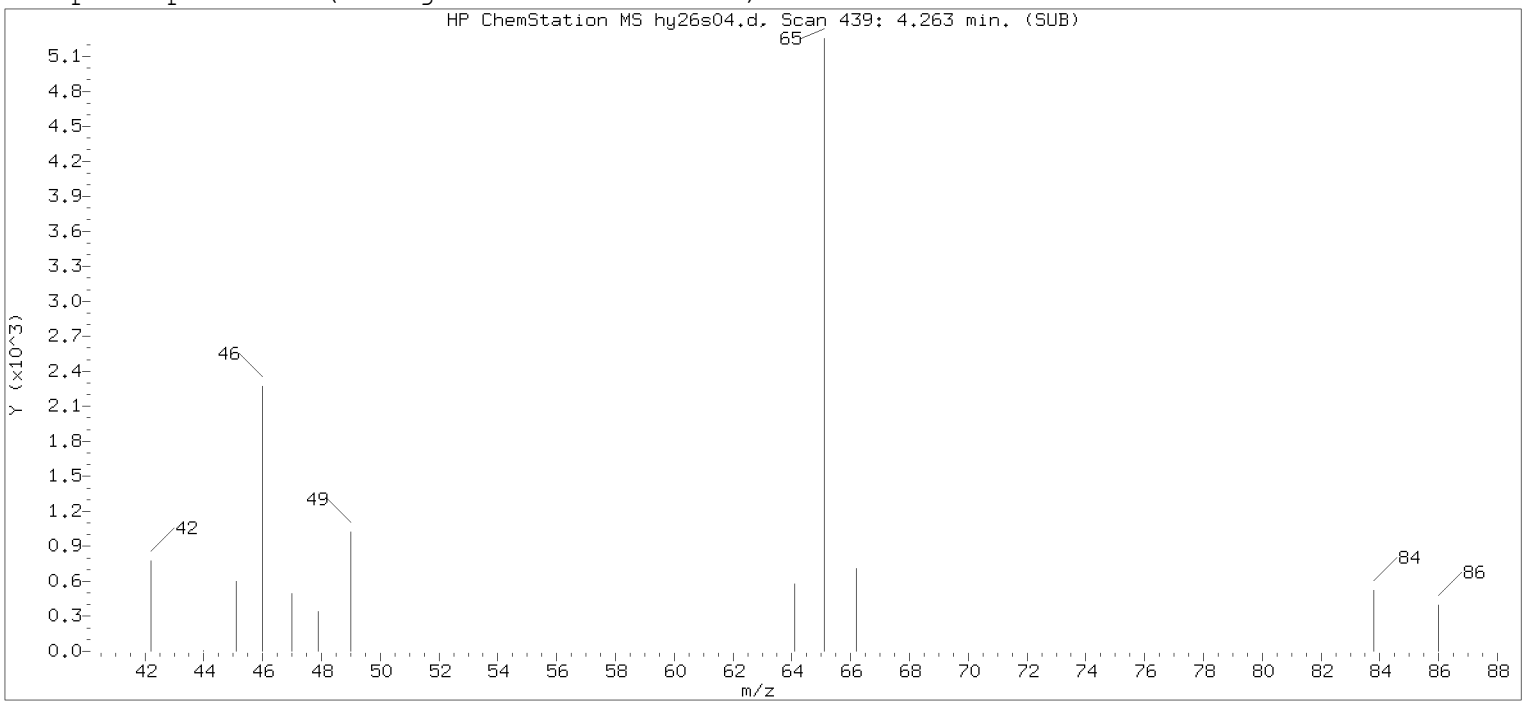
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 439
Retention Time (minutes): 4.263
Quant Ion : 65.00
Area (flag) : 71274M
On-Column Amount (ng) : 50.0000
Integration start scan : 414 Integration stop scan: 585
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

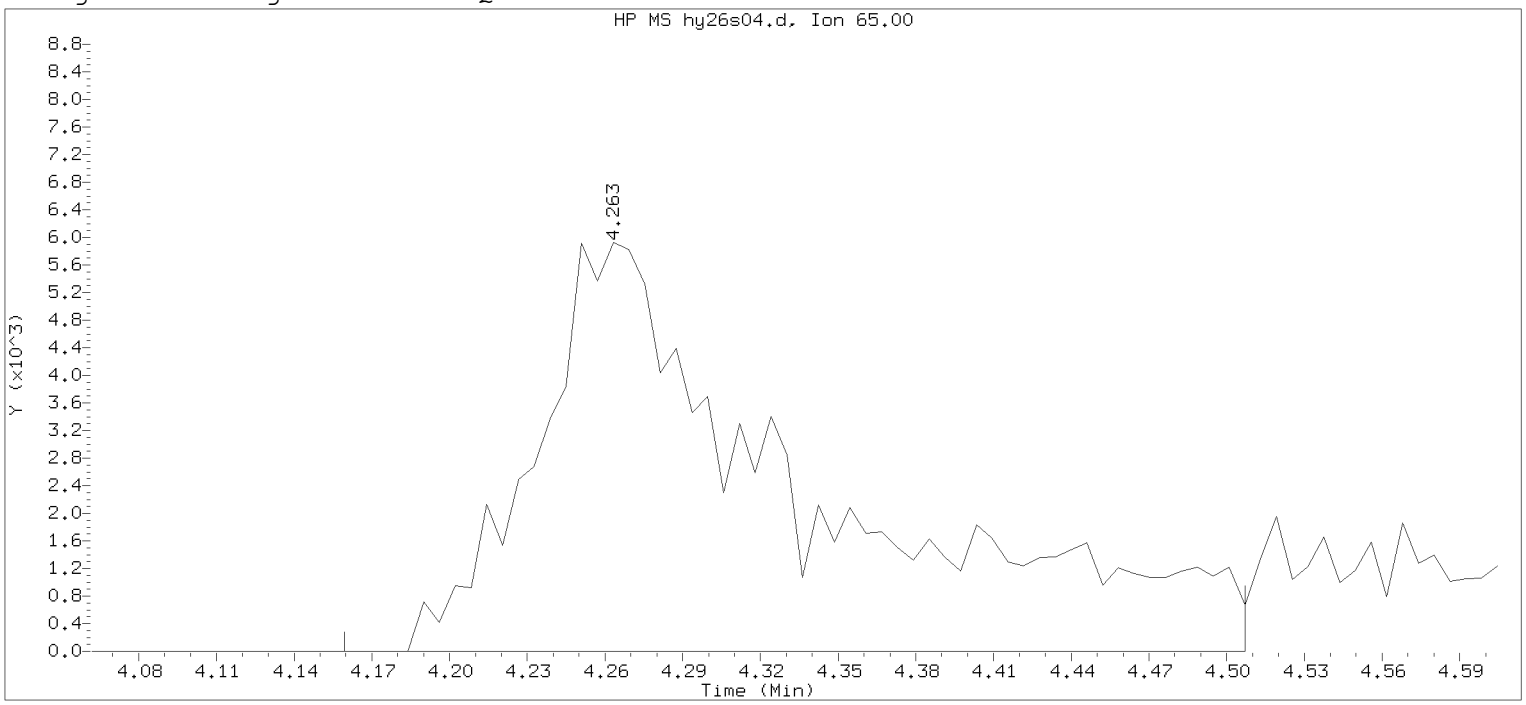
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:49.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 15:40.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26s04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:21 Analyst ID: KEL01973

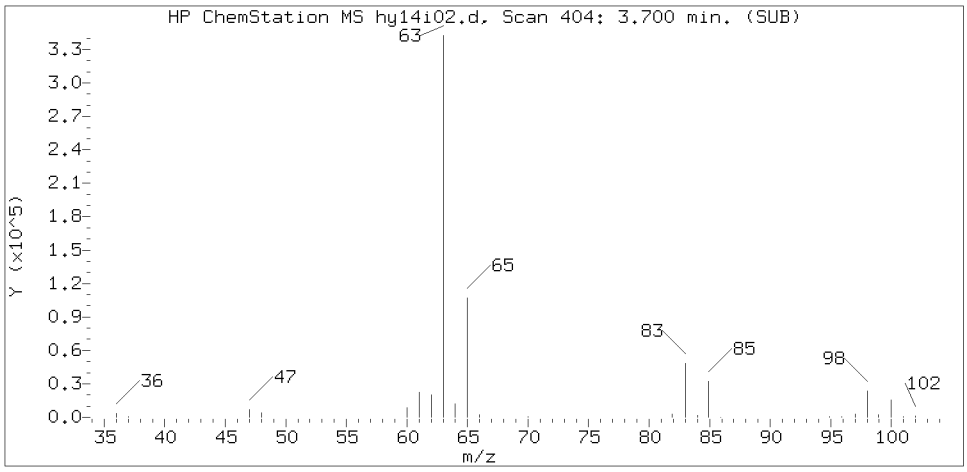
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 16:39 Automation

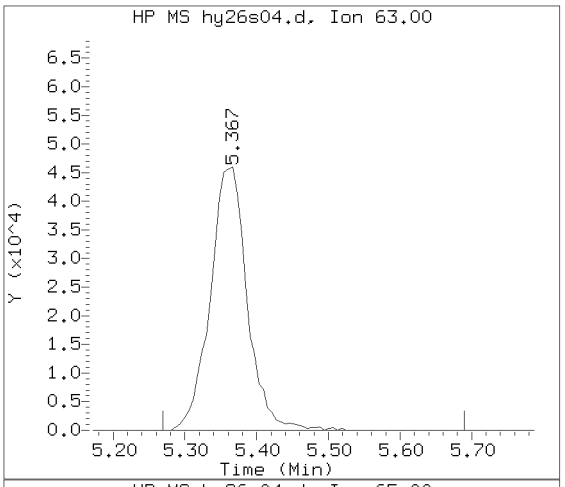
Sample Name: R8503DL Lab Sample ID: 8999787DL

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 439
Retention Time (minutes): 4.263
Quant Ion : 65.00
Area : 42767
On-column Amount (ng) : 50.0000
Integration start scan : 421 Integration stop scan: 478
Y at integration start : 0 Y at integration end: 0

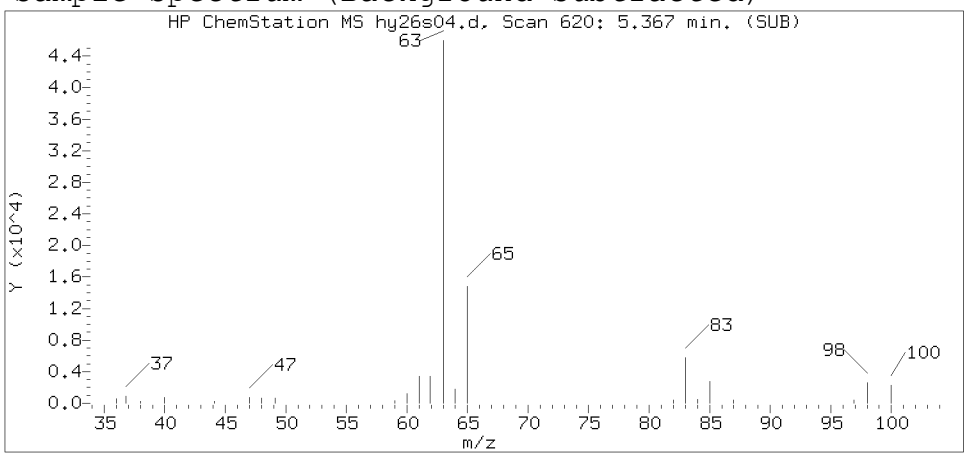
Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:49.
Target 3.5 esignature used. Reason: I am the author of this document

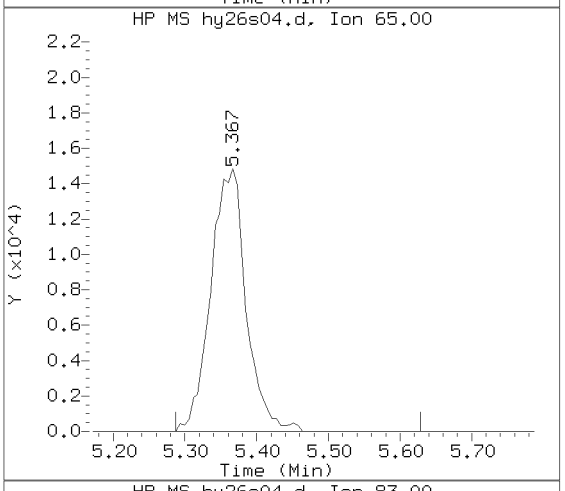
Reference Standard Spectrum for 1,1-Dichloroethane



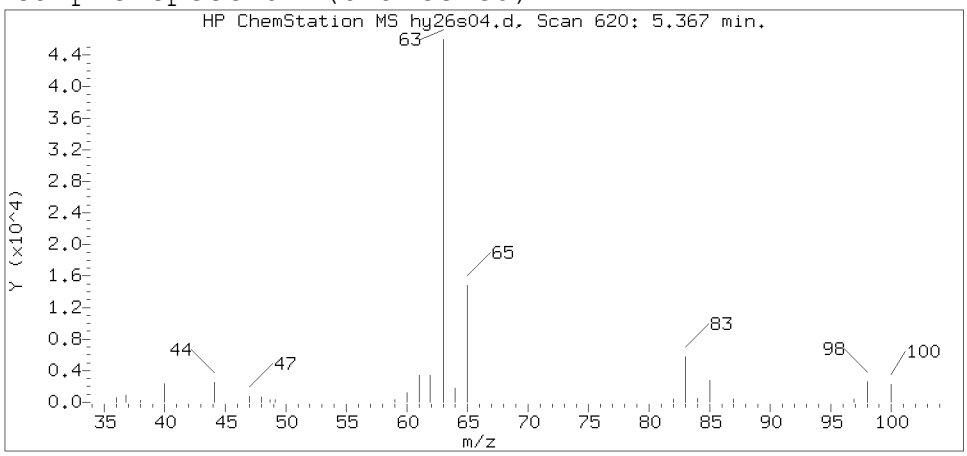


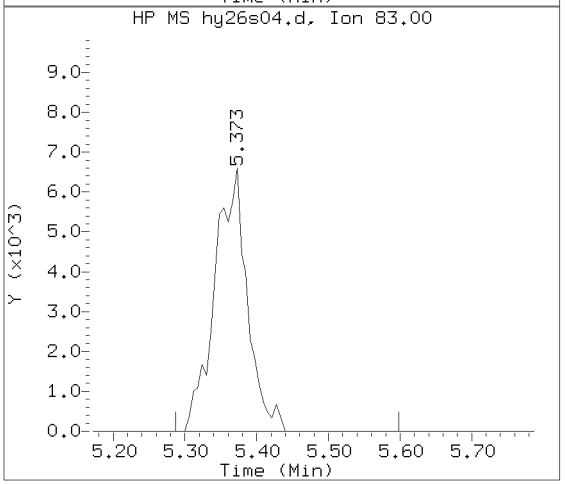
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may26a.b/hy26s04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 16:21 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 14:48 kel01973

Sample Name: R8503DL Lab Sample ID: 8999787DL

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 620
Retention Time (minutes): 5.367
Relative Retention Time :-0.00157
Quant Ion : 63.00
Area (flag) : 165001
On-Column Amount (ng) : 1.3842

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 14:49.
Target 3.5 esignature user ID: kel01973

R8504 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999788

Data file: /chem/HP09915.i/17may23a.b/ly23s11.d Injection date and time: **23-MAY-2017 13:49**
Data file Sample Info. Line: R8504;8999788;1;0;;RAE85;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 16:21 kk10002

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **16342**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.575	(0.000)	651	65	206469	(-13)	250.00	
66) Fluorobenzene	7.047	(0.000)	1731	96	1092997	(-7)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	830234	(-8)	50.00	
131) 1,4-Dichlorobenzene-d4	12.638	(0.000)	3470	152	434763	(-10)	50.00	

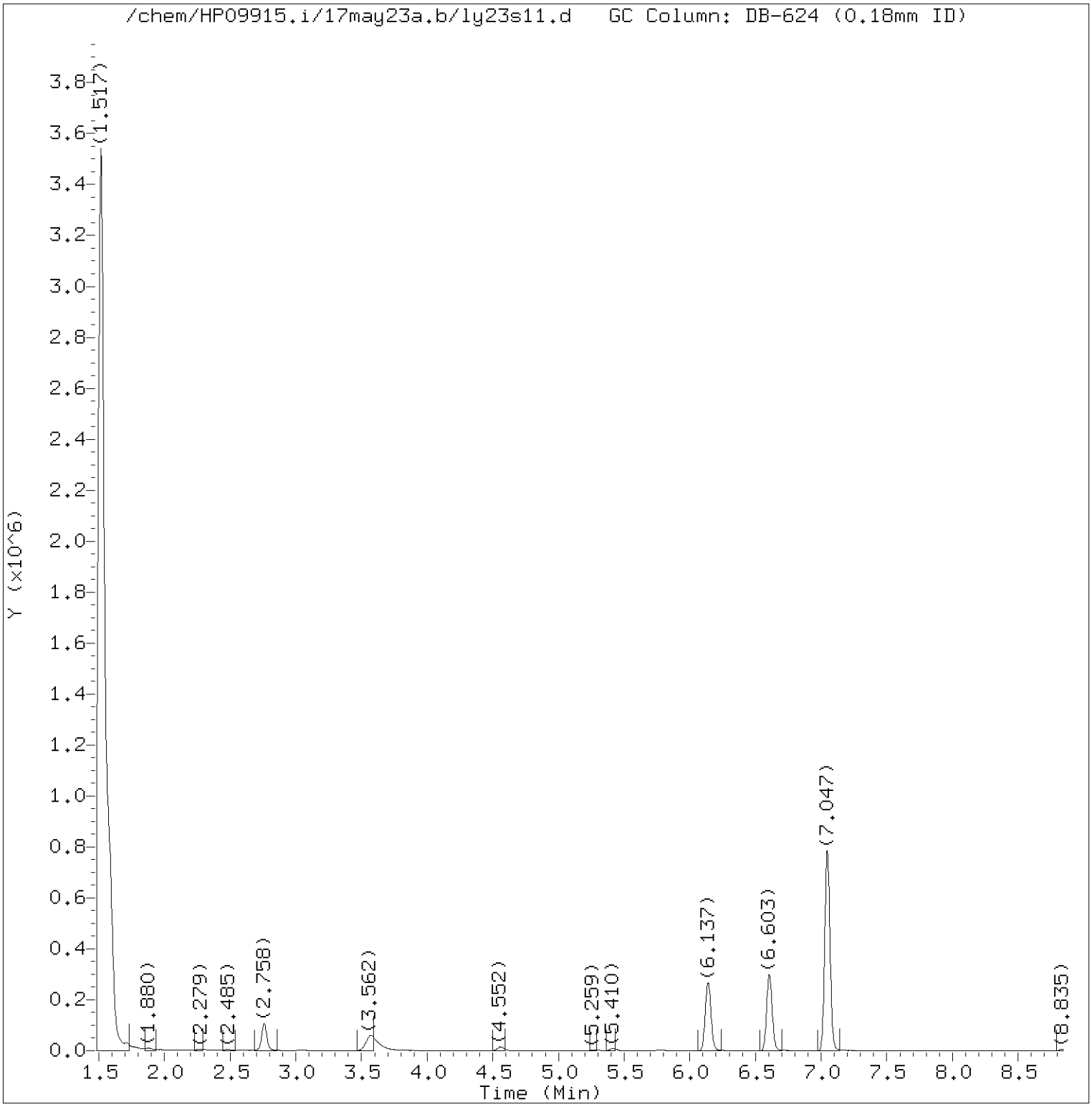
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.144	(0.000)	113	262449	49.172	98%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.607	(0.000)	102	65933	49.678	99%		77 - 113
83) Toluene-d8	(3)	9.137	(0.000)	98	1049508	49.509	99%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.751	(0.000)	95	385424	48.916	98%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
21) 2-Propanol	(1)				Not Detected					50	100

Total number of targets = 1

Digitally signed by Kevin Kelly on 05/23/2017 at 16:22. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:38. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

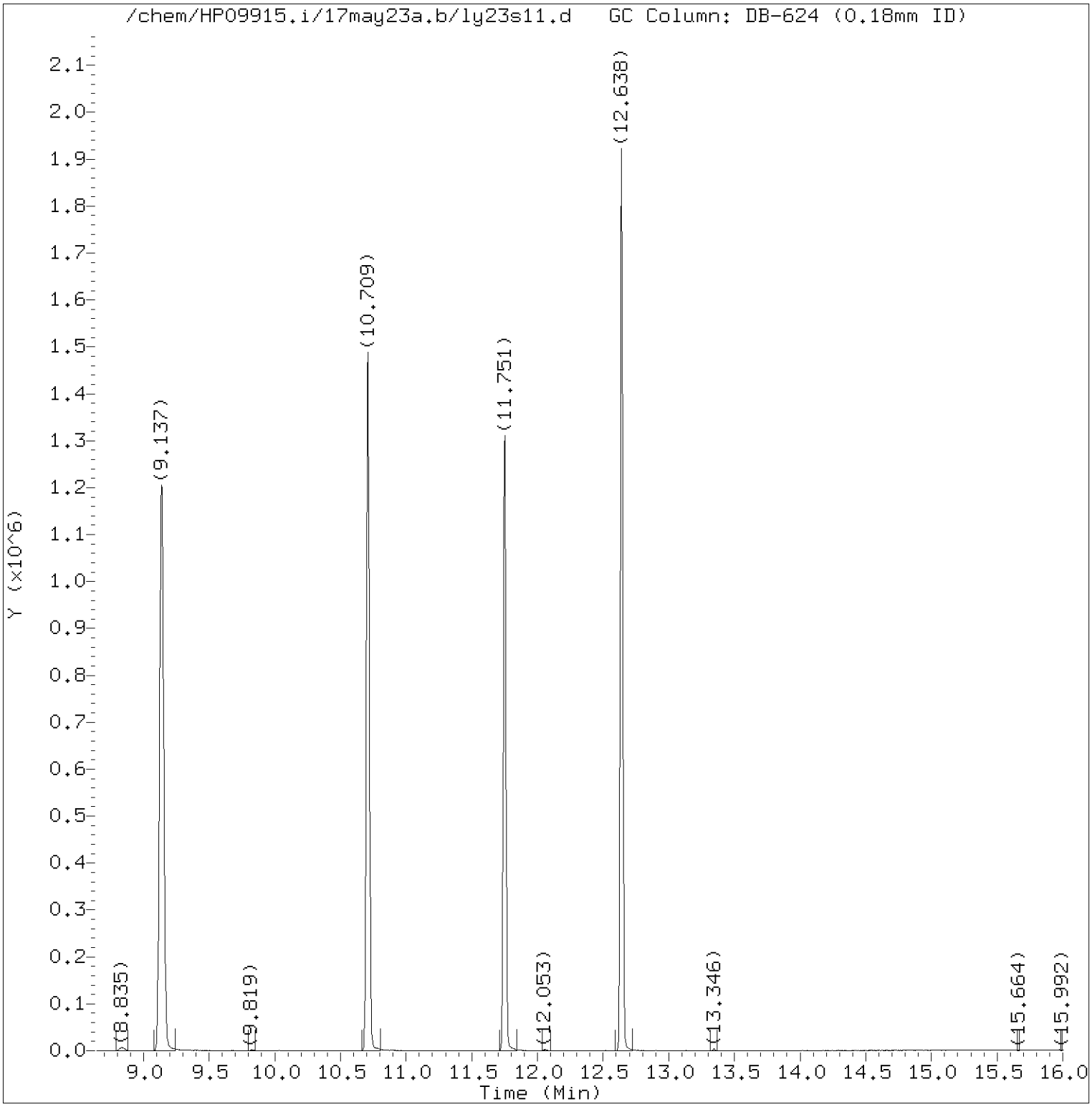
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s11.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:49 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:21 kk10002

Sample Name: R8504 Lab Sample ID: 8999788

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s11.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:49 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:21 kk10002

Sample Name: R8504 Lab Sample ID: 8999788

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s11.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 13:49 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:21 kk10002

Sample Name: R8504 Lab Sample ID: 8999788

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	3.575	65	206469	250.000
52)$Dibromofluoromethane	(2)	6.144	113	262449	49.172
57)$1,2-Dichloroethane-d4	(2)	6.607	102	65933	49.678
66)*Fluorobenzene	(2)	7.047	96	1092997	50.000
83)$Toluene-d8	(3)	9.137	98	1049508	49.509
100)*Chlorobenzene-d5	(3)	10.709	117	830234	50.000
114)$4-Bromofluorobenzene	(3)	11.751	95	385424	48.916
131)*1,4-Dichlorobenzene-d4	(4)	12.638	152	434763	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002

Data file: /chem2/HP19094.i/17may25b.b/hy25s05.d Injection date and time: **25-MAY-2017 21:22**
Data file Sample Info. Line: R8504;8999788;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.012)	437	65	81344	(-7)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2424940	(-7)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1661415	(-11)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	652008	(-22)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	593083	10.910	109%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	98761	11.236	112%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2394512	9.860	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	647790	9.388	94%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.1	1
4) Dimethyl ether	(2)	2.093	(-0.000)	45	140353	1.582	1.58		J	0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
5) Vinyl Chloride	(2)				Not Detected					0.2	1
7) Bromomethane	(2)				Not Detected					0.5	1
8) Chloroethane	(2)	2.727	(0.000)	64	60763M	1.227	1.23			0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.2	1
11) Ethyl ether	(2)	3.300	(0.000)	59	1008438	25.408	25.41		E	1	13
13) Acrolein	(1)				Not Detected					5	25
15) 1,1-Dichloroethene	(2)				Not Detected					0.2	1
16) Freon 113	(2)				Not Detected					0.2	1
14) Acetone	(1)				Not Detected					3	10
17) Methyl Iodide	(2)				Not Detected					0.6	10
18) Carbon Disulfide	(2)				Not Detected					0.4	10
25) Acetonitrile	(1)				Not Detected					32	100
22) Allyl Chloride	(2)				Not Detected					0.8	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
29) Acrylonitrile	(1)				Not Detected					1	10
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)	5.354	(0.000)	63	444777	3.794	3.79			0.1	1
36) Vinyl Acetate	(2)				Not Detected					3	10
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					0.5	10
38) 2-Butanone	(1)				Not Detected					1	10
42) Propionitrile	(1)				Not Detected					10	100
45) Methacrylonitrile	(1)				Not Detected					10	100
48) Tetrahydrofuran	(1)				Not Detected					2	25
49) Chloroform	(2)				Not Detected					0.1	1
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.2	1
56) Isobutyl Alcohol	(1)				Not Detected					10	200

M = Compound was manually integrated. E = Compound concentration above calibration range.

Digitally signed by Don V. Viray on 05/30/2017 at 22:11. Target 3.5 esignature user ID: dvv10203

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s05.d Injection date and time: **25-MAY-2017 21:22**
Data file Sample Info. Line: R8504;8999788;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

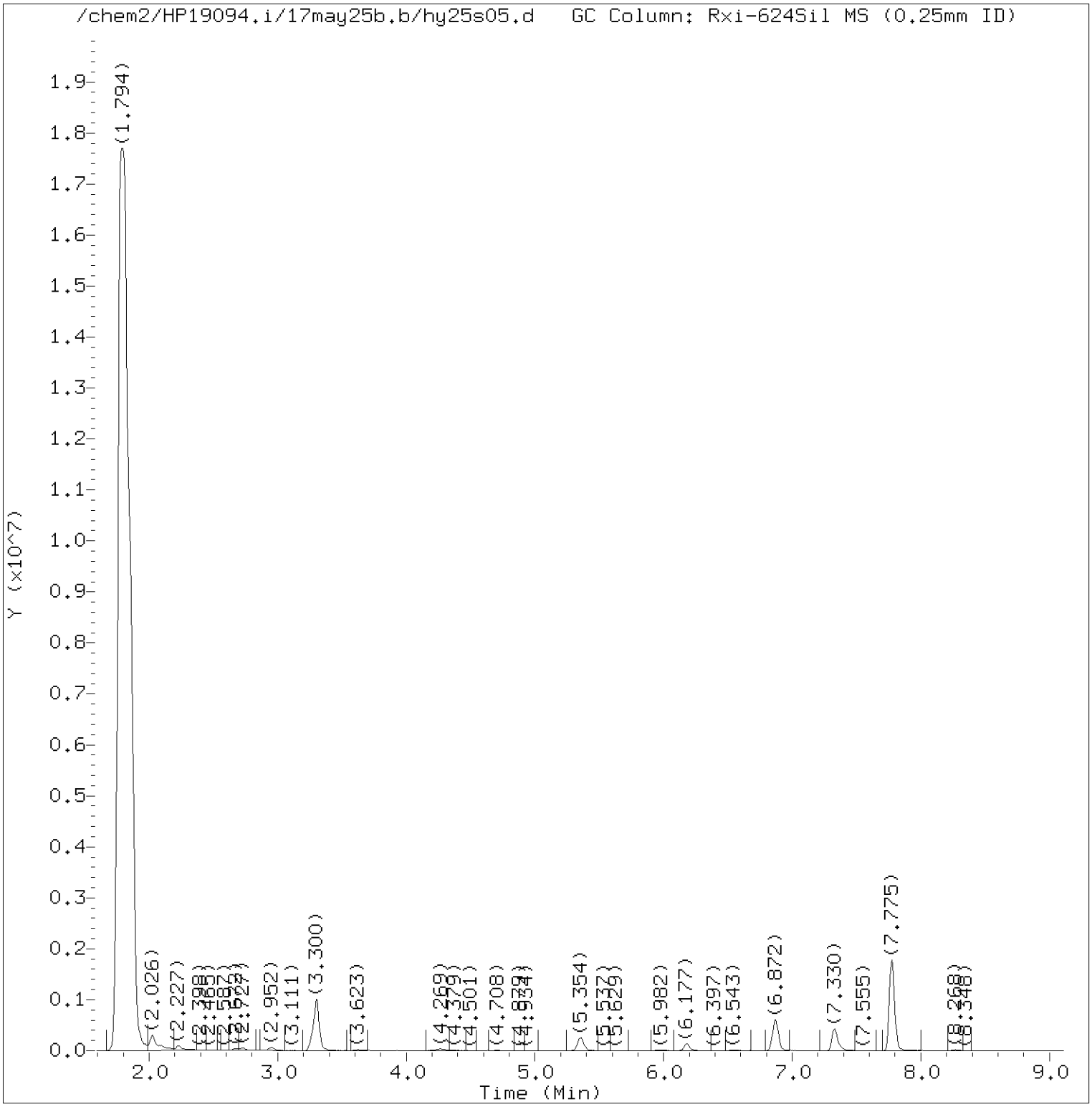
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
58) Benzene	(2)	7.384(-0.001)	78	46909	0.185	0.18		J	0.1	1
59) 1,2-Dichloroethane	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.2	1
70) 1,2-Dichloropropane	(2)			Not Detected					0.1	1
71) Methyl Methacrylate	(1)			Not Detected					4	10
73) Dibromomethane	(2)			Not Detected					0.1	1
72) 1,4-Dioxane	(1)			Not Detected					45	200
74) Bromodichloromethane	(2)			Not Detected					0.1	1
81) 4-Methyl-2-Pentanone	(1)			Not Detected					1	10
83) Toluene	(3)			Not Detected					0.1	1
84) trans-1,3-Dichloropropene	(3)			Not Detected					0.1	1
86) Ethyl Methacrylate	(3)			Not Detected					0.8	10
88) 1,1,2-Trichloroethane	(3)			Not Detected					0.1	1
89) Tetrachloroethene	(3)	10.420(0.000)	166	11816	0.159	0.16		J	0.1	1
90) 1,3-Dichloropropane	(3)			Not Detected					0.1	1
91) 2-Hexanone	(1)			Not Detected					1	10
93) Dibromochloromethane	(3)			Not Detected					0.1	1
95) 1,2-Dibromoethane	(3)			Not Detected					0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)			Not Detected					0.1	1
100) Ethylbenzene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.2	3
106) Styrene	(3)			Not Detected					0.1	1
107) Bromoform	(3)			Not Detected					0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.2	1
115) trans-1,4-Dichloro-2-butene	(1)			Not Detected					1	10
116) 1,2,3-Trichloropropane	(4)			Not Detected					0.3	1
126) Pentachloroethane	(4)			Not Detected					0.8	10
131) 1,3-Dichlorobenzene	(4)			Not Detected					0.1	1
134) 1,4-Dichlorobenzene	(4)			Not Detected					0.1	1
139) 1,2-Dichlorobenzene	(4)			Not Detected					0.1	1
142) Hexachloroethane	(4)			Not Detected					0.1	10
143) 1,2-Dibromo-3-chloropropane	(1)			Not Detected					0.2	1
145) 1,2,4-Trichlorobenzene	(4)			Not Detected					0.1	1
146) Hexachlorobutadiene	(4)			Not Detected					0.1	1
147) Naphthalene	(4)			Not Detected					0.1	1

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:11. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

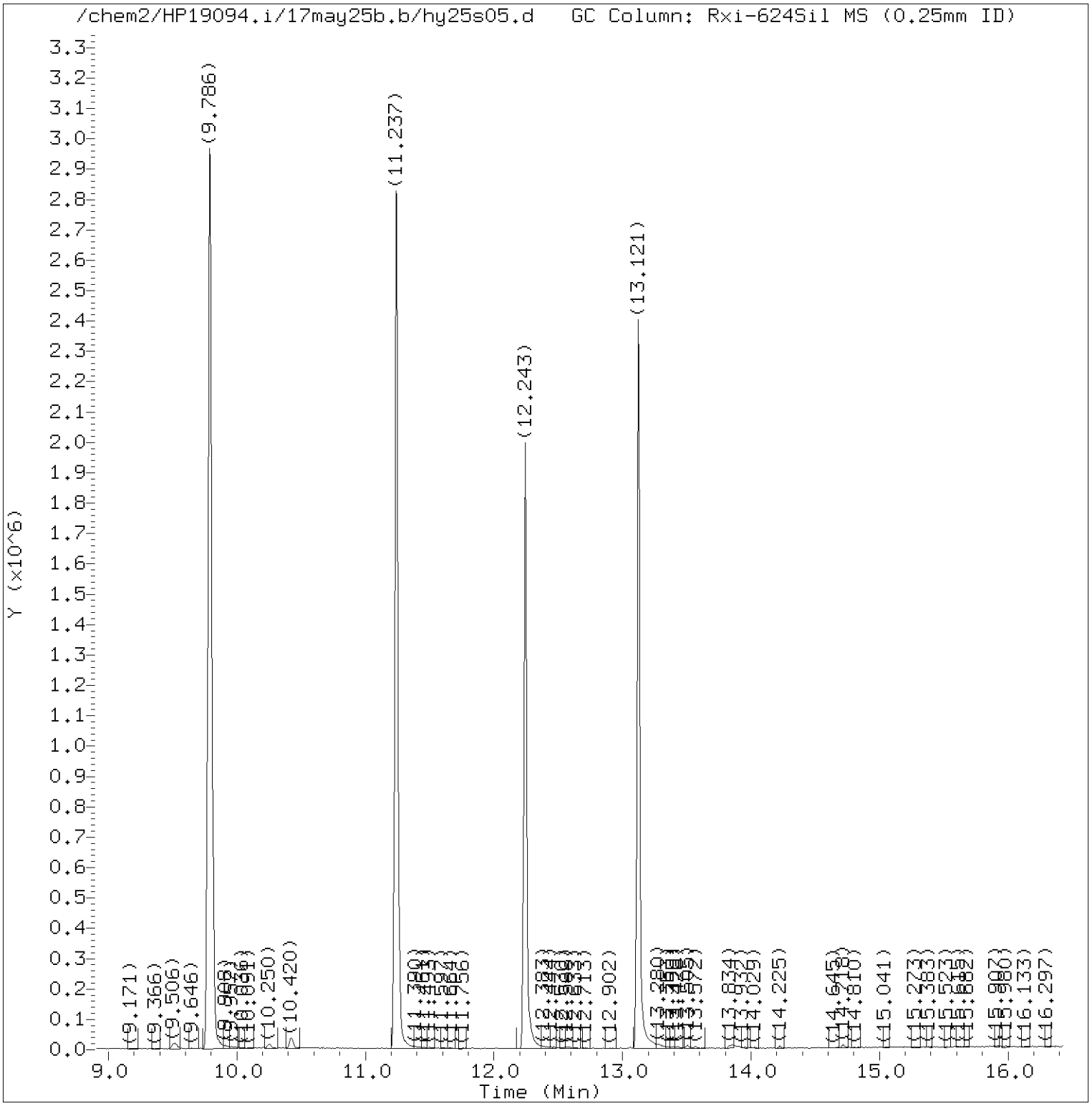
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8504 Lab Sample ID: 8999788

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8504 Lab Sample ID: 8999788

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

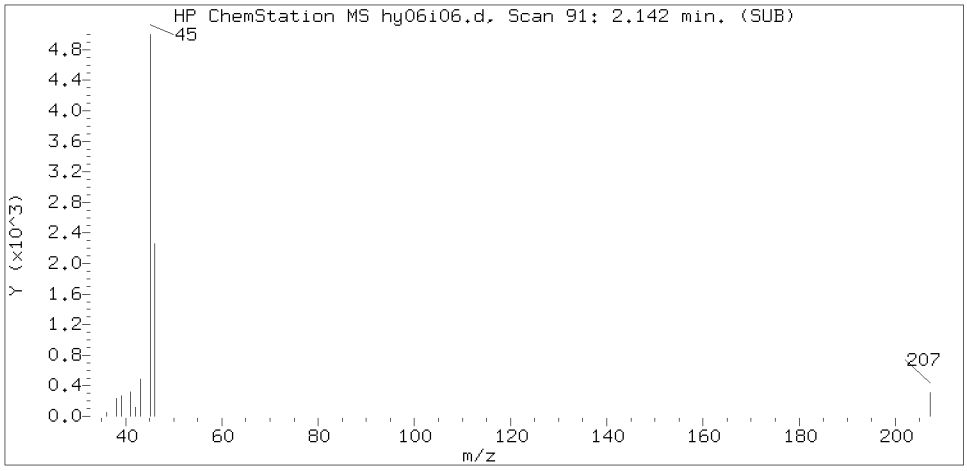
Sample Name: R8504 Lab Sample ID: 8999788

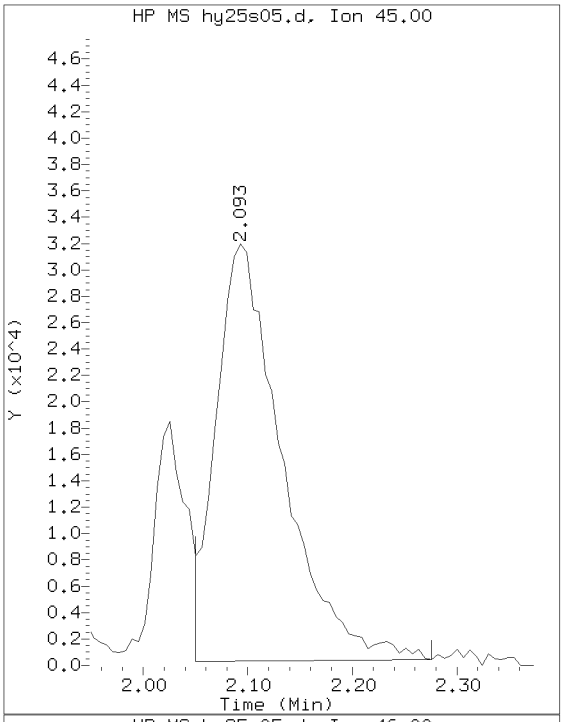
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	140353	1.582
8) Chloroethane	(2)	2.727	64	60763M	1.227
11) Ethyl ether	(2)	3.300	59	1008438	25.408
26)*t-Butyl Alcohol-d10	(1)	4.251	65	81344	50.000
33) 1,1-Dichloroethane	(2)	5.354	63	444777	3.794
50)$Dibromofluoromethane	(2)	6.866	113	593083	10.910
57)$1,2-Dichloroethane-d4	(2)	7.330	102	98761	11.236
58) Benzene	(2)	7.384	78	46909	0.185
63)*Fluorobenzene	(2)	7.775	96	2424940	10.000
82)$Toluene-d8	(3)	9.793	98	2394512	9.860
89) Tetrachloroethene	(3)	10.420	166	11816	0.159
97)*Chlorobenzene-d5	(3)	11.243	117	1661415	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	647790	9.388
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	652008	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

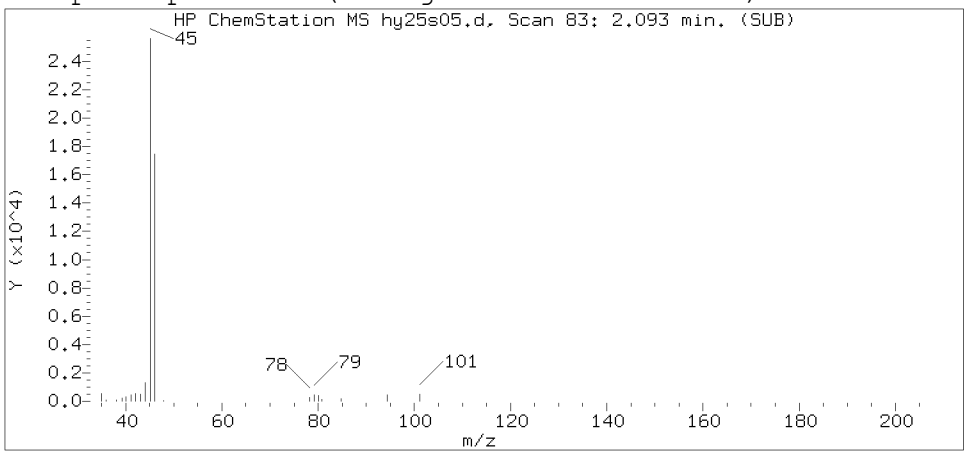
Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

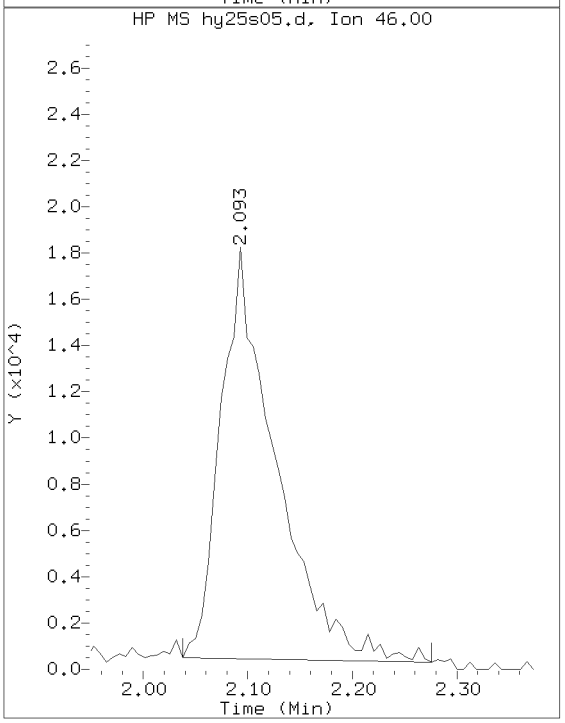
Reference Standard Spectrum for Dimethyl ether



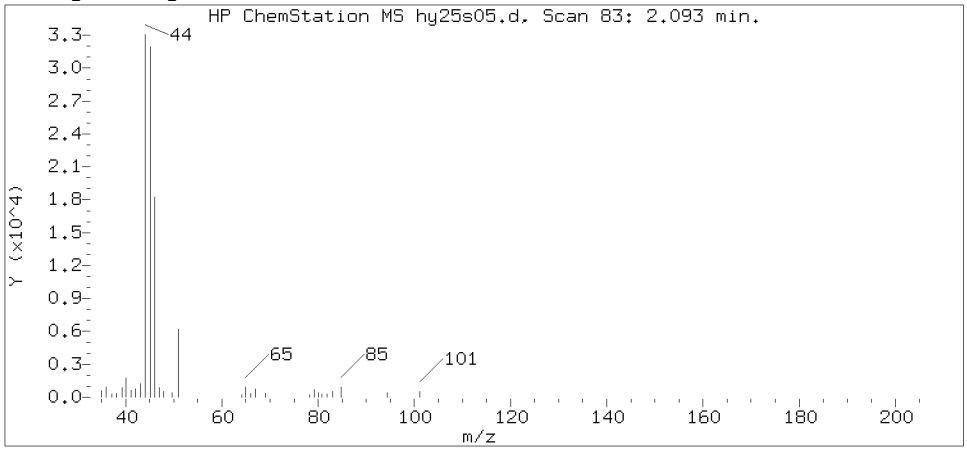


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

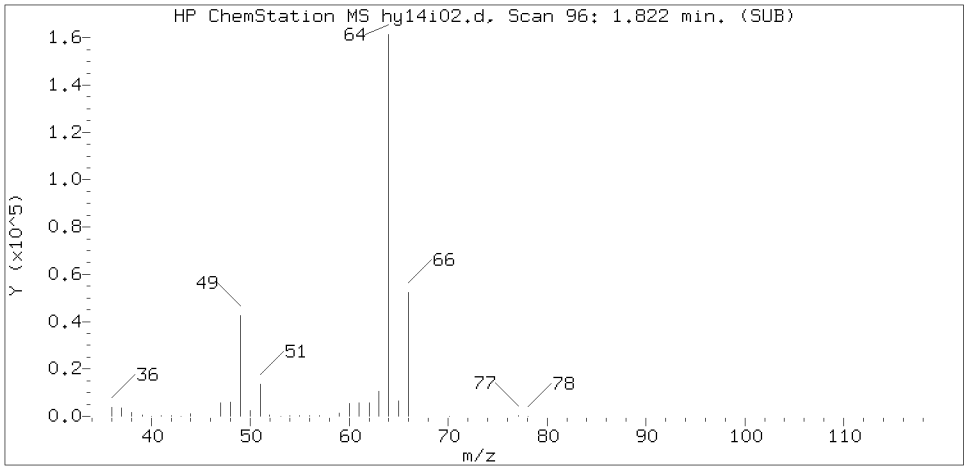
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

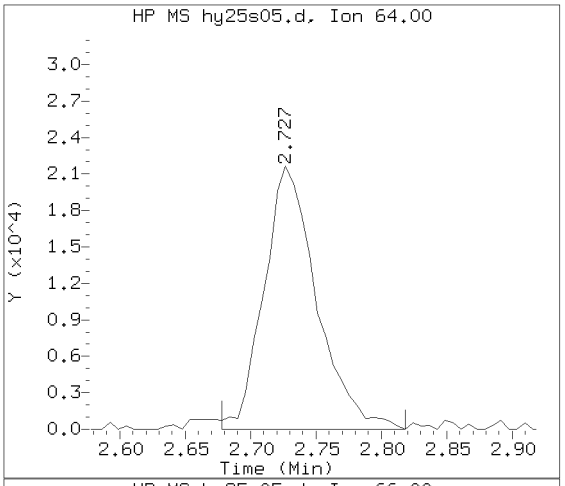
Sample Name: R8504 Lab Sample ID: 8999788

Compound Number	: 4
Compound Name	: Dimethyl ether
Scan Number	: 83
Retention Time (minutes)	: 2.093
Relative Retention Time	:-0.00021
Quant Ion	: 45.00
Area (flag)	: 140353
On-Column Amount (ng)	: 1.5818

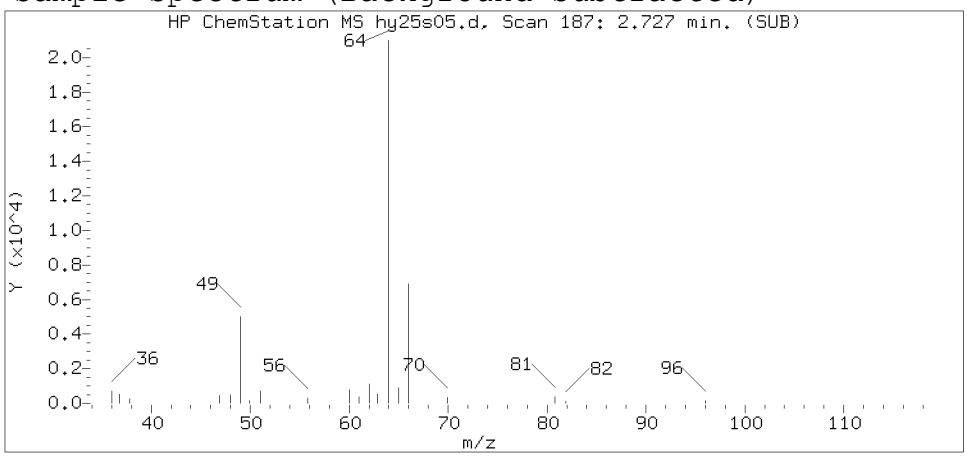
Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

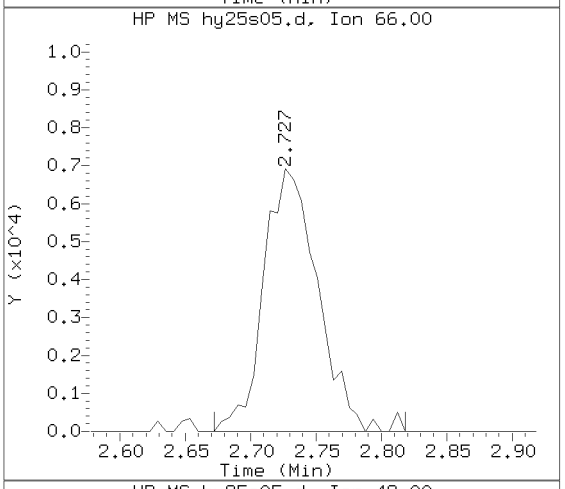
Reference Standard Spectrum for Chloroethane



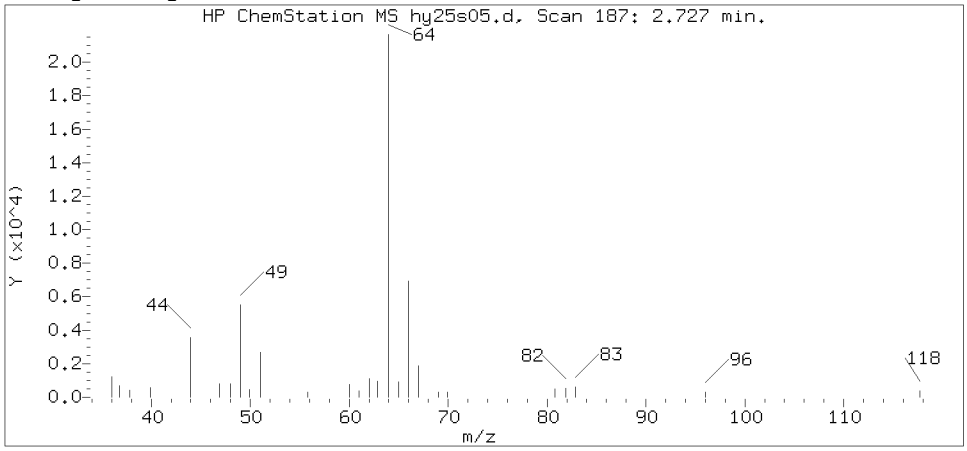


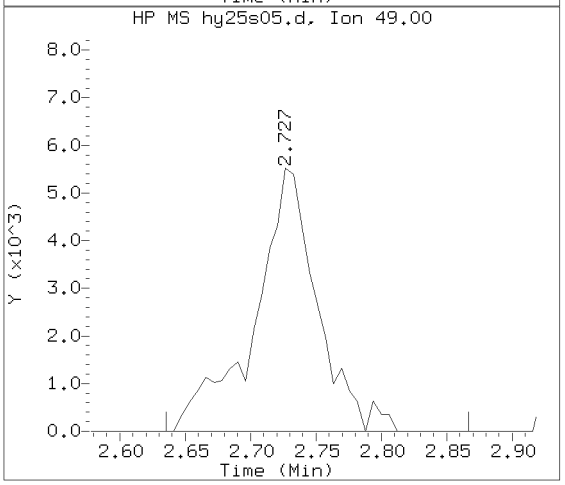
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

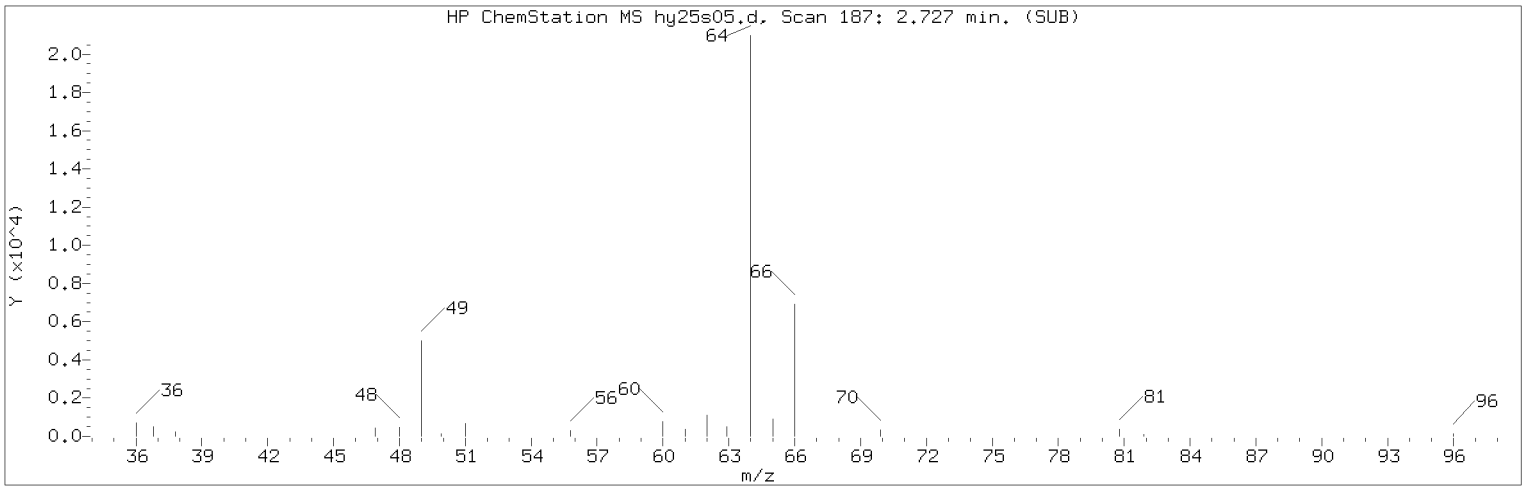
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8504 Lab Sample ID: 8999788

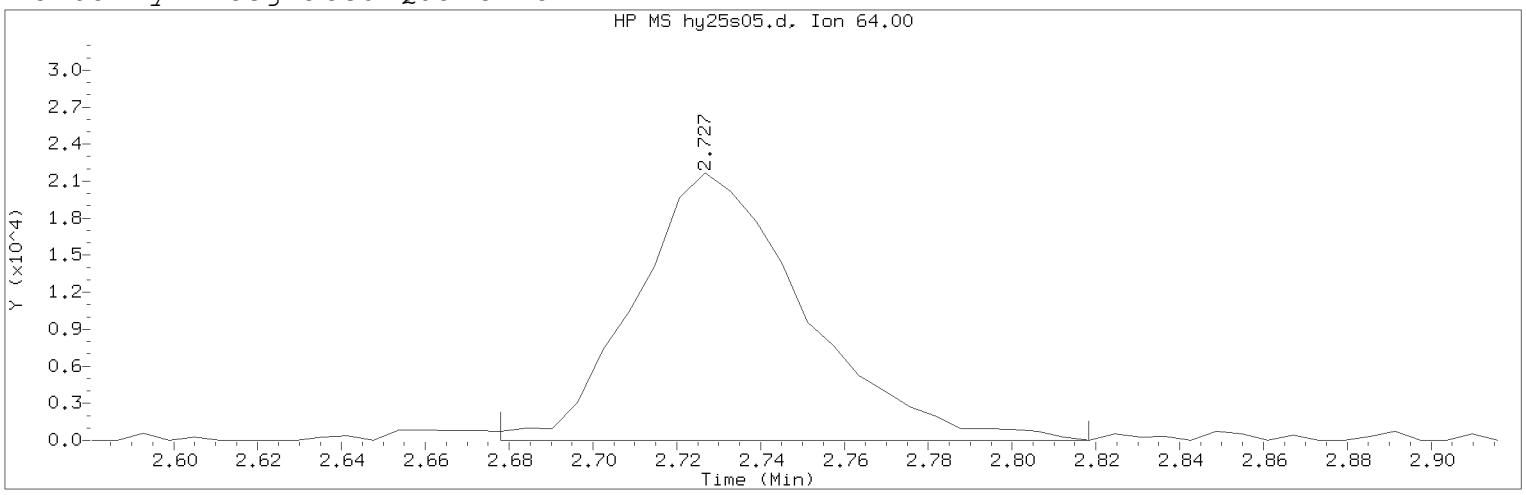
Compound Number	: 8
Compound Name	: Chloroethane
Scan Number	: 187
Retention Time (minutes)	: 2.727
Relative Retention Time	: 0.00052
Quant Ion	: 64.00
Area (flag)	: 60763M
On-Column Amount (ng)	: 1.2269

Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature user IDs: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8504 Lab Sample ID: 8999788

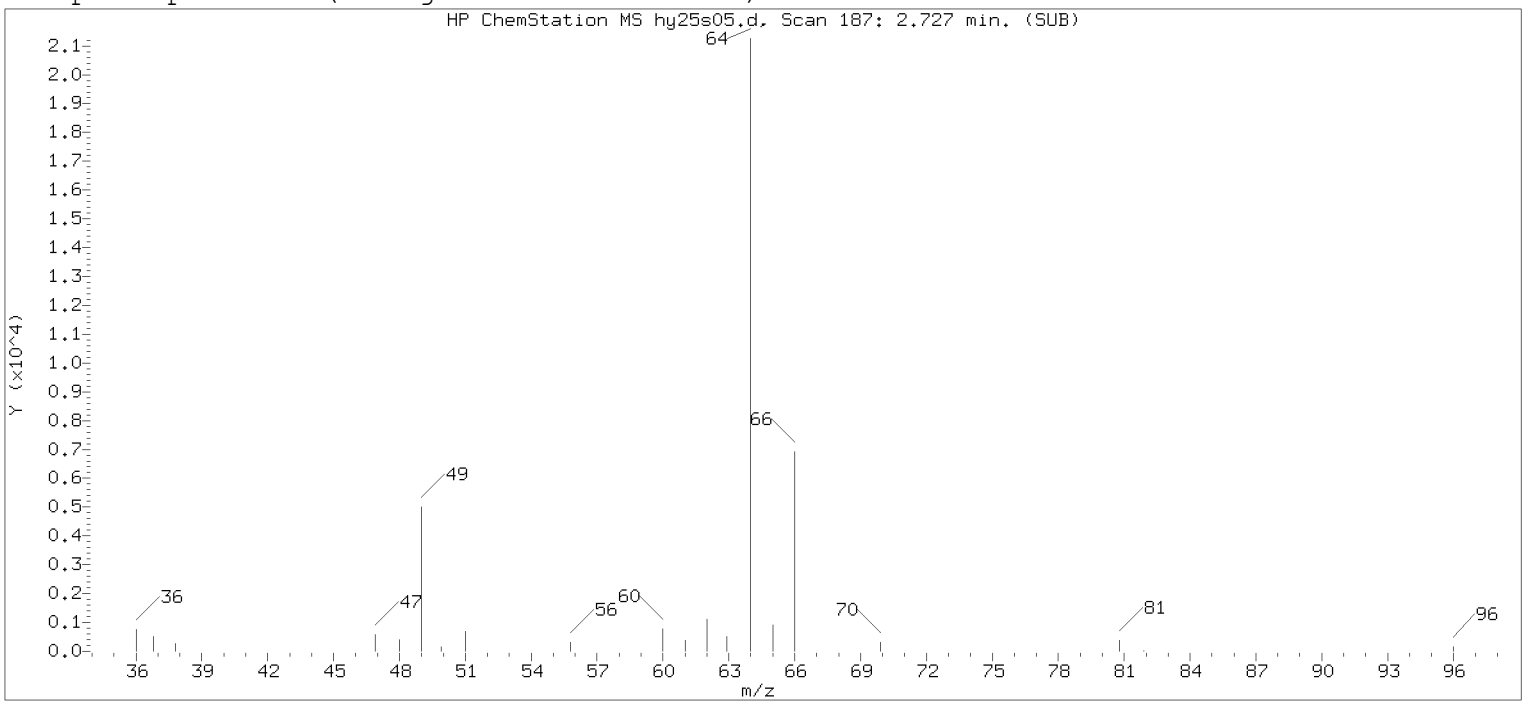
Compound Number : 8
Compound Name : Chloroethane
Scan Number : 187
Retention Time (minutes): 2.727
Quant Ion : 64.00
Area (flag) : 60763M
On-Column Amount (ng) : 1.2269
Integration start scan : 178 Integration stop scan: 201
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

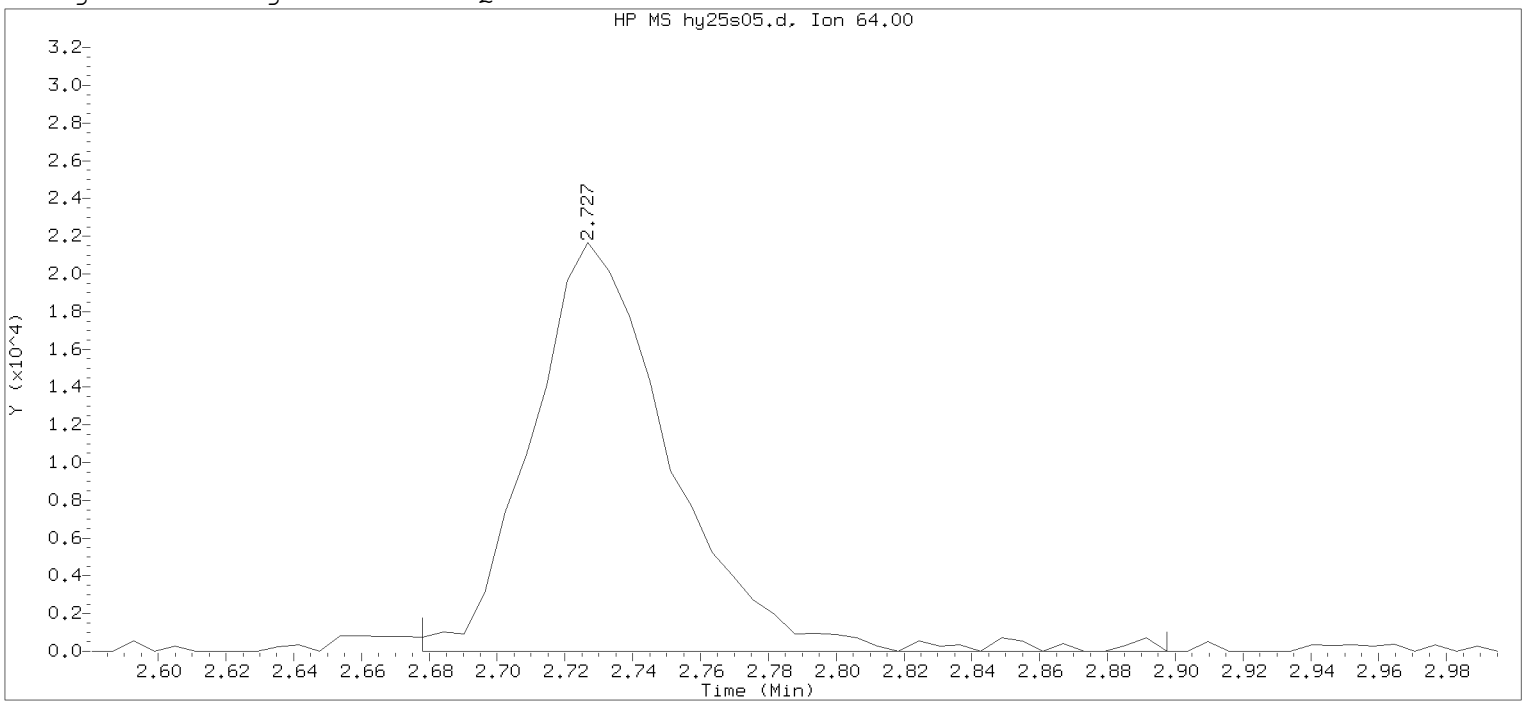
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

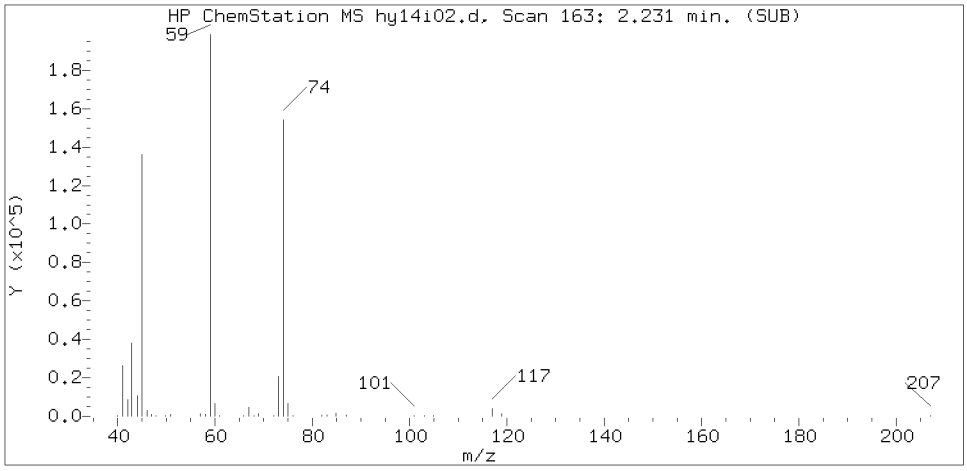
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 21:40 Automation

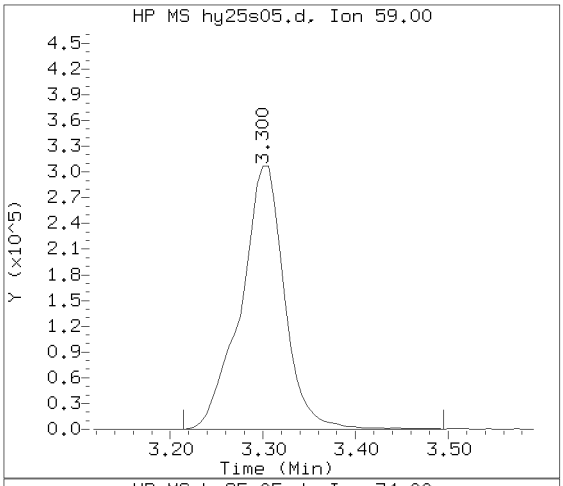
Sample Name: R8504 Lab Sample ID: 8999788

Compound Number : 8
Compound Name : Chloroethane
Scan Number : 187
Retention Time (minutes): 2.727
Quant Ion : 64.00
Area : 62035
On-column Amount (ng) : 1.2526
Integration start scan : 178 Integration stop scan: 214
Y at integration start : 0 Y at integration end: 0

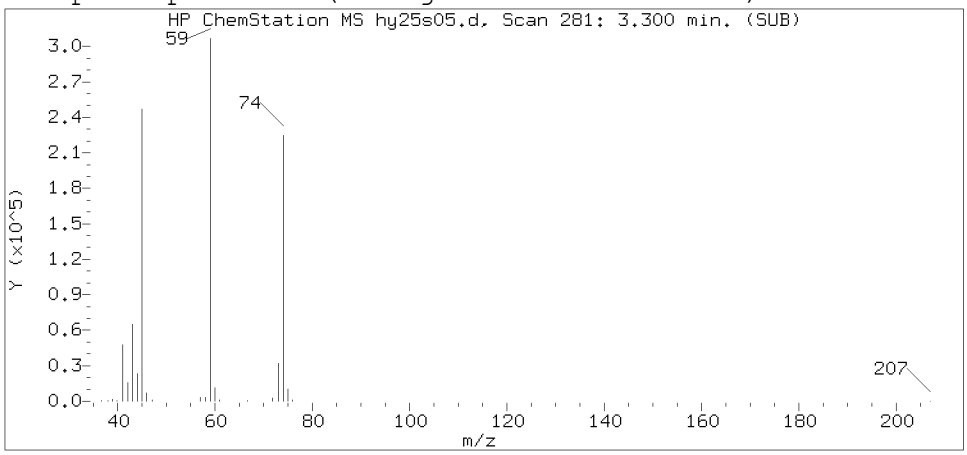
Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature used on 05/30/2017

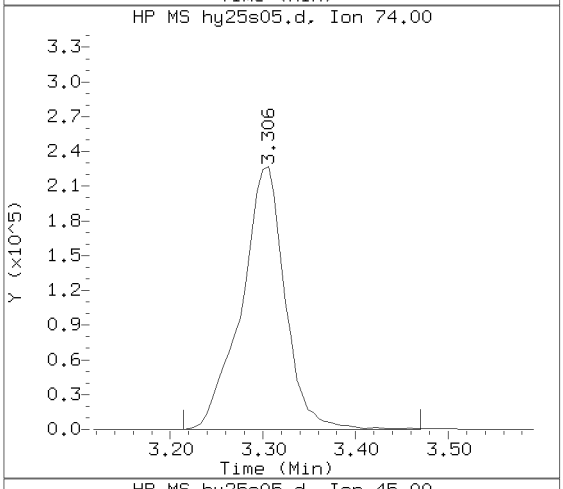
Reference Standard Spectrum for Ethyl ether



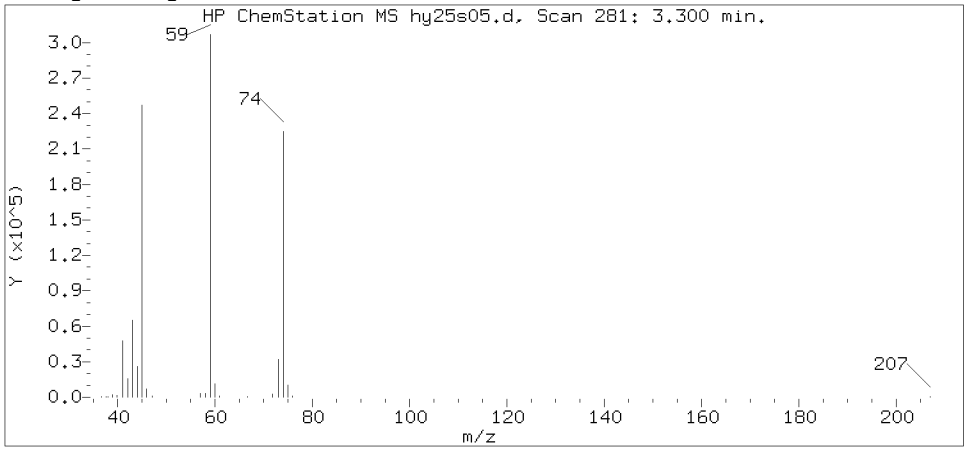


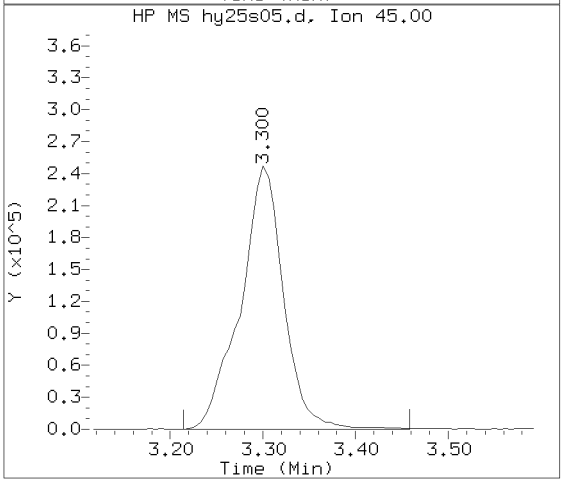
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

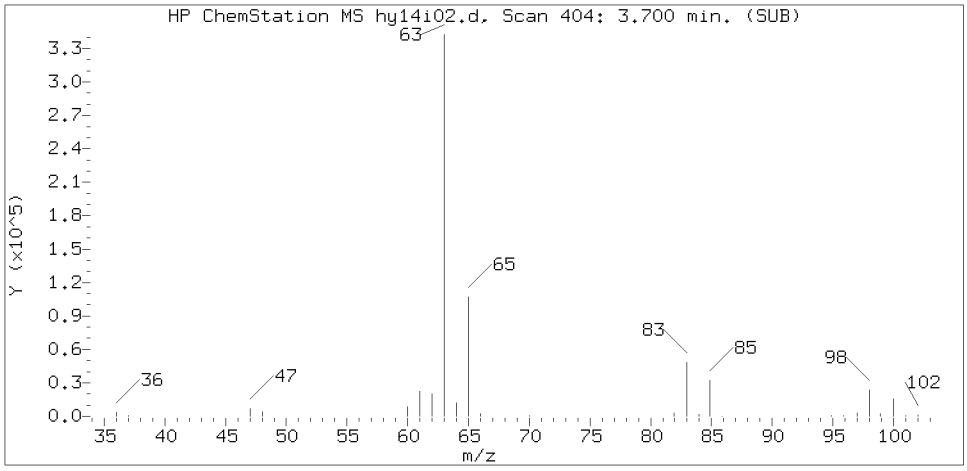
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

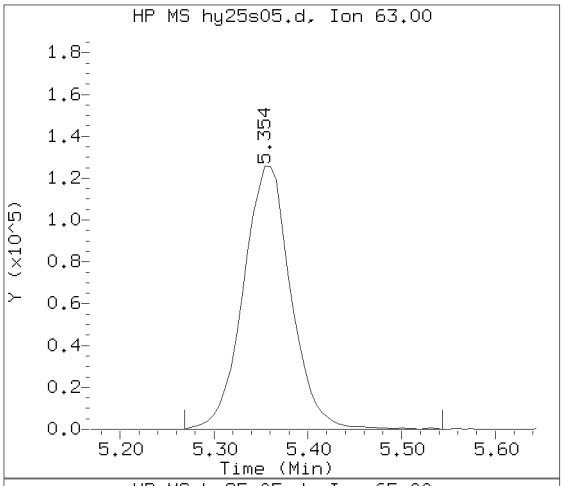
Sample Name: R8504 Lab Sample ID: 8999788

Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Relative Retention Time : 0.00046
Quant Ion : 59.00
Area (flag) : 1008438
On-Column Amount (ng) : 25.4079

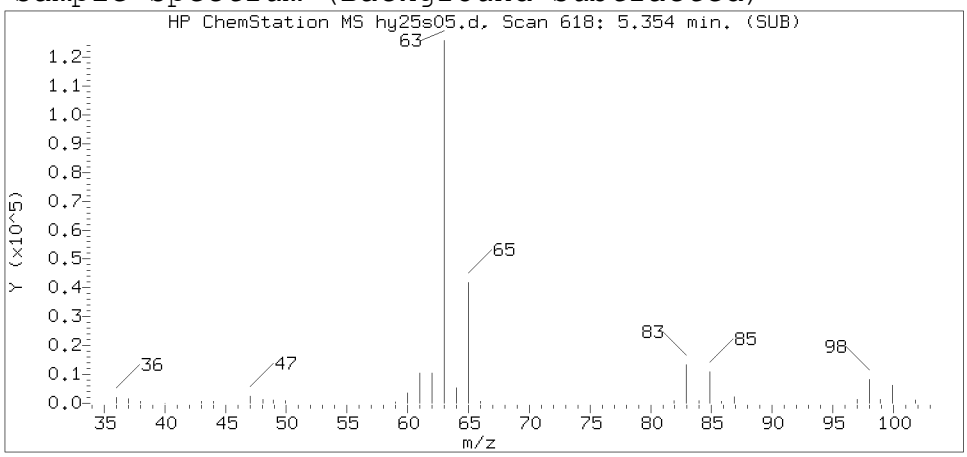
Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature user IDs: dvv10203

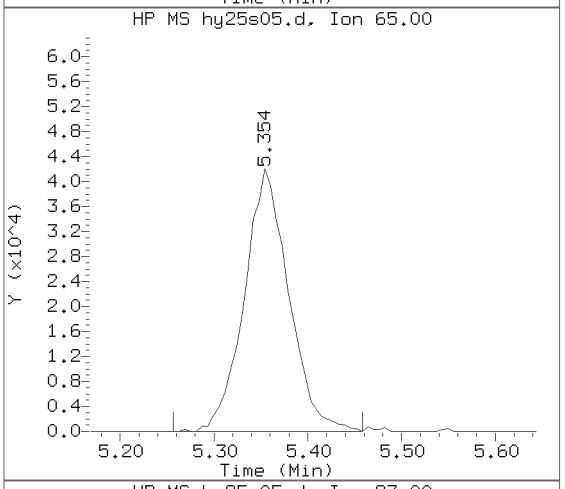
Reference Standard Spectrum for 1,1-Dichloroethane



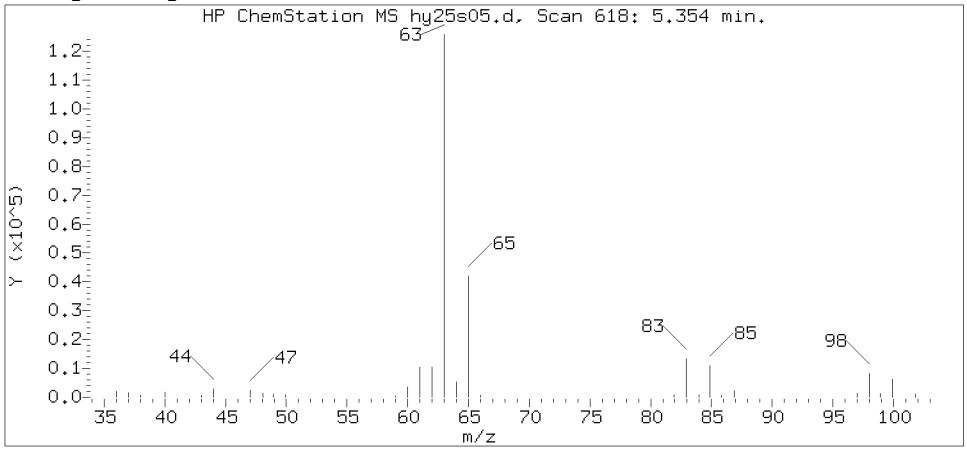


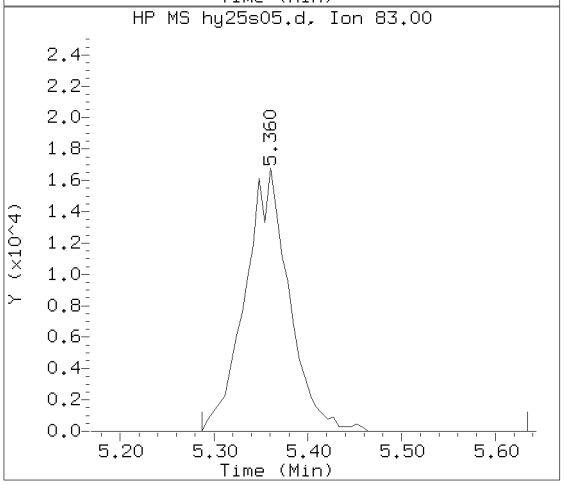
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

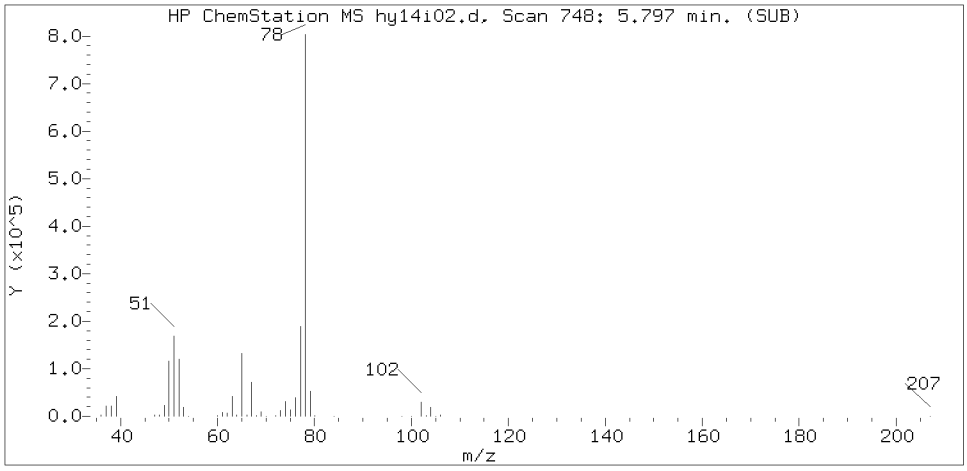
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8504 Lab Sample ID: 8999788

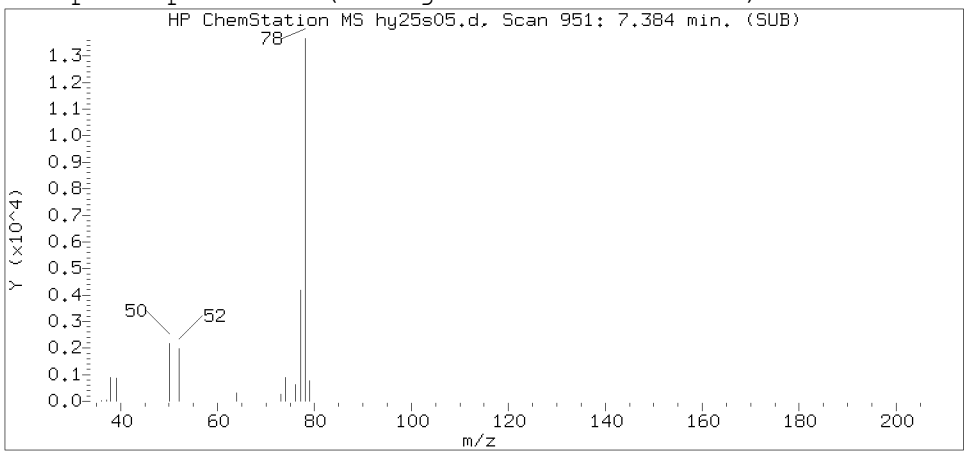
Compound Number	: 33
Compound Name	: 1,1-Dichloroethane
Scan Number	: 618
Retention Time (minutes)	: 5.354
Relative Retention Time	: 0.00025
Quant Ion	: 63.00
Area (flag)	: 444777
On-Column Amount (ng)	: 3.7939

Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature user IDs: dvv10203

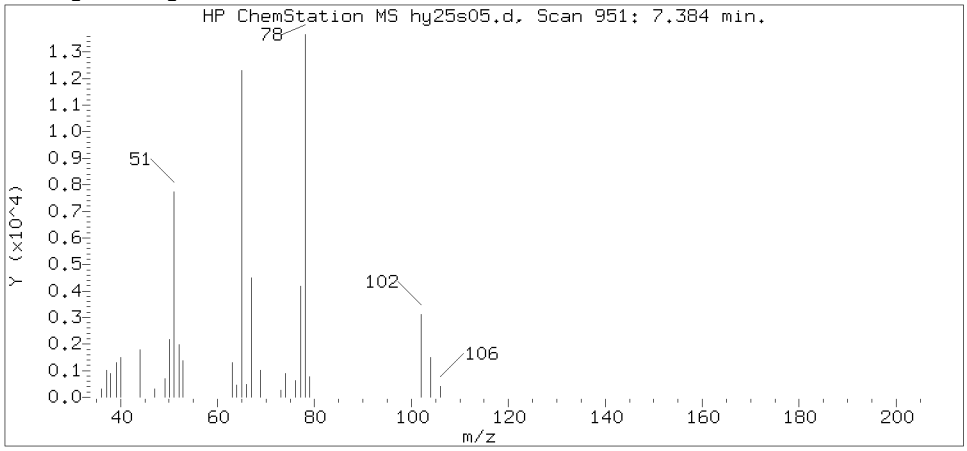
Reference Standard Spectrum for Benzene

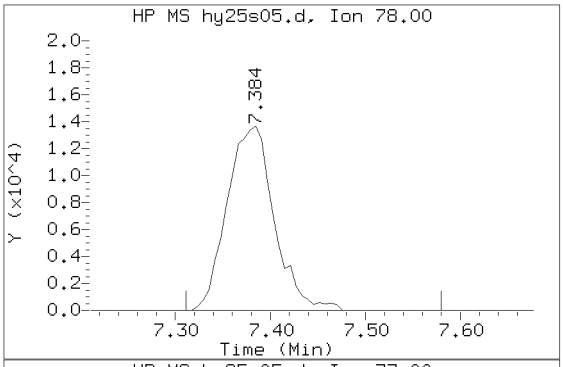


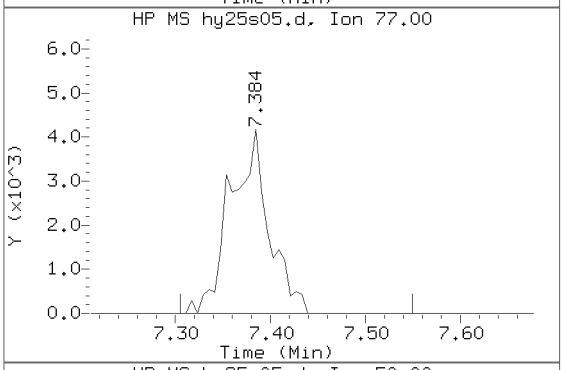
Sample Spectrum (Background Subtracted)

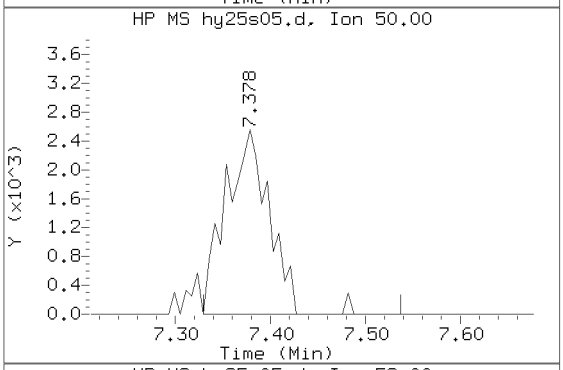


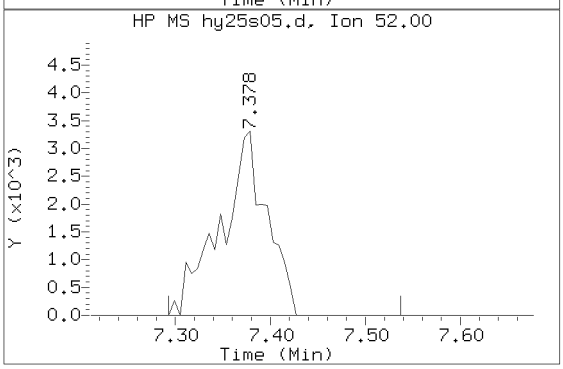
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

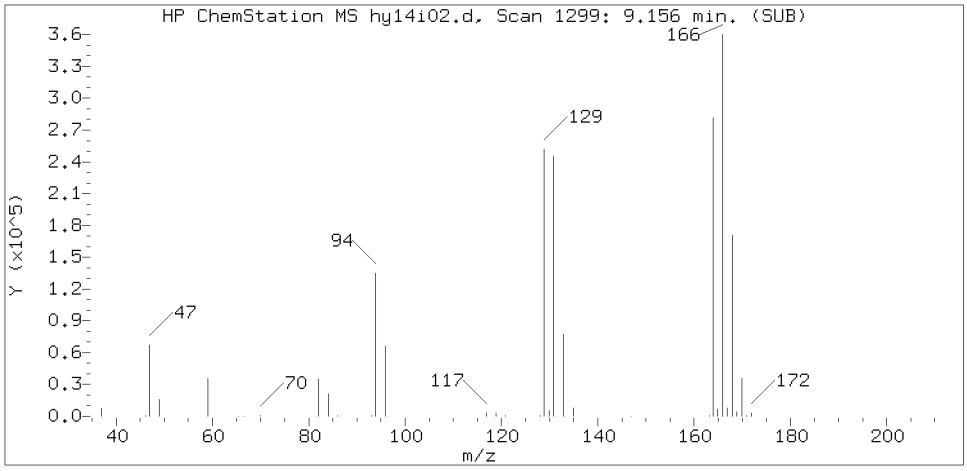
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

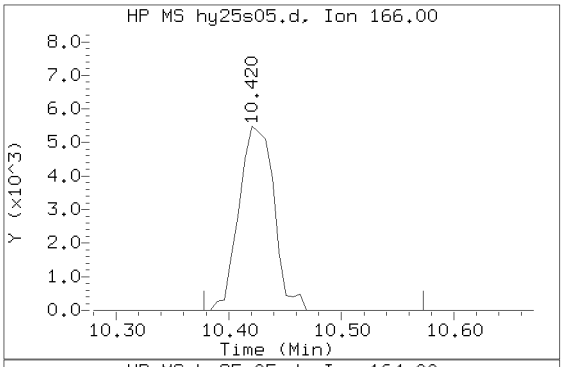
Sample Name: R8504 Lab Sample ID: 8999788

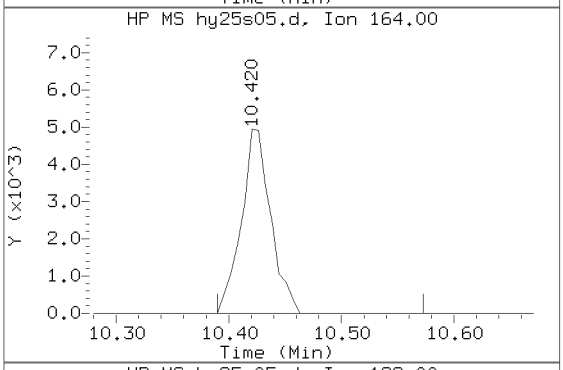
Compound Number	: 58
Compound Name	: Benzene
Scan Number	: 951
Retention Time (minutes)	: 7.384
Relative Retention Time	:-0.00153
Quant Ion	: 78.00
Area (flag)	: 46909
On-Column Amount (ng)	: 0.1846

Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature user IDs: dvv10203

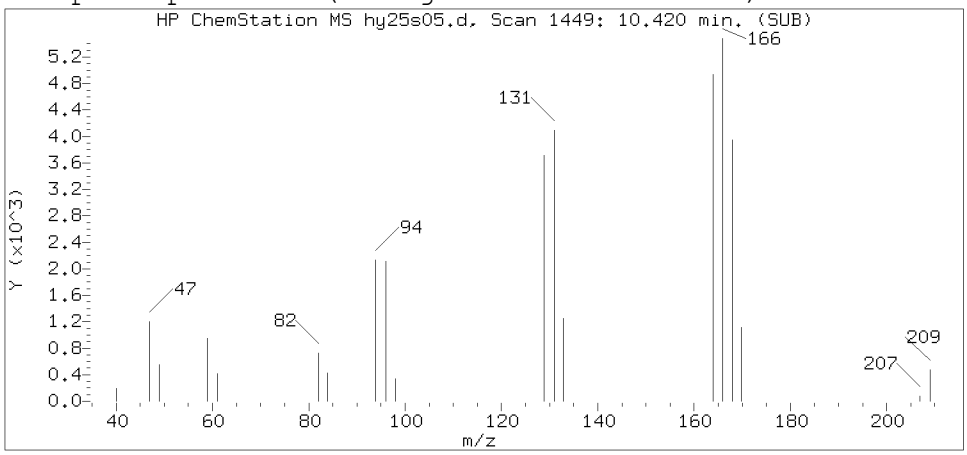
Reference Standard Spectrum for Tetrachloroethene

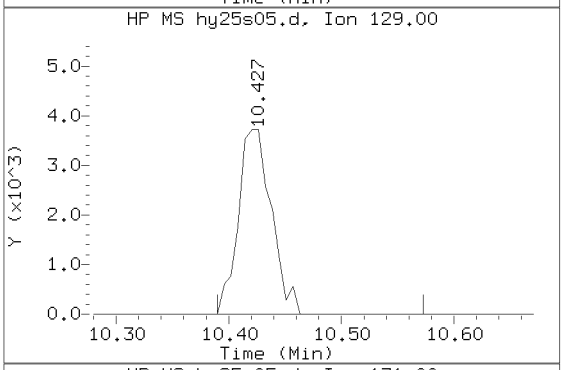




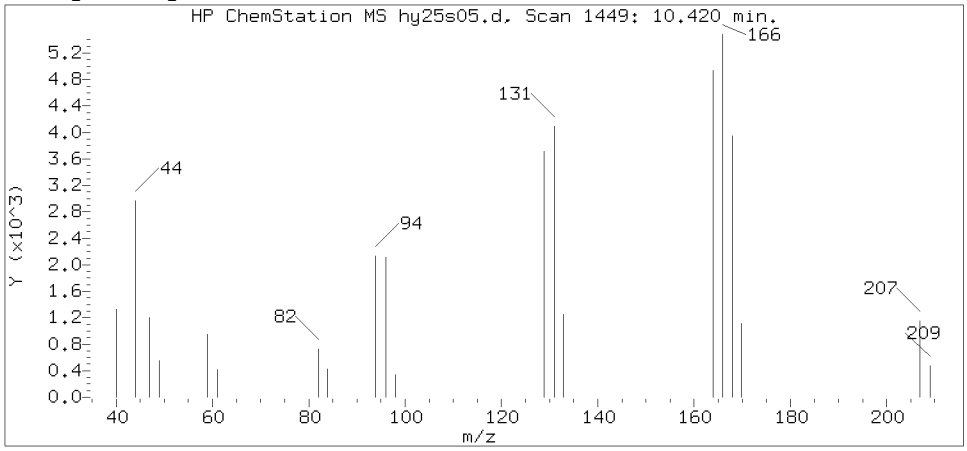


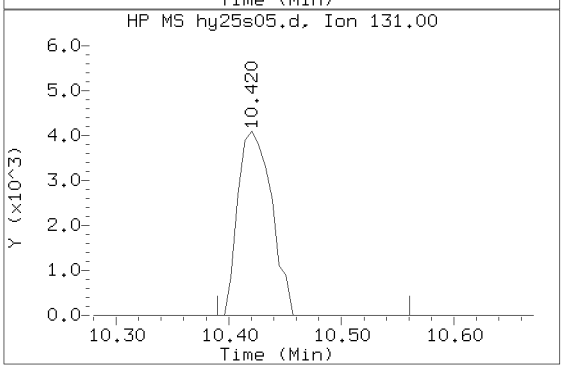
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:22 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8504 Lab Sample ID: 8999788

Compound Number	: 89
Compound Name	: Tetrachloroethene
Scan Number	: 1449
Retention Time (minutes)	: 10.420
Relative Retention Time	: 0.00000
Quant Ion	: 166.00
Area (flag)	: 11816
On-Column Amount (ng)	: 0.1588

Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature user IDs: dvv10203

R8504DL

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8999788DL

Data file: /chem2/HP19094.i/17may25b.b/hy25s15.d Injection date and time: **25-MAY-2017 23:03**
Data file Sample Info. Line: R8504DL;8999788DL;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **10.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 2.5 ml

Analysis Comments:9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257	(0.006)	438	65	81685M	(-7)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2443867	(-7)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1637284	(-12)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	610076	(-27)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	580580	10.598	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	92143	10.402	104%		74 - 113
82) Toluene-d8	(3)	9.792	(0.000)	98	2403871	10.044	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	620832	9.130	91%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)				Not Detected					1	10
4) Dimethyl ether	(2)	2.087	(0.000)	45	12946M	0.145	1.45		J	1	130
2) Chloromethane	(2)				Not Detected					2	10
5) Vinyl Chloride	(2)				Not Detected					2	10
7) Bromomethane	(2)				Not Detected					5	10
8) Chloroethane	(2)	2.727	(0.000)	64	8472	0.170	1.70		J	1	10
10) Trichlorofluoromethane	(2)				Not Detected					2	10
11) Ethyl ether	(2)	3.306	(-0.000)	59	94207	2.355	23.55		J	11	130
13) Acrolein	(1)				Not Detected					50	250
15) 1,1-Dichloroethene	(2)				Not Detected					2	10
16) Freon 113	(2)				Not Detected					2	10
14) Acetone	(1)				Not Detected					30	100
17) Methyl Iodide	(2)				Not Detected					6	100
18) Carbon Disulfide	(2)				Not Detected					4	100
25) Acetonitrile	(1)				Not Detected					320	1000
22) Allyl Chloride	(2)				Not Detected					8	100
23) Methylene Chloride	(2)				Not Detected					2	10
29) Acrylonitrile	(1)				Not Detected					10	100
31) trans-1,2-Dichloroethene	(2)				Not Detected					2	10
33) 1,1-Dichloroethane	(2)	5.354	(0.000)	63	41269	0.349	3.49		J	1	10
36) Vinyl Acetate	(2)				Not Detected					33	100
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					5	100
38) 2-Butanone	(1)				Not Detected					10	100
42) Propionitrile	(1)				Not Detected					100	1000
45) Methacrylonitrile	(1)				Not Detected					98	1000
48) Tetrahydrofuran	(1)				Not Detected					20	250
49) Chloroform	(2)				Not Detected					1	10
51) 1,1,1-Trichloroethane	(2)				Not Detected					1	10
54) Carbon Tetrachloride	(2)				Not Detected					2	10

M = Compound was manually integrated.

Digitally signed by Don V. Viray on 05/30/2017 at 22:15. Target 3.5 esignature user ID: dvv10203

Data file: /chem2/HP19094.i/17may25b.b/hy25s15.d Injection date and time: **25-MAY-2017 23:03**
Data file Sample Info. Line: R8504DL;8999788DL;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **10.00**

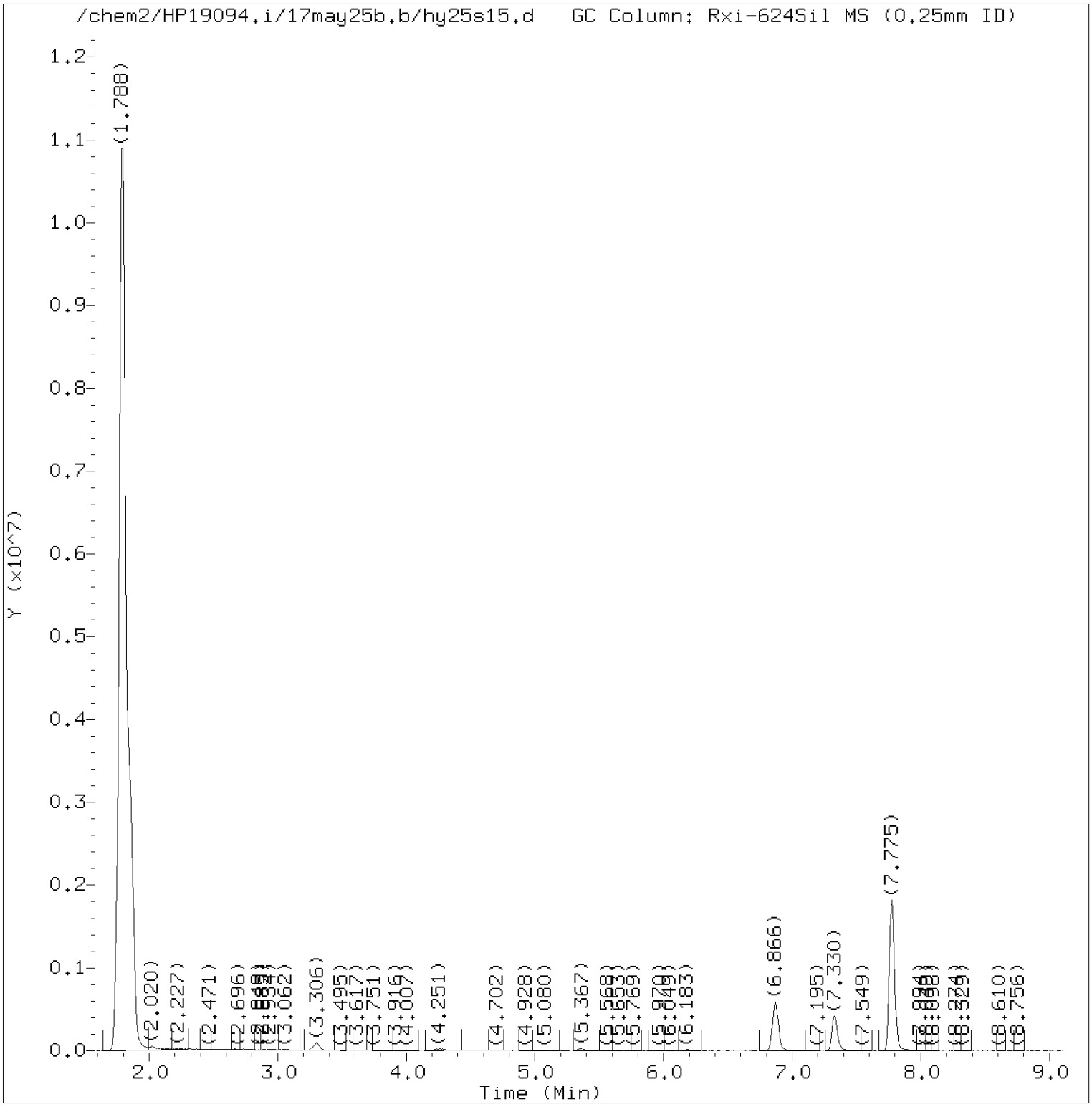
Volume Purged (Vt): 25 ml Sample Volume (Vo): 2.5 ml

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
56) Isobutyl Alcohol	(1)				Not Detected					100	2000
58) Benzene	(2)				Not Detected					1	10
59) 1,2-Dichloroethane	(2)				Not Detected					1	10
67) Trichloroethene	(2)				Not Detected					2	10
70) 1,2-Dichloropropane	(2)				Not Detected					1	10
71) Methyl Methacrylate	(1)				Not Detected					36	100
73) Dibromomethane	(2)				Not Detected					1	10
72) 1,4-Dioxane	(1)				Not Detected					450	2000
74) Bromodichloromethane	(2)				Not Detected					1	10
81) 4-Methyl-2-Pentanone	(1)				Not Detected					10	100
83) Toluene	(3)				Not Detected					1	10
84) trans-1,3-Dichloropropene	(3)				Not Detected					1	10
86) Ethyl Methacrylate	(3)				Not Detected					8	100
88) 1,1,2-Trichloroethane	(3)				Not Detected					1	10
89) Tetrachloroethene	(3)				Not Detected					1	10
90) 1,3-Dichloropropane	(3)				Not Detected					1	10
91) 2-Hexanone	(1)				Not Detected					10	100
93) Dibromochloromethane	(3)				Not Detected					1	10
95) 1,2-Dibromoethane	(3)				Not Detected					1	10
99) 1,1,1,2-Tetrachloroethane	(3)				Not Detected					1	10
100) Ethylbenzene	(3)				Not Detected					1	10
101) m+p-Xylene	(3)				Not Detected					1	5
104) o-Xylene	(3)				Not Detected					1	5
105) Xylene (Total)	(3)				Not Detected					2	30
106) Styrene	(3)				Not Detected					1	10
107) Bromoform	(3)				Not Detected					1	10
113) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					2	10
115) trans-1,4-Dichloro-2-butene	(1)				Not Detected					10	100
116) 1,2,3-Trichloropropane	(4)				Not Detected					3	10
126) Pentachloroethane	(4)				Not Detected					8	100
131) 1,3-Dichlorobenzene	(4)				Not Detected					1	10
134) 1,4-Dichlorobenzene	(4)				Not Detected					1	10
139) 1,2-Dichlorobenzene	(4)				Not Detected					1	10
142) Hexachloroethane	(4)				Not Detected					1	100
143) 1,2-Dibromo-3-chloropropane	(1)				Not Detected					2	10
145) 1,2,4-Trichlorobenzene	(4)				Not Detected					1	10
146) Hexachlorobutadiene	(4)				Not Detected					1	10
147) Naphthalene	(4)				Not Detected					1	10

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:15. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

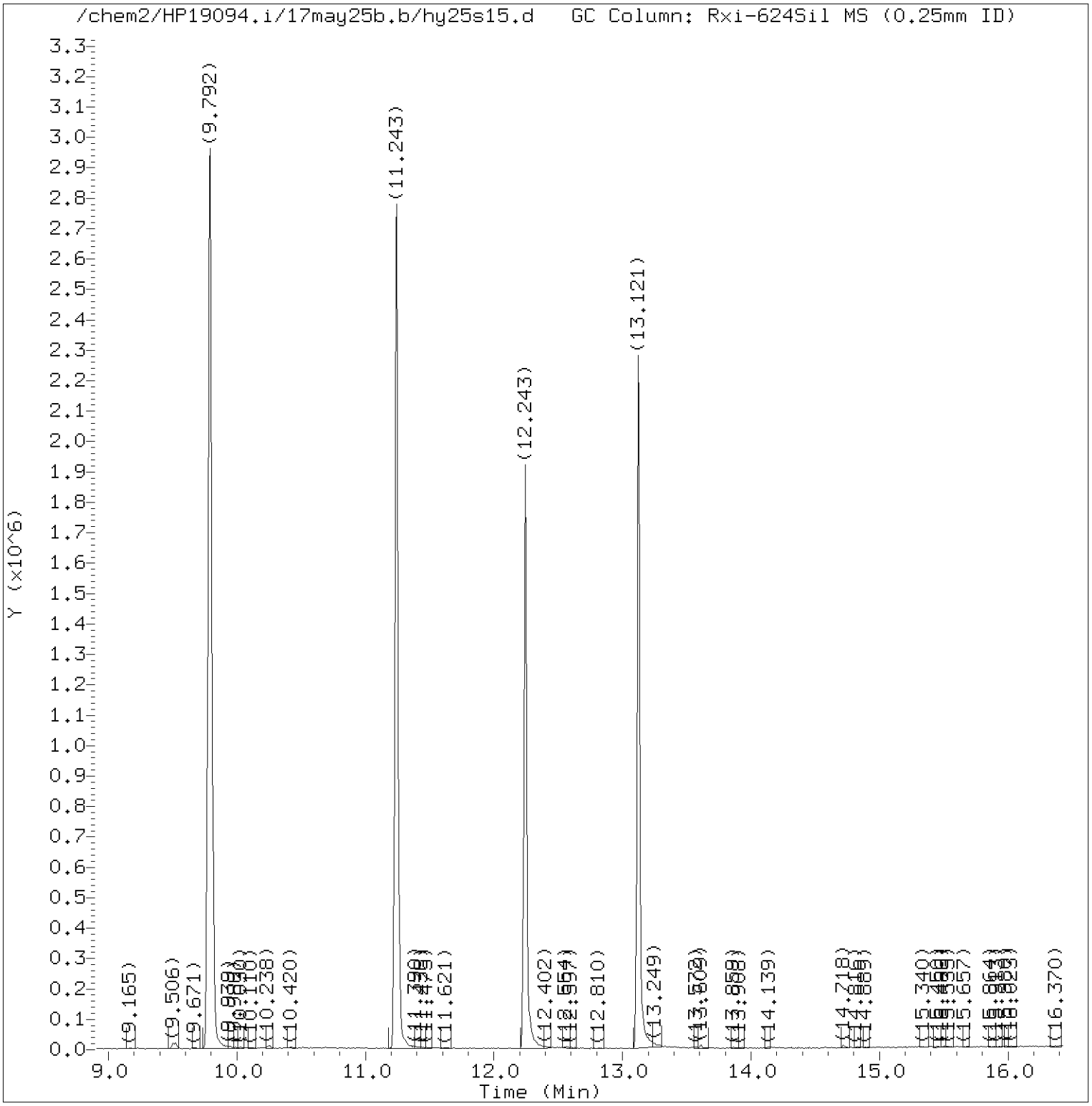
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8504DL Lab Sample ID: 8999788DL

Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8504DL Lab Sample ID: 8999788DL

Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

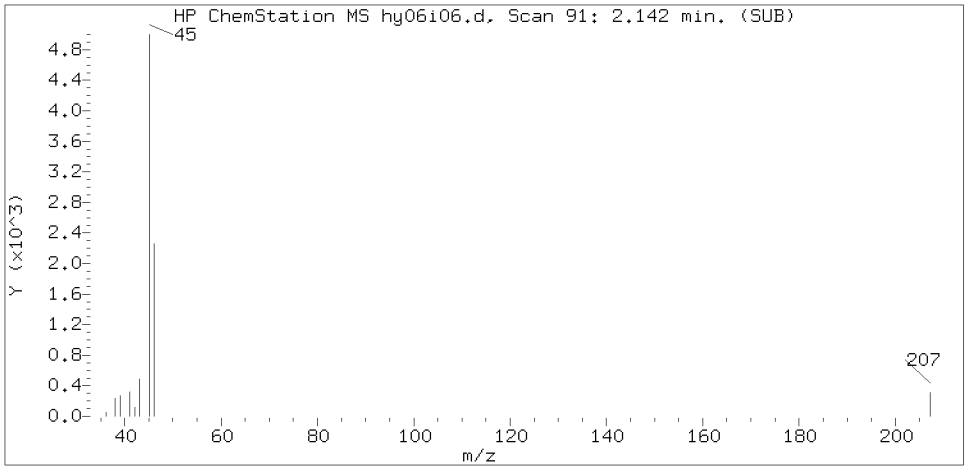
Sample Name: R8504DL Lab Sample ID: 8999788DL

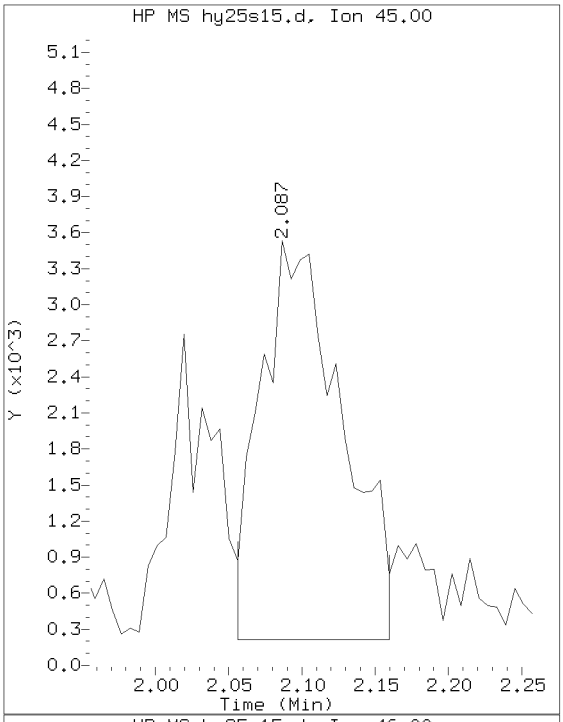
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	12946M	0.145
8) Chloroethane	(2)	2.727	64	8472	0.170
11) Ethyl ether	(2)	3.306	59	94207	2.355
26)*t-Butyl Alcohol-d10	(1)	4.257	65	81685M	50.000
33) 1,1-Dichloroethane	(2)	5.354	63	41269	0.349
50)$Dibromofluoromethane	(2)	6.866	113	580580	10.598
57)$1,2-Dichloroethane-d4	(2)	7.330	102	92143	10.402
63)*Fluorobenzene	(2)	7.775	96	2443867	10.000
82)$Toluene-d8	(3)	9.792	98	2403871	10.044
97)*Chlorobenzene-d5	(3)	11.243	117	1637284	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	620832	9.130
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	610076	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

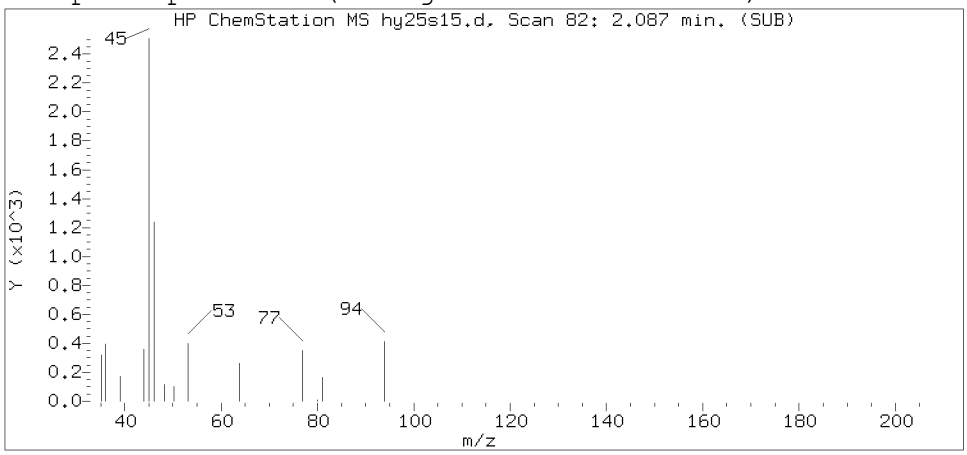
Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

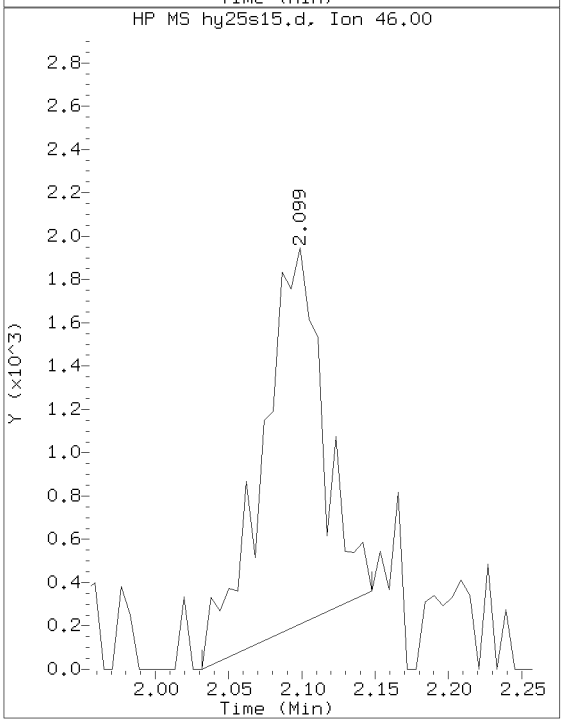
Reference Standard Spectrum for Dimethyl ether



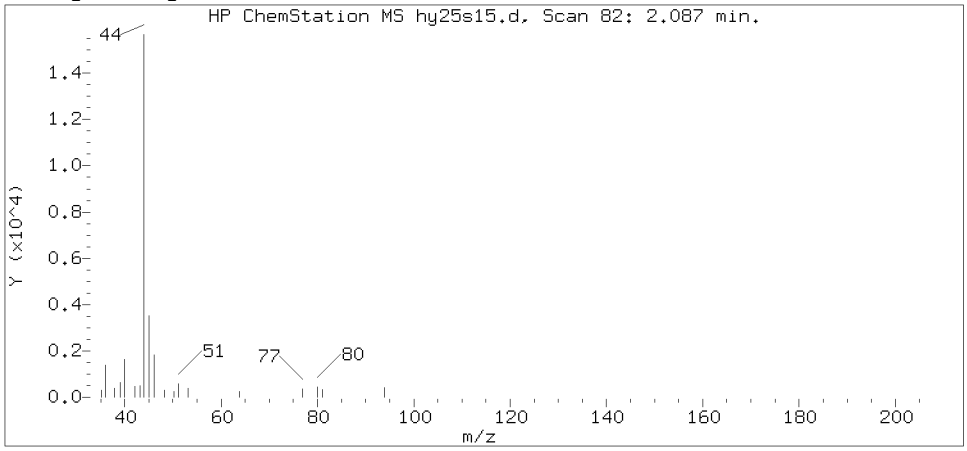


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

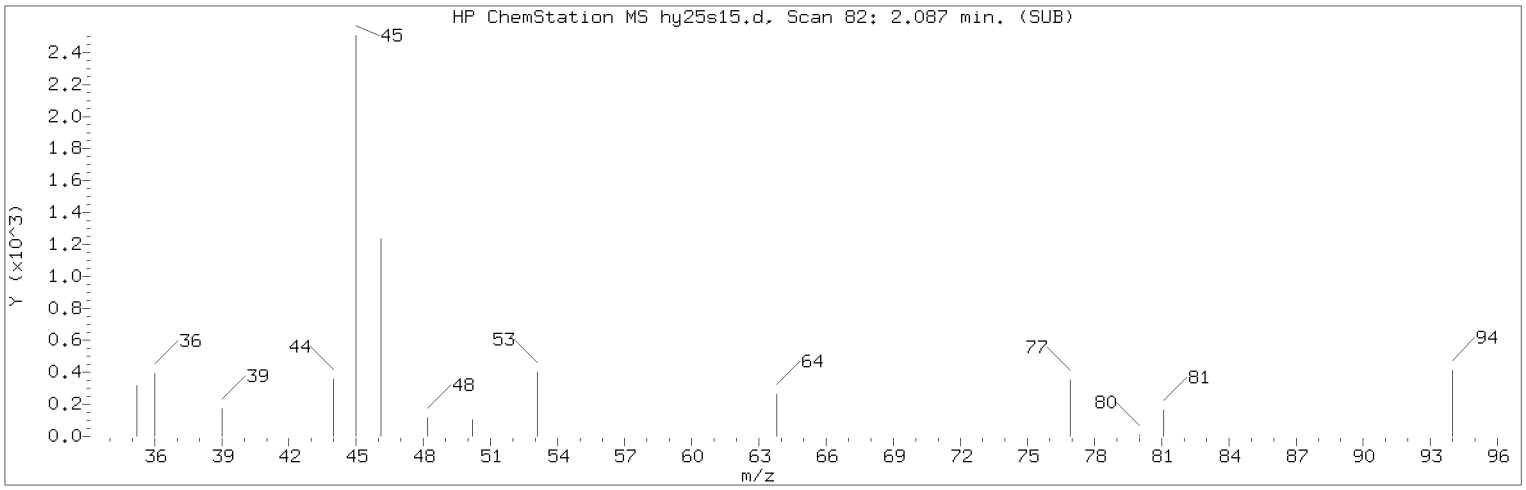
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8504DL Lab Sample ID: 8999788DL

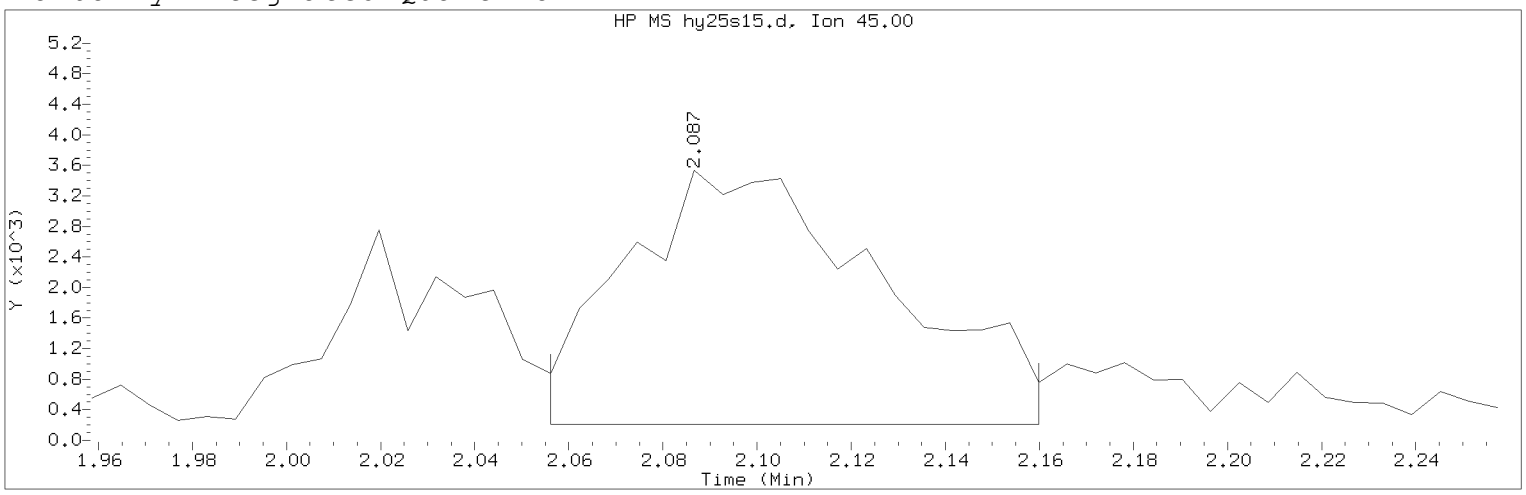
Compound Number	: 4
Compound Name	: Dimethyl ether
Scan Number	: 82
Retention Time (minutes)	: 2.087
Relative Retention Time	: 0.00057
Quant Ion	: 45.00
Area (flag)	: 12946M
On-Column Amount (ng)	: 0.1448

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8504DL Lab Sample ID: 8999788DL

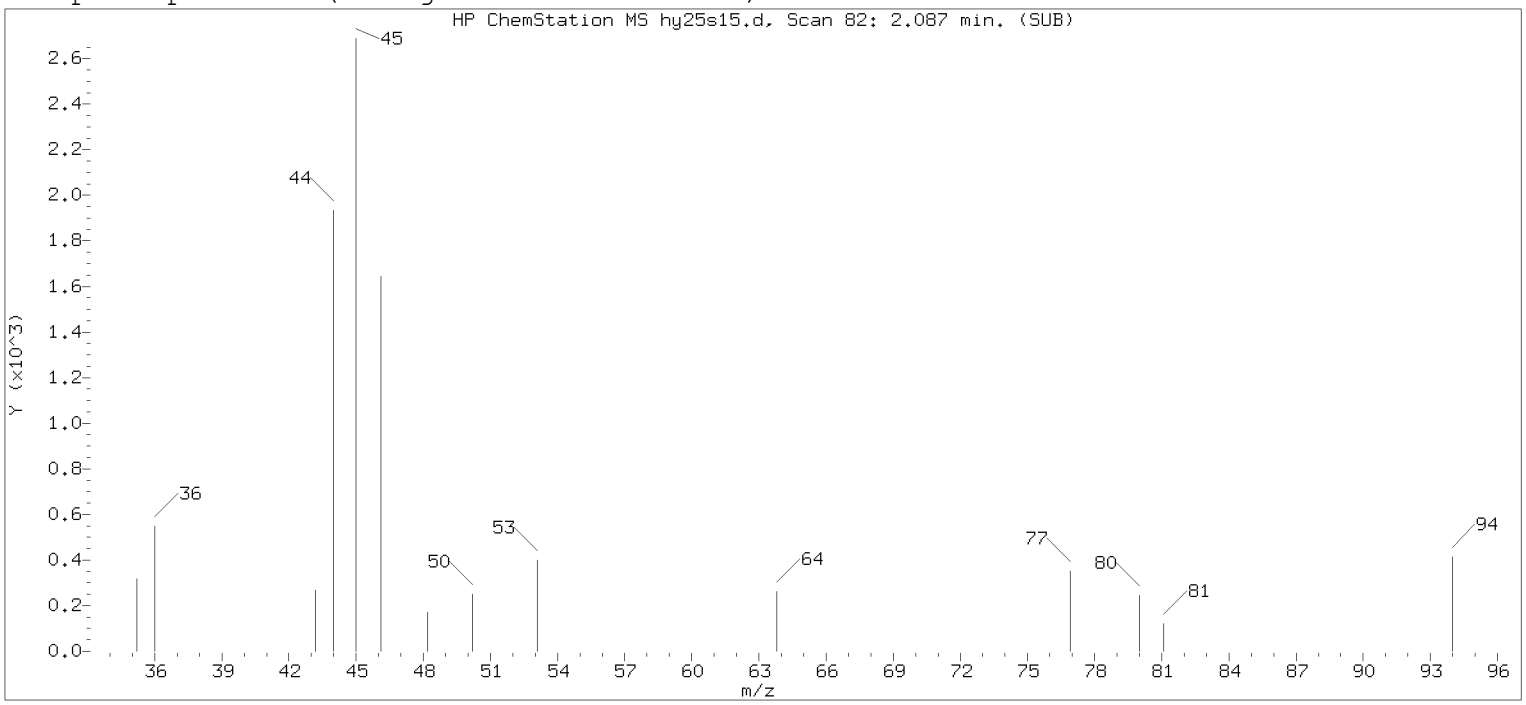
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area (flag) : 12946M
On-Column Amount (ng) : 0.1448
Integration start scan : 76 Integration stop scan: 93
Y at integration start : 214 Y at integration end: 214

Reason for manual integration: improper integration

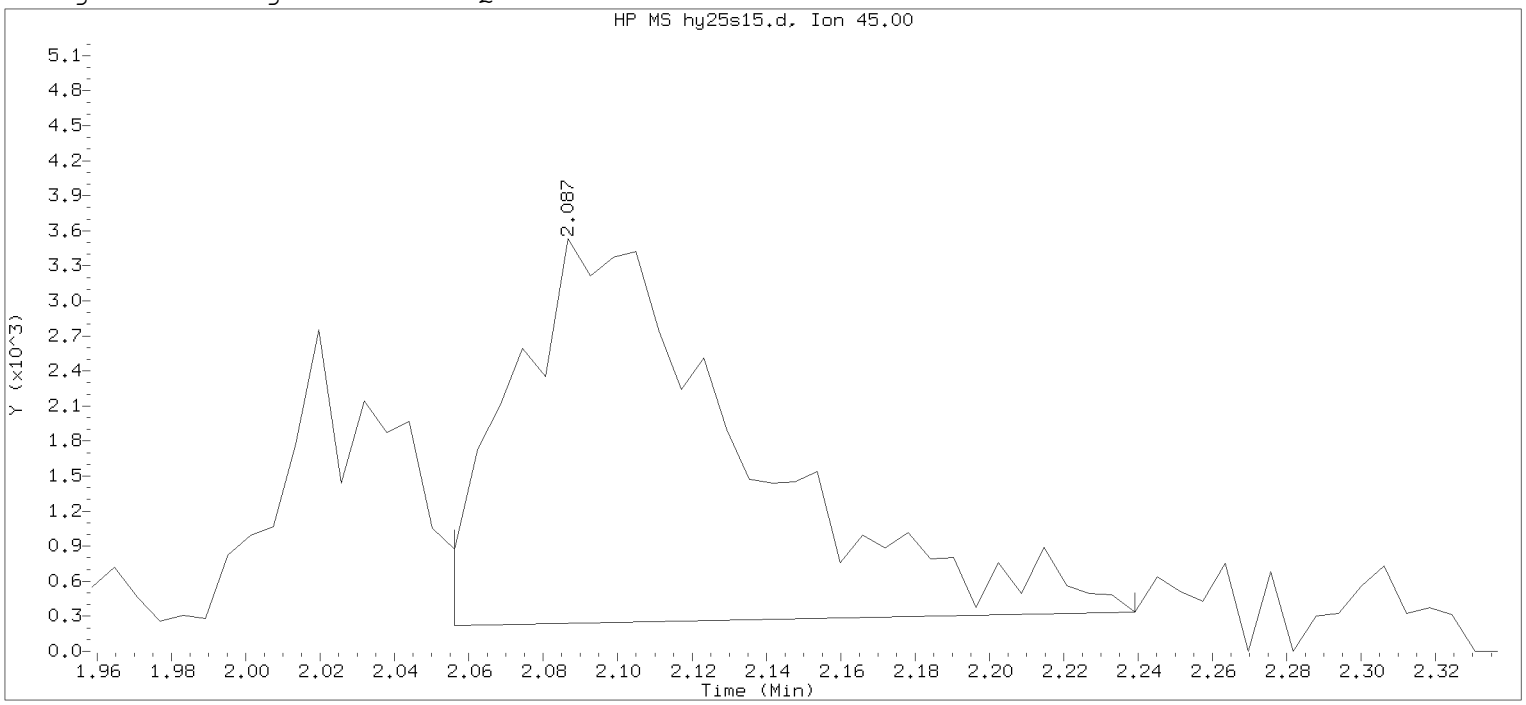
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

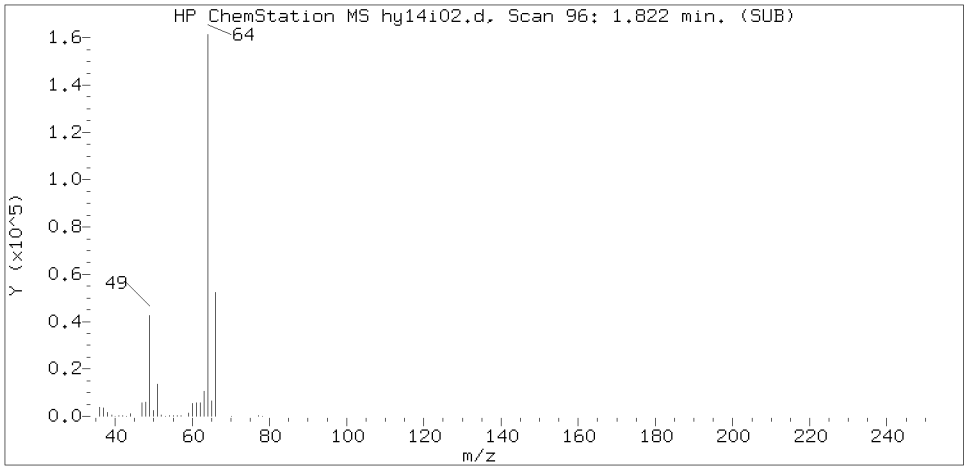
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 23:22 Automation

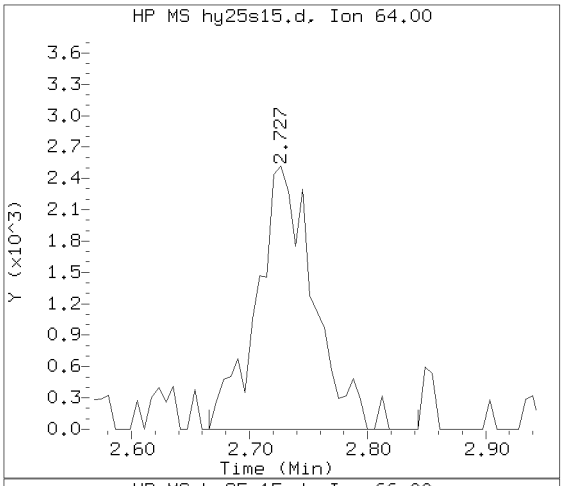
Sample Name: R8504DL Lab Sample ID: 8999788DL

Compound Number	: 4		
Compound Name	: Dimethyl ether		
Scan Number	: 82		
Retention Time (minutes)	: 2.087		
Quant Ion	: 45.00		
Area	: 14328		
On-column Amount (ng)	: 0.1602		
Integration start scan	: 76	Integration stop scan:	106
Y at integration start	: 221	Y at integration end:	336

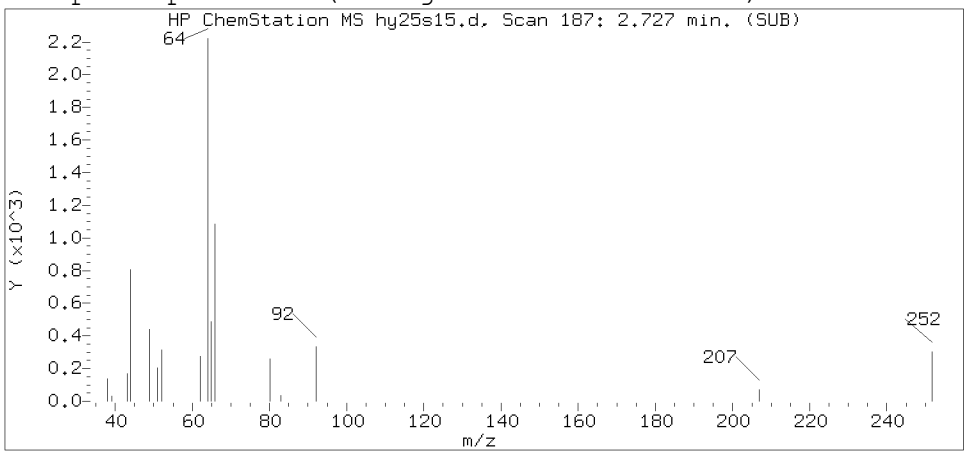
Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature used on 05/30/2017

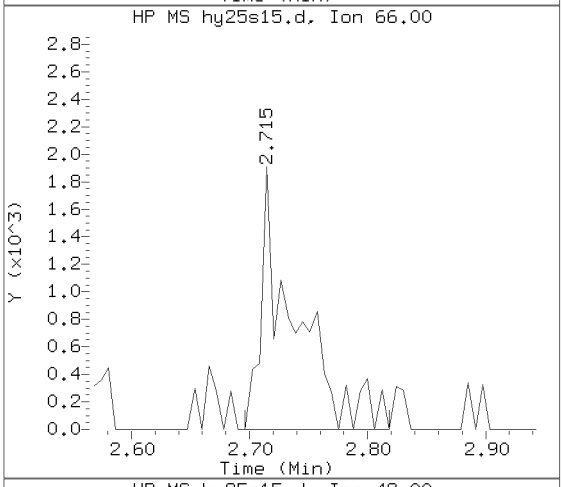
Reference Standard Spectrum for Chloroethane



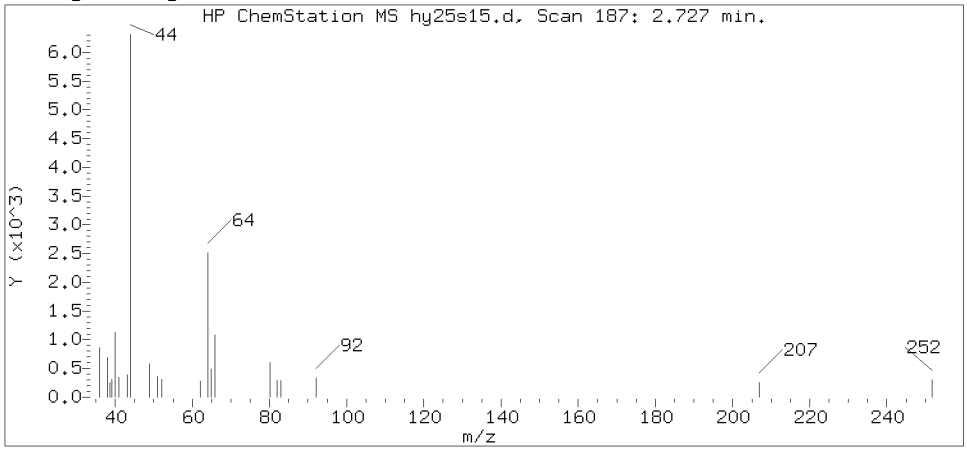


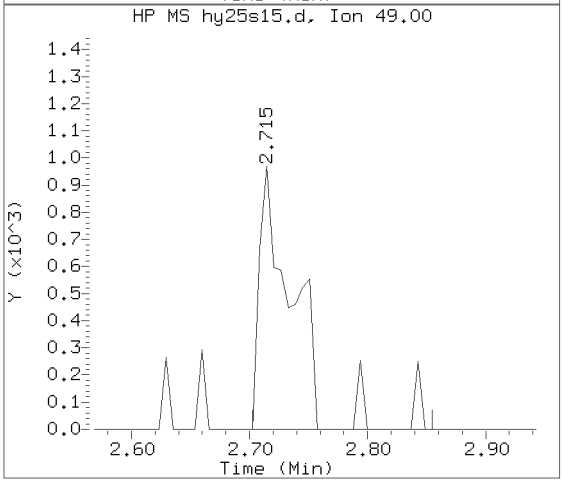
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

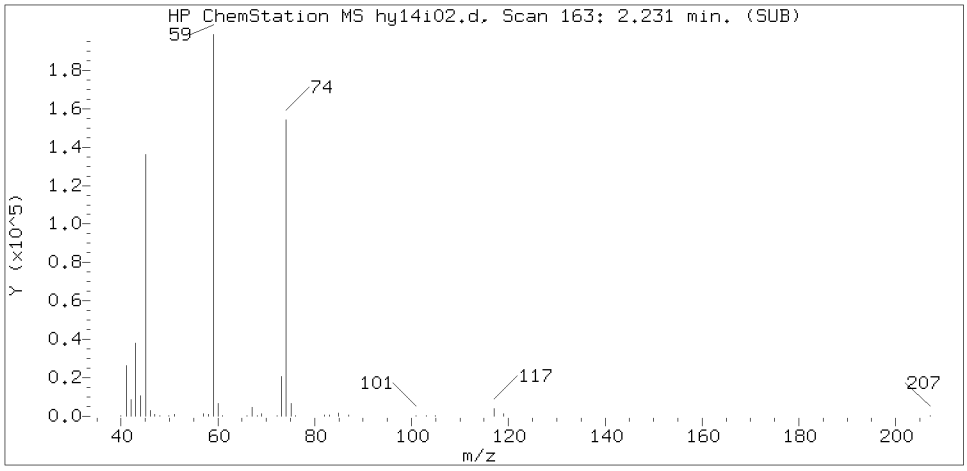
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

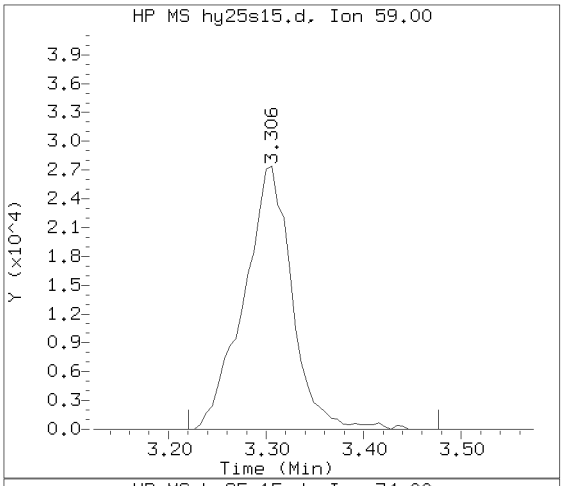
Sample Name: R8504DL Lab Sample ID: 8999788DL

Compound Number	: 8
Compound Name	: Chloroethane
Scan Number	: 187
Retention Time (minutes)	: 2.727
Relative Retention Time	: 0.00052
Quant Ion	: 64.00
Area (flag)	: 8472
On-Column Amount (ng)	: 0.1697

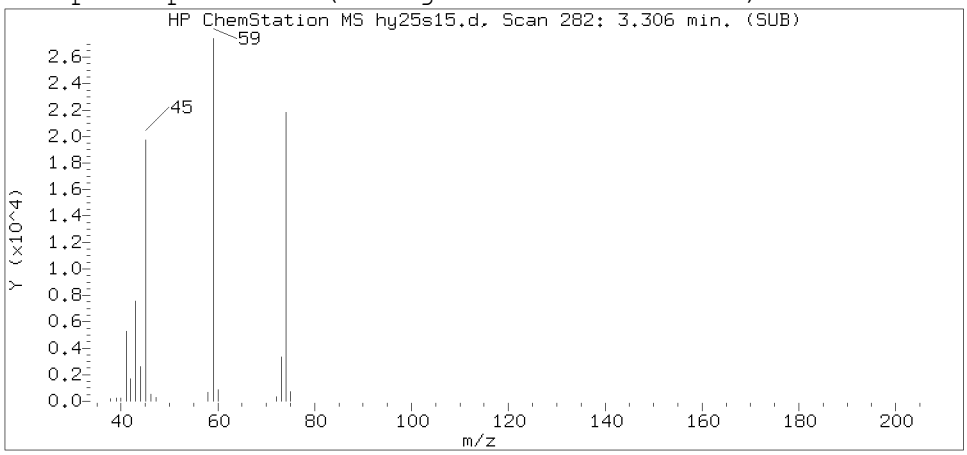
Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

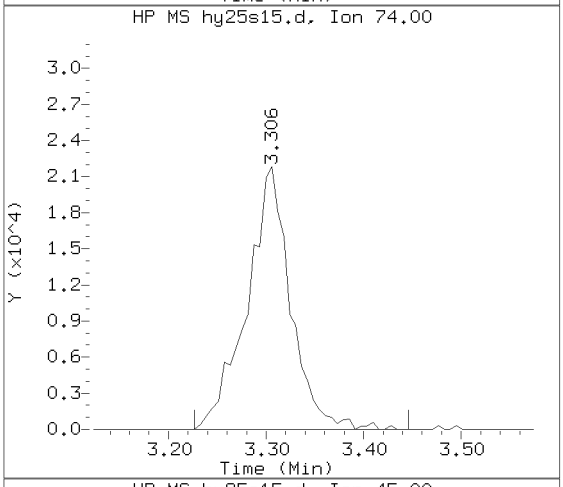
Reference Standard Spectrum for Ethyl ether



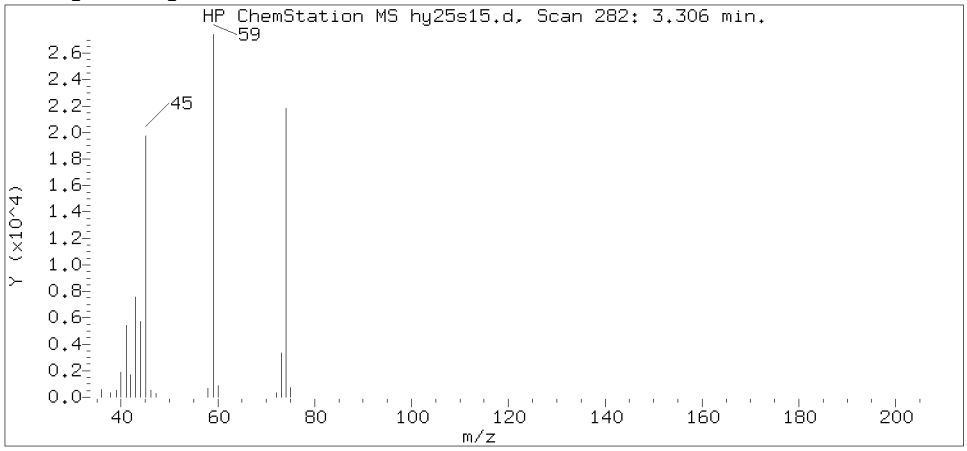


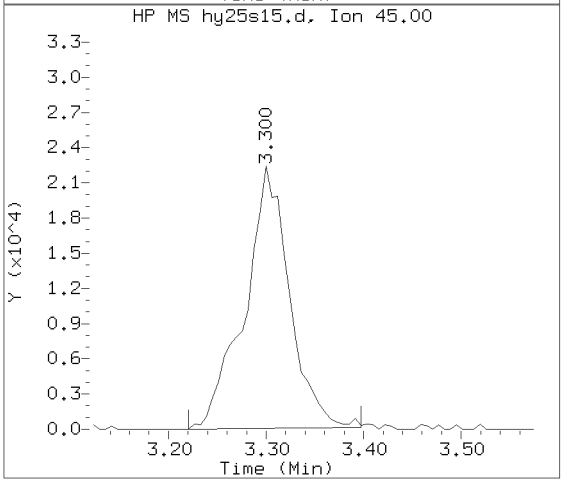
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

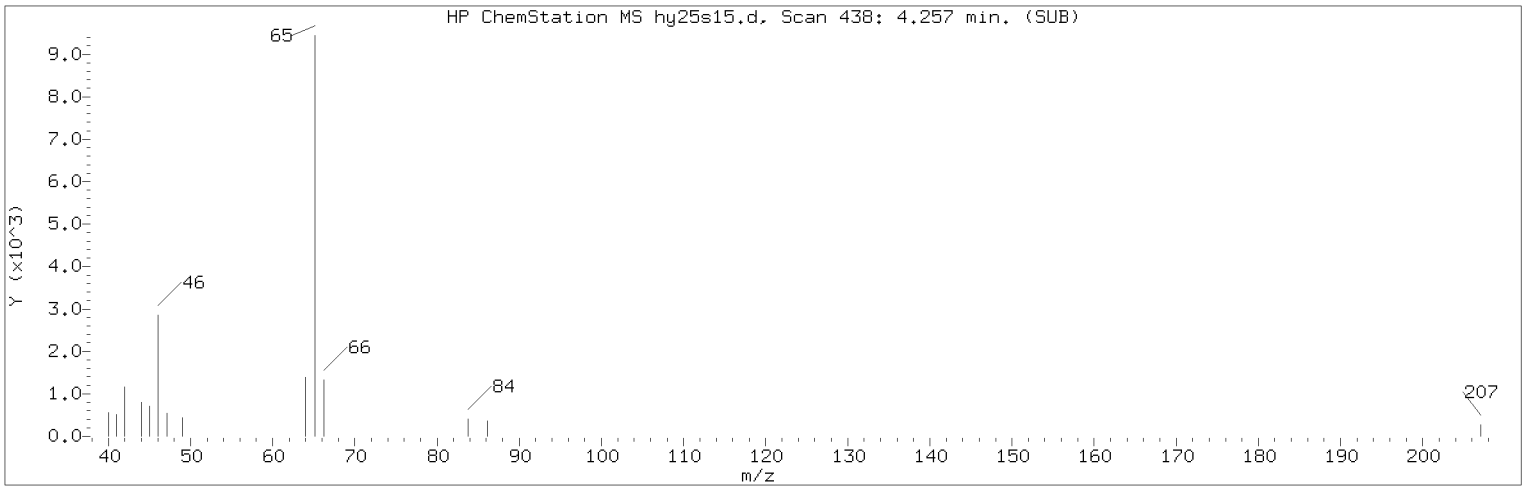
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8504DL Lab Sample ID: 8999788DL

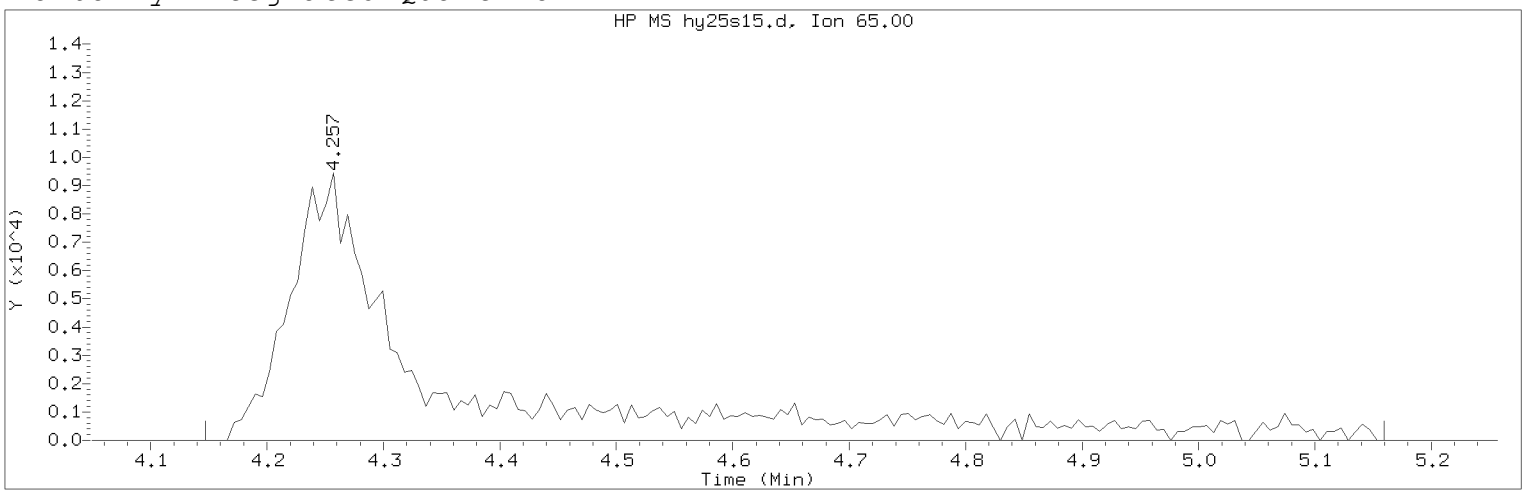
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 282
Retention Time (minutes): 3.306
Relative Retention Time :-0.00032
Quant Ion : 59.00
Area (flag) : 94207
On-Column Amount (ng) : 2.3552

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8504DL Lab Sample ID: 8999788DL

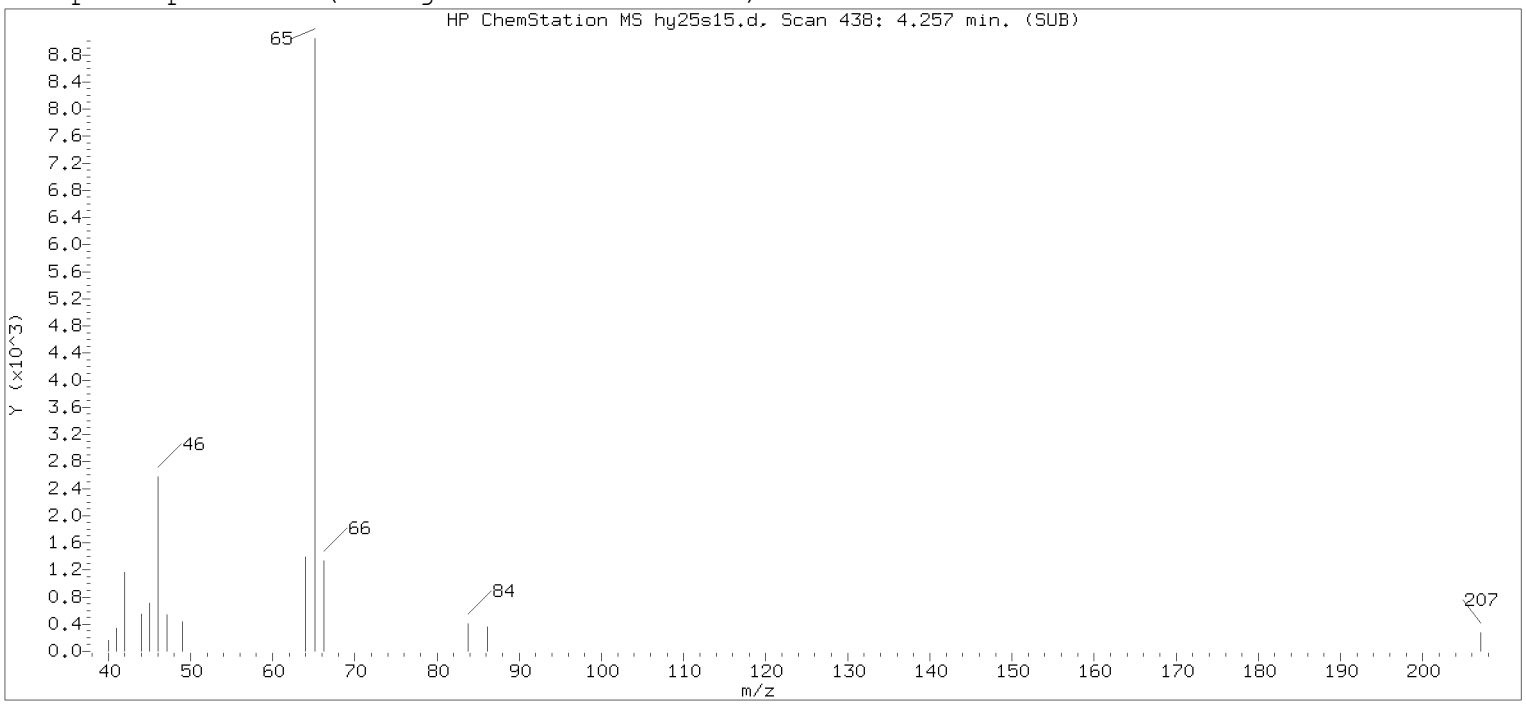
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 81685M
On-Column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 585
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

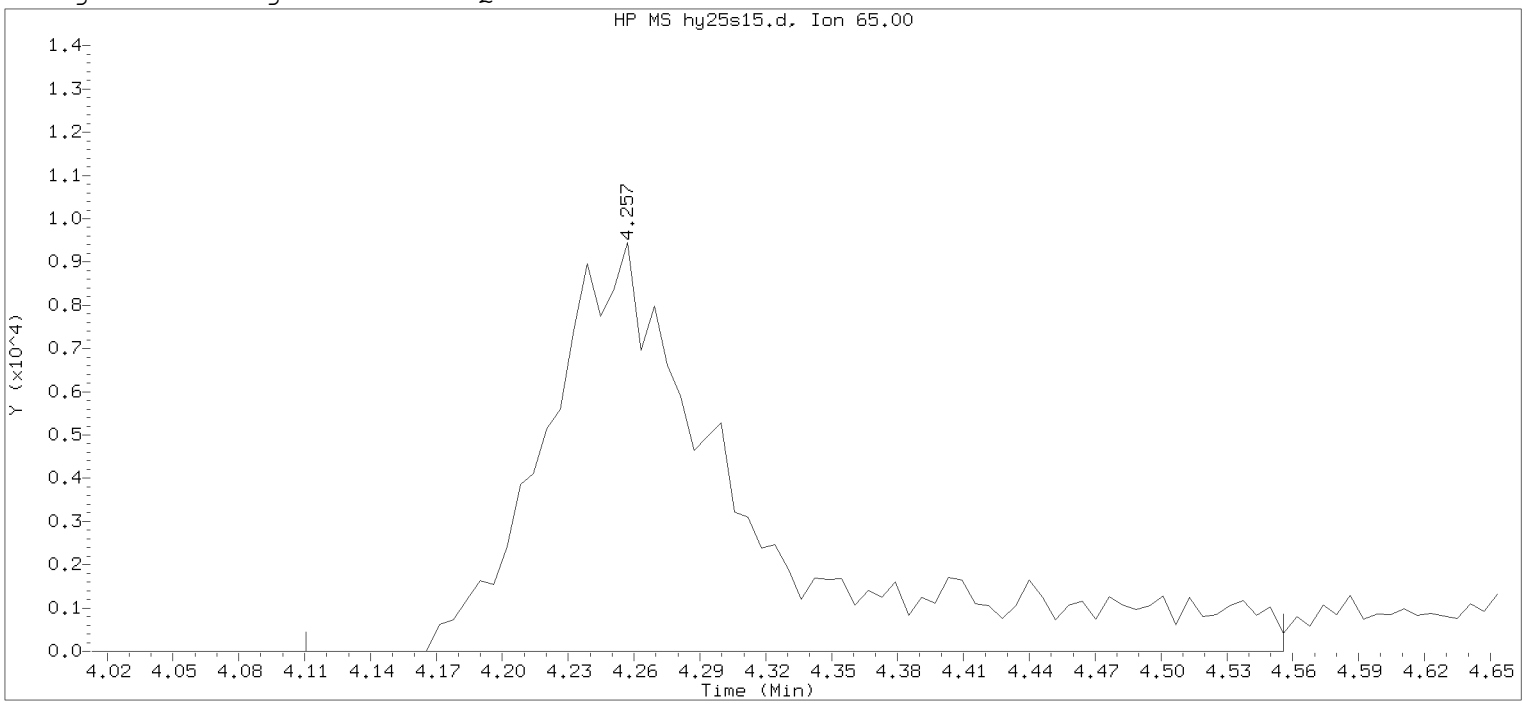
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

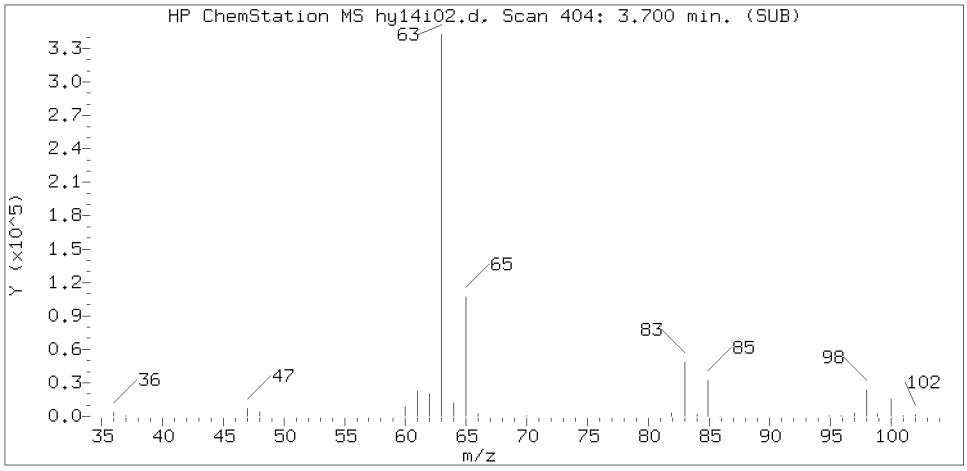
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 23:22 Automation

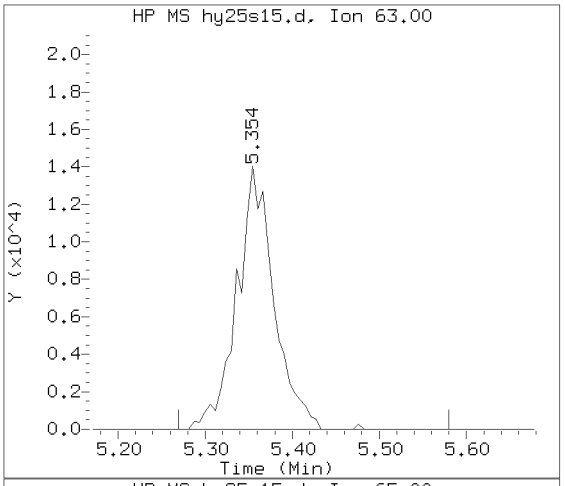
Sample Name: R8504DL Lab Sample ID: 8999788DL

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 60809
On-column Amount (ng) : 50.0000
Integration start scan : 413 Integration stop scan: 486
Y at integration start : 0 Y at integration end: 0

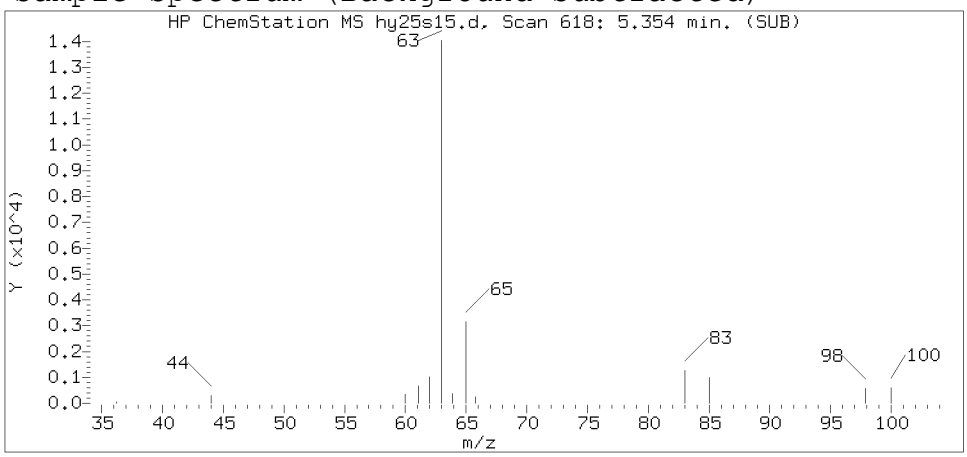
Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature used on 05/30/2017

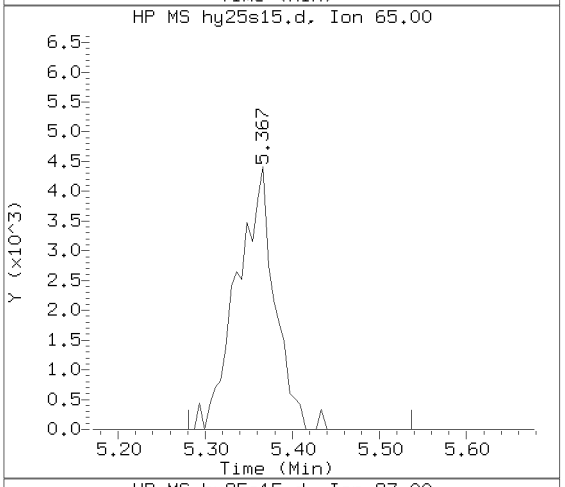
Reference Standard Spectrum for 1,1-Dichloroethane



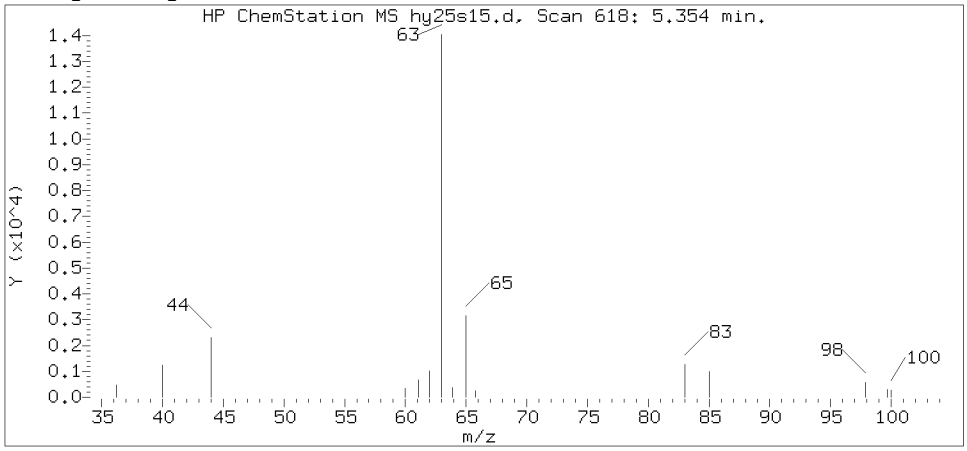


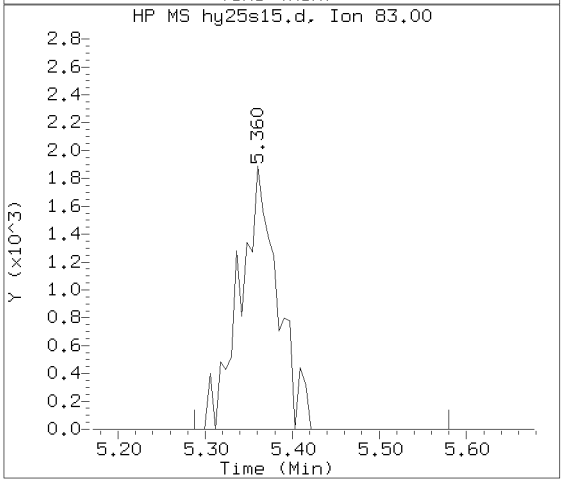
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s15.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 23:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8504DL Lab Sample ID: 8999788DL

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 618
Retention Time (minutes): 5.354
Relative Retention Time : 0.00025
Quant Ion : 63.00
Area (flag) : 41269
On-Column Amount (ng) : 0.3493

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature user IDs: dvv10203

R8505 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999791

Data file: /chem/HP09915.i/17may23a.b/ly23s14.d Injection date and time: **23-MAY-2017 14:55**
Data file Sample Info. Line: R8505;8999791;1;0;;RAE85;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 15:13 Automation

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **16342**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.578	(-0.003)	652	65	206383	(-13)	250.00	
66) Fluorobenzene	7.050	(-0.003)	1732	96	1075462	(-9)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	808961	(-10)	50.00	
131) 1,4-Dichlorobenzene-d4	12.642	(-0.003)	3471	152	428627	(-12)	50.00	

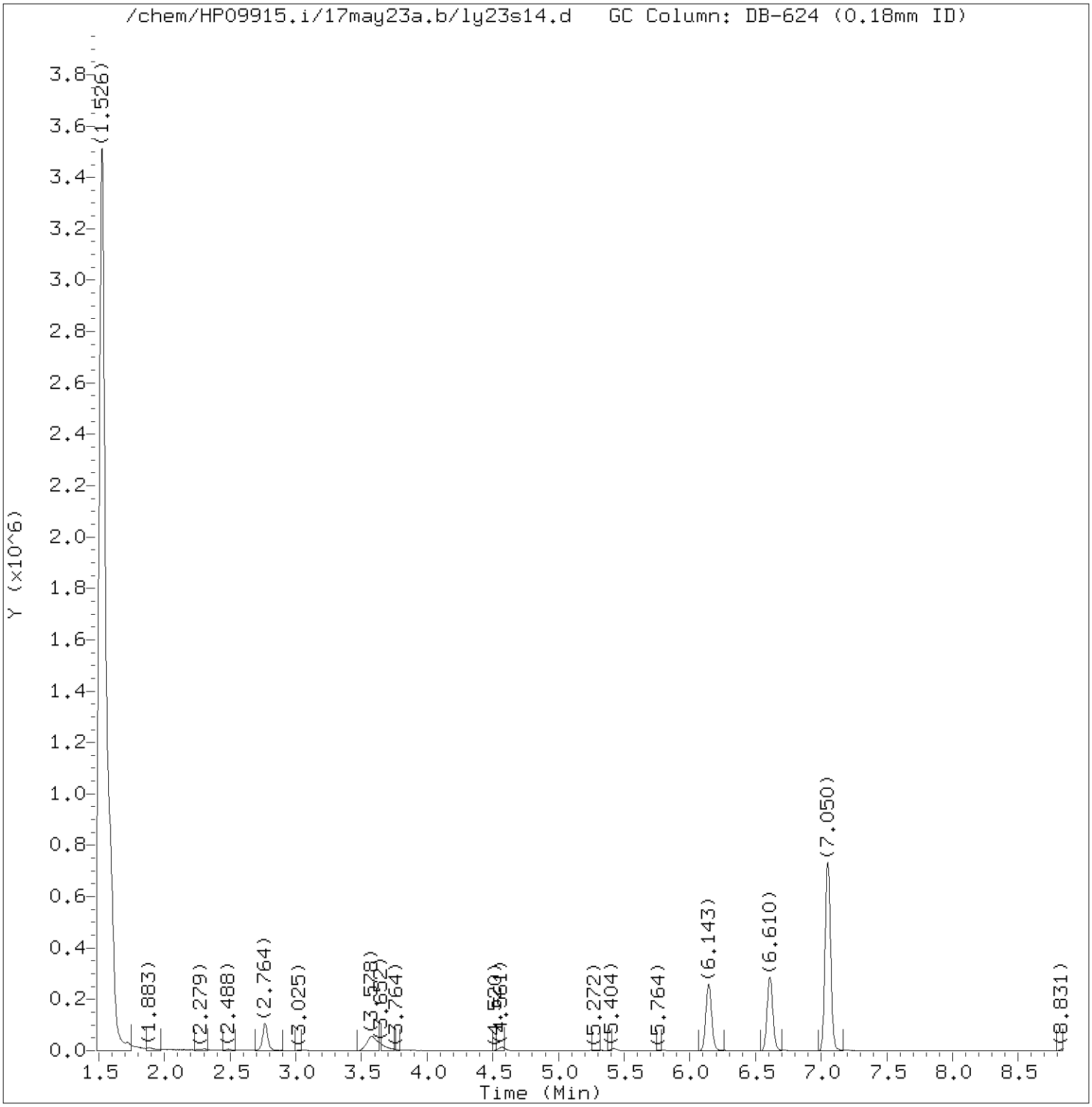
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.140	(0.000)	113	256916	48.921	98%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.610	(0.000)	102	65430	50.103	100%		77 - 113
83) Toluene-d8	(3)	9.140	(0.000)	98	1030188	49.875	100%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.751	(0.000)	95	378204	49.262	99%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
21) 2-Propanol	(1)				Not Detected					50	100

Total number of targets = 1

Digitally signed by Kevin Kelly on 05/23/2017 at 16:20. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:38. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

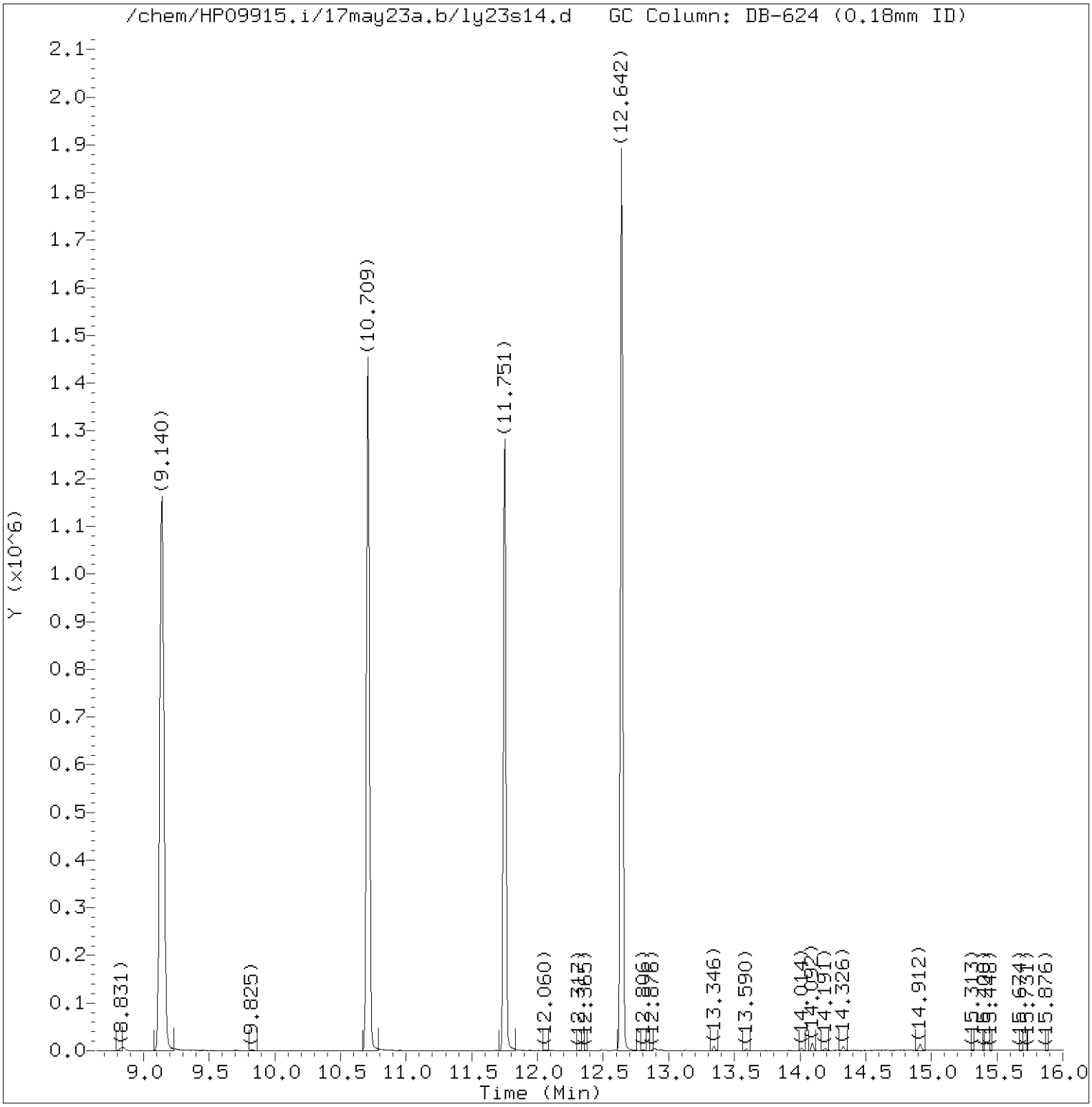
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s14.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:55 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 15:13 Automation

Sample Name: R8505 Lab Sample ID: 8999791

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:20.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s14.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:55 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 15:13 Automation

Sample Name: R8505 Lab Sample ID: 8999791

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:20.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s14.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:55 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 15:13 Automation

Sample Name: R8505 Lab Sample ID: 8999791

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	3.578	65	206383	250.000
52)$Dibromofluoromethane	(2)	6.140	113	256916	48.921
57)$1,2-Dichloroethane-d4	(2)	6.610	102	65430	50.103
66)*Fluorobenzene	(2)	7.050	96	1075462	50.000
83)$Toluene-d8	(3)	9.140	98	1030188	49.875
100)*Chlorobenzene-d5	(3)	10.709	117	808961	50.000
114)$4-Bromofluorobenzene	(3)	11.751	95	378204	49.262
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	428627	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:20.
Target 3.5 esignature user ID: kk10002

R8505 Lancaster Laboratories
Analysis Summary for GC/MS Volatiles 8999791

Data file: /chem2/HP19094.i/17may25b.b/hy25s13.d Injection date and time: **26-MAY-2017 00:25**
Data file Sample Info. Line: R8505;8999791;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.245	(0.018)	436	65	77347	(-12)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2407880	(-8)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1622669	(-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	642127	(-23)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(-0.001)	113	585398	10.845	108%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.323	(0.001)	102	90755	10.398	104%		74 - 113
82) Toluene-d8	(3)	9.786	(0.001)	98	2395036	10.097	101%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	641573	9.520	95%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.1	1
4) Dimethyl ether	(2)	2.087	(0.000)	45	142083M	1.613	1.61		J	0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
5) Vinyl Chloride	(2)	2.282	(0.000)	62	13908	0.162	0.16		J	0.2	1
7) Bromomethane	(2)				Not Detected					0.5	1
8) Chloroethane	(2)	2.715	(0.002)	64	65866	1.339	1.34			0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.2	1
11) Ethyl ether	(2)	3.300	(0.000)	59	980339	24.875	24.87			1	13
13) Acrolein	(1)				Not Detected					5	25
15) 1,1-Dichloroethene	(2)				Not Detected					0.2	1
16) Freon 113	(2)				Not Detected					0.2	1
14) Acetone	(1)				Not Detected					3	10
17) Methyl Iodide	(2)				Not Detected					0.6	10
18) Carbon Disulfide	(2)				Not Detected					0.4	10
25) Acetonitrile	(1)				Not Detected					32	100
22) Allyl Chloride	(2)				Not Detected					0.8	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
29) Acrylonitrile	(1)				Not Detected					1	10
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)	5.354	(0.000)	63	433953	3.728	3.73			0.1	1
36) Vinyl Acetate	(2)				Not Detected					3	10
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					0.5	10
38) 2-Butanone	(1)				Not Detected					1	10
42) Propionitrile	(1)				Not Detected					10	100
45) Methacrylonitrile	(1)				Not Detected					10	100
48) Tetrahydrofuran	(1)				Not Detected					2	25
49) Chloroform	(2)				Not Detected					0.1	1
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.2	1
56) Isobutyl Alcohol	(1)				Not Detected					10	200

M = Compound was manually integrated.

Digitally signed by Don V. Viray on 05/30/2017 at 22:14. Target 3.5 esignature user ID: dvv10203

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles 8999791

Data file: /chem2/HP19094.i/17may25b.b/hy25s13.d Injection date and time: **26-MAY-2017 00:25**
Data file Sample Info. Line: R8505;8999791;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

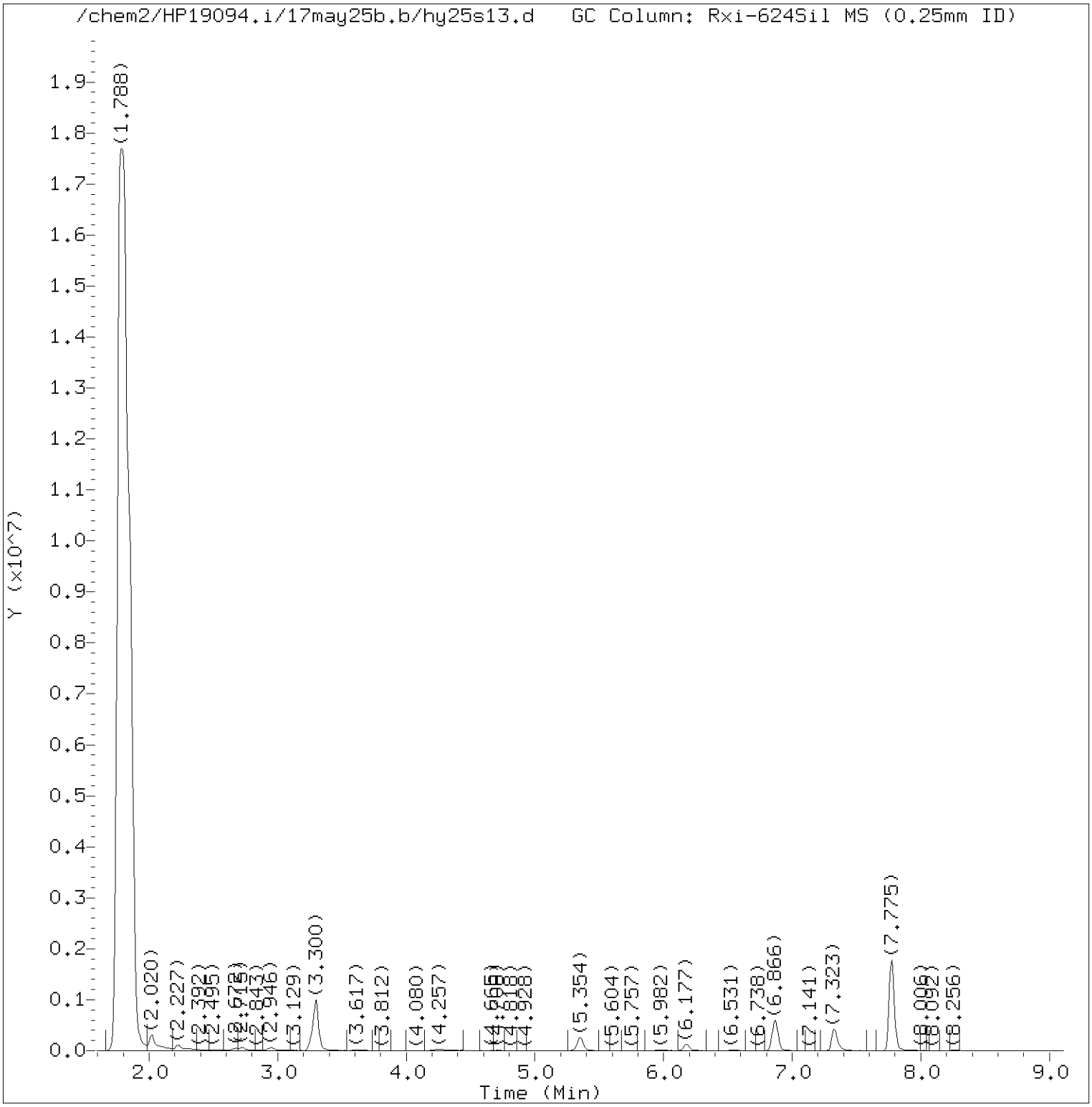
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
58) Benzene	(2)	7.372(0.000)	78	46012	0.182	0.18		J	0.1	1
59) 1,2-Dichloroethane	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.2	1
70) 1,2-Dichloropropane	(2)			Not Detected					0.1	1
71) Methyl Methacrylate	(1)			Not Detected					4	10
73) Dibromomethane	(2)			Not Detected					0.1	1
72) 1,4-Dioxane	(1)			Not Detected					45	200
74) Bromodichloromethane	(2)			Not Detected					0.1	1
81) 4-Methyl-2-Pentanone	(1)			Not Detected					1	10
83) Toluene	(3)			Not Detected					0.1	1
84) trans-1,3-Dichloropropene	(3)			Not Detected					0.1	1
86) Ethyl Methacrylate	(3)			Not Detected					0.8	10
88) 1,1,2-Trichloroethane	(3)			Not Detected					0.1	1
89) Tetrachloroethene	(3)	10.420(-0.000)	166	11174	0.154	0.15		J	0.1	1
90) 1,3-Dichloropropane	(3)			Not Detected					0.1	1
91) 2-Hexanone	(1)			Not Detected					1	10
93) Dibromochloromethane	(3)			Not Detected					0.1	1
95) 1,2-Dibromoethane	(3)			Not Detected					0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)			Not Detected					0.1	1
100) Ethylbenzene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.2	3
106) Styrene	(3)			Not Detected					0.1	1
107) Bromoform	(3)			Not Detected					0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)			Not Detected					0.2	1
115) trans-1,4-Dichloro-2-butene	(1)			Not Detected					1	10
116) 1,2,3-Trichloropropane	(4)			Not Detected					0.3	1
126) Pentachloroethane	(4)			Not Detected					0.8	10
131) 1,3-Dichlorobenzene	(4)			Not Detected					0.1	1
134) 1,4-Dichlorobenzene	(4)			Not Detected					0.1	1
139) 1,2-Dichlorobenzene	(4)			Not Detected					0.1	1
142) Hexachloroethane	(4)			Not Detected					0.1	10
143) 1,2-Dibromo-3-chloropropane	(1)			Not Detected					0.2	1
145) 1,2,4-Trichlorobenzene	(4)			Not Detected					0.1	1
146) Hexachlorobutadiene	(4)			Not Detected					0.1	1
147) Naphthalene	(4)			Not Detected					0.1	1

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:14. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

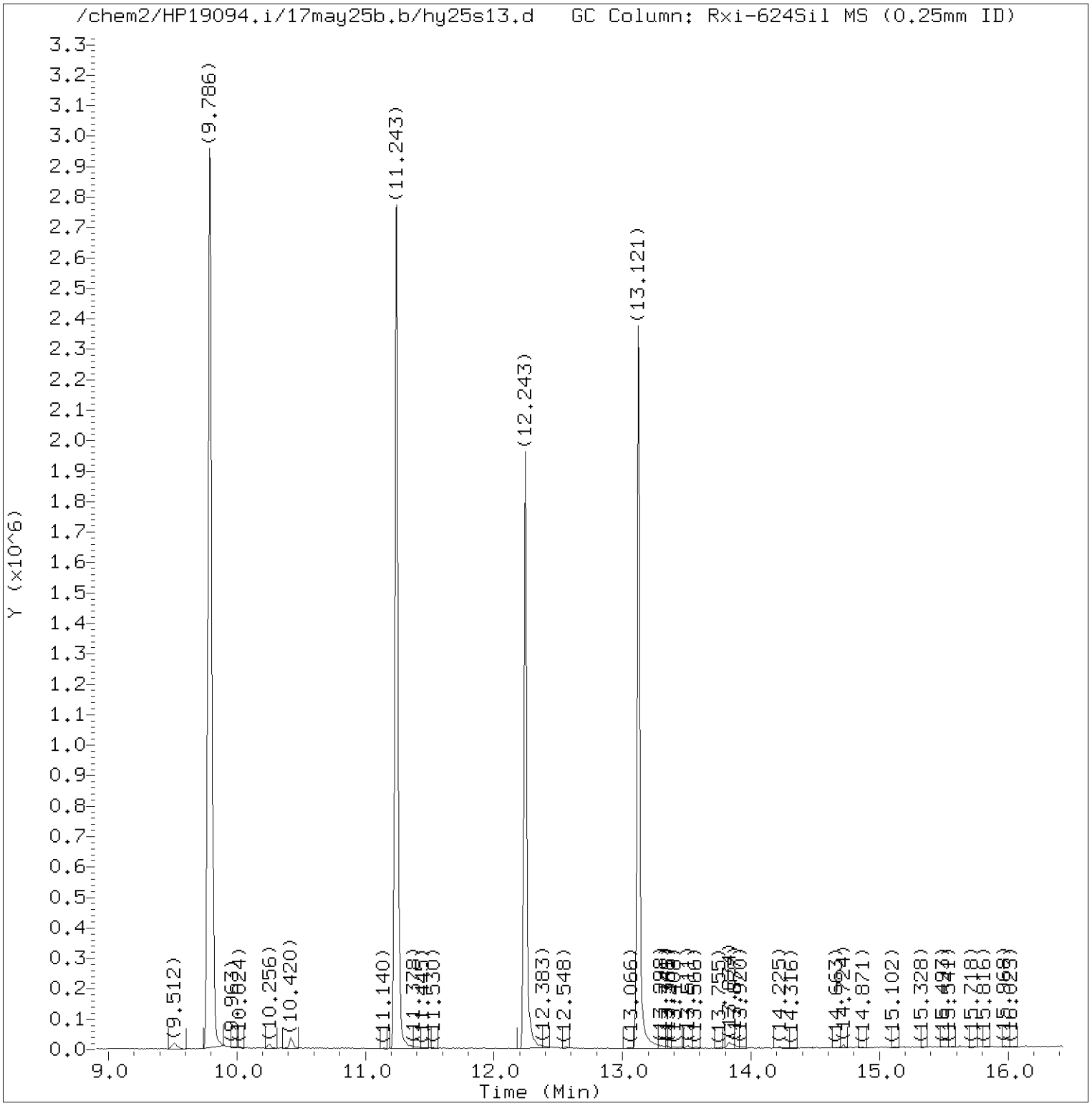
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8505 Lab Sample ID: 8999791

Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8505 Lab Sample ID: 8999791

Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

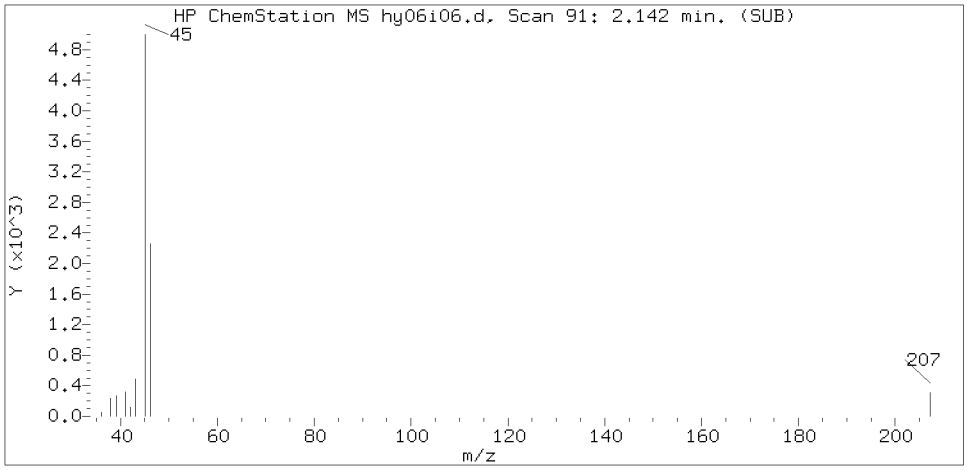
Sample Name: R8505 Lab Sample ID: 8999791

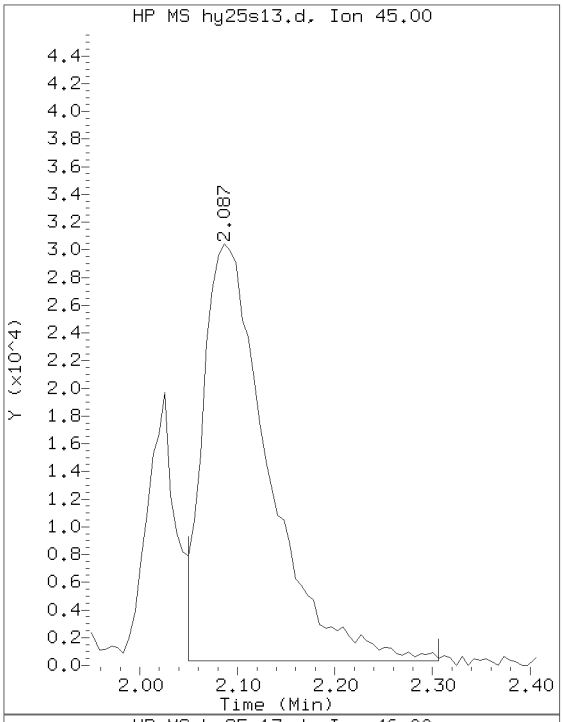
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	142083M	1.613
5) Vinyl Chloride	(2)	2.282	62	13908	0.162
8) Chloroethane	(2)	2.715	64	65866	1.339
11) Ethyl ether	(2)	3.300	59	980339	24.875
26)*t-Butyl Alcohol-d10	(1)	4.245	65	77347	50.000
33) 1,1-Dichloroethane	(2)	5.354	63	433953	3.728
50)$Dibromofluoromethane	(2)	6.872	113	585398	10.845
57)$1,2-Dichloroethane-d4	(2)	7.323	102	90755	10.398
58) Benzene	(2)	7.372	78	46012	0.182
63)*Fluorobenzene	(2)	7.775	96	2407880	10.000
82)$Toluene-d8	(3)	9.786	98	2395036	10.097
89) Tetrachloroethene	(3)	10.420	166	11174	0.154
97)*Chlorobenzene-d5	(3)	11.243	117	1622669	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	641573	9.520
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	642127	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

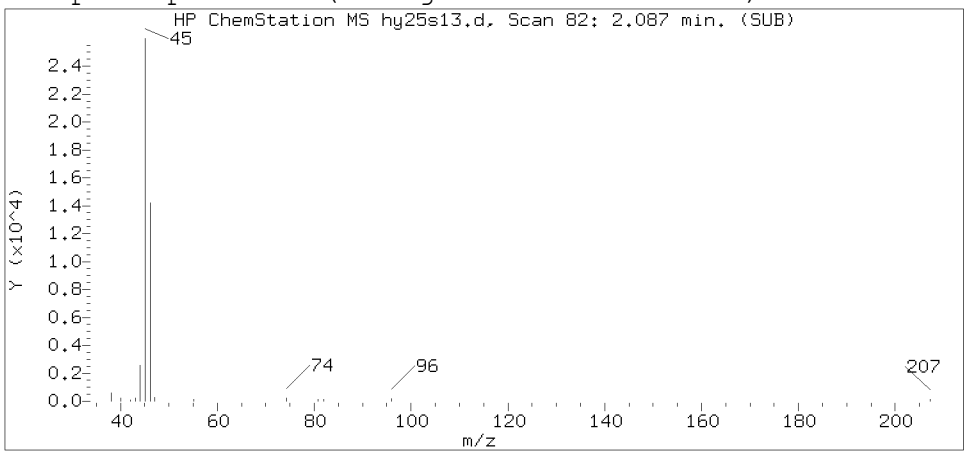
Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

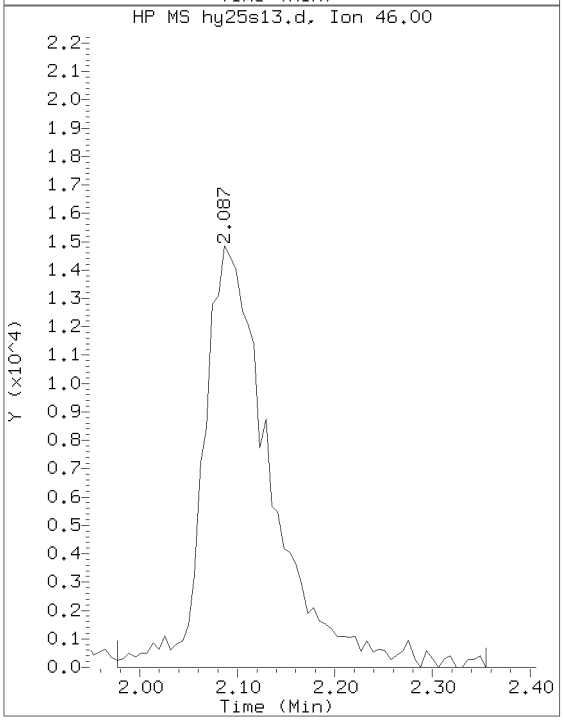
Reference Standard Spectrum for Dimethyl ether



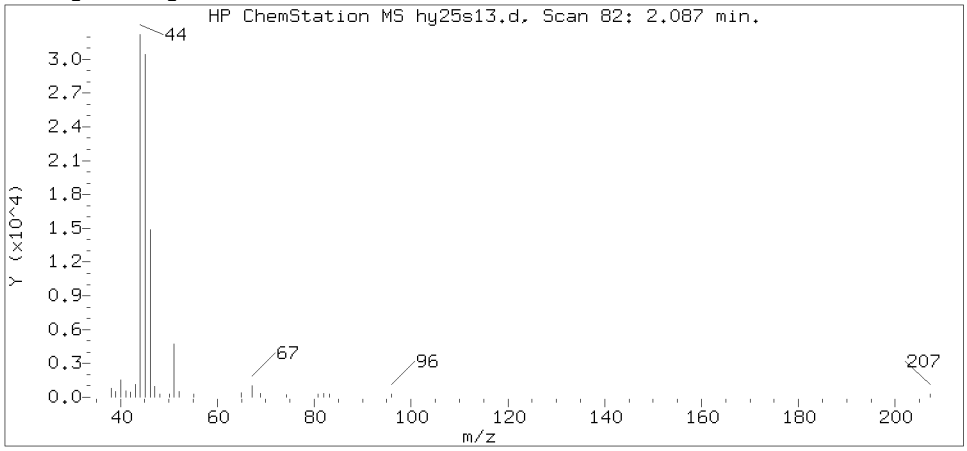


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

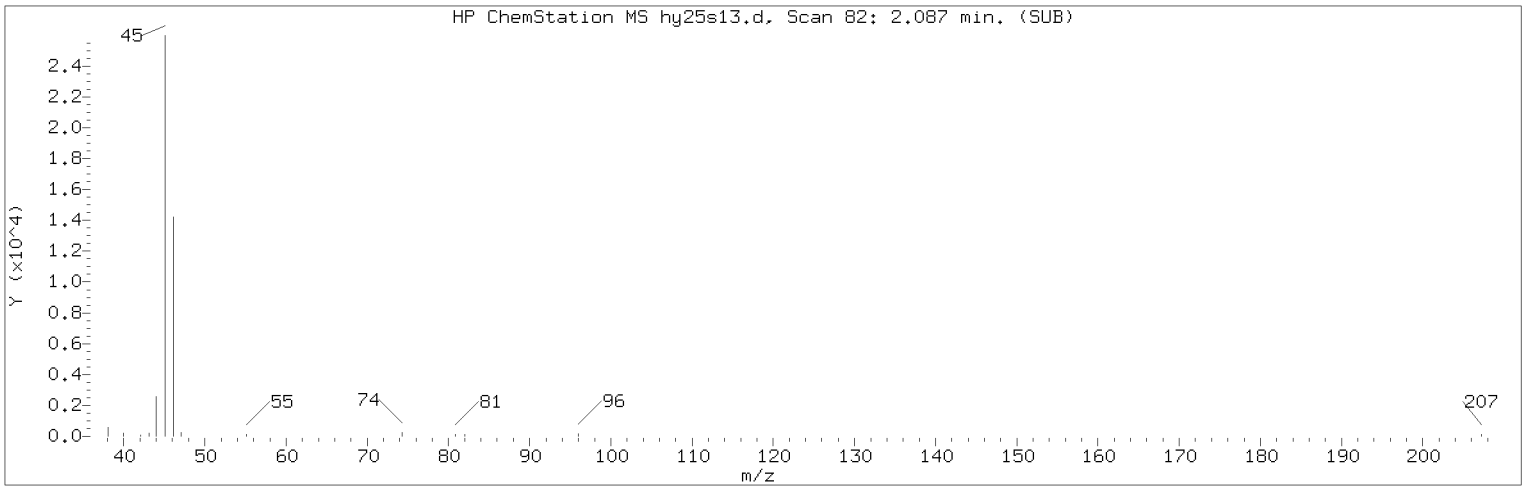
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8505 Lab Sample ID: 8999791

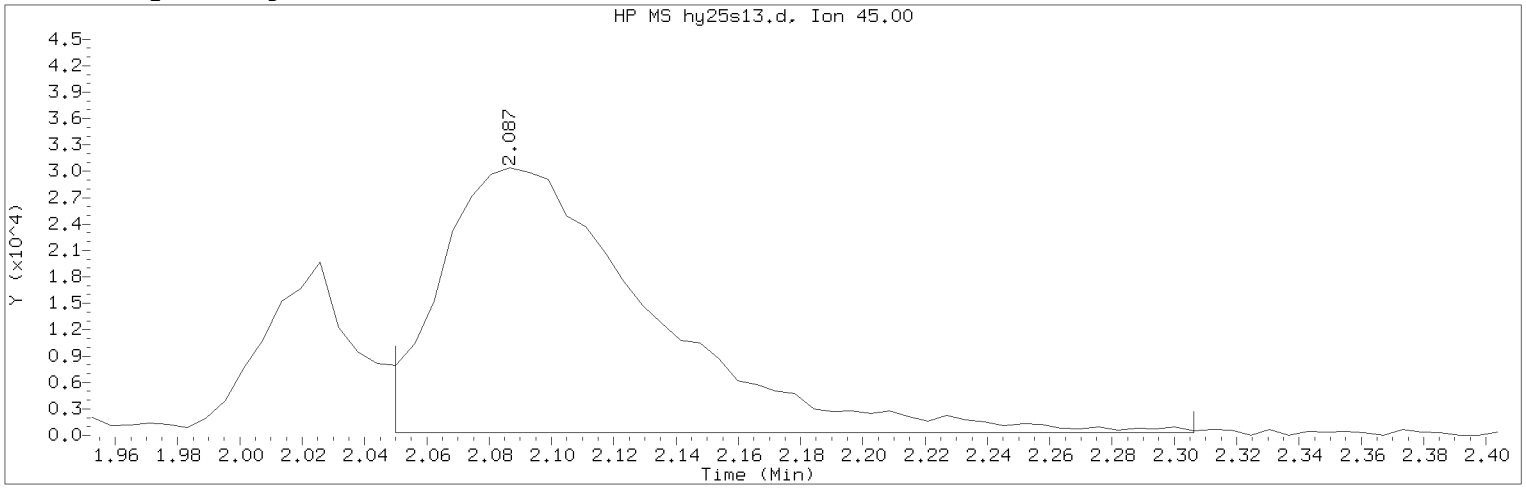
Compound Number	: 4
Compound Name	: Dimethyl ether
Scan Number	: 82
Retention Time (minutes)	: 2.087
Relative Retention Time	: 0.00057
Quant Ion	: 45.00
Area (flag)	: 142083M
On-Column Amount (ng)	: 1.6126

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8505 Lab Sample ID: 8999791

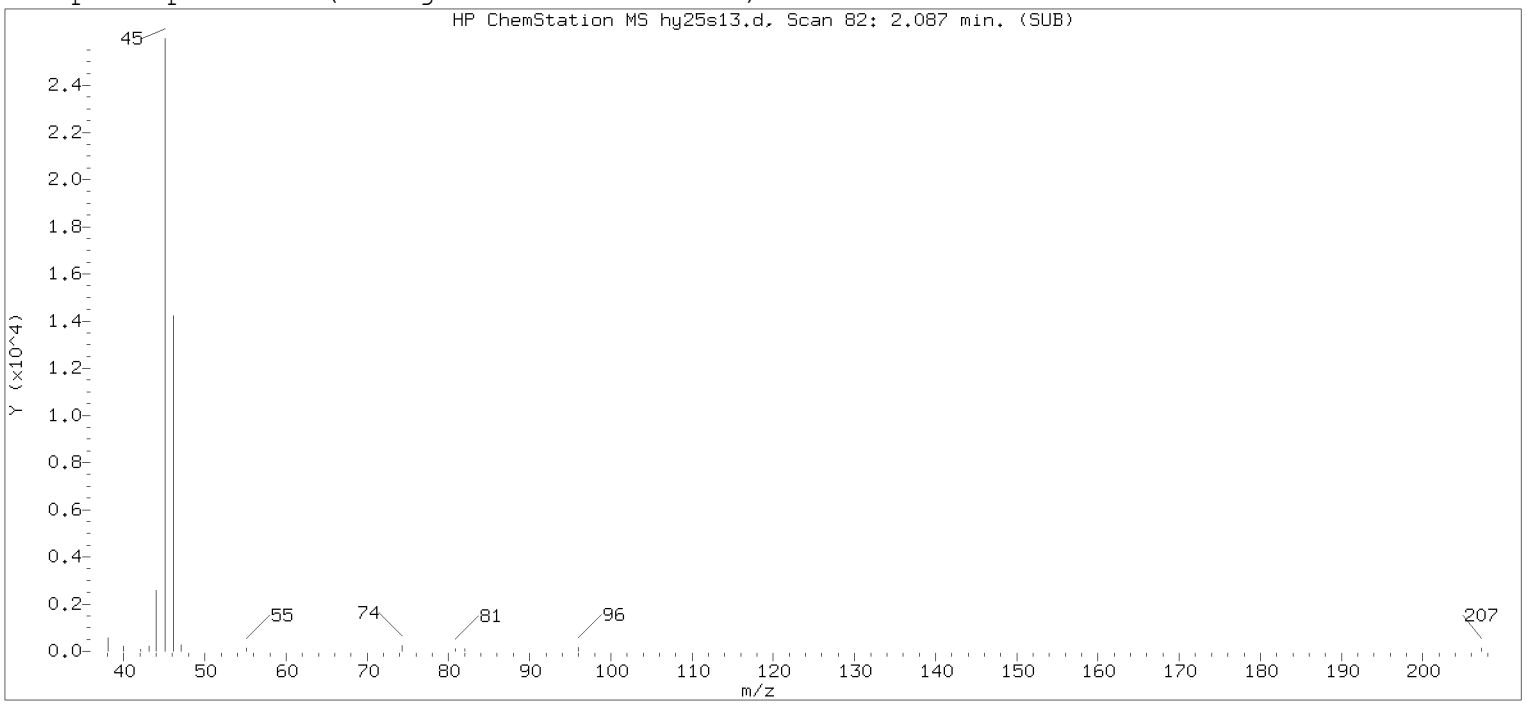
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area (flag) : 142083M
On-Column Amount (ng) : 1.6126
Integration start scan : 75 Integration stop scan: 117
Y at integration start : 317 Y at integration end: 317

Reason for manual integration: improper integration

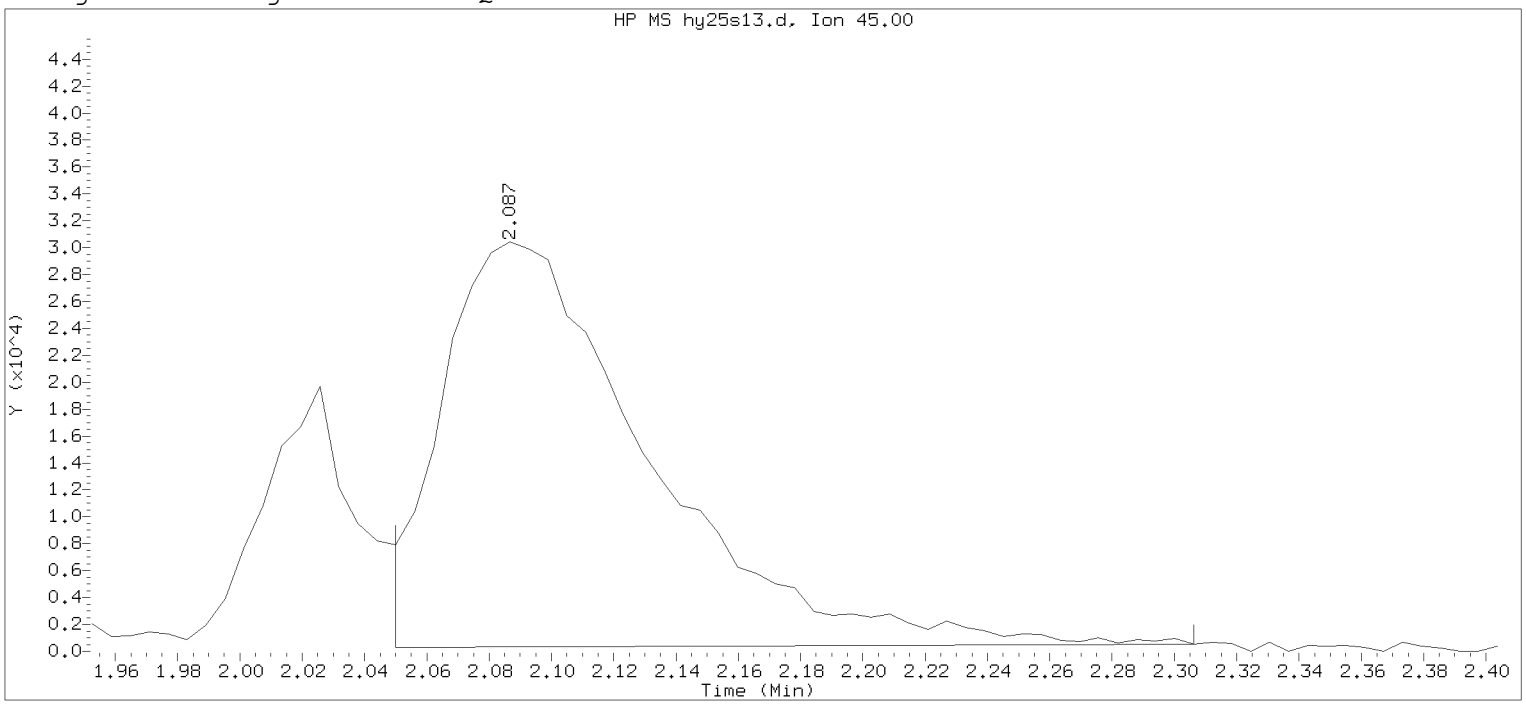
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:14.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

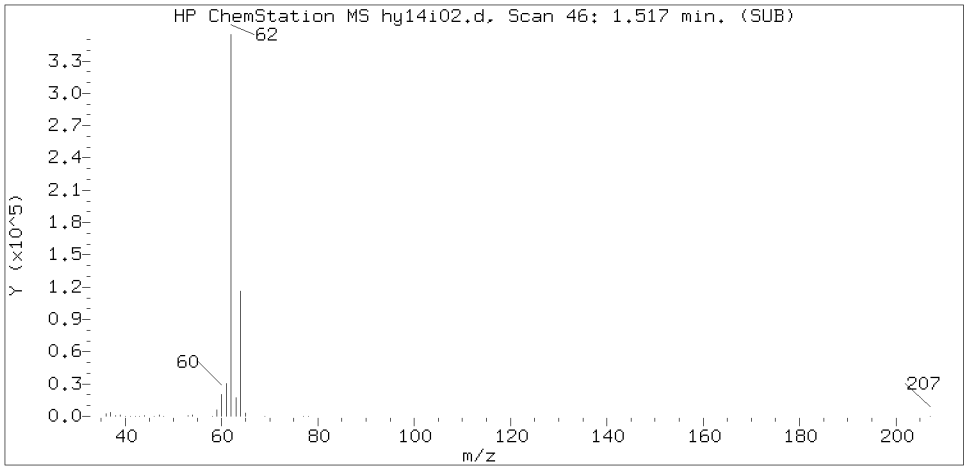
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 00:43 Automation

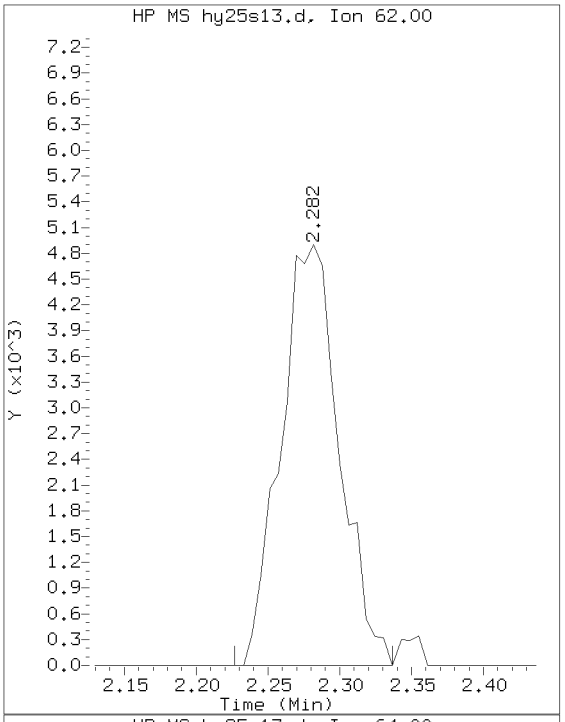
Sample Name: R8505 Lab Sample ID: 8999791

Compound Number	: 4		
Compound Name	: Dimethyl ether		
Scan Number	: 82		
Retention Time (minutes)	: 2.087		
Quant Ion	: 45.00		
Area	: 139186		
On-column Amount (ng)	: 1.5798		
Integration start scan	: 75	Integration stop scan:	117
Y at integration start	: 305	Y at integration end:	520

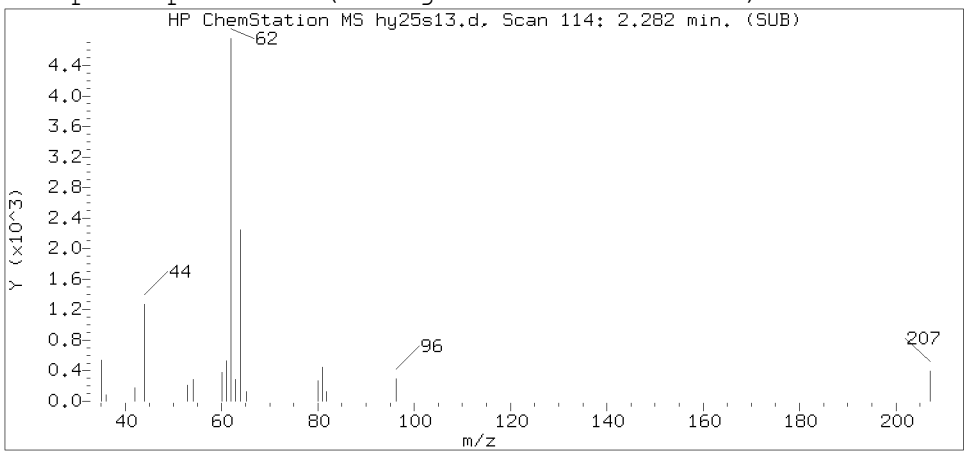
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature used on 05/30/2017.

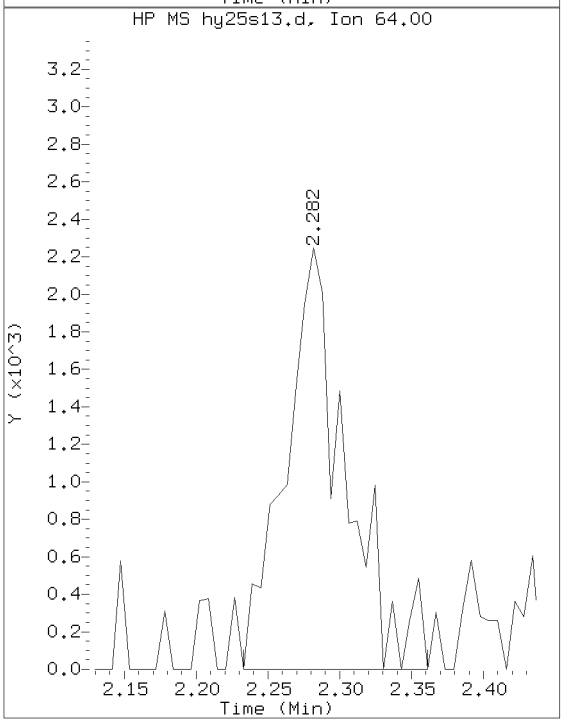
Reference Standard Spectrum for Vinyl Chloride



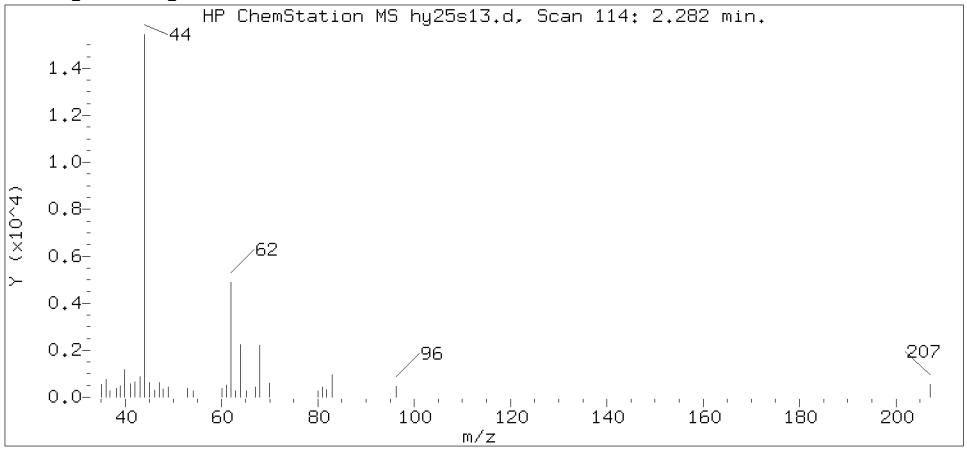


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

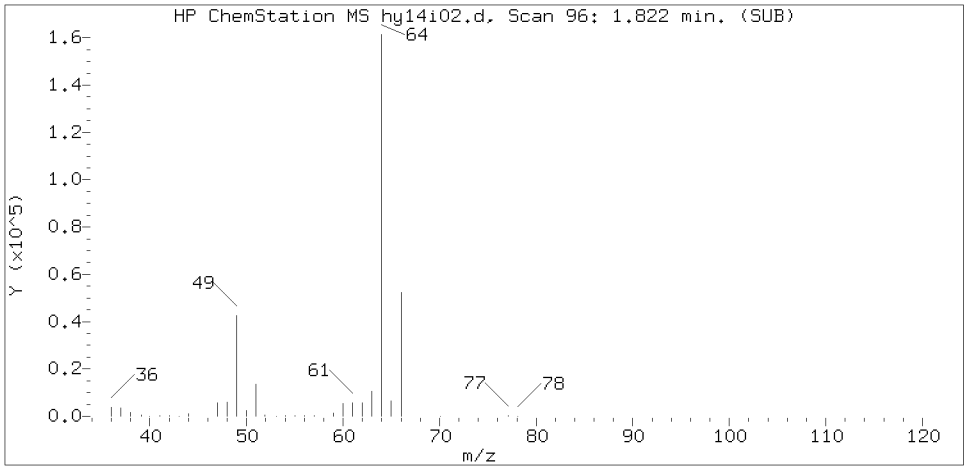
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

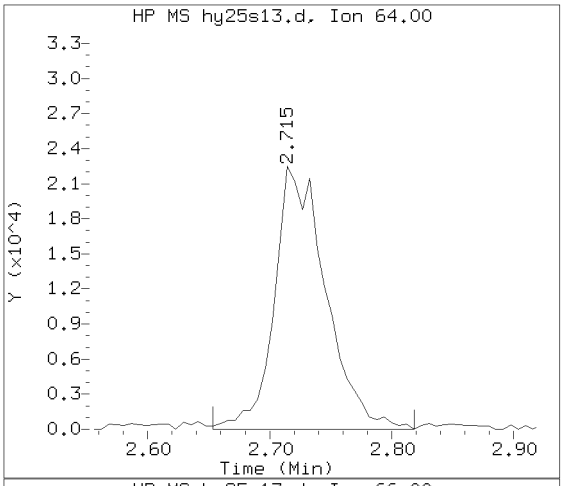
Sample Name: R8505 Lab Sample ID: 8999791

Compound Number	: 5
Compound Name	: Vinyl Chloride
Scan Number	: 114
Retention Time (minutes)	: 2.282
Relative Retention Time	: 0.00057
Quant Ion	: 62.00
Area (flag)	: 13908
On-Column Amount (ng)	: 0.1620

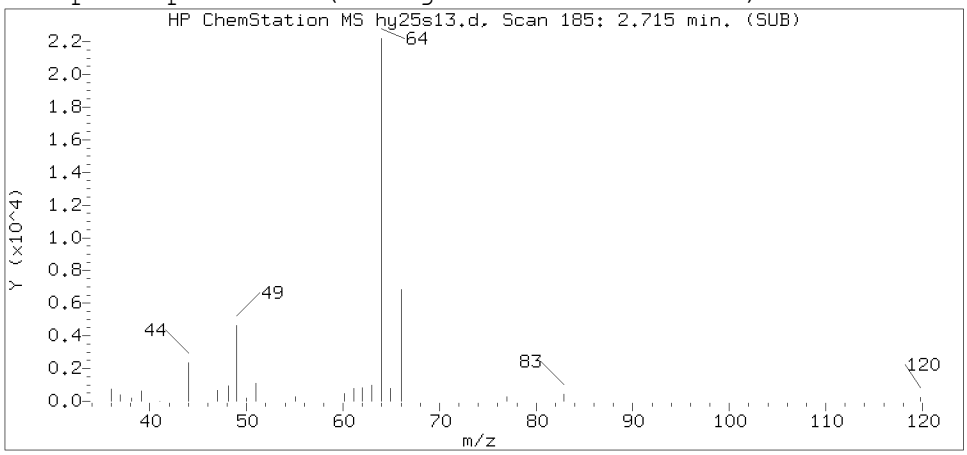
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

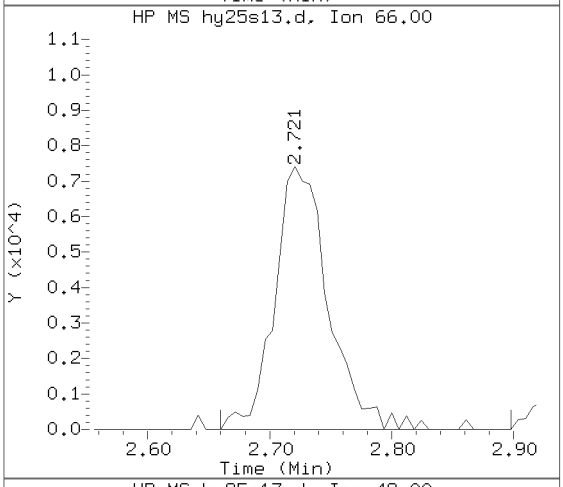
Reference Standard Spectrum for Chloroethane



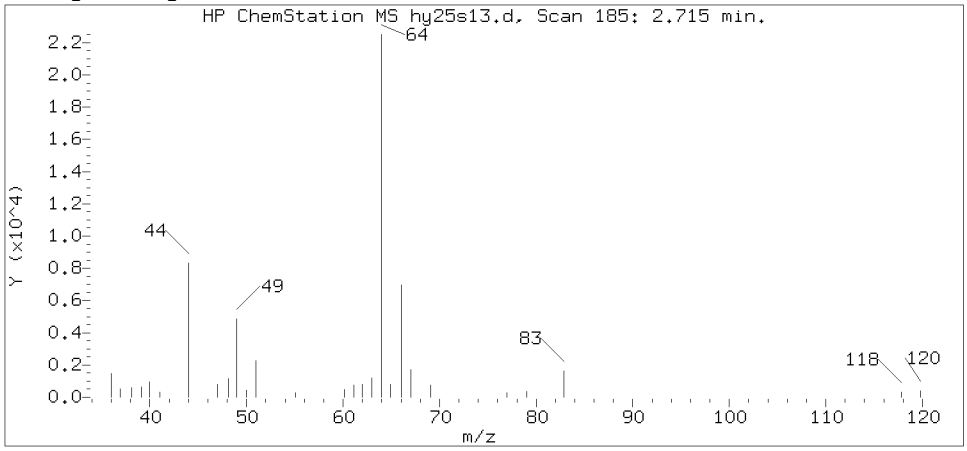


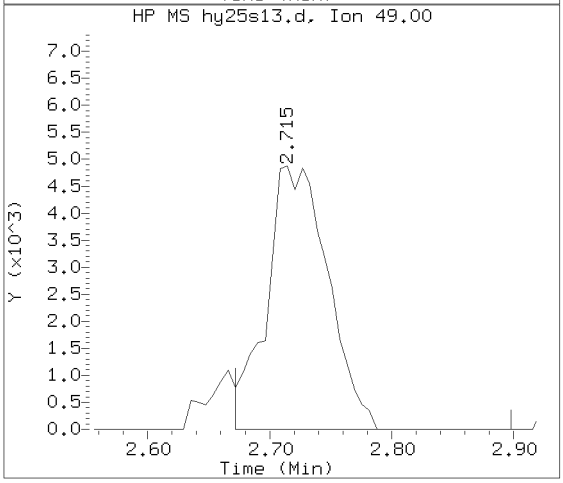
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

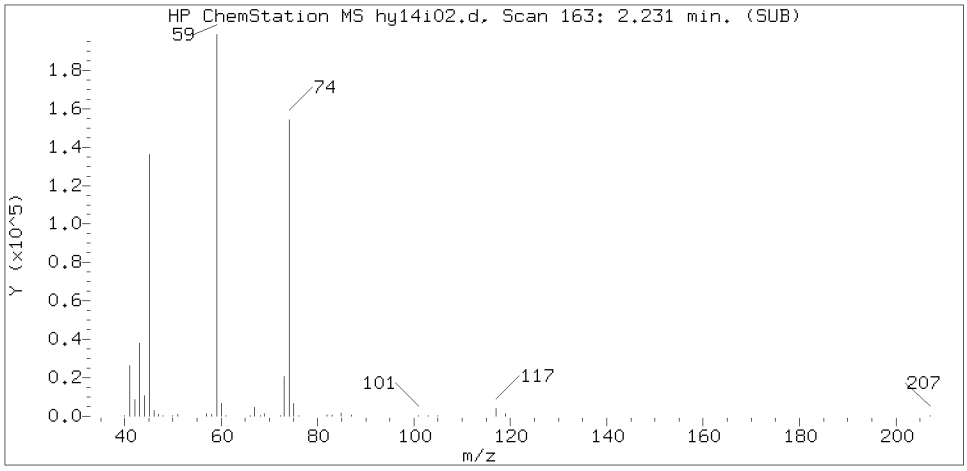
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

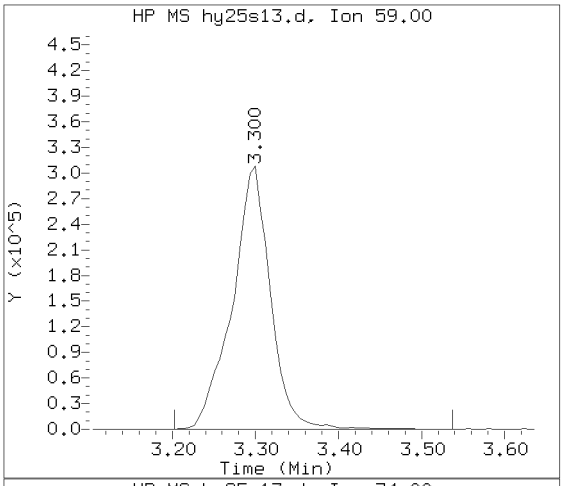
Sample Name: R8505 Lab Sample ID: 8999791

Compound Number	: 8
Compound Name	: Chloroethane
Scan Number	: 185
Retention Time (minutes)	: 2.715
Relative Retention Time	: 0.00209
Quant Ion	: 64.00
Area (flag)	: 65866
On-Column Amount (ng)	: 1.3394

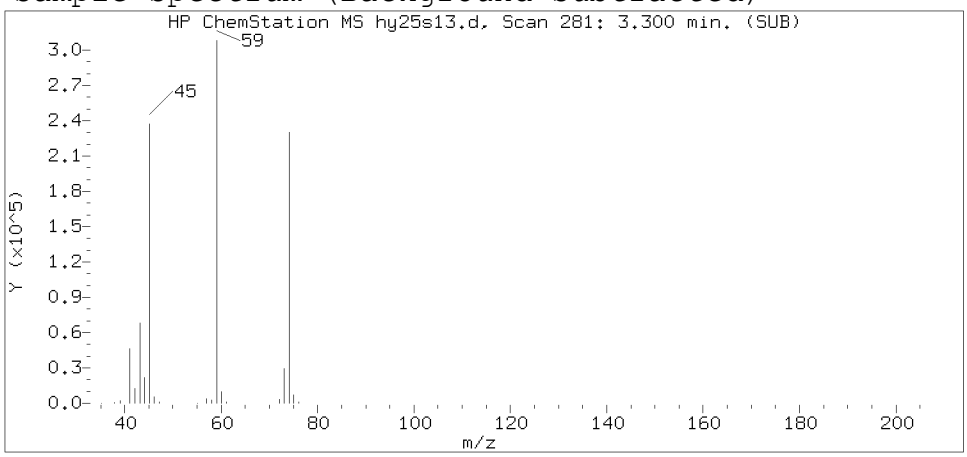
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

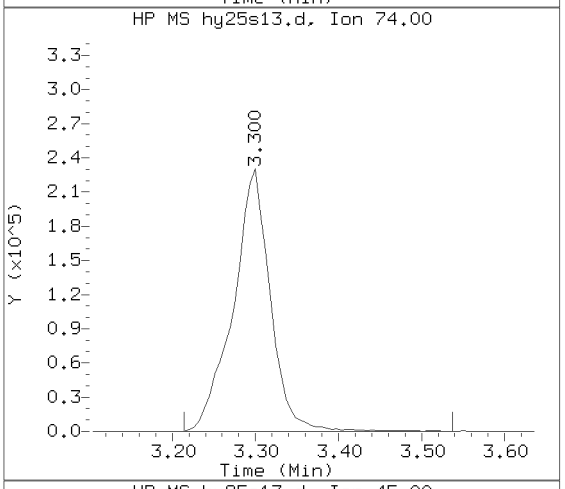
Reference Standard Spectrum for Ethyl ether



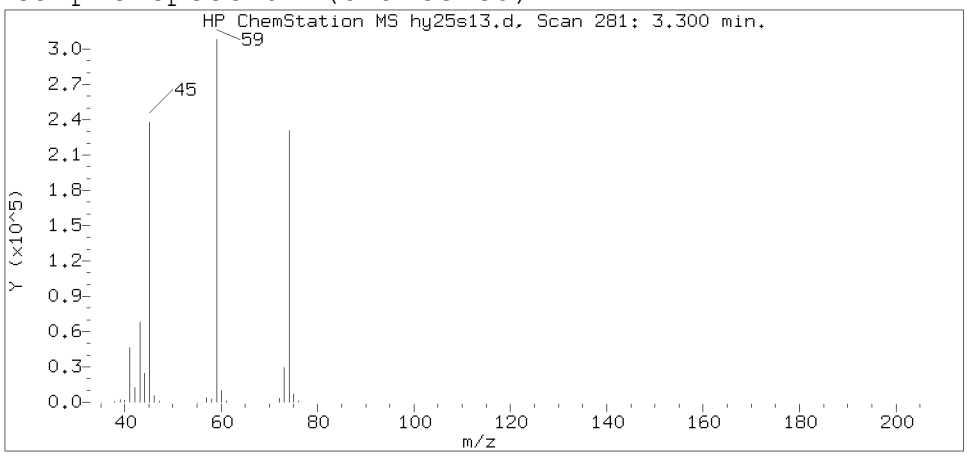


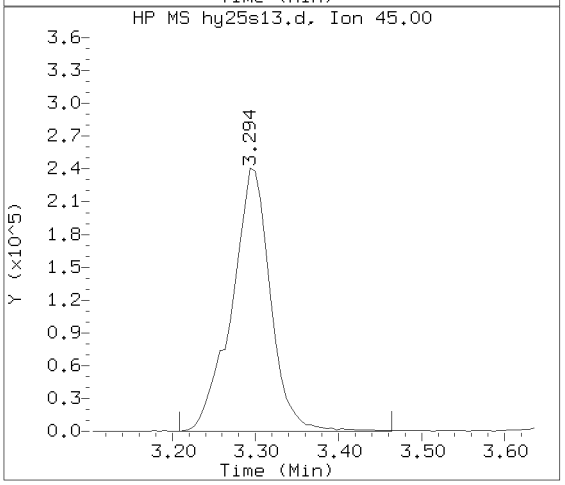
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

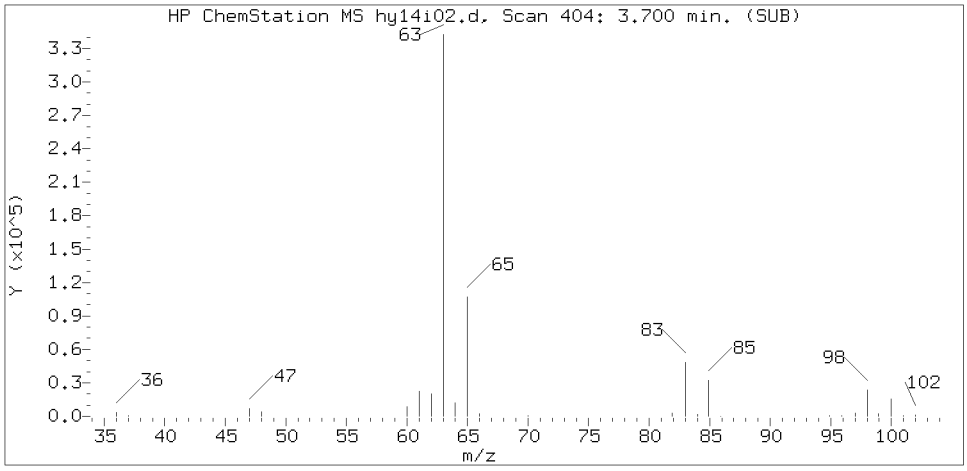
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

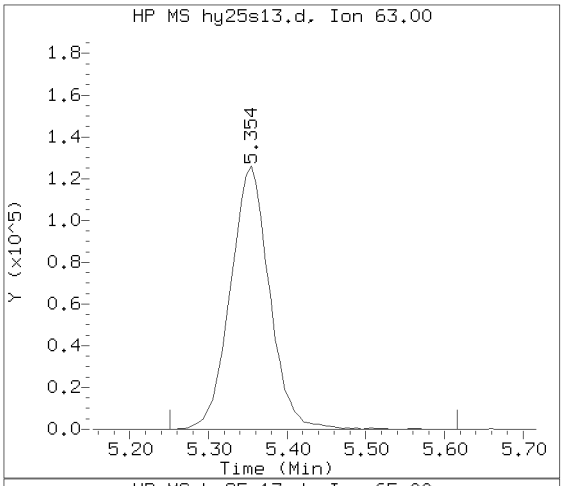
Sample Name: R8505 Lab Sample ID: 8999791

Compound Number	: 11
Compound Name	: Ethyl ether
Scan Number	: 281
Retention Time (minutes)	: 3.300
Relative Retention Time	: 0.00046
Quant Ion	: 59.00
Area (flag)	: 980339
On-Column Amount (ng)	: 24.8749

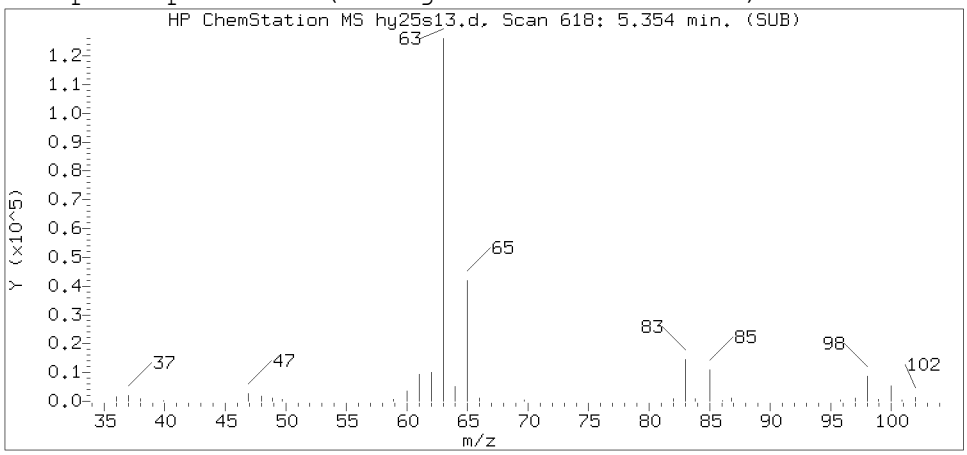
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

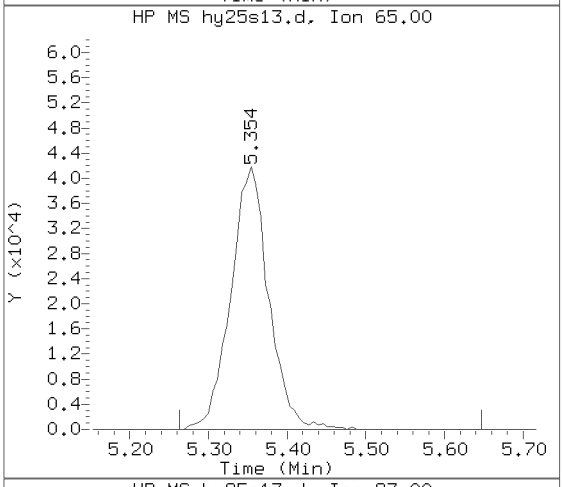
Reference Standard Spectrum for 1,1-Dichloroethane



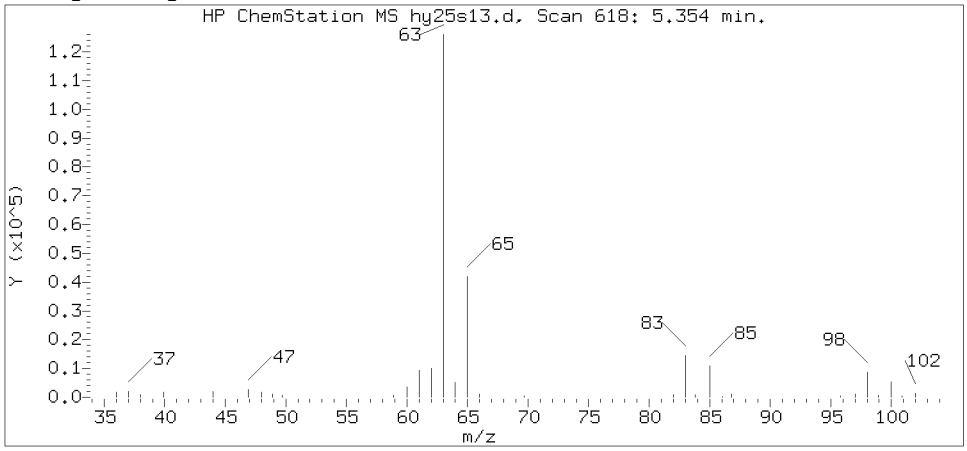


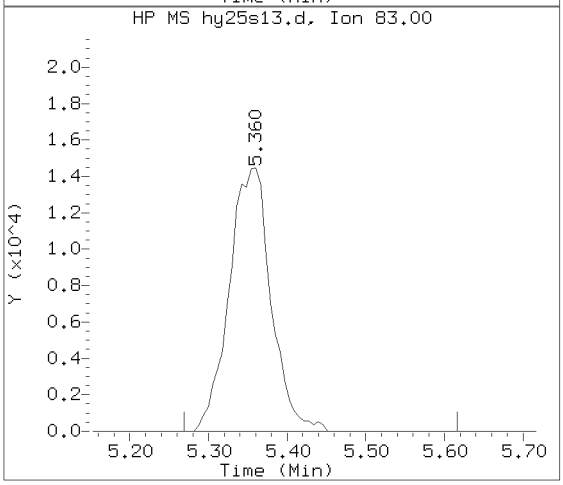
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

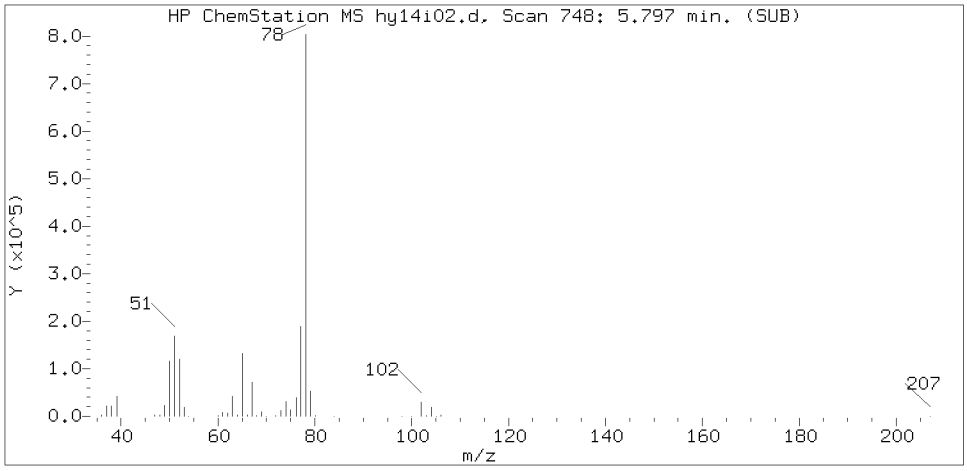
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8505 Lab Sample ID: 8999791

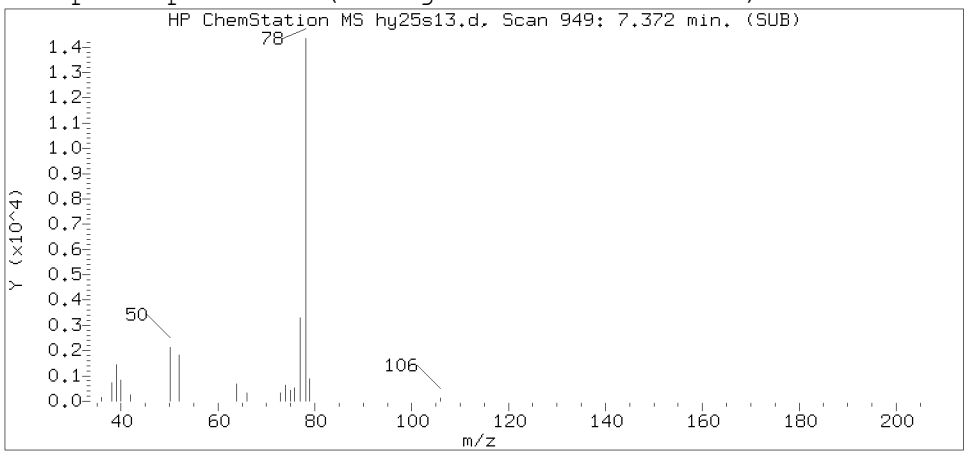
Compound Number	: 33
Compound Name	: 1,1-Dichloroethane
Scan Number	: 618
Retention Time (minutes)	: 5.354
Relative Retention Time	: 0.00025
Quant Ion	: 63.00
Area (flag)	: 433953
On-Column Amount (ng)	: 3.7278

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

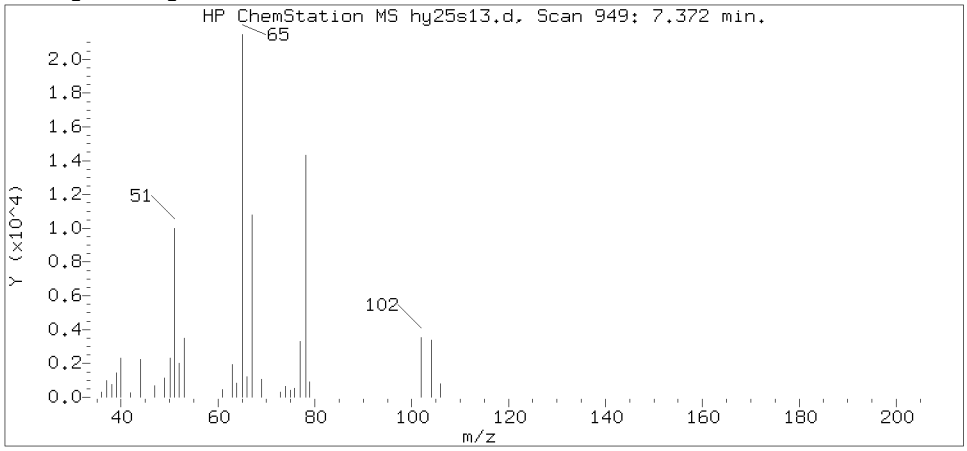
Reference Standard Spectrum for Benzene

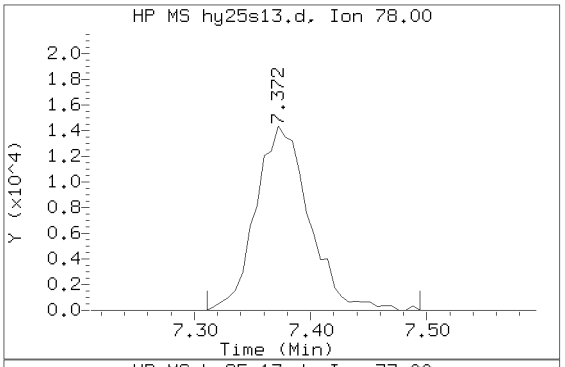


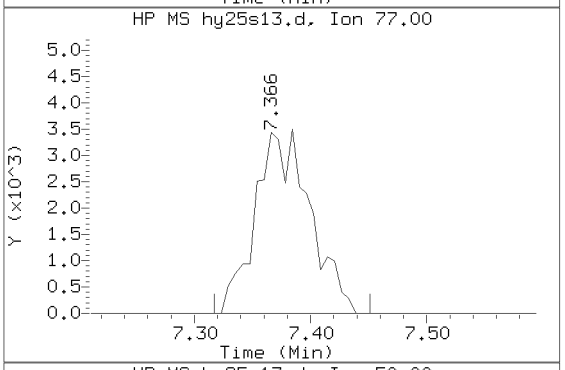
Sample Spectrum (Background Subtracted)

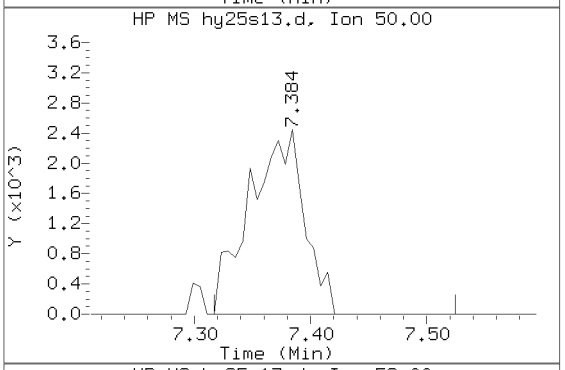


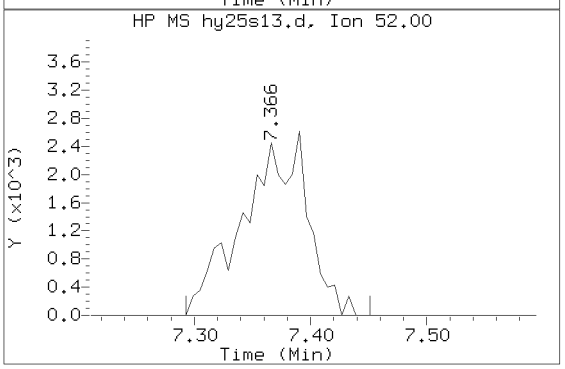
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

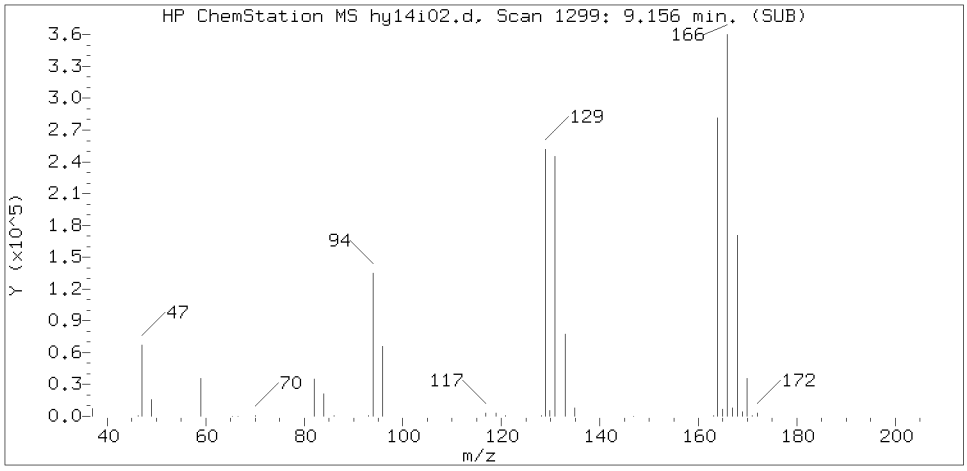
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

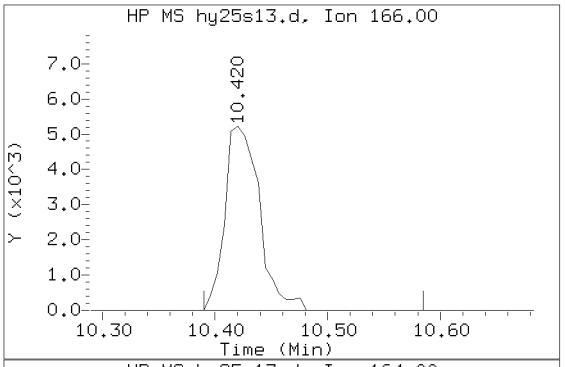
Sample Name: R8505 Lab Sample ID: 8999791

Compound Number	: 58
Compound Name	: Benzene
Scan Number	: 949
Retention Time (minutes)	: 7.372
Relative Retention Time	: 0.00004
Quant Ion	: 78.00
Area (flag)	: 46012
On-Column Amount (ng)	: 0.1824

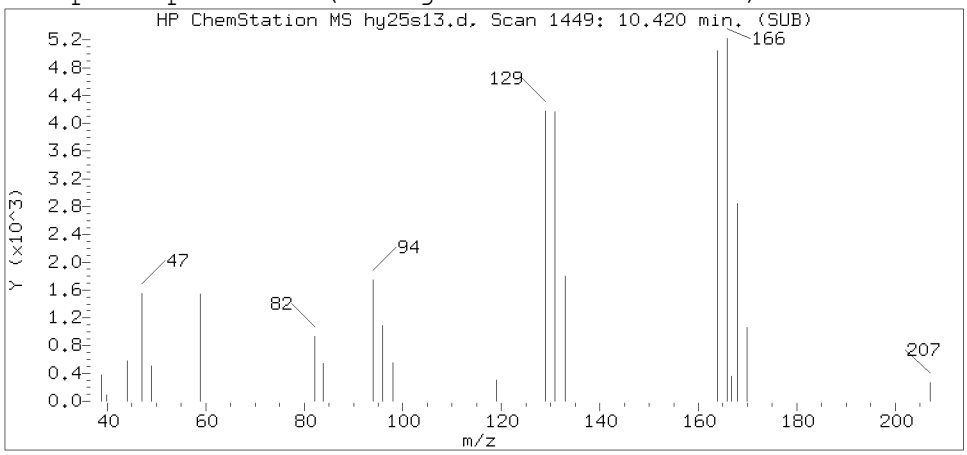
Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

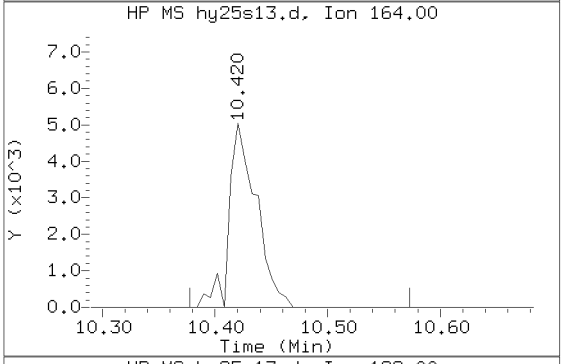
Reference Standard Spectrum for Tetrachloroethene

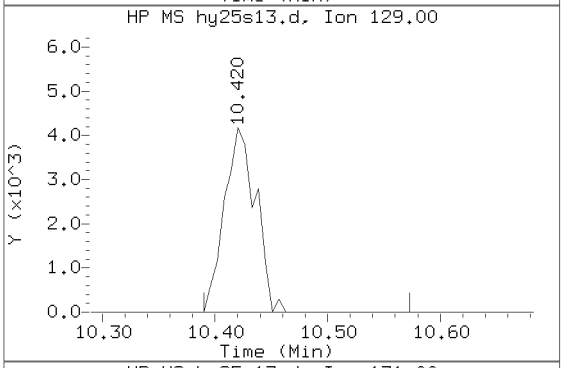




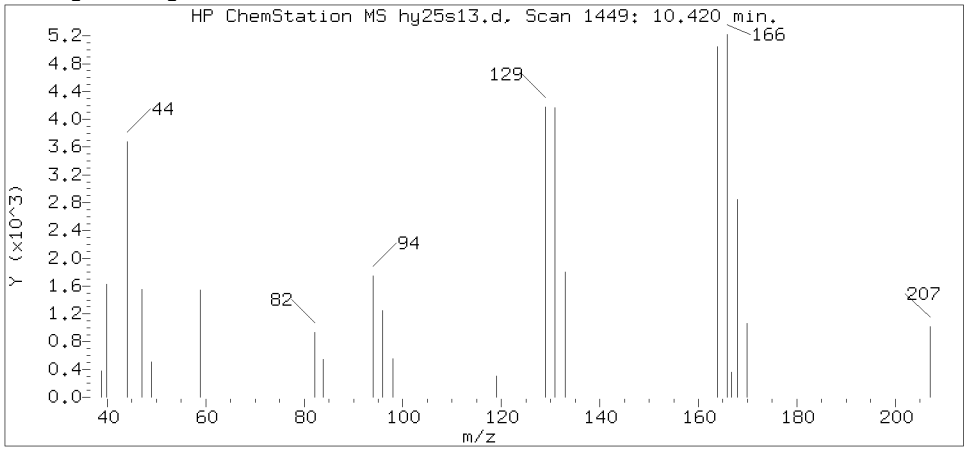
Sample Spectrum (Background Subtracted)

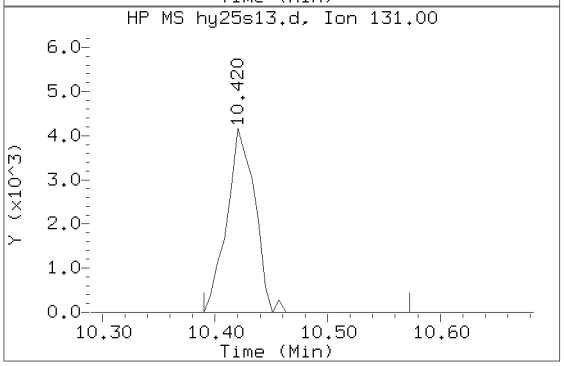






Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s13.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:25 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8505 Lab Sample ID: 8999791

Compound Number	: 89
Compound Name	: Tetrachloroethene
Scan Number	: 1449
Retention Time (minutes)	: 10.420
Relative Retention Time	:-0.00000
Quant Ion	: 166.00
Area (flag)	: 11174
On-Column Amount (ng)	: 0.1537

Digitally signed by Don V. Viray on 05/30/2017 at 22:14.
Target 3.5 esignature user IDs: dvv10203

R8506 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999792

Data file: /chem/HP09915.i/17may23a.b/ly23s15.d Injection date and time: **23-MAY-2017 15:17**
Data file Sample Info. Line: R8506;8999792;1;0;;RAE85;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 15:34 Automation

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **16342**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.578	(-0.003)	652	65	207716	(-13)	250.00	
66) Fluorobenzene	7.050	(-0.003)	1732	96	1074266	(-9)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	820649	(-9)	50.00	
131) 1,4-Dichlorobenzene-d4	12.642	(-0.003)	3471	152	434195	(-10)	50.00	

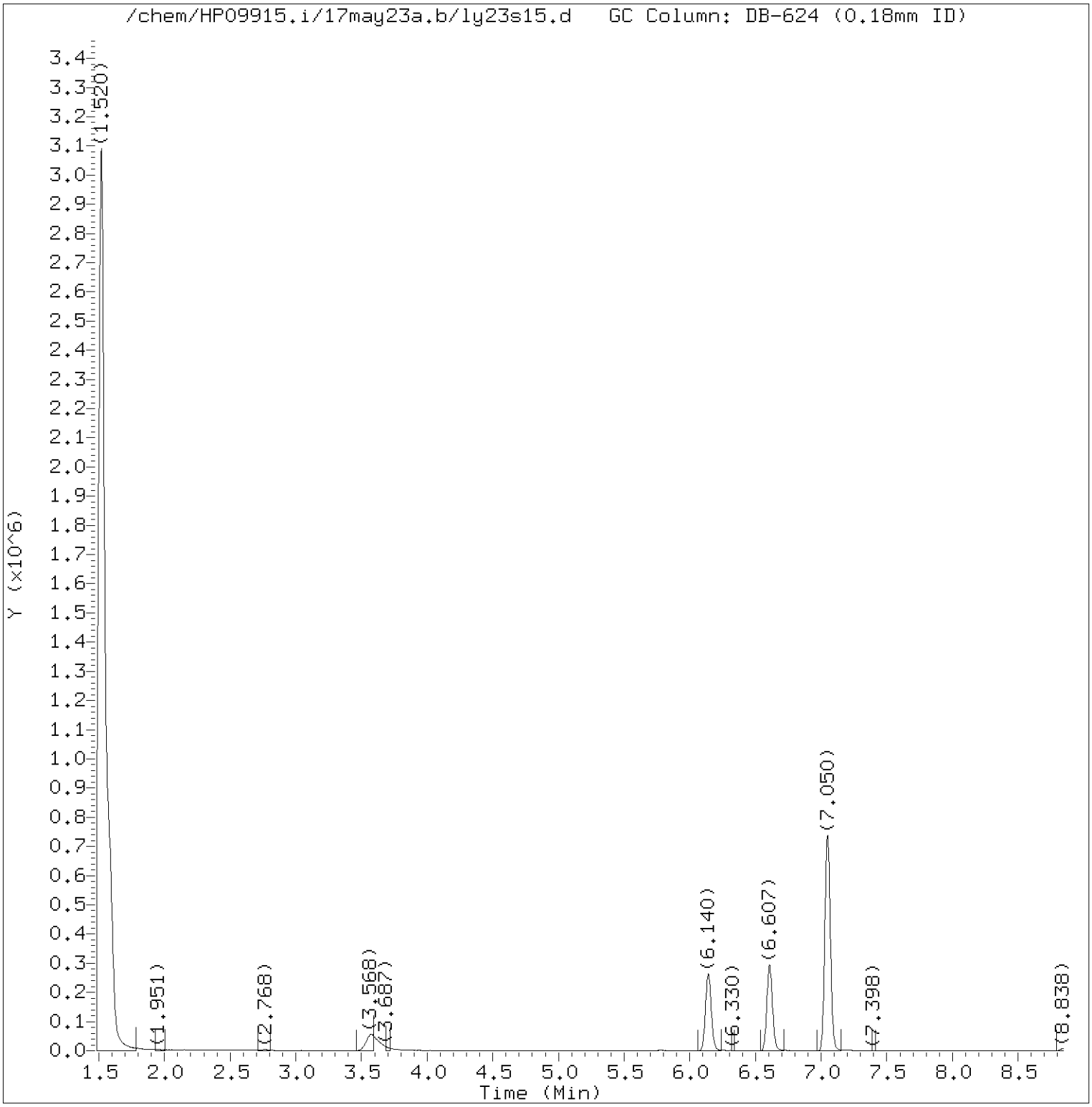
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.140	(0.000)	113	259900	49.544	99%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.610	(0.000)	102	66222	50.766	102%		77 - 113
83) Toluene-d8	(3)	9.140	(0.000)	98	1029870	49.150	98%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.751	(0.000)	95	384782	49.405	99%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
21) 2-Propanol	(1)				Not Detected					50	100

Total number of targets = 1

Digitally signed by Kevin Kelly on 05/23/2017 at 16:21. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:38. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

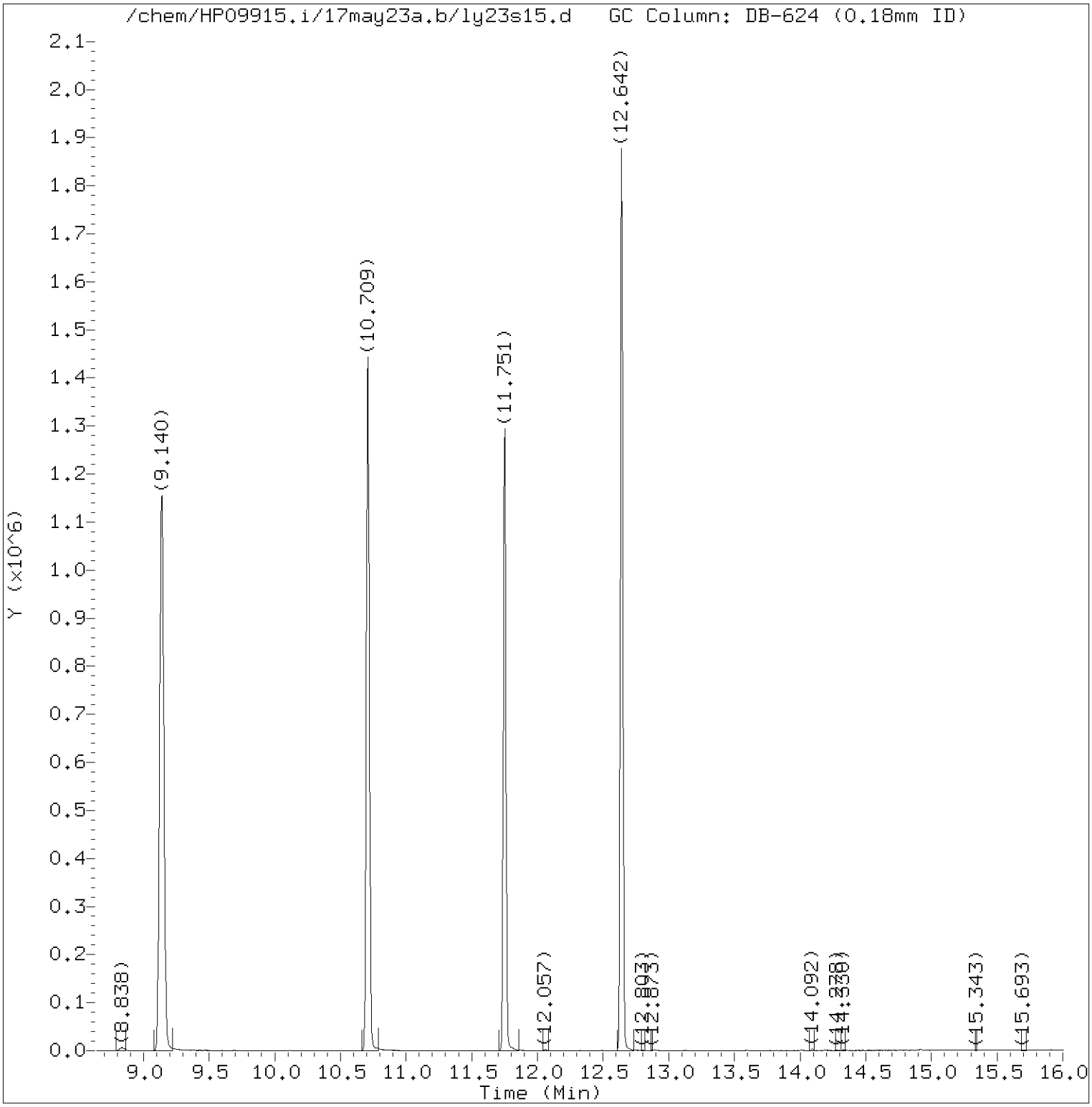
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s15.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 15:17 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 15:34 Automation

Sample Name: R8506 Lab Sample ID: 8999792

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:21.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s15.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 15:17 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 15:34 Automation

Sample Name: R8506 Lab Sample ID: 8999792

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:21.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s15.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 15:17 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 15:34 Automation

Sample Name: R8506 Lab Sample ID: 8999792

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
29)*t-Butyl alcohol-d10	(1)	3.578	65	207716	250.000
52)$Dibromofluoromethane	(2)	6.140	113	259900	49.544
57)$1,2-Dichloroethane-d4	(2)	6.610	102	66222	50.766
66)*Fluorobenzene	(2)	7.050	96	1074266	50.000
83)$Toluene-d8	(3)	9.140	98	1029870	49.150
100)*Chlorobenzene-d5	(3)	10.709	117	820649	50.000
114)$4-Bromofluorobenzene	(3)	11.751	95	384782	49.405
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	434195	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:21.
Target 3.5 esignature user ID: kk10002

Data file: /chem2/HP19094.i/17may25b.b/hy25s14.d Injection date and time: **26-MAY-2017 00:45**
Data file Sample Info. Line: R8506;8999792;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263(0.000)	439	65	67806M (-23)	50.00	
63) Fluorobenzene	7.775(0.006)	1015	96	2378782 (-9)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1611954 (-14)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	615769 (-27)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866(0.000)	113	573301	10.751	108%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330(0.000)	102	97398	11.296	113%		74 - 113
82) Toluene-d8	(3)	9.786(0.001)	98	2358617	10.010	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	626134	9.353	94%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)			Not Detected					0.1	1
4) Dimethyl ether	(2)	2.105(-0.001)	45	18862M	0.217	0.22		J	0.1	13
2) Chloromethane	(2)			Not Detected					0.2	1
5) Vinyl Chloride	(2)			Not Detected					0.2	1
7) Bromomethane	(2)			Not Detected					0.5	1
8) Chloroethane	(2)			Not Detected					0.1	1
10) Trichlorofluoromethane	(2)			Not Detected					0.2	1
11) Ethyl ether	(2)			Not Detected					1	13
13) Acrolein	(1)			Not Detected					5	25
15) 1,1-Dichloroethene	(2)			Not Detected					0.2	1
16) Freon 113	(2)			Not Detected					0.2	1
14) Acetone	(1)			Not Detected					3	10
17) Methyl Iodide	(2)			Not Detected					0.6	10
18) Carbon Disulfide	(2)			Not Detected					0.4	10
25) Acetonitrile	(1)			Not Detected					32	100
22) Allyl Chloride	(2)			Not Detected					0.8	10
23) Methylene Chloride	(2)			Not Detected					0.2	1
29) Acrylonitrile	(1)			Not Detected					1	10
31) trans-1,2-Dichloroethene	(2)			Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1	1
36) Vinyl Acetate	(2)			Not Detected					3	10
35) 2-Chloro-1,3-Butadiene	(2)			Not Detected					0.5	10
38) 2-Butanone	(1)			Not Detected					1	10
42) Propionitrile	(1)			Not Detected					10	100
45) Methacrylonitrile	(1)			Not Detected					10	100
48) Tetrahydrofuran	(1)			Not Detected					2	25
49) Chloroform	(2)			Not Detected					0.1	1
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1	1
54) Carbon Tetrachloride	(2)			Not Detected					0.2	1

M = Compound was manually integrated.

Digitally signed by Don V. Viray on 05/30/2017 at 22:15. Target 3.5 esignature user ID: dvv10203

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s14.d Injection date and time: **26-MAY-2017 00:45**
Data file Sample Info. Line: R8506;8999792;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

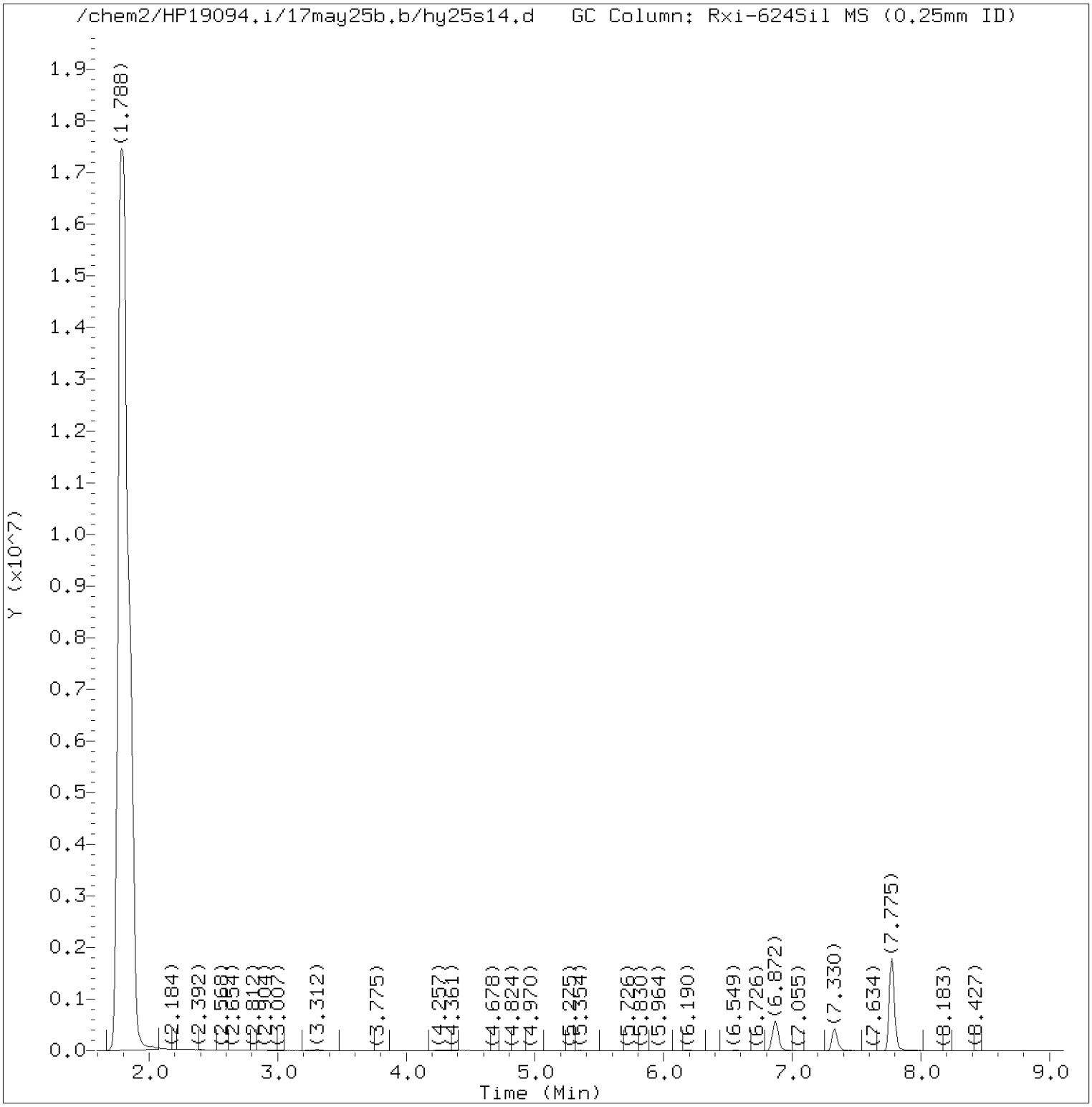
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
56) Isobutyl Alcohol	(1)				Not Detected					10	200
58) Benzene	(2)				Not Detected					0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1
70) 1,2-Dichloropropane	(2)				Not Detected					0.1	1
71) Methyl Methacrylate	(1)				Not Detected					4	10
73) Dibromomethane	(2)				Not Detected					0.1	1
72) 1,4-Dioxane	(1)				Not Detected					45	200
74) Bromodichloromethane	(2)				Not Detected					0.1	1
81) 4-Methyl-2-Pentanone	(1)				Not Detected					1	10
83) Toluene	(3)				Not Detected					0.1	1
84) trans-1,3-Dichloropropene	(3)				Not Detected					0.1	1
86) Ethyl Methacrylate	(3)				Not Detected					0.8	10
88) 1,1,2-Trichloroethane	(3)				Not Detected					0.1	1
89) Tetrachloroethene	(3)				Not Detected					0.1	1
90) 1,3-Dichloropropane	(3)				Not Detected					0.1	1
91) 2-Hexanone	(1)				Not Detected					1	10
93) Dibromochloromethane	(3)				Not Detected					0.1	1
95) 1,2-Dibromoethane	(3)				Not Detected					0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)				Not Detected					0.1	1
100) Ethylbenzene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3
106) Styrene	(3)				Not Detected					0.1	1
107) Bromoform	(3)				Not Detected					0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					0.2	1
115) trans-1,4-Dichloro-2-butene	(1)				Not Detected					1	10
116) 1,2,3-Trichloropropane	(4)				Not Detected					0.3	1
126) Pentachloroethane	(4)				Not Detected					0.8	10
131) 1,3-Dichlorobenzene	(4)				Not Detected					0.1	1
134) 1,4-Dichlorobenzene	(4)				Not Detected					0.1	1
139) 1,2-Dichlorobenzene	(4)				Not Detected					0.1	1
142) Hexachloroethane	(4)				Not Detected					0.1	10
143) 1,2-Dibromo-3-chloropropane	(1)				Not Detected					0.2	1
145) 1,2,4-Trichlorobenzene	(4)				Not Detected					0.1	1
146) Hexachlorobutadiene	(4)				Not Detected					0.1	1
147) Naphthalene	(4)				Not Detected					0.1	1

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:15. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

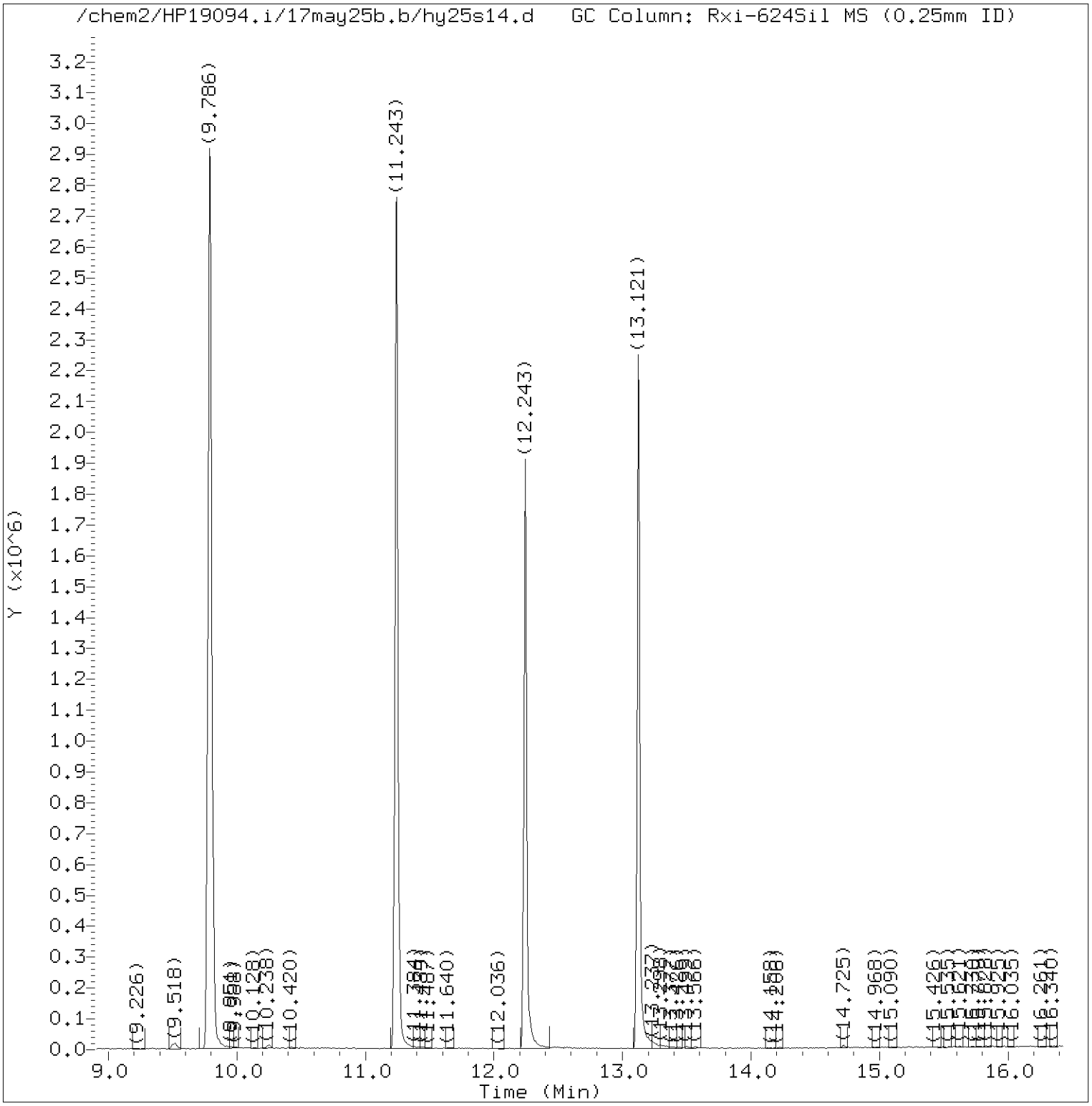
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s14.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8506 Lab Sample ID: 8999792

Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s14.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8506 Lab Sample ID: 8999792

Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s14.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

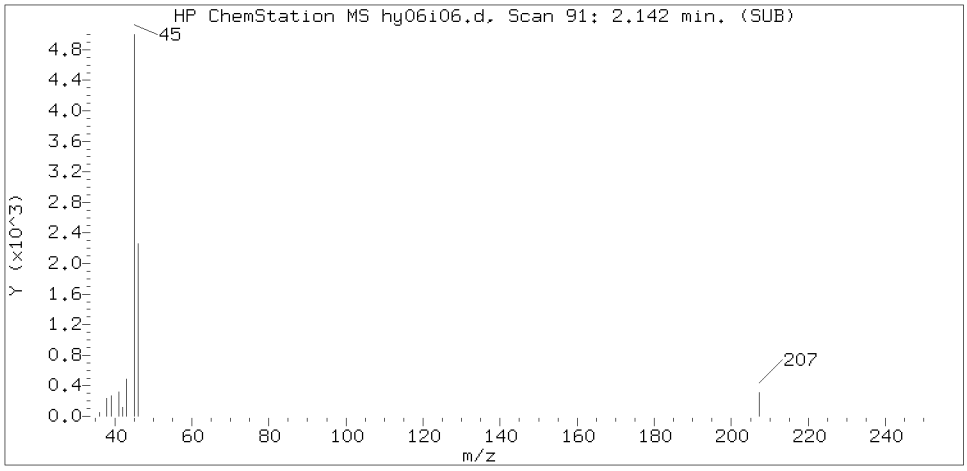
Sample Name: R8506 Lab Sample ID: 8999792

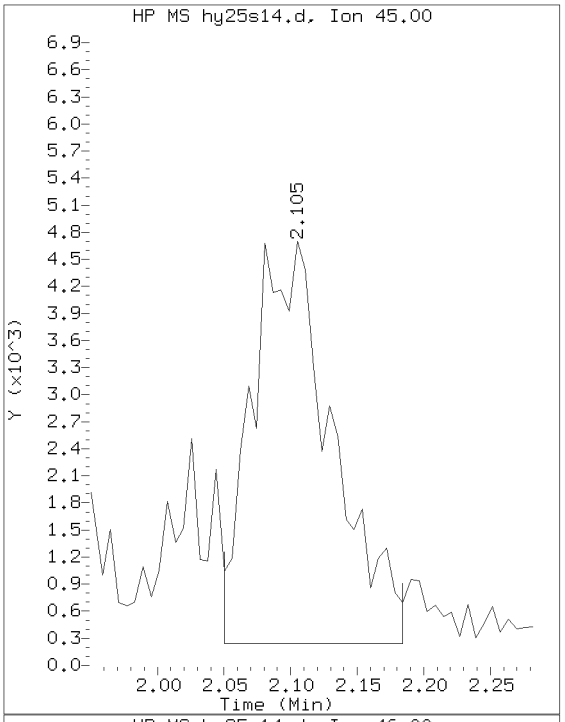
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.105	45	18862M	0.217
26)*t-Butyl Alcohol-d10	(1)	4.263	65	67806M	50.000
50)$Dibromofluoromethane	(2)	6.866	113	573301	10.751
57)$1,2-Dichloroethane-d4	(2)	7.330	102	97398	11.296
63)*Fluorobenzene	(2)	7.775	96	2378782	10.000
82)$Toluene-d8	(3)	9.786	98	2358617	10.010
97)*Chlorobenzene-d5	(3)	11.243	117	1611954	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	626134	9.353
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	615769	10.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

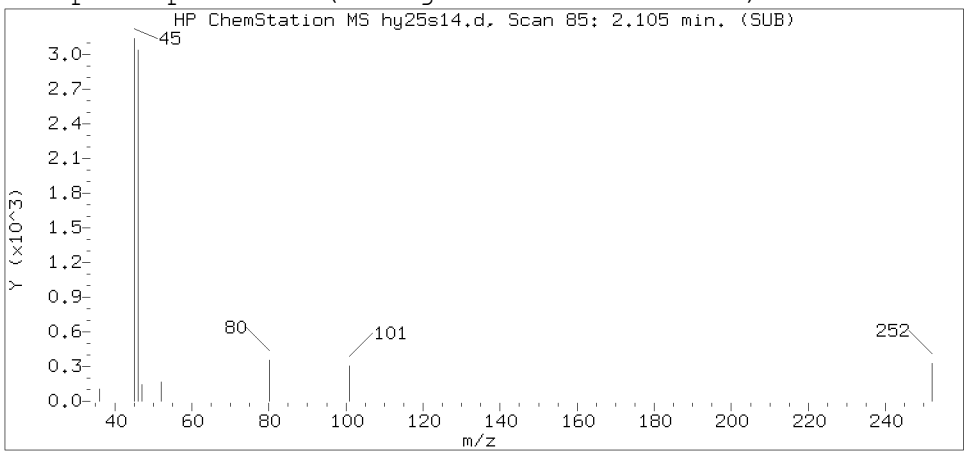
Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

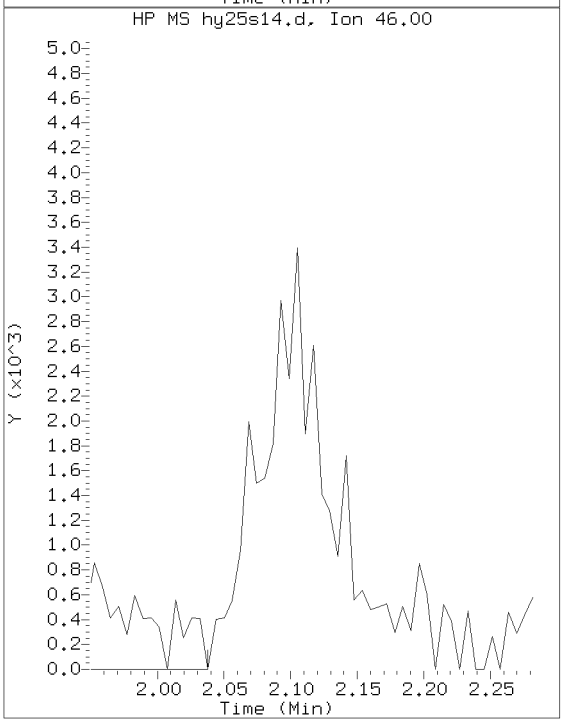
Reference Standard Spectrum for Dimethyl ether



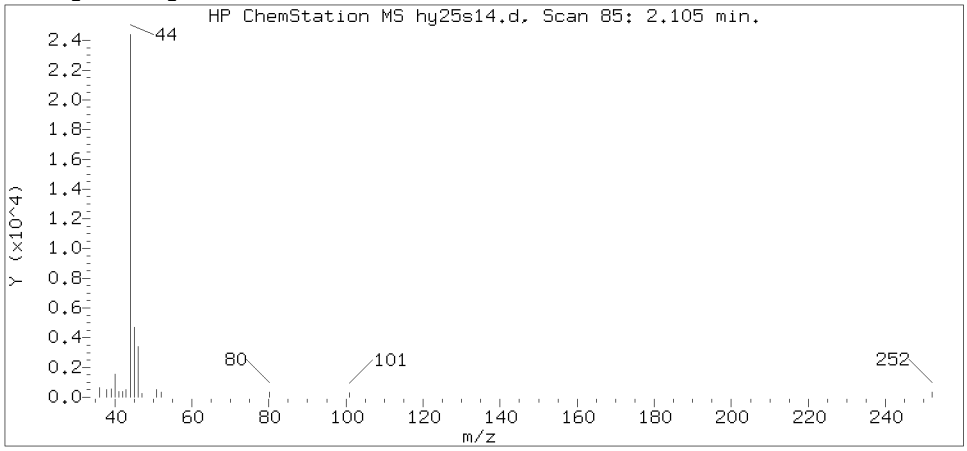


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may25b.b/hy25s14.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:45 Analyst ID: DVV10203

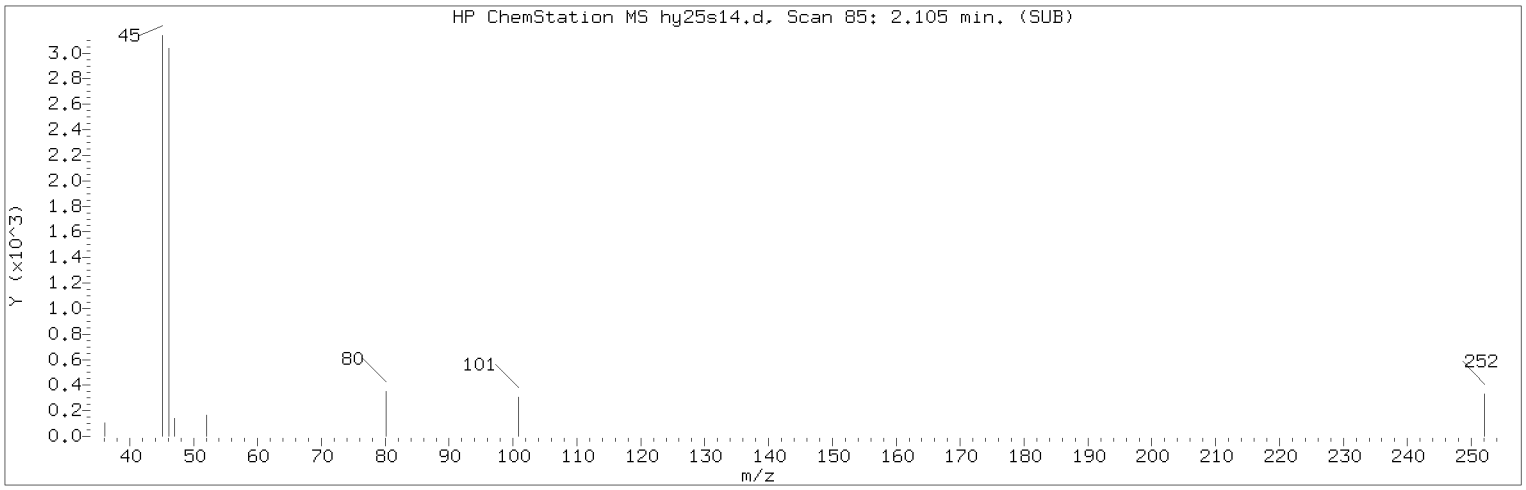
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8506 Lab Sample ID: 8999792

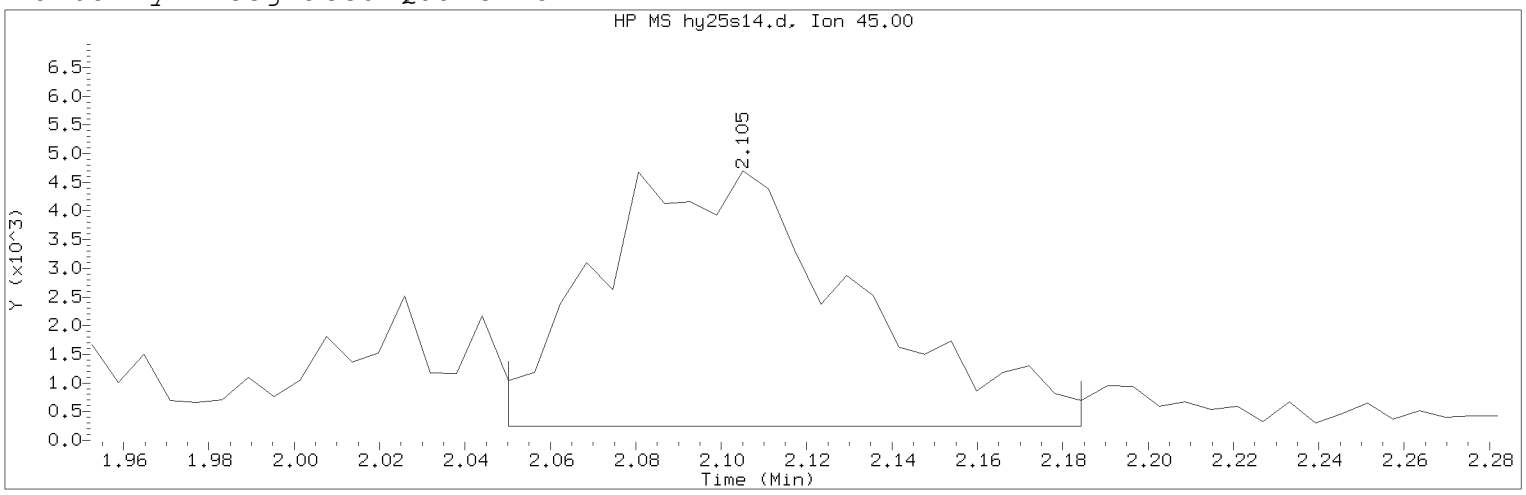
Compound Number	: 4
Compound Name	: Dimethyl ether
Scan Number	: 85
Retention Time (minutes)	: 2.105
Relative Retention Time	:-0.00179
Quant Ion	: 45.00
Area (flag)	: 18862M
On-Column Amount (ng)	: 0.2167

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s14.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8506 Lab Sample ID: 8999792

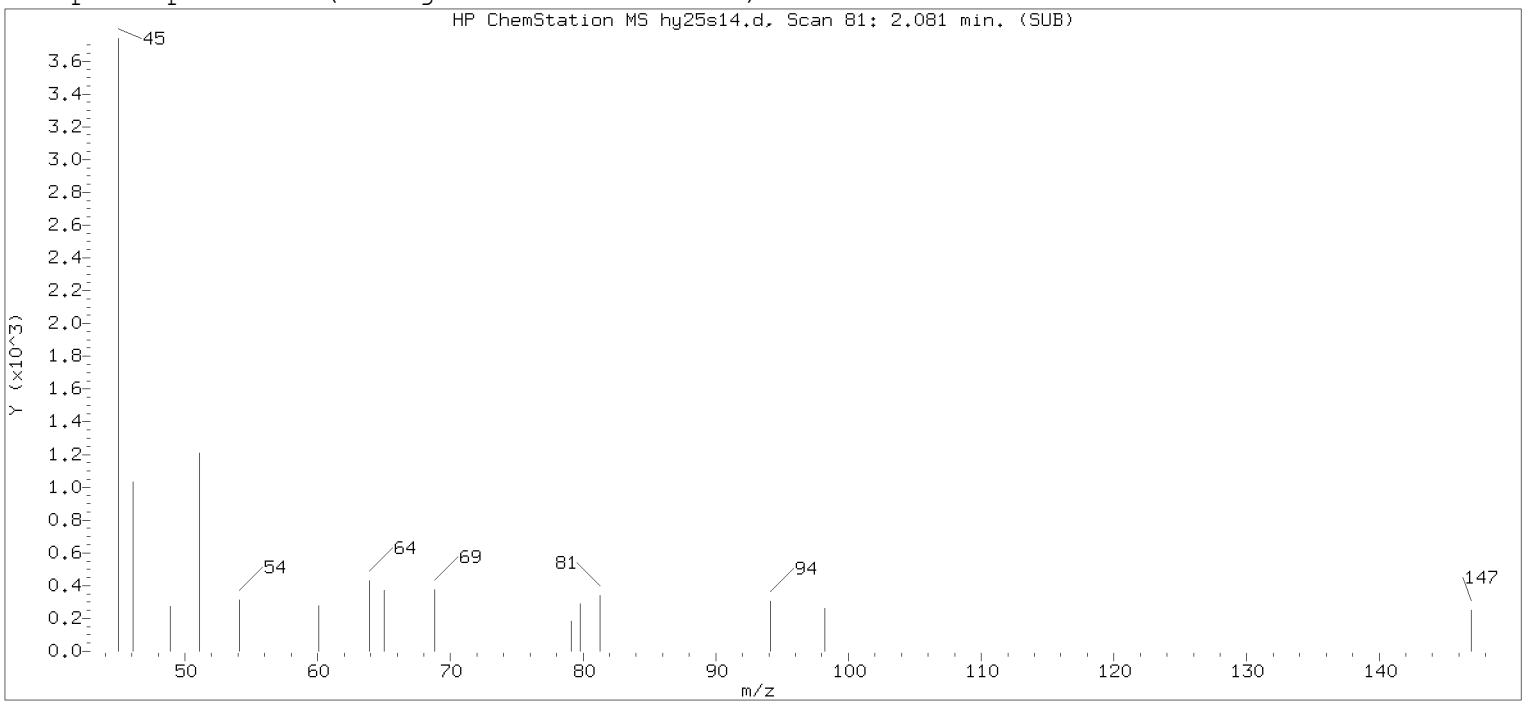
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 85
Retention Time (minutes): 2.105
Quant Ion : 45.00
Area (flag) : 18862M
On-Column Amount (ng) : 0.2167
Integration start scan : 75 Integration stop scan: 97
Y at integration start : 241 Y at integration end: 241

Reason for manual integration: improper integration

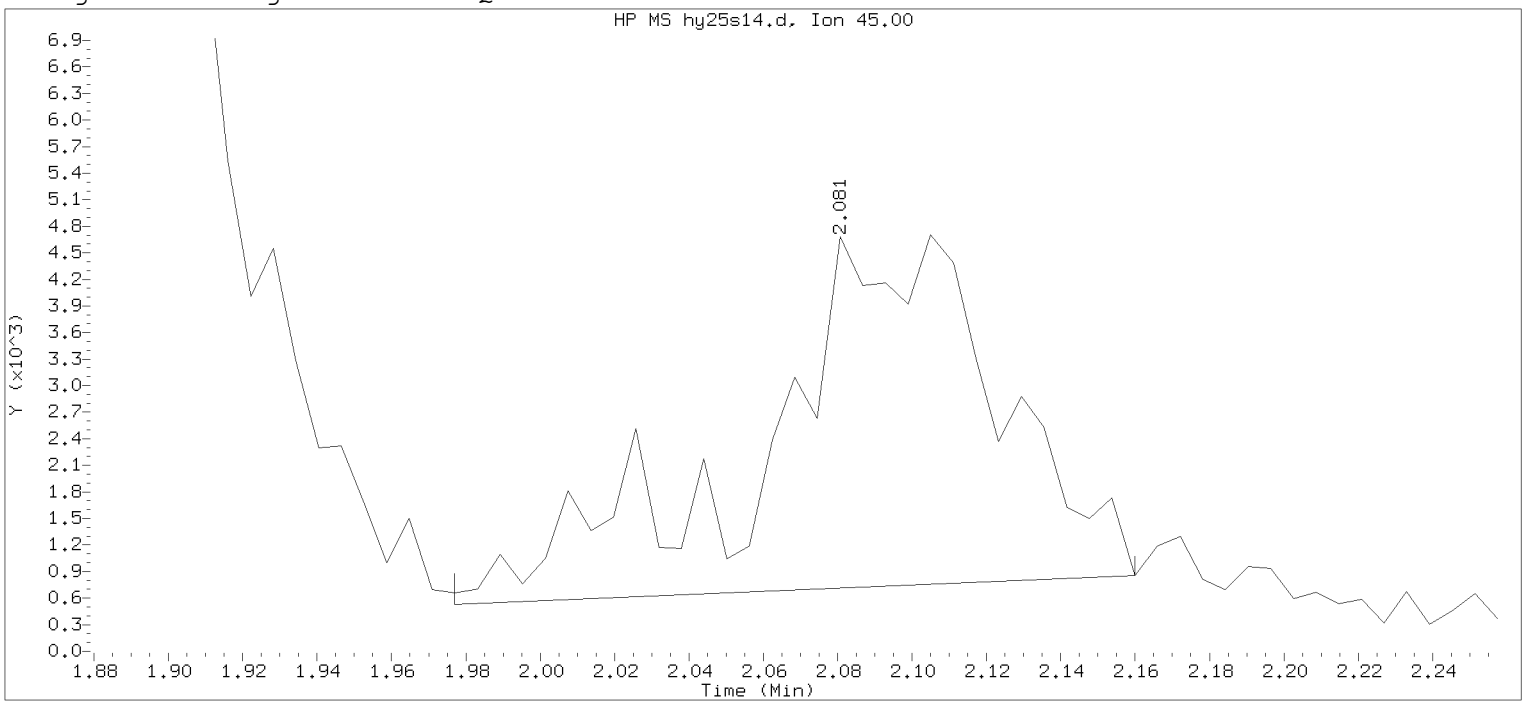
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s14.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:45 Analyst ID: DVV10203

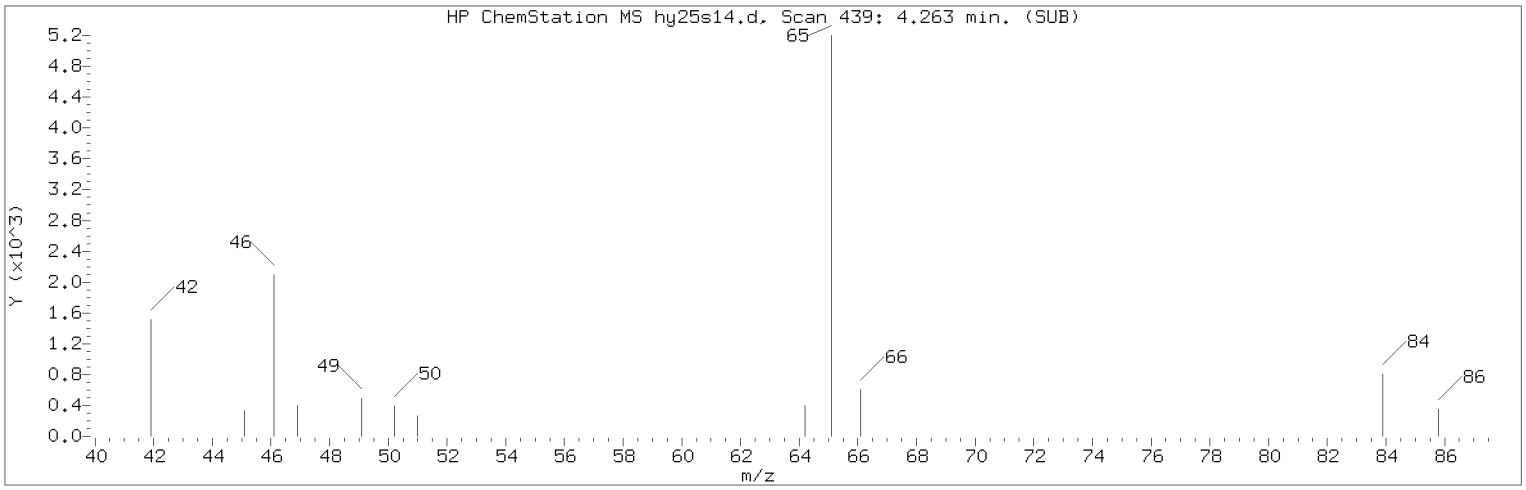
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 01:04 Automation

Sample Name: R8506 Lab Sample ID: 8999792

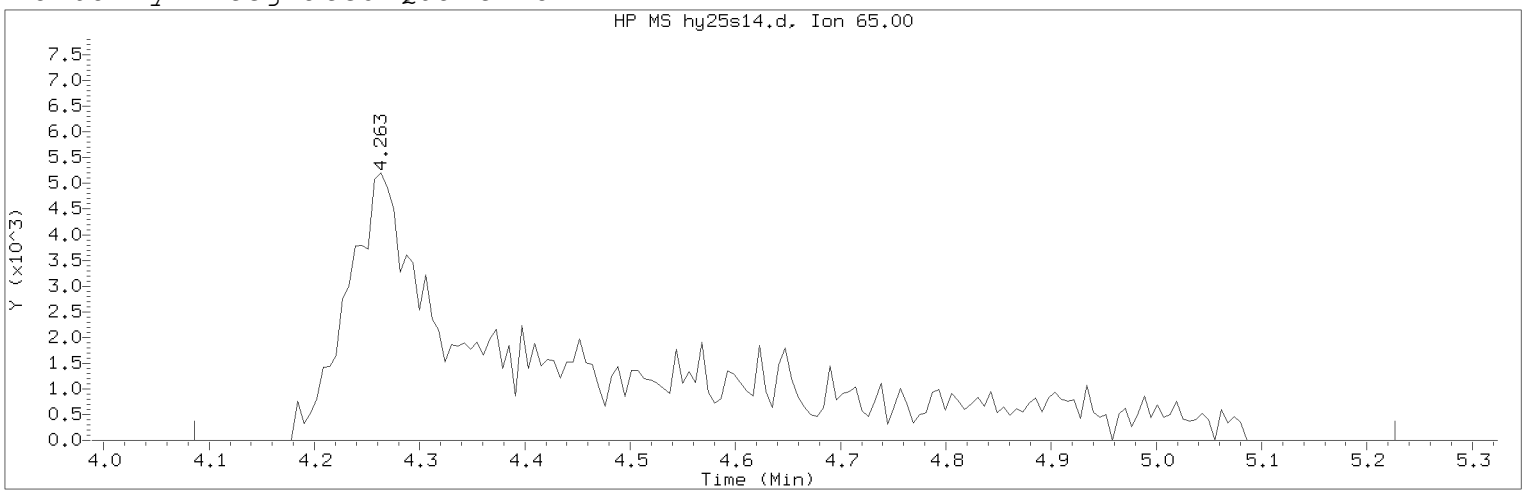
Compound Number	: 4		
Compound Name	: Dimethyl ether		
Scan Number	: 81		
Retention Time (minutes)	: 2.081		
Quant Ion	: 45.00		
Area	: 17410		
On-column Amount (ng)	: 0.2000		
Integration start scan	: 63	Integration stop scan:	93
Y at integration start	: 526	Y at integration end:	856

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature used during 10/2016

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s14.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:09 dvv10203

Sample Name: R8506 Lab Sample ID: 8999792

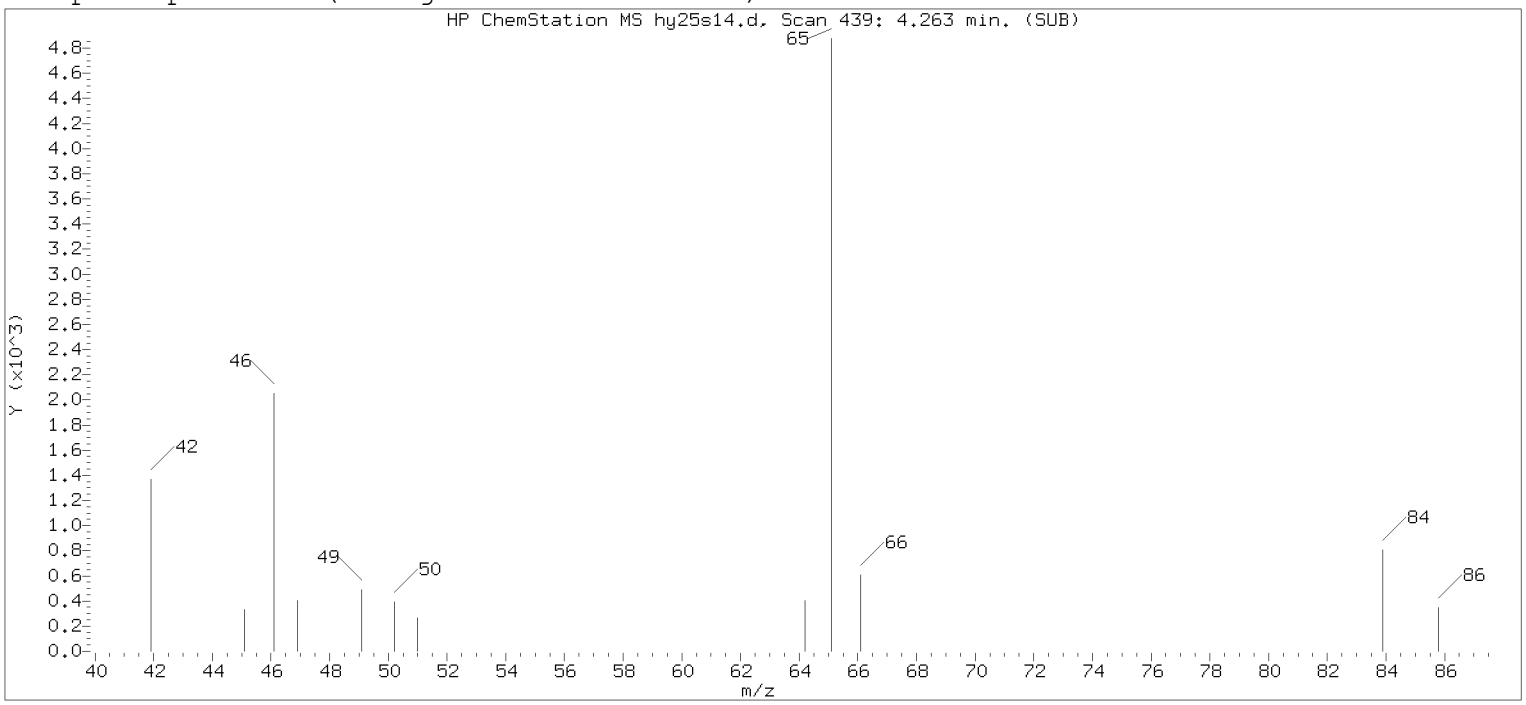
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 439
Retention Time (minutes): 4.263
Quant Ion : 65.00
Area (flag) : 67806M
On-Column Amount (ng) : 50.0000
Integration start scan : 409 Integration stop scan: 596
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

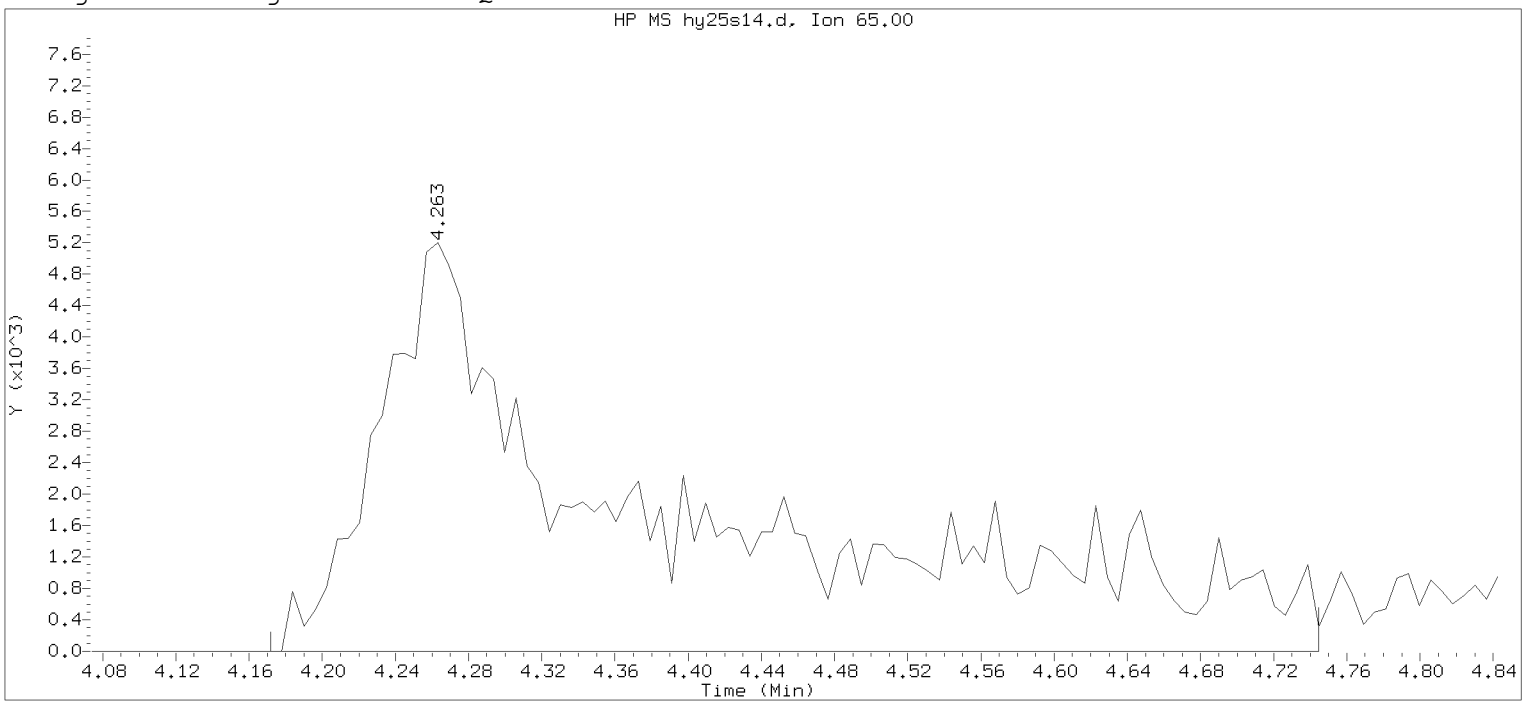
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s14.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 00:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 01:04 Automation

Sample Name: R8506 Lab Sample ID: 8999792

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 439		
Retention Time (minutes)	: 4.263		
Quant Ion	: 65.00		
Area	: 55615		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 423	Integration stop scan:	517
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature used on 05/30/2017

R8507 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999793

Data file: /chem2/HP19094.i/17may25b.b/hy25s35.d Injection date and time: **26-MAY-2017 01:06**
Data file Sample Info. Line: R8507;8999793;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 10:23 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.245	(0.018)	436	65	78865	(-10)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2387692	(-9)	10.00	
97) Chlorobenzene-d5	11.238	(0.006)	1583	117	1621607	(-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	628553	(-25)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	585534	10.940	109%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	95086	10.987	110%		74 - 113
82) Toluene-d8	(3)	9.787	(0.000)	98	2356756	9.942	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(-0.001)	95	627441	9.316	93%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)				Not Detected					0.1	1
4) Dimethyl ether	(2)				Not Detected					0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
8) Chloroethane	(2)				Not Detected					0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)				Not Detected					0.1	13
15) 1,1-Dichloroethene	(2)				Not Detected					0.1	1
16) Freon 113	(2)				Not Detected					0.2	1
23) Methylene Chloride	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)	5.361	(-0.000)	63	20622	0.179	0.18		J	0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
48) Tetrahydrofuran	(1)				Not Detected					2	25
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.1	1
58) Benzene	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.1	1
83) Toluene	(3)				Not Detected					0.1	1
89) Tetrachloroethene	(3)				Not Detected					0.1	1
100) Ethylbenzene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.1	3

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:23. Target 3.5 esignature user ID: kel01973

R8507 Lancaster Laboratories 8999793
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s35.d Injection date and time: **26-MAY-2017 01:06**
Data file Sample Info. Line: R8507;8999793;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 10:23 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

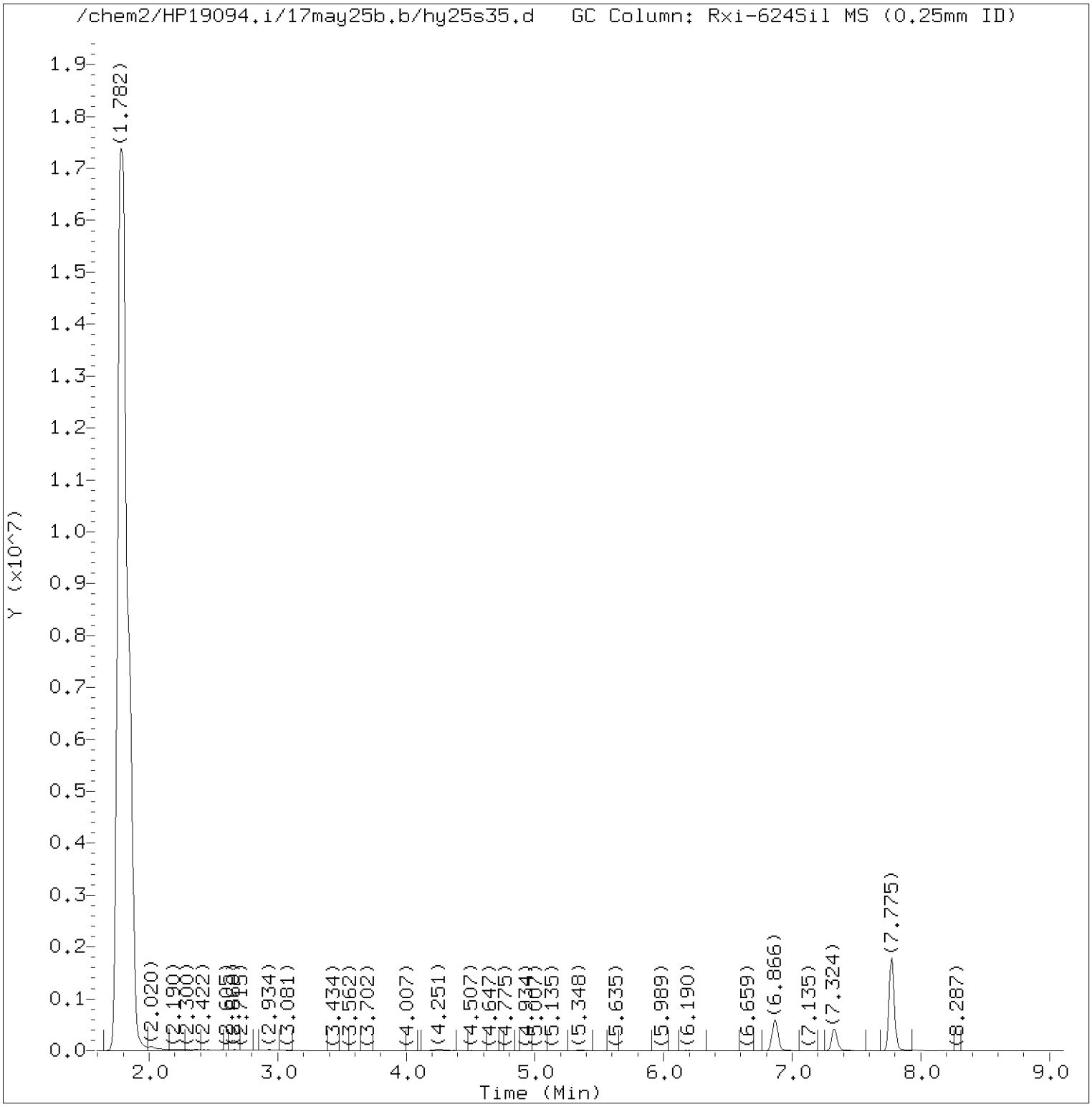
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:23. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

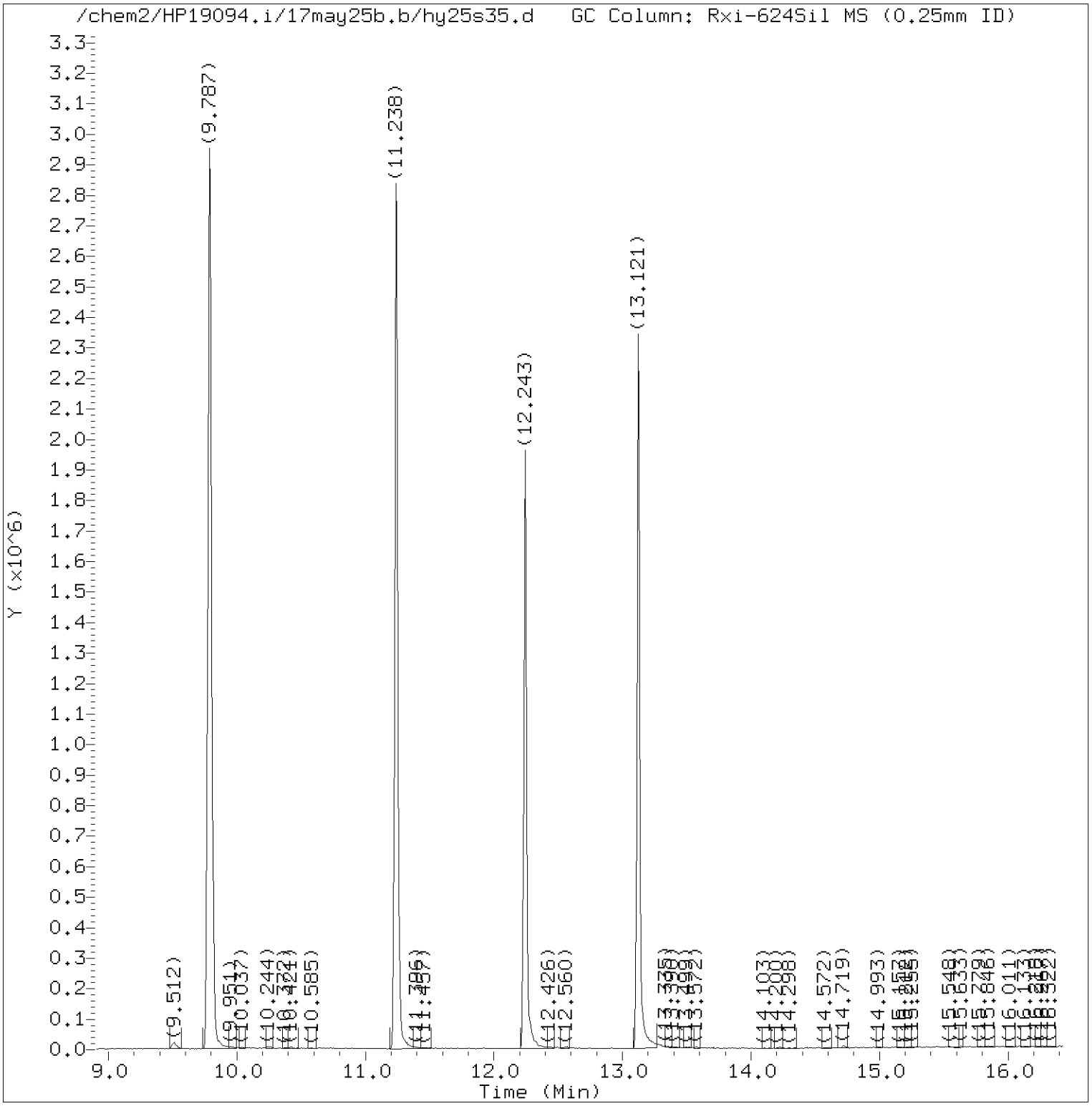
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s35.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:23 kel01973

Sample Name: R8507 Lab Sample ID: 8999793

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:23.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s35.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:23 kel01973

Sample Name: R8507 Lab Sample ID: 8999793

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:23.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s35.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:23 kel01973

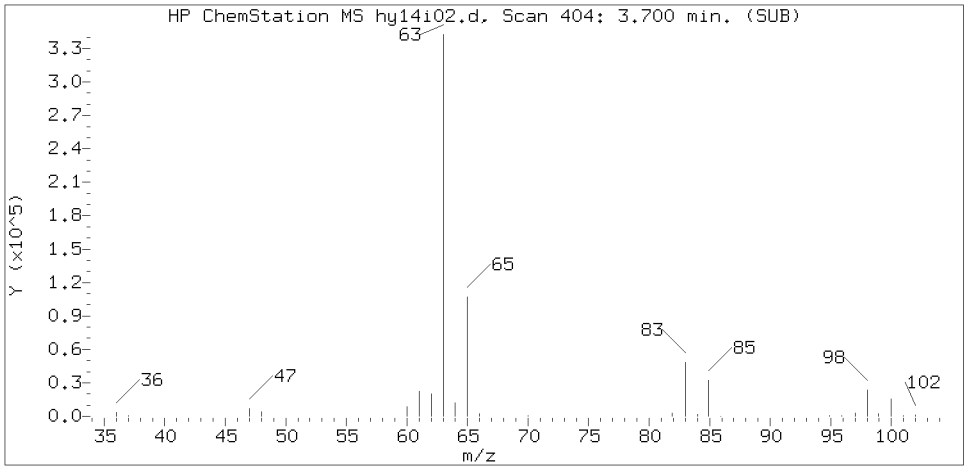
Sample Name: R8507 Lab Sample ID: 8999793

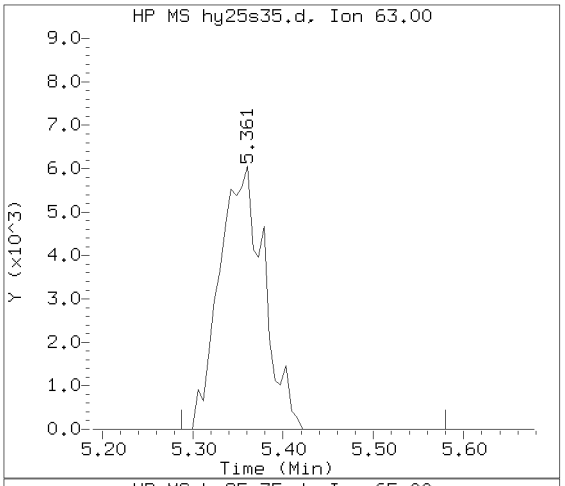
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.245	65	78865	50.000
33) 1,1-Dichloroethane	(2)	5.361	63	20622	0.179
50)$Dibromofluoromethane	(2)	6.866	113	585534	10.940
57)$1,2-Dichloroethane-d4	(2)	7.330	102	95086	10.987
63)*Fluorobenzene	(2)	7.775	96	2387692	10.000
82)$Toluene-d8	(3)	9.787	98	2356756	9.942
97)*Chlorobenzene-d5	(3)	11.238	117	1621607	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	627441	9.316
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	628553	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

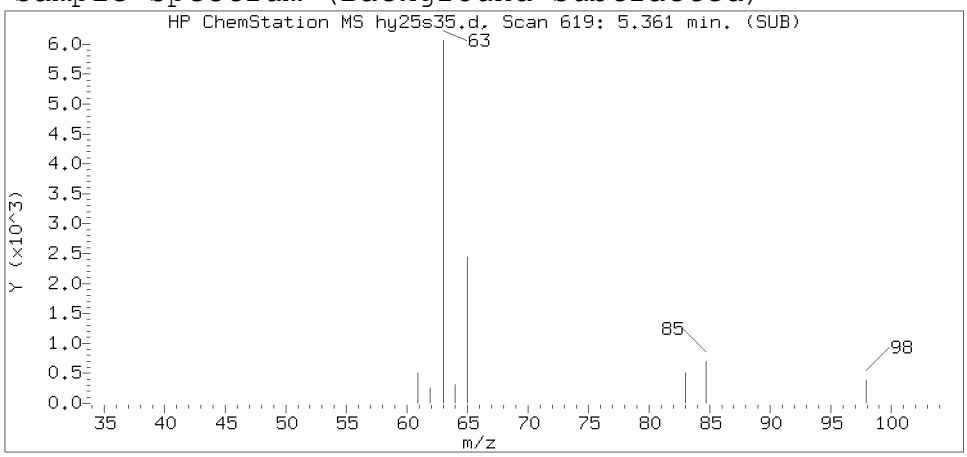
Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:23.
Target 3.5 esignature user ID: kel01973

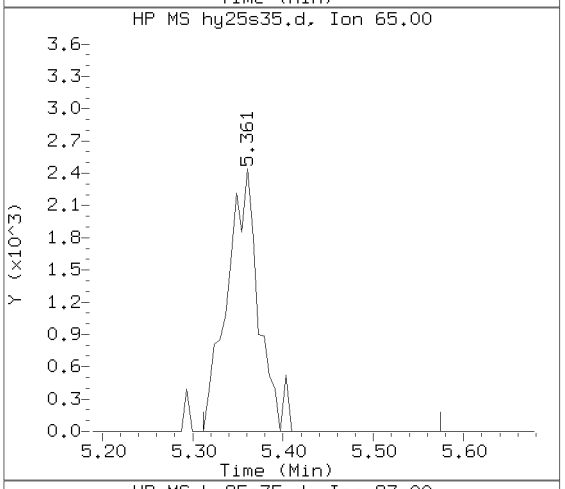
Reference Standard Spectrum for 1,1-Dichloroethane



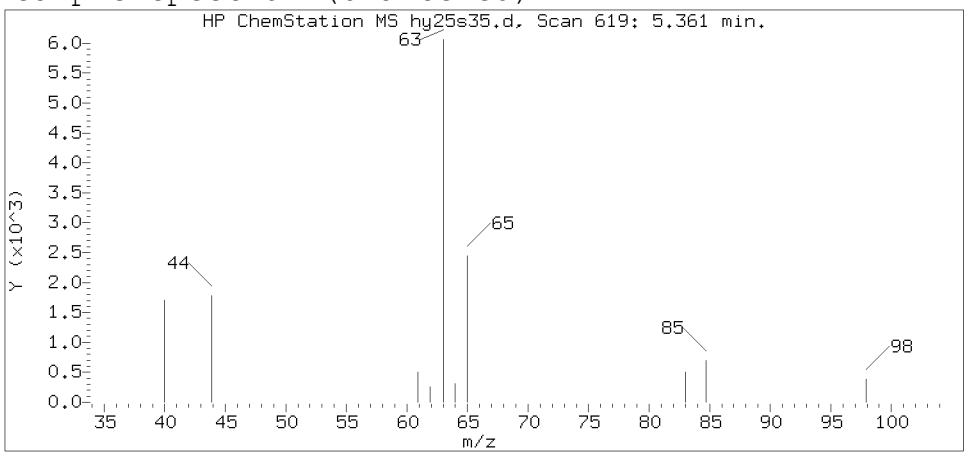


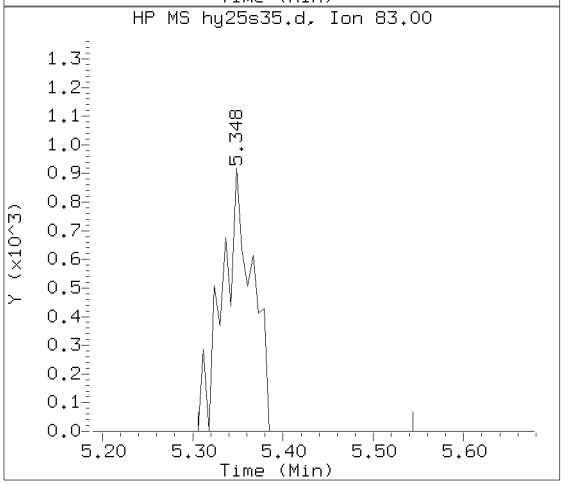
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s35.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:23 kel01973

Sample Name: R8507 Lab Sample ID: 8999793

Compound Number : 33
Compound Name : 1,1-Dichloroethane
Scan Number : 619
Retention Time (minutes): 5.361
Relative Retention Time :-0.00054
Quant Ion : 63.00
Area (flag) : 20622
On-Column Amount (ng) : 0.1786

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:23.
Target 3.5 esignature user ID: kel01973

R8508 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999794

Data file: /chem2/HP19094.i/17may25b.b/hy25s36.d Injection date and time: **26-MAY-2017 01:26**
Data file Sample Info. Line: R8508;8999794;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269 (-0.006)	440	65	80679 (-8)	50.00	
63) Fluorobenzene	7.775 (0.006)	1015	96	2345849 (-10)	10.00	
97) Chlorobenzene-d5	11.243 (0.000)	1584	117	1624723 (-13)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121 (0.000)	1892	152	629647 (-25)	10.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872 (-0.001)	113	582138	11.070	111%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336 (-0.001)	102	95324	11.211	112%		74 - 113
82) Toluene-d8	(3)	9.792 (0.000)	98	2356109	9.921	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243 (0.000)	95	628156	9.309	93%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.026 (-0.000)	85	24830	0.274	0.27		J	0.1	1
4) Dimethyl ether	(2)			Not Detected					0.1	13
2) Chloromethane	(2)			Not Detected					0.2	1
8) Chloroethane	(2)			Not Detected					0.1	1
10) Trichlorofluoromethane	(2)			Not Detected					0.1	1
11) Ethyl ether	(2)			Not Detected					0.1	13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1	1
16) Freon 113	(2)			Not Detected					0.2	1
23) Methylene Chloride	(2)			Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1	1
38) 2-Butanone	(1)			Not Detected					1	10
48) Tetrahydrofuran	(1)			Not Detected					2	25
51) 1,1,1-Trichloroethane	(2)			Not Detected					0.1	1
54) Carbon Tetrachloride	(2)			Not Detected					0.1	1
58) Benzene	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.1	1
83) Toluene	(3)			Not Detected					0.1	1
89) Tetrachloroethene	(3)			Not Detected					0.1	1
100) Ethylbenzene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.1	3

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24. Target 3.5 esignature user ID: kel01973

Data file: /chem2/HP19094.i/17may25b.b/hy25s36.d Injection date and time: **26-MAY-2017 01:26**
Data file Sample Info. Line: R8508;8999794;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

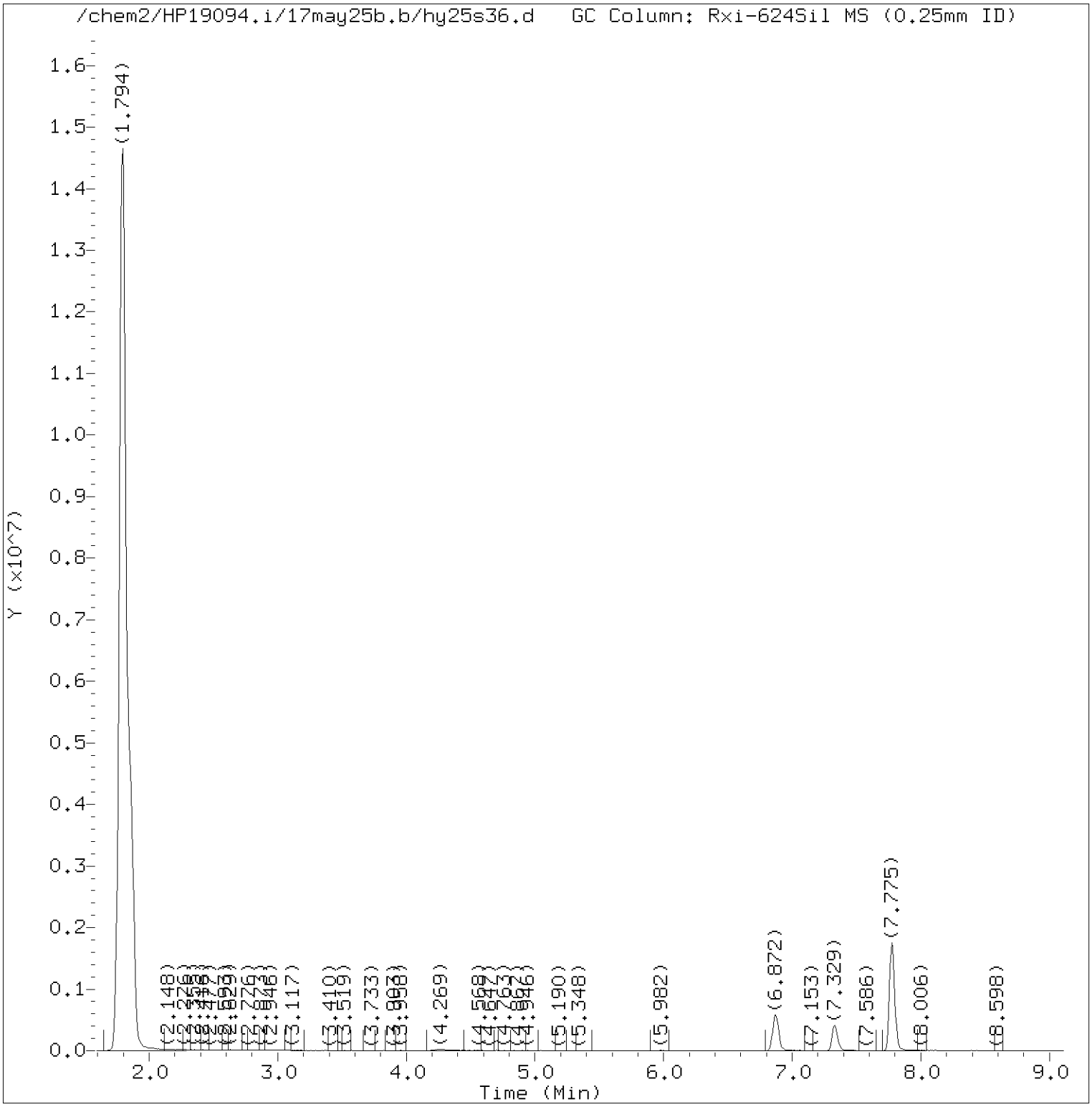
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

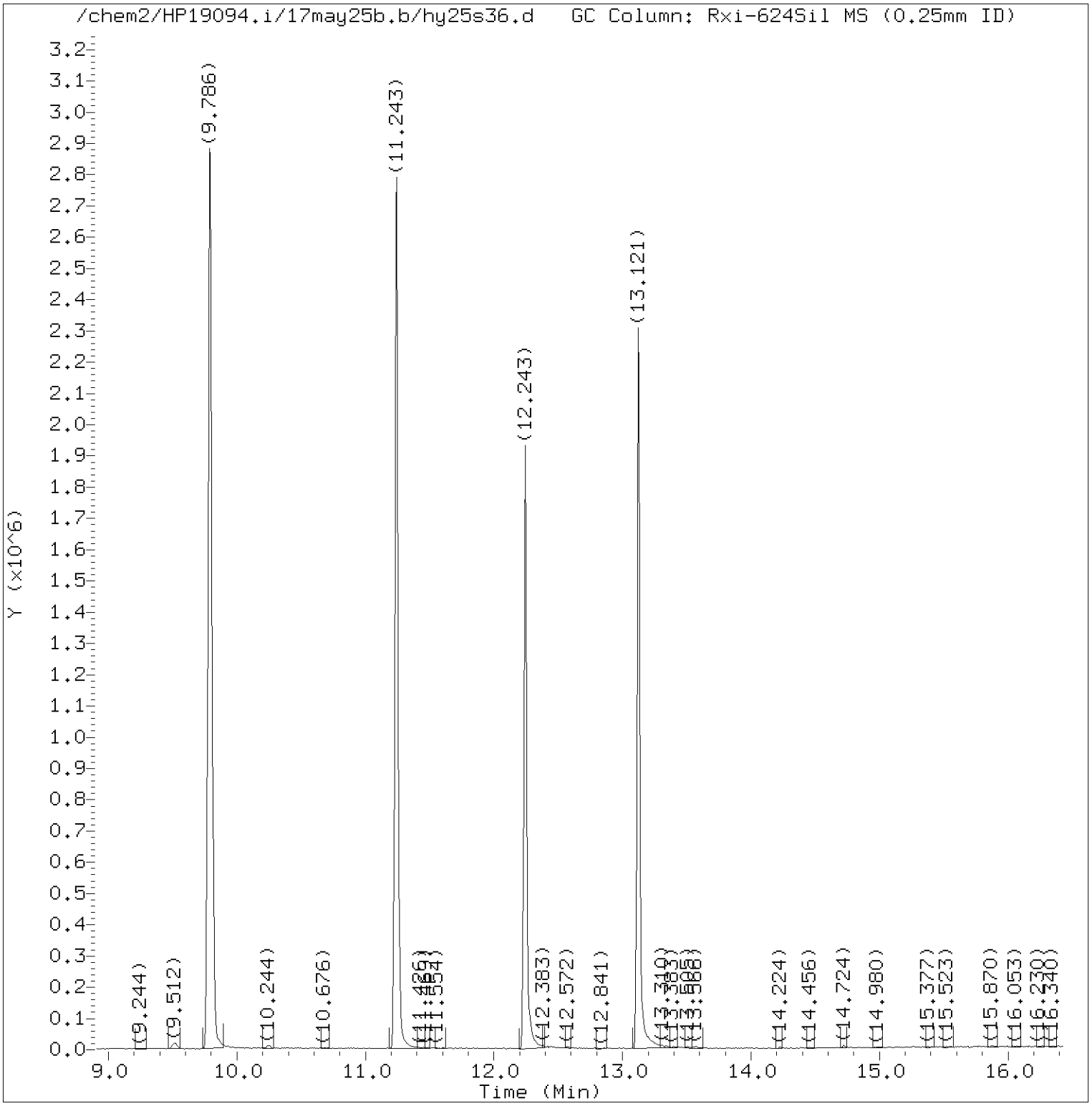
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s36.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8508 Lab Sample ID: 8999794

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s36.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8508 Lab Sample ID: 8999794

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s36.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

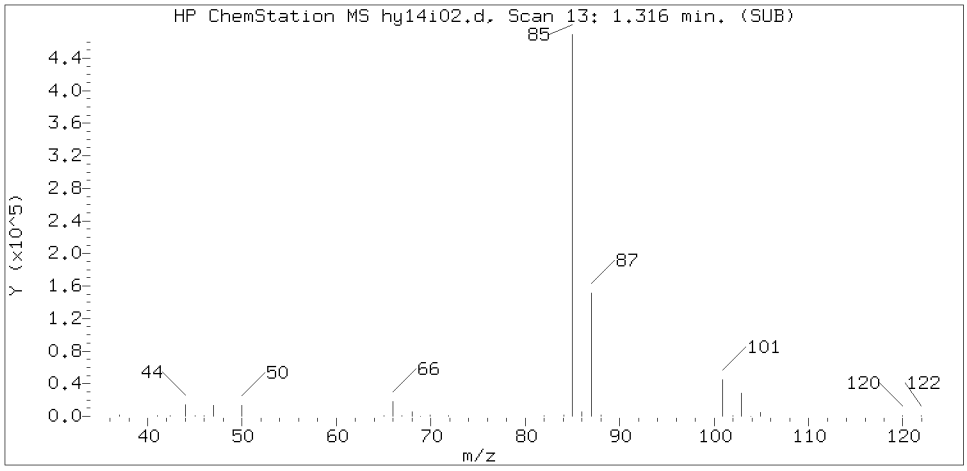
Sample Name: R8508 Lab Sample ID: 8999794

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.026	85	24830	0.274
26)*t-Butyl Alcohol-d10	(1)	4.269	65	80679	50.000
50)$Dibromofluoromethane	(2)	6.872	113	582138	11.070
57)$1,2-Dichloroethane-d4	(2)	7.336	102	95324	11.211
63)*Fluorobenzene	(2)	7.775	96	2345849	10.000
82)$Toluene-d8	(3)	9.792	98	2356109	9.921
97)*Chlorobenzene-d5	(3)	11.243	117	1624723	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	628156	9.309
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	629647	10.000

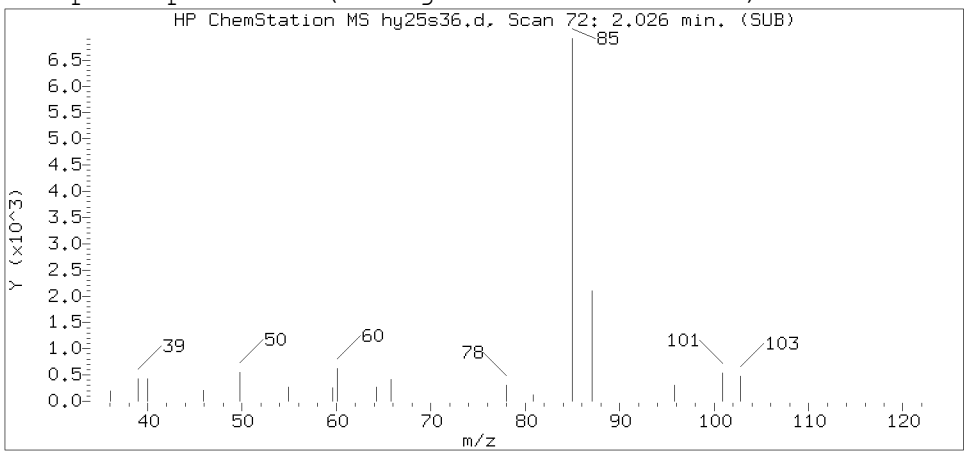
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

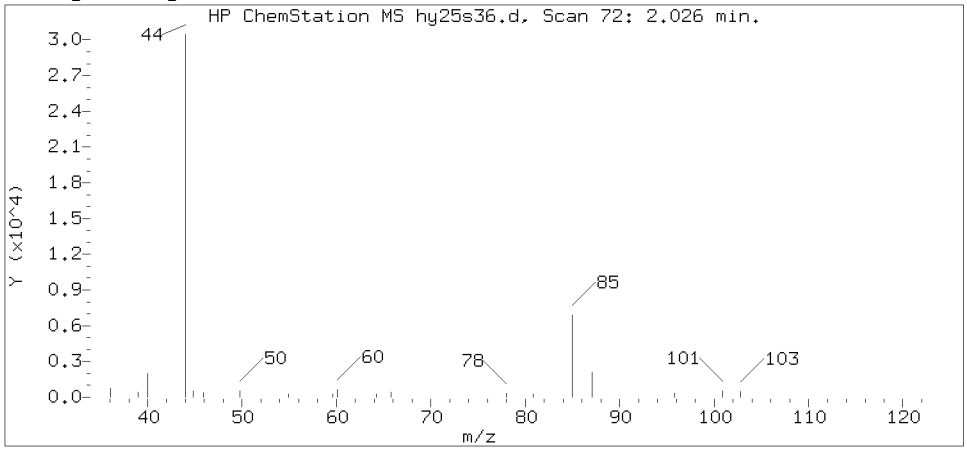
Reference Standard Spectrum for Dichlorodifluoromethane

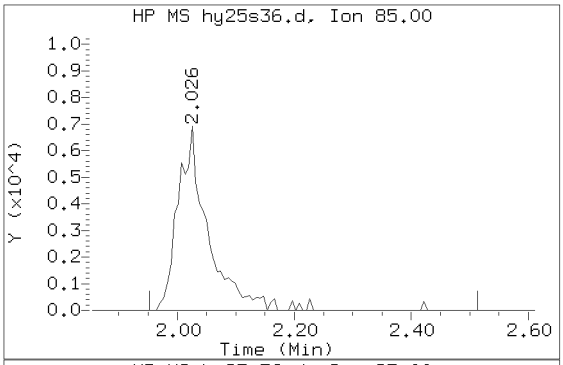


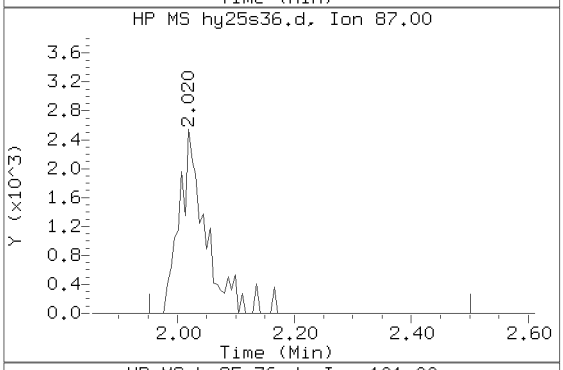
Sample Spectrum (Background Subtracted)

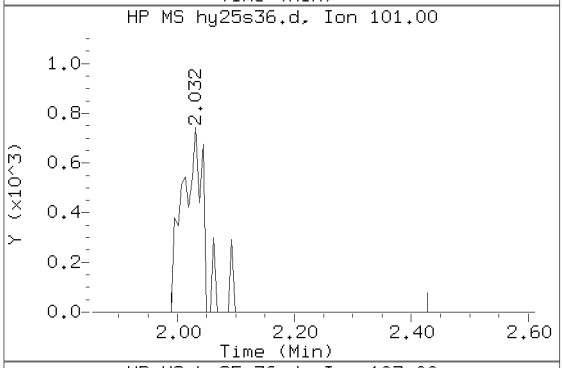


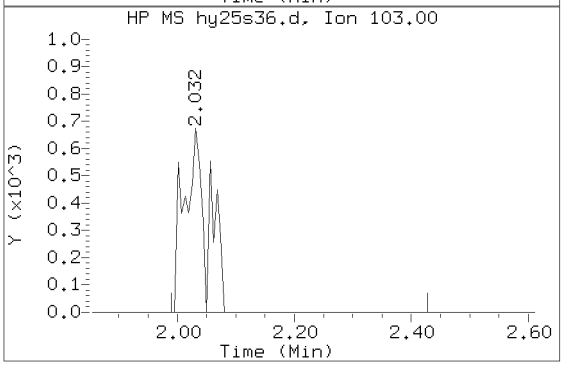
Sample Spectrum (Unaltered)











Data File: /chem2/HP19094.i/17may25b.b/hy25s36.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8508 Lab Sample ID: 8999794

Compound Number : 1
Compound Name : Dichlorodifluoromethane
Scan Number : 72
Retention Time (minutes): 2.026
Relative Retention Time :-0.00097
Quant Ion : 85.00
Area (flag) : 24830
On-Column Amount (ng) : 0.2736

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

R8509 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999795

Data file: /chem2/HP19094.i/17may25b.b/hy25s37.d Injection date and time: **26-MAY-2017 01:46**
Data file Sample Info. Line: R8509;8999795;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257	(0.006)	438	65	72716M	(-17)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2315017	(-11)	10.00	
97) Chlorobenzene-d5	11.244	(0.000)	1584	117	1548077	(-17)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	594020	(-29)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(-0.001)	113	560069	10.792	108%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	90083	10.735	107%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2298436	10.157	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	601087	9.349	93%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.1	1
4) Dimethyl ether	(2)				Not Detected					0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
8) Chloroethane	(2)				Not Detected					0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)				Not Detected					0.1	13
15) 1,1-Dichloroethene	(2)				Not Detected					0.1	1
16) Freon 113	(2)				Not Detected					0.2	1
23) Methylene Chloride	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)				Not Detected					0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
48) Tetrahydrofuran	(1)				Not Detected					2	25
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.1	1
58) Benzene	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.1	1
83) Toluene	(3)				Not Detected					0.1	1
89) Tetrachloroethene	(3)				Not Detected					0.1	1
100) Ethylbenzene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.1	3

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24. Target 3.5 esignature user ID: kel01973

Data file: /chem2/HP19094.i/17may25b.b/hy25s37.d Injection date and time: **26-MAY-2017 01:46**
Data file Sample Info. Line: R8509;8999795;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

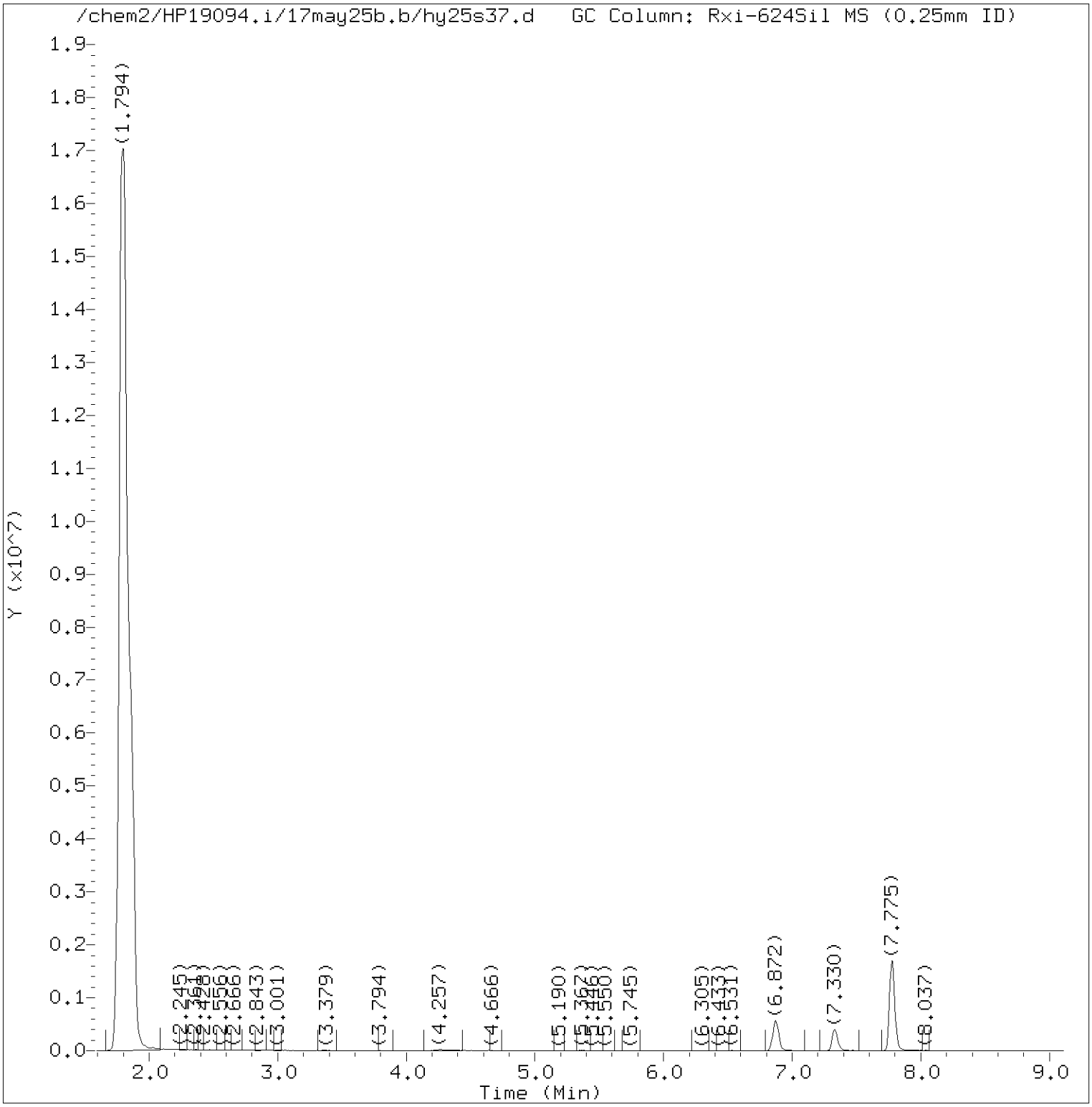
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

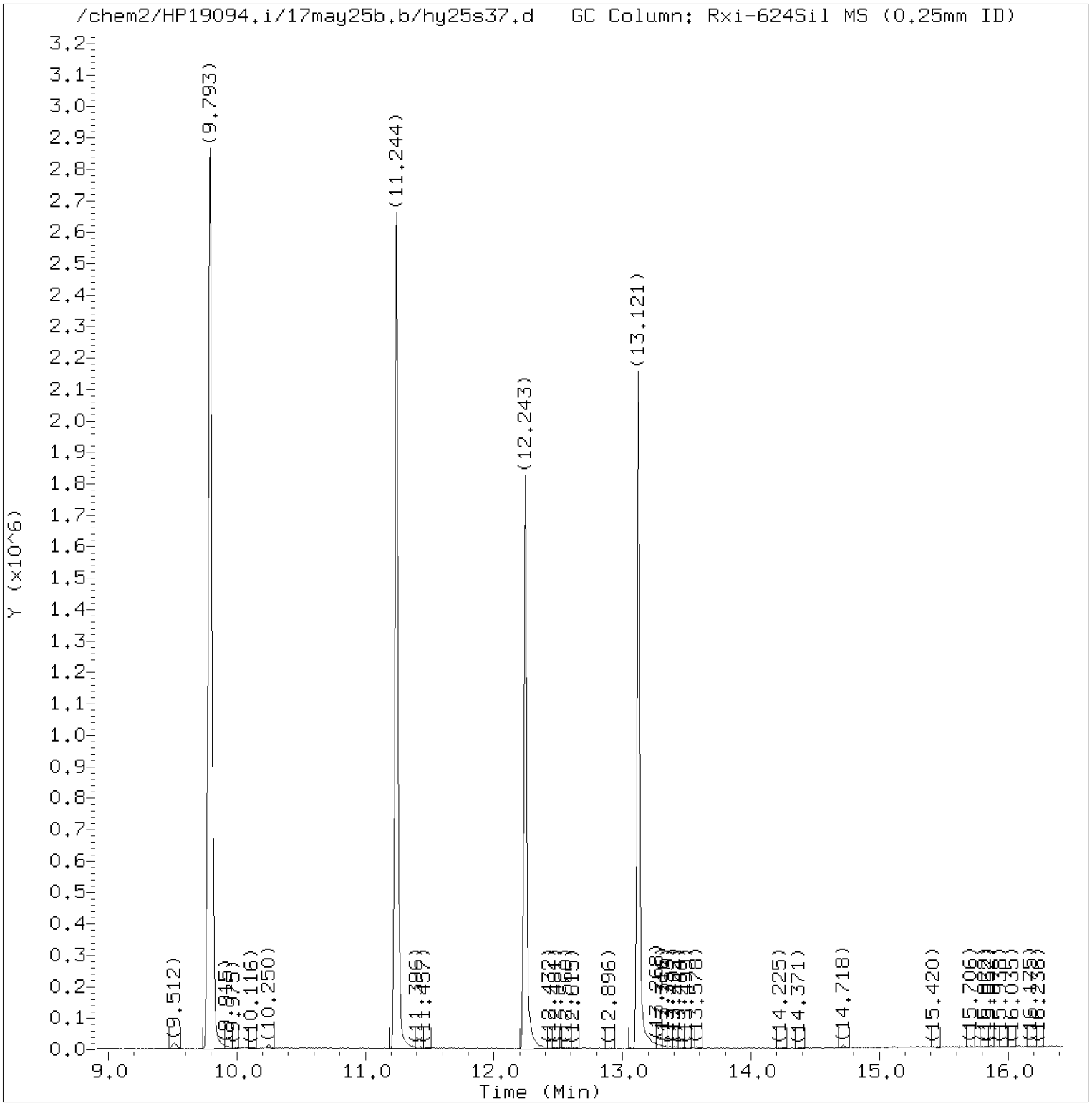
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s37.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8509 Lab Sample ID: 8999795

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s37.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8509 Lab Sample ID: 8999795

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s37.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

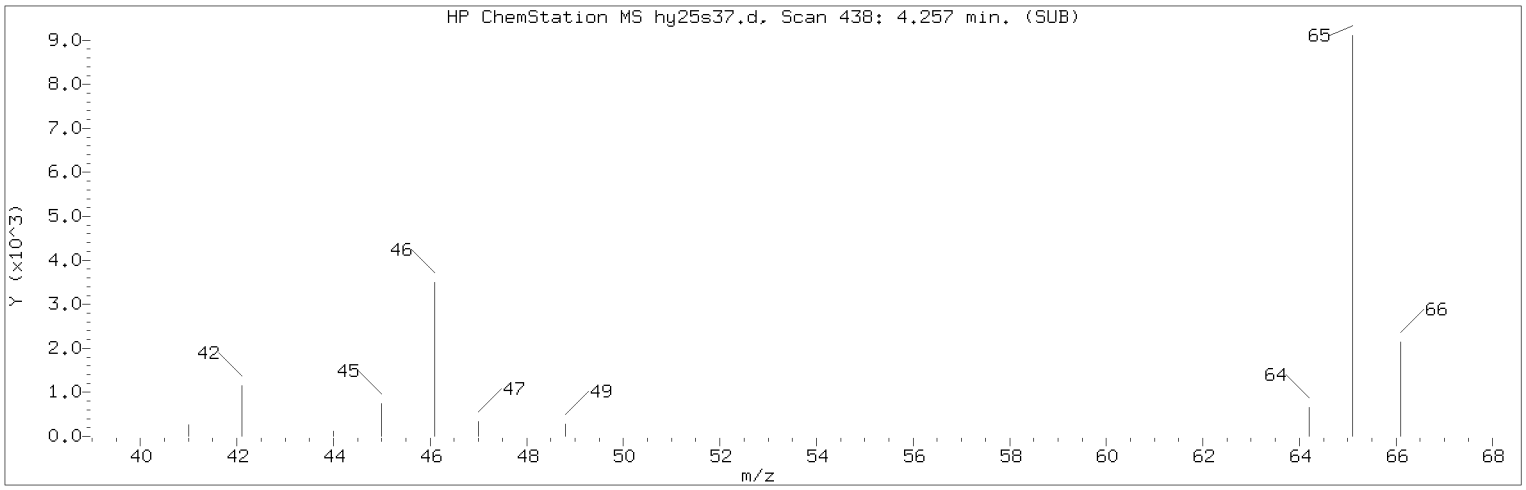
Sample Name: R8509 Lab Sample ID: 8999795

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.257	65	72716M	50.000
50)$Dibromofluoromethane	(2)	6.872	113	560069	10.792
57)$1,2-Dichloroethane-d4	(2)	7.330	102	90083	10.735
63)*Fluorobenzene	(2)	7.775	96	2315017	10.000
82)$Toluene-d8	(3)	9.793	98	2298436	10.157
97)*Chlorobenzene-d5	(3)	11.244	117	1548077	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	601087	9.349
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	594020	10.000

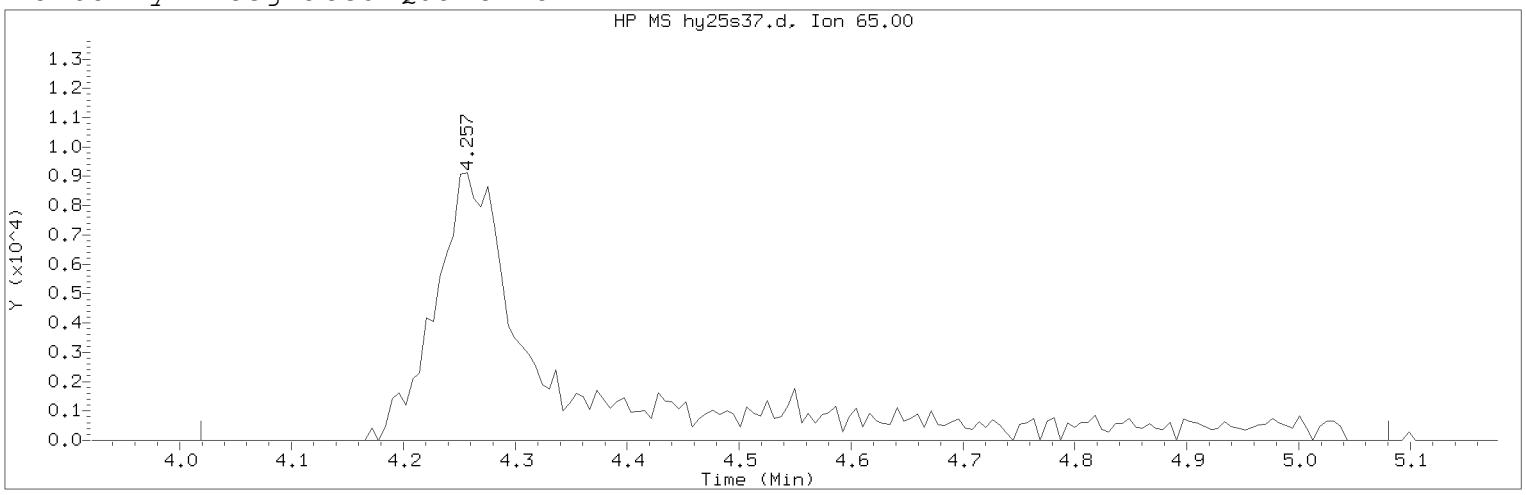
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s37.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8509 Lab Sample ID: 8999795

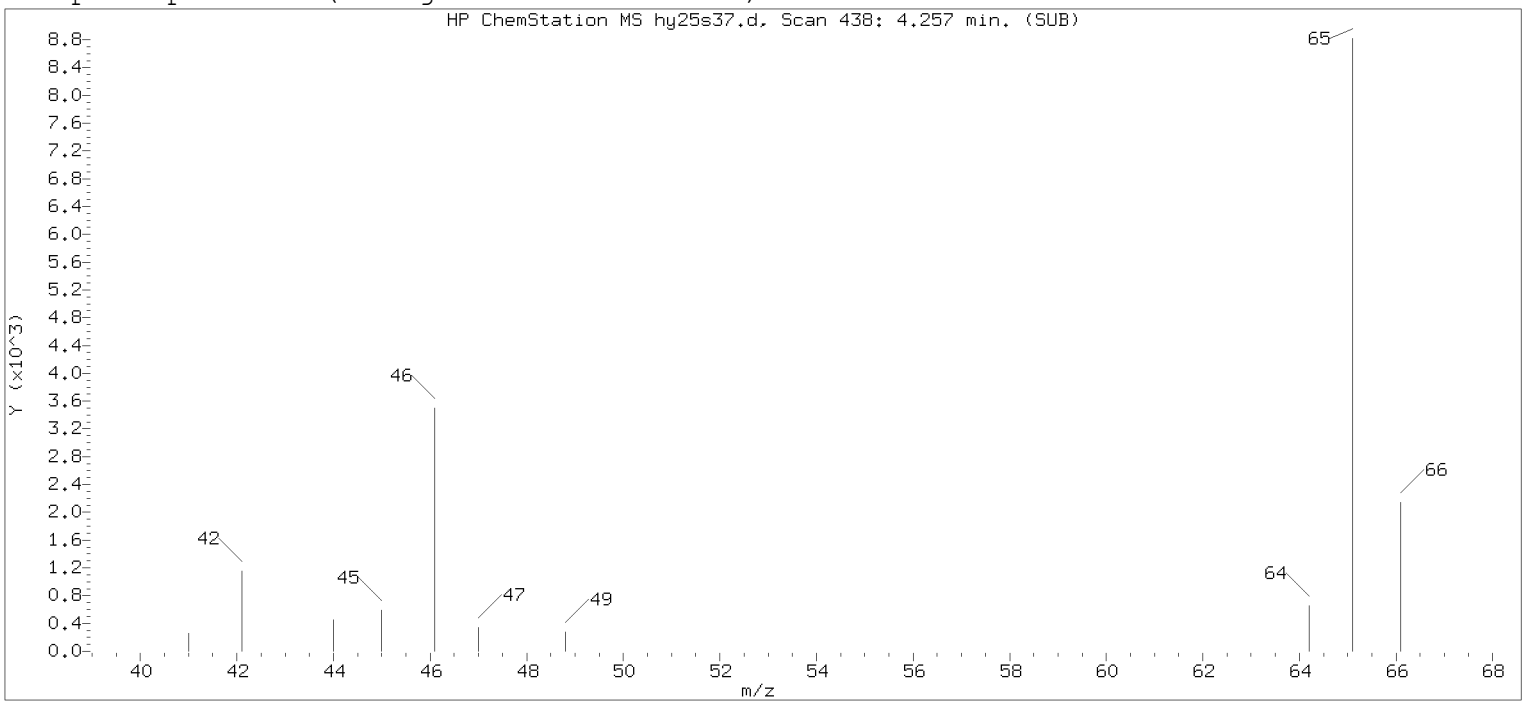
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 72716M
On-Column Amount (ng) : 50.0000
Integration start scan : 398 Integration stop scan: 572
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

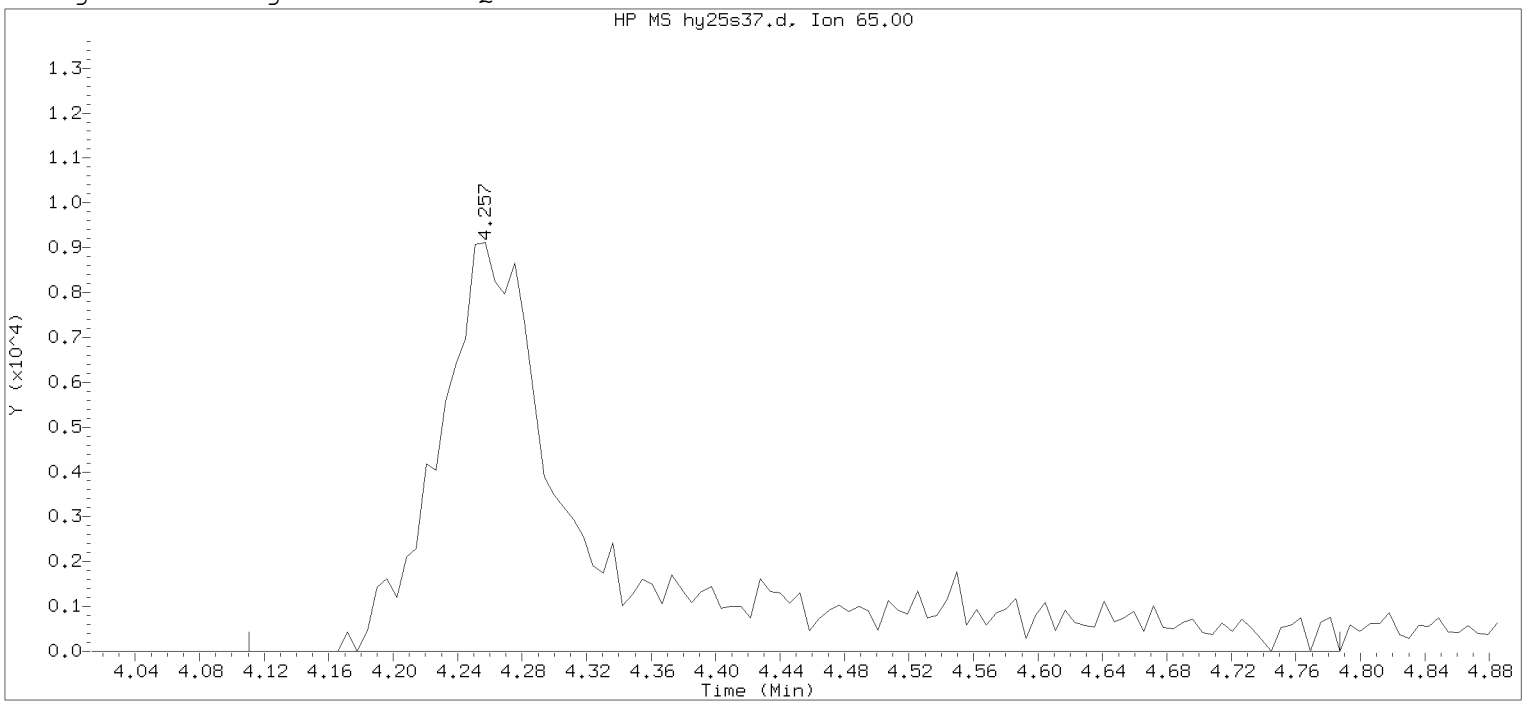
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18.
PARALLAX ID: prc00685

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s37.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 01:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 02:04 Automation

Sample Name: R8509 Lab Sample ID: 8999795

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 438		
Retention Time (minutes)	: 4.257		
Quant Ion	: 65.00		
Area	: 65107		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 413	Integration stop scan:	524
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24.
Target 3.5 esignature used. Page 1 of 1

R8510 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999796

Data file: /chem2/HP19094.i/17may25b.b/hy25s38.d Injection date and time: **26-MAY-2017 02:06**
Data file Sample Info. Line: R8510;8999796;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.263(0.000)	439	65	69157M (-21)	50.00	
63) Fluorobenzene	7.775(0.006)	1015	96	2354253 (-10)	10.00	
97) Chlorobenzene-d5	11.244(0.000)	1584	117	1574657 (-16)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	591206 (-30)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872(-0.001)	113	559155	10.595	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330(0.000)	102	86976	10.192	102%		74 - 113
82) Toluene-d8	(3)	9.787(0.001)	98	2305508	10.016	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	595796	9.110	91%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)			Not Detected					0.1	1
4) Dimethyl ether	(2)			Not Detected					0.1	13
2) Chloromethane	(2)			Not Detected					0.2	1
8) Chloroethane	(2)			Not Detected					0.1	1
10) Trichlorofluoromethane	(2)			Not Detected					0.1	1
11) Ethyl ether	(2)			Not Detected					0.1	13
15) 1,1-Dichloroethene	(2)			Not Detected					0.1	1
16) Freon 113	(2)			Not Detected					0.2	1
23) Methylene Chloride	(2)			Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)			Not Detected					0.1	1
38) 2-Butanone	(1)			Not Detected					1	10
48) Tetrahydrofuran	(1)			Not Detected					2	25
51) 1,1,1-Trichloroethane	(2)	6.903(-0.000)	97	35497	0.388	0.39		J	0.1	1
54) Carbon Tetrachloride	(2)			Not Detected					0.1	1
58) Benzene	(2)			Not Detected					0.1	1
67) Trichloroethene	(2)			Not Detected					0.1	1
83) Toluene	(3)			Not Detected					0.1	1
89) Tetrachloroethene	(3)			Not Detected					0.1	1
100) Ethylbenzene	(3)			Not Detected					0.1	1
101) m+p-Xylene	(3)			Not Detected					0.1	0.5
104) o-Xylene	(3)			Not Detected					0.1	0.5
105) Xylene (Total)	(3)			Not Detected					0.1	3

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24. Target 3.5 esignature user ID: kel01973

Data file: /chem2/HP19094.i/17may25b.b/hy25s38.d Injection date and time: **26-MAY-2017 02:06**
Data file Sample Info. Line: R8510;8999796;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

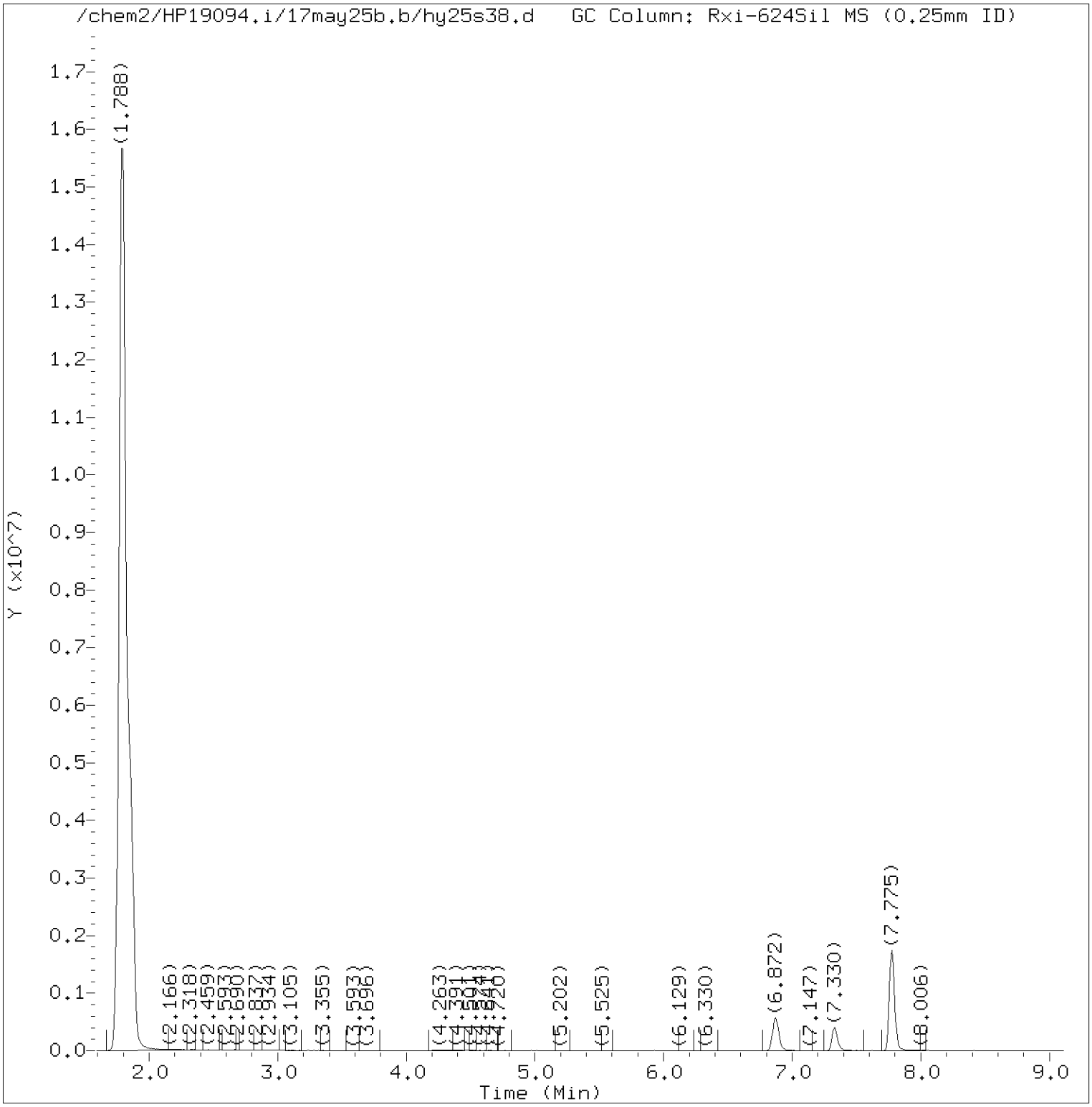
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

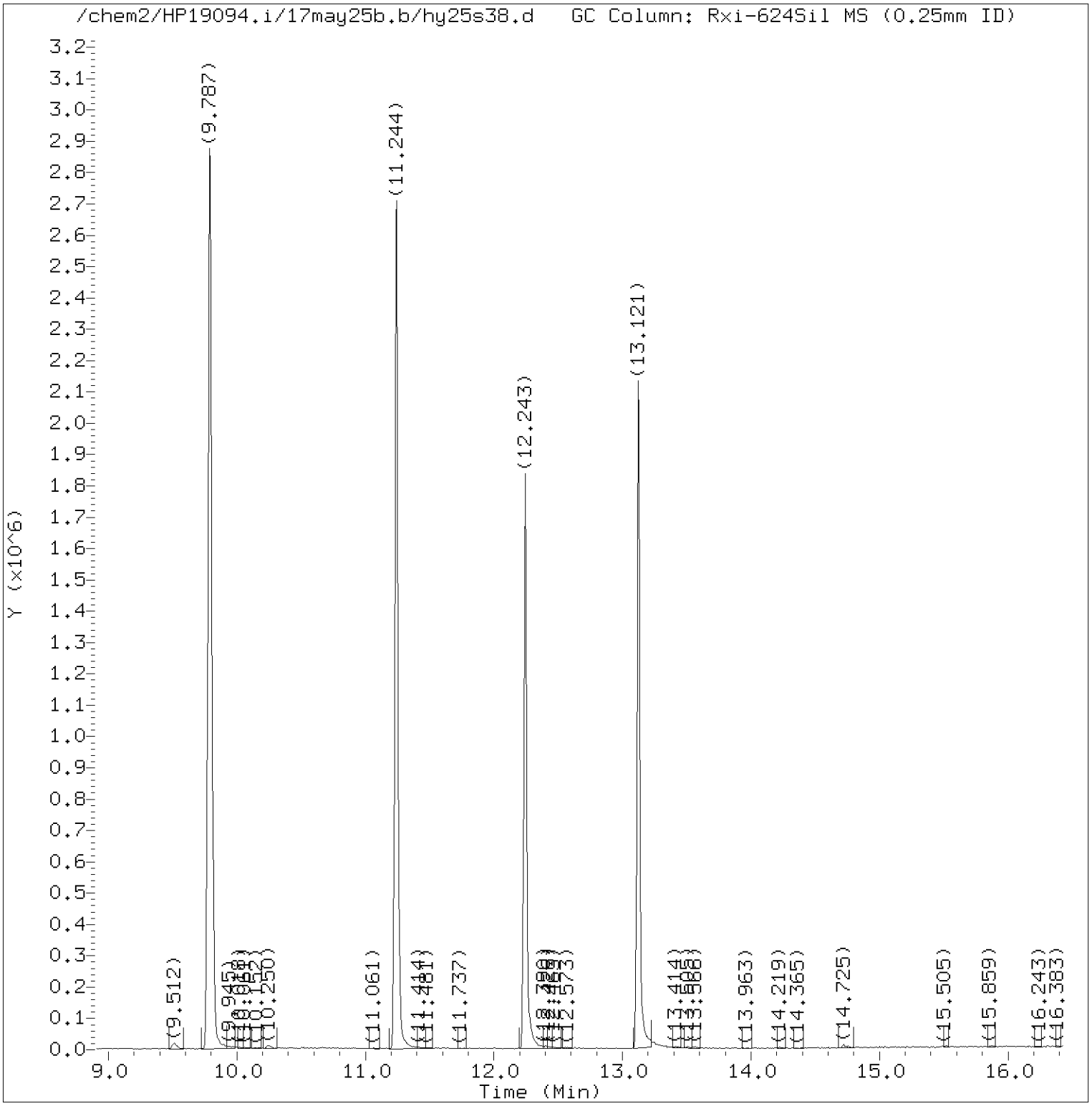
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s38.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8510 Lab Sample ID: 8999796

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s38.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8510 Lab Sample ID: 8999796

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s38.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

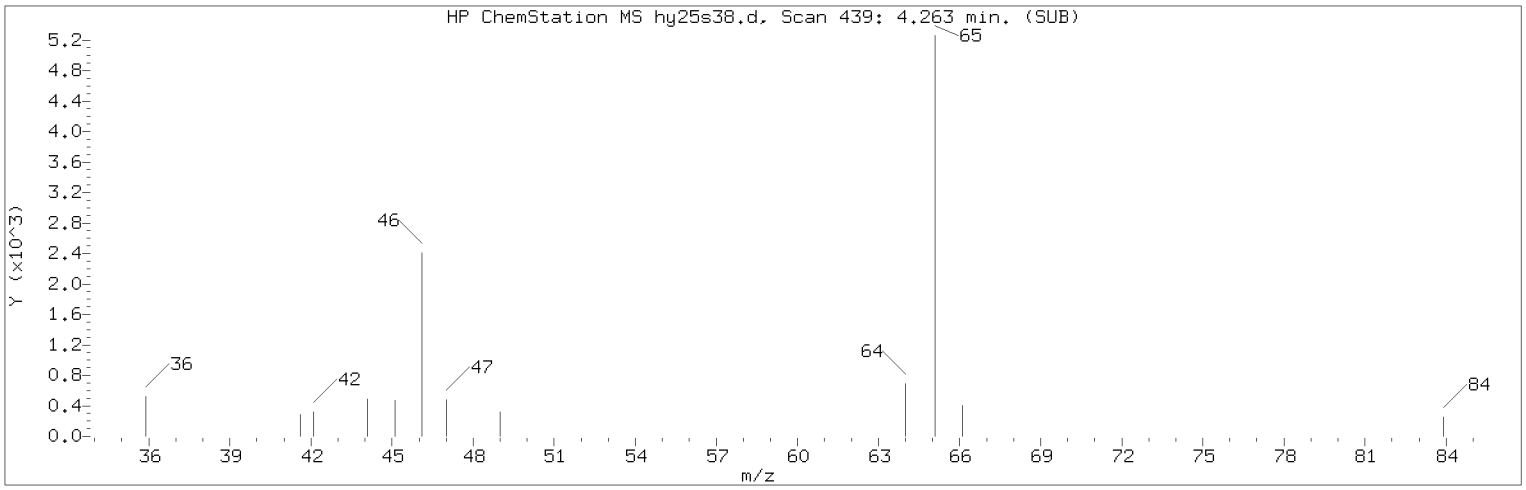
Sample Name: R8510 Lab Sample ID: 8999796

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.263	65	69157M	50.000
50)$Dibromofluoromethane	(2)	6.872	113	559155	10.595
51) 1,1,1-Trichloroethane	(2)	6.903	97	35497	0.388
57)$1,2-Dichloroethane-d4	(2)	7.330	102	86976	10.192
63)*Fluorobenzene	(2)	7.775	96	2354253	10.000
82)$Toluene-d8	(3)	9.787	98	2305508	10.016
97)*Chlorobenzene-d5	(3)	11.244	117	1574657	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	595796	9.110
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	591206	10.000

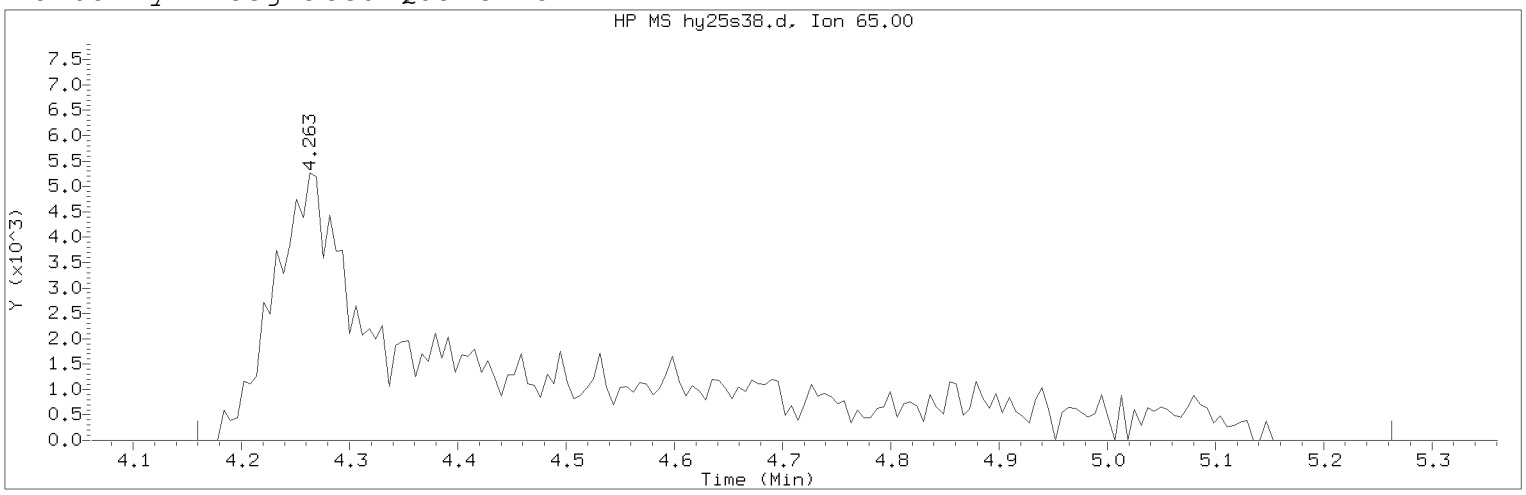
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s38.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8510 Lab Sample ID: 8999796

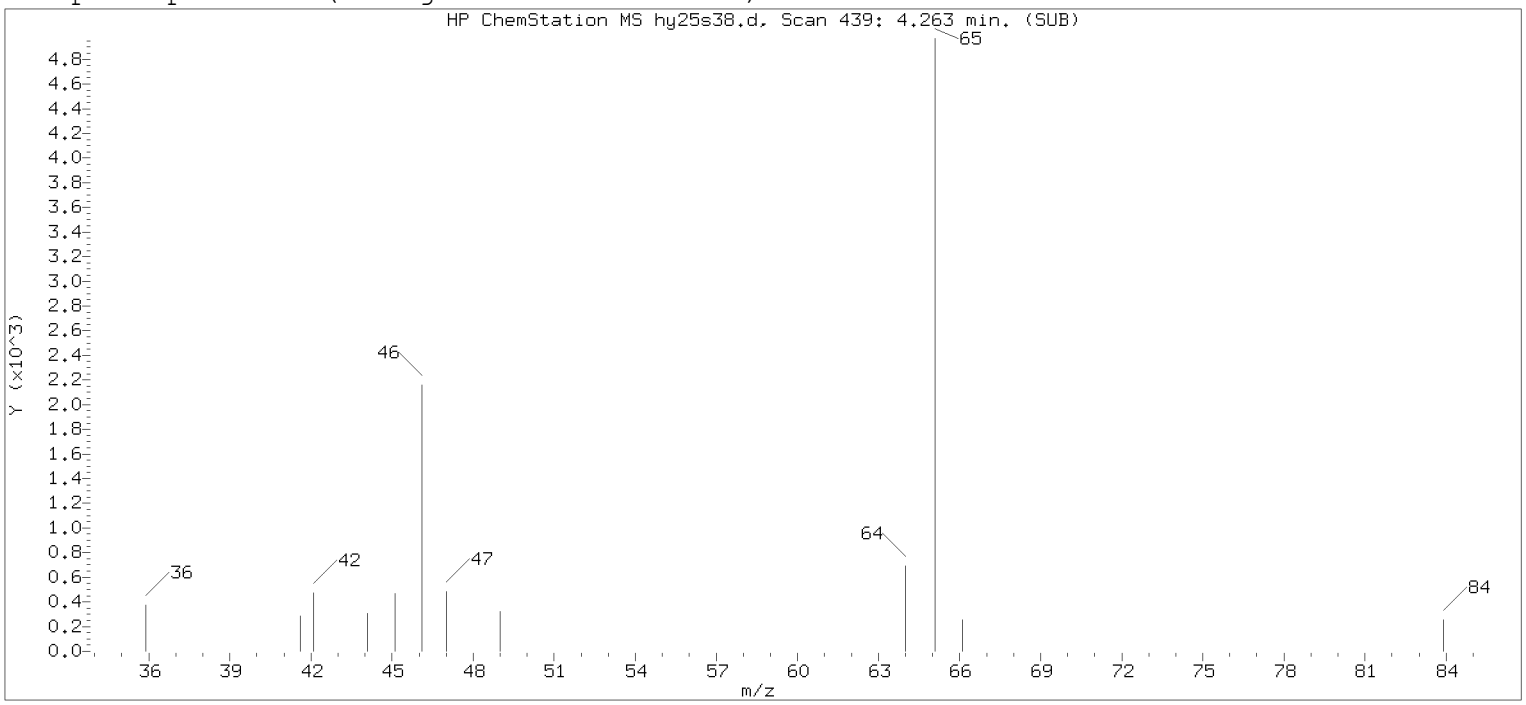
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 439
Retention Time (minutes): 4.263
Quant Ion : 65.00
Area (flag) : 69157M
On-Column Amount (ng) : 50.0000
Integration start scan : 421 Integration stop scan: 602
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

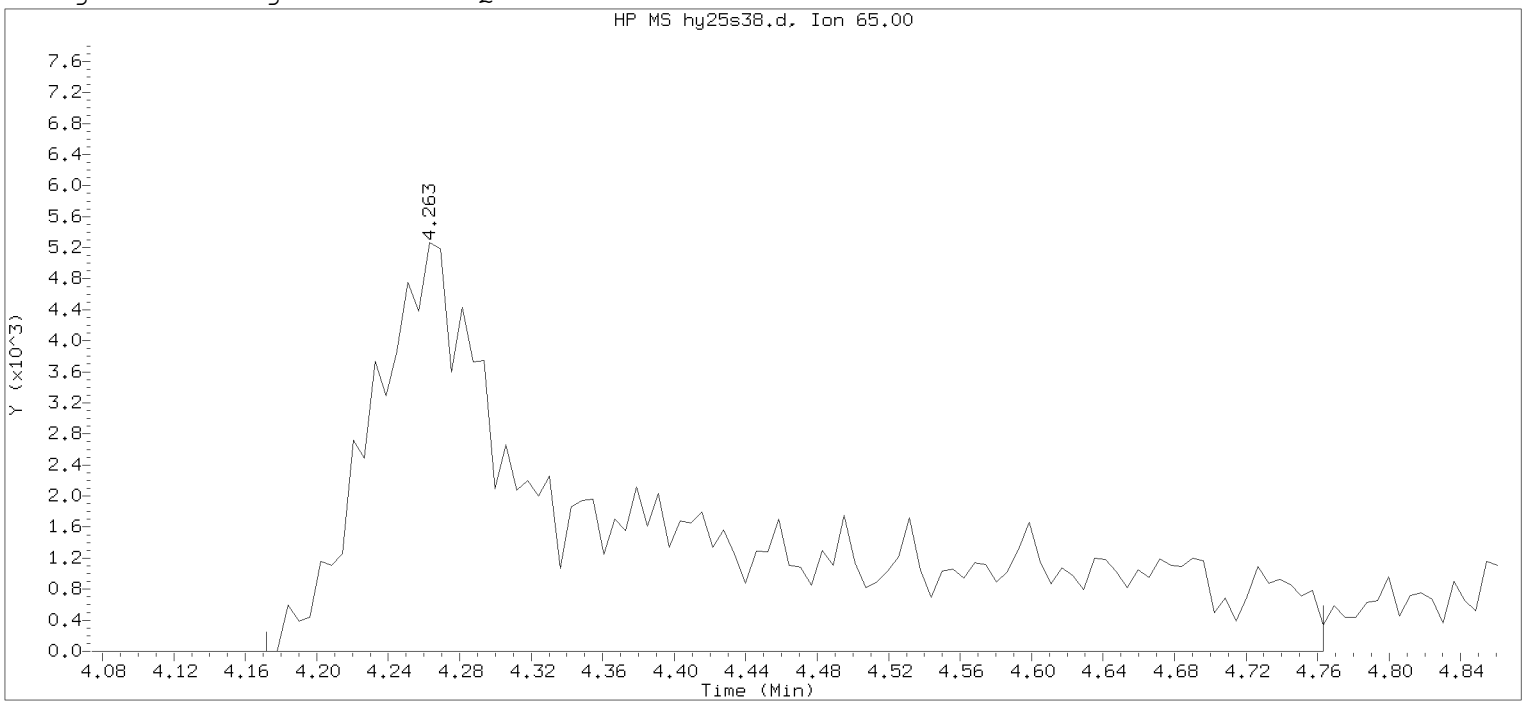
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18.
PARALLAX ID: prc00685

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s38.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:06 Analyst ID: DVV10203

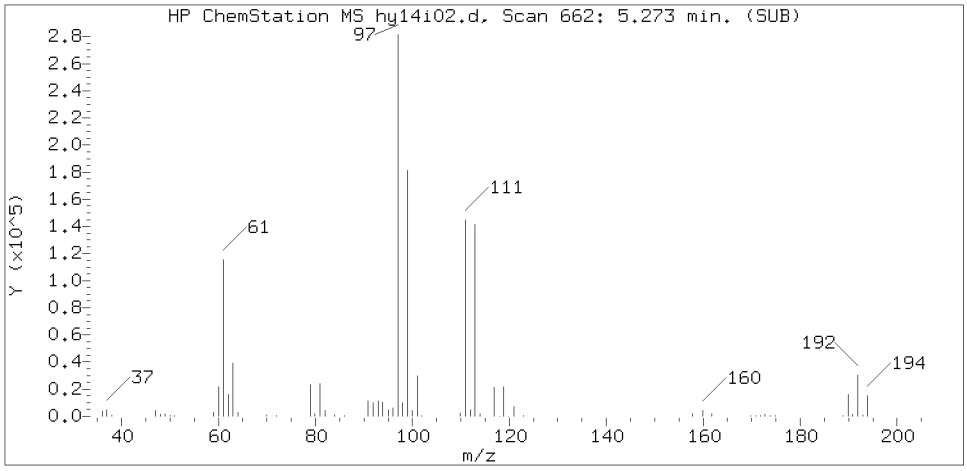
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 02:25 Automation

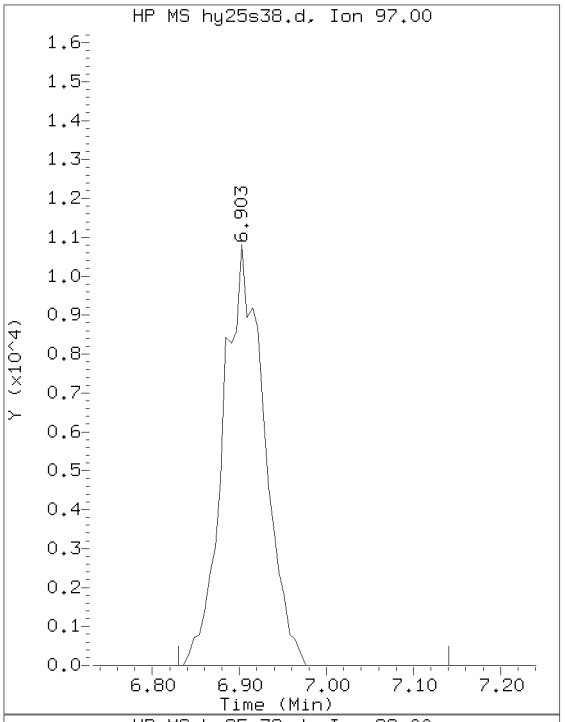
Sample Name: R8510 Lab Sample ID: 8999796

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 439		
Retention Time (minutes)	: 4.263		
Quant Ion	: 65.00		
Area	: 55878		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 423	Integration stop scan:	520
Y at integration start	: 0	Y at integration end:	0

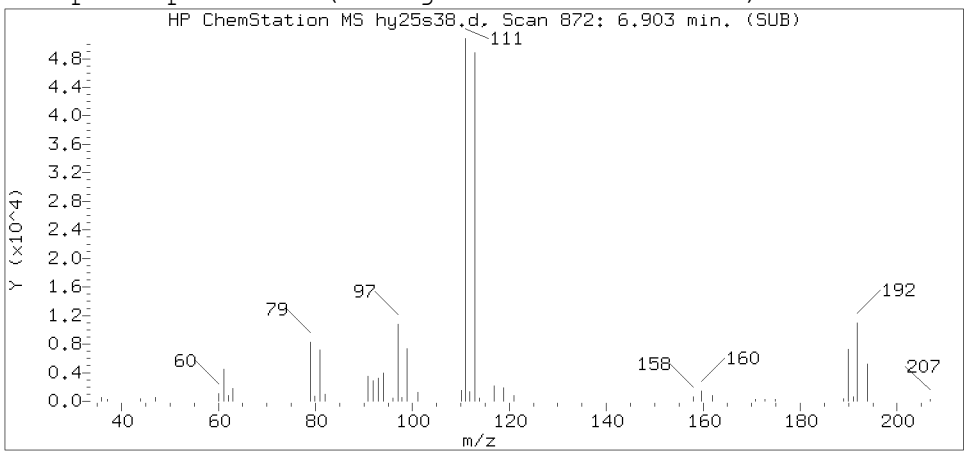
Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24.
Target 3.5 esignature used. Reason: I am the author of this document

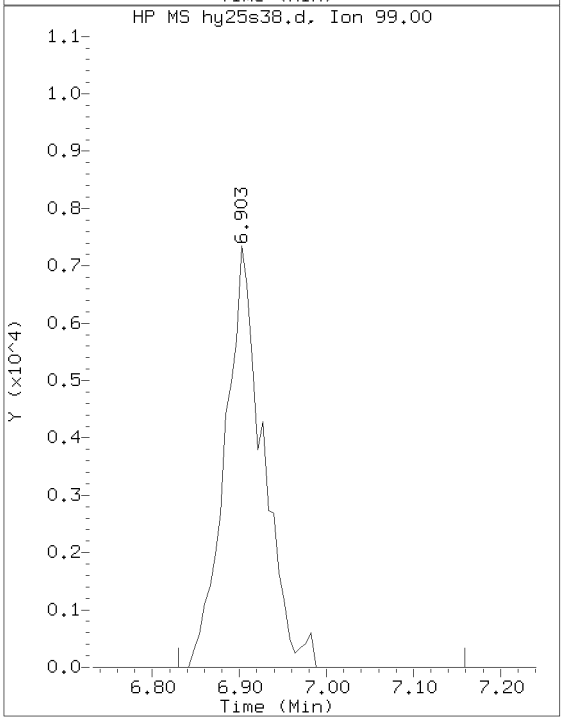
Reference Standard Spectrum for 1,1,1-Trichloroethane



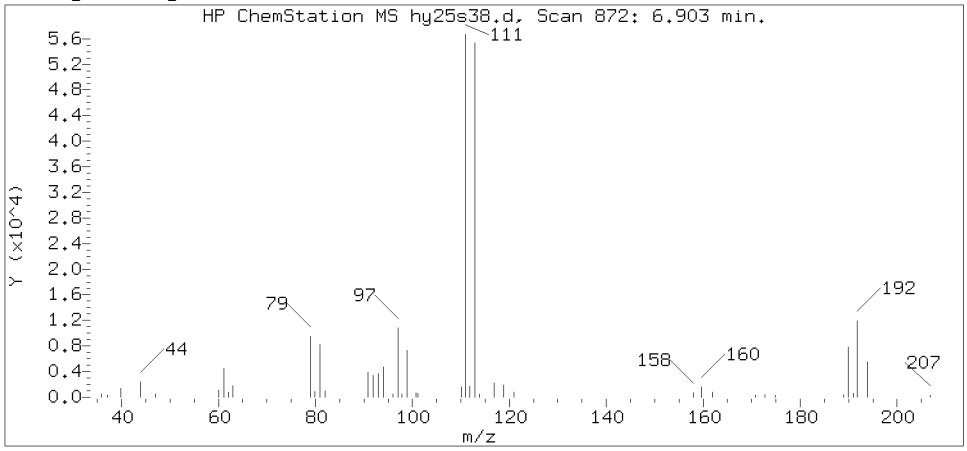


Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)



Data File: /chem2/HP19094.i/17may25b.b/hy25s38.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 10:24 kel01973

Sample Name: R8510 Lab Sample ID: 8999796

Compound Number : 51
Compound Name : 1,1,1-Trichloroethane
Scan Number : 872
Retention Time (minutes): 6.903
Relative Retention Time :-0.00070
Quant Ion : 97.00
Area (flag) : 35497
On-Column Amount (ng) : 0.3881

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:24.
Target 3.5 esignature user ID: kel01973

R8511 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999797

Data file: /chem2/HP19094.i/17may25b.b/hy25s39.d Injection date and time: **26-MAY-2017 02:27**
Data file Sample Info. Line: R8511;8999797;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 02:45 Automation

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.232	(0.031)	434	65	53675	(-39)	50.00	
63) Fluorobenzene	7.768	(0.013)	1014	96	2338282	(-11)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1557659	(-17)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127	(-0.006)	1893	152	611558	(-27)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(-0.001)	113	570020	10.875	109%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.323	(0.000)	102	89978	10.616	106%		74 - 113
82) Toluene-d8	(3)	9.786	(0.001)	98	2332210	10.243	102%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	598465	9.251	93%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)				Not Detected					0.1	1
4) Dimethyl ether	(2)				Not Detected					0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
8) Chloroethane	(2)				Not Detected					0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.1	1
11) Ethyl ether	(2)				Not Detected					0.1	13
15) 1,1-Dichloroethene	(2)				Not Detected					0.1	1
16) Freon 113	(2)				Not Detected					0.2	1
23) Methylene Chloride	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)	5.348	(0.000)	63	38855	0.344	0.34		J	0.1	1
38) 2-Butanone	(1)				Not Detected					1	10
48) Tetrahydrofuran	(1)				Not Detected					2	25
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.1	1
58) Benzene	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.1	1
83) Toluene	(3)				Not Detected					0.1	1
89) Tetrachloroethene	(3)				Not Detected					0.1	1
100) Ethylbenzene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.1	3

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:25. Target 3.5 esignature user ID: kel01973

Data file: /chem2/HP19094.i/17may25b.b/hy25s39.d Injection date and time: **26-MAY-2017 02:27**
Data file Sample Info. Line: R8511;8999797;1;0;;RAE85;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 26-May-2017 02:45 Automation

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

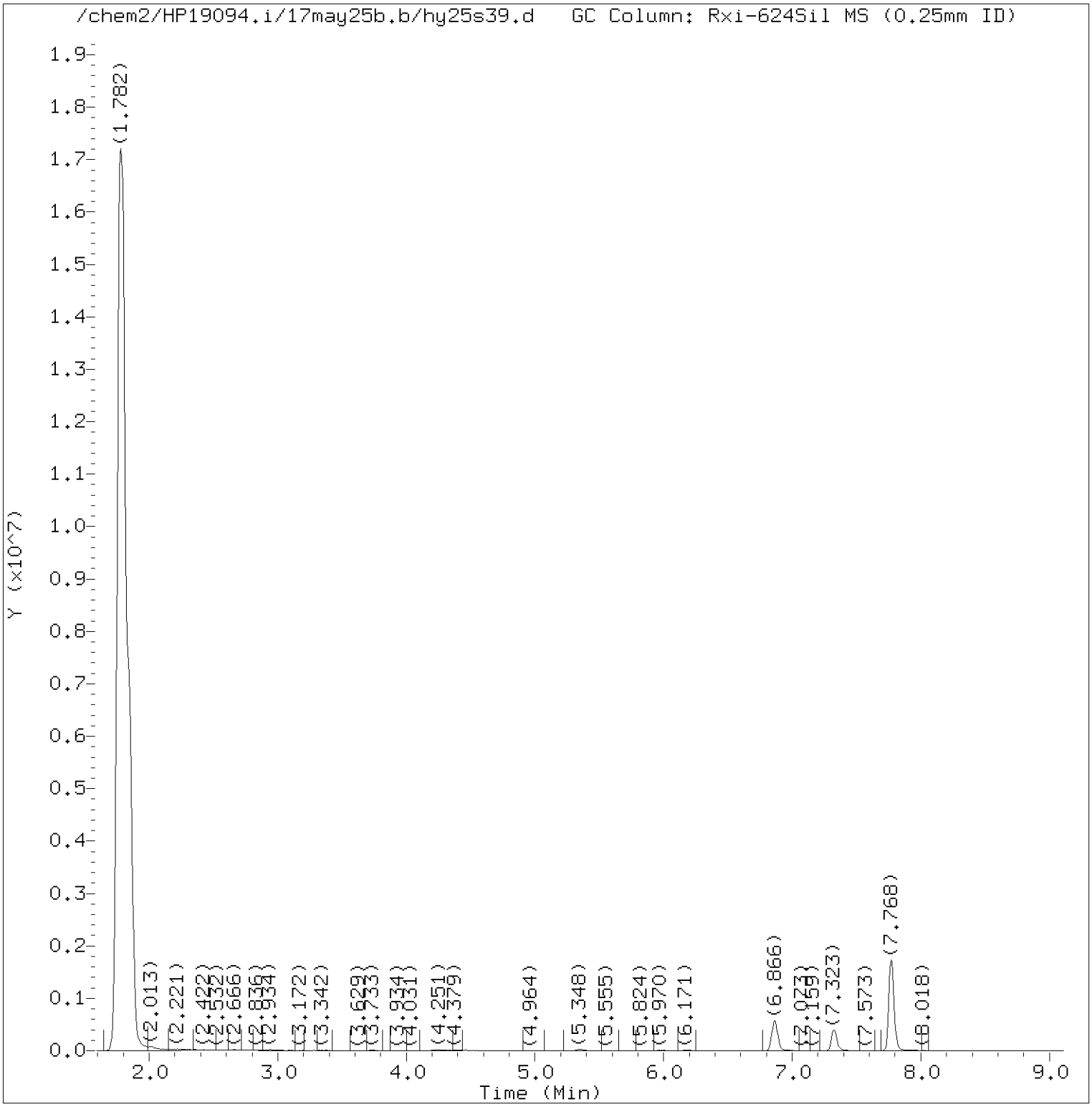
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 22

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:25. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

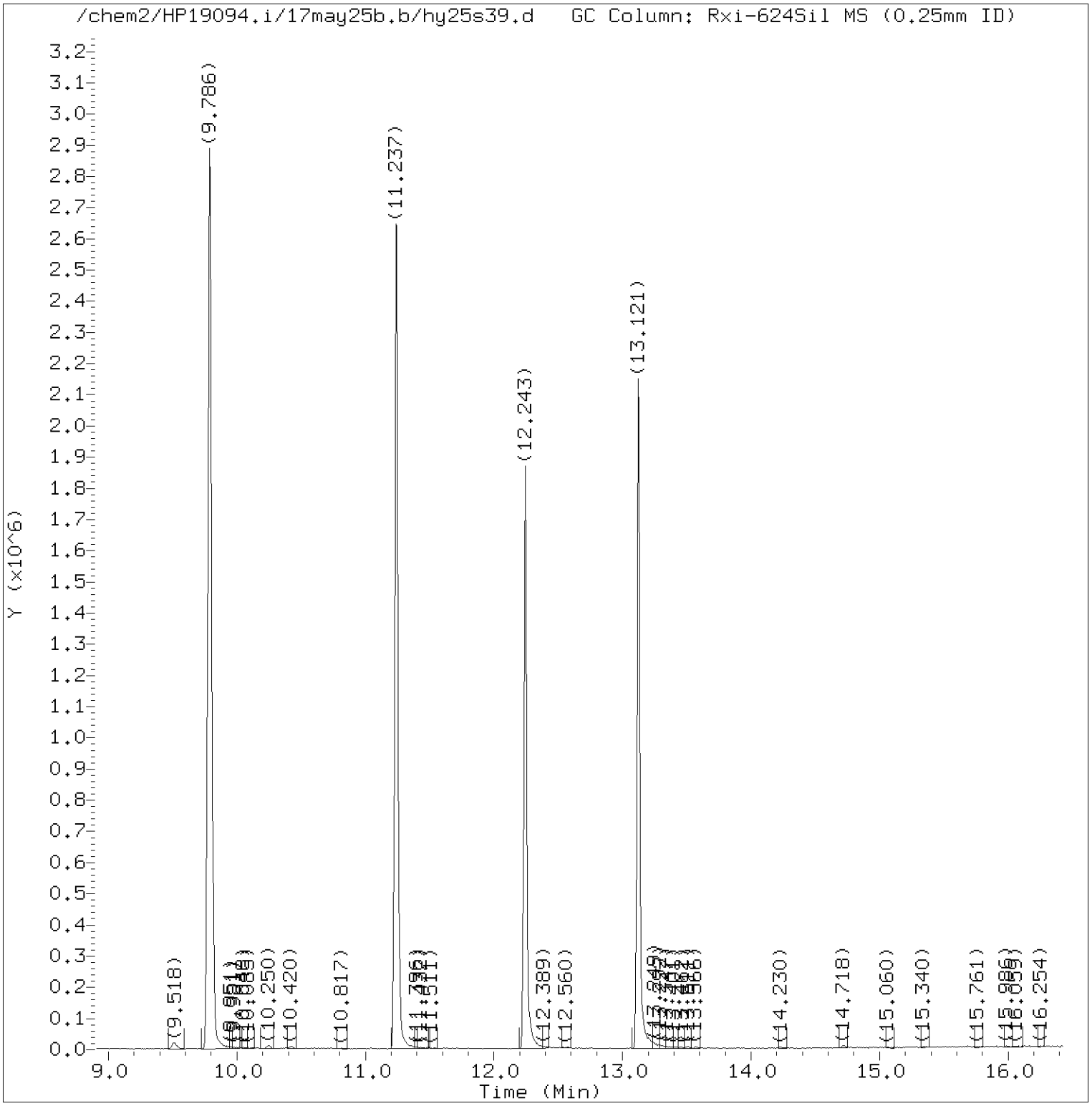
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s39.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 02:45 Automation

Sample Name: R8511 Lab Sample ID: 8999797

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:25.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s39.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 02:45 Automation

Sample Name: R8511 Lab Sample ID: 8999797

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:25.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s39.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 02:45 Automation

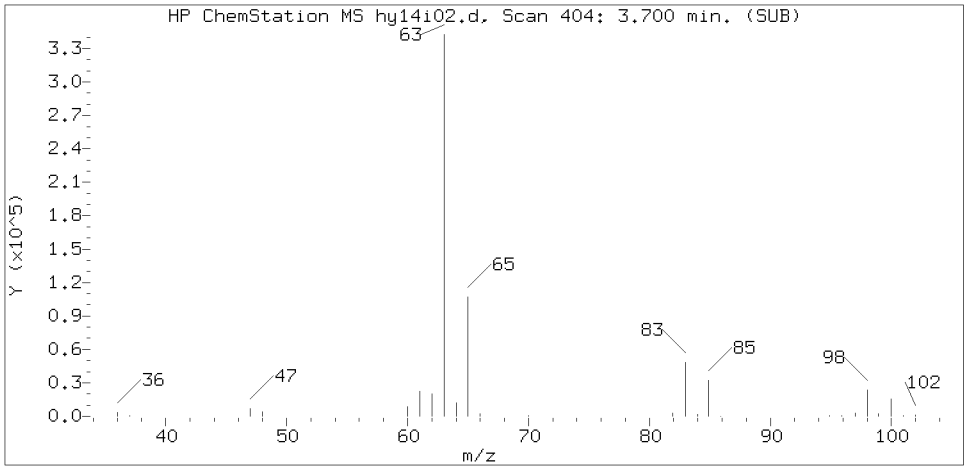
Sample Name: R8511 Lab Sample ID: 8999797

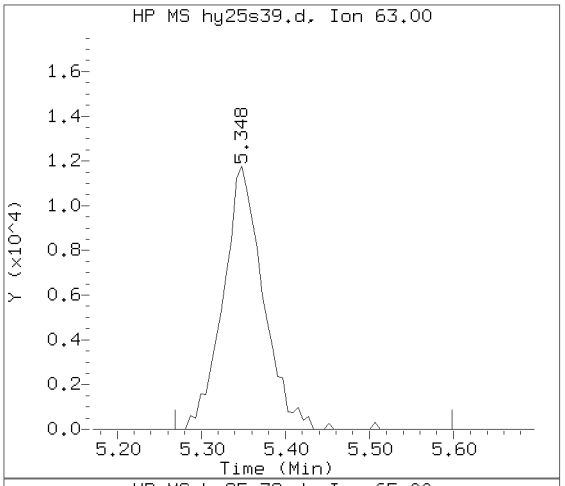
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.232	65	53675	50.000
33) 1,1-Dichloroethane	(2)	5.348	63	38855	0.344
50)$Dibromofluoromethane	(2)	6.866	113	570020	10.875
57)$1,2-Dichloroethane-d4	(2)	7.323	102	89978	10.616
63)*Fluorobenzene	(2)	7.768	96	2338282	10.000
82)$Toluene-d8	(3)	9.786	98	2332210	10.243
97)*Chlorobenzene-d5	(3)	11.243	117	1557659	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	598465	9.251
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	611558	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

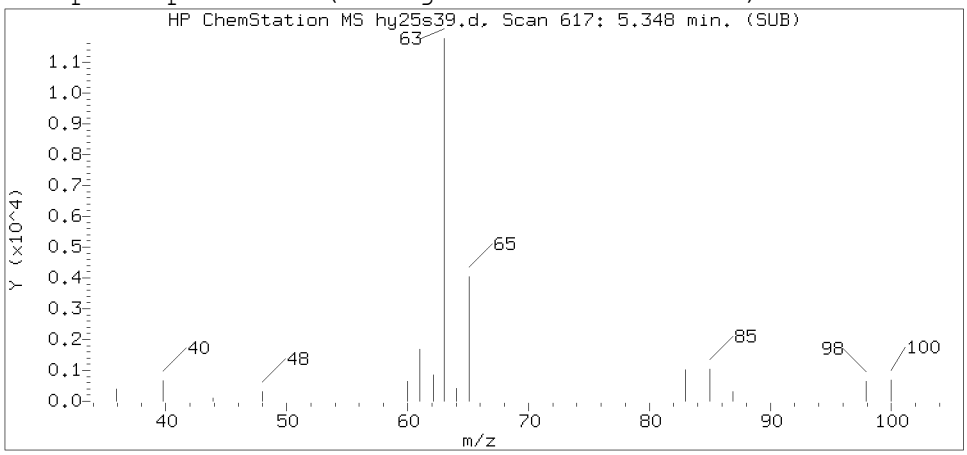
Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 10:25.
Target 3.5 esignature user ID: kel01973

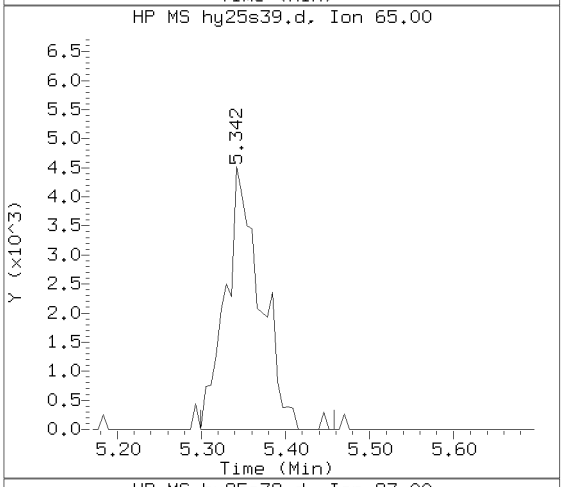
Reference Standard Spectrum for 1,1-Dichloroethane



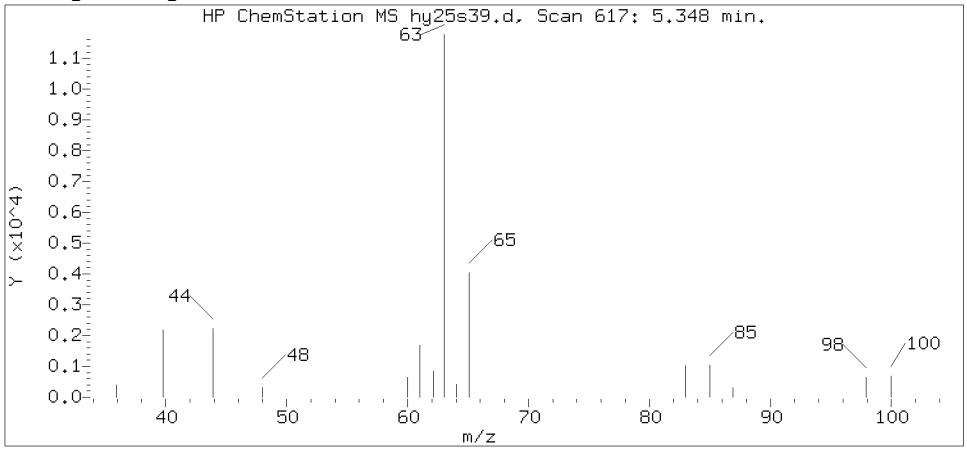


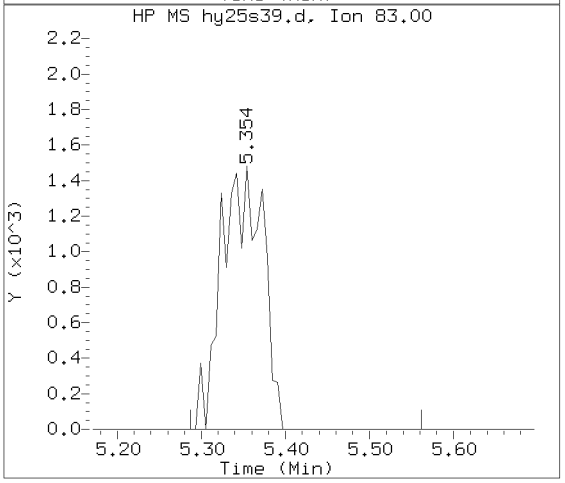
Sample Spectrum (Background Subtracted)





Sample Spectrum (Unaltered)





Data File: /chem2/HP19094.i/17may25b.b/hy25s39.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 02:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 26-May-2017 02:45 Automation

Sample Name: R8511 Lab Sample ID: 8999797

Compound Number	: 33
Compound Name	: 1,1-Dichloroethane
Scan Number	: 617
Retention Time (minutes)	: 5.348
Relative Retention Time	: 0.00050
Quant Ion	: 63.00
Area (flag)	: 38855
On-Column Amount (ng)	: 0.3437

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 10:25.
Target 3.5 esignature user ID: kel01973

R8512 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999798

Data file: /chem2/HP19094.i/17may25b.b/hy25s03.d Injection date and time: **25-MAY-2017 20:42**
Data file Sample Info. Line: R8512;8999798;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.245	(0.018)	436	65	90619	(3)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2379147	(-9)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1502566	(-20)	10.00	
133) 1,4-Dichlorobenzene-d4	13.127	(-0.006)	1893	152	580336	(-31)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	550543	10.323	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	89758	10.408	104%		74 - 113
82) Toluene-d8	(3)	9.786	(0.001)	98	2300038	10.472	105%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	585184	9.377	94%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)				Not Detected					0.1	1
4) Dimethyl ether	(2)				Not Detected					0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
5) Vinyl Chloride	(2)				Not Detected					0.2	1
7) Bromomethane	(2)				Not Detected					0.5	1
8) Chloroethane	(2)				Not Detected					0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.2	1
11) Ethyl ether	(2)				Not Detected					1	13
13) Acrolein	(1)				Not Detected					5	25
15) 1,1-Dichloroethene	(2)				Not Detected					0.2	1
16) Freon 113	(2)				Not Detected					0.2	1
14) Acetone	(1)				Not Detected					3	10
17) Methyl Iodide	(2)				Not Detected					0.6	10
18) Carbon Disulfide	(2)				Not Detected					0.4	10
25) Acetonitrile	(1)				Not Detected					32	100
22) Allyl Chloride	(2)				Not Detected					0.8	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
29) Acrylonitrile	(1)				Not Detected					1	10
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)				Not Detected					0.1	1
36) Vinyl Acetate	(2)				Not Detected					3	10
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					0.5	10
38) 2-Butanone	(1)				Not Detected					1	10
42) Propionitrile	(1)				Not Detected					10	100
45) Methacrylonitrile	(1)				Not Detected					10	100
48) Tetrahydrofuran	(1)				Not Detected					2	25
49) Chloroform	(2)				Not Detected					0.1	1
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.2	1
56) Isobutyl Alcohol	(1)				Not Detected					10	200

Digitally signed by Don V. Viray on 05/30/2017 at 22:11. Target 3.5 esignature user ID: dvv10203

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s03.d Injection date and time: **25-MAY-2017 20:42**
Data file Sample Info. Line: R8512;8999798;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

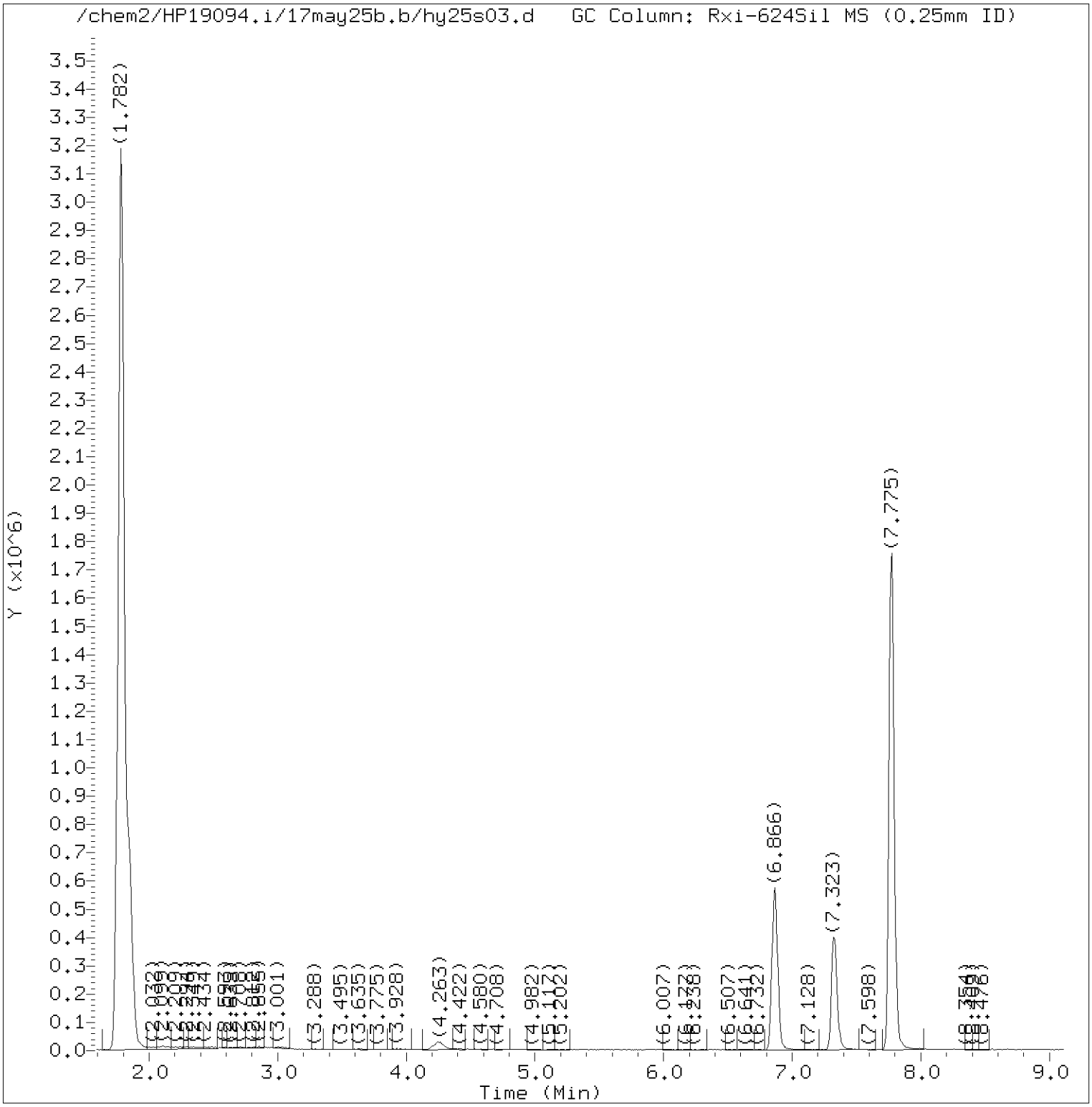
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
58) Benzene	(2)				Not Detected					0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1
70) 1,2-Dichloropropane	(2)				Not Detected					0.1	1
71) Methyl Methacrylate	(1)				Not Detected					4	10
73) Dibromomethane	(2)				Not Detected					0.1	1
72) 1,4-Dioxane	(1)				Not Detected					45	200
74) Bromodichloromethane	(2)				Not Detected					0.1	1
81) 4-Methyl-2-Pentanone	(1)				Not Detected					1	10
83) Toluene	(3)				Not Detected					0.1	1
84) trans-1,3-Dichloropropene	(3)				Not Detected					0.1	1
86) Ethyl Methacrylate	(3)				Not Detected					0.8	10
88) 1,1,2-Trichloroethane	(3)				Not Detected					0.1	1
89) Tetrachloroethene	(3)				Not Detected					0.1	1
90) 1,3-Dichloropropane	(3)				Not Detected					0.1	1
91) 2-Hexanone	(1)				Not Detected					1	10
93) Dibromochloromethane	(3)				Not Detected					0.1	1
95) 1,2-Dibromoethane	(3)				Not Detected					0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)				Not Detected					0.1	1
100) Ethylbenzene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3
106) Styrene	(3)				Not Detected					0.1	1
107) Bromoform	(3)				Not Detected					0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					0.2	1
115) trans-1,4-Dichloro-2-butene	(1)				Not Detected					1	10
116) 1,2,3-Trichloropropane	(4)				Not Detected					0.3	1
126) Pentachloroethane	(4)				Not Detected					0.8	10
131) 1,3-Dichlorobenzene	(4)				Not Detected					0.1	1
134) 1,4-Dichlorobenzene	(4)				Not Detected					0.1	1
139) 1,2-Dichlorobenzene	(4)				Not Detected					0.1	1
142) Hexachloroethane	(4)				Not Detected					0.1	10
143) 1,2-Dibromo-3-chloropropane	(1)				Not Detected					0.2	1
145) 1,2,4-Trichlorobenzene	(4)				Not Detected					0.1	1
146) Hexachlorobutadiene	(4)				Not Detected					0.1	1
147) Naphthalene	(4)				Not Detected					0.1	1

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:11. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

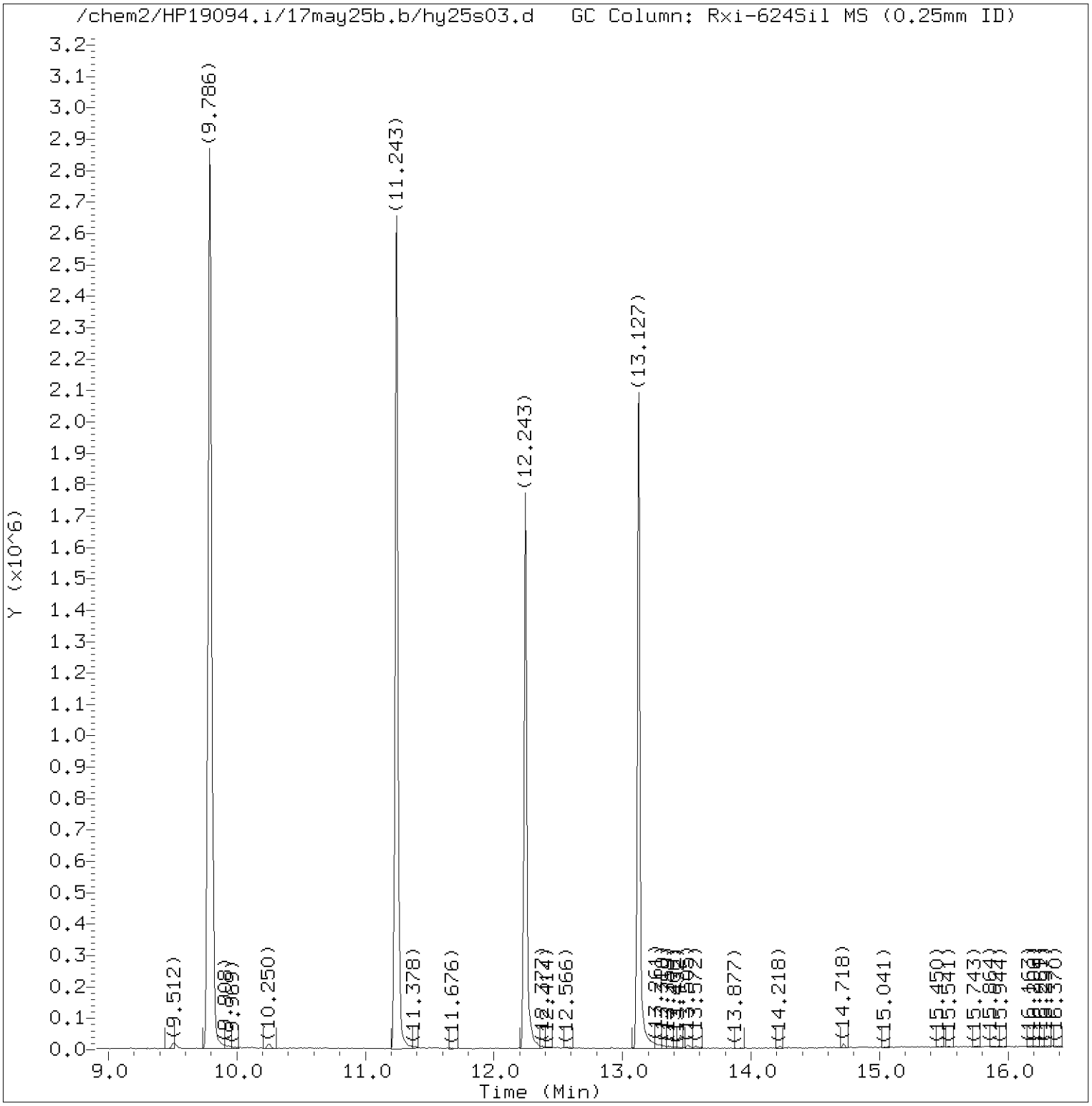
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 20:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8512 Lab Sample ID: 8999798

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 20:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8512 Lab Sample ID: 8999798

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 20:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8512 Lab Sample ID: 8999798

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.245	65	90619	50.000
50)$Dibromofluoromethane	(2)	6.866	113	550543	10.323
57)$1,2-Dichloroethane-d4	(2)	7.330	102	89758	10.408
63)*Fluorobenzene	(2)	7.775	96	2379147	10.000
82)$Toluene-d8	(3)	9.786	98	2300038	10.472
97)*Chlorobenzene-d5	(3)	11.243	117	1502566	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	585184	9.377
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	580336	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

R8513 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999799

Data file: /chem2/HP19094.i/17may25b.b/hy25s04.d Injection date and time: **25-MAY-2017 21:02**
Data file Sample Info. Line: R8513;8999799;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:9274

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269	(-0.006)	440	65	69089M	(-21)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2399572	(-8)	10.00	
97) Chlorobenzene-d5	11.244	(0.000)	1584	117	1664757	(-11)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	647414	(-23)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(-0.001)	113	595631	11.073	111%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	97227	11.178	112%		74 - 113
82) Toluene-d8	(3)	9.793	(0.000)	98	2392903	9.833	98%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	645880	9.341	93%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)				Not Detected					0.1	1
4) Dimethyl ether	(2)				Not Detected					0.1	13
2) Chloromethane	(2)				Not Detected					0.2	1
5) Vinyl Chloride	(2)				Not Detected					0.2	1
7) Bromomethane	(2)				Not Detected					0.5	1
8) Chloroethane	(2)				Not Detected					0.1	1
10) Trichlorofluoromethane	(2)				Not Detected					0.2	1
11) Ethyl ether	(2)				Not Detected					1	13
13) Acrolein	(1)				Not Detected					5	25
15) 1,1-Dichloroethene	(2)				Not Detected					0.2	1
16) Freon 113	(2)				Not Detected					0.2	1
14) Acetone	(1)				Not Detected					3	10
17) Methyl Iodide	(2)				Not Detected					0.6	10
18) Carbon Disulfide	(2)				Not Detected					0.4	10
25) Acetonitrile	(1)				Not Detected					32	100
22) Allyl Chloride	(2)				Not Detected					0.8	10
23) Methylene Chloride	(2)				Not Detected					0.2	1
29) Acrylonitrile	(1)				Not Detected					1	10
31) trans-1,2-Dichloroethene	(2)				Not Detected					0.2	1
33) 1,1-Dichloroethane	(2)				Not Detected					0.1	1
36) Vinyl Acetate	(2)				Not Detected					3	10
35) 2-Chloro-1,3-Butadiene	(2)				Not Detected					0.5	10
38) 2-Butanone	(1)				Not Detected					1	10
42) Propionitrile	(1)				Not Detected					10	100
45) Methacrylonitrile	(1)				Not Detected					10	100
48) Tetrahydrofuran	(1)				Not Detected					2	25
49) Chloroform	(2)				Not Detected					0.1	1
51) 1,1,1-Trichloroethane	(2)				Not Detected					0.1	1
54) Carbon Tetrachloride	(2)				Not Detected					0.2	1

Digitally signed by Don V. Viray on 05/30/2017 at 22:11. Target 3.5 esignature user ID: dvv10203

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s04.d Injection date and time: **25-MAY-2017 21:02**
Data file Sample Info. Line: R8513;8999799;1;0;;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

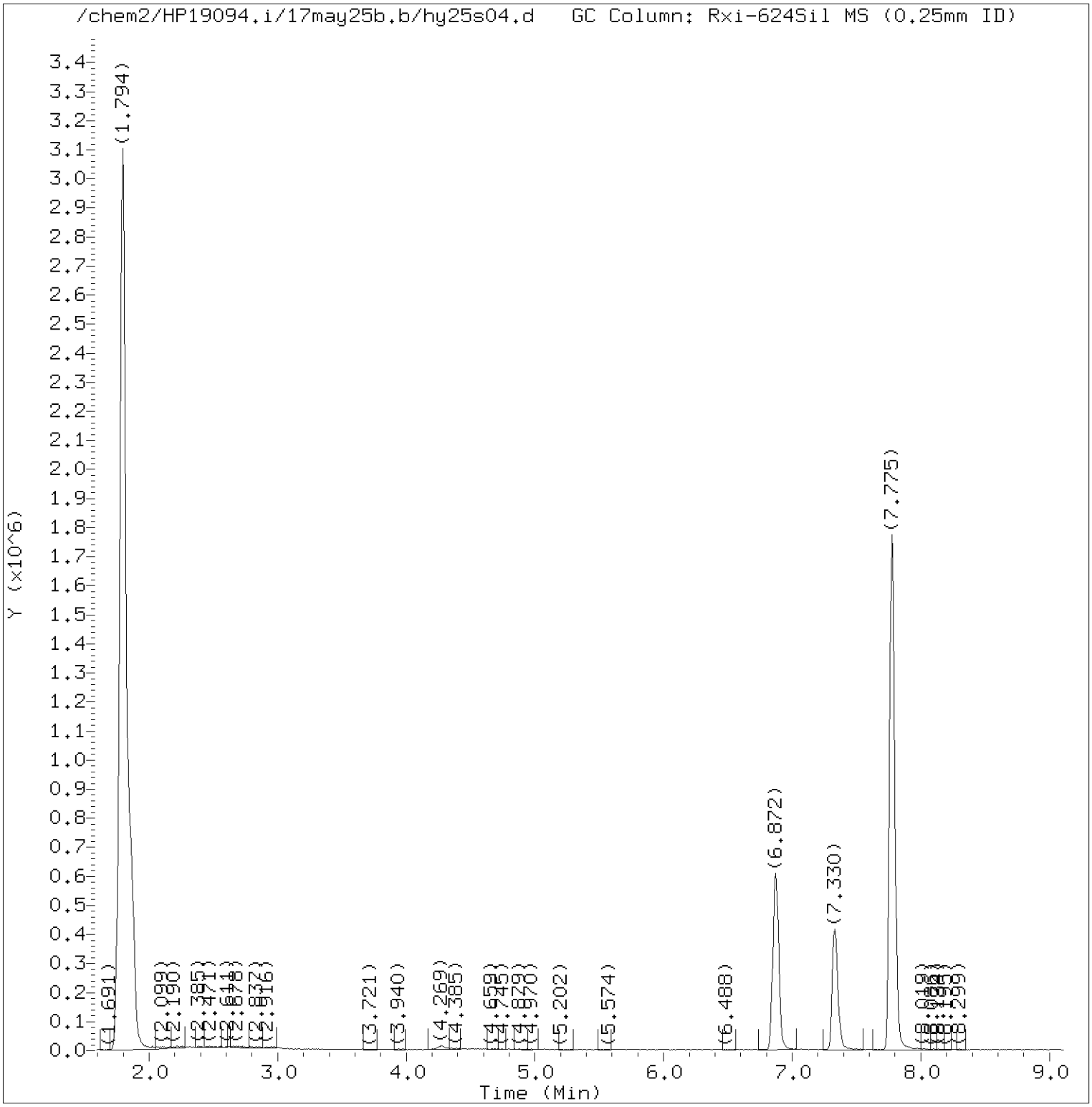
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
56) Isobutyl Alcohol	(1)				Not Detected					10	200
58) Benzene	(2)				Not Detected					0.1	1
59) 1,2-Dichloroethane	(2)				Not Detected					0.1	1
67) Trichloroethene	(2)				Not Detected					0.2	1
70) 1,2-Dichloropropane	(2)				Not Detected					0.1	1
71) Methyl Methacrylate	(1)				Not Detected					4	10
73) Dibromomethane	(2)				Not Detected					0.1	1
72) 1,4-Dioxane	(1)				Not Detected					45	200
74) Bromodichloromethane	(2)				Not Detected					0.1	1
81) 4-Methyl-2-Pentanone	(1)				Not Detected					1	10
83) Toluene	(3)				Not Detected					0.1	1
84) trans-1,3-Dichloropropene	(3)				Not Detected					0.1	1
86) Ethyl Methacrylate	(3)				Not Detected					0.8	10
88) 1,1,2-Trichloroethane	(3)				Not Detected					0.1	1
89) Tetrachloroethene	(3)				Not Detected					0.1	1
90) 1,3-Dichloropropane	(3)				Not Detected					0.1	1
91) 2-Hexanone	(1)				Not Detected					1	10
93) Dibromochloromethane	(3)				Not Detected					0.1	1
95) 1,2-Dibromoethane	(3)				Not Detected					0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)				Not Detected					0.1	1
100) Ethylbenzene	(3)				Not Detected					0.1	1
101) m+p-Xylene	(3)				Not Detected					0.1	0.5
104) o-Xylene	(3)				Not Detected					0.1	0.5
105) Xylene (Total)	(3)				Not Detected					0.2	3
106) Styrene	(3)				Not Detected					0.1	1
107) Bromoform	(3)				Not Detected					0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)				Not Detected					0.2	1
115) trans-1,4-Dichloro-2-butene	(1)				Not Detected					1	10
116) 1,2,3-Trichloropropane	(4)				Not Detected					0.3	1
126) Pentachloroethane	(4)				Not Detected					0.8	10
131) 1,3-Dichlorobenzene	(4)				Not Detected					0.1	1
134) 1,4-Dichlorobenzene	(4)				Not Detected					0.1	1
139) 1,2-Dichlorobenzene	(4)				Not Detected					0.1	1
142) Hexachloroethane	(4)				Not Detected					0.1	10
143) 1,2-Dibromo-3-chloropropane	(1)				Not Detected					0.2	1
145) 1,2,4-Trichlorobenzene	(4)				Not Detected					0.1	1
146) Hexachlorobutadiene	(4)				Not Detected					0.1	1
147) Naphthalene	(4)				Not Detected					0.1	1

Total number of targets = 67

Digitally signed by Don V. Viray on 05/30/2017 at 22:11. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

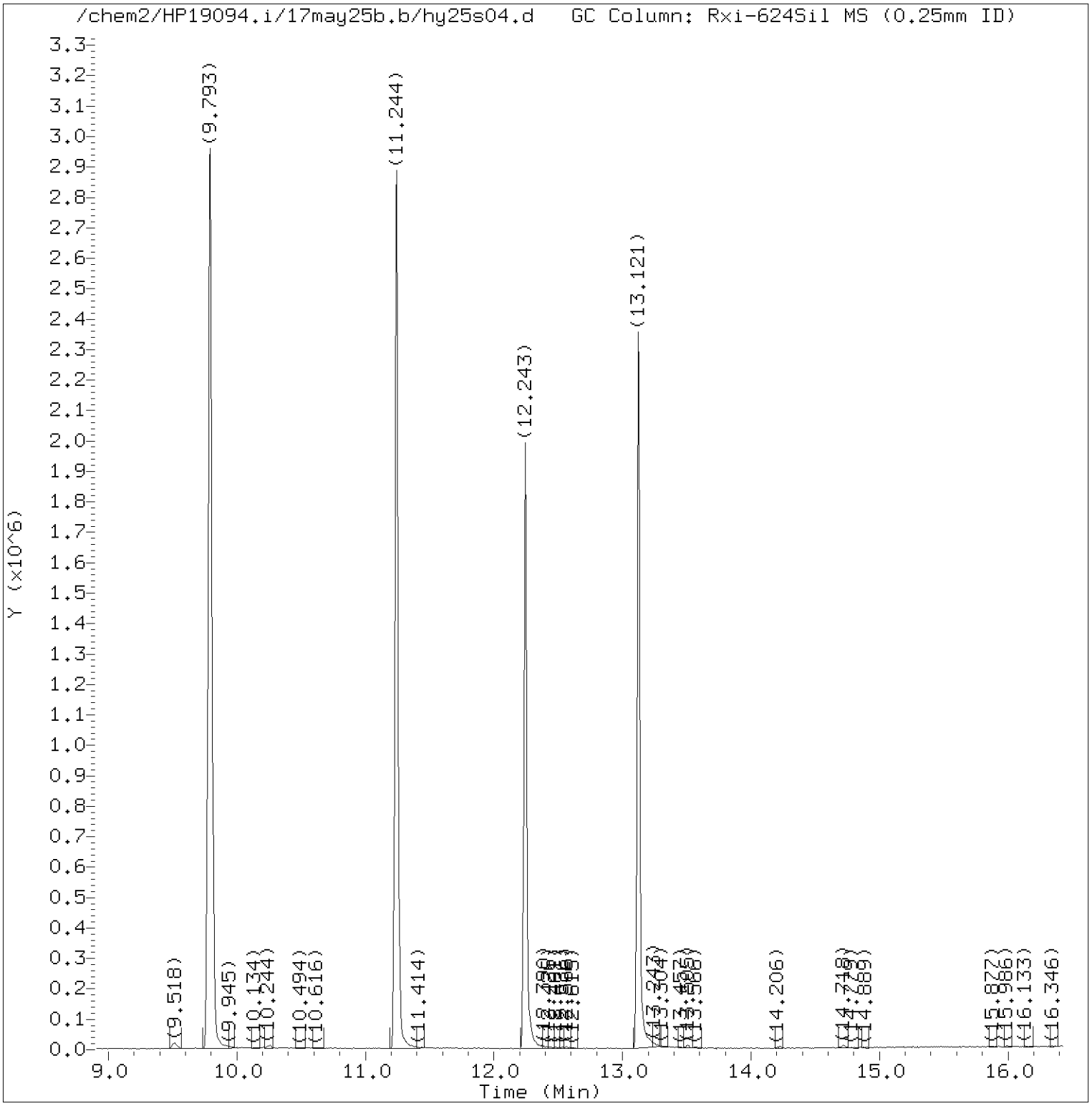
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:02 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8513 Lab Sample ID: 8999799

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:02 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8513 Lab Sample ID: 8999799

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:02 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

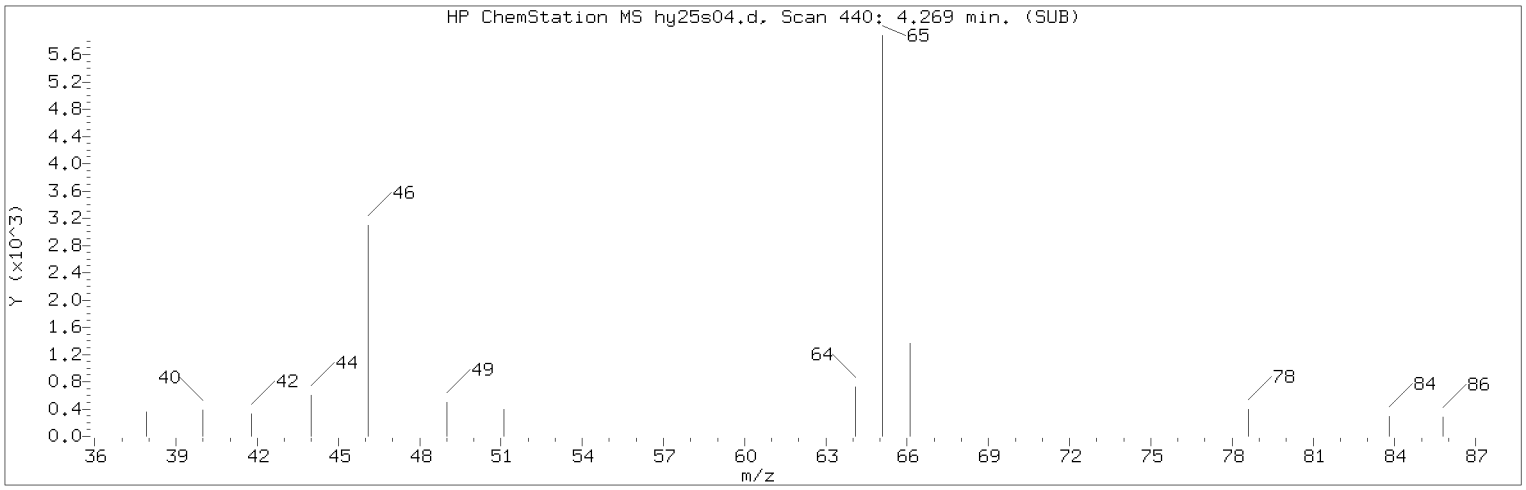
Sample Name: R8513 Lab Sample ID: 8999799

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.269	65	69089M	50.000
50)$Dibromofluoromethane	(2)	6.872	113	595631	11.073
57)$1,2-Dichloroethane-d4	(2)	7.330	102	97227	11.178
63)*Fluorobenzene	(2)	7.775	96	2399572	10.000
82)$Toluene-d8	(3)	9.793	98	2392903	9.833
97)*Chlorobenzene-d5	(3)	11.244	117	1664757	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	645880	9.341
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	647414	10.000

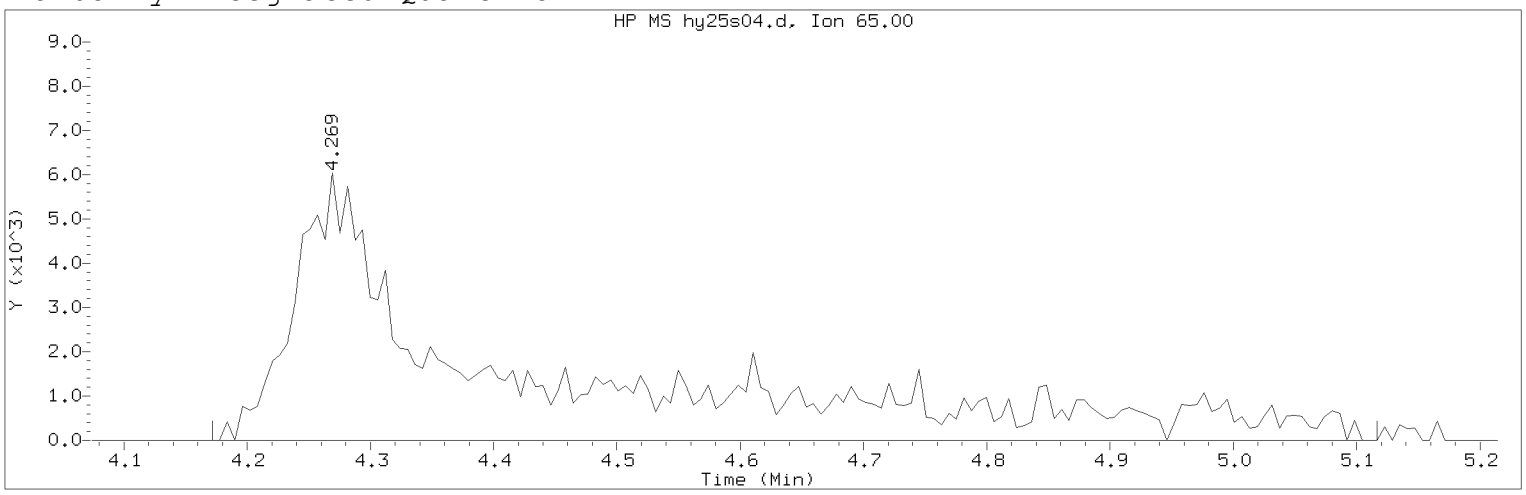
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:02 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: R8513 Lab Sample ID: 8999799

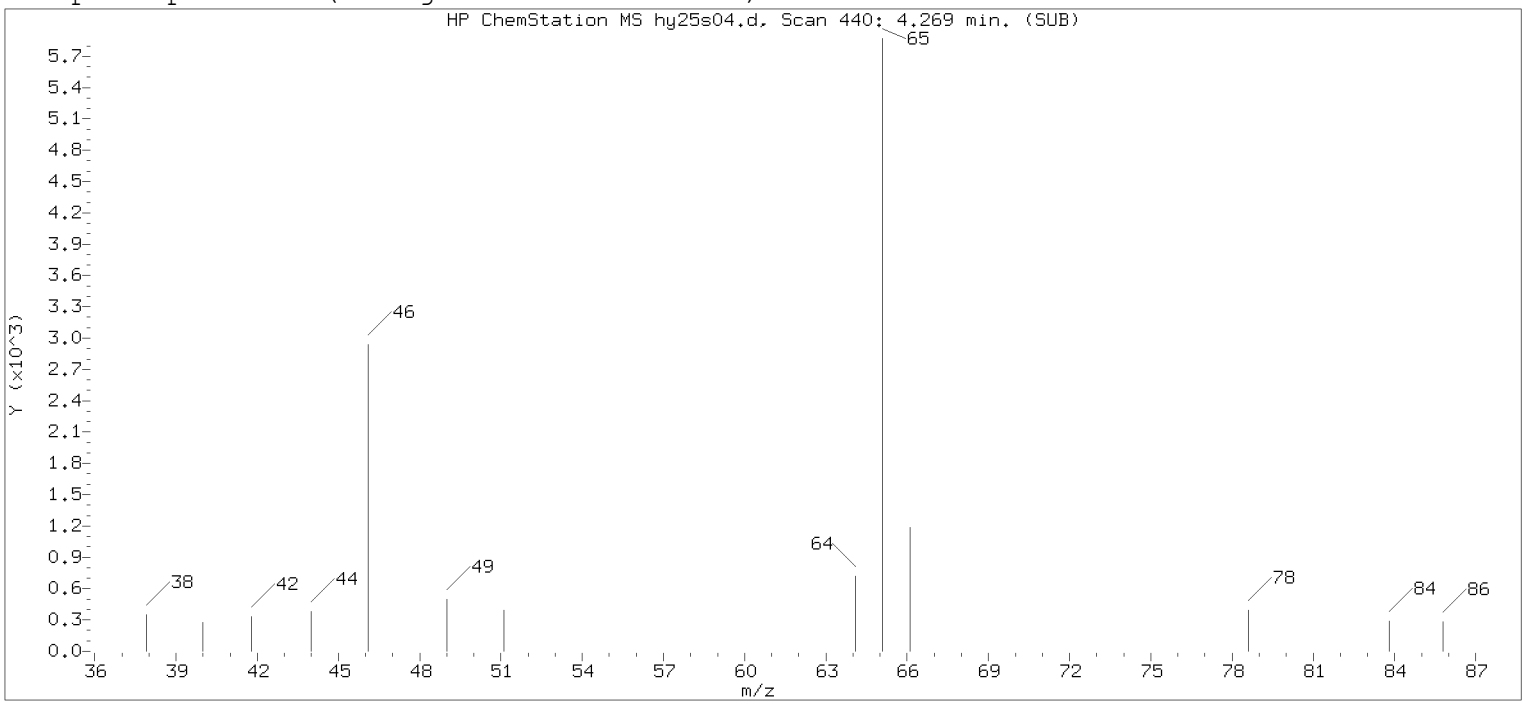
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area (flag) : 69089M
On-Column Amount (ng) : 50.0000
Integration start scan : 423 Integration stop scan: 578
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

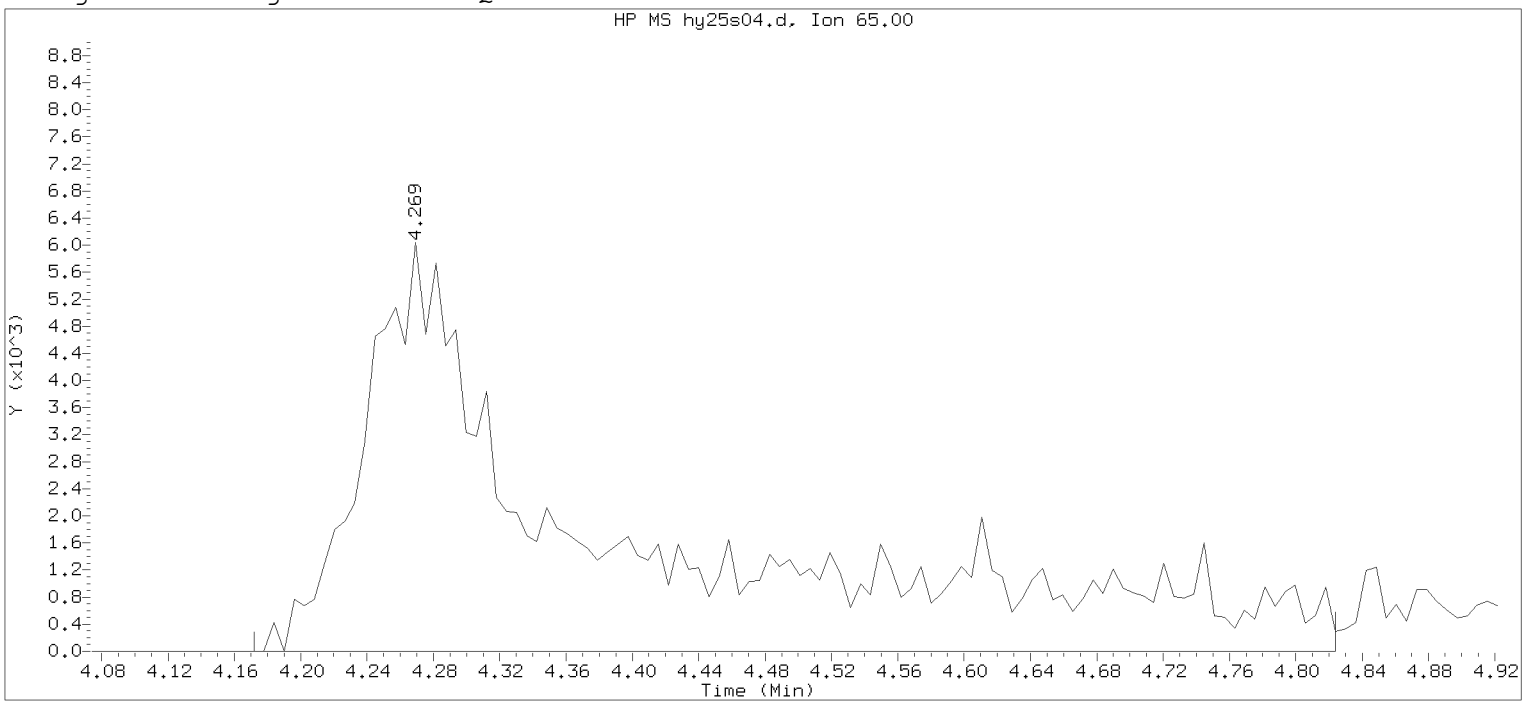
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:02 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 21:20 Automation

Sample Name: R8513 Lab Sample ID: 8999799

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area : 59362
On-column Amount (ng) : 50.0000
Integration start scan : 423 Integration stop scan: 530
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature used on 10/03/2013

Standards Data

Volatiles by GC/MS

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP09915 **HP #23**

Data Directory Path is - d:\data\17APR26A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KAS02648	LA26T01.D	50NG BFB	04/26/2017	12:45		
KAS02648	LA26X01.D	BLK	04/26/2017	12:58		
KAS02648	LA26I01.D	VSTD300	04/26/2017	13:20		
KAS02648	LA26I02.D	VSTD100	04/26/2017	13:42		
KAS02648	LA26I03.D	VSTD050	04/26/2017	14:04		
KAS02648	LA26I04.D	VSTD020	04/26/2017	14:26		
KAS02648	LA26I05.D	VSTD010	04/26/2017	14:48		
KAS02648	LA26I06.D	VSTD004	04/26/2017	15:10		
KAS02648	LA26I07.D	VSTD001	04/26/2017	15:32		
KAS02648	LA26M01.D	MDL0.5	04/26/2017	15:54		
KAS02648	LA26C01.D	VSTD050	04/26/2017	16:41	L171161AA	
KAS02648	LA26B01.D	VBLKL46	04/26/2017	17:03	L171161AA	
KAS02648	LA26S01.D	LCSL46	04/26/2017	17:25	L171161AA	
KAS02648	LA26S02.D	LCSL47	04/26/2017	17:47	L171161AA	
KAS02648	LA26M02.D	MDL001	04/26/2017	18:09	L171161AA	
KAS02648	LA26S01A.D	LCSL46	04/26/2017	18:34	L171161AA	
KAS02648	LA26S32.D	8944378	04/26/2017	19:15	L171162AA	
KAS02648	LA26S33.D	8944379	04/26/2017	19:37	L171162AA	
KAS02648	LA26S34.D	8947184	04/26/2017	19:59	L171162AA	
KAS02648	LA26S35.D	8944352	04/26/2017	20:21	L171162AA	
KAS02648	LA26S36.D	8944353MS	04/26/2017	20:43	L171162AA	
KAS02648	LA26S37.D	8944354MSD	04/26/2017	21:05	L171162AA	
KAS02648	LA26S38.D	8944360	04/26/2017	21:27	L171162AA	
KAS02648	LA26S39.D	8944366	04/26/2017	21:49	L171162AA	
KAS02648	LA26S40.D	8944368	04/26/2017	22:11	L171162AA	
KAS02648	LA26S41.D	8944370	04/26/2017	22:33	L171162AA	
KAS02648	LA26S42.D	8947174	04/26/2017	22:55	L171162AA	
KAS02648	LA26S43.D	8947180	04/26/2017	23:17	L171162AA	
KAS02648	LA26EC1.D	SECC050	04/26/2017	23:38	L171162AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - D:\DATA\17APR19A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KEL01973	ha19t01.D	bfb 02-20-17	04/19/2017	11:06		
kel01973	HA19X05.D	blk	04/19/2017	11:38		
kel01973	HA19i01.D	VSTD025	04/19/2017	11:58		
kel01973	HA19i02.D	VSTD010	04/19/2017	12:18		
kel01973	HA19i03.D	VSTD005	04/19/2017	12:39		
kel01973	HA19i04.D	VSTD002	04/19/2017	12:59		
kel01973	HA19i05.D	VSTD001	04/19/2017	13:19		
kel01973	HA19i06.D	VSTD0.5	04/19/2017	13:40		
kel01973	HA19i07.D	VSTD0.2	04/19/2017	14:00		
kel01973	HA19m01.D	MDL0.1	04/19/2017	14:21		
kel01973	HA19m02.D	MDL0.4	04/19/2017	14:41		
kel01973	HA19v01.D	LCSHLG	04/19/2017	15:01		
kel01973	HA19X06.D	blk	04/19/2017	15:22		
kel01973	HA19i11.D	VSTD025	04/19/2017	16:03		
kel01973	HA19i12.D	VSTD010	04/19/2017	16:23		
kel01973	HA19i13.D	VSTD005	04/19/2017	16:43		
kel01973	HA19i14.D	VSTD002	04/19/2017	17:03		
kel01973	HA19i15.D	VSTD001	04/19/2017	17:24		
kel01973	HA19i16.D	VSTD0.5	04/19/2017	17:44		
kel01973	HA19i17.D	VSTD0.2	04/19/2017	18:05		
kel01973	HA19m11.D	MDL0.1	04/19/2017	18:25		
kel01973	HA19v11.D	LCSHSM	04/19/2017	18:45		
kel01973	HA19v12.D	LCDHSM	04/19/2017	19:06		
kel01973	HA19X99.D	VBLK99	04/19/2017	19:32		
kel01973	HA19B01.D	VBLK99	04/19/2017	19:52		
MSK07970	HA19S07.D	8929590	04/19/2017	20:26	H171091AA	
MSK07970	HA19S19.D	8929590MS	04/19/2017	20:46	H171091AA	
MSK07970	HA19S18.D	8929590MSD	04/19/2017	21:07	H171091AA	
MSK07970	HA19X80.D	VBLKH91	04/19/2017	21:27	H171091AA	
MSK07970	HA19S04.D	8929588	04/19/2017	21:47	H171091AA	
MSK07970	HA19S05.D	8929589	04/19/2017	22:08	H171091AA	
MSK07970	HA19S06.D	8929612	04/19/2017	22:28	H171091AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - D:\DATA\17MAY25A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KEL01973	hy25t01.D	bfb 02-20-17	05/25/2017	10:20		
kel01973	HY25X05.D	BLK	05/25/2017	10:43		
kel01973	HY25i01.D	VSTD025	05/25/2017	11:03		
kel01973	HY25i02.D	VSTD010	05/25/2017	11:24		
kel01973	HY25i03.D	VSTD005	05/25/2017	11:44		
kel01973	HY25i04.D	VSTD002	05/25/2017	12:04		
kel01973	HY25i05.D	VSTD001	05/25/2017	12:25		
kel01973	HY25i06.D	VSTD0.5	05/25/2017	12:45		
kel01973	HY25i07.D	VSTD0.2	05/25/2017	13:05		
kel01973	HY25m01.D	MDL0.1	05/25/2017	13:26		
kel01973	HY25X06.D	BLK	05/25/2017	14:49		
kel01973	HY25v01.D	LCSHSM	05/25/2017	15:09		

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP09915 **HP #23**

Data Directory Path is - d:\data\17MAY23A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ADS01731	LY23T01.D	50NG BFB	05/23/2017	08:29		
ADS01731	LY23X01.D	BLK	05/23/2017	08:48	L171431AA	
ADS01731	LY23C01.D	VSTD050	05/23/2017	09:10	L171431AA	
ADS01731	LY23S01.D	LCSL17	05/23/2017	09:32	L171431AA	
ADS01731	LY23B01.D	VBLKL17	05/23/2017	09:54	L171431AA	
ADS01731	LY23S02.D	8996725	05/23/2017	10:32	L171431AA	
ADS01731	LY23S03.D	8999397	05/23/2017	10:54	L171431AA	
ADS01731	LY23S04.D	9000612	05/23/2017	11:16	L171431AA	
ADS01731	LY23S05.D	9000613	05/23/2017	11:37	L171431AA	
ADS01731	LY23S06.D	9001163	05/23/2017	11:59	L171431AA	
ADS01731	LY23S07.D	9001164	05/23/2017	12:21	L171431AA	
ADS01731	LY23S08.D	8999785	05/23/2017	12:43	L171431AA	
ADS01731	LY23S09.D	8999786	05/23/2017	13:05	L171431AA	
ADS01731	LY23S10.D	8999787	05/23/2017	13:27	L171431AA	
ADS01731	LY23S11.D	8999788	05/23/2017	13:49	L171431AA	
ADS01731	LY23S12.D	8999789MS	05/23/2017	14:11	L171431AA	
ADS01731	LY23S13.D	8999790MSD	05/23/2017	14:33	L171431AA	
ADS01731	LY23S14.D	8999791	05/23/2017	14:55	L171431AA	
ADS01731	LY23S15.D	8999792	05/23/2017	15:17	L171431AA	
ADS01731	LY23S16.D	9000098	05/23/2017	15:39	L171431AA	
ADS01731	LY23S17.D	9000098DL	05/23/2017	16:01	L171431AA	10
ADS01731	LY23S18.D	9000099	05/23/2017	16:22	L171431AA	
ADS01731	LY23S19.D	9000100	05/23/2017	16:44	L171431AA	
ADS01731	LY23S20.D	9000101	05/23/2017	17:06	L171431AA	
ADS01731	LY23S21.D	9000102	05/23/2017	17:28	L171431AA	

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - D:\DATA\17MAY25B\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
DVV10203	hy25t05.D	bfb 02-20-17	05/25/2017	17:03		
DVV10203	HY25X05.D	BLK	05/25/2017	17:25	H171451AA	
DVV10203	HY25C05.D	VSTD010	05/25/2017	17:45	H171451AA	
DVV10203	HY25C06.D	VSTD010	05/25/2017	18:06	H171451AA	
DVV10203	HY25S01.D	LCSH05	05/25/2017	18:26	H171451AA	
DVV10203	HY25S32.D	LCDH07	05/25/2017	18:46	H171452AA	
DVV10203	HY25M05.D	MDLH05	05/25/2017	19:07	H171451AA	
DVV10203	HY25S02.D	LCSH06	05/25/2017	19:27	H171451AA	
DVV10203	HY25S34.D	LCDH08	05/25/2017	19:47	H171452AA	
DVV10203	HY25B05.D	VBLKH05	05/25/2017	20:08	H171451AA	
DVV10203	HY25S03.D	8999798	05/25/2017	20:42	H171451AA	
DVV10203	HY25S04.D	8999799	05/25/2017	21:02	H171451AA	
DVV10203	HY25S05.D	8999788	05/25/2017	21:22	H171451AA	
DVV10203	HY25S06.D	8999789MS	05/25/2017	21:42	H171451AA	
DVV10203	HY25S07.D	8999790MSD	05/25/2017	22:03	H171451AA	
DVV10203	HY25S08.D	8999789MS	05/25/2017	22:23	H171451AA	
DVV10203	HY25S09.D	8999790MSD	05/25/2017	22:43	H171451AA	
DVV10203	HY25S15.D	8999788DL	05/25/2017	23:03	H171451AA	10
DVV10203	HY25S10.D	8999785	05/25/2017	23:24	H171451AA	
DVV10203	HY25S11.D	8999786	05/25/2017	23:44	H171451AA	
DVV10203	HY25S12.D	8999787	05/26/2017	00:05	H171451AA	
DVV10203	HY25S13.D	8999791	05/26/2017	00:25	H171451AA	
DVV10203	HY25S14.D	8999792	05/26/2017	00:45	H171451AA	
DVV10203	HY25S35.D	8999793	05/26/2017	01:06	H171452AA	
DVV10203	HY25S36.D	8999794	05/26/2017	01:26	H171452AA	
DVV10203	HY25S37.D	8999795	05/26/2017	01:46	H171452AA	
DVV10203	HY25S38.D	8999796	05/26/2017	02:06	H171452AA	
DVV10203	HY25S39.D	8999797	05/26/2017	02:27	H171452AA	
DVV10203	HY25S65.D	8999425	05/26/2017	02:47	H171453AA	
DVV10203	HY25S66.D	8996419DL	05/26/2017	03:08	H171453AA	10
DVV10203	HY25S67.D	8999422	05/26/2017	03:28	H171453AA	20
DVV10203	HY25S68.D	8999422DL	05/26/2017	03:48	H171453AA	200

Lancaster Laboratories
Volatiles
Runlog for Agilent GC/MS System HP19094 **HP #30**

Data Directory Path is - D:\DATA\17MAY26A\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
KEL01973	hy26t01.D	bfb 02-20-17	05/26/2017	07:56		
KEL01973	hy26t02.D	bfb 02-20-17	05/26/2017	08:11		
KEL01973	HY26X01.D	BLK	05/26/2017	08:34	H171461AA	
KEL01973	HY26C01.D	VSTD010	05/26/2017	08:55	H171461AA	
KEL01973	HY26C02.D	VSTD010	05/26/2017	09:15	H171461AA	
KEL01973	HY26L01.D	LCSH11	05/26/2017	09:35	H171461AA	
KEL01973	HY26L02.D	LCDH11	05/26/2017	09:55	H171461AA	
KEL01973	HY26M01.D	MDLH11	05/26/2017	10:16	H171461AA	
KEL01973	HY26L03.D	LCSH12	05/26/2017	10:36	H171461AA	
KEL01973	HY26L04.D	LCDH12	05/26/2017	10:56	H171461AA	
KEL01973	HY26B01.D	VBLKH11	05/26/2017	11:17	H171461AA	
KEL01973	HY26S01.D	8999785DL	05/26/2017	11:57	H171461AA	10
KEL01973	HY26S02.D	8999787DL	05/26/2017	12:17	H171461AA	10
KEL01973	HY26S21.D	8999422	05/26/2017	12:37	H171462AA	2
KEL01973	HY26X05.D	BLK	05/26/2017	12:58	H171461AA	
KEL01973	HY26S31.D	9000077	05/26/2017	13:18	H171463AA	
KEL01973	HY26S32.D	9002895	05/26/2017	13:38	H171463AA	
KEL01973	HY26S33.D	9000056	05/26/2017	13:58	H171463AA	
KEL01973	HY26S34.D	9000058DL2	05/26/2017	14:19	H171463AA	500
KEL01973	HY26S35.D	9000059	05/26/2017	14:39	H171463AA	
KEL01973	HY26S36.D	9000067DL2	05/26/2017	15:00	H171463AA	200
KEL01973	HY26S37.D	9000064	05/26/2017	15:20	H171463AA	100
KEL01973	HY26S38.D	9002896	05/26/2017	15:41	H171463AA	
KEL01973	HY26S03.D	8999785DL	05/26/2017	16:01	H171461AA	5
KEL01973	HY26S04.D	8999787DL	05/26/2017	16:21	H171461AA	5
KEL01973	HY26S39.D	9000075	05/26/2017	16:41	H171463AA	
KEL01973	HY26S40.D	9000076	05/26/2017	17:02	H171463AA	
KEL01973	HY26S41.D	9002897	05/26/2017	17:22	H171463AA	
KEL01973	HY26S42.D	9002898	05/26/2017	17:43	H171463AA	
KEL01973	HY26S43.D	9002899	05/26/2017	18:03	H171463AA	
KEL01973	HY26S44.D	9002900	05/26/2017	18:24	H171463AA	10
KEL01973	HY26S45.D	9002900DL	05/26/2017	18:44	H171463AA	100

Data File: /chem/HP09915.i/17apr26a.b/la26t01.d

Date : 26-APR-2017 12:45

Client ID: BFB FEB 20, 2017

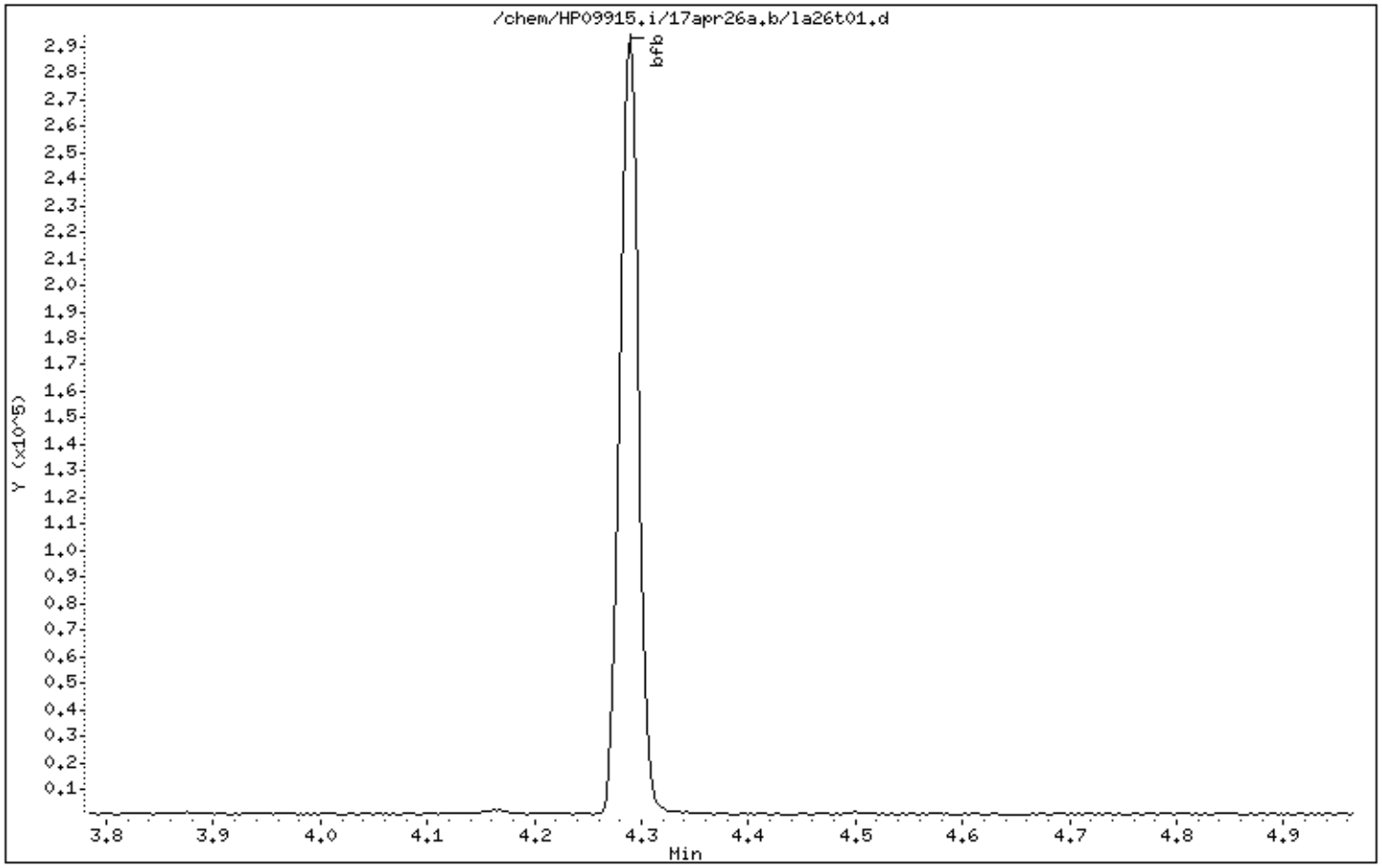
Instrument: HP09915.i

Sample Info: BFB FEB 20, 2017;50NG BFB;1;3;;;;;;

Operator: KAS02648

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kevin A. Sposito on 04/26/2017 at 12:52.
Target 3.5 esignature user ID: kas02648

Data File: /chem/HP09915.i/17apr26a.b/la26t01.d

Date : 26-APR-2017 12:45

Client ID: BFB FEB 20, 2017

Instrument: HP09915.i

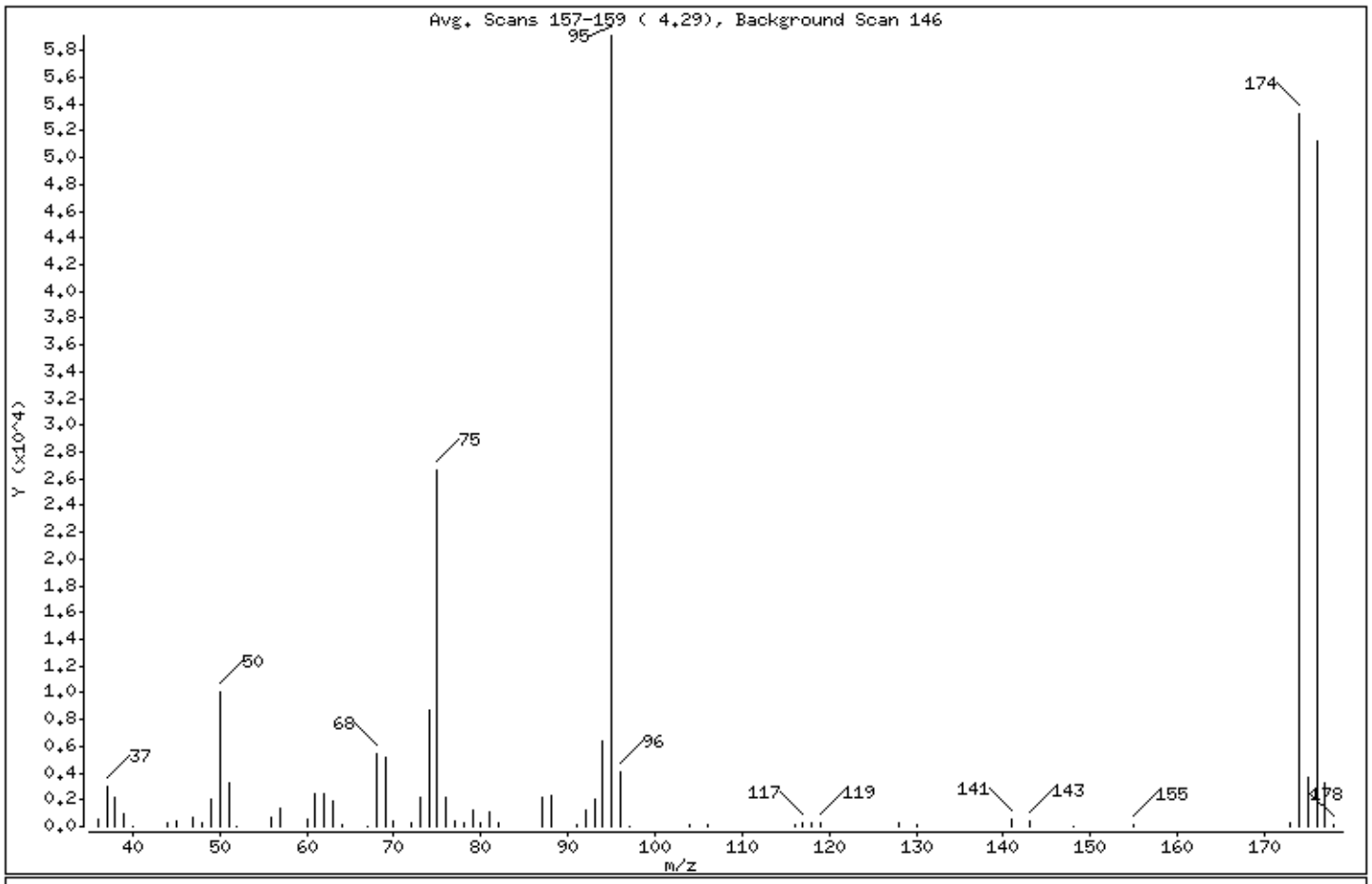
Sample Info: BFB FEB 20, 2017;50NG BFB;1;3;;;;;;

Operator: KAS02648

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.10
75	30.00 - 60.00% of mass 95	44.97
96	5.00 - 9.00% of mass 95	6.79
173	Less than 2.00% of mass 174	0.49 (0.54)
174	50.00 - 100.00% of mass 95	90.09
175	5.00 - 9.00% of mass 174	6.12 (6.79)
176	95.00 - 101.00% of mass 174	86.74 (96.29)
177	5.00 - 9.00% of mass 176	5.56 (6.41)

Digitally signed by Kevin A. Sposito on 04/26/2017 at 12:52.
Target 3.5 esignature user ID: kas02648

Data File: /chem/HP09915.i/17apr26a.b/la26t01.d

Date : 26-APR-2017 12:45

Client ID: BFB FEB 20, 2017 Instrument: HP09915.i

Sample Info: BFB FEB 20, 2017;50NG BFB;1;3;;;;;;

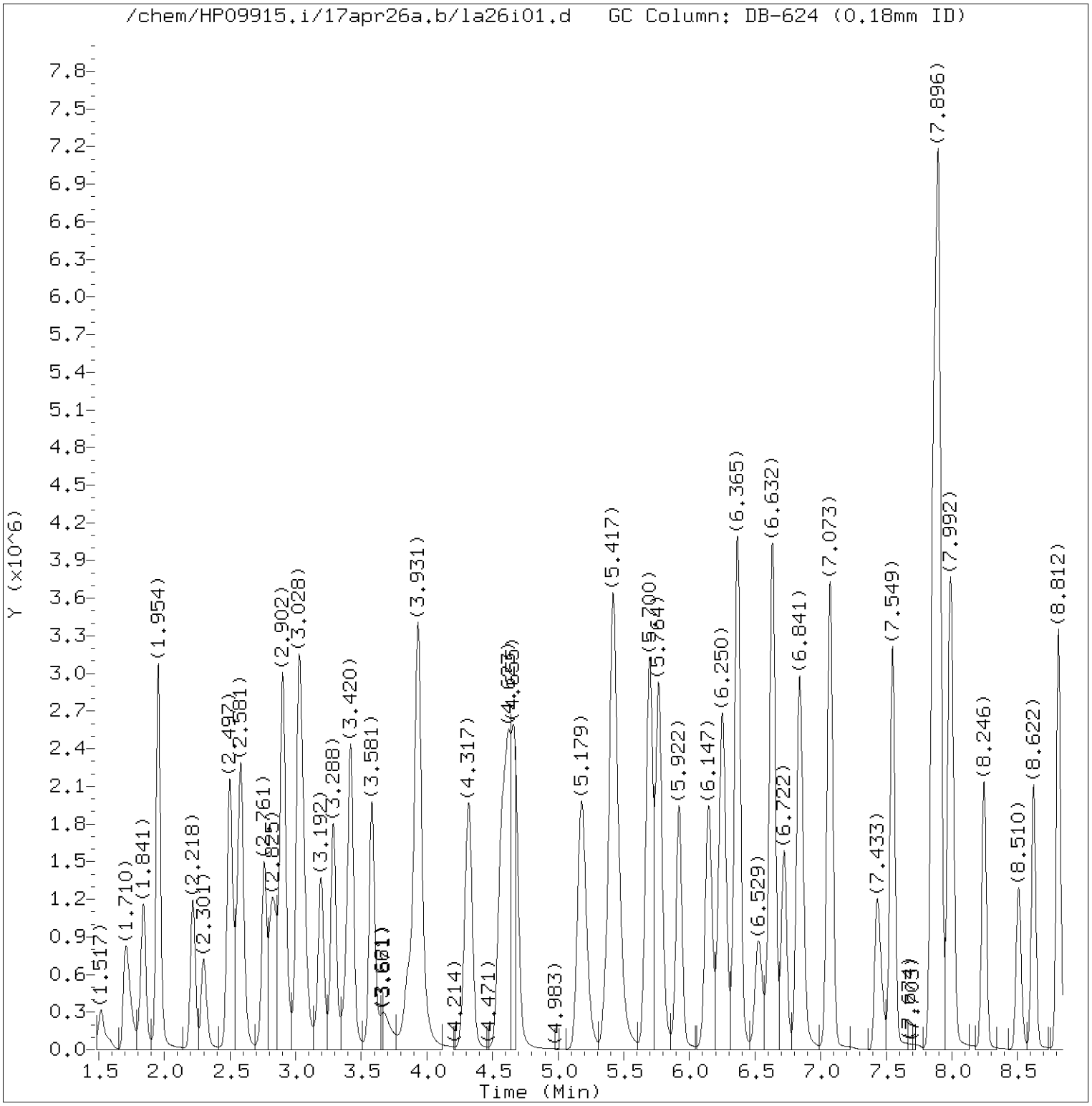
Operator: KAS02648

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: la26t01.d
Spectrum: Avg. Scans 157-159 (4.29), Background Scan 146
Location of Maximum: 95.00
Number of points: 62

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	581	61.00	2433	80.00	261	118.00	213
37.00	2955	62.00	2451	81.00	1135	119.00	269
38.00	2227	63.00	1939	82.00	248	128.00	225
39.00	905	64.00	156	87.00	2238	130.00	116
40.00	18	67.00	61	88.00	2301	141.00	493
44.00	266	68.00	5493	91.00	177	143.00	436
45.00	425	69.00	5219	92.00	1262	148.00	51
47.00	688	70.00	432	93.00	2027	155.00	68
48.00	283	72.00	236	94.00	6417	173.00	287
49.00	2054	73.00	2174	95.00	59120	174.00	53256
50.00	10110	74.00	8666	96.00	4015	175.00	3618
51.00	3256	75.00	26584	97.00	51	176.00	51280
52.00	55	76.00	2212	104.00	202	177.00	3288
56.00	714	77.00	371	106.00	68	178.00	74
57.00	1411	78.00	215	116.00	182		
60.00	513	79.00	1182	117.00	318		

Digitally signed by Kevin A. Sposito on 04/26/2017 at 12:52.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

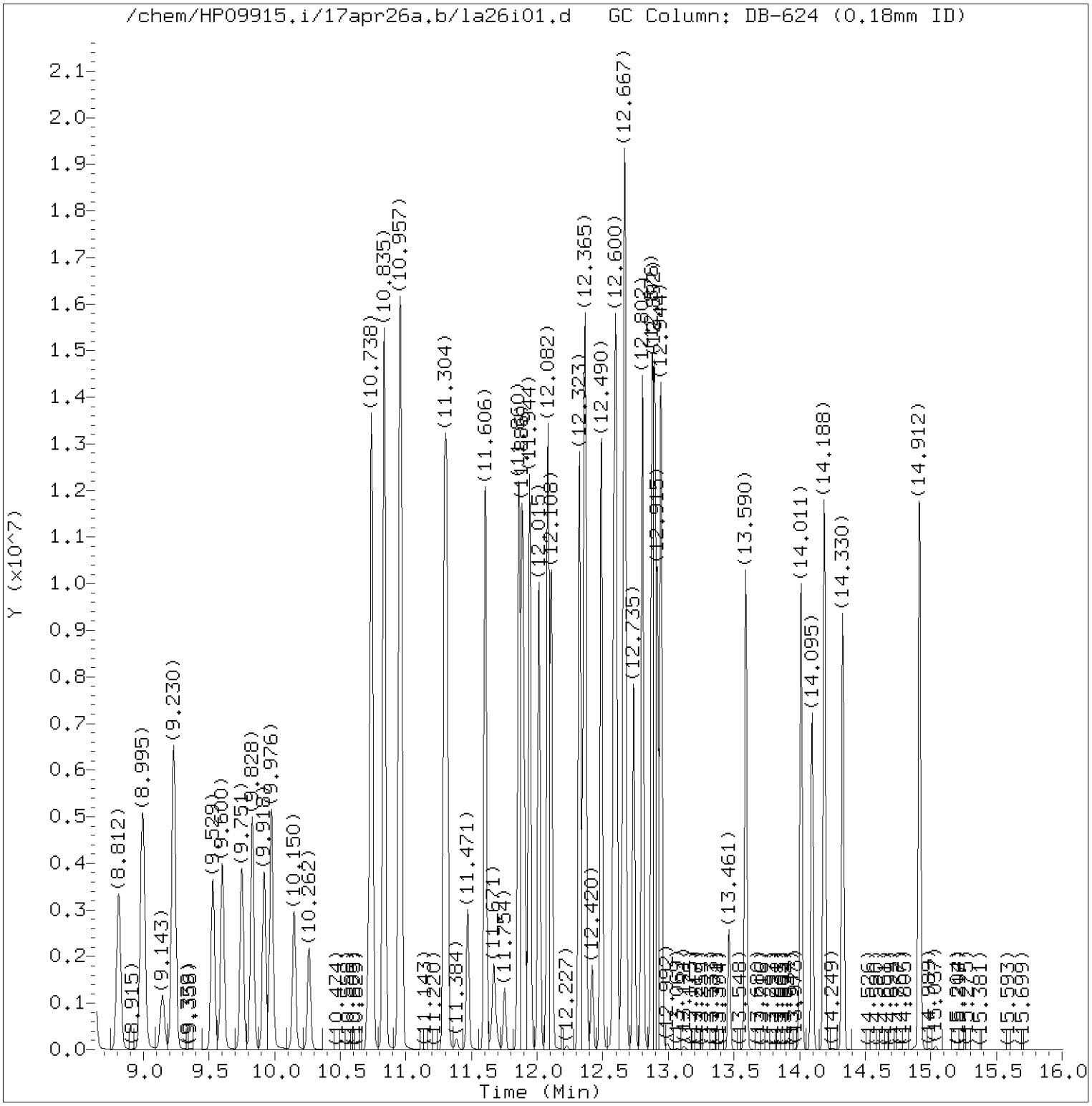
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.710	85	1958047	313.882
4) Chloromethane	(2)	1.841	50	1904237	297.140
5) 1,3-Butadiene	(2)	1.954	39	1095441	290.215
6) Vinyl Chloride	(2)	1.954	62	1868685	301.966
8) Bromomethane	(2)	2.218	94	1235545	296.846
9) Chloroethane	(2)	2.301	64	1017254	291.687
10) Dichlorofluoromethane	(2)	2.494	67	2518637	296.081
12) Trichlorofluoromethane	(2)	2.565	101	2251585	314.196
11) n-Pentane	(2)	2.587	43	1712208	290.122
14) Ethyl ether	(2)	2.758	59	1196266	299.857
15) Freon 123a	(2)	2.822	67	1429955	299.625
16) Acrolein	(1)	2.902	56	4637155	3348.162
17) 1,1-Dichloroethene	(2)	3.021	96	1151917	303.712
17) 1,1-Dichloroethene	(2)	3.021	63	584950	304.648
18) Acetone	(1)	3.037	58	403999	672.085
19) Freon 113	(2)	3.054	101	1196009	313.286
21) 2-Propanol	(1)	3.173	45	593623	1489.698
22) Methyl Iodide	(2)	3.192	142	2269414	308.478
23) Carbon Disulfide	(2)	3.288	76	3857476	312.534
27) Methyl Acetate	(2)	3.391	43	1585782	288.068
25) Allyl Chloride	(2)	3.420	41	2271974	299.058
29)*t-Butyl alcohol-d10	(1)	3.578	65	169188M	250.000
28) Methylene Chloride	(2)	3.581	84	1398327	279.081
30) t-Butyl alcohol	(1)	3.671	59	944135	1442.270
31) Acrylonitrile	(2)	3.851	53	875676	302.918
33) Methyl Tertiary Butyl Ether	(2)	3.922	73	4032886	290.250
32) trans-1,2-Dichloroethene	(2)	3.935	96	1361677	305.995
34) n-Hexane	(2)	4.317	57	2081106	305.081
36) 1,1-Dichloroethane	(2)	4.565	63	2520546	301.428
38) di-Isopropyl ether	(2)	4.623	45	4685474	291.938
39) 2-Chloro-1,3-butadiene	(2)	4.671	53	2194166	311.075
40) Ethyl t-butyl ether	(2)	5.182	59	4023920	291.328
44) 2-Butanone	(2)	5.385	43	2335957	603.500
42) cis-1,2-Dichloroethene	(2)	5.417	96	1543601	302.715
45) 2,2-Dichloropropane	(2)	5.436	77	1850165	331.391
47) Propionitrile	(1)	5.468	54	1527979	1599.274
48) Methacrylonitrile	(2)	5.693	67	2165702	751.439
49) Bromochloromethane	(2)	5.764	128	831794	309.503

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	5.774	71	604452	716.270
51) Chloroform	(2)	5.922	83	2401549	301.309
52)$Dibromofluoromethane	(2)	6.147	113	255745	50.012
52)$Dibromofluoromethane	(2)	6.143	111	262971	50.184
53) 1,1,1-Trichloroethane	(2)	6.150	97	2144080	294.382
43) 1,2-Dichloroethene (Total)	(2)		96	2905278	608.709
54) Cyclohexane	(2)	6.253	56	2560169	308.719
54) Cyclohexane	(2)	6.253	84	2125161	309.600
54) Cyclohexane	(2)	6.250	69	756981	314.913
56) Carbon Tetrachloride	(2)	6.365	117	1780485	334.890
55) 1,1-Dichloropropene	(2)	6.369	75	2006976	309.593
58) Isobutyl Alcohol	(1)	6.529	41	870124	3785.822
57)$1,2-Dichloroethane-d4	(2)	6.616	102	63036	49.572
57)$1,2-Dichloroethane-d4	(2)	6.616	65	293986	48.877
57)$1,2-Dichloroethane-d4	(2)	6.616	104	40289	49.952
60) Benzene	(2)	6.635	78	5664323	296.413
61) 1,2-Dichloroethane	(2)	6.722	62	1935203	299.340
61) 1,2-Dichloroethane	(2)	6.725	98	187547	329.010
65) t-Amyl methyl ether	(2)	6.841	73	4084653	297.970
66)*Fluorobenzene	(2)	7.057	96	1047200	50.000
67) n-Heptane	(2)	7.076	43	2258430	295.708
69) n-Butanol	(1)	7.433	56	1528004M	8247.101
71) Trichloroethene	(2)	7.549	95	1501811	304.105
72) Methylcyclohexane	(2)	7.860	83	2774376	318.844
72) Methylcyclohexane	(2)	7.857	98	1266884	322.636
73) 1,2-Dichloropropane	(2)	7.893	63	1591407	304.211
75) 1,4-Dioxane	(1)	7.976	88	201278M	3479.803
76) Methyl Methacrylate	(2)	7.979	69	1449583	323.724
74) Dibromomethane	(2)	8.002	93	1017942	309.424
78) Bromodichloromethane	(2)	8.243	83	1923473	323.978
79) 2-Nitropropane	(2)	8.507	41	1184003	703.267
80) 2-Chloroethyl Vinyl Ether	(2)	8.622	63	1300550	323.419
81) cis-1,3-Dichloropropene	(2)	8.812	75	2566038	331.609
82) 4-Methyl-2-pentanone	(2)	8.995	43	5077972	636.634
83)$Toluene-d8	(3)	9.143	98	1048562	49.332
83)$Toluene-d8	(3)	9.143	100	698016	49.847
88) Toluene	(3)	9.230	92	3661123	296.405
89) trans-1,3-Dichloropropene	(3)	9.529	75	2355530	340.103

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	9.600	69	2475882	317.369
92) 1,1,2-Trichloroethane	(3)	9.751	97	1425551	299.507
93) Tetrachloroethene	(3)	9.831	166	1673578	306.339
94) 1,3-Dichloropropane	(3)	9.921	76	2464344	298.391
96) 2-Hexanone	(3)	9.976	43	3763816	631.277
90) 1,3-Dichloropropene (total)	(3)		100	4921568	671.712
97) Dibromochloromethane	(3)	10.150	129	1685181	341.825
99) 1,2-Dibromoethane	(3)	10.262	107	1613118	309.581
100)*Chlorobenzene-d5	(3)	10.712	117	832450	50.000
101) 1-Chlorohexane	(3)	10.735	91	2100198	296.072
102) Chlorobenzene	(3)	10.741	112	4297711	301.535
103) 1,1,1,2-Tetrachloroethane	(3)	10.831	131	1522321	323.444
104) Ethylbenzene	(3)	10.838	91	7075752	296.976
106) m+p-Xylene	(3)	10.957	106	5612991	605.130
107) o-Xylene	(3)	11.294	106	2814653	305.123
109) Styrene	(3)	11.314	104	4717754	309.374
110) Bromoform	(3)	11.471	173	1309455	365.799
111) Isopropylbenzene	(3)	11.606	105	7076637	300.169
112) Cyclohexanone	(1)	11.671	55	788204	3612.463
114)$4-Bromofluorobenzene	(3)	11.754	95	390072	49.374
114)$4-Bromofluorobenzene	(3)	11.754	174	345842	49.906
108) Xylene (Total)	(3)		106	8427644	910.253
116) 1,1,2,2-Tetrachloroethane	(4)	11.860	83	2325327	290.148
115) Bromobenzene	(4)	11.863	156	1969582	305.174
118) trans-1,4-Dichloro-2-butene	(4)	11.886	53	1716308	747.363
117) 1,2,3-Trichloropropane	(4)	11.905	110	658906	290.845
119) n-Propylbenzene	(4)	11.944	91	8145618	285.633
120) 2-Chlorotoluene	(4)	12.015	126	1788274	301.293
122) 1,3,5-Trimethylbenzene	(4)	12.082	105	6133887	301.630
121) 4-Chlorotoluene	(4)	12.108	126	1867872	302.377
124) tert-Butylbenzene	(4)	12.323	134	1372178M	312.149
125) Pentachloroethane	(4)	12.352	167	1198514	345.326
126) 1,2,4-Trimethylbenzene	(4)	12.368	105	6317724	301.599
127) sec-Butylbenzene	(4)	12.490	105	7645015	294.717
129) 1,3-Dichlorobenzene	(4)	12.584	146	3590968	292.247
130) p-Isopropyltoluene	(4)	12.603	119	6883297	300.529
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	451513	50.000
133) 1,4-Dichlorobenzene	(4)	12.661	146	3631810	285.849

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

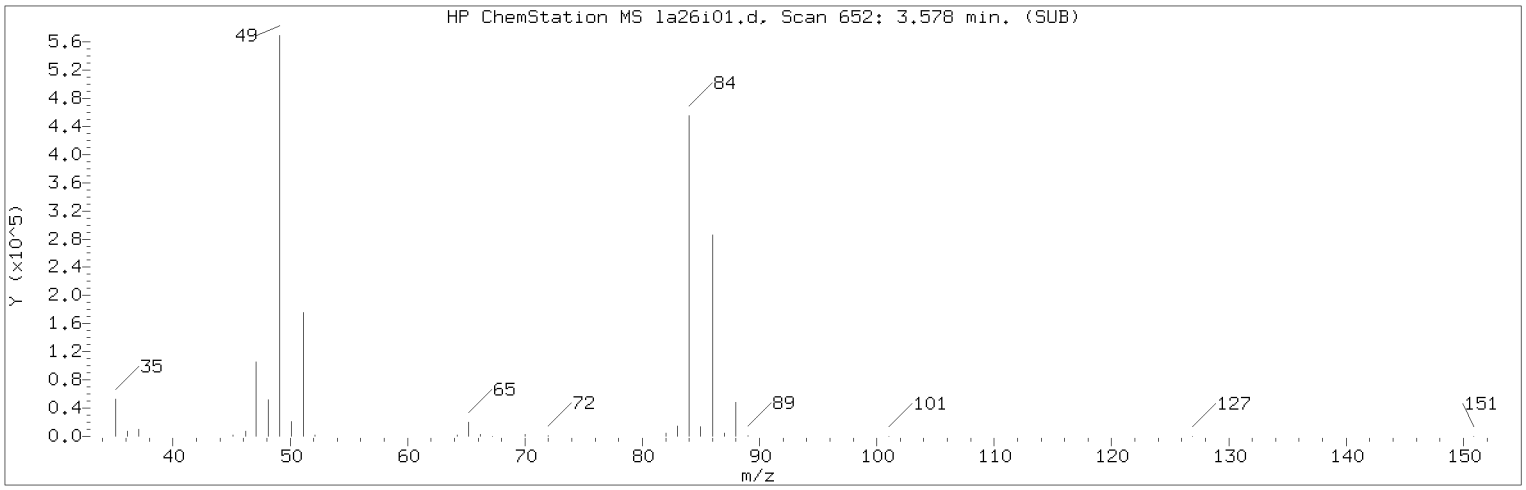
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

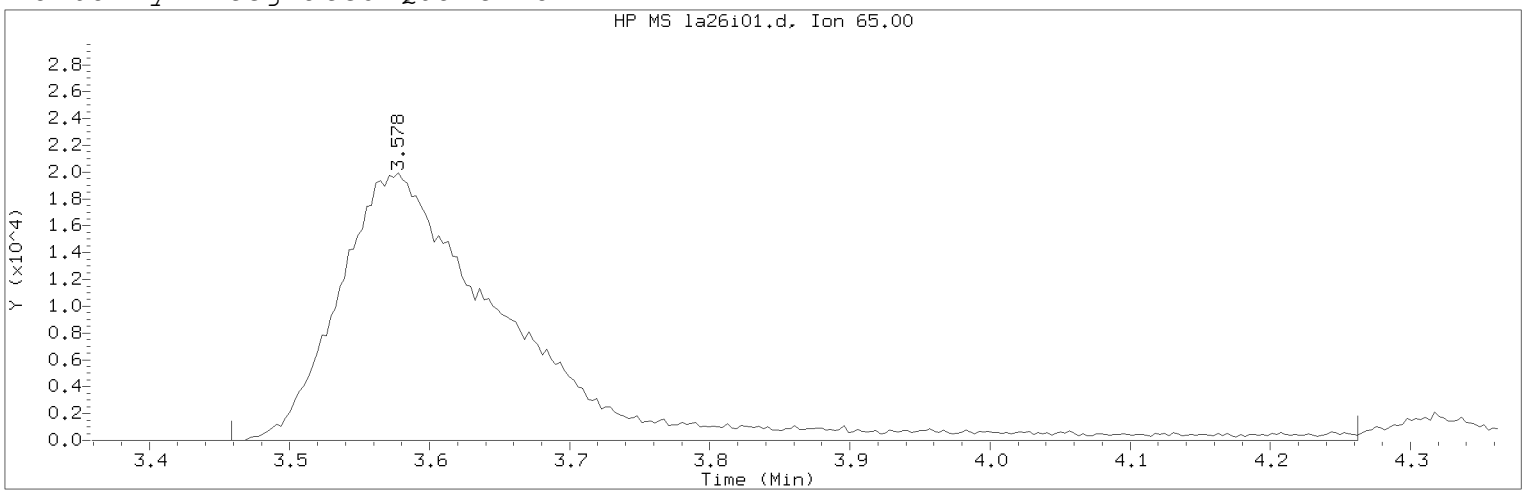
	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134)	1,2,3-Trimethylbenzene	(4)	12.671	105	6440778	293.471
135)	Benzyl Chloride	(4)	12.735	91	4582840	364.666
136)	1,3-Diethylbenzene	(4)	12.802	119	4116951	300.860
137)	1,4-Diethylbenzene	(4)	12.876	119	4232692	294.554
139)	n-Butylbenzene	(4)	12.896	92	3262571	285.151
138)	1,2-Dichlorobenzene	(4)	12.915	146	3500895	289.855
140)	1,2-Diethylbenzene	(4)	12.944	119	3434155	298.215
141)	Diethylbenzene (total)	(4)		100	11783798	893.629
142)	1,2-Dibromo-3-chloropropane	(4)	13.461	75	522343	308.197
144)	1,3,5-Trichlorobenzene	(4)	13.590	180	2788456	284.760
146)	1,2,4-Trichlorobenzene	(4)	14.011	180	2672501	281.341
147)	Hexachlorobutadiene	(4)	14.095	225	1140885	276.553
148)	Naphthalene	(4)	14.188	128	7817799	272.736
149)	1,2,3-Trichlorobenzene	(4)	14.330	180	2521047	275.101
150)	2-Methylnaphthalene	(4)	14.912	142	4927545	265.852

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

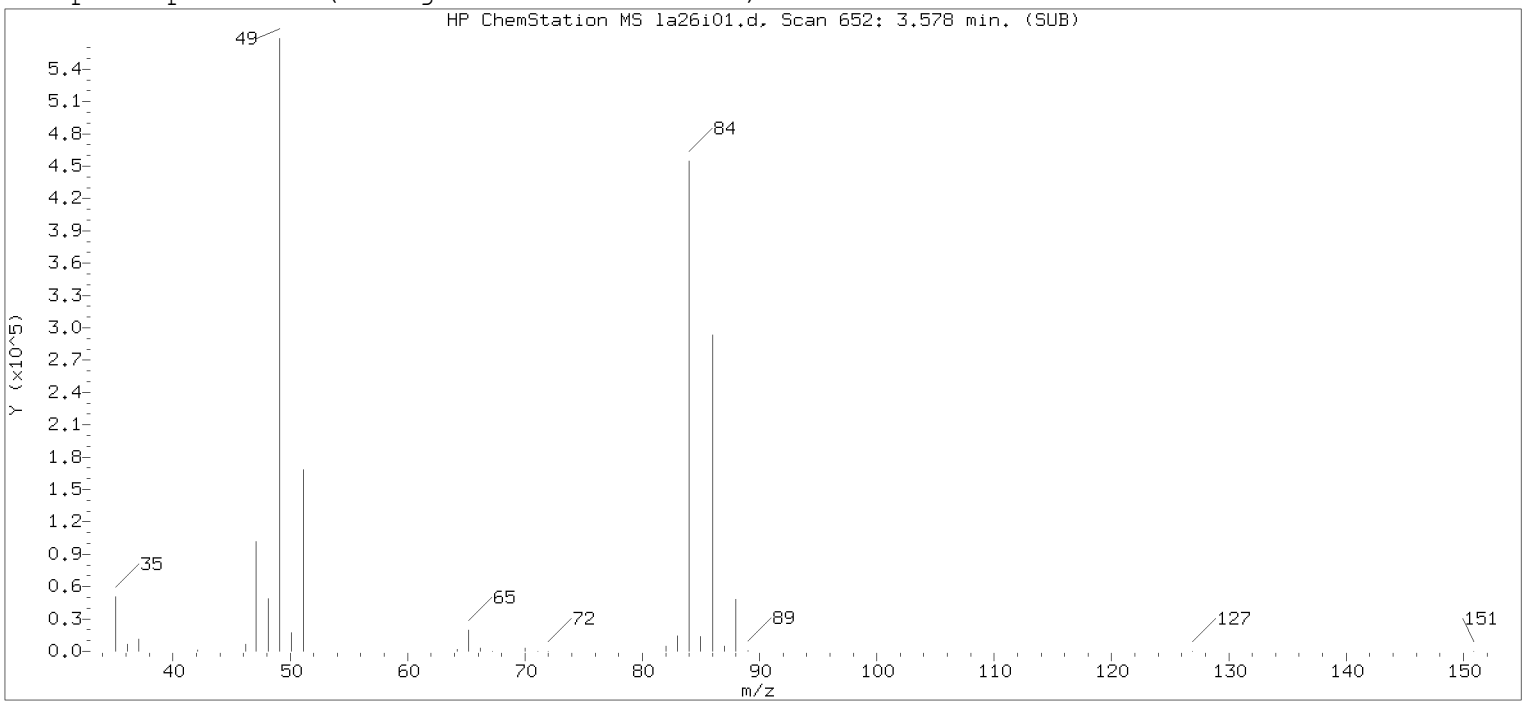
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 652
Retention Time (minutes): 3.578
Quant Ion : 65.00
Area (flag) : 169188M
On-Column Amount (ng) : 250.0000
Integration start scan : 614 Integration stop scan: 864
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

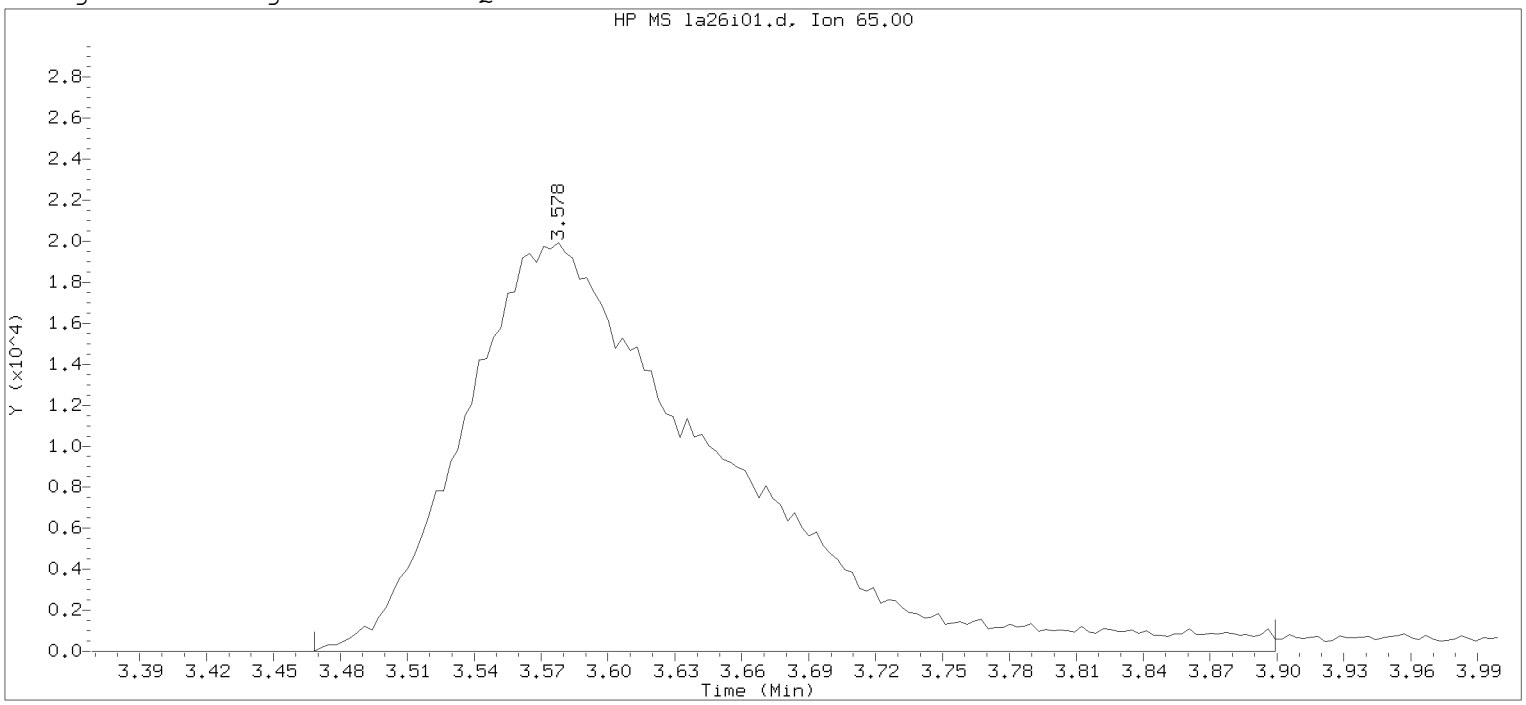
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

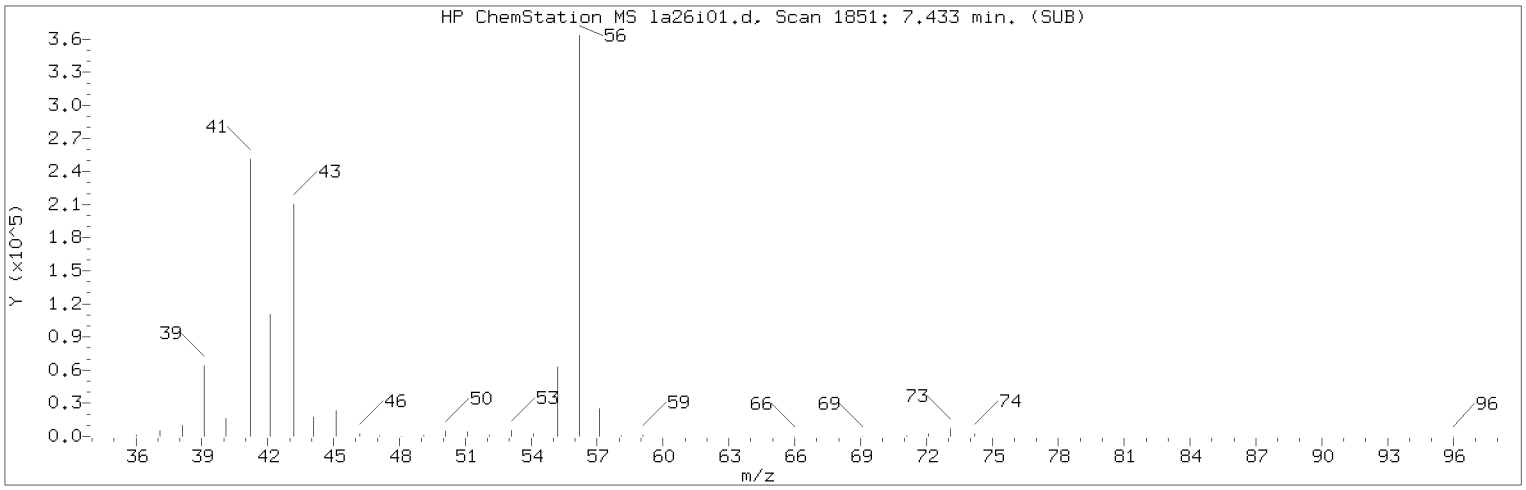
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

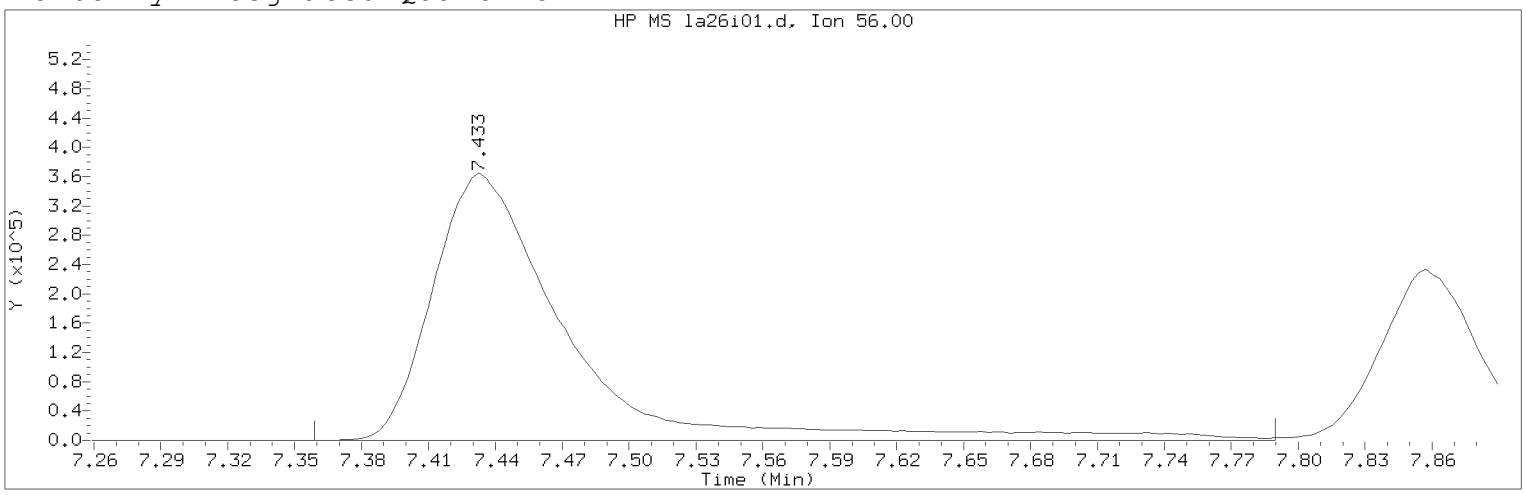
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 652
Retention Time (minutes): 3.578
Quant Ion : 65.00
Area : 158080
On-column Amount (ng) : 250.0000
Integration start scan : 617 Integration stop scan: 751
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2375

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

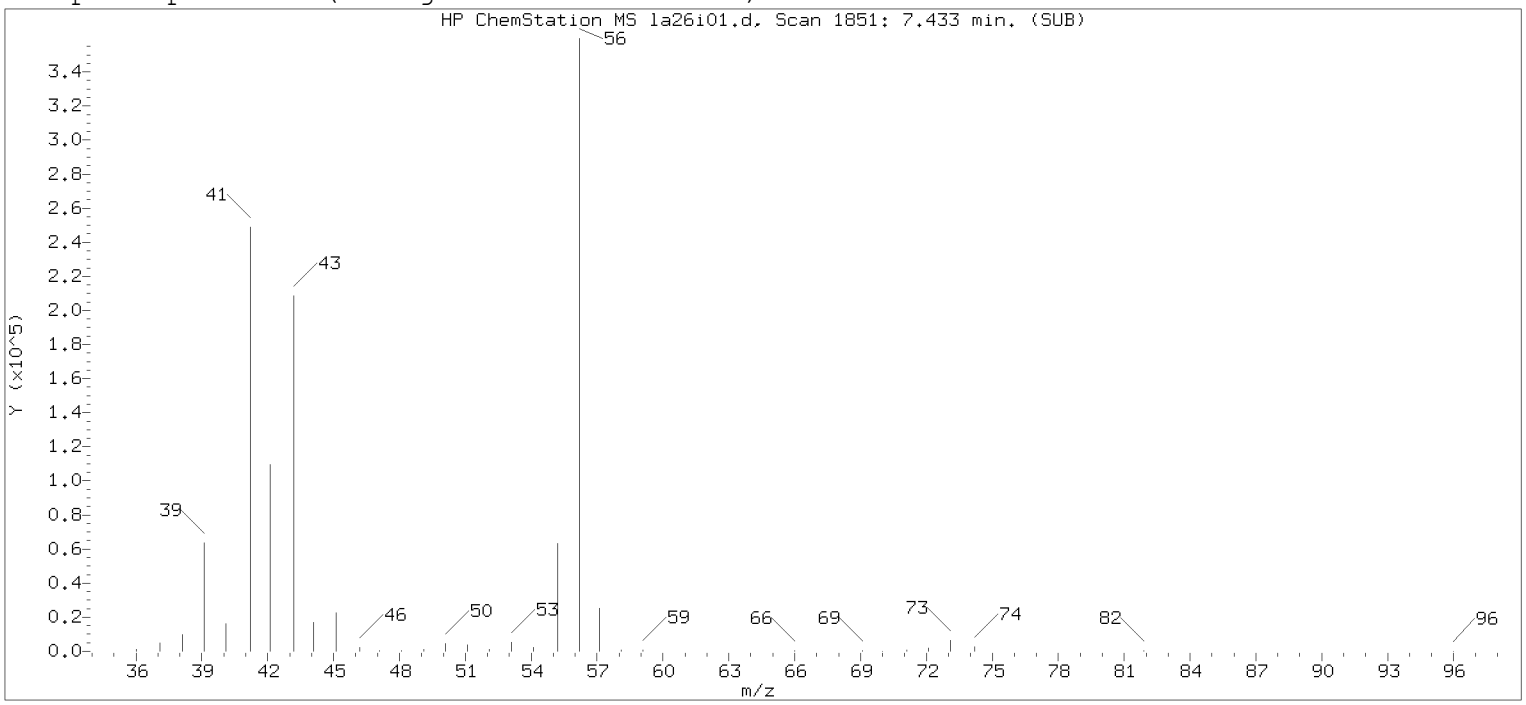
Compound Number : 69
Compound Name : n-Butanol
Scan Number : 1851
Retention Time (minutes): 7.433
Quant Ion : 56.00
Area (flag) : 1528004M
On-Column Amount (ng) : 8247.1010
Integration start scan : 1827 Integration stop scan: 1961
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

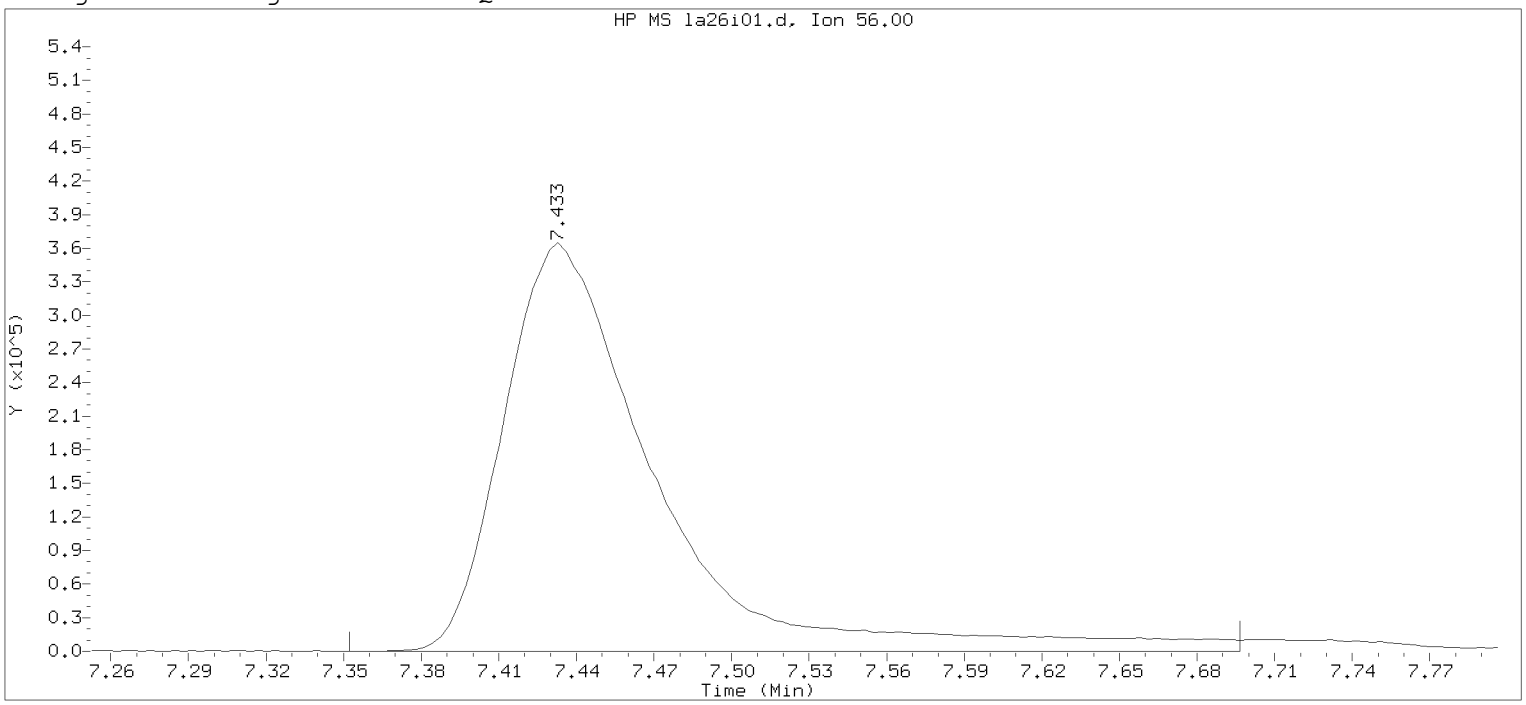
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

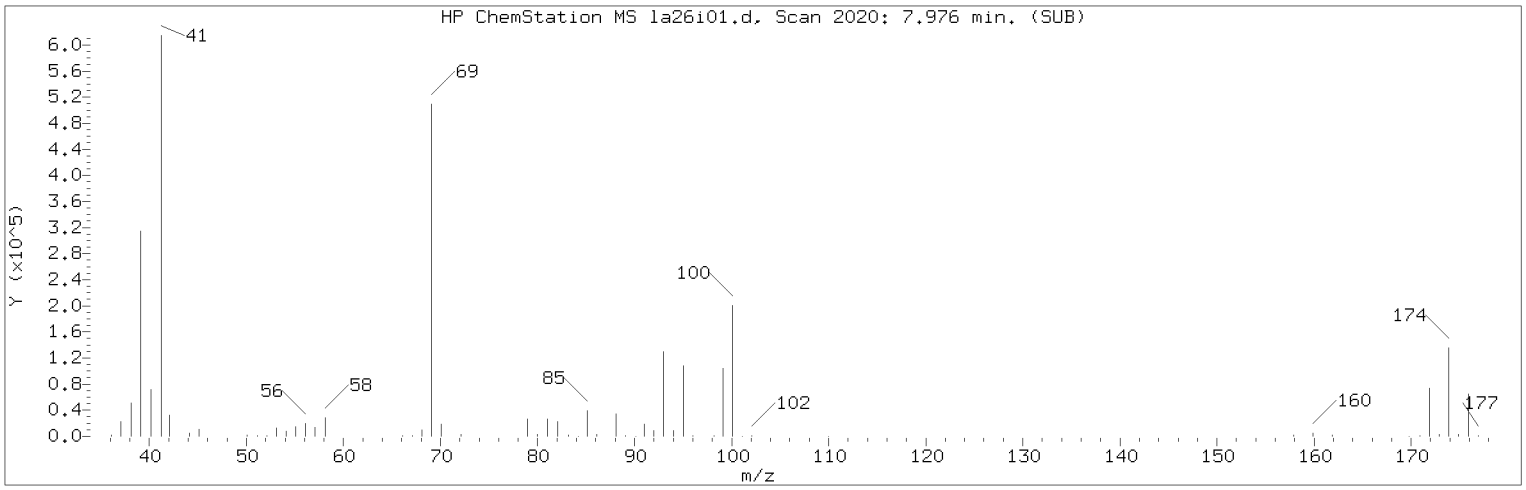
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

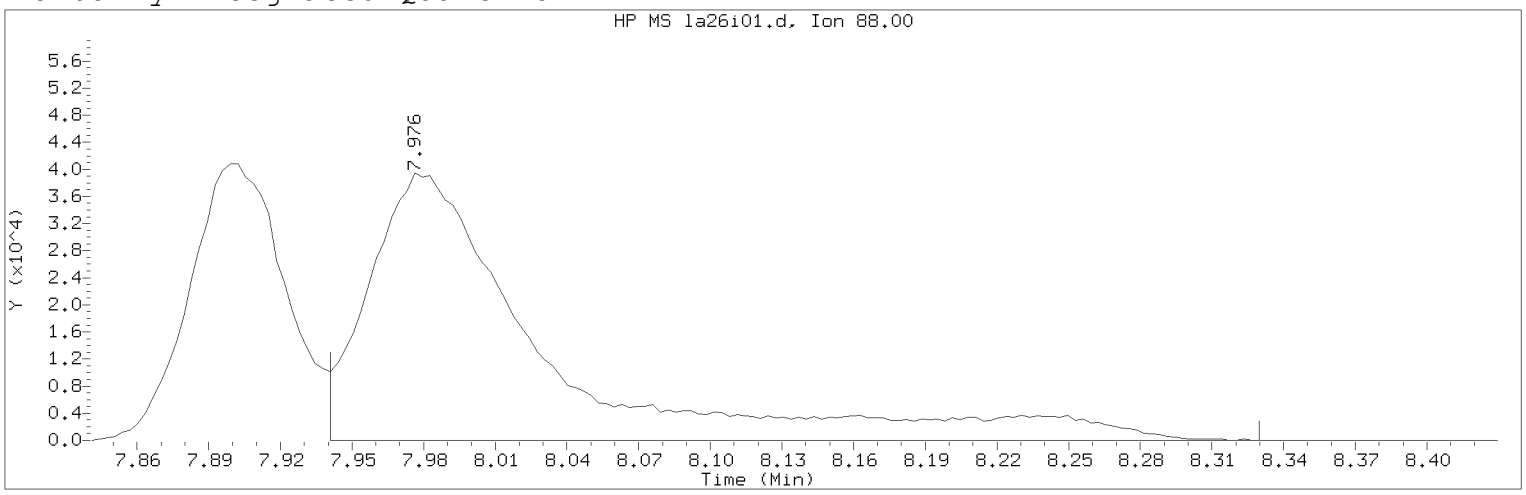
Compound Number : 69
Compound Name : n-Butanol
Scan Number : 1851
Retention Time (minutes): 7.433
Quant Ion : 56.00
Area : 1485088
On-column Amount (ng) : 7806.8912
Integration start scan : 1825 Integration stop scan: 1932
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

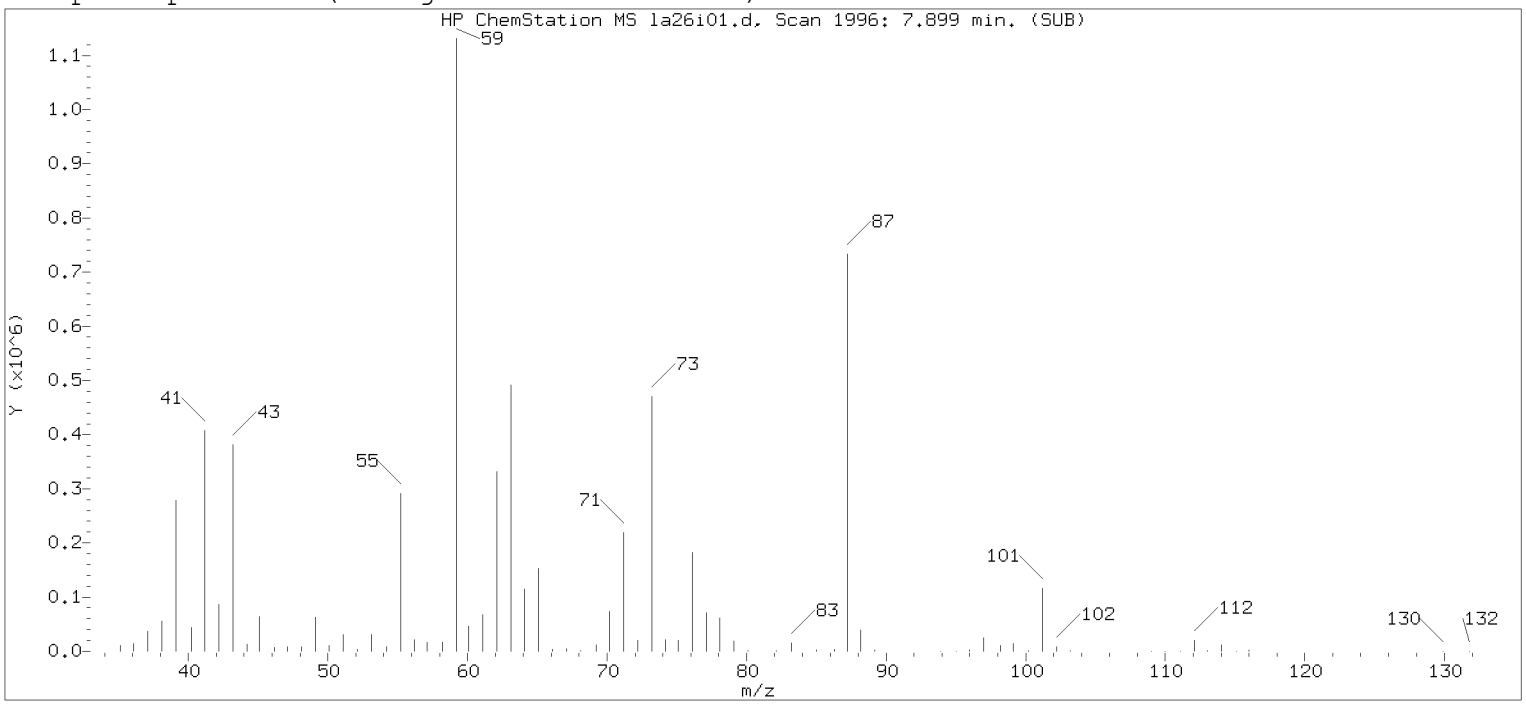
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2020
Retention Time (minutes): 7.976
Quant Ion : 88.00
Area (flag) : 201278M
On-Column Amount (ng) : 3479.8034
Integration start scan : 2008 Integration stop scan: 2129
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

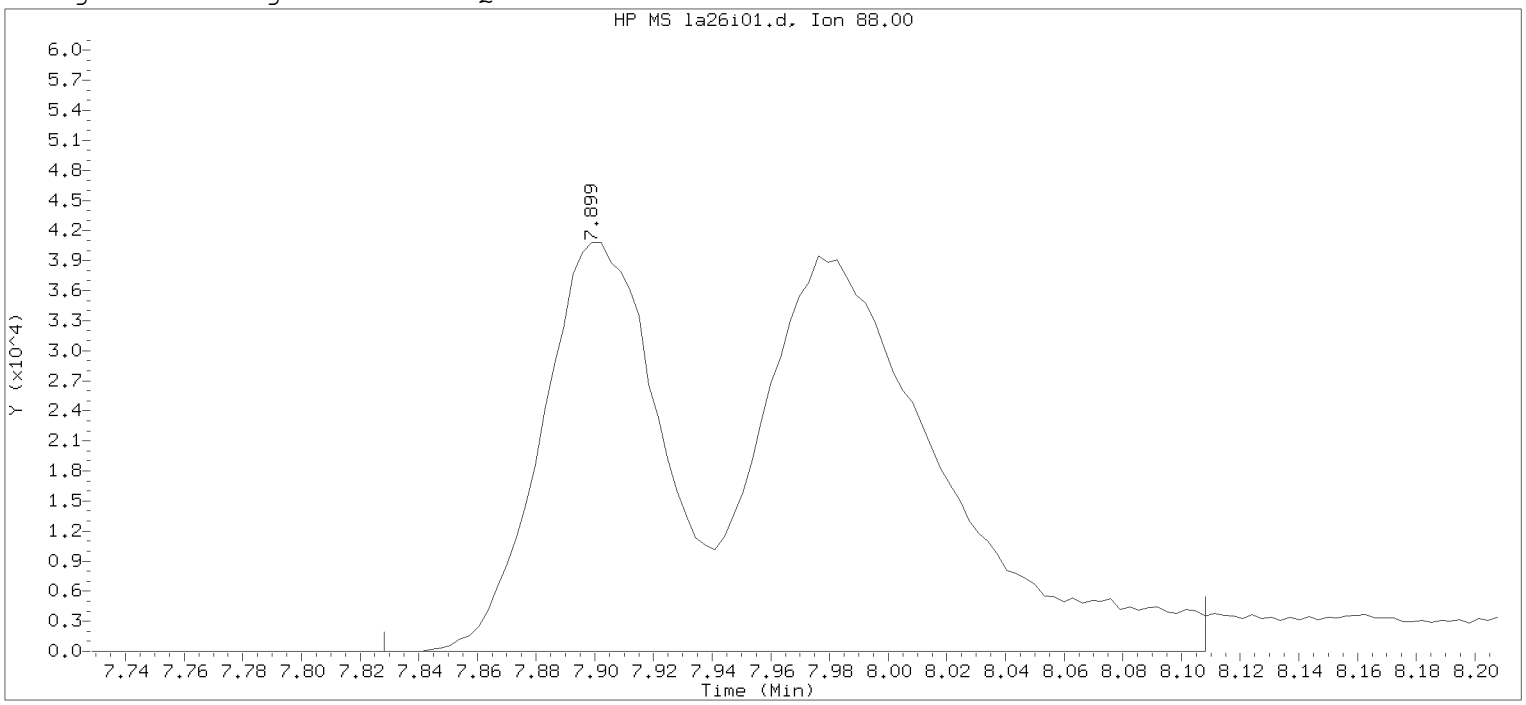
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

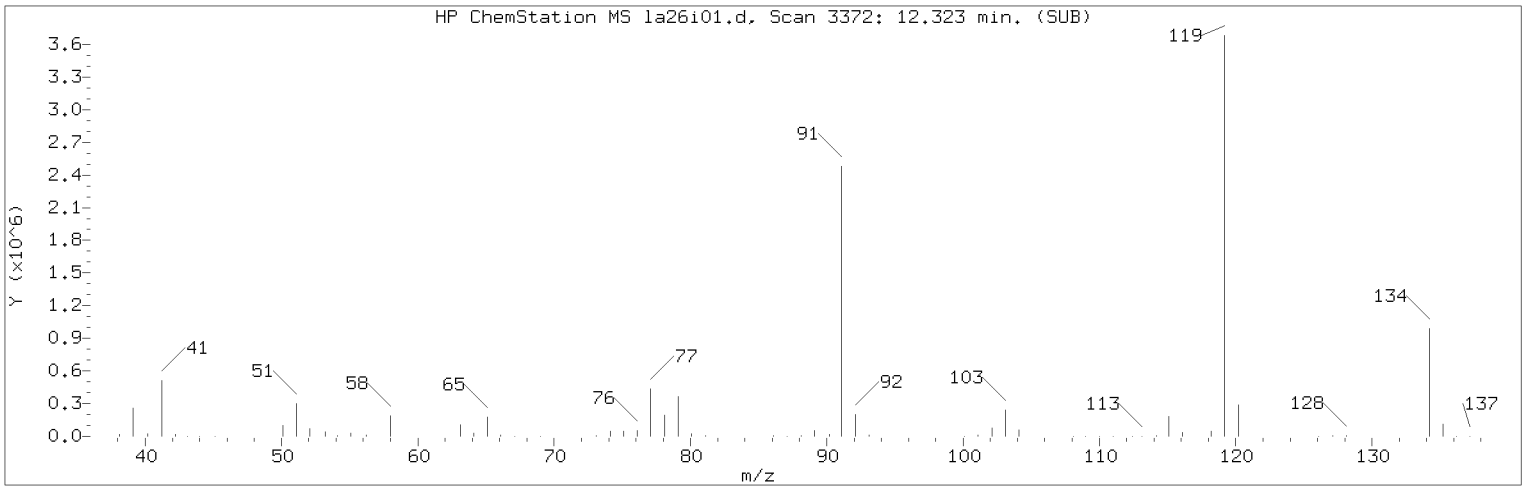
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

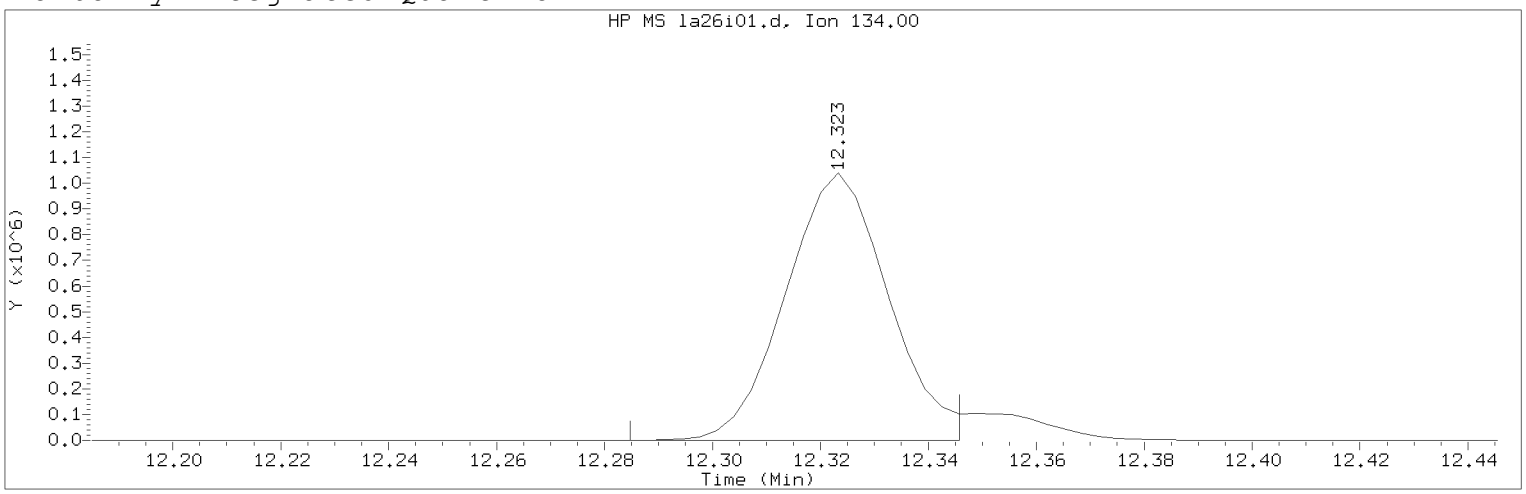
Compound Number	: 75		
Compound Name	: 1,4-Dioxane		
Scan Number	: 1996		
Retention Time (minutes)	: 7.899		
Quant Ion	: 88.00		
Area	: 279960		
On-column Amount (ng)	: 4259.9914		
Integration start scan	: 1973	Integration stop scan:	2060
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2.49

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

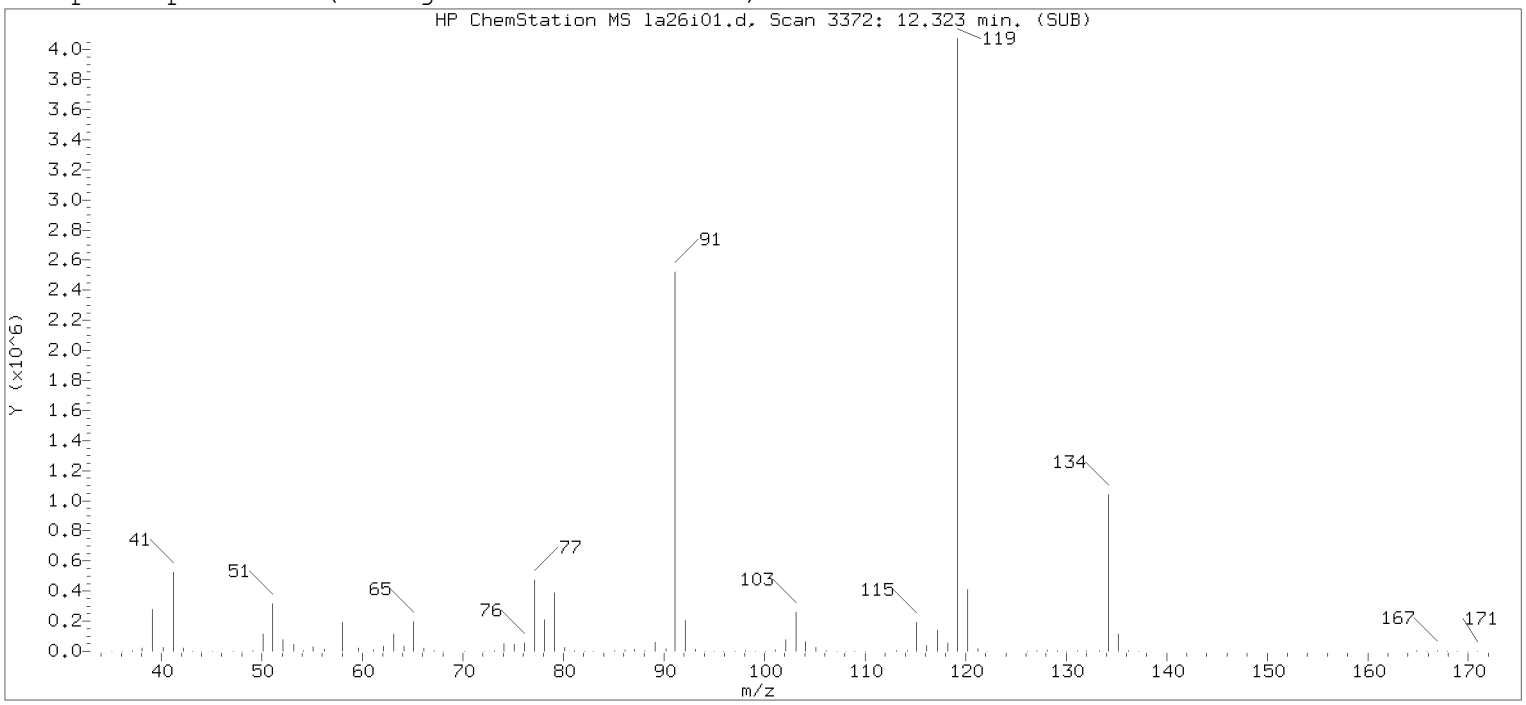
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3372
Retention Time (minutes): 12.323
Quant Ion : 134.00
Area (flag) : 1372178M
On-Column Amount (ng) : 312.1487
Integration start scan : 3359 Integration stop scan: 3378
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

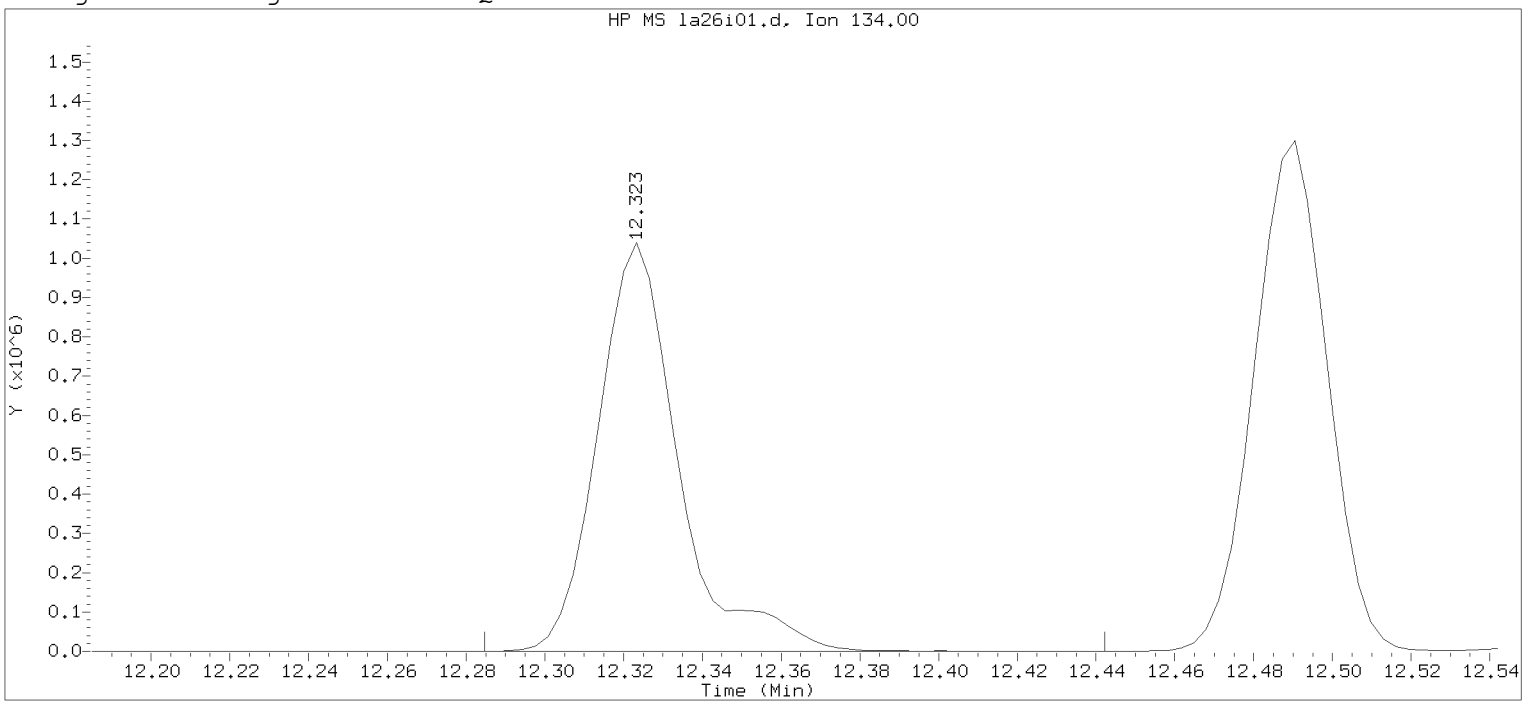
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



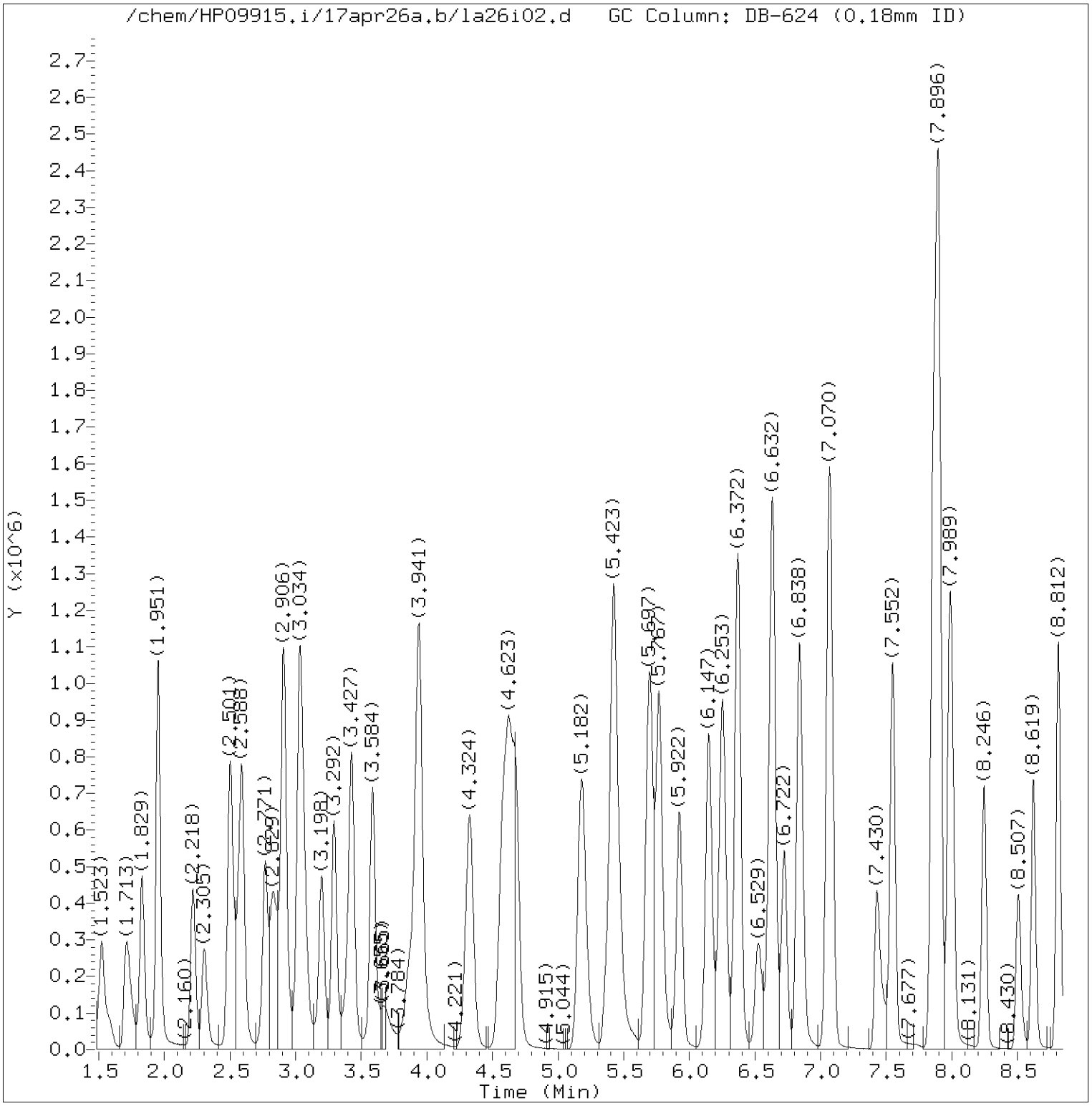
Data File: /chem/HP09915.i/17apr26a.b/la26i01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:20 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD300 Lab Sample ID: VSTD300

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3372
Retention Time (minutes): 12.323
Quant Ion : 134.00
Area : 1481292
On-column Amount (ng) : 310.8715
Integration start scan : 3359 Integration stop scan: 3408
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key ID: 2313



Total Ion Chromatogram (TIC)

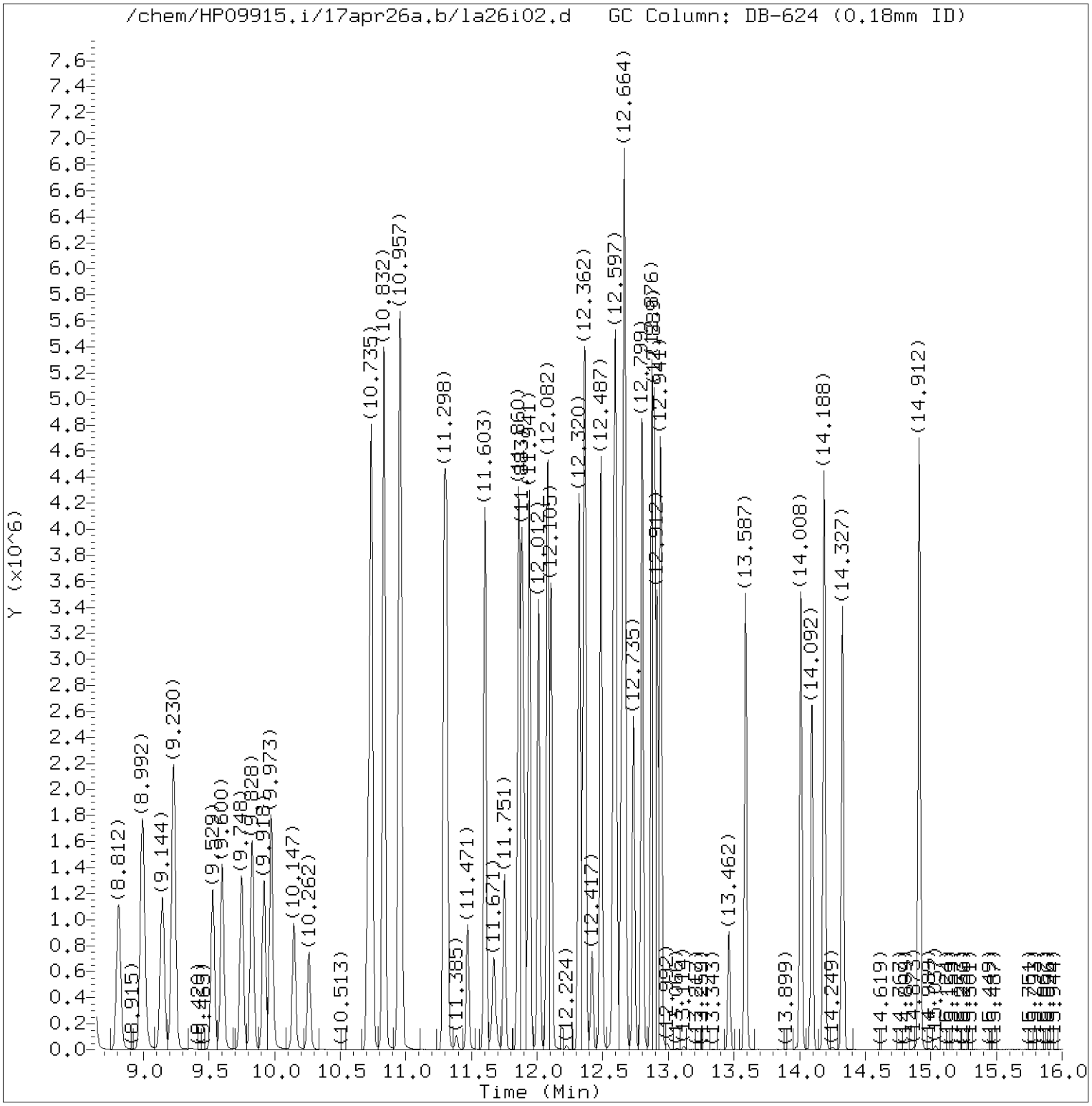
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.713	85	676369	106.821
4) Chloromethane	(2)	1.832	50	696329	107.049
6) Vinyl Chloride	(2)	1.948	62	673578	107.236
5) 1,3-Butadiene	(2)	1.954	39	373286	97.432
8) Bromomethane	(2)	2.221	94	446773M	105.752
9) Chloroethane	(2)	2.305	64	371704	105.006
10) Dichlorofluoromethane	(2)	2.498	67	927938	107.471
12) Trichlorofluoromethane	(2)	2.568	101	788292	108.375
11) n-Pentane	(2)	2.591	43	594640	99.268
14) Ethyl ether	(2)	2.771	59	424582	104.852
15) Freon 123a	(2)	2.829	67	489753	101.103
16) Acrolein	(1)	2.906	56	1724138	1147.084
17) 1,1-Dichloroethene	(2)	3.028	96	387264	100.595
17) 1,1-Dichloroethene	(2)	3.028	63	198662	101.935
18) Acetone	(1)	3.047	58	135546M	207.778
19) Freon 113	(2)	3.057	101	404388	104.360
21) 2-Propanol	(1)	3.179	45	213396M	493.449
22) Methyl Iodide	(2)	3.198	142	759847	101.758
23) Carbon Disulfide	(2)	3.292	76	1297816	103.594
27) Methyl Acetate	(2)	3.398	43	533323	95.449
25) Allyl Chloride	(2)	3.427	41	772442	100.172
29)*t-Butyl alcohol-d10	(1)	3.584	65	183612M	250.000
28) Methylene Chloride	(2)	3.587	84	478418	94.072
30) t-Butyl alcohol	(1)	3.674	59	356471M	501.770
31) Acrylonitrile	(2)	3.854	53	313741	106.926
33) Methyl Tertiary Butyl Ether	(2)	3.925	73	1430590	101.438
32) trans-1,2-Dichloroethene	(2)	3.944	96	460884	102.038
34) n-Hexane	(2)	4.324	57	717390	103.611
36) 1,1-Dichloroethane	(2)	4.571	63	868994	102.385
38) di-Isopropyl ether	(2)	4.623	45	1666588	102.304
39) 2-Chloro-1,3-butadiene	(2)	4.681	53	749751	104.723
40) Ethyl t-butyl ether	(2)	5.179	59	1449530	103.393
44) 2-Butanone	(2)	5.388	43	817585	208.101
42) cis-1,2-Dichloroethene	(2)	5.420	96	527726	101.961
45) 2,2-Dichloropropane	(2)	5.436	77	625083	110.306
47) Propionitrile	(1)	5.465	54	550872	531.282
48) Methacrylonitrile	(2)	5.700	67	750559	256.572
49) Bromochloromethane	(2)	5.767	128	276608	101.401

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	5.774	71	208895	228.093
51) Chloroform	(2)	5.922	83	823317	101.769
52)$Dibromofluoromethane	(2)	6.144	113	261749	50.429
52)$Dibromofluoromethane	(2)	6.147	111	267507	50.295
53) 1,1,1-Trichloroethane	(2)	6.147	97	726792	98.313
43) 1,2-Dichloroethene (Total)	(2)		96	988610	203.999
54) Cyclohexane	(2)	6.253	56	878754	104.398
54) Cyclohexane	(2)	6.253	84	727430	104.407
54) Cyclohexane	(2)	6.250	69	257243	105.433
55) 1,1-Dichloropropene	(2)	6.369	75	680358	103.399
56) Carbon Tetrachloride	(2)	6.372	117	589658	109.268
58) Isobutyl Alcohol	(1)	6.523	41	319107	1279.334
57)$1,2-Dichloroethane-d4	(2)	6.610	102	65444	50.705
57)$1,2-Dichloroethane-d4	(2)	6.613	65	306047	50.130
57)$1,2-Dichloroethane-d4	(2)	6.613	104	41083	50.183
60) Benzene	(2)	6.639	78	1966914	101.406
61) 1,2-Dichloroethane	(2)	6.726	62	672041	102.415
61) 1,2-Dichloroethane	(2)	6.722	98	64097	110.781
65) t-Amyl methyl ether	(2)	6.841	73	1465784	105.346
66)*Fluorobenzene	(2)	7.057	96	1062919	50.000
67) n-Heptane	(2)	7.079	43	794949	102.548
69) n-Butanol	(1)	7.430	56	557797M	2774.096
71) Trichloroethene	(2)	7.552	95	513037	102.350
72) Methylcyclohexane	(2)	7.861	83	924633	104.692
72) Methylcyclohexane	(2)	7.857	98	422409	105.983
73) 1,2-Dichloropropane	(2)	7.890	63	551772	103.916
75) 1,4-Dioxane	(1)	7.980	88	76692M	1221.735
76) Methyl Methacrylate	(2)	7.980	69	491230	108.080
74) Dibromomethane	(2)	7.999	93	344598	103.199
78) Bromodichloromethane	(2)	8.246	83	648848	107.672
79) 2-Nitropropane	(2)	8.504	41	389115	227.706
80) 2-Chloroethyl Vinyl Ether	(2)	8.623	63	446824	109.472
81) cis-1,3-Dichloropropene	(2)	8.812	75	865511	110.196
82) 4-Methyl-2-pentanone	(2)	8.992	43	1756835	217.000
83)$Toluene-d8	(3)	9.144	98	1062057	49.818
83)$Toluene-d8	(3)	9.144	100	699948	49.836
88) Toluene	(3)	9.230	92	1255687	101.358
89) trans-1,3-Dichloropropene	(3)	9.529	75	782955	112.710

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	9.600	69	853753	109.112
92) 1,1,2-Trichloroethane	(3)	9.748	97	487635	102.147
93) Tetrachloroethene	(3)	9.828	166	557539	101.750
94) 1,3-Dichloropropane	(3)	9.918	76	848064	102.380
96) 2-Hexanone	(3)	9.973	43	1313009	219.565
90) 1,3-Dichloropropene (total)	(3)		100	1648466	222.906
97) Dibromochloromethane	(3)	10.147	129	552445	111.725
99) 1,2-Dibromoethane	(3)	10.262	107	547365	104.734
100)*Chlorobenzene-d5	(3)	10.713	117	834937	50.000
101) 1-Chlorohexane	(3)	10.735	91	707076	99.382
102) Chlorobenzene	(3)	10.742	112	1458292	102.011
103) 1,1,1,2-Tetrachloroethane	(3)	10.832	131	508422	107.701
104) Ethylbenzene	(3)	10.835	91	2442108	102.192
106) m+p-Xylene	(3)	10.957	106	1914407	205.775
107) o-Xylene	(3)	11.291	106	956788	103.412
109) Styrene	(3)	11.311	104	1616649	105.698
110) Bromoform	(3)	11.471	173	419593	116.865
111) Isopropylbenzene	(3)	11.603	105	2449038	103.571
112) Cyclohexanone	(1)	11.671	55	302205	1276.247
114)$4-Bromofluorobenzene	(3)	11.751	95	394235	49.753
114)$4-Bromofluorobenzene	(3)	11.751	174	343734	49.454
108) Xylene (Total)	(3)		106	2871195	309.187
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	820749	104.299
115) Bromobenzene	(4)	11.860	156	652939	103.034
118) trans-1,4-Dichloro-2-butene	(4)	11.883	53	599531	265.878
117) 1,2,3-Trichloropropane	(4)	11.902	110	228521	102.730
119) n-Propylbenzene	(4)	11.941	91	2874087	102.641
120) 2-Chlorotoluene	(4)	12.012	126	601559	103.221
122) 1,3,5-Trimethylbenzene	(4)	12.082	105	2094753	104.908
121) 4-Chlorotoluene	(4)	12.108	126	623137	102.736
124) tert-Butylbenzene	(4)	12.320	134	456579M	105.780
125) Pentachloroethane	(4)	12.352	167	381883	112.060
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	2150464	104.553
127) sec-Butylbenzene	(4)	12.487	105	2647066	103.927
129) 1,3-Dichlorobenzene	(4)	12.584	146	1215672	100.760
130) p-Isopropyltoluene	(4)	12.600	119	2368950	105.337
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	443338	50.000
133) 1,4-Dichlorobenzene	(4)	12.658	146	1243887	99.708

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

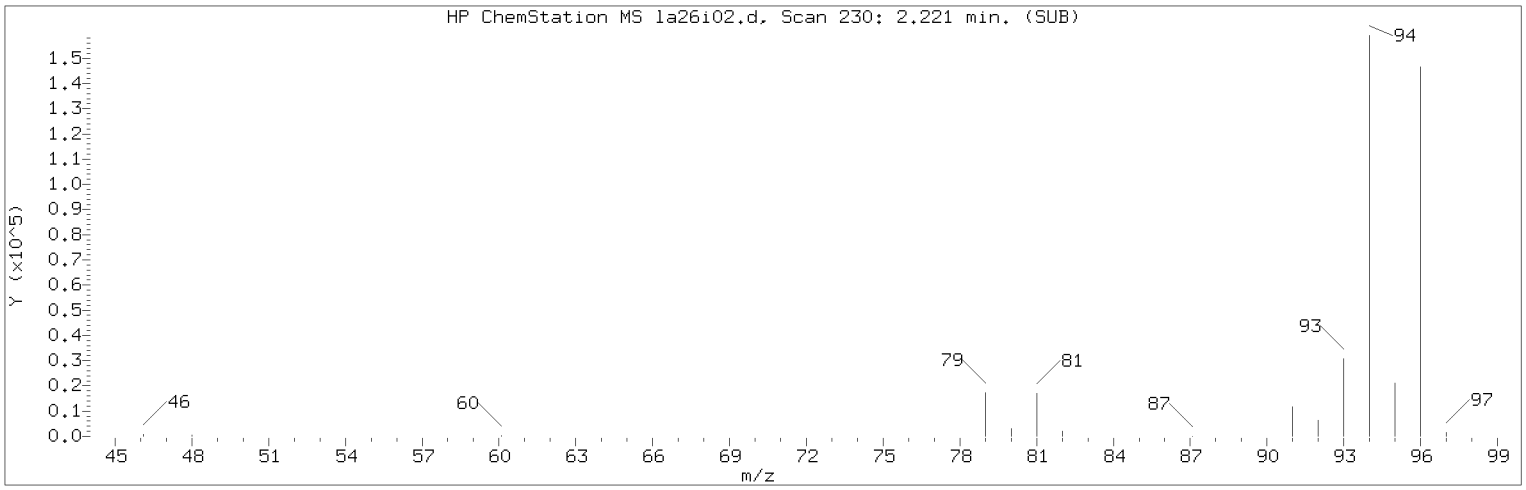
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

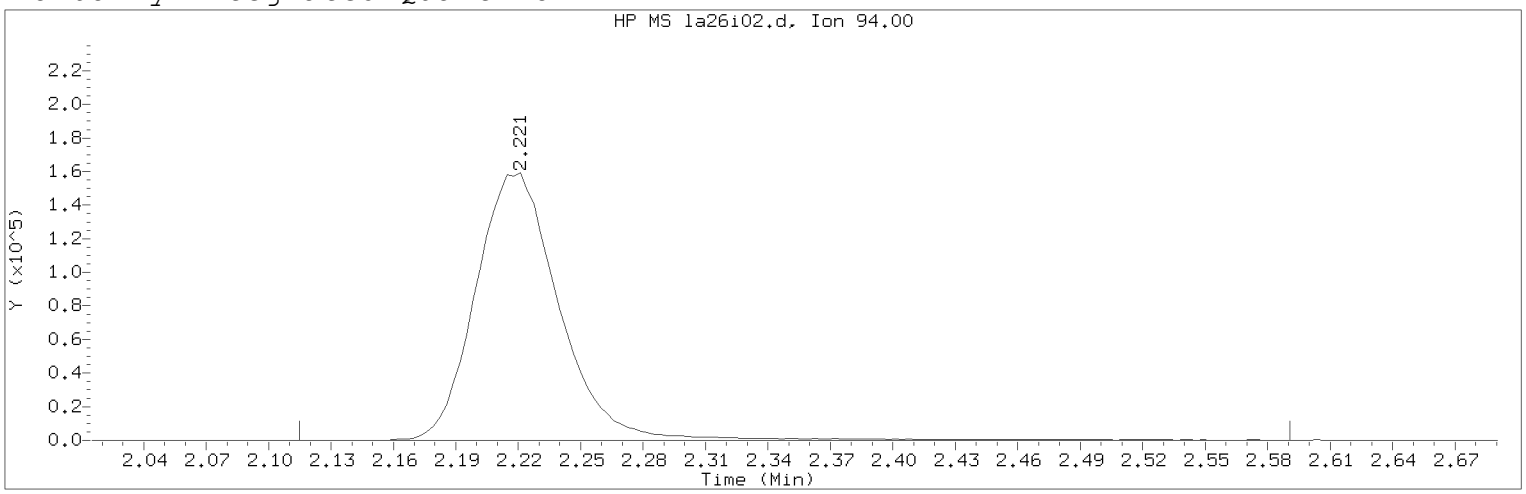
	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134)	1,2,3-Trimethylbenzene	(4)	12.668	105	2174826	100.922
135)	Benzyl Chloride	(4)	12.735	91	1509958	122.366
136)	1,3-Diethylbenzene	(4)	12.799	119	1373318	102.211
137)	1,4-Diethylbenzene	(4)	12.873	119	1423124	100.862
139)	n-Butylbenzene	(4)	12.893	92	1135761	101.097
138)	1,2-Dichlorobenzene	(4)	12.915	146	1195487	100.805
140)	1,2-Diethylbenzene	(4)	12.941	119	1147775	101.508
141)	Diethylbenzene (total)	(4)		100	3944217	304.580
142)	1,2-Dibromo-3-chloropropane	(4)	13.462	75	181306	108.948
144)	1,3,5-Trichlorobenzene	(4)	13.587	180	971739	101.065
146)	1,2,4-Trichlorobenzene	(4)	14.008	180	946069	101.432
147)	Hexachlorobutadiene	(4)	14.095	225	412377	101.804
148)	Naphthalene	(4)	14.188	128	2908962	103.355
149)	1,2,3-Trichlorobenzene	(4)	14.327	180	906692	100.764
150)	2-Methylnaphthalene	(4)	14.912	142	1891682	103.943

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

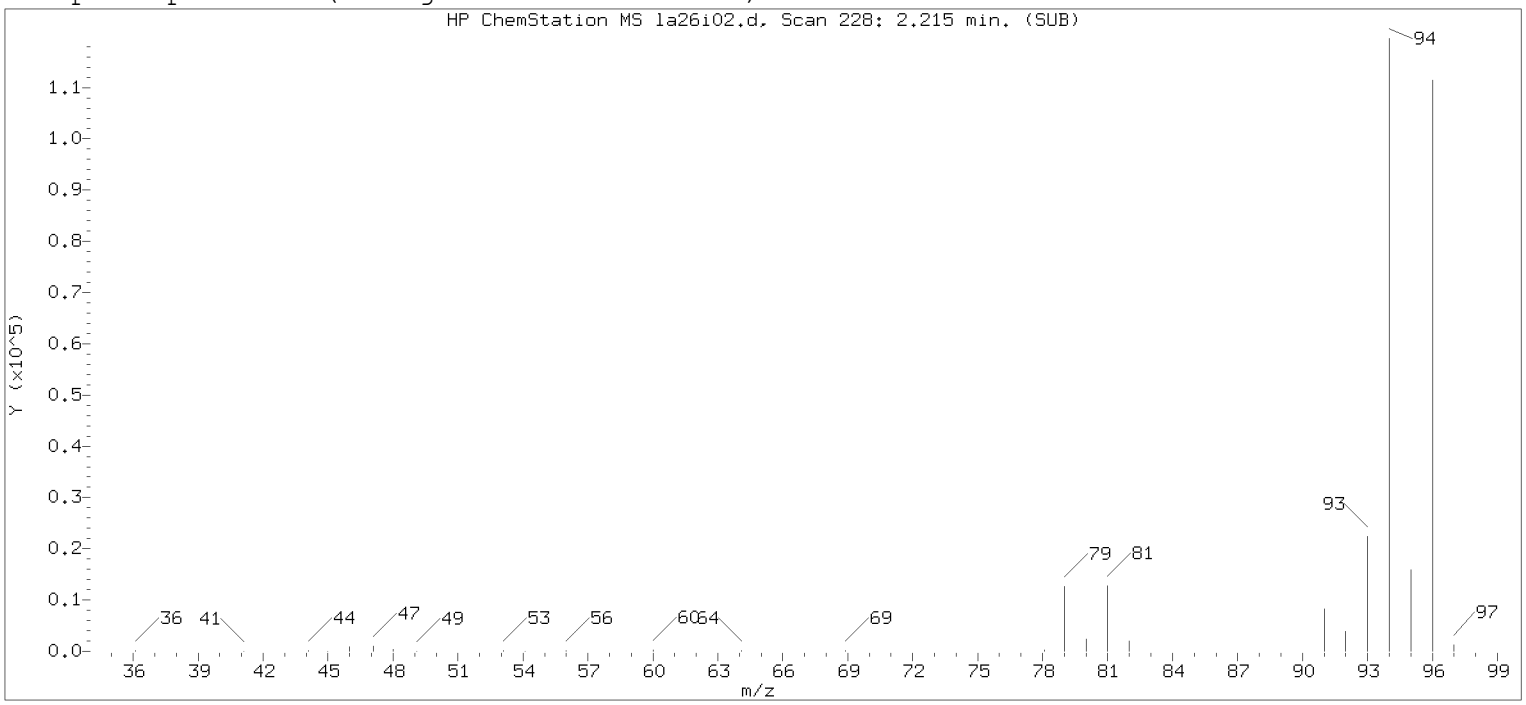
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 230
Retention Time (minutes): 2.221
Quant Ion : 94.00
Area (flag) : 446773M
On-Column Amount (ng) : 105.7521
Integration start scan : 196 Integration stop scan: 344
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

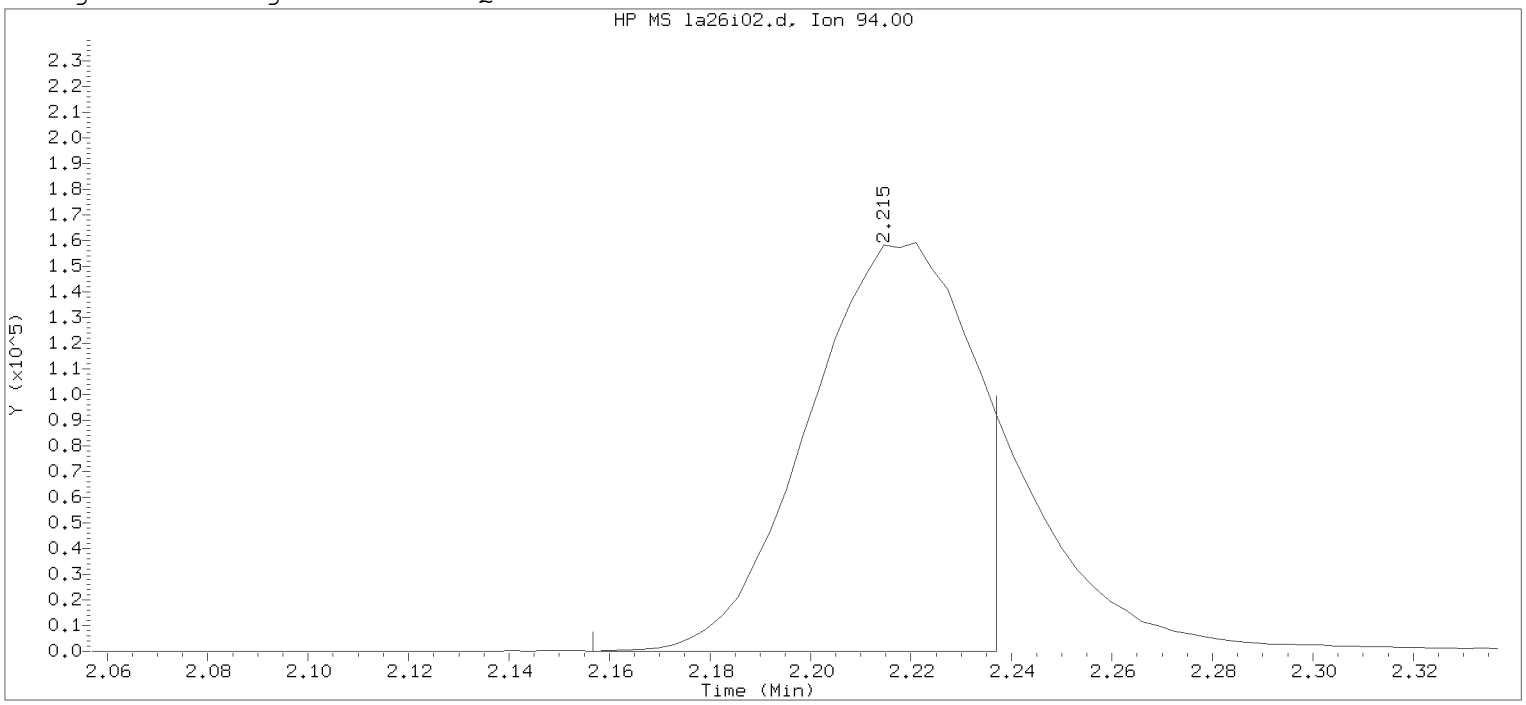
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

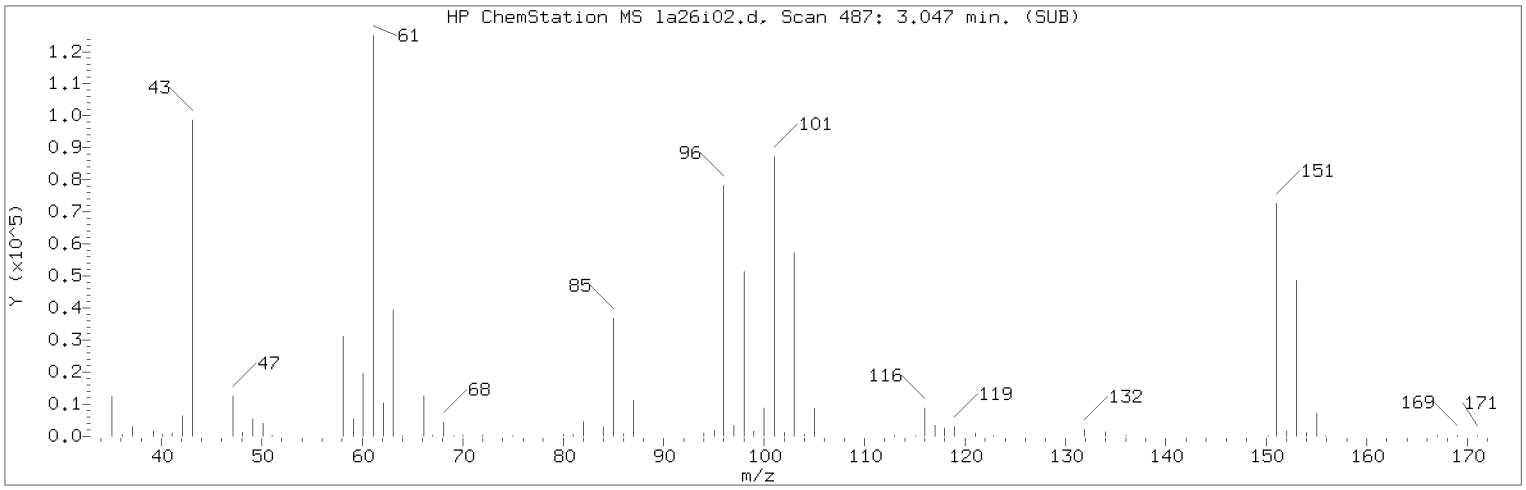
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

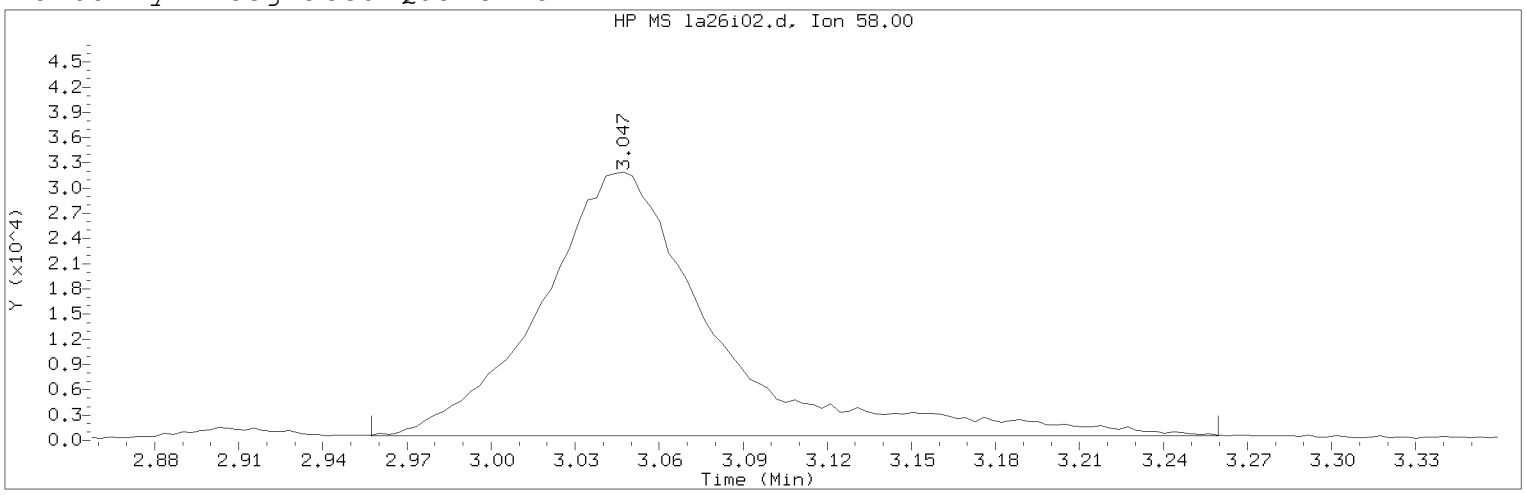
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 228
Retention Time (minutes): 2.215
Quant Ion : 94.00
Area : 353561
On-column Amount (ng) : 86.2140
Integration start scan : 209 Integration stop scan: 234
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

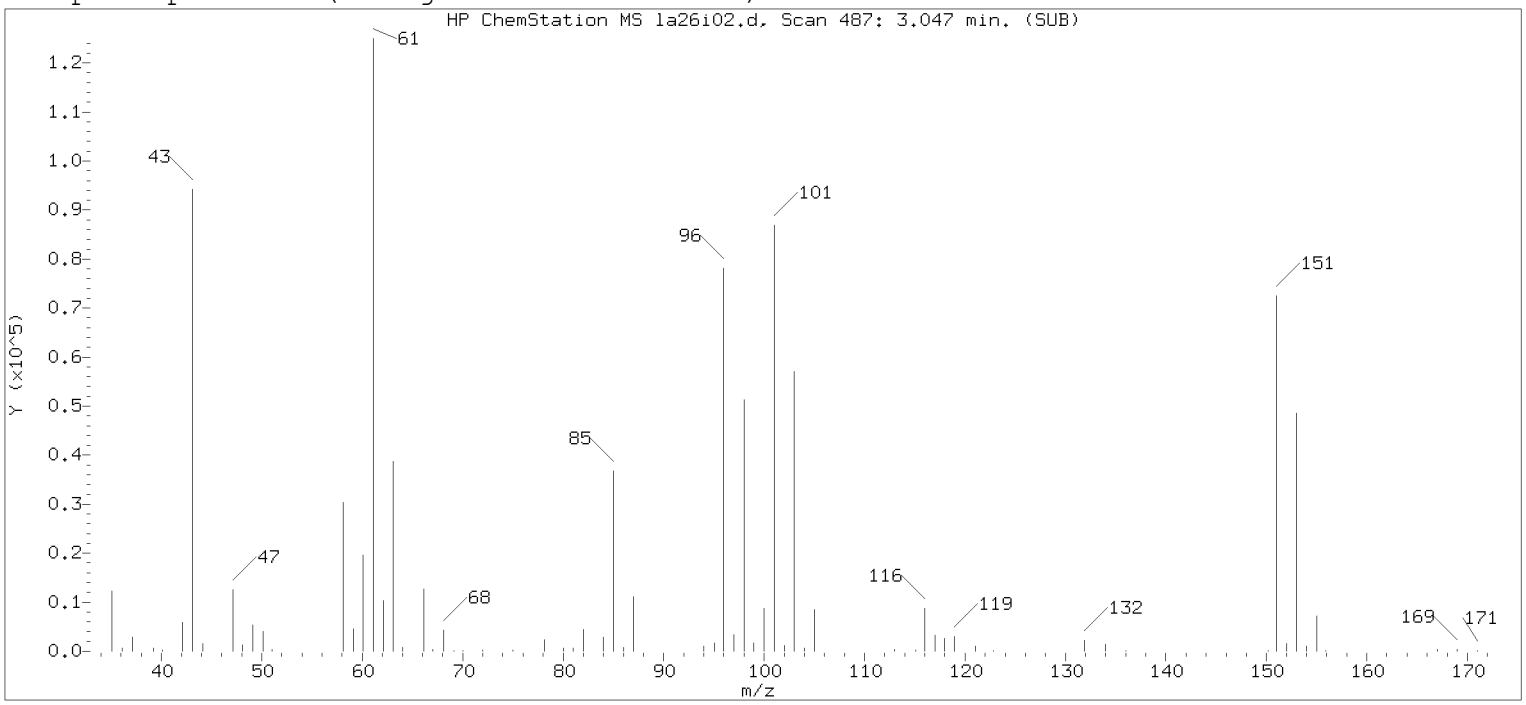
Compound Number : 18
Compound Name : Acetone
Scan Number : 487
Retention Time (minutes): 3.047
Quant Ion : 58.00
Area (flag) : 135546M
On-Column Amount (ng) : 207.7778
Integration start scan : 458 Integration stop scan: 552
Y at integration start : 496 Y at integration end: 496

Reason for manual integration: improper integration

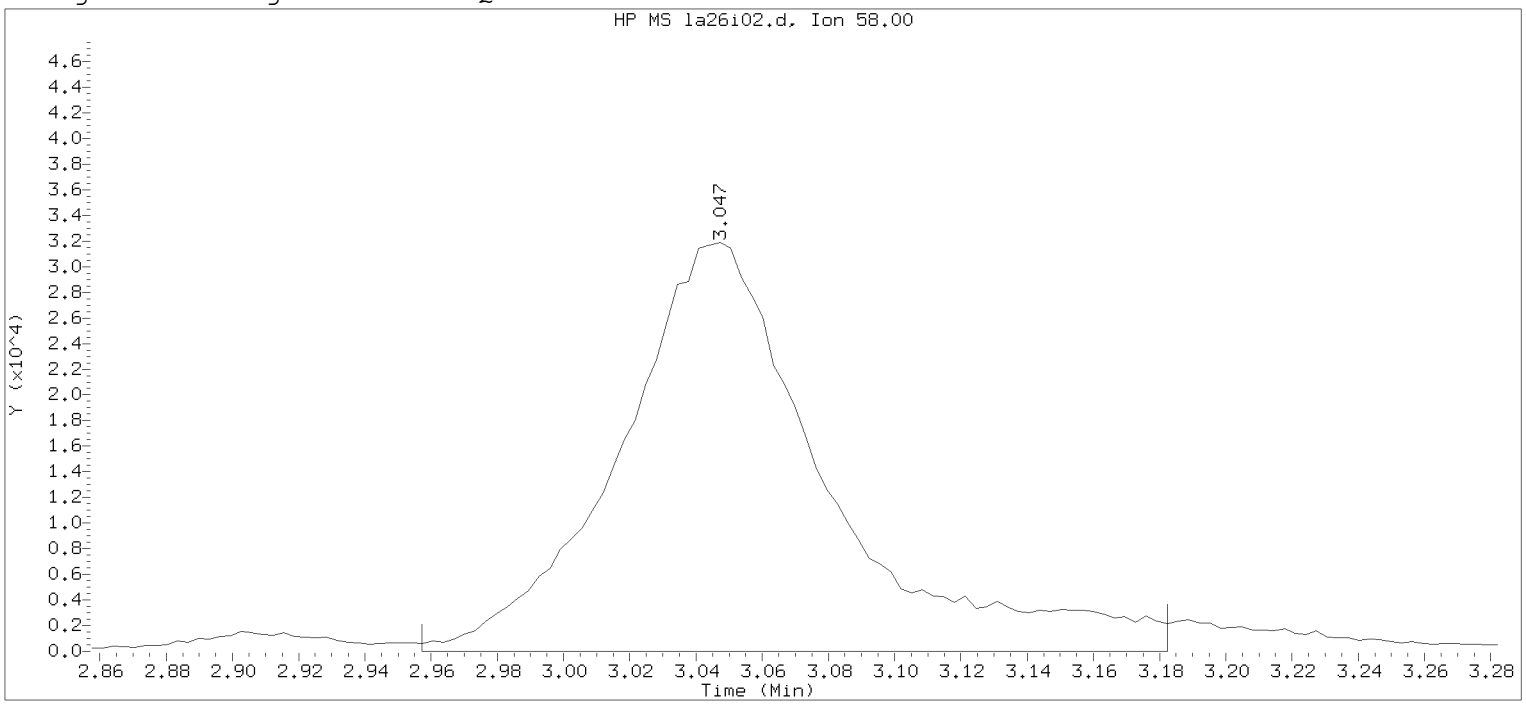
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

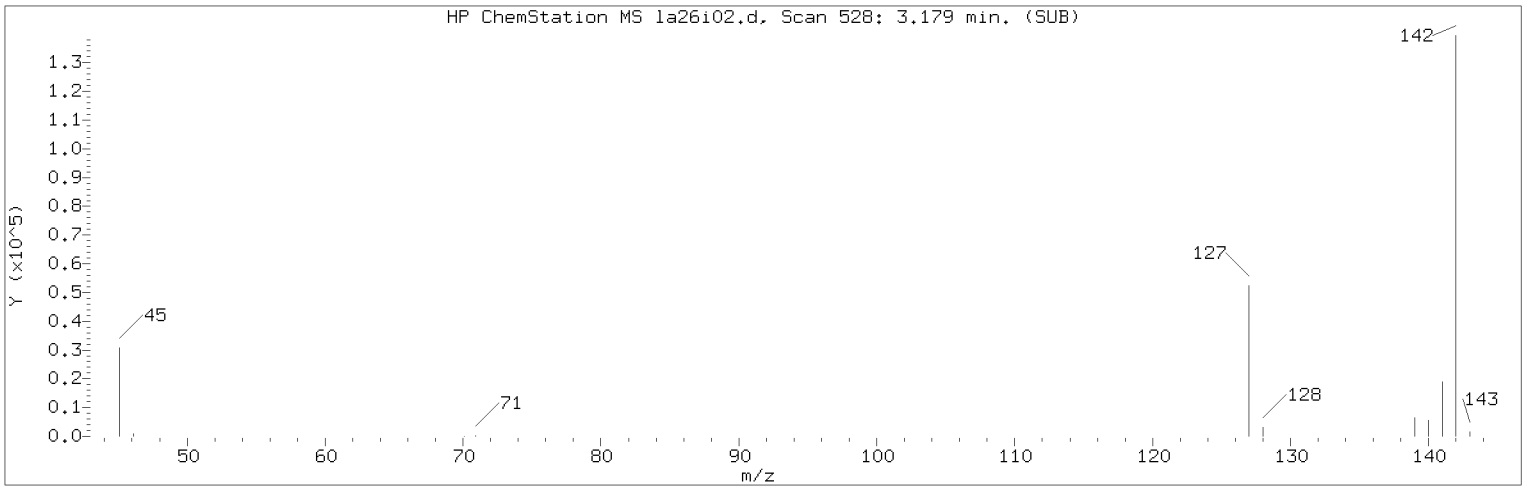
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

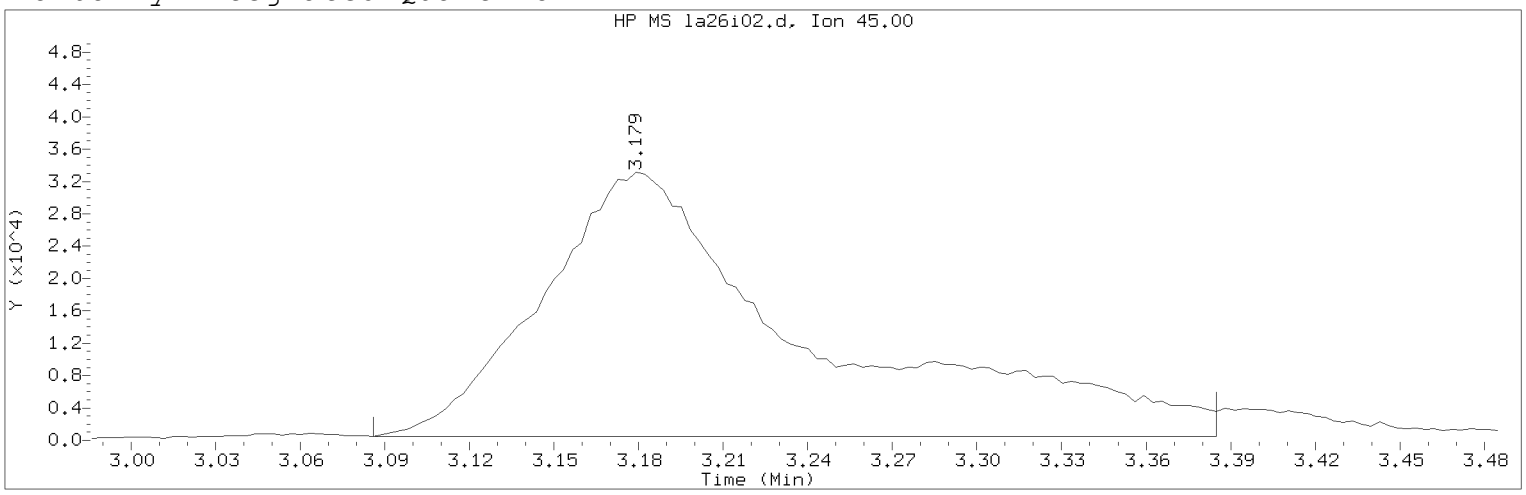
Compound Number	: 18		
Compound Name	: Acetone		
Scan Number	: 487		
Retention Time (minutes)	: 3.047		
Quant Ion	: 58.00		
Area	: 137735		
On-column Amount (ng)	: 199.5156		
Integration start scan	: 458	Integration stop scan:	528
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2343

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

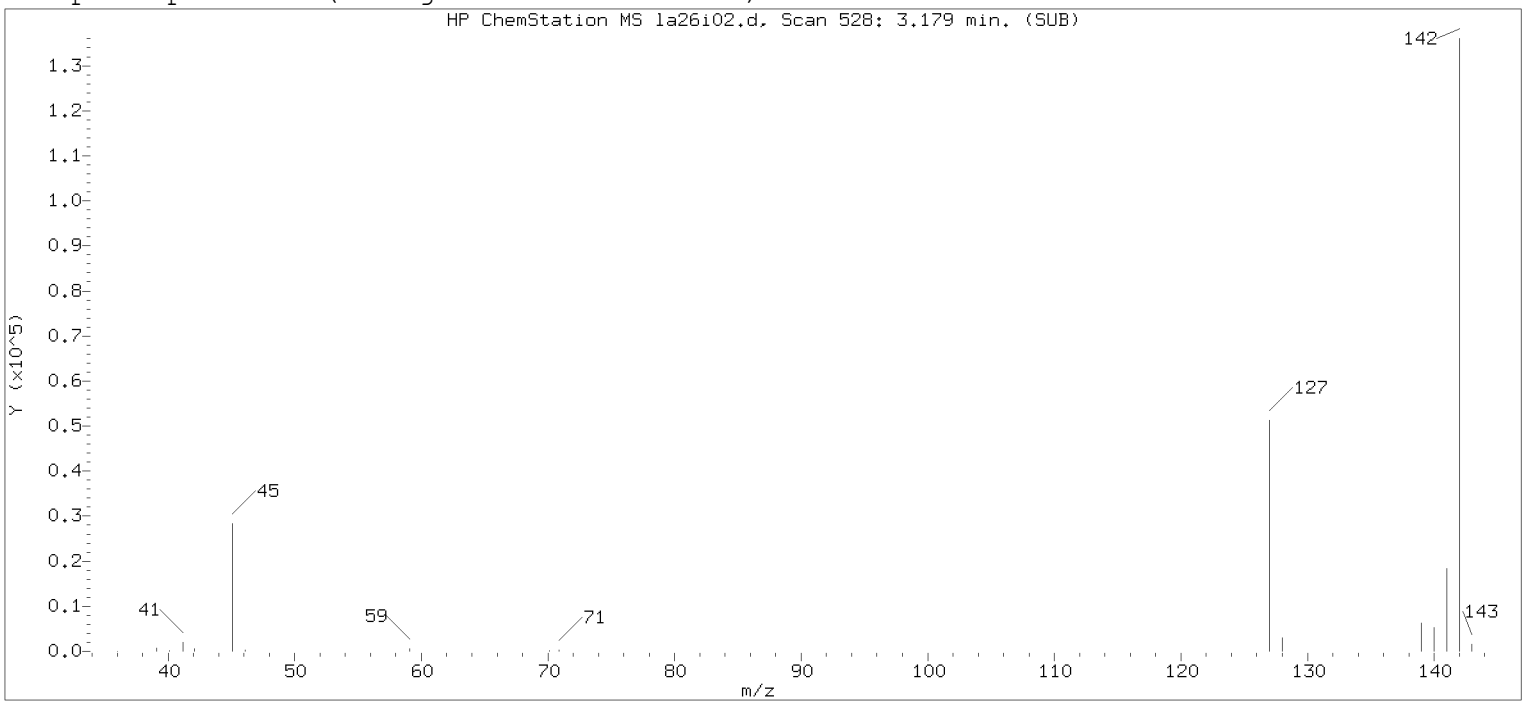
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 528
Retention Time (minutes): 3.179
Quant Ion : 45.00
Area (flag) : 213396M
On-Column Amount (ng) : 493.4490
Integration start scan : 498 Integration stop scan: 591
Y at integration start : 488 Y at integration end: 488

Reason for manual integration: improper integration

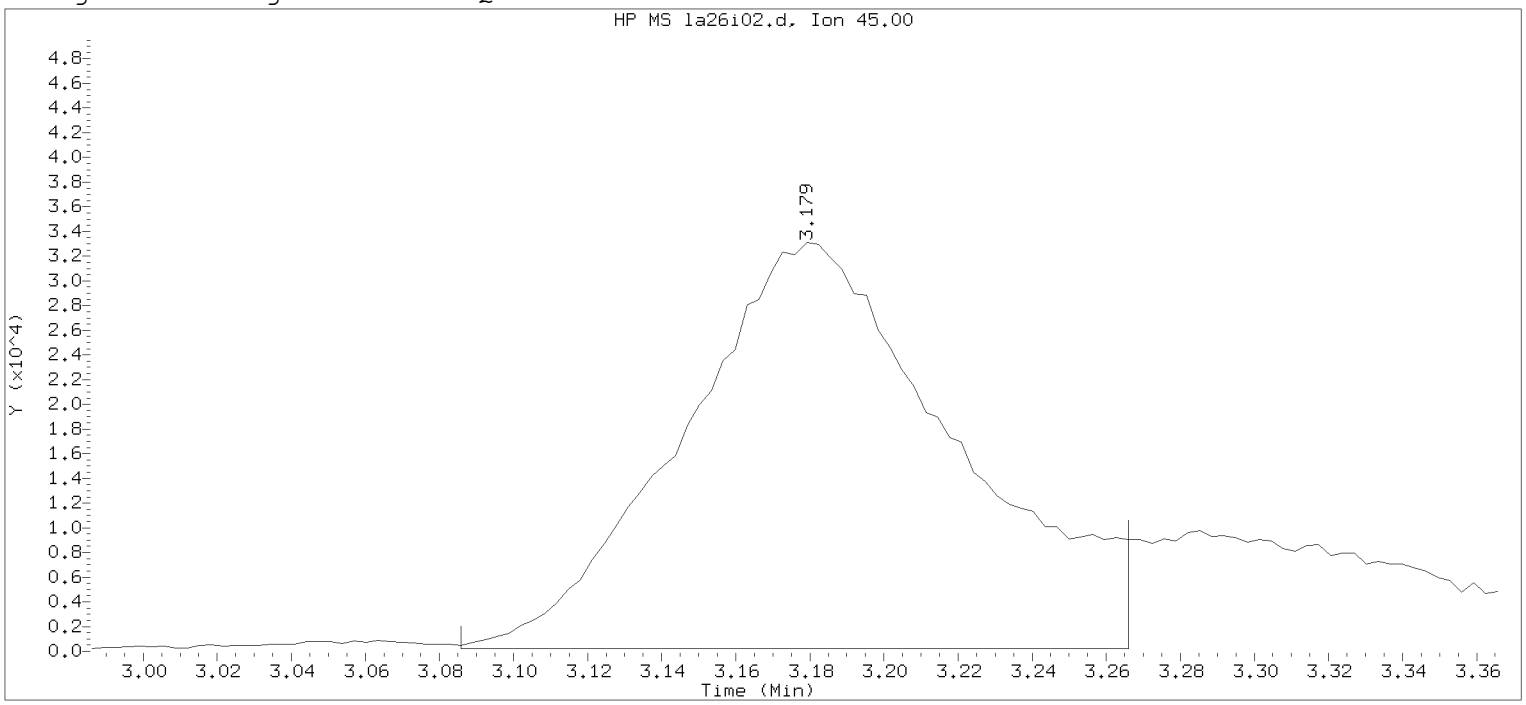
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

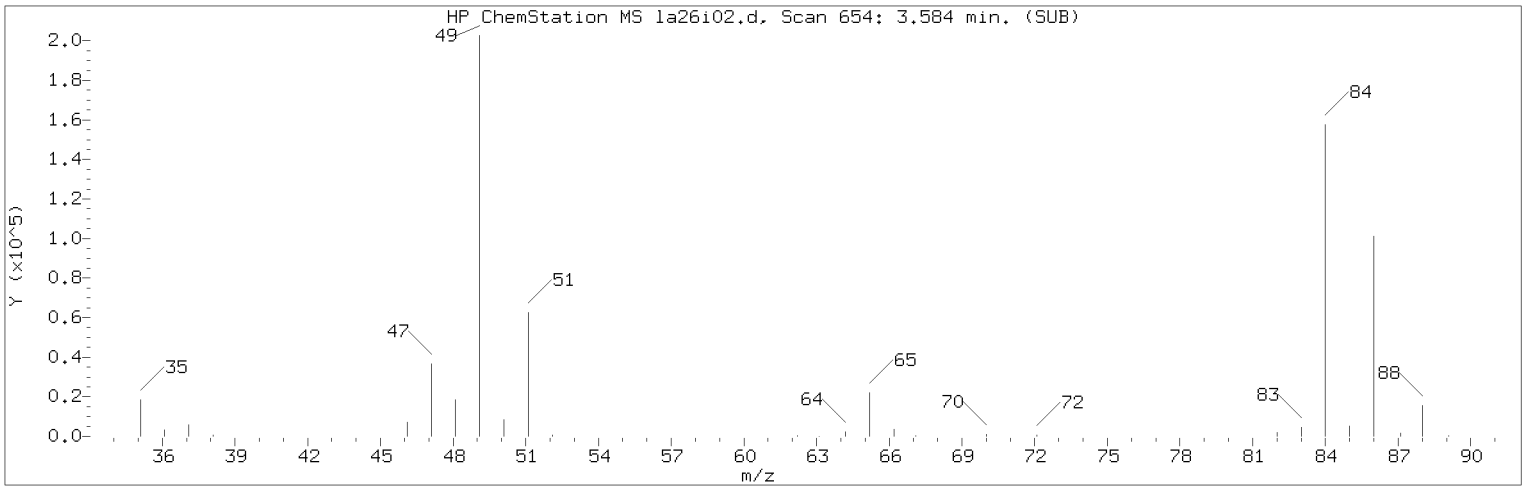
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

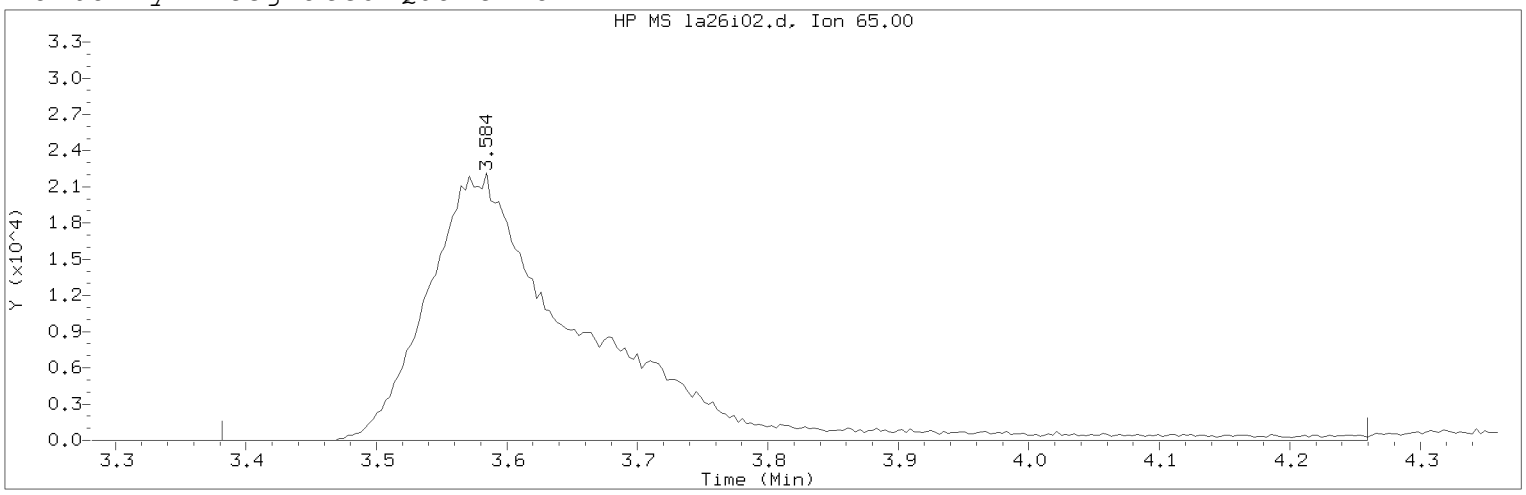
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 528
Retention Time (minutes): 3.179
Quant Ion : 45.00
Area : 167823
On-column Amount (ng) : 440.7134
Integration start scan : 498 Integration stop scan: 554
Y at integration start : 223 Y at integration end: 223

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

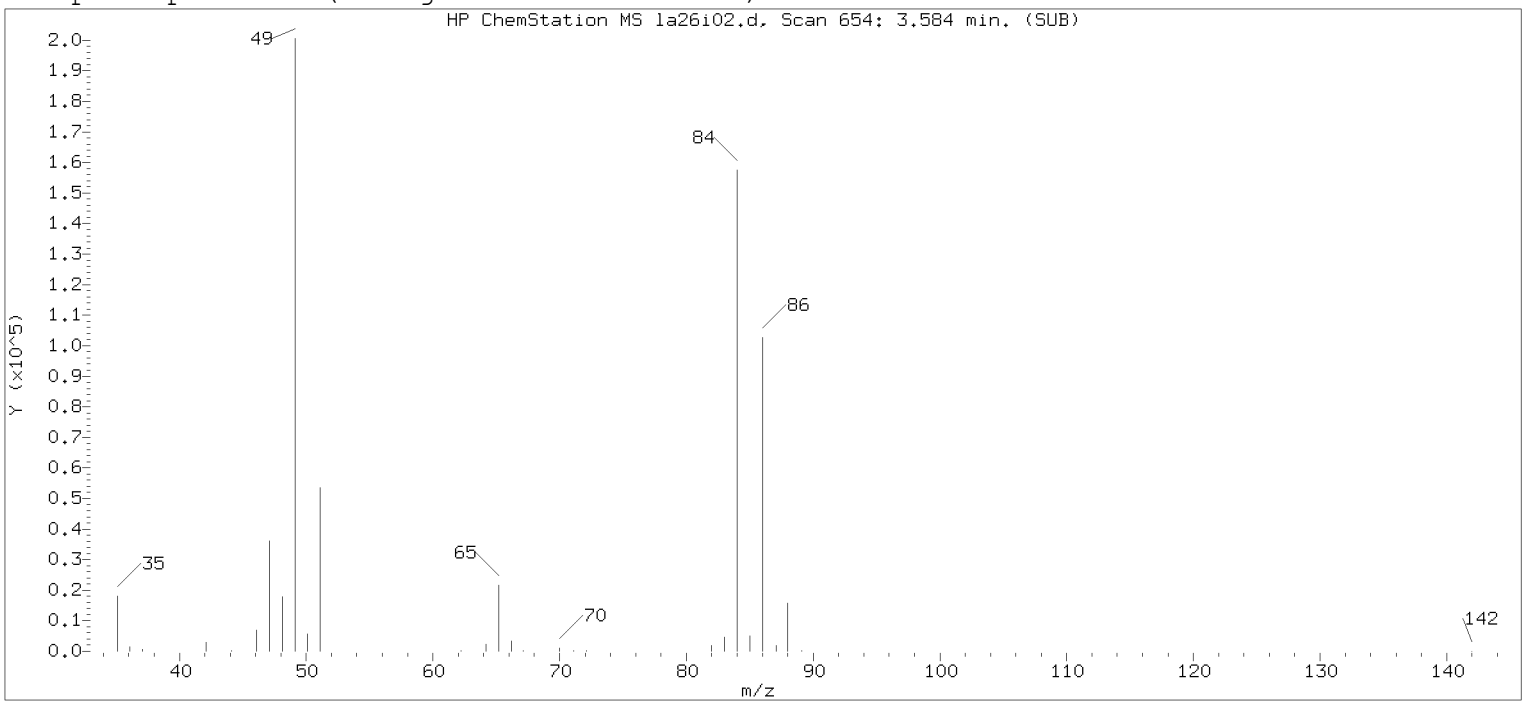
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 654
Retention Time (minutes): 3.584
Quant Ion : 65.00
Area (flag) : 183612M
On-Column Amount (ng) : 250.0000
Integration start scan : 590 Integration stop scan: 863
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

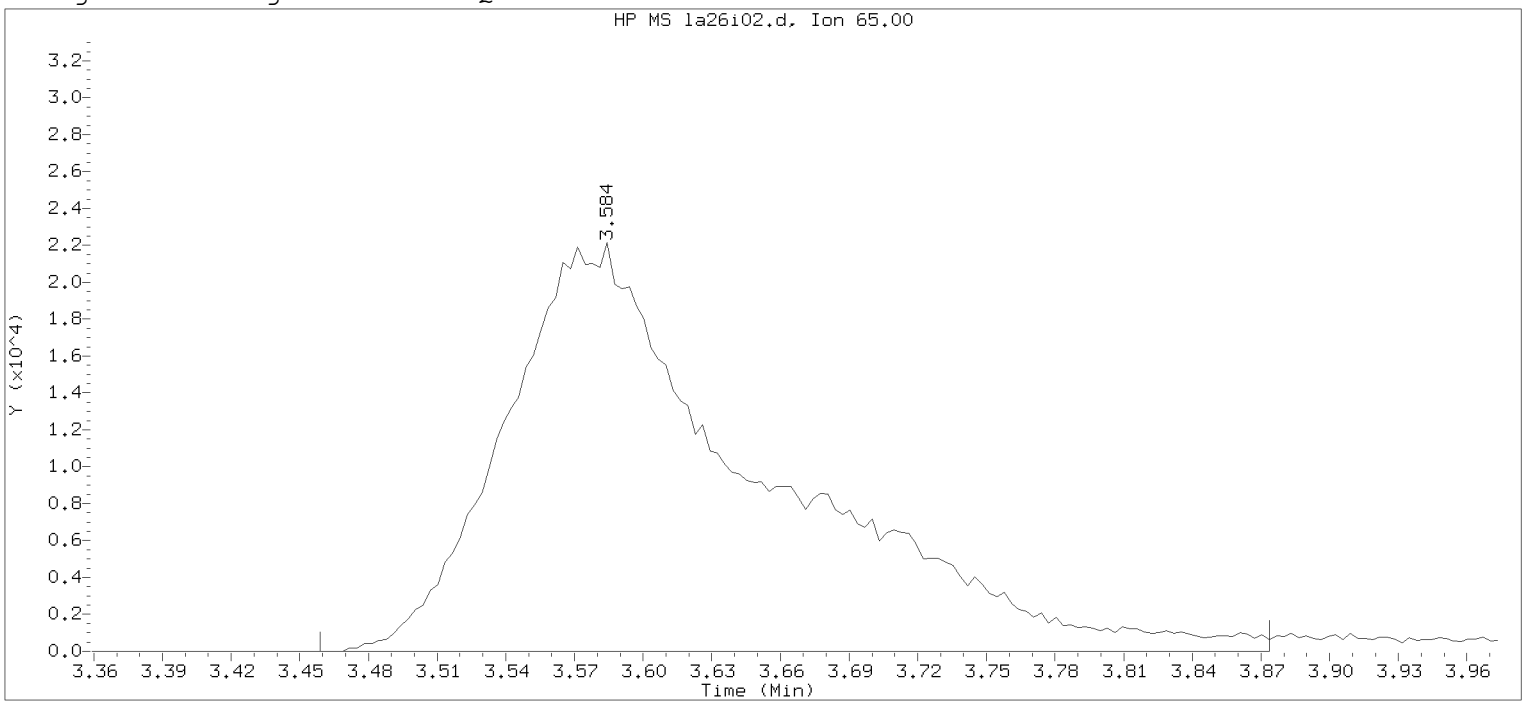
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

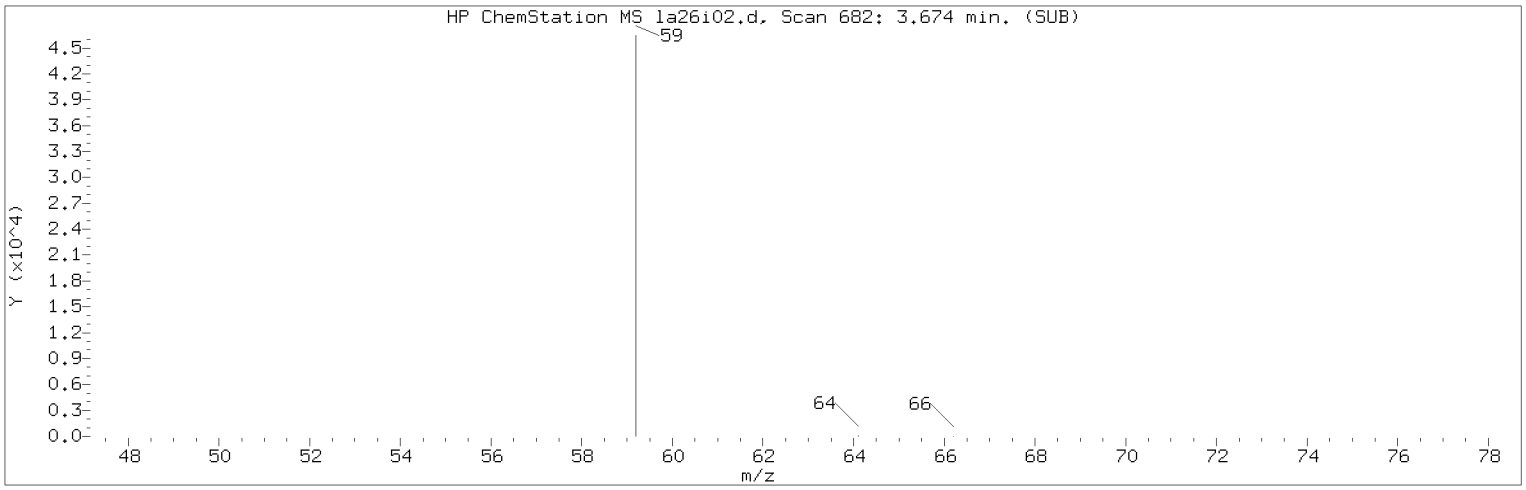
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

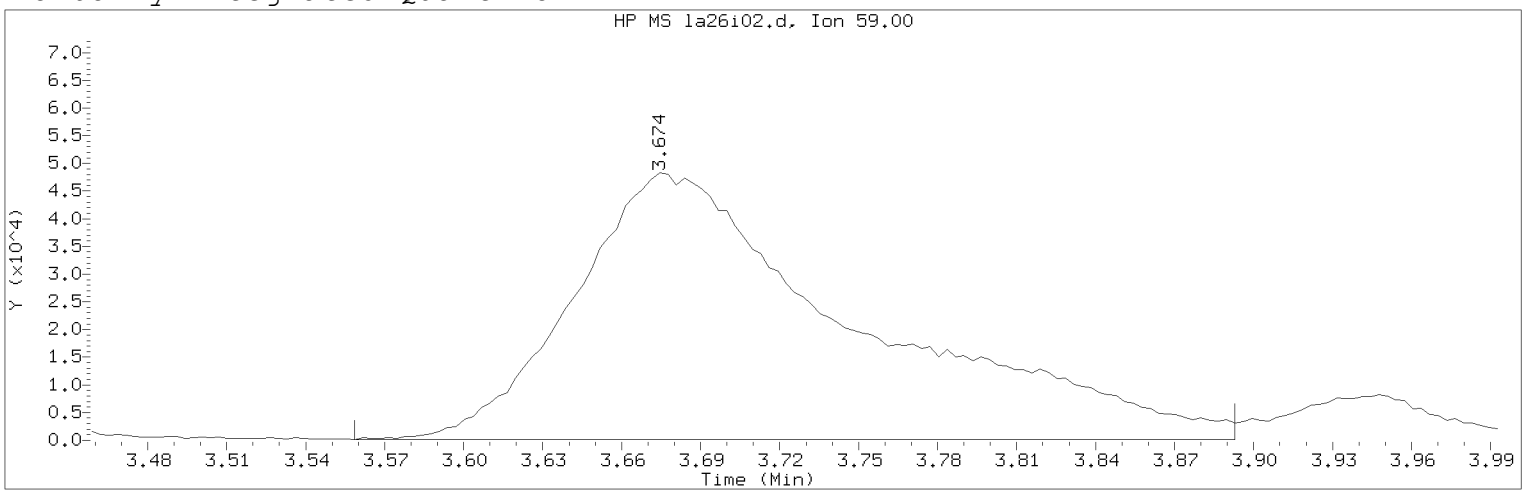
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 654
Retention Time (minutes): 3.584
Quant Ion : 65.00
Area : 172293
On-column Amount (ng) : 250.0000
Integration start scan : 614 Integration stop scan: 743
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2395

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

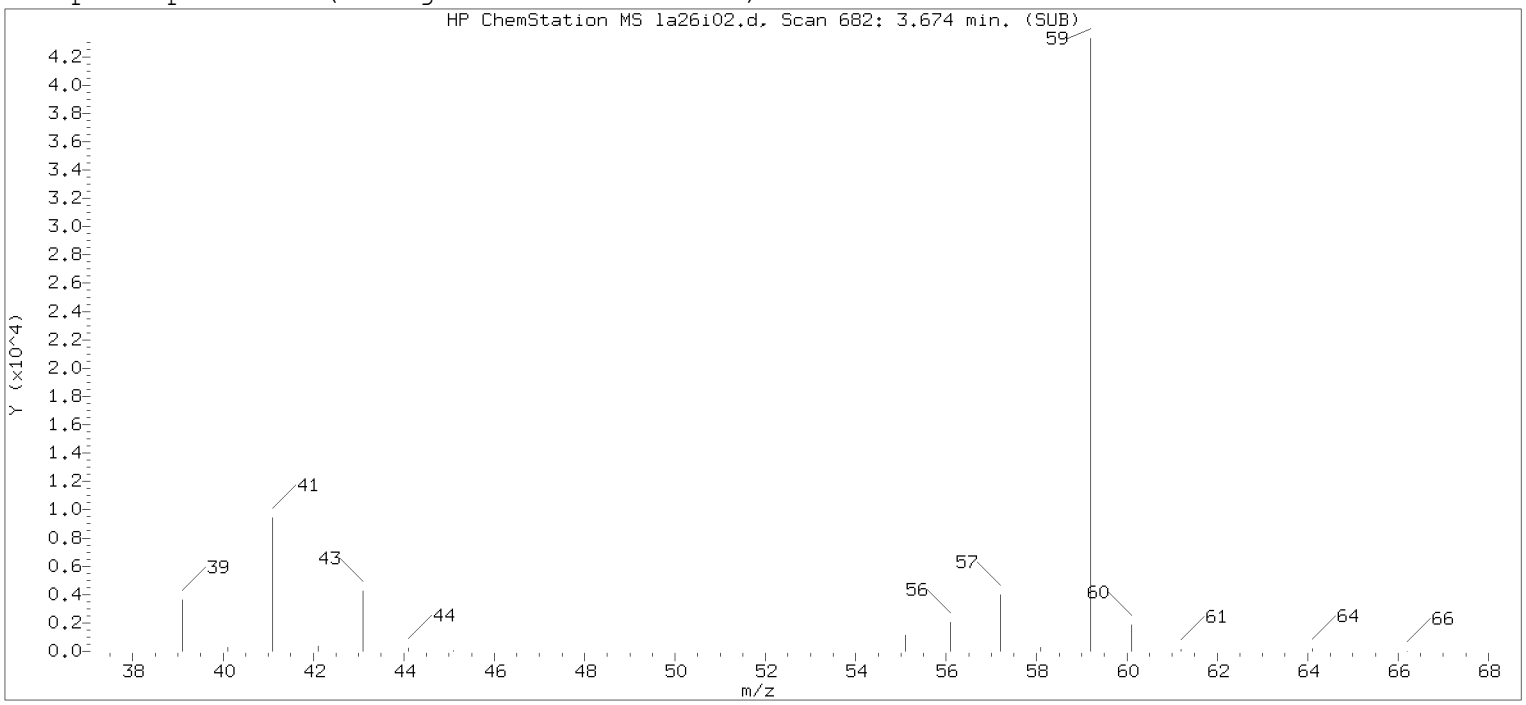
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 682
Retention Time (minutes): 3.674
Quant Ion : 59.00
Area (flag) : 356471M
On-Column Amount (ng) : 501.7705
Integration start scan : 645 Integration stop scan: 749
Y at integration start : 168 Y at integration end: 168

Reason for manual integration: improper integration

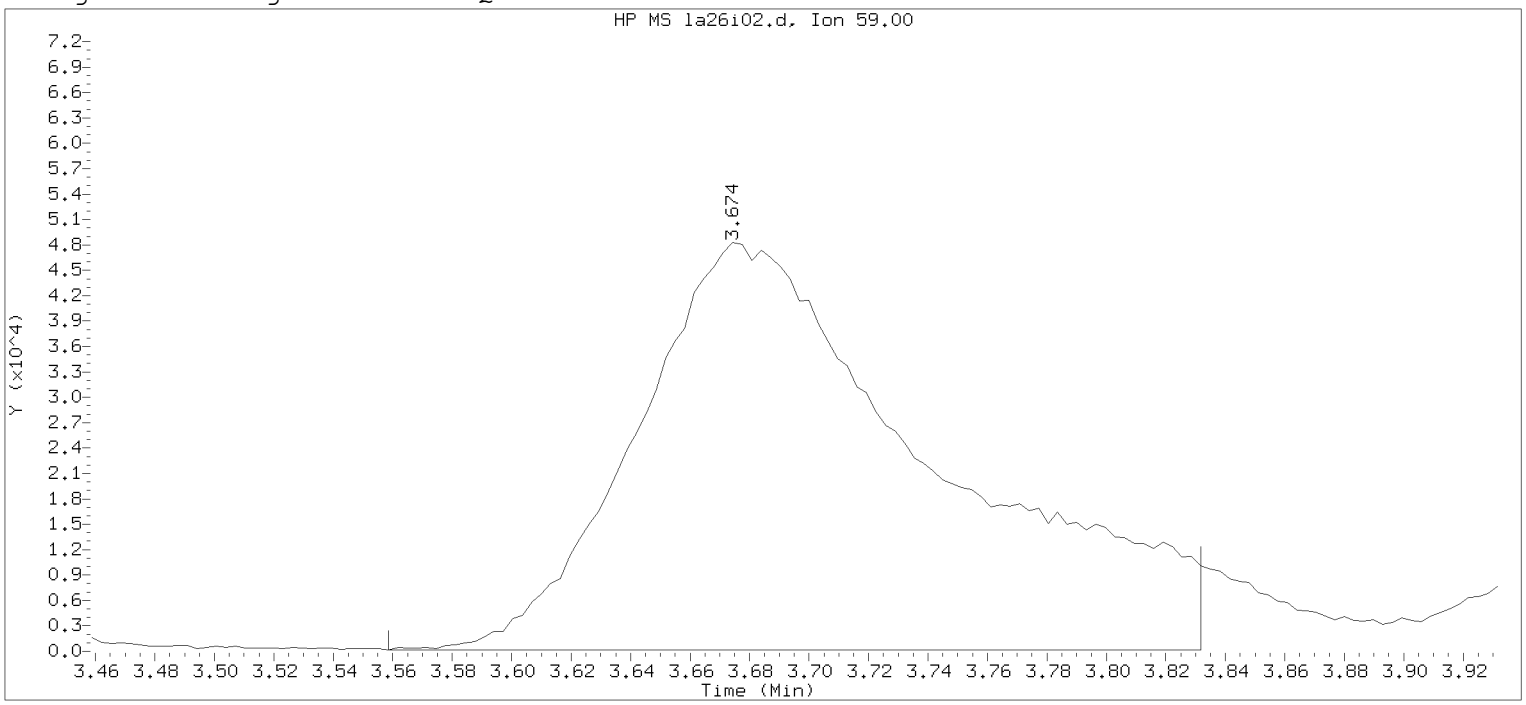
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

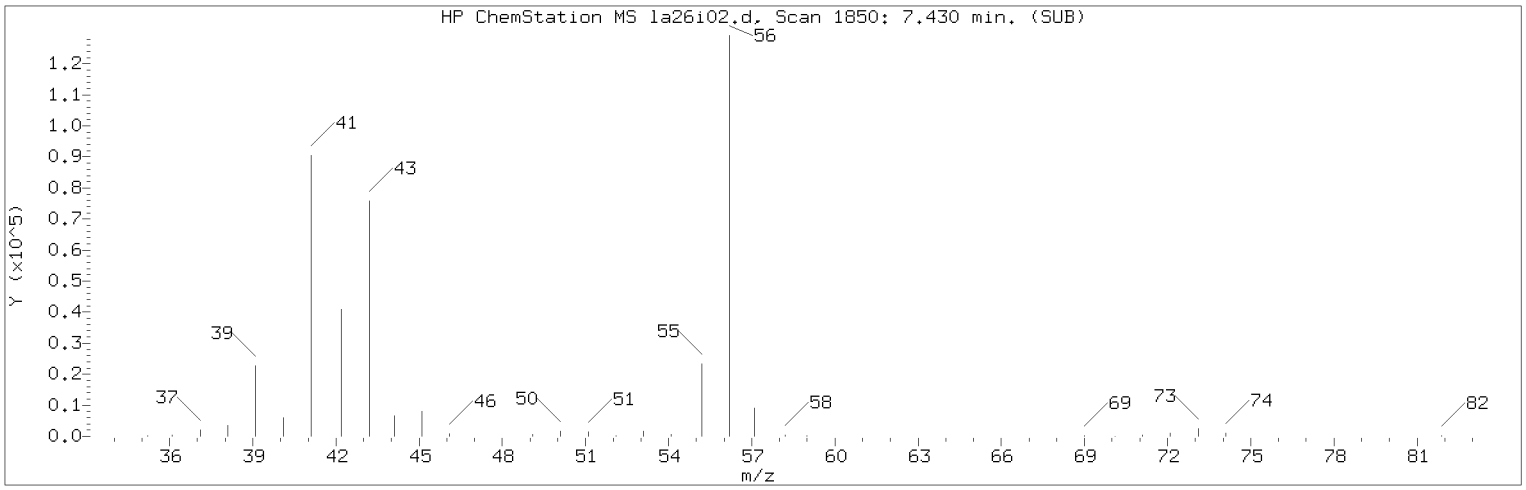
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

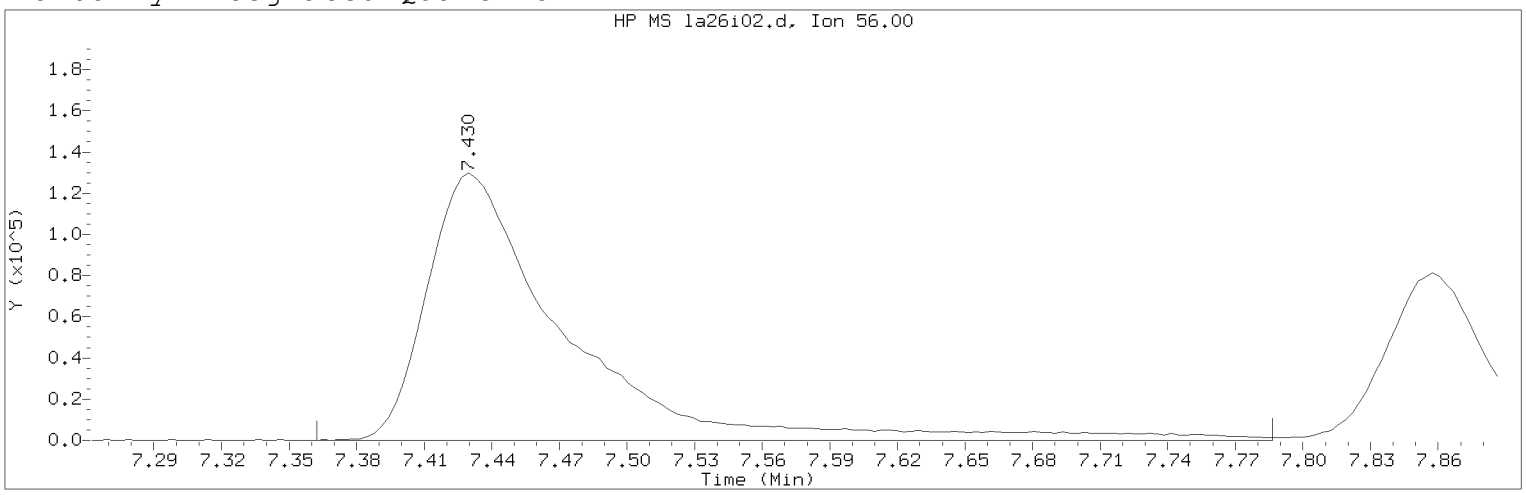
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 682
Retention Time (minutes): 3.674
Quant Ion : 59.00
Area : 335006
On-column Amount (ng) : 496.4294
Integration start scan : 645 Integration stop scan: 730
Y at integration start : 169 Y at integration end: 169

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

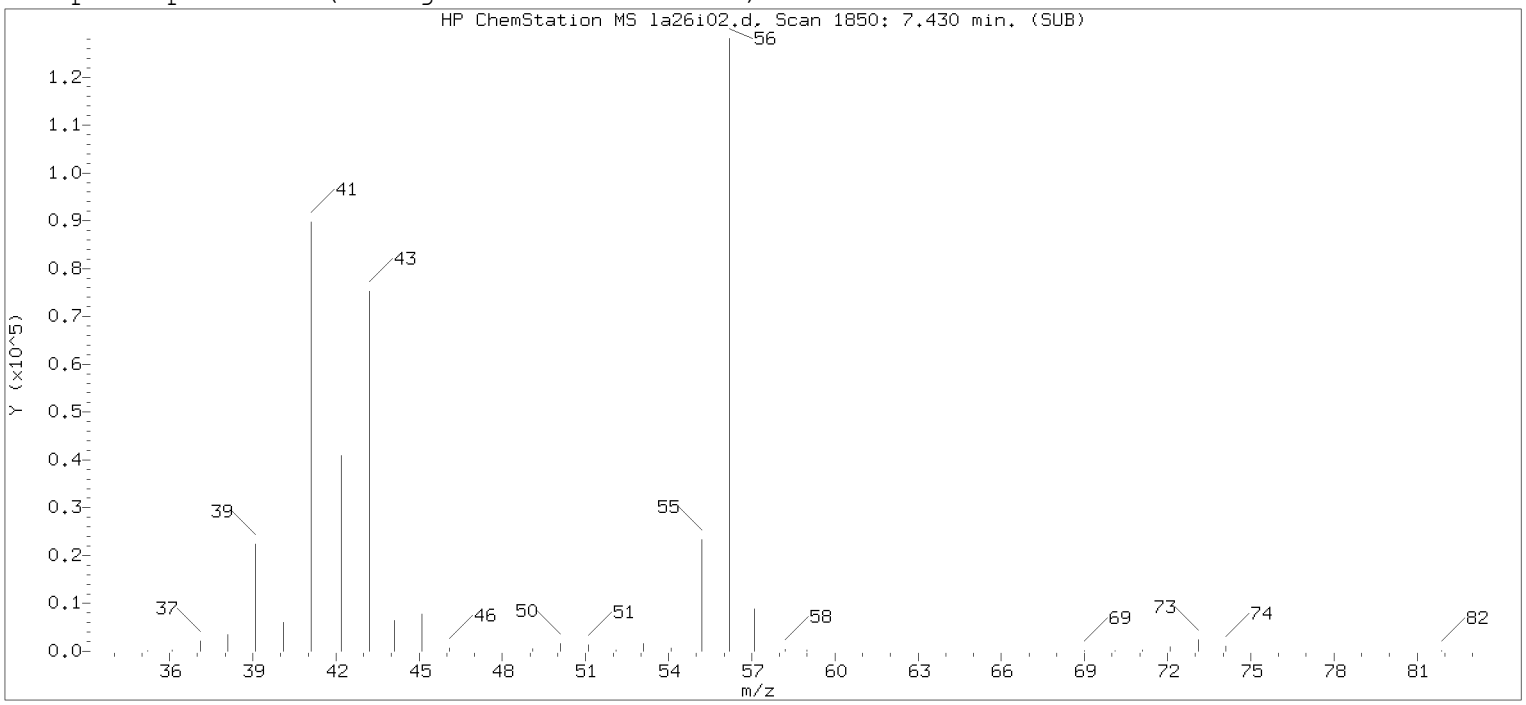
Compound Number : 69
Compound Name : n-Butanol
Scan Number : 1850
Retention Time (minutes): 7.430
Quant Ion : 56.00
Area (flag) : 557797M
On-Column Amount (ng) : 2774.0960
Integration start scan : 1828 Integration stop scan: 1960
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

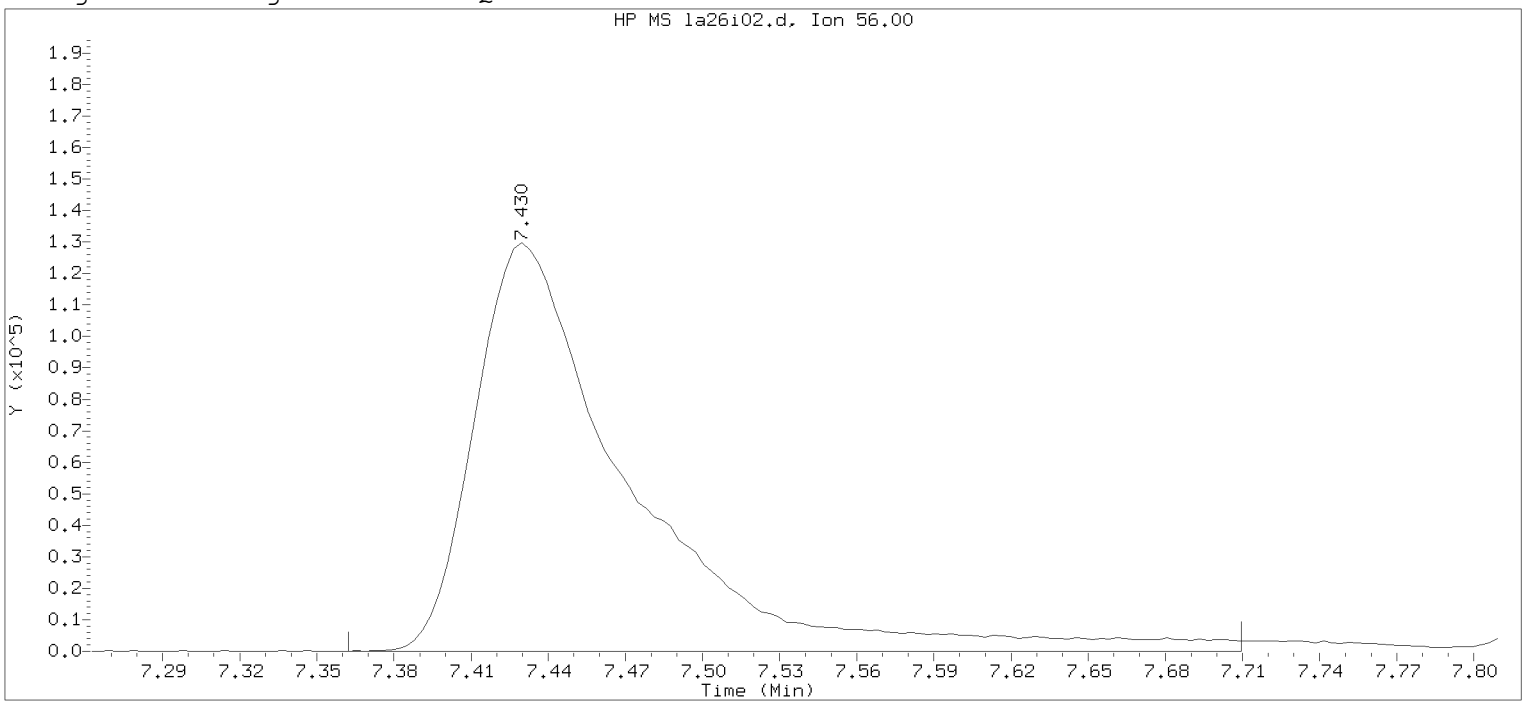
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

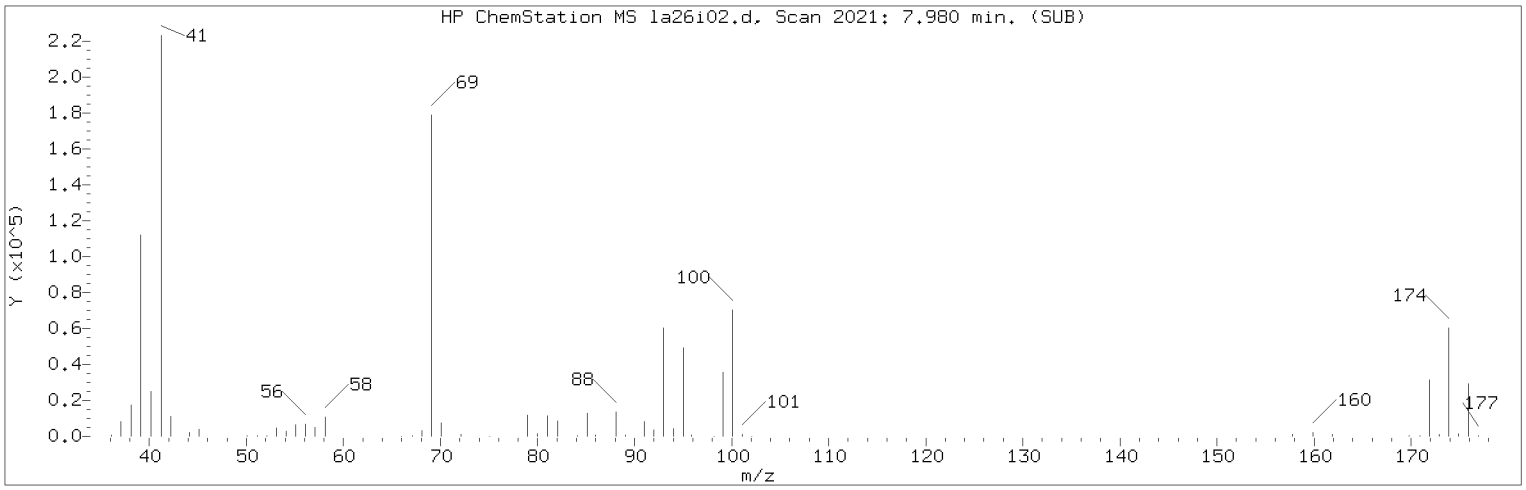
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

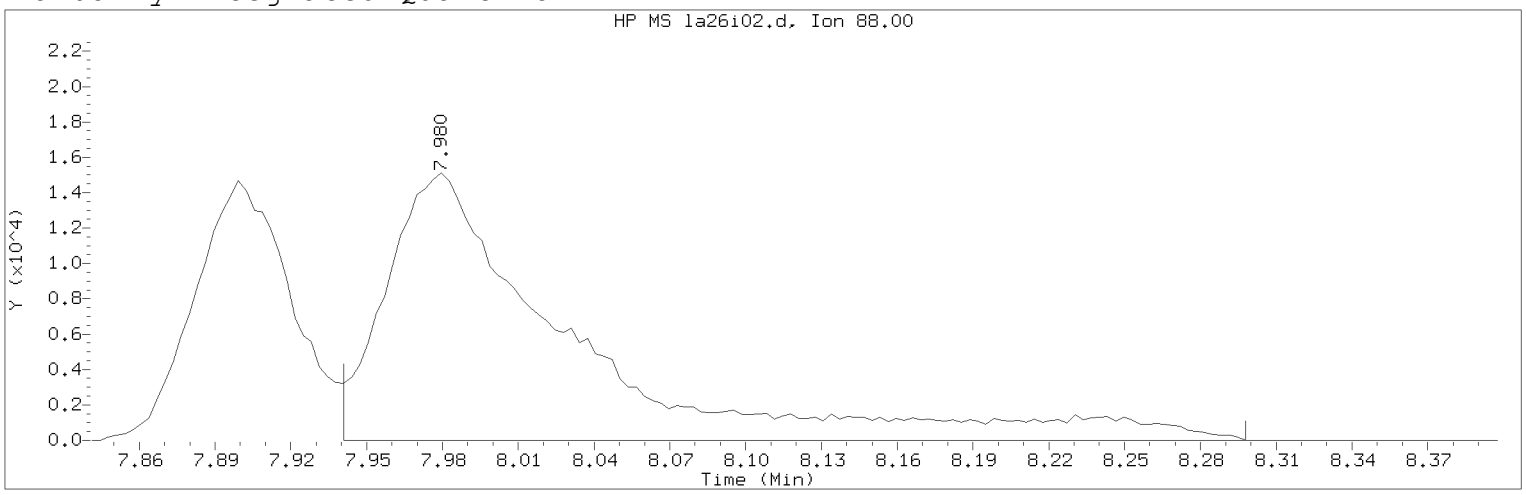
Compound Number : 69
Compound Name : n-Butanol
Scan Number : 1850
Retention Time (minutes): 7.430
Quant Ion : 56.00
Area : 545706
On-column Amount (ng) : 2586.5087
Integration start scan : 1828 Integration stop scan: 1936
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2239

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

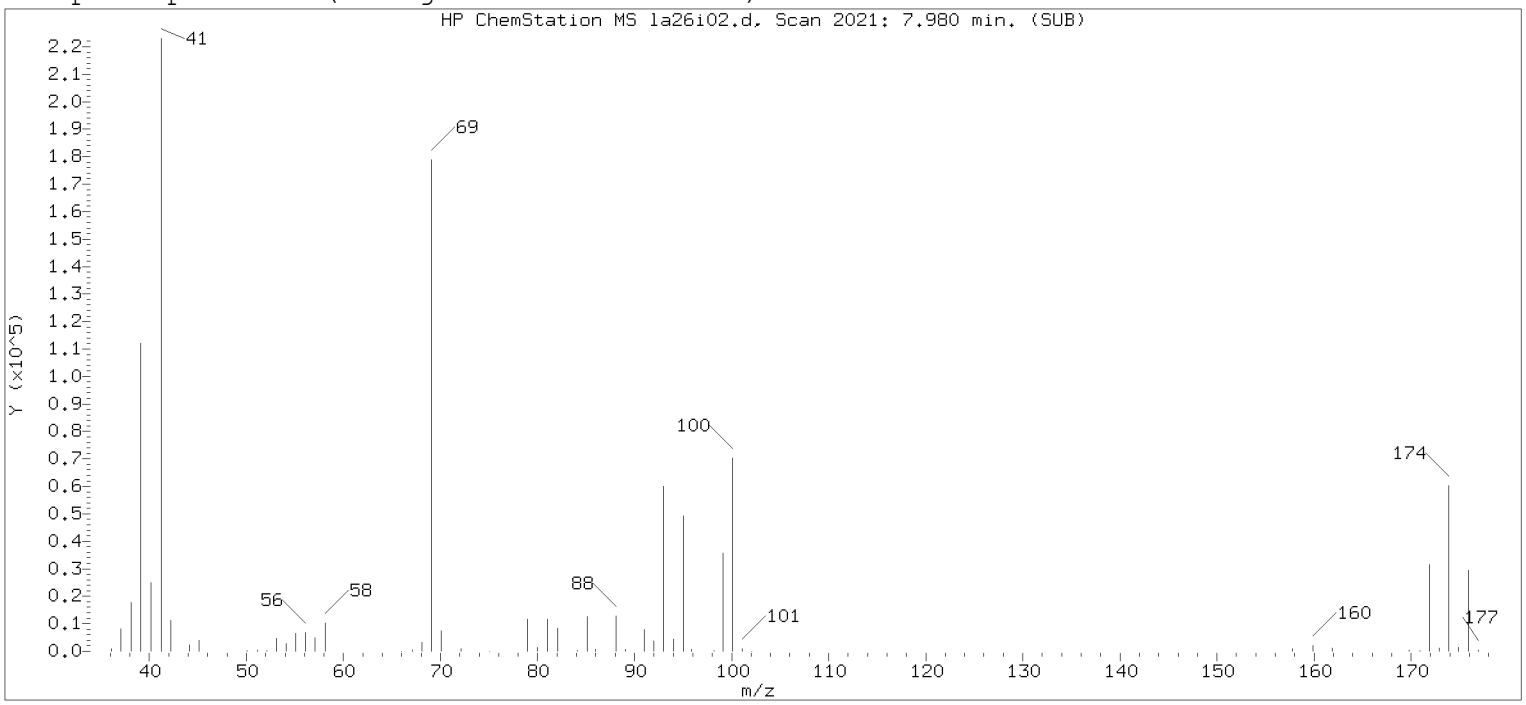
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2021
Retention Time (minutes): 7.980
Quant Ion : 88.00
Area (flag) : 76692M
On-Column Amount (ng) : 1221.7348
Integration start scan : 2008 Integration stop scan: 2119
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

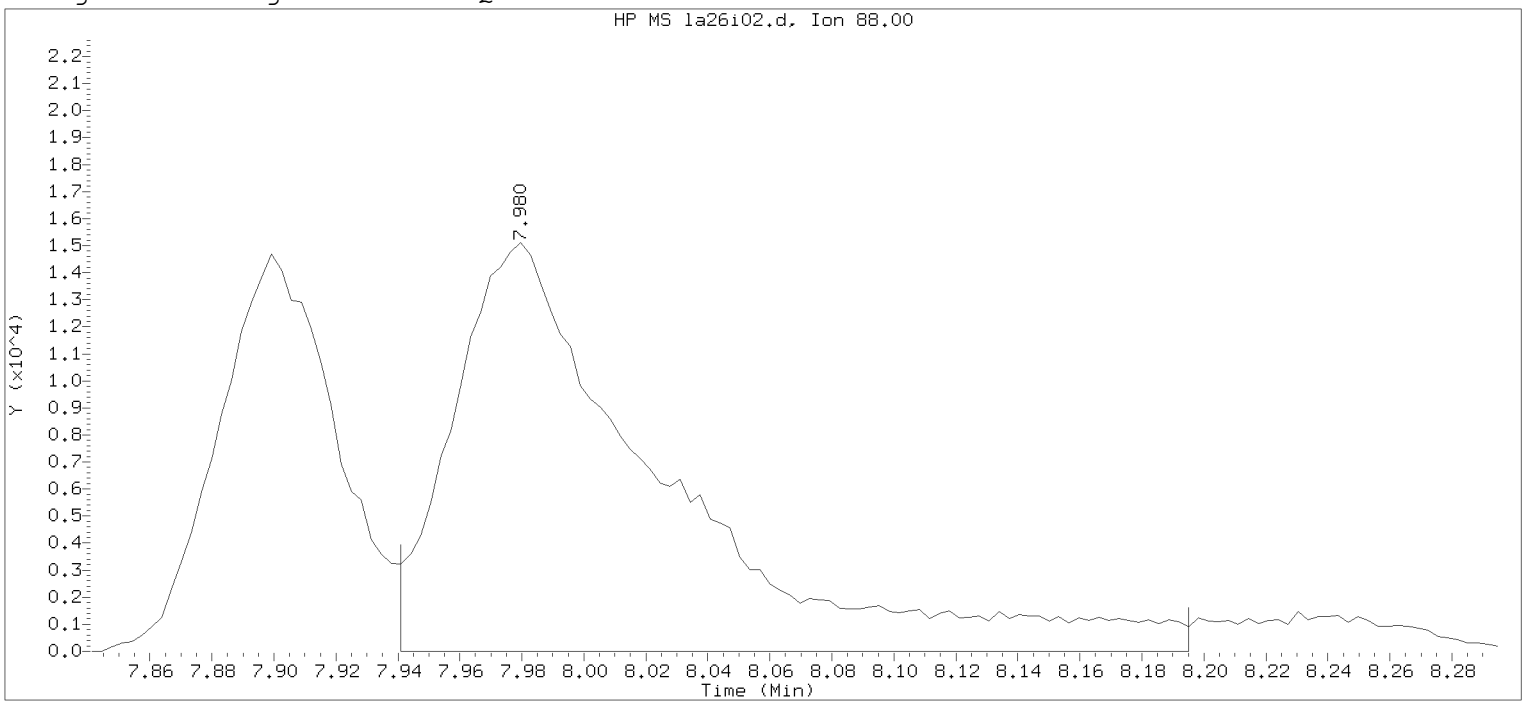
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

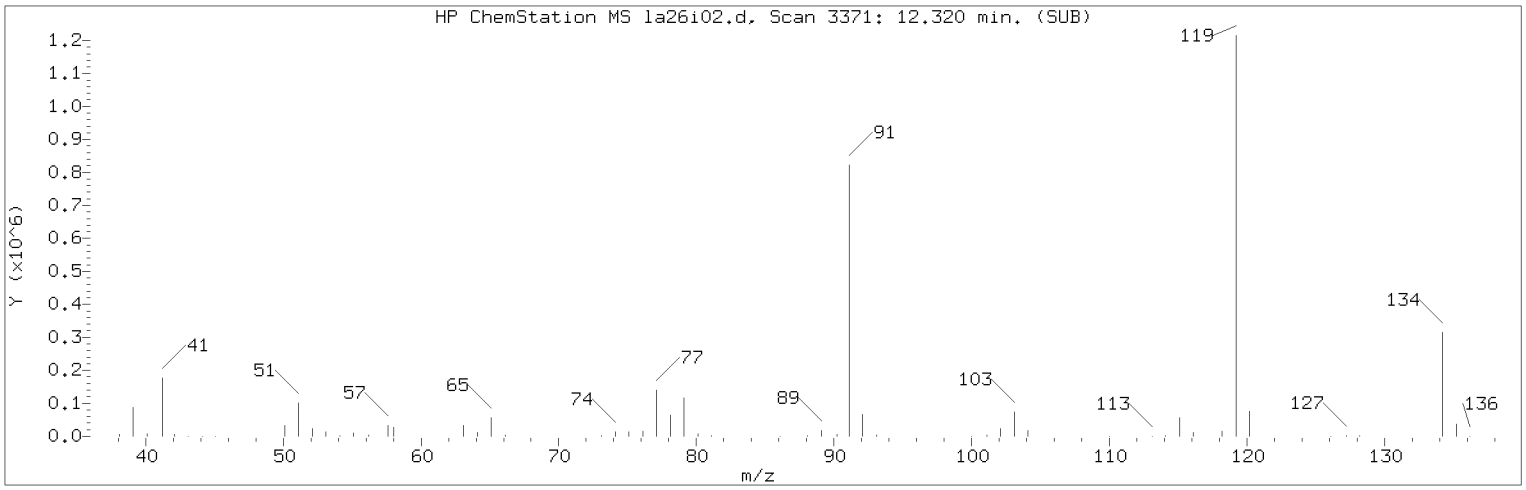
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

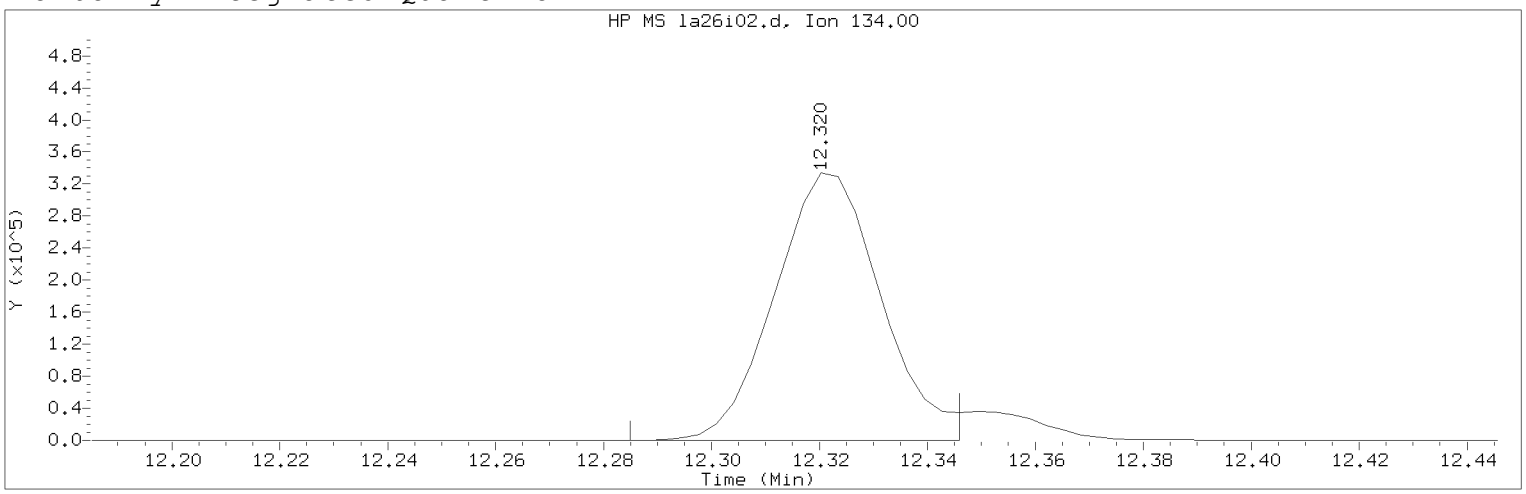
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2021
Retention Time (minutes): 7.980
Quant Ion : 88.00
Area : 70705
On-column Amount (ng) : 1061.5410
Integration start scan : 2008 Integration stop scan: 2087
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature user k[illegible]2648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

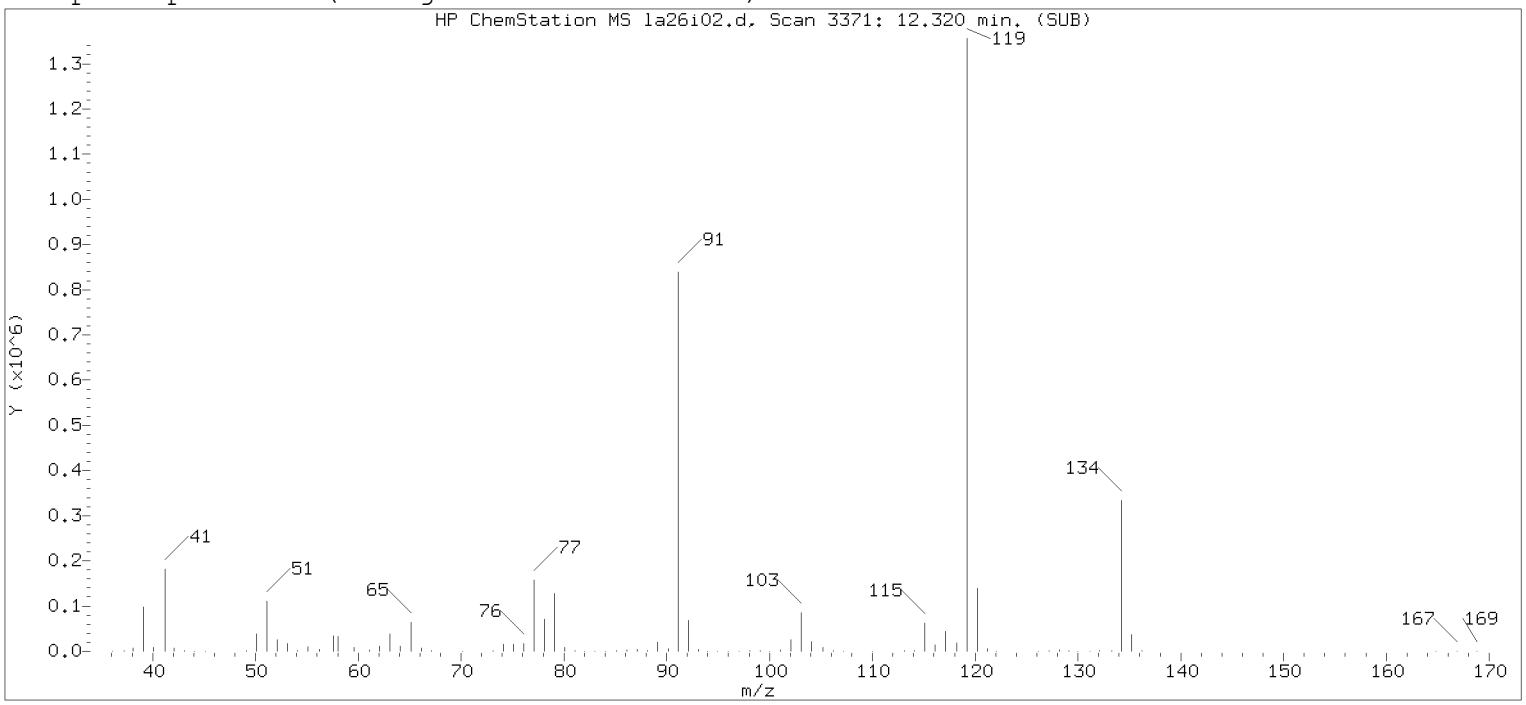
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area (flag) : 456579M
On-Column Amount (ng) : 105.7797
Integration start scan : 3359 Integration stop scan: 3378
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

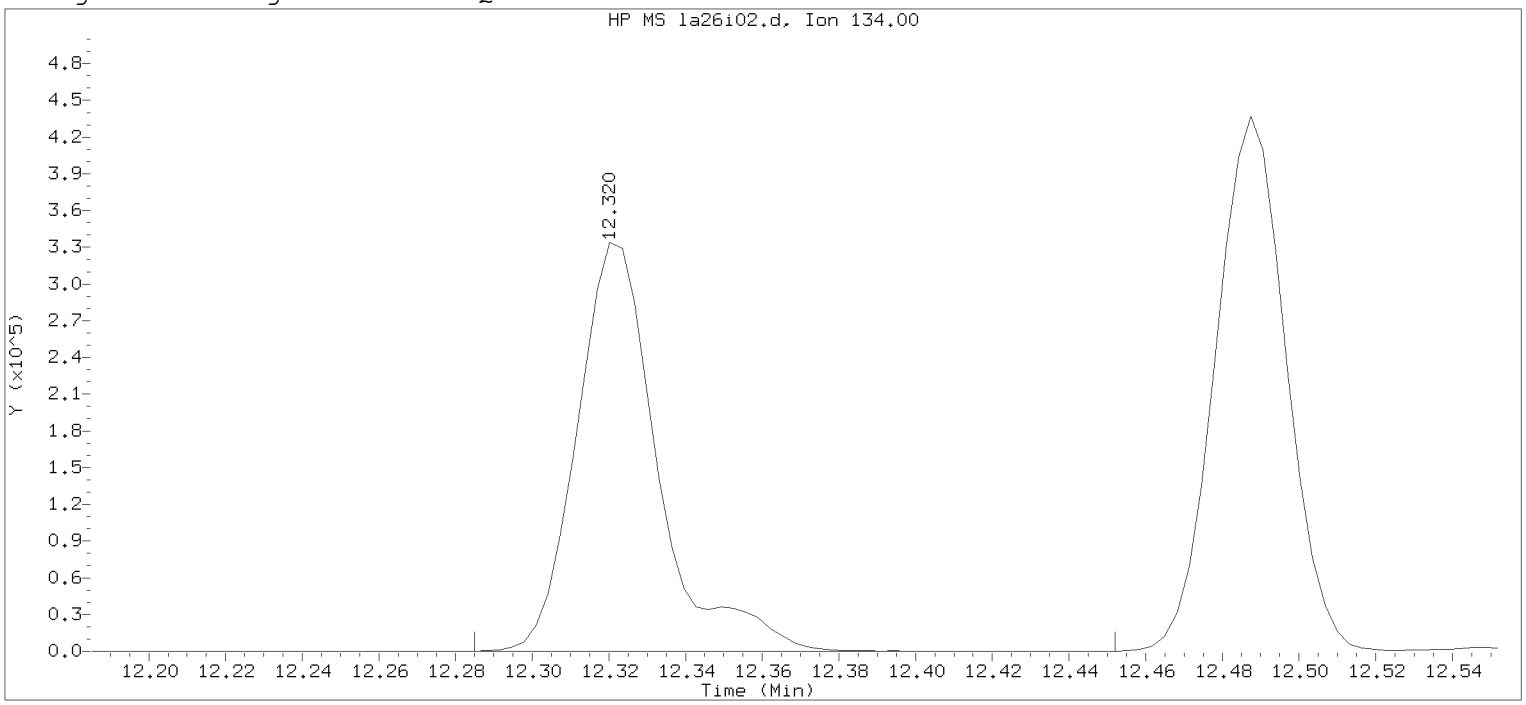
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



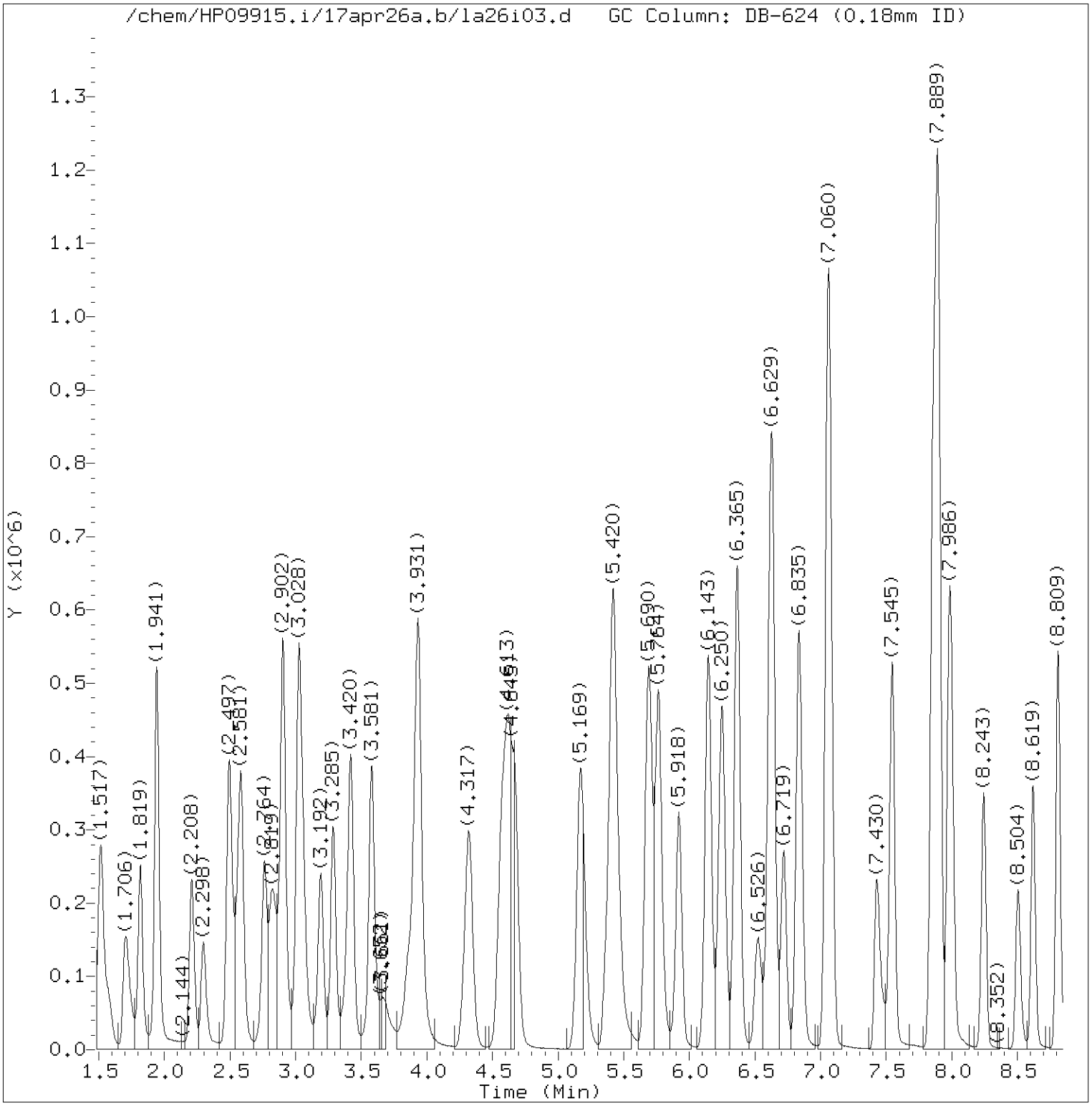
Data File: /chem/HP09915.i/17apr26a.b/la26i02.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 13:42 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD100 Lab Sample ID: VSTD100

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area : 491130
On-column Amount (ng) : 103.2605
Integration start scan : 3359 Integration stop scan: 3411
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2403



Total Ion Chromatogram (TIC)

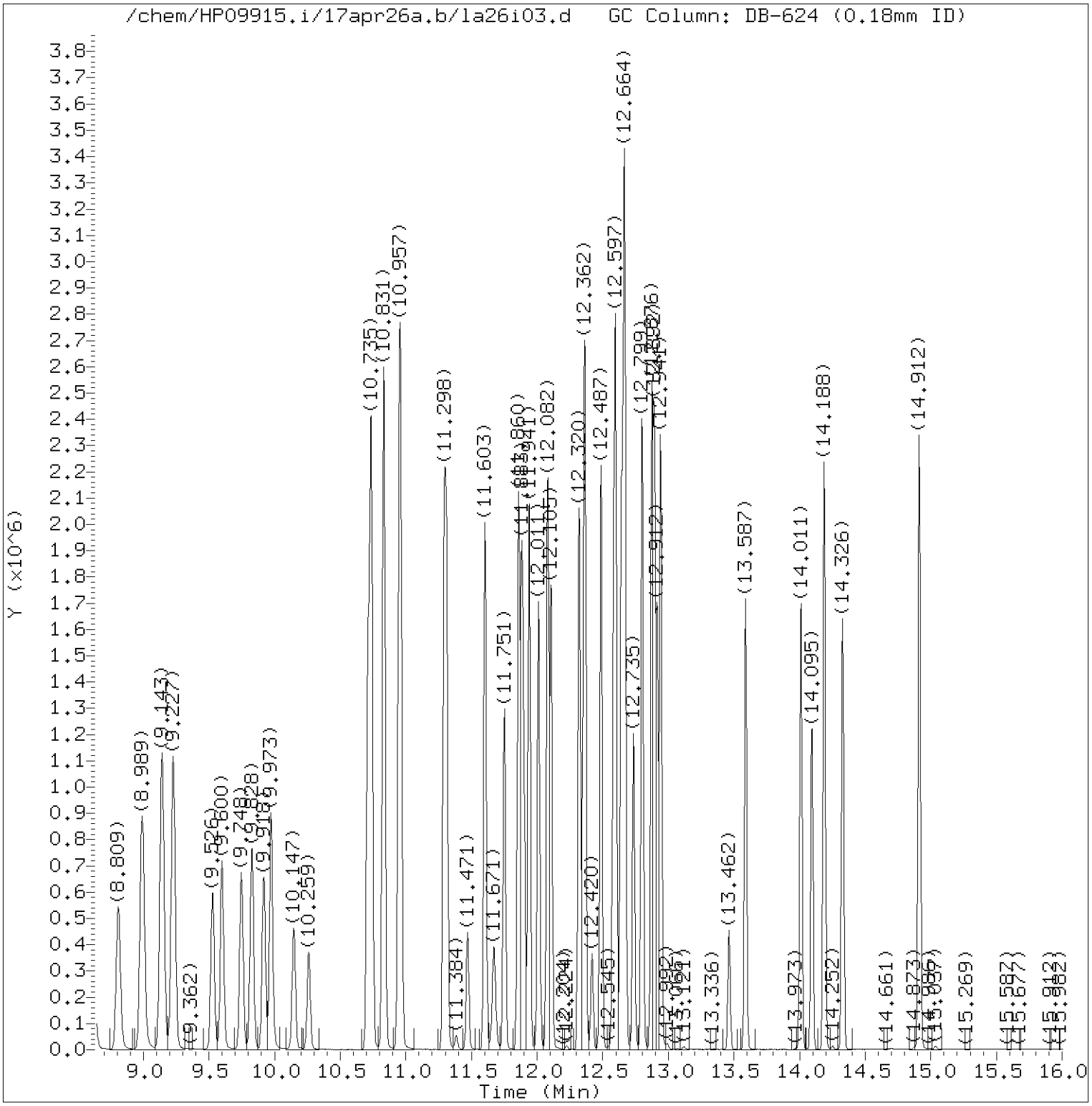
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.710	85	341531	55.325
4) Chloromethane	(2)	1.819	50	341915	53.914
6) Vinyl Chloride	(2)	1.938	62	338740	55.314
5) 1,3-Butadiene	(2)	1.948	39	185287	49.605
8) Bromomethane	(2)	2.211	94	223606	54.288
9) Chloroethane	(2)	2.301	64	186081	53.918
10) Dichlorofluoromethane	(2)	2.491	67	455798	54.146
12) Trichlorofluoromethane	(2)	2.562	101	396809	55.955
11) n-Pentane	(2)	2.584	43	292021	50.002
14) Ethyl ether	(2)	2.761	59	210376	53.288
15) Freon 123a	(2)	2.819	67	241023	51.034
16) Acrolein	(1)	2.902	56	846420	532.609
17) 1,1-Dichloroethene	(2)	3.021	96	192923	51.401
17) 1,1-Dichloroethene	(2)	3.018	63	97269	51.192
18) Acetone	(1)	3.041	58	73070M	105.938
19) Freon 113	(2)	3.047	101	194876	51.583
21) 2-Propanol	(1)	3.179	45	105752	231.283
22) Methyl Iodide	(2)	3.192	142	379144	52.079
23) Carbon Disulfide	(2)	3.285	76	640566	52.445
27) Methyl Acetate	(2)	3.394	43	274054	50.308
25) Allyl Chloride	(2)	3.423	41	386191	51.369
29)*t-Butyl alcohol-d10	(1)	3.565	65	194134M	250.000
28) Methylene Chloride	(2)	3.581	84	241364	48.679
30) t-Butyl alcohol	(1)	3.677	59	188301	250.688
31) Acrylonitrile	(2)	3.854	53	159848	55.877
33) Methyl Tertiary Butyl Ether	(2)	3.915	73	721326	52.461
32) trans-1,2-Dichloroethene	(2)	3.935	96	228348	51.854
34) n-Hexane	(2)	4.320	57	342791	50.780
36) 1,1-Dichloroethane	(2)	4.565	63	433276	52.360
38) di-Isopropyl ether	(2)	4.616	45	837918	52.757
39) 2-Chloro-1,3-butadiene	(2)	4.671	53	368443	52.785
40) Ethyl t-butyl ether	(2)	5.172	59	734026	53.702
44) 2-Butanone	(2)	5.378	43	418947	109.375
42) cis-1,2-Dichloroethene	(2)	5.417	96	262755	52.071
45) 2,2-Dichloropropane	(2)	5.433	77	299786	54.261
47) Propionitrile	(1)	5.462	54	282765	257.928
48) Methacrylonitrile	(2)	5.690	67	375487	131.654
49) Bromochloromethane	(2)	5.758	128	136891	51.472

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	5.767	71	106051	109.521
51) Chloroform	(2)	5.918	83	411040	52.113
52)$Dibromofluoromethane	(2)	6.143	113	254980	50.387
52)$Dibromofluoromethane	(2)	6.143	111	260921	50.317
53) 1,1,1-Trichloroethane	(2)	6.143	97	354588	49.197
43) 1,2-Dichloroethene (Total)	(2)		96	491103	103.925
54) Cyclohexane	(2)	6.250	56	424936	51.780
54) Cyclohexane	(2)	6.250	84	346297	50.980
54) Cyclohexane	(2)	6.246	69	122692	51.578
56) Carbon Tetrachloride	(2)	6.365	117	281006	53.410
55) 1,1-Dichloropropene	(2)	6.365	75	333440	51.977
58) Isobutyl Alcohol	(1)	6.526	41	170793	647.615
57)$1,2-Dichloroethane-d4	(2)	6.613	102	63118	50.159
57)$1,2-Dichloroethane-d4	(2)	6.610	65	296089	49.745
57)$1,2-Dichloroethane-d4	(2)	6.613	104	39897	49.986
60) Benzene	(2)	6.629	78	982091	51.933
61) 1,2-Dichloroethane	(2)	6.719	62	334956	52.357
61) 1,2-Dichloroethane	(2)	6.722	98	31873	56.503
65) t-Amyl methyl ether	(2)	6.835	73	733093	54.041
66)*Fluorobenzene	(2)	7.053	96	1036296	50.000
67) n-Heptane	(2)	7.073	43	374695	49.577
69) n-Butanol	(1)	7.430	56	280068	1317.372
71) Trichloroethene	(2)	7.549	95	250765	51.312
72) Methylcyclohexane	(2)	7.854	83	455106	52.853
72) Methylcyclohexane	(2)	7.854	98	206857	53.234
73) 1,2-Dichloropropane	(2)	7.886	63	275068	53.135
75) 1,4-Dioxane	(1)	7.976	88	43582M	656.649
76) Methyl Methacrylate	(2)	7.979	69	241048	54.398
74) Dibromomethane	(2)	7.995	93	171942	52.815
78) Bromodichloromethane	(2)	8.243	83	317704	54.075
79) 2-Nitropropane	(2)	8.504	41	192161	115.340
80) 2-Chloroethyl Vinyl Ether	(2)	8.619	63	216850	54.493
81) cis-1,3-Dichloropropene	(2)	8.806	75	421854	55.090
82) 4-Methyl-2-pentanone	(2)	8.989	43	880332	111.530
83)$Toluene-d8	(3)	9.143	98	1027431	50.111
83)$Toluene-d8	(3)	9.140	100	676600	50.089
88) Toluene	(3)	9.227	92	616434	51.737
89) trans-1,3-Dichloropropene	(3)	9.529	75	379484	56.801

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	9.600	69	418944	55.671
92) 1,1,2-Trichloroethane	(3)	9.748	97	244835	53.326
93) Tetrachloroethene	(3)	9.828	166	265915	50.459
94) 1,3-Dichloropropane	(3)	9.915	76	420710	52.809
96) 2-Hexanone	(3)	9.973	43	638735	111.059
90) 1,3-Dichloropropene (total)	(3)		100	801338	111.891
97) Dibromochloromethane	(3)	10.147	129	264807	55.684
99) 1,2-Dibromoethane	(3)	10.259	107	268109	53.341
100)*Chlorobenzene-d5	(3)	10.712	117	803001	50.000
101) 1-Chlorohexane	(3)	10.732	91	335726	49.064
102) Chlorobenzene	(3)	10.738	112	712548	51.827
103) 1,1,1,2-Tetrachloroethane	(3)	10.828	131	244656	53.888
104) Ethylbenzene	(3)	10.831	91	1186726	51.635
106) m+p-Xylene	(3)	10.957	106	926946	103.598
107) o-Xylene	(3)	11.291	106	466673	52.445
109) Styrene	(3)	11.310	104	789557	53.675
110) Bromoform	(3)	11.471	173	196645	56.948
111) Isopropylbenzene	(3)	11.603	105	1179385	51.860
112) Cyclohexanone	(1)	11.671	55	165040	659.207
114)$4-Bromofluorobenzene	(3)	11.751	95	379333	49.776
114)$4-Bromofluorobenzene	(3)	11.751	174	331825	49.640
108) Xylene (Total)	(3)		106	1393619	156.043
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	407876	53.358
115) Bromobenzene	(4)	11.860	156	318530	51.744
118) trans-1,4-Dichloro-2-butene	(4)	11.883	53	296713	135.458
117) 1,2,3-Trichloropropane	(4)	11.902	110	113804	52.666
119) n-Propylbenzene	(4)	11.941	91	1393854	51.243
120) 2-Chlorotoluene	(4)	12.011	126	291915	51.564
122) 1,3,5-Trimethylbenzene	(4)	12.082	105	1017107	52.437
121) 4-Chlorotoluene	(4)	12.108	126	302722	51.378
124) tert-Butylbenzene	(4)	12.320	134	219011M	52.234
125) Pentachloroethane	(4)	12.352	167	180272	54.456
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	1045061	52.305
127) sec-Butylbenzene	(4)	12.487	105	1273140	51.456
129) 1,3-Dichlorobenzene	(4)	12.584	146	596808	50.922
130) p-Isopropyltoluene	(4)	12.597	119	1129862	51.719
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	430663	50.000
133) 1,4-Dichlorobenzene	(4)	12.658	146	613522	50.626

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

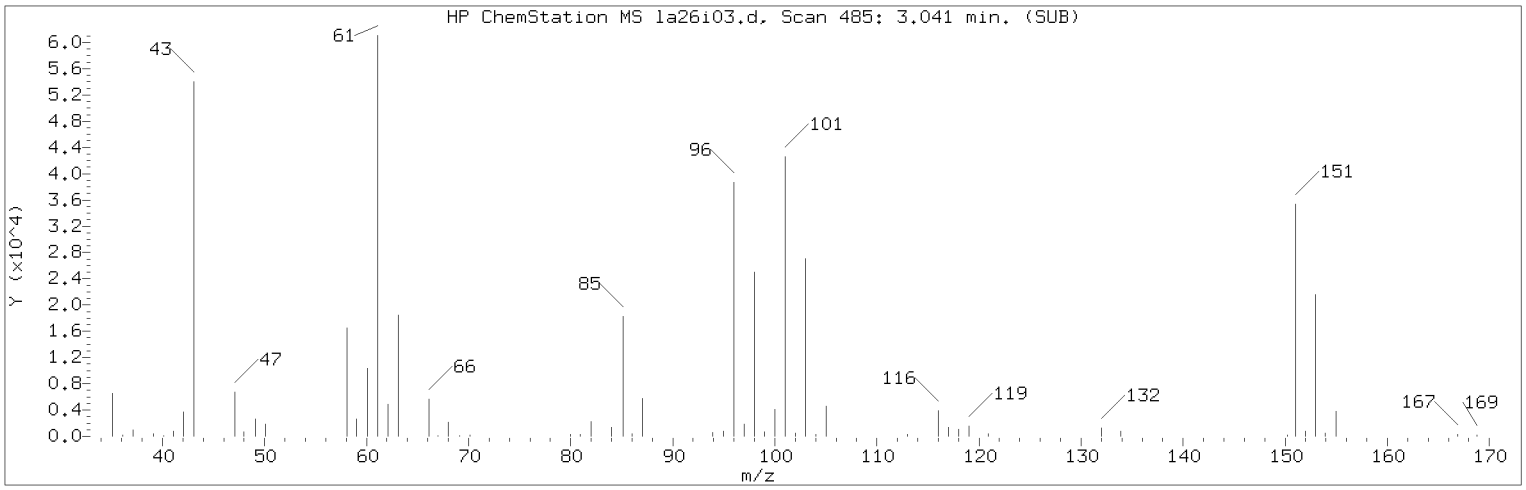
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

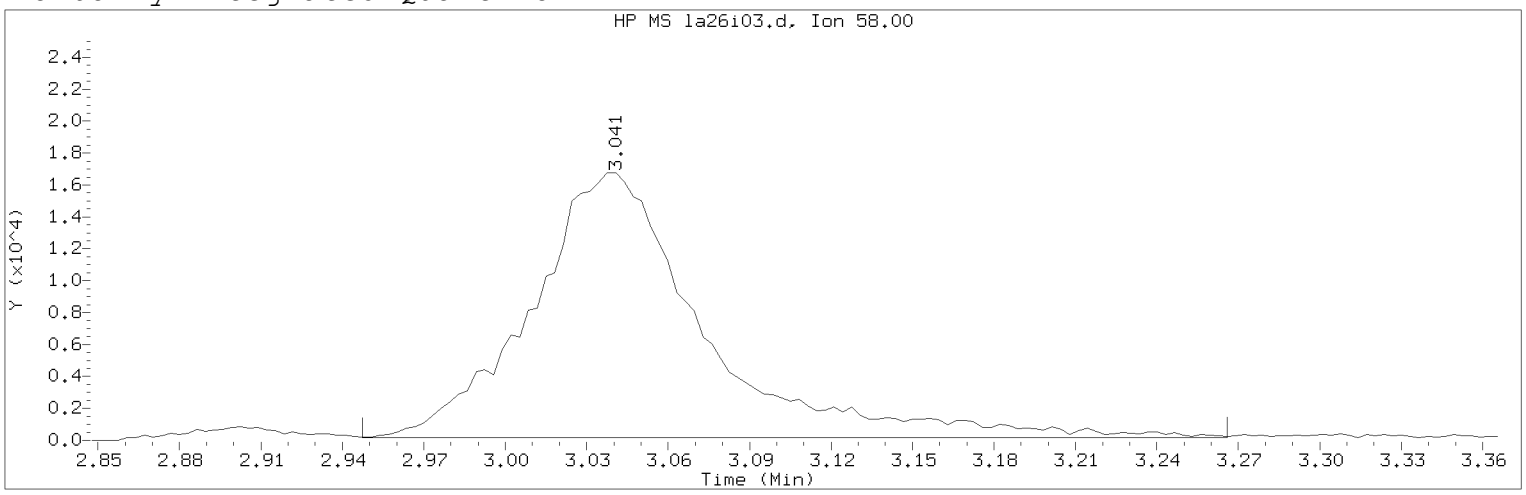
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	12.667	105	1072423	51.230
135) Benzyl Chloride	(4)	12.735	91	705215	58.832
136) 1,3-Diethylbenzene	(4)	12.799	119	673907	51.632
137) 1,4-Diethylbenzene	(4)	12.873	119	699626	51.044
139) n-Butylbenzene	(4)	12.892	92	545695	50.003
138) 1,2-Dichlorobenzene	(4)	12.915	146	589322	51.155
140) 1,2-Diethylbenzene	(4)	12.941	119	564439	51.388
141) Diethylbenzene (total)	(4)		100	1937972	154.064
142) 1,2-Dibromo-3-chloropropane	(4)	13.462	75	88925	55.008
144) 1,3,5-Trichlorobenzene	(4)	13.587	180	467325	50.034
146) 1,2,4-Trichlorobenzene	(4)	14.011	180	459337	50.697
147) Hexachlorobutadiene	(4)	14.095	225	192963	49.039
148) Naphthalene	(4)	14.188	128	1445873	52.884
149) 1,2,3-Trichlorobenzene	(4)	14.326	180	443490	50.737
150) 2-Methylnaphthalene	(4)	14.912	142	940076	53.175

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

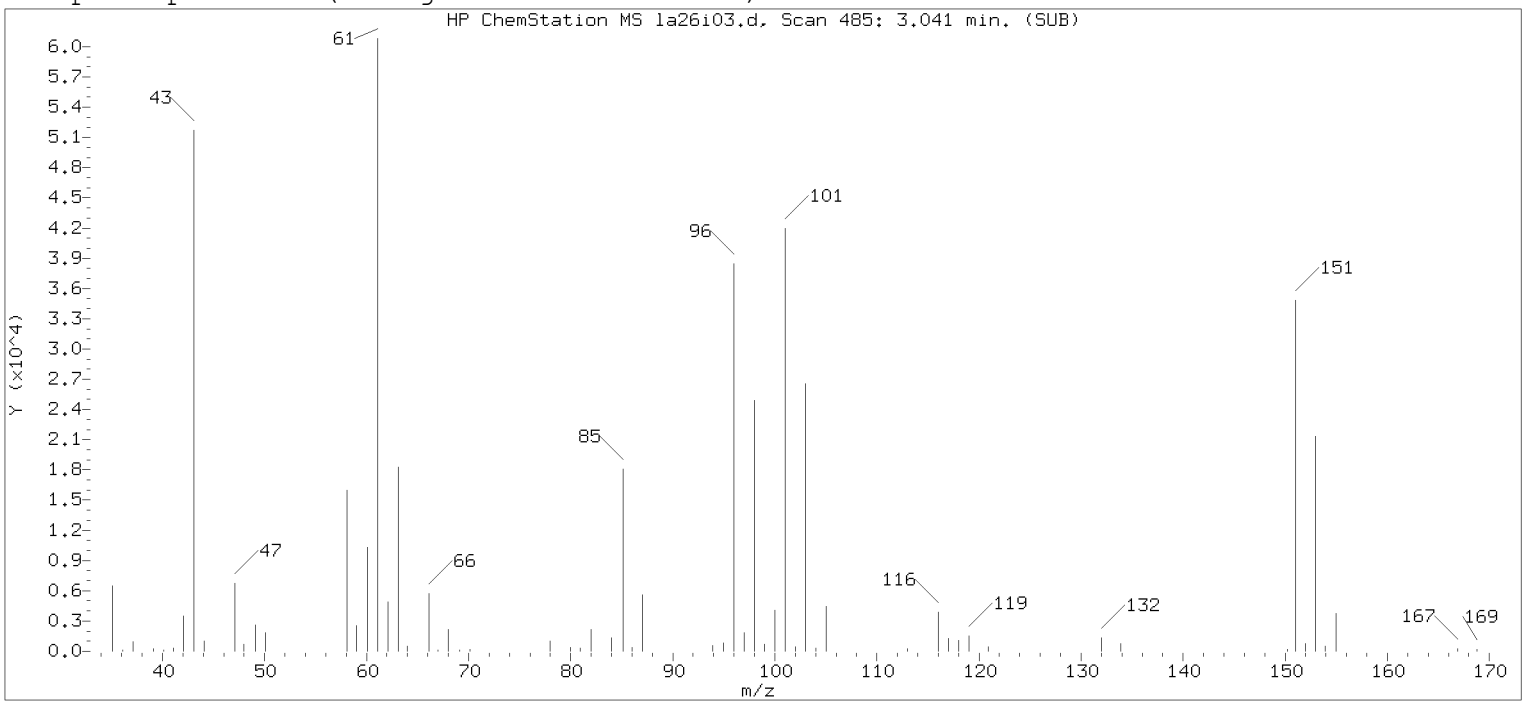
Compound Number : 18
Compound Name : Acetone
Scan Number : 485
Retention Time (minutes): 3.041
Quant Ion : 58.00
Area (flag) : 73070M
On-Column Amount (ng) : 105.9378
Integration start scan : 455 Integration stop scan: 554
Y at integration start : 159 Y at integration end: 159

Reason for manual integration: improper integration

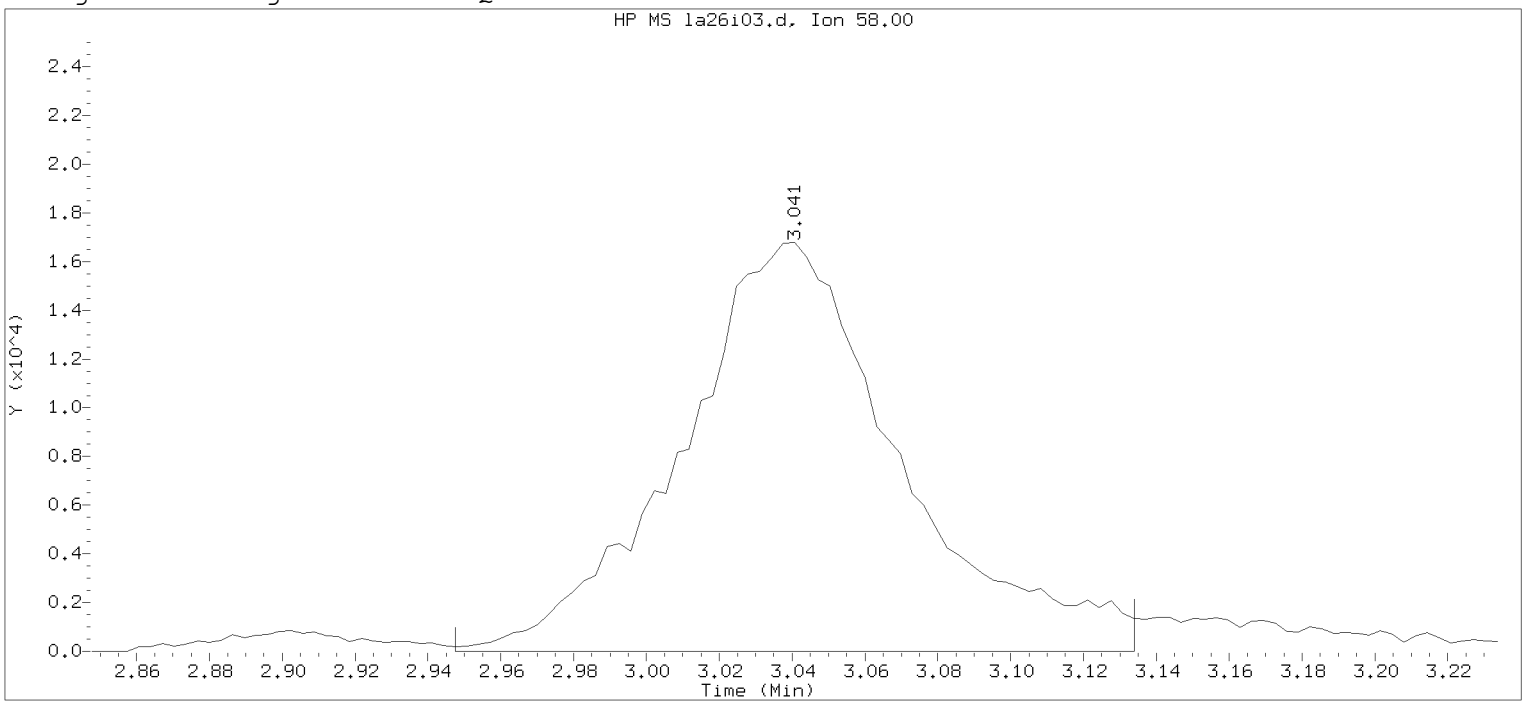
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

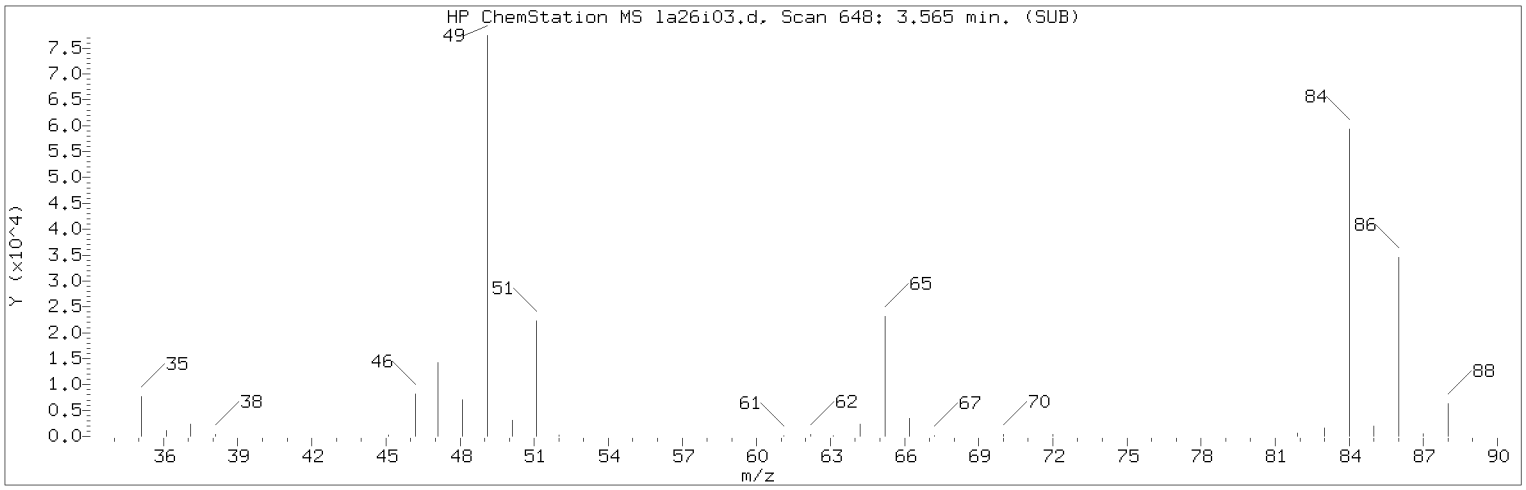
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 14:22
Date, time and analyst ID of latest file update: 26-Apr-2017 14:22 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

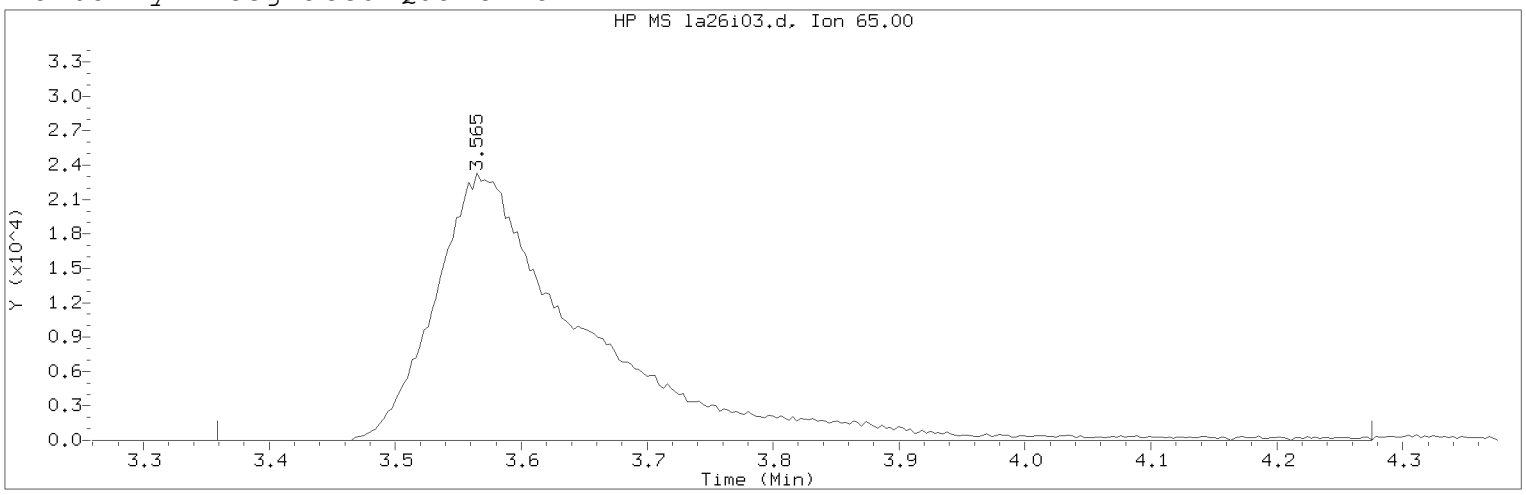
Compound Number	: 18		
Compound Name	: Acetone		
Scan Number	: 485		
Retention Time (minutes)	: 3.041		
Quant Ion	: 58.00		
Area	: 69964		
On-column Amount (ng)	: 100.7133		
Integration start scan	: 455	Integration stop scan:	513
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2413

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

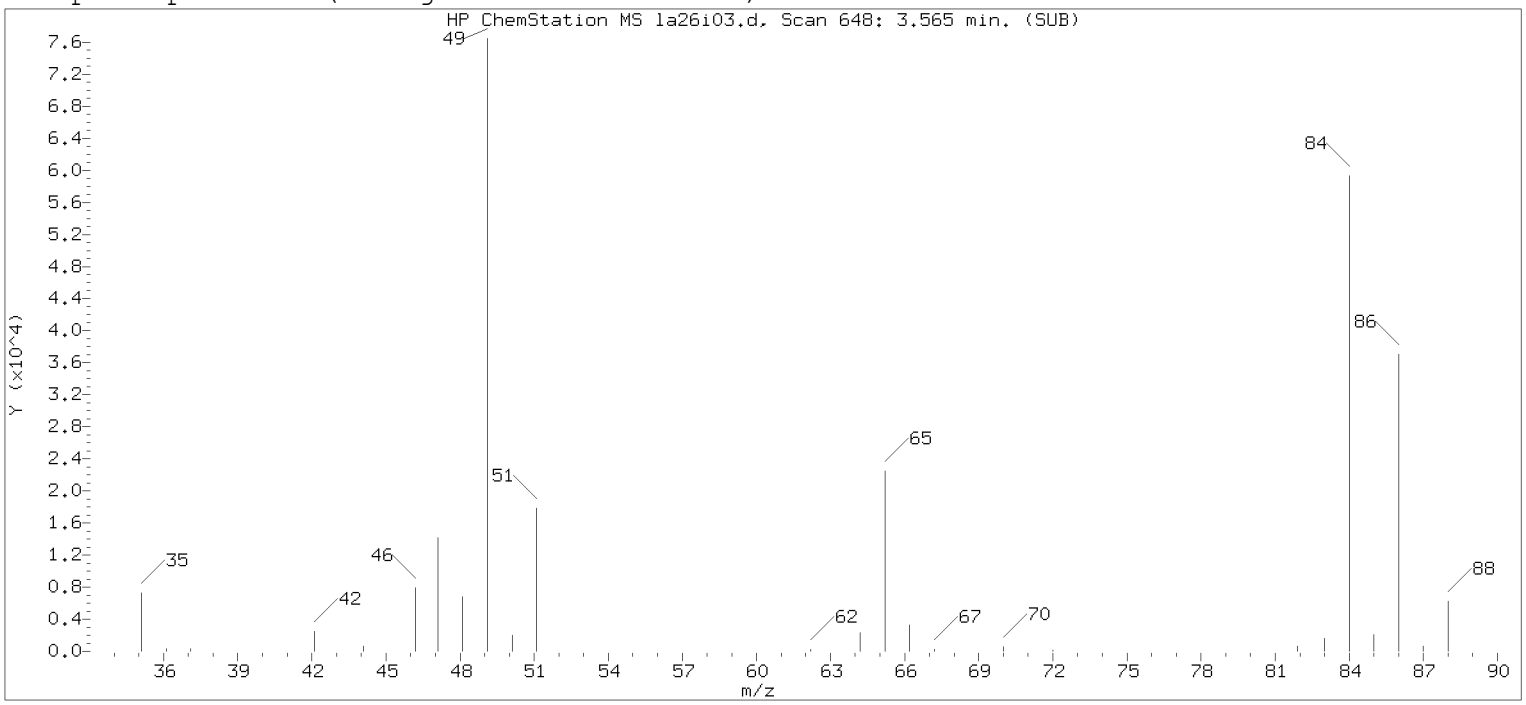
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 648
Retention Time (minutes): 3.565
Quant Ion : 65.00
Area (flag) : 194134M
On-Column Amount (ng) : 250.0000
Integration start scan : 583 Integration stop scan: 868
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

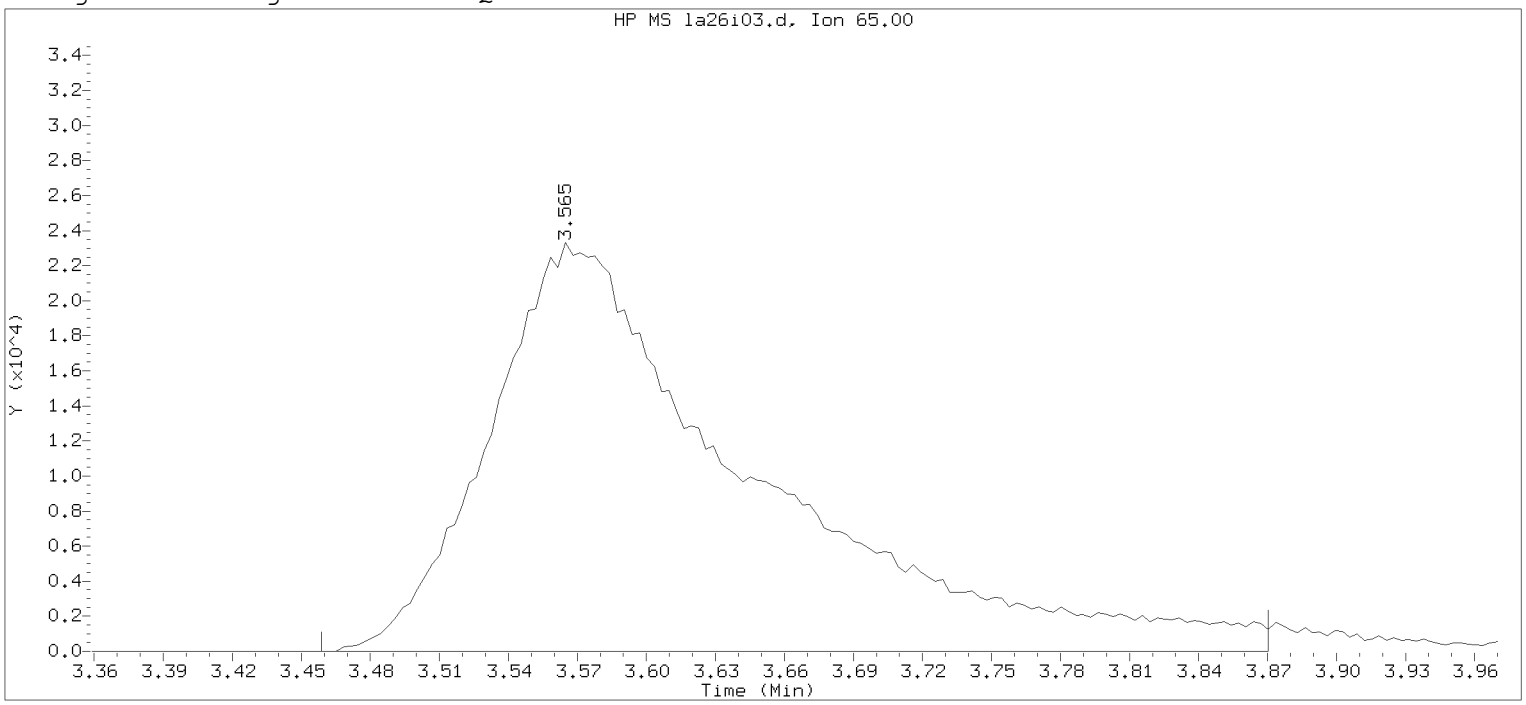
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

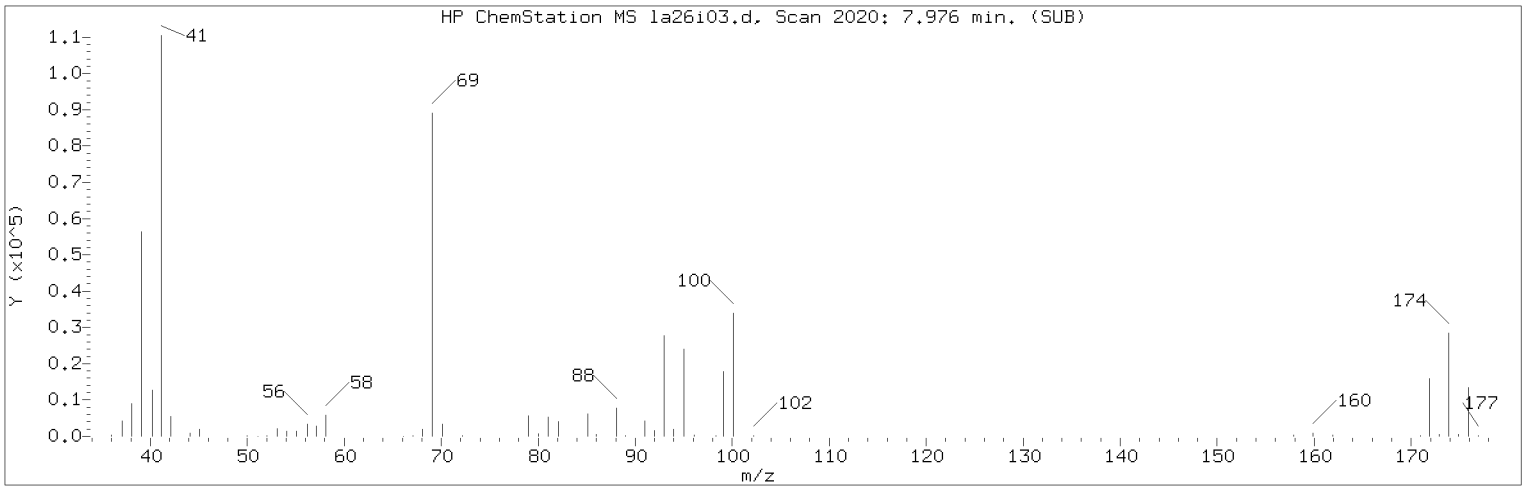
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 14:22
Date, time and analyst ID of latest file update: 26-Apr-2017 14:22 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

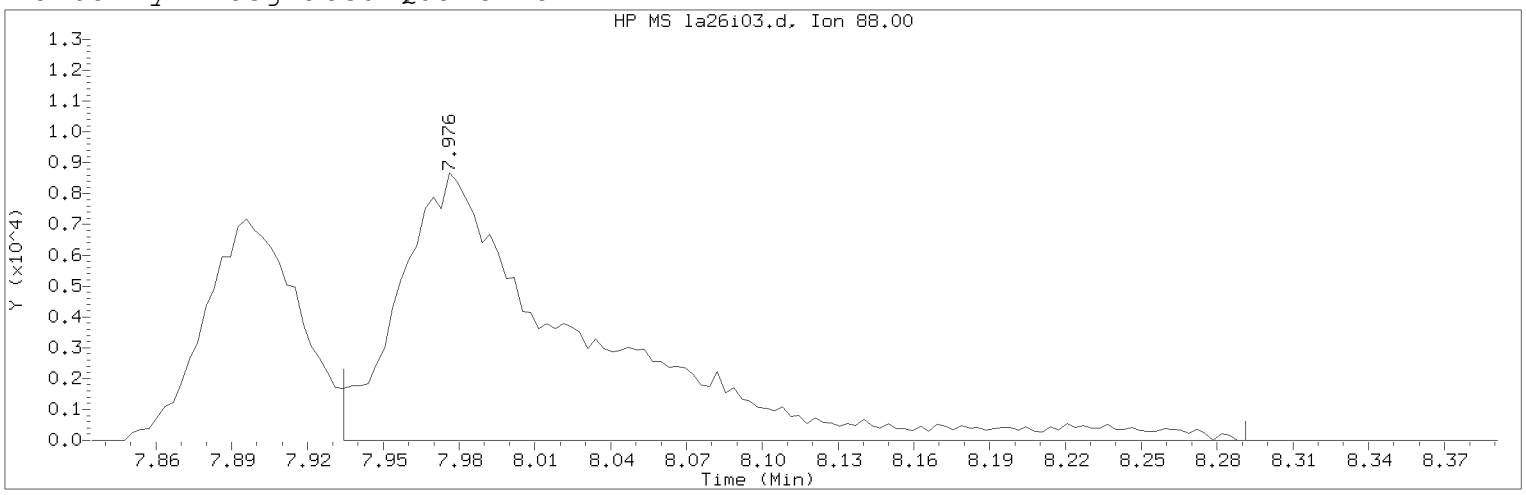
Compound Number	: 29		
Compound Name	: t-Butyl alcohol-d10		
Scan Number	: 648		
Retention Time (minutes)	: 3.565		
Quant Ion	: 65.00		
Area	: 184407		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 614	Integration stop scan:	742
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Page 2413

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

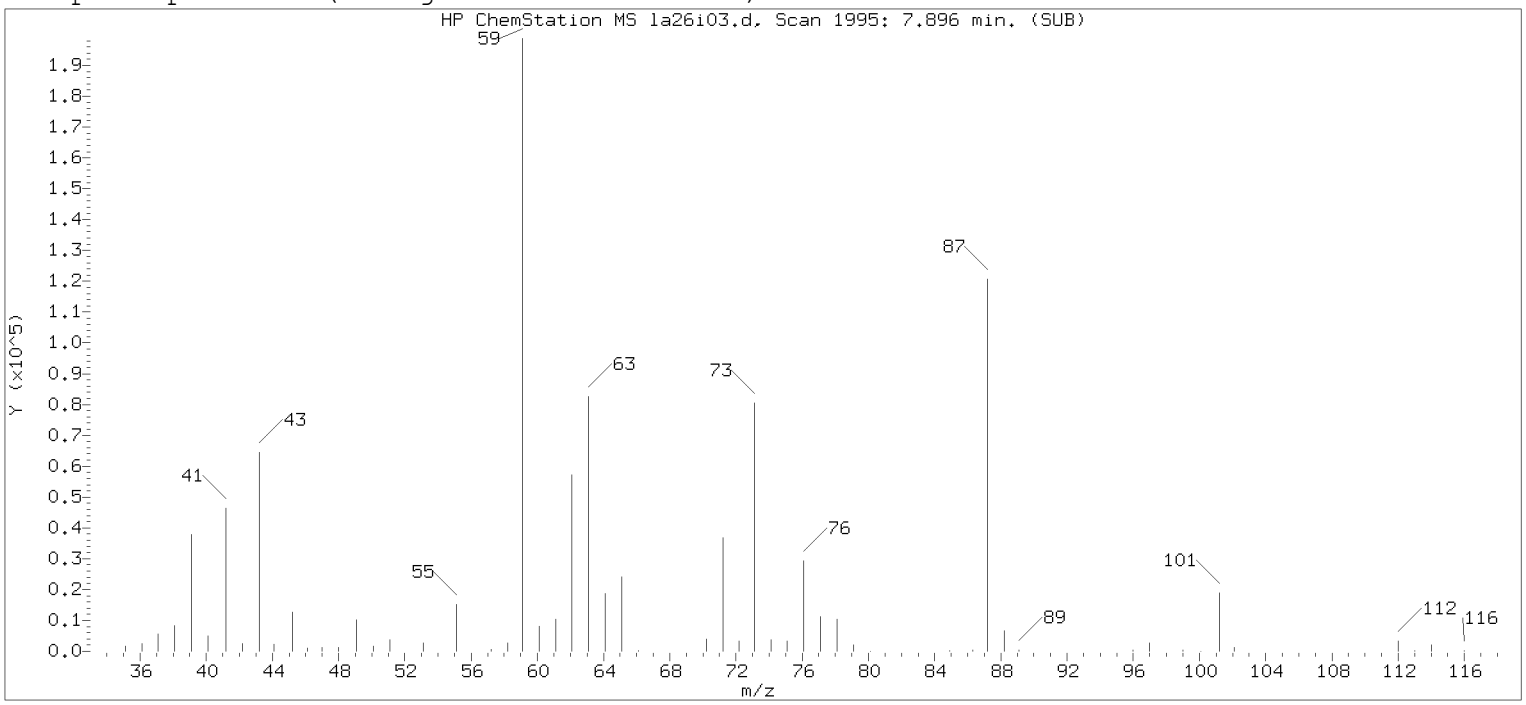
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2020
Retention Time (minutes): 7.976
Quant Ion : 88.00
Area (flag) : 43582M
On-Column Amount (ng) : 656.6493
Integration start scan : 2006 Integration stop scan: 2117
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

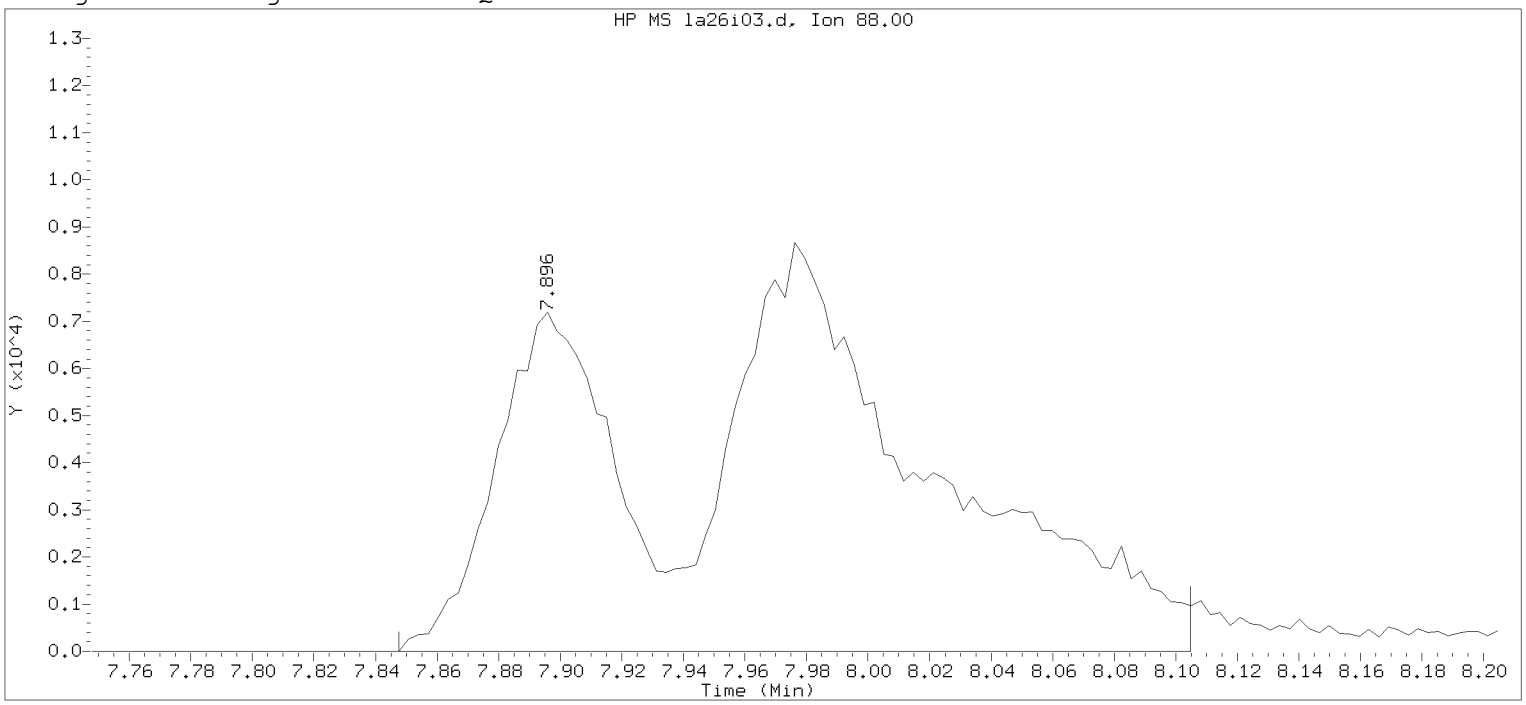
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

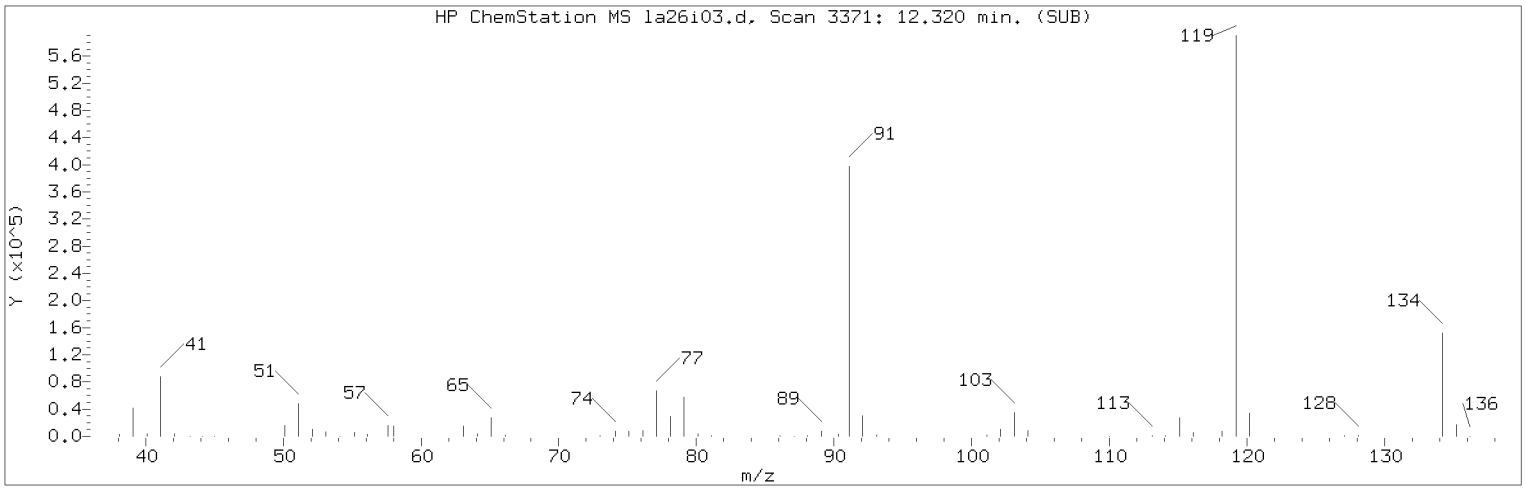
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 14:22
Date, time and analyst ID of latest file update: 26-Apr-2017 14:22 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

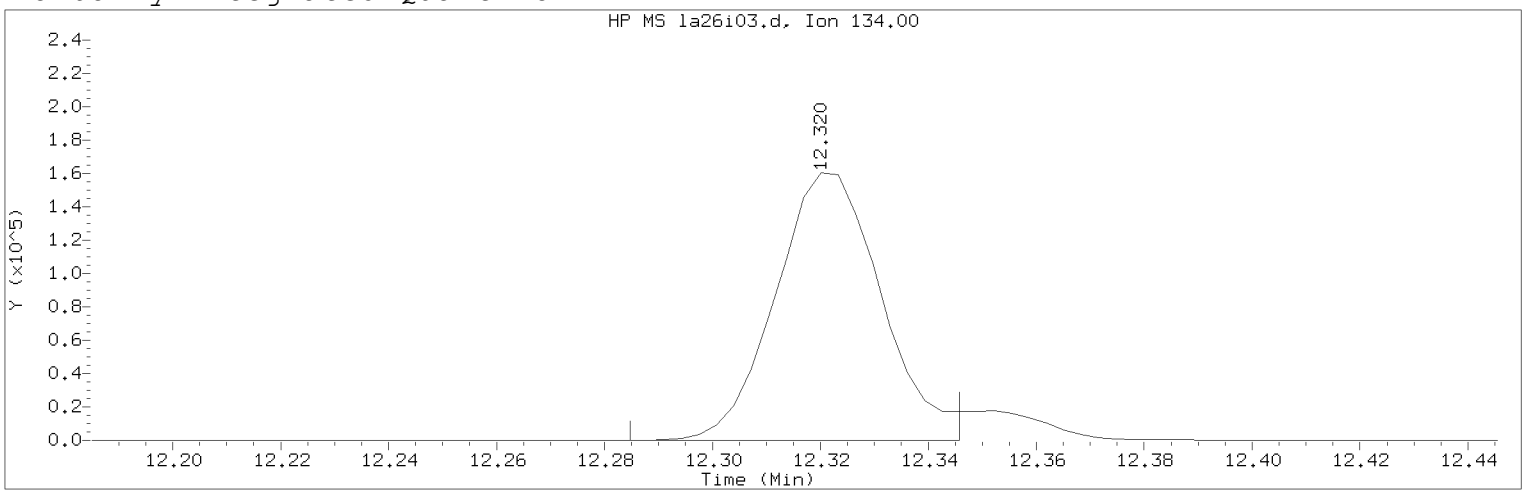
Compound Number	: 75		
Compound Name	: 1,4-Dioxane		
Scan Number	: 1995		
Retention Time (minutes)	: 7.896		
Quant Ion	: 88.00		
Area	: 57387		
On-column Amount (ng)	: 846.7526		
Integration start scan	: 1979	Integration stop scan:	2059
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2415

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD050 Lab Sample ID: VSTD050

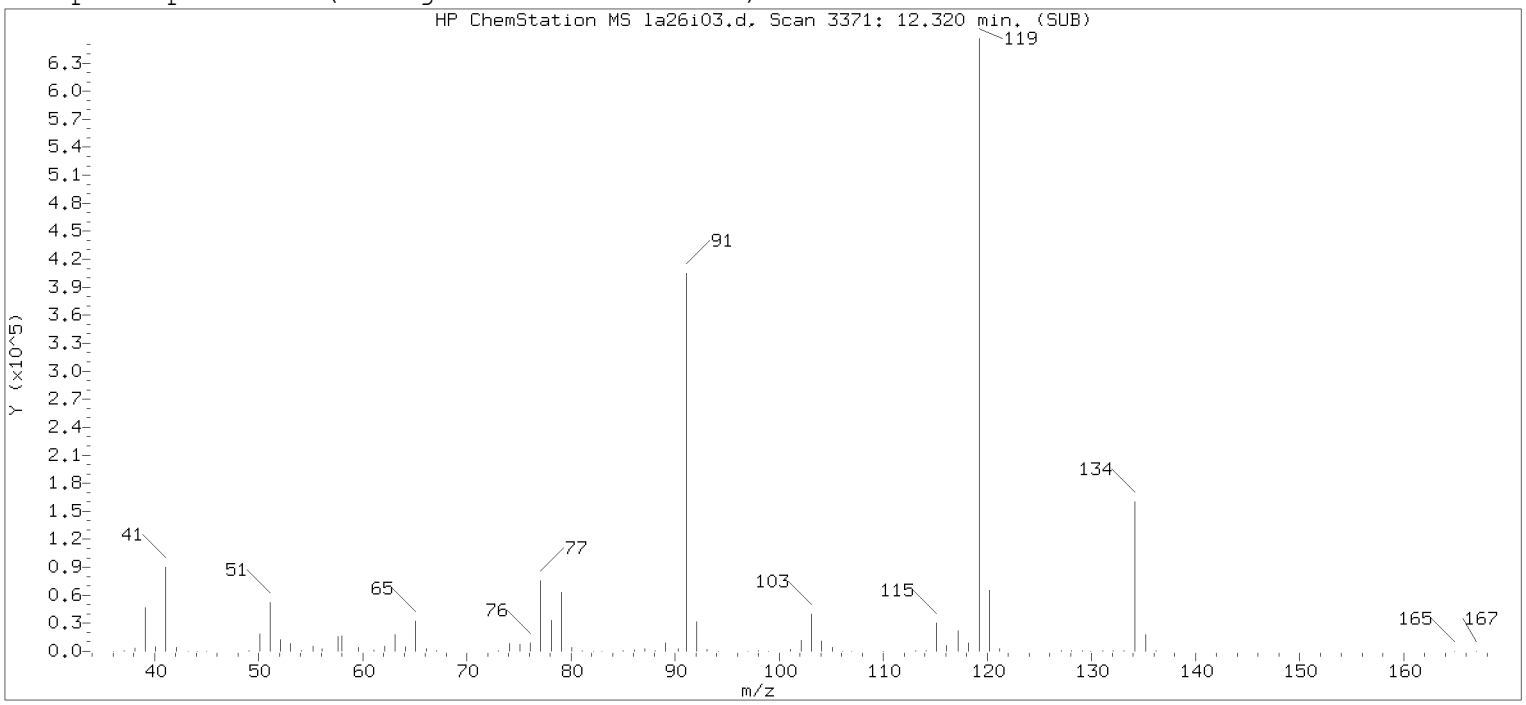
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area (flag) : 219011M
On-Column Amount (ng) : 52.2336
Integration start scan : 3359 Integration stop scan: 3378
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

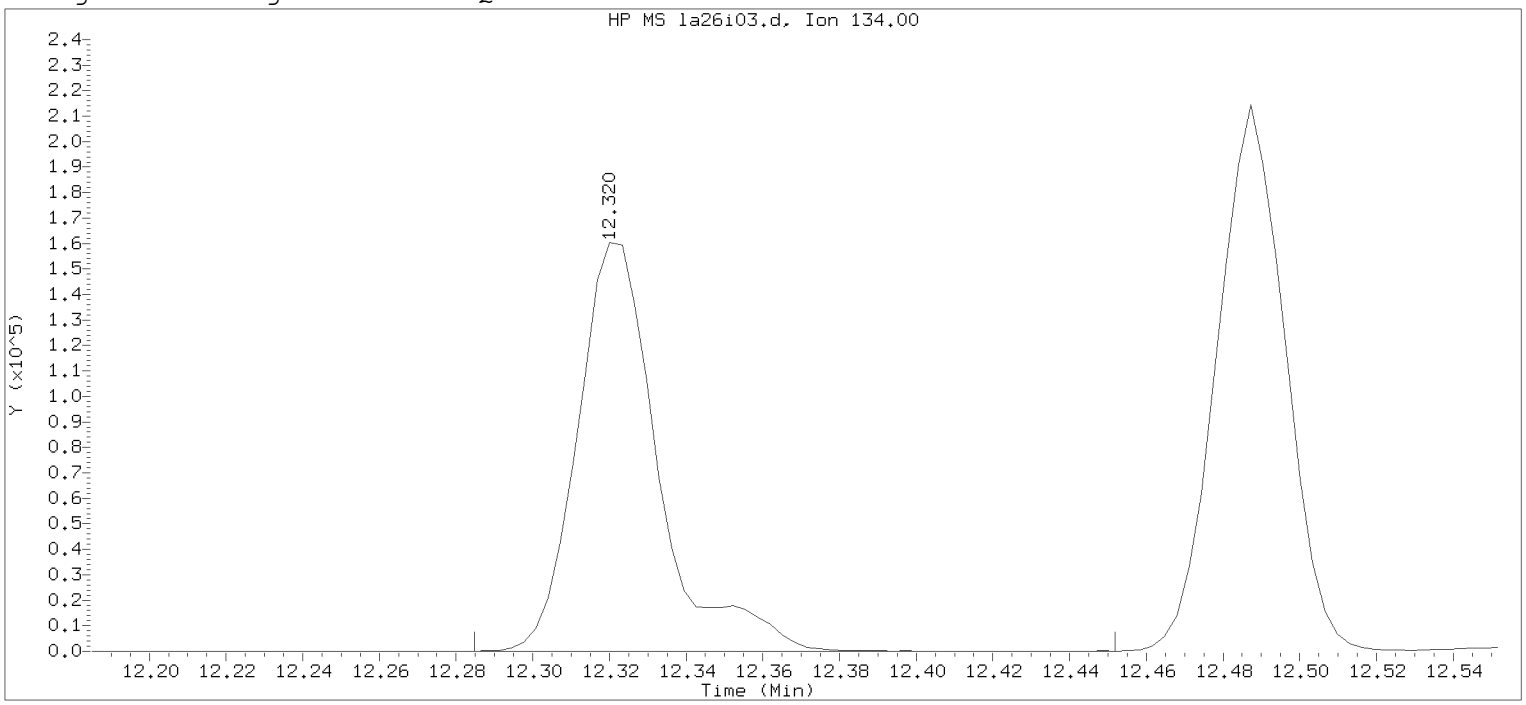
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



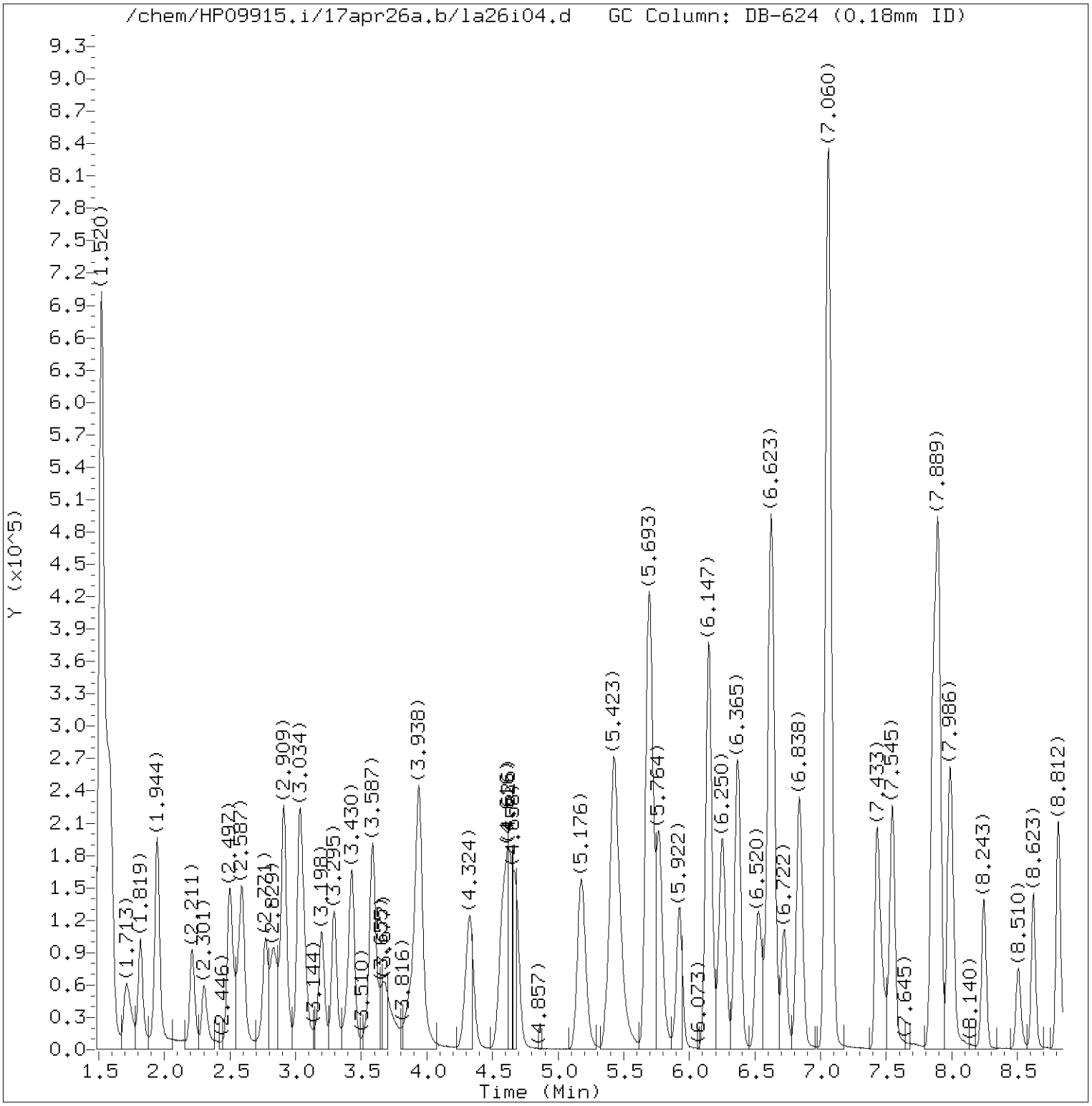
Data File: /chem/HP09915.i/17apr26a.b/la26i03.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:04 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 14:22
Date, time and analyst ID of latest file update: 26-Apr-2017 14:22 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area : 236254
On-column Amount (ng) : 52.1386
Integration start scan : 3359 Integration stop scan: 3411
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2417



Total Ion Chromatogram (TIC)

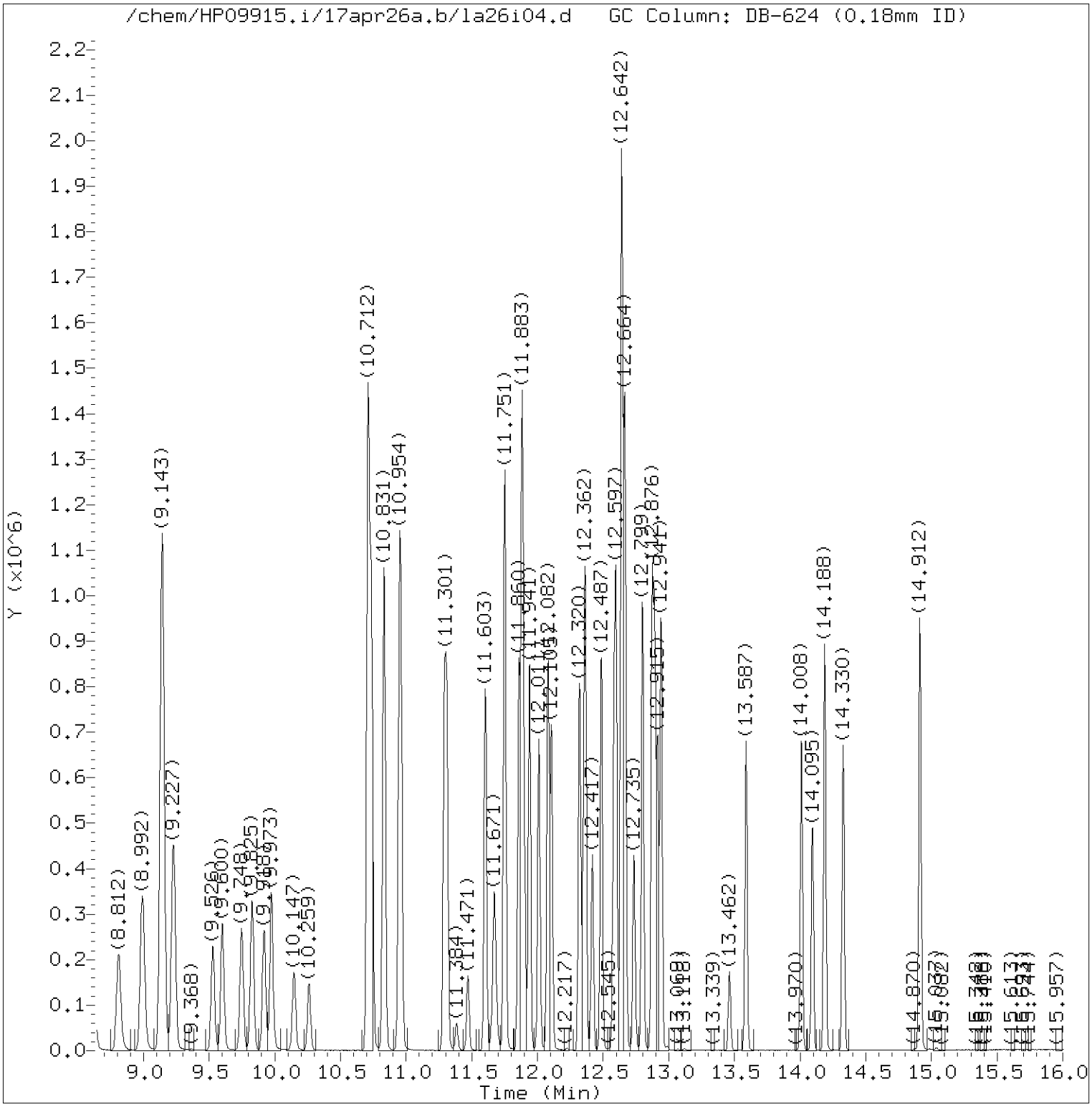
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.713	85	118583	19.173
4) Chloromethane	(2)	1.819	50	128941	20.294
6) Vinyl Chloride	(2)	1.935	62	120731	19.678
5) 1,3-Butadiene	(2)	1.951	39	77112	20.606
8) Bromomethane	(2)	2.208	94	82440	19.978
9) Chloroethane	(2)	2.304	64	69158	20.002
10) Dichlorofluoromethane	(2)	2.494	67	171864	20.378
12) Trichlorofluoromethane	(2)	2.565	101	135555	19.079
11) n-Pentane	(2)	2.594	43	122151	20.876
14) Ethyl ether	(2)	2.767	59	82347	20.820
15) Freon 123a	(2)	2.829	67	101357	21.421
16) Acrolein	(1)	2.909	56	339968	197.002
17) 1,1-Dichloroethene	(2)	3.031	96	78125	20.776
17) 1,1-Dichloroethene	(2)	3.028	63	40512	21.281
18) Acetone	(1)	3.047	58	27291	36.437
19) Freon 113	(2)	3.060	101	81156	21.442
21) 2-Propanol	(1)	3.185	45	102028M	205.487
22) Methyl Iodide	(2)	3.202	142	154277	21.152
23) Carbon Disulfide	(2)	3.292	76	258440	21.120
27) Methyl Acetate	(2)	3.401	43	112854	20.678
25) Allyl Chloride	(2)	3.430	41	156101	20.725
29)*t-Butyl alcohol-d10	(1)	3.578	65	210810M	250.000
28) Methylene Chloride	(2)	3.584	84	99182	19.966
30) t-Butyl alcohol	(1)	3.684	59	165846	203.327
31) Acrylonitrile	(2)	3.864	53	57543	20.078
33) Methyl Tertiary Butyl Ether	(2)	3.928	73	291785	21.181
32) trans-1,2-Dichloroethene	(2)	3.944	96	93758	21.251
34) n-Hexane	(2)	4.324	57	141702	20.952
36) 1,1-Dichloroethane	(2)	4.571	63	175099	21.121
38) di-Isopropyl ether	(2)	4.623	45	338404	21.267
39) 2-Chloro-1,3-butadiene	(2)	4.677	53	149170	21.331
40) Ethyl t-butyl ether	(2)	5.173	59	293404	21.426
44) 2-Butanone	(2)	5.388	43	154336	40.218
42) cis-1,2-Dichloroethene	(2)	5.420	96	105715	20.911
45) 2,2-Dichloropropane	(2)	5.430	77	117791	21.280
47) Propionitrile	(1)	5.472	54	235941	198.193
48) Methacrylonitrile	(2)	5.697	67	304947	106.722
49) Bromochloromethane	(2)	5.767	128	56020	21.025

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	5.780	71	38105	36.239
51) Chloroform	(2)	5.928	83	166128	21.023
52)$Dibromofluoromethane	(2)	6.147	113	250917	49.492
52)$Dibromofluoromethane	(2)	6.150	111	257391	49.544
53) 1,1,1-Trichloroethane	(2)	6.147	97	151774	21.019
43) 1,2-Dichloroethene (Total)	(2)		96	199473	42.162
54) Cyclohexane	(2)	6.246	56	173572	21.111
54) Cyclohexane	(2)	6.250	84	142535	20.944
54) Cyclohexane	(2)	6.250	69	50722	21.283
56) Carbon Tetrachloride	(2)	6.362	117	111699	21.191
55) 1,1-Dichloropropene	(2)	6.369	75	136486	21.236
58) Isobutyl Alcohol	(1)	6.520	41	151646	529.527
57)$1,2-Dichloroethane-d4	(2)	6.616	102	62253	49.379
57)$1,2-Dichloroethane-d4	(2)	6.616	65	297412	49.874
57)$1,2-Dichloroethane-d4	(2)	6.619	104	39719	49.671
60) Benzene	(2)	6.632	78	401463	21.190
61) 1,2-Dichloroethane	(2)	6.725	62	133462	20.822
61) 1,2-Dichloroethane	(2)	6.722	98	13310	23.551
65) t-Amyl methyl ether	(2)	6.838	73	290768	21.394
66)*Fluorobenzene	(2)	7.053	96	1038230	50.000
67) n-Heptane	(2)	7.076	43	152105	20.088
69) n-Butanol	(1)	7.433	56	248560	1076.679
71) Trichloroethene	(2)	7.545	95	101480	20.726
72) Methylcyclohexane	(2)	7.857	83	182363	21.139
72) Methylcyclohexane	(2)	7.860	98	81992	21.061
73) 1,2-Dichloropropane	(2)	7.886	63	109388	21.091
75) 1,4-Dioxane	(1)	7.979	88	44394M	615.972
76) Methyl Methacrylate	(2)	7.979	69	93921	21.156
74) Dibromomethane	(2)	7.999	93	67846	20.801
78) Bromodichloromethane	(2)	8.243	83	122710	20.847
79) 2-Nitropropane	(2)	8.510	41	64758	38.797
80) 2-Chloroethyl Vinyl Ether	(2)	8.623	63	85040	21.330
81) cis-1,3-Dichloropropene	(2)	8.812	75	163005	21.247
82) 4-Methyl-2-pentanone	(2)	8.992	43	328366	41.523
83)$Toluene-d8	(3)	9.143	98	1021680	50.425
83)$Toluene-d8	(3)	9.143	100	671346	50.293
88) Toluene	(3)	9.230	92	253889	21.563
89) trans-1,3-Dichloropropene	(3)	9.526	75	141943	21.499

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	9.600	69	162375	21.835
92) 1,1,2-Trichloroethane	(3)	9.748	97	96297	21.224
93) Tetrachloroethene	(3)	9.828	166	112611	21.624
94) 1,3-Dichloropropane	(3)	9.922	76	167817	21.316
96) 2-Hexanone	(3)	9.973	43	247487	43.545
90) 1,3-Dichloropropene (total)	(3)		100	304948	42.746
97) Dibromochloromethane	(3)	10.147	129	98456	20.950
99) 1,2-Dibromoethane	(3)	10.259	107	106400	21.421
100)*Chlorobenzene-d5	(3)	10.709	117	793538	50.000
101) 1-Chlorohexane	(3)	10.732	91	135630	20.058
102) Chlorobenzene	(3)	10.738	112	291376	21.446
103) 1,1,1,2-Tetrachloroethane	(3)	10.831	131	95498	21.285
104) Ethylbenzene	(3)	10.831	91	487509	21.465
106) m+p-Xylene	(3)	10.954	106	379488	42.918
107) o-Xylene	(3)	11.291	106	188046	21.385
109) Styrene	(3)	11.311	104	319117	21.953
110) Bromoform	(3)	11.471	173	71969	21.091
111) Isopropylbenzene	(3)	11.603	105	478133	21.275
112) Cyclohexanone	(1)	11.671	55	150358	553.057
114)$4-Bromofluorobenzene	(3)	11.751	95	378161	50.214
114)$4-Bromofluorobenzene	(3)	11.751	174	329178	49.831
108) Xylene (Total)	(3)		106	567534	64.303
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	161347	21.366
115) Bromobenzene	(4)	11.864	156	129515	21.297
118) trans-1,4-Dichloro-2-butene	(4)	11.883	53	232678	107.529
117) 1,2,3-Trichloropropane	(4)	11.902	110	44888	21.028
119) n-Propylbenzene	(4)	11.941	91	568331	21.150
120) 2-Chlorotoluene	(4)	12.011	126	117207	20.958
122) 1,3,5-Trimethylbenzene	(4)	12.082	105	406477	21.213
121) 4-Chlorotoluene	(4)	12.108	126	123204	21.167
124) tert-Butylbenzene	(4)	12.320	134	85014M	20.525
125) Pentachloroethane	(4)	12.352	167	68219	20.861
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	416404	21.097
127) sec-Butylbenzene	(4)	12.487	105	508544	20.806
129) 1,3-Dichlorobenzene	(4)	12.584	146	241164	20.830
130) p-Isopropyltoluene	(4)	12.600	119	448274	20.772
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	425437	50.000
133) 1,4-Dichlorobenzene	(4)	12.658	146	250724	20.943

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

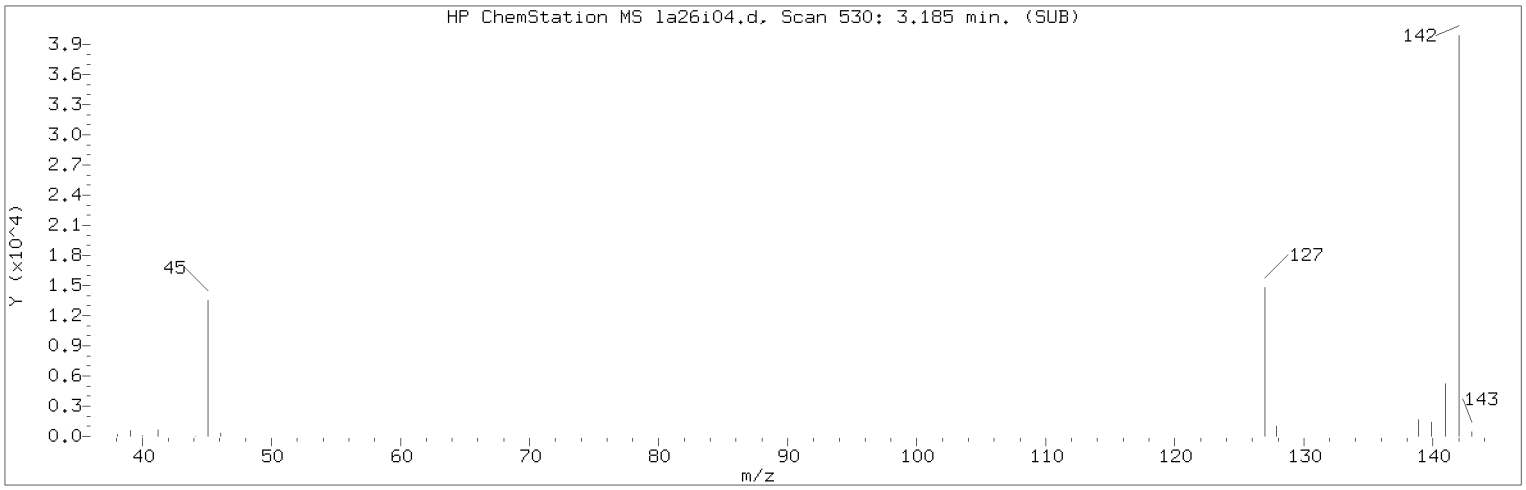
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

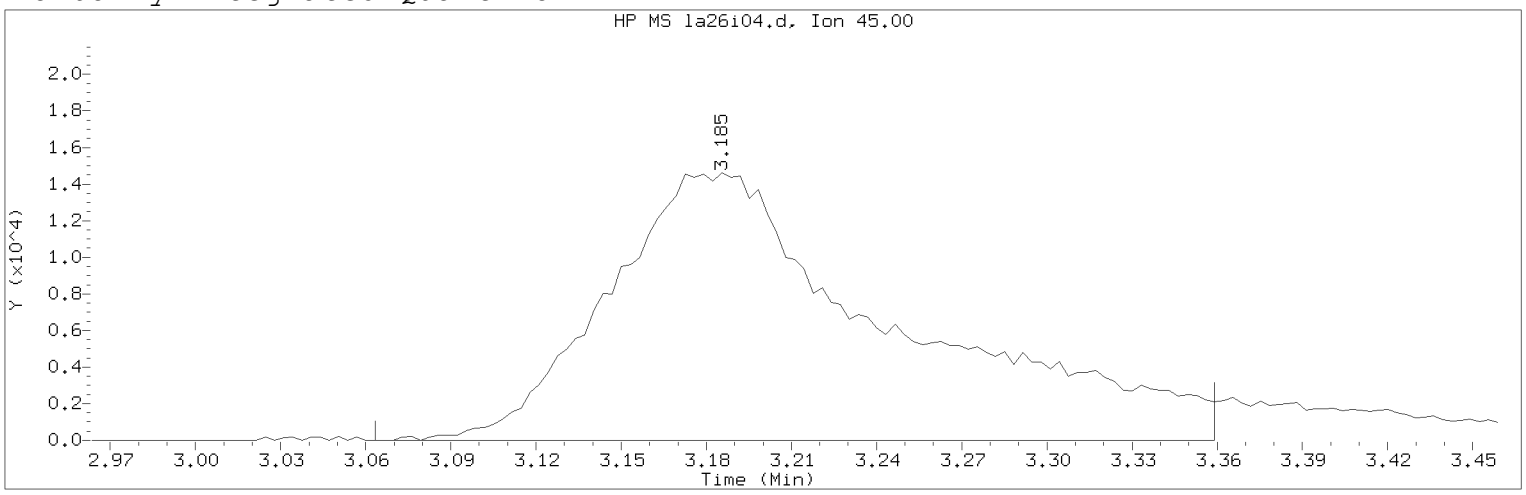
	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134)	1,2,3-Trimethylbenzene	(4)	12.667	105	442708	21.408
135)	Benzyl Chloride	(4)	12.735	91	258669	21.844
136)	1,3-Diethylbenzene	(4)	12.799	119	278453	21.596
137)	1,4-Diethylbenzene	(4)	12.873	119	288580	21.313
139)	n-Butylbenzene	(4)	12.892	92	220740	20.475
138)	1,2-Dichlorobenzene	(4)	12.915	146	238492	20.956
140)	1,2-Diethylbenzene	(4)	12.941	119	232437	21.421
141)	Diethylbenzene (total)	(4)		100	799470	64.331
142)	1,2-Dibromo-3-chloropropane	(4)	13.462	75	34158	21.389
144)	1,3,5-Trichlorobenzene	(4)	13.587	180	186215	20.182
146)	1,2,4-Trichlorobenzene	(4)	14.011	180	183451	20.496
147)	Hexachlorobutadiene	(4)	14.095	225	78778	20.266
148)	Naphthalene	(4)	14.188	128	577965	21.399
149)	1,2,3-Trichlorobenzene	(4)	14.330	180	179538	20.792
150)	2-Methylnaphthalene	(4)	14.912	142	382427	21.897

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

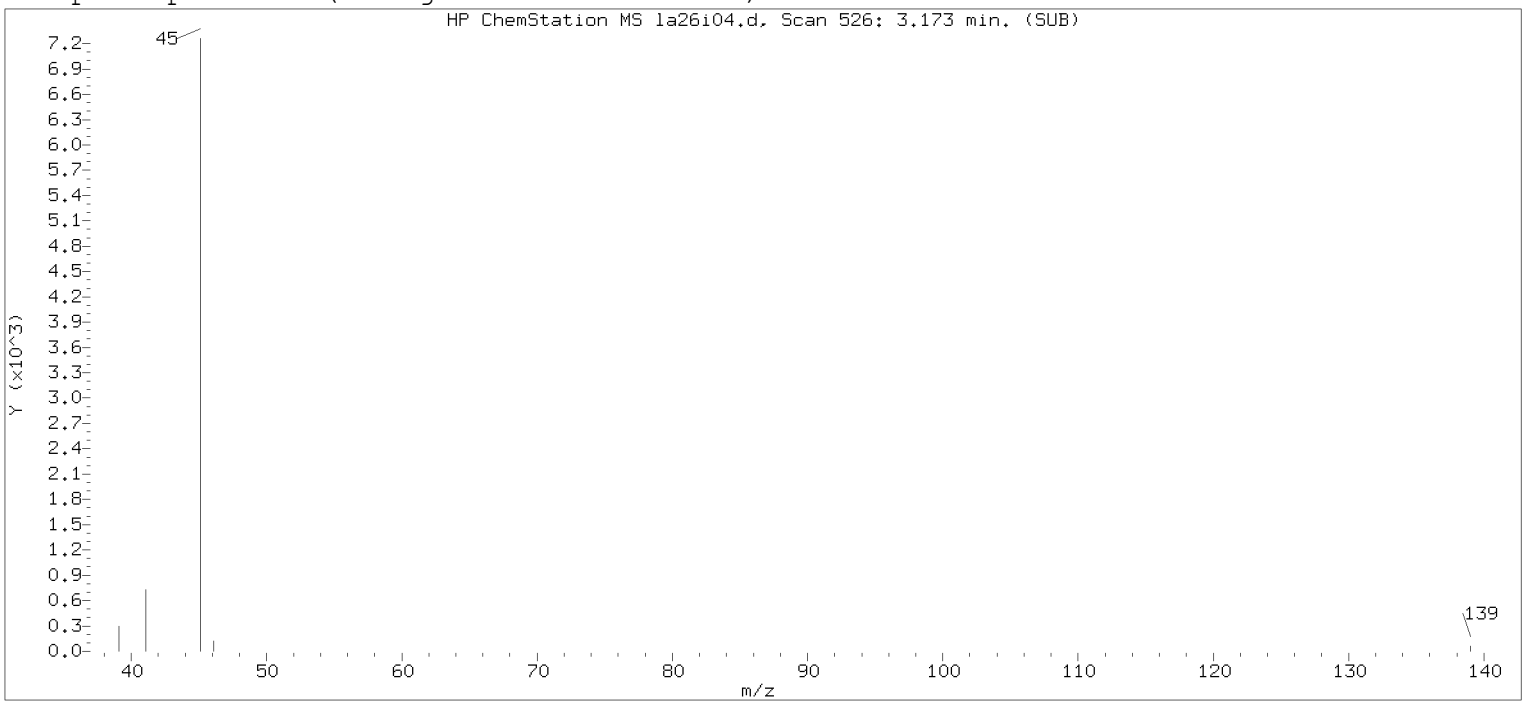
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 530
Retention Time (minutes): 3.185
Quant Ion : 45.00
Area (flag) : 102028M
On-Column Amount (ng) : 205.4874
Integration start scan : 491 Integration stop scan: 583
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

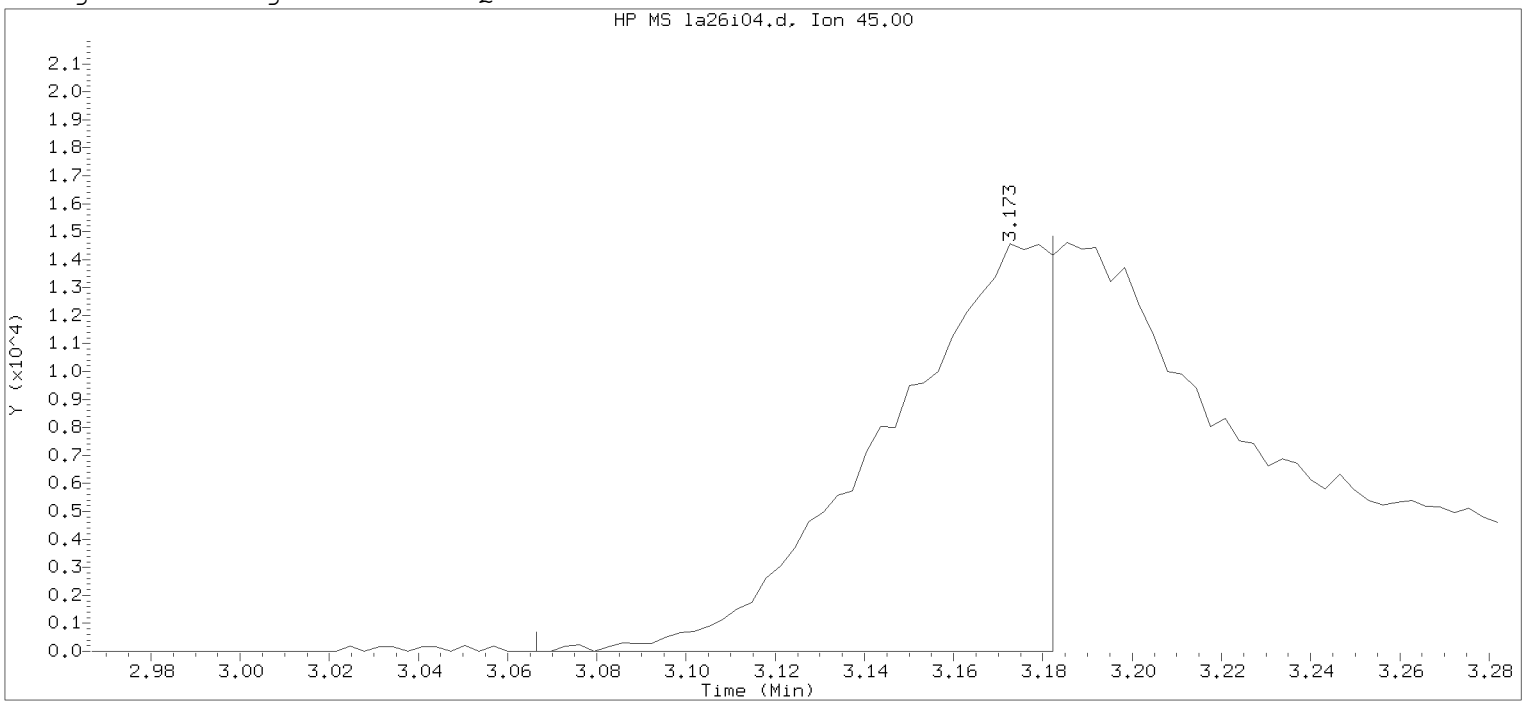
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

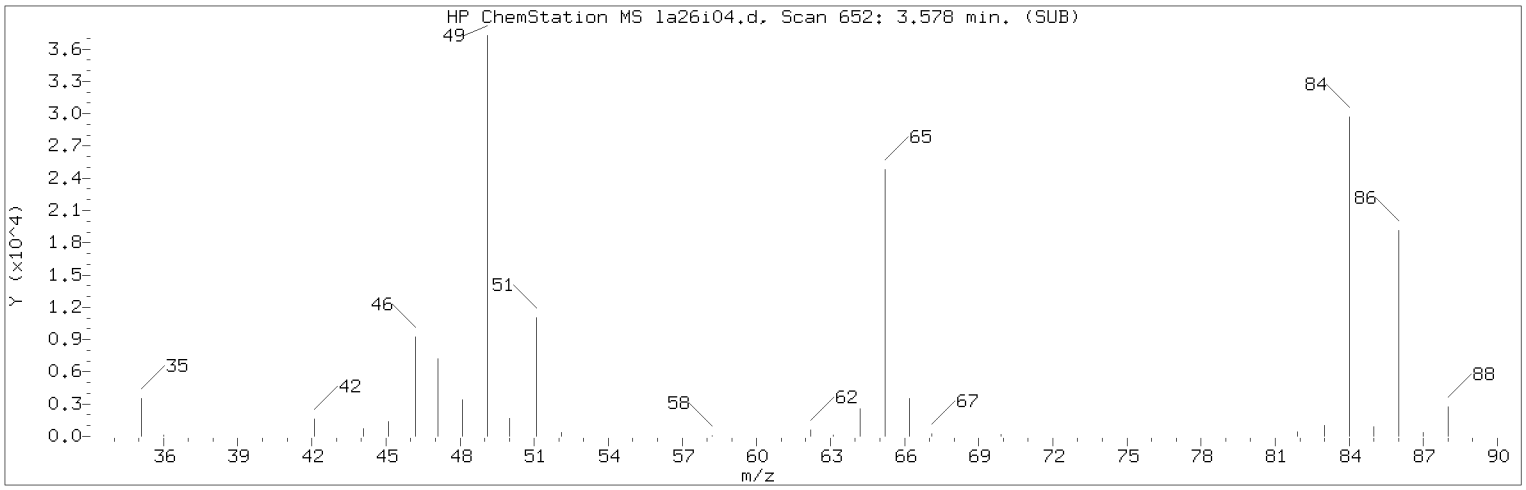
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

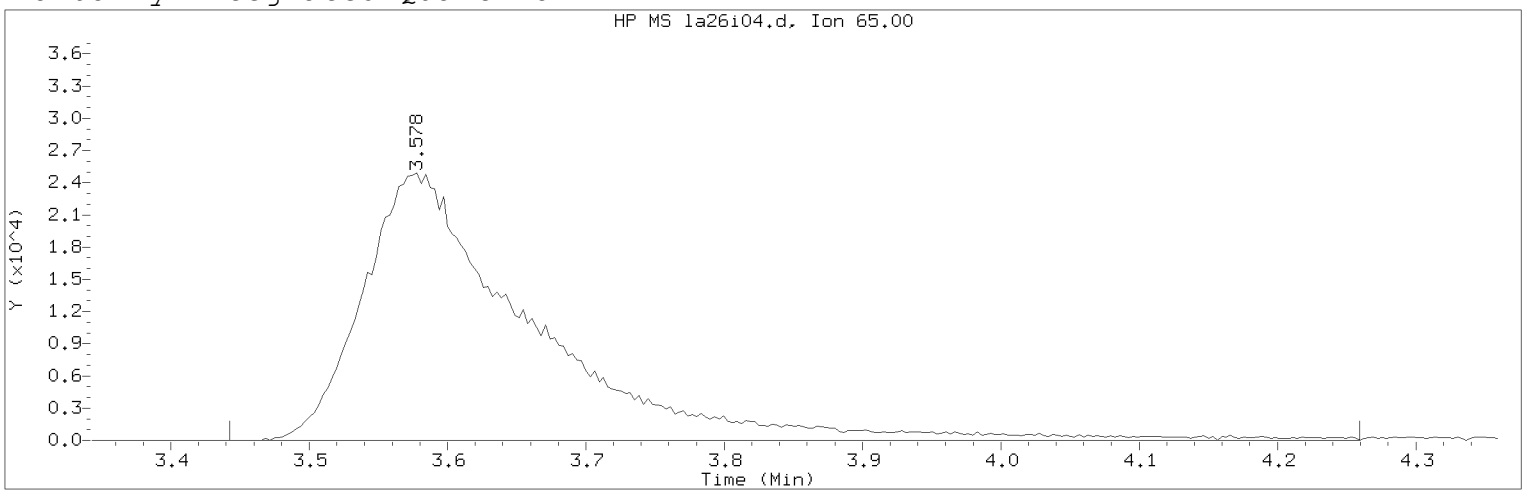
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 526
Retention Time (minutes): 3.173
Quant Ion : 45.00
Area : 36897
On-column Amount (ng) : 95.5026
Integration start scan : 492 Integration stop scan: 528
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2425

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

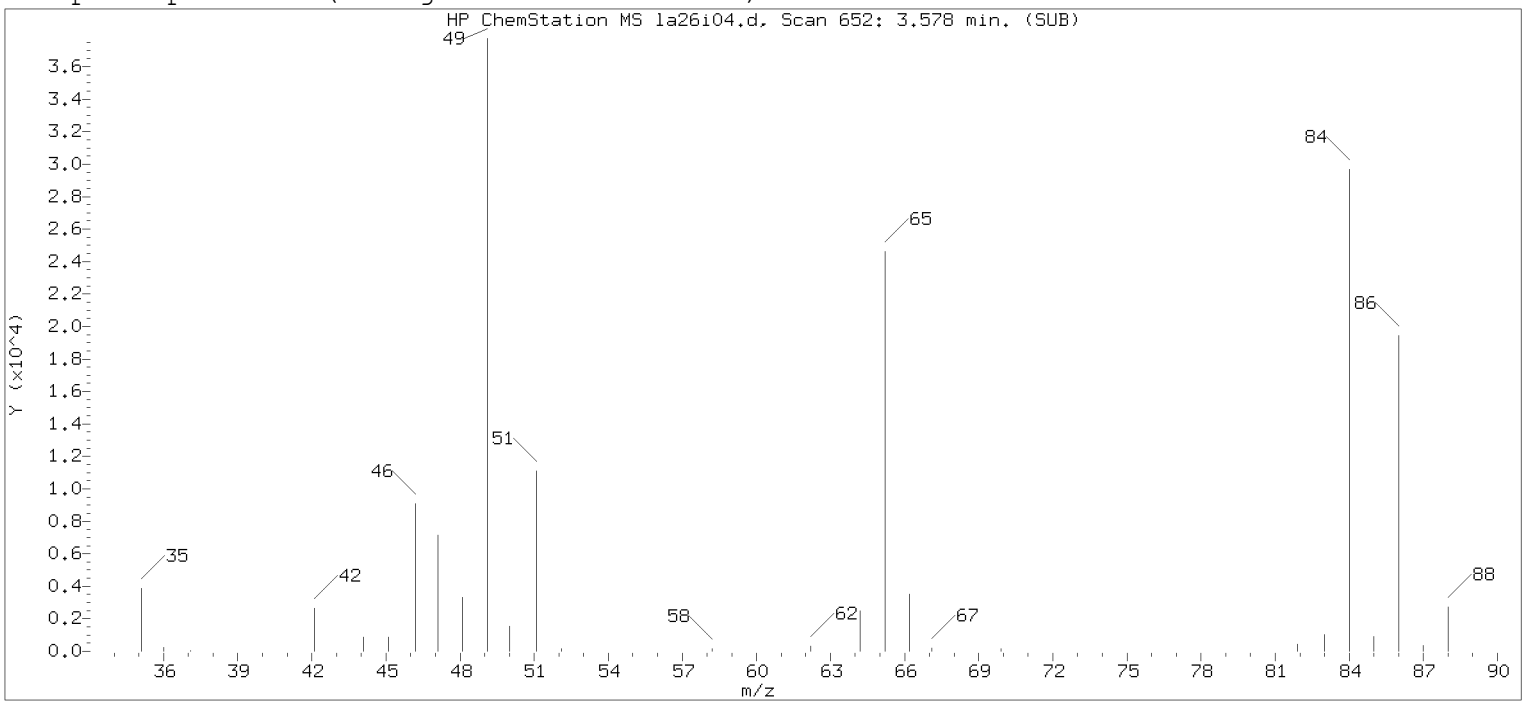
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 652
Retention Time (minutes): 3.578
Quant Ion : 65.00
Area (flag) : 210810M
On-Column Amount (ng) : 250.0000
Integration start scan : 609 Integration stop scan: 863
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

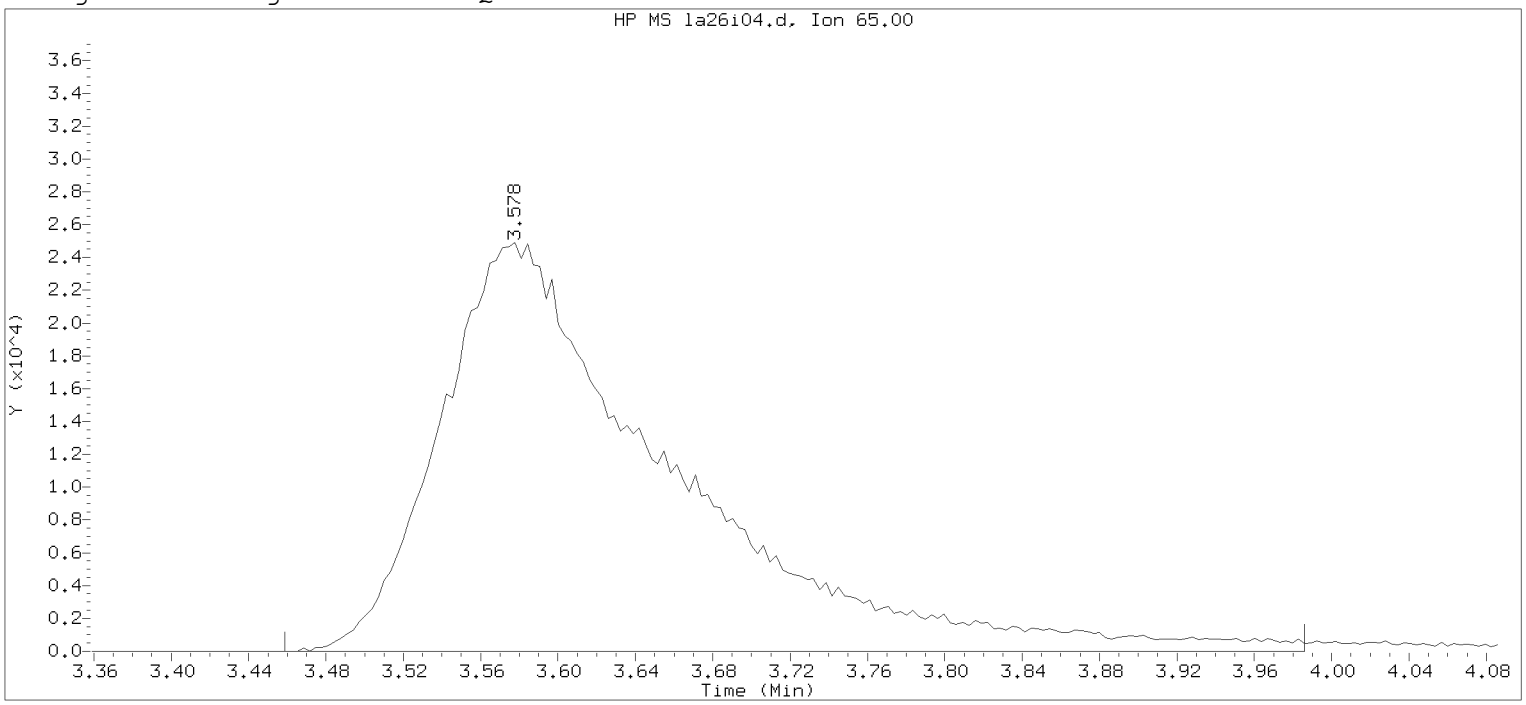
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

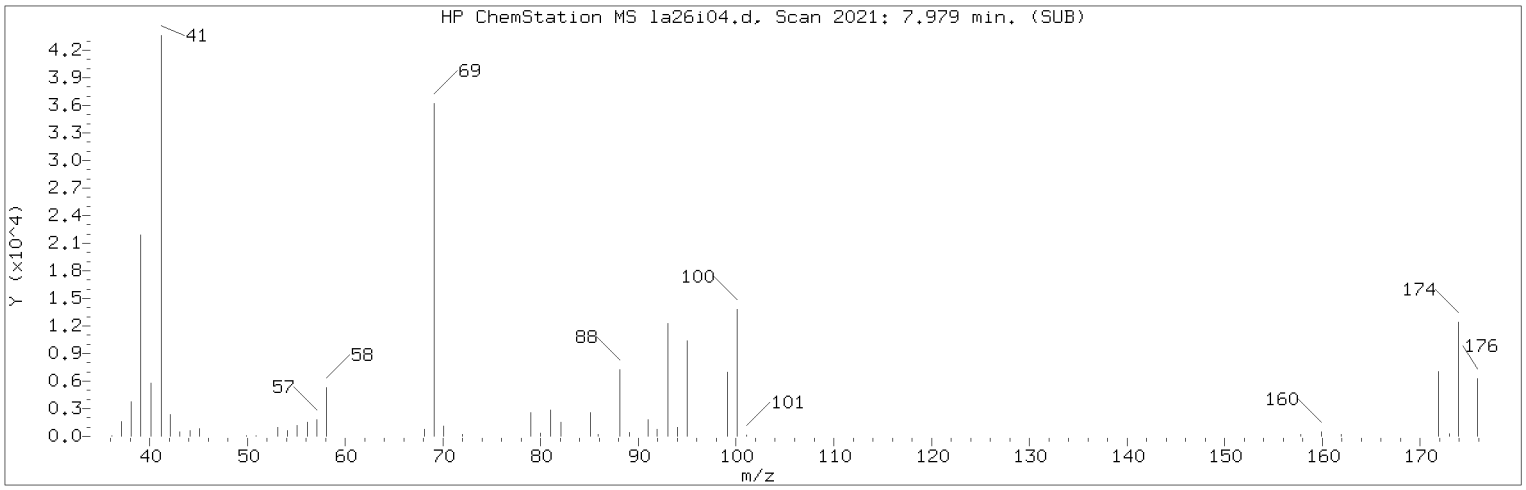
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

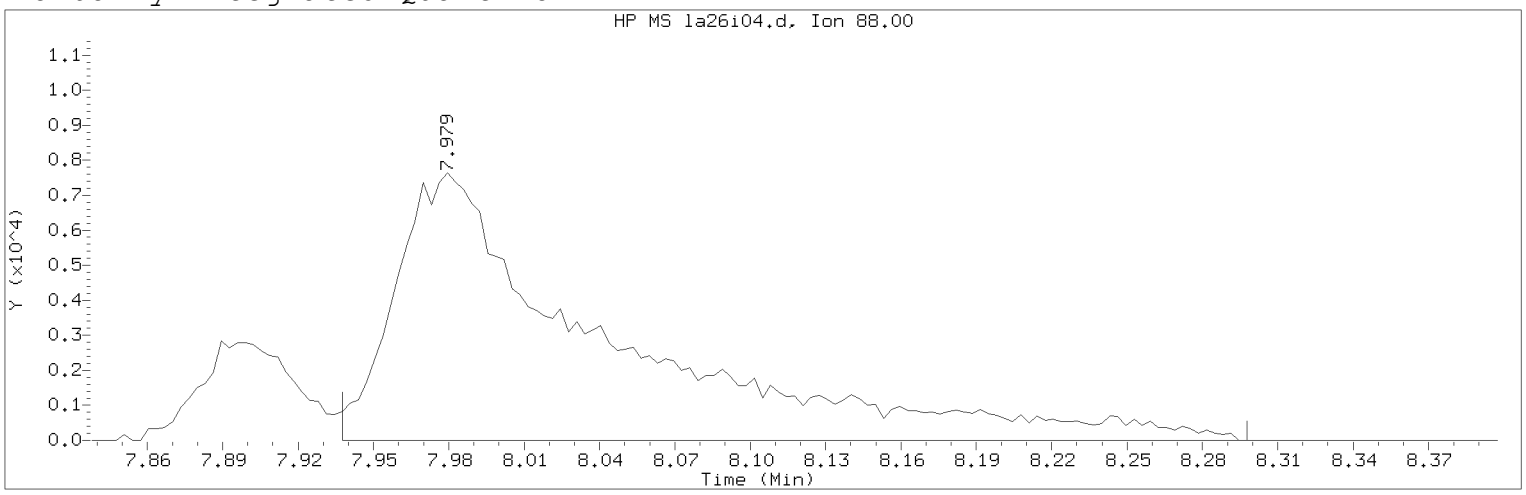
Compound Number	: 29		
Compound Name	: t-Butyl alcohol-d10		
Scan Number	: 652		
Retention Time (minutes)	: 3.578		
Quant Ion	: 65.00		
Area	: 205251		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 614	Integration stop scan:	778
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

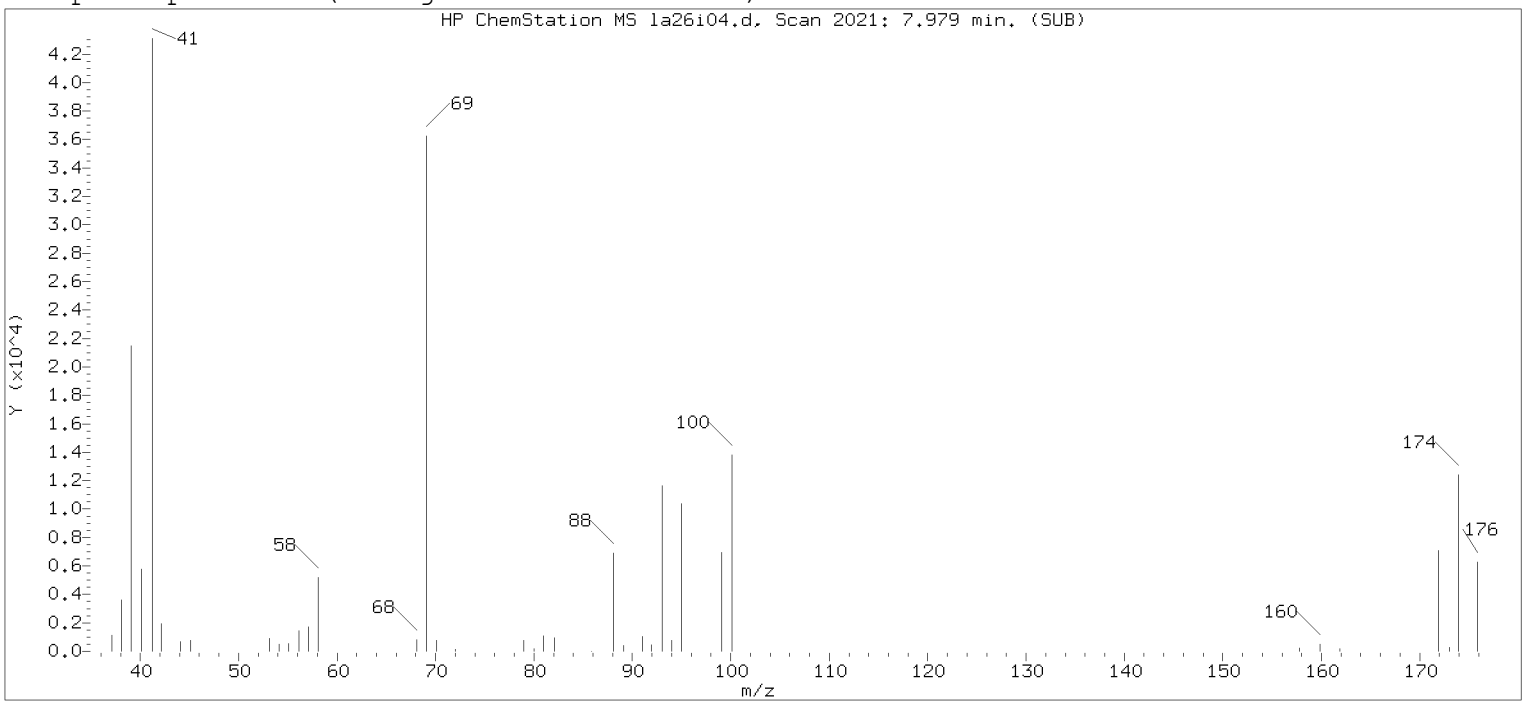
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2021
Retention Time (minutes): 7.979
Quant Ion : 88.00
Area (flag) : 44394M
On-Column Amount (ng) : 615.9721
Integration start scan : 2007 Integration stop scan: 2119
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

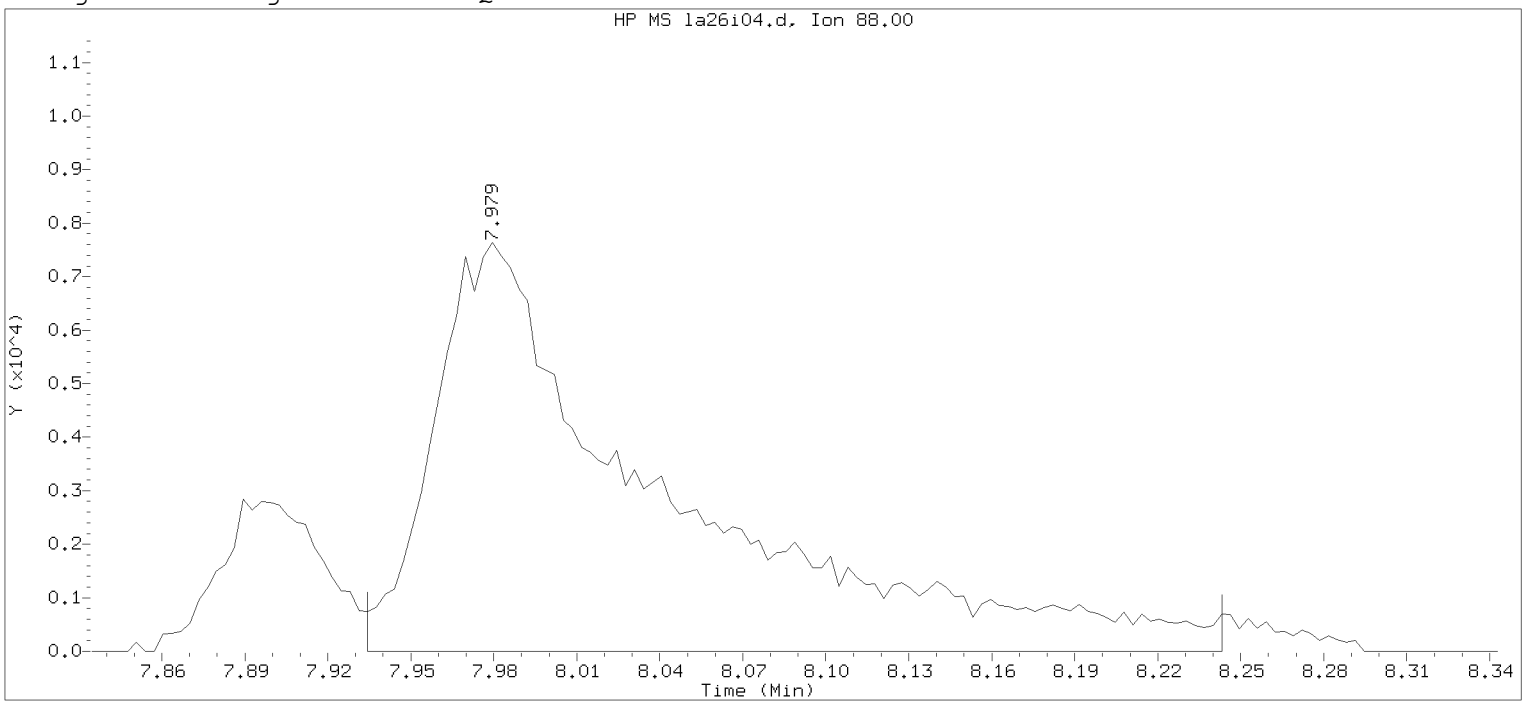
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

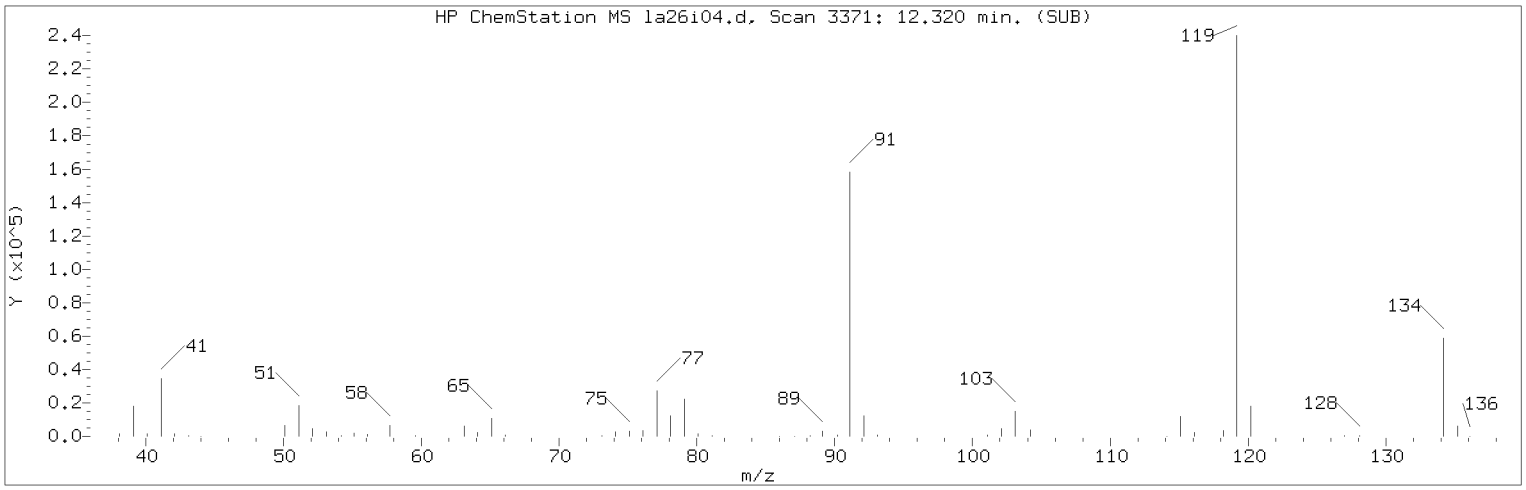
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

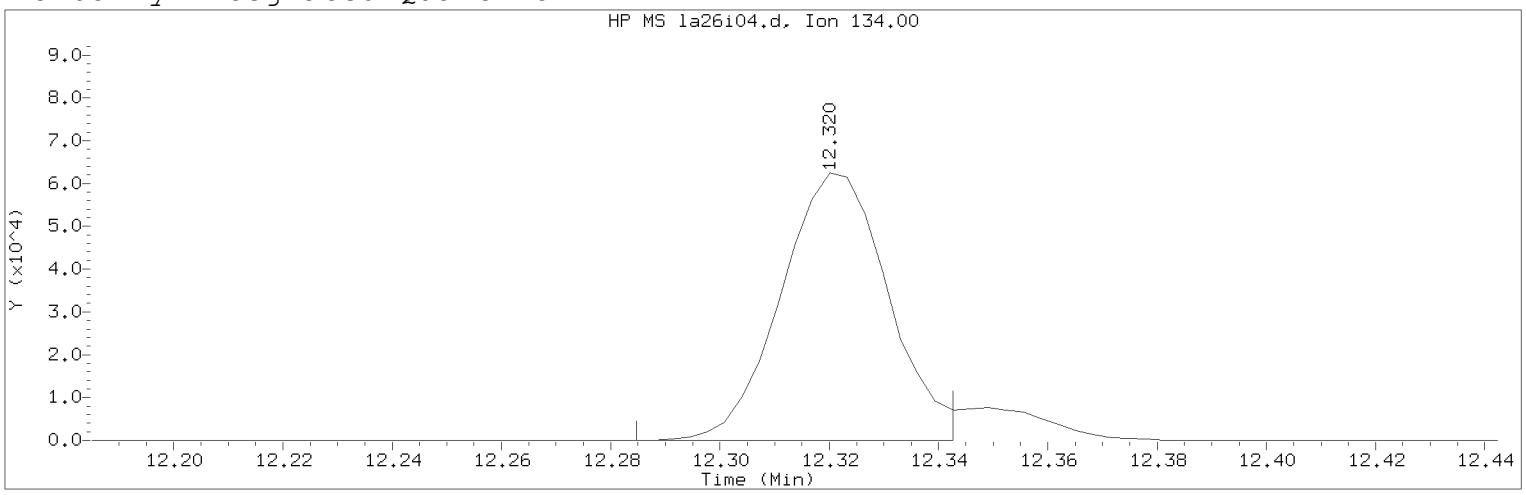
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2021
Retention Time (minutes): 7.979
Quant Ion : 88.00
Area : 43334
On-column Amount (ng) : 533.8251
Integration start scan : 2006 Integration stop scan: 2102
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2429

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

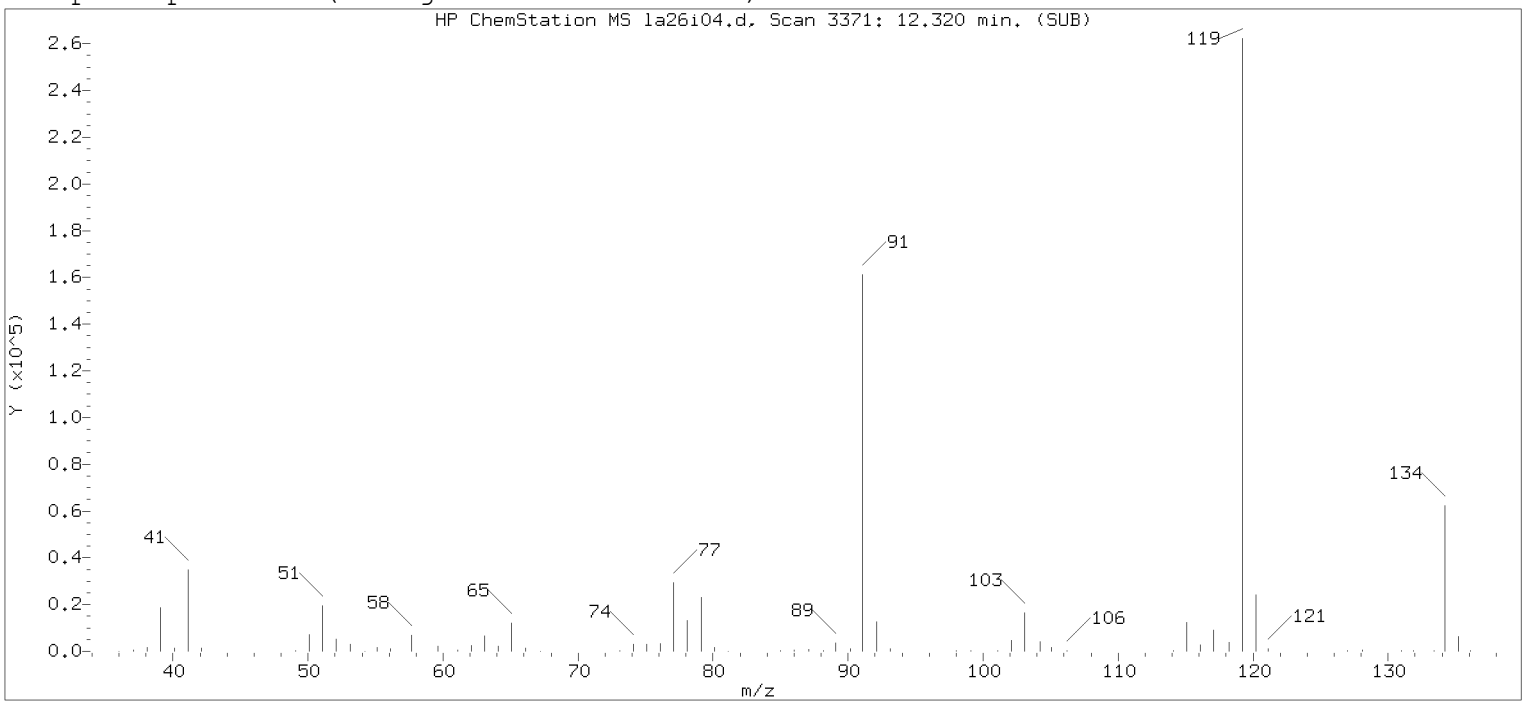
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area (flag) : 85014M
On-Column Amount (ng) : 20.5247
Integration start scan : 3359 Integration stop scan: 3377
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

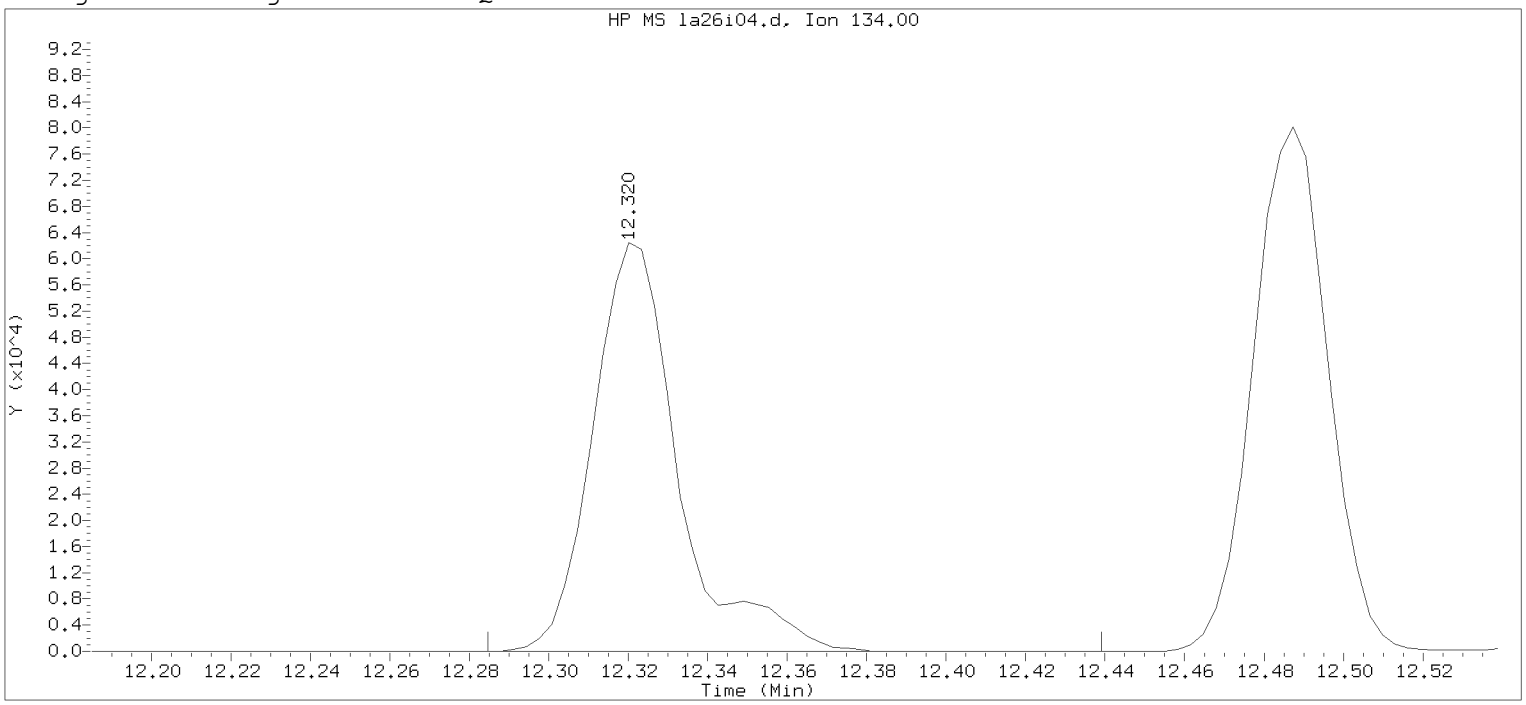
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



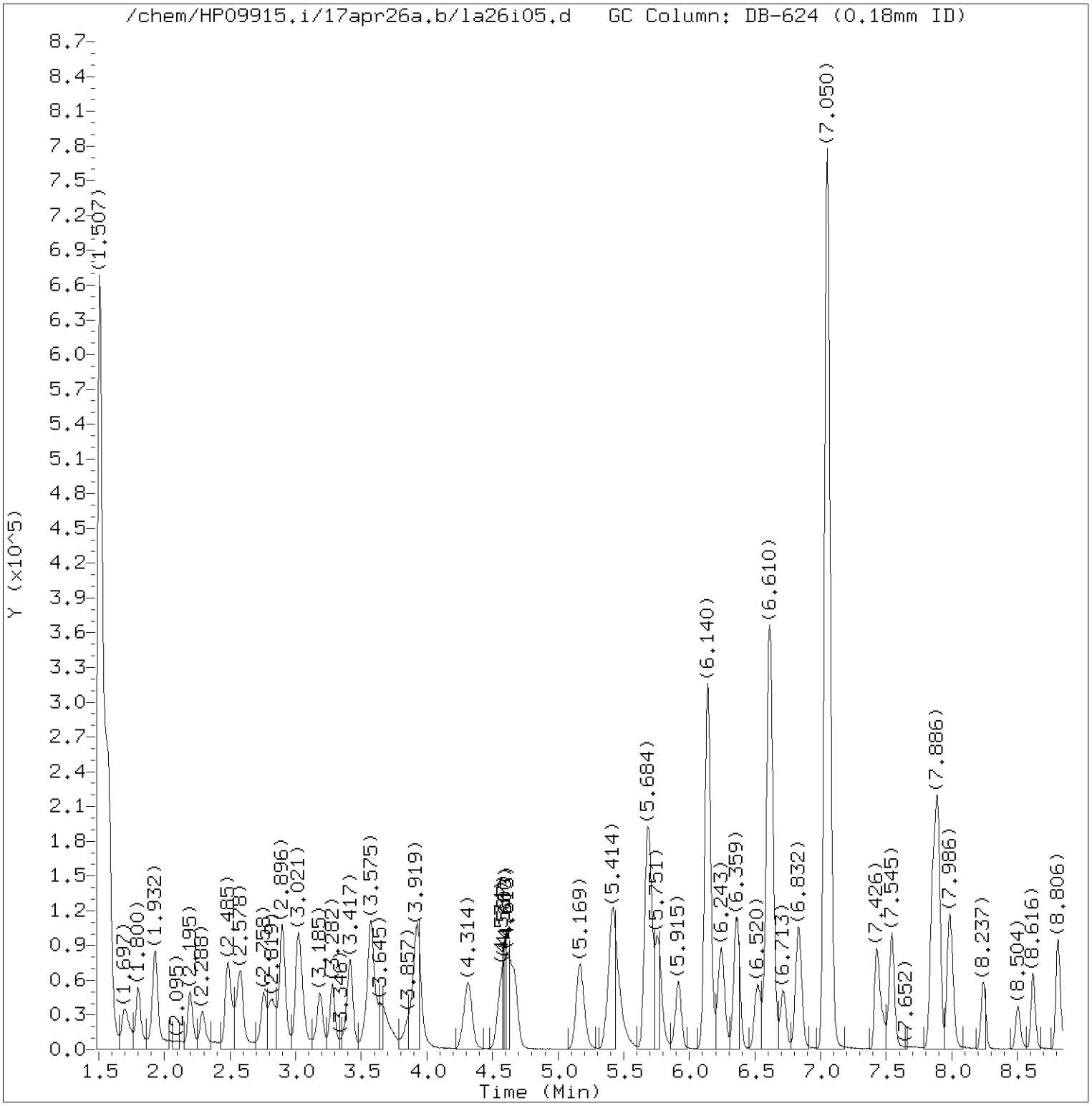
Data File: /chem/HP09915.i/17apr26a.b/la26i04.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:26 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD020 Lab Sample ID: VSTD020

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area : 93218
On-column Amount (ng) : 20.3163
Integration start scan : 3359 Integration stop scan: 3407
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2443



Total Ion Chromatogram (TIC)

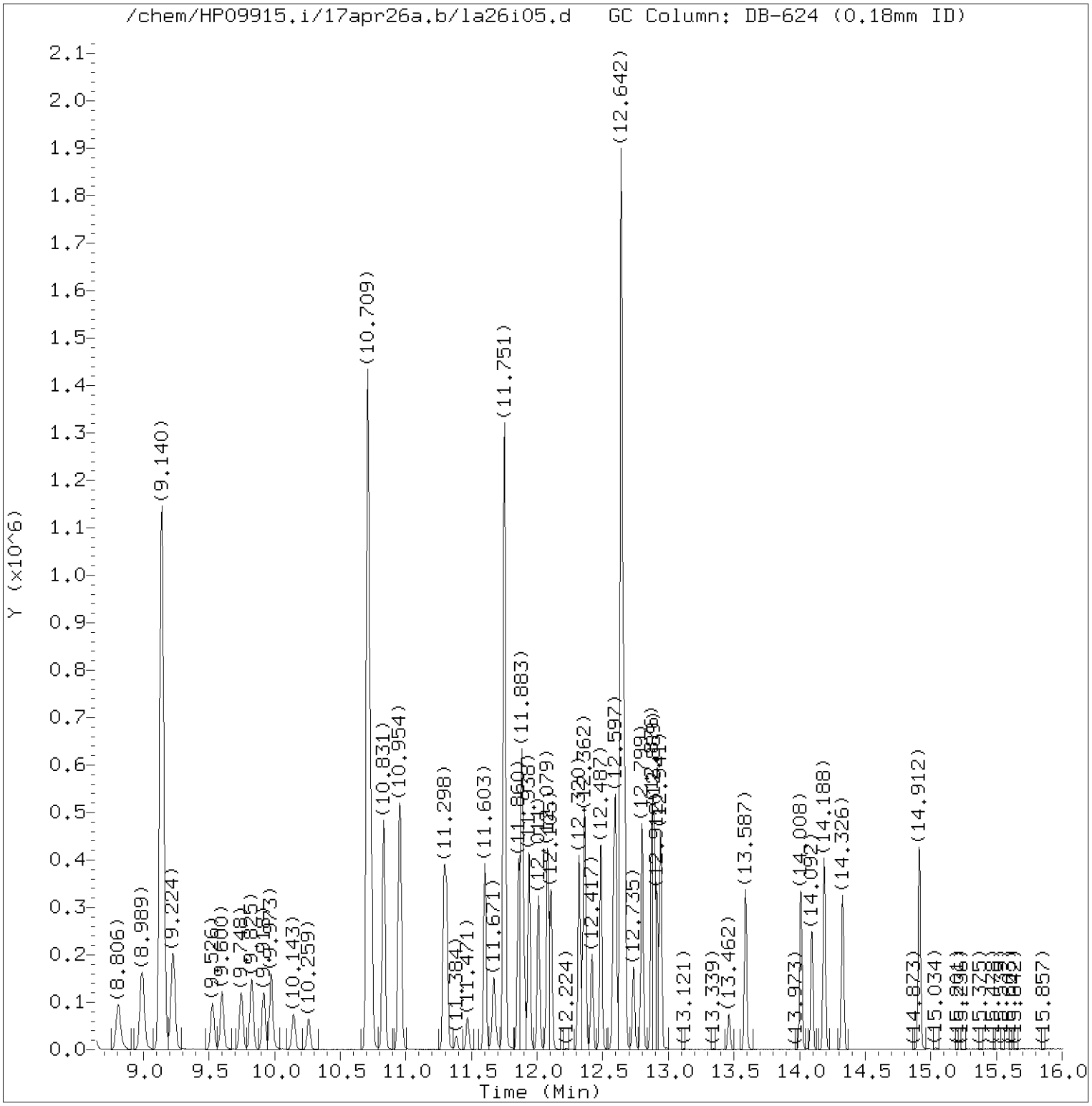
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.694	85	59129	9.454
4) Chloromethane	(2)	1.800	50	62392	9.710
6) Vinyl Chloride	(2)	1.915	62	59051	9.517
5) 1,3-Butadiene	(2)	1.935	39	33003	8.720
8) Bromomethane	(2)	2.195	94	41463M	9.935
9) Chloroethane	(2)	2.288	64	34369	9.829
10) Dichlorofluoromethane	(2)	2.485	67	82511	9.674
12) Trichlorofluoromethane	(2)	2.536	101	68090	9.477
11) n-Pentane	(2)	2.584	43	53715	9.078
14) Ethyl ether	(2)	2.758	59	37841	9.460
15) Freon 123a	(2)	2.812	67	43016	8.990
16) Acrolein	(1)	2.896	56	159296	99.869
17) 1,1-Dichloroethene	(2)	3.015	96	34274	9.013
17) 1,1-Dichloroethene	(2)	3.018	63	17277	8.974
18) Acetone	(1)	3.038	58	14831M	21.423
19) Freon 113	(2)	3.044	101	34042	8.894
21) 2-Propanol	(1)	3.169	45	44925M	97.891
22) Methyl Iodide	(2)	3.185	142	67573	9.161
23) Carbon Disulfide	(2)	3.279	76	109946	8.884
27) Methyl Acetate	(2)	3.394	43	53241	9.646
25) Allyl Chloride	(2)	3.417	41	72375	9.502
29)*t-Butyl alcohol-d10	(1)	3.565	65	194850M	250.000
28) Methylene Chloride	(2)	3.575	84	45146	8.987
30) t-Butyl alcohol	(1)	3.665	59	75108M	99.625
31) Acrylonitrile	(2)	3.854	53	29199	10.074
33) Methyl Tertiary Butyl Ether	(2)	3.909	73	131184	9.417
32) trans-1,2-Dichloroethene	(2)	3.931	96	41659	9.337
34) n-Hexane	(2)	4.314	57	66816	9.769
36) 1,1-Dichloroethane	(2)	4.555	63	77409	9.233
38) di-Isopropyl ether	(2)	4.616	45	151698	9.427
39) 2-Chloro-1,3-butadiene	(2)	4.668	53	64336	9.097
40) Ethyl t-butyl ether	(2)	5.169	59	130812	9.446
44) 2-Butanone	(2)	5.382	43	78761	20.295
42) cis-1,2-Dichloroethene	(2)	5.410	96	46779	9.150
45) 2,2-Dichloropropane	(2)	5.420	77	50428	9.009
47) Propionitrile	(1)	5.459	54	106892	97.145
48) Methacrylonitrile	(2)	5.681	67	139926	48.423
49) Bromochloromethane	(2)	5.764	128	26022	9.657

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	5.767	71	19359	19.919
51) Chloroform	(2)	5.915	83	73627	9.213
52)$Dibromofluoromethane	(2)	6.137	113	256526	50.033
52)$Dibromofluoromethane	(2)	6.137	111	263734	50.197
53) 1,1,1-Trichloroethane	(2)	6.144	97	67074	9.185
43) 1,2-Dichloroethene (Total)	(2)		96	88438	18.487
54) Cyclohexane	(2)	6.246	56	76539	9.205
54) Cyclohexane	(2)	6.246	84	62394	9.066
54) Cyclohexane	(2)	6.243	69	21874	9.076
56) Carbon Tetrachloride	(2)	6.359	117	46720	8.764
55) 1,1-Dichloropropene	(2)	6.359	75	59578	9.166
58) Isobutyl Alcohol	(1)	6.526	41	64054	241.988
57)$1,2-Dichloroethane-d4	(2)	6.607	102	63277	49.631
57)$1,2-Dichloroethane-d4	(2)	6.607	65	305872	50.719
57)$1,2-Dichloroethane-d4	(2)	6.610	104	41354	51.137
60) Benzene	(2)	6.632	78	179018	9.343
61) 1,2-Dichloroethane	(2)	6.716	62	61212	9.443
61) 1,2-Dichloroethane	(2)	6.709	98	5860	10.253
65) t-Amyl methyl ether	(2)	6.828	73	127821	9.300
66)*Fluorobenzene	(2)	7.050	96	1049965	50.000
67) n-Heptane	(2)	7.070	43	73529	9.602
69) n-Butanol	(1)	7.426	56	99502	466.313
71) Trichloroethene	(2)	7.545	95	45597	9.209
72) Methylcyclohexane	(2)	7.854	83	78864	9.040
72) Methylcyclohexane	(2)	7.851	98	35389	8.989
73) 1,2-Dichloropropane	(2)	7.883	63	49507	9.439
75) 1,4-Dioxane	(1)	7.973	88	15525M	233.055
76) Methyl Methacrylate	(2)	7.983	69	41640M	9.275
74) Dibromomethane	(2)	7.999	93	30502	9.247
78) Bromodichloromethane	(2)	8.243	83	53652	9.013
79) 2-Nitropropane	(2)	8.504	41	31065	18.403
80) 2-Chloroethyl Vinyl Ether	(2)	8.616	63	38546	9.560
81) cis-1,3-Dichloropropene	(2)	8.806	75	70800	9.125
82) 4-Methyl-2-pentanone	(2)	8.989	43	159436	19.936
83)$Toluene-d8	(3)	9.140	98	1032472	50.129
83)$Toluene-d8	(3)	9.140	100	677627	49.938
88) Toluene	(3)	9.224	92	113958	9.521
89) trans-1,3-Dichloropropene	(3)	9.526	75	61223	9.122

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	9.600	69	71393	9.444
92) 1,1,2-Trichloroethane	(3)	9.748	97	44018	9.544
93) Tetrachloroethene	(3)	9.828	166	51504	9.729
94) 1,3-Dichloropropane	(3)	9.918	76	75121	9.387
96) 2-Hexanone	(3)	9.973	43	116413	20.149
90) 1,3-Dichloropropene (total)	(3)		100	132023	18.248
97) Dibromochloromethane	(3)	10.147	129	42605	8.918
99) 1,2-Dibromoethane	(3)	10.259	107	48002	9.507
100)*Chlorobenzene-d5	(3)	10.709	117	806654	50.000
101) 1-Chlorohexane	(3)	10.732	91	65231	9.490
102) Chlorobenzene	(3)	10.735	112	131328	9.509
103) 1,1,1,2-Tetrachloroethane	(3)	10.828	131	41501	9.100
104) Ethylbenzene	(3)	10.831	91	224396	9.719
106) m+p-Xylene	(3)	10.954	106	173163	19.266
107) o-Xylene	(3)	11.291	106	86473	9.674
109) Styrene	(3)	11.311	104	143254	9.695
110) Bromoform	(3)	11.471	173	30332	8.744
111) Isopropylbenzene	(3)	11.603	105	229604	10.051
112) Cyclohexanone	(1)	11.671	55	63246	251.691
114)$4-Bromofluorobenzene	(3)	11.751	95	383820	50.137
114)$4-Bromofluorobenzene	(3)	11.751	174	336286	50.079
108) Xylene (Total)	(3)		106	259636	28.939
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	73056	9.576
115) Bromobenzene	(4)	11.860	156	58282	9.486
118) trans-1,4-Dichloro-2-butene	(4)	11.883	53	105547	48.281
117) 1,2,3-Trichloropropane	(4)	11.899	110	20738	9.616
119) n-Propylbenzene	(4)	11.938	91	280075	10.317
120) 2-Chlorotoluene	(4)	12.011	126	56022	9.915
122) 1,3,5-Trimethylbenzene	(4)	12.079	105	197456	10.200
121) 4-Chlorotoluene	(4)	12.105	126	57797	9.829
124) tert-Butylbenzene	(4)	12.320	134	41143M	9.832
125) Pentachloroethane	(4)	12.352	167	30142	9.123
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	202204	10.140
127) sec-Butylbenzene	(4)	12.484	105	255110	10.331
129) 1,3-Dichlorobenzene	(4)	12.584	146	115818	9.902
130) p-Isopropyltoluene	(4)	12.600	119	223274	10.241
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	429808	50.000
133) 1,4-Dichlorobenzene	(4)	12.658	146	119475	9.878

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

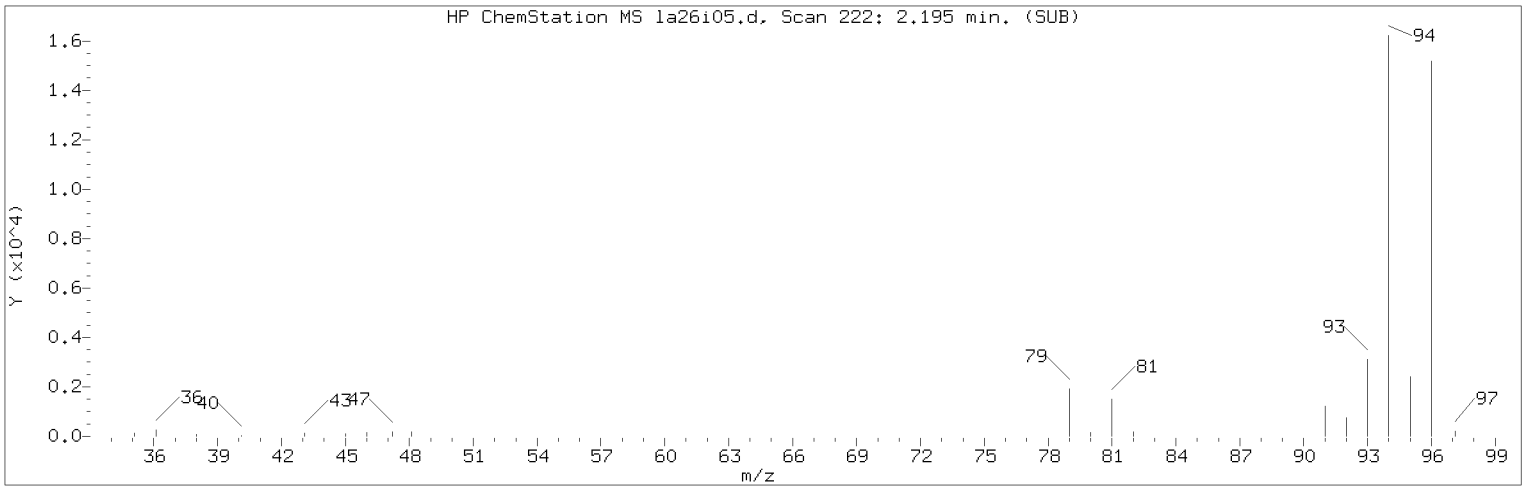
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

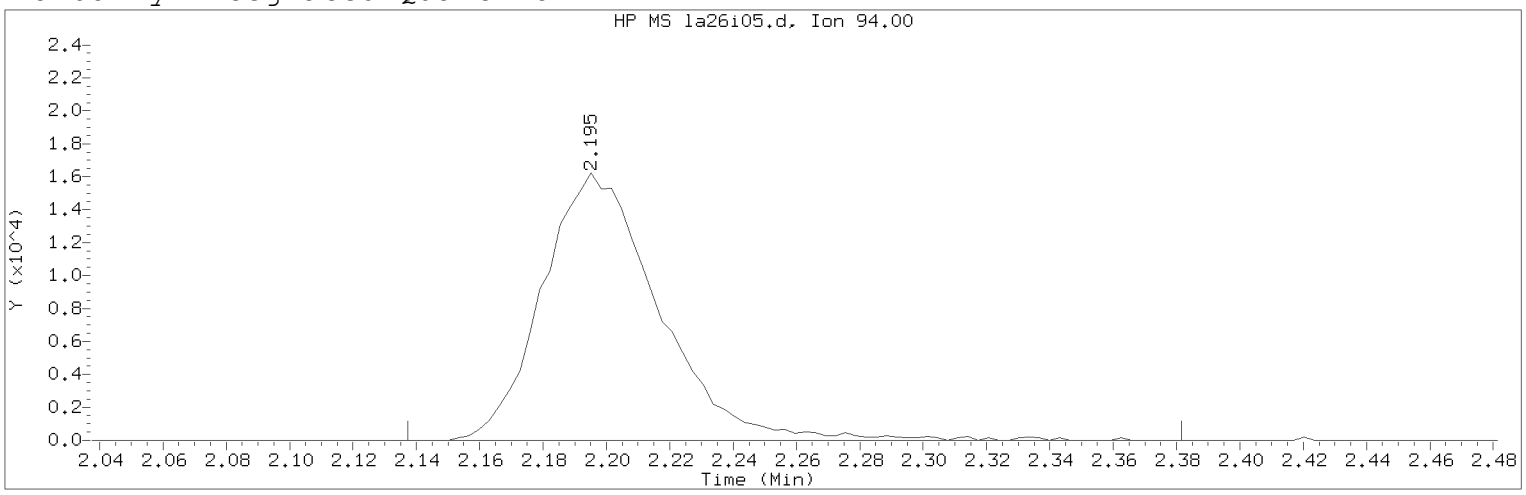
	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134)	1,2,3-Trimethylbenzene	(4)	12.667	105	208329	9.972
135)	Benzyl Chloride	(4)	12.735	91	103198	8.626
136)	1,3-Diethylbenzene	(4)	12.799	119	129904	9.973
137)	1,4-Diethylbenzene	(4)	12.873	119	137007	10.016
139)	n-Butylbenzene	(4)	12.892	92	112742	10.351
138)	1,2-Dichlorobenzene	(4)	12.915	146	112538	9.788
140)	1,2-Diethylbenzene	(4)	12.941	119	109919	10.027
141)	Diethylbenzene (total)	(4)		100	376830	30.016
142)	1,2-Dibromo-3-chloropropane	(4)	13.462	75	15055	9.331
144)	1,3,5-Trichlorobenzene	(4)	13.587	180	94185	10.104
146)	1,2,4-Trichlorobenzene	(4)	14.011	180	91035	10.067
147)	Hexachlorobutadiene	(4)	14.092	225	39102	9.957
148)	Naphthalene	(4)	14.188	128	269332	9.871
149)	1,2,3-Trichlorobenzene	(4)	14.326	180	88643	10.161
150)	2-Methylnaphthalene	(4)	14.912	142	172519	9.778

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

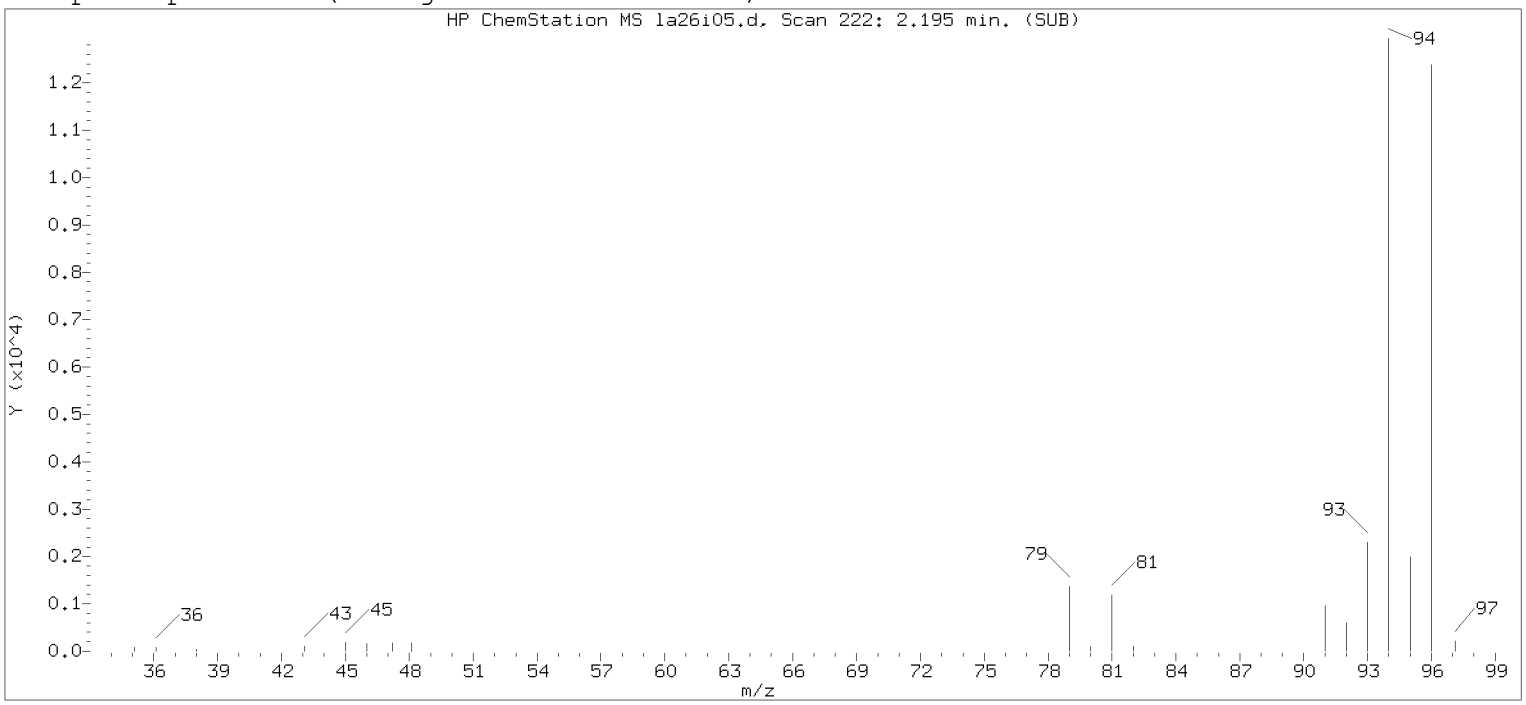
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 222
Retention Time (minutes): 2.195
Quant Ion : 94.00
Area (flag) : 41463M
On-Column Amount (ng) : 9.9355
Integration start scan : 203 Integration stop scan: 279
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

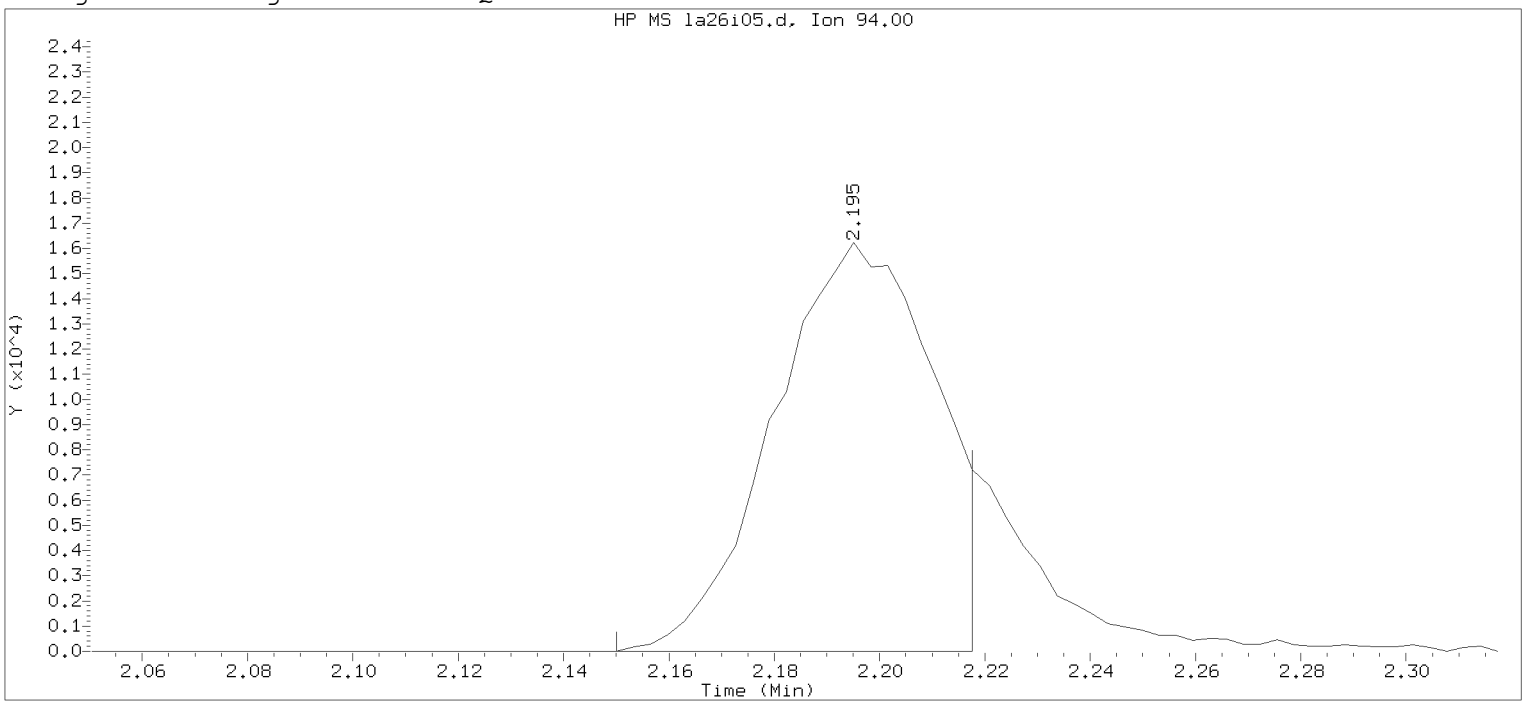
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

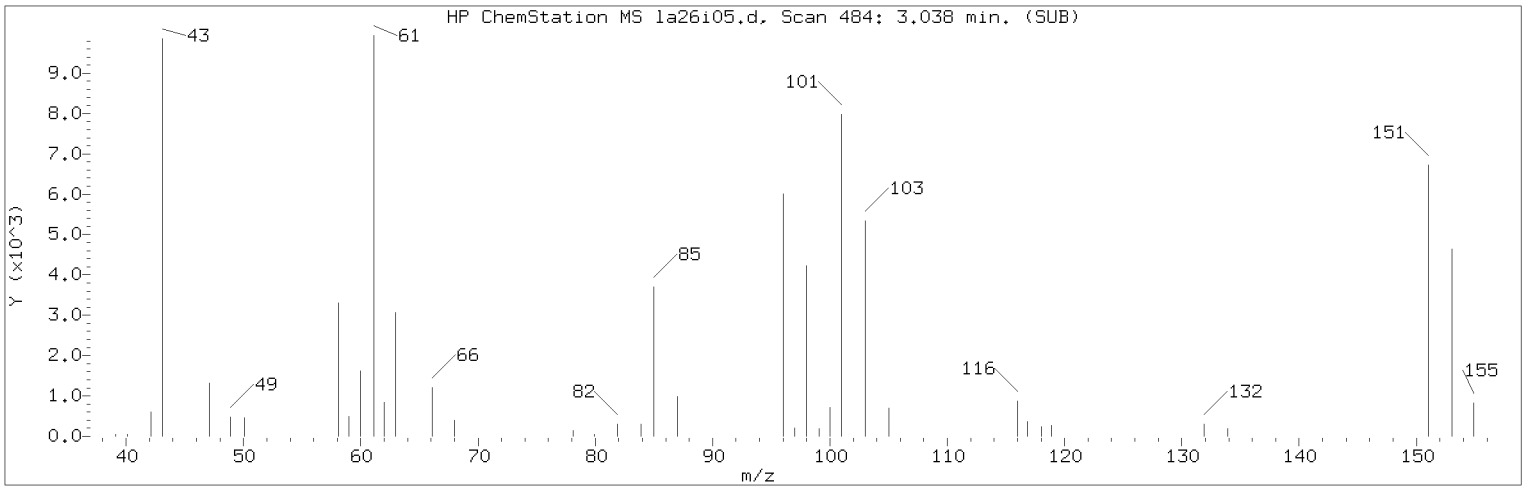
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

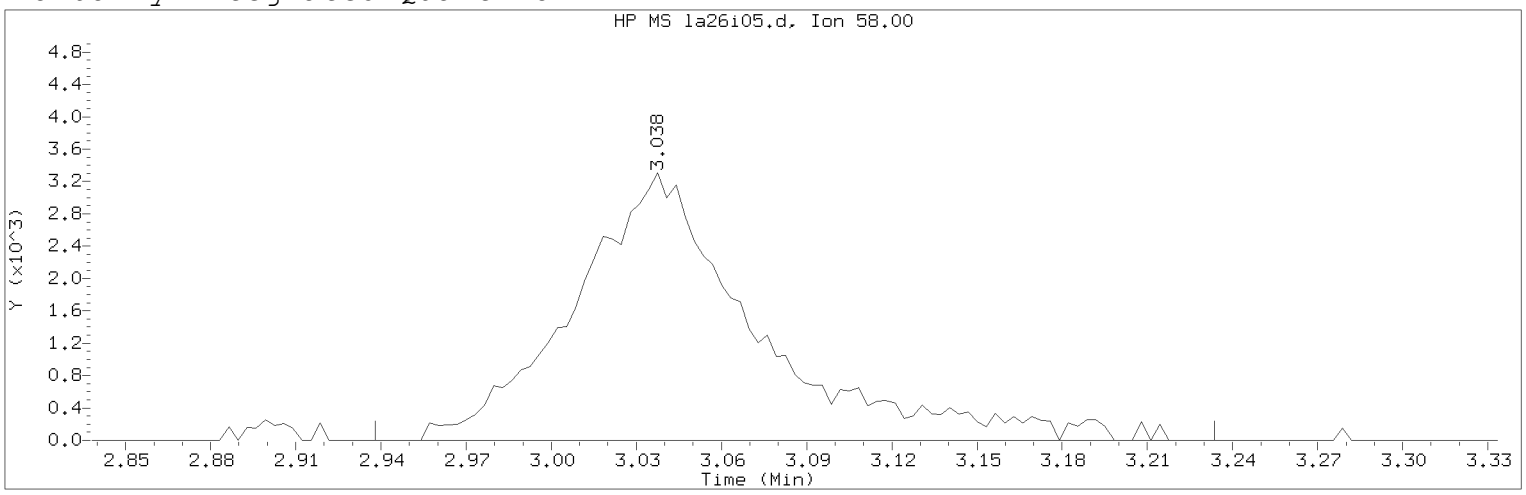
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 222
Retention Time (minutes): 2.195
Quant Ion : 94.00
Area : 34035
On-column Amount (ng) : 8.6274
Integration start scan : 207 Integration stop scan: 228
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2439

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

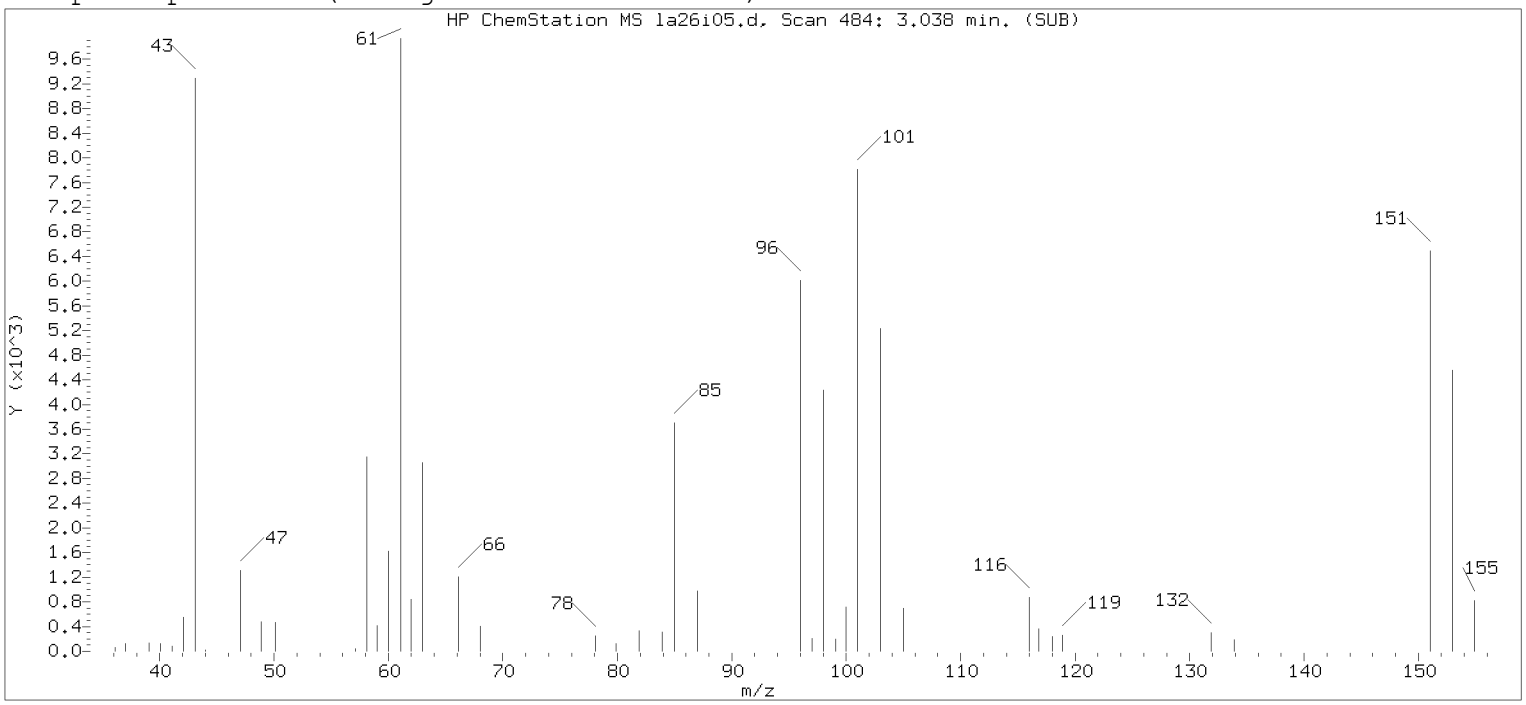
Compound Number : 18
Compound Name : Acetone
Scan Number : 484
Retention Time (minutes): 3.038
Quant Ion : 58.00
Area (flag) : 14831M
On-Column Amount (ng) : 21.4232
Integration start scan : 452 Integration stop scan: 544
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

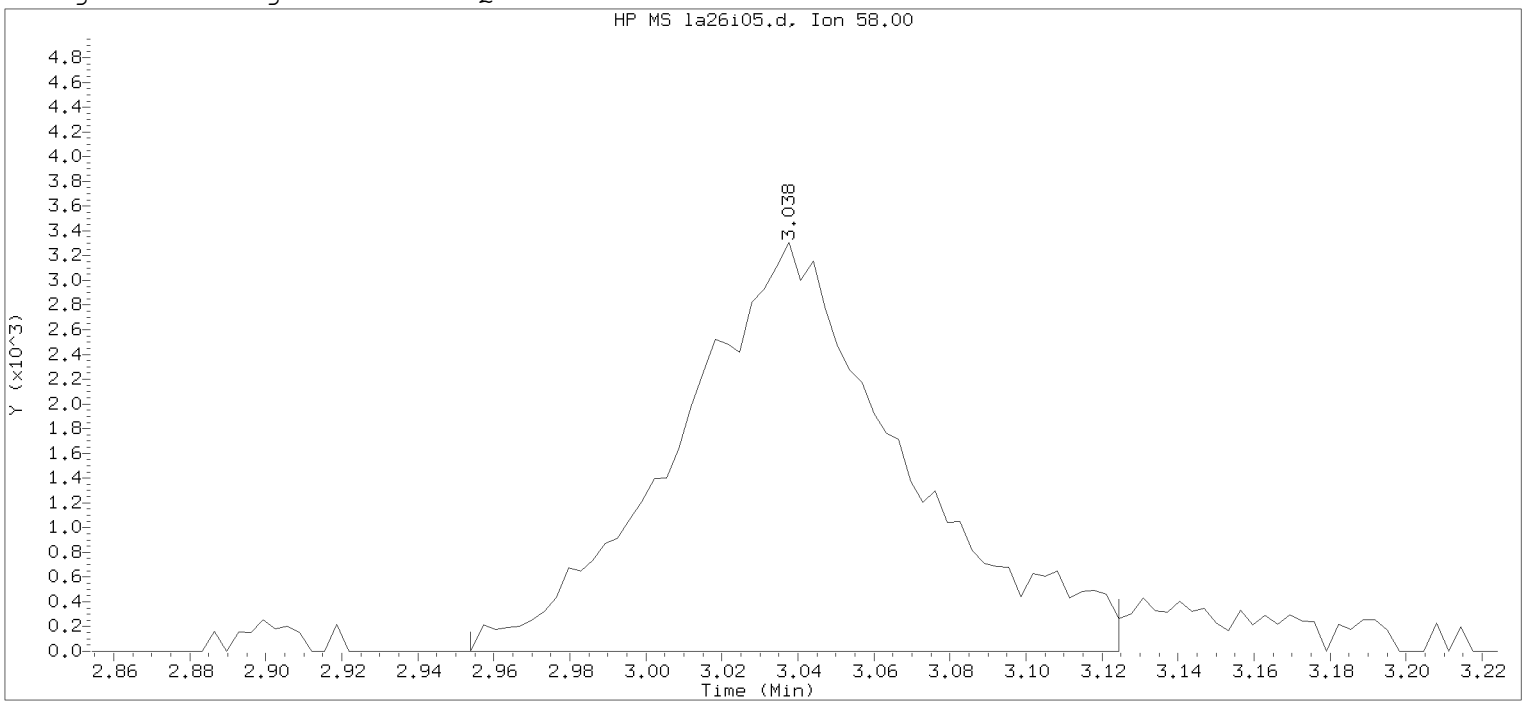
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

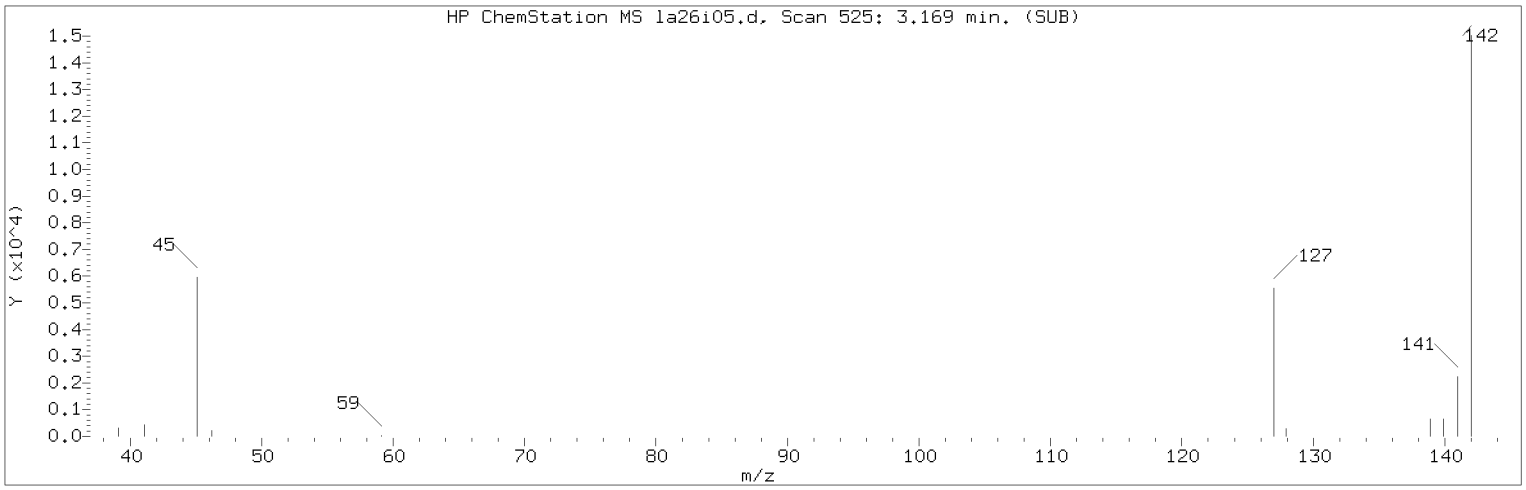
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

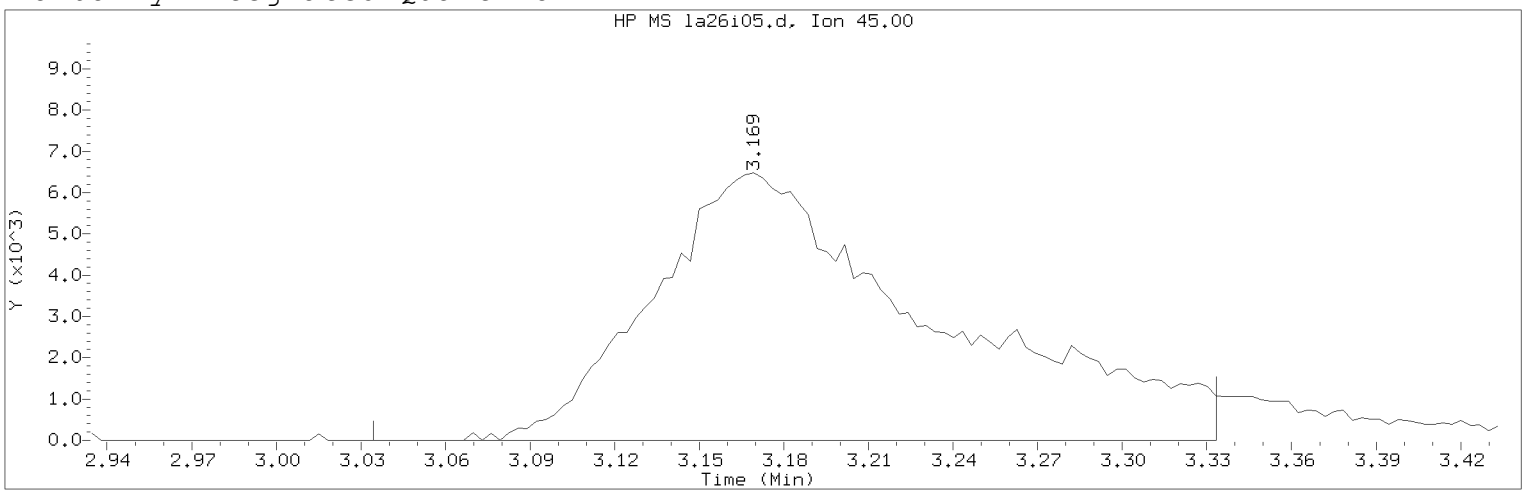
Compound Number	: 18		
Compound Name	: Acetone		
Scan Number	: 484		
Retention Time (minutes)	: 3.038		
Quant Ion	: 58.00		
Area	: 13613		
On-column Amount (ng)	: 19.2845		
Integration start scan	: 457	Integration stop scan:	510
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2443

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

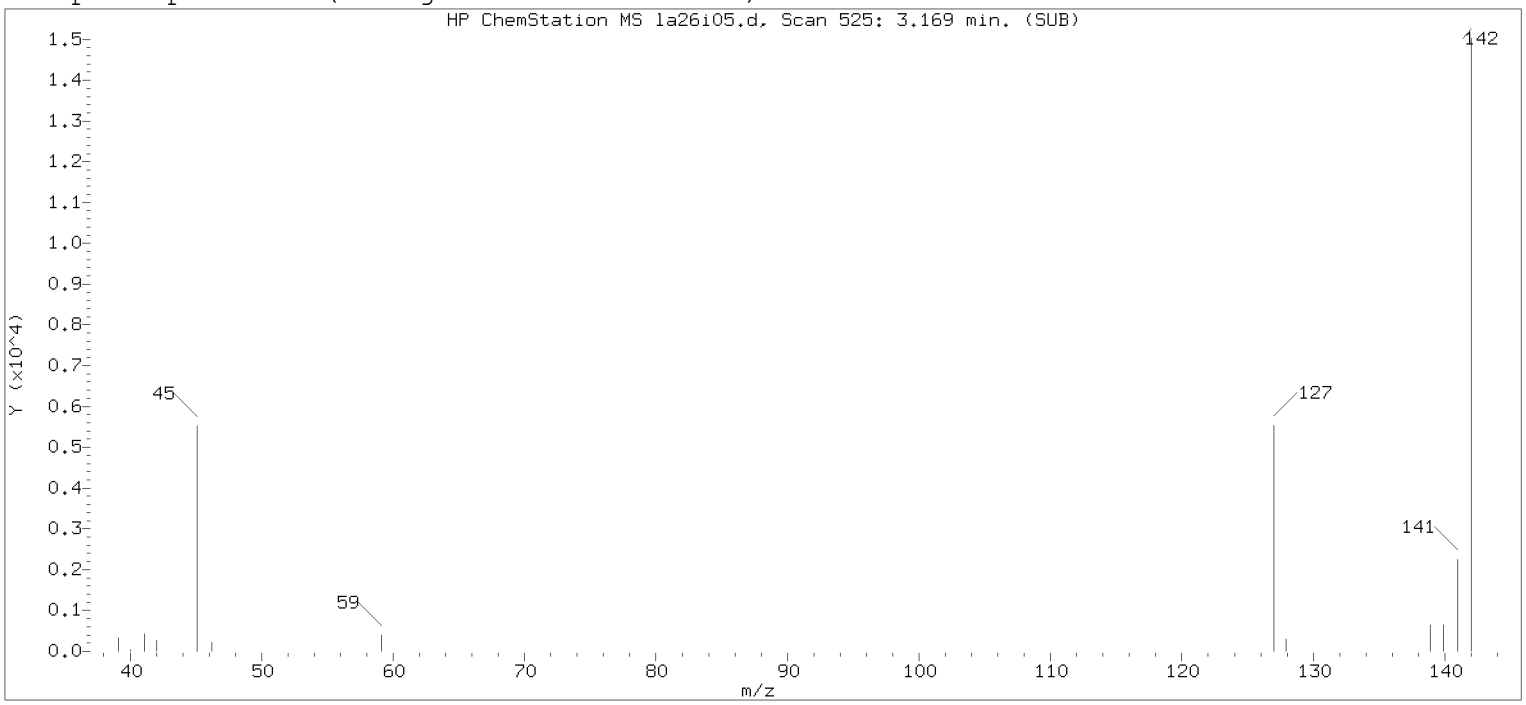
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 525
Retention Time (minutes): 3.169
Quant Ion : 45.00
Area (flag) : 44925M
On-Column Amount (ng) : 97.8914
Integration start scan : 482 Integration stop scan: 575
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

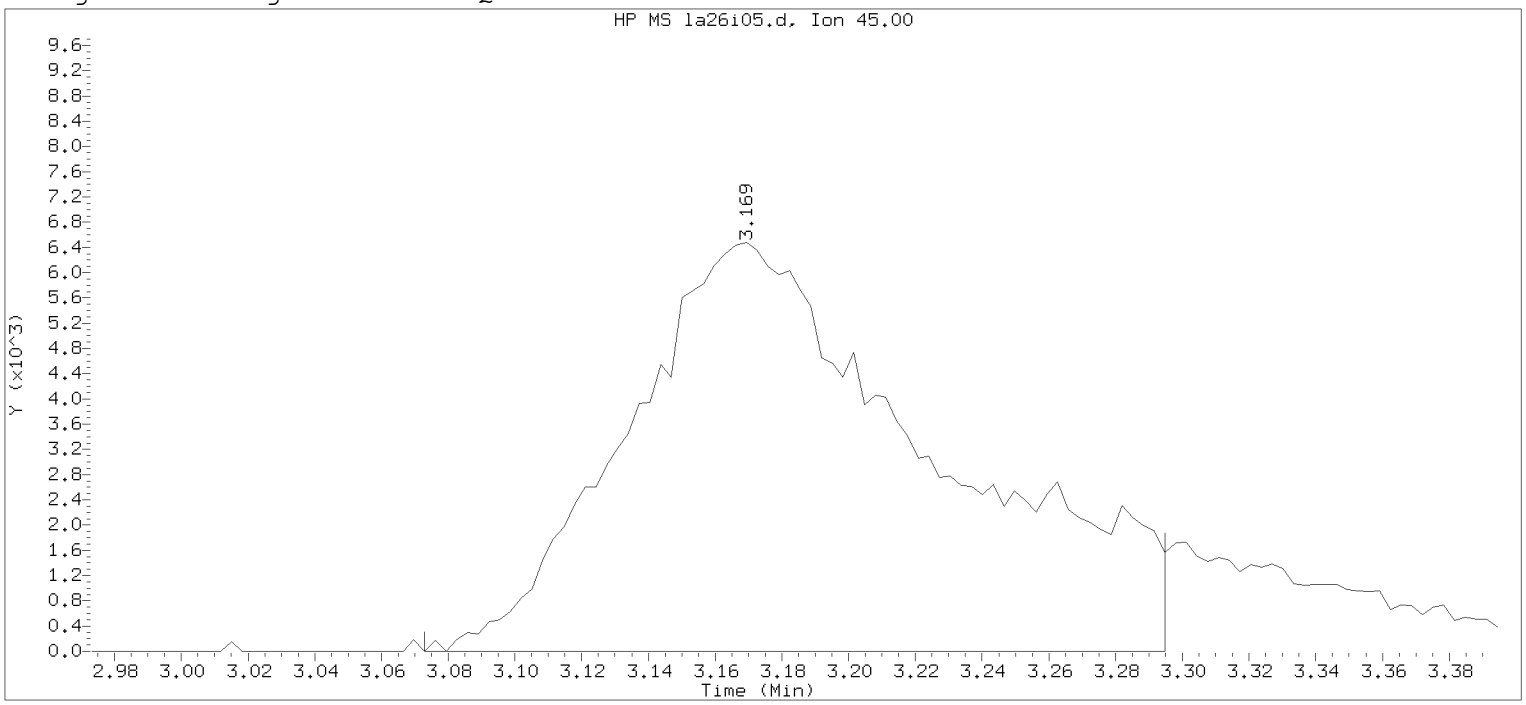
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

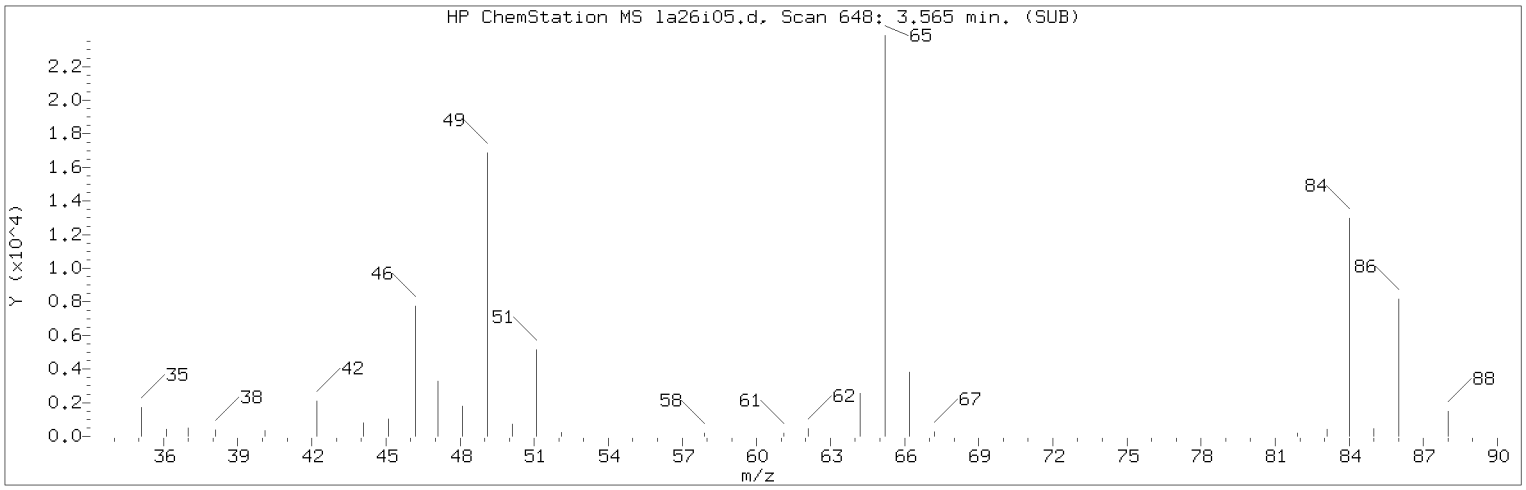
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

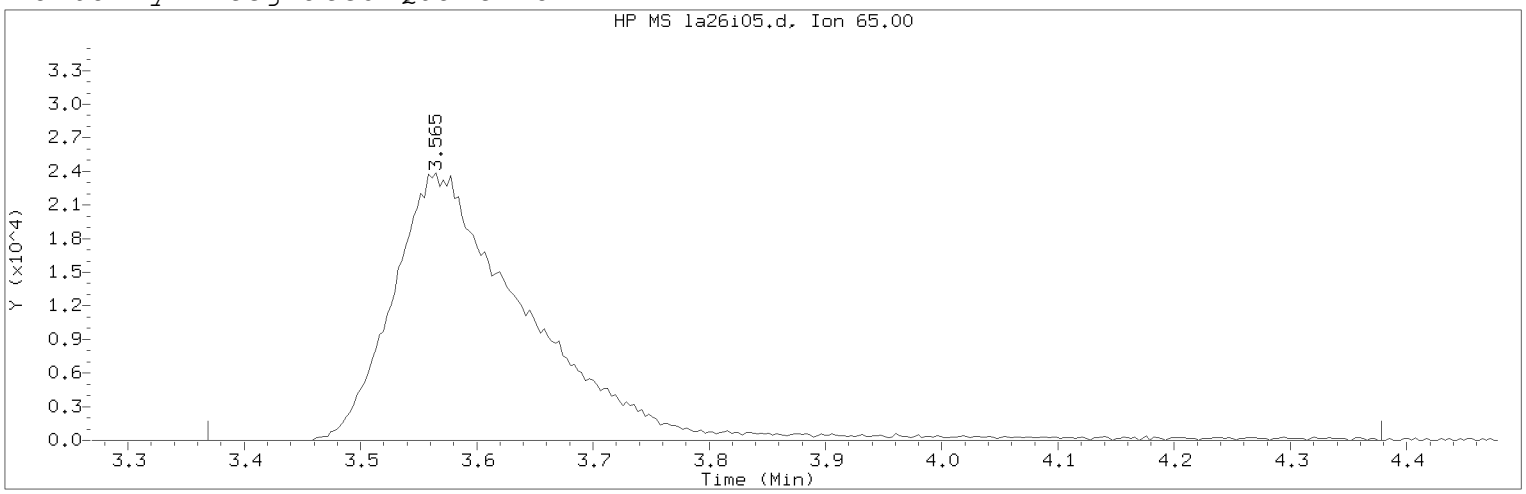
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 525
Retention Time (minutes): 3.169
Quant Ion : 45.00
Area : 41457
On-column Amount (ng) : 114.3657
Integration start scan : 494 Integration stop scan: 563
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2048

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

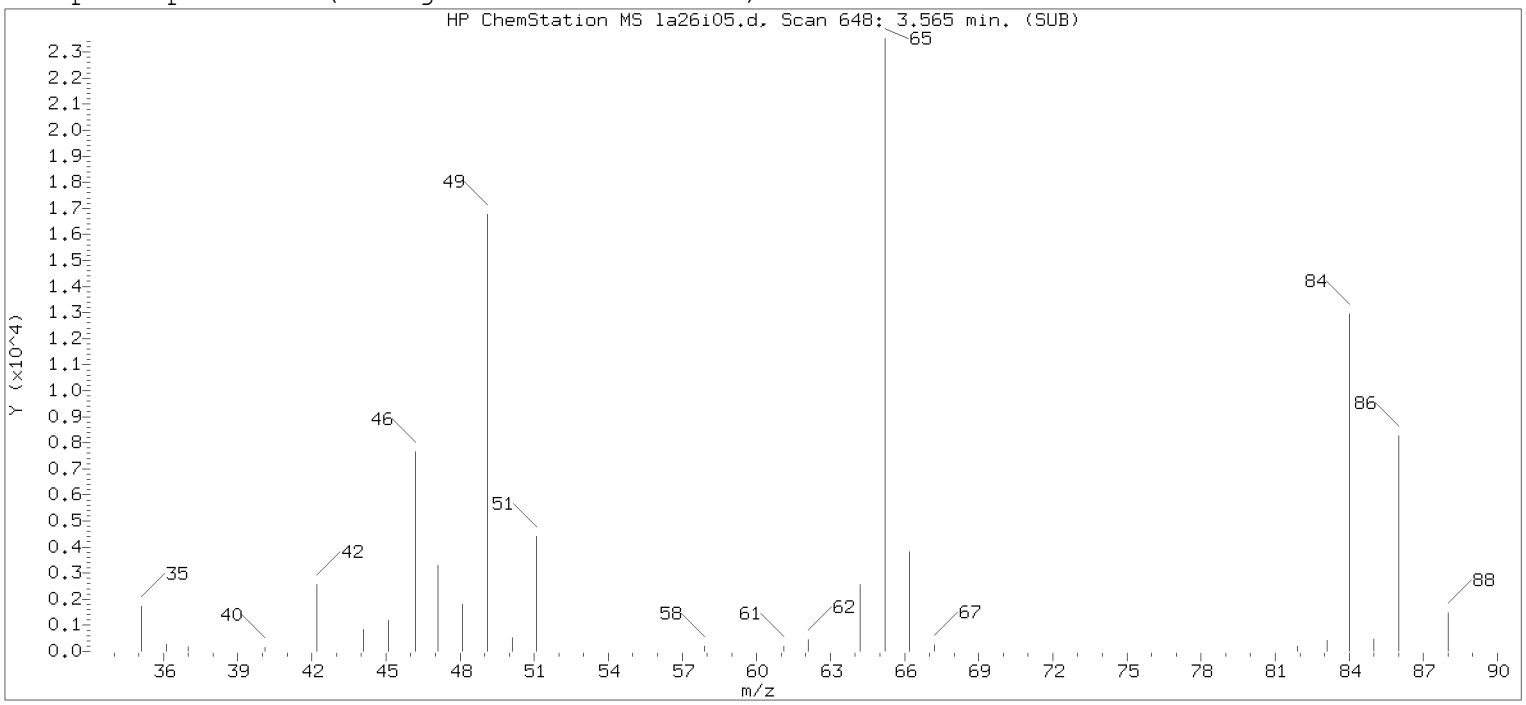
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 648
Retention Time (minutes): 3.565
Quant Ion : 65.00
Area (flag) : 194850M
On-Column Amount (ng) : 250.0000
Integration start scan : 586 Integration stop scan: 900
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

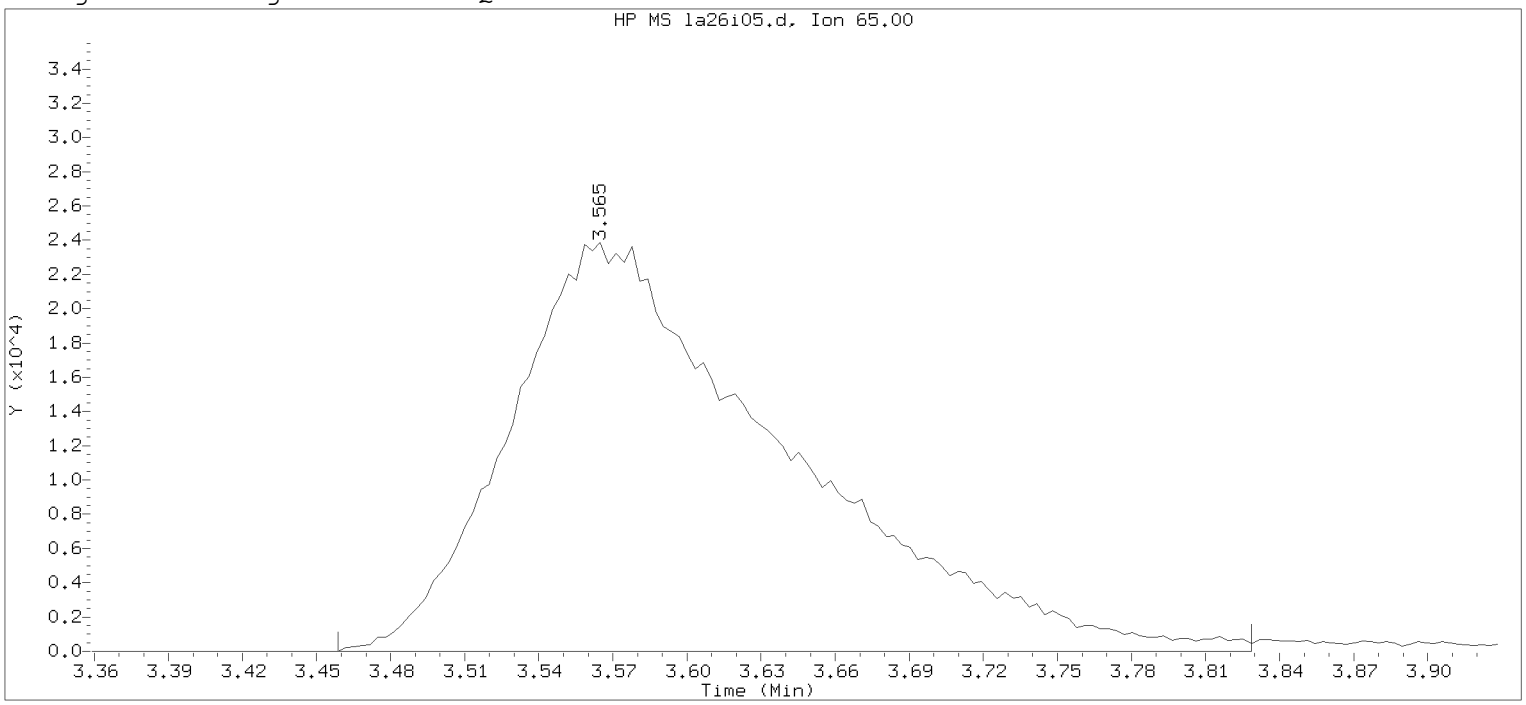
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

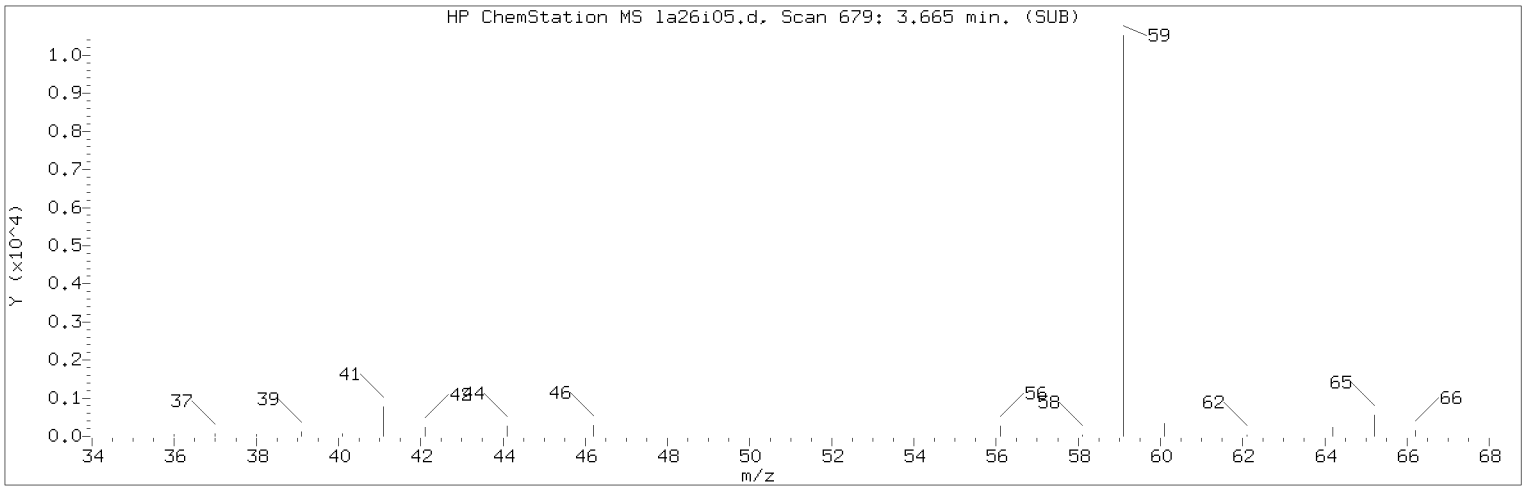
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

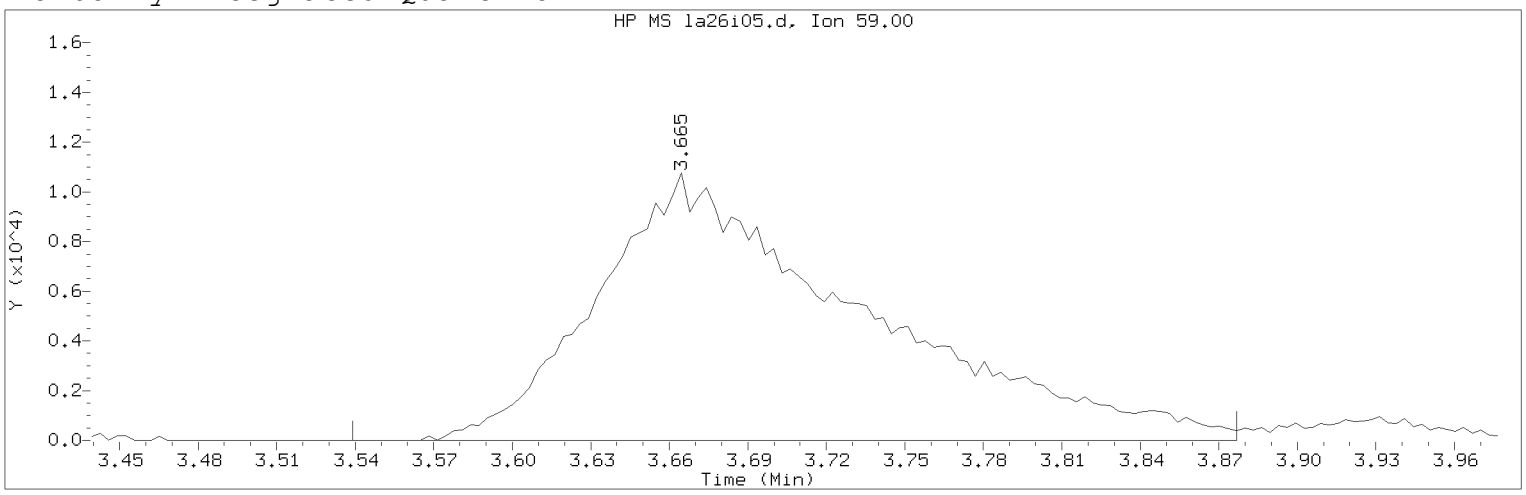
Compound Number	: 29		
Compound Name	: t-Butyl alcohol-d10		
Scan Number	: 648		
Retention Time (minutes)	: 3.565		
Quant Ion	: 65.00		
Area	: 185663		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 614	Integration stop scan:	729
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2443

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

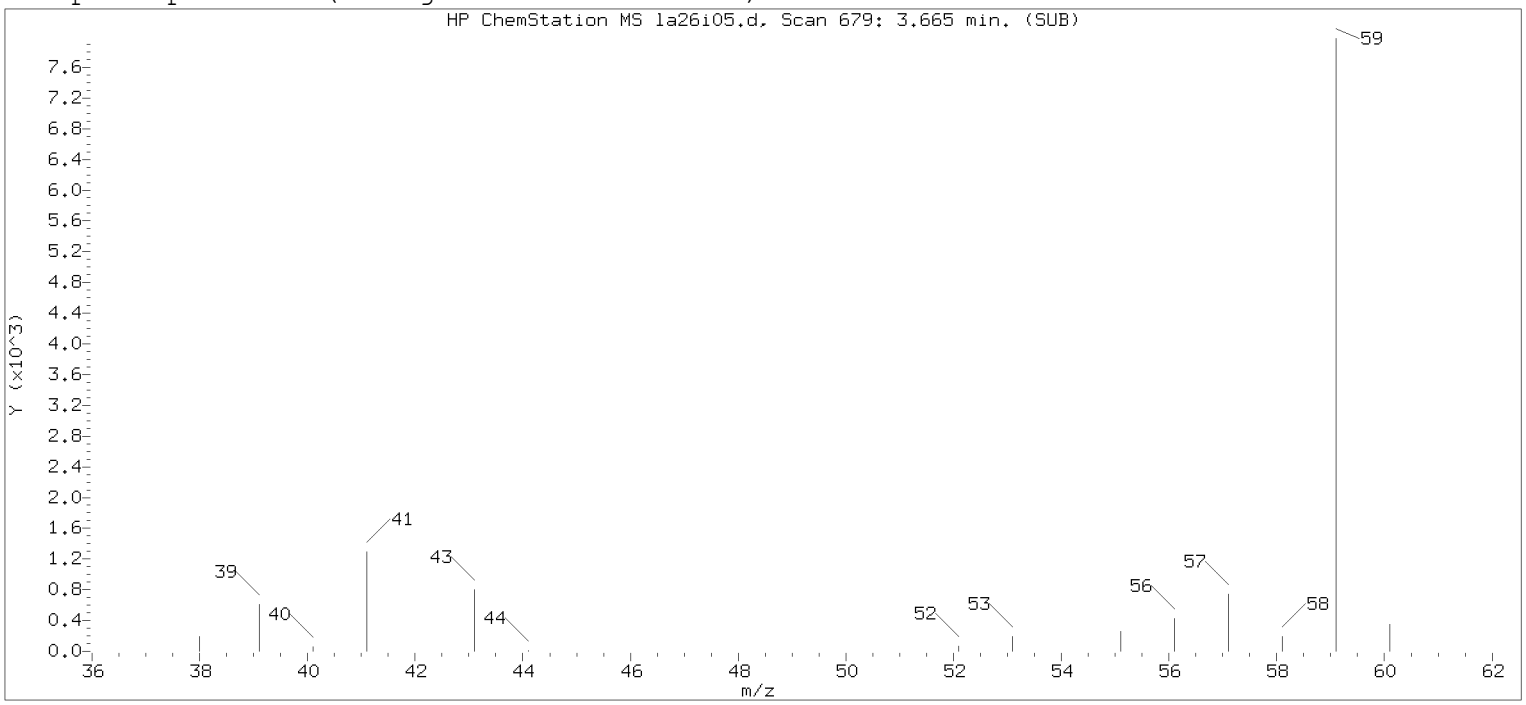
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 679
Retention Time (minutes): 3.665
Quant Ion : 59.00
Area (flag) : 75108M
On-Column Amount (ng) : 99.6249
Integration start scan : 639 Integration stop scan: 744
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

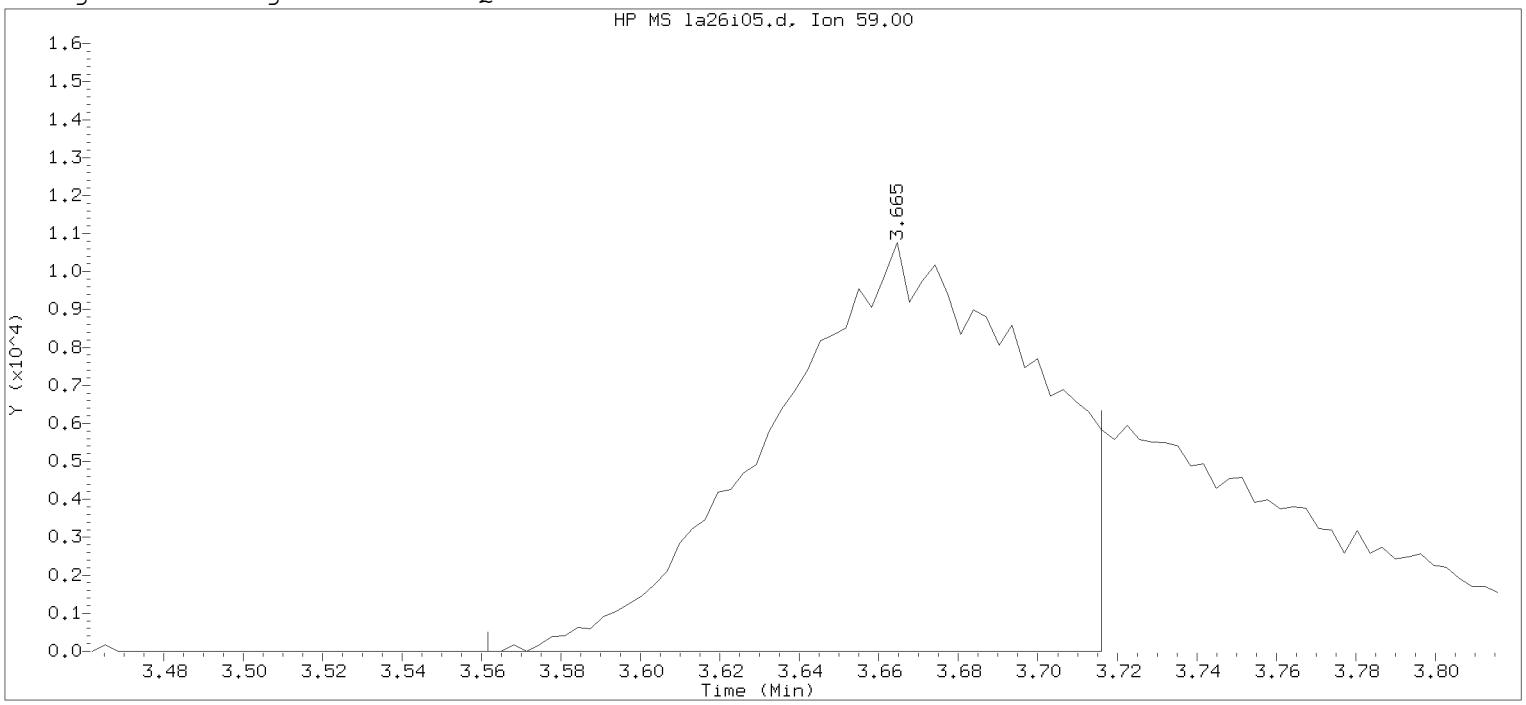
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

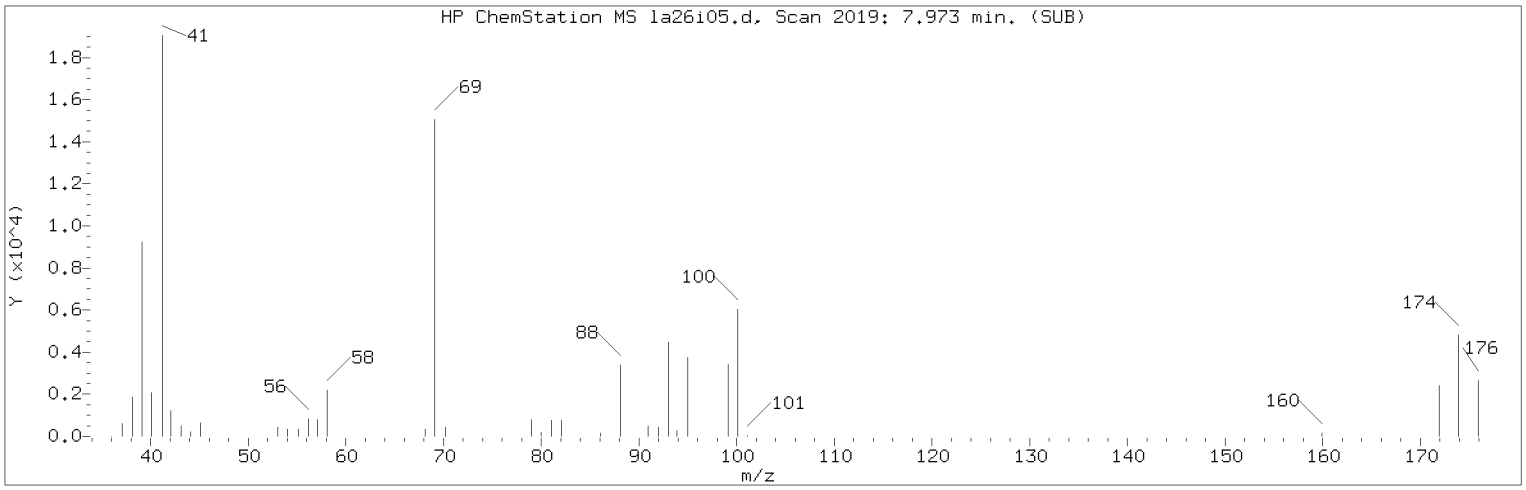
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

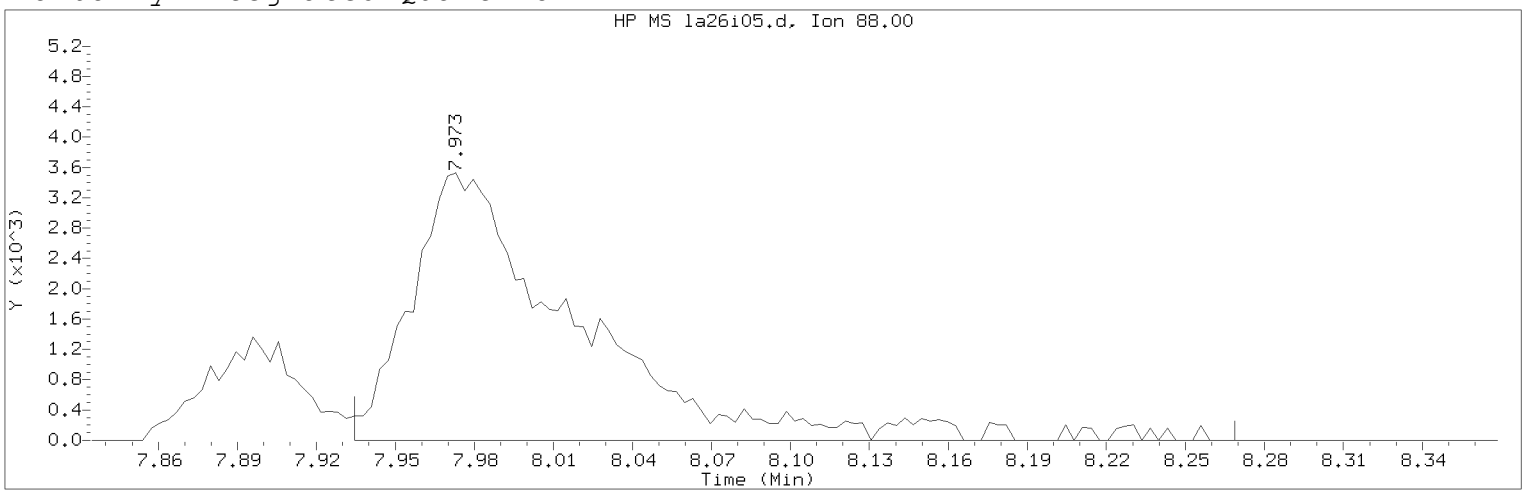
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 679
Retention Time (minutes): 3.665
Quant Ion : 59.00
Area : 49216
On-column Amount (ng) : 71.8732
Integration start scan : 646 Integration stop scan: 694
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

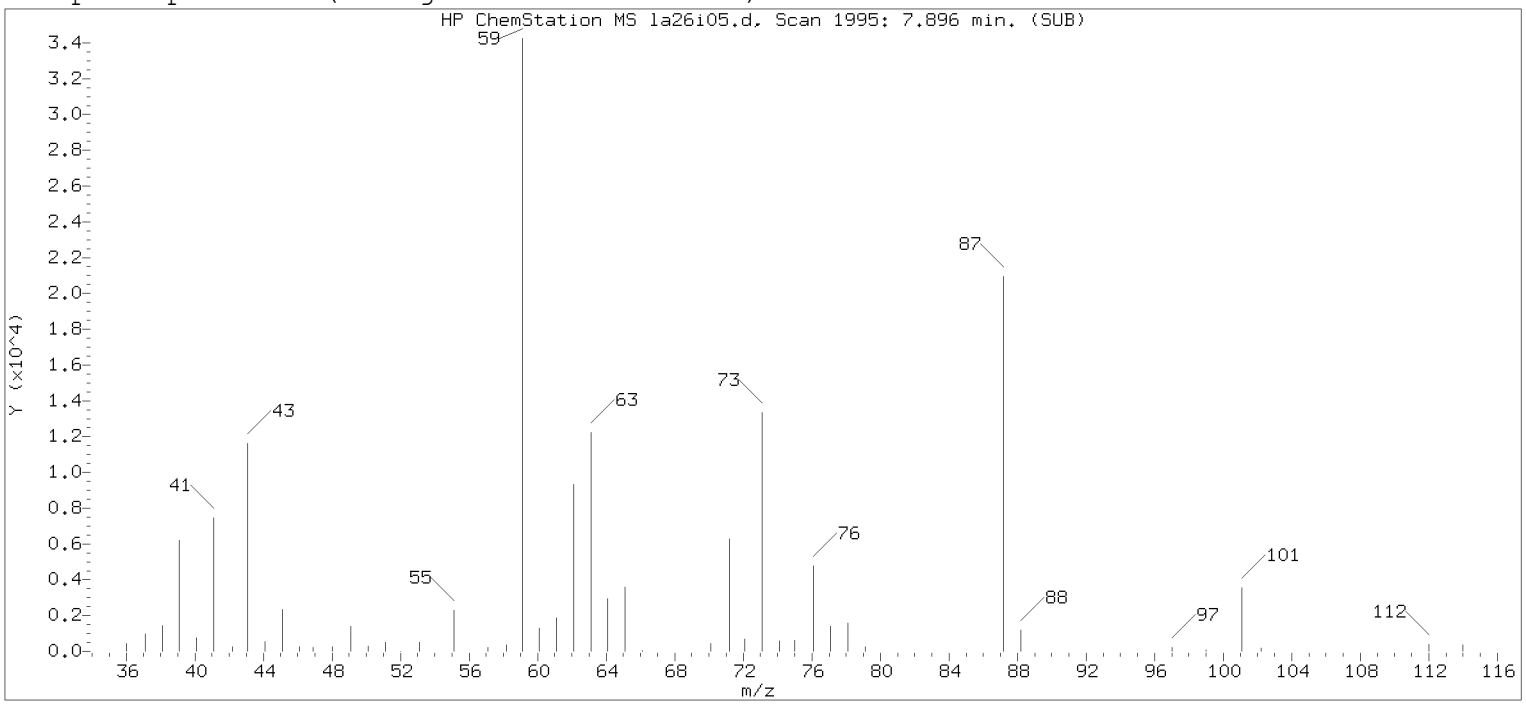
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2019
Retention Time (minutes): 7.973
Quant Ion : 88.00
Area (flag) : 15525M
On-Column Amount (ng) : 233.0554
Integration start scan : 2006 Integration stop scan: 2110
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

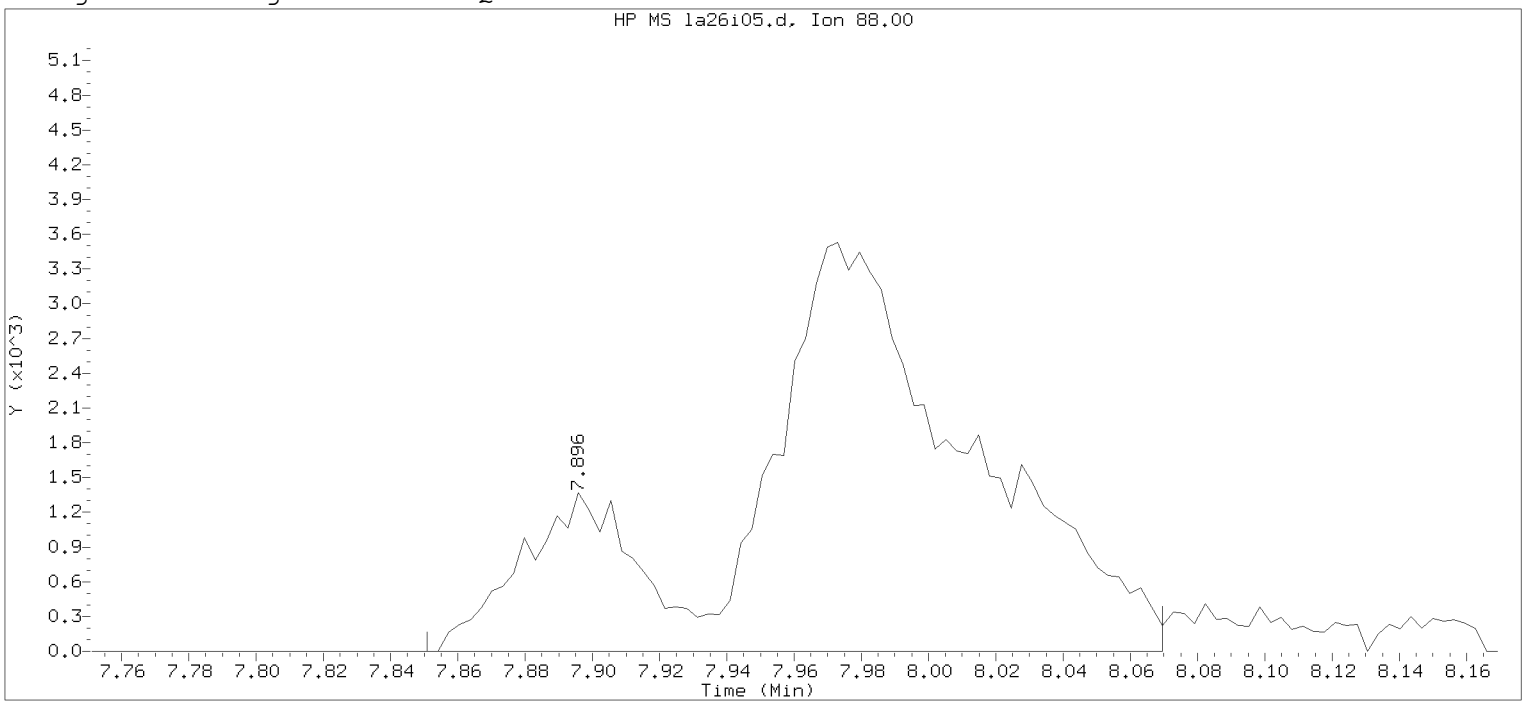
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

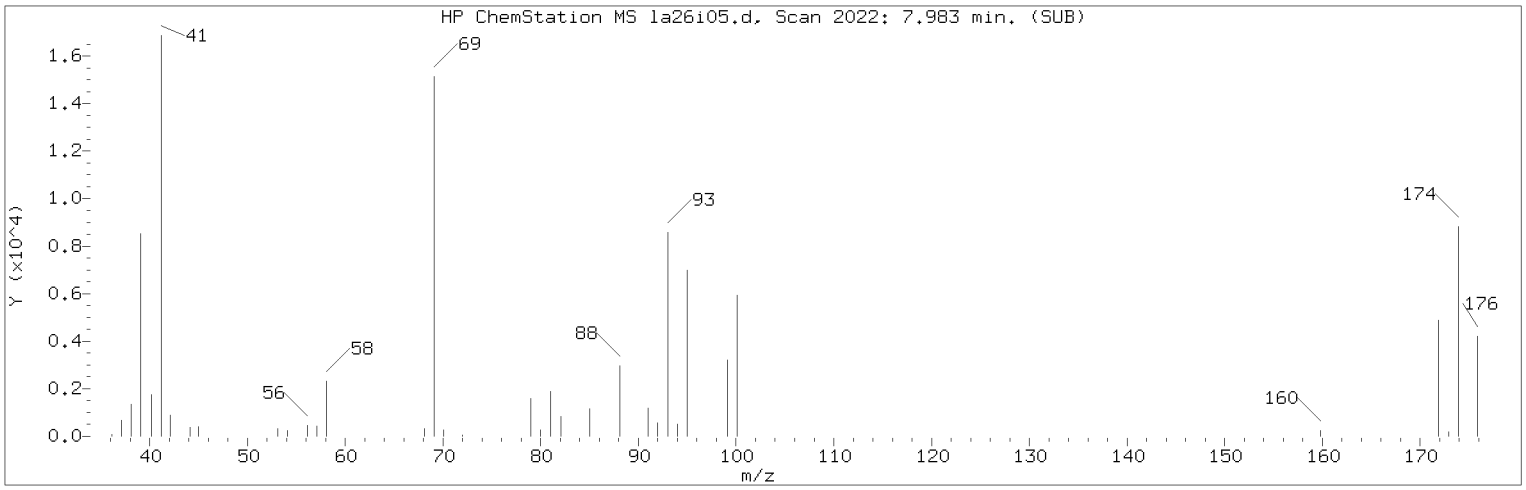
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

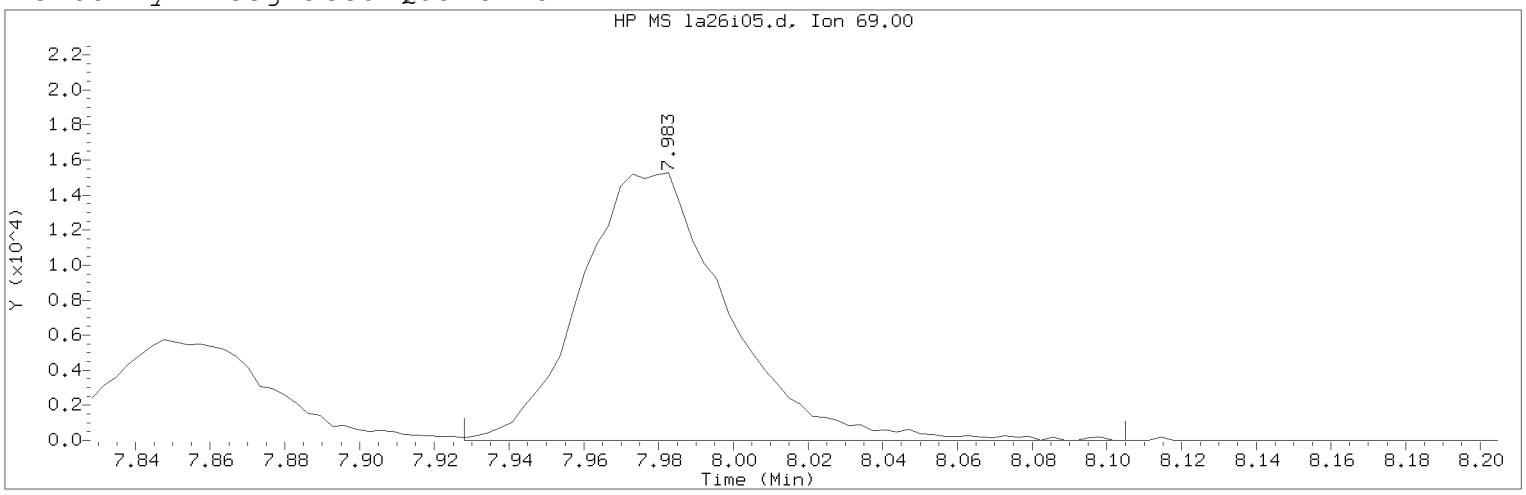
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 1995
Retention Time (minutes): 7.896
Quant Ion : 88.00
Area : 16999
On-column Amount (ng) : 234.9759
Integration start scan : 1980 Integration stop scan: 2048
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2048

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

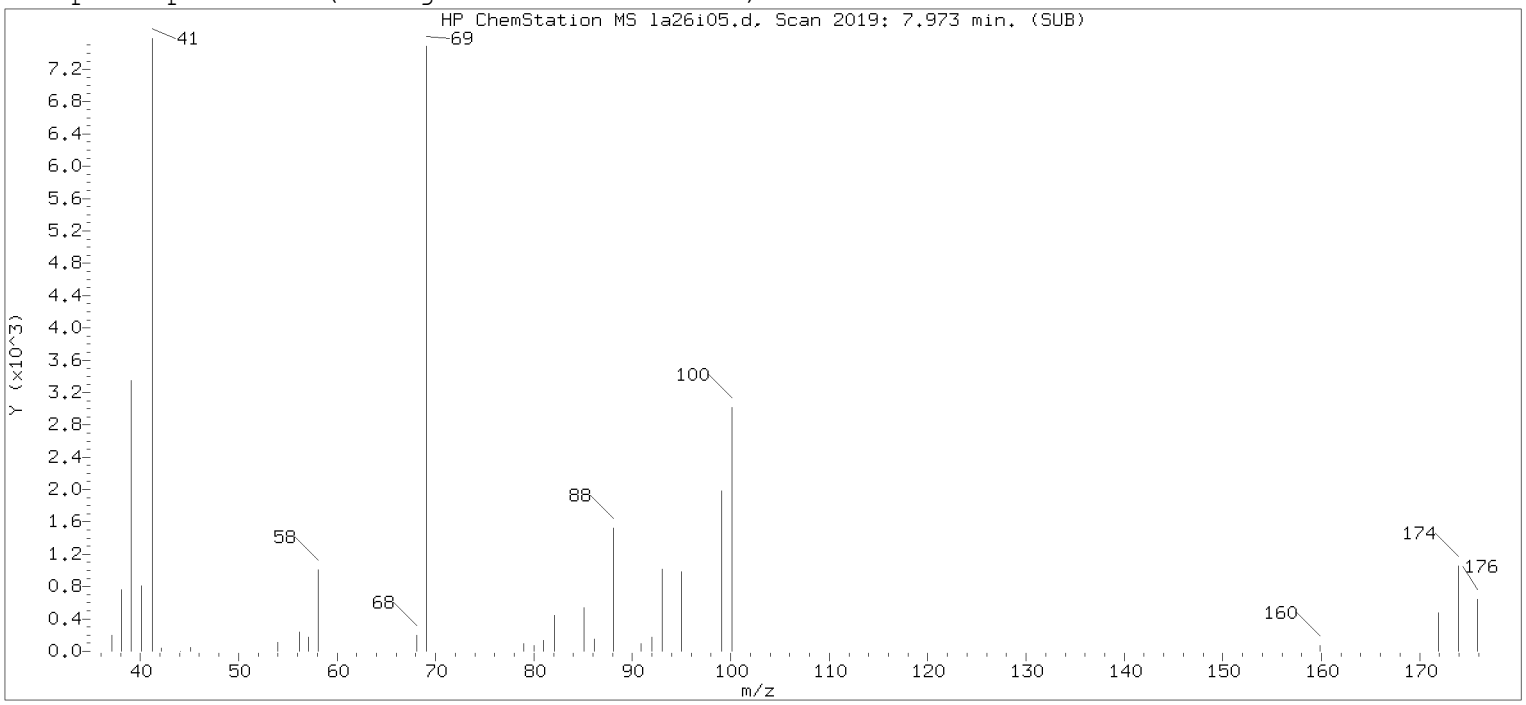
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2022
Retention Time (minutes): 7.983
Quant Ion : 69.00
Area (flag) : 41640M
On-Column Amount (ng) : 9.2747
Integration start scan : 2004 Integration stop scan: 2059
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

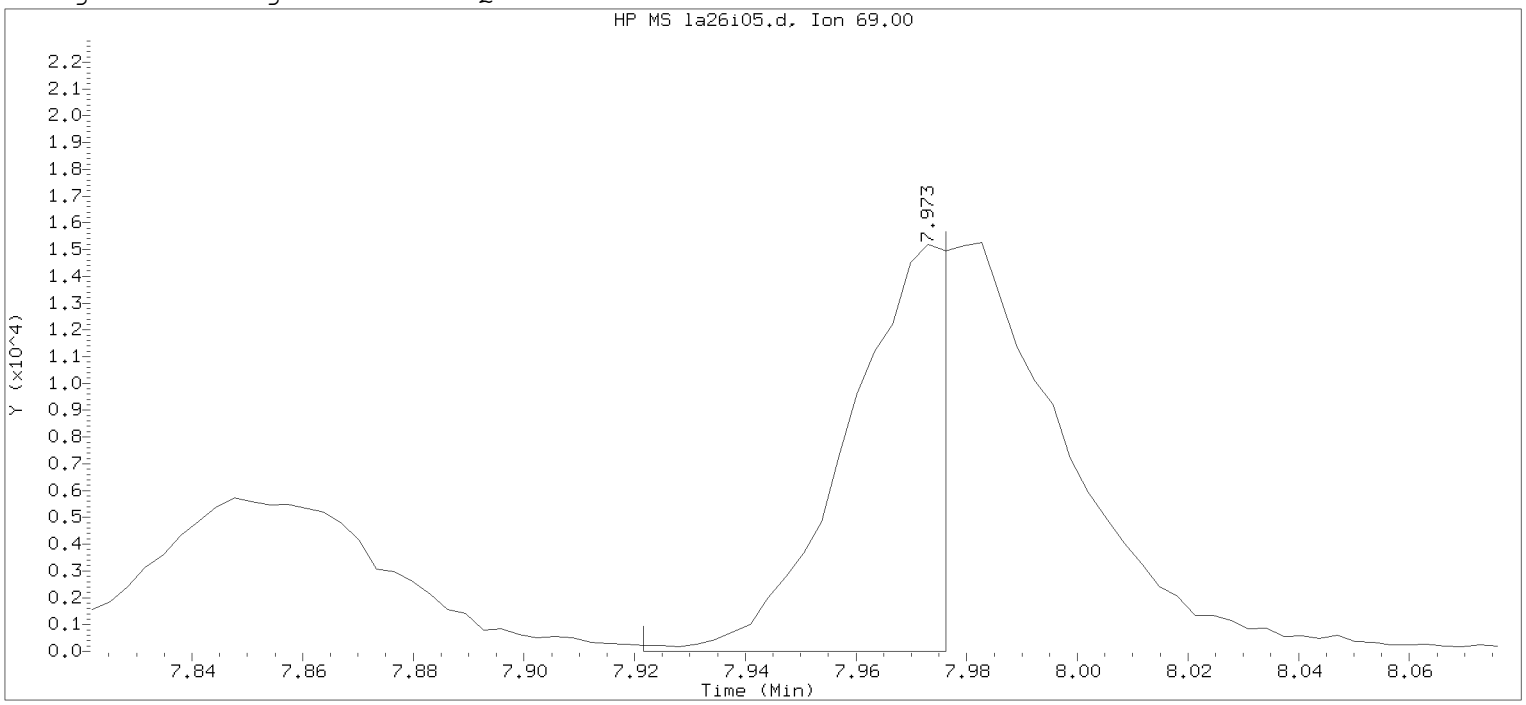
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

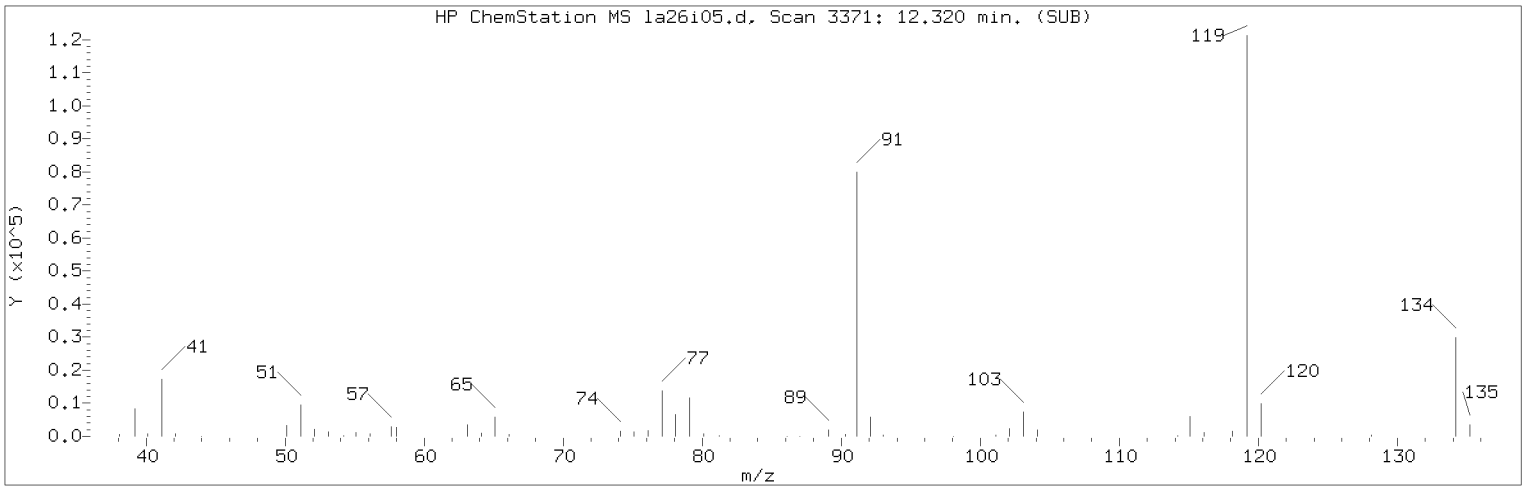
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

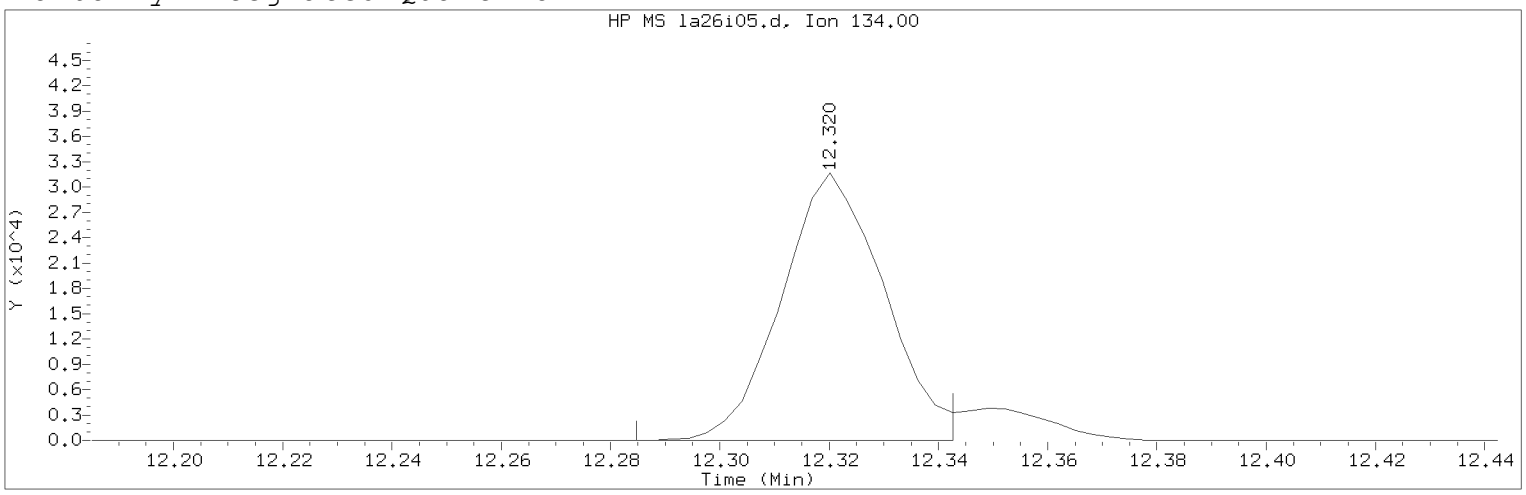
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2019
Retention Time (minutes): 7.973
Quant Ion : 69.00
Area : 18069
On-column Amount (ng) : 4.2742
Integration start scan : 2002 Integration stop scan: 2019
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature user k[illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

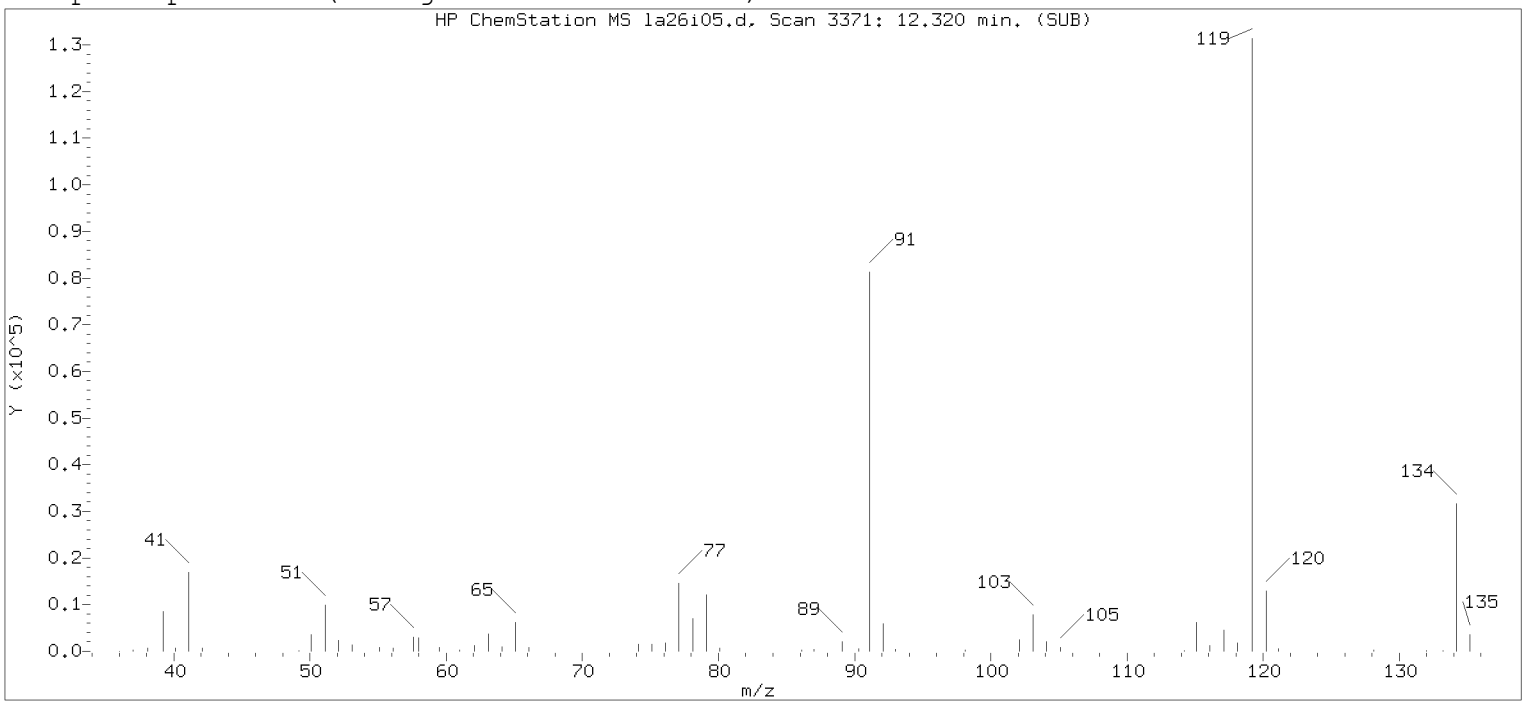
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area (flag) : 41143M
On-Column Amount (ng) : 9.8320
Integration start scan : 3359 Integration stop scan: 3377
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

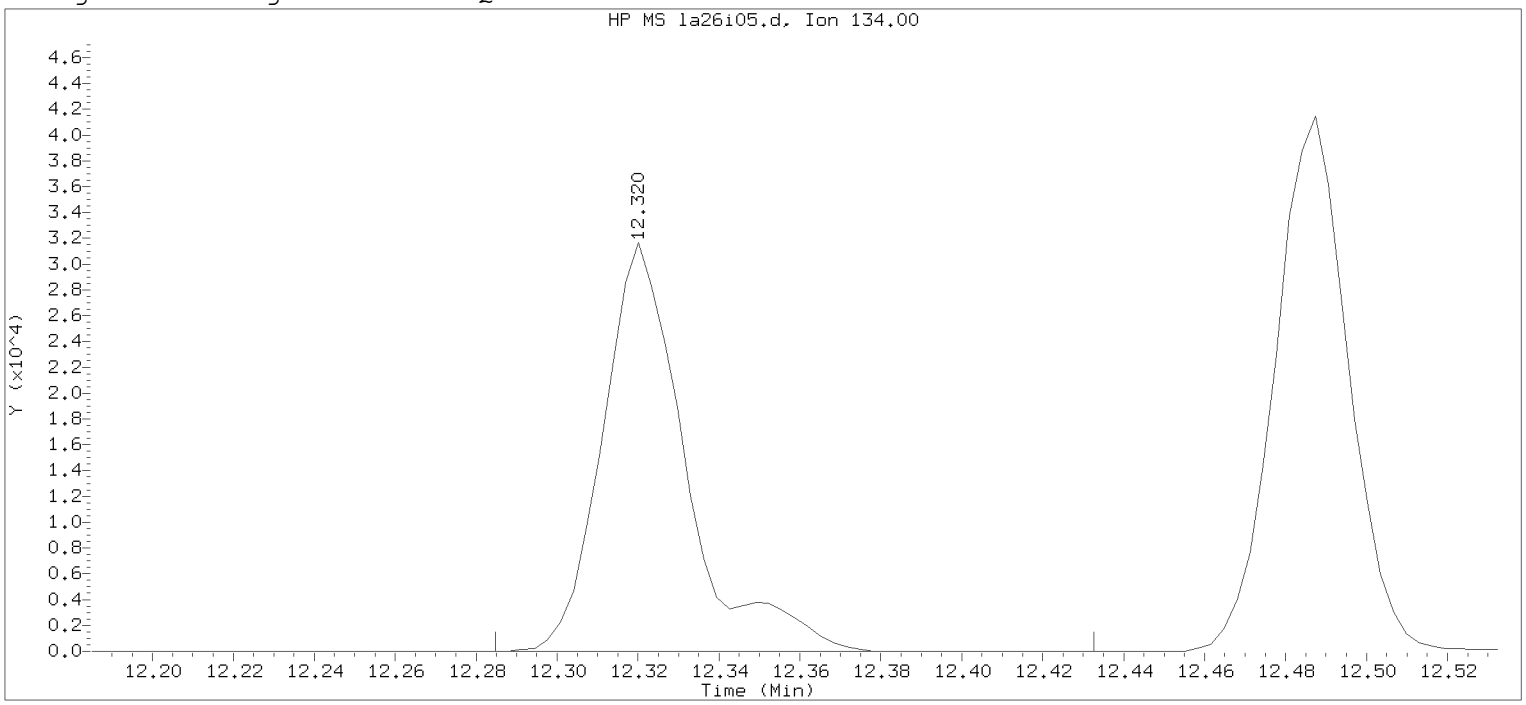
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



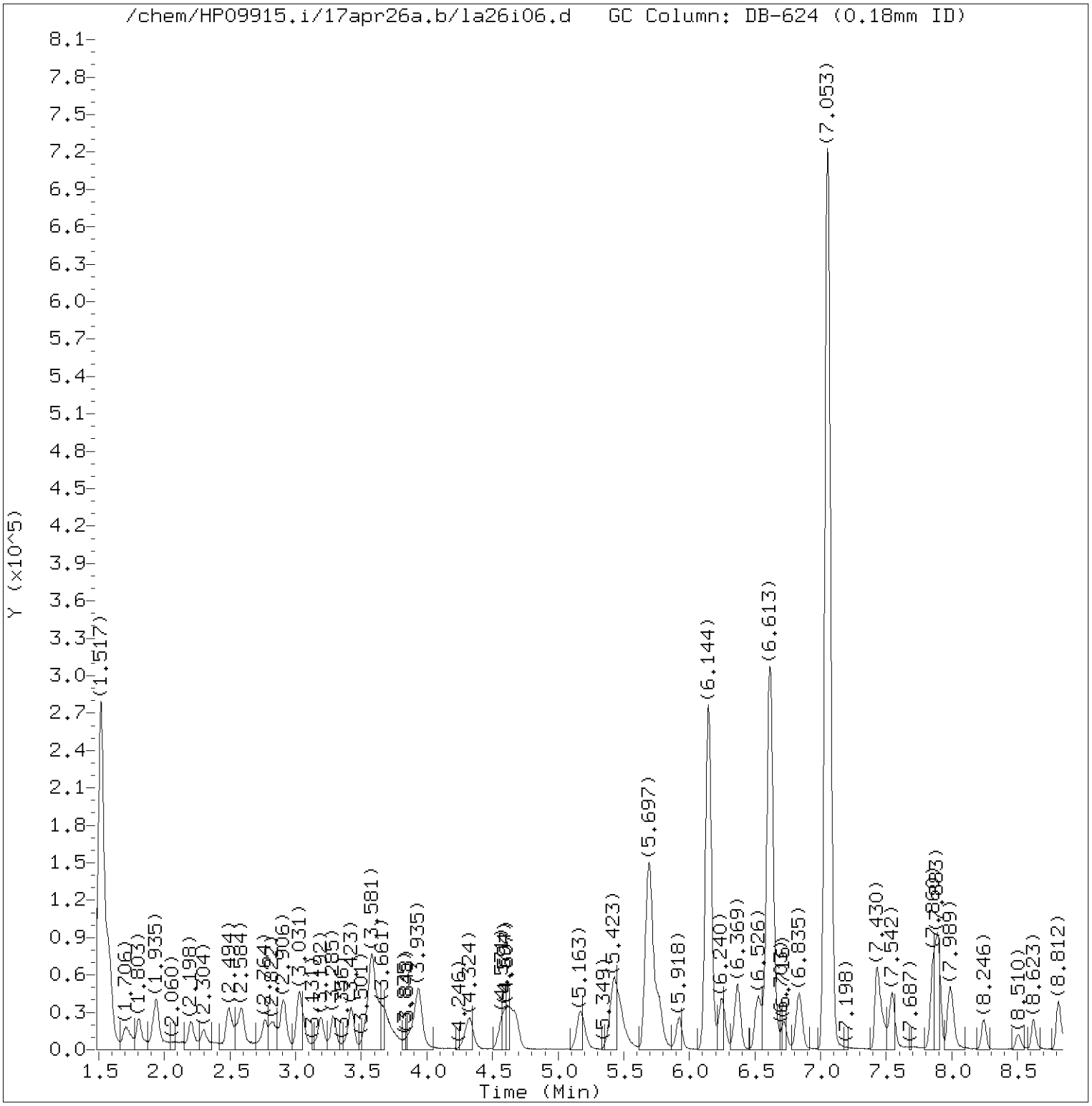
Data File: /chem/HP09915.i/17apr26a.b/la26i05.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 14:48 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:17
Date, time and analyst ID of latest file update: 26-Apr-2017 15:17 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area : 45210
On-column Amount (ng) : 9.8016
Integration start scan : 3359 Integration stop scan: 3405
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2433



Total Ion Chromatogram (TIC)

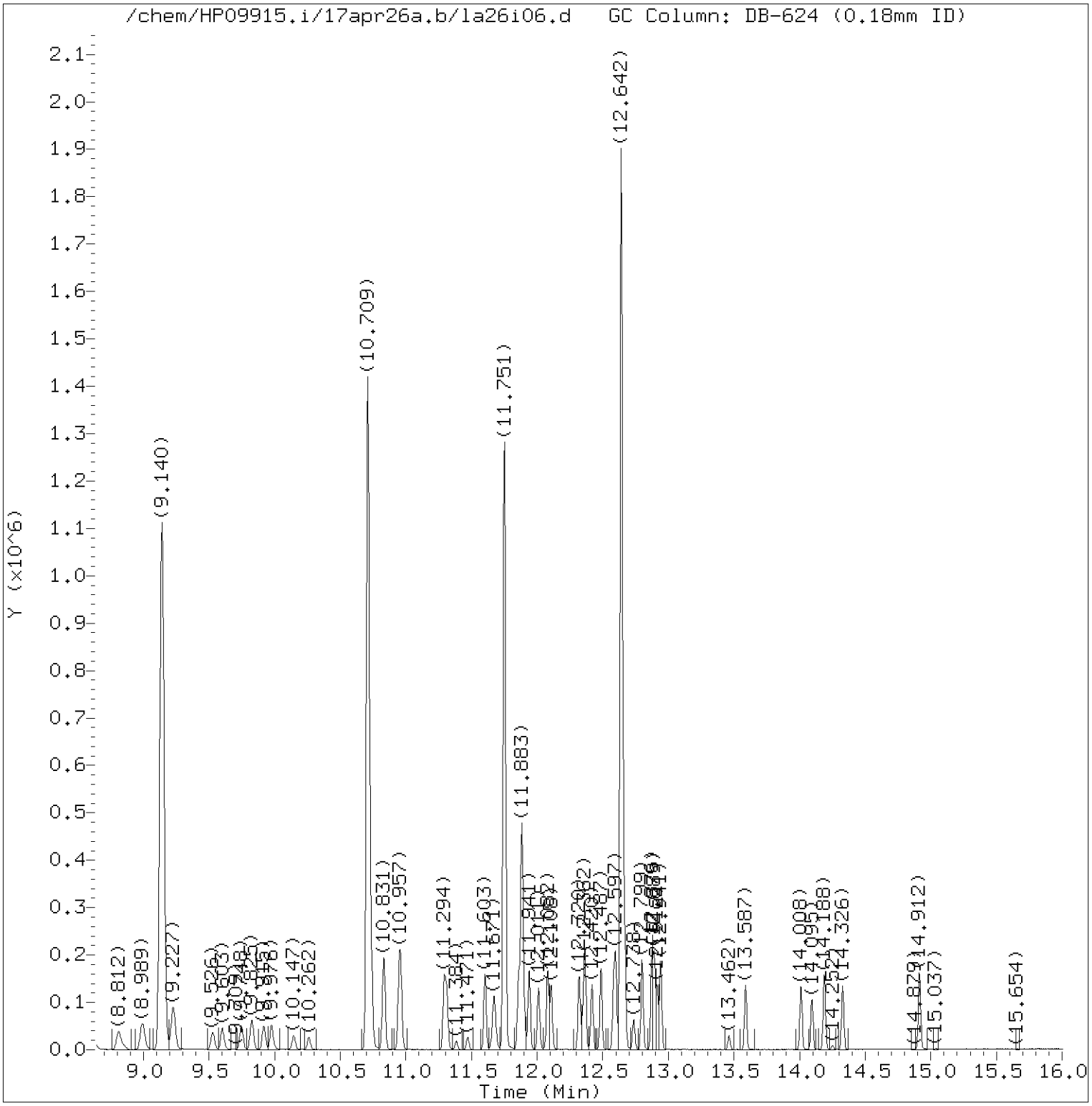
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.706	85	26037	4.176
4) Chloromethane	(2)	1.803	50	25200	3.934
6) Vinyl Chloride	(2)	1.915	62	24755	4.002
5) 1,3-Butadiene	(2)	1.941	39	16995	4.504
8) Bromomethane	(2)	2.205	94	16261M	3.908
9) Chloroethane	(2)	2.295	64	14059	4.033
10) Dichlorofluoromethane	(2)	2.484	67	33722	3.966
12) Trichlorofluoromethane	(2)	2.542	101	29360	4.099
11) n-Pentane	(2)	2.591	43	26016	4.410
14) Ethyl ether	(2)	2.767	59	15912	3.990
15) Freon 123a	(2)	2.816	67	20631	4.325
16) Acrolein	(1)	2.906	56	57583	34.296
17) 1,1-Dichloroethene	(2)	3.025	96	16036	4.230
17) 1,1-Dichloroethene	(2)	3.025	63	8089	4.215
18) Acetone	(1)	3.041	58	5325M	7.307
19) Freon 113	(2)	3.044	101	16238	4.255
21) 2-Propanol	(1)	3.189	45	40137M	83.086
22) Methyl Iodide	(2)	3.192	142	30085	4.091
23) Carbon Disulfide	(2)	3.282	76	50383	4.084
27) Methyl Acetate	(2)	3.401	43	21444	3.897
25) Allyl Chloride	(2)	3.430	41	31272	4.118
29)*t-Butyl alcohol-d10	(1)	3.574	65	205105M	250.000
28) Methylene Chloride	(2)	3.587	84	20934	4.180
30) t-Butyl alcohol	(1)	3.687	59	60772M	76.579
31) Acrylonitrile	(2)	3.870	53	11085	3.836
33) Methyl Tertiary Butyl Ether	(2)	3.915	73	55927	4.027
32) trans-1,2-Dichloroethene	(2)	3.935	96	18531	4.166
34) n-Hexane	(2)	4.324	57	28520	4.183
36) 1,1-Dichloroethane	(2)	4.562	63	34363	4.111
38) di-Isopropyl ether	(2)	4.619	45	64435	4.016
39) 2-Chloro-1,3-butadiene	(2)	4.677	53	28657	4.064
40) Ethyl t-butyl ether	(2)	5.176	59	54352	3.937
44) 2-Butanone	(2)	5.381	43	28701	7.418
45) 2,2-Dichloropropane	(2)	5.420	77	21315M	3.819
42) cis-1,2-Dichloroethene	(2)	5.423	96	20667	4.055
47) Propionitrile	(1)	5.465	54	86867	74.999
48) Methacrylonitrile	(2)	5.690	67	109898	38.147
49) Bromochloromethane	(2)	5.764	128	10436	3.885

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	5.787	71	6817	6.663
51) Chloroform	(2)	5.925	83	32628	4.095
53) 1,1,1-Trichloroethane	(2)	6.140	97	32845	4.511
52)$Dibromofluoromethane	(2)	6.147	113	253557	49.604
52)$Dibromofluoromethane	(2)	6.144	111	260923	49.814
43) 1,2-Dichloroethene (Total)	(2)		96	39198	8.221
54) Cyclohexane	(2)	6.250	56	34447	4.155
54) Cyclohexane	(2)	6.240	84	28669	4.230
54) Cyclohexane	(2)	6.243	69	10119	4.211
56) Carbon Tetrachloride	(2)	6.362	117	20852	3.924
55) 1,1-Dichloropropene	(2)	6.362	75	26512	4.091
58) Isobutyl Alcohol	(1)	6.526	41	53887	193.400
57)$1,2-Dichloroethane-d4	(2)	6.616	102	64045	50.386
57)$1,2-Dichloroethane-d4	(2)	6.610	65	303739	50.519
57)$1,2-Dichloroethane-d4	(2)	6.607	104	40296	49.981
60) Benzene	(2)	6.629	78	78391	4.104
61) 1,2-Dichloroethane	(2)	6.716	62	26098	4.039
61) 1,2-Dichloroethane	(2)	6.722	98	2305M	4.022
65) t-Amyl methyl ether	(2)	6.835	73	52770	3.851
66)*Fluorobenzene	(2)	7.053	96	1046774	50.000
67) n-Heptane	(2)	7.070	43	33581	4.399
69) n-Butanol	(1)	7.433	56	79036	351.880
71) Trichloroethene	(2)	7.549	95	19901	4.031
72) Methylcyclohexane	(2)	7.857	83	36459	4.192
72) Methylcyclohexane	(2)	7.854	98	16232	4.135
73) 1,2-Dichloropropane	(2)	7.889	63	20791	3.976
75) 1,4-Dioxane	(1)	7.979	88	12532	178.720
76) Methyl Methacrylate	(2)	7.983	69	16816M	3.757
74) Dibromomethane	(2)	7.992	93	12893M	3.921
78) Bromodichloromethane	(2)	8.246	83	22387	3.772
79) 2-Nitropropane	(2)	8.507	41	11184	6.646
80) 2-Chloroethyl Vinyl Ether	(2)	8.619	63	14941	3.717
81) cis-1,3-Dichloropropene	(2)	8.812	75	28555	3.692
82) 4-Methyl-2-pentanone	(2)	8.992	43	55176	6.920
83)$Toluene-d8	(3)	9.143	98	1029529	50.086
83)$Toluene-d8	(3)	9.140	100	677093	49.999
88) Toluene	(3)	9.227	92	48414	4.053
89) trans-1,3-Dichloropropene	(3)	9.526	75	23592	3.522

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	9.603	69	27111	3.594
92) 1,1,2-Trichloroethane	(3)	9.748	97	17786	3.864
93) Tetrachloroethene	(3)	9.828	166	21245	4.021
94) 1,3-Dichloropropane	(3)	9.918	76	30994	3.881
96) 2-Hexanone	(3)	9.979	43	39380	6.830
90) 1,3-Dichloropropene (total)	(3)		100	52147	7.214
97) Dibromochloromethane	(3)	10.147	129	16936	3.552
99) 1,2-Dibromoethane	(3)	10.262	107	19109	3.792
100)*Chlorobenzene-d5	(3)	10.709	117	805037	50.000
101) 1-Chlorohexane	(3)	10.732	91	28026	4.085
102) Chlorobenzene	(3)	10.738	112	54921	3.985
103) 1,1,1,2-Tetrachloroethane	(3)	10.828	131	17119	3.761
104) Ethylbenzene	(3)	10.835	91	92312	4.006
106) m+p-Xylene	(3)	10.954	106	71336	7.953
107) o-Xylene	(3)	11.291	106	34913	3.914
109) Styrene	(3)	11.310	104	55976	3.796
110) Bromoform	(3)	11.471	173	11404	3.294
111) Isopropylbenzene	(3)	11.603	105	91623	4.019
112) Cyclohexanone	(1)	11.674	55	48698	184.107
114)$4-Bromofluorobenzene	(3)	11.751	95	385379	50.441
114)$4-Bromofluorobenzene	(3)	11.751	174	338738	50.546
108) Xylene (Total)	(3)		106	106249	11.866
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	30161	3.917
115) Bromobenzene	(4)	11.864	156	24538	3.958
118) trans-1,4-Dichloro-2-butene	(4)	11.883	53	83531	37.862
117) 1,2,3-Trichloropropane	(4)	11.902	110	8734	4.013
119) n-Propylbenzene	(4)	11.941	91	111094	4.055
120) 2-Chlorotoluene	(4)	12.011	126	22713	3.983
122) 1,3,5-Trimethylbenzene	(4)	12.082	105	77197	3.952
121) 4-Chlorotoluene	(4)	12.108	126	23232	3.915
124) tert-Butylbenzene	(4)	12.323	134	16177M	3.831
125) Pentachloroethane	(4)	12.352	167	11868	3.559
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	78838	3.918
127) sec-Butylbenzene	(4)	12.487	105	100568	4.036
129) 1,3-Dichlorobenzene	(4)	12.584	146	47596	4.032
130) p-Isopropyltoluene	(4)	12.600	119	86819	3.946
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	433758	50.000
133) 1,4-Dichlorobenzene	(4)	12.661	146	49098	4.023

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

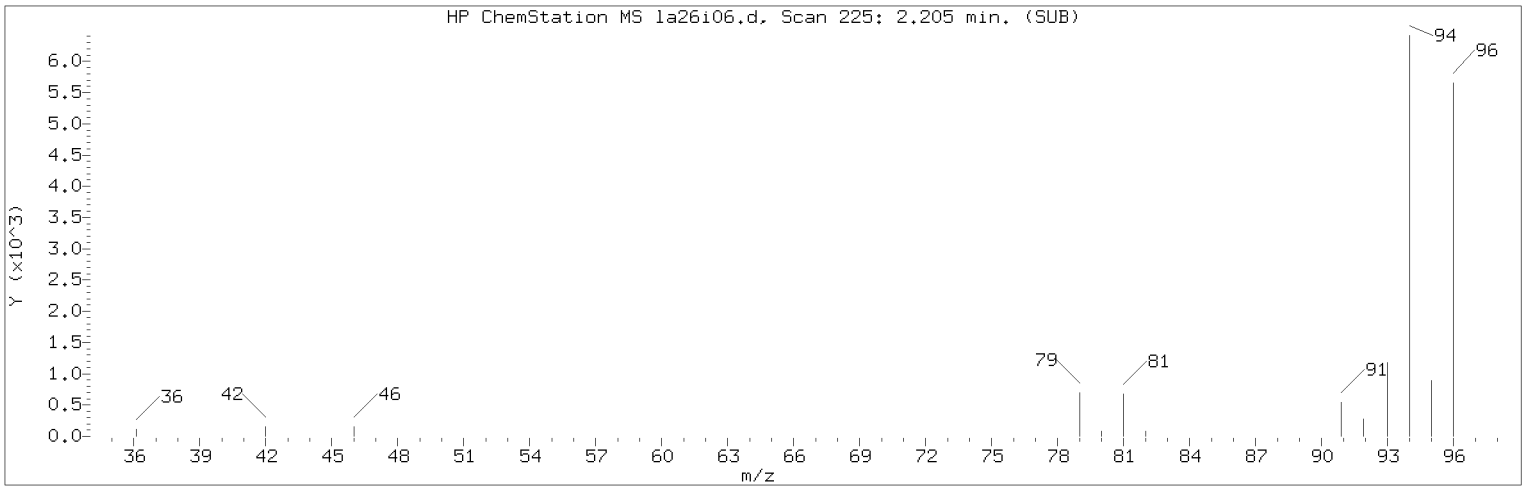
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

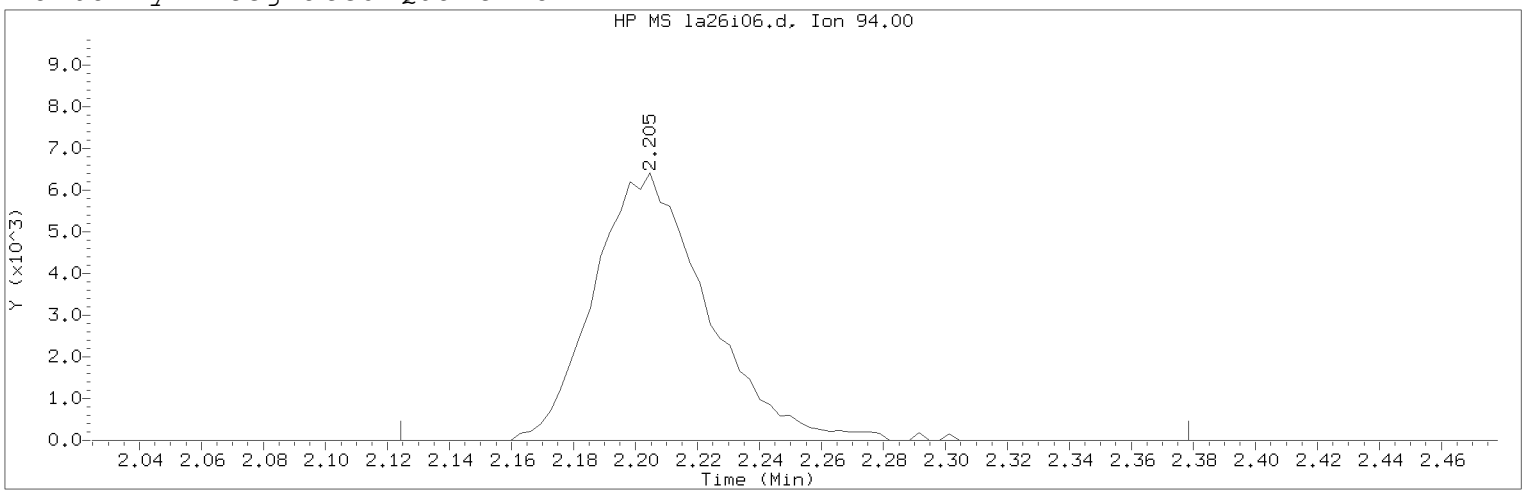
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134) 1,2,3-Trimethylbenzene	(4)	12.667	105	83360	3.954
135) Benzyl Chloride	(4)	12.735	91	37399	3.098
136) 1,3-Diethylbenzene	(4)	12.799	119	51945	3.951
137) 1,4-Diethylbenzene	(4)	12.873	119	55669	4.033
139) n-Butylbenzene	(4)	12.892	92	45170	4.109
138) 1,2-Dichlorobenzene	(4)	12.915	146	46959	4.047
140) 1,2-Diethylbenzene	(4)	12.941	119	44327	4.007
141) Diethylbenzene (total)	(4)		100	151941	11.991
142) 1,2-Dibromo-3-chloropropane	(4)	13.462	75	5965	3.664
144) 1,3,5-Trichlorobenzene	(4)	13.587	180	38380	4.080
146) 1,2,4-Trichlorobenzene	(4)	14.011	180	36590	4.010
147) Hexachlorobutadiene	(4)	14.095	225	16967	4.281
148) Naphthalene	(4)	14.188	128	107263	3.895
149) 1,2,3-Trichlorobenzene	(4)	14.330	180	35386	4.019
150) 2-Methylnaphthalene	(4)	14.912	142	66826	3.753

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

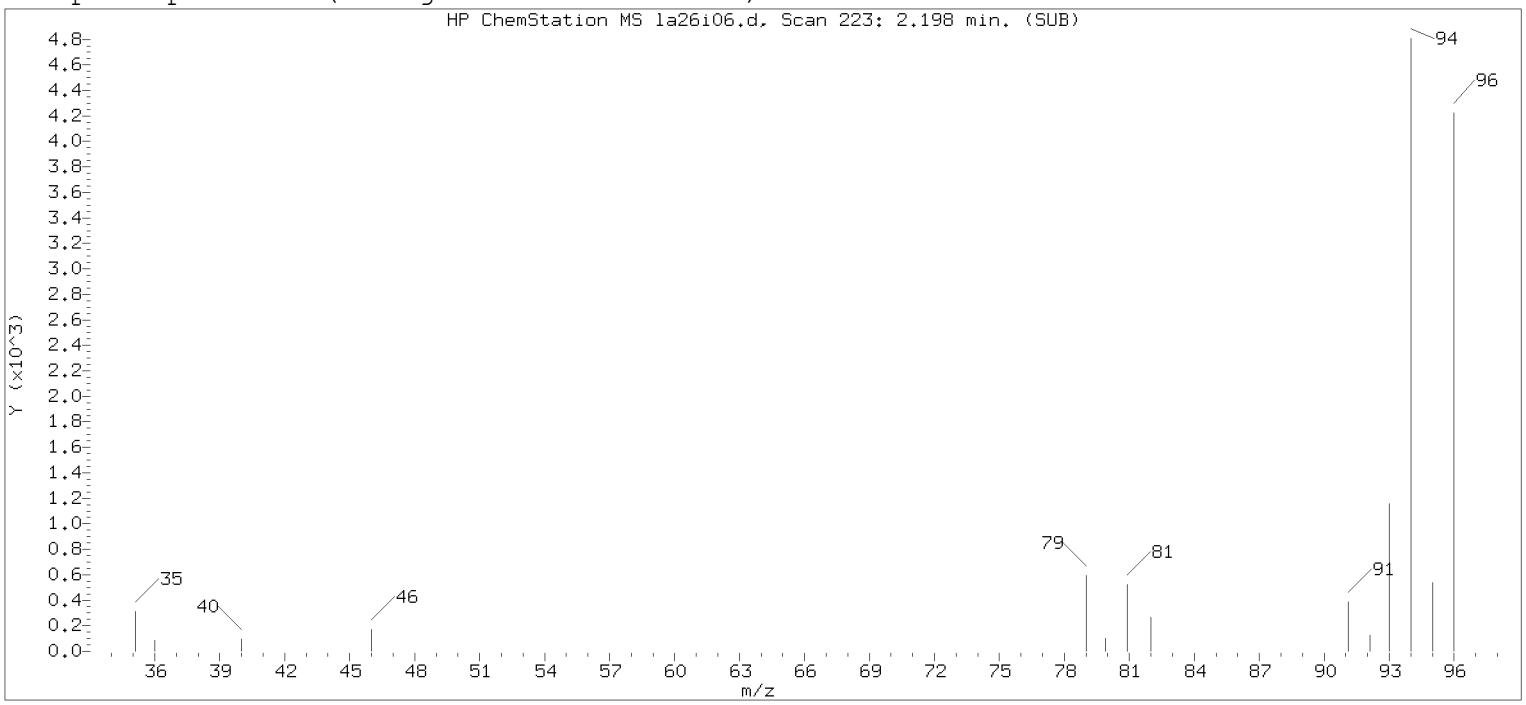
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 225
Retention Time (minutes): 2.205
Quant Ion : 94.00
Area (flag) : 16261M
On-Column Amount (ng) : 3.9084
Integration start scan : 199 Integration stop scan: 278
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

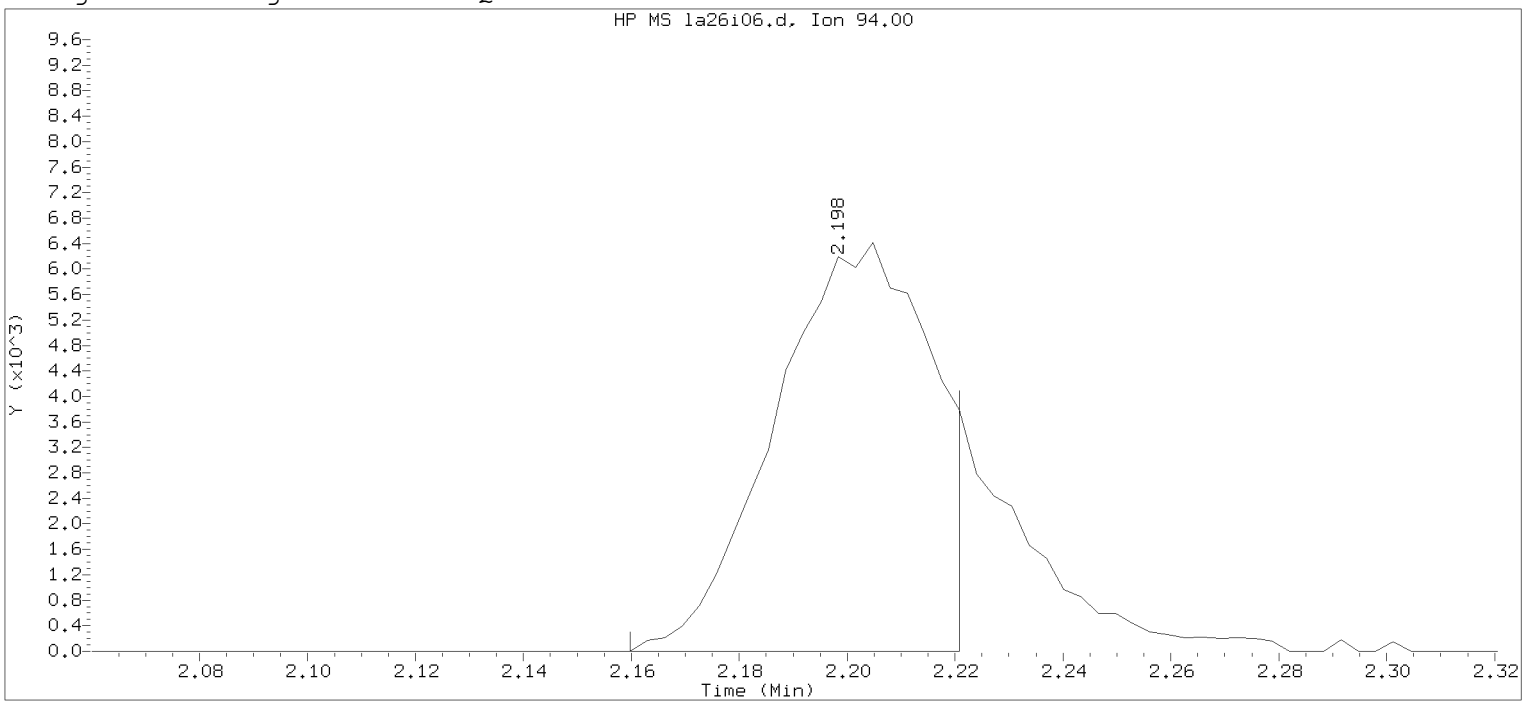
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

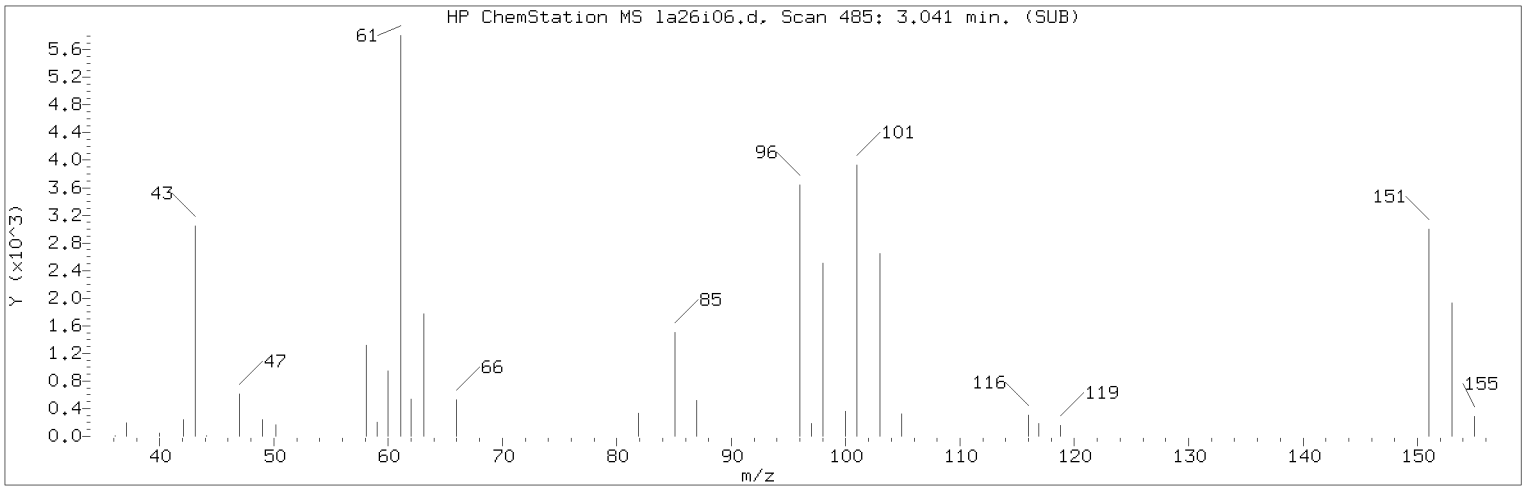
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

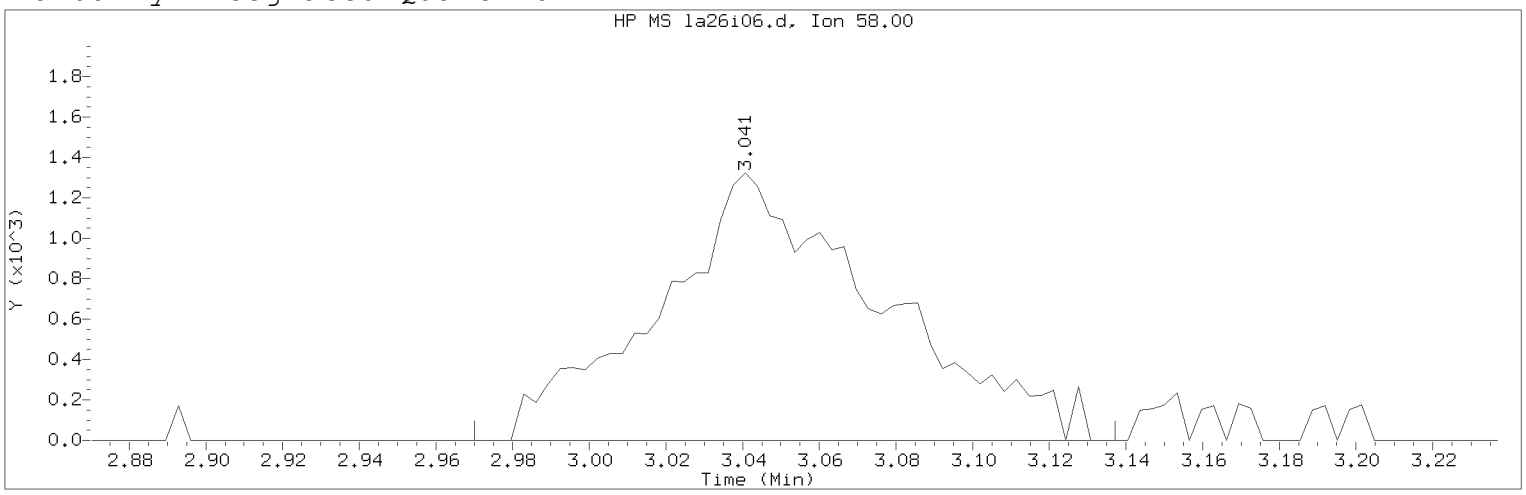
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 223
Retention Time (minutes): 2.198
Quant Ion : 94.00
Area : 12778
On-column Amount (ng) : 3.1270
Integration start scan : 210 Integration stop scan: 229
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2443

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

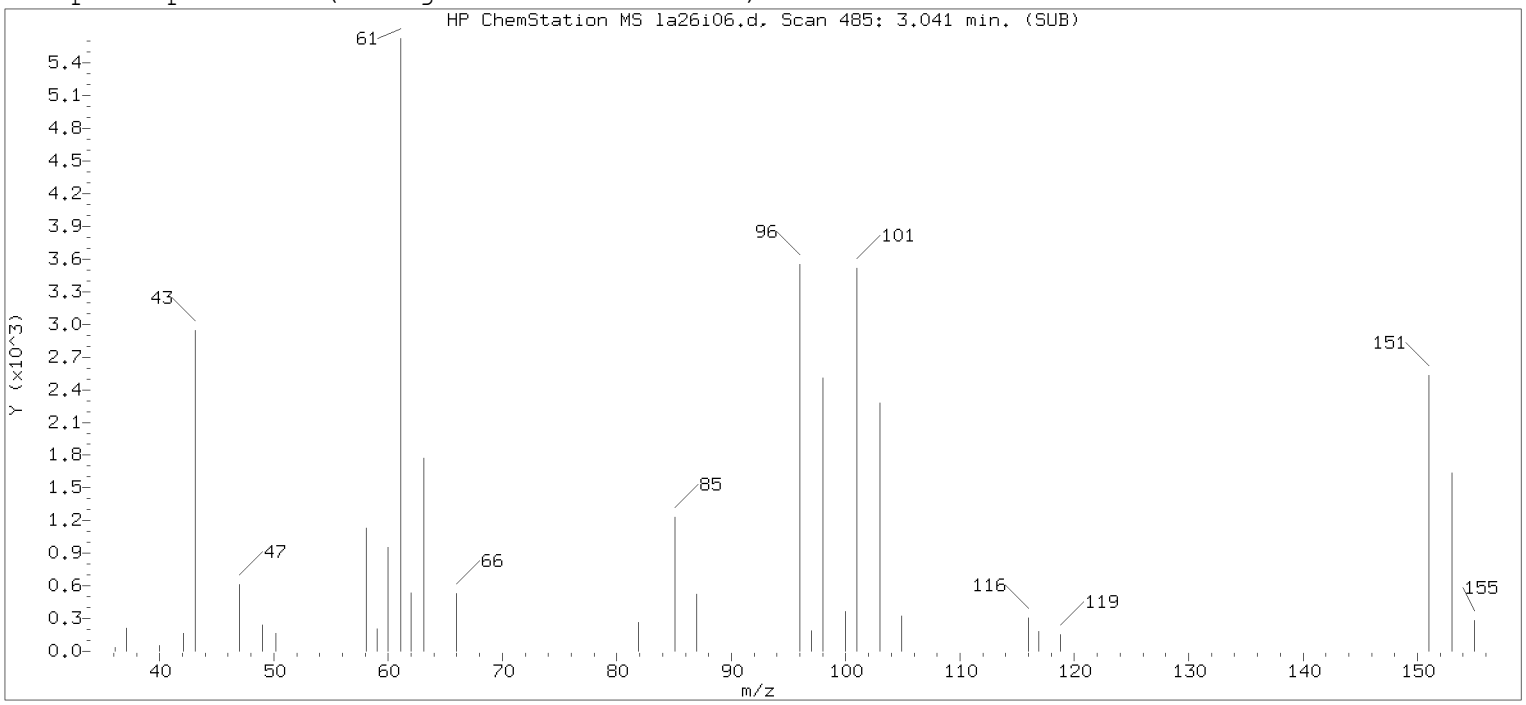
Compound Number : 18
Compound Name : Acetone
Scan Number : 485
Retention Time (minutes): 3.041
Quant Ion : 58.00
Area (flag) : 5325M
On-Column Amount (ng) : 7.3073
Integration start scan : 462 Integration stop scan: 514
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

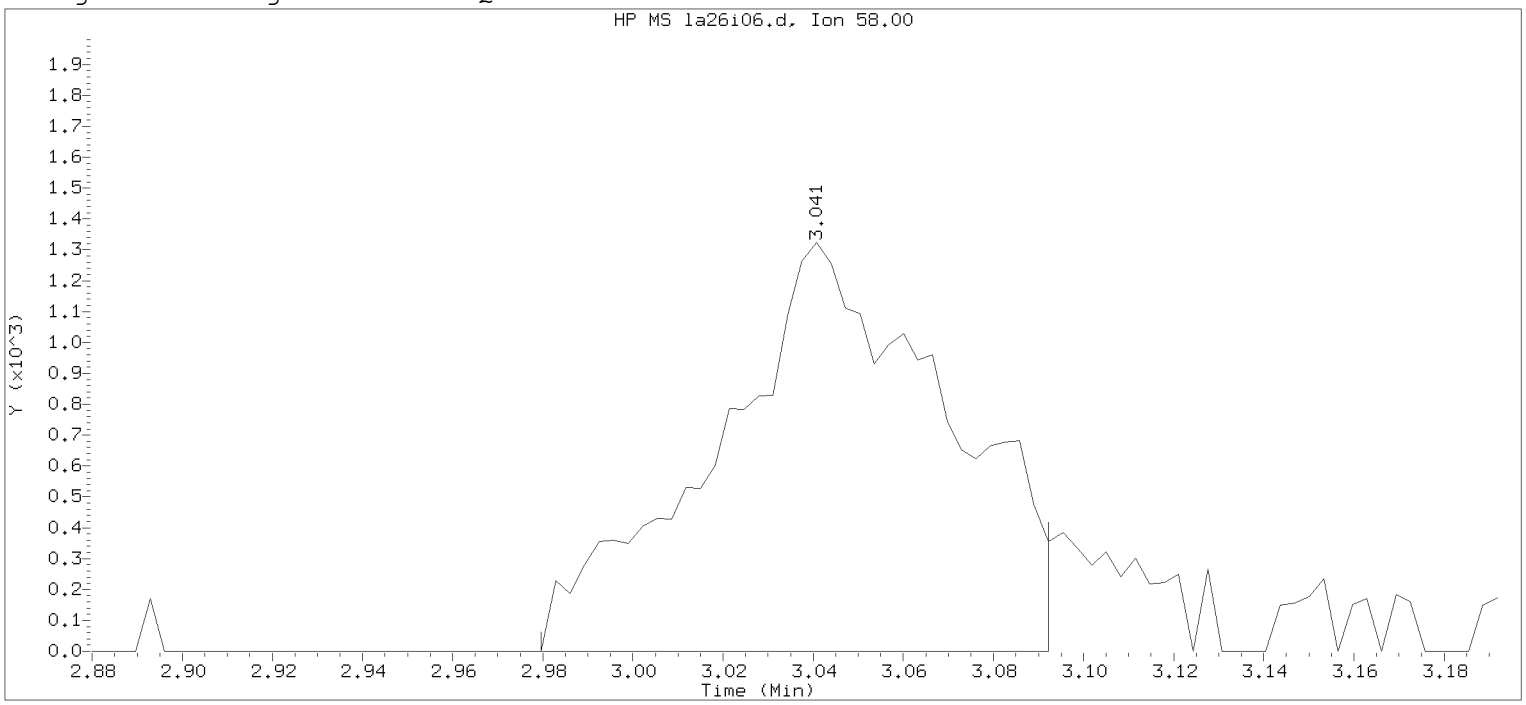
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

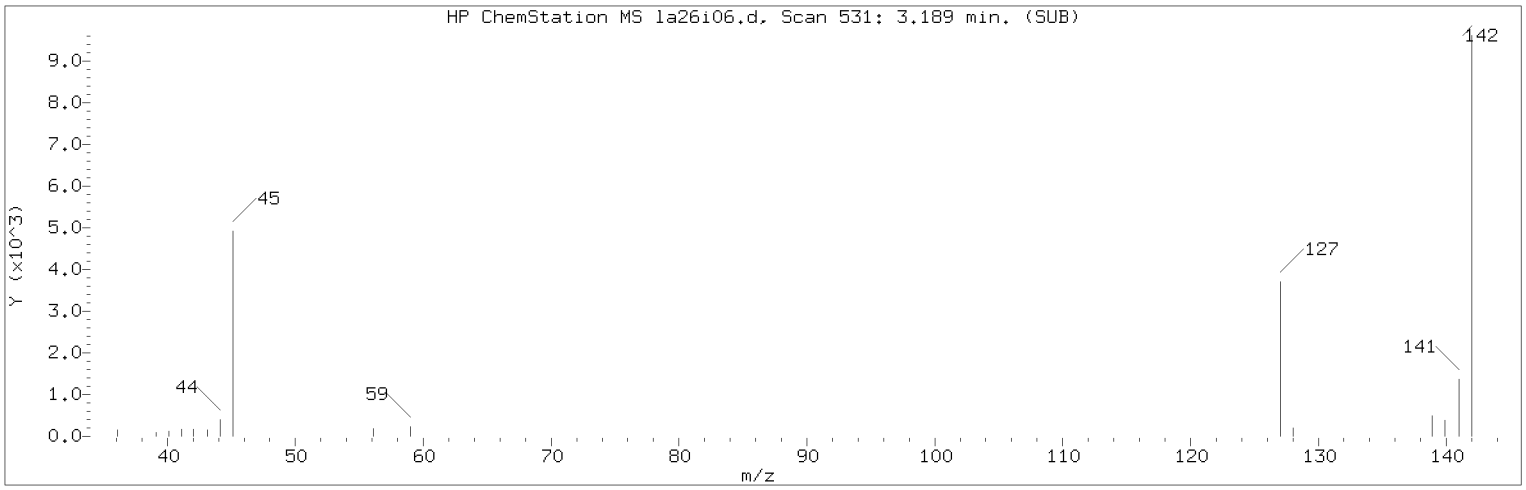
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

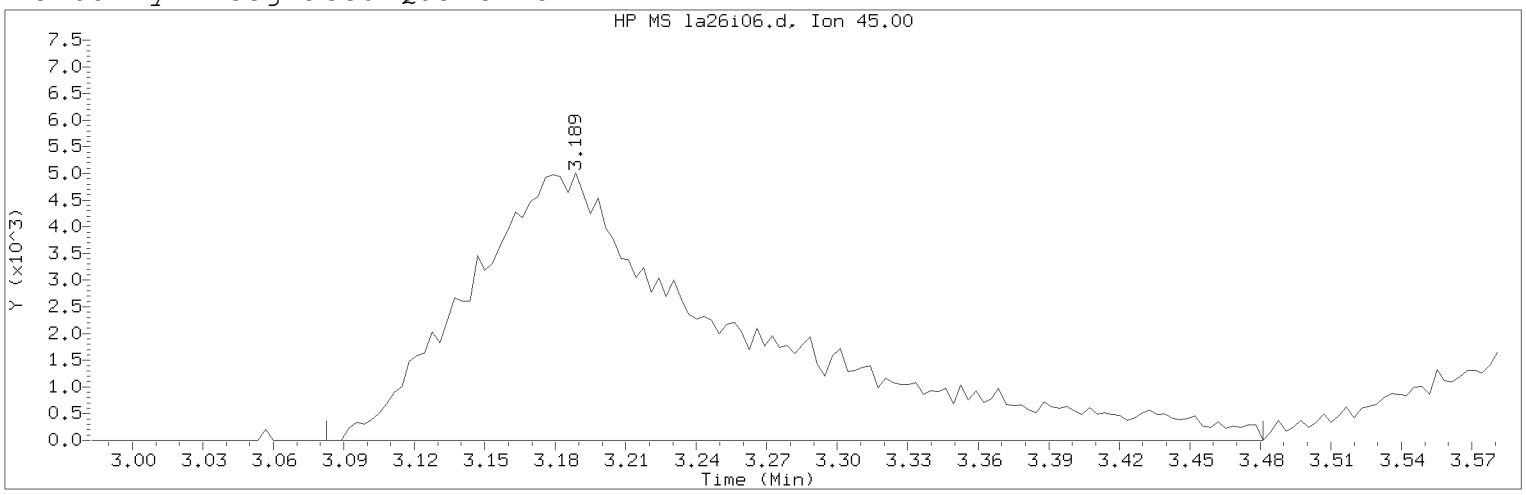
Compound Number	: 18		
Compound Name	: Acetone		
Scan Number	: 485		
Retention Time (minutes)	: 3.041		
Quant Ion	: 58.00		
Area	: 4747		
On-column Amount (ng)	: 6.6314		
Integration start scan	: 465	Integration stop scan:	500
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2048

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

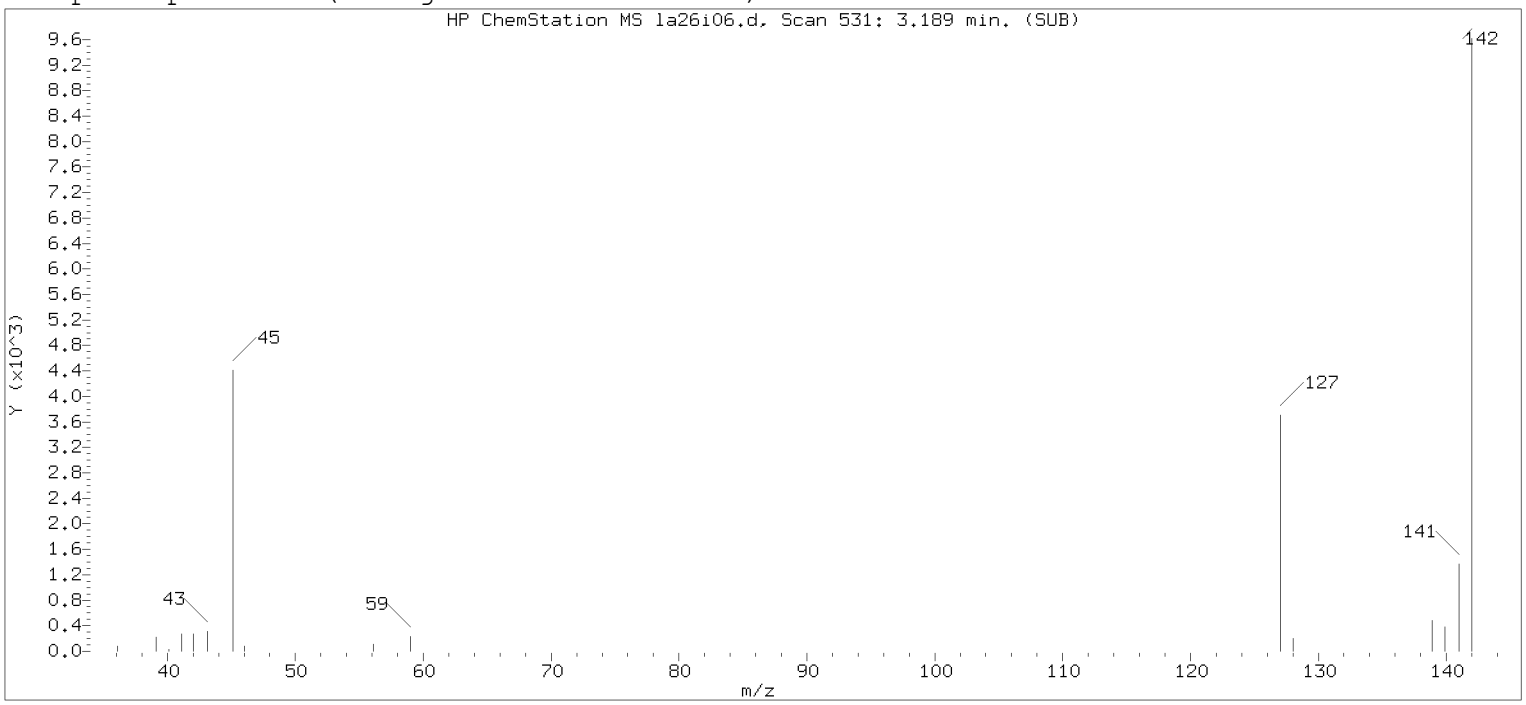
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 531
Retention Time (minutes): 3.189
Quant Ion : 45.00
Area (flag) : 40137M
On-Column Amount (ng) : 83.0856
Integration start scan : 497 Integration stop scan: 621
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

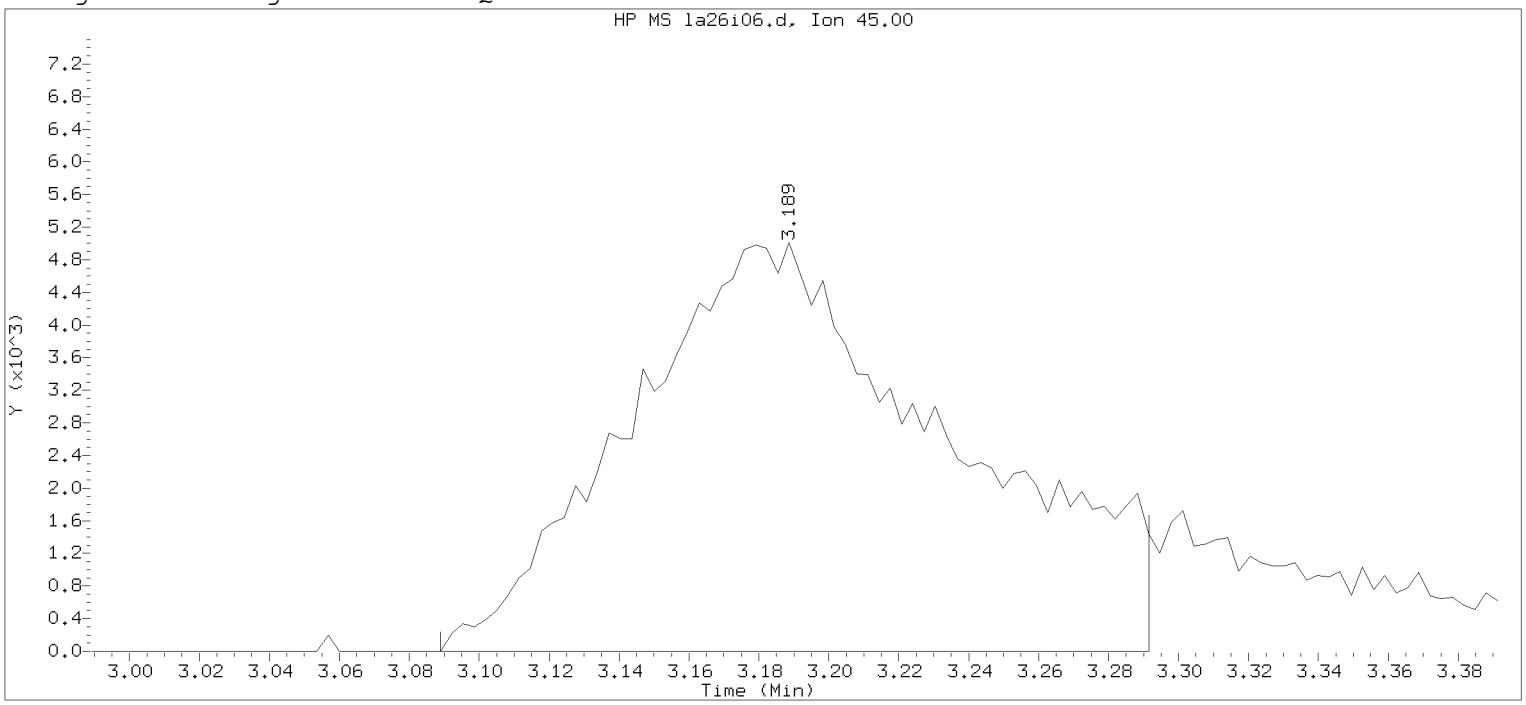
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

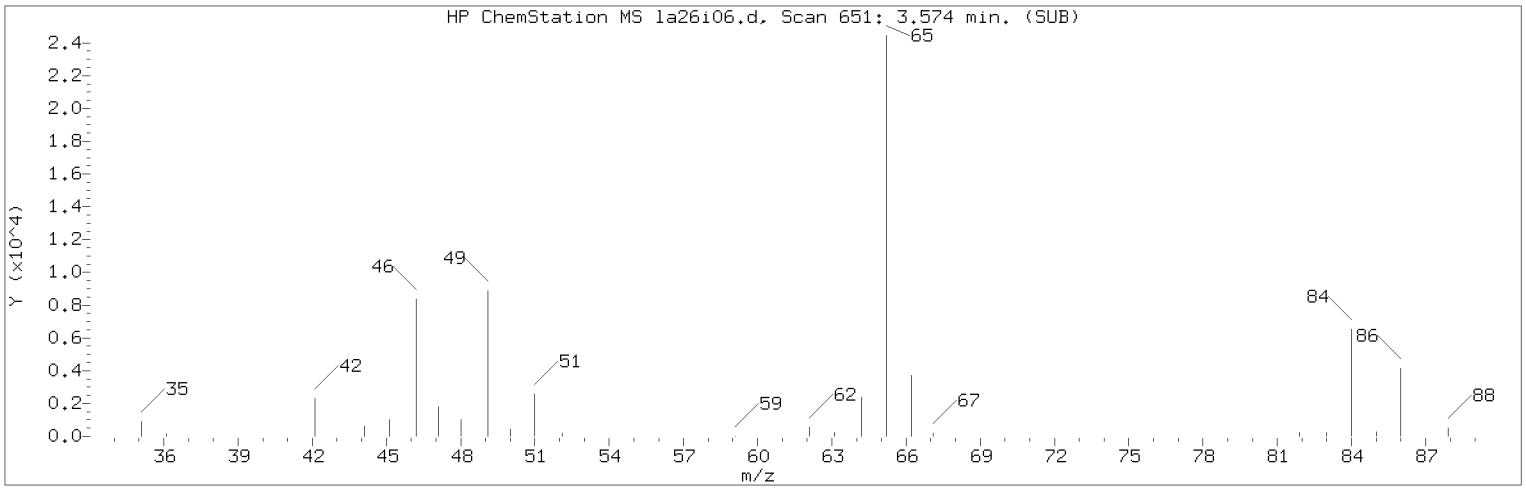
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

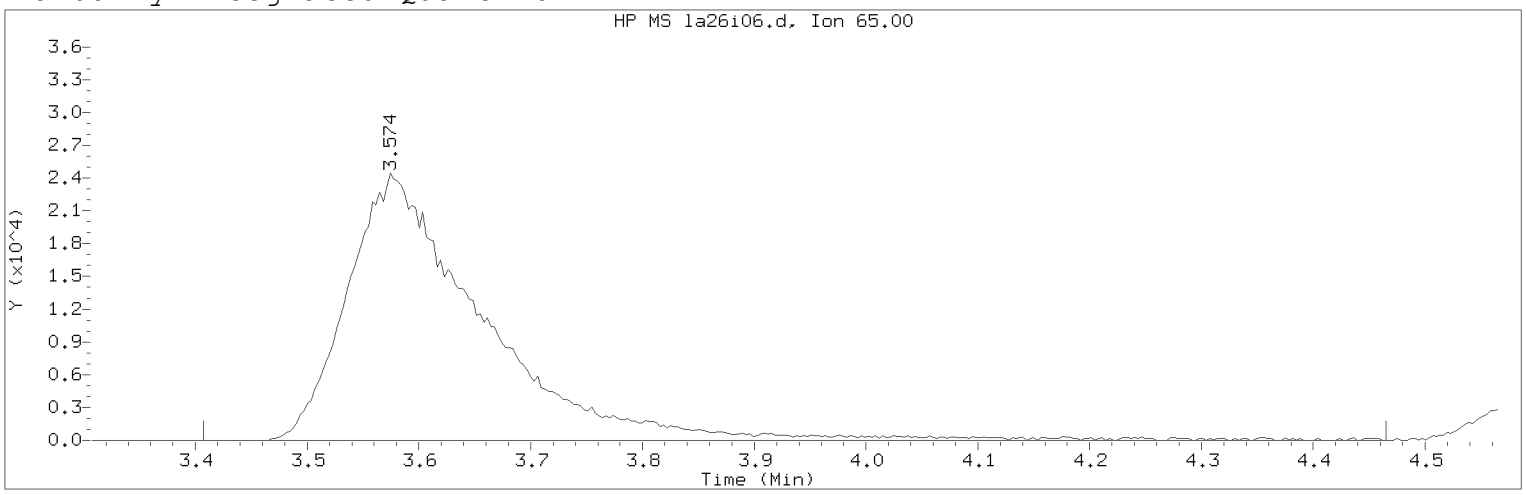
Compound Number	: 21		
Compound Name	: 2-Propanol		
Scan Number	: 531		
Retention Time (minutes)	: 3.189		
Quant Ion	: 45.00		
Area	: 31951		
On-column Amount (ng)	: 64.3252		
Integration start scan	: 499	Integration stop scan:	562
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 02465

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

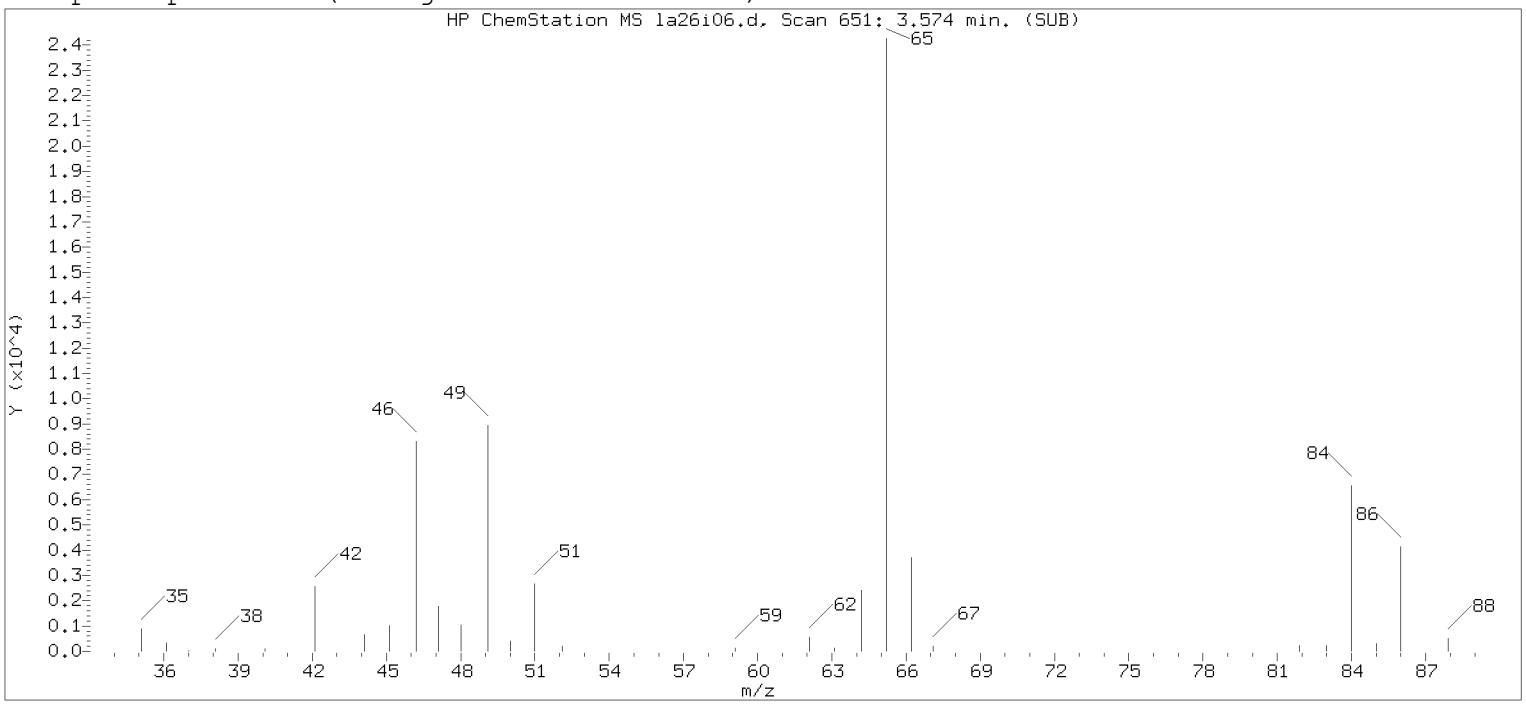
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 651
Retention Time (minutes): 3.574
Quant Ion : 65.00
Area (flag) : 205105M
On-Column Amount (ng) : 250.0000
Integration start scan : 598 Integration stop scan: 927
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

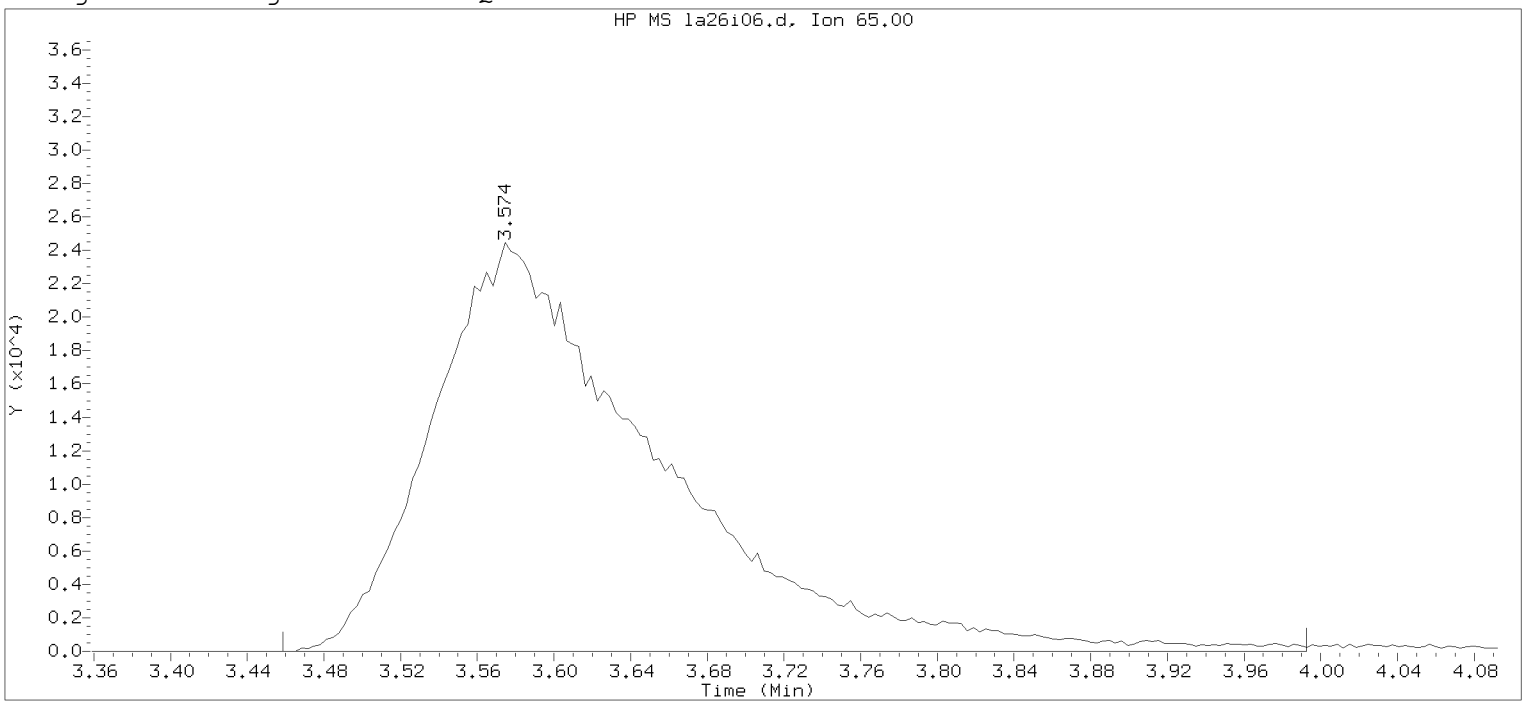
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

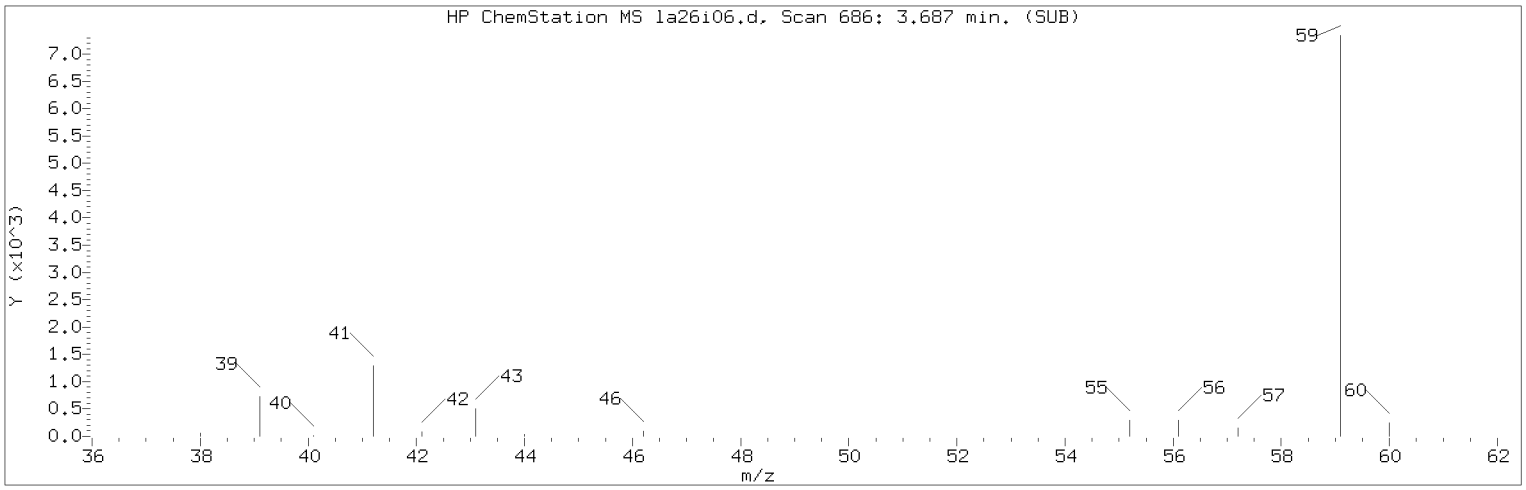
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

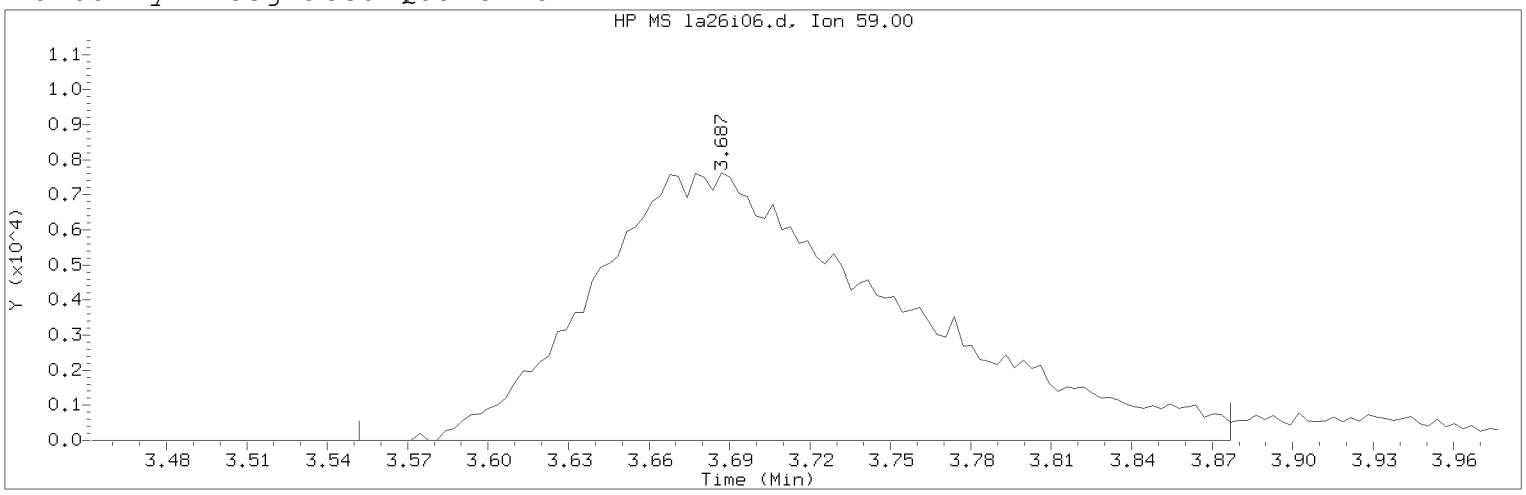
Compound Number	: 29		
Compound Name	: t-Butyl alcohol-d10		
Scan Number	: 651		
Retention Time (minutes)	: 3.574		
Quant Ion	: 65.00		
Area	: 200349		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 614	Integration stop scan:	780
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2407

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

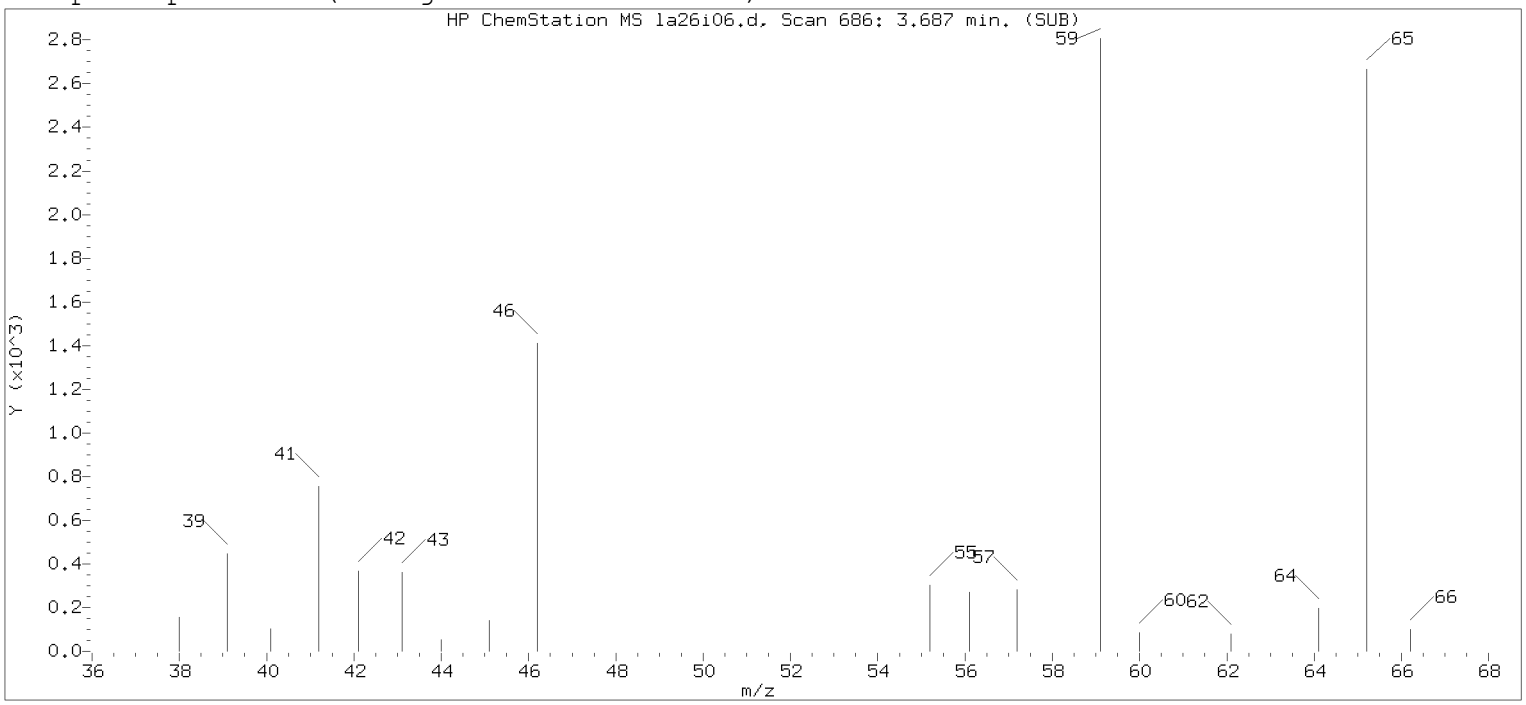
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 686
Retention Time (minutes): 3.687
Quant Ion : 59.00
Area (flag) : 60772M
On-Column Amount (ng) : 76.5789
Integration start scan : 643 Integration stop scan: 744
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

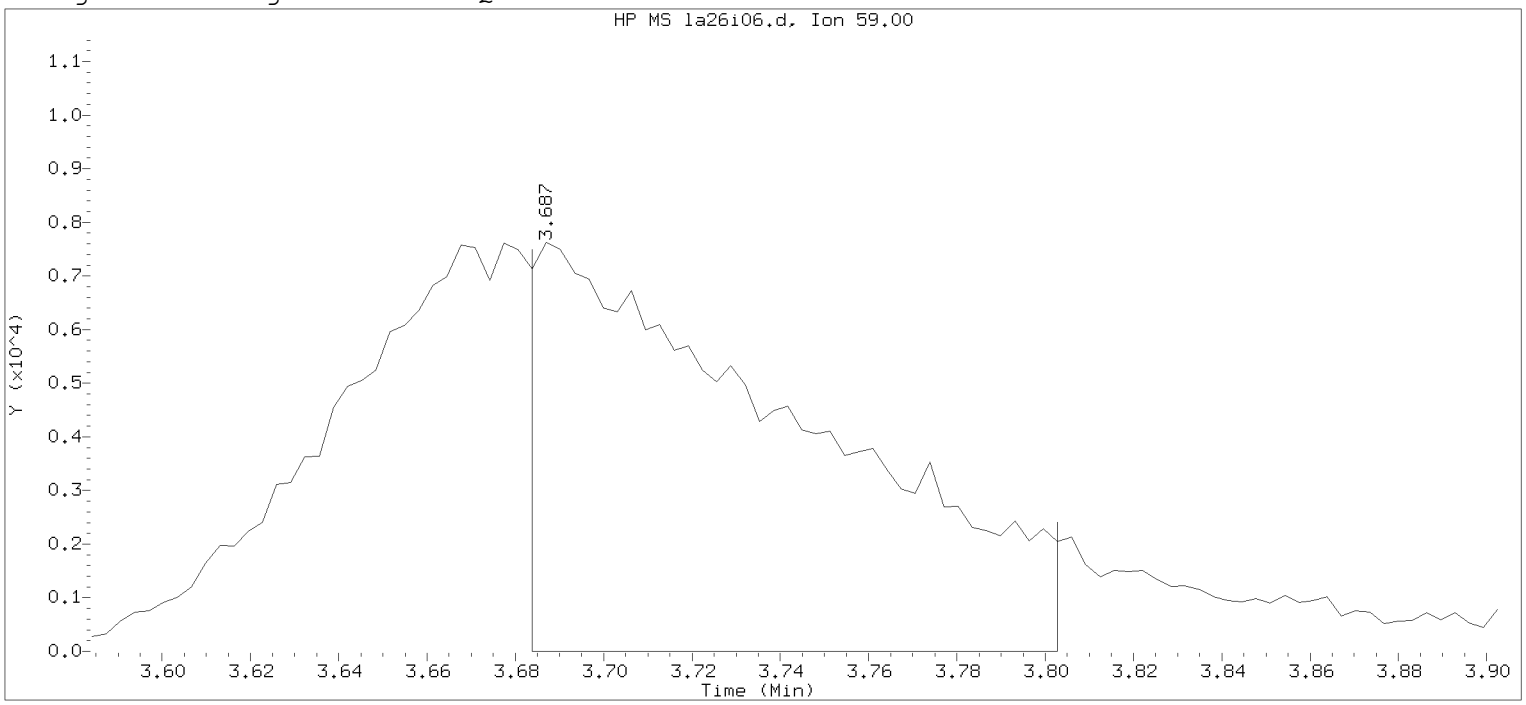
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

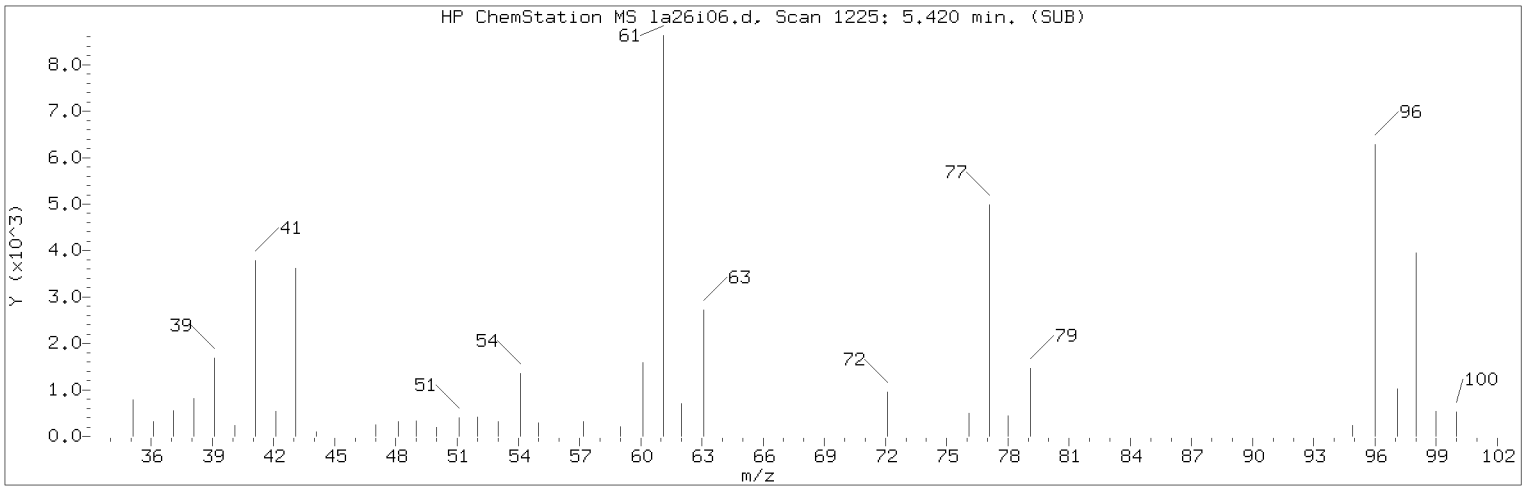
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

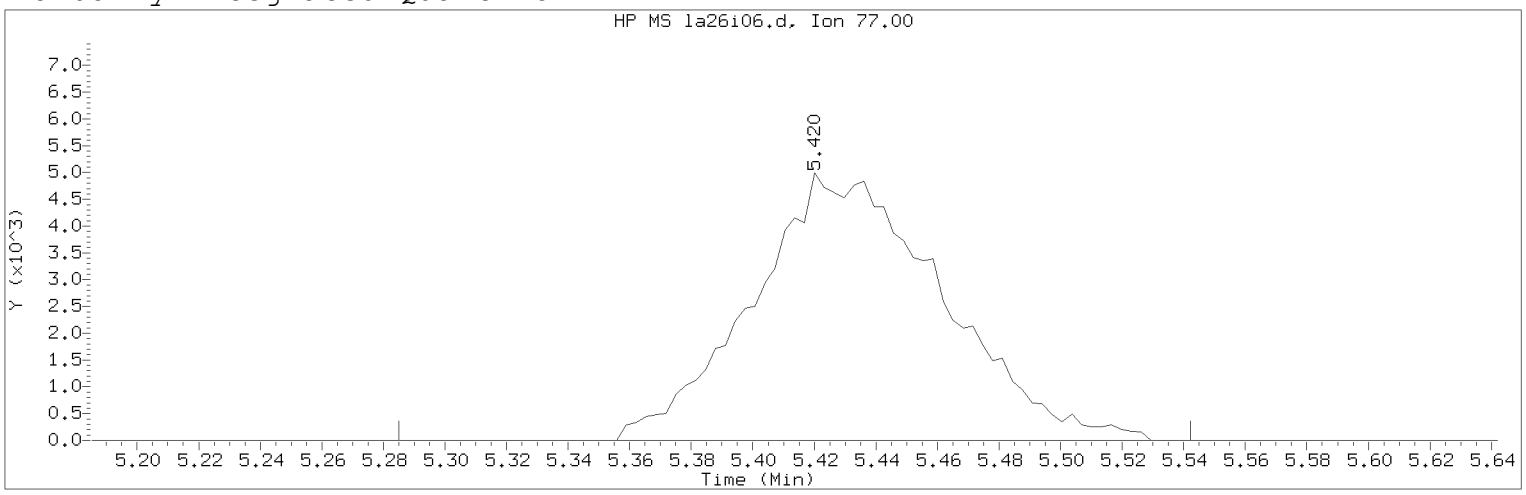
Compound Number	: 30		
Compound Name	: t-Butyl alcohol		
Scan Number	: 686		
Retention Time (minutes)	: 3.687		
Quant Ion	: 59.00		
Area	: 31960		
On-column Amount (ng)	: 48.0104		
Integration start scan	: 684	Integration stop scan:	721
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2469

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

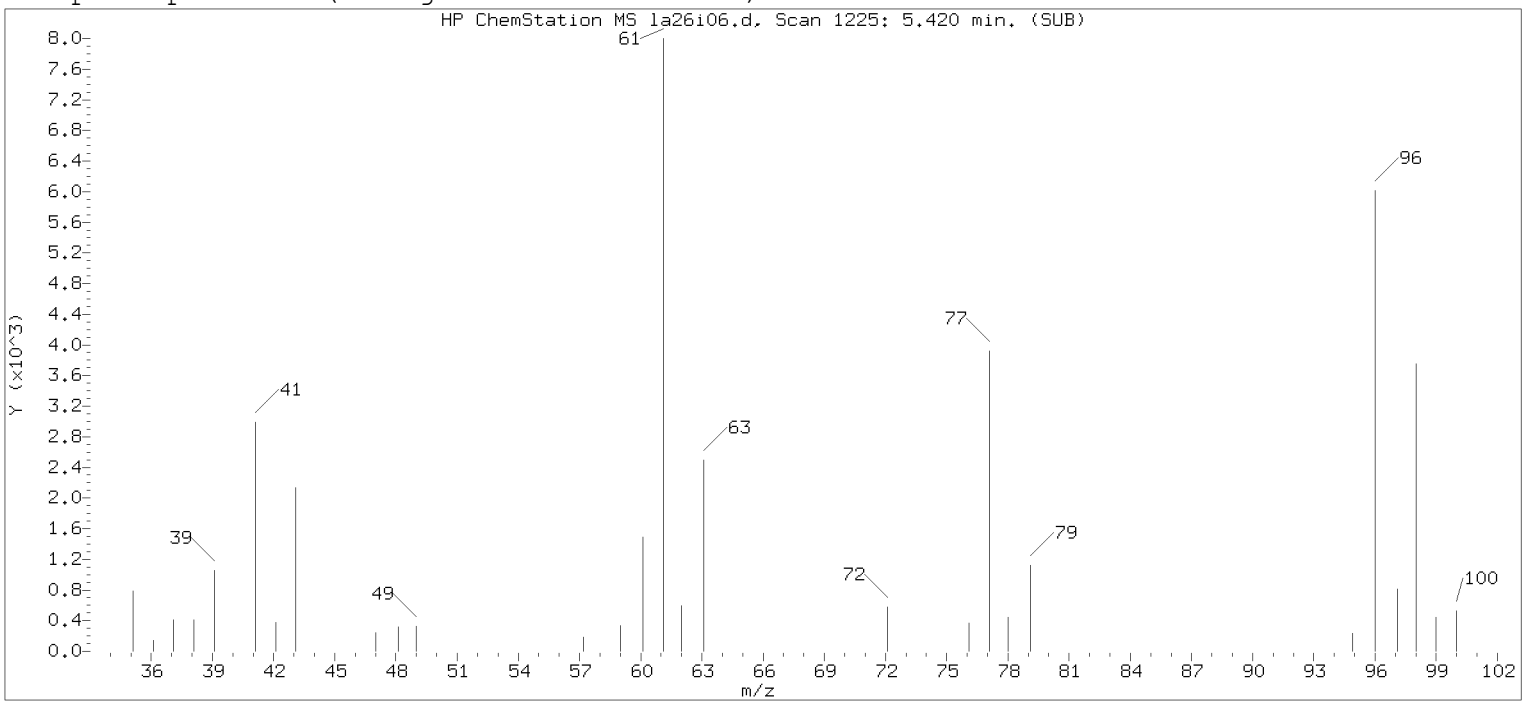
Compound Number : 45
Compound Name : 2,2-Dichloropropane
Scan Number : 1225
Retention Time (minutes): 5.420
Quant Ion : 77.00
Area (flag) : 21315M
On-Column Amount (ng) : 3.8194
Integration start scan : 1182 Integration stop scan: 1262
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

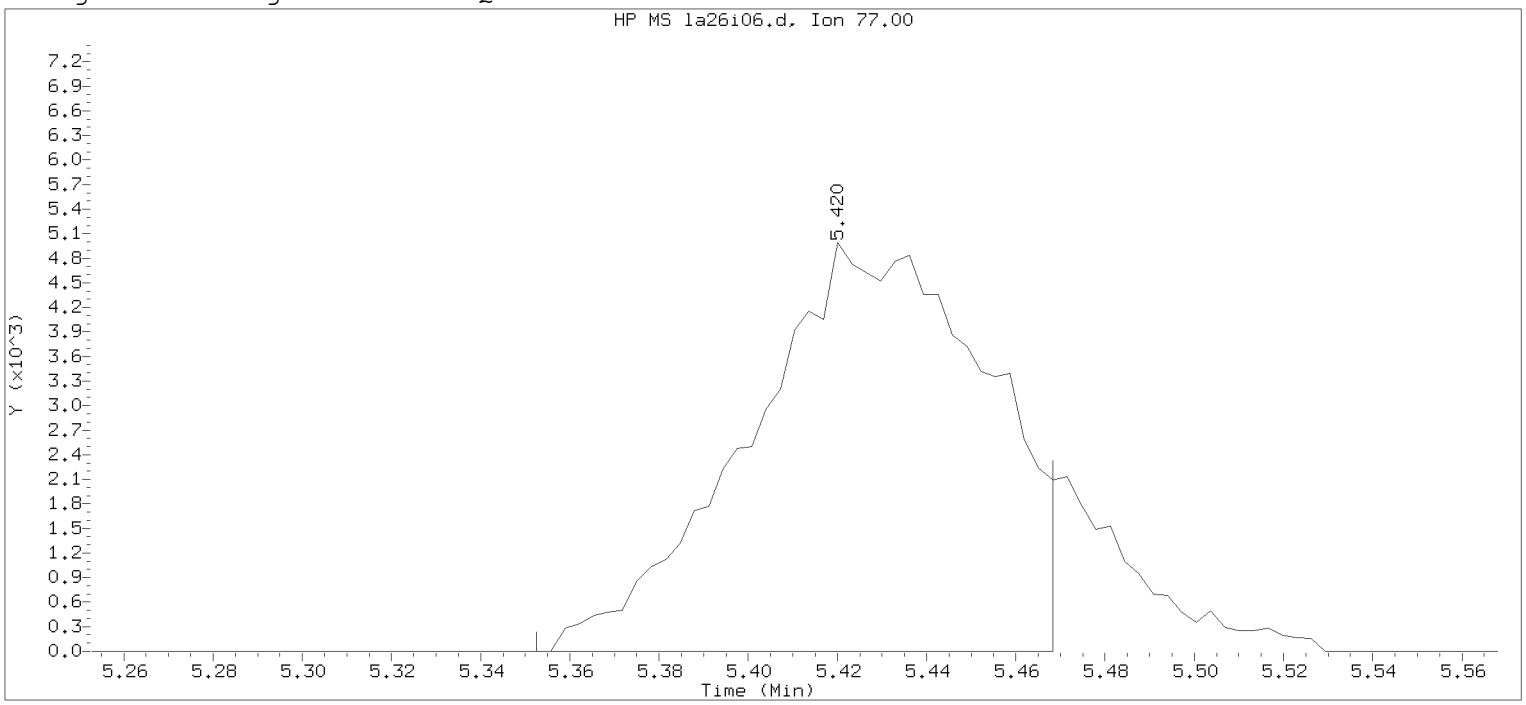
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

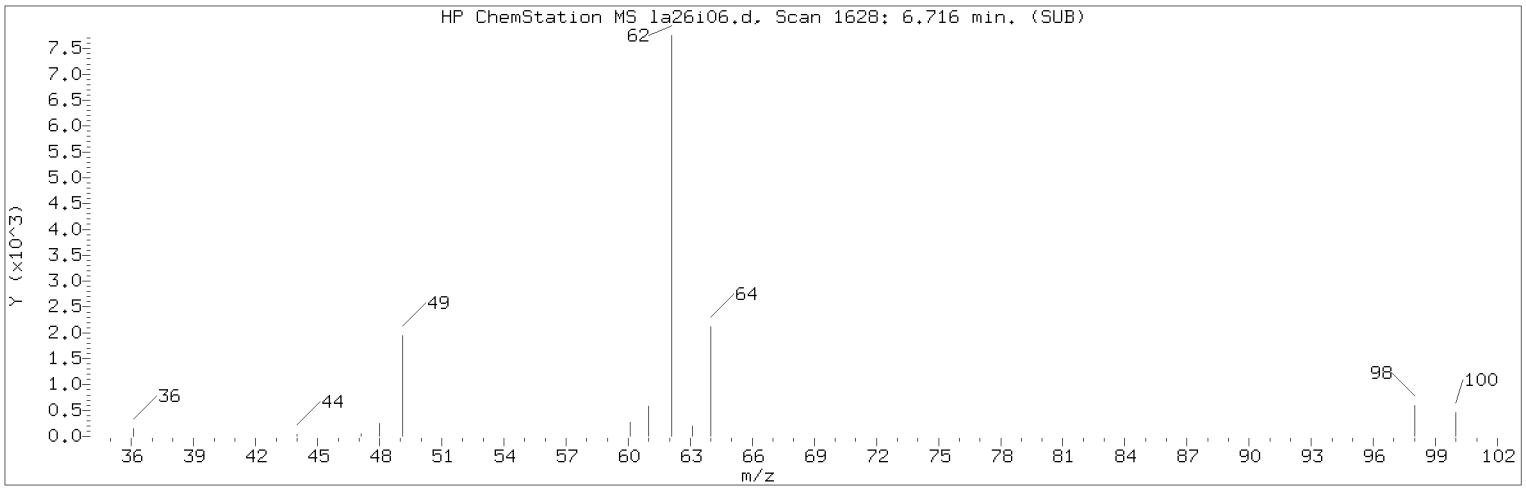
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

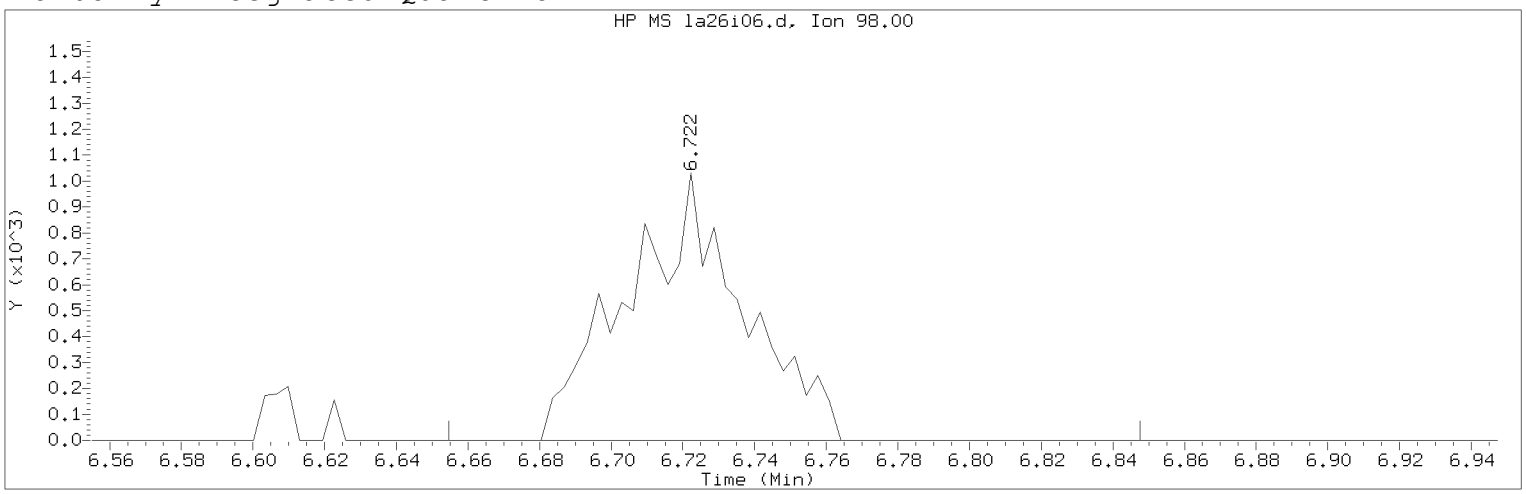
Compound Number : 45
Compound Name : 2,2-Dichloropropane
Scan Number : 1225
Retention Time (minutes): 5.420
Quant Ion : 77.00
Area : 18551
On-column Amount (ng) : 3.2757
Integration start scan : 1203 Integration stop scan: 1239
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2441

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

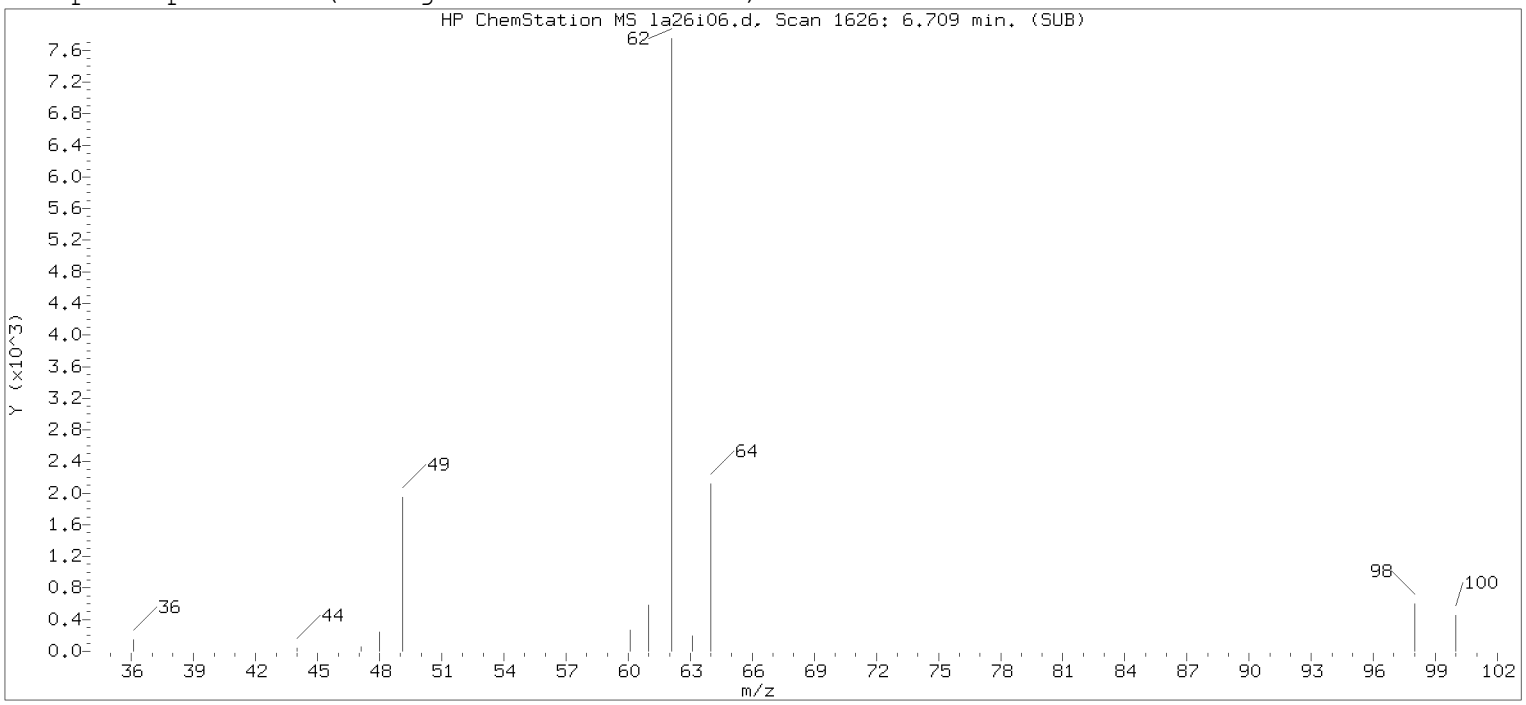
Compound Number : 61
Compound Name : 1,2-Dichloroethane
Scan Number : 1630
Retention Time (minutes): 6.722
Quant Ion : 98.00
Area (flag) : 2305M
On-Column Amount (ng) : 4.0222
Integration start scan : 1608 Integration stop scan: 1668
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

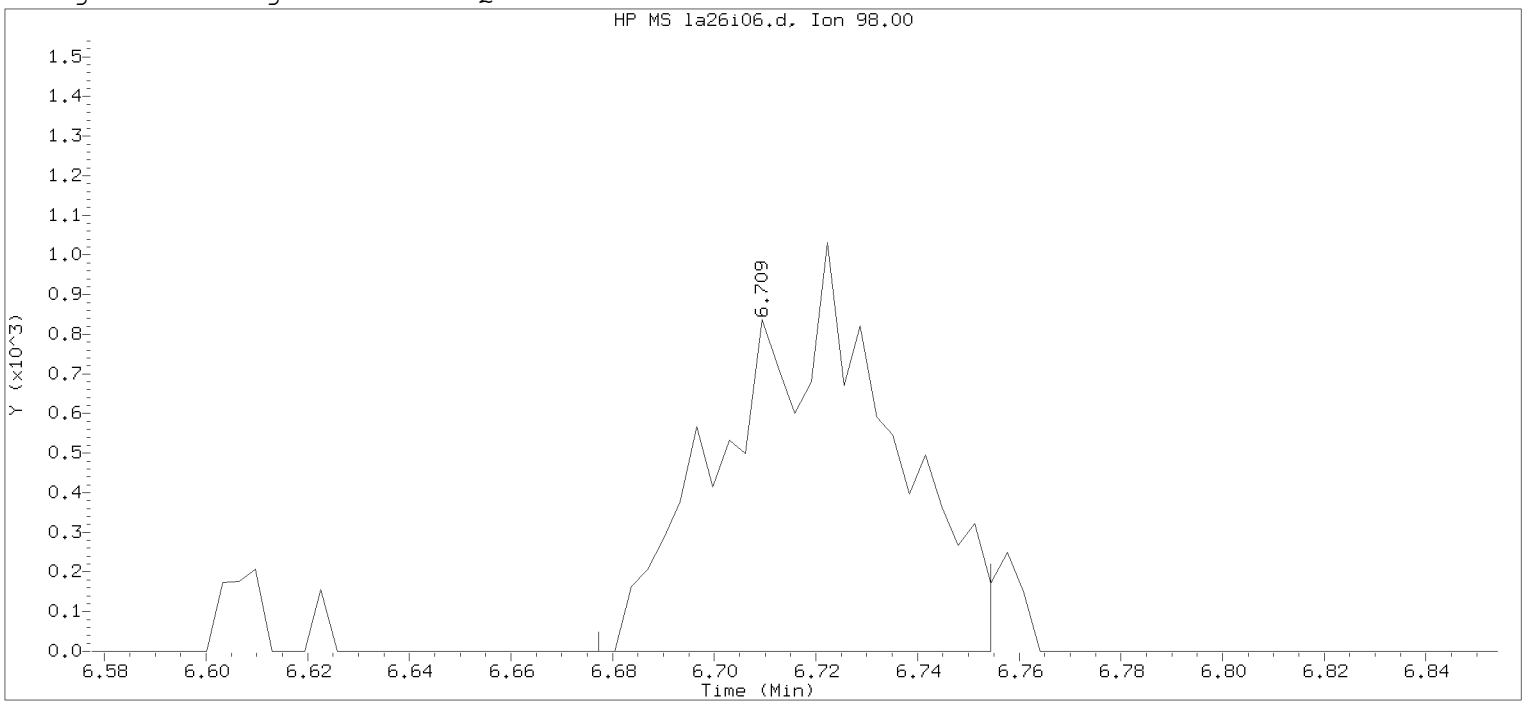
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

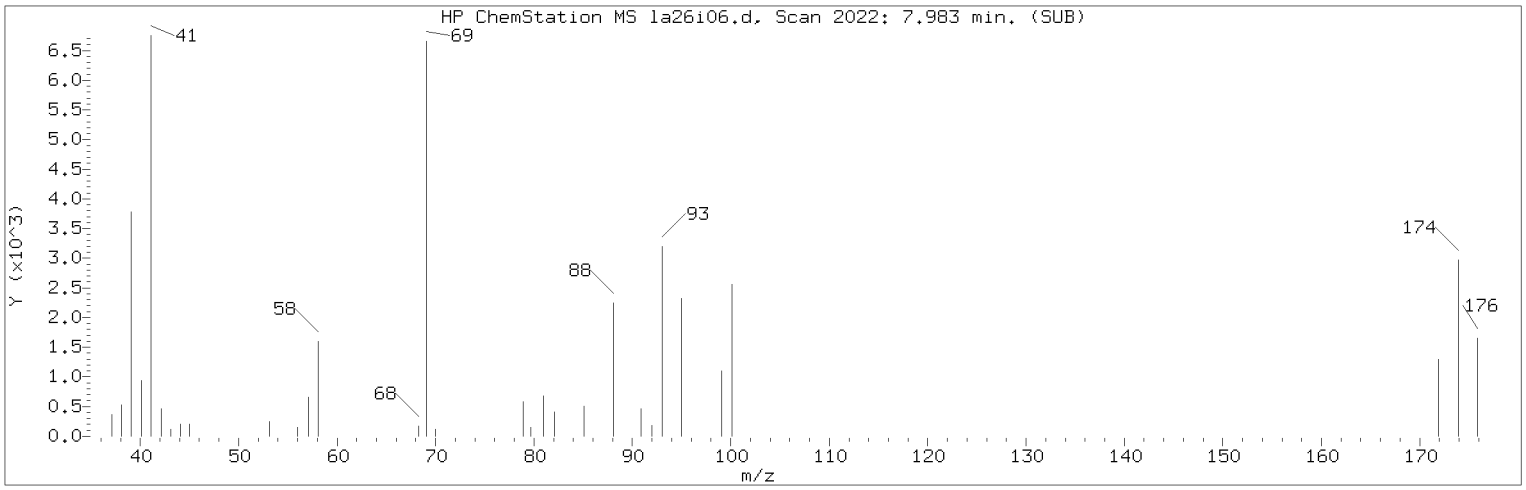
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

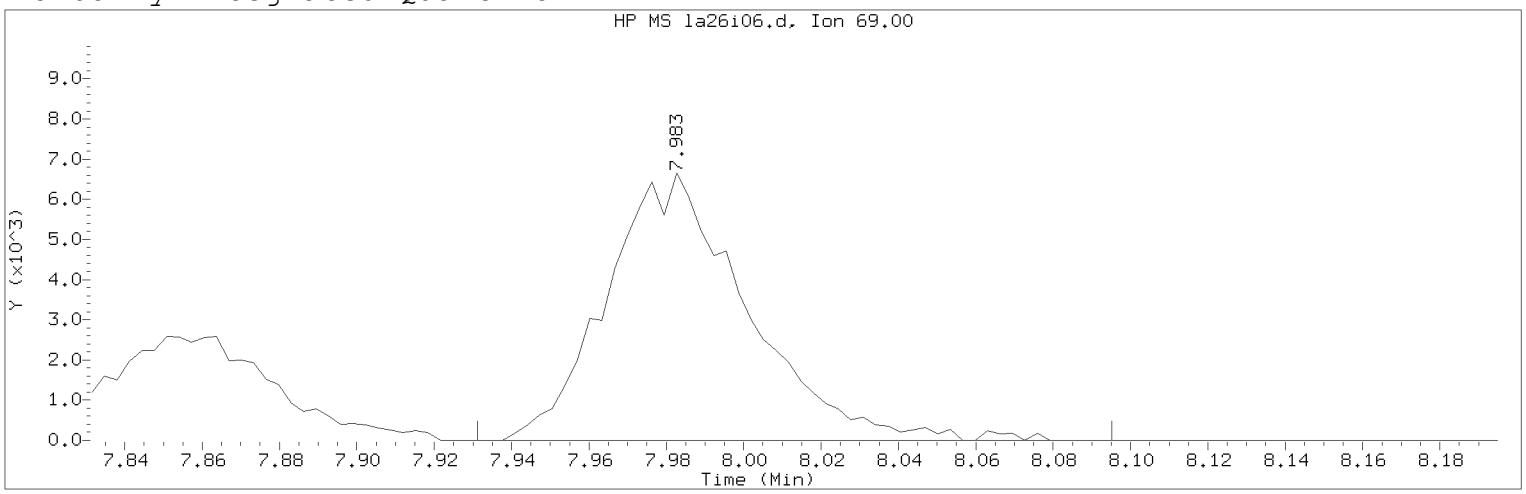
Compound Number : 61
Compound Name : 1,2-Dichloroethane
Scan Number : 1626
Retention Time (minutes): 6.709
Quant Ion : 98.00
Area : 2211
On-column Amount (ng) : 3.5785
Integration start scan : 1615 Integration stop scan: 1639
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2243

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

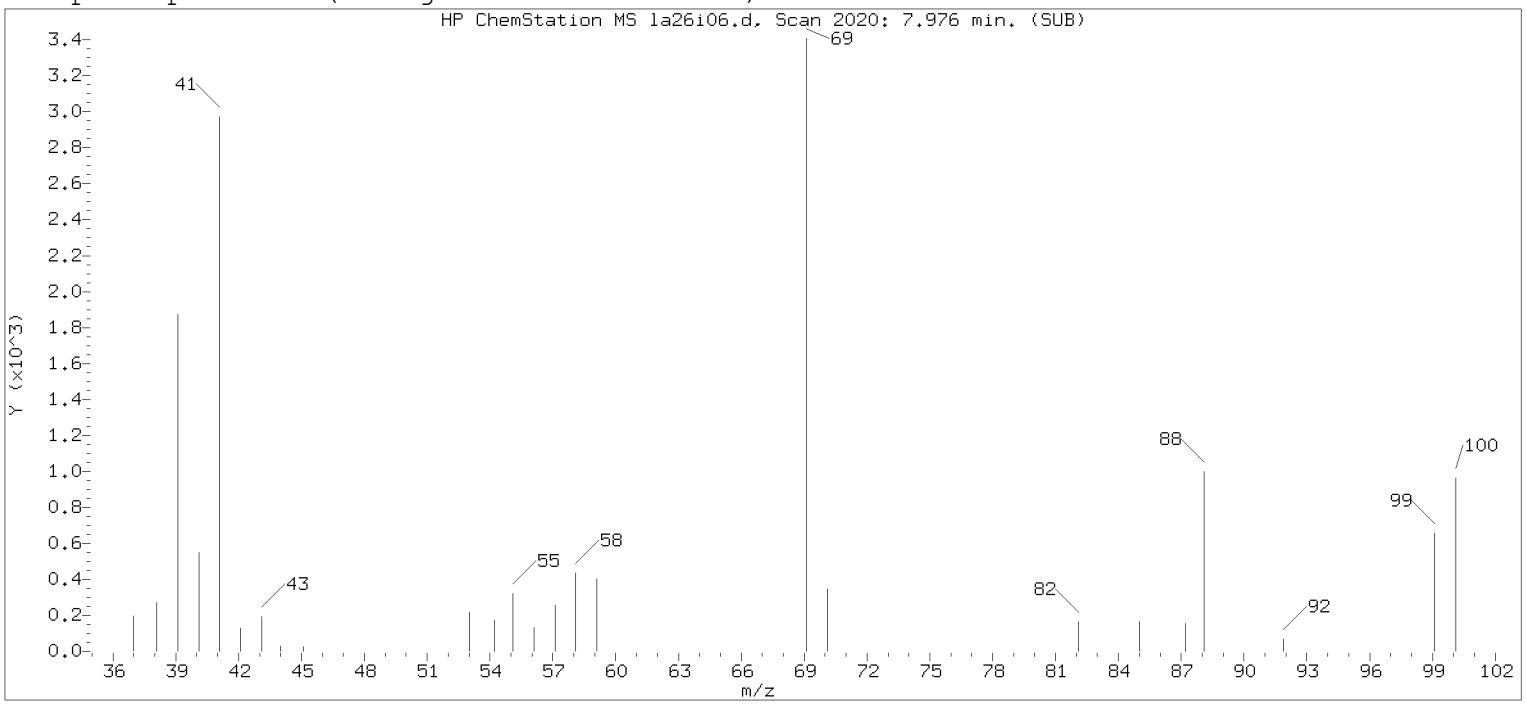
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2022
Retention Time (minutes): 7.983
Quant Ion : 69.00
Area (flag) : 16816M
On-Column Amount (ng) : 3.7569
Integration start scan : 2005 Integration stop scan: 2056
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

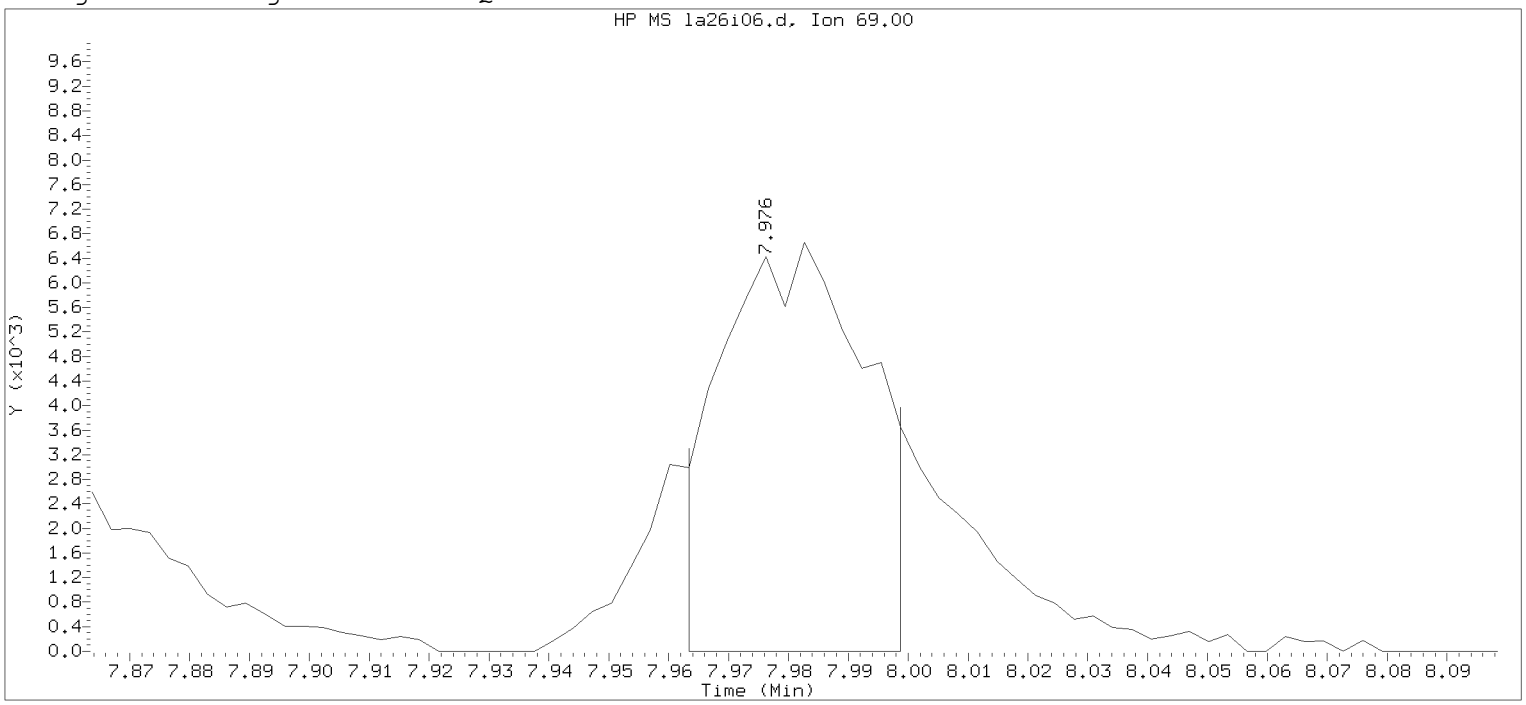
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

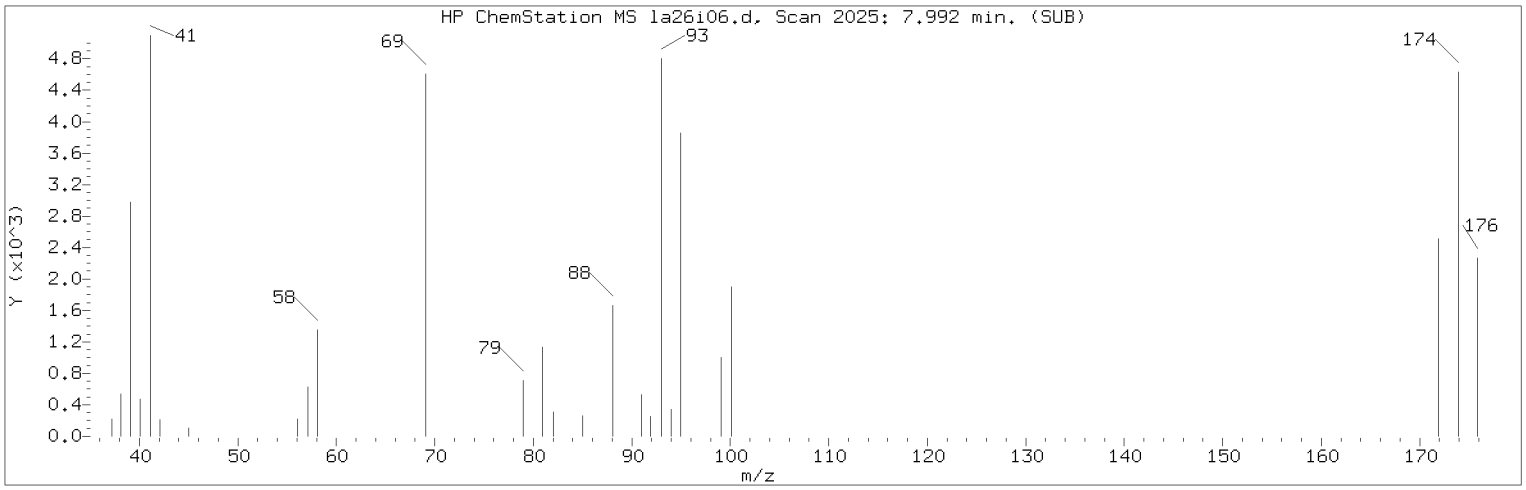
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

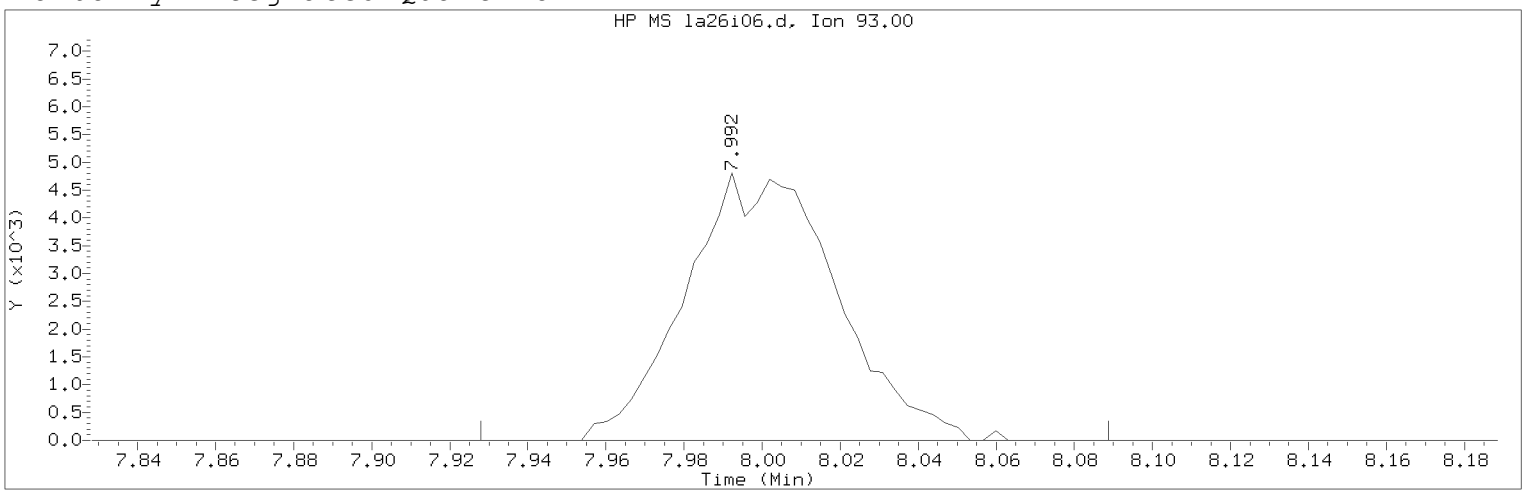
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2020
Retention Time (minutes): 7.976
Quant Ion : 69.00
Area : 11128
On-column Amount (ng) : 2.7989
Integration start scan : 2015 Integration stop scan: 2026
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: KAS02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

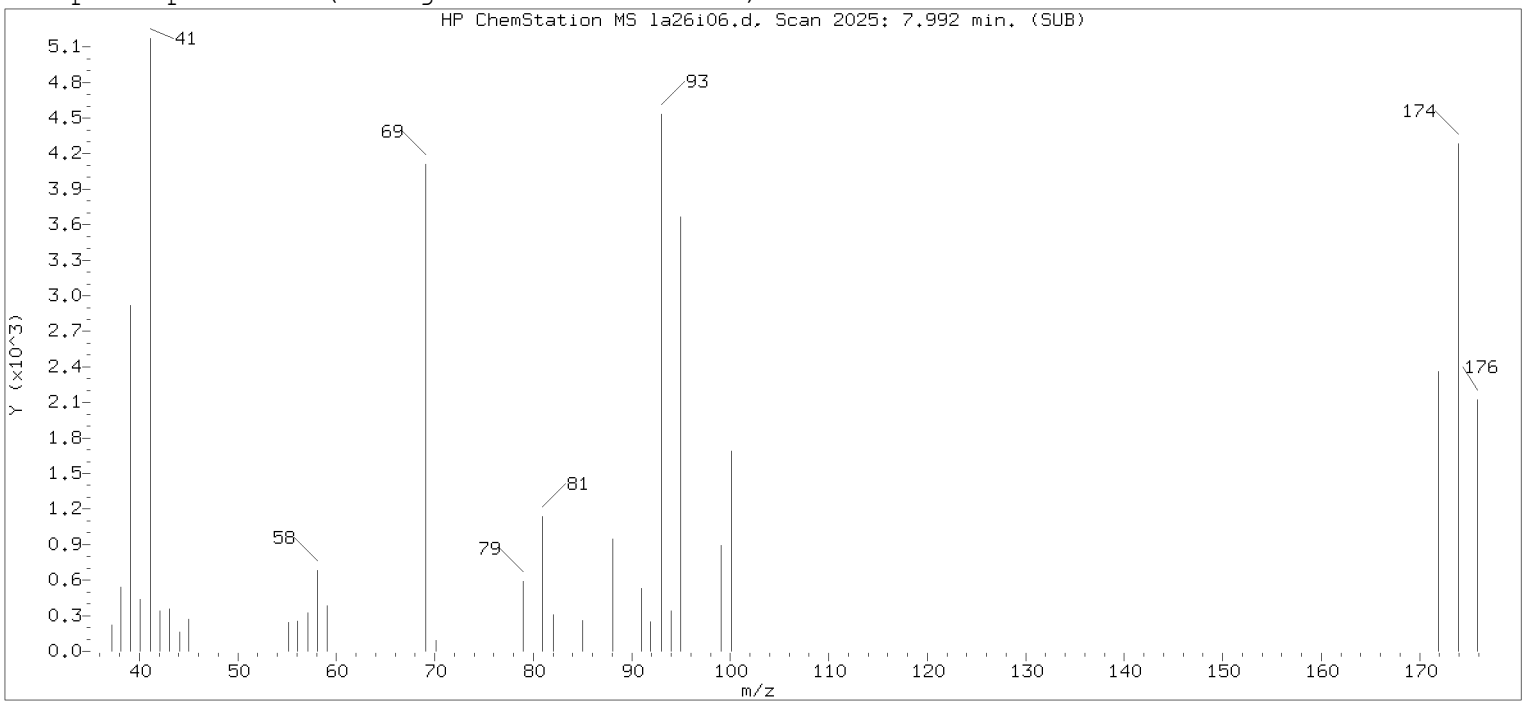
Compound Number : 74
Compound Name : Dibromomethane
Scan Number : 2025
Retention Time (minutes): 7.992
Quant Ion : 93.00
Area (flag) : 12893M
On-Column Amount (ng) : 3.9207
Integration start scan : 2004 Integration stop scan: 2054
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

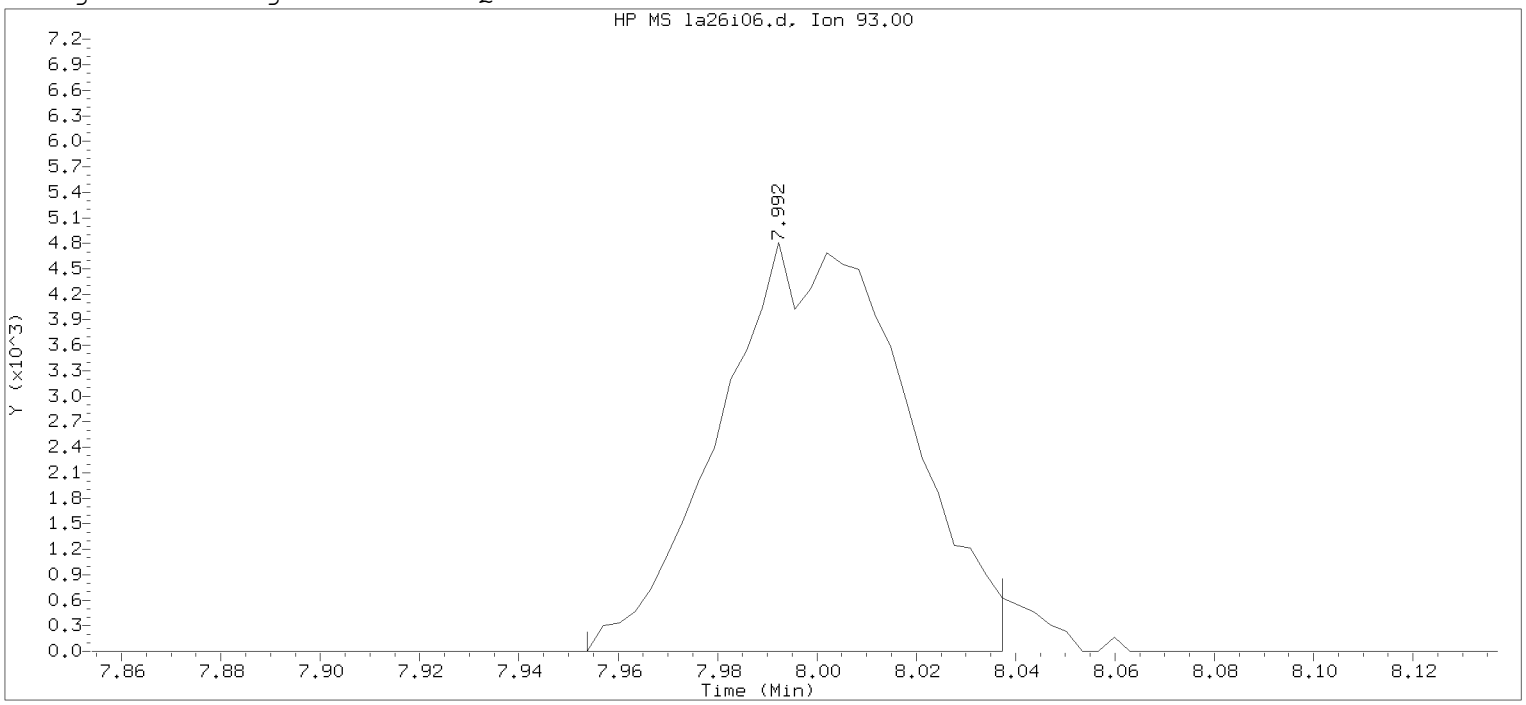
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

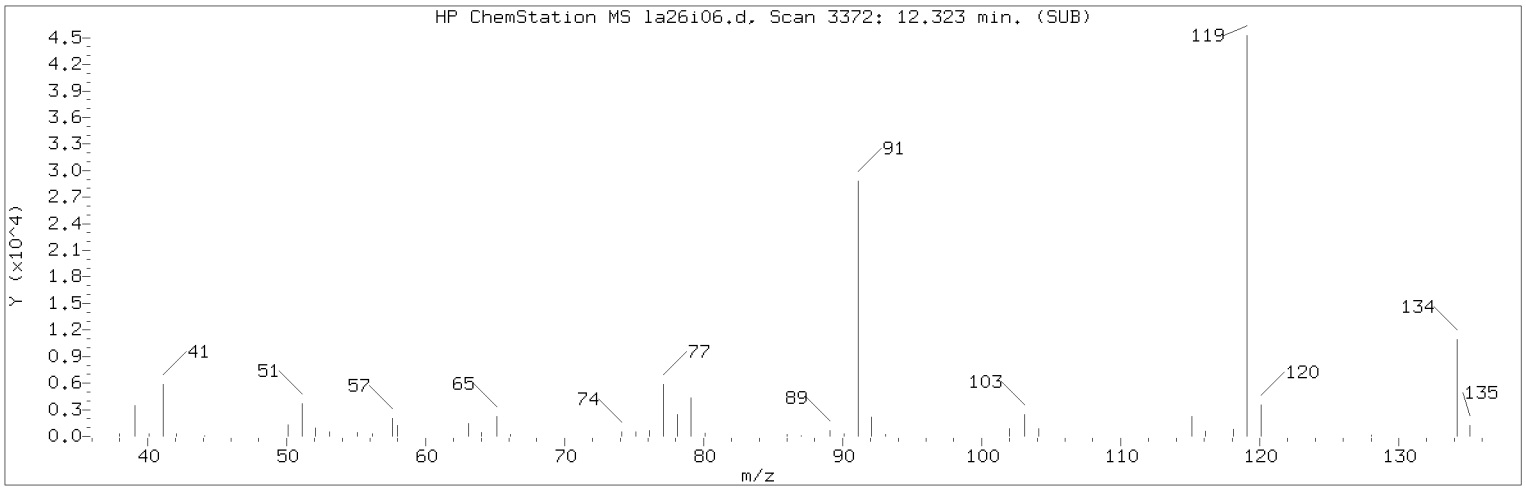
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

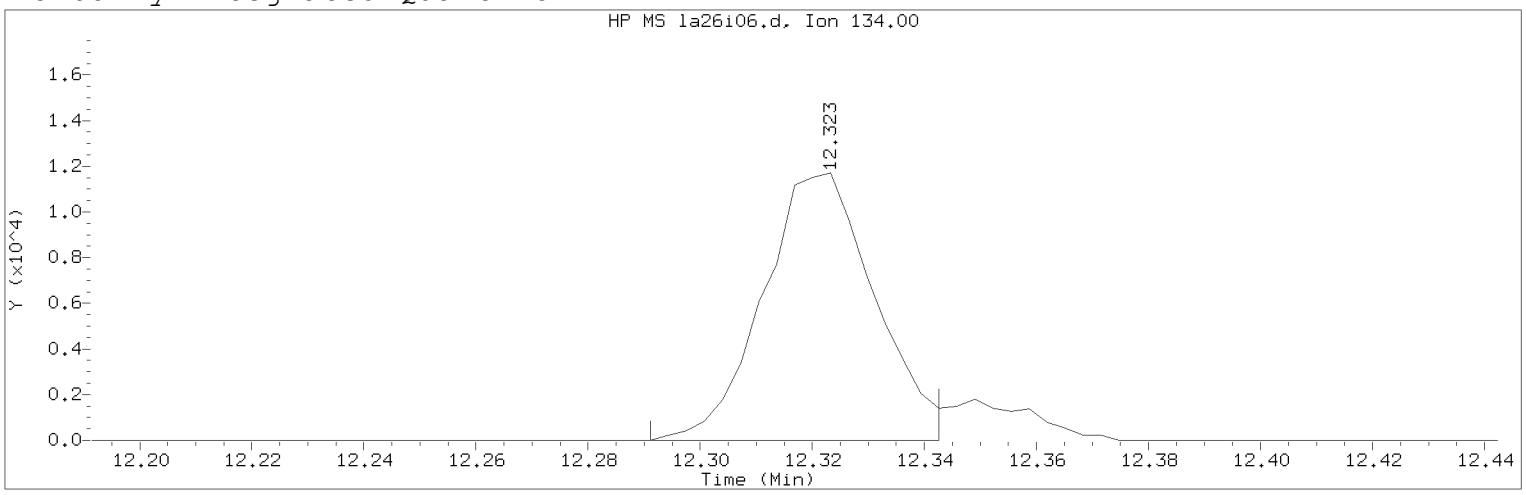
Compound Number : 74
Compound Name : Dibromomethane
Scan Number : 2025
Retention Time (minutes): 7.992
Quant Ion : 93.00
Area : 12501
On-column Amount (ng) : 3.7797
Integration start scan : 2012 Integration stop scan: 2038
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2478

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:01 kas02648

Sample Name: VSTD004 Lab Sample ID: VSTD004

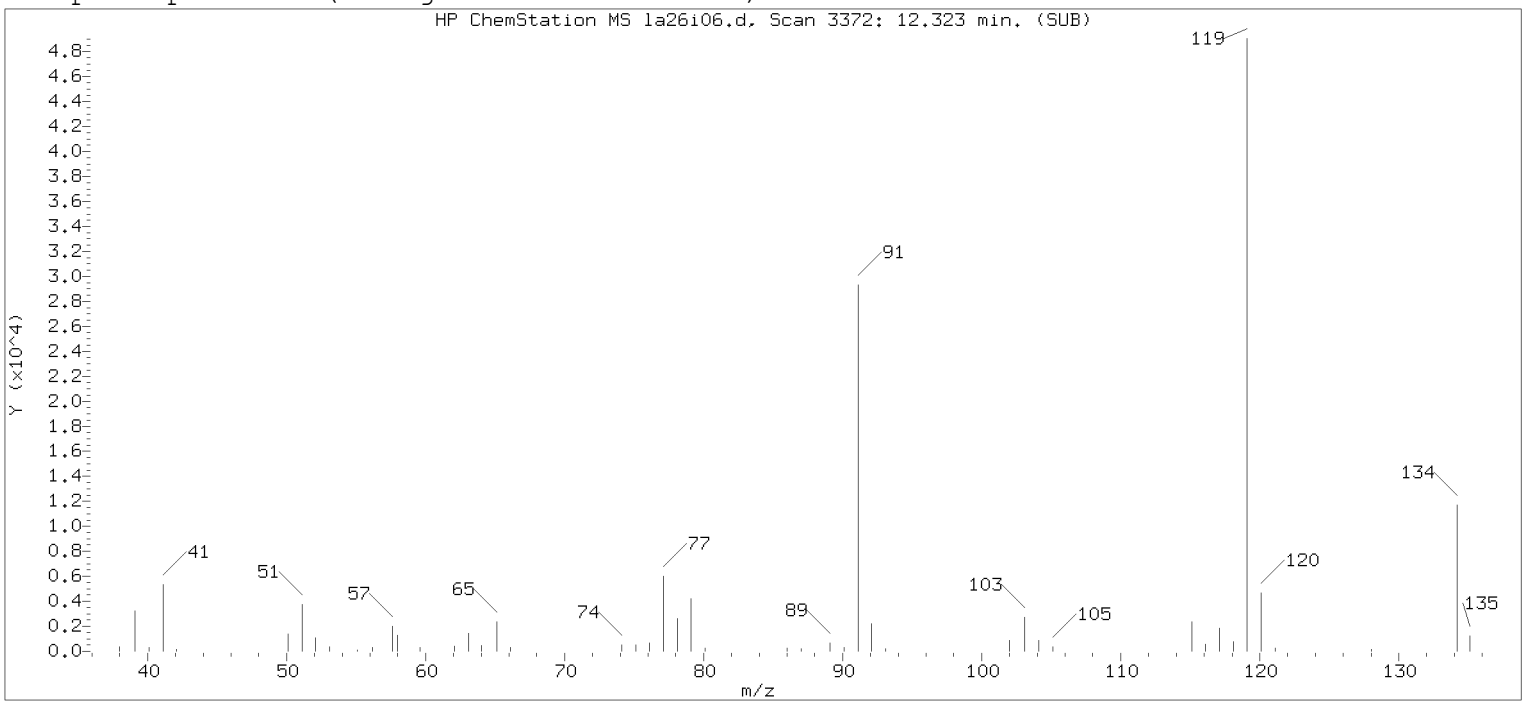
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3372
Retention Time (minutes): 12.323
Quant Ion : 134.00
Area (flag) : 16177M
On-Column Amount (ng) : 3.8306
Integration start scan : 3361 Integration stop scan: 3377
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

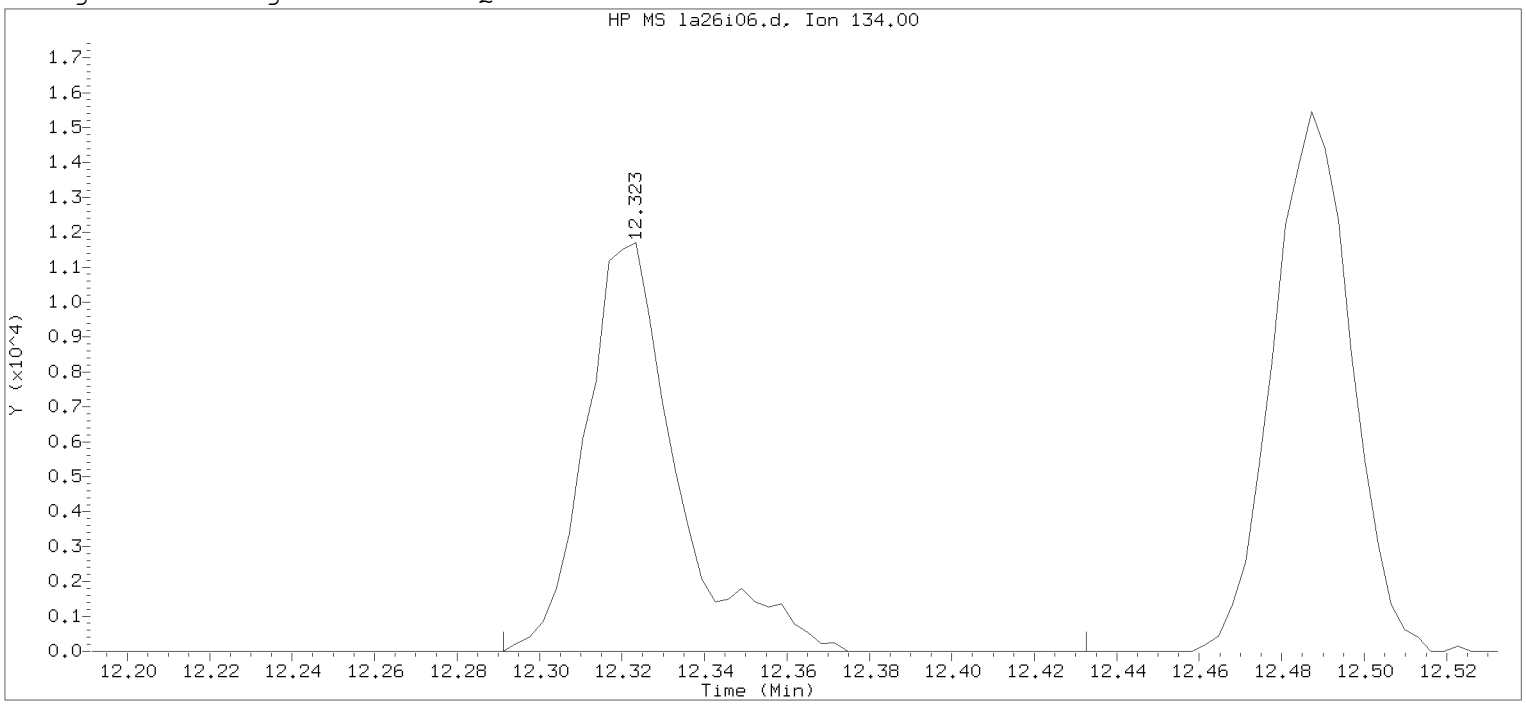
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



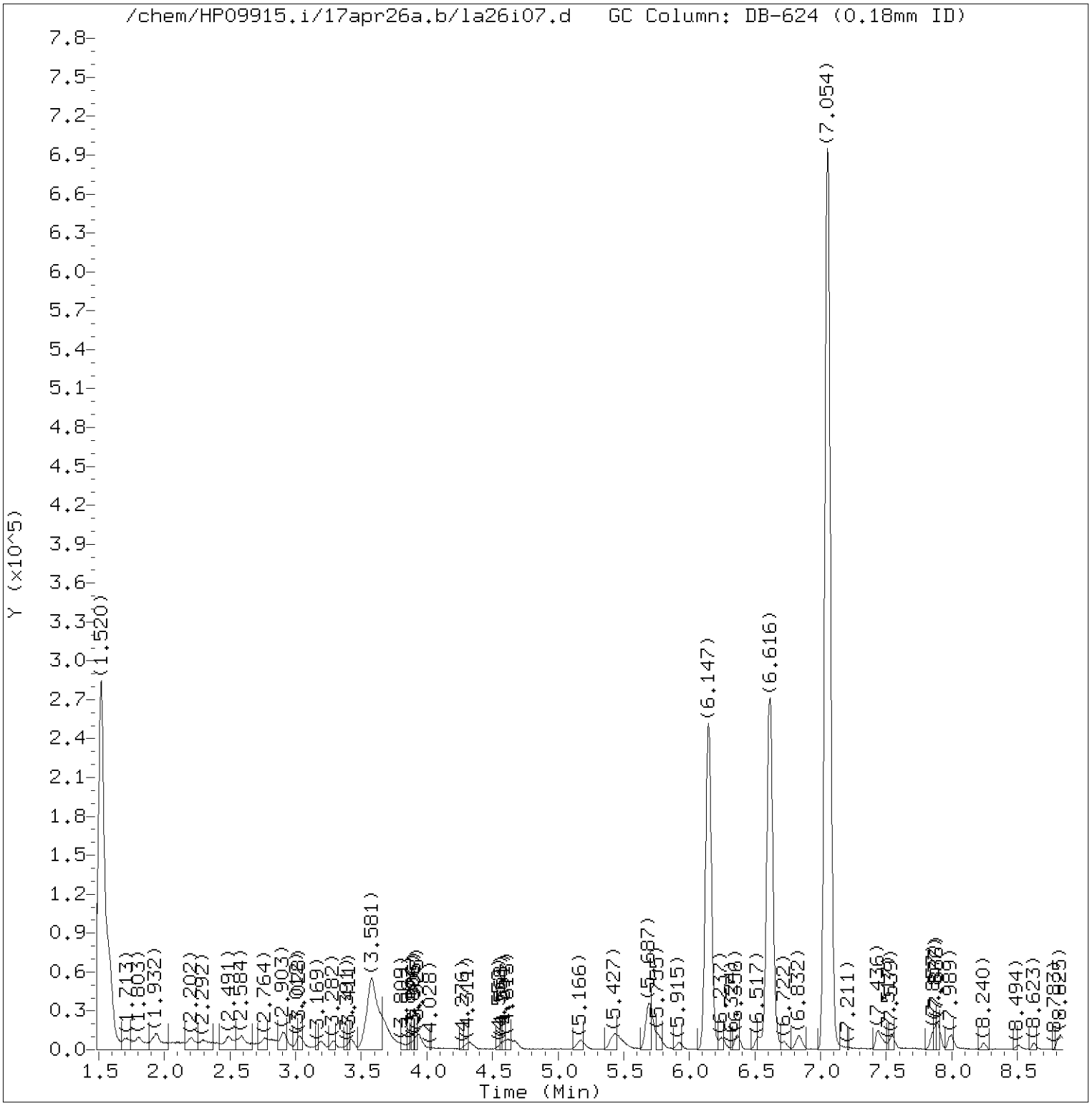
Data File: /chem/HP09915.i/17apr26a.b/la26i06.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:10 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:28
Date, time and analyst ID of latest file update: 26-Apr-2017 15:28 Automation

Sample Name: VSTD004 Lab Sample ID: VSTD004

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3372
Retention Time (minutes): 12.323
Quant Ion : 134.00
Area : 17933
On-column Amount (ng) : 4.0372
Integration start scan : 3361 Integration stop scan: 3405
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Page 479



Total Ion Chromatogram (TIC)

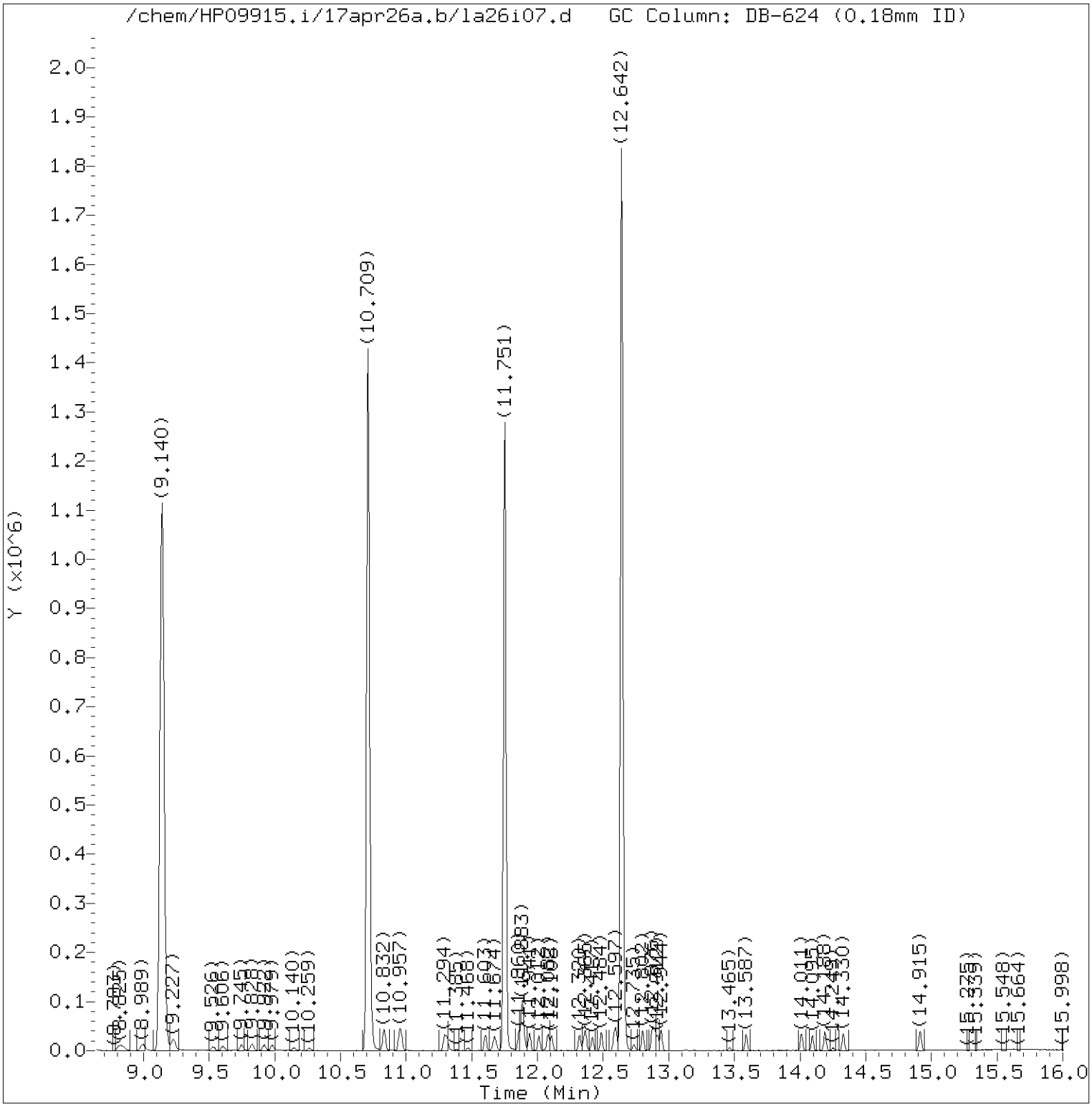
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.713	85	5134	0.831
4) Chloromethane	(2)	1.806	50	5658	0.892
6) Vinyl Chloride	(2)	1.922	62	5385	0.879
5) 1,3-Butadiene	(2)	1.941	39	3879M	1.038
8) Bromomethane	(2)	2.205	94	3700	0.898
9) Chloroethane	(2)	2.292	64	3136	0.908
10) Dichlorofluoromethane	(2)	2.491	67	7393	0.878
12) Trichlorofluoromethane	(2)	2.549	101	5844	0.824
11) n-Pentane	(2)	2.587	43	5763M	0.986
14) Ethyl ether	(2)	2.771	59	3562	0.902
15) Freon 123a	(2)	2.816	67	4340M	0.918
16) Acrolein	(1)	2.903	56	13897	8.305
17) 1,1-Dichloroethene	(2)	3.025	96	3591	0.956
17) 1,1-Dichloroethene	(2)	3.015	63	1761	0.926
18) Acetone	(1)	3.038	58	1287M	1.772
19) Freon 113	(2)	3.060	101	3233	0.855
21) 2-Propanol	(1)	3.192	45	10109M	20.998
22) Methyl Iodide	(2)	3.195	142	6674	0.916
23) Carbon Disulfide	(2)	3.288	76	11098M	0.908
27) Methyl Acetate	(2)	3.411	43	6031M	1.106
25) Allyl Chloride	(2)	3.433	41	7208M	0.958
29)*t-Butyl alcohol-d10	(1)	3.581	65	204400M	250.000
28) Methylene Chloride	(2)	3.584	84	6021	1.214
30) t-Butyl alcohol	(1)	3.690	59	16799M	21.241
31) Acrylonitrile	(2)	3.874	53	2385	0.833
33) Methyl Tertiary Butyl Ether	(2)	3.922	73	13229	0.961
32) trans-1,2-Dichloroethene	(2)	3.935	96	3899	0.885
34) n-Hexane	(2)	4.317	57	5817M	0.861
36) 1,1-Dichloroethane	(2)	4.571	63	7594	0.917
38) di-Isopropyl ether	(2)	4.613	45	14916	0.939
39) 2-Chloro-1,3-butadiene	(2)	4.677	53	6061	0.868
40) Ethyl t-butyl ether	(2)	5.166	59	12596	0.921
44) 2-Butanone	(2)	5.404	43	6995	1.825
42) cis-1,2-Dichloroethene	(2)	5.427	96	4826	0.956
45) 2,2-Dichloropropane	(2)	5.430	77	4353	0.787
47) Propionitrile	(1)	5.481	54	21692	18.793
48) Methacrylonitrile	(2)	5.693	67	26519	9.292
49) Bromochloromethane	(2)	5.771	128	2493	0.937

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50) Tetrahydrofuran	(1)	5.787	71	1704	1.671
51) Chloroform	(2)	5.925	83	7414	0.939
53) 1,1,1-Trichloroethane	(2)	6.140	97	6883	0.954
52)$Dibromofluoromethane	(2)	6.144	113	253408	50.043
52)$Dibromofluoromethane	(2)	6.147	111	257623	49.648
43) 1,2-Dichloroethene (Total)	(2)		96	8725	1.841
54) Cyclohexane	(2)	6.240	56	7197	0.876
54) Cyclohexane	(2)	6.256	84	5572M	0.830
54) Cyclohexane	(2)	6.259	69	1999	0.840
56) Carbon Tetrachloride	(2)	6.365	117	4243	0.806
55) 1,1-Dichloropropene	(2)	6.369	75	5734	0.893
58) Isobutyl Alcohol	(1)	6.536	41	13006	46.839
57)$1,2-Dichloroethane-d4	(2)	6.610	102	63172	50.169
57)$1,2-Dichloroethane-d4	(2)	6.610	65	298618	50.137
57)$1,2-Dichloroethane-d4	(2)	6.616	104	39207	49.090
60) Benzene	(2)	6.639	78	17777	0.939
61) 1,2-Dichloroethane	(2)	6.722	62	5991	0.936
61) 1,2-Dichloroethane	(2)	6.716	98	278	0.492
65) t-Amyl methyl ether	(2)	6.832	73	12353	0.910
66)*Fluorobenzene	(2)	7.050	96	1036977	50.000
67) n-Heptane	(2)	7.076	43	7056M	0.933
69) n-Butanol	(1)	7.436	56	18978	84.784
71) Trichloroethene	(2)	7.545	95	4751	0.972
72) Methylcyclohexane	(2)	7.857	83	7103	0.824
72) Methylcyclohexane	(2)	7.854	98	3166	0.814
73) 1,2-Dichloropropane	(2)	7.890	63	4619	0.892
75) 1,4-Dioxane	(1)	7.983	88	3446	49.313
76) Methyl Methacrylate	(2)	7.989	69	3670M	0.828
74) Dibromomethane	(2)	8.002	93	3047	0.935
78) Bromodichloromethane	(2)	8.246	83	5145	0.875
79) 2-Nitropropane	(2)	8.507	41	2718	1.630
80) 2-Chloroethyl Vinyl Ether	(2)	8.626	63	3128	0.786
81) cis-1,3-Dichloropropene	(2)	8.809	75	6077	0.793
82) 4-Methyl-2-pentanone	(2)	8.996	43	13249	1.677
83)$Toluene-d8	(3)	9.140	98	1011031	50.099
83)$Toluene-d8	(3)	9.140	100	664751	49.998
88) Toluene	(3)	9.230	92	10791	0.920
89) trans-1,3-Dichloropropene	(3)	9.533	75	4836	0.735

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
91) Ethyl Methacrylate	(3)	9.606	69	5948	0.803
92) 1,1,2-Trichloroethane	(3)	9.751	97	4212	0.932
93) Tetrachloroethene	(3)	9.828	166	4631	0.893
94) 1,3-Dichloropropane	(3)	9.918	76	7455	0.951
96) 2-Hexanone	(3)	9.979	43	8940	1.579
90) 1,3-Dichloropropene (total)	(3)		100	10913	1.528
97) Dibromochloromethane	(3)	10.150	129	3755	0.802
99) 1,2-Dibromoethane	(3)	10.259	107	4374	0.884
100)*Chlorobenzene-d5	(3)	10.709	117	790373	50.000
101) 1-Chlorohexane	(3)	10.729	91	7171	1.065
102) Chlorobenzene	(3)	10.735	112	12435	0.919
103) 1,1,1,2-Tetrachloroethane	(3)	10.832	131	3810	0.853
104) Ethylbenzene	(3)	10.832	91	20557	0.909
106) m+p-Xylene	(3)	10.954	106	15787	1.793
107) o-Xylene	(3)	11.294	106	7750	0.885
109) Styrene	(3)	11.311	104	11905	0.822
110) Bromoform	(3)	11.468	173	2449	0.721
111) Isopropylbenzene	(3)	11.603	105	19094	0.853
112) Cyclohexanone	(1)	11.674	55	12225A	46.377
114)$4-Bromofluorobenzene	(3)	11.751	95	377337	50.305
114)$4-Bromofluorobenzene	(3)	11.751	174	332561	50.545
108) Xylene (Total)	(3)		106	23537	2.677
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	6980	0.917
115) Bromobenzene	(4)	11.860	156	5604	0.915
118) trans-1,4-Dichloro-2-butene	(4)	11.886	53	18943	8.689
117) 1,2,3-Trichloropropane	(4)	11.899	110	2008	0.934
119) n-Propylbenzene	(4)	11.941	91	24194	0.894
120) 2-Chlorotoluene	(4)	12.012	126	5054	0.897
122) 1,3,5-Trimethylbenzene	(4)	12.082	105	15989	0.828
121) 4-Chlorotoluene	(4)	12.108	126	5379	0.917
124) tert-Butylbenzene	(4)	12.320	134	3714	0.890
125) Pentachloroethane	(4)	12.352	167	2616	0.794
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	16998	0.855
127) sec-Butylbenzene	(4)	12.484	105	21349	0.867
129) 1,3-Dichlorobenzene	(4)	12.581	146	11200	0.960
130) p-Isopropyltoluene	(4)	12.600	119	18731	0.861
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	428650	50.000
133) 1,4-Dichlorobenzene	(4)	12.661	146	12025	0.997

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

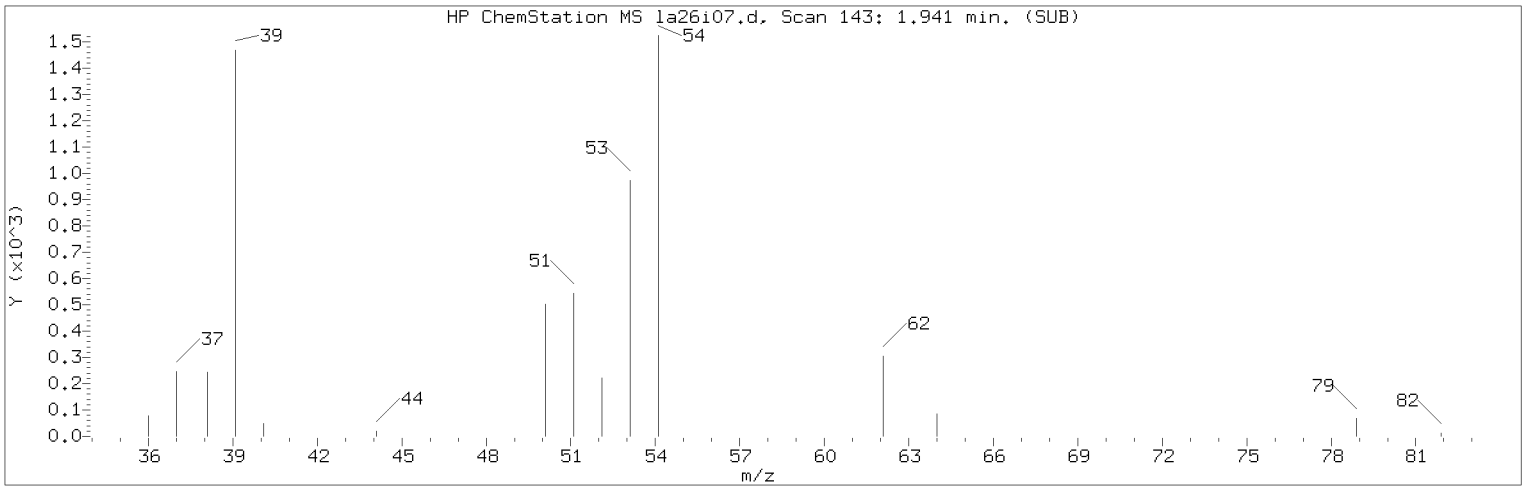
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

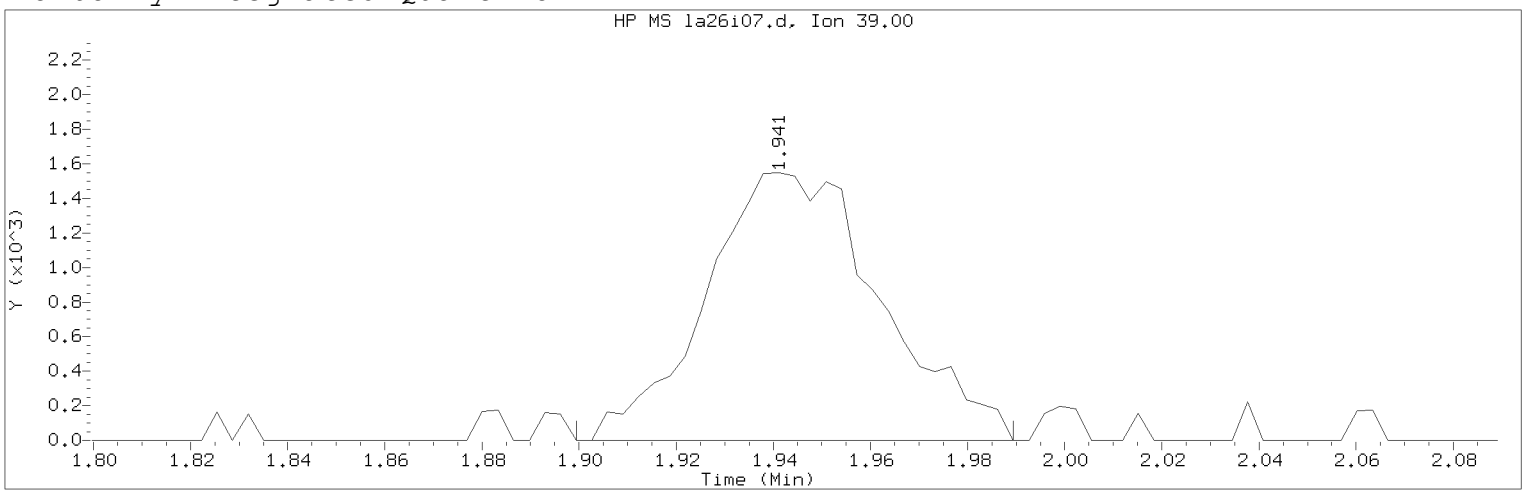
	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
134)	1,2,3-Trimethylbenzene	(4)	12.671	105	19417	0.932
135)	Benzyl Chloride	(4)	12.735	91	7813	0.655
136)	1,3-Diethylbenzene	(4)	12.802	119	11399	0.877
137)	1,4-Diethylbenzene	(4)	12.873	119	12459	0.913
139)	n-Butylbenzene	(4)	12.889	92	10343	0.952
138)	1,2-Dichlorobenzene	(4)	12.918	146	11057	0.964
140)	1,2-Diethylbenzene	(4)	12.944	119	9704	0.888
141)	Diethylbenzene (total)	(4)		100	33562	2.678
142)	1,2-Dibromo-3-chloropropane	(4)	13.465	75	1391	0.865
144)	1,3,5-Trichlorobenzene	(4)	13.590	180	9757	1.050
146)	1,2,4-Trichlorobenzene	(4)	14.008	180	10012	1.110
147)	Hexachlorobutadiene	(4)	14.092	225	4846	1.237
148)	Naphthalene	(4)	14.188	128	26365	0.969
149)	1,2,3-Trichlorobenzene	(4)	14.327	180	10045	1.155
150)	2-Methylnaphthalene	(4)	14.915	142	17518	0.996

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

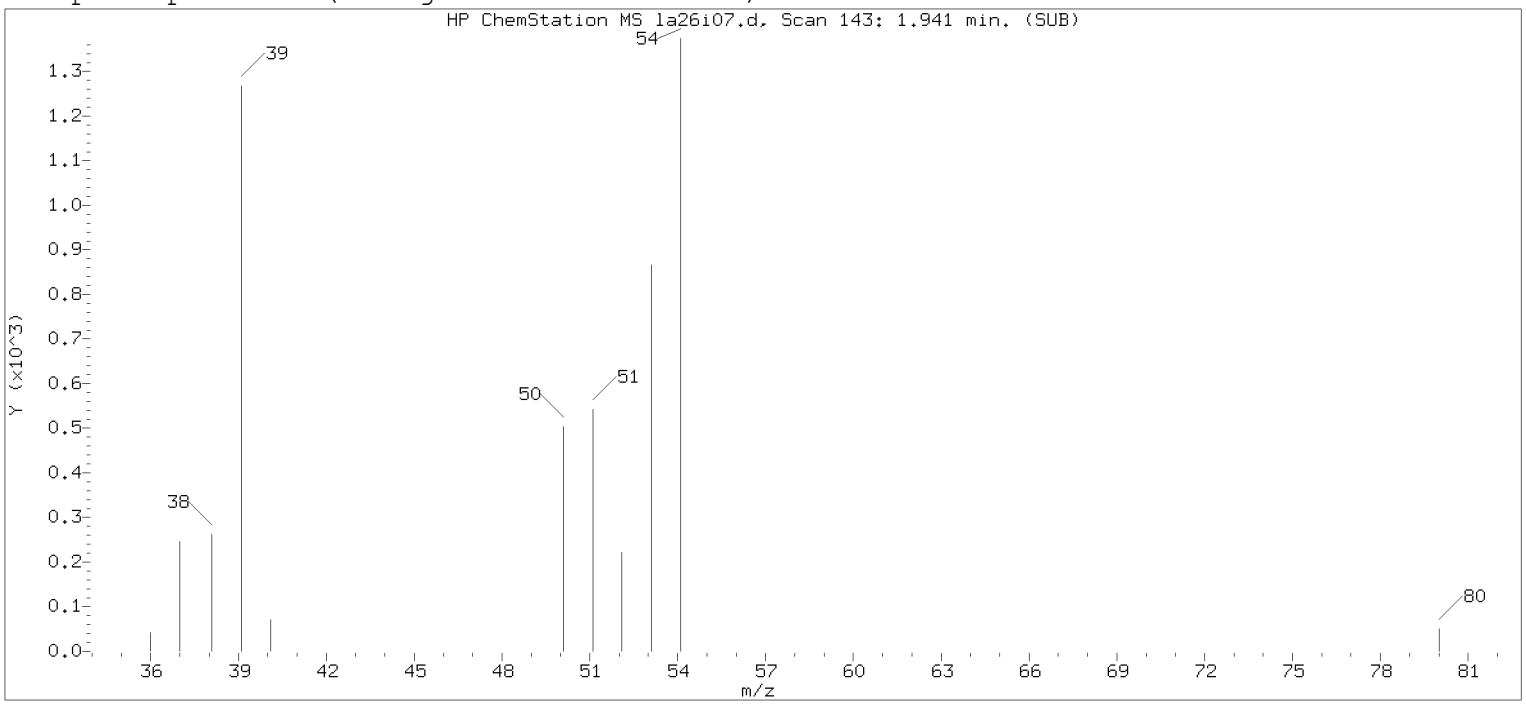
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 143
Retention Time (minutes): 1.941
Quant Ion : 39.00
Area (flag) : 3879M
On-Column Amount (ng) : 1.0378
Integration start scan : 129 Integration stop scan: 157
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

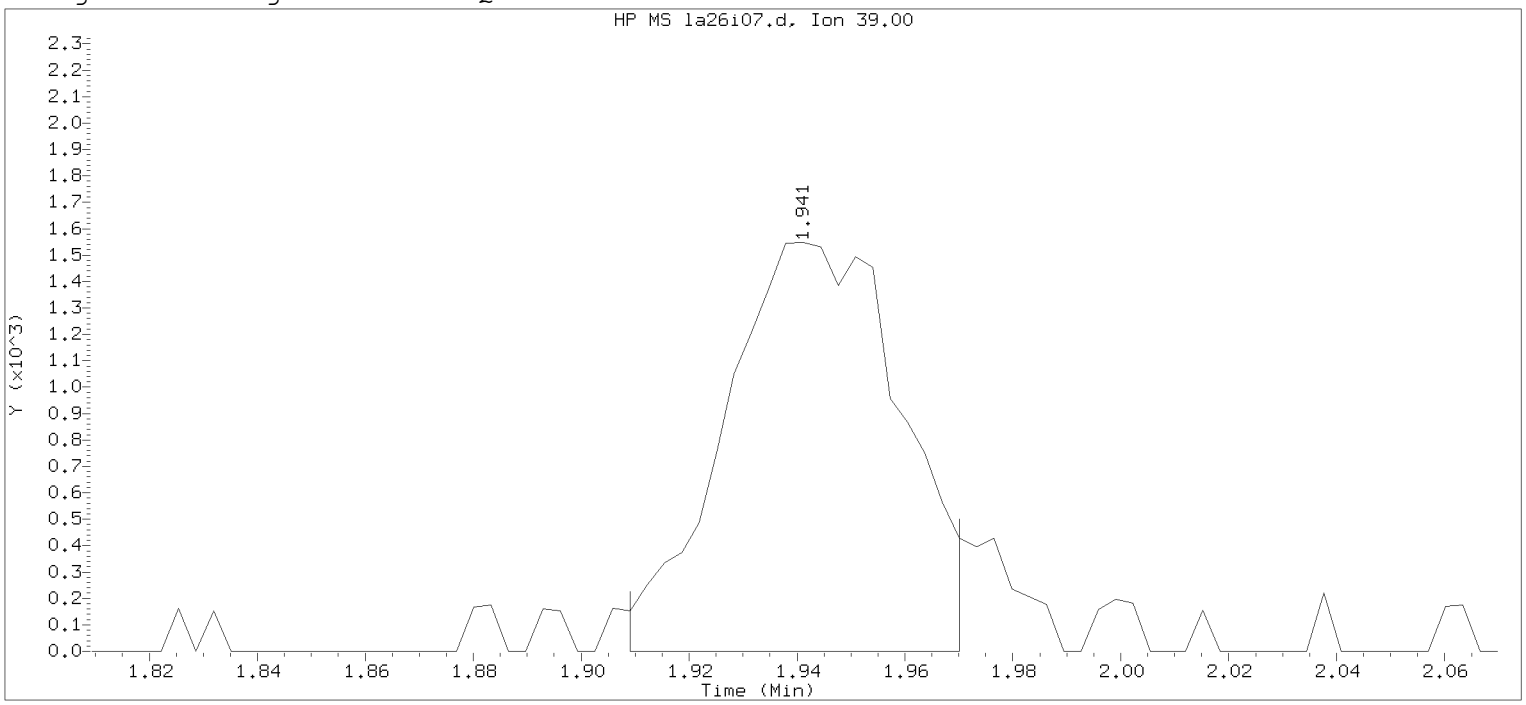
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

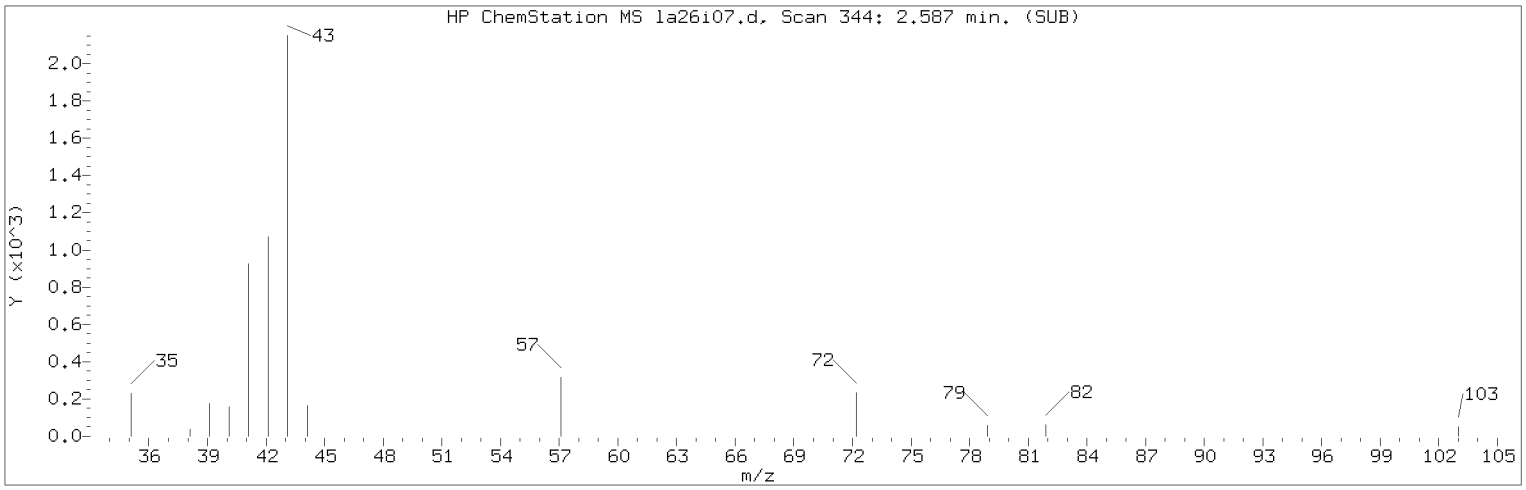
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

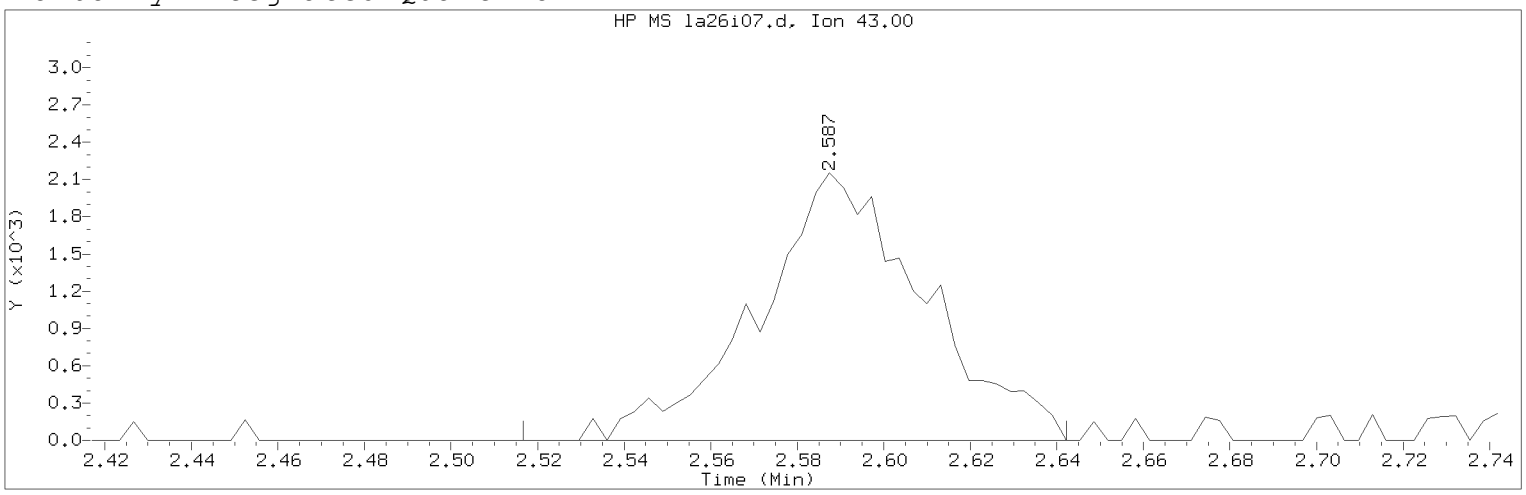
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 143
Retention Time (minutes): 1.941
Quant Ion : 39.00
Area : 3513
On-column Amount (ng) : 0.9533
Integration start scan : 132 Integration stop scan: 151
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2478

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

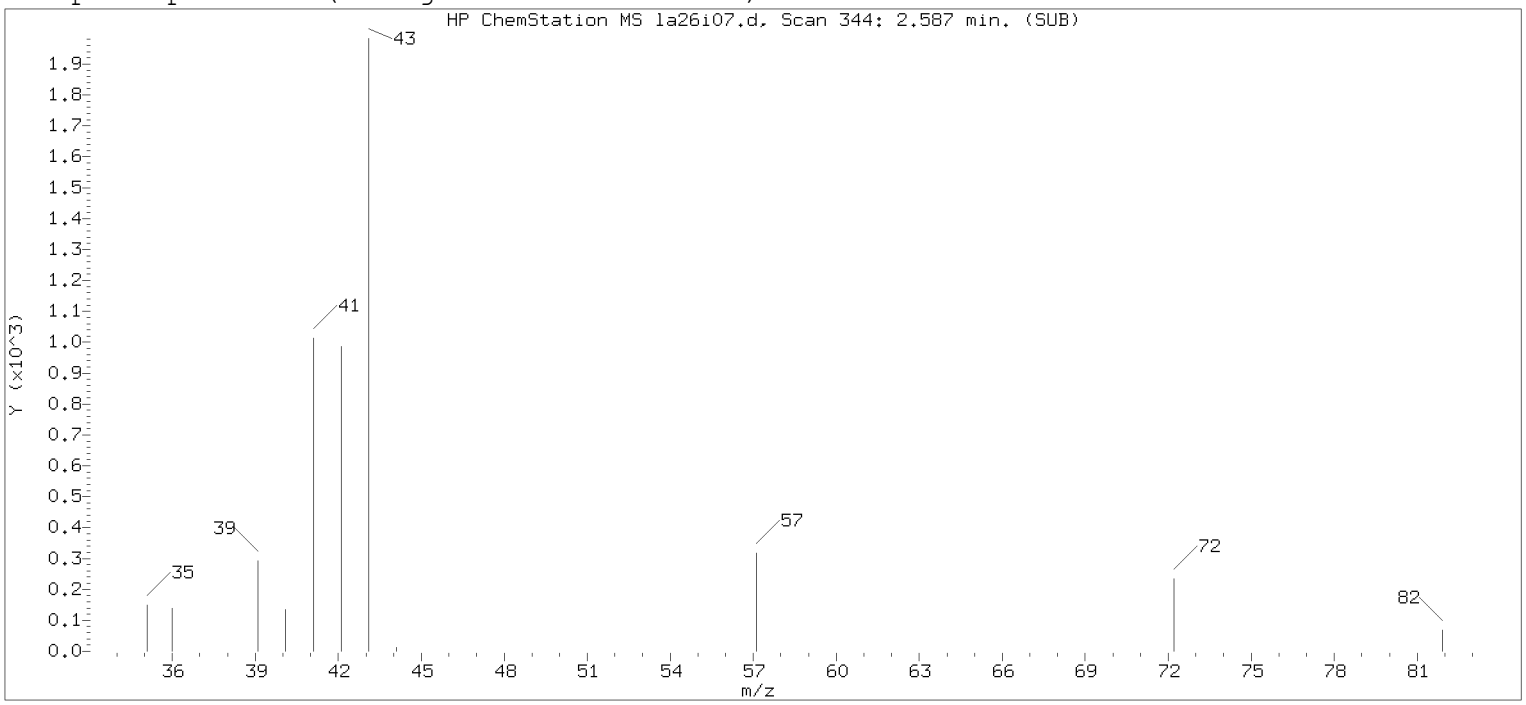
Compound Number : 11
Compound Name : n-Pentane
Scan Number : 344
Retention Time (minutes): 2.587
Quant Ion : 43.00
Area (flag) : 5763M
On-Column Amount (ng) : 0.9861
Integration start scan : 321 Integration stop scan: 360
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

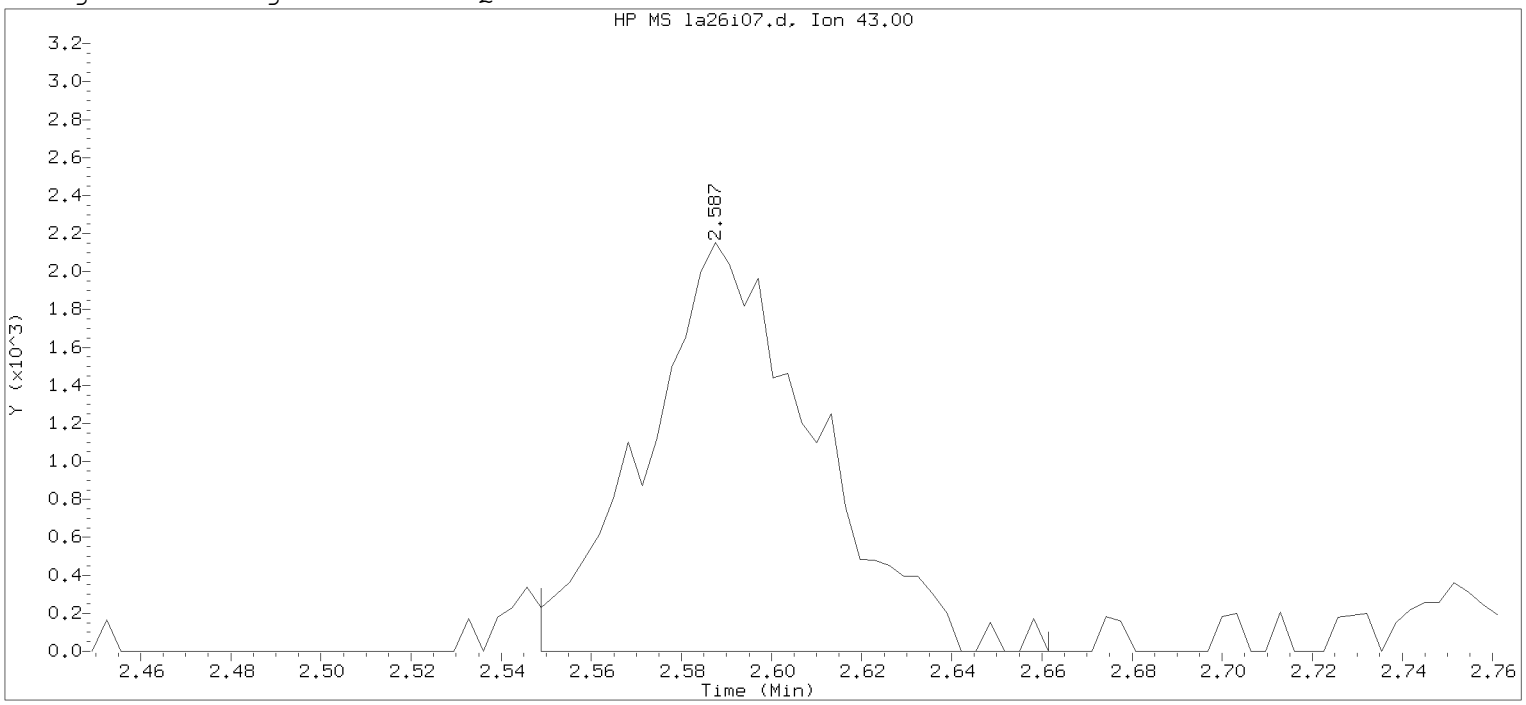
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

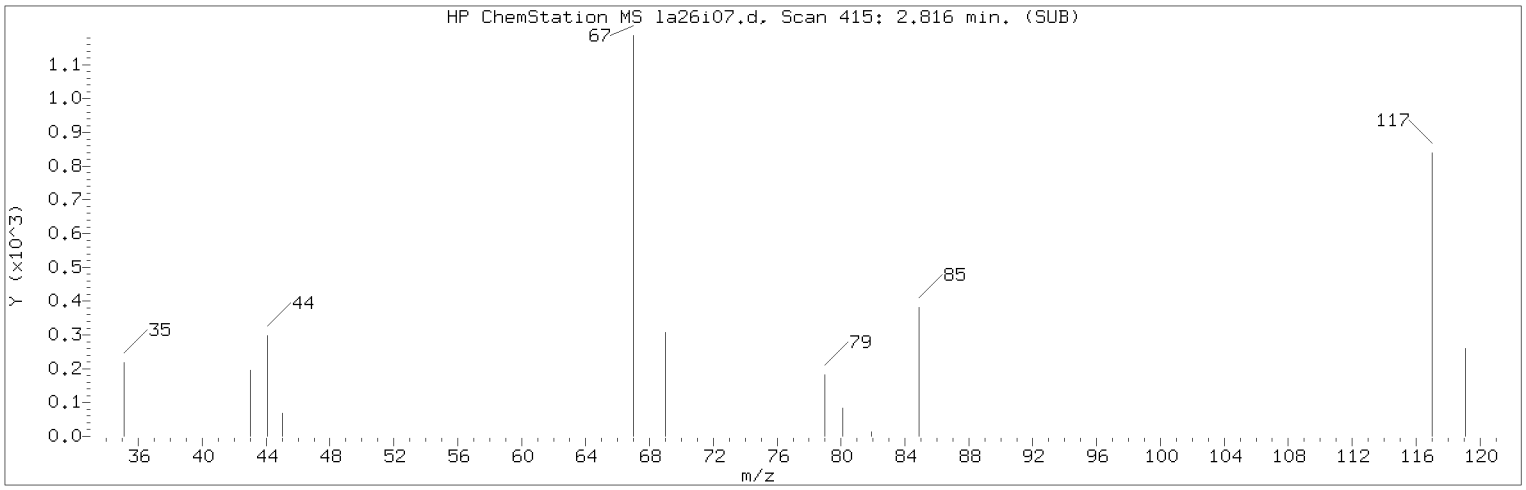
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

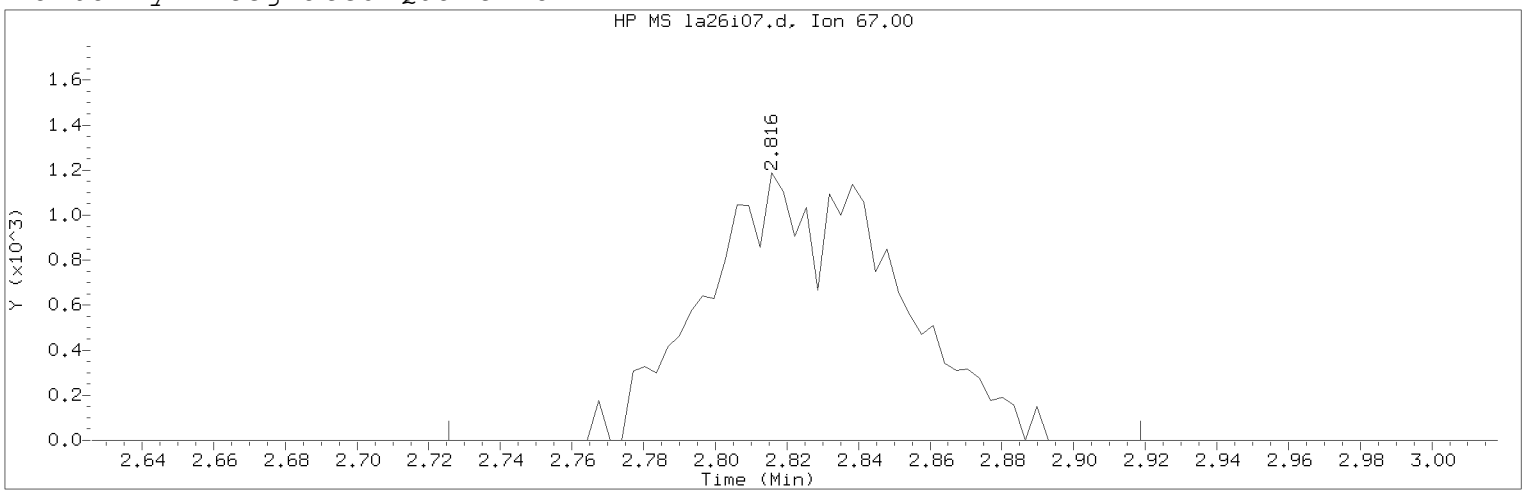
Compound Number : 11
Compound Name : n-Pentane
Scan Number : 344
Retention Time (minutes): 2.587
Quant Ion : 43.00
Area : 5626
On-column Amount (ng) : 0.9660
Integration start scan : 331 Integration stop scan: 366
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

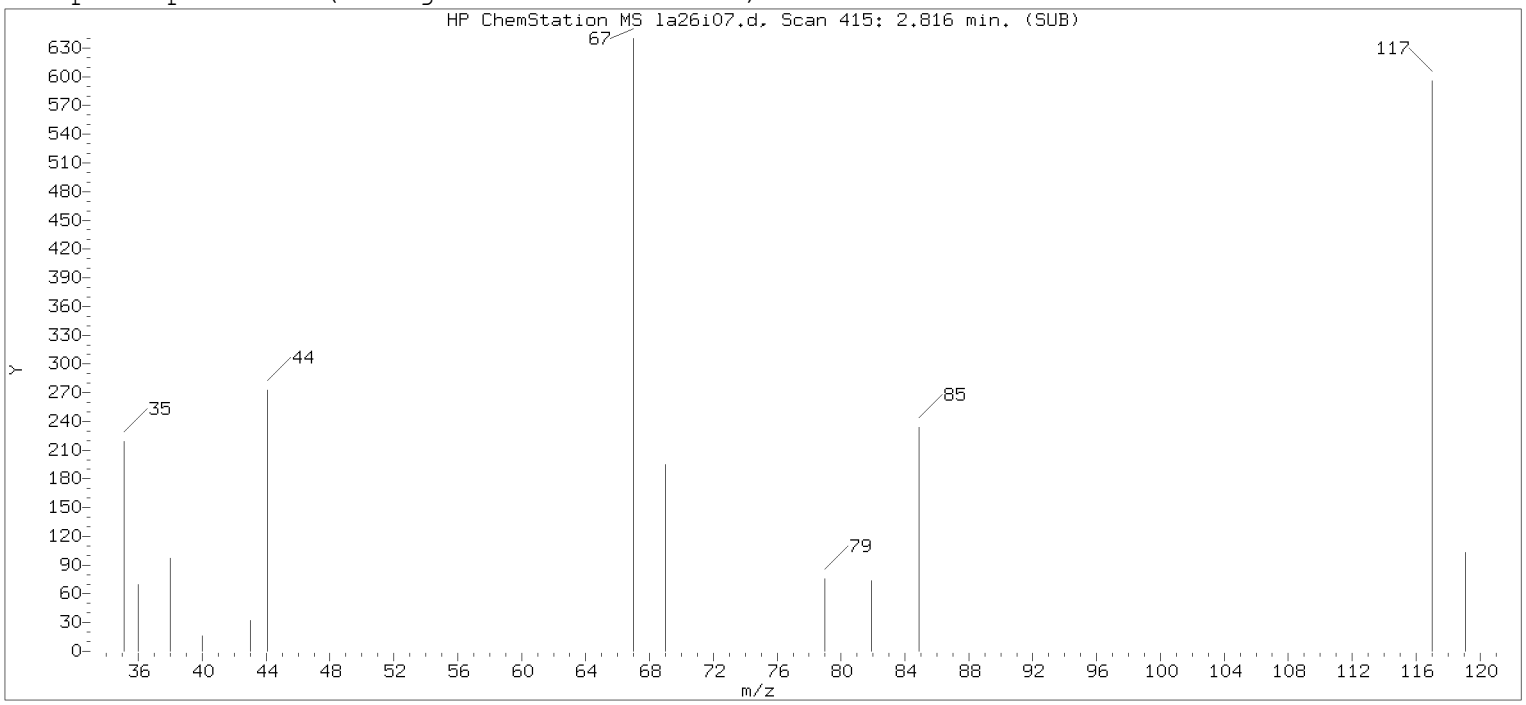
Compound Number : 15
Compound Name : Freon 123a
Scan Number : 415
Retention Time (minutes): 2.816
Quant Ion : 67.00
Area (flag) : 4340M
On-Column Amount (ng) : 0.9183
Integration start scan : 386 Integration stop scan: 446
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

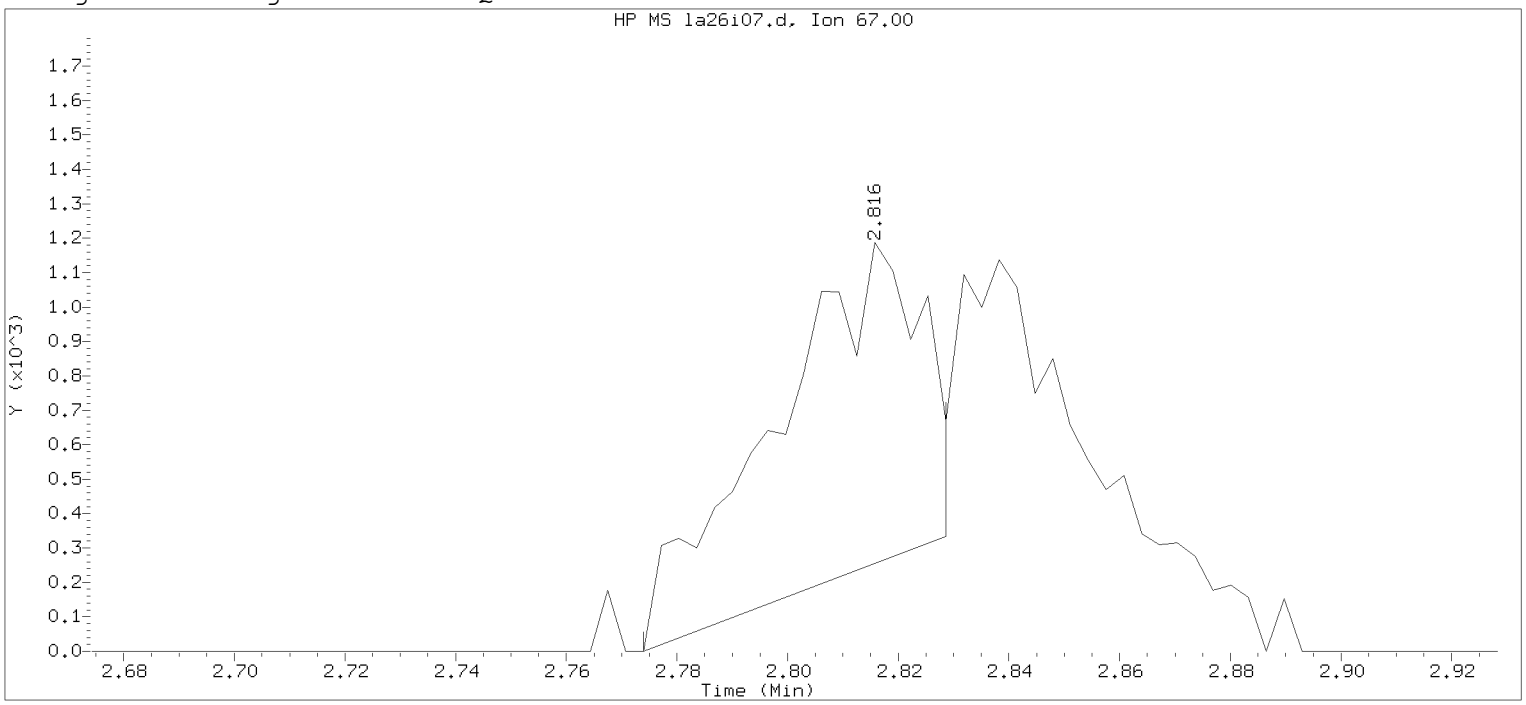
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

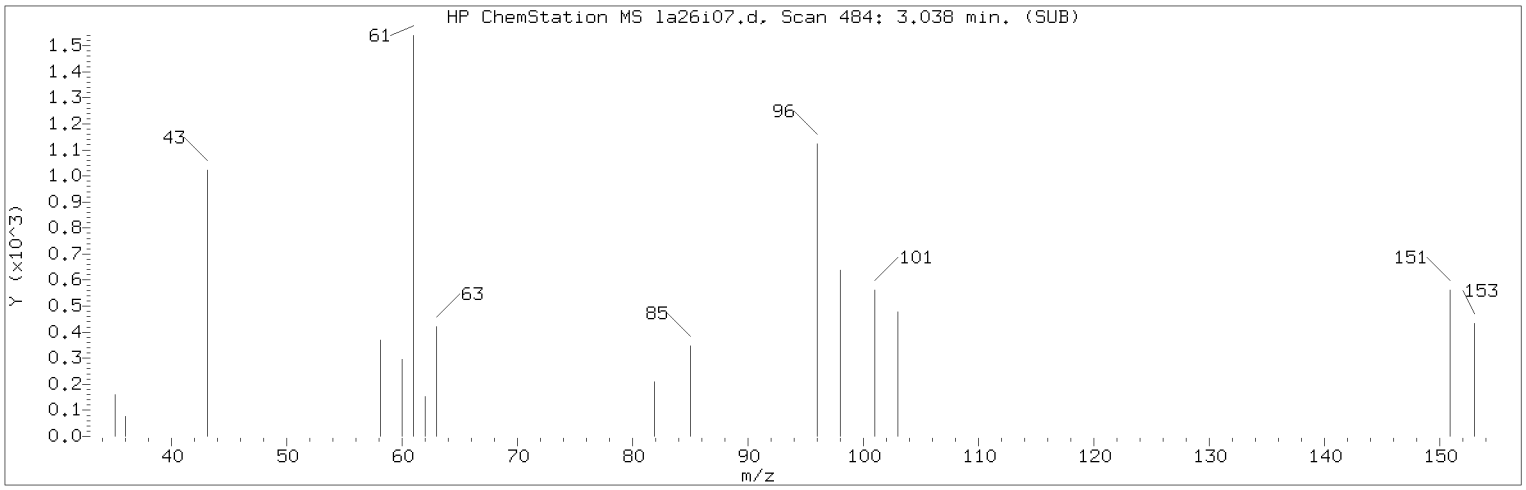
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

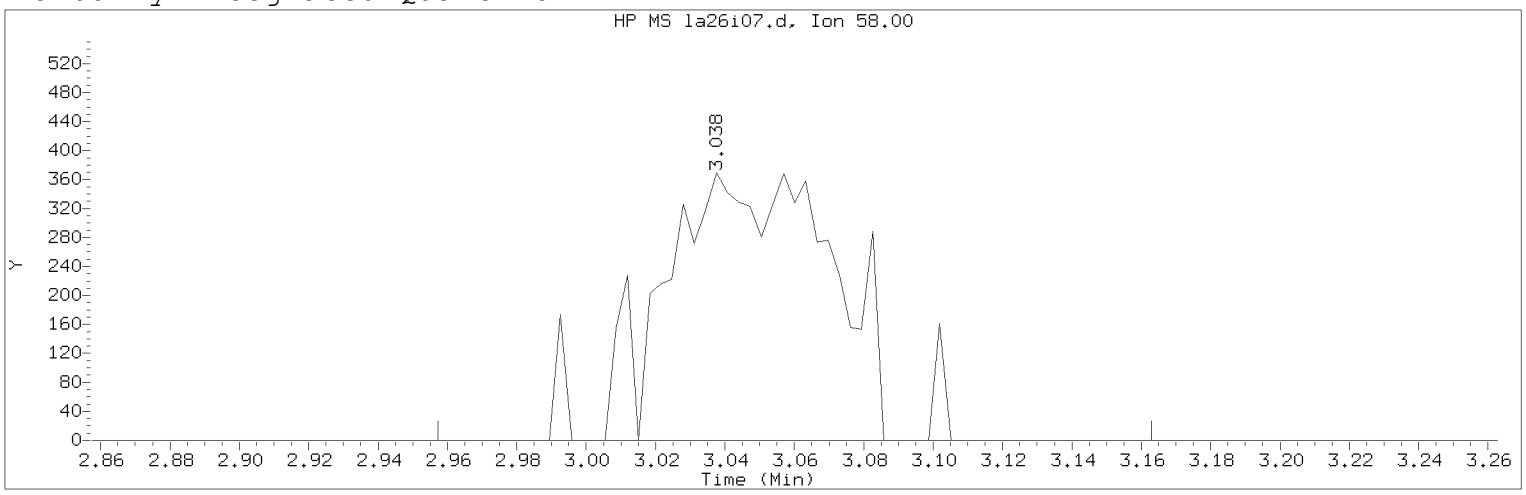
Compound Number : 15
Compound Name : Freon 123a
Scan Number : 415
Retention Time (minutes): 2.816
Quant Ion : 67.00
Area : 1764
On-column Amount (ng) : 0.4048
Integration start scan : 401 Integration stop scan: 418
Y at integration start : 0 Y at integration end: 334

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2443

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

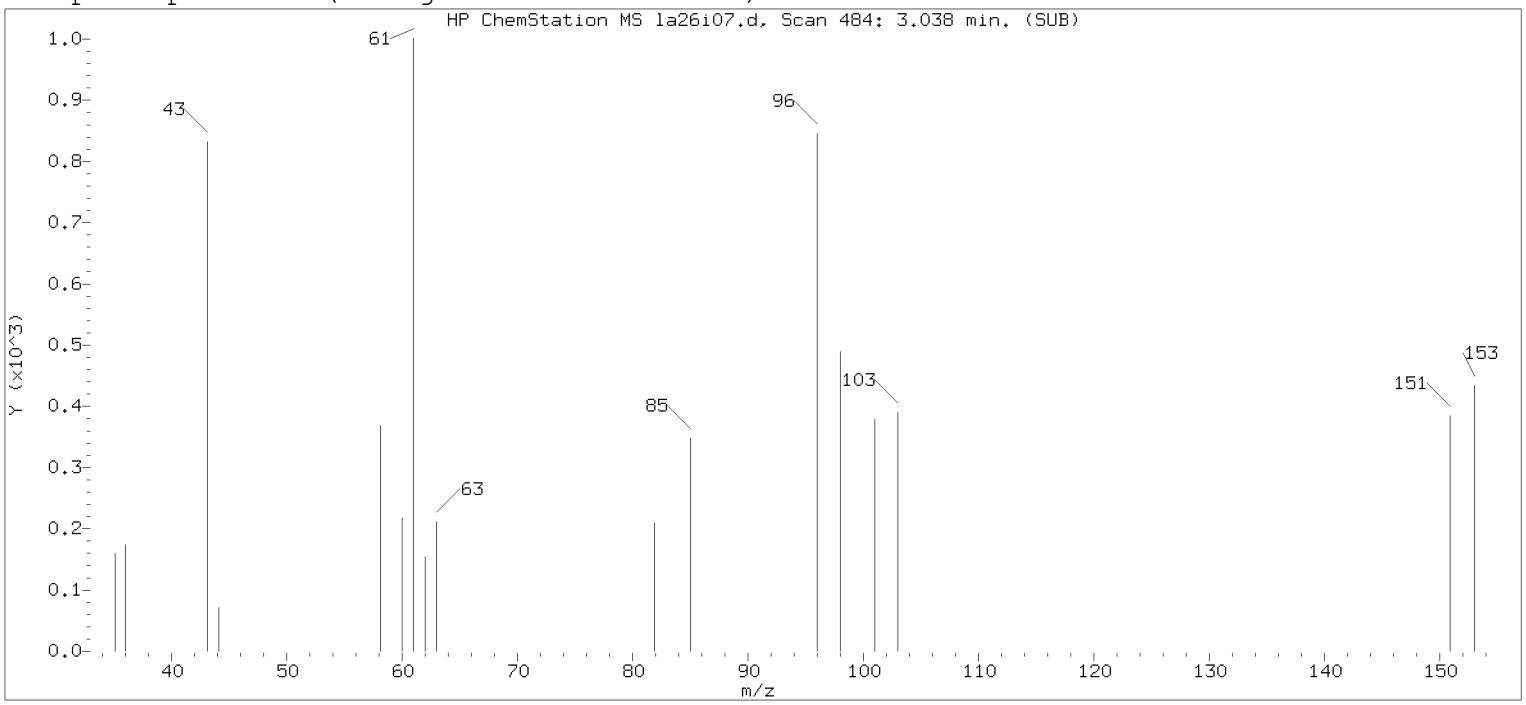
Compound Number : 18
Compound Name : Acetone
Scan Number : 484
Retention Time (minutes): 3.038
Quant Ion : 58.00
Area (flag) : 1287M
On-Column Amount (ng) : 1.7722
Integration start scan : 458 Integration stop scan: 522
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

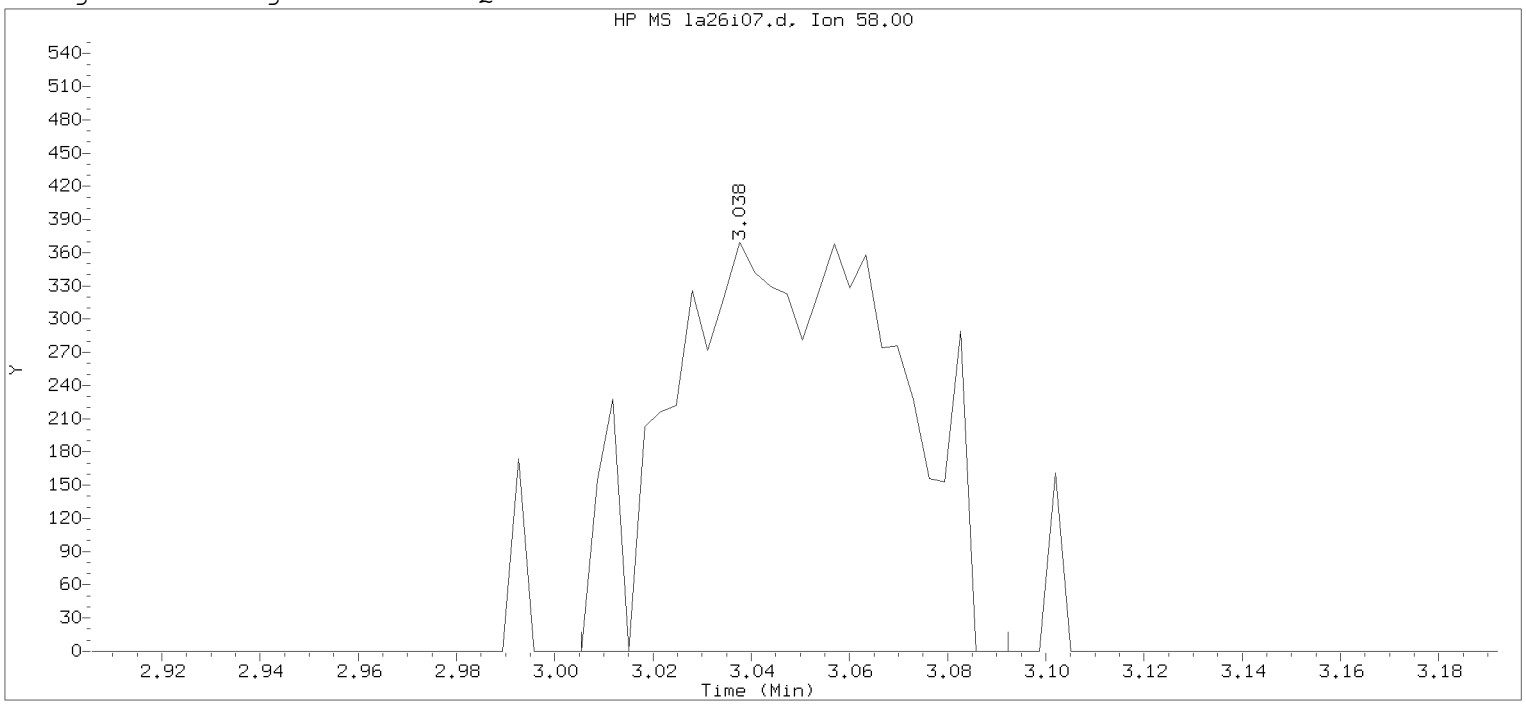
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

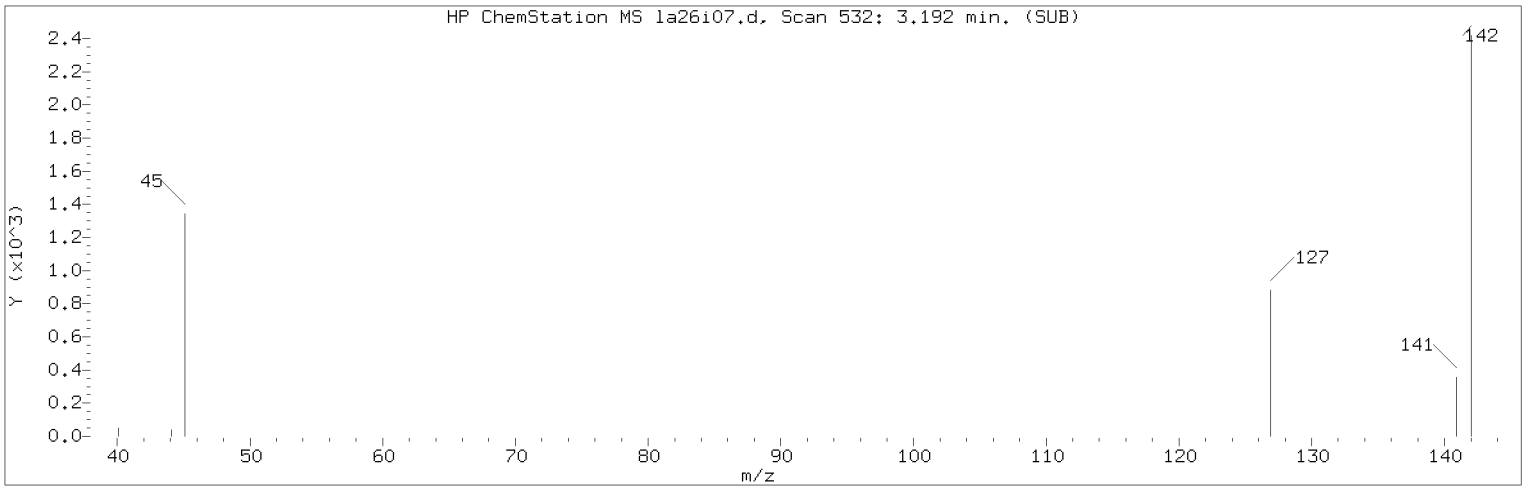
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

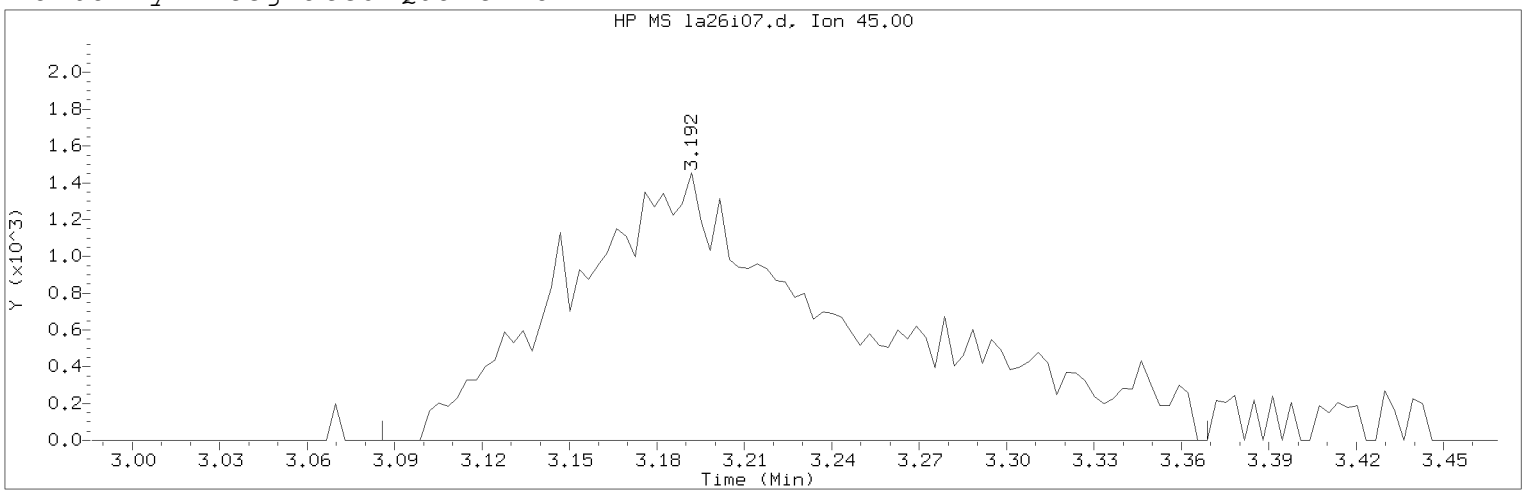
Compound Number : 18
Compound Name : Acetone
Scan Number : 484
Retention Time (minutes): 3.038
Quant Ion : 58.00
Area : 1222
On-column Amount (ng) : 1.7234
Integration start scan : 473 Integration stop scan: 500
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2493

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

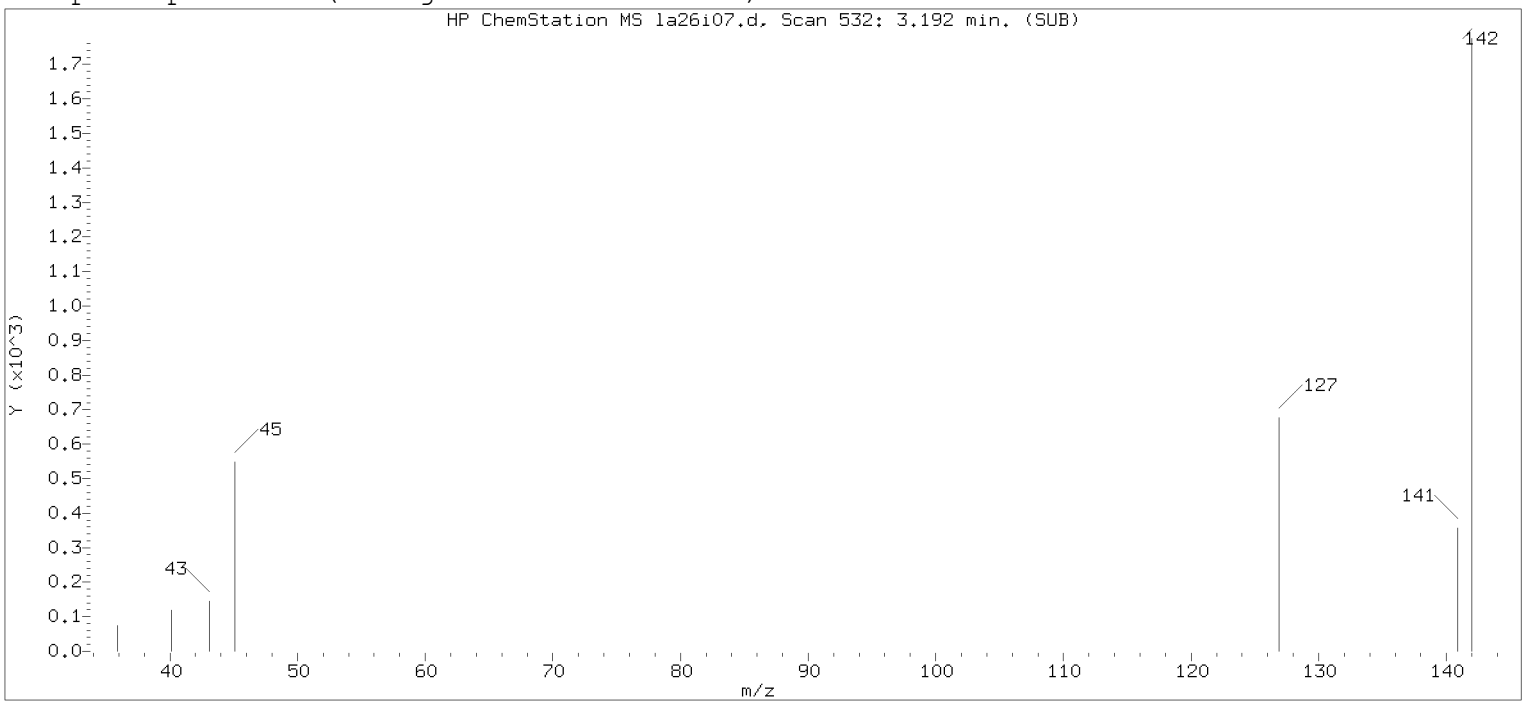
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 532
Retention Time (minutes): 3.192
Quant Ion : 45.00
Area (flag) : 10109M
On-Column Amount (ng) : 20.9983
Integration start scan : 498 Integration stop scan: 586
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

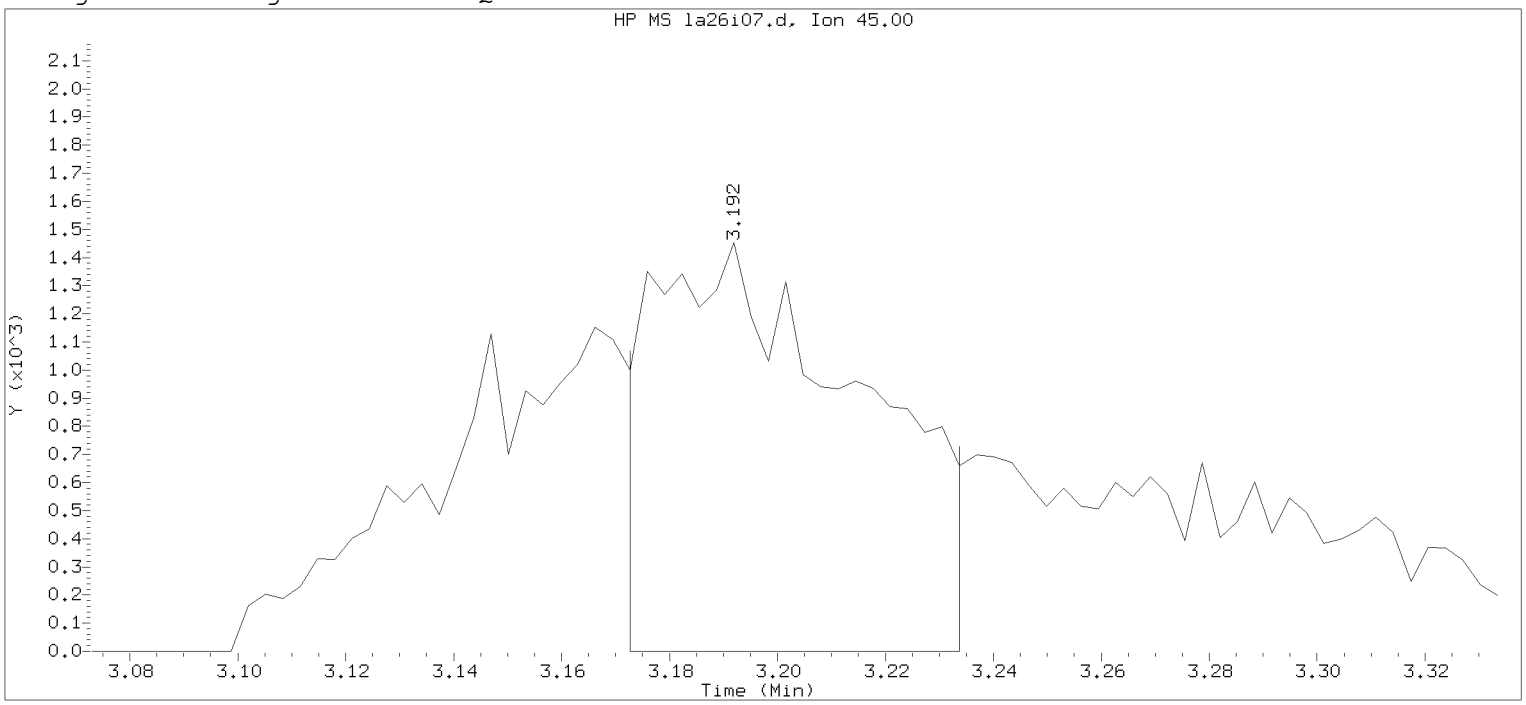
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

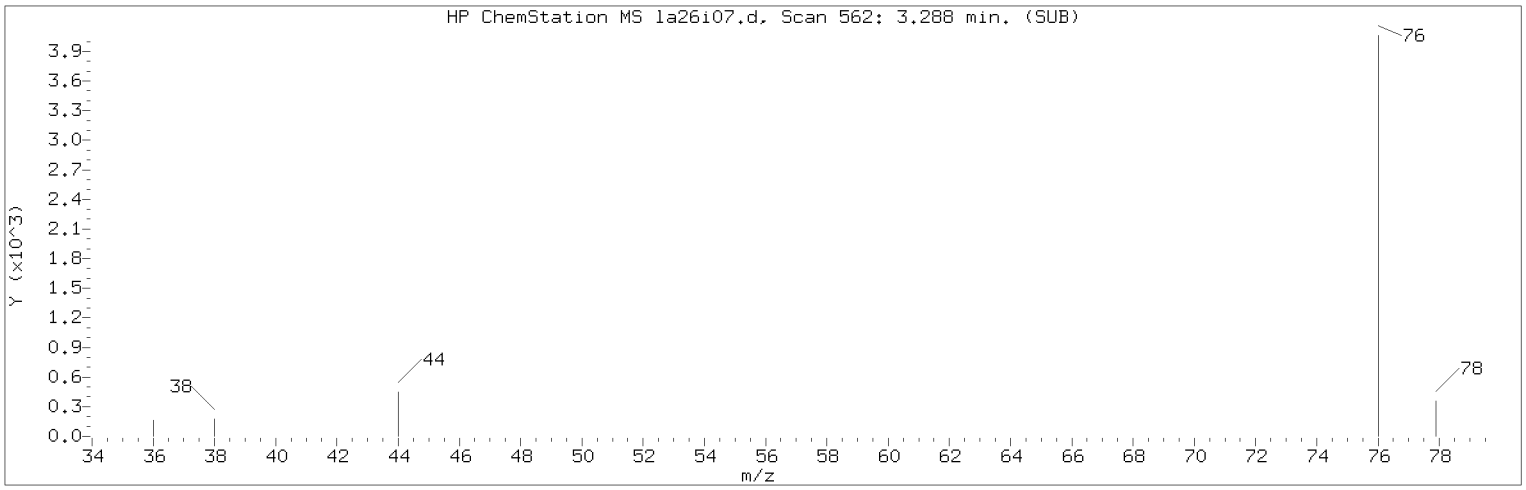
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

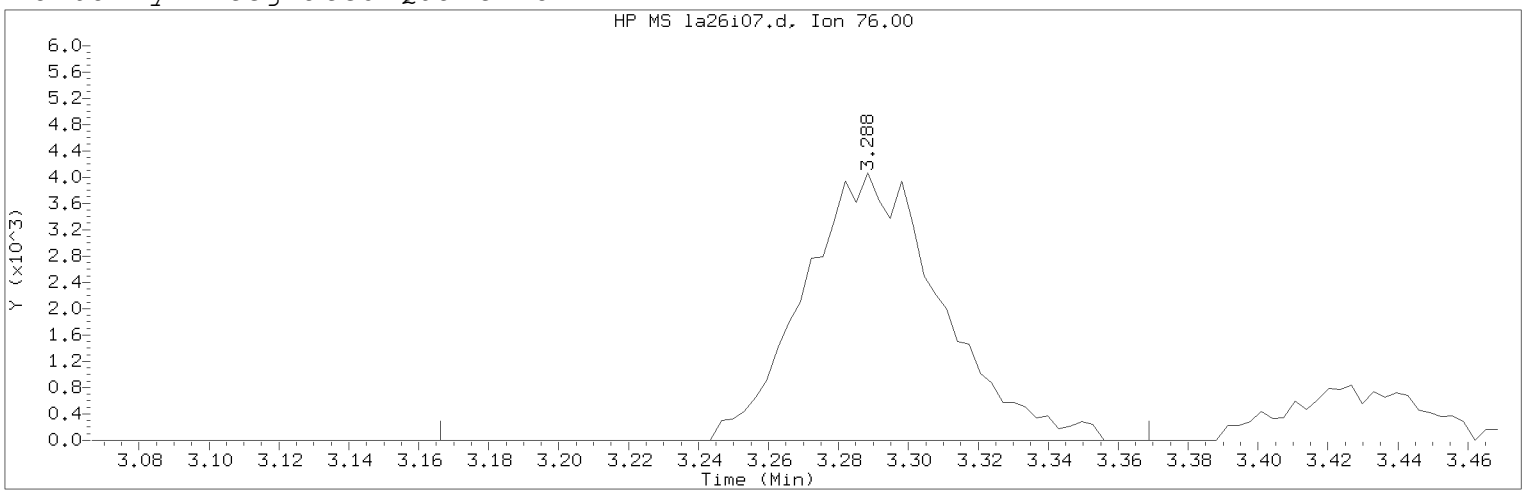
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 532
Retention Time (minutes): 3.192
Quant Ion : 45.00
Area : 3925
On-column Amount (ng) : 9.1397
Integration start scan : 525 Integration stop scan: 544
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2495

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

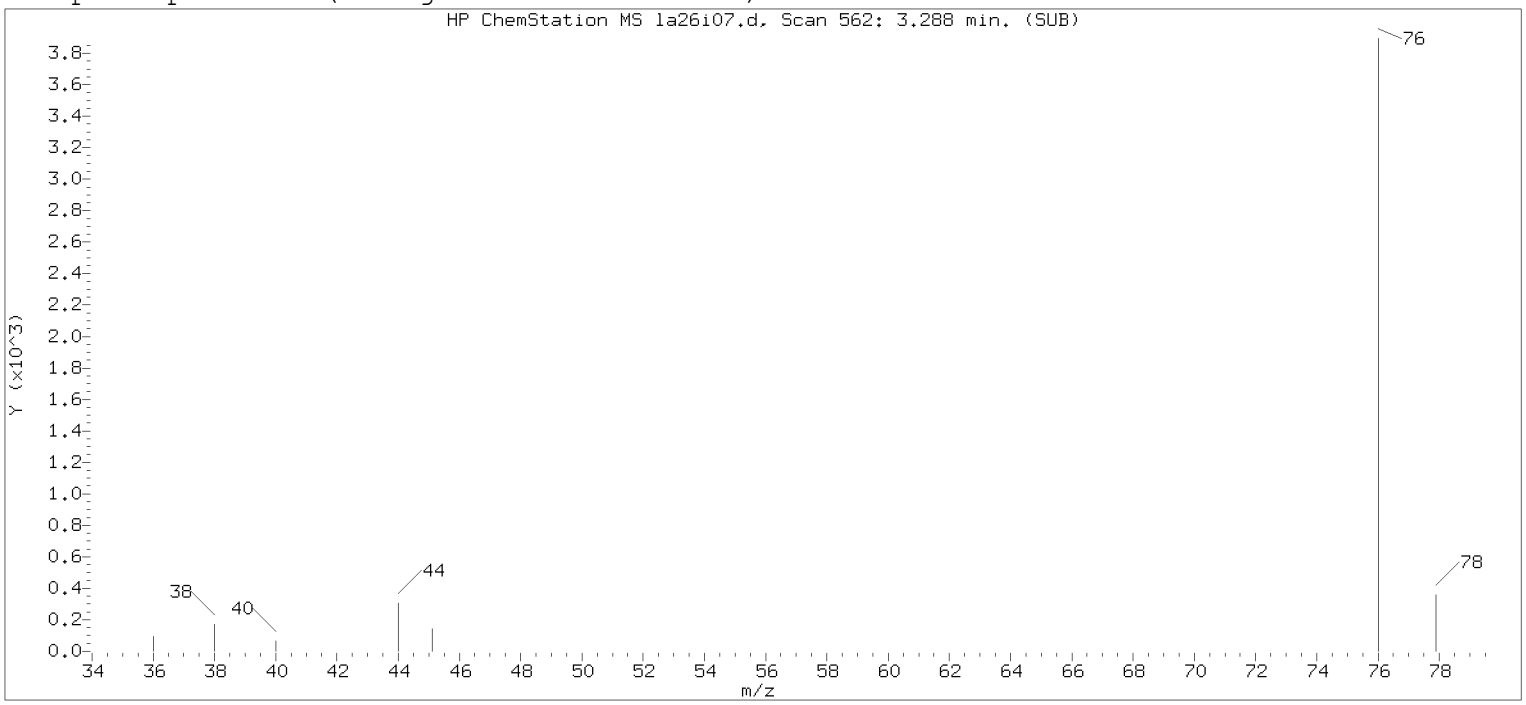
Compound Number : 23
Compound Name : Carbon Disulfide
Scan Number : 562
Retention Time (minutes): 3.288
Quant Ion : 76.00
Area (flag) : 11098M
On-Column Amount (ng) : 0.9080
Integration start scan : 523 Integration stop scan: 586
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

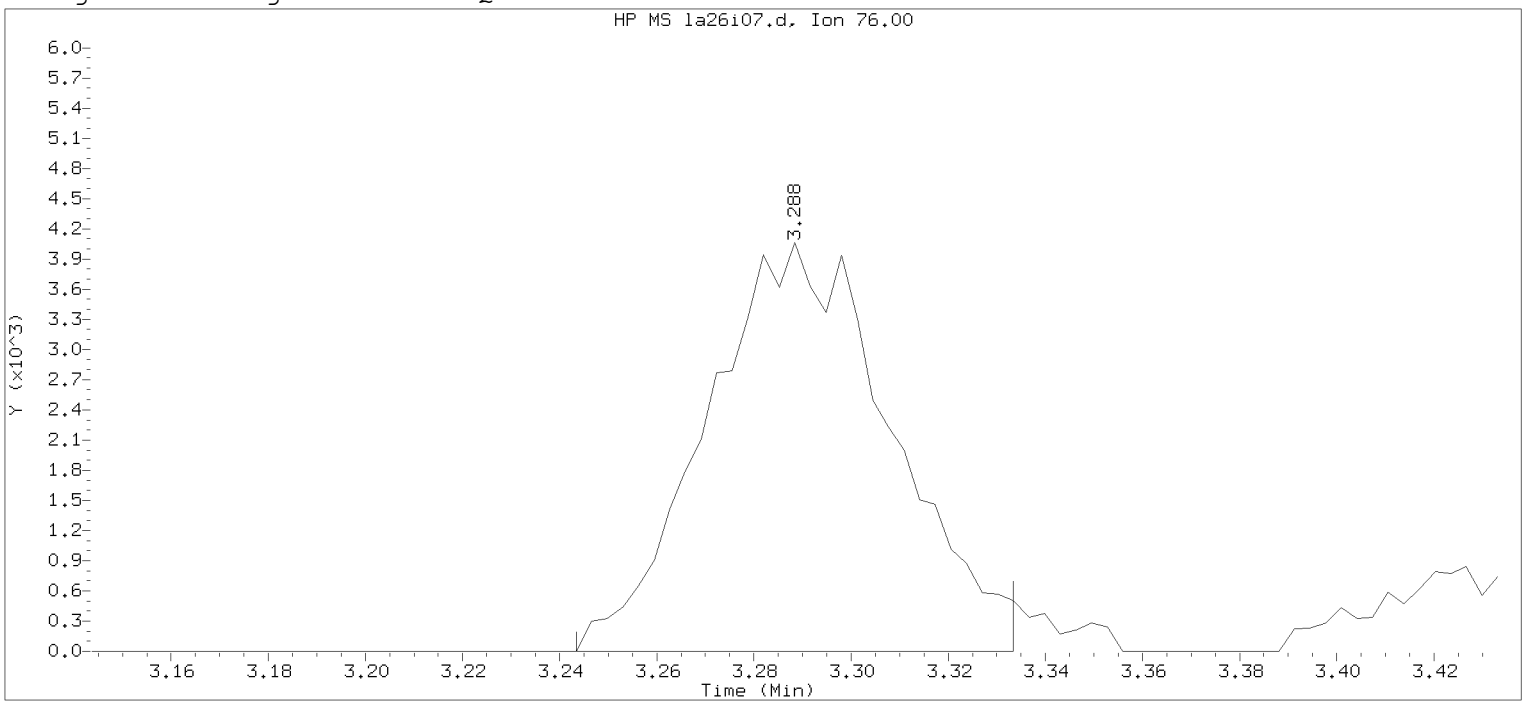
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

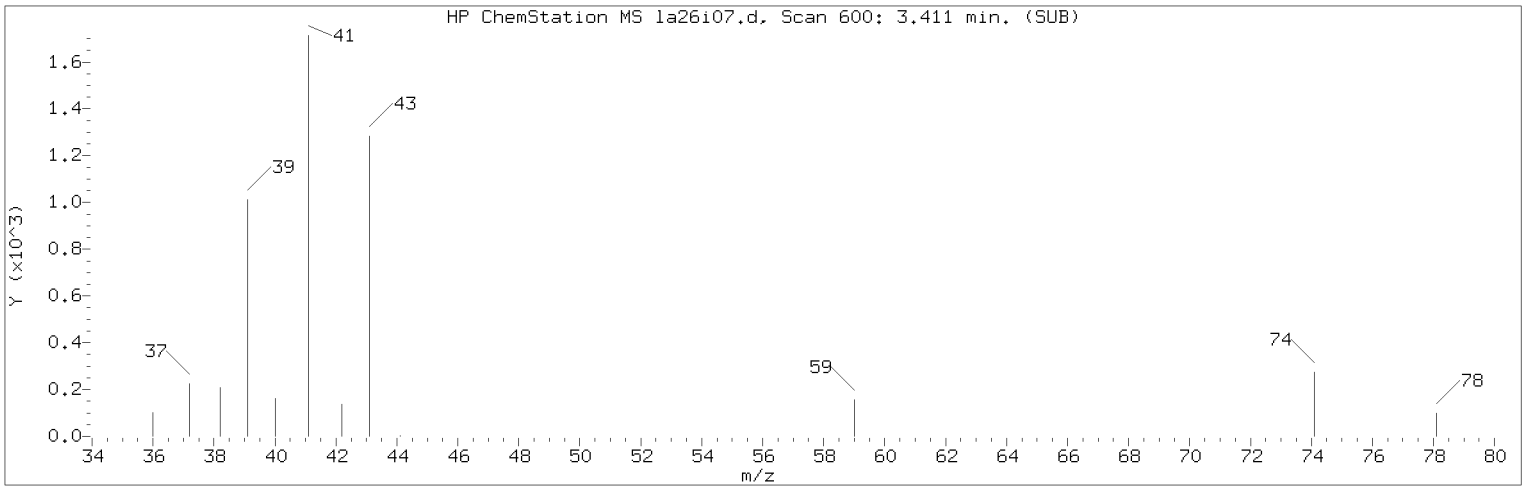
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

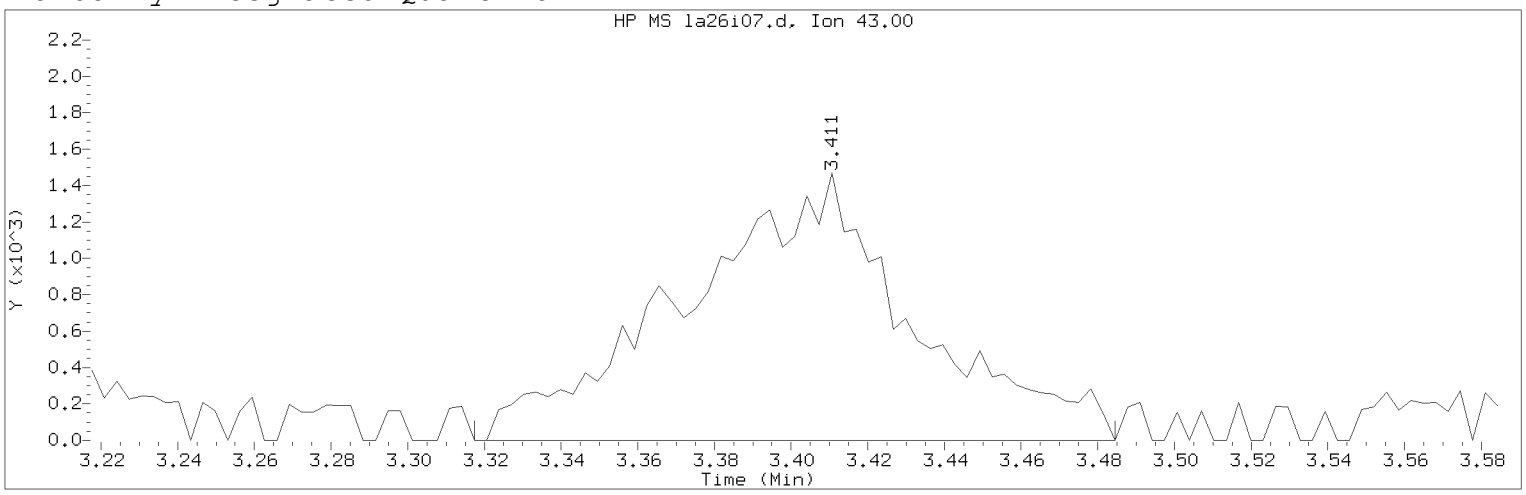
Compound Number	: 23		
Compound Name	: Carbon Disulfide		
Scan Number	: 562		
Retention Time (minutes)	: 3.288		
Quant Ion	: 76.00		
Area	: 10736		
On-column Amount (ng)	: 0.8822		
Integration start scan	: 547	Integration stop scan:	575
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2.0.78

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

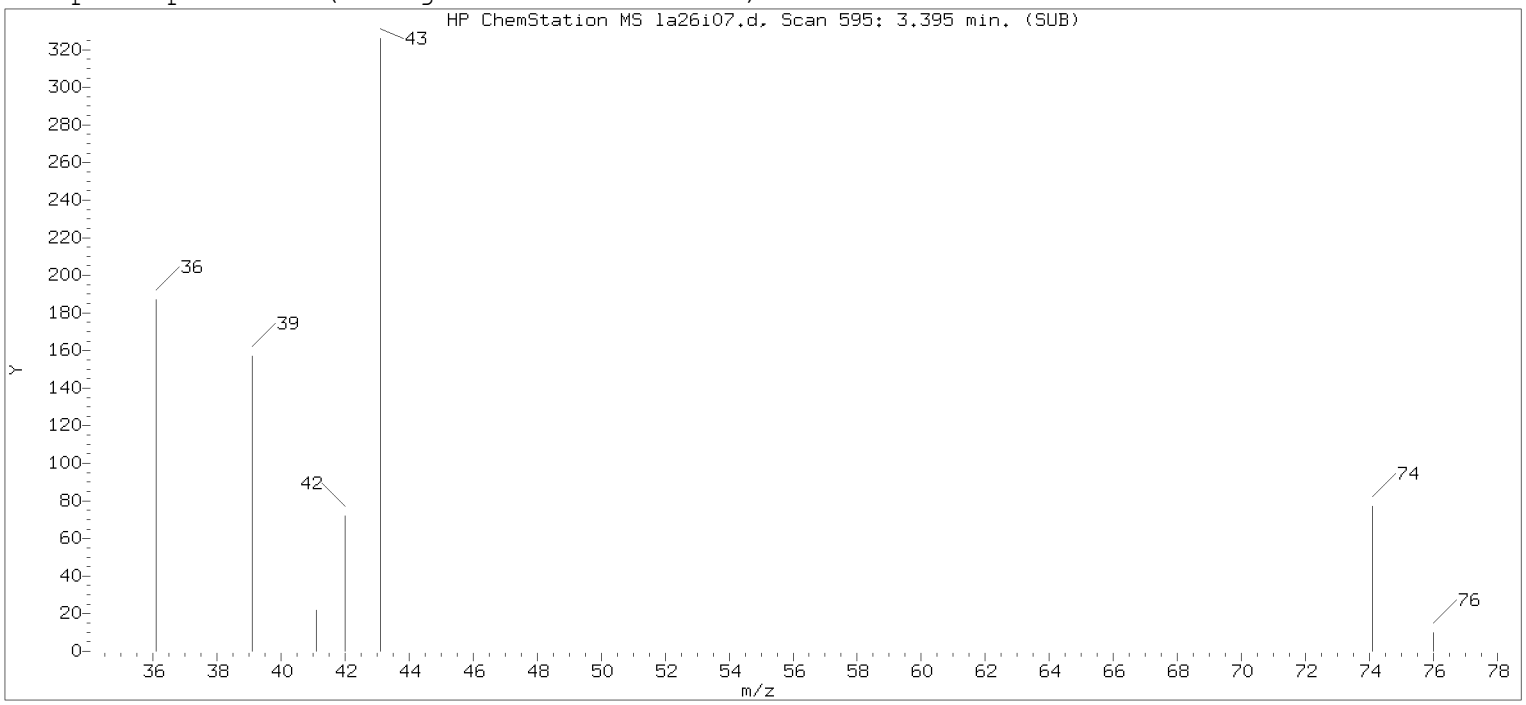
Compound Number : 27
Compound Name : Methyl Acetate
Scan Number : 600
Retention Time (minutes): 3.411
Quant Ion : 43.00
Area (flag) : 6031M
On-Column Amount (ng) : 1.1064
Integration start scan : 570 Integration stop scan: 622
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

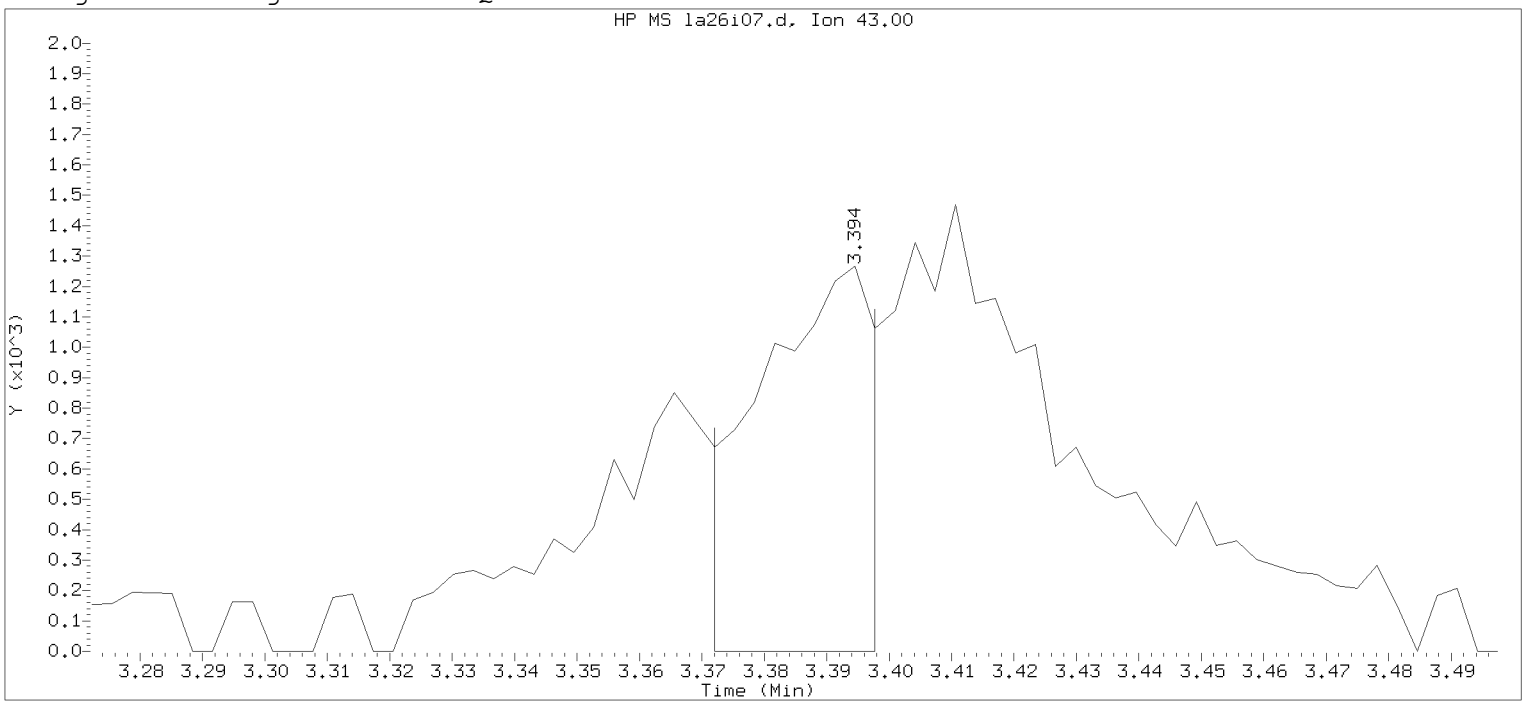
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

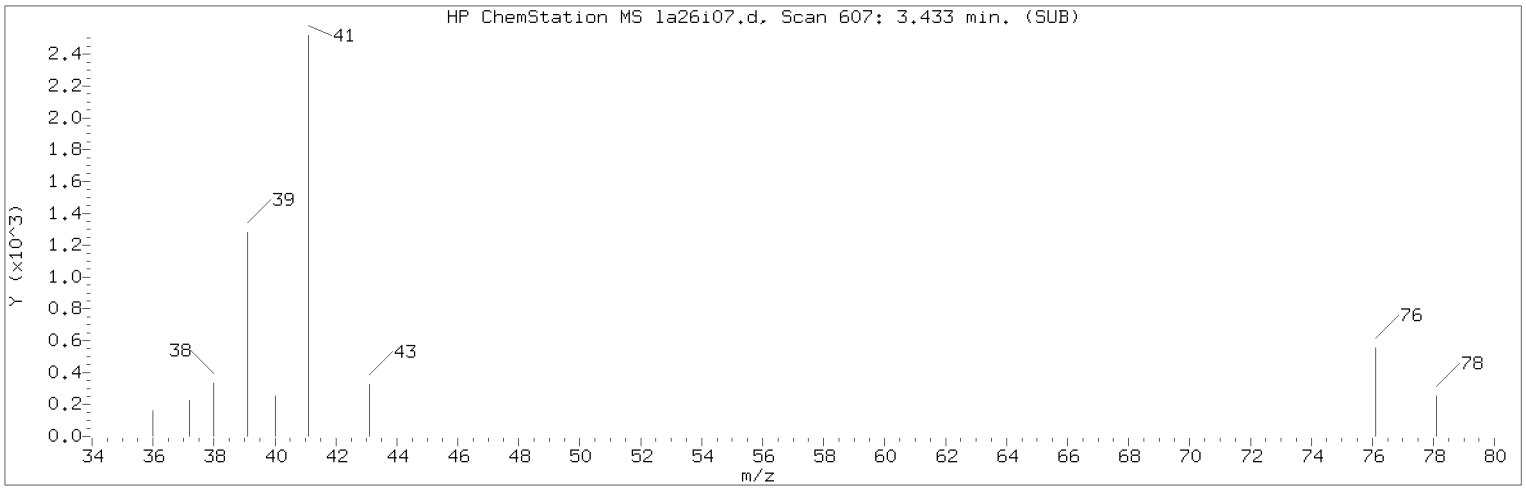
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

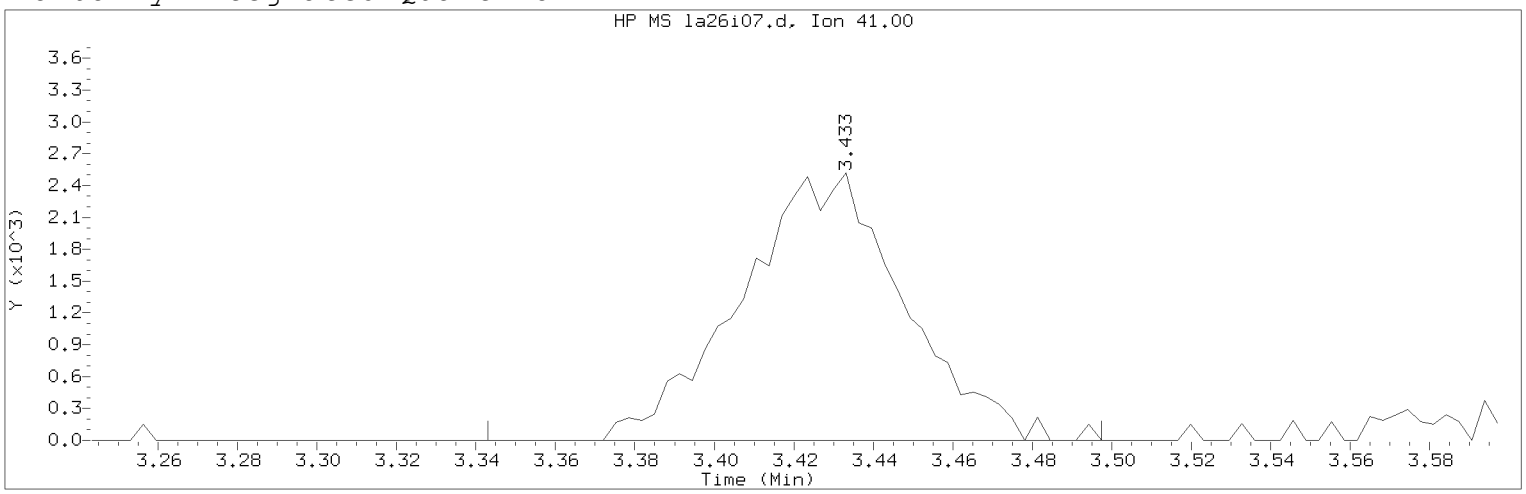
Compound Number	: 27		
Compound Name	: Methyl Acetate		
Scan Number	: 595		
Retention Time (minutes)	: 3.394		
Quant Ion	: 43.00		
Area	: 1538		
On-column Amount (ng)	: 0.3199		
Integration start scan	: 587	Integration stop scan:	595
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2498

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

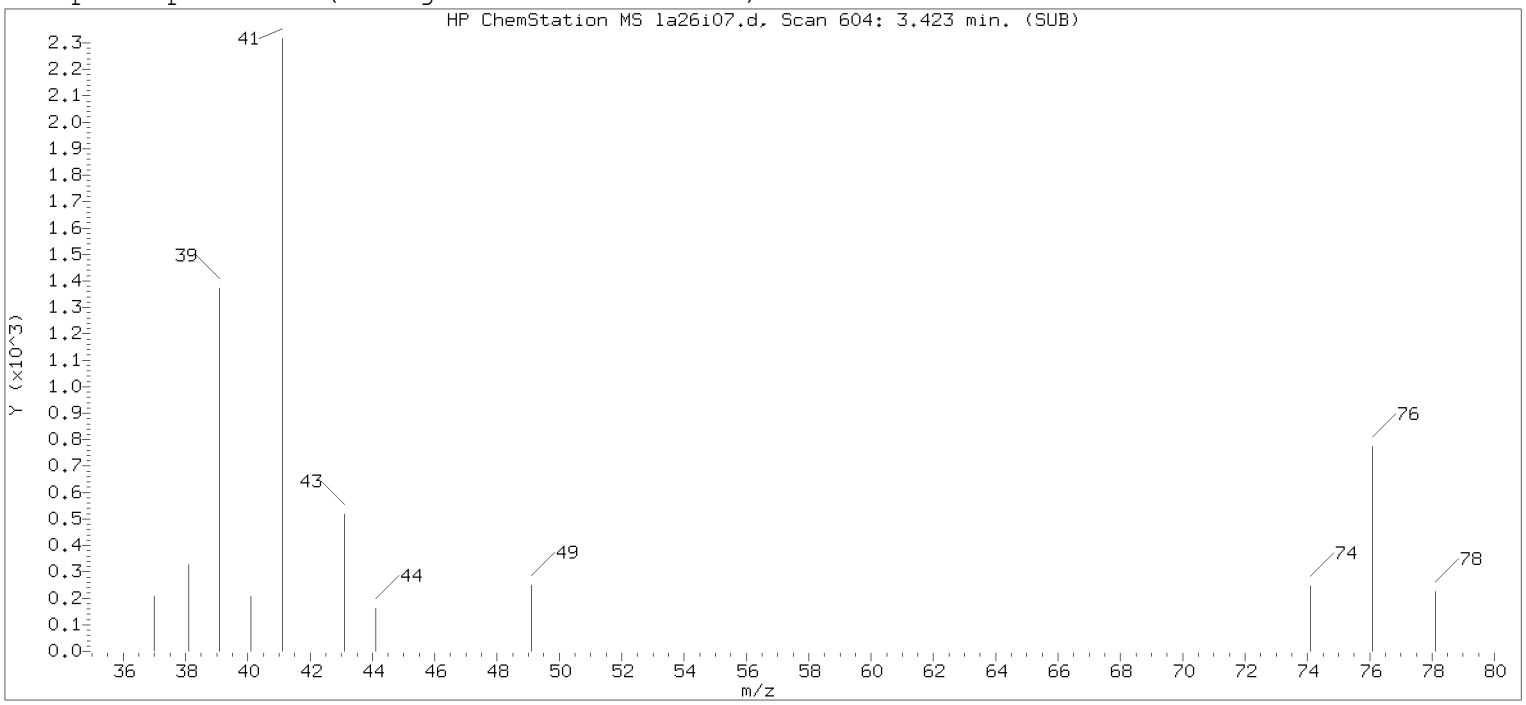
Compound Number : 25
Compound Name : Allyl Chloride
Scan Number : 607
Retention Time (minutes): 3.433
Quant Ion : 41.00
Area (flag) : 7208M
On-Column Amount (ng) : 0.9581
Integration start scan : 578 Integration stop scan: 626
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

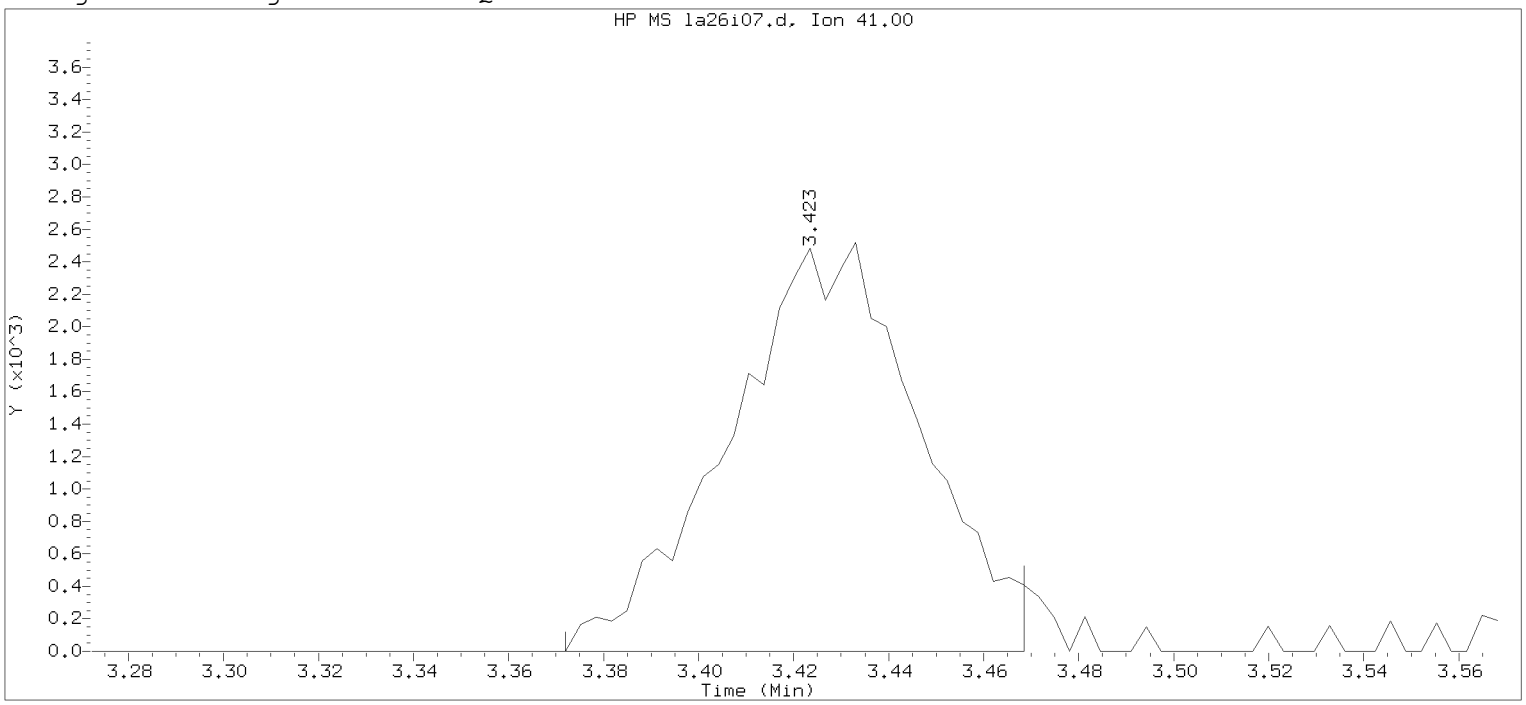
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

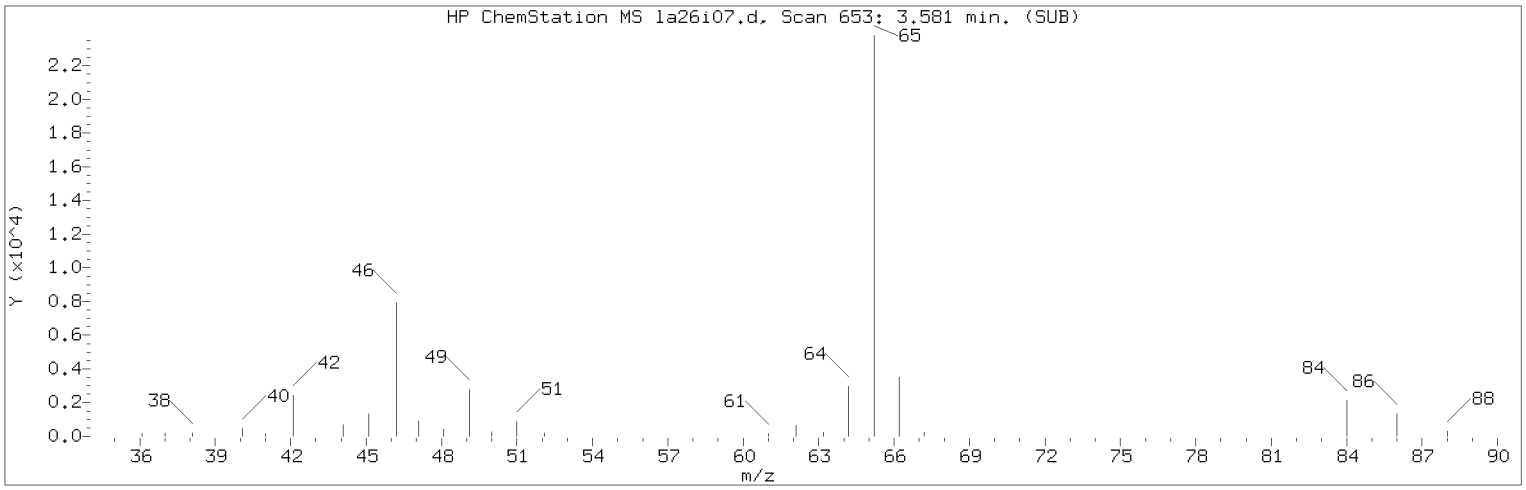
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

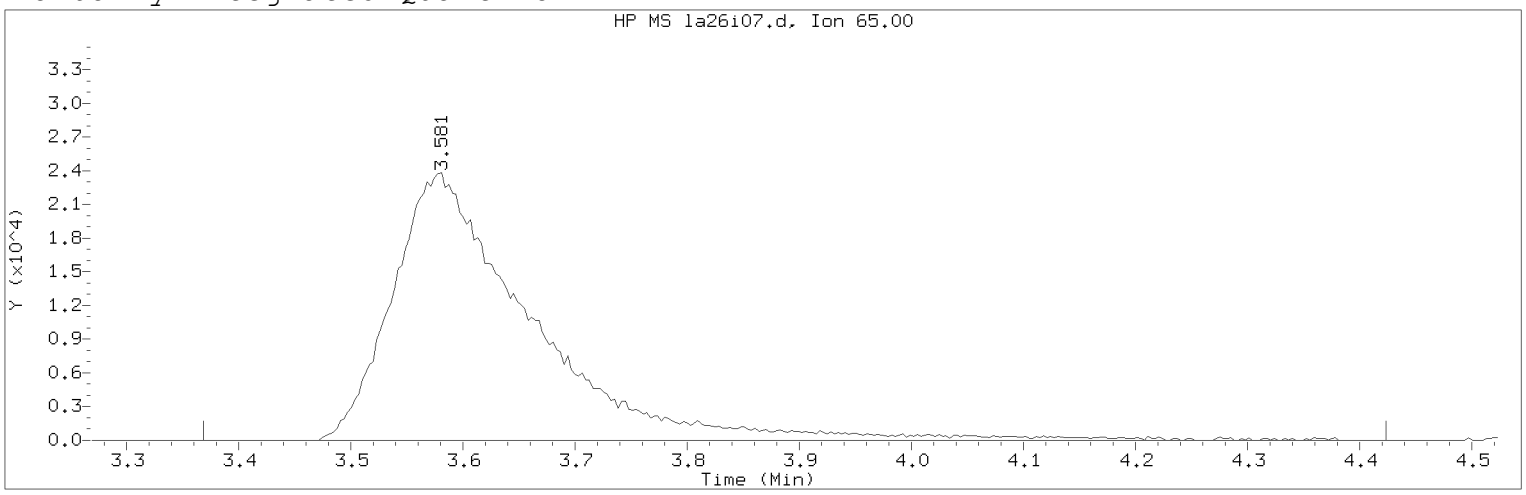
Compound Number : 25
Compound Name : Allyl Chloride
Scan Number : 604
Retention Time (minutes): 3.423
Quant Ion : 41.00
Area : 6993
On-column Amount (ng) : 0.9334
Integration start scan : 587 Integration stop scan: 617
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

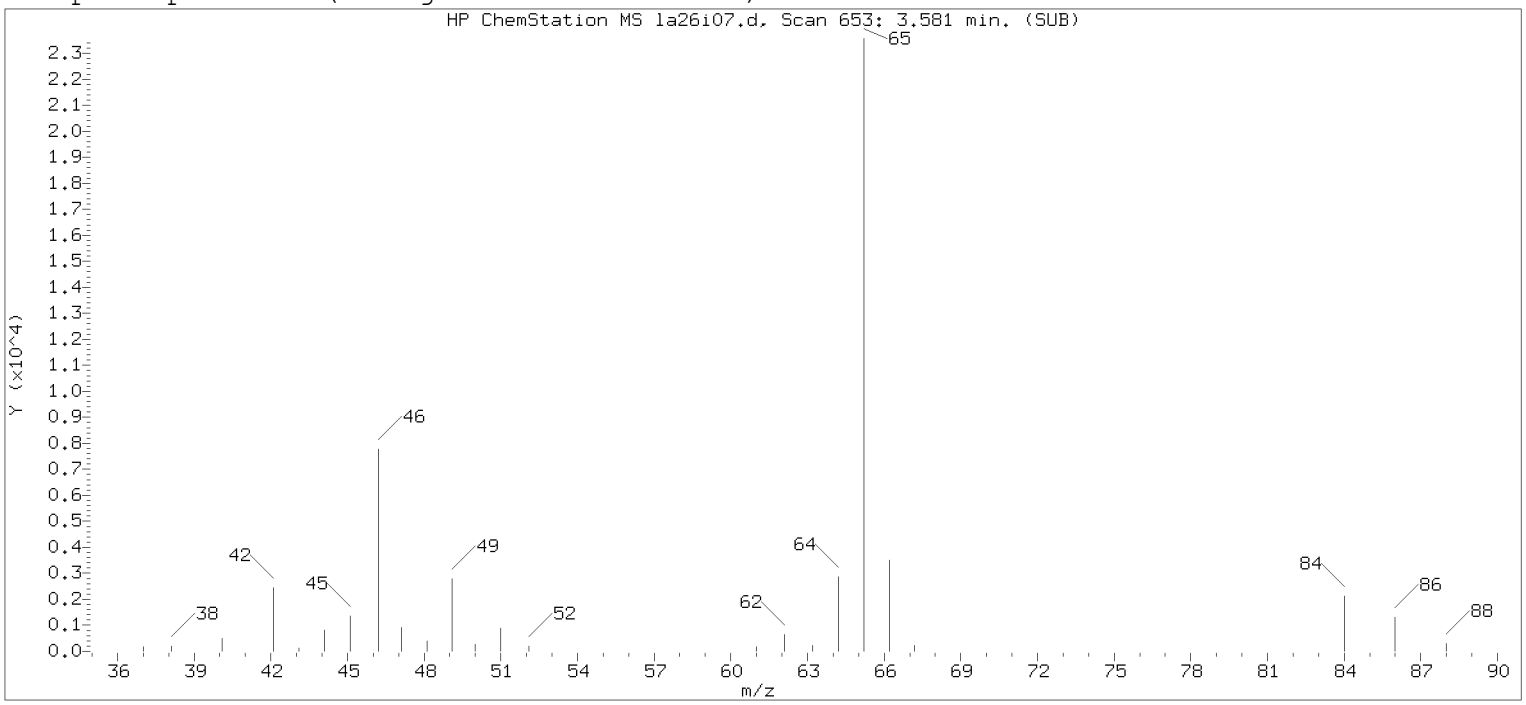
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 653
Retention Time (minutes): 3.581
Quant Ion : 65.00
Area (flag) : 204400M
On-Column Amount (ng) : 250.0000
Integration start scan : 586 Integration stop scan: 914
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

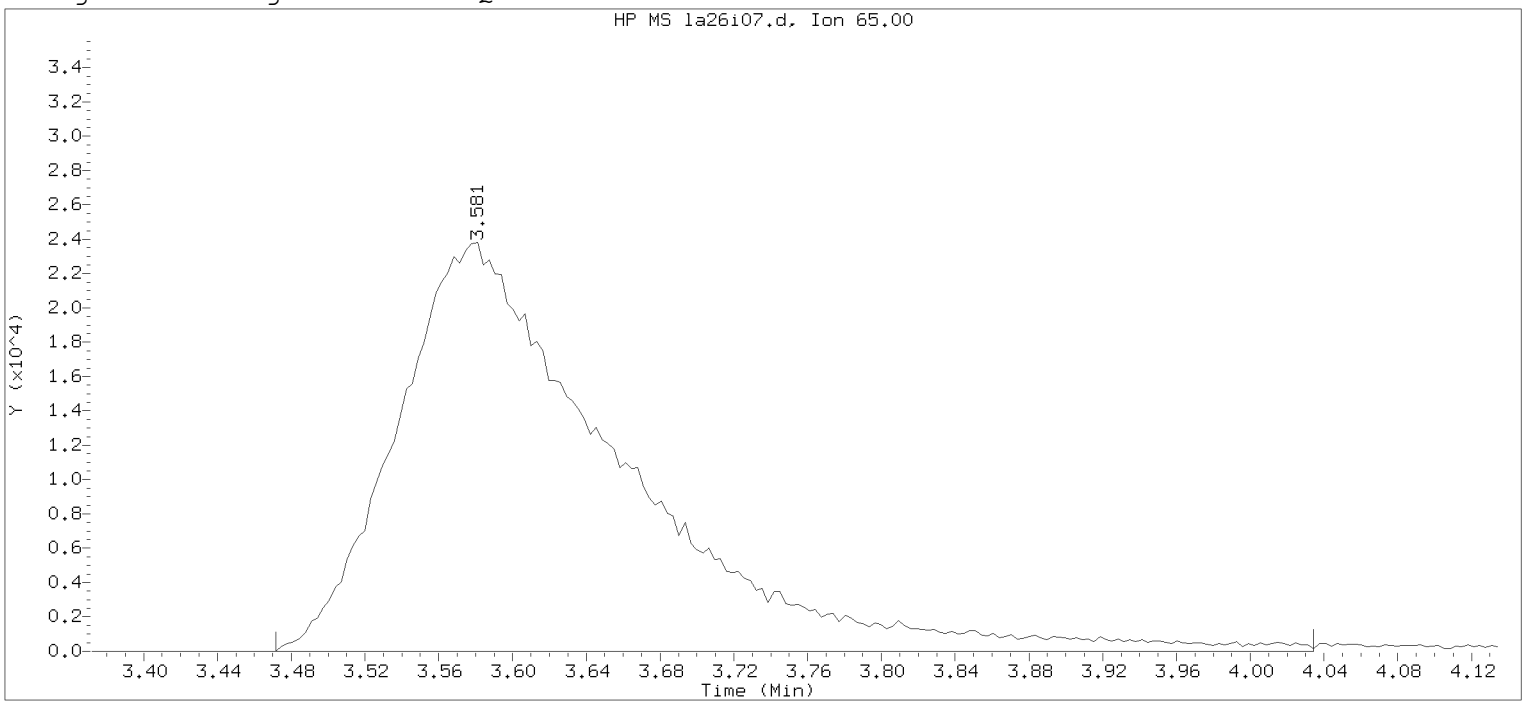
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

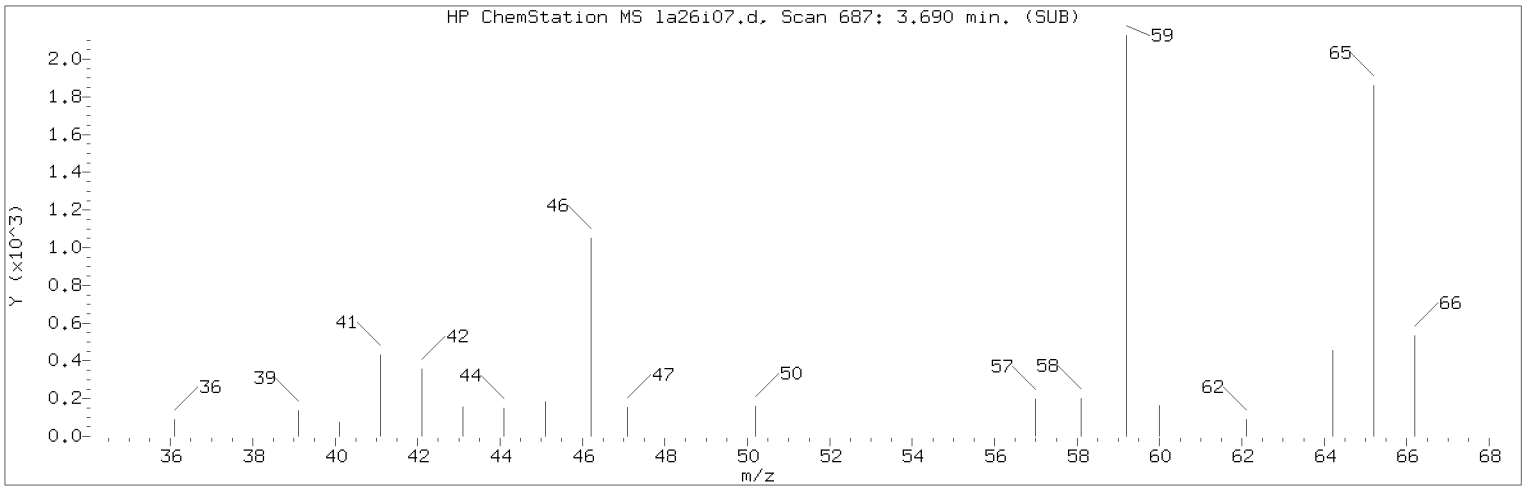
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

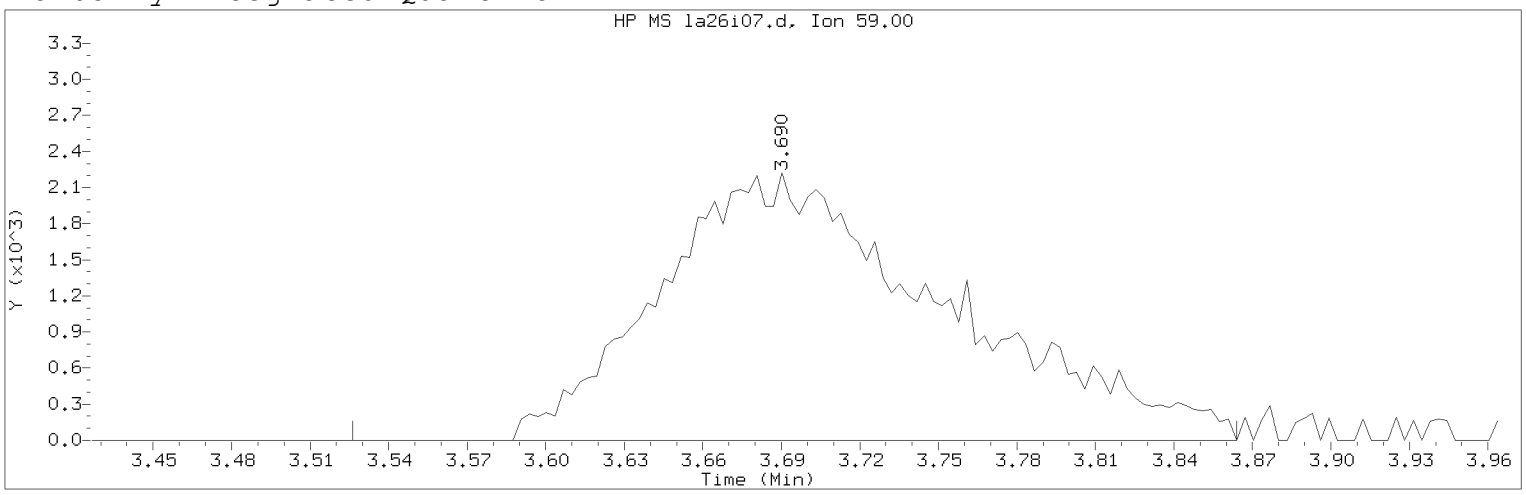
Compound Number	: 29		
Compound Name	: t-Butyl alcohol-d10		
Scan Number	: 653		
Retention Time (minutes)	: 3.581		
Quant Ion	: 65.00		
Area	: 200515		
On-column Amount (ng)	: 250.0000		
Integration start scan	: 618	Integration stop scan:	793
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2.5.3

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

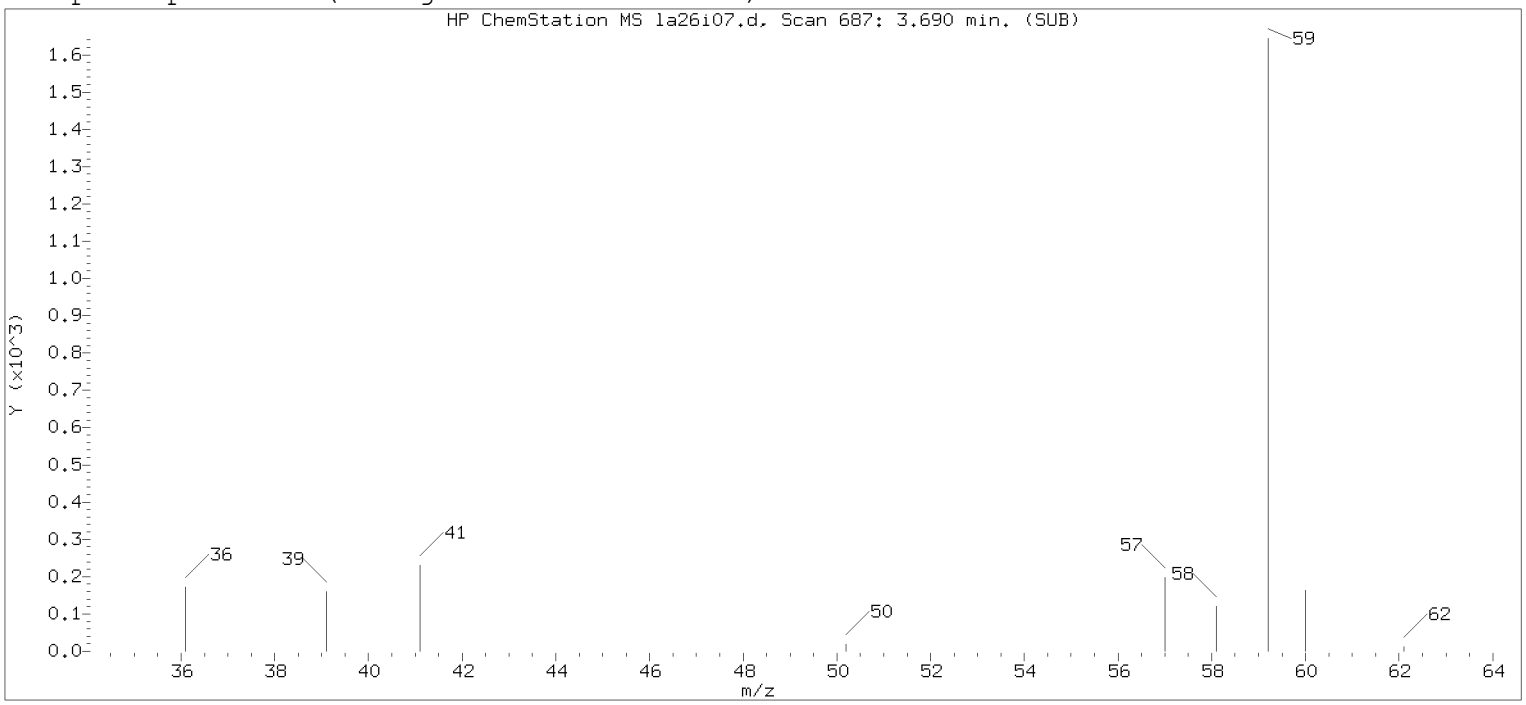
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 687
Retention Time (minutes): 3.690
Quant Ion : 59.00
Area (flag) : 16799M
On-Column Amount (ng) : 21.2415
Integration start scan : 635 Integration stop scan: 740
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

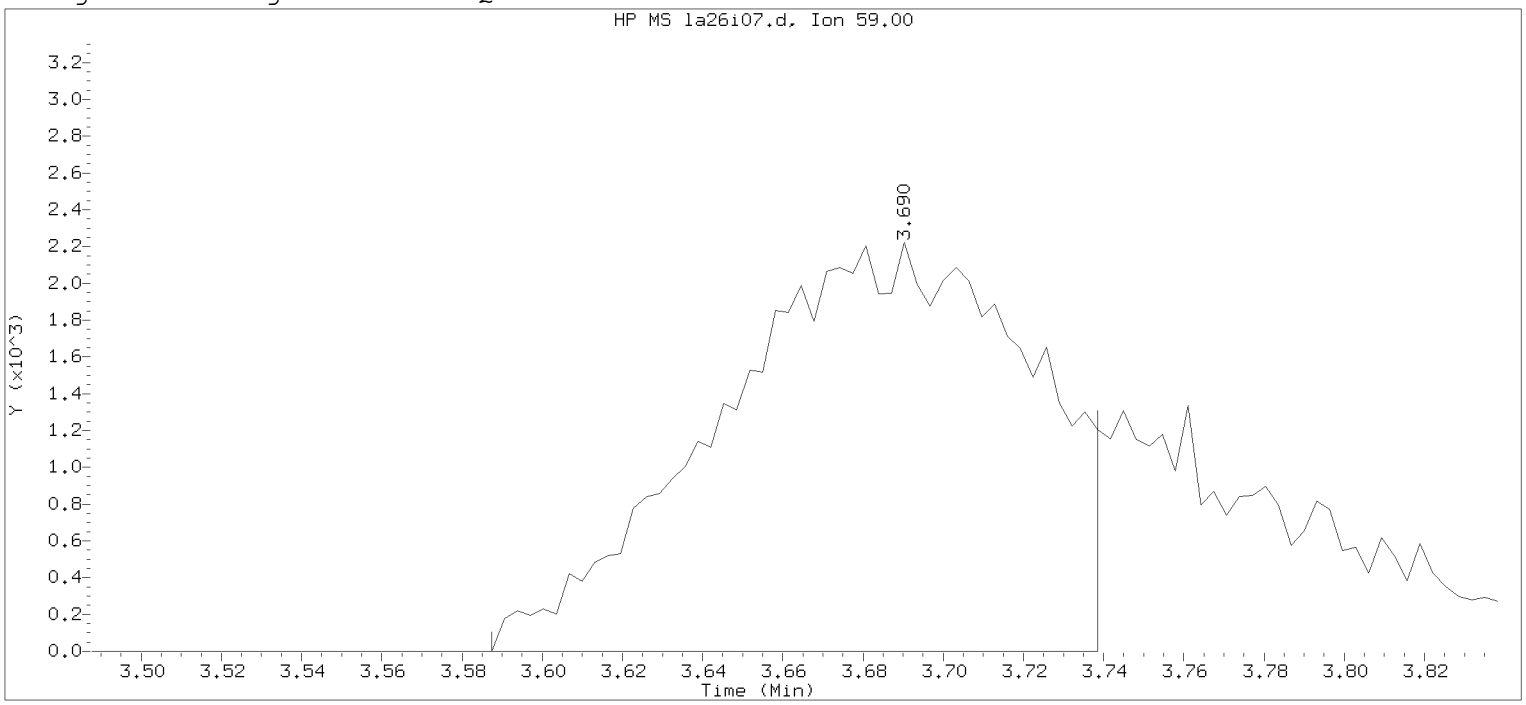
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

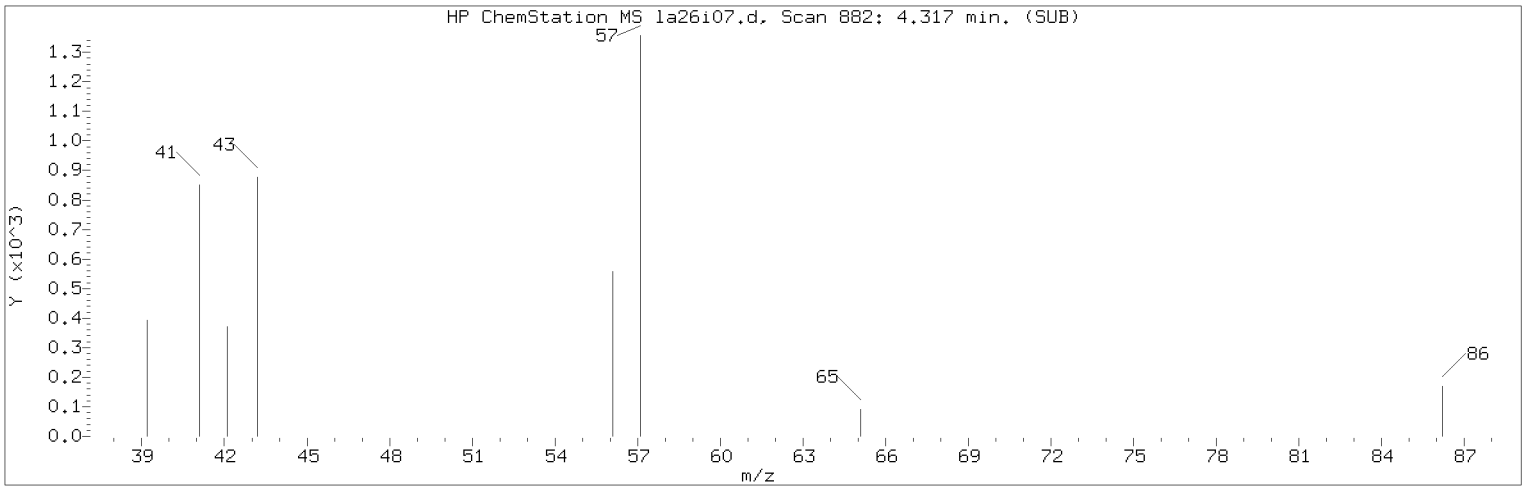
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

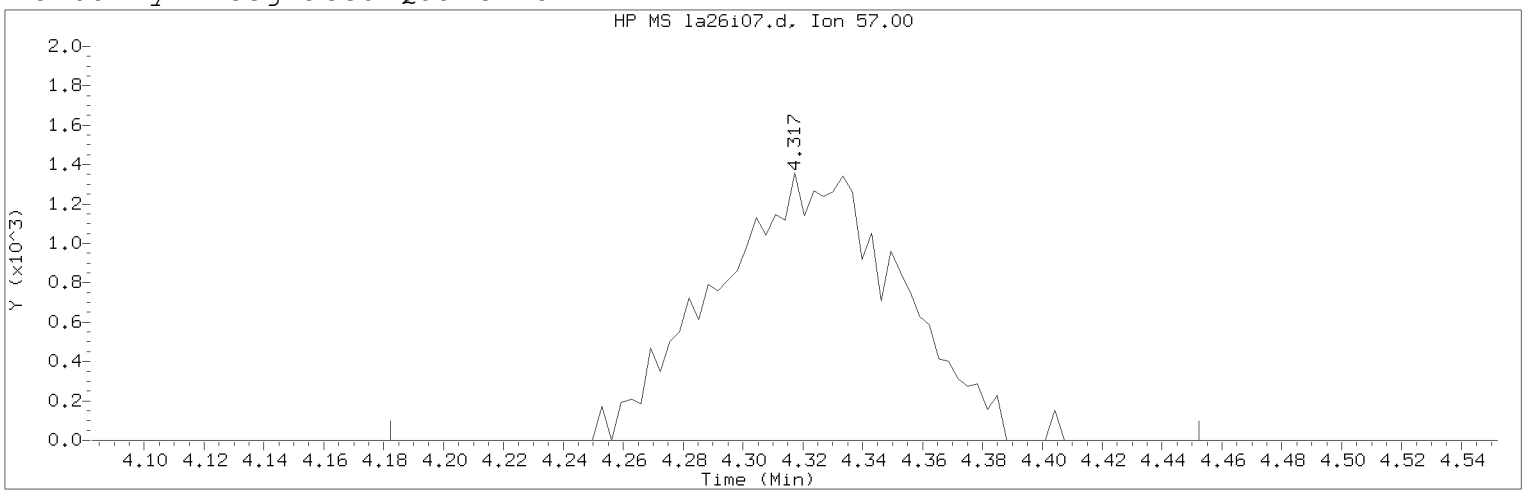
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 687
Retention Time (minutes): 3.690
Quant Ion : 59.00
Area : 12039
On-column Amount (ng) : 16.1792
Integration start scan : 654 Integration stop scan: 701
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2.5

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

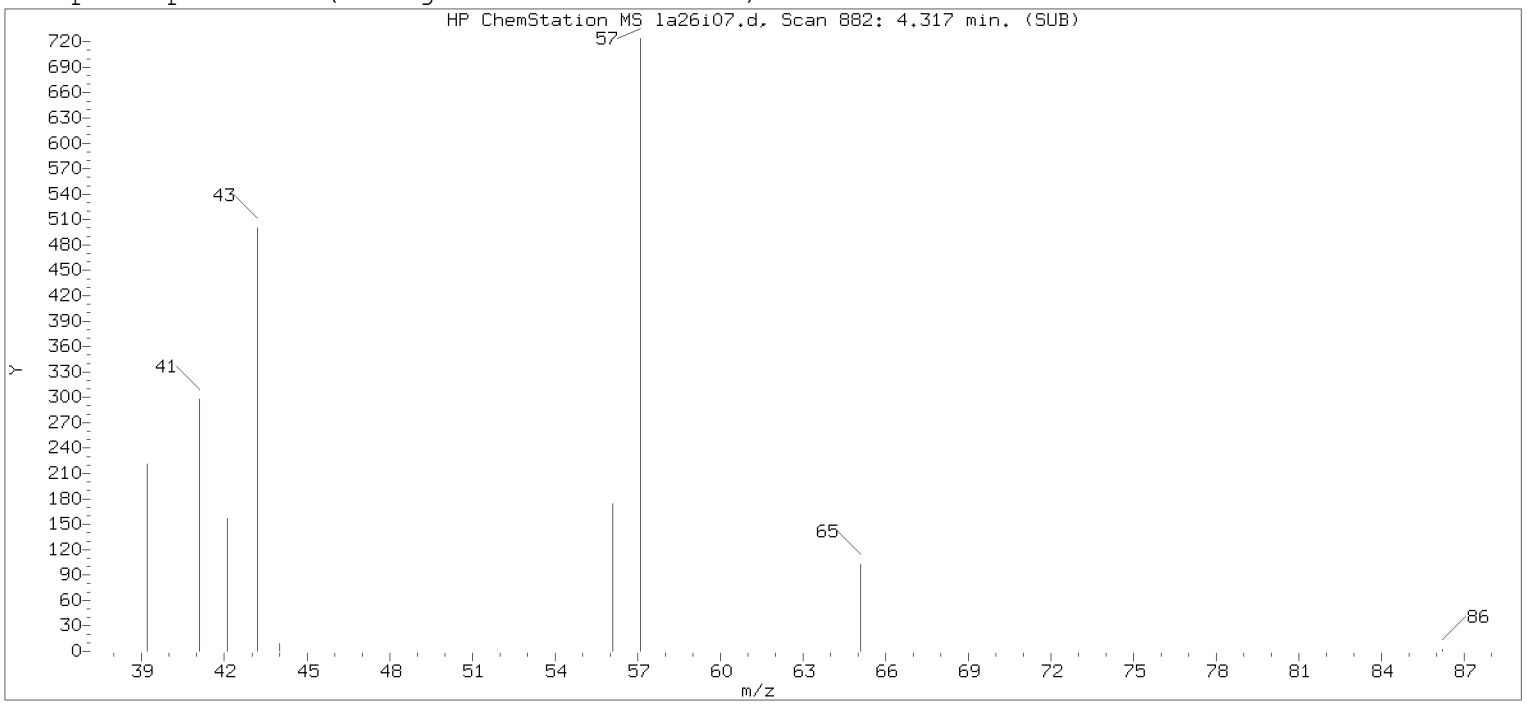
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 882
Retention Time (minutes): 4.317
Quant Ion : 57.00
Area (flag) : 5817M
On-Column Amount (ng) : 0.8612
Integration start scan : 839 Integration stop scan: 923
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

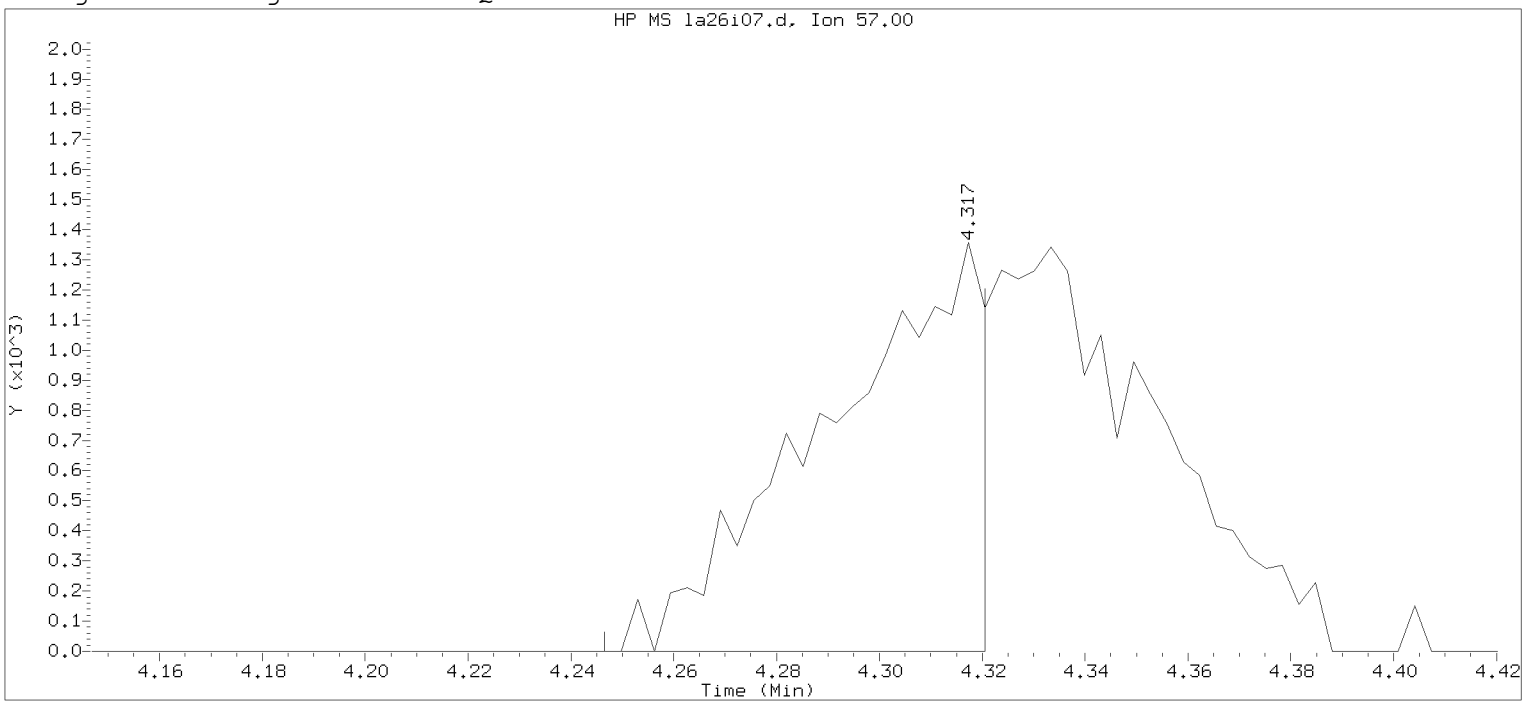
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

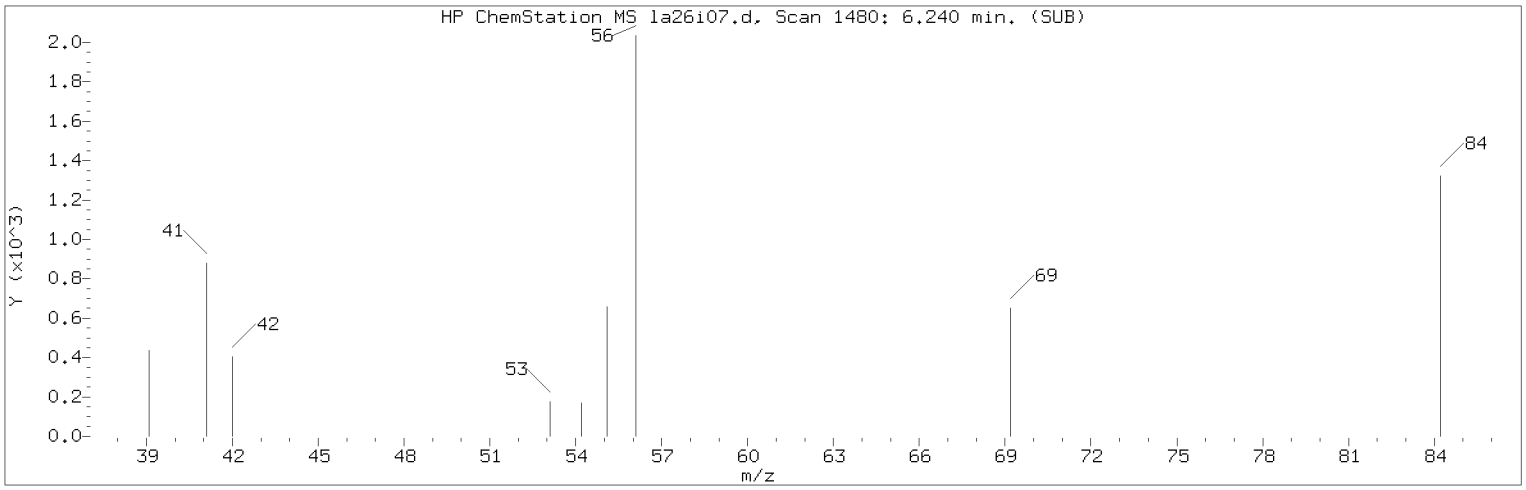
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

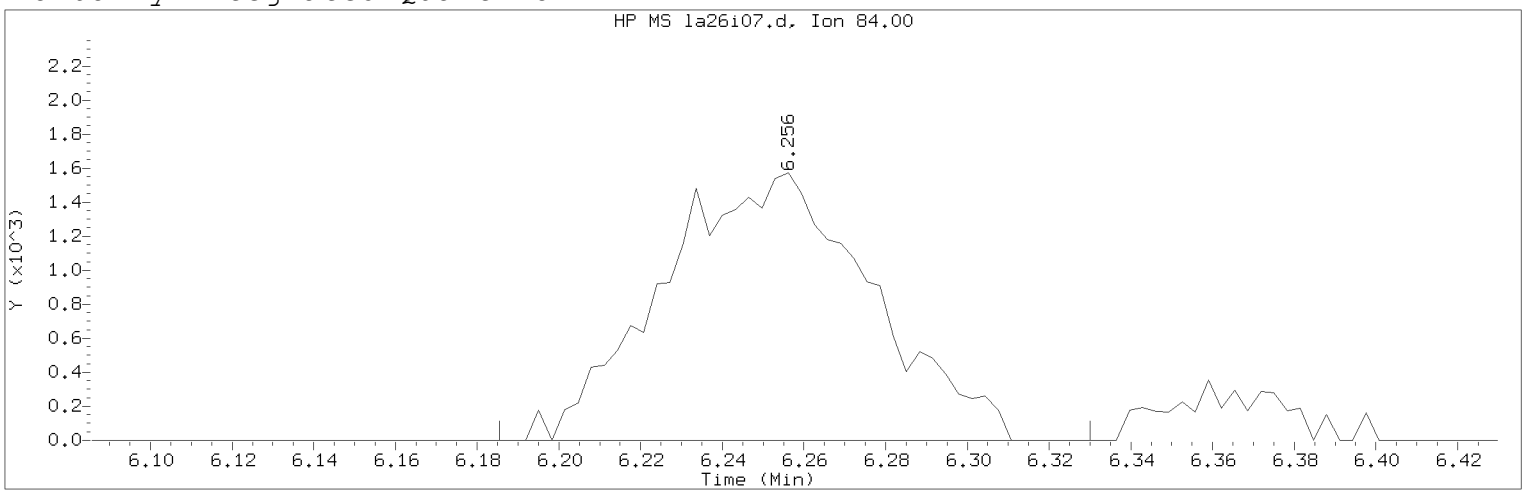
Compound Number	: 34		
Compound Name	: n-Hexane		
Scan Number	: 882		
Retention Time (minutes)	: 4.317		
Quant Ion	: 57.00		
Area	: 2803		
On-column Amount (ng)	: 0.4433		
Integration start scan	: 859	Integration stop scan:	882
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2.0.78

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

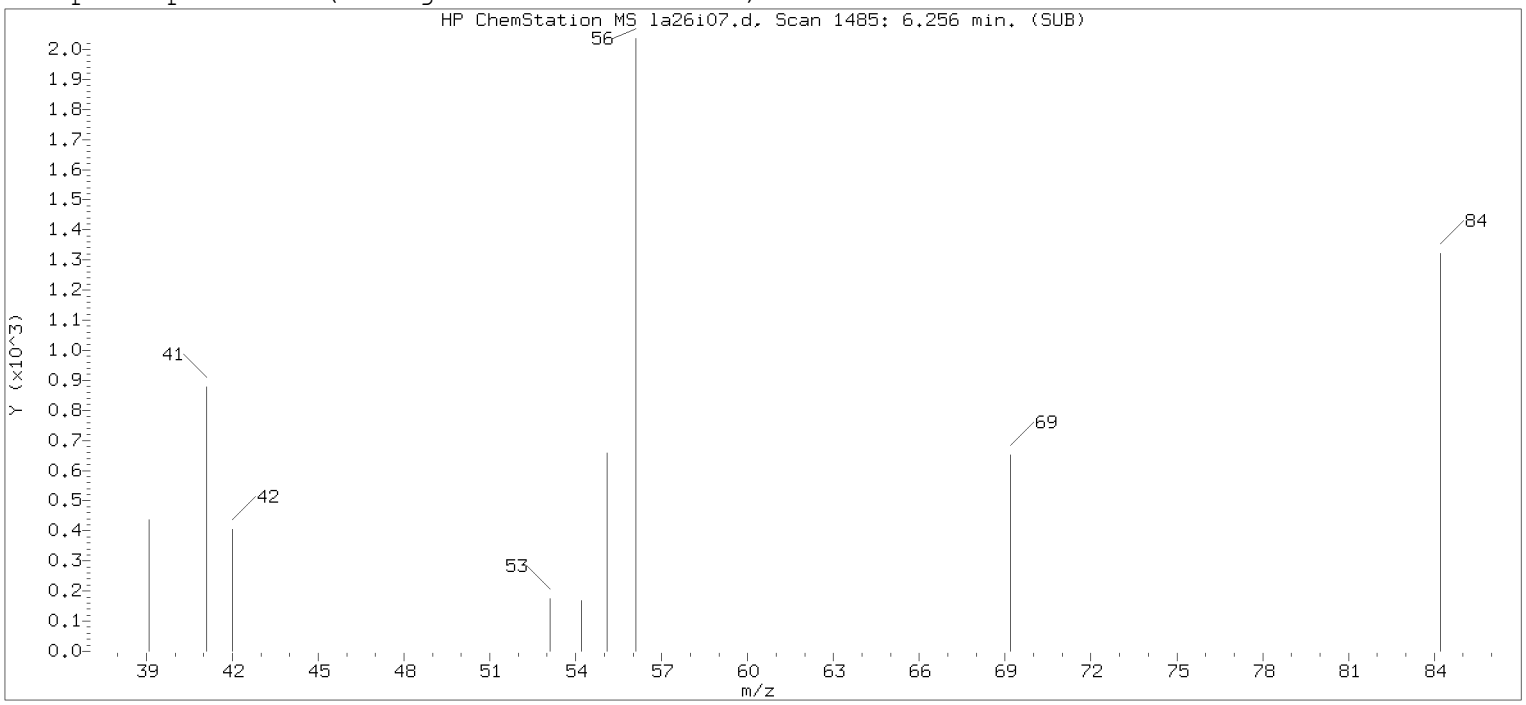
Compound Number : 54
Compound Name : Cyclohexane
Scan Number : 1485
Retention Time (minutes): 6.256
Quant Ion : 84.00
Area (flag) : 5572M
On-Column Amount (ng) : 0.8301
Integration start scan : 1462 Integration stop scan: 1507
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

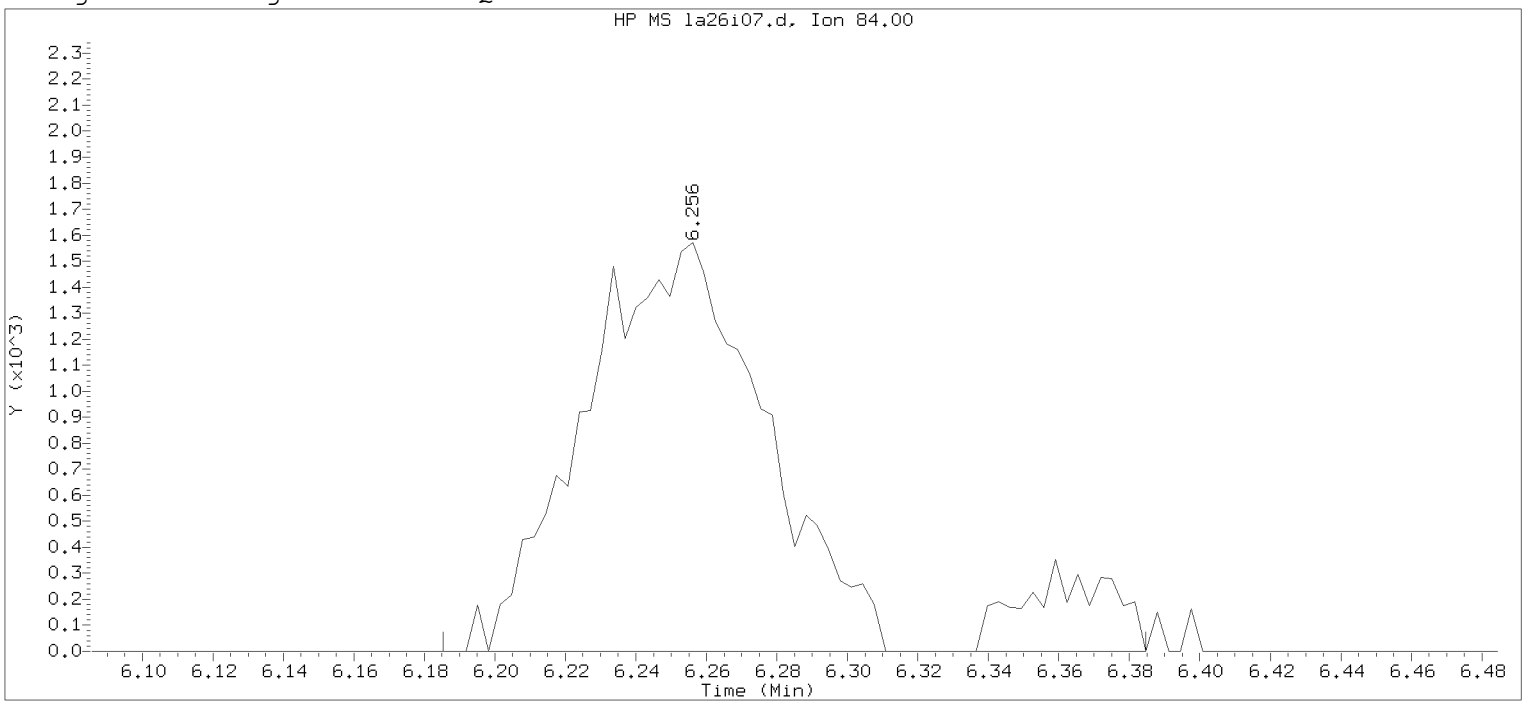
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

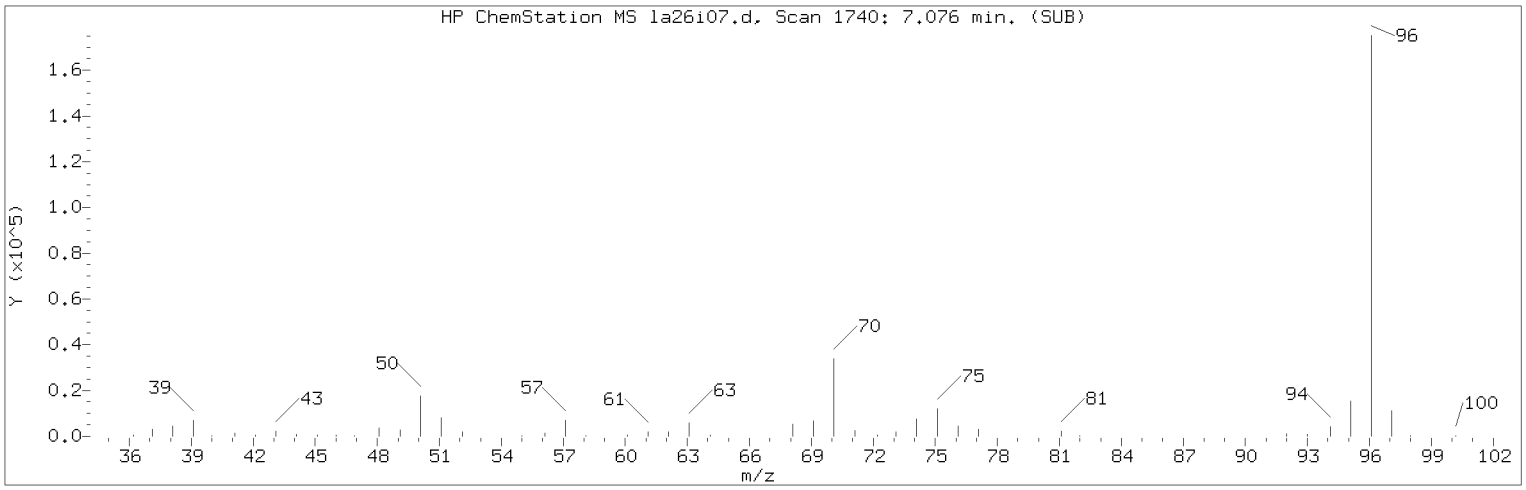
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

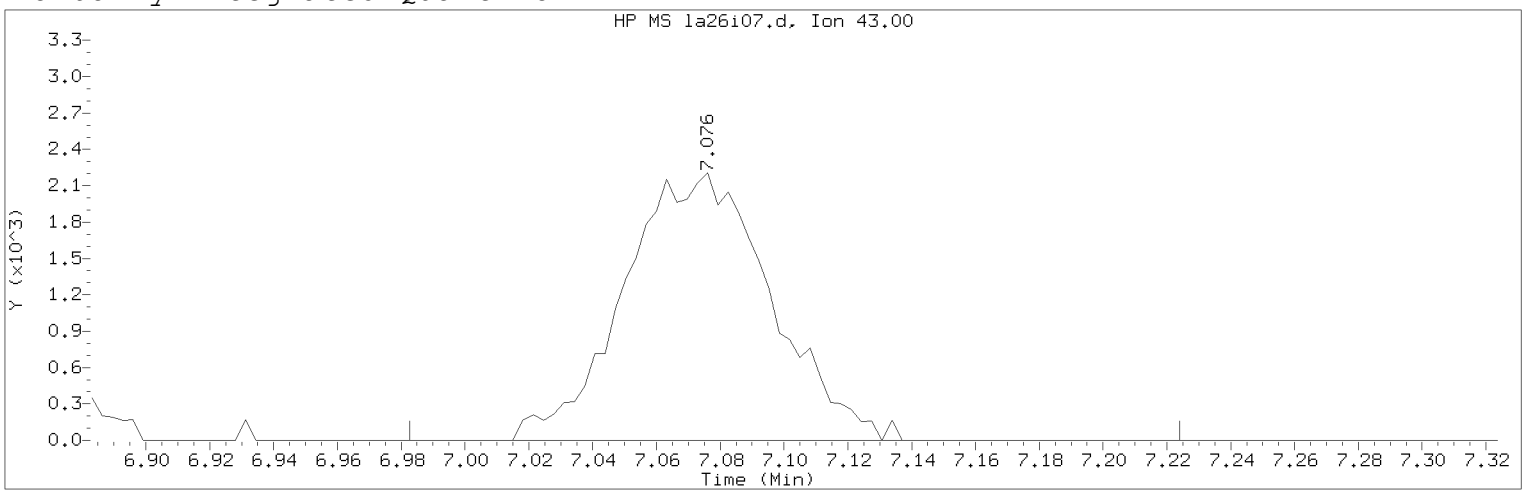
Compound Number : 54
Compound Name : Cyclohexane
Scan Number : 1485
Retention Time (minutes): 6.256
Quant Ion : 84.00
Area : 6158
On-column Amount (ng) : 0.9060
Integration start scan : 1462 Integration stop scan: 1524
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2509

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

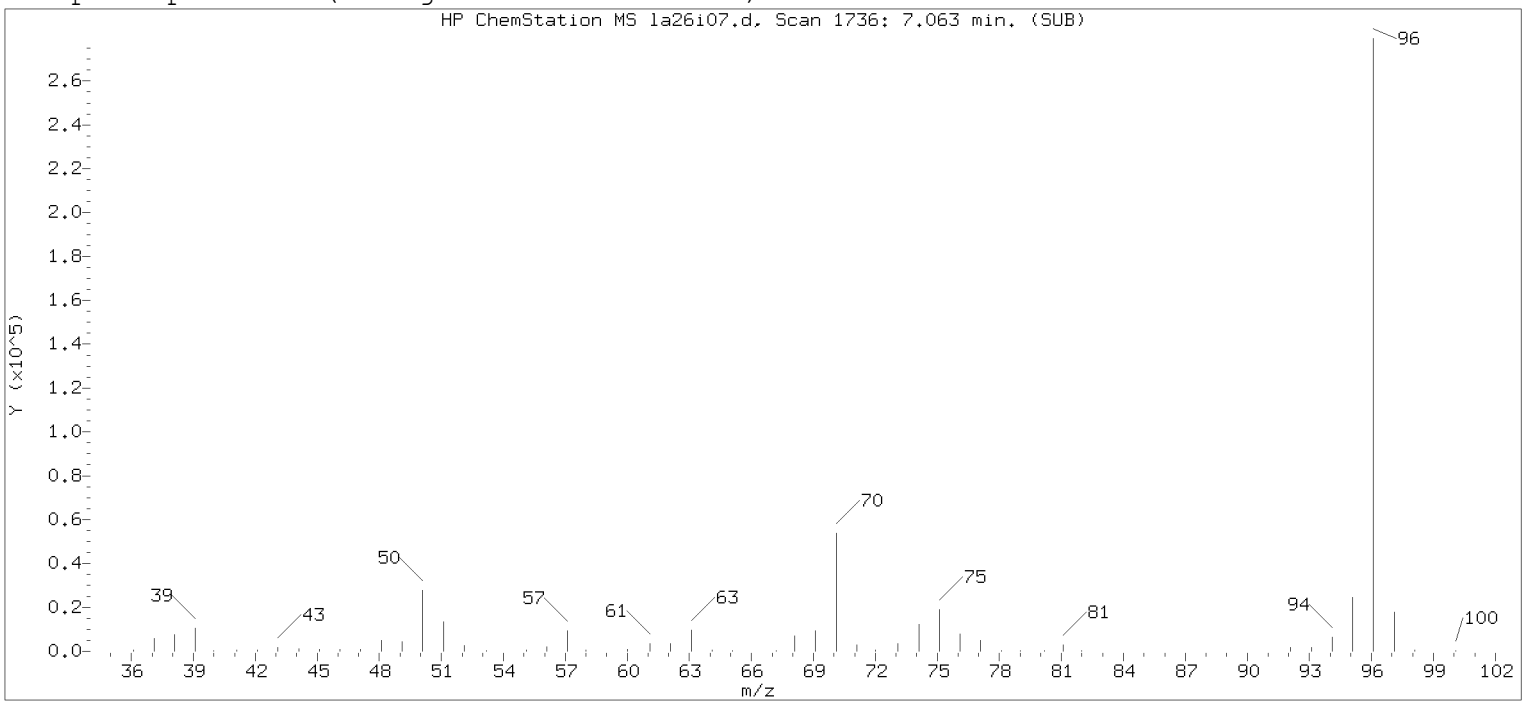
Compound Number : 67
Compound Name : n-Heptane
Scan Number : 1740
Retention Time (minutes): 7.076
Quant Ion : 43.00
Area (flag) : 7056M
On-Column Amount (ng) : 0.9330
Integration start scan : 1710 Integration stop scan: 1785
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

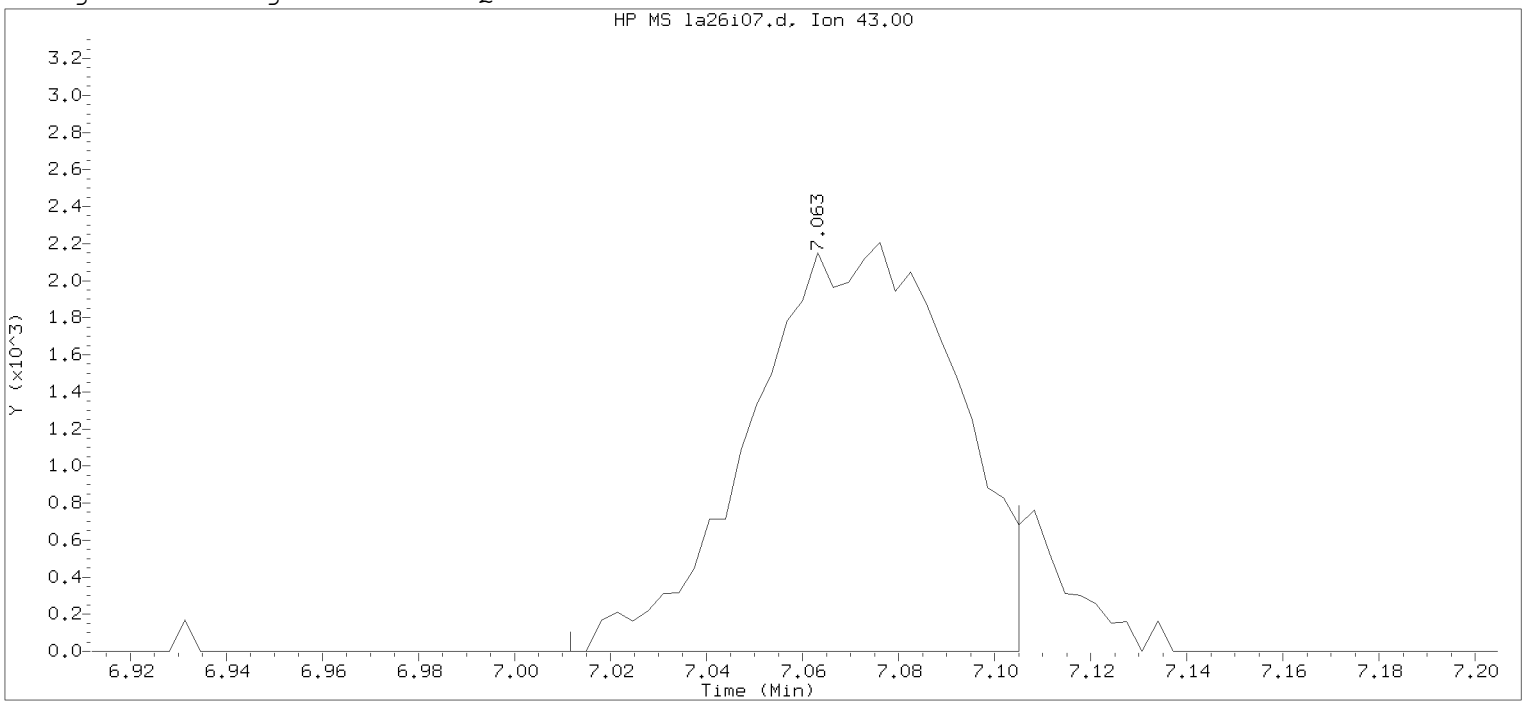
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

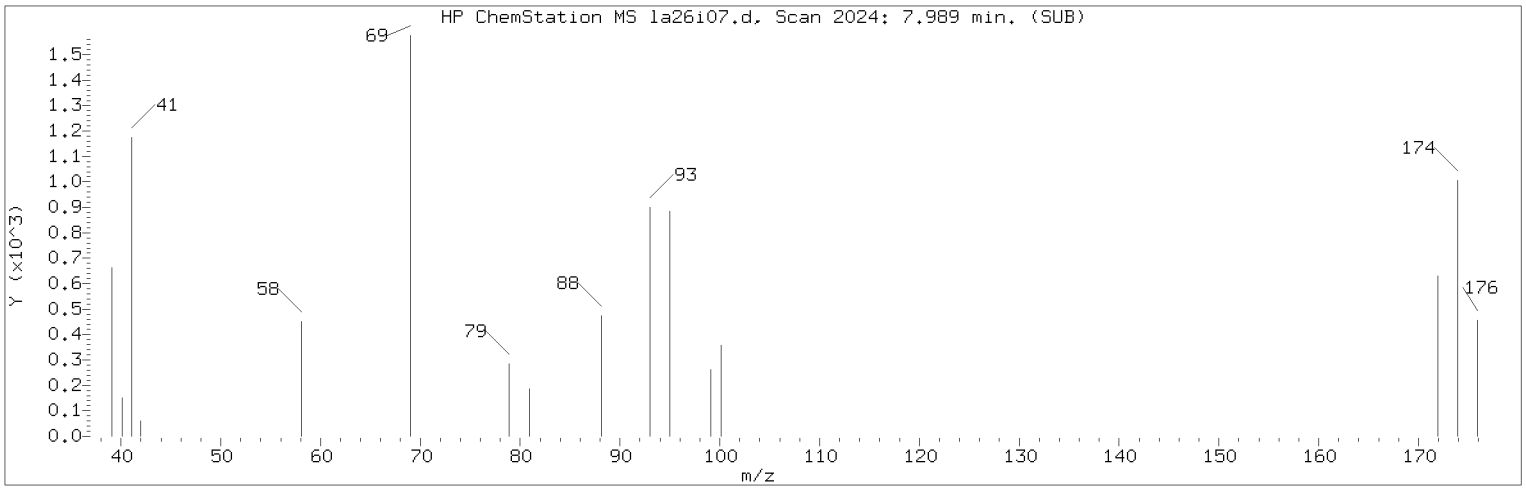
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

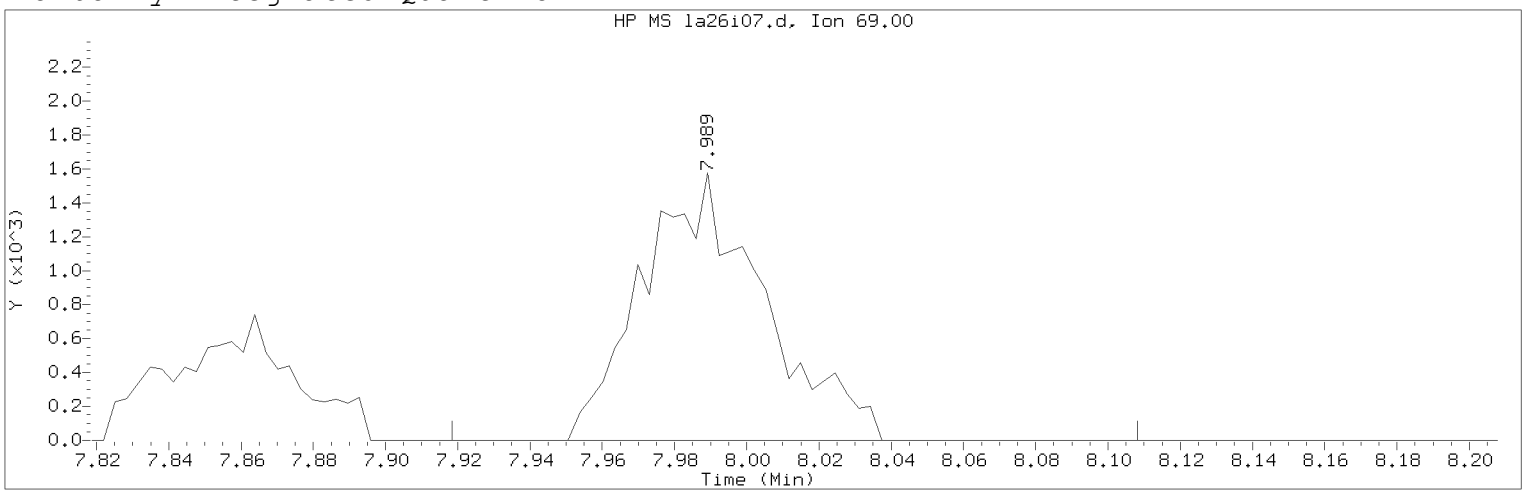
Compound Number	: 67		
Compound Name	: n-Heptane		
Scan Number	: 1736		
Retention Time (minutes)	: 7.063		
Quant Ion	: 43.00		
Area	: 6483		
On-column Amount (ng)	: 0.8667		
Integration start scan	: 1719	Integration stop scan:	1748
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

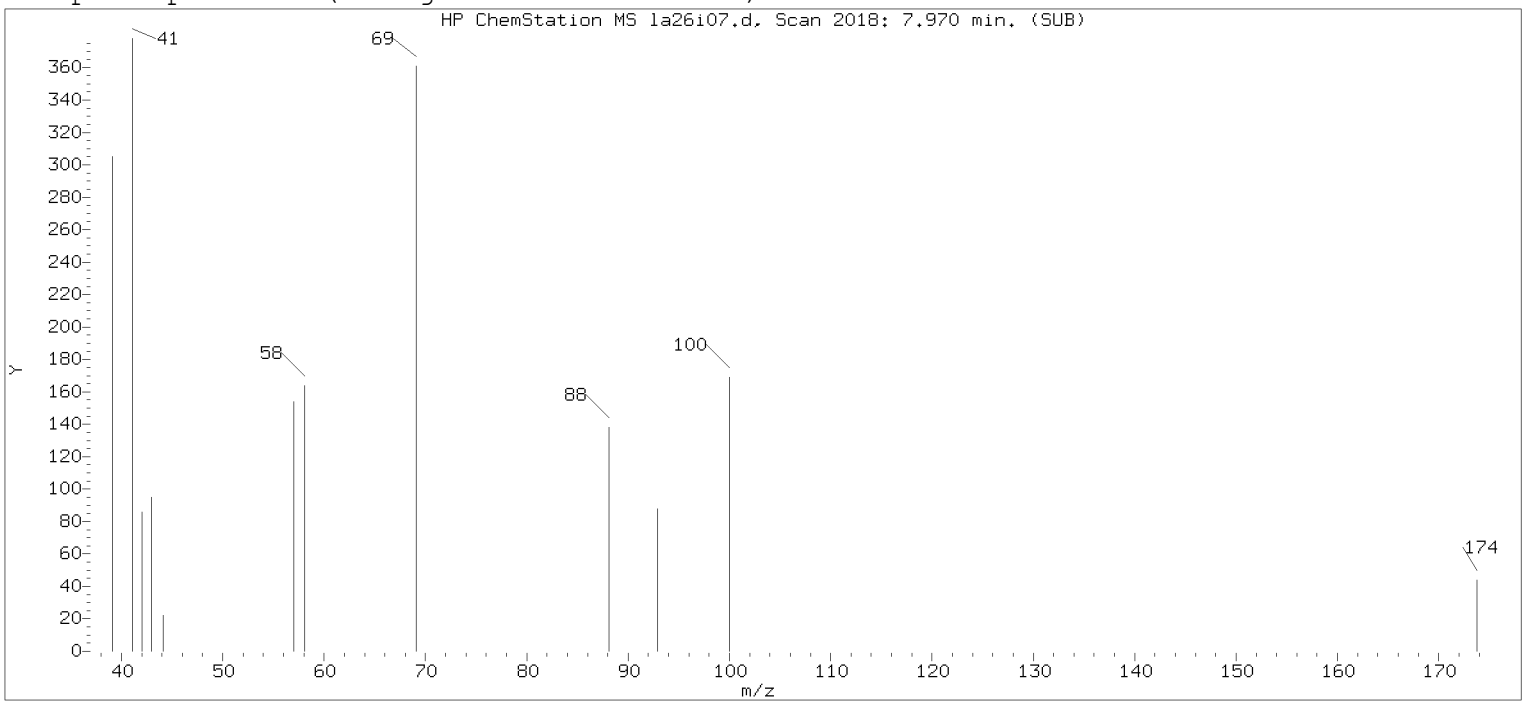
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2024
Retention Time (minutes): 7.989
Quant Ion : 69.00
Area (flag) : 3670M
On-Column Amount (ng) : 0.8277
Integration start scan : 2001 Integration stop scan: 2060
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

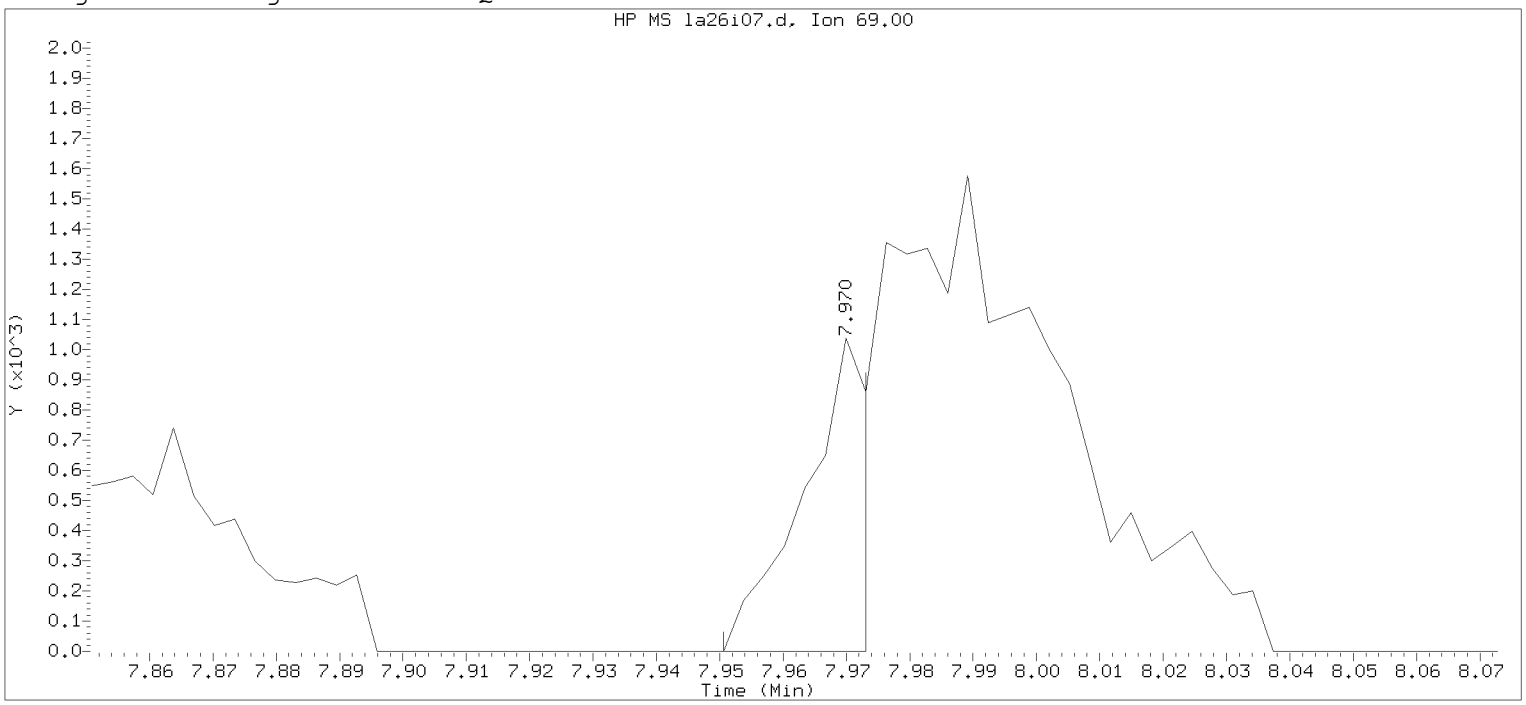
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

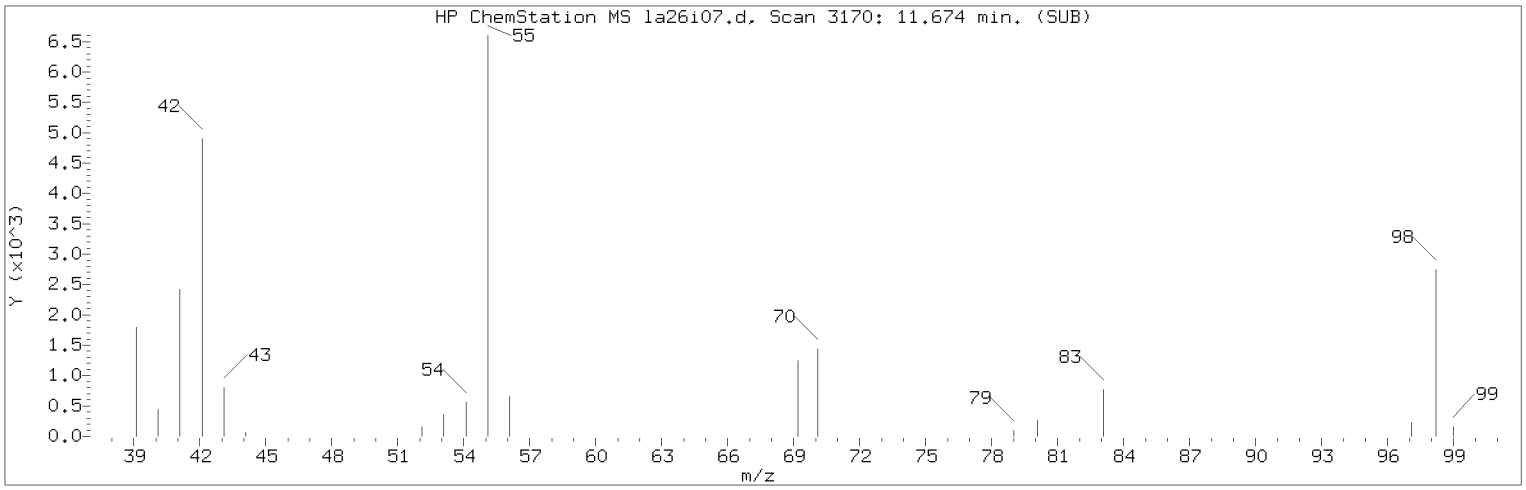
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

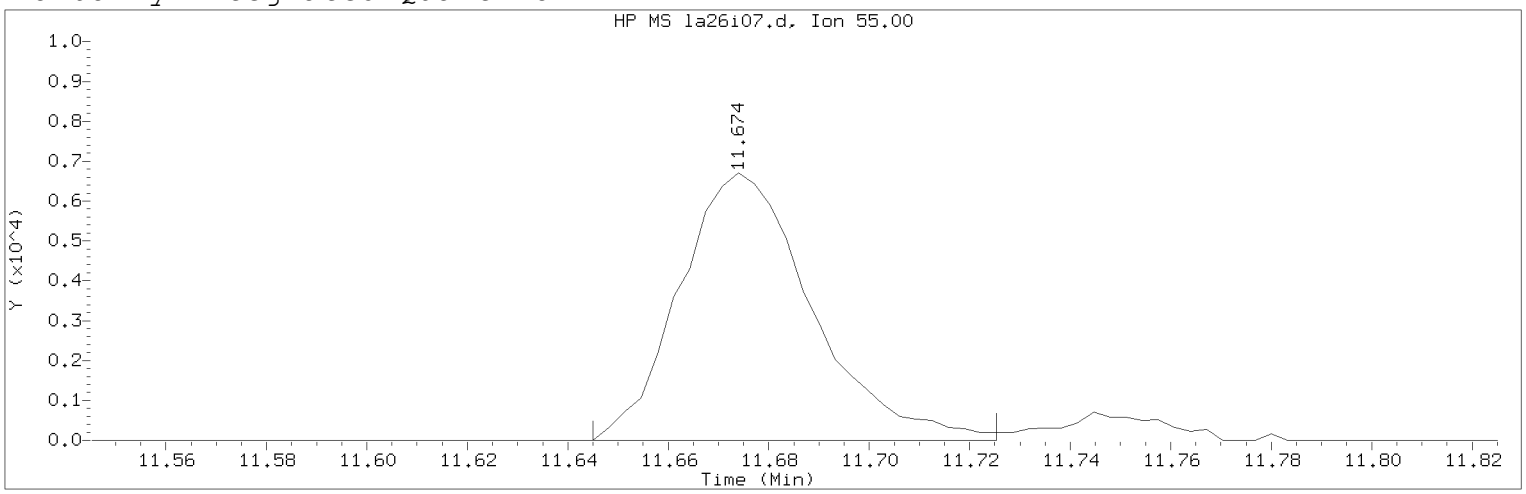
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2018
Retention Time (minutes): 7.970
Quant Ion : 69.00
Area : 661
On-column Amount (ng) : 0.1652
Integration start scan : 2011 Integration stop scan: 2018
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature user k[illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:00
Date, time and analyst ID of latest file update: 26-Apr-2017 16:00 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

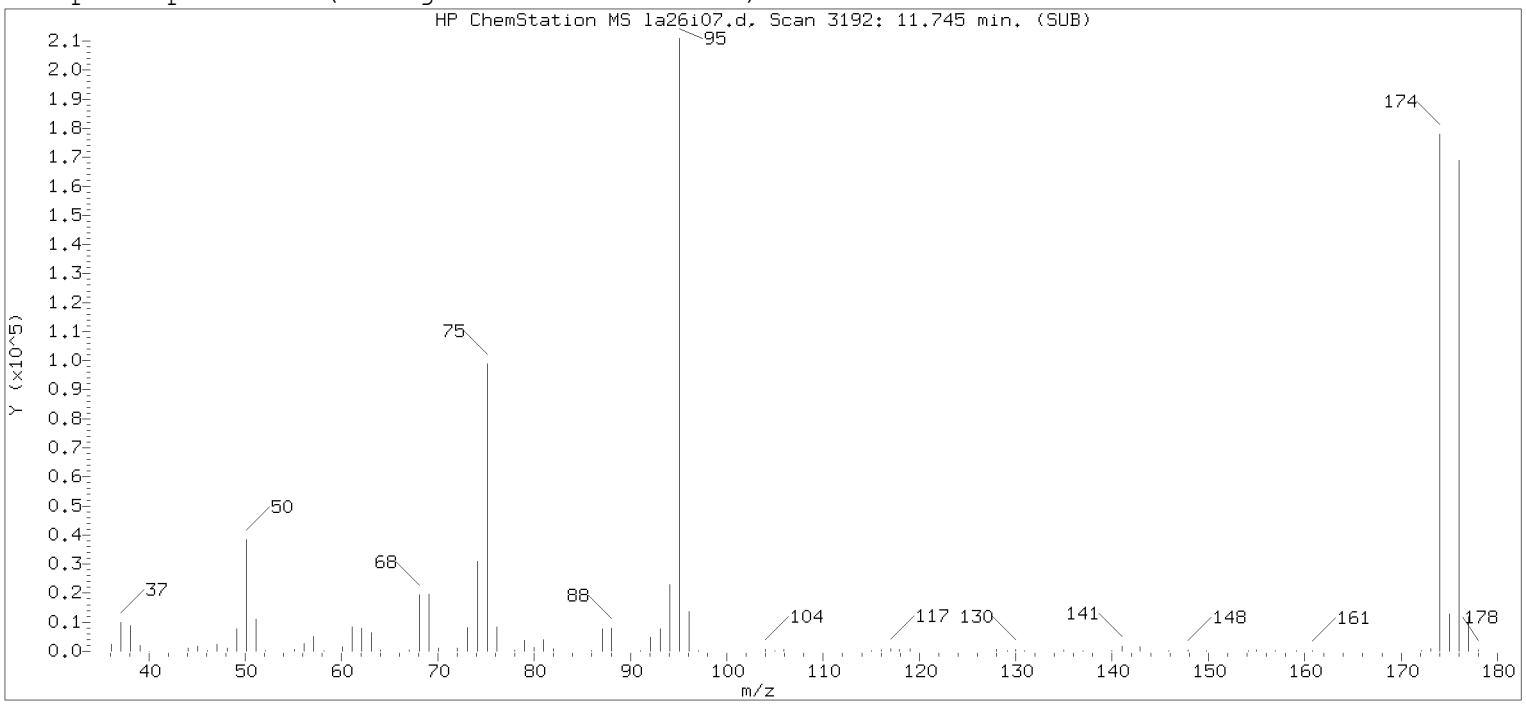
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 3170
Retention Time (minutes): 11.674
Quant Ion : 55.00
Area (flag) : 12225A
On-Column Amount (ng) : 46.3770
Integration start scan : 3160 Integration stop scan: 3185
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

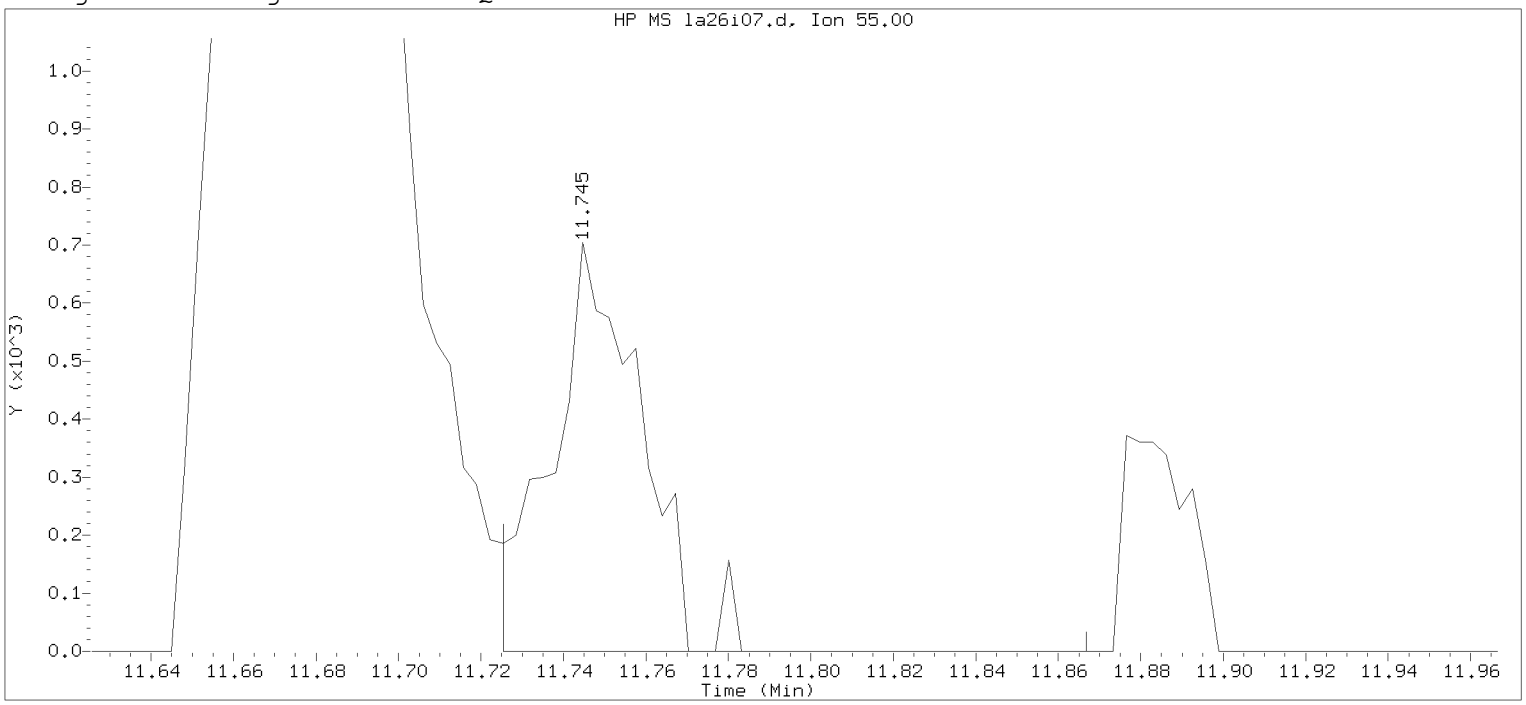
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:07.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



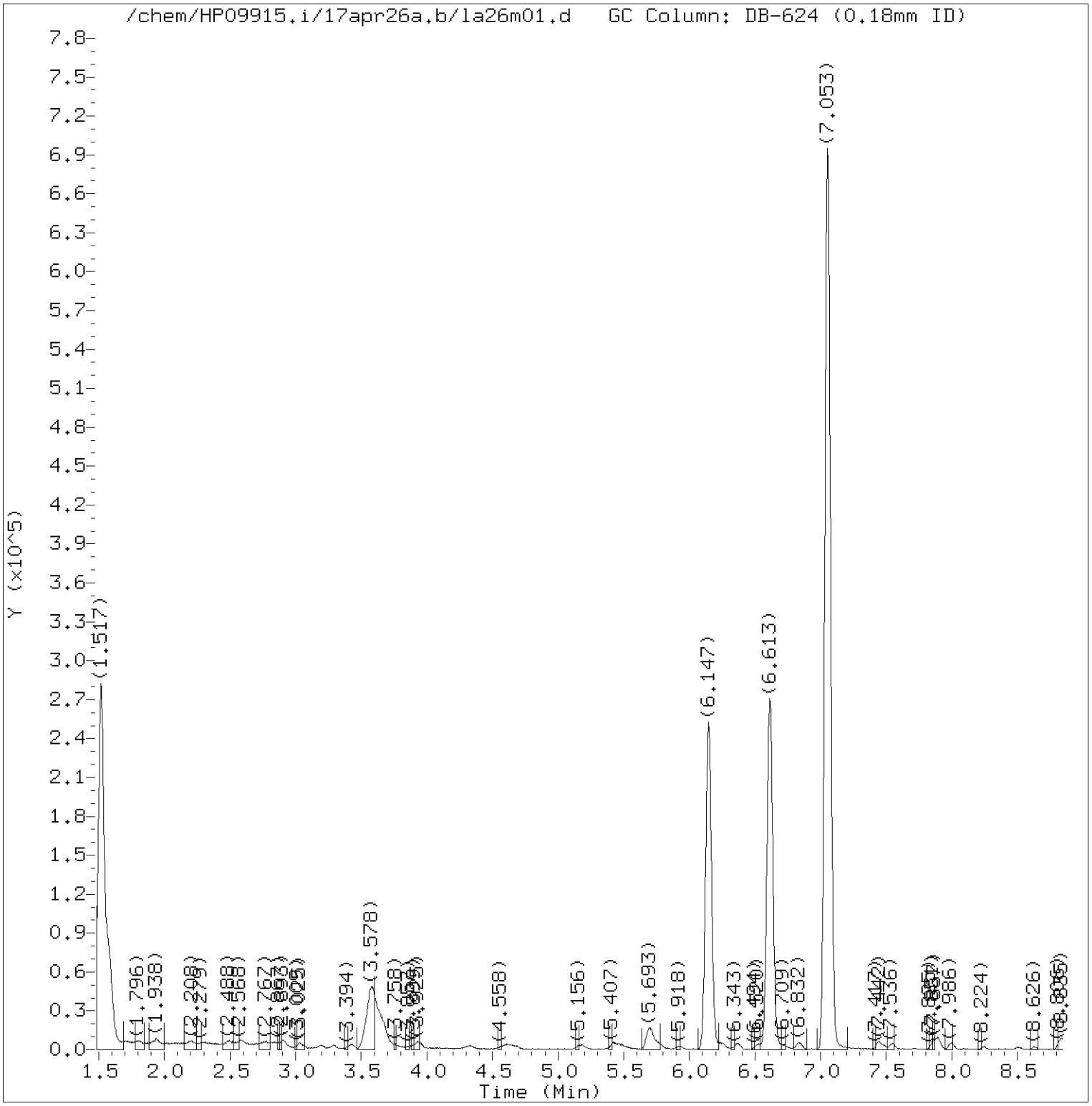
Data File: /chem/HP09915.i/17apr26a.b/la26i07.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:32 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 15:50
Date, time and analyst ID of latest file update: 26-Apr-2017 15:50 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number	: 112		
Compound Name	: Cyclohexanone		
Scan Number	: 3192		
Retention Time (minutes)	: 11.745		
Quant Ion	: 55.00		
Area	: 1058		
On-column Amount (ng)	: 4.6543		
Integration start scan	: 3185	Integration stop scan:	3229
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:07.
Target 3.5 esignature used. Key: 2015



Total Ion Chromatogram (TIC)

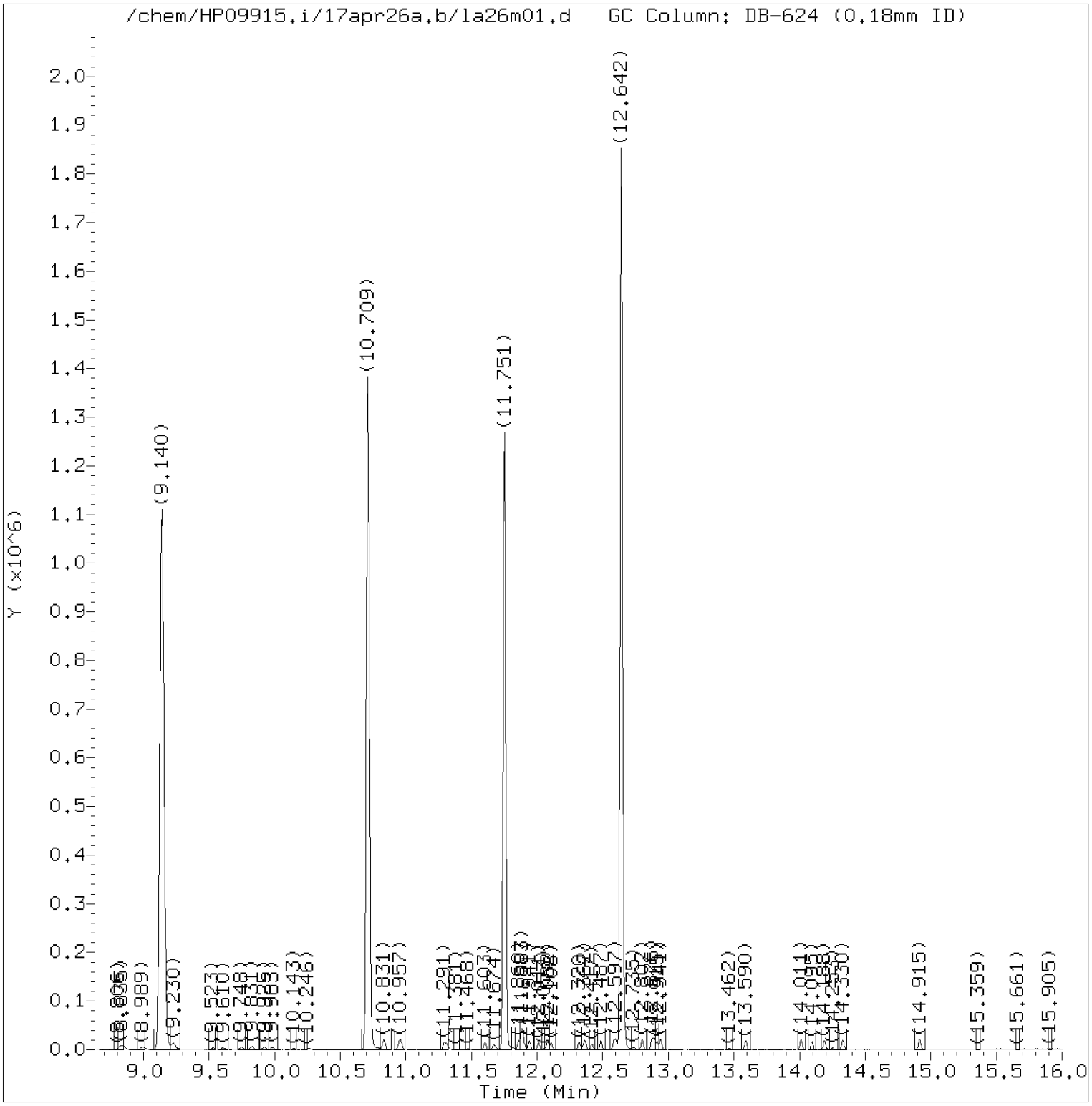
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.722	85	2339	0.380
4) Chloromethane	(2)	1.809	50	2857	0.452
6) Vinyl Chloride	(2)	1.912	62	2381	0.390
5) 1,3-Butadiene	(2)	1.941	39	1925M	0.517
8) Bromomethane	(2)	2.208	94	1847M	0.450
9) Chloroethane	(2)	2.301	64	1571	0.456
10) Dichlorofluoromethane	(2)	2.481	67	3590	0.428
12) Trichlorofluoromethane	(2)	2.520	101	2884	0.408
11) n-Pentane	(2)	2.591	43	3057	0.525
14) Ethyl ether	(2)	2.758	59	1634	0.415
15) Freon 123a	(2)	2.809	67	1902	0.404
16) Acrolein	(1)	2.912	56	6871	4.797
18) Acetone	(1)	3.009	58	319	0.513
17) 1,1-Dichloroethene	(2)	3.028	96	1569	0.419
19) Freon 113	(2)	3.038	101	1321	0.351
21) 2-Propanol	(1)	3.182	45	4366M	10.594
22) Methyl Iodide	(2)	3.189	142	3071	0.423
23) Carbon Disulfide	(2)	3.288	76	5057	0.415
27) Methyl Acetate	(2)	3.398	43	2680M	0.493
25) Allyl Chloride	(2)	3.430	41	3325	0.443
29)*t-Butyl alcohol-d10	(1)	3.584	65	174972	250.000
28) Methylene Chloride	(2)	3.591	84	3930	0.795
30) t-Butyl alcohol	(1)	3.693	59	7505M	11.087
31) Acrylonitrile	(2)	3.857	53	696	0.244
33) Methyl Tertiary Butyl Ether	(2)	3.925	73	6241	0.455
32) trans-1,2-Dichloroethene	(2)	3.941	96	1892	0.431
34) n-Hexane	(2)	4.314	57	2680M	0.398
36) 1,1-Dichloroethane	(2)	4.565	63	3427	0.415
38) di-Isopropyl ether	(2)	4.610	45	7417	0.468
39) 2-Chloro-1,3-butadiene	(2)	4.690	53	2753	0.395
40) Ethyl t-butyl ether	(2)	5.169	59	5835	0.428
44) 2-Butanone	(2)	5.407	43	3021	0.791
42) cis-1,2-Dichloroethene	(2)	5.420	96	2175	0.432
45) 2,2-Dichloropropane	(2)	5.423	77	1812	0.329
47) Propionitrile	(1)	5.484	54	9583	9.699
48) Methacrylonitrile	(2)	5.693	67	12206	4.290
49) Bromochloromethane	(2)	5.767	128	1031	0.389
50) Tetrahydrofuran	(1)	5.780	71	517M	0.593

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
51) Chloroform	(2)	5.931	83	3387	0.430
53) 1,1,1-Trichloroethane	(2)	6.144	97	3253M	0.453
52)$Dibromofluoromethane	(2)	6.147	113	251275	49.779
43) 1,2-Dichloroethene (Total)	(2)		96	4067	0.863
54) Cyclohexane	(2)	6.240	56	3352	0.409
56) Carbon Tetrachloride	(2)	6.365	117	2006	0.382
55) 1,1-Dichloropropene	(2)	6.369	75	2672	0.418
58) Isobutyl Alcohol	(1)	6.539	41	5623M	23.658
57)$1,2-Dichloroethane-d4	(2)	6.613	102	62764	50.002
60) Benzene	(2)	6.629	78	8895	0.472
61) 1,2-Dichloroethane	(2)	6.706	62	2708	0.424
65) t-Amyl methyl ether	(2)	6.838	73	5953	0.440
66)*Fluorobenzene	(2)	7.053	96	1033706	50.000
67) n-Heptane	(2)	7.073	43	3401M	0.451
69) n-Butanol	(1)	7.446	56	7231	37.738
71) Trichloroethene	(2)	7.545	95	1999	0.410
72) Methylcyclohexane	(2)	7.851	83	3533	0.411
73) 1,2-Dichloropropane	(2)	7.889	63	2149	0.416
75) 1,4-Dioxane	(1)	7.979	88	845	14.126
76) Methyl Methacrylate	(2)	7.983	69	1518M	0.343
74) Dibromomethane	(2)	7.996	93	1393	0.429
78) Bromodichloromethane	(2)	8.243	83	2298	0.392
79) 2-Nitropropane	(2)	8.510	41	1240	0.746
80) 2-Chloroethyl Vinyl Ether	(2)	8.632	63	1335	0.336
81) cis-1,3-Dichloropropene	(2)	8.815	75	2761	0.361
82) 4-Methyl-2-pentanone	(2)	8.989	43	5828	0.740
83)$Toluene-d8	(3)	9.140	98	1012343	50.270
88) Toluene	(3)	9.230	92	5535	0.473
89) trans-1,3-Dichloropropene	(3)	9.523	75	2362	0.360
91) Ethyl Methacrylate	(3)	9.610	69	2755	0.373
92) 1,1,2-Trichloroethane	(3)	9.751	97	2117	0.469
93) Tetrachloroethene	(3)	9.831	166	2288	0.442
94) 1,3-Dichloropropane	(3)	9.925	76	3487	0.446
96) 2-Hexanone	(3)	9.983	43	3976	0.704
90) 1,3-Dichloropropene (total)	(3)		100	5123	0.721
97) Dibromochloromethane	(3)	10.150	129	1597	0.342
99) 1,2-Dibromoethane	(3)	10.259	107	2039	0.413
100)*Chlorobenzene-d5	(3)	10.709	117	788712	50.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
101) 1-Chlorohexane	(3)	10.732	91	4267	0.635
102) Chlorobenzene	(3)	10.738	112	6446	0.477
103) 1,1,1,2-Tetrachloroethane	(3)	10.831	131	1648	0.370
104) Ethylbenzene	(3)	10.835	91	9923	0.440
106) m+p-Xylene	(3)	10.960	106	7187	0.818
107) o-Xylene	(3)	11.291	106	3699	0.423
109) Styrene	(3)	11.311	104	5315	0.368
110) Bromoform	(3)	11.468	173	1137	0.335
111) Isopropylbenzene	(3)	11.603	105	9437	0.422
112) Cyclohexanone	(1)	11.674	55	4553M	20.180
114)$4-Bromofluorobenzene	(3)	11.751	95	379187	50.658
108) Xylene (Total)	(3)		106	10886	1.241
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	3396	0.450
115) Bromobenzene	(4)	11.860	156	2630	0.432
118) trans-1,4-Dichloro-2-butene	(4)	11.886	53	8626	3.986
117) 1,2,3-Trichloropropane	(4)	11.899	110	993	0.465
119) n-Propylbenzene	(4)	11.941	91	12373	0.460
120) 2-Chlorotoluene	(4)	12.015	126	2680M	0.479
122) 1,3,5-Trimethylbenzene	(4)	12.082	105	8325	0.434
121) 4-Chlorotoluene	(4)	12.105	126	2713	0.466
124) tert-Butylbenzene	(4)	12.323	134	1768	0.427
125) Pentachloroethane	(4)	12.352	167	1190	0.364
126) 1,2,4-Trimethylbenzene	(4)	12.368	105	8421	0.427
127) sec-Butylbenzene	(4)	12.487	105	11053	0.452
129) 1,3-Dichlorobenzene	(4)	12.584	146	6155	0.532
130) p-Isopropyltoluene	(4)	12.600	119	10017	0.464
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	425430	50.000
133) 1,4-Dichlorobenzene	(4)	12.658	146	6850	0.572
134) 1,2,3-Trimethylbenzene	(4)	12.667	105	9695	0.469
135) Benzyl Chloride	(4)	12.738	91	3470	0.277
136) 1,3-Diethylbenzene	(4)	12.802	119	5811	0.451
137) 1,4-Diethylbenzene	(4)	12.873	119	6562	0.485
139) n-Butylbenzene	(4)	12.892	92	5769	0.535
138) 1,2-Dichlorobenzene	(4)	12.912	146	5976	0.525
140) 1,2-Diethylbenzene	(4)	12.941	119	4851	0.447
141) Diethylbenzene (total)	(4)		100	17224	1.382
142) 1,2-Dibromo-3-chloropropane	(4)	13.468	75	594	0.372
144) 1,3,5-Trichlorobenzene	(4)	13.593	180	5802	0.629

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

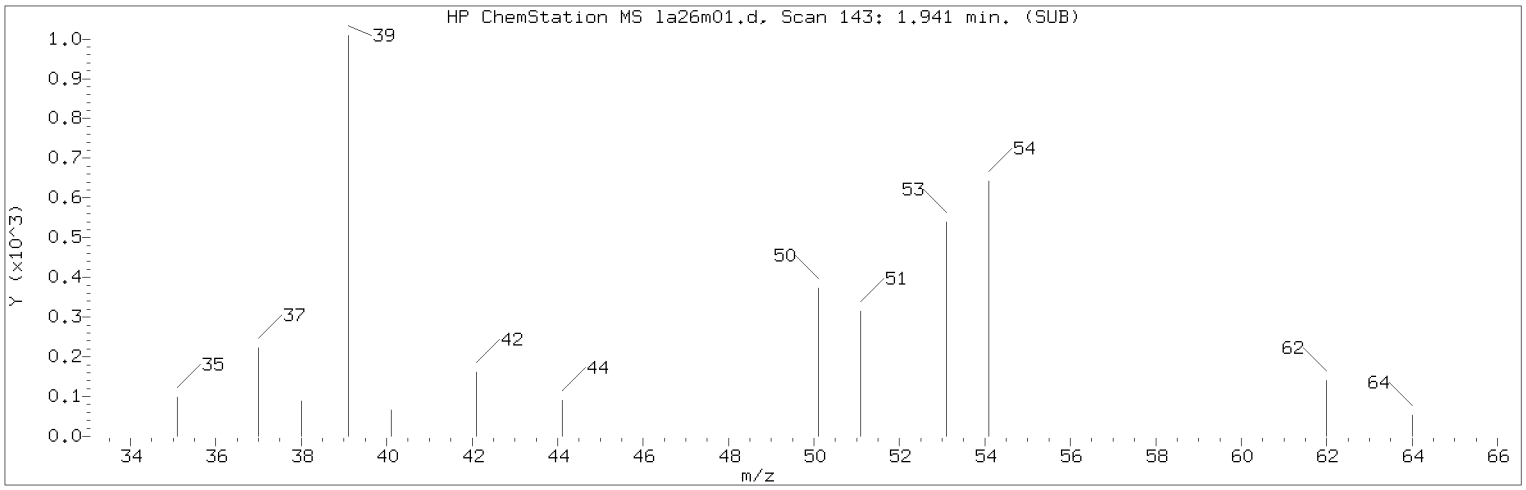
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

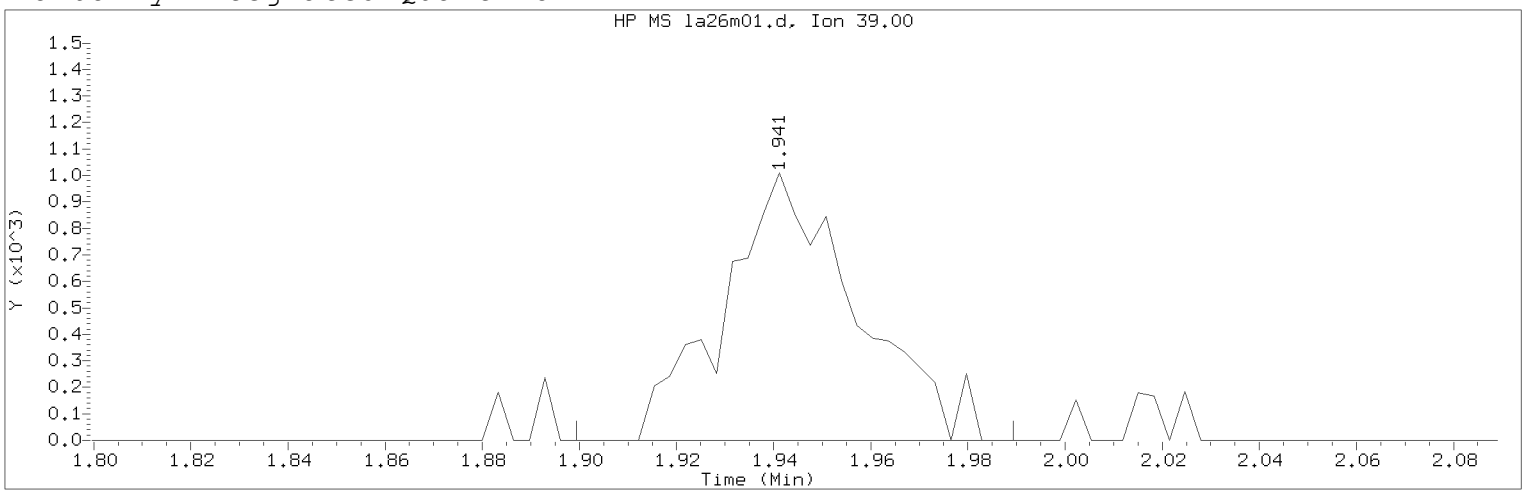
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
146) 1,2,4-Trichlorobenzene	(4)	14.011	180	6179	0.690
147) Hexachlorobutadiene	(4)	14.092	225	2914	0.750
148) Naphthalene	(4)	14.188	128	13901	0.515
149) 1,2,3-Trichlorobenzene	(4)	14.330	180	6003	0.695
150) 2-Methylnaphthalene	(4)	14.912	142	9582	0.549

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

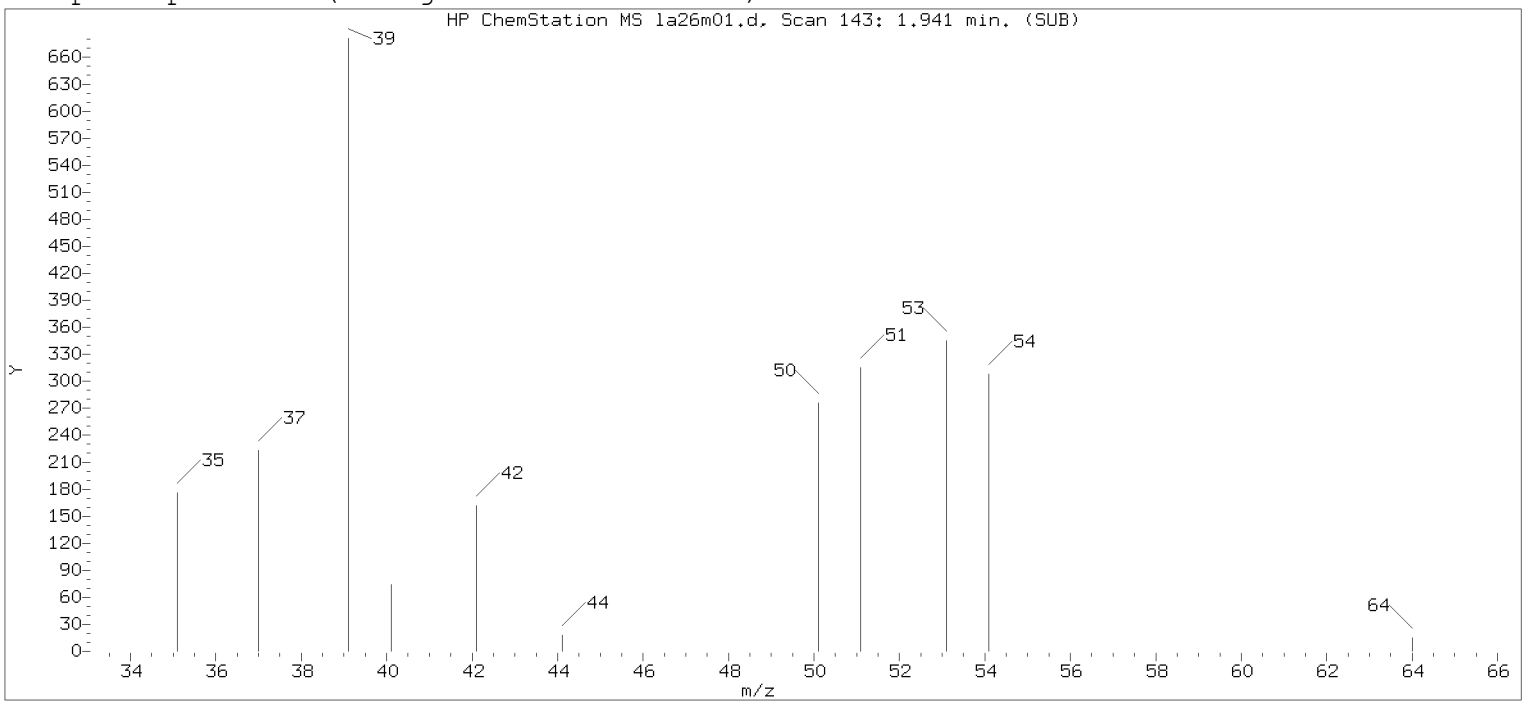
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 143
Retention Time (minutes): 1.941
Quant Ion : 39.00
Area (flag) : 1925M
On-Column Amount (ng) : 0.5167
Integration start scan : 129 Integration stop scan: 157
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

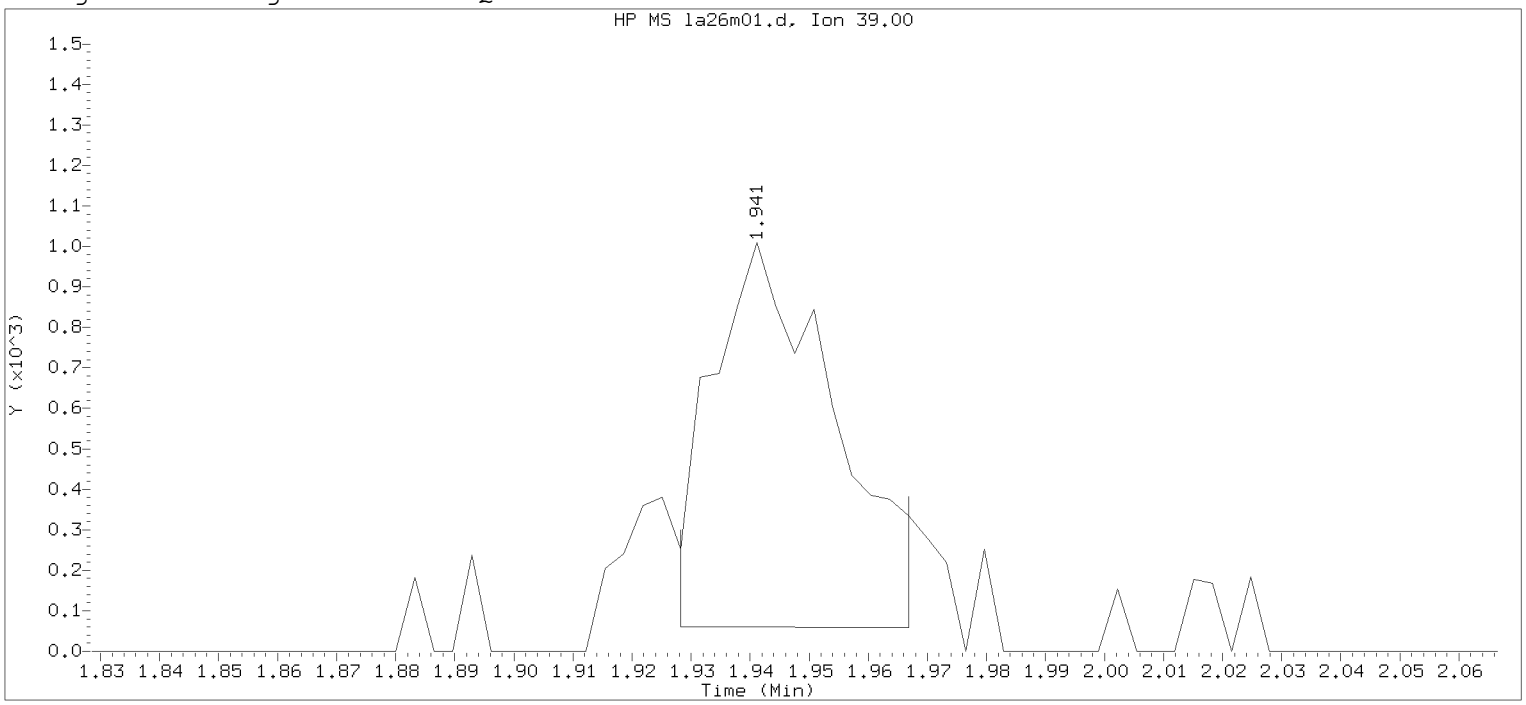
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

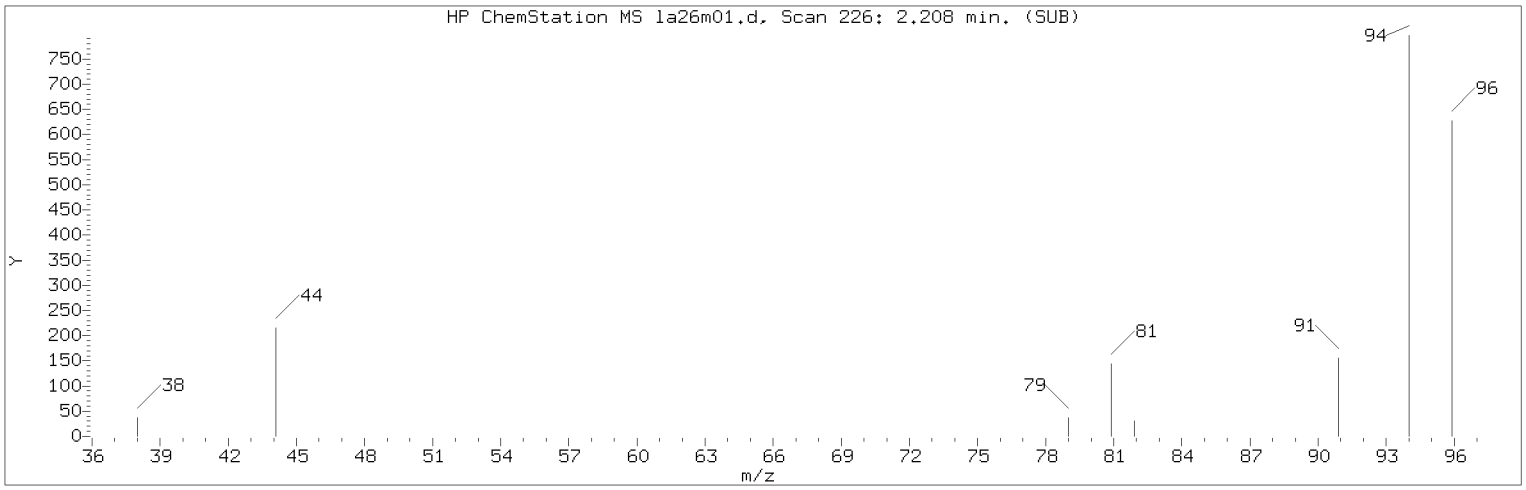
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

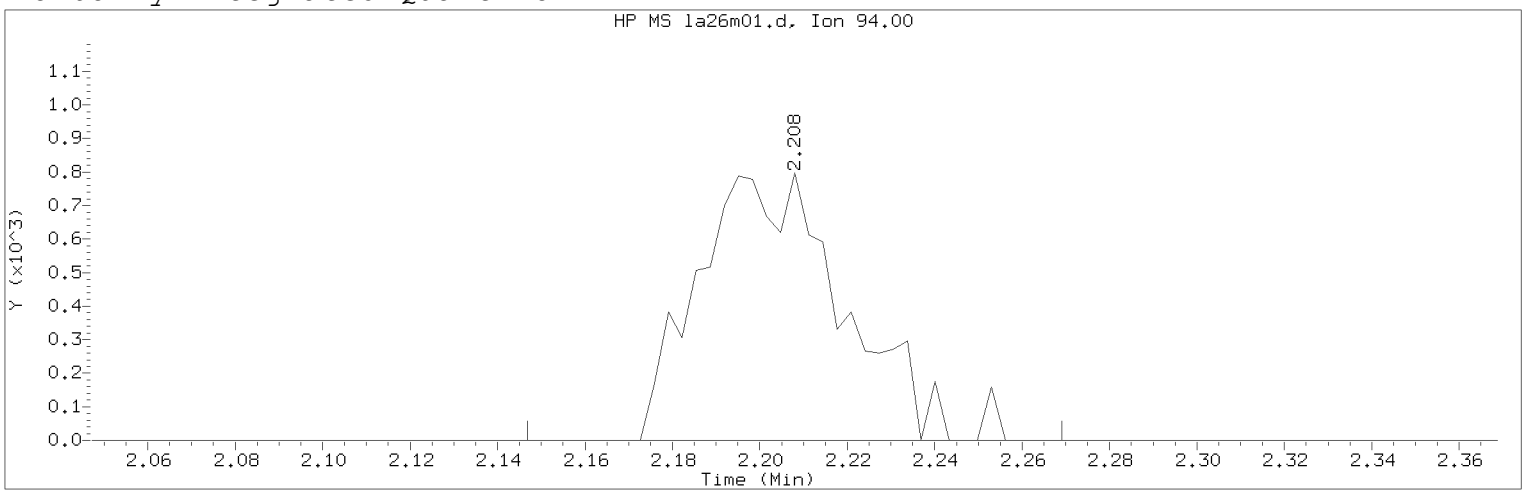
Compound Number : 5
Compound Name : 1,3-Butadiene
Scan Number : 143
Retention Time (minutes): 1.941
Quant Ion : 39.00
Area : 1358
On-column Amount (ng) : 0.3645
Integration start scan : 138 Integration stop scan: 150
Y at integration start : 61 Y at integration end: 58

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key ID: 0x2E3

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

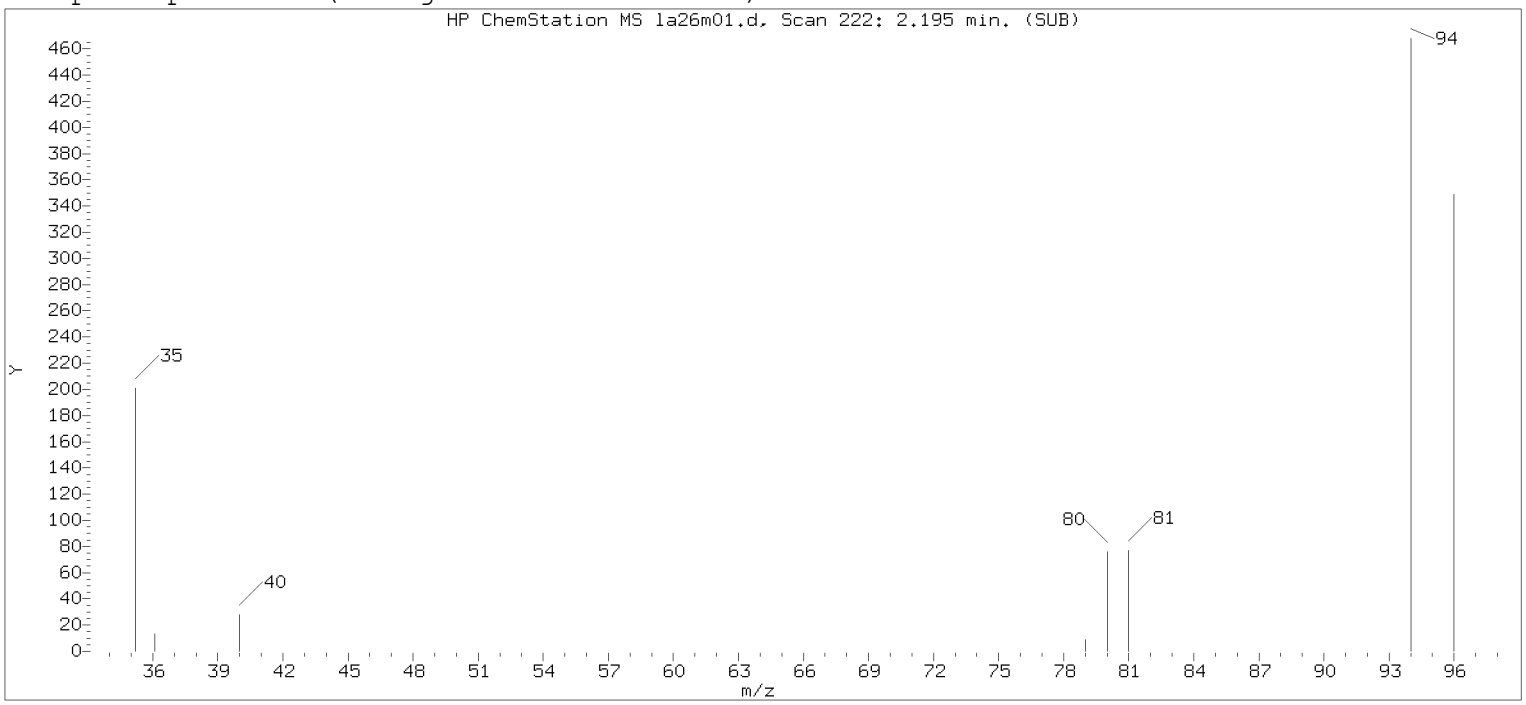
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 226
Retention Time (minutes): 2.208
Quant Ion : 94.00
Area (flag) : 1847M
On-Column Amount (ng) : 0.4496
Integration start scan : 206 Integration stop scan: 244
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

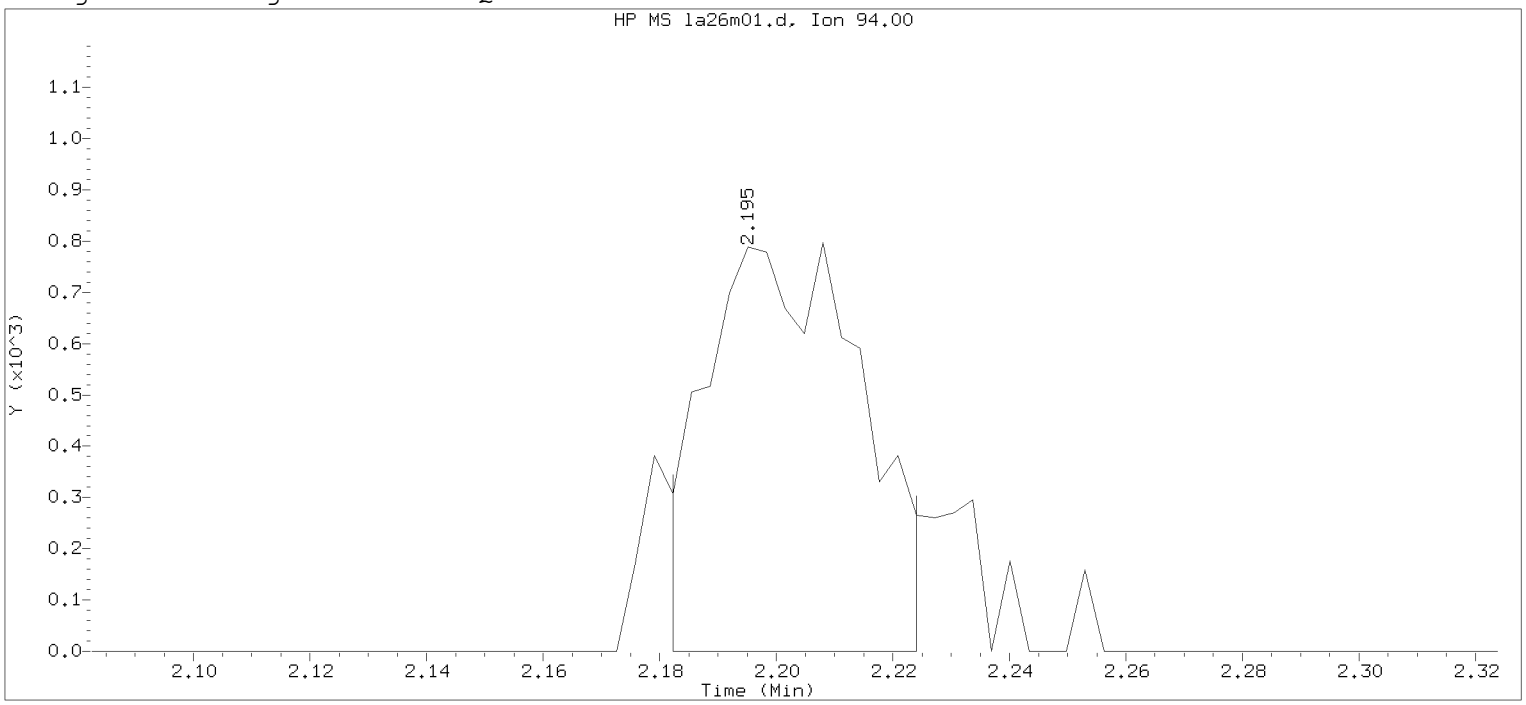
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

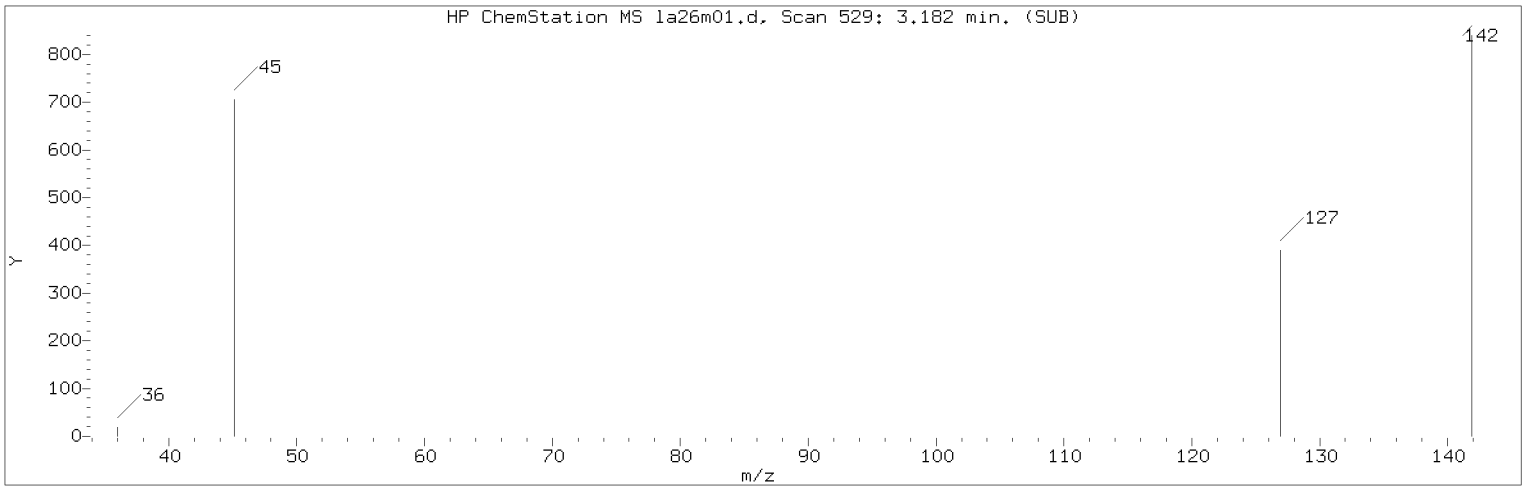
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

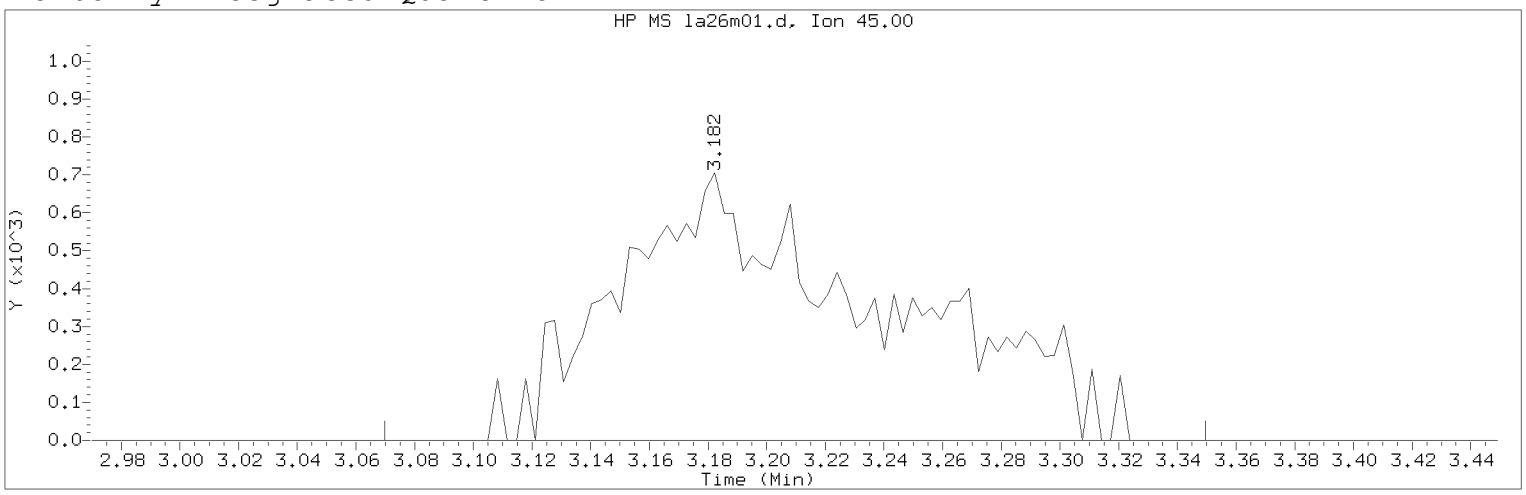
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 222
Retention Time (minutes): 2.195
Quant Ion : 94.00
Area : 1461
On-column Amount (ng) : 0.3557
Integration start scan : 217 Integration stop scan: 230
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2.5

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

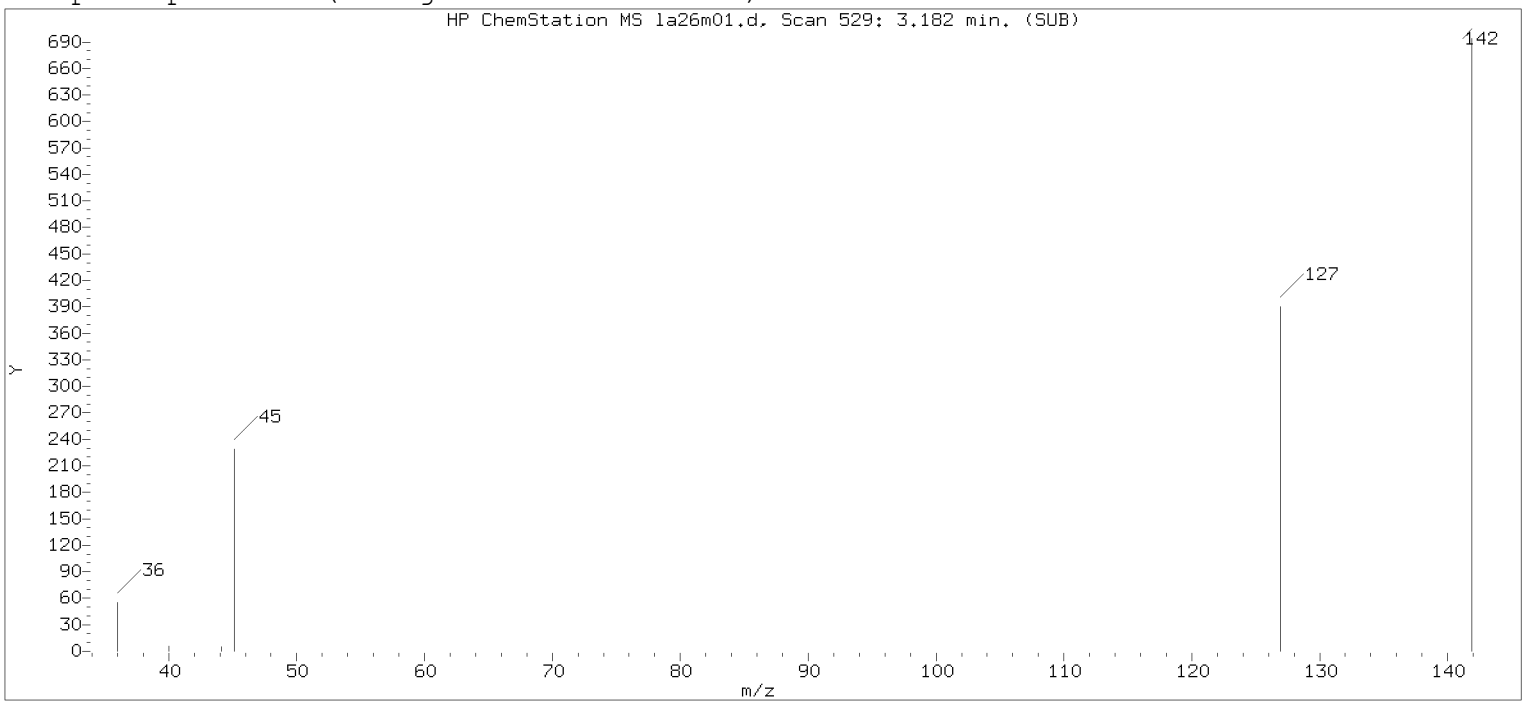
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 529
Retention Time (minutes): 3.182
Quant Ion : 45.00
Area (flag) : 4366M
On-Column Amount (ng) : 10.5945
Integration start scan : 493 Integration stop scan: 580
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

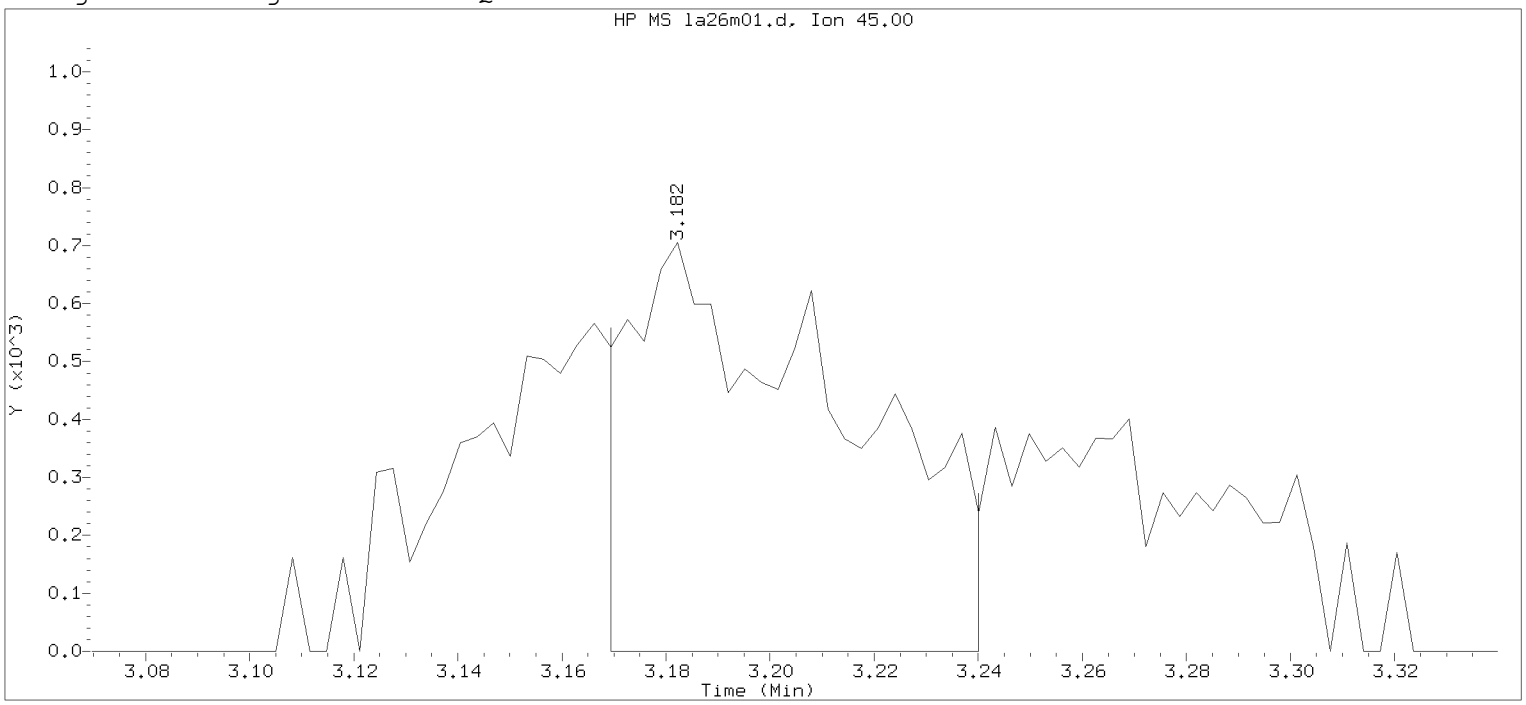
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

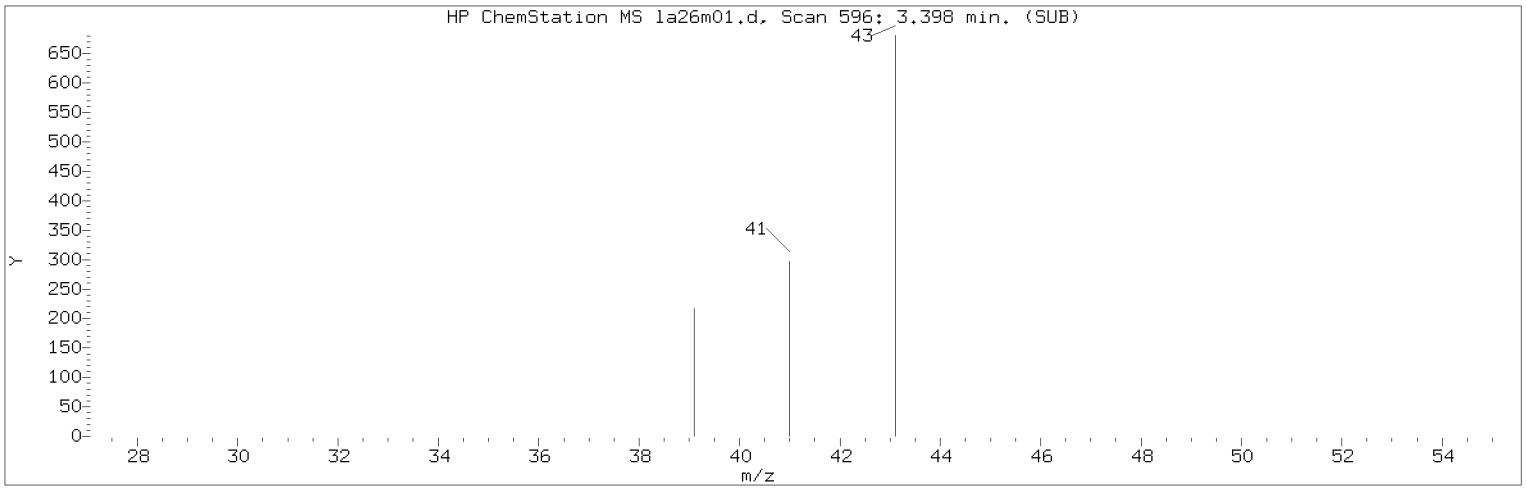
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

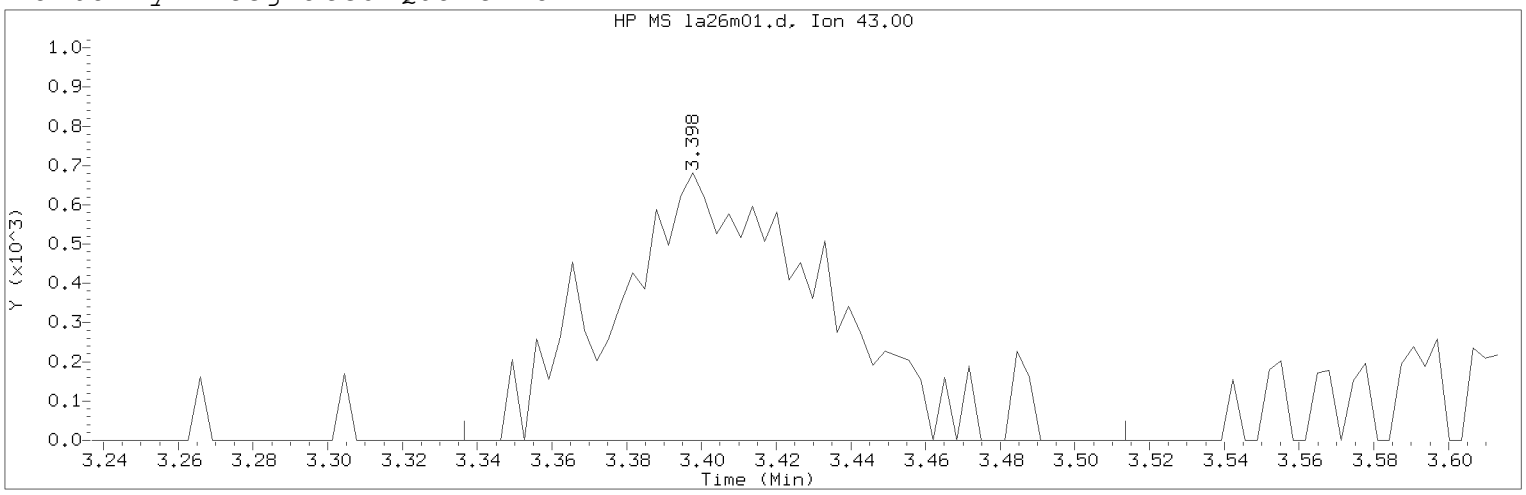
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 529
Retention Time (minutes): 3.182
Quant Ion : 45.00
Area : 2003
On-column Amount (ng) : 4.8605
Integration start scan : 524 Integration stop scan: 546
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2278

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

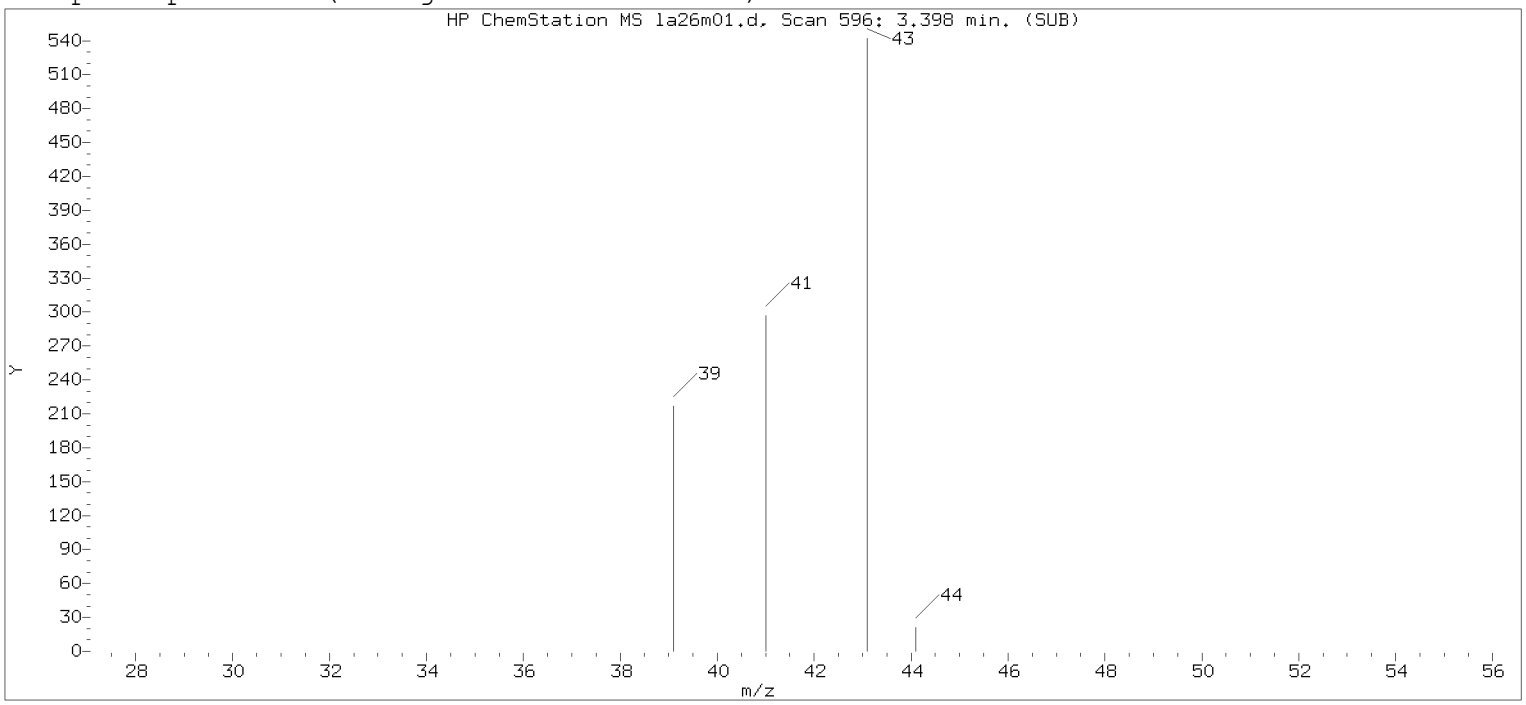
Compound Number : 27
Compound Name : Methyl Acetate
Scan Number : 596
Retention Time (minutes): 3.398
Quant Ion : 43.00
Area (flag) : 2680M
On-Column Amount (ng) : 0.4933
Integration start scan : 576 Integration stop scan: 631
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

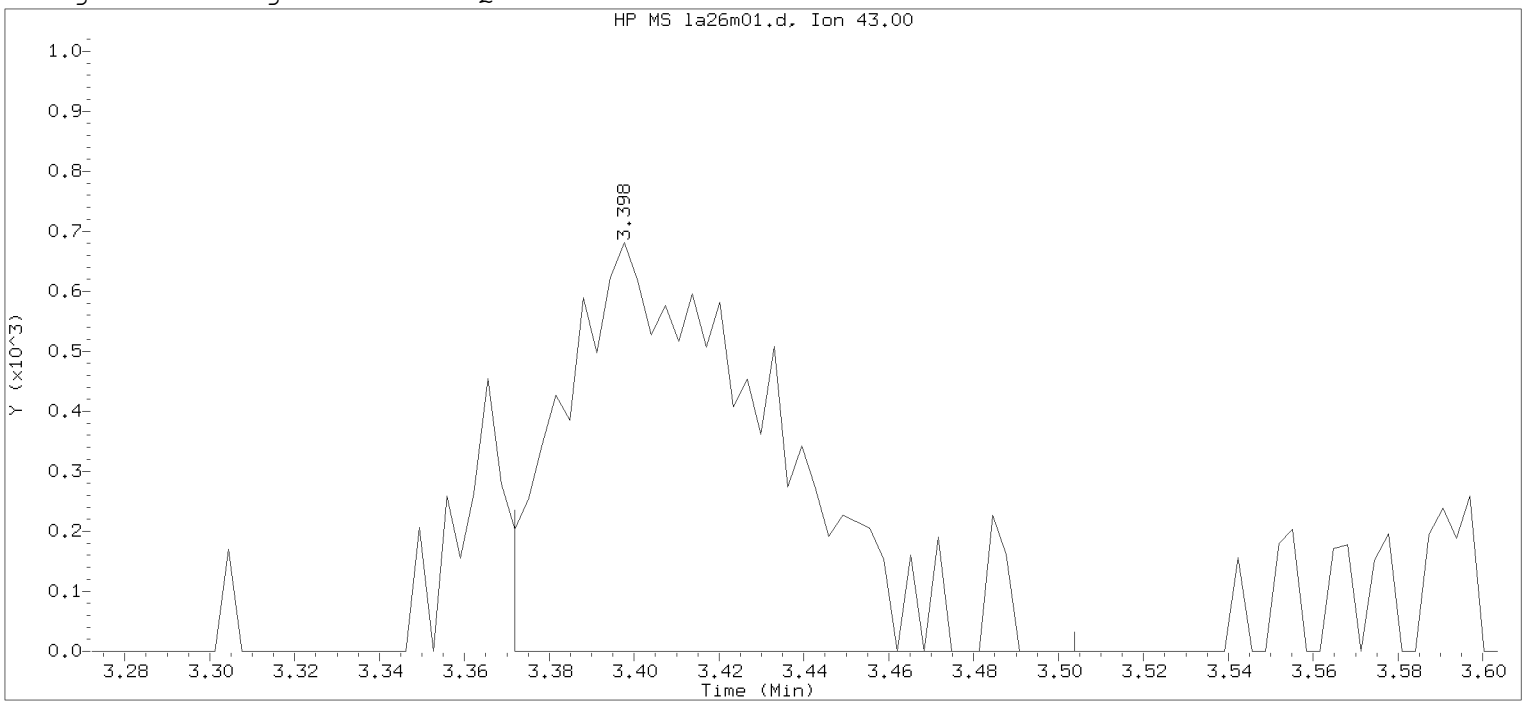
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

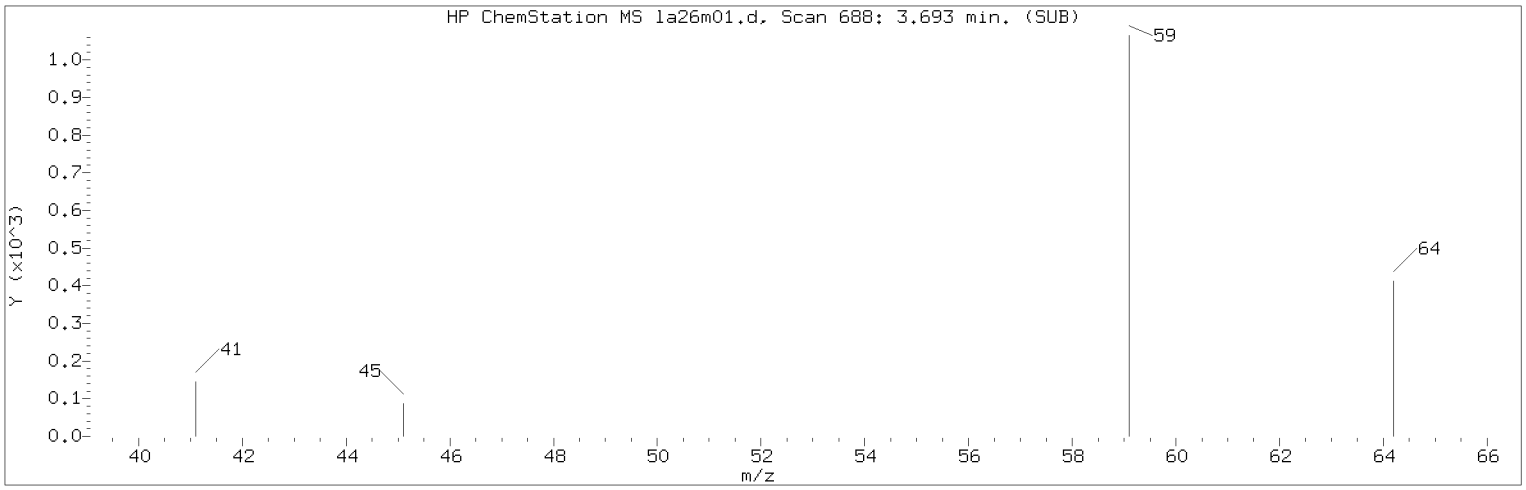
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

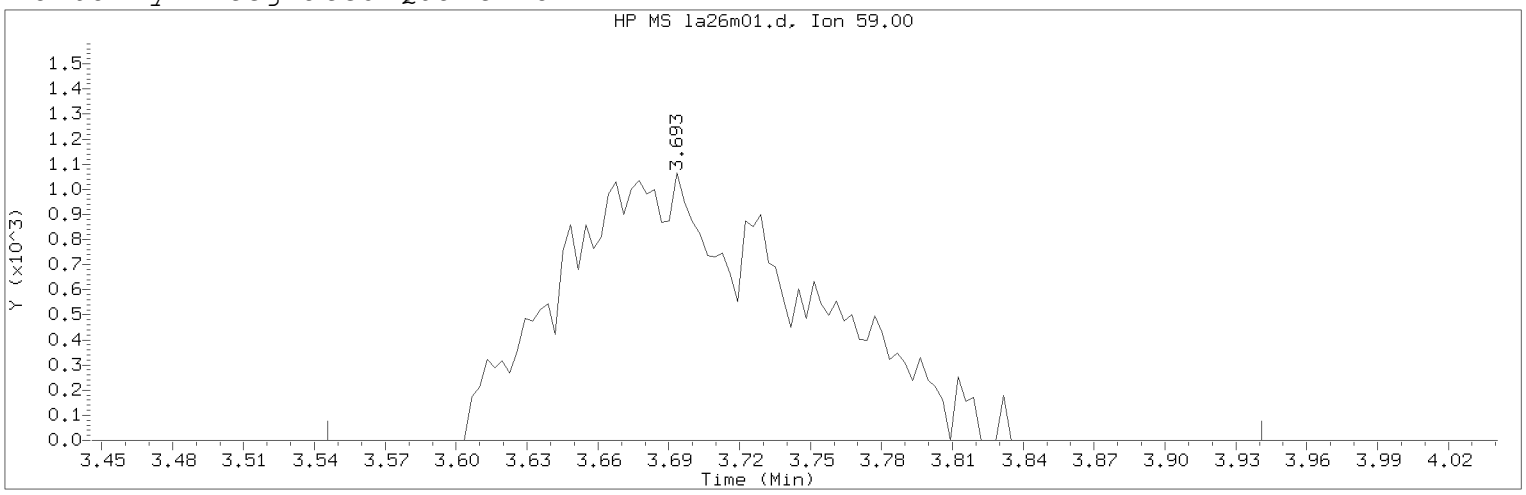
Compound Number : 27
Compound Name : Methyl Acetate
Scan Number : 596
Retention Time (minutes): 3.398
Quant Ion : 43.00
Area : 2349
On-column Amount (ng) : 0.4323
Integration start scan : 587 Integration stop scan: 628
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2.0.0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

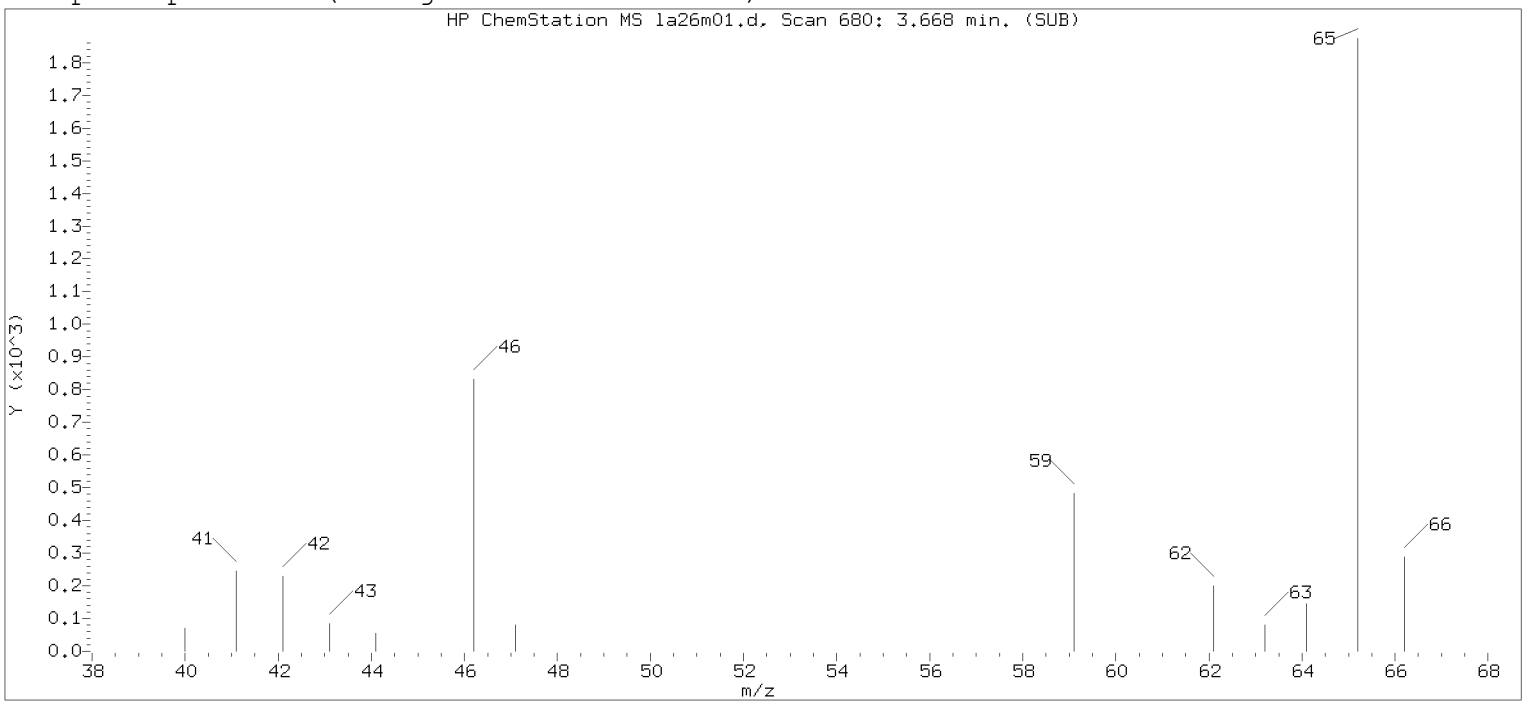
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 688
Retention Time (minutes): 3.693
Quant Ion : 59.00
Area (flag) : 7505M
On-Column Amount (ng) : 11.0871
Integration start scan : 641 Integration stop scan: 764
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

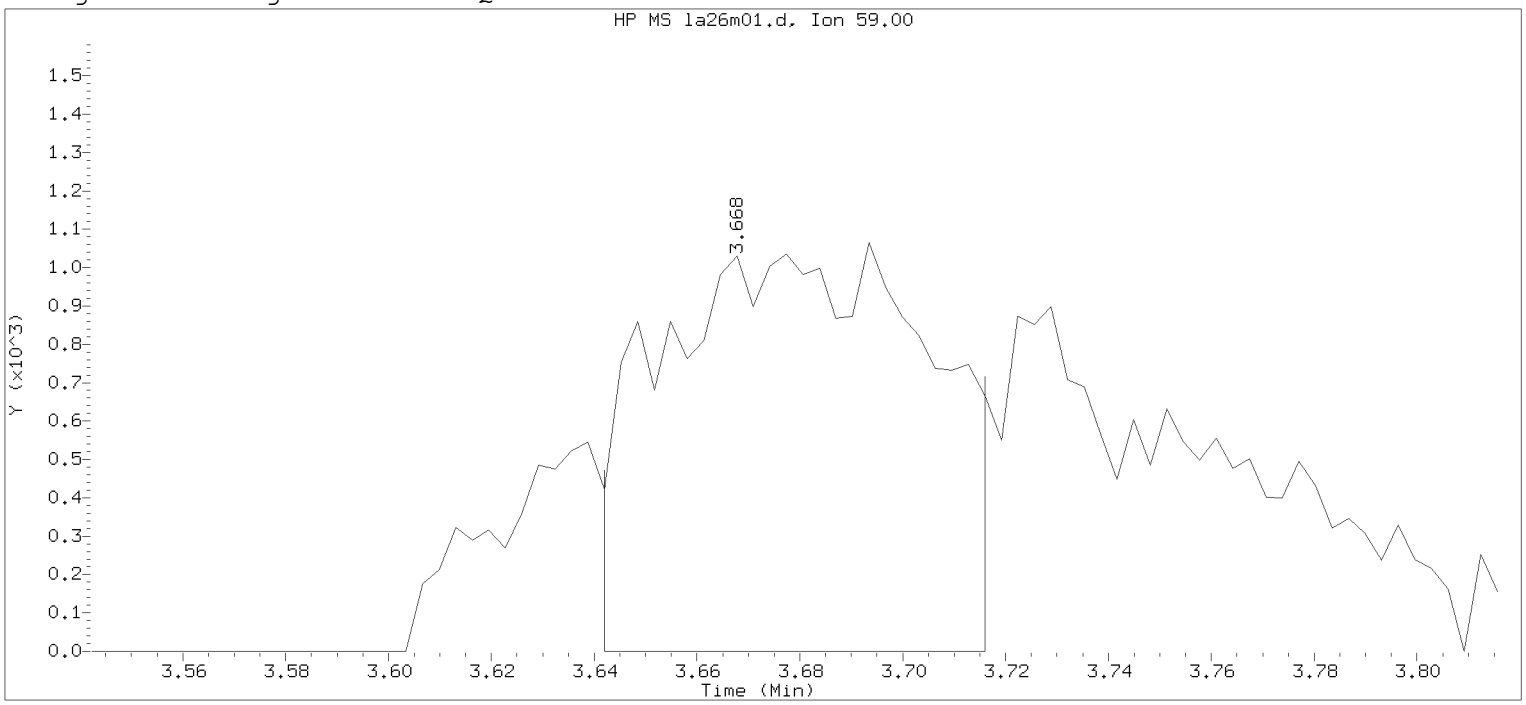
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

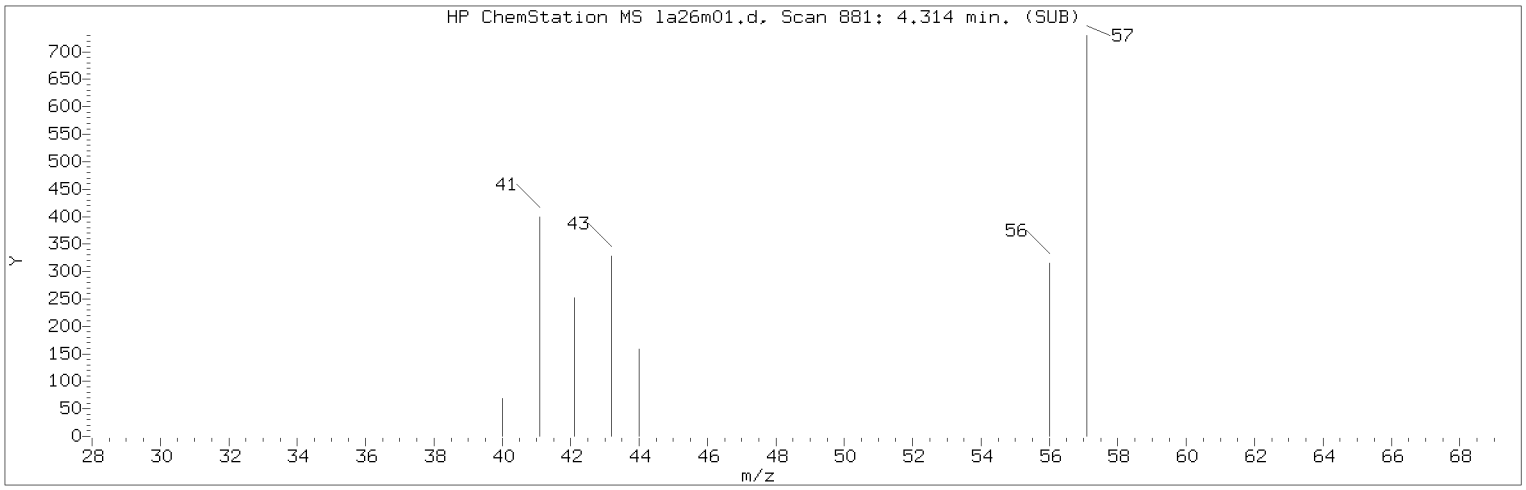
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

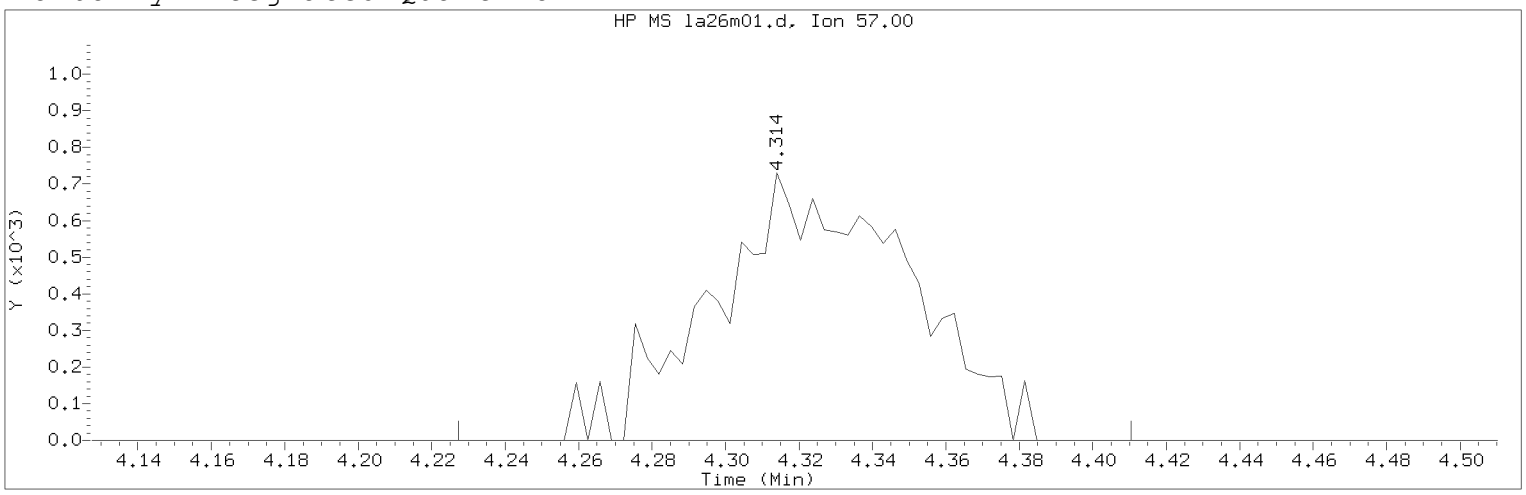
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 680
Retention Time (minutes): 3.668
Quant Ion : 59.00
Area : 3832
On-column Amount (ng) : 5.6607
Integration start scan : 671 Integration stop scan: 694
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2.5.1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

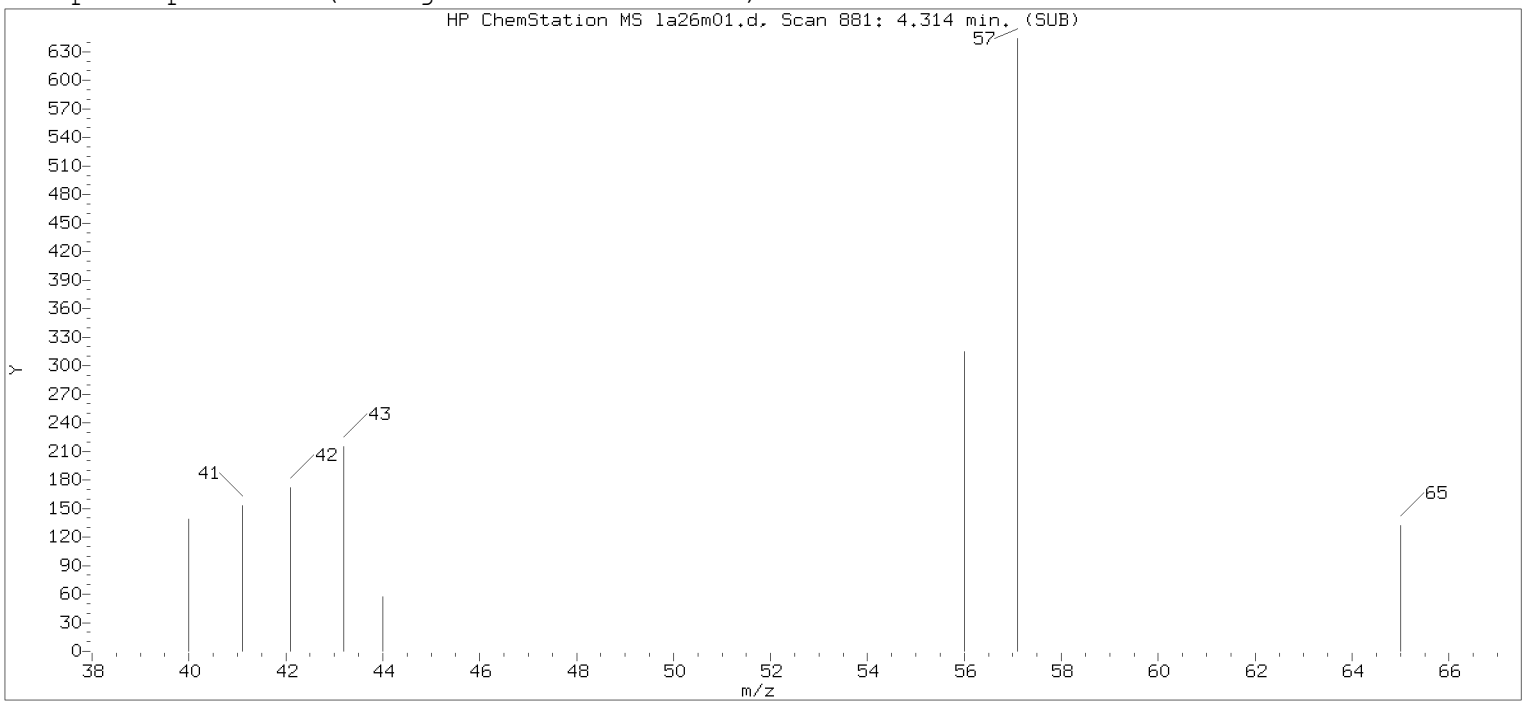
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 881
Retention Time (minutes): 4.314
Quant Ion : 57.00
Area (flag) : 2680M
On-Column Amount (ng) : 0.3981
Integration start scan : 853 Integration stop scan: 910
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

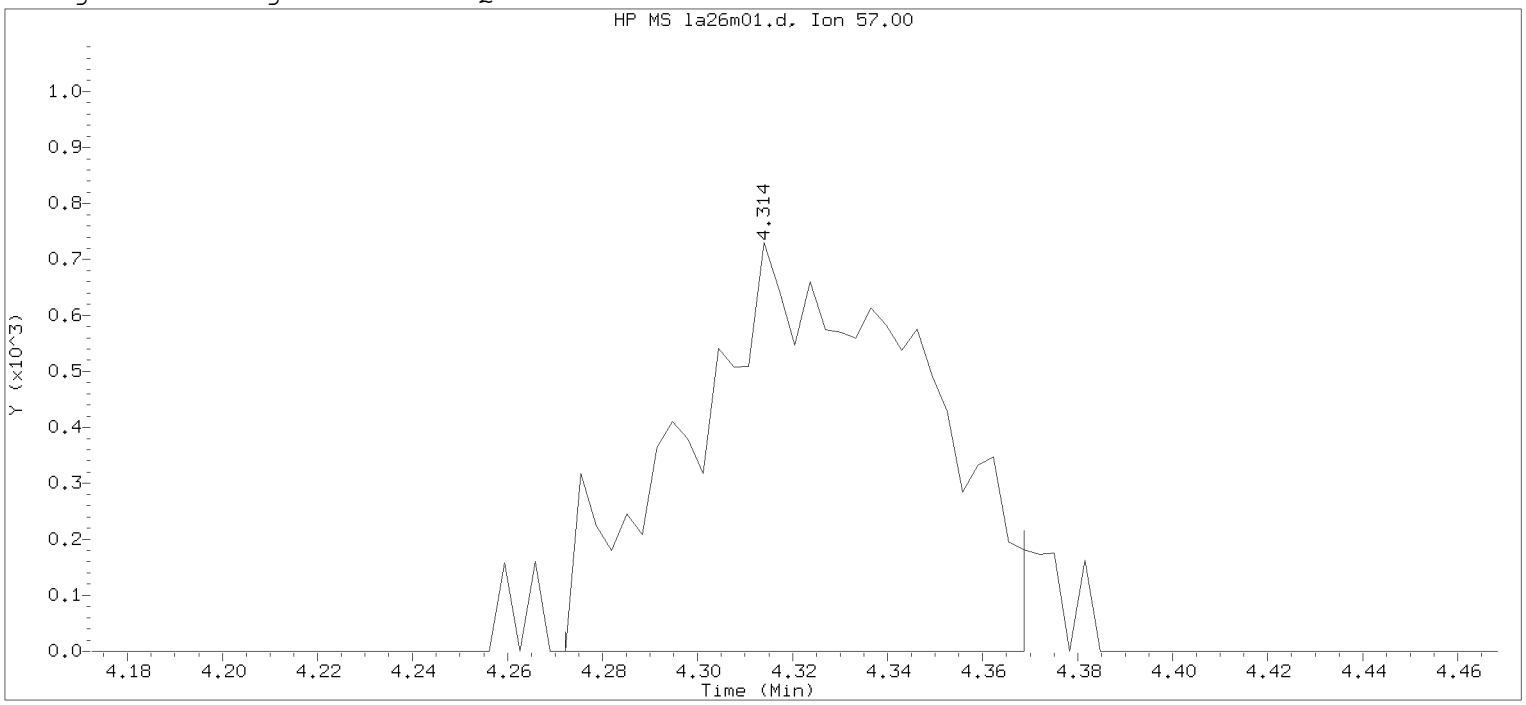
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

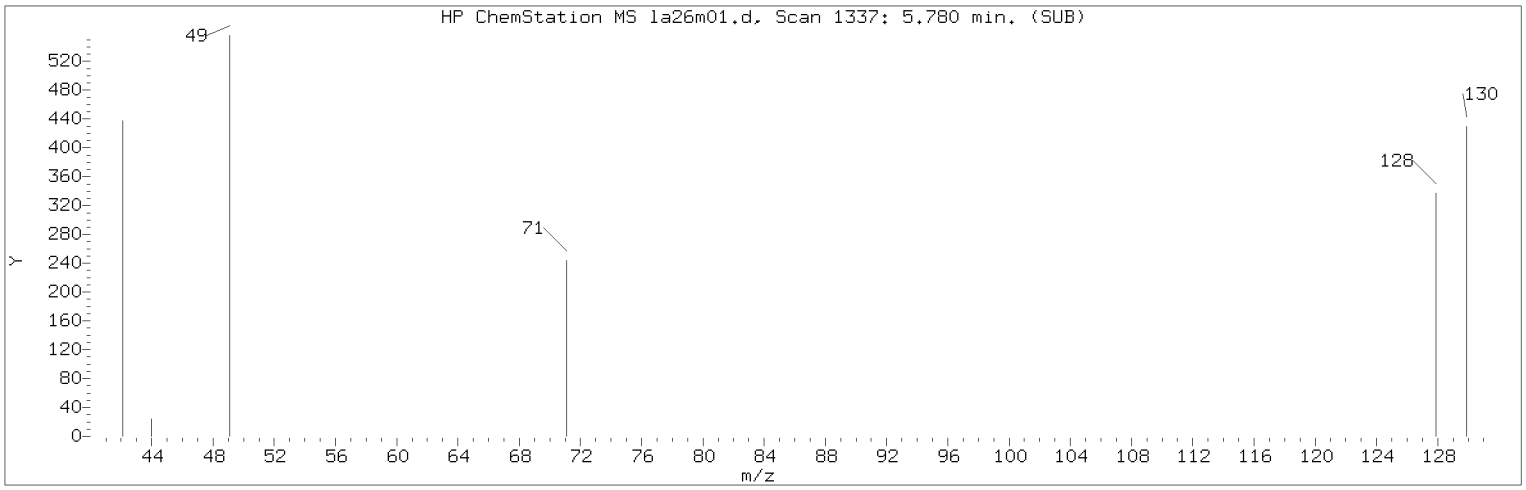
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

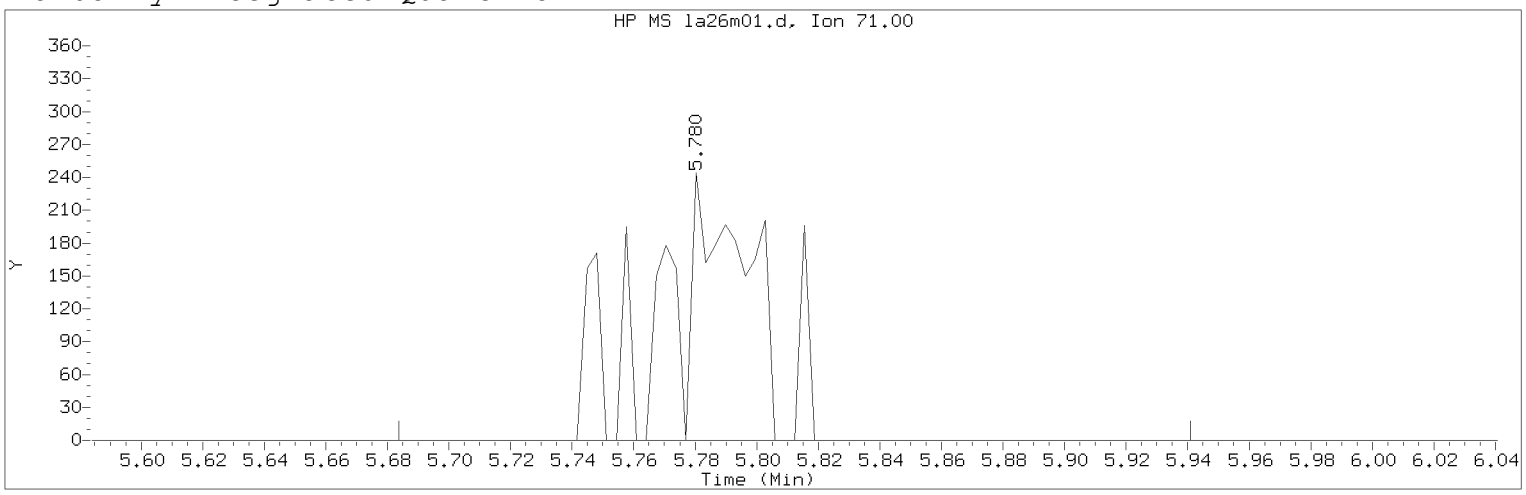
Compound Number : 34
Compound Name : n-Hexane
Scan Number : 881
Retention Time (minutes): 4.314
Quant Ion : 57.00
Area : 2502
On-column Amount (ng) : 0.3717
Integration start scan : 867 Integration stop scan: 897
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key ID: 0x2533

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

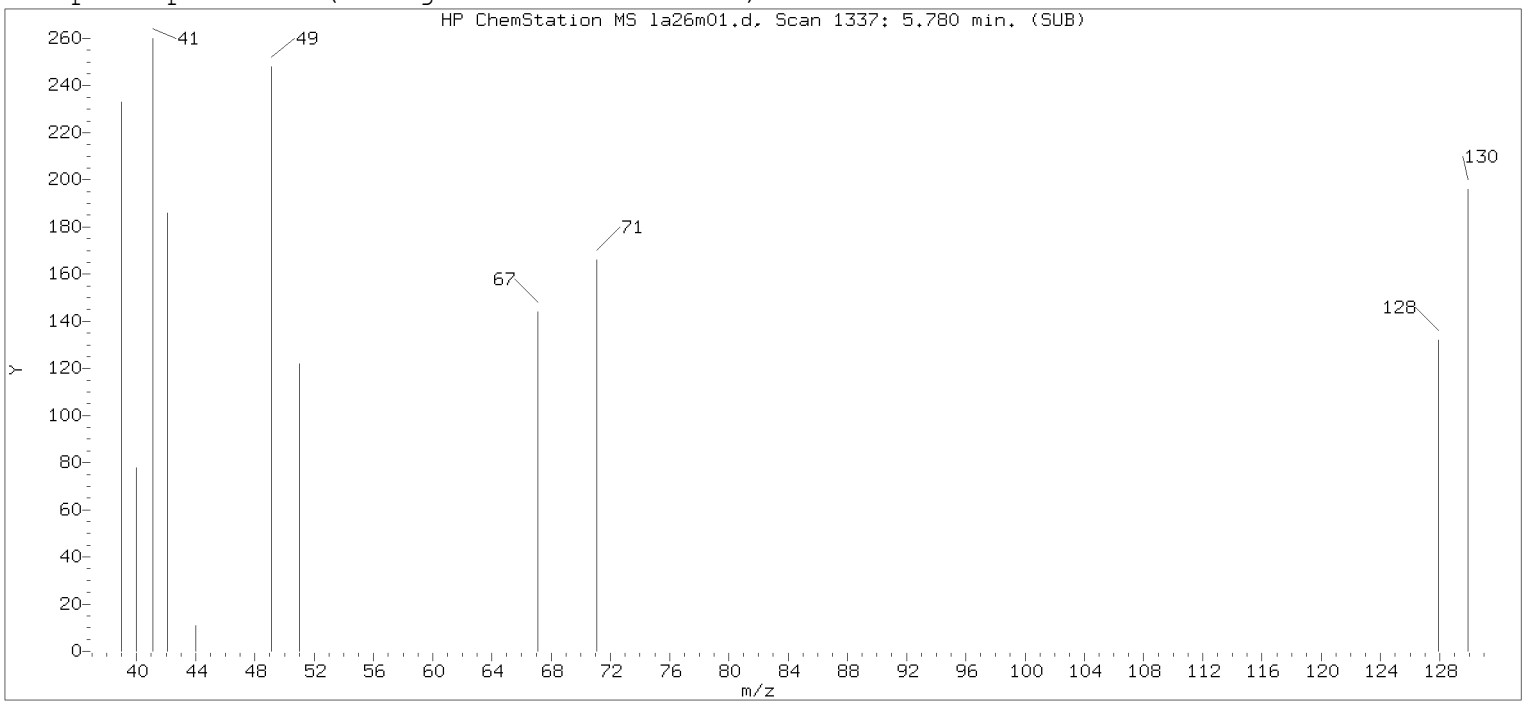
Compound Number : 50
Compound Name : Tetrahydrofuran
Scan Number : 1337
Retention Time (minutes): 5.780
Quant Ion : 71.00
Area (flag) : 517M
On-Column Amount (ng) : 0.5933
Integration start scan : 1306 Integration stop scan: 1386
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

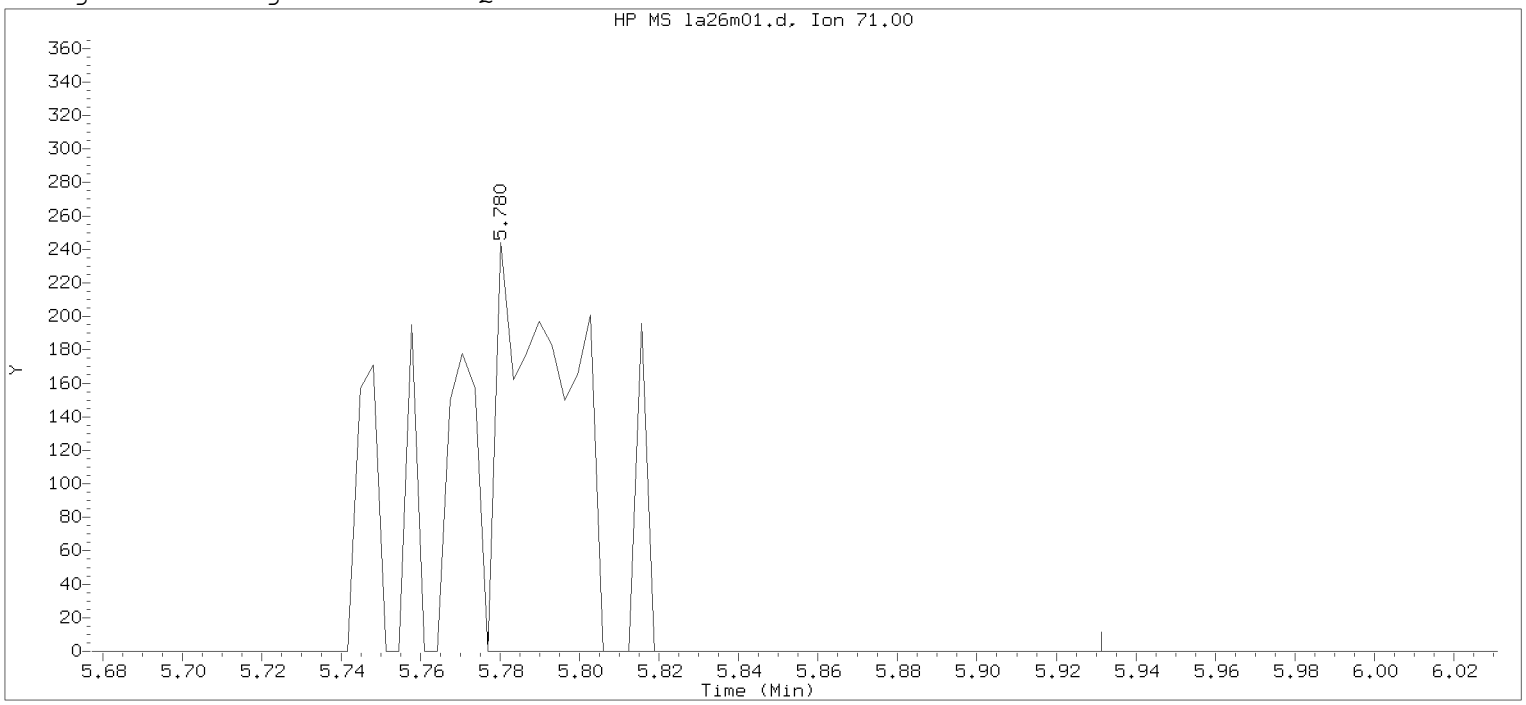
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

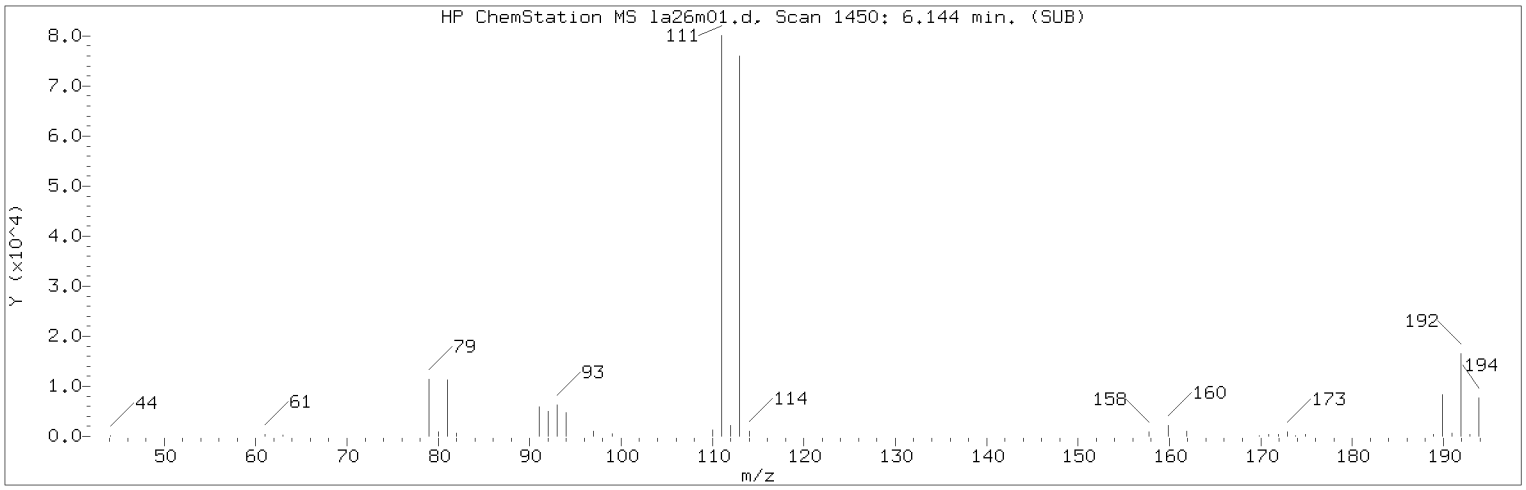
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

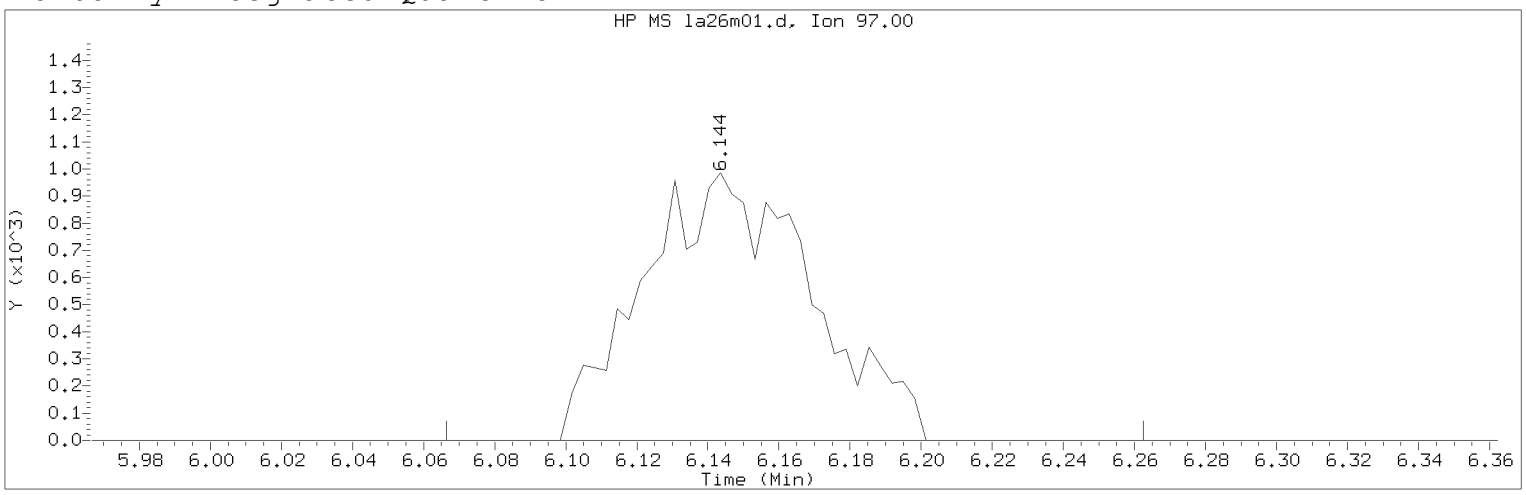
Compound Number : 50
Compound Name : Tetrahydrofuran
Scan Number : 1337
Retention Time (minutes): 5.780
Quant Ion : 71.00
Area : 323
On-column Amount (ng) : 0.3705
Integration start scan : 1335 Integration stop scan: 1383
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2535

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

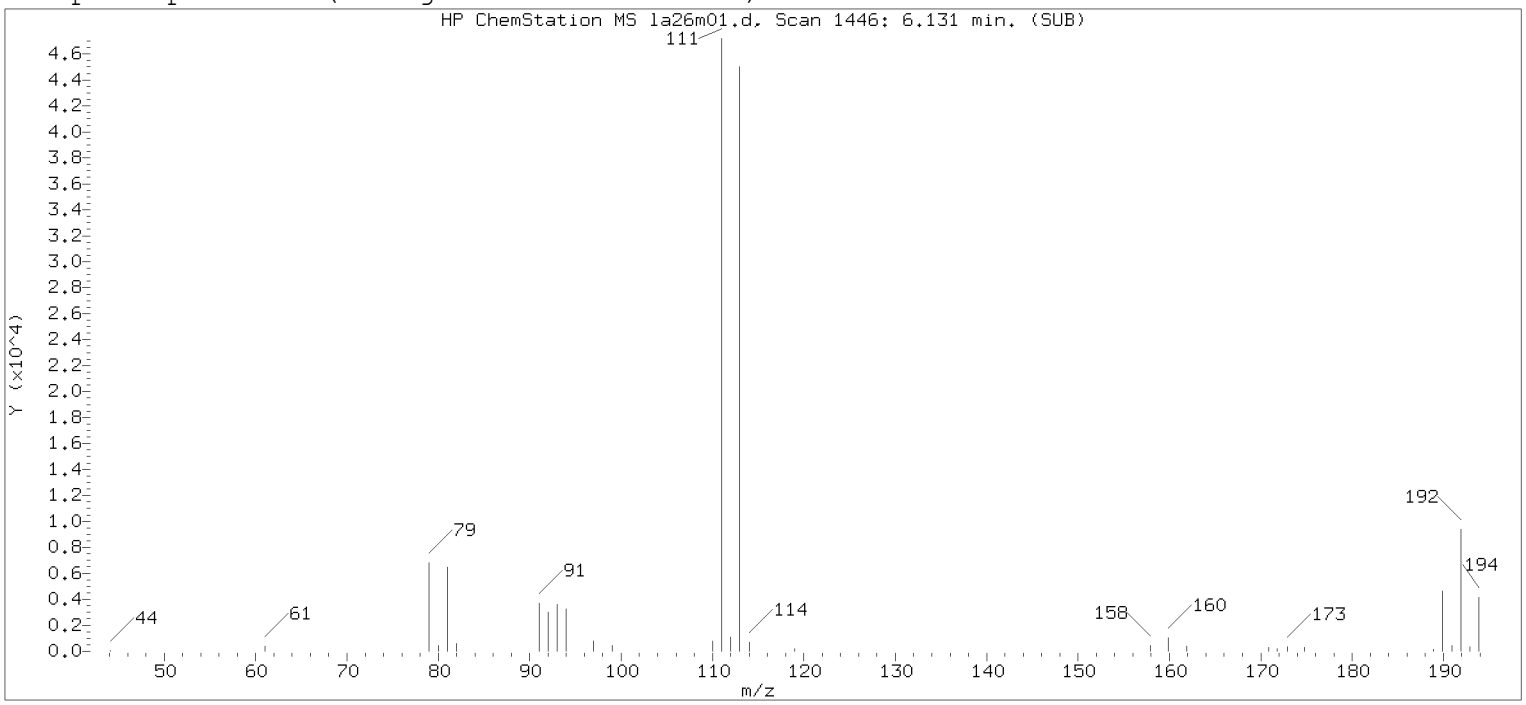
Compound Number : 53
Compound Name : 1,1,1-Trichloroethane
Scan Number : 1450
Retention Time (minutes): 6.144
Quant Ion : 97.00
Area (flag) : 3253M
On-Column Amount (ng) : 0.4525
Integration start scan : 1425 Integration stop scan: 1486
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

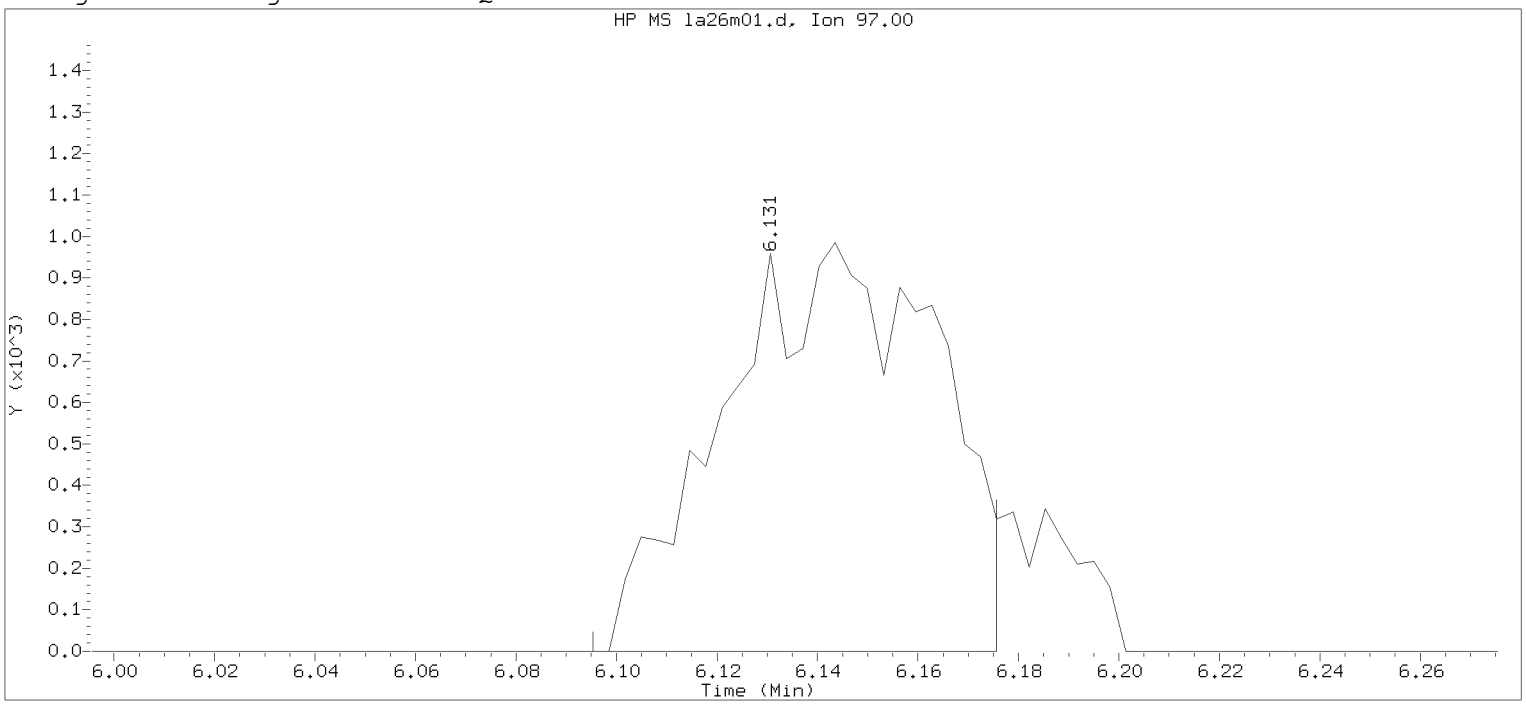
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

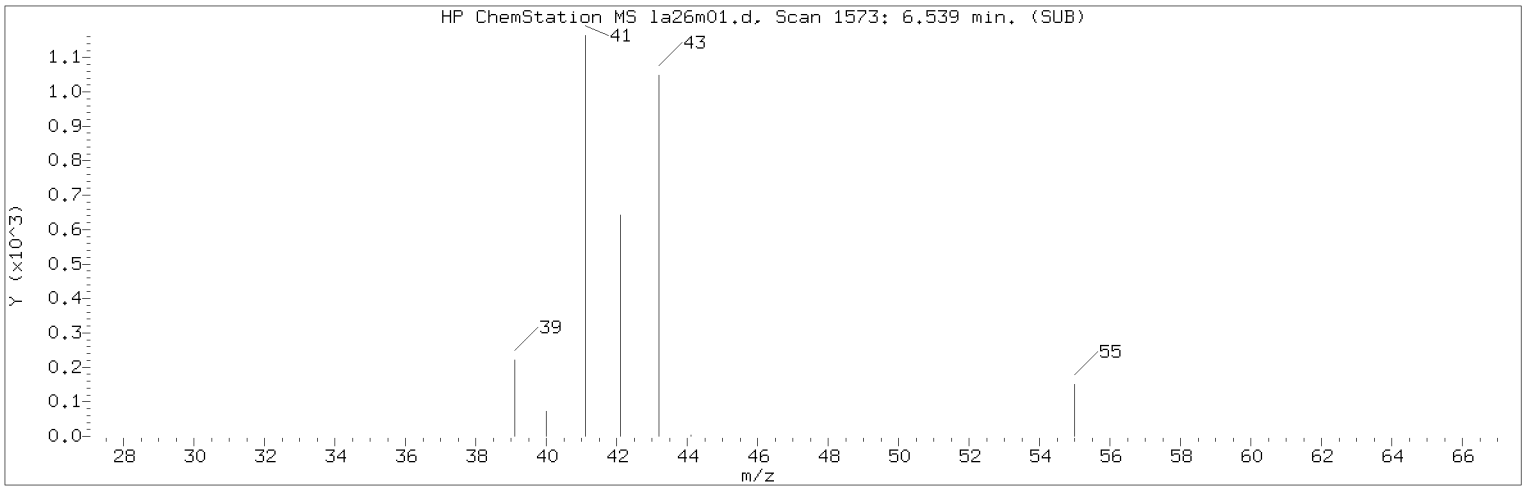
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

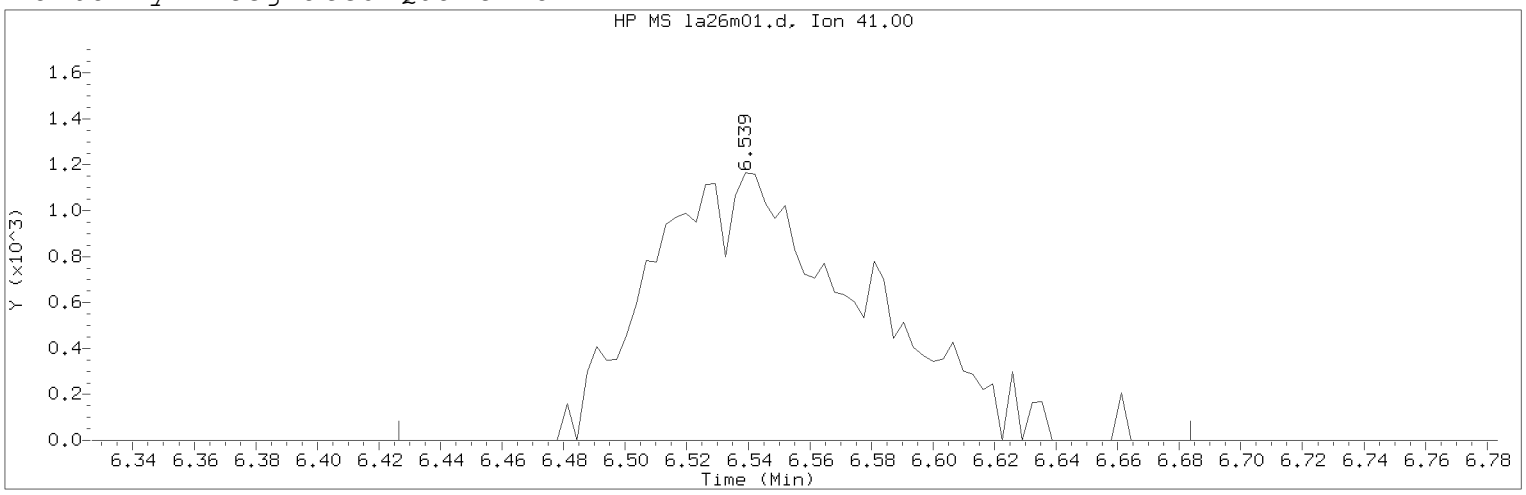
Compound Number : 53
Compound Name : 1,1,1-Trichloroethane
Scan Number : 1446
Retention Time (minutes): 6.131
Quant Ion : 97.00
Area : 2887
On-column Amount (ng) : 0.4017
Integration start scan : 1434 Integration stop scan: 1459
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2.3.8

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

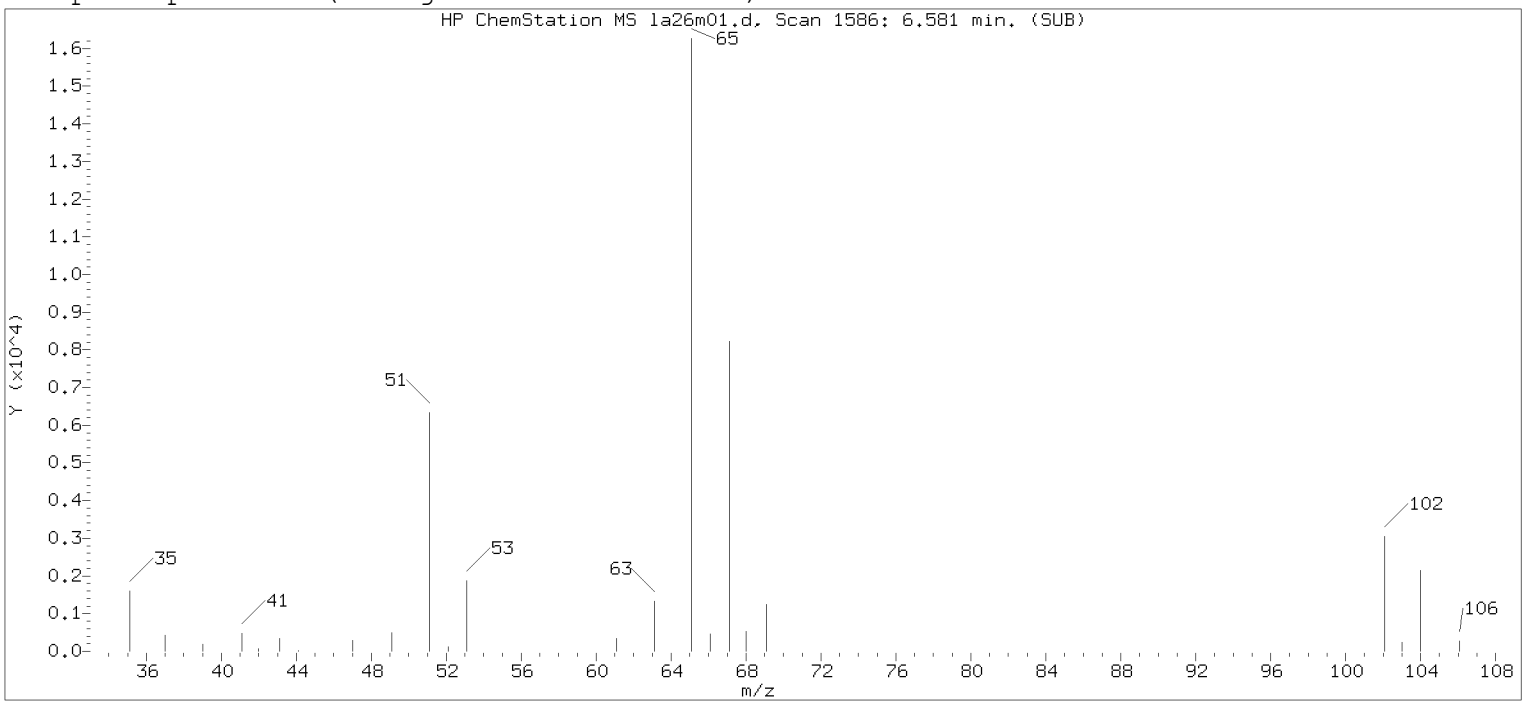
Compound Number : 58
Compound Name : Isobutyl Alcohol
Scan Number : 1573
Retention Time (minutes): 6.539
Quant Ion : 41.00
Area (flag) : 5623M
On-Column Amount (ng) : 23.6581
Integration start scan : 1537 Integration stop scan: 1617
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

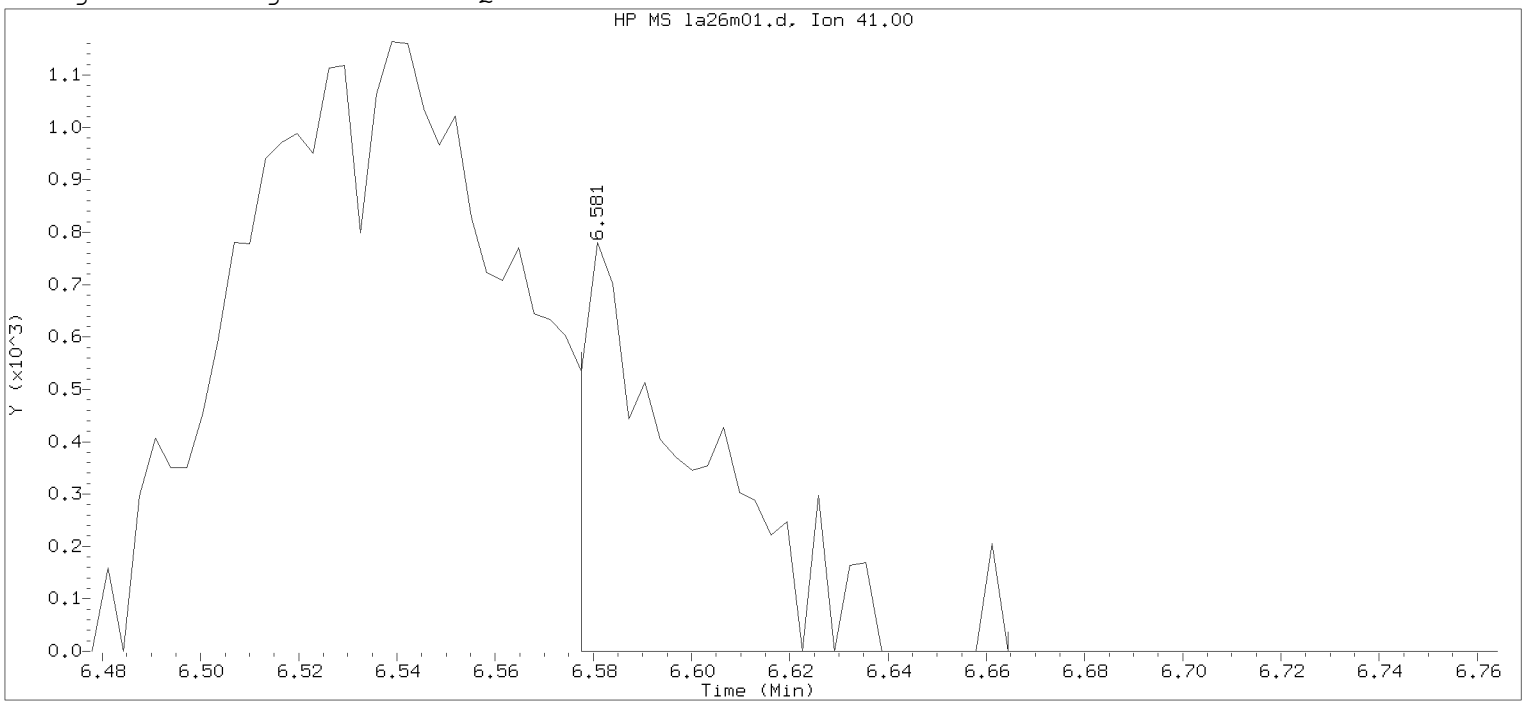
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

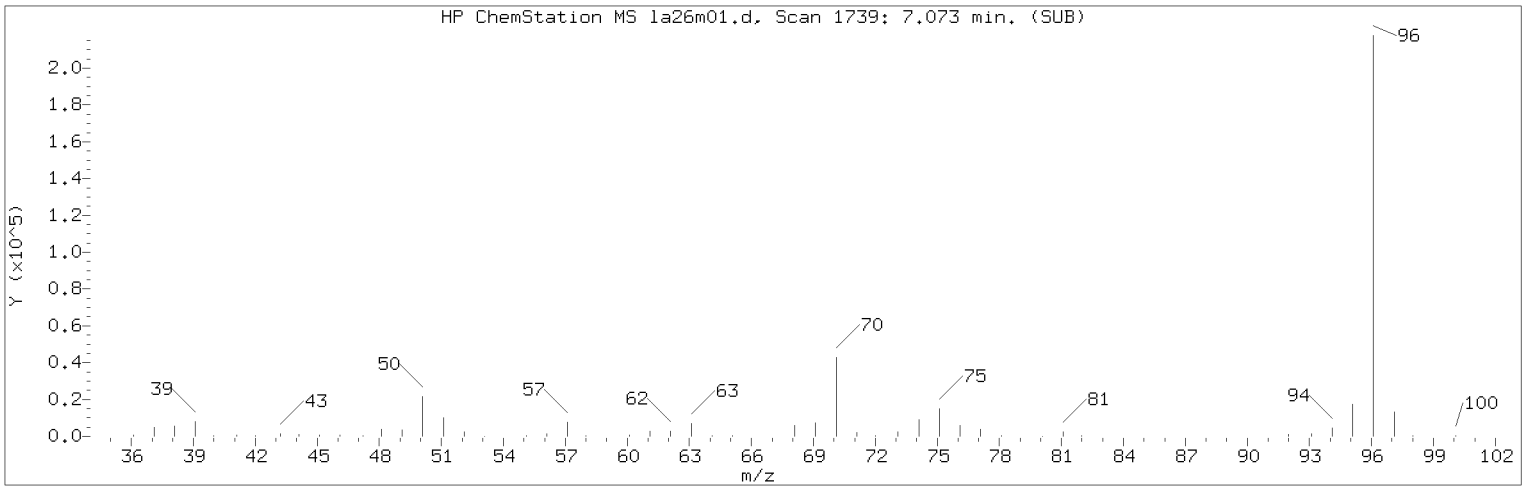
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

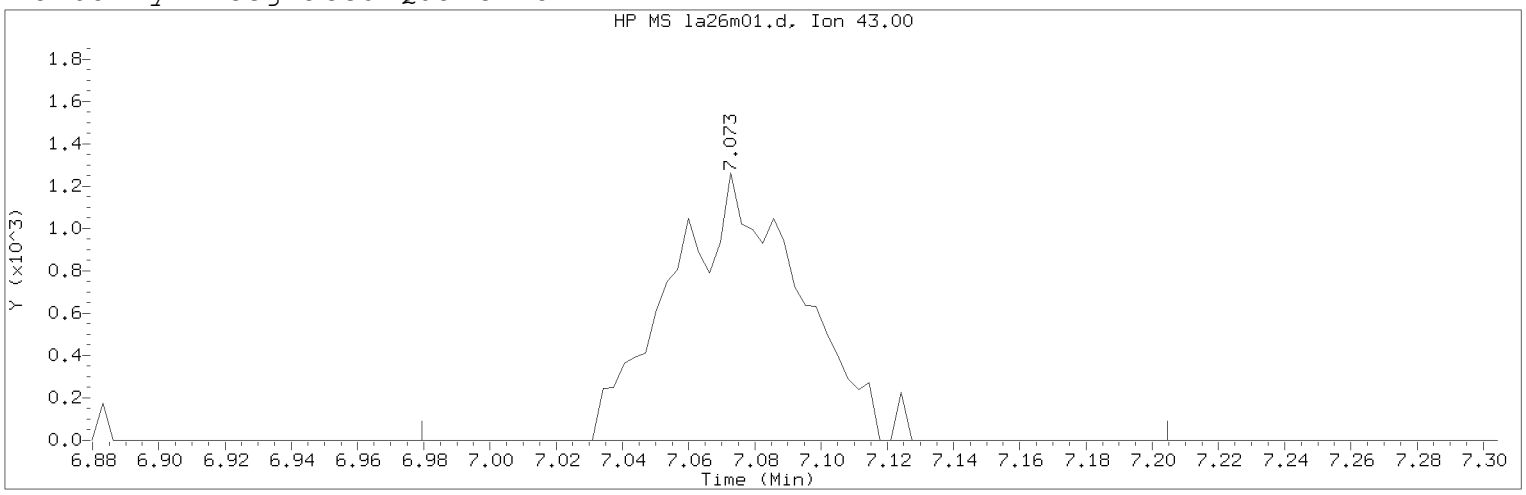
Compound Number : 58
Compound Name : Isobutyl Alcohol
Scan Number : 1586
Retention Time (minutes): 6.581
Quant Ion : 41.00
Area : 1254
On-column Amount (ng) : 5.2771
Integration start scan : 1584 Integration stop scan: 1611
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key ID: 2539

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

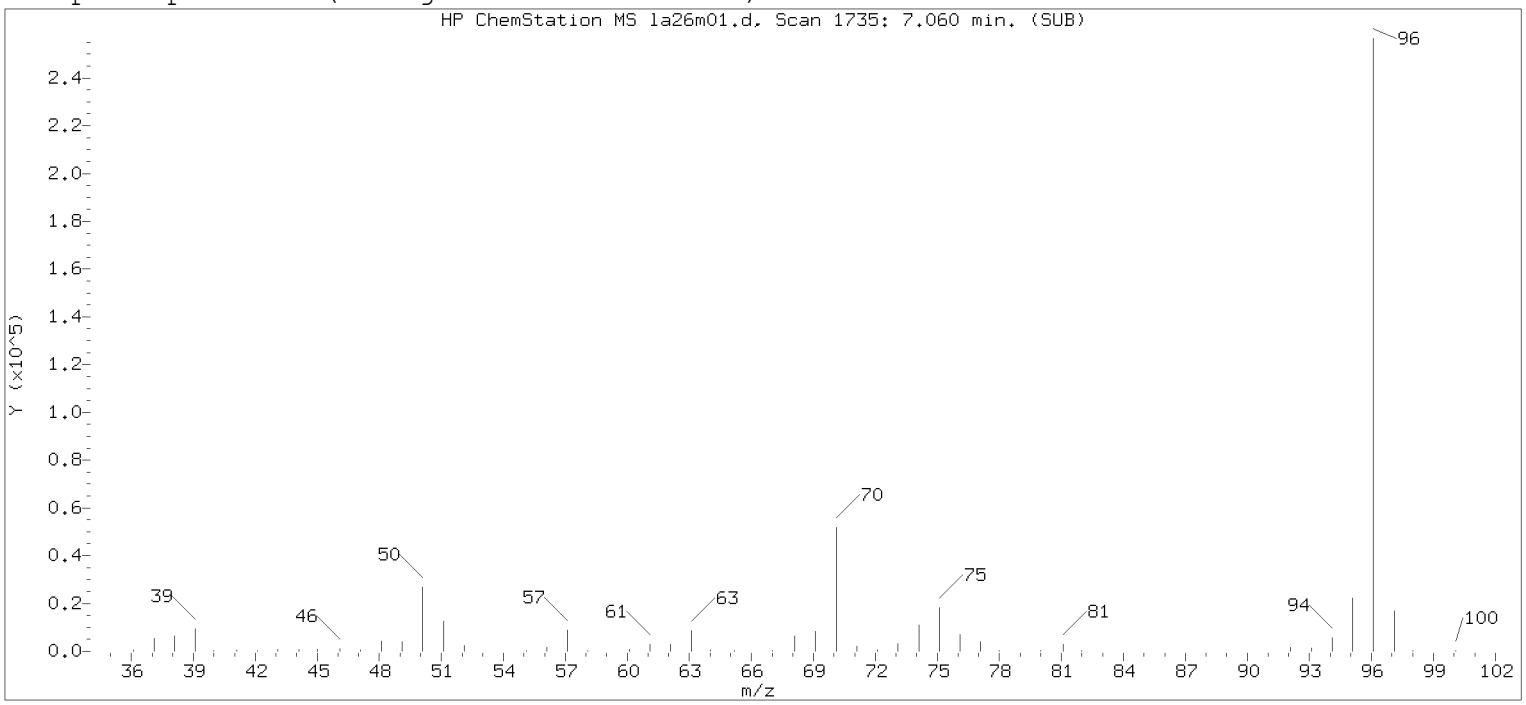
Compound Number : 67
Compound Name : n-Heptane
Scan Number : 1739
Retention Time (minutes): 7.073
Quant Ion : 43.00
Area (flag) : 3401M
On-Column Amount (ng) : 0.4512
Integration start scan : 1709 Integration stop scan: 1779
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

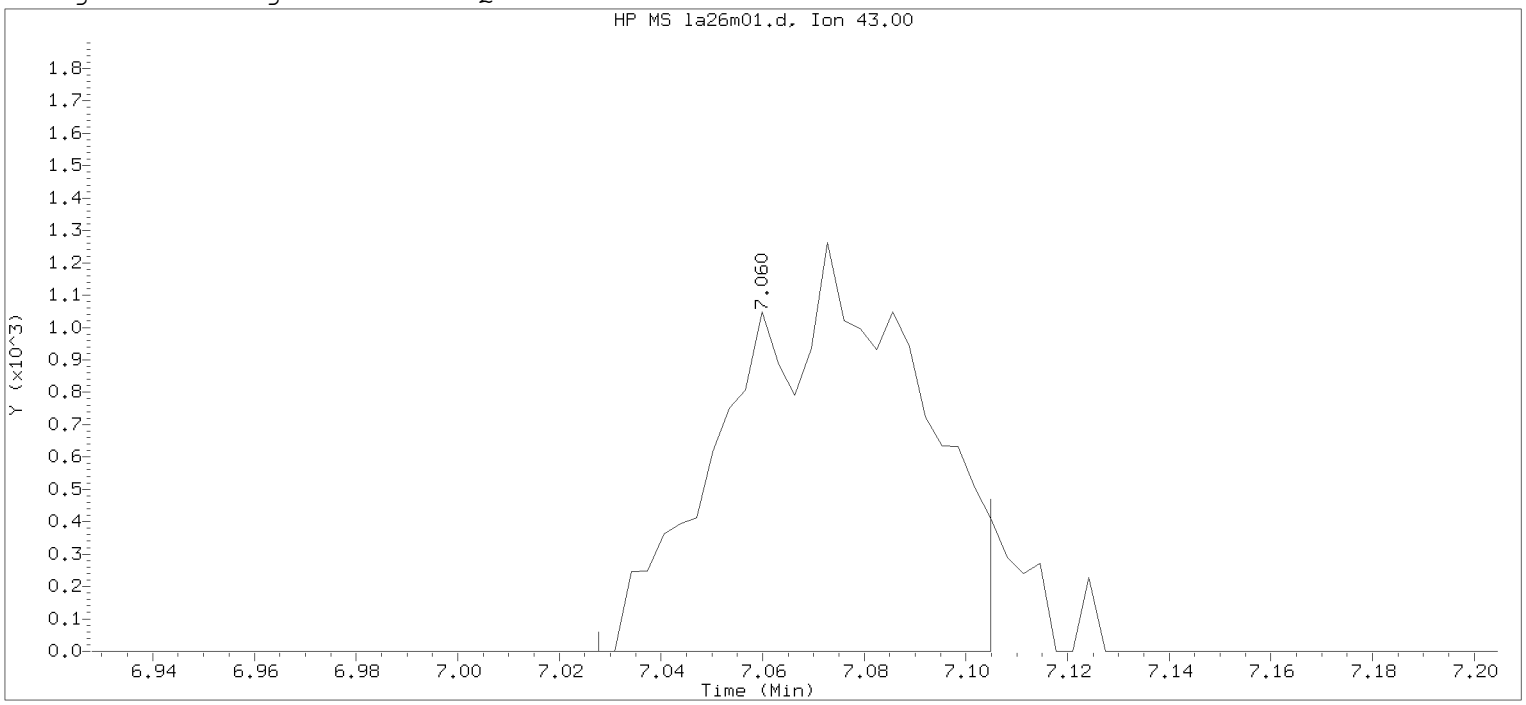
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

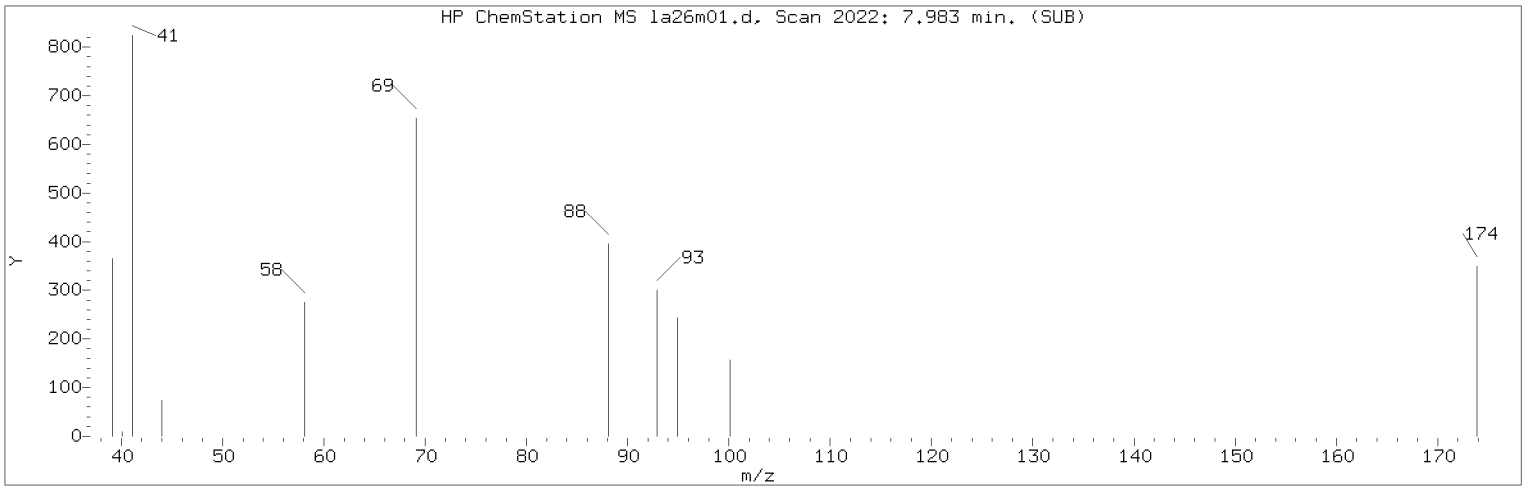
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

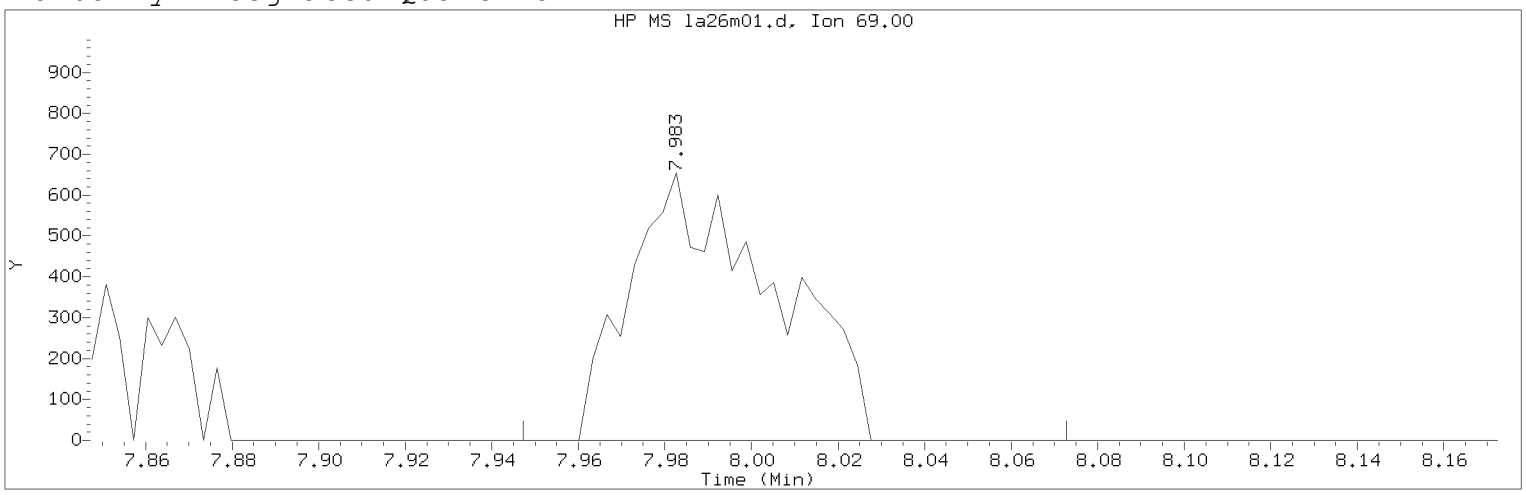
Compound Number	: 67		
Compound Name	: n-Heptane		
Scan Number	: 1735		
Retention Time (minutes)	: 7.060		
Quant Ion	: 43.00		
Area	: 3163		
On-column Amount (ng)	: 0.4196		
Integration start scan	: 1724	Integration stop scan:	1748
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2543

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

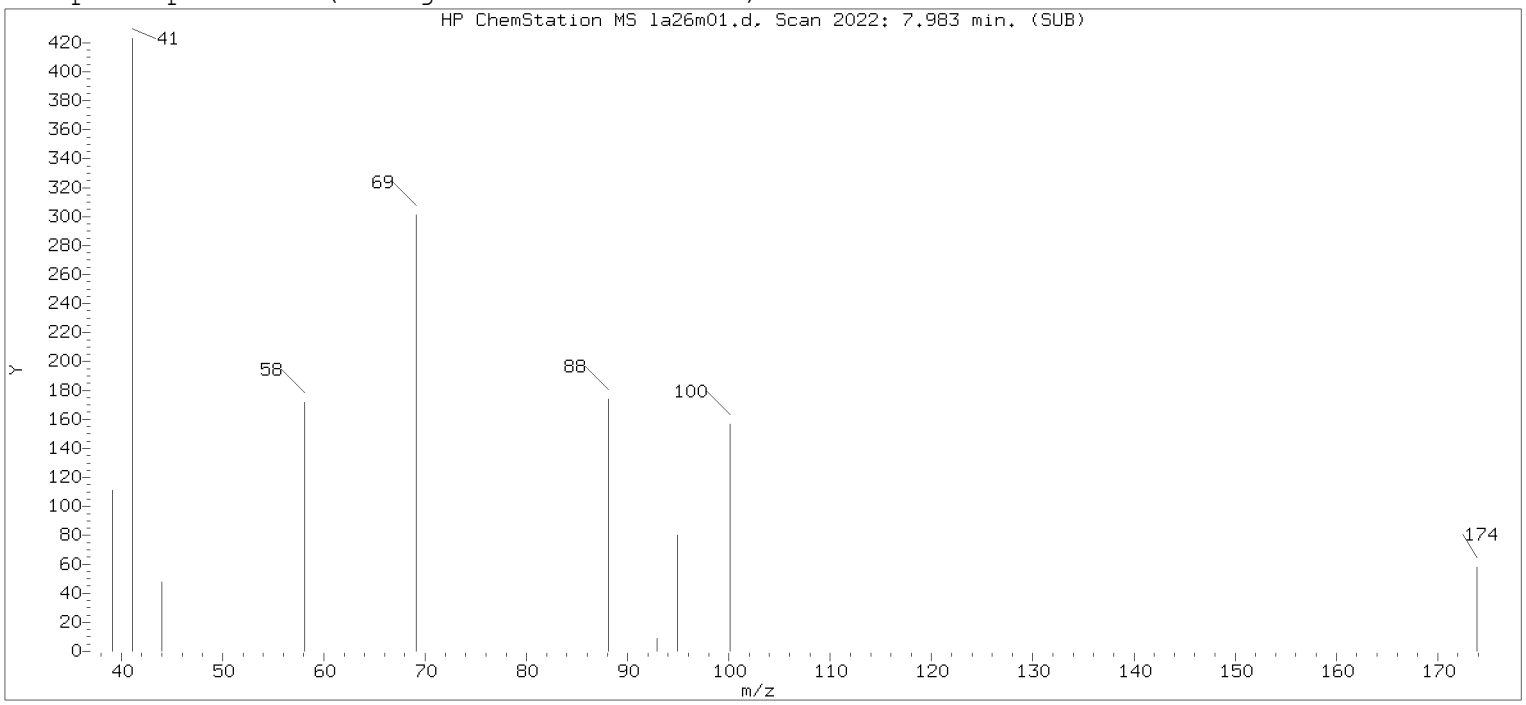
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2022
Retention Time (minutes): 7.983
Quant Ion : 69.00
Area (flag) : 1518M
On-Column Amount (ng) : 0.3435
Integration start scan : 2010 Integration stop scan: 2049
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

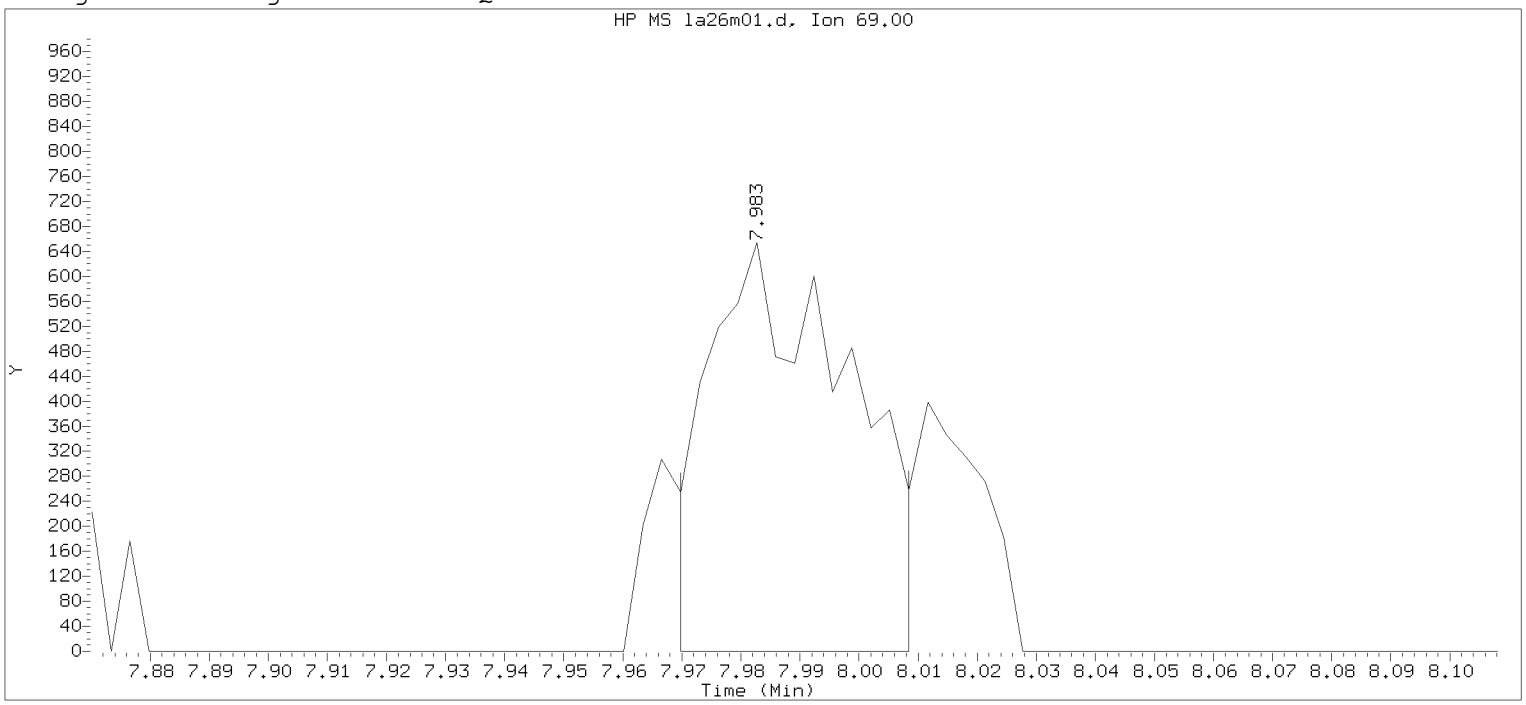
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

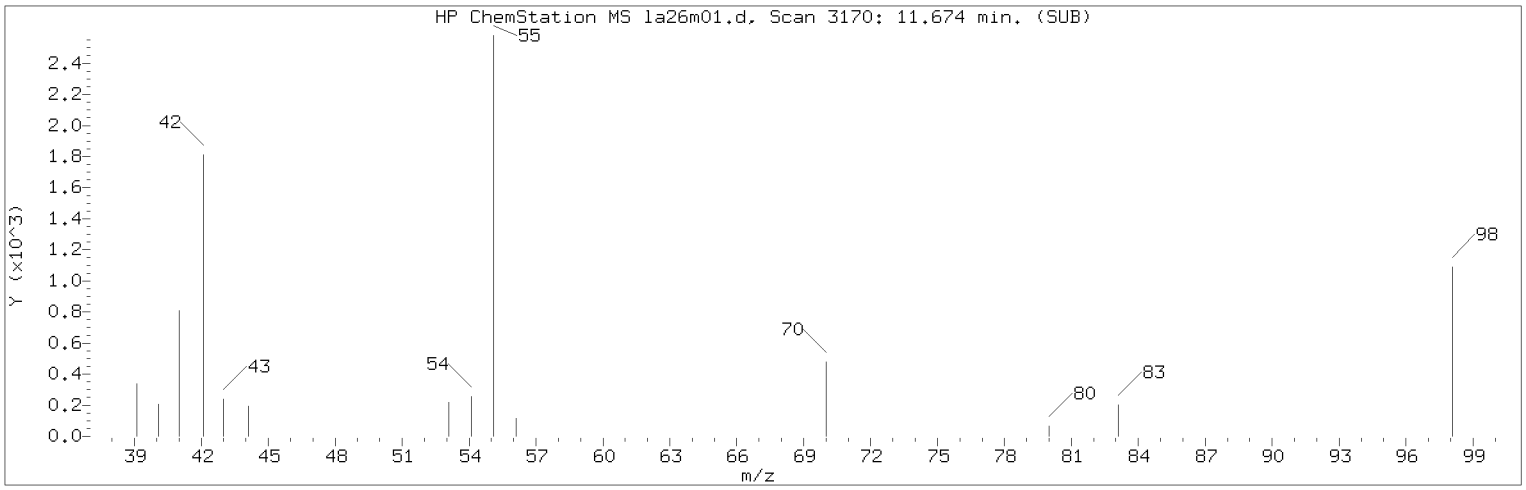
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

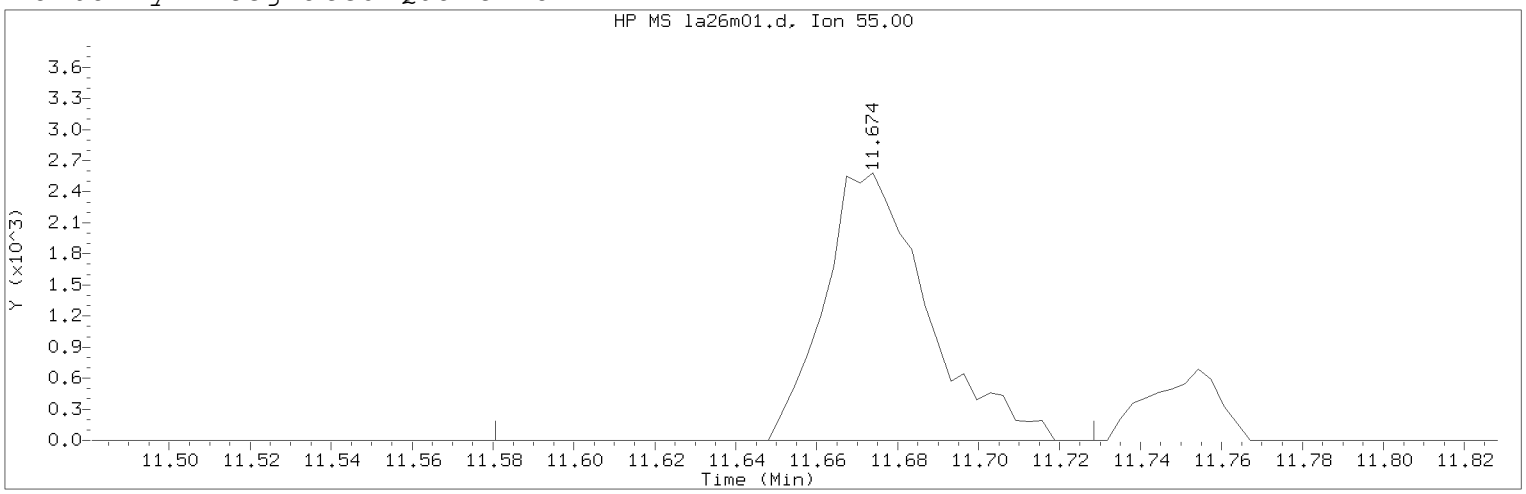
Compound Number	: 76		
Compound Name	: Methyl Methacrylate		
Scan Number	: 2022		
Retention Time (minutes)	: 7.983		
Quant Ion	: 69.00		
Area	: 1079		
On-column Amount (ng)	: 0.2442		
Integration start scan	: 2017	Integration stop scan:	2029
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2.0.3.0

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

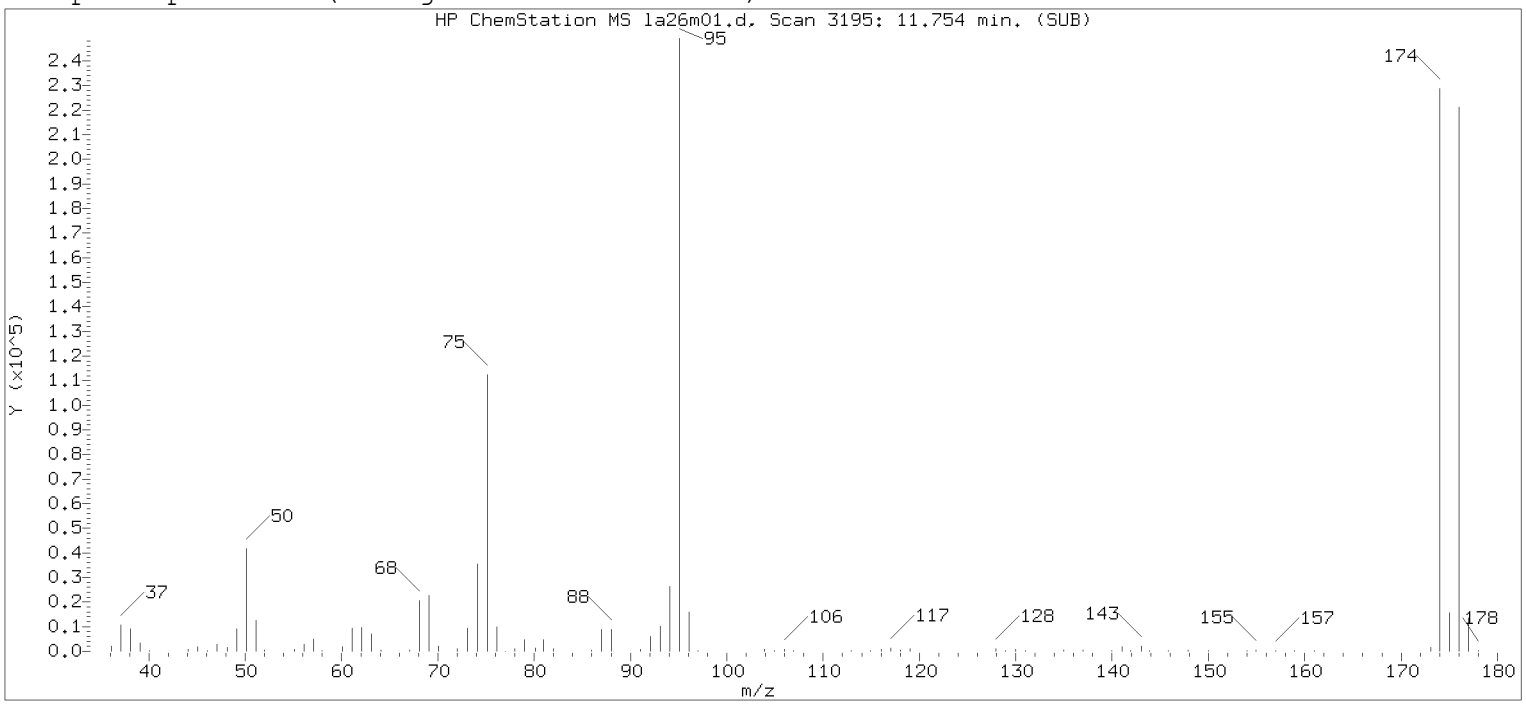
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 3170
Retention Time (minutes): 11.674
Quant Ion : 55.00
Area (flag) : 4553M
On-Column Amount (ng) : 20.1799
Integration start scan : 3140 Integration stop scan: 3186
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

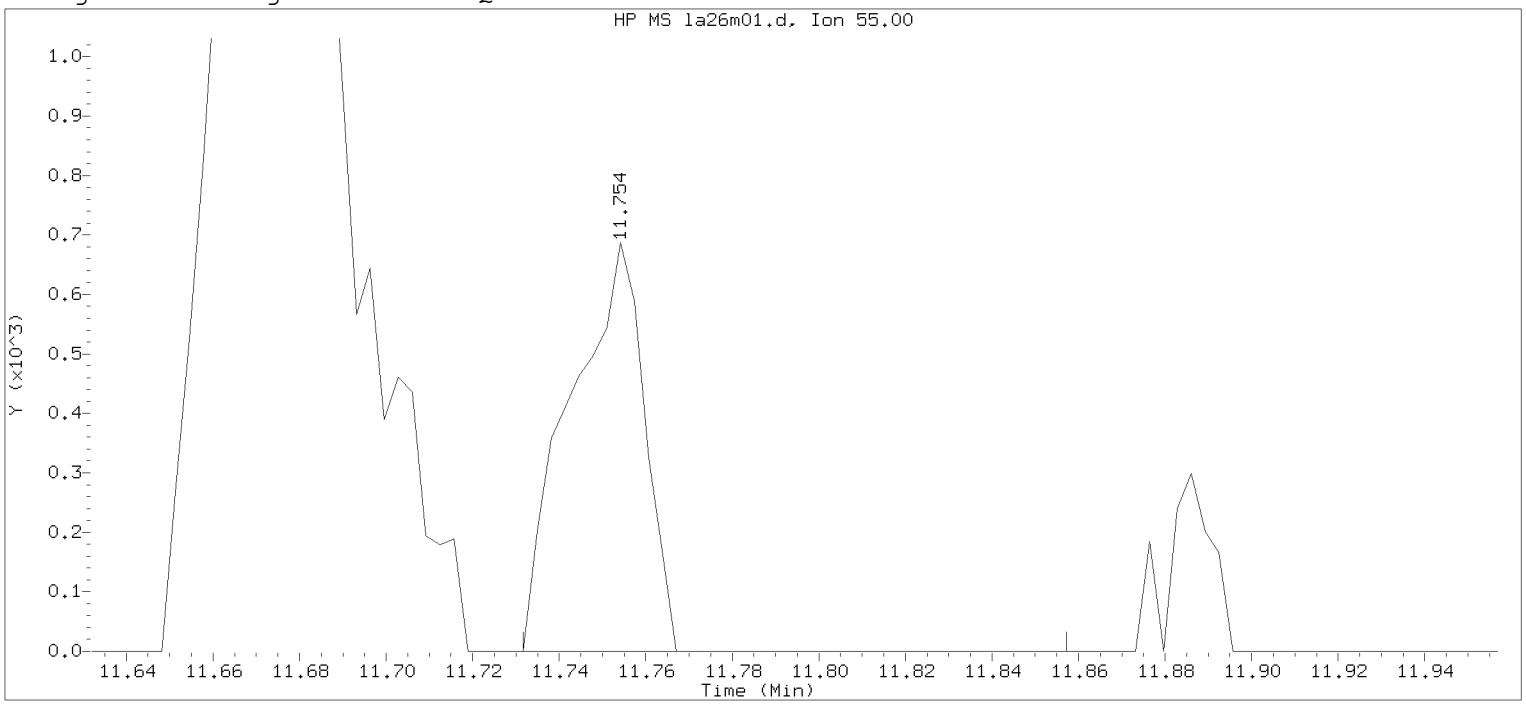
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

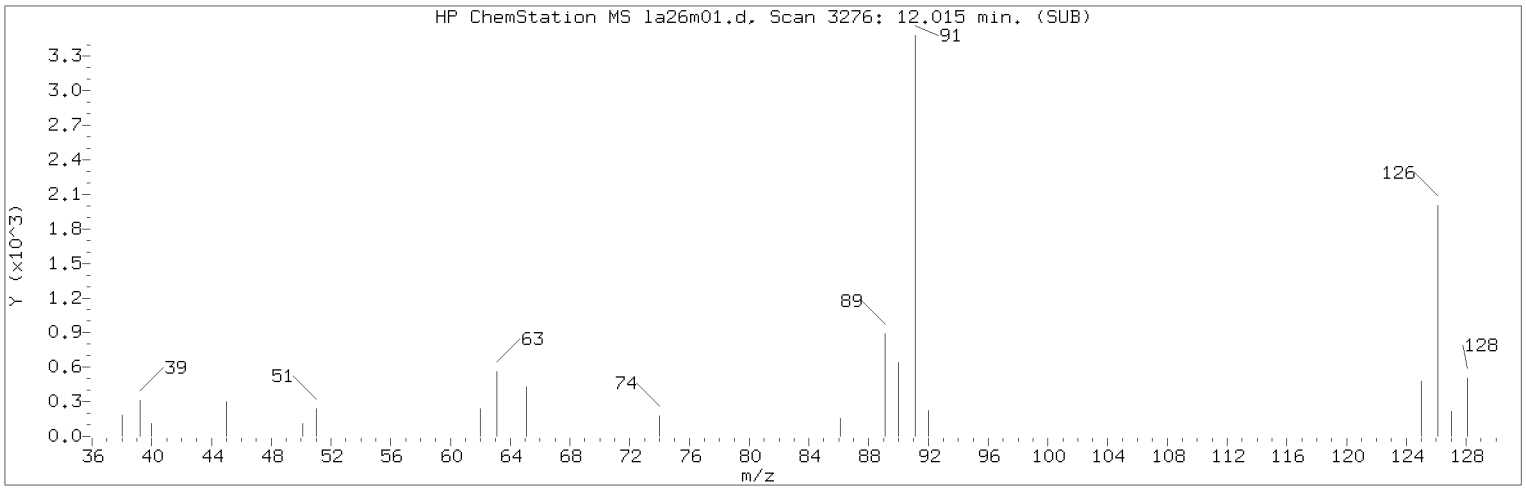
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

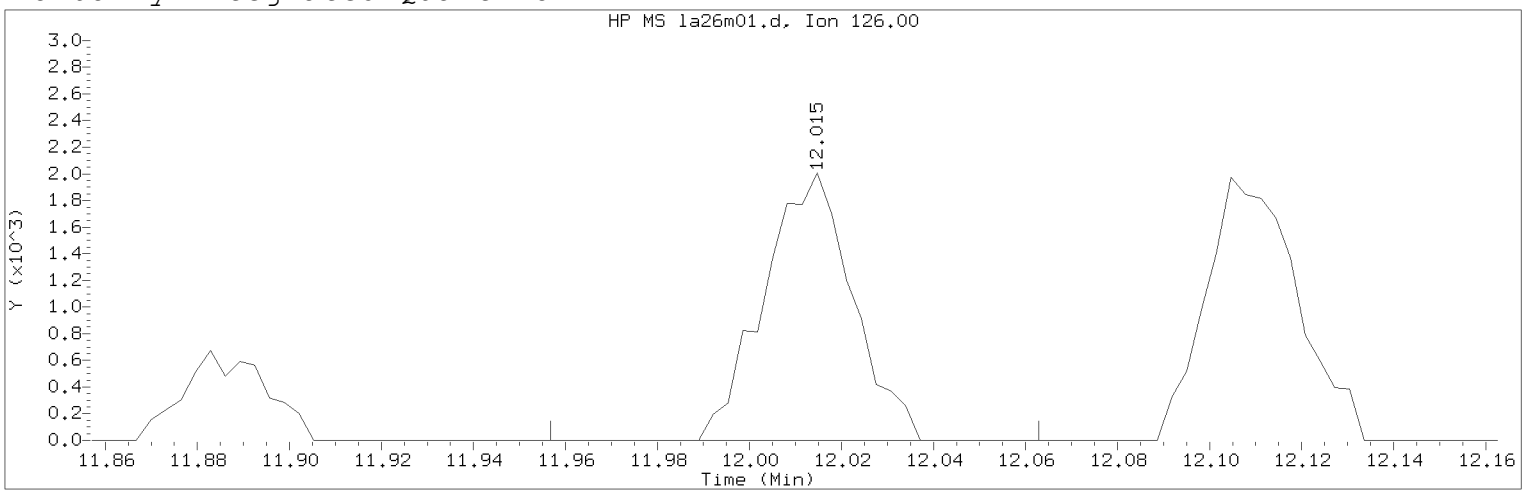
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 3195
Retention Time (minutes): 11.754
Quant Ion : 55.00
Area : 817
On-column Amount (ng) : 3.6224
Integration start scan : 3187 Integration stop scan: 3226
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key ID: 2545

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:22 kas02648

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

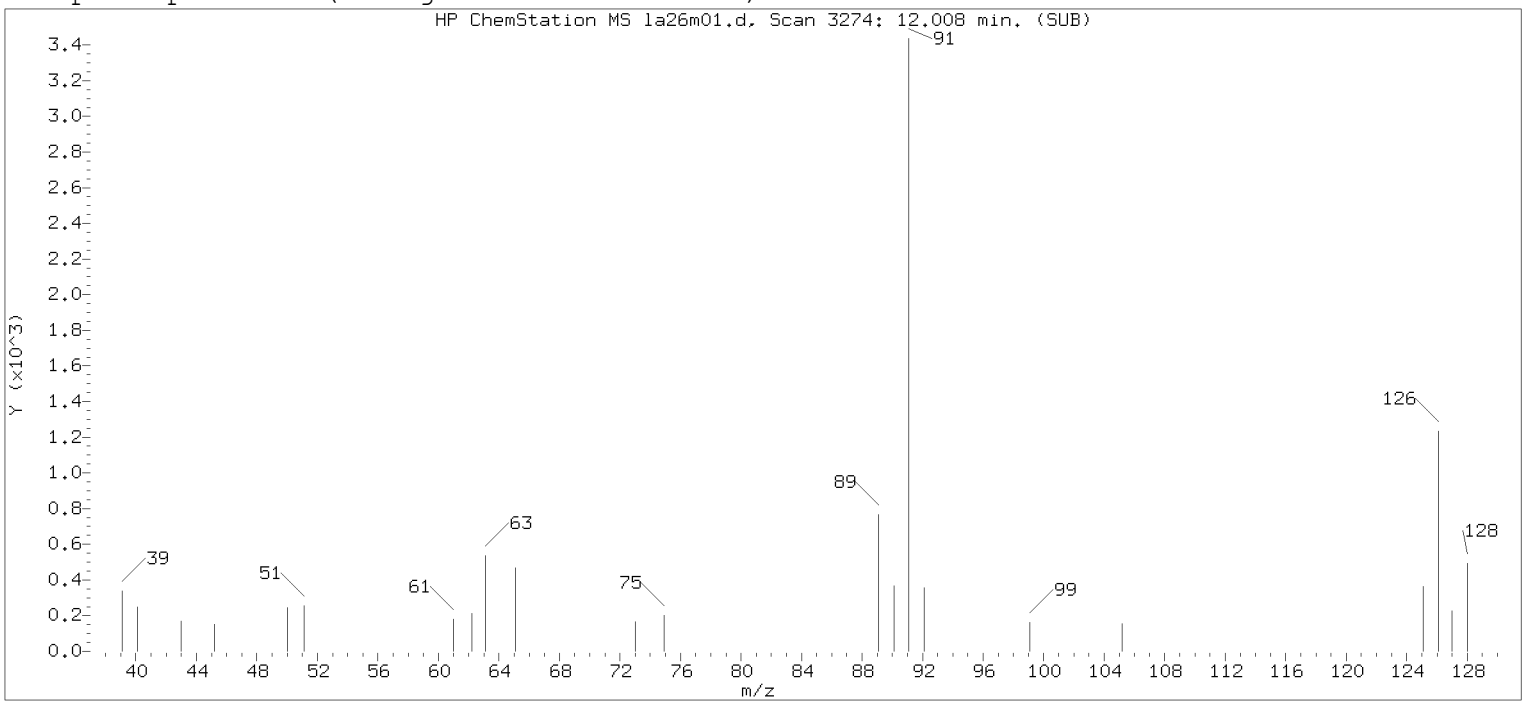
Compound Number : 120
Compound Name : 2-Chlorotoluene
Scan Number : 3276
Retention Time (minutes): 12.015
Quant Ion : 126.00
Area (flag) : 2680M
On-Column Amount (ng) : 0.4793
Integration start scan : 3257 Integration stop scan: 3290
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

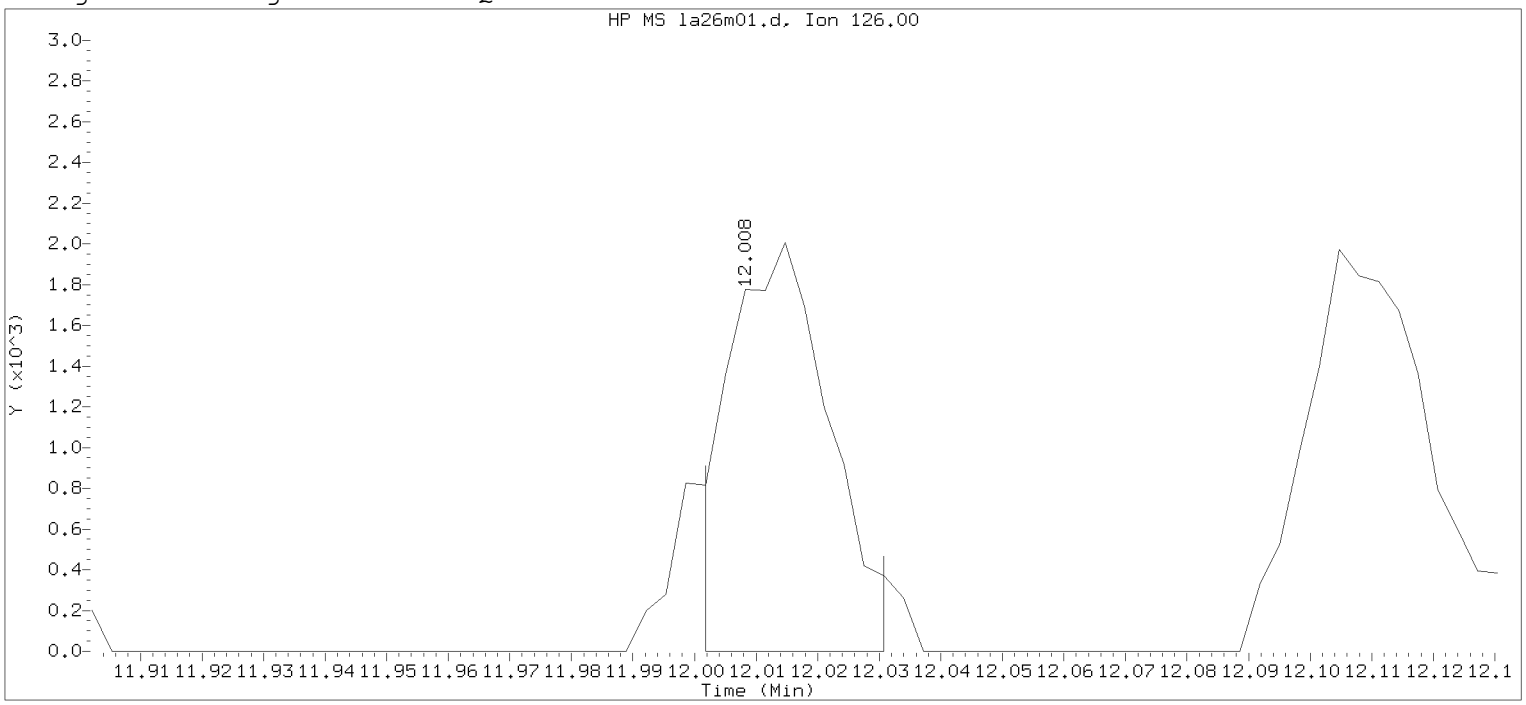
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 16:23.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



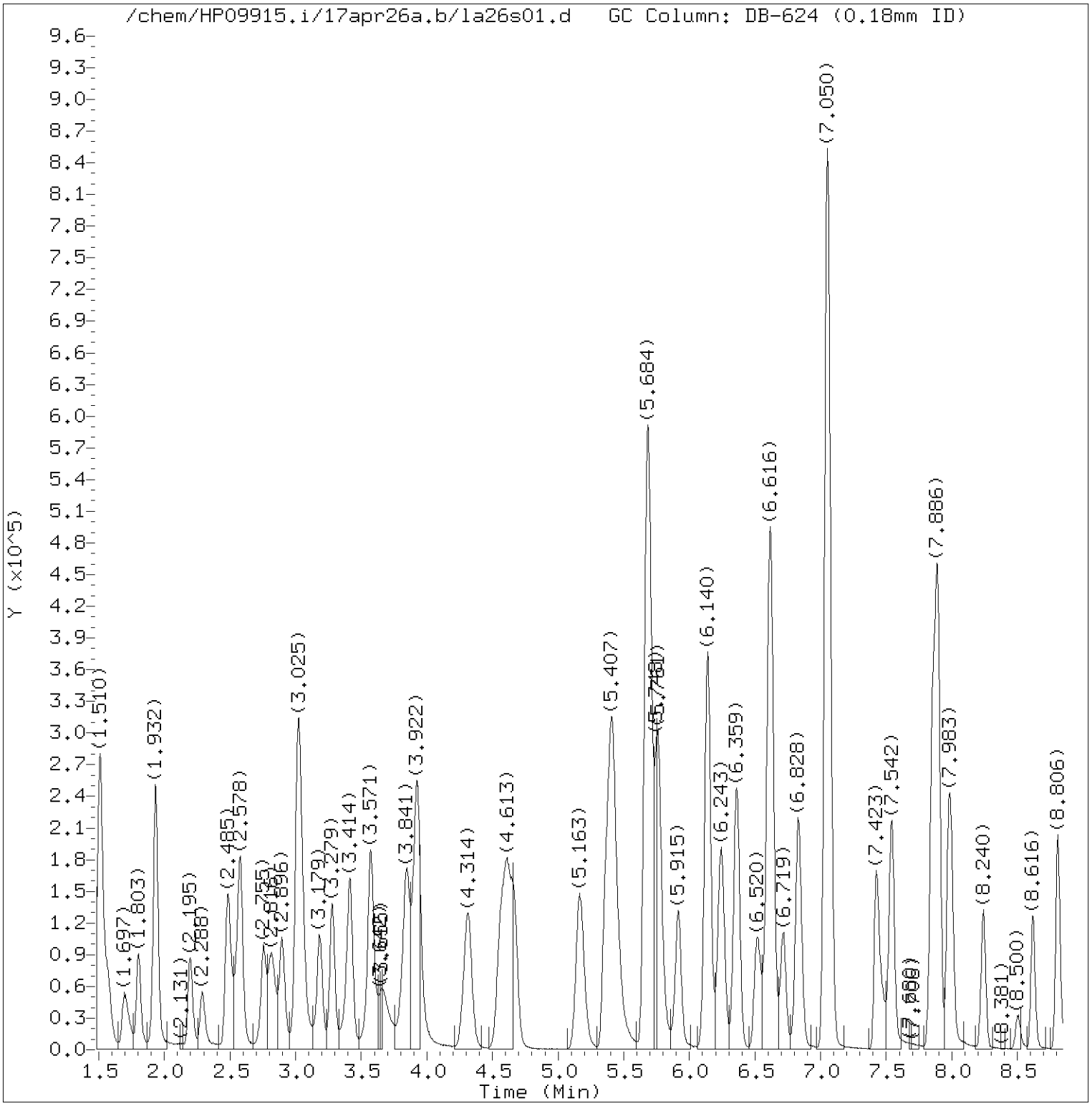
Data File: /chem/HP09915.i/17apr26a.b/la26m01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 15:54 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 16:03
Date, time and analyst ID of latest file update: 26-Apr-2017 16:12 Automation

Sample Name: MDL0.5 Lab Sample ID: MDL0.5

Compound Number : 120
Compound Name : 2-Chlorotoluene
Scan Number : 3274
Retention Time (minutes): 12.008
Quant Ion : 126.00
Area : 2264
On-column Amount (ng) : 0.4049
Integration start scan : 3271 Integration stop scan: 3280
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 16:23.
Target 3.5 esignature used. Key: 2.0.0.78



Total Ion Chromatogram (TIC)

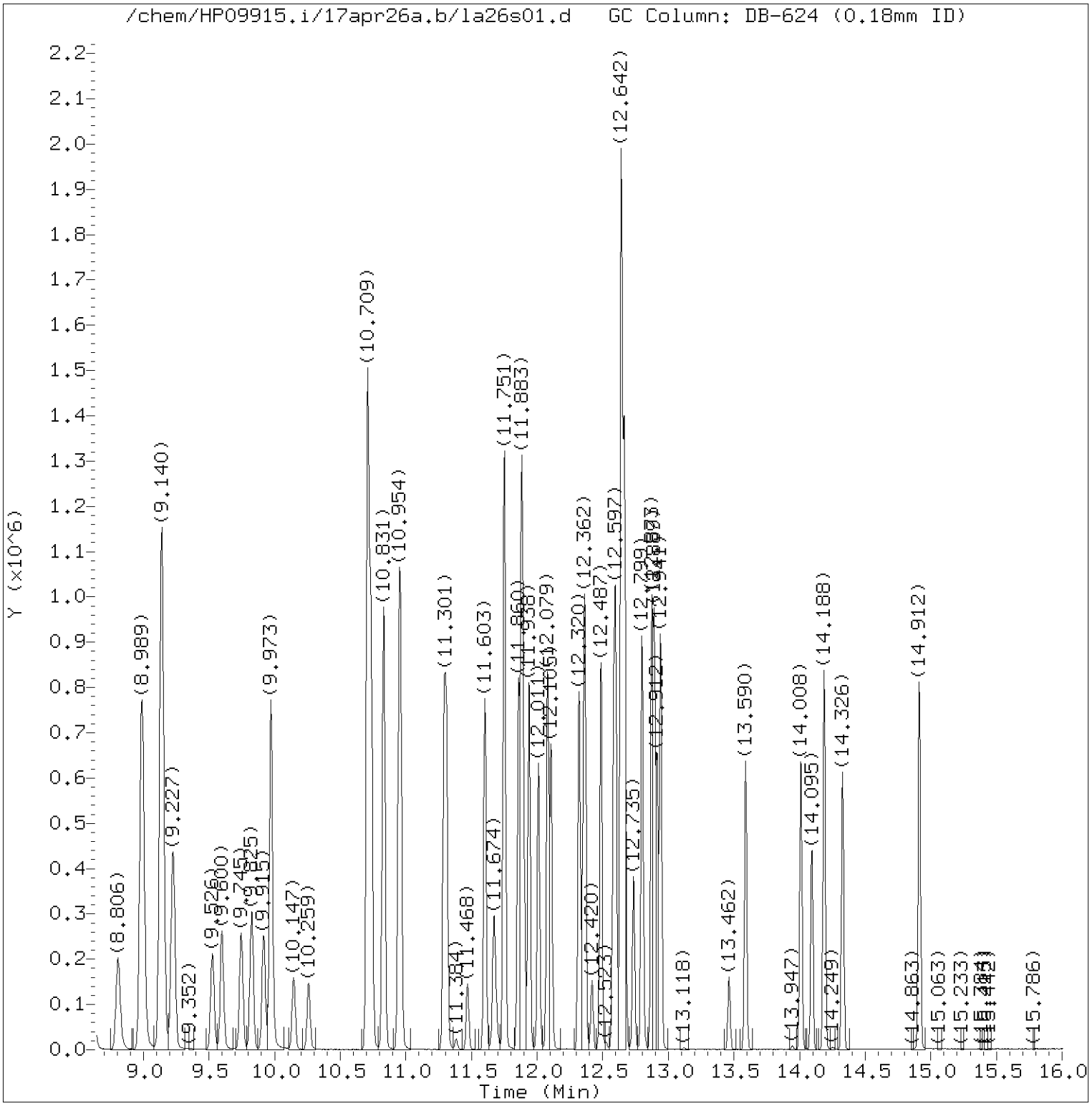
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.697	85	109499	17.491
4) Chloromethane	(2)	1.803	50	118648	18.449
6) Vinyl Chloride	(2)	1.919	62	116746	18.799
5) 1,3-Butadiene	(2)	1.938	39	117706	31.074
8) Bromomethane	(2)	2.195	94	78860	18.880
9) Chloroethane	(2)	2.288	64	65535	18.726
10) Dichlorofluoromethane	(2)	2.481	67	168800	19.774
12) Trichlorofluoromethane	(2)	2.546	101	141676	19.701
11) n-Pentane	(2)	2.581	43	155972	26.336
14) Ethyl ether	(2)	2.755	59	78549	19.620
15) Freon 123a	(2)	2.816	67	99077	20.687
16) Acrolein	(1)	2.899	56	152765	93.014
17) 1,1-Dichloroethene	(2)	3.012	96	85092	22.356
18) Acetone	(1)	3.031	58	98646M	138.386
19) Freon 113	(2)	3.034	101	87279	22.782
21) 2-Propanol	(1)	3.169	45	62534M	132.335
22) Methyl Iodide	(2)	3.179	142	158156	21.423
23) Carbon Disulfide	(2)	3.279	76	276153	22.295
27) Methyl Acetate	(2)	3.385	43	108608	19.660
25) Allyl Chloride	(2)	3.417	41	150132	19.692
28) Methylene Chloride	(2)	3.571	84	100067	19.902
29)*t-Butyl alcohol-d10	(1)	3.571	65	200632M	250.000
30) t-Butyl alcohol	(1)	3.671	59	144050	185.564
31) Acrylonitrile	(2)	3.848	53	276003	95.141
33) Methyl Tertiary Butyl Ether	(2)	3.912	73	275653	19.769
32) trans-1,2-Dichloroethene	(2)	3.925	96	96639	21.640
34) n-Hexane	(2)	4.314	57	148593	21.707
36) 1,1-Dichloroethane	(2)	4.558	63	173220	20.642
38) di-Isopropyl ether	(2)	4.607	45	326552	20.275
39) 2-Chloro-1,3-butadiene	(2)	4.661	53	142863	20.183
40) Ethyl t-butyl ether	(2)	5.163	59	267730	19.315
44) 2-Butanone	(2)	5.375	43	540273	139.091
42) cis-1,2-Dichloroethene	(2)	5.410	96	104661	20.453
45) 2,2-Dichloropropane	(2)	5.420	77	107714	19.225
47) Propionitrile	(1)	5.459	54	160735	141.868
48) Methacrylonitrile	(2)	5.684	67	427221	147.714
49) Bromochloromethane	(2)	5.761	128	52961	19.637
50) Tetrahydrofuran	(1)	5.767	71	93578	93.510

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
51) Chloroform	(2)	5.918	83	160721	20.094
52)$Dibromofluoromethane	(2)	6.140	113	254549	49.603
53) 1,1,1-Trichloroethane	(2)	6.140	97	142170	19.451
43) 1,2-Dichloroethene (Total)	(2)		96	201300	42.093
54) Cyclohexane	(2)	6.243	56	166429	19.998
56) Carbon Tetrachloride	(2)	6.359	117	104390	19.566
55) 1,1-Dichloropropene	(2)	6.362	75	125804	19.338
58) Isobutyl Alcohol	(1)	6.520	41	129876	476.515
57)$1,2-Dichloroethane-d4	(2)	6.607	102	63935	50.103
60) Benzene	(2)	6.629	78	387251	20.194
61) 1,2-Dichloroethane	(2)	6.719	62	131704	20.301
65) t-Amyl methyl ether	(2)	6.828	73	263343	19.143
66)*Fluorobenzene	(2)	7.050	96	1050887	50.000
67) n-Heptane	(2)	7.070	43	153007	19.964
69) n-Butanol	(1)	7.423	56	206615	940.388
71) Trichloroethene	(2)	7.545	95	98914	19.959
72) Methylcyclohexane	(2)	7.854	83	175190	20.063
73) 1,2-Dichloropropane	(2)	7.883	63	106099	20.211
76) Methyl Methacrylate	(2)	7.973	69	87598	19.494
75) 1,4-Dioxane	(1)	7.976	88	37891M	552.412
74) Dibromomethane	(2)	7.999	93	66490	20.140
78) Bromodichloromethane	(2)	8.240	83	115395	19.368
79) 2-Nitropropane	(2)	8.500	41	27997	16.571
80) 2-Chloroethyl Vinyl Ether	(2)	8.616	63	75861	18.799
81) cis-1,3-Dichloropropene	(2)	8.806	75	151800	19.548
82) 4-Methyl-2-pentanone	(2)	8.989	43	756555	94.518
83)$Toluene-d8	(3)	9.140	98	1039935	50.132
88) Toluene	(3)	9.227	92	242182	20.090
89) trans-1,3-Dichloropropene	(3)	9.526	75	134989	19.971
91) Ethyl Methacrylate	(3)	9.600	69	154350	20.273
92) 1,1,2-Trichloroethane	(3)	9.745	97	94409	20.324
93) Tetrachloroethene	(3)	9.825	166	104916	19.678
94) 1,3-Dichloropropane	(3)	9.918	76	161543	20.042
96) 2-Hexanone	(3)	9.973	43	551770	94.825
90) 1,3-Dichloropropene (total)	(3)		100	286789	39.519
97) Dibromochloromethane	(3)	10.143	129	90734	18.858
99) 1,2-Dibromoethane	(3)	10.259	107	104756	20.600
100)*Chlorobenzene-d5	(3)	10.709	117	812425	50.000

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
101) 1-Chlorohexane	(3)	10.732	91	130363	18.831
102) Chlorobenzene	(3)	10.738	112	273397	19.655
103) 1,1,1,2-Tetrachloroethane	(3)	10.828	131	87717	19.096
104) Ethylbenzene	(3)	10.835	91	458197	19.705
106) m+p-Xylene	(3)	10.957	106	357105	39.448
107) o-Xylene	(3)	11.291	106	175615	19.507
109) Styrene	(3)	11.311	104	302990	20.359
110) Bromoform	(3)	11.471	173	63277	18.112
111) Isopropylbenzene	(3)	11.603	105	461508	20.058
112) Cyclohexanone	(1)	11.674	55	135081	522.068
114)$4-Bromofluorobenzene	(3)	11.751	95	384984	49.931
108) Xylene (Total)	(3)		106	532720	58.955
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	156503	20.076
115) Bromobenzene	(4)	11.860	156	122720	19.548
118) trans-1,4-Dichloro-2-butene	(4)	11.883	53	216768	97.039
117) 1,2,3-Trichloropropane	(4)	11.902	110	45126	20.478
119) n-Propylbenzene	(4)	11.938	91	543948	19.609
120) 2-Chlorotoluene	(4)	12.008	126	111198	19.261
122) 1,3,5-Trimethylbenzene	(4)	12.079	105	386164	19.522
121) 4-Chlorotoluene	(4)	12.105	126	117549	19.563
124) tert-Butylbenzene	(4)	12.320	134	84253M	19.704
125) Pentachloroethane	(4)	12.352	167	64493	19.104
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	398317	19.549
127) sec-Butylbenzene	(4)	12.487	105	498192	19.744
129) 1,3-Dichlorobenzene	(4)	12.584	146	227433	19.029
130) p-Isopropyltoluene	(4)	12.600	119	435084	19.529
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	439191	50.000
133) 1,4-Dichlorobenzene	(4)	12.661	146	238412	19.291
134) 1,2,3-Trimethylbenzene	(4)	12.667	105	427280	20.015
135) Benzyl Chloride	(4)	12.735	91	222904	17.243
136) 1,3-Diethylbenzene	(4)	12.799	119	260216	19.550
137) 1,4-Diethylbenzene	(4)	12.873	119	270880	19.379
139) n-Butylbenzene	(4)	12.892	92	213925	19.222
138) 1,2-Dichlorobenzene	(4)	12.915	146	227861	19.395
140) 1,2-Diethylbenzene	(4)	12.941	119	220414	19.677
141) Diethylbenzene (total)	(4)		100	751510	58.606
142) 1,2-Dibromo-3-chloropropane	(4)	13.462	75	31087	18.857
144) 1,3,5-Trichlorobenzene	(4)	13.590	180	178208	18.709

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

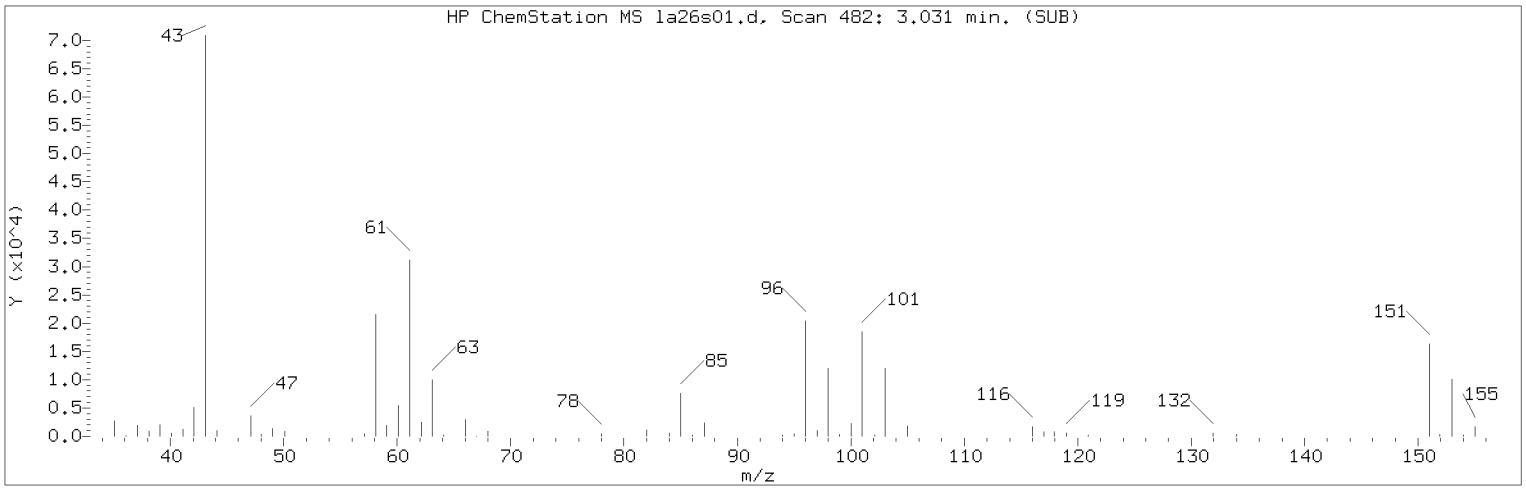
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

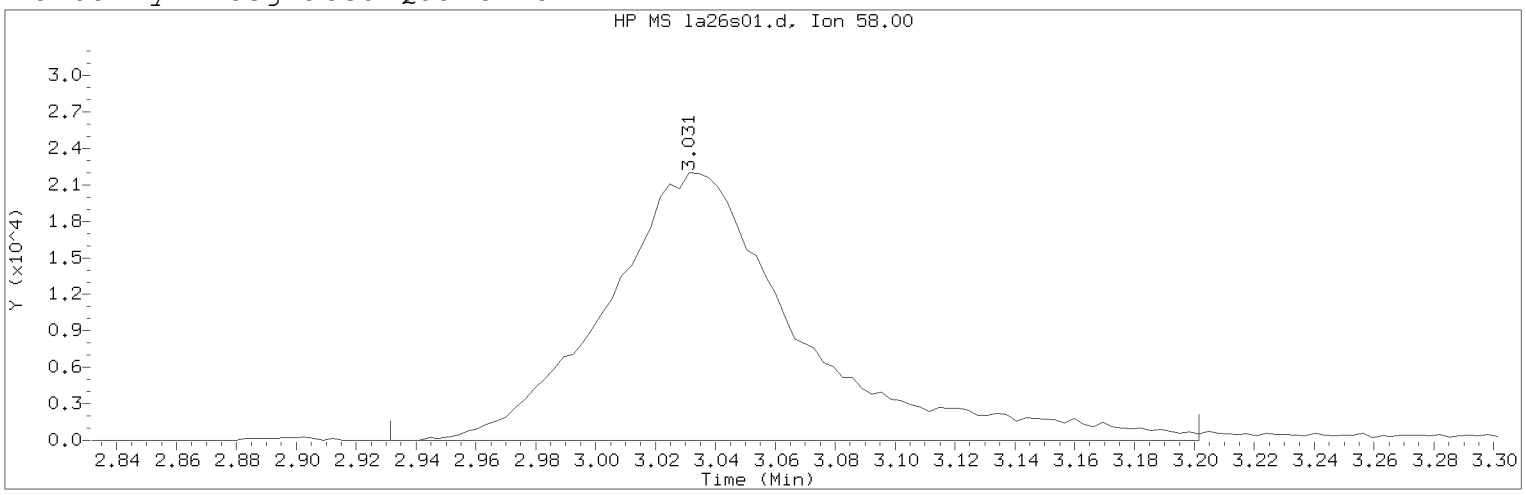
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
146) 1,2,4-Trichlorobenzene	(4)	14.011	180	172270	18.644
147) Hexachlorobutadiene	(4)	14.095	225	69967	17.436
148) Naphthalene	(4)	14.188	128	548363	19.667
149) 1,2,3-Trichlorobenzene	(4)	14.330	180	162660	18.248
150) 2-Methylnaphthalene	(4)	14.912	142	326087	18.087

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

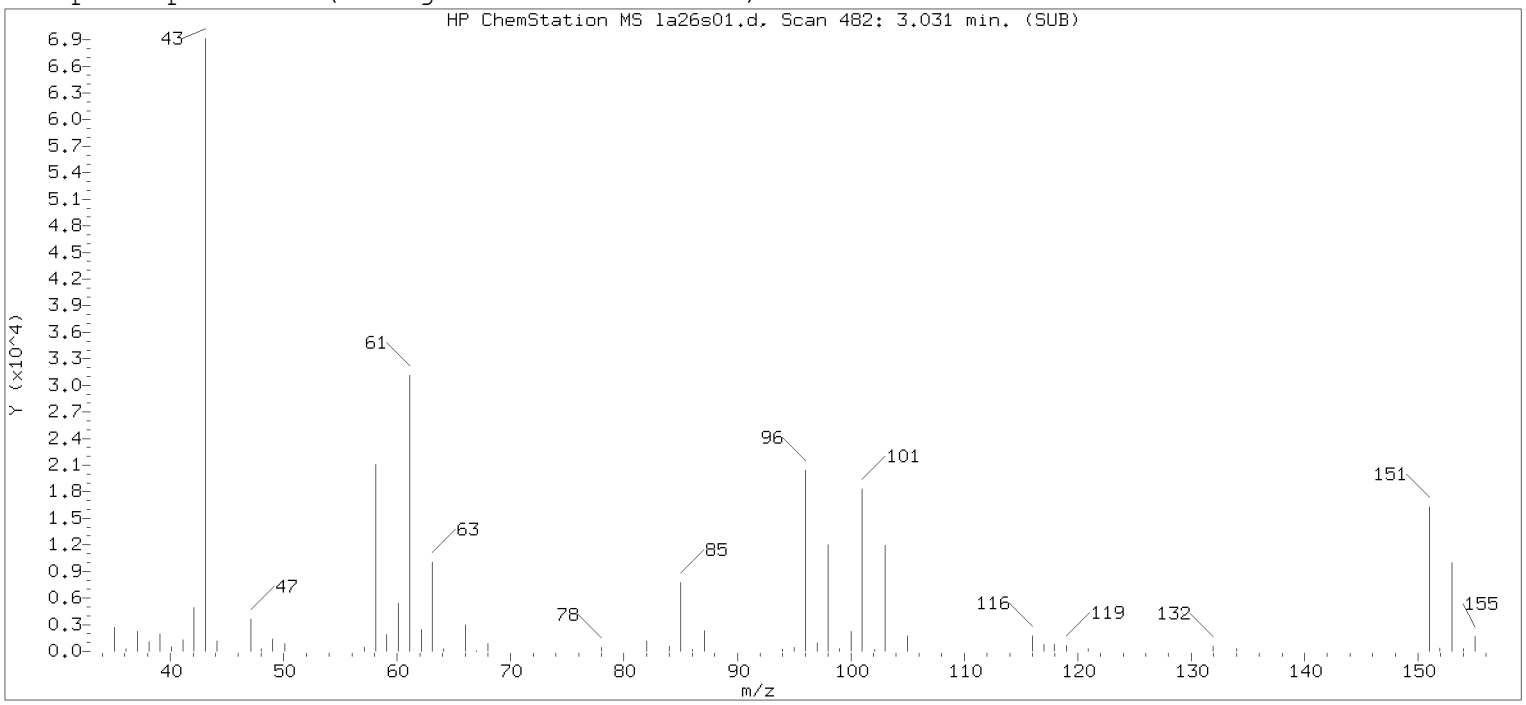
Compound Number : 18
Compound Name : Acetone
Scan Number : 482
Retention Time (minutes): 3.031
Quant Ion : 58.00
Area (flag) : 98646M
On-Column Amount (ng) : 138.3860
Integration start scan : 450 Integration stop scan: 534
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

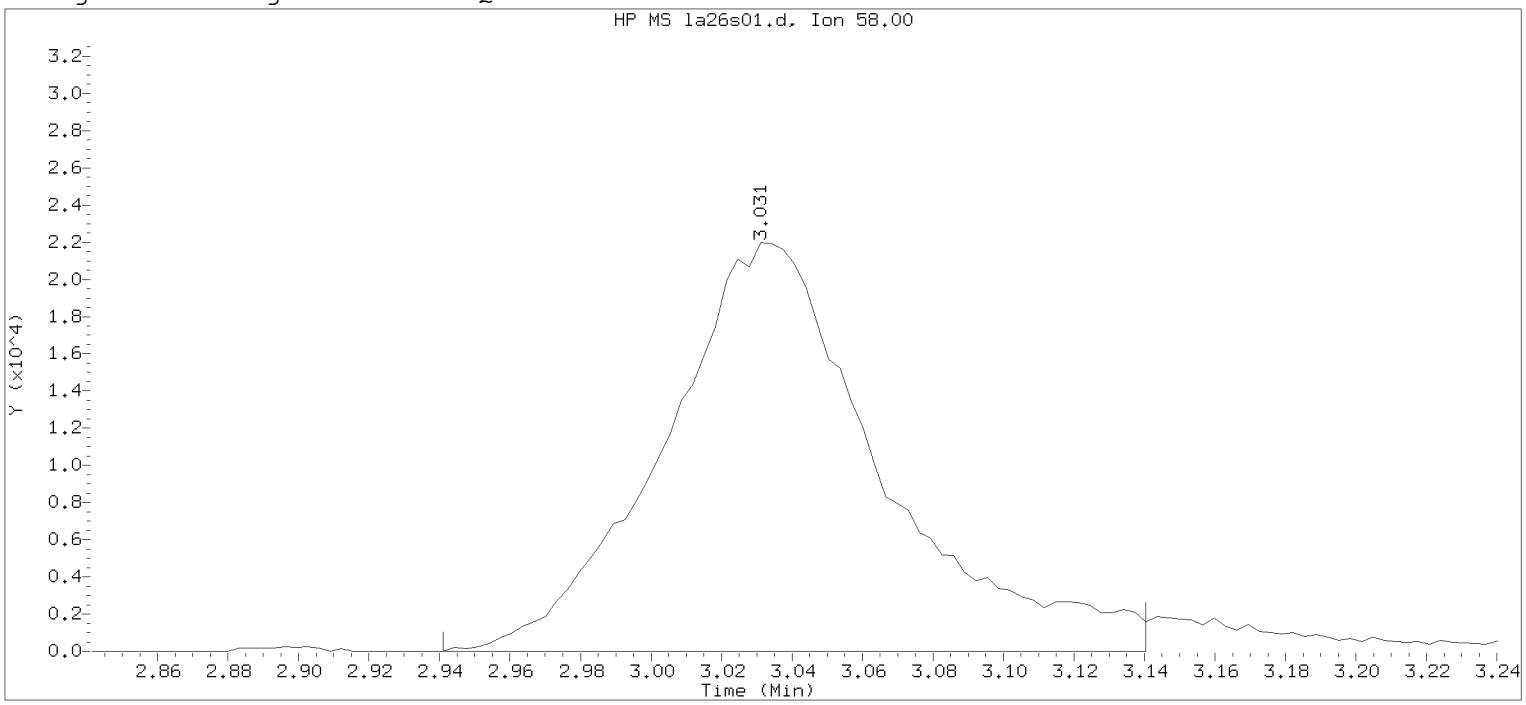
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

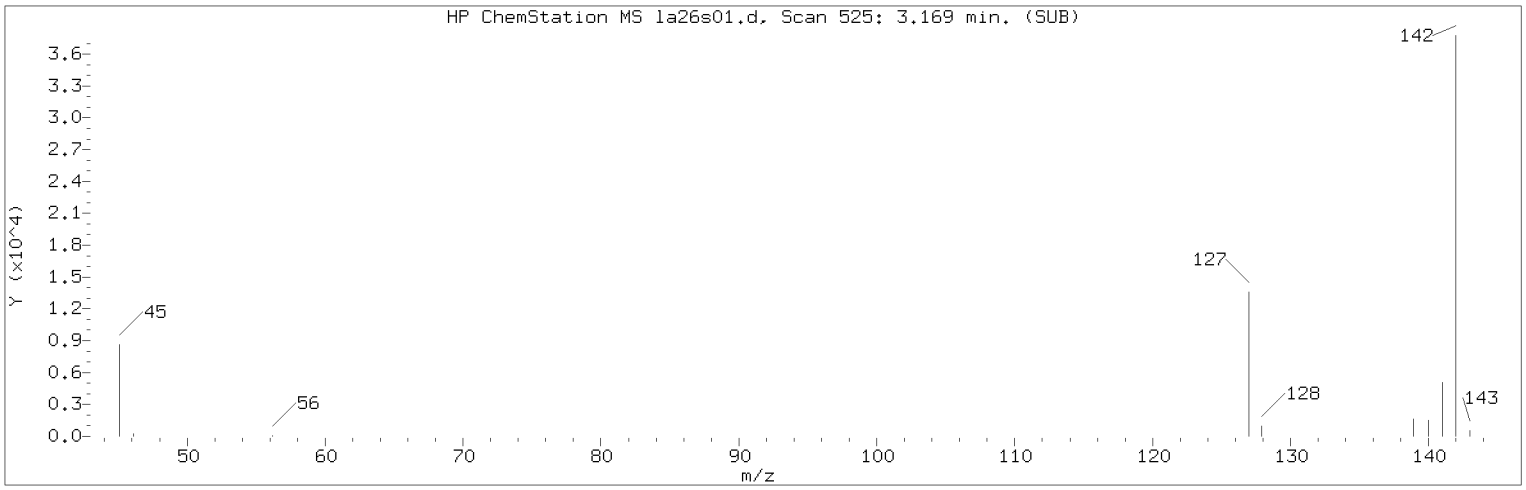
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 17:43 Automation

Sample Name: LCSL46 Lab Sample ID: LCSL46

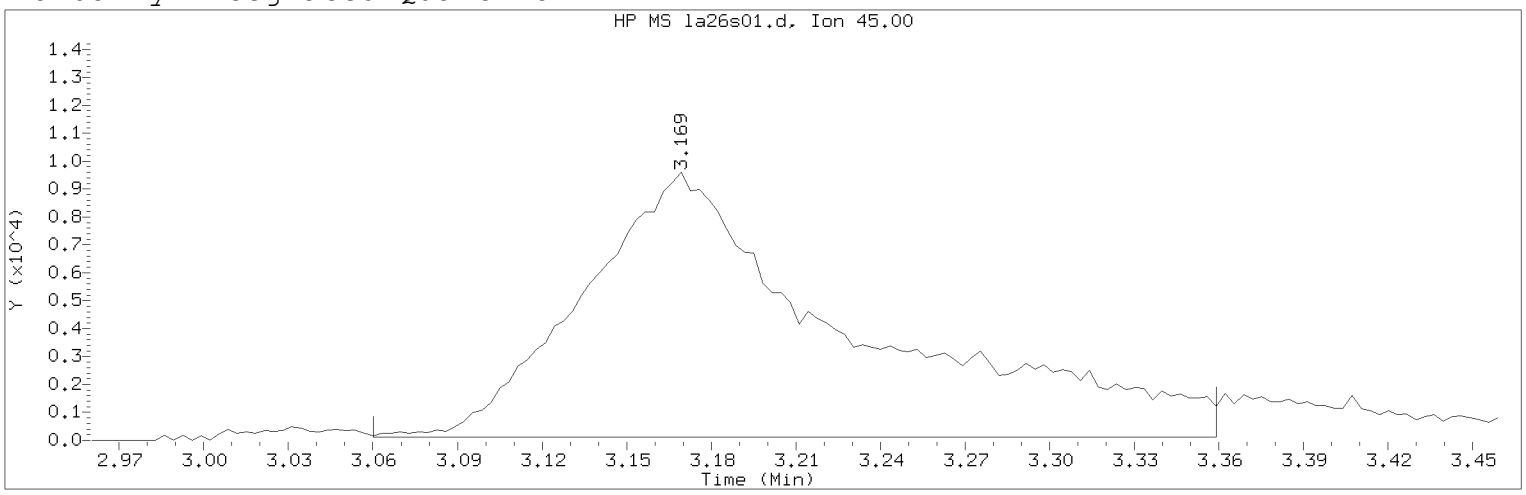
Compound Number : 18
Compound Name : Acetone
Scan Number : 482
Retention Time (minutes): 3.031
Quant Ion : 58.00
Area : 94153
On-column Amount (ng) : 140.9555
Integration start scan : 453 Integration stop scan: 515
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 18:11.
Target 3.5 esignature used. Key: 2535

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

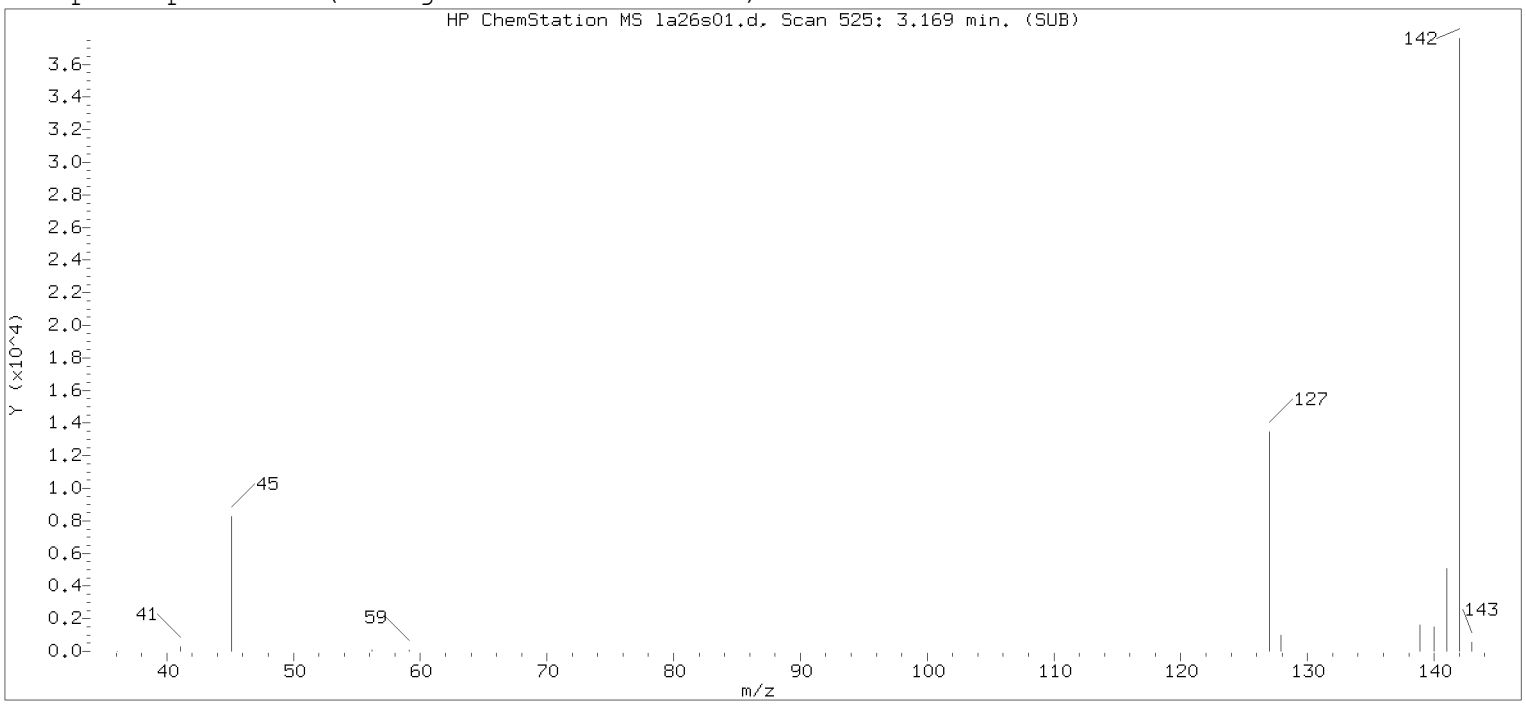
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 525
Retention Time (minutes): 3.169
Quant Ion : 45.00
Area (flag) : 62534M
On-Column Amount (ng) : 132.3351
Integration start scan : 490 Integration stop scan: 583
Y at integration start : 121 Y at integration end: 121

Reason for manual integration: improper integration

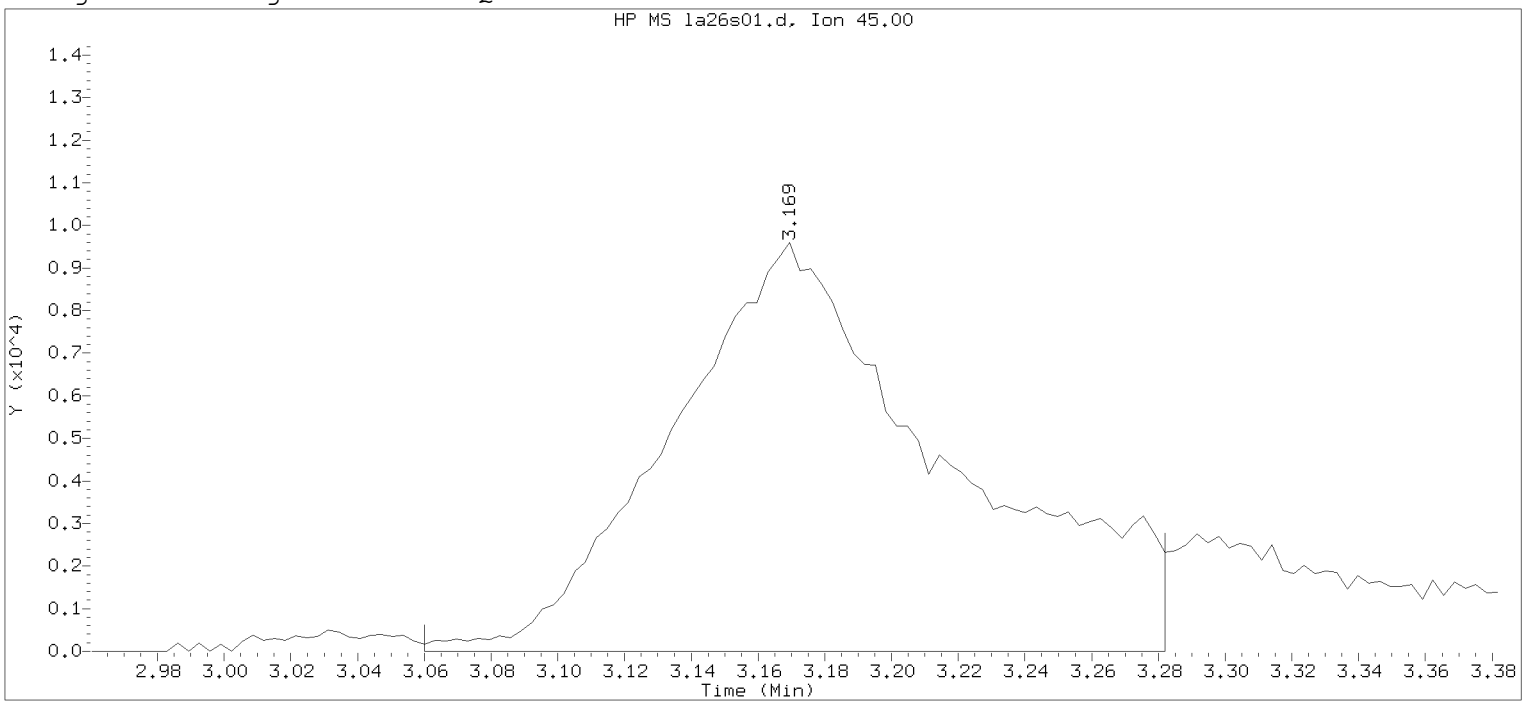
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

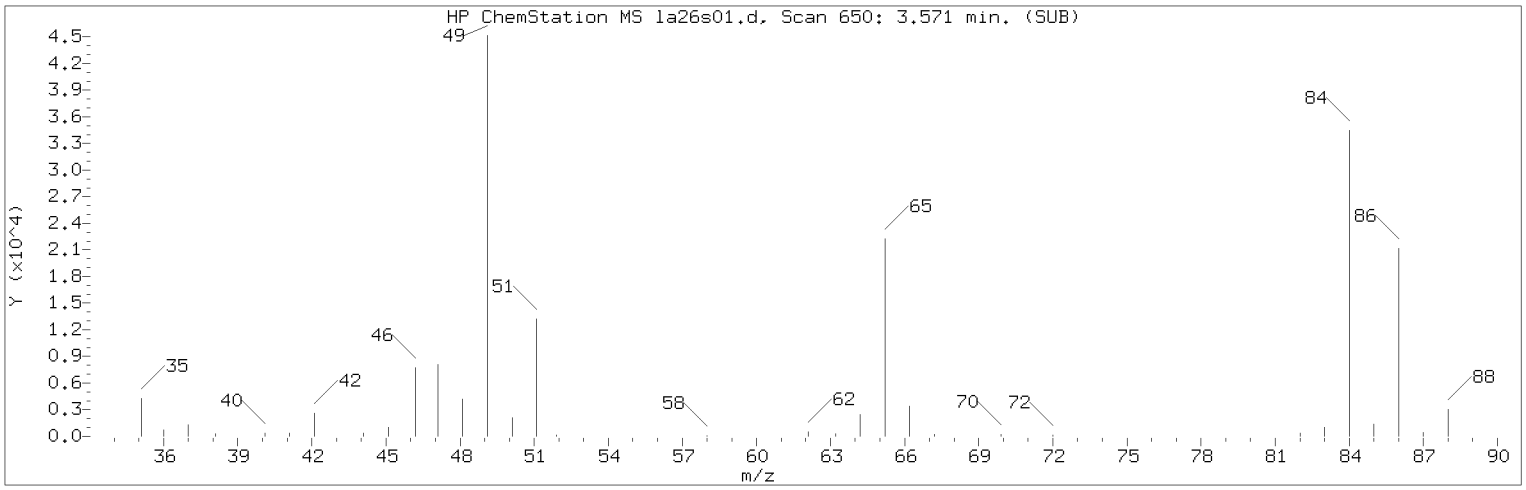
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 17:43 Automation

Sample Name: LCSL46 Lab Sample ID: LCSL46

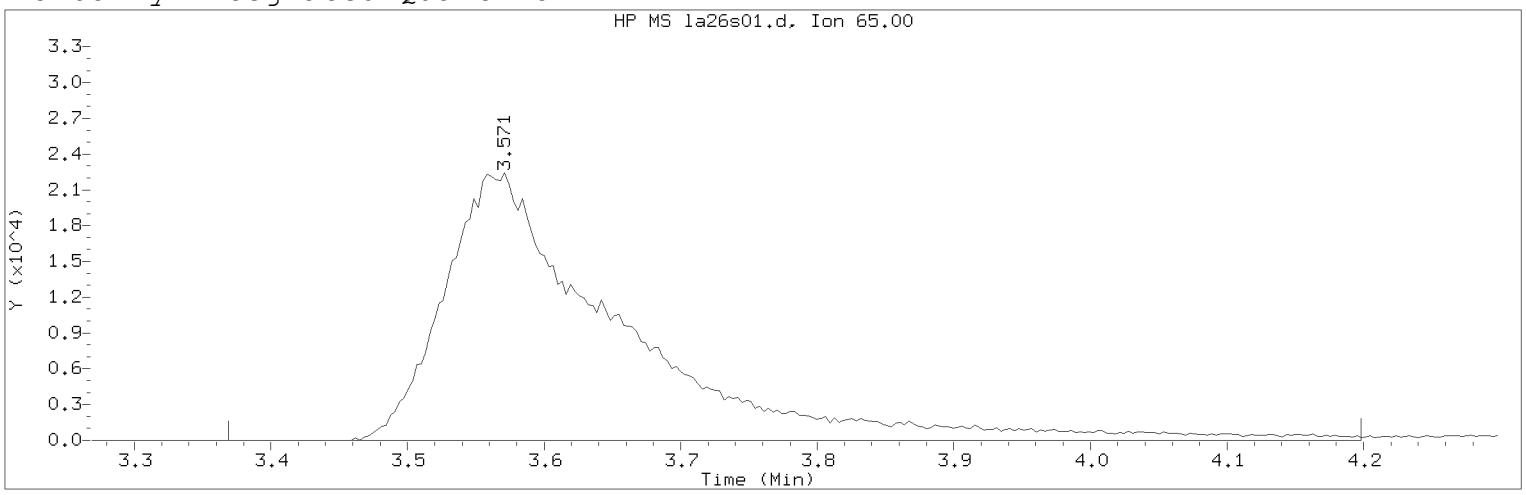
Compound Number : 21
Compound Name : 2-Propanol
Scan Number : 525
Retention Time (minutes): 3.169
Quant Ion : 45.00
Area : 55120
On-column Amount (ng) : 124.4820
Integration start scan : 490 Integration stop scan: 559
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 18:11.
Target 3.5 esignature used. Key: 2578

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

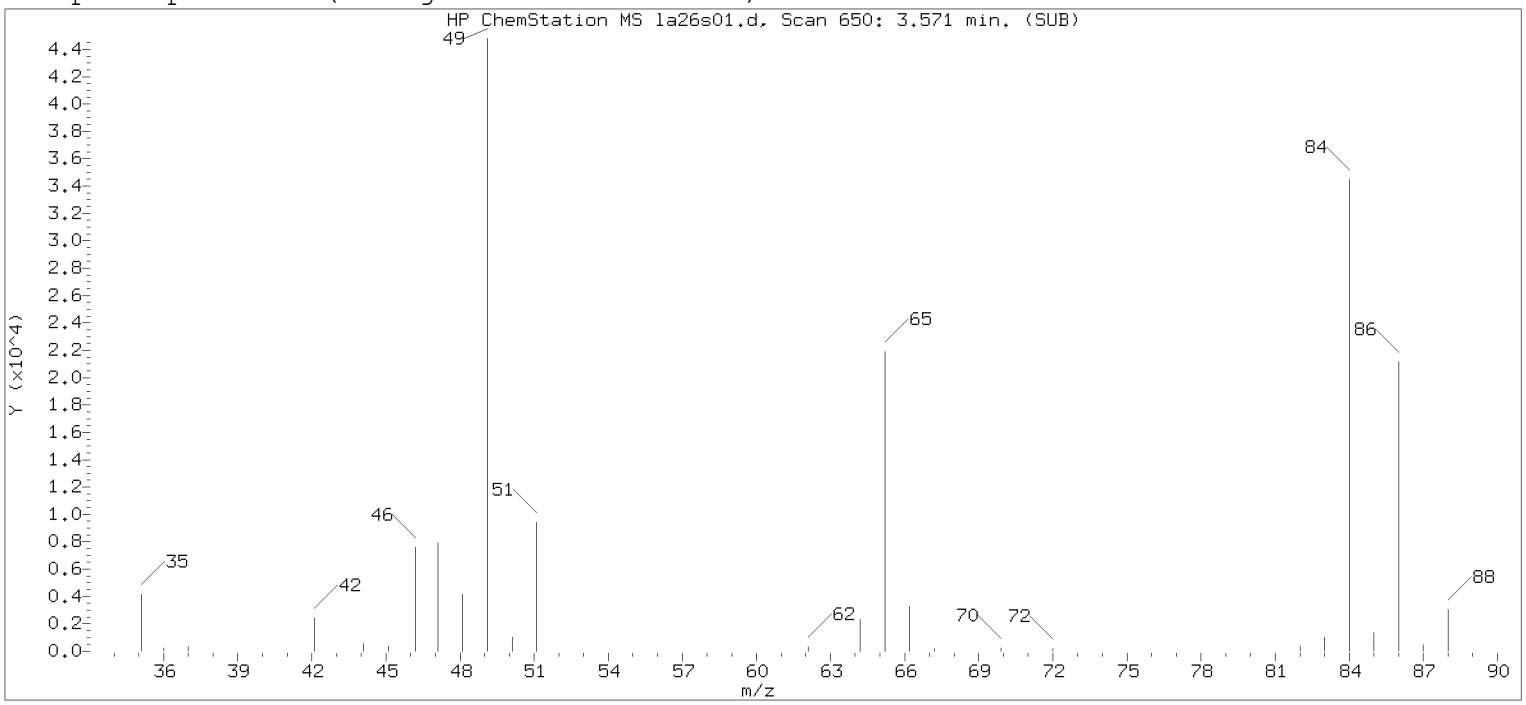
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 650
Retention Time (minutes): 3.571
Quant Ion : 65.00
Area (flag) : 200632M
On-Column Amount (ng) : 250.0000
Integration start scan : 586 Integration stop scan: 844
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

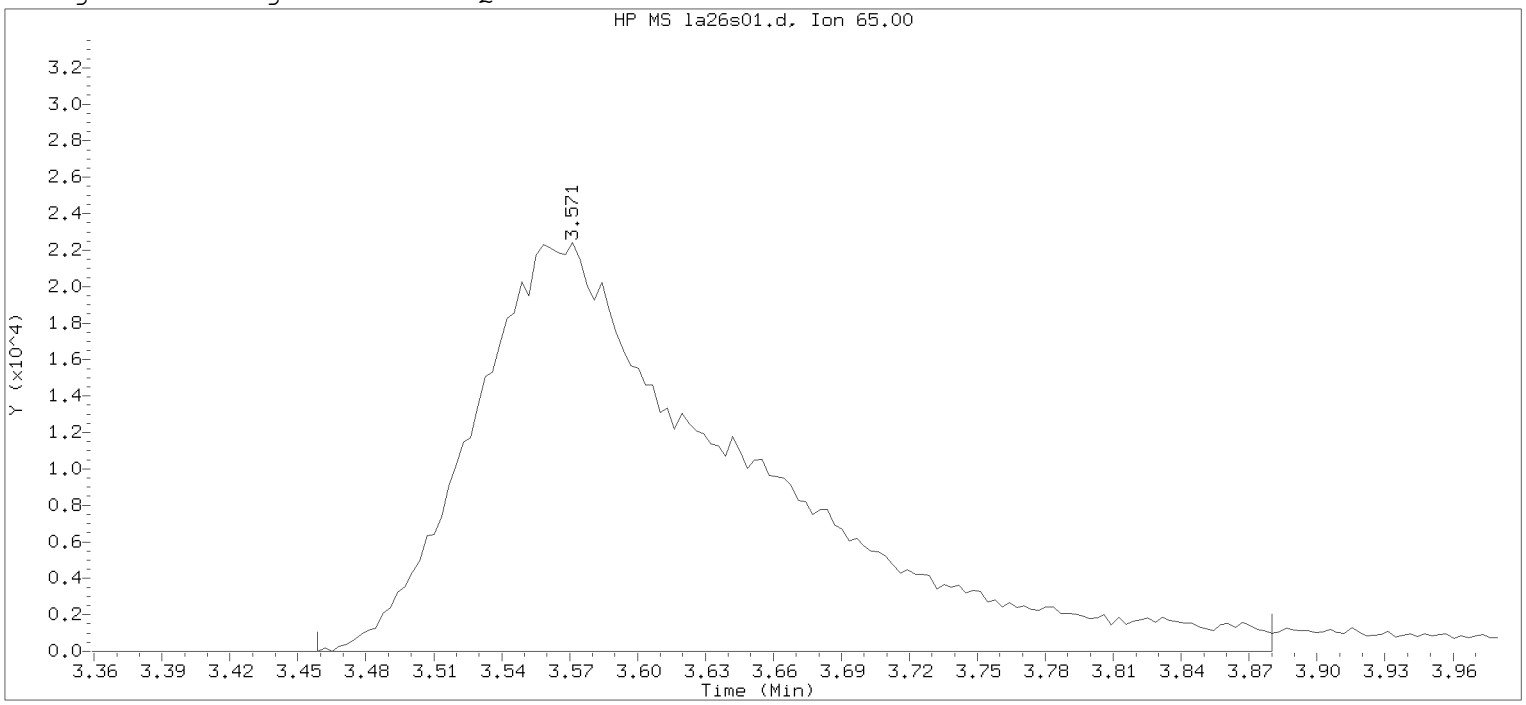
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

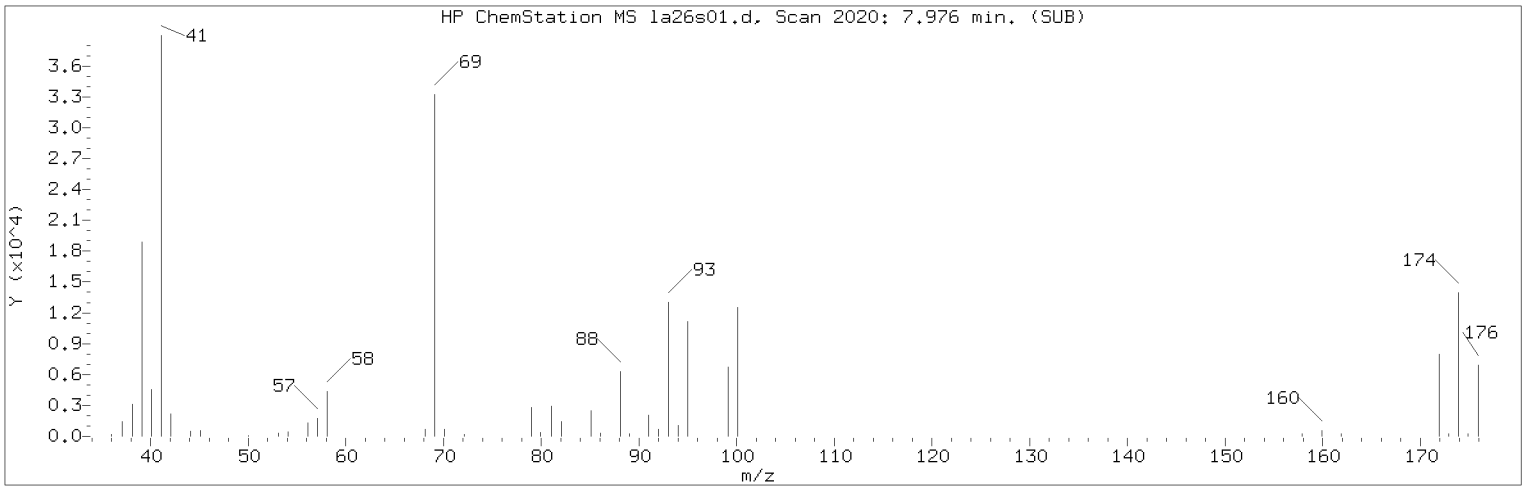
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 17:43 Automation

Sample Name: LCSL46 Lab Sample ID: LCSL46

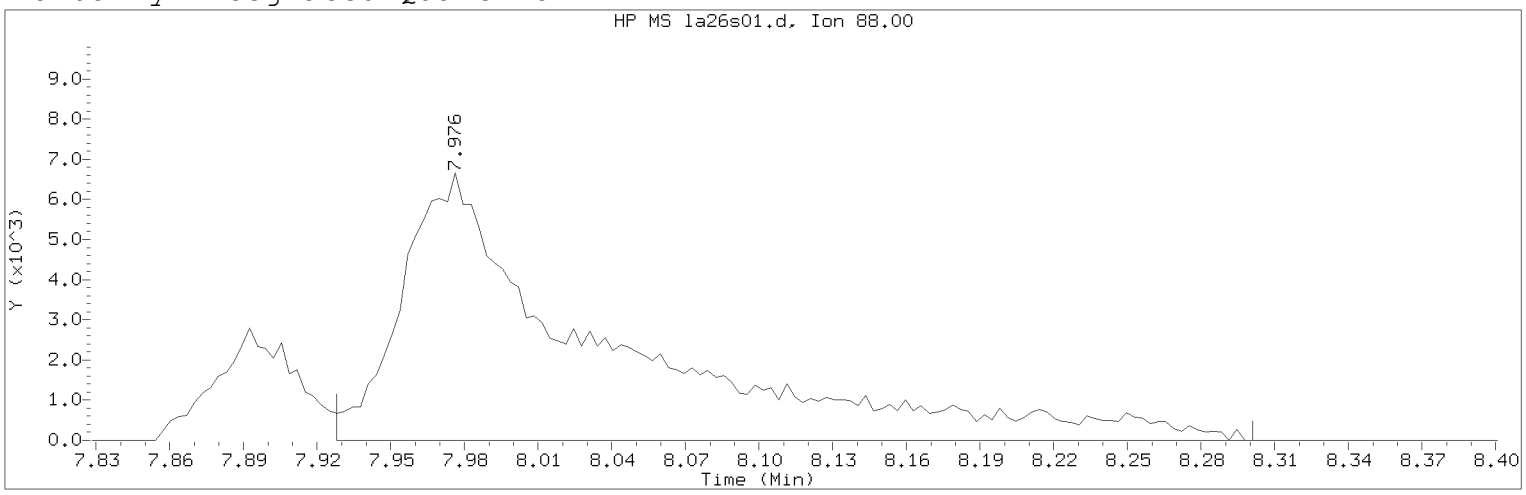
Compound Number : 29
Compound Name : t-Butyl alcohol-d10
Scan Number : 650
Retention Time (minutes): 3.571
Quant Ion : 65.00
Area : 188003
On-column Amount (ng) : 250.0000
Integration start scan : 614 Integration stop scan: 745
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 18:11.
Target 3.5 esignature used. Key: 2539

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

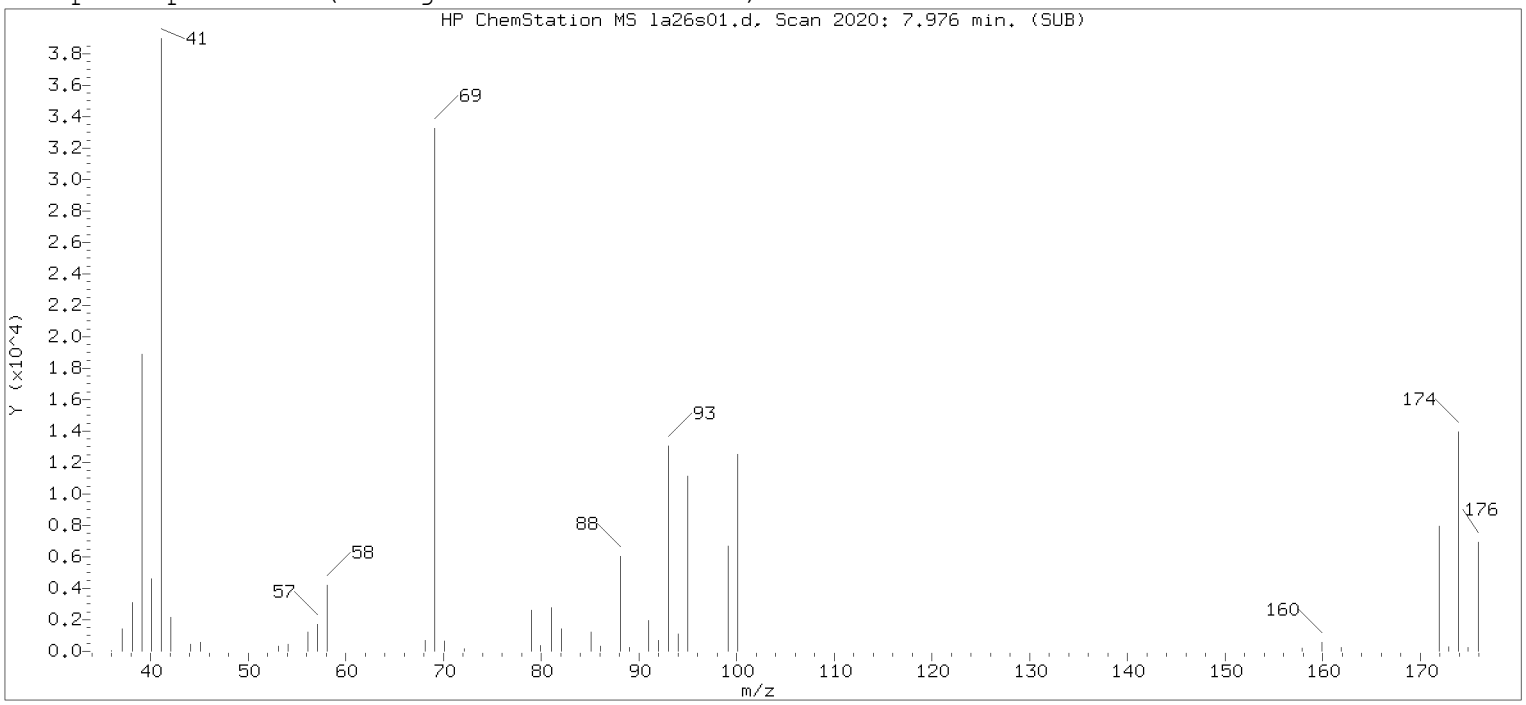
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2020
Retention Time (minutes): 7.976
Quant Ion : 88.00
Area (flag) : 37891M
On-Column Amount (ng) : 552.4123
Integration start scan : 2004 Integration stop scan: 2120
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

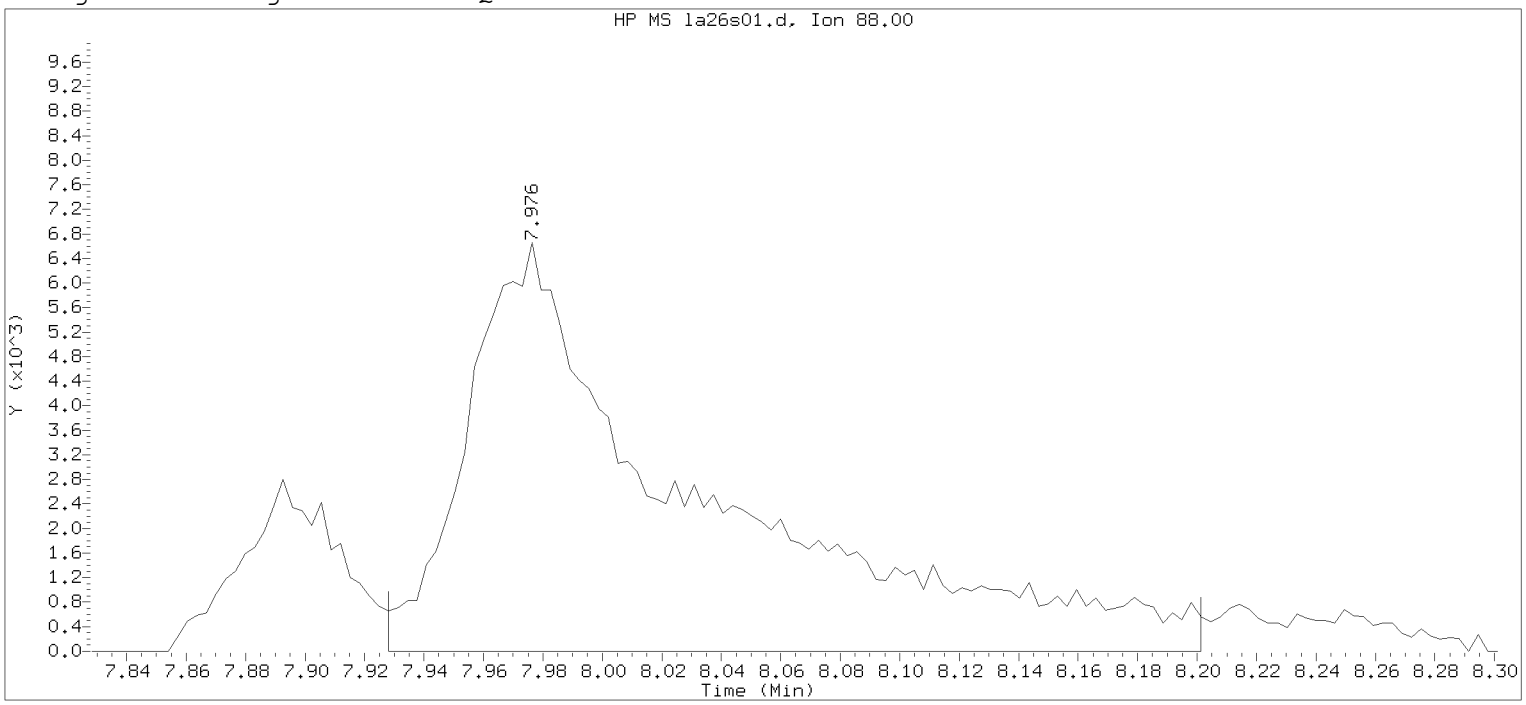
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

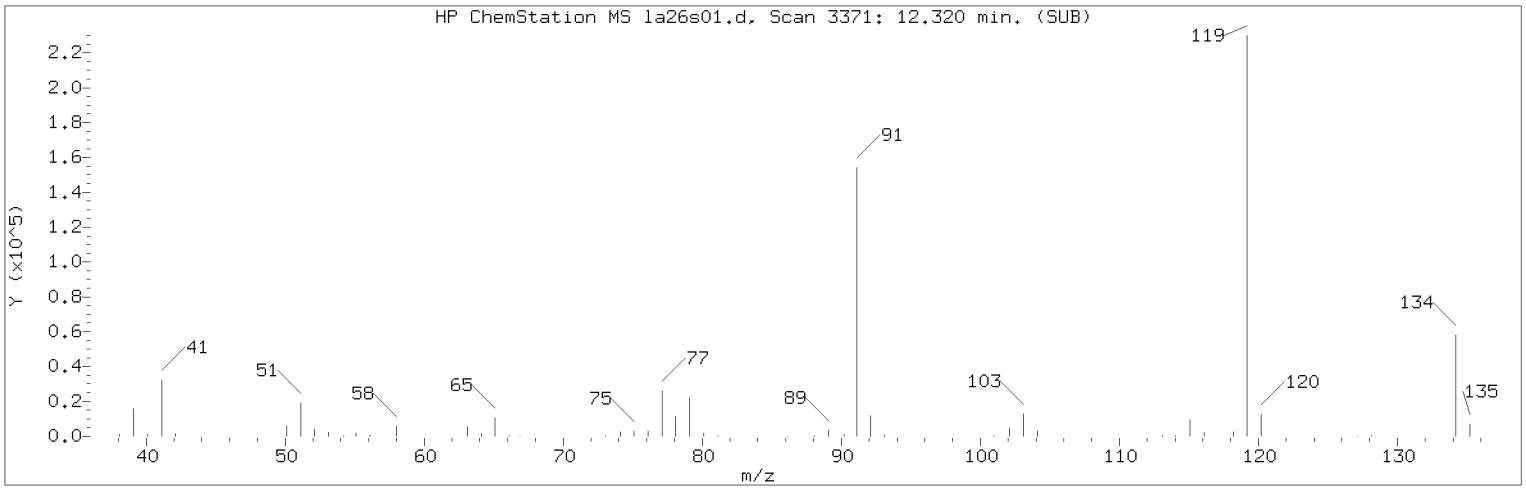
Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 17:43 Automation

Sample Name: LCSL46 Lab Sample ID: LCSL46

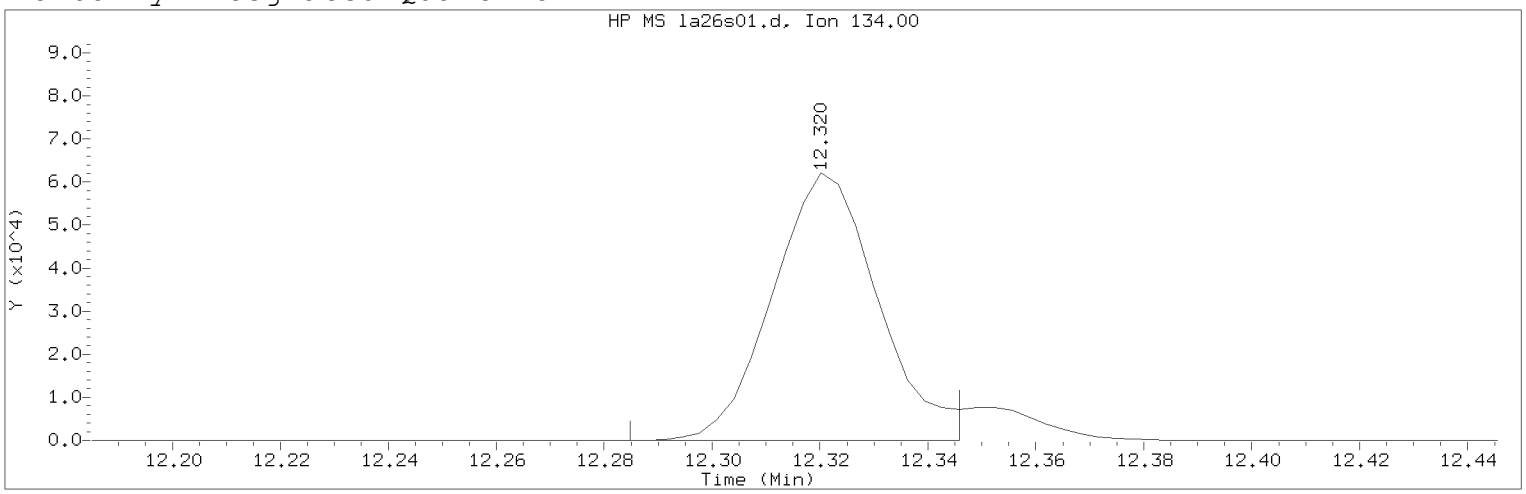
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2020
Retention Time (minutes): 7.976
Quant Ion : 88.00
Area : 35295
On-column Amount (ng) : 549.1313
Integration start scan : 2004 Integration stop scan: 2089
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 18:11.
Target 3.5 esignature used. Key: 2013

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 18:11 kas02648

Sample Name: LCSL46 Lab Sample ID: LCSL46

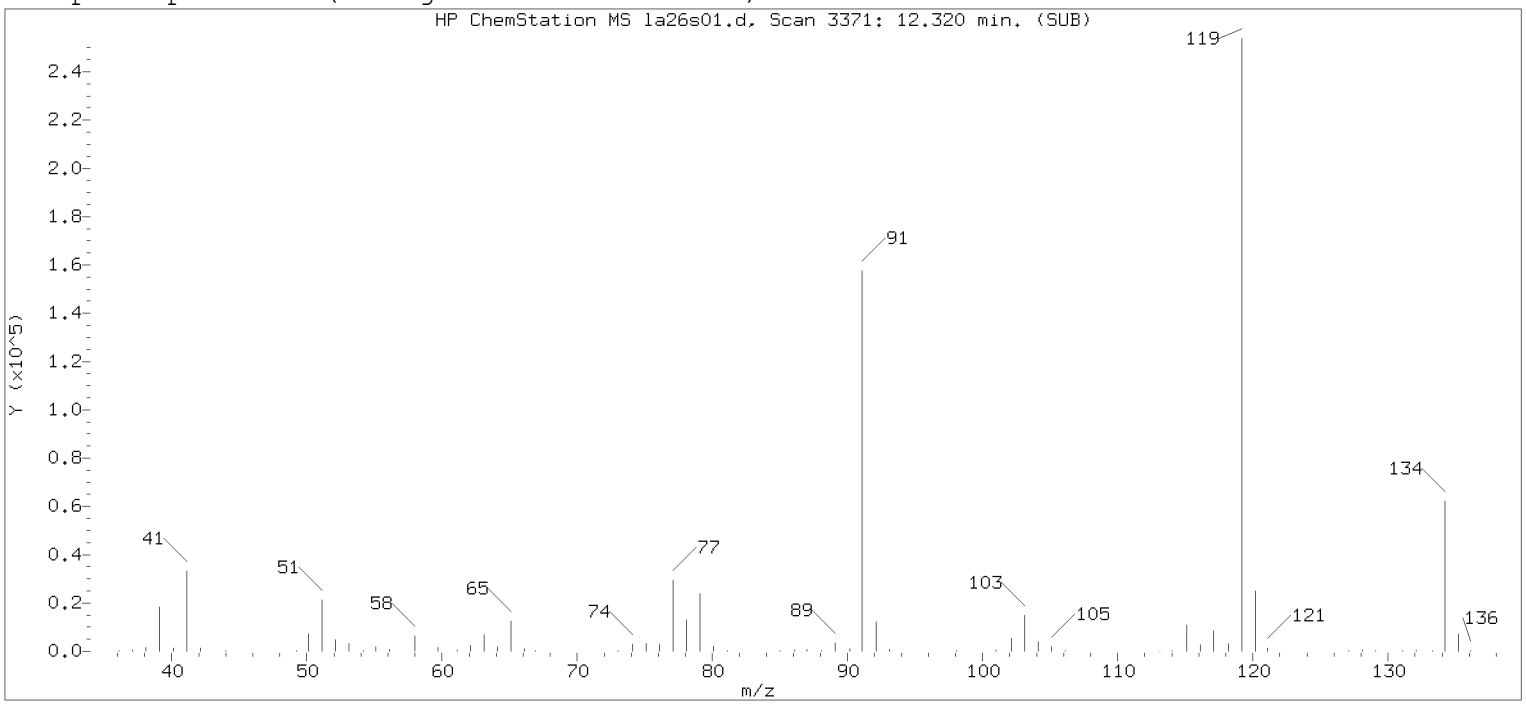
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area (flag) : 84253M
On-Column Amount (ng) : 19.7040
Integration start scan : 3359 Integration stop scan: 3378
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

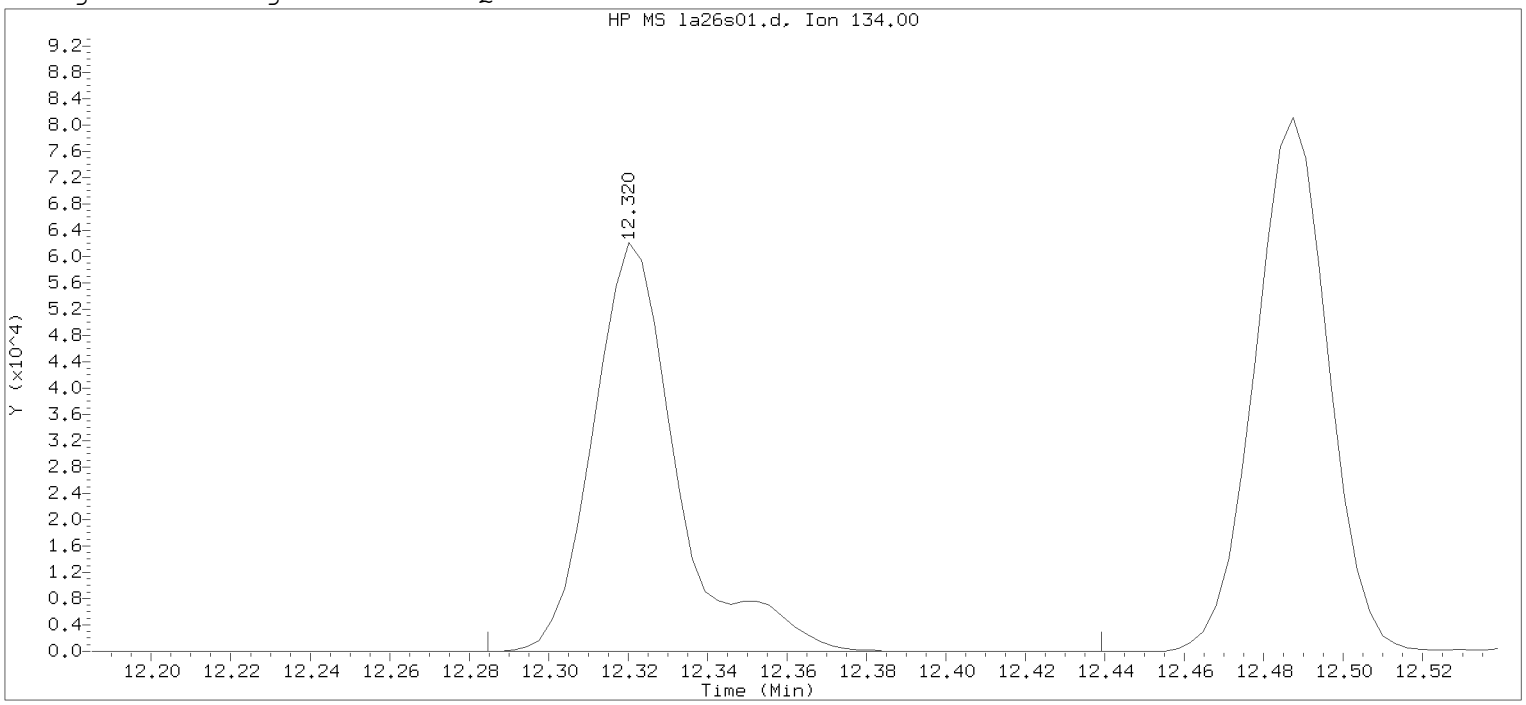
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:11.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/28/2017 at 11:21.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



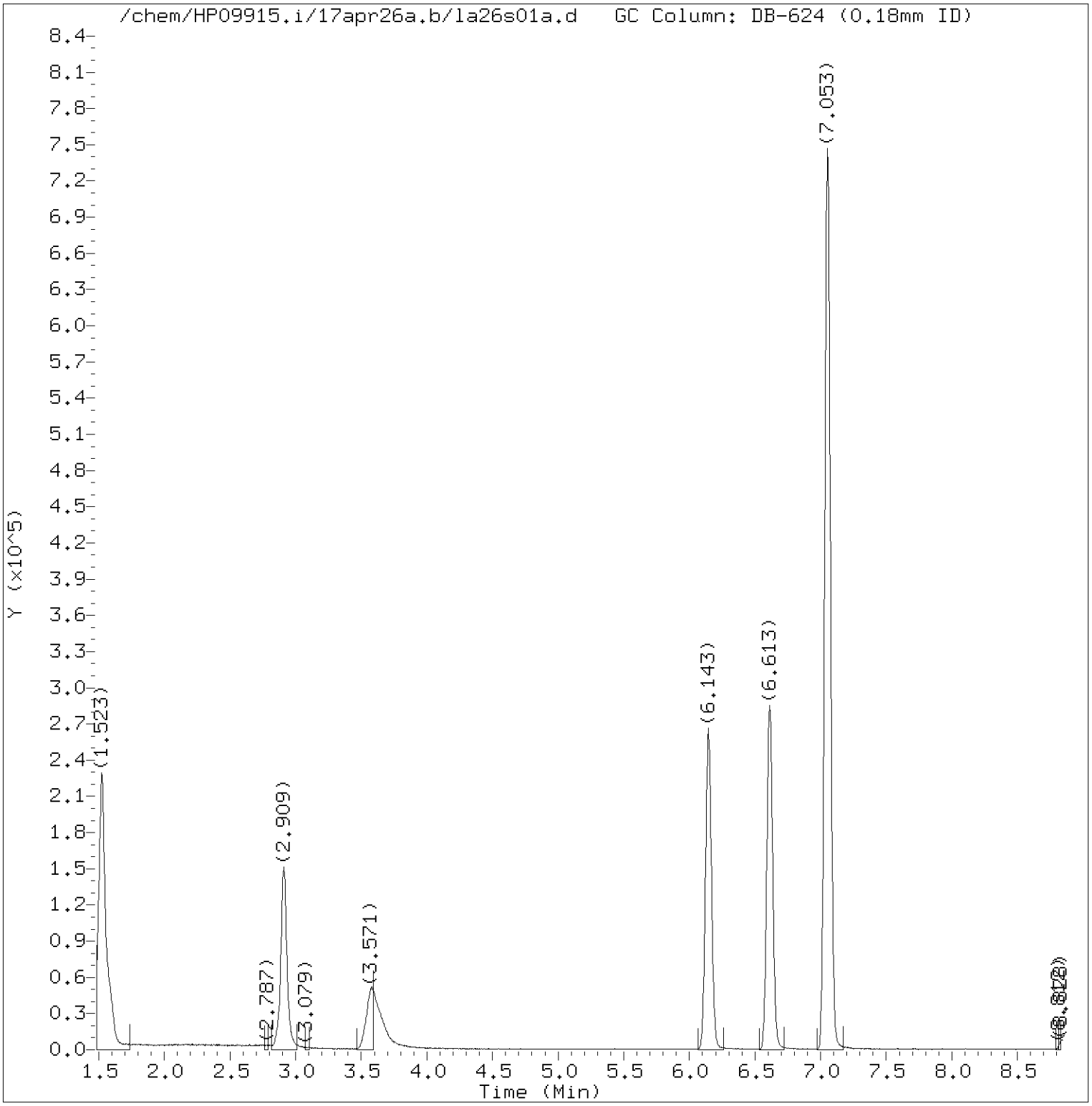
Data File: /chem/HP09915.i/17apr26a.b/la26s01.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 17:25 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 26-APR-2017 17:28
Date, time and analyst ID of latest file update: 26-Apr-2017 17:43 Automation

Sample Name: LCSL46 Lab Sample ID: LCSL46

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area : 91347
On-column Amount (ng) : 21.3630
Integration start scan : 3359 Integration stop scan: 3407
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/26/2017 at 18:11.
Target 3.5 esignature used. Key: 2563



Total Ion Chromatogram (TIC)

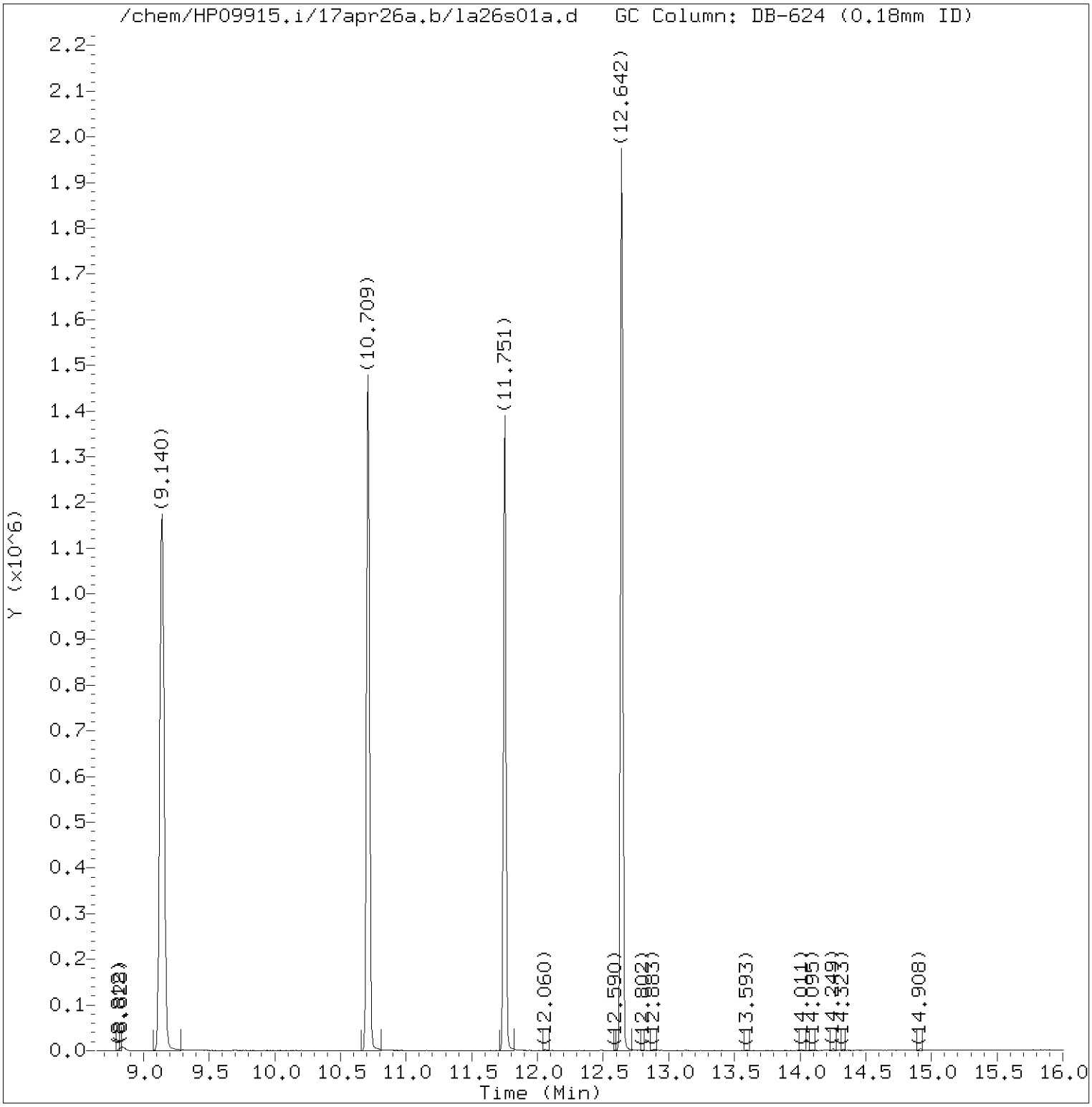
Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01a.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 18:34 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: ACR
Calibration date and time: 26-APR-2017 18:53
Date, time and analyst ID of latest file update: 26-Apr-2017 18:54 kas02648

Sample Name: ACRICV Lab Sample ID: ACRICV

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:55.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01a.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 18:34 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: ACR
Calibration date and time: 26-APR-2017 18:53
Date, time and analyst ID of latest file update: 26-Apr-2017 18:54 kas02648

Sample Name: ACRICV Lab Sample ID: ACRICV

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:55.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17apr26a.b/la26s01a.d Instrument ID: HP09915.i
Injection date and time: 26-APR-2017 18:34 Analyst ID: KAS02648

Method used: /chem/HP09915.i/17apr26a.b/m8260c5.m Sublist used: ACR
Calibration date and time: 26-APR-2017 18:53
Date, time and analyst ID of latest file update: 26-Apr-2017 18:54 kas02648

Sample Name: ACRICV Lab Sample ID: ACRICV

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
16) Acrolein	(1)	2.909	56	230830	133.301
29)*t-Butyl alcohol-d10	(1)	3.574	65	211536	250.000
52)$Dibromofluoromethane	(2)	6.147	113	268241	49.042
57)$1,2-Dichloroethane-d4	(2)	6.616	102	67821	49.864
66)*Fluorobenzene	(2)	7.053	96	1120094	50.000
83)$Toluene-d8	(3)	9.140	98	1090751	50.311
100)*Chlorobenzene-d5	(3)	10.709	117	849095	50.000
114)$4-Bromofluorobenzene	(3)	11.751	95	400969	49.759
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	459516	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/26/2017 at 18:55.
Target 3.5 esignature user ID: kas02648

Data File: /chem/HP09915.i/17may23a.b/ly23t01.d

Page 1

Date : 23-MAY-2017 08:29

Client ID: BFB FEB 20, 2017

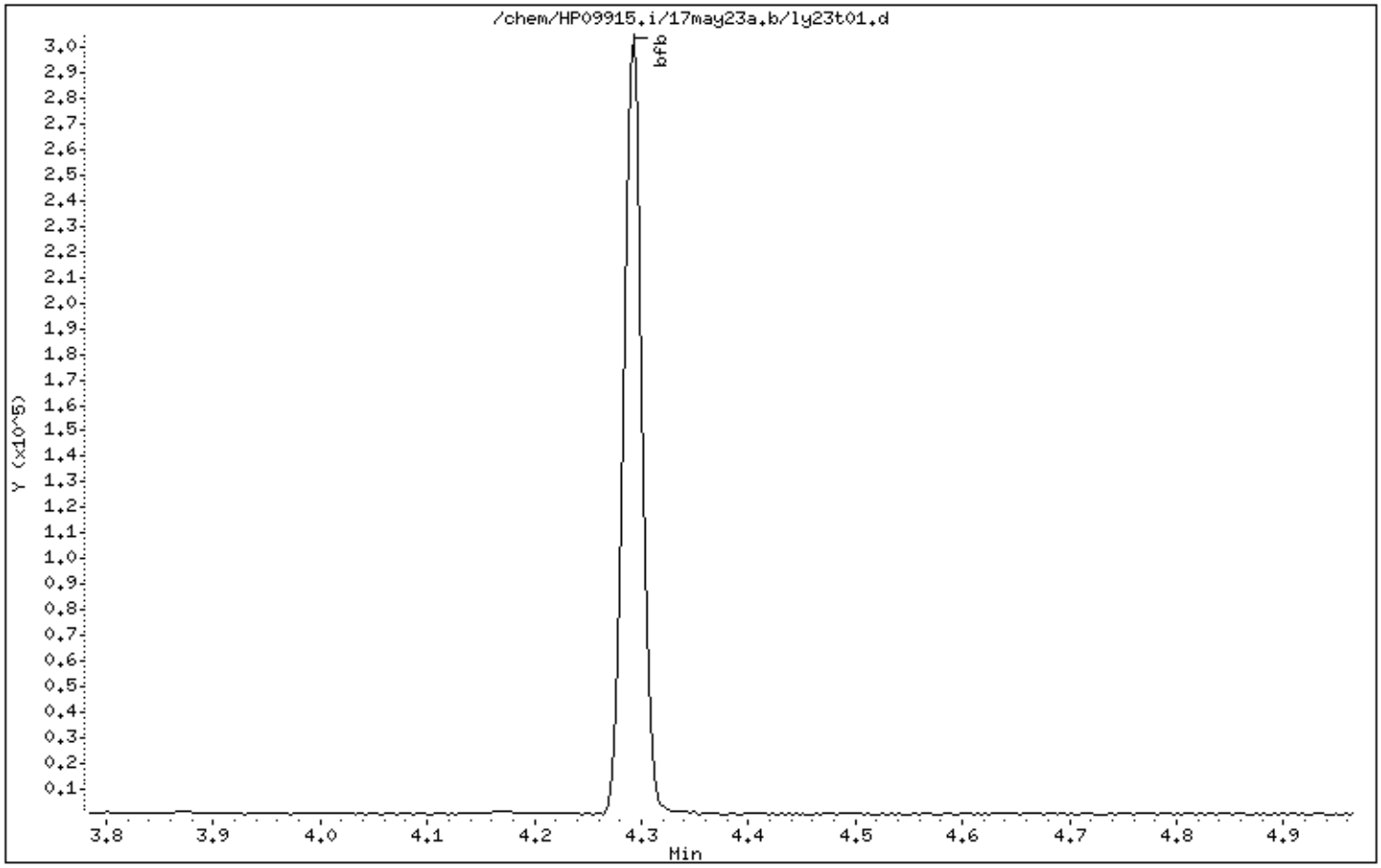
Instrument: HP09915.i

Sample Info: BFB FEB 20, 2017;50NG BFB;1;3;;;;;;

Operator: ADS01731

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Angela D. Sneeringer on 05/23/2017 at 08:34.
Target 3.5 esignature user ID: ads01731

Data File: /chem/HP09915.i/17may23a.b/ly23t01.d

Date : 23-MAY-2017 08:29

Client ID: BFB FEB 20, 2017

Instrument: HP09915.i

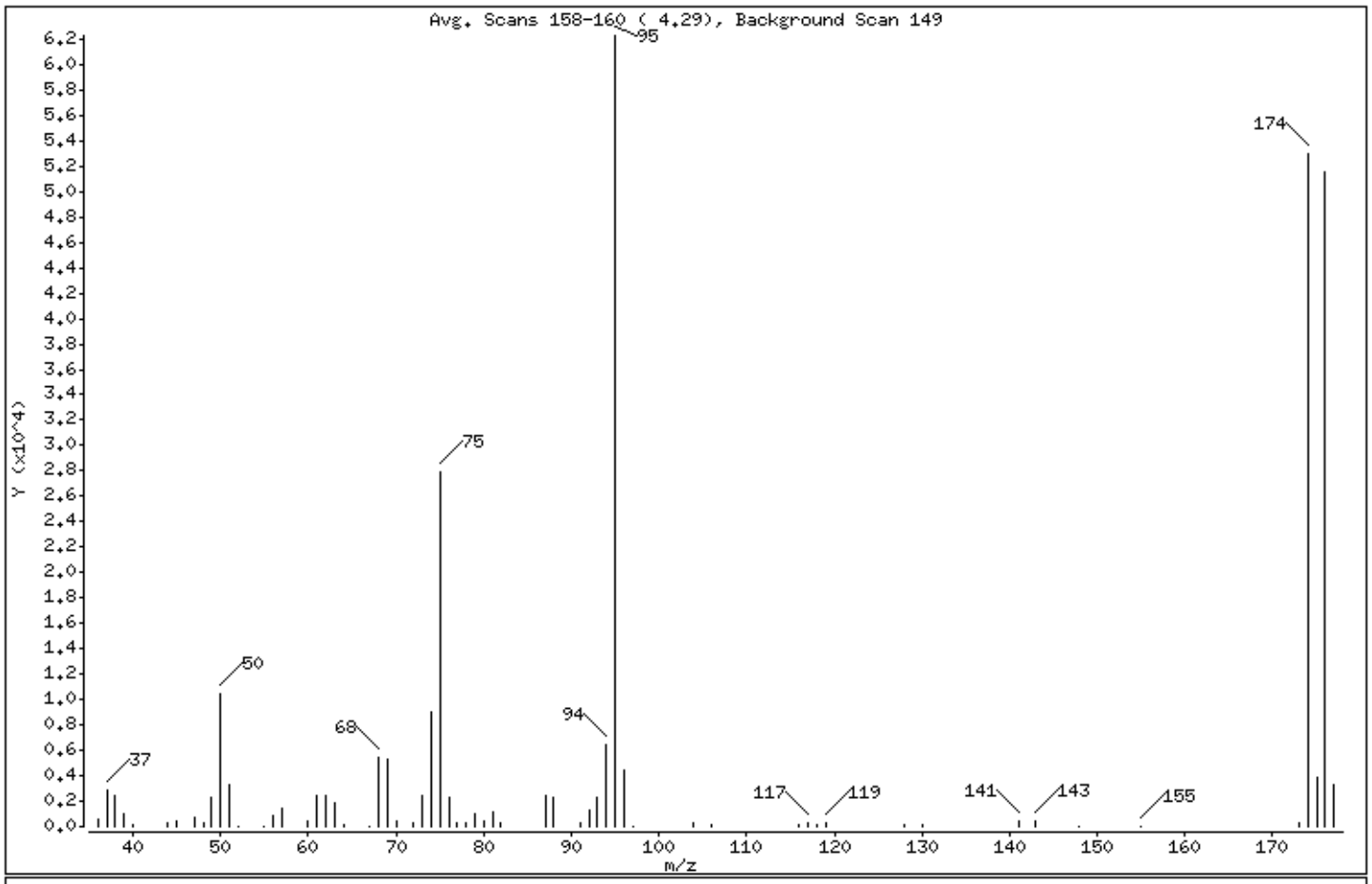
Sample Info: BFB FEB 20, 2017;50NG BFB;1;3;;;;;;

Operator: ADS01731

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	16.88
75	30.00 - 60.00% of mass 95	44.91
96	5.00 - 9.00% of mass 95	7.06
173	Less than 2.00% of mass 174	0.54 (0.63)
174	50.00 - 100.00% of mass 95	85.11
175	5.00 - 9.00% of mass 174	6.22 (7.31)
176	95.00 - 101.00% of mass 174	82.73 (97.20)
177	5.00 - 9.00% of mass 176	5.37 (6.49)

Digitally signed by Angela D. Sneeringer on 05/23/2017 at 08:34.
Target 3.5 esignature user ID: ads01731

Date : 23-MAY-2017 08:29

Client ID: BFB FEB 20, 2017 Instrument: HP09915.i

Sample Info: BFB FEB 20, 2017;50NG BFB;1;3;;;;;;

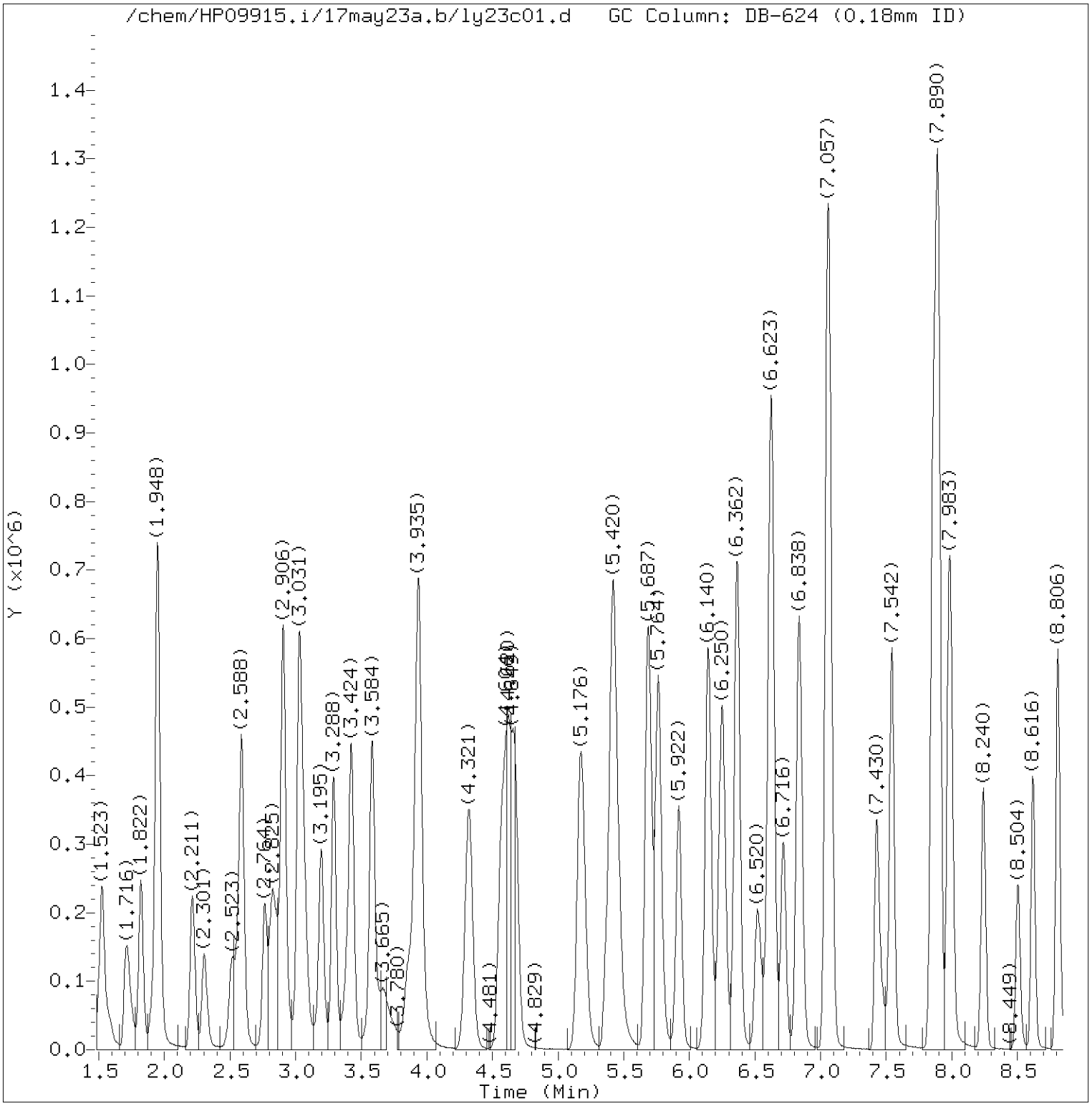
Operator: ADS01731

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: ly23t01.d
Spectrum: Avg. Scans 158-160 (4.29), Background Scan 149
Location of Maximum: 95.00
Number of points: 62

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	558	60.00	491	79.00	1024	117.00	289
37.00	2877	61.00	2504	80.00	378	118.00	139
38.00	2415	62.00	2385	81.00	1134	119.00	285
39.00	962	63.00	1864	82.00	284	128.00	139
40.00	80	64.00	151	87.00	2422	130.00	200
44.00	261	67.00	58	88.00	2272	141.00	420
45.00	461	68.00	5471	91.00	230	143.00	449
47.00	784	69.00	5343	92.00	1322	148.00	52
48.00	347	70.00	418	93.00	2278	155.00	54
49.00	2273	72.00	264	94.00	6424	173.00	335
50.00	10513	73.00	2451	95.00	62272	174.00	53000
51.00	3321	74.00	9034	96.00	4397	175.00	3874
52.00	63	75.00	27968	97.00	52	176.00	51512
55.00	52	76.00	2259	104.00	225	177.00	3344
56.00	846	77.00	348	106.00	194		
57.00	1479	78.00	248	116.00	203		

Digitally signed by Angela D. Sneeringer on 05/23/2017 at 08:34.
Target 3.5 esignature user ID: ads01731



Total Ion Chromatogram (TIC)

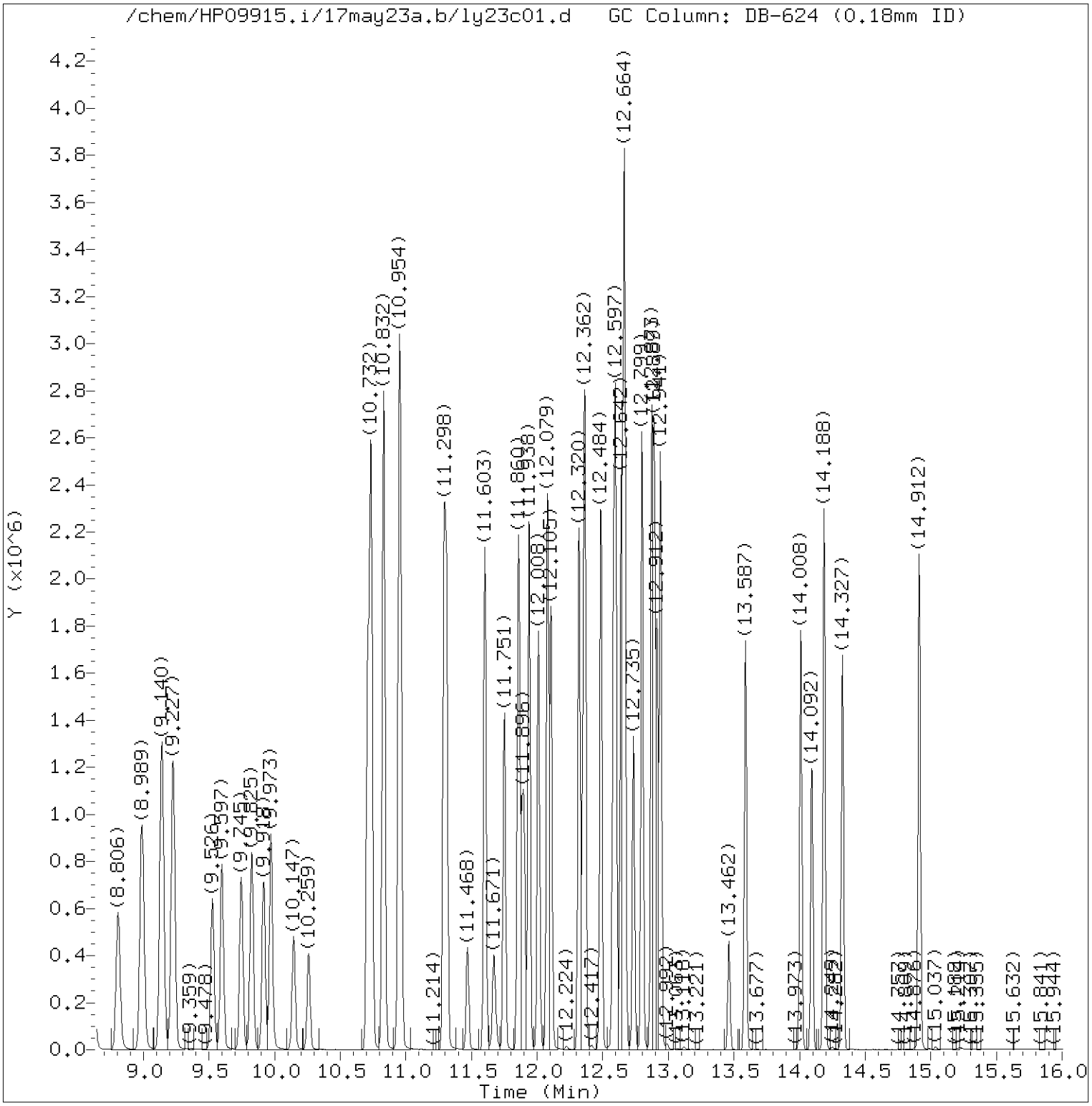
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:56 ads01731

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:56 ads01731

Sample Name: VSTD050 Lab Sample ID: VSTD050

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:17.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:56 ads01731

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.713	85	341037	48.506
4) Chloromethane	(2)	1.819	50	348925	48.308
6) Vinyl Chloride	(2)	1.938	62	335312	48.075
5) 1,3-Butadiene	(2)	1.951	39	401948	94.482
8) Bromomethane	(2)	2.211	94	226238	48.226
9) Chloroethane	(2)	2.301	64	188735	48.016
12) Trichlorofluoromethane	(2)	2.559	101	373855	46.287
11) n-Pentane	(2)	2.588	43	352926	53.058
14) Ethyl ether	(2)	2.768	59	160572	35.711
15) Freon 123a	(2)	2.829	67	273086	50.769
16) Acrolein	(1)	2.906	56	861019	442.988
17) 1,1-Dichloroethene	(2)	3.025	96	208429	48.758
17) 1,1-Dichloroethene	(2)	3.025	63	105820	48.898
18) Acetone	(1)	3.041	58	83267	98.706
19) Freon 113	(2)	3.063	101	221017	51.366
21) 2-Propanol	(1)	3.173	45	133910	239.456
22) Methyl Iodide	(2)	3.195	142	430063	51.867
23) Carbon Disulfide	(2)	3.288	76	769141	55.290
27) Methyl Acetate	(2)	3.391	43	301505	48.595
25) Allyl Chloride	(2)	3.427	41	392501	45.840
29)*t-Butyl alcohol-d10	(1)	3.575	65	237435	250.000
28) Methylene Chloride	(2)	3.581	84	264167	46.779
30) t-Butyl alcohol	(1)	3.678	59	240452	261.737
31) Acrylonitrile	(2)	3.848	53	163074	50.051
33) Methyl Tertiary Butyl Ether	(2)	3.925	73	811077	51.792
32) trans-1,2-Dichloroethene	(2)	3.938	96	248666	49.580
34) n-Hexane	(2)	4.317	57	384737	50.042
36) 1,1-Dichloroethane	(2)	4.568	63	459673	48.774
38) di-Isopropyl ether	(2)	4.616	45	871351	48.170
39) 2-Chloro-1,3-butadiene	(2)	4.671	53	393885	49.546
40) Ethyl t-butyl ether	(2)	5.173	59	804031	51.648
44) 2-Butanone	(2)	5.375	43	421905	96.711
42) cis-1,2-Dichloroethene	(2)	5.414	96	282781	49.203
45) 2,2-Dichloropropane	(2)	5.430	77	322140	51.194
47) Propionitrile	(1)	5.459	54	316361	235.946
48) Methacrylonitrile	(2)	5.687	67	405038	124.692
49) Bromochloromethane	(2)	5.764	128	147667	48.750
50) Tetrahydrofuran	(1)	5.767	71	108581	91.684

* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:17.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:56 ads01731

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
51) Chloroform	(2)	5.922	83	433987	48.311
52)$Dibromofluoromethane	(2)	6.140	113	281605	48.860
52)$Dibromofluoromethane	(2)	6.140	111	289554	49.027
53) 1,1,1-Trichloroethane	(2)	6.144	97	347257	42.303
43) 1,2-Dichloroethene (Total)	(2)		96	531447	98.783
54) Cyclohexane	(2)	6.250	56	444798	47.589
54) Cyclohexane	(2)	6.253	84	372363	48.731
54) Cyclohexane	(2)	6.250	69	131959	48.707
56) Carbon Tetrachloride	(2)	6.359	117	285930	47.717
55) 1,1-Dichloropropene	(2)	6.366	75	350216	47.933
58) Isobutyl Alcohol	(1)	6.520	41	204862	635.134
57)$1,2-Dichloroethane-d4	(2)	6.610	102	70910	49.477
57)$1,2-Dichloroethane-d4	(2)	6.607	65	335480	49.487
57)$1,2-Dichloroethane-d4	(2)	6.610	104	45888	50.479
60) Benzene	(2)	6.632	78	1046546	48.591
61) 1,2-Dichloroethane	(2)	6.716	62	359339	49.316
61) 1,2-Dichloroethane	(2)	6.719	98	34818	53.876
65) t-Amyl methyl ether	(2)	6.838	73	785763	50.858
66)*Fluorobenzene	(2)	7.047	96	1180273	50.000
67) n-Heptane	(2)	7.070	43	409593	47.584
69) n-Butanol	(1)	7.430	56	348532	1340.430
71) Trichloroethene	(2)	7.546	95	265942	47.780
72) Methylcyclohexane	(2)	7.854	83	455483	46.444
72) Methylcyclohexane	(2)	7.857	98	209334	47.300
73) 1,2-Dichloropropane	(2)	7.883	63	282449	47.905
76) Methyl Methacrylate	(2)	7.976	69	260136	51.544
75) 1,4-Dioxane	(1)	7.980	88	61117M	752.924
74) Dibromomethane	(2)	7.999	93	183419	49.468
78) Bromodichloromethane	(2)	8.240	83	331372	49.521
79) 2-Nitropropane	(2)	8.504	41	196766	103.697
80) 2-Chloroethyl Vinyl Ether	(2)	8.616	63	229381	50.611
81) cis-1,3-Dichloropropene	(2)	8.806	75	431254	49.447
82) 4-Methyl-2-pentanone	(2)	8.989	43	868951	96.659
83)$Toluene-d8	(3)	9.140	98	1149476	50.130
83)$Toluene-d8	(3)	9.140	100	756814	50.098
88) Toluene	(3)	9.227	92	660604	49.577
89) trans-1,3-Dichloropropene	(3)	9.526	75	386718	51.758
91) Ethyl Methacrylate	(3)	9.597	69	451089	53.600

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:17.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:56 ads01731

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
92) 1,1,2-Trichloroethane	(3)	9.745	97	259775	50.592
93) Tetrachloroethene	(3)	9.825	166	278348	47.229
94) 1,3-Dichloropropane	(3)	9.918	76	447029	50.175
96) 2-Hexanone	(3)	9.973	43	638582	99.283
90) 1,3-Dichloropropene (total)	(3)		100	817972	101.206
97) Dibromochloromethane	(3)	10.147	129	262544	49.366
99) 1,2-Dibromoethane	(3)	10.259	107	285988	50.877
100)*Chlorobenzene-d5	(3)	10.709	117	898036	50.000
101) 1-Chlorohexane	(3)	10.732	91	356540	46.592
102) Chlorobenzene	(3)	10.738	112	751782	48.894
103) 1,1,1,2-Tetrachloroethane	(3)	10.828	131	252330	49.696
104) Ethylbenzene	(3)	10.832	91	1276604	49.667
106) m+p-Xylene	(3)	10.954	106	994761	99.412
107) o-Xylene	(3)	11.291	106	497934	50.036
109) Styrene	(3)	11.311	104	849701	51.651
110) Bromoform	(3)	11.468	173	188361	48.776
111) Isopropylbenzene	(3)	11.603	105	1266227	49.787
112) Cyclohexanone	(1)	11.671	55	170535	556.933
114)$4-Bromofluorobenzene	(3)	11.751	95	430716	50.537
114)$4-Bromofluorobenzene	(3)	11.751	174	367996	49.225
108) Xylene (Total)	(3)		106	1492695	149.448
116) 1,1,2,2-Tetrachloroethane	(4)	11.854	83	424179	49.330
115) Bromobenzene	(4)	11.860	156	335215	48.409
118) trans-1,4-Dichloro-2-butene	(4)	11.883	53	139779	56.729
117) 1,2,3-Trichloropropane	(4)	11.902	110	121987	50.186
119) n-Propylbenzene	(4)	11.938	91	1501917	49.086
120) 2-Chlorotoluene	(4)	12.012	126	310640	48.780
122) 1,3,5-Trimethylbenzene	(4)	12.079	105	1087391	49.837
121) 4-Chlorotoluene	(4)	12.108	126	322045	48.590
124) tert-Butylbenzene	(4)	12.320	134	229448M	48.648
125) Pentachloroethane	(4)	12.352	167	182667	49.054
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	1118593	49.770
127) sec-Butylbenzene	(4)	12.484	105	1383381	49.705
129) 1,3-Dichlorobenzene	(4)	12.581	146	631483	47.899
130) p-Isopropyltoluene	(4)	12.597	119	1198683	48.778
131)*1,4-Dichlorobenzene-d4	(4)	12.639	152	484442	50.000
133) 1,4-Dichlorobenzene	(4)	12.658	146	646826	47.449
134) 1,2,3-Trimethylbenzene	(4)	12.668	105	1164063	49.435

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:17.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

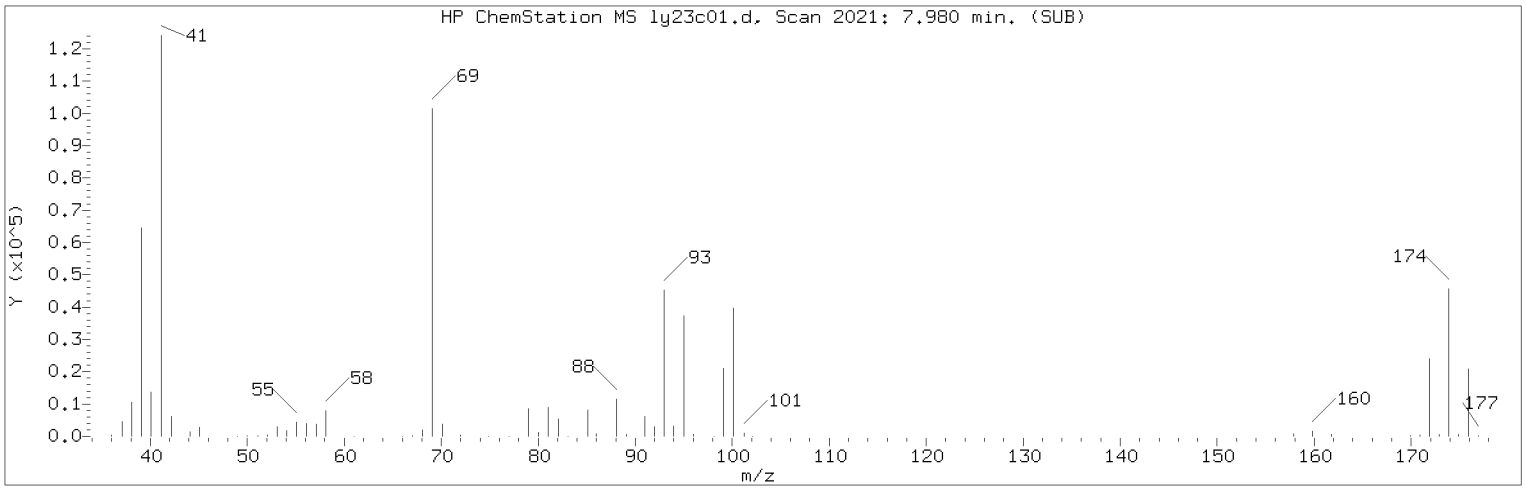
Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:56 ads01731

Sample Name: VSTD050 Lab Sample ID: VSTD050

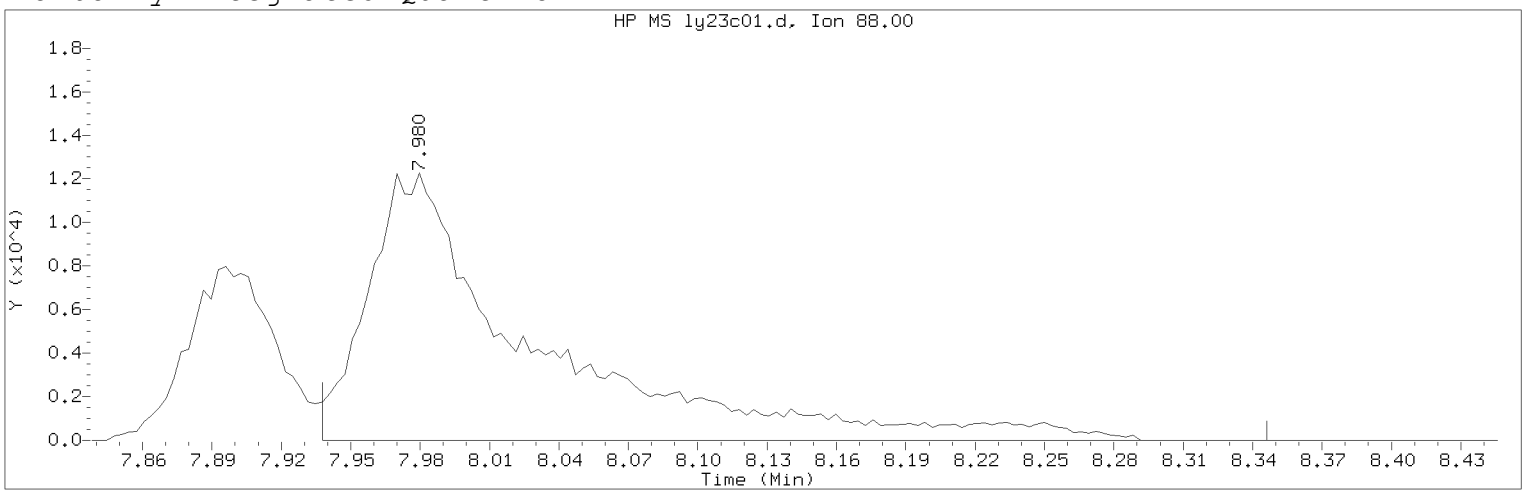
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
135) Benzyl Chloride	(4)	12.735	91	770531	54.037
136) 1,3-Diethylbenzene	(4)	12.799	119	720046	49.043
137) 1,4-Diethylbenzene	(4)	12.873	119	743728	48.238
139) n-Butylbenzene	(4)	12.893	92	595443	48.505
138) 1,2-Dichlorobenzene	(4)	12.912	146	622087	48.004
140) 1,2-Diethylbenzene	(4)	12.941	119	602850	48.792
141) Diethylbenzene (total)	(4)		100	2066624	146.073
142) 1,2-Dibromo-3-chloropropane	(4)	13.462	75	89284	49.099
144) 1,3,5-Trichlorobenzene	(4)	13.587	180	471687	44.895
146) 1,2,4-Trichlorobenzene	(4)	14.008	180	461162	45.248
147) Hexachlorobutadiene	(4)	14.095	225	186445	42.123
148) Naphthalene	(4)	14.188	128	1479950	48.121
149) 1,2,3-Trichlorobenzene	(4)	14.327	180	445618	45.321
150) 2-Methylnaphthalene	(4)	14.912	142	851099	42.798

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:17.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:56 ads01731

Sample Name: VSTD050 Lab Sample ID: VSTD050

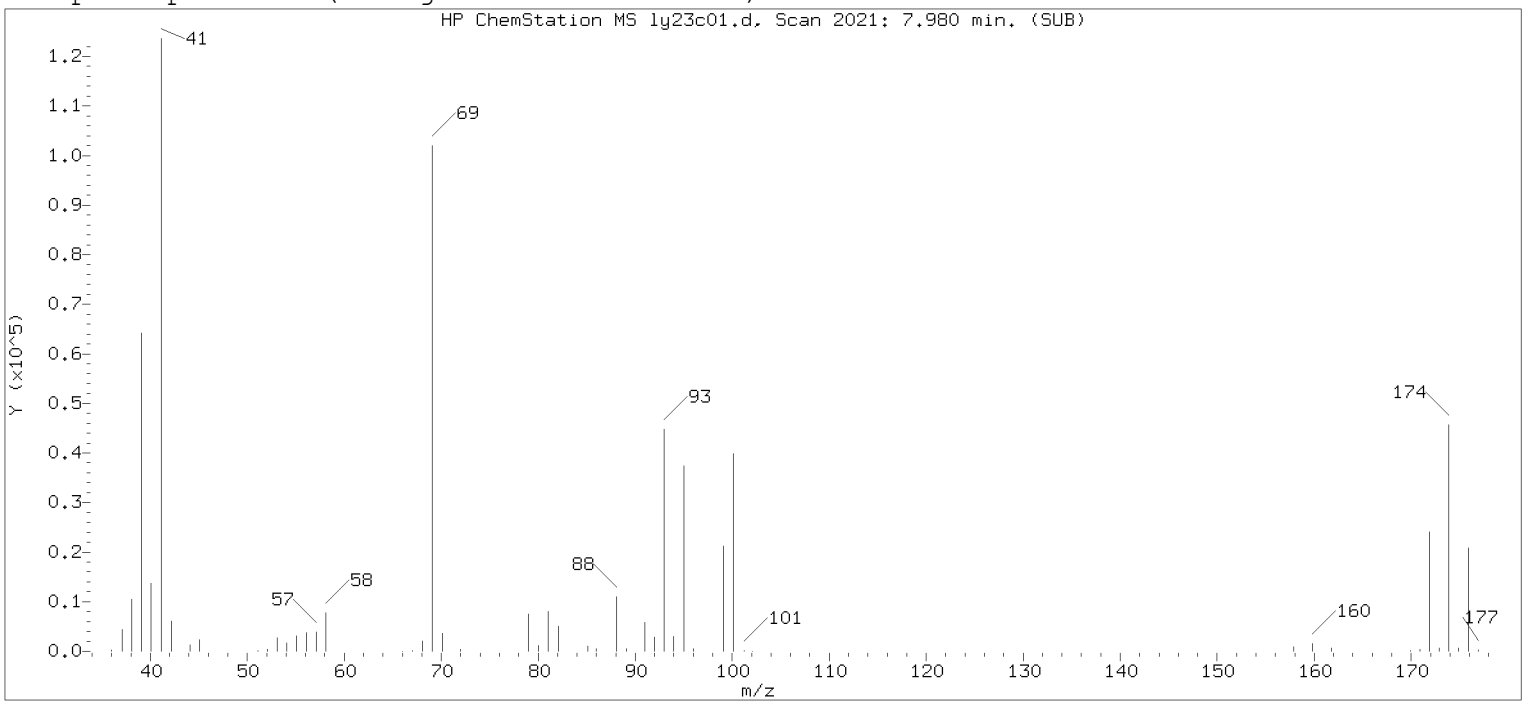
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2021
Retention Time (minutes): 7.980
Quant Ion : 88.00
Area (flag) : 61117M
On-Column Amount (ng) : 752.9238
Integration start scan : 2007 Integration stop scan: 2134
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

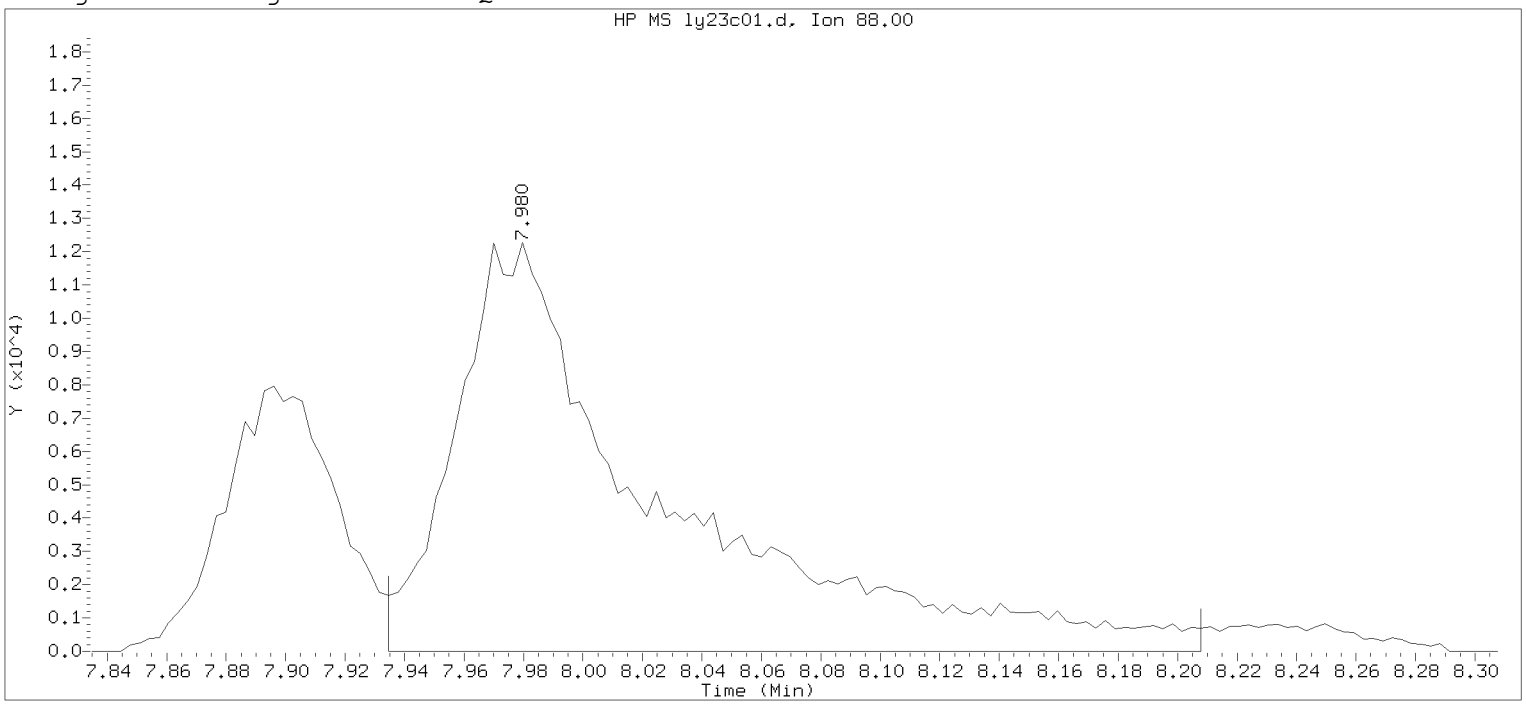
Analyst responsible for change: Digitally signed by Kevin Kelly
on 05/23/2017 at 18:17.
Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:33.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

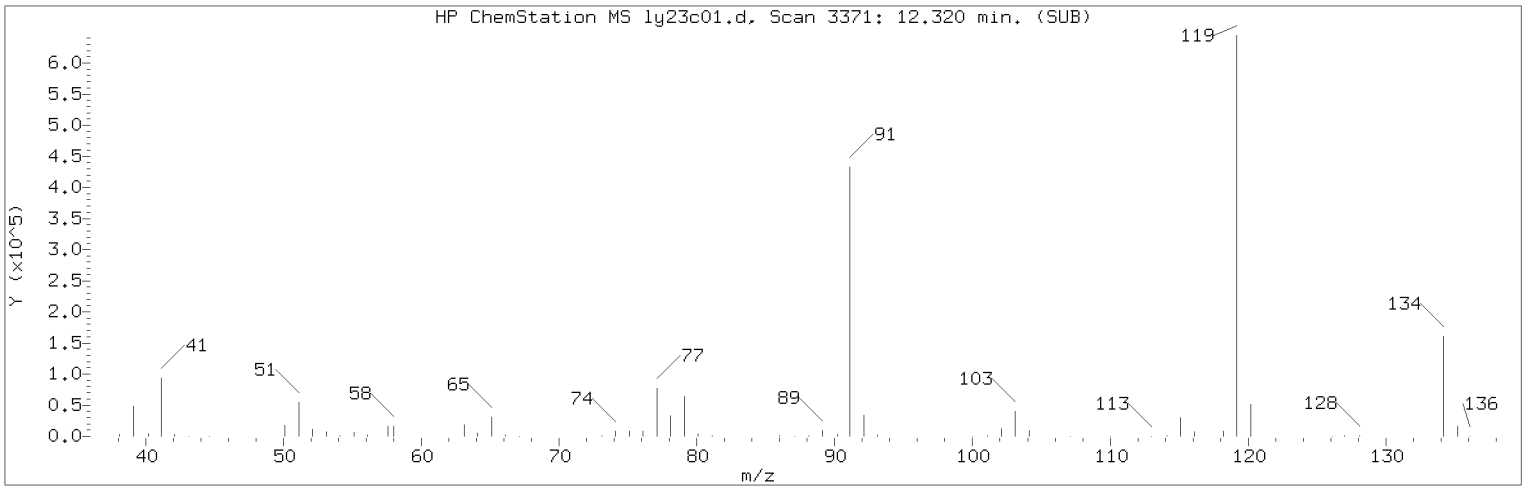
Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:28 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

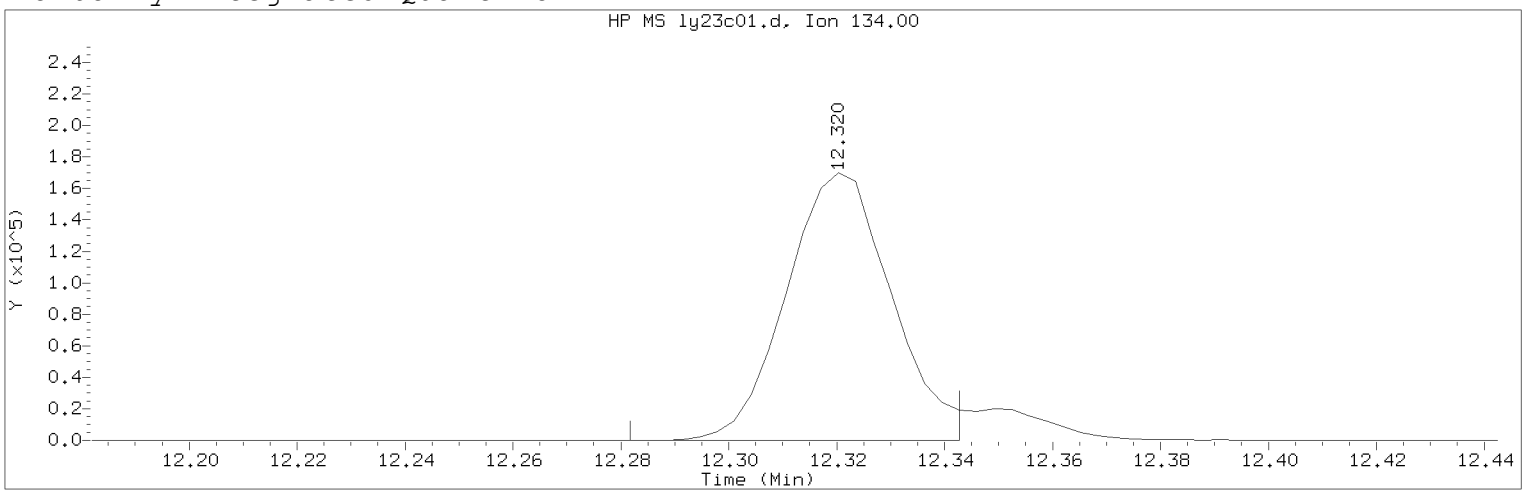
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2021
Retention Time (minutes): 7.980
Quant Ion : 88.00
Area : 58507
On-column Amount (ng) : 720.7677
Integration start scan : 2006 Integration stop scan: 2091
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 05/23/2017 at 18:17.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:56 ads01731

Sample Name: VSTD050 Lab Sample ID: VSTD050

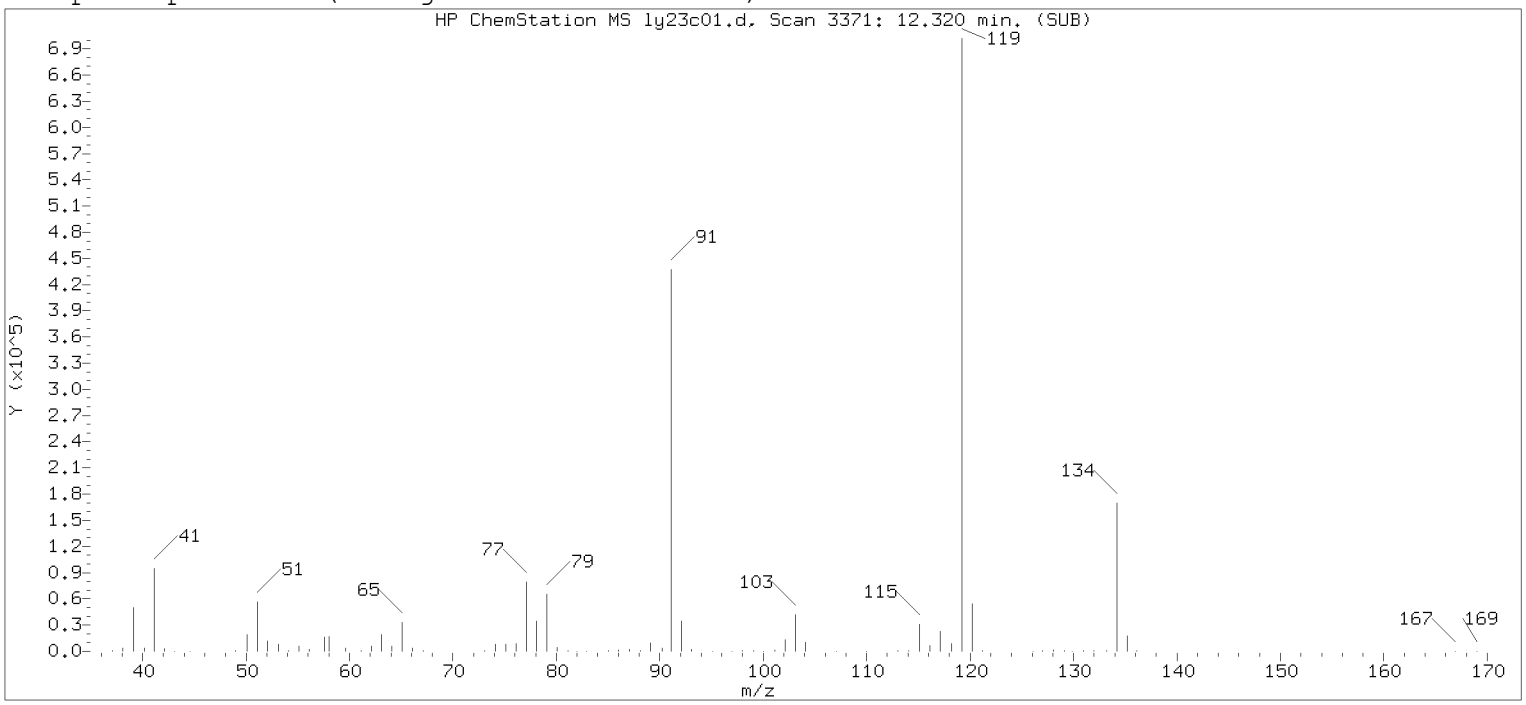
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area (flag) : 229448M
On-Column Amount (ng) : 48.6479
Integration start scan : 3358 Integration stop scan: 3377
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

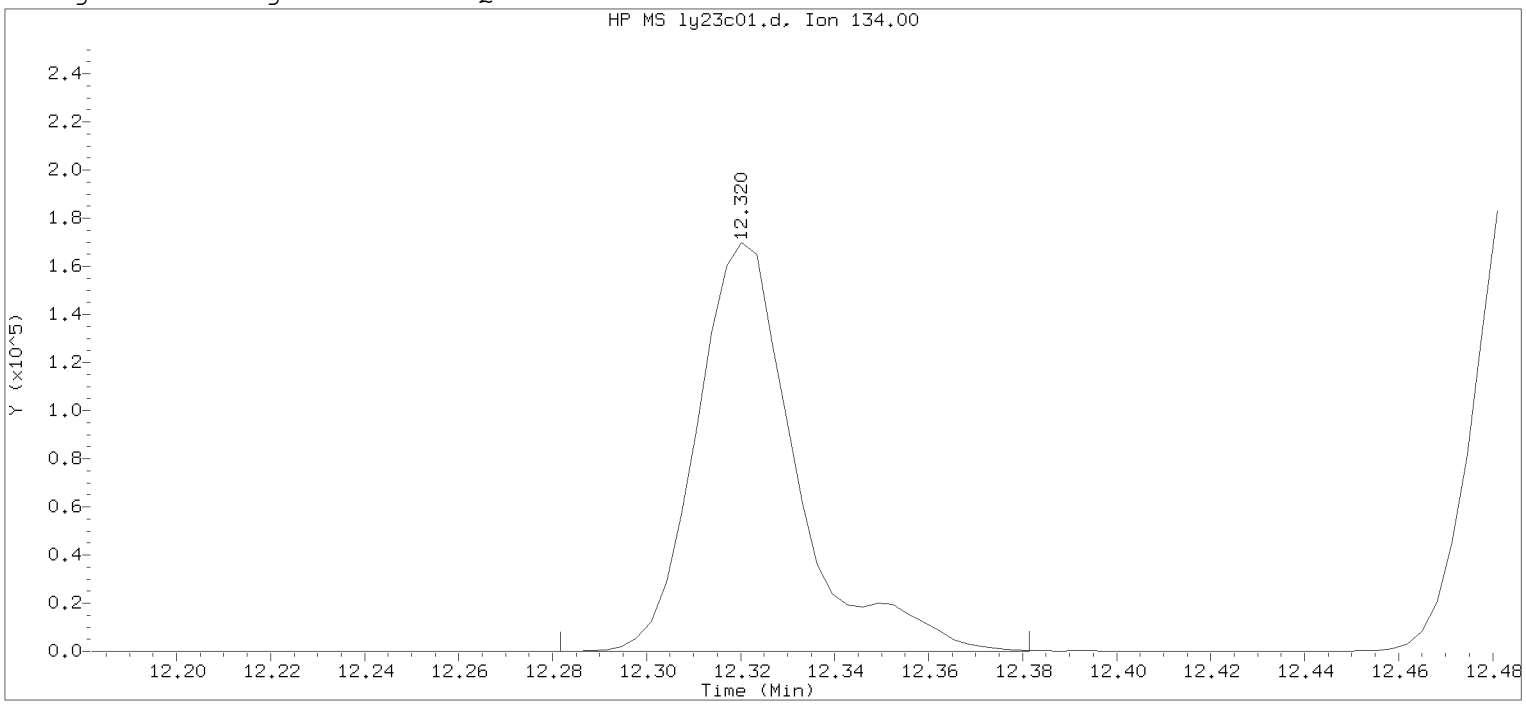
Analyst responsible for change: Digitally signed by Kevin Kelly
on 05/23/2017 at 18:17.
Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:33.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23c01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:10 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:28 Automation

Sample Name: VSTD050 Lab Sample ID: VSTD050

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area : 249734
On-column Amount (ng) : 52.9490
Integration start scan : 3358 Integration stop scan: 3389
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 05/23/2017 at 18:17.
Target 3.5 esignature used [illegible]

Data File: /chem2/HP19094.i/17apr19a.b/ha19t01.d

Date : 19-APR-2017 11:06

Client ID: bfb 50ng

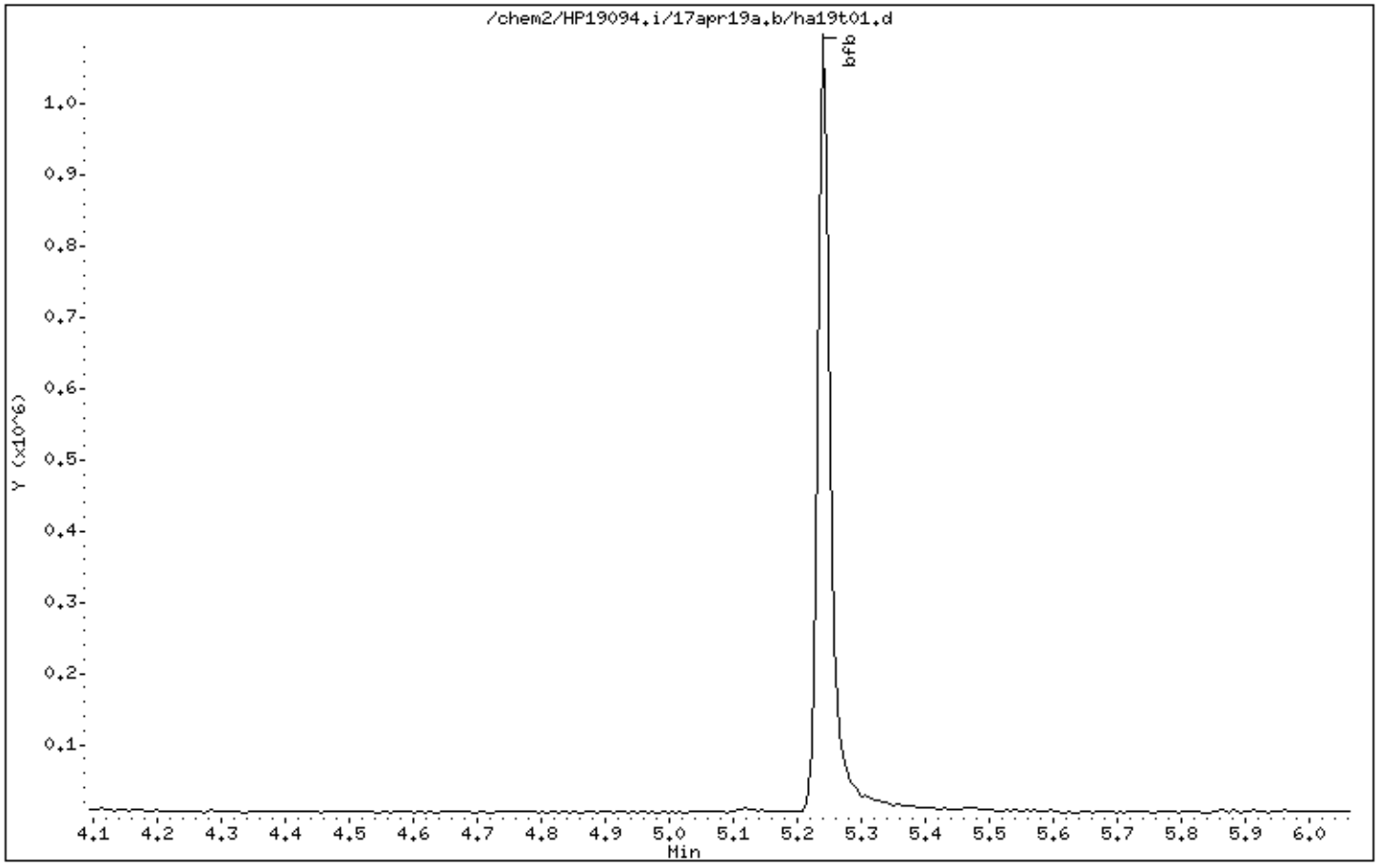
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Data File: /chem2/HP19094.i/17apr19a.b/ha19t01.d

Date : 19-APR-2017 11:06

Client ID: bfb 50ng

Instrument: HP19094.i

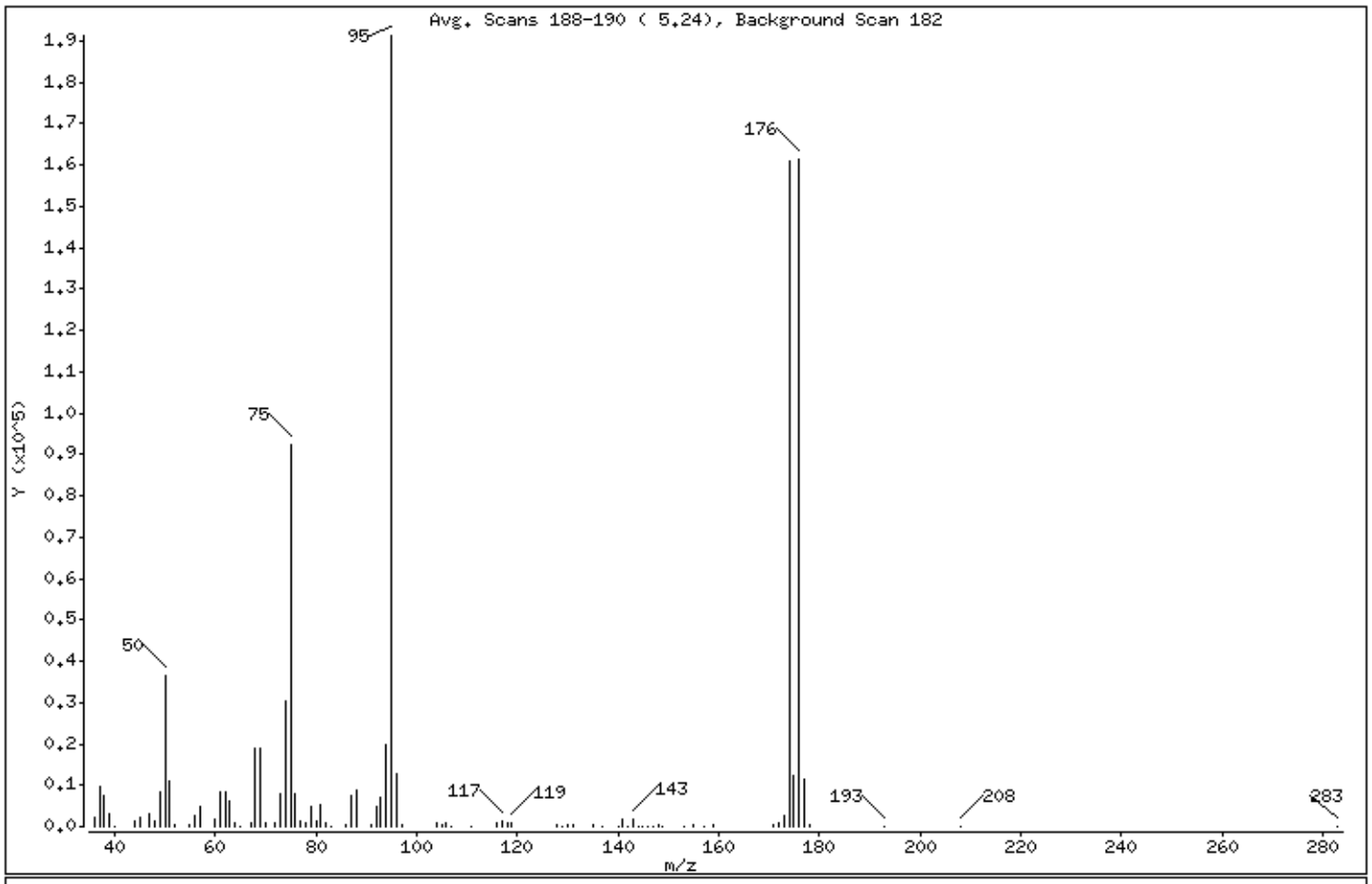
Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.19
75	30.00 - 60.00% of mass 95	48.18
96	5.00 - 9.00% of mass 95	6.59
173	Less than 2.00% of mass 174	1.43 (1.70)
174	50.00 - 100.00% of mass 95	84.20
175	5.00 - 9.00% of mass 174	6.43 (7.64)
176	95.00 - 101.00% of mass 174	84.40 (100.24)
177	5.00 - 9.00% of mass 176	5.99 (7.09)

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Data File: /chem2/HP19094.i/17apr19a.b/ha19t01.d

Date : 19-APR-2017 11:06

Client ID: bfb 50ng

Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

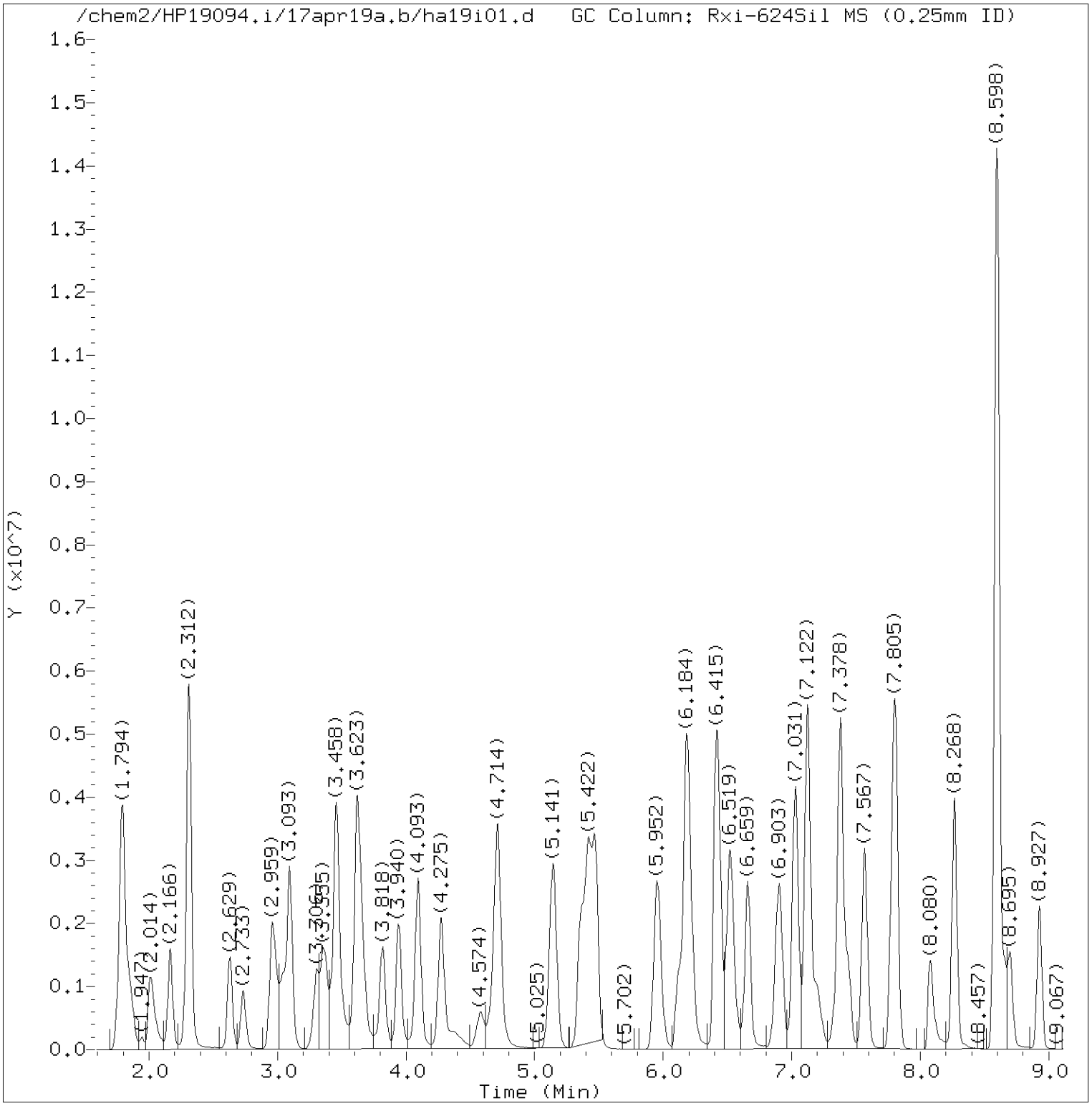
Column phase: Rxi-624Sil MS

Column diameter: 0.25

Data File: ha19t01.d
Spectrum: Avg. Scans 188-190 (5.24), Background Scan 182
Location of Maximum: 95.00
Number of points: 88

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2122	68.00	18720	96.00	12603	146.00	192
37.00	9859	69.00	18992	97.00	520	147.00	99
38.00	7436	70.00	1067	104.00	685	148.00	408
39.00	3175	72.00	876	105.00	297	149.00	88
40.00	31	73.00	7875	106.00	731	153.00	96
44.00	1284	74.00	30256	107.00	198	155.00	284
45.00	2109	75.00	92152	111.00	89	157.00	166
47.00	2890	76.00	7894	116.00	724	159.00	266
48.00	1285	77.00	1471	117.00	1285	171.00	251
49.00	8413	78.00	827	118.00	828	172.00	823
50.00	36704	79.00	4964	119.00	946	173.00	2735
51.00	10836	80.00	1398	128.00	474	174.00	161024
52.00	612	81.00	5345	129.00	129	175.00	12302
55.00	450	82.00	893	130.00	626	176.00	161408
56.00	2425	83.00	90	131.00	474	177.00	11451
57.00	4881	86.00	233	135.00	287	178.00	262
60.00	1660	87.00	7546	137.00	175	193.00	161
61.00	8506	88.00	8585	140.00	115	208.00	97
62.00	8266	91.00	637	141.00	1566	283.00	89
63.00	6087	92.00	4822	142.00	205		
64.00	881	93.00	6954	143.00	1753		
65.00	195	94.00	19696	144.00	105		
67.00	764	95.00	191296	145.00	94		

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

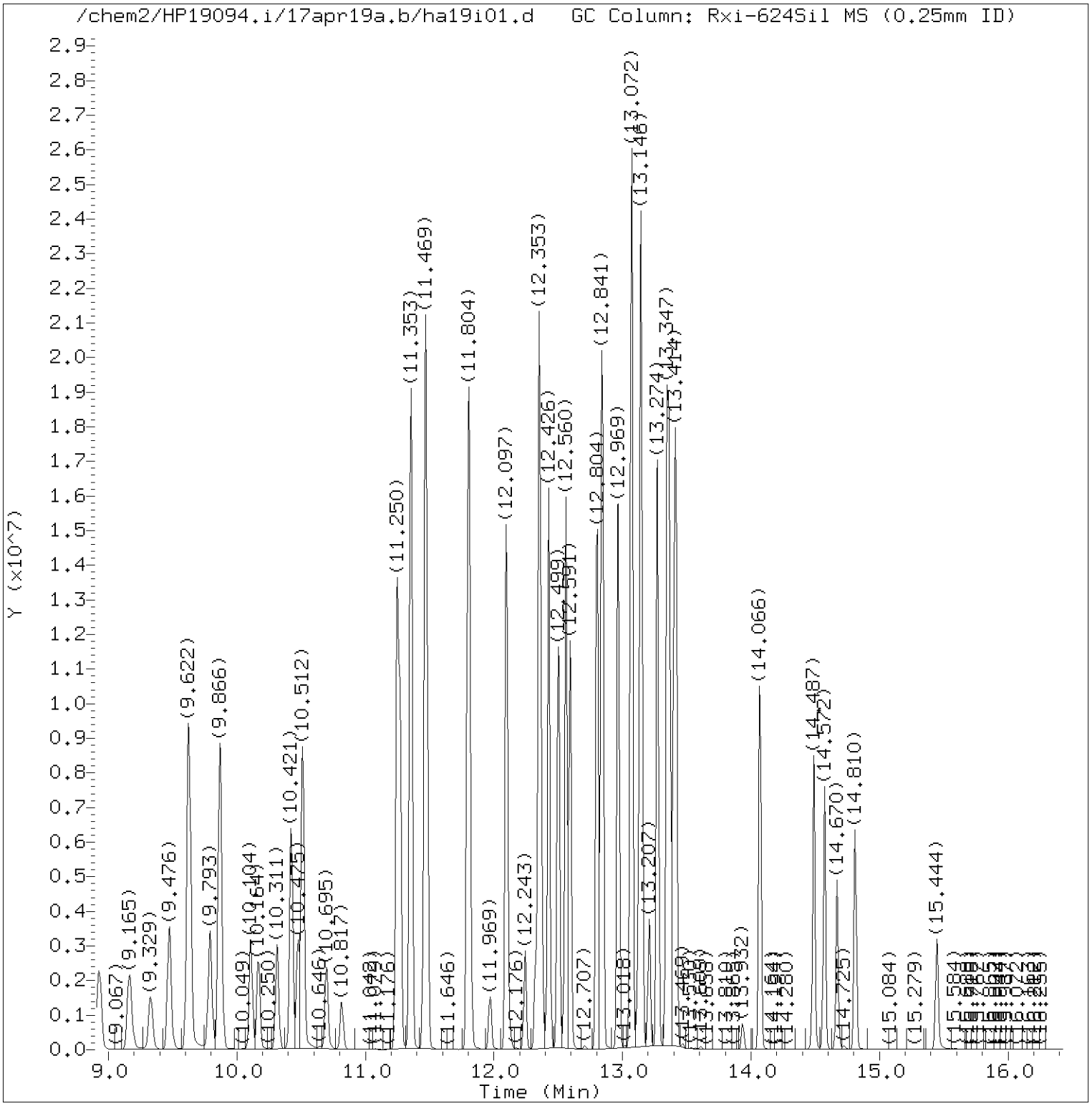
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	2649406	25.000
2) Chloromethane	(2)	2.166	50	2433080	25.000
5) Vinyl Chloride	(2)	2.300	62	2334062	25.000
6) 1,3-Butadiene	(2)	2.312	39	3323098	25.000
7) Bromomethane	(2)	2.629	94	1476891	25.000
8) Chloroethane	(2)	2.733	64	1297243	25.000
9) Dichlorofluoromethane	(2)	2.959	67	3008718	25.000
10) Trichlorofluoromethane	(2)	3.038	101	2760447	25.000
11) Ethyl ether	(2)	3.300	59	1045475	25.000
12) Freon 123a	(2)	3.355	67	2057887	25.000
13) Acrolein	(1)	3.458	56	7126059	1250.000
14) Acetone	(1)	3.617	43	1734007	250.000
15) 1,1-Dichloroethene	(2)	3.617	96	1554167	25.000
16) Freon 113	(2)	3.654	101	1675402	25.000
17) Methyl Iodide	(2)	3.818	142	2852117	25.000
18) Carbon Disulfide	(2)	3.940	76	4459925	25.000
21) Methyl Acetate	(1)	4.056	43	544949M	25.000
22) Allyl Chloride	(2)	4.093	41	3021369	25.000
26)*t-Butyl Alcohol-d10	(1)	4.239	65	74228M	50.000
23) Methylene Chloride	(2)	4.269	84	1661117	25.000
28) t-Butyl Alcohol	(1)	4.373	59	1000559	500.000
29) Acrylonitrile	(1)	4.586	53	1241592	125.000
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	3183865	25.000
31) trans-1,2-Dichloroethene	(2)	4.714	96	1714790	25.000
32) n-Hexane	(2)	5.141	57	2976724	25.000
33) 1,1-Dichloroethane	(2)	5.361	63	3365203	25.000
34) di-Isopropyl Ether	(2)	5.422	45	5946779	25.000
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	3019942	25.000
37) Ethyl t-butyl ether	(2)	5.952	59	4585618	25.000
40) 1,2-Dichloroethene (Total)	(2)		96	3636317	50.000
38) 2-Butanone	(1)	6.123	43	3493953	250.000
39) cis-1,2-Dichloroethene	(2)	6.177	96	1921527	25.000
42) Propionitrile	(1)	6.190	54	1695961	500.000
41) 2,2-Dichloropropane	(2)	6.208	77	2552729	25.000
45) Methacrylonitrile	(1)	6.421	67	3411828	250.000
47) Bromochloromethane	(2)	6.519	128	748713	25.000
48) Tetrahydrofuran	(1)	6.531	71	848708	250.000
49) Chloroform	(2)	6.659	83	3127249	25.000

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	645156	10.000
50)$Dibromofluoromethane	(2)	6.872	111	666179	10.000
51) 1,1,1-Trichloroethane	(2)	6.903	97	2676943	25.000
52) Cyclohexane	(2)	7.031	56	3532511	25.000
52) Cyclohexane	(2)	7.031	84	2754792	25.000
52) Cyclohexane	(2)	7.031	69	1030104	25.000
55) 1,1-Dichloropropene	(2)	7.122	75	2621557	25.000
54) Carbon Tetrachloride	(2)	7.135	117	2313974	25.000
56) Isobutyl Alcohol	(1)	7.202	41	1012416	1250.000
57)$1,2-Dichloroethane-d4	(2)	7.336	102	105495M	10.000
57)$1,2-Dichloroethane-d4	(2)	7.330	65	503219	10.000
57)$1,2-Dichloroethane-d4	(2)	7.336	104	65108	10.000
58) Benzene	(2)	7.378	78	7257611	25.000
59) 1,2-Dichloroethane	(2)	7.439	62	1745072	25.000
60) t-Amyl methyl ether	(2)	7.567	73	3774345	25.000
63)*Fluorobenzene	(2)	7.781	96	2800014	10.000
62) n-Heptane	(2)	7.805	43	3364877	25.000
65) n-Butanol	(1)	8.080	56	1692592A	2500.000
67) Trichloroethene	(2)	8.268	95	1897278	25.000
70) 1,2-Dichloropropane	(2)	8.592	63	1893274	25.000
69) Methylcyclohexane	(2)	8.598	83	3494386	25.000
71) Methyl Methacrylate	(1)	8.659	69	687658A	25.000
72) 1,4-Dioxane	(1)	8.689	88	178200M	1250.000
73) Dibromomethane	(2)	8.701	93	736048	25.000
74) Bromodichloromethane	(2)	8.927	83	2107877	25.000
76) 2-Nitropropane	(1)	9.165	41	2039874	250.000
80) cis-1,3-Dichloropropene	(2)	9.476	75	2541712	25.000
81) 4-Methyl-2-Pentanone	(1)	9.622	43	9102660	250.000
82)$Toluene-d8	(3)	9.793	98	2748817	10.000
82)$Toluene-d8	(3)	9.793	100	1784610	10.000
83) Toluene	(3)	9.866	92	4476189	25.000
84) trans-1,3-Dichloropropene	(3)	10.110	75	1909780	25.000
86) Ethyl Methacrylate	(3)	10.164	69	1449028	25.000
85) 1,3-Dichloropropene (total)	(3)		75	4451492	50.000
88) 1,1,2-Trichloroethane	(3)	10.311	97	1054699	25.000
89) Tetrachloroethene	(3)	10.421	166	2118212	25.000
90) 1,3-Dichloropropane	(3)	10.475	76	1878449	25.000
91) 2-Hexanone	(1)	10.512	43	6370500	250.000

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	1307800	25.000
95) 1,2-Dibromoethane	(3)	10.817	107	990950	25.000
97)*Chlorobenzene-d5	(3)	11.244	117	1967440	10.000
98) Chlorobenzene	(3)	11.268	112	4900907	25.000
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	1664181	25.000
100) Ethylbenzene	(3)	11.353	91	9041800	25.000
101) m+p-Xylene	(3)	11.469	106	6914491	50.000
105) Xylene (Total)	(3)		106	10305528	75.000
104) o-Xylene	(3)	11.798	106	3391037	25.000
106) Styrene	(3)	11.810	104	5383329	25.000
107) Bromoform	(3)	11.969	173	705857	25.000
108) Isopropylbenzene	(3)	12.097	105	8949706	25.000
111)$4-Bromofluorobenzene	(3)	12.243	95	834801	10.000
111)$4-Bromofluorobenzene	(3)	12.243	174	746536	10.000
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	1242048	25.000
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	2752141A	250.000
114) Bromobenzene	(4)	12.359	156	1974472	25.000
116) 1,2,3-Trichloropropane	(4)	12.377	110	308943	25.000
117) n-Propylbenzene	(4)	12.426	91	11023934	25.000
119) 2-Chlorotoluene	(4)	12.505	126	2066143	25.000
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	7551326	25.000
122) 4-Chlorotoluene	(4)	12.591	126	2075318	25.000
125) tert-Butylbenzene	(4)	12.804	134	1625959M	25.000
126) Pentachloroethane	(4)	12.835	167	1223399	25.000
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	7680342	25.000
128) sec-Butylbenzene	(4)	12.969	105	10077306	25.000
131) 1,3-Dichlorobenzene	(4)	13.066	146	4072688	25.000
132) p-Isopropyltoluene	(4)	13.072	119	8537787	25.000
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	879364	10.000
134) 1,4-Dichlorobenzene	(4)	13.140	146	3937032	25.000
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	3159824	25.000
136) Benzyl Chloride	(4)	13.207	126	489784	25.000
138) n-Butylbenzene	(4)	13.365	92	4448293	25.000
139) 1,2-Dichlorobenzene	(4)	13.396	146	3460522	25.000
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	146624	25.000
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	2422012	25.000
146) Hexachlorobutadiene	(4)	14.572	225	1293703	25.000
147) Naphthalene	(4)	14.670	128	3408445	25.000

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

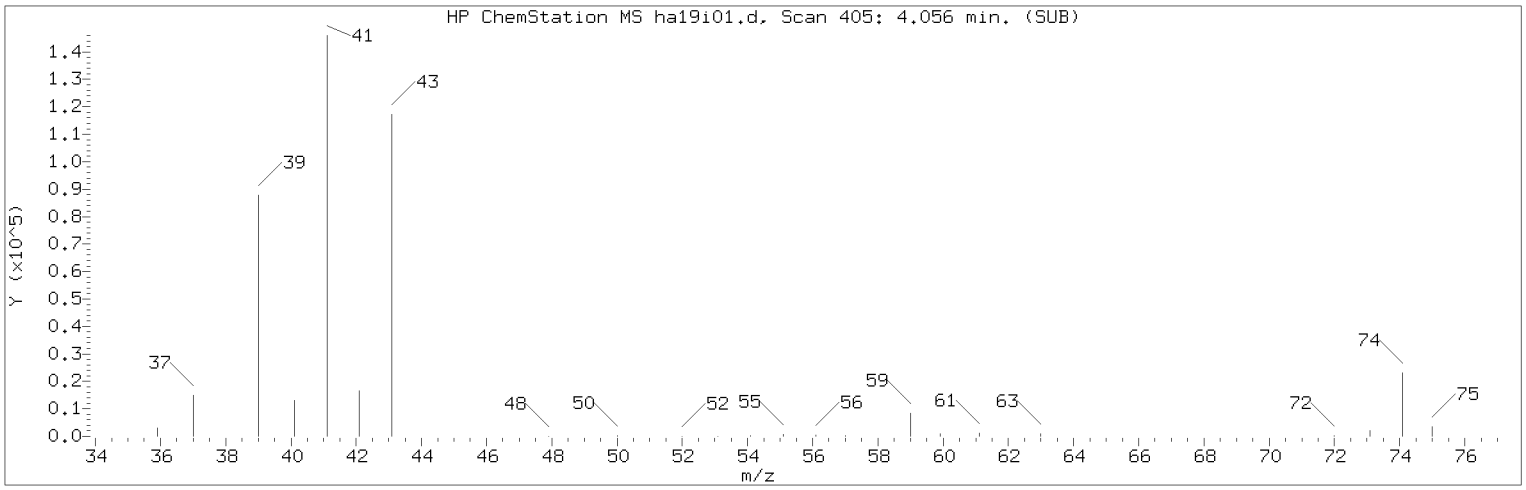
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

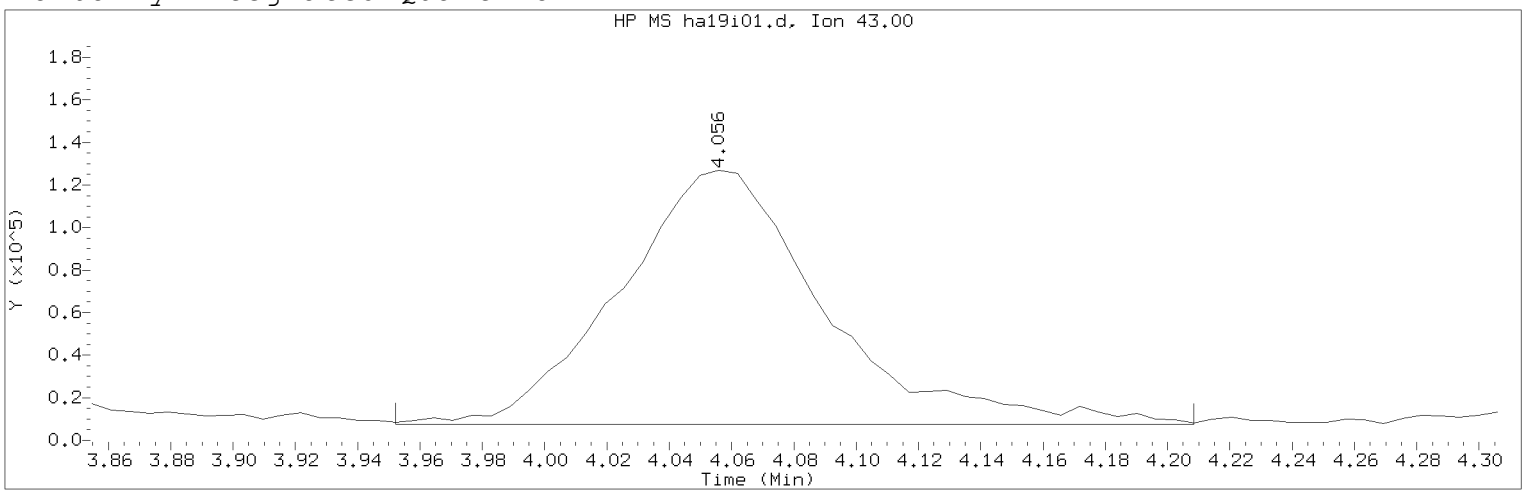
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	1848294	25.000

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

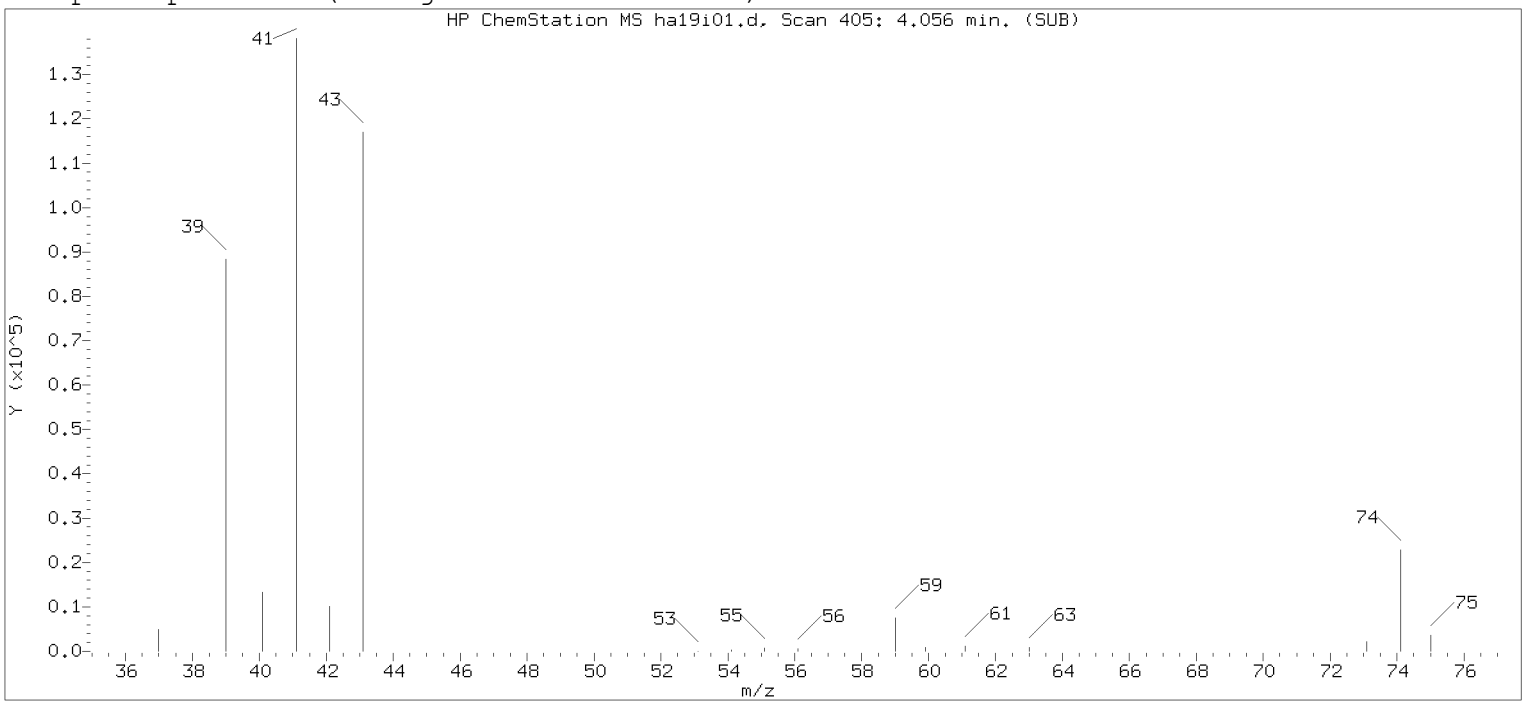
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 405
Retention Time (minutes): 4.056
Quant Ion : 43.00
Area (flag) : 544949M
On-Column Amount (ng) : 25.0000
Integration start scan : 387 Integration stop scan: 429
Y at integration start : 7622 Y at integration end: 7622

Reason for manual integration: improper integration

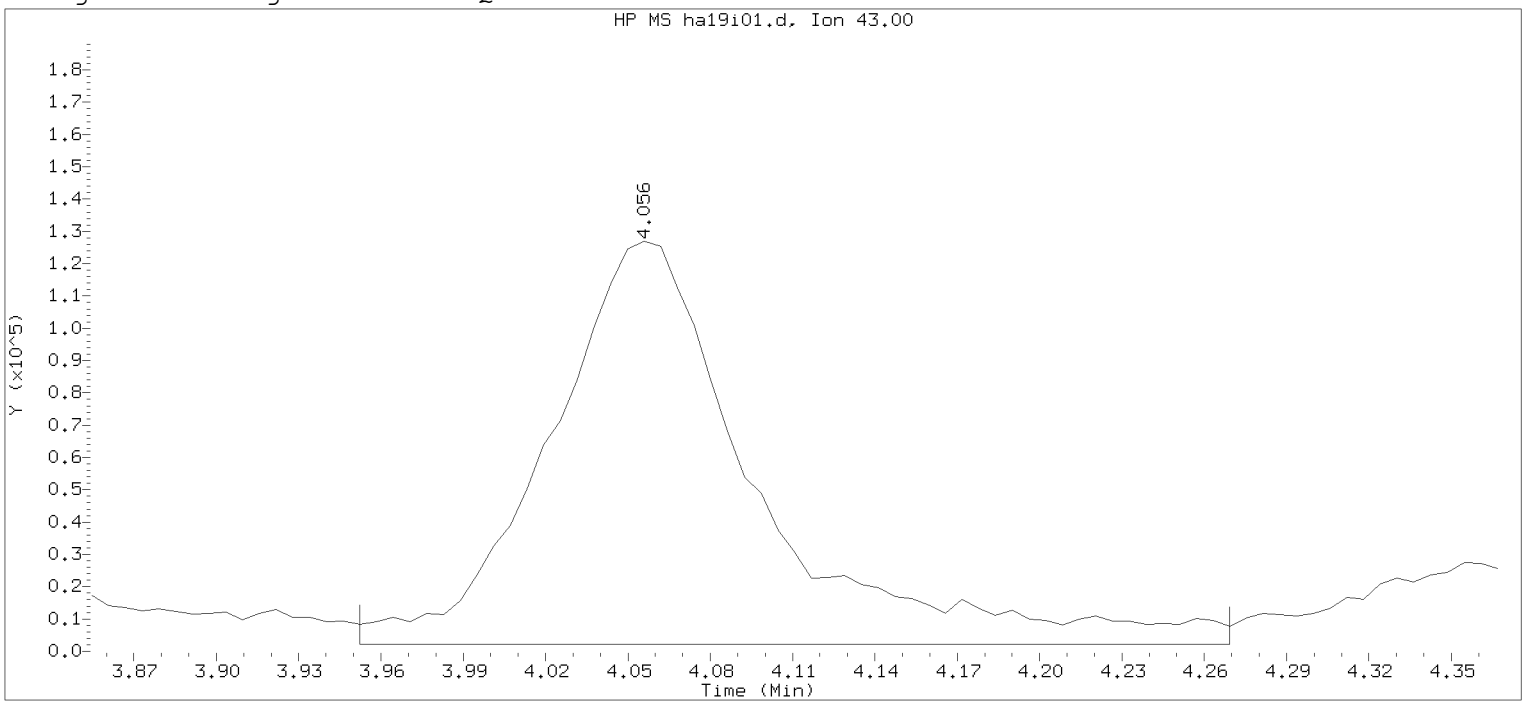
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

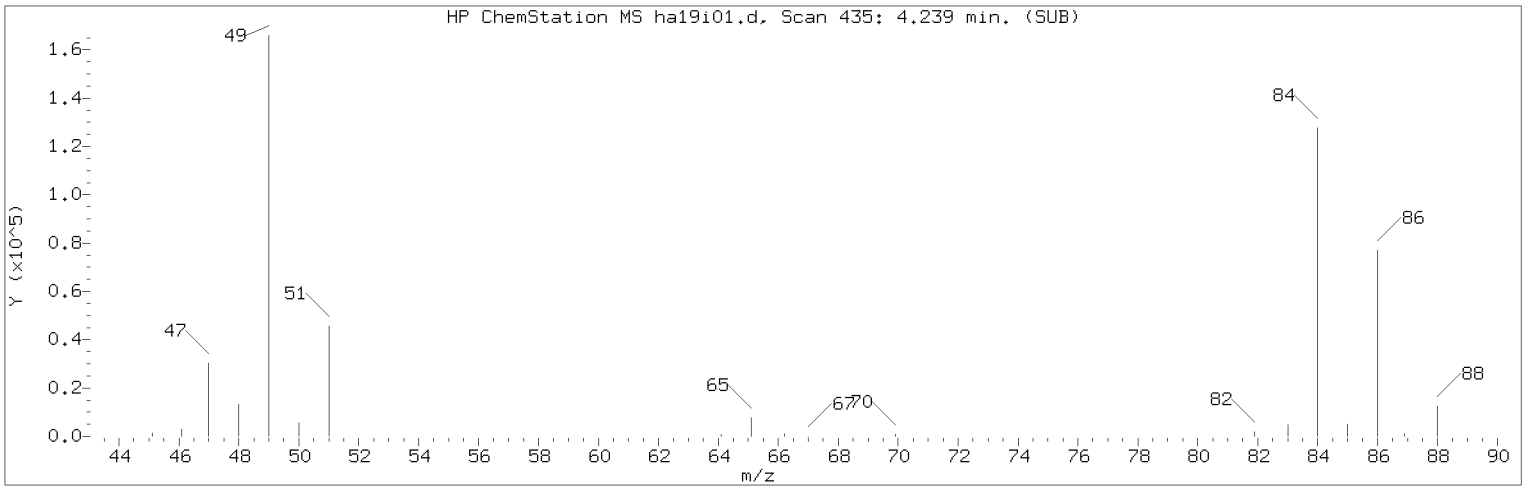
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

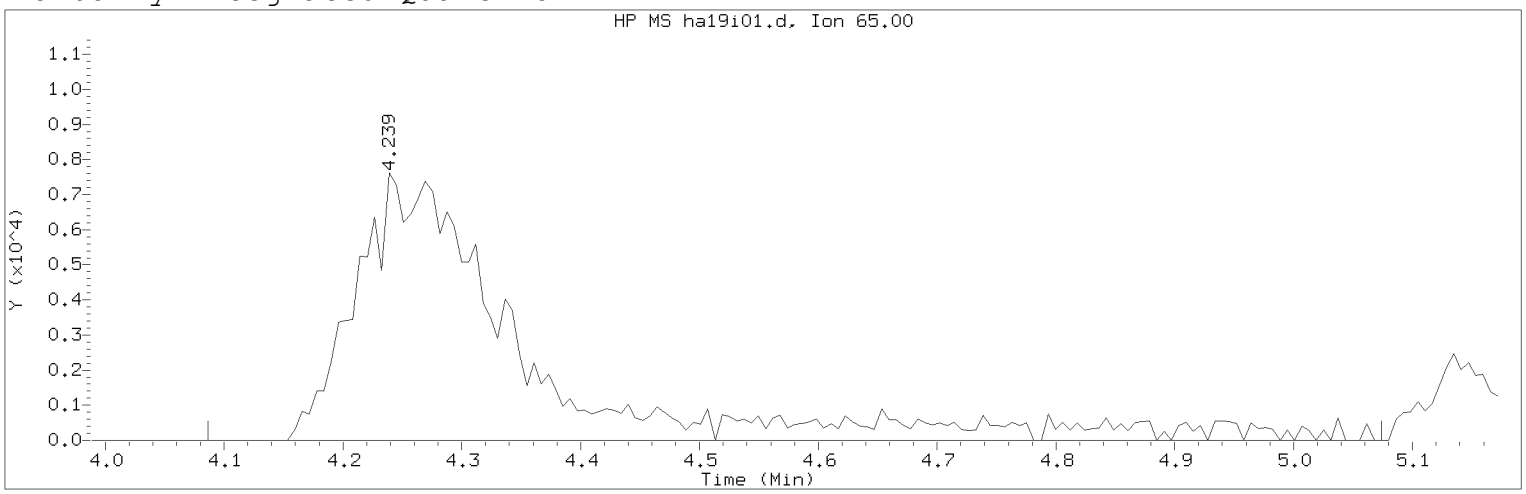
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 405
Retention Time (minutes): 4.056
Quant Ion : 43.00
Area : 653266
On-column Amount (ng) : 37.3024
Integration start scan : 387 Integration stop scan: 439
Y at integration start : 2224 Y at integration end: 2224

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2508

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

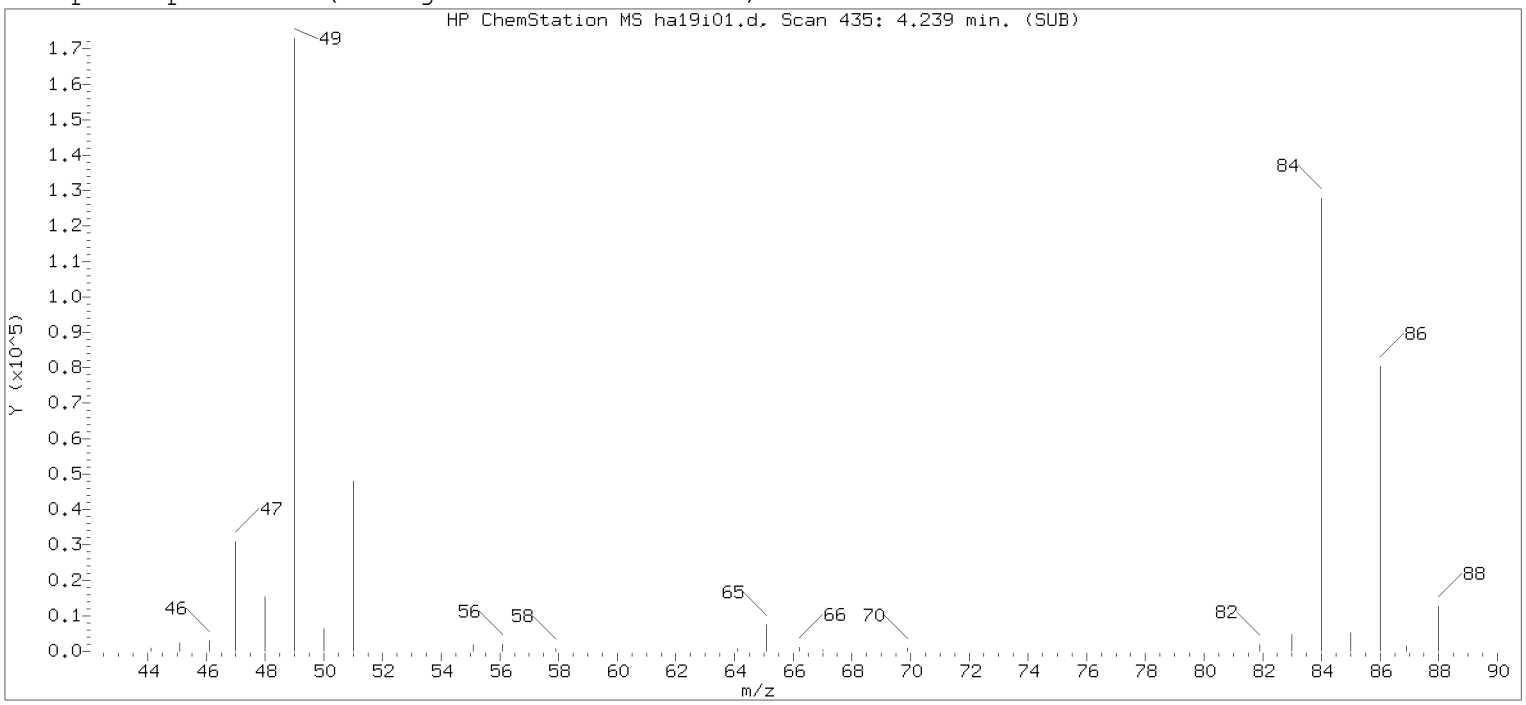
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 435
Retention Time (minutes): 4.239
Quant Ion : 65.00
Area (flag) : 74228M
On-Column Amount (ng) : 50.0000
Integration start scan : 409 Integration stop scan: 571
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

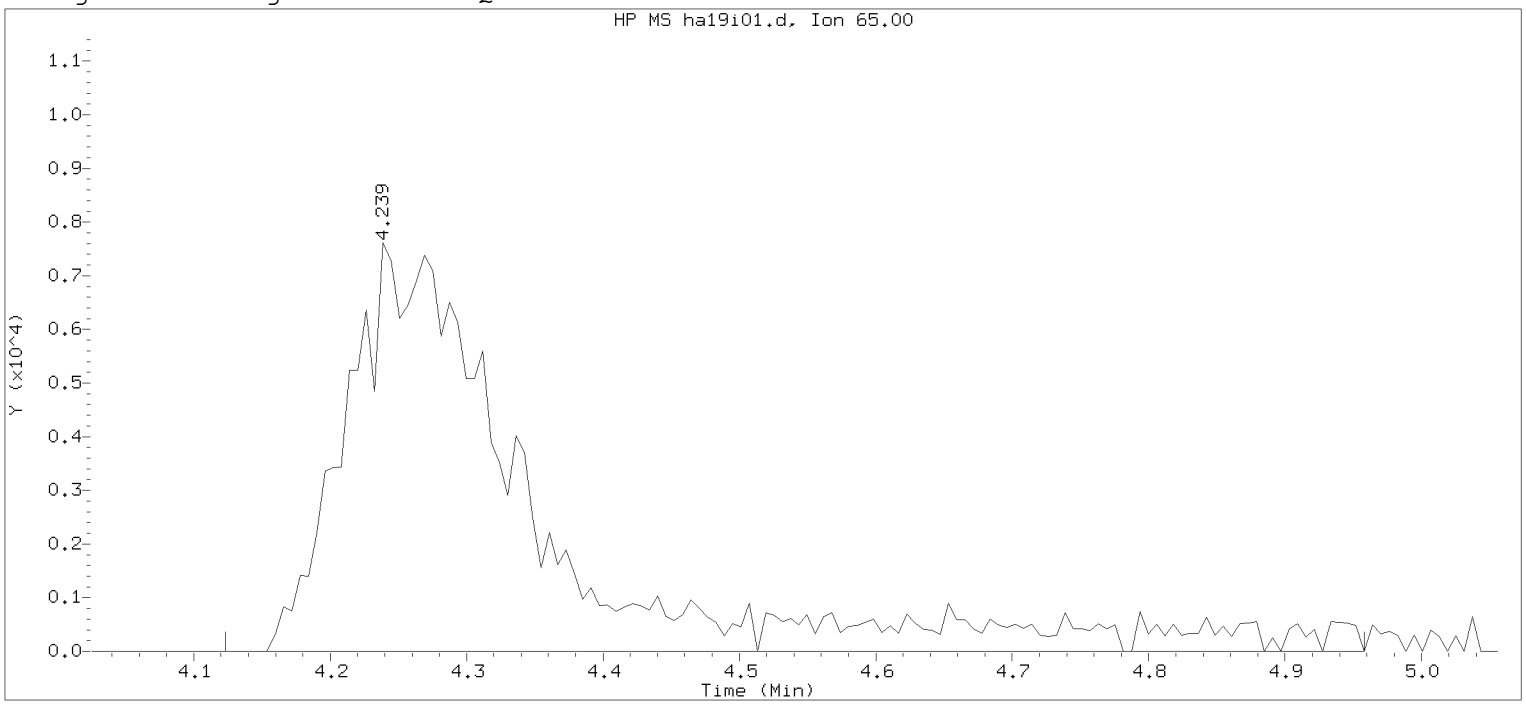
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

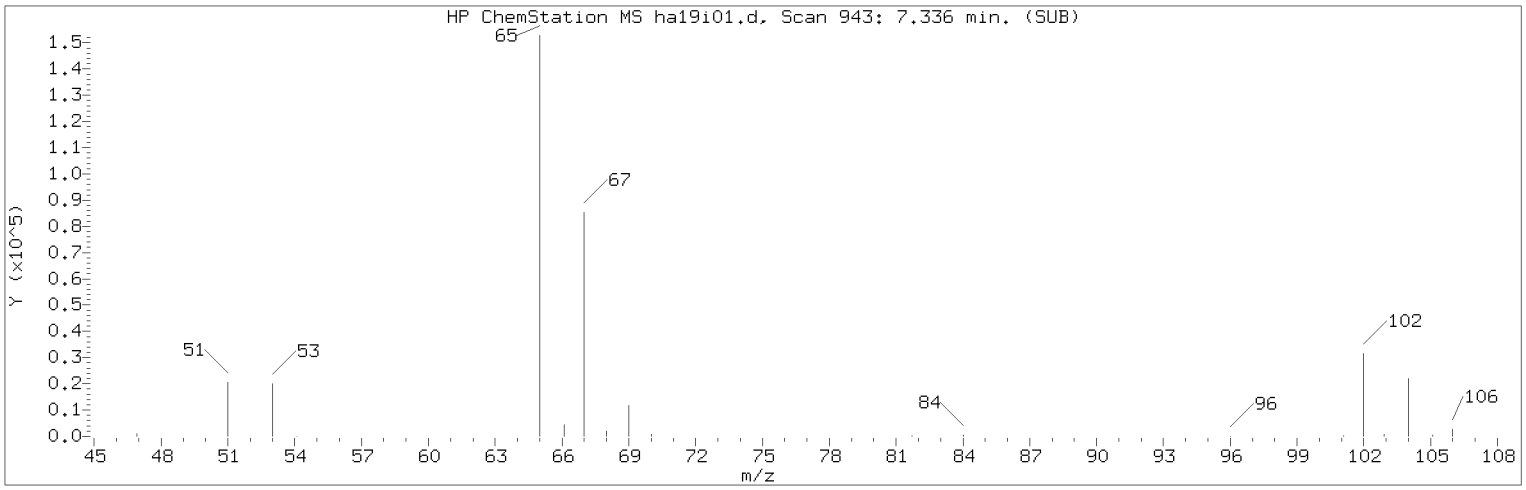
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

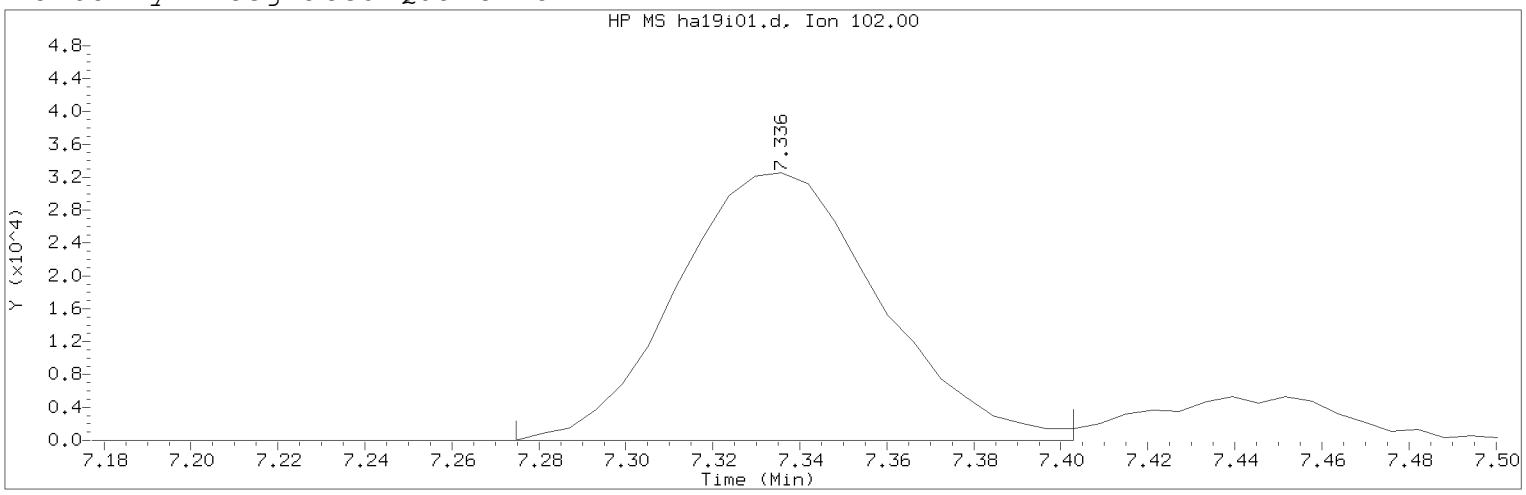
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 435
Retention Time (minutes): 4.239
Quant Ion : 65.00
Area : 72809
On-column Amount (ng) : 50.0000
Integration start scan : 415 Integration stop scan: 552
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user k[illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

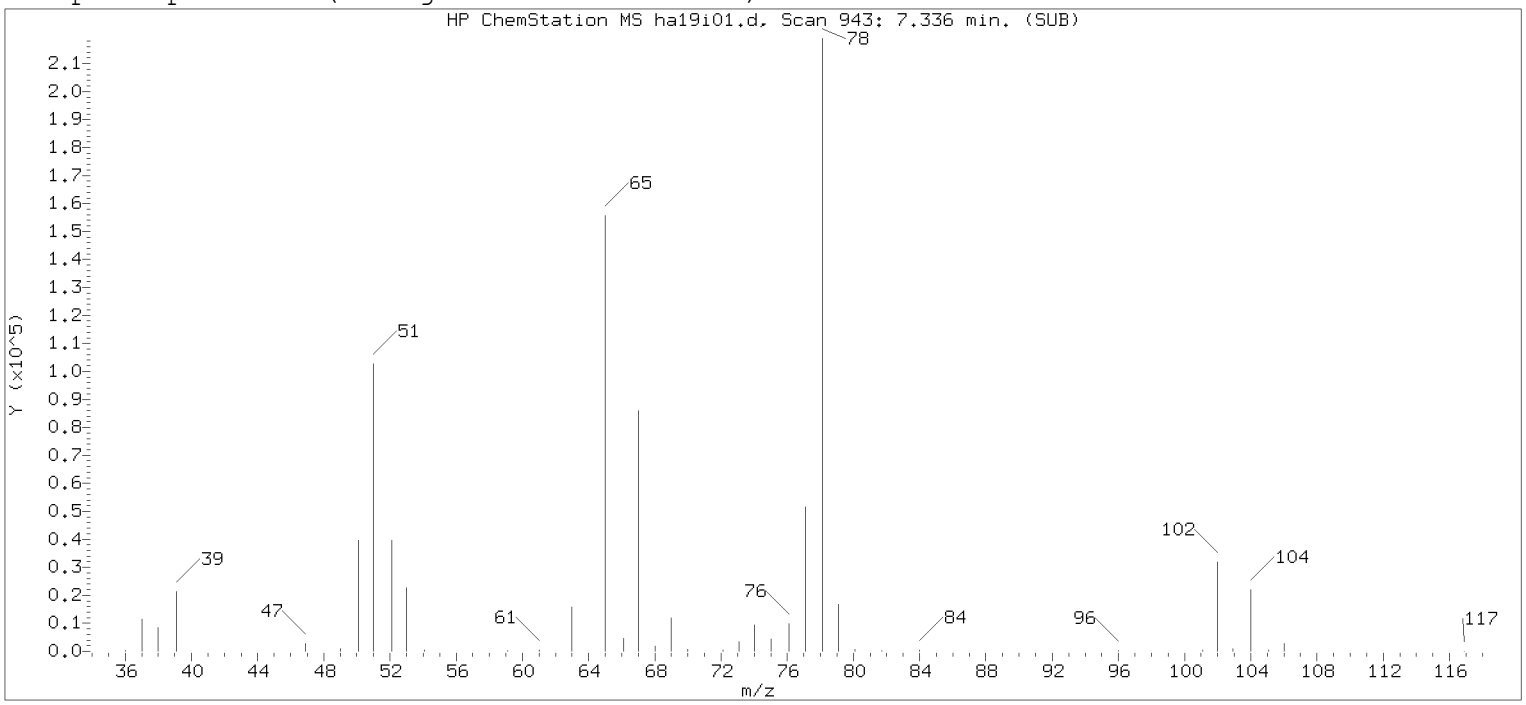
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 943
Retention Time (minutes): 7.336
Quant Ion : 102.00
Area (flag) : 105495M
On-Column Amount (ng) : 10.0000
Integration start scan : 932 Integration stop scan: 953
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

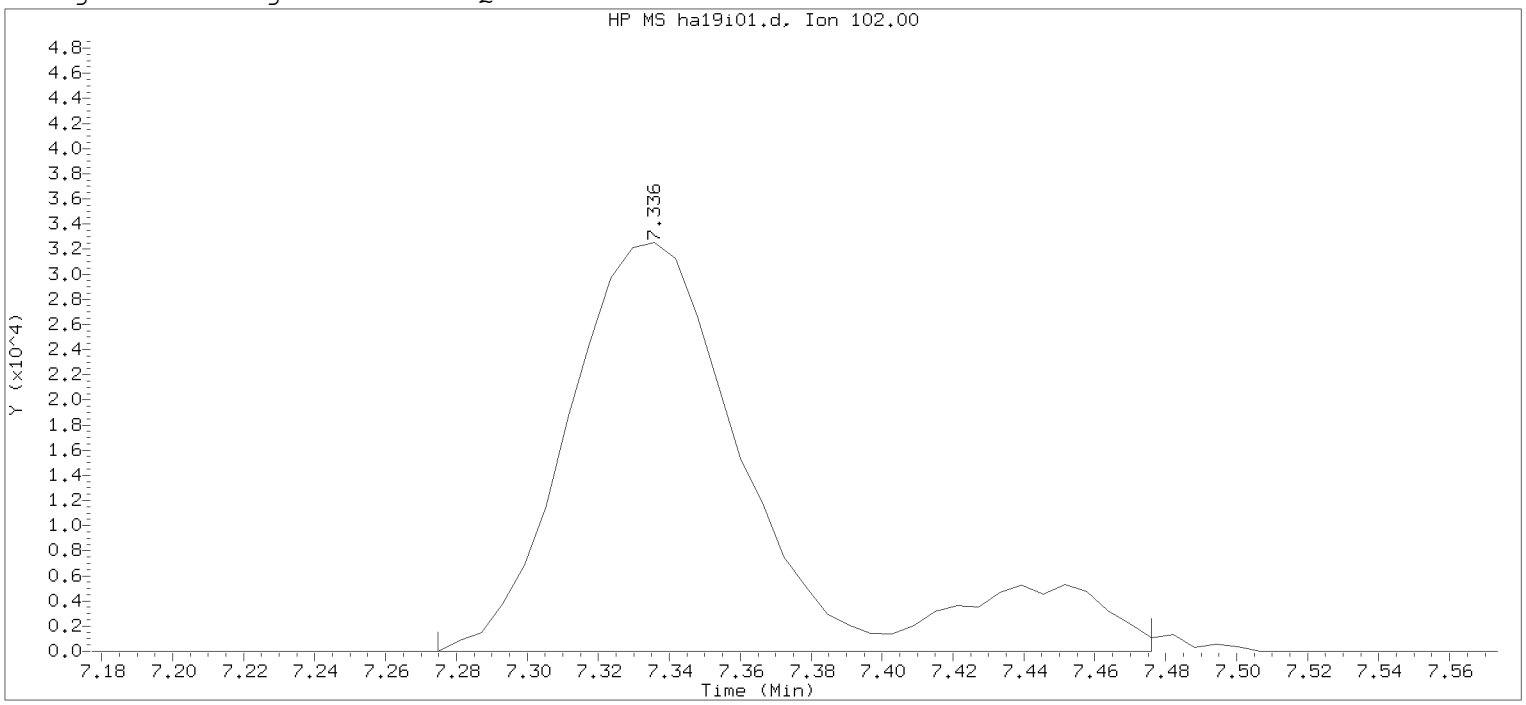
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

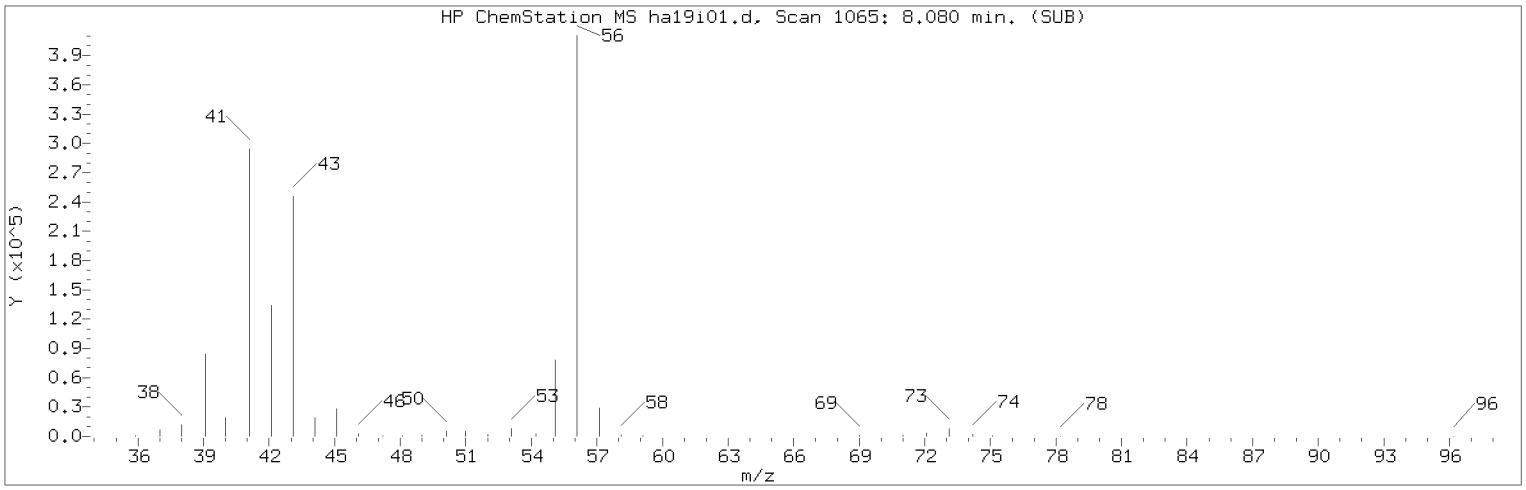
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

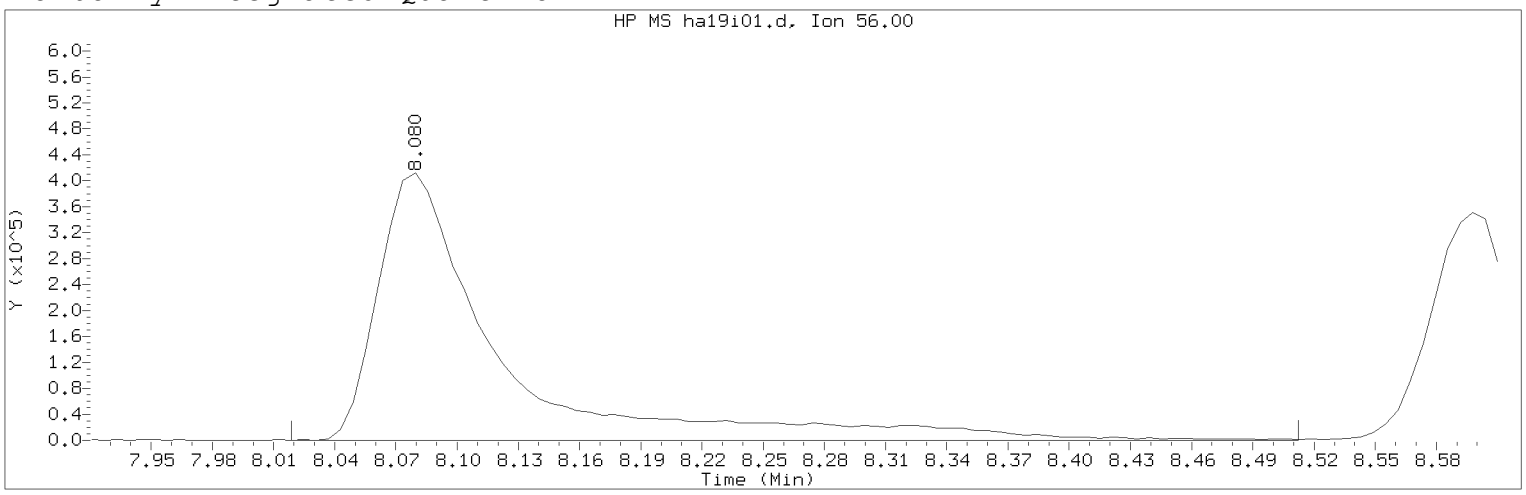
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 943
Retention Time (minutes): 7.336
Quant Ion : 102.00
Area : 121172
On-column Amount (ng) : 11.6756
Integration start scan : 932 Integration stop scan: 965
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key ID: 0x2E8

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

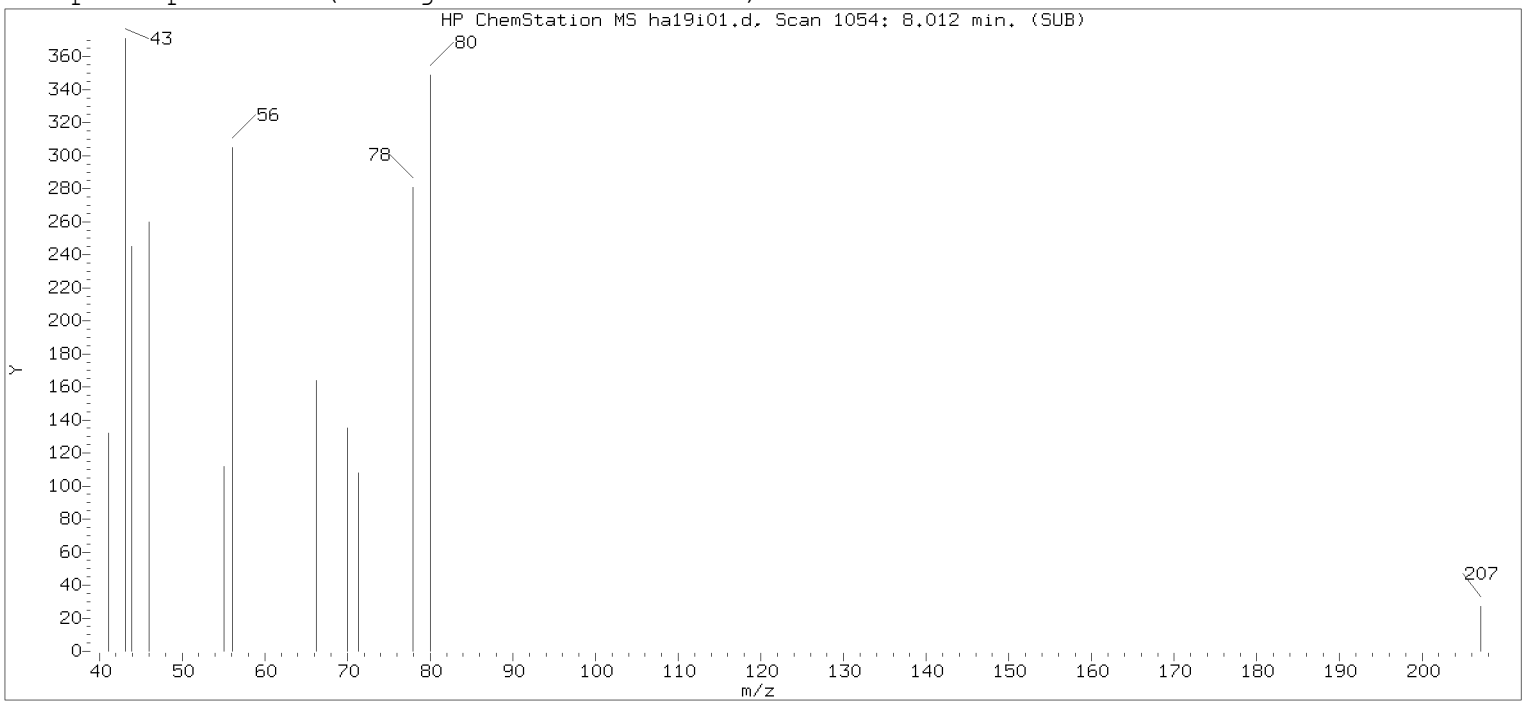
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1065
Retention Time (minutes): 8.080
Quant Ion : 56.00
Area (flag) : 1692592A
On-Column Amount (ng) : 2500.0000
Integration start scan : 1054 Integration stop scan: 1135
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

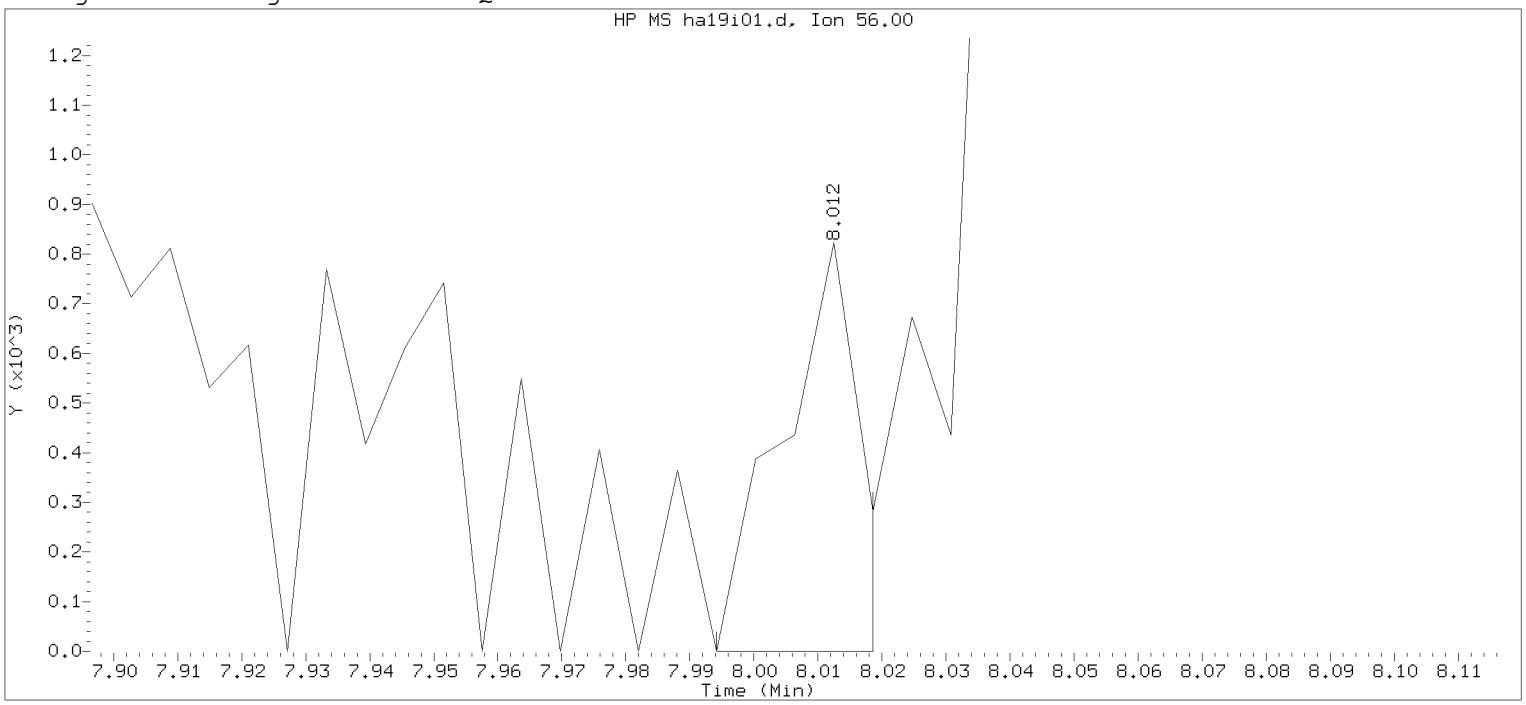
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

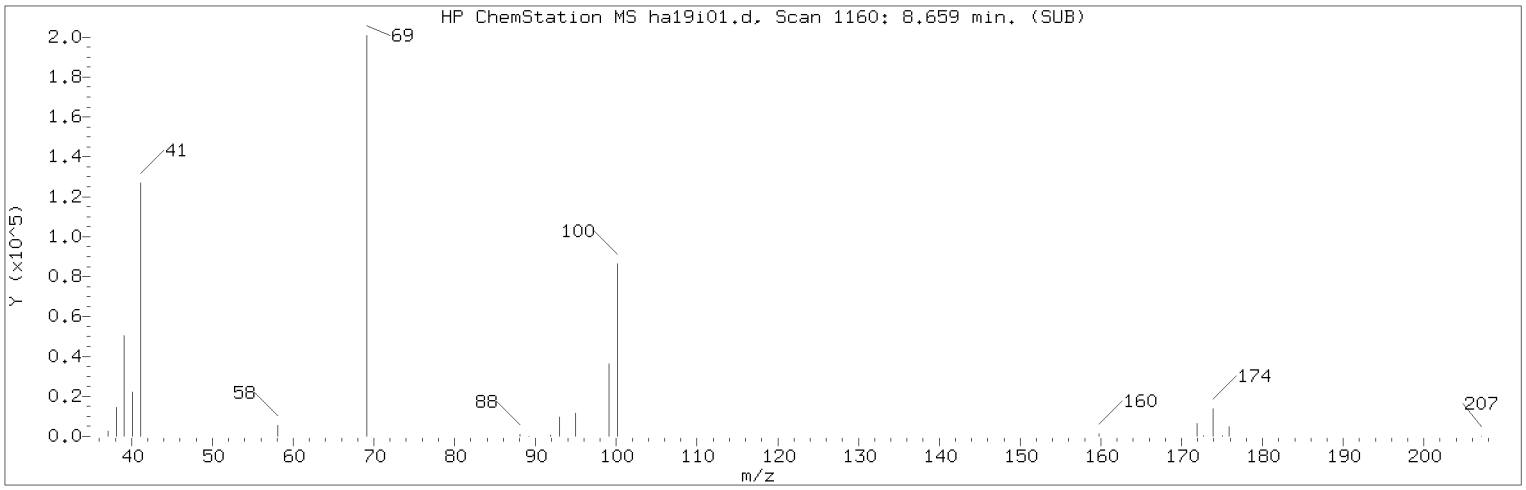
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

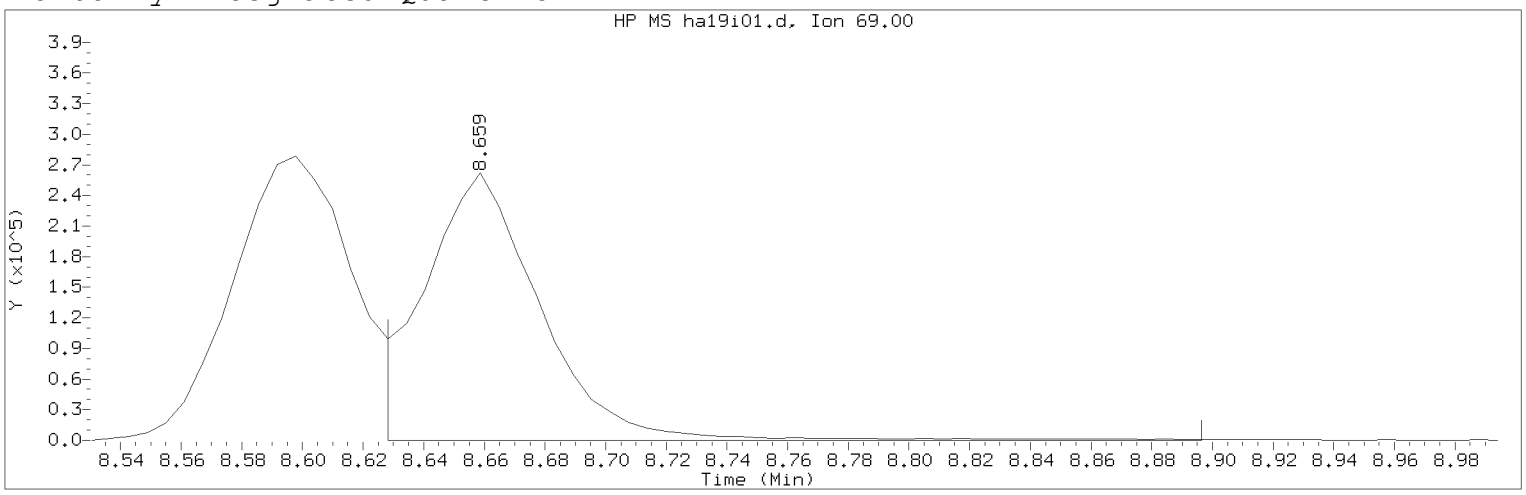
Compound Number	: 65		
Compound Name	: n-Butanol		
Scan Number	: 1054		
Retention Time (minutes)	: 8.012		
Quant Ion	: 56.00		
Area	: 654		
On-column Amount (ng)	: 1.1644		
Integration start scan	: 1050	Integration stop scan	: 1054
Y at integration start	: 0	Y at integration end	: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2.5.16.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

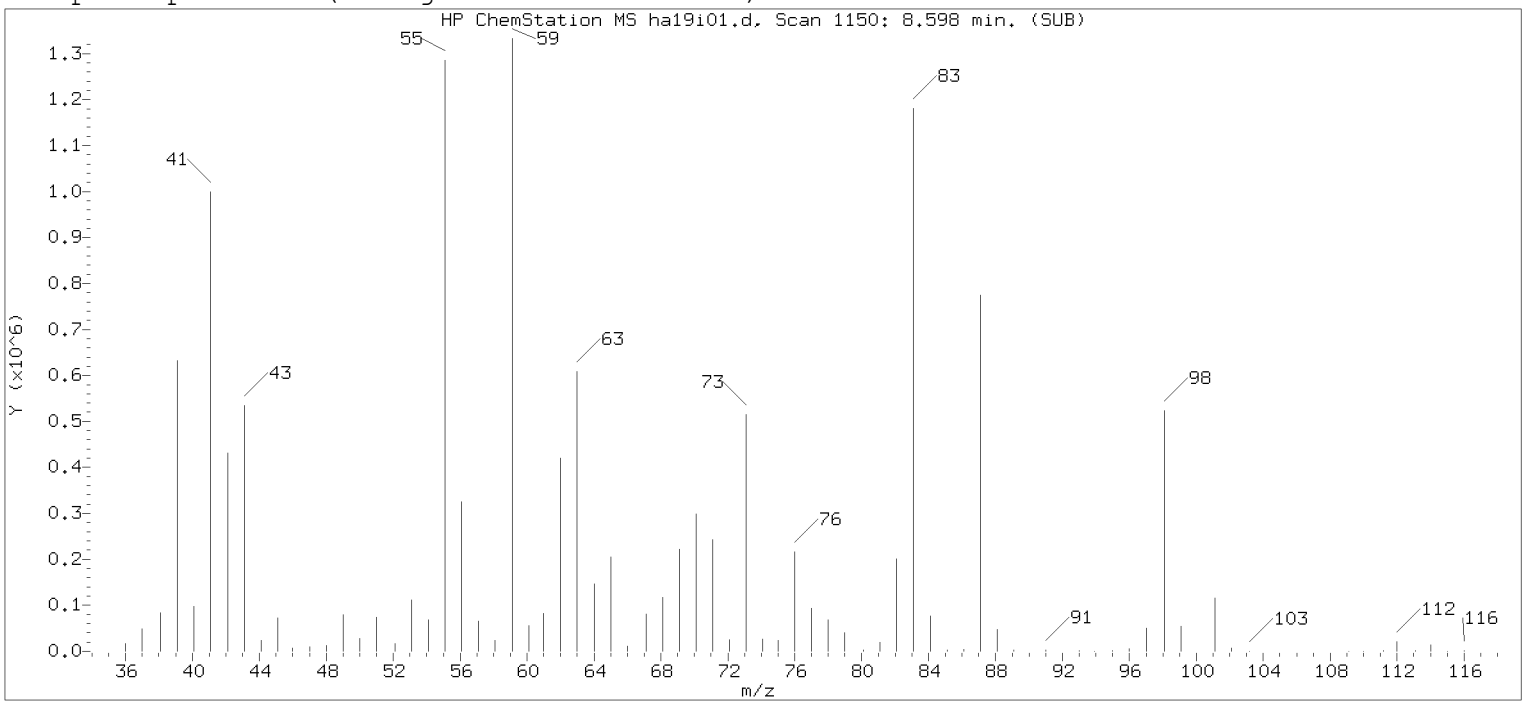
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 687658A
On-Column Amount (ng) : 25.0000
Integration start scan : 1154 Integration stop scan: 1198
Y at integration start : 166 Y at integration end: 259

Reason for manual integration: improper integration

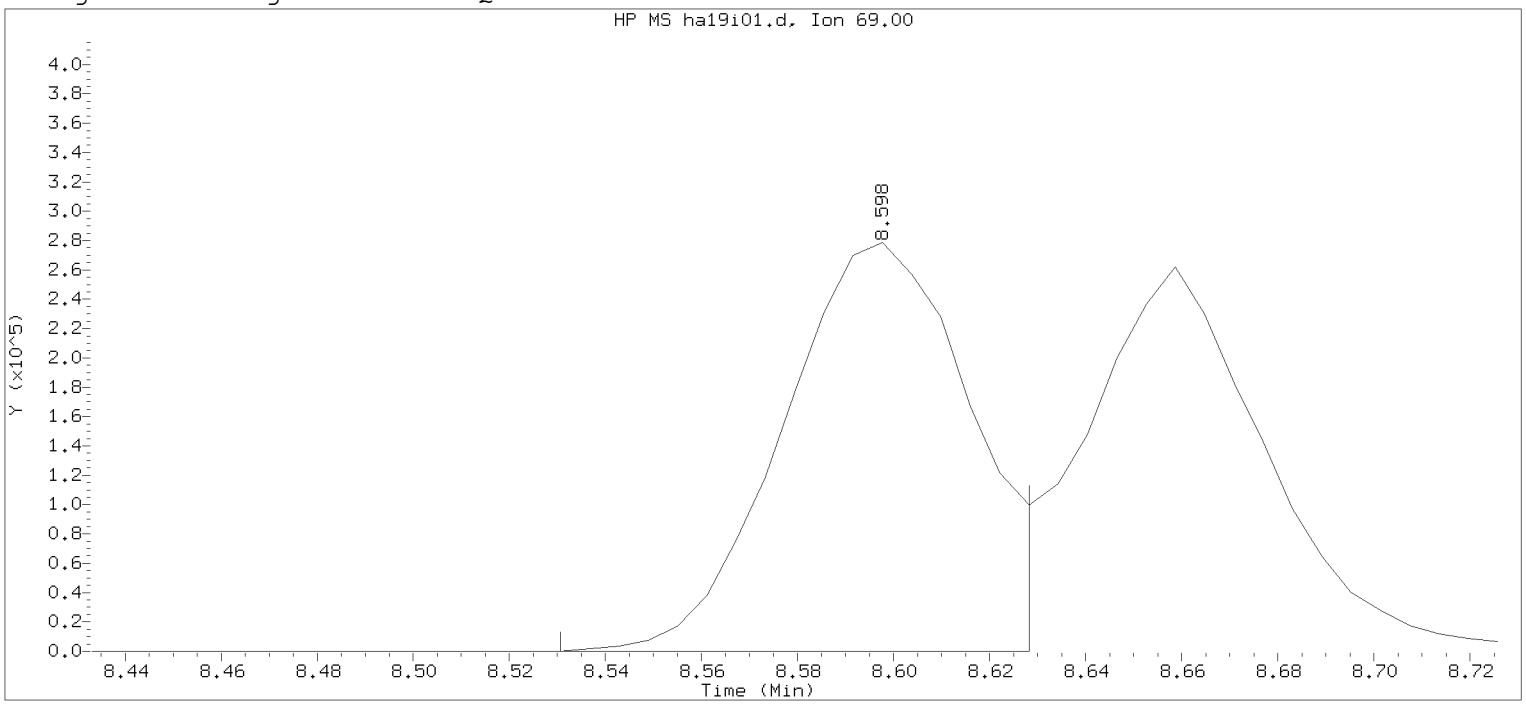
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

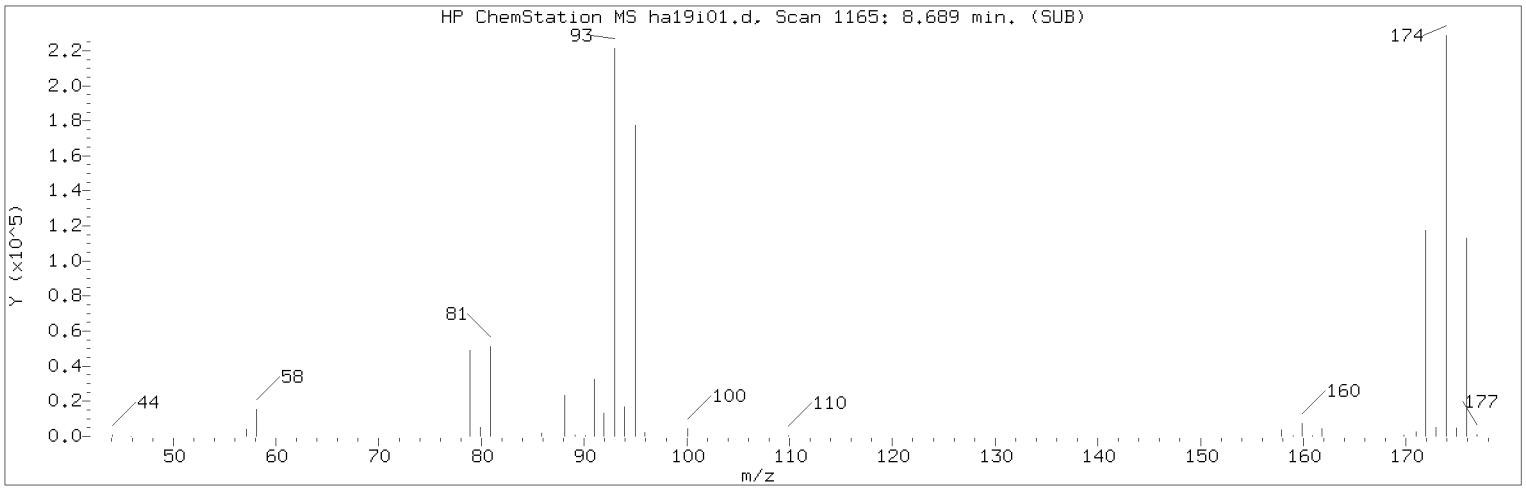
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

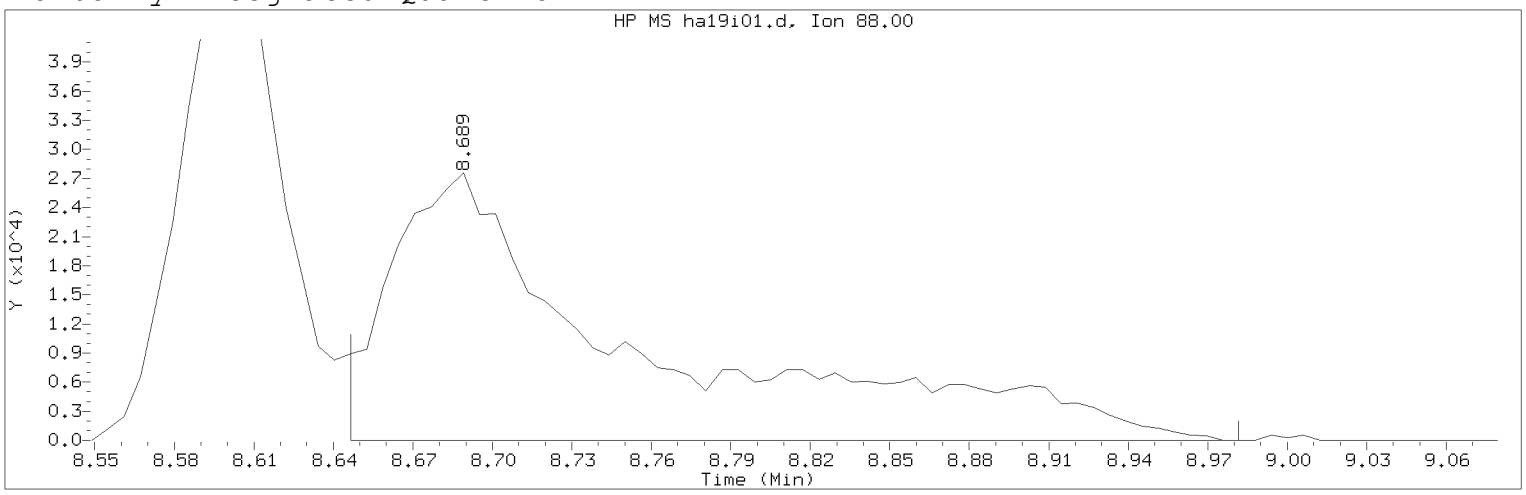
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 69.00
Area : 746664
On-column Amount (ng) : 35.1292
Integration start scan : 1138 Integration stop scan: 1154
Y at integration start : 0 Y at integration end: 166

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key ID: 0x2E5B

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

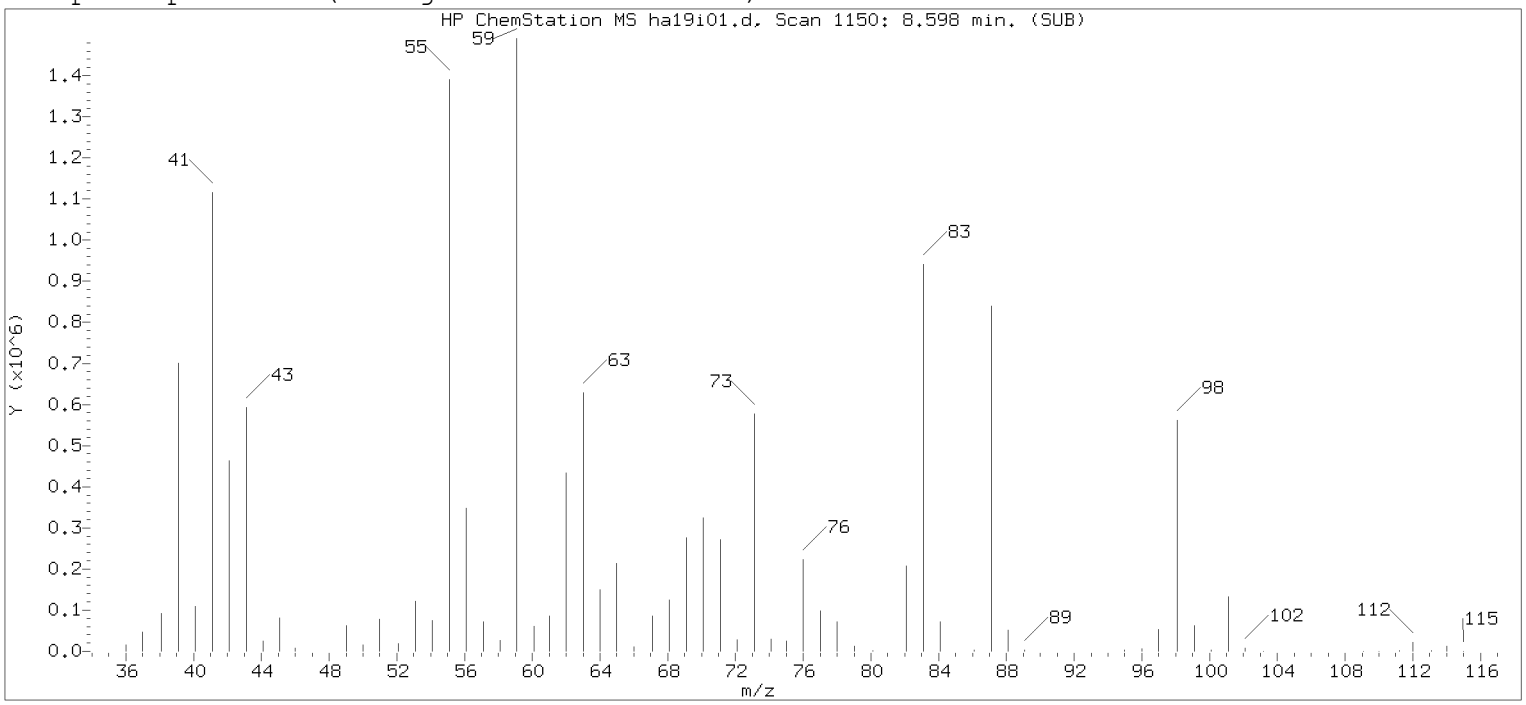
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1165
Retention Time (minutes): 8.689
Quant Ion : 88.00
Area (flag) : 178200M
On-Column Amount (ng) : 1250.0000
Integration start scan : 1157 Integration stop scan: 1212
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

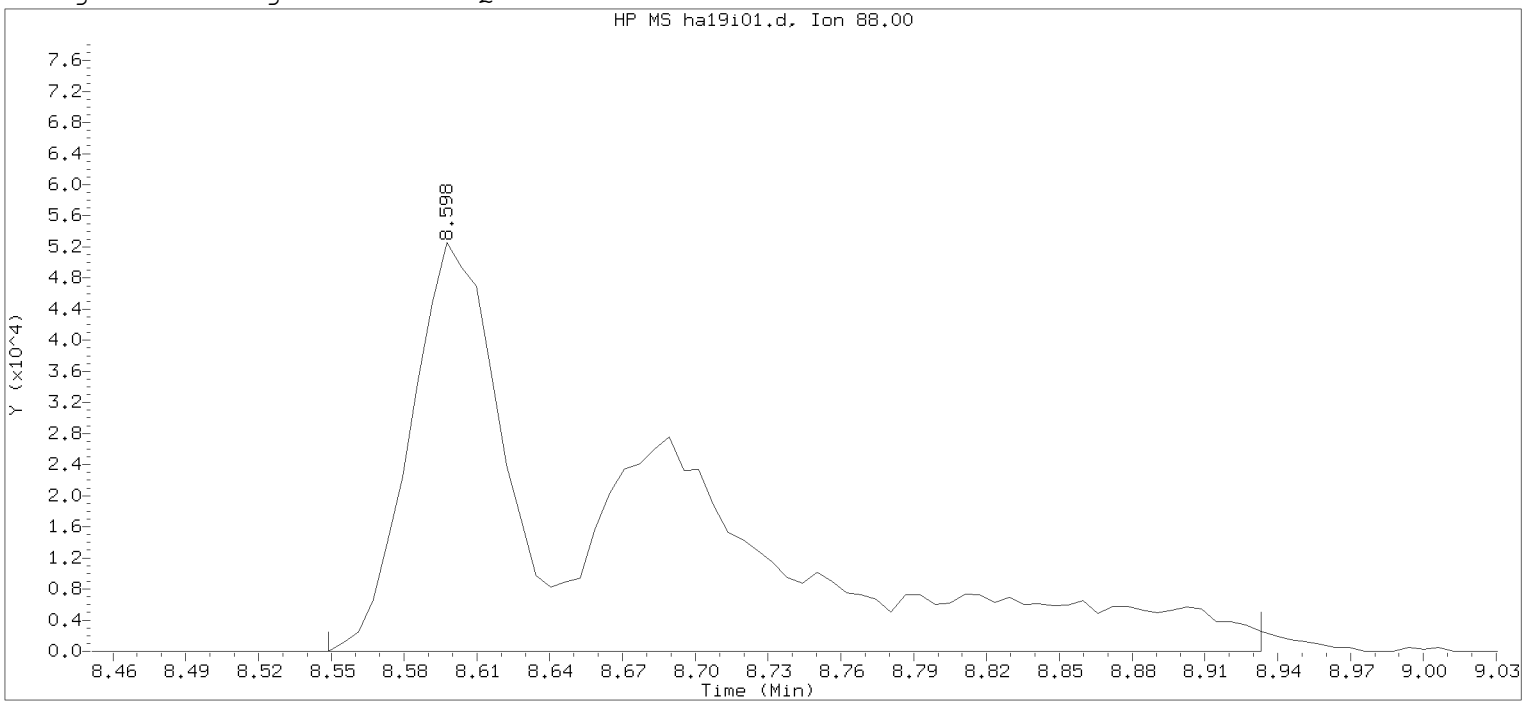
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

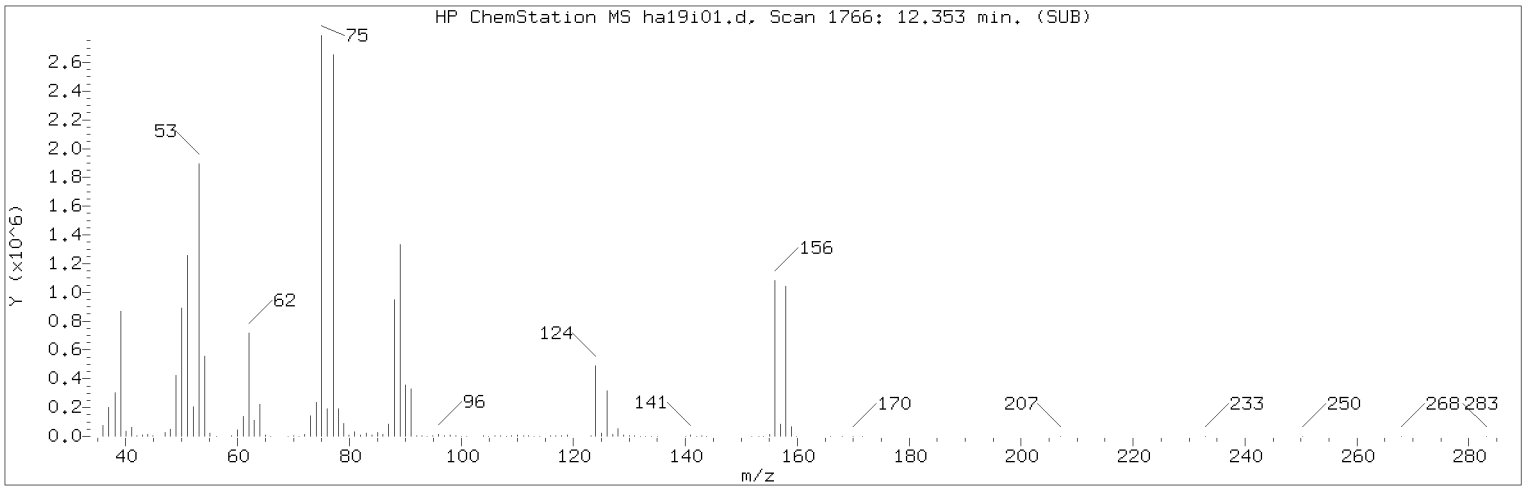
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

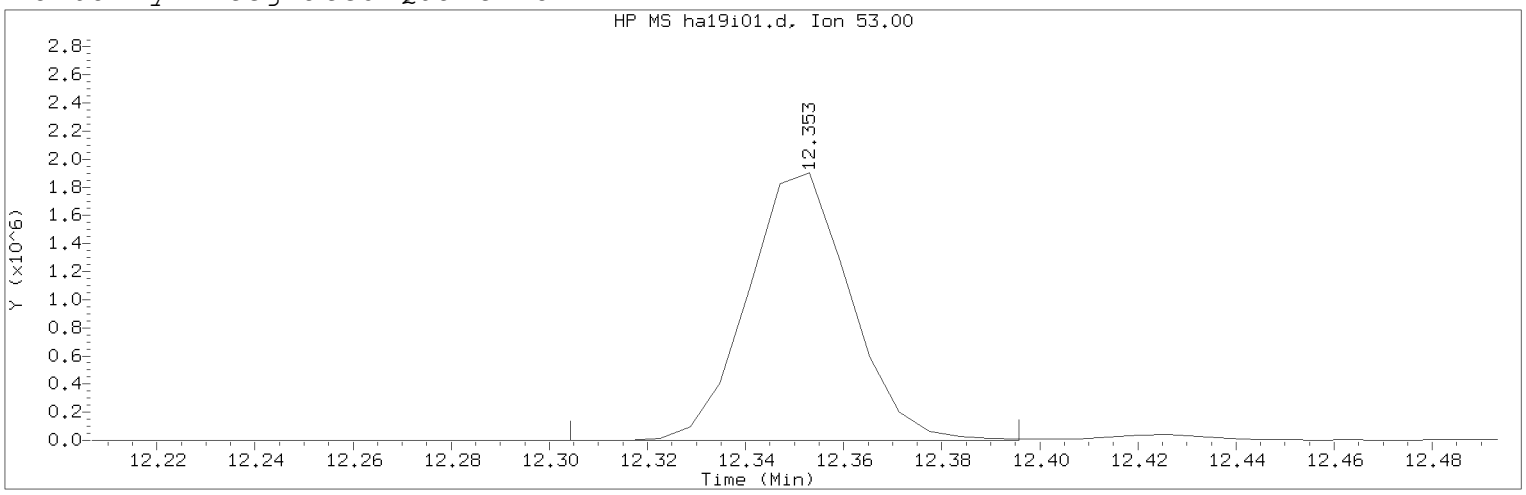
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 310414
On-column Amount (ng) : 1770.9350
Integration start scan : 1141 Integration stop scan: 1204
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2603

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

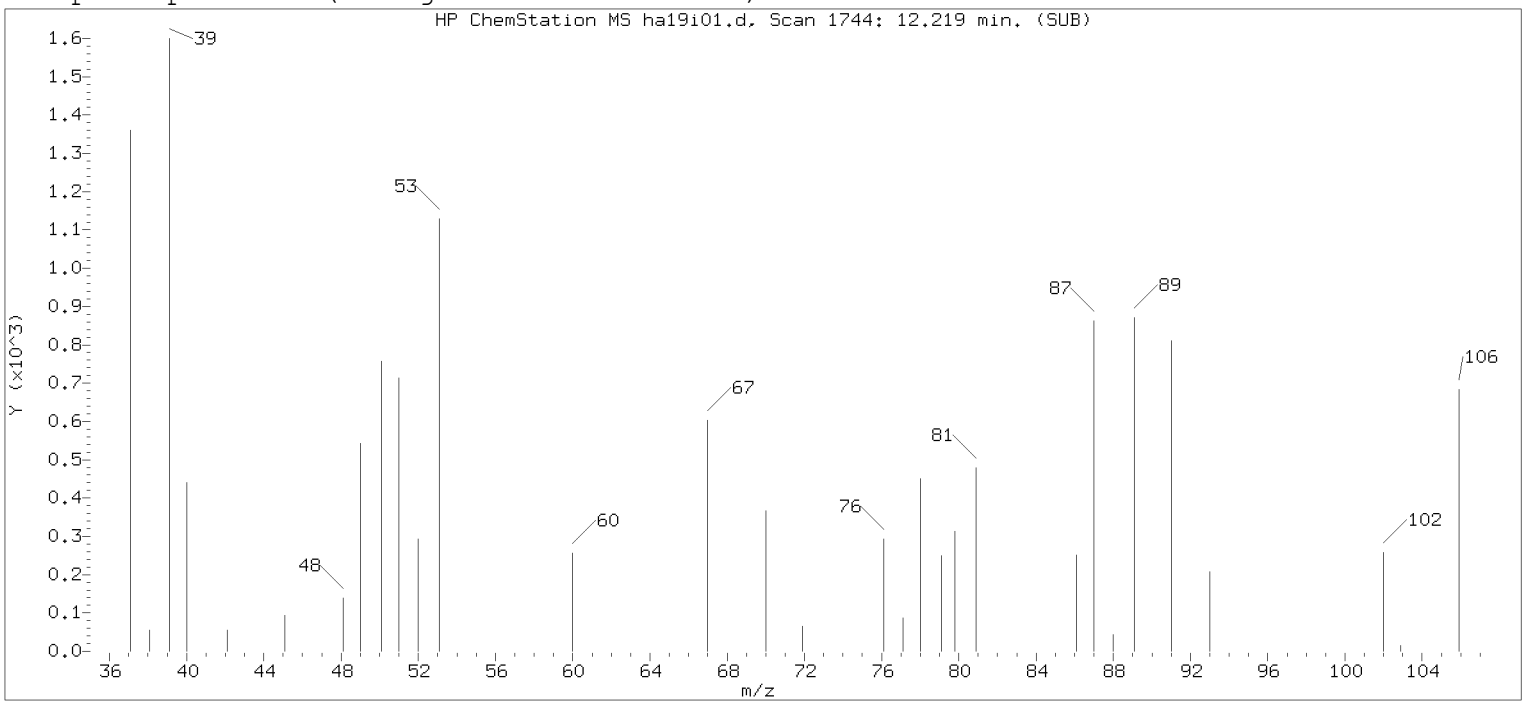
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 2752141A
On-Column Amount (ng) : 250.0000
Integration start scan : 1757 Integration stop scan: 1772
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

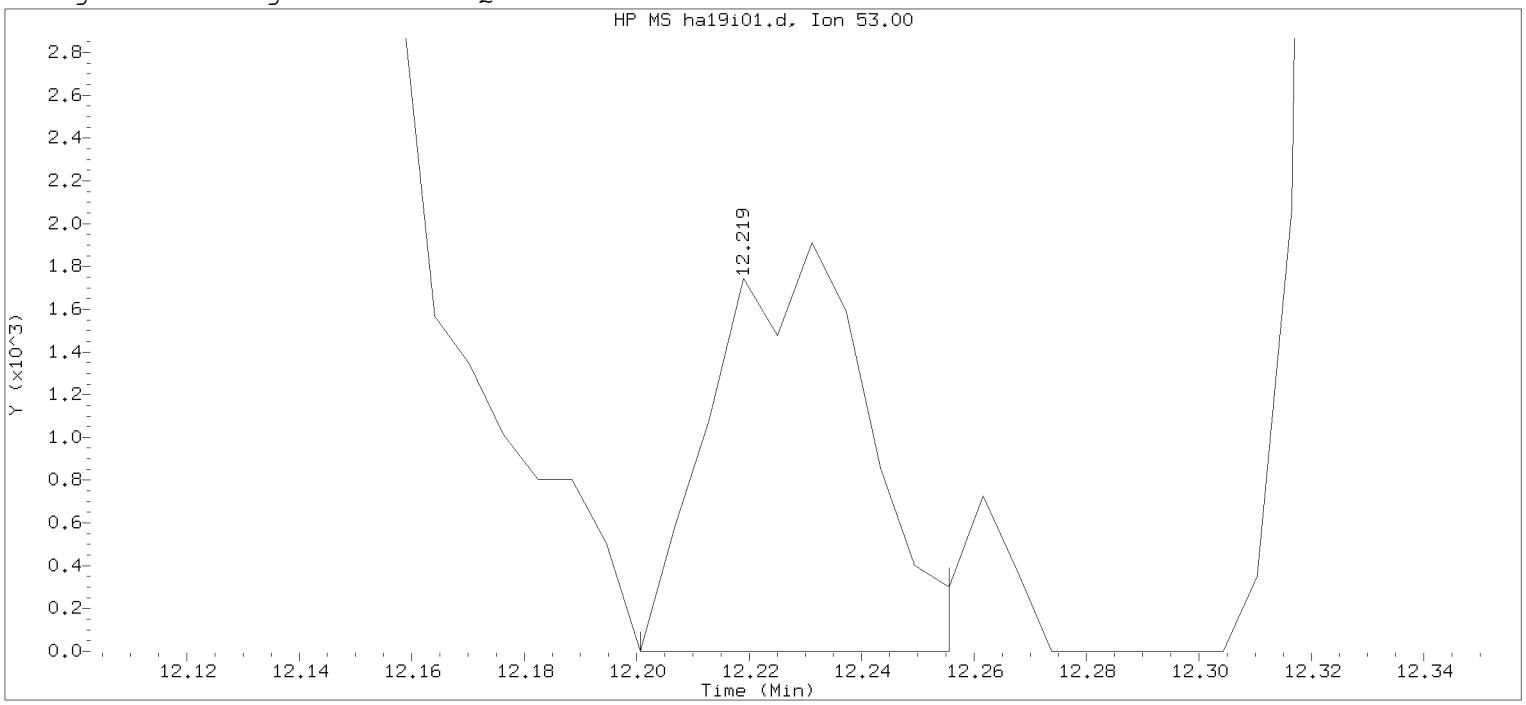
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

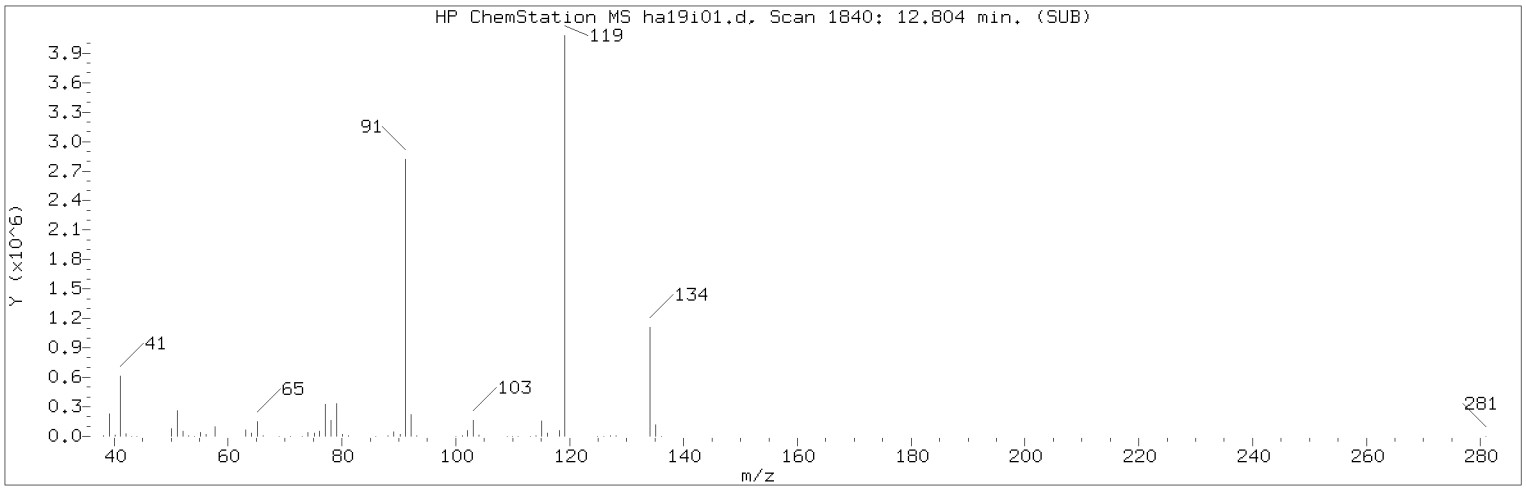
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

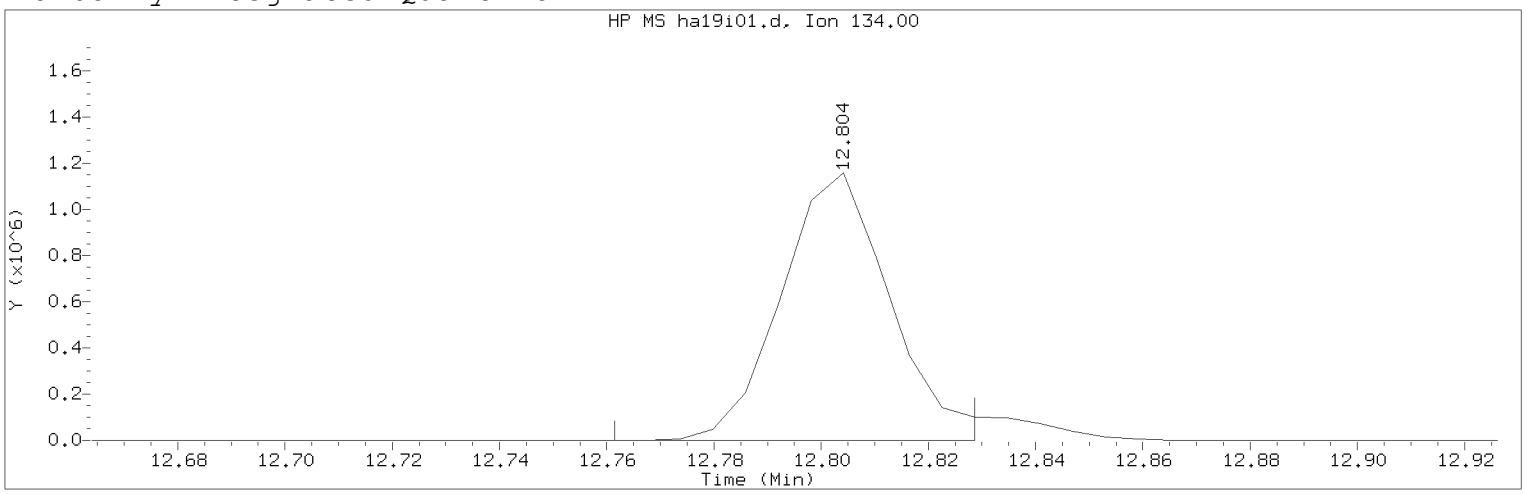
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1744
Retention Time (minutes): 12.219
Quant Ion : 53.00
Area : 3583
On-column Amount (ng) : 0.5430
Integration start scan : 1740 Integration stop scan: 1749
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2.0.0.28

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

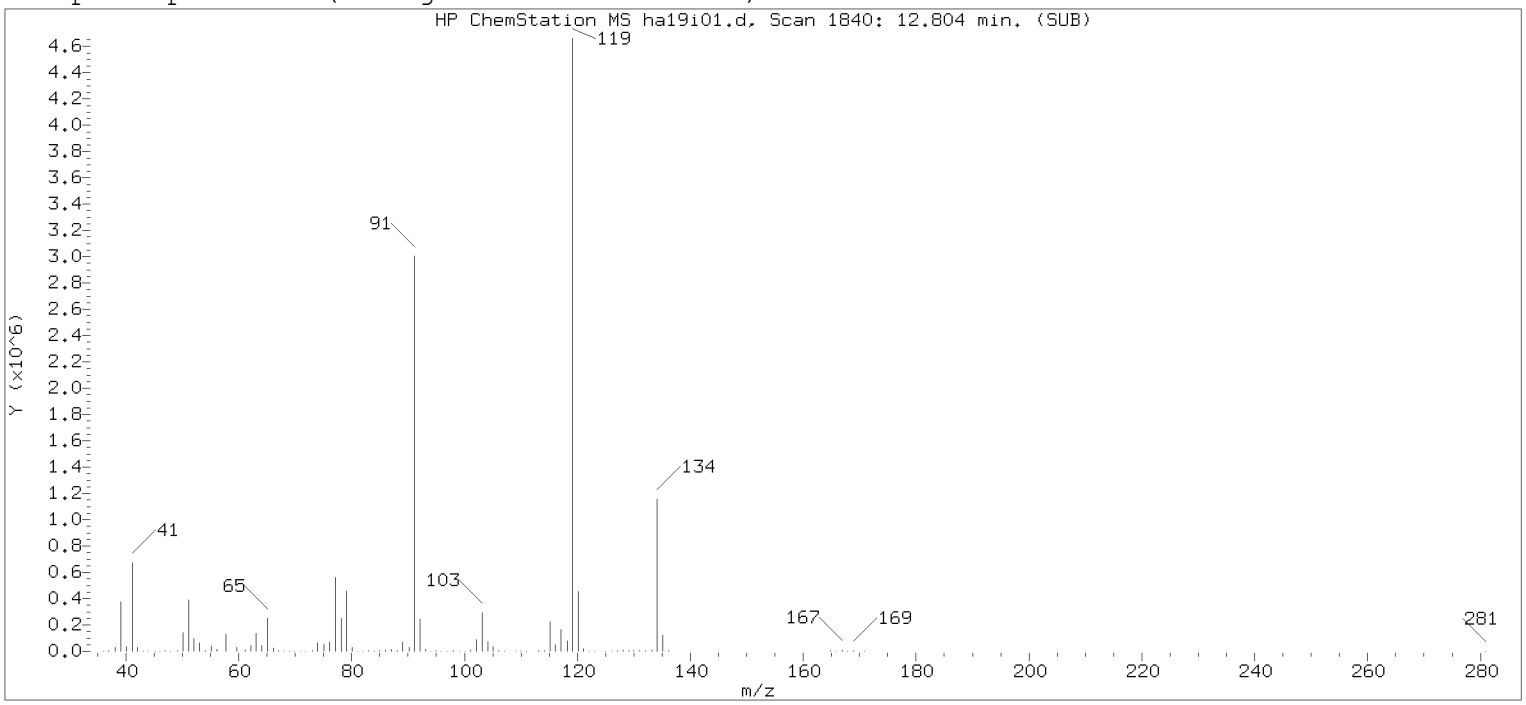
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 1625959M
On-Column Amount (ng) : 25.0000
Integration start scan : 1832 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

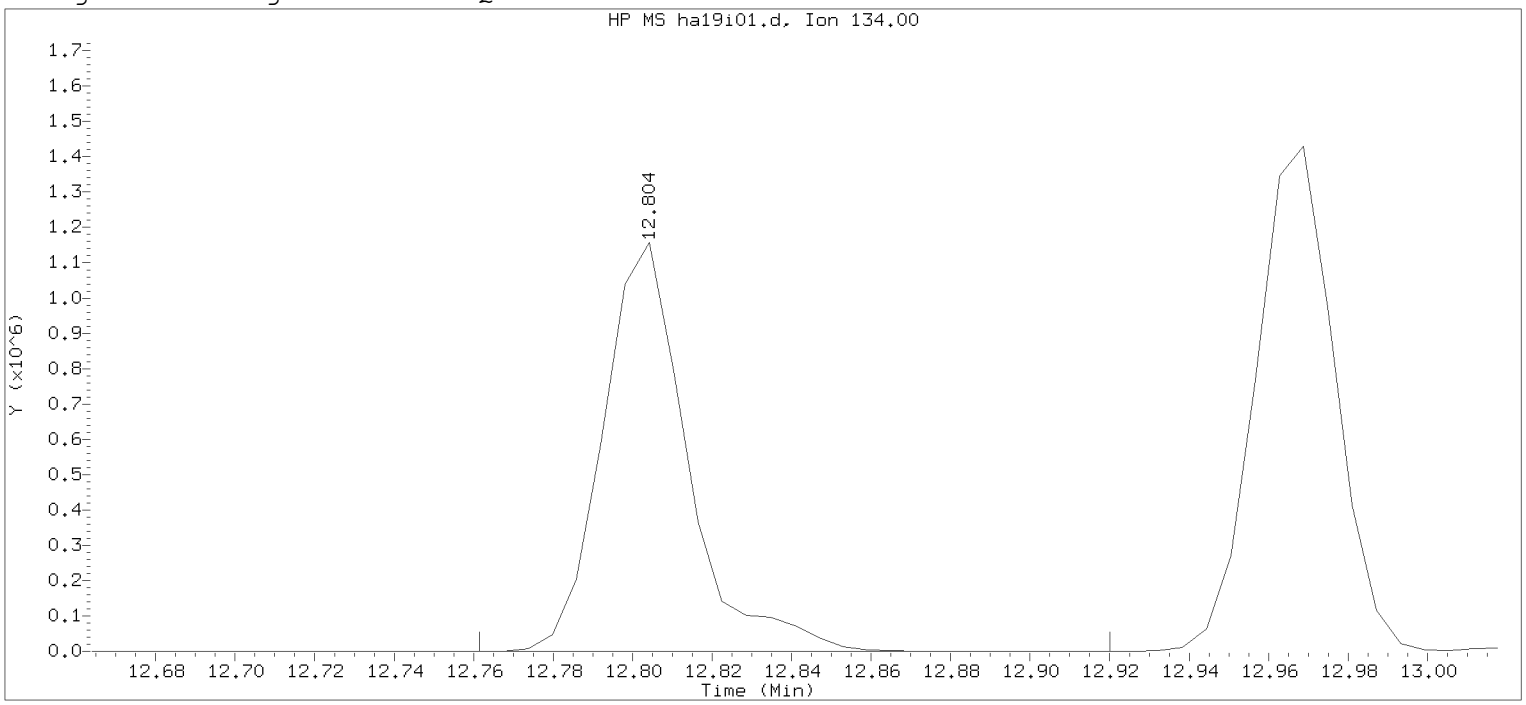
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



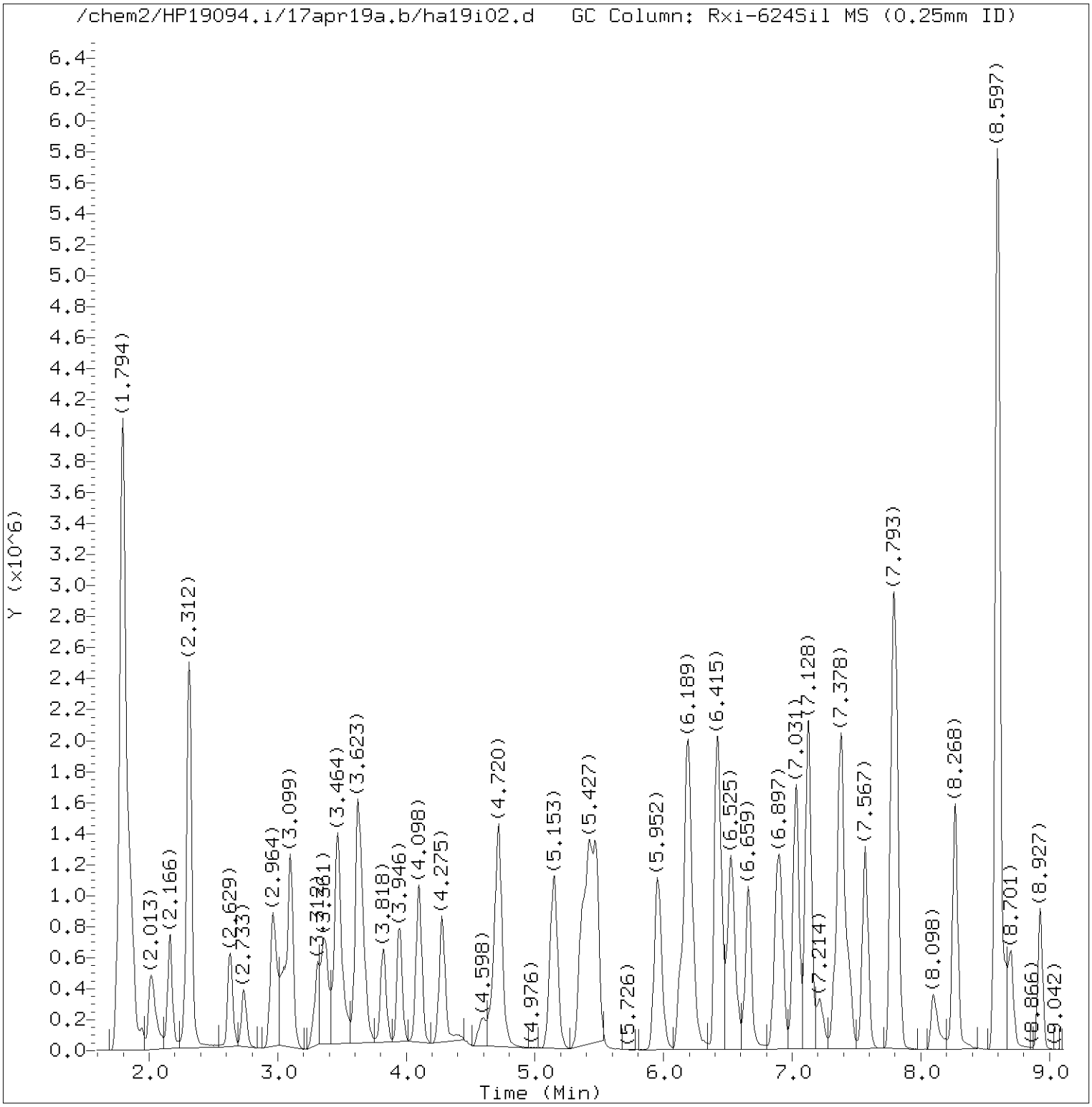
Data File: /chem2/HP19094.i/17apr19a.b/ha19i01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 11:58 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:16
Date, time and analyst ID of latest file update: 19-Apr-2017 12:16 Automation

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 1708923
On-column Amount (ng) : 23.0765
Integration start scan : 1832 Integration stop scan: 1858
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key ID: 0x2C6A4E85



Total Ion Chromatogram (TIC)

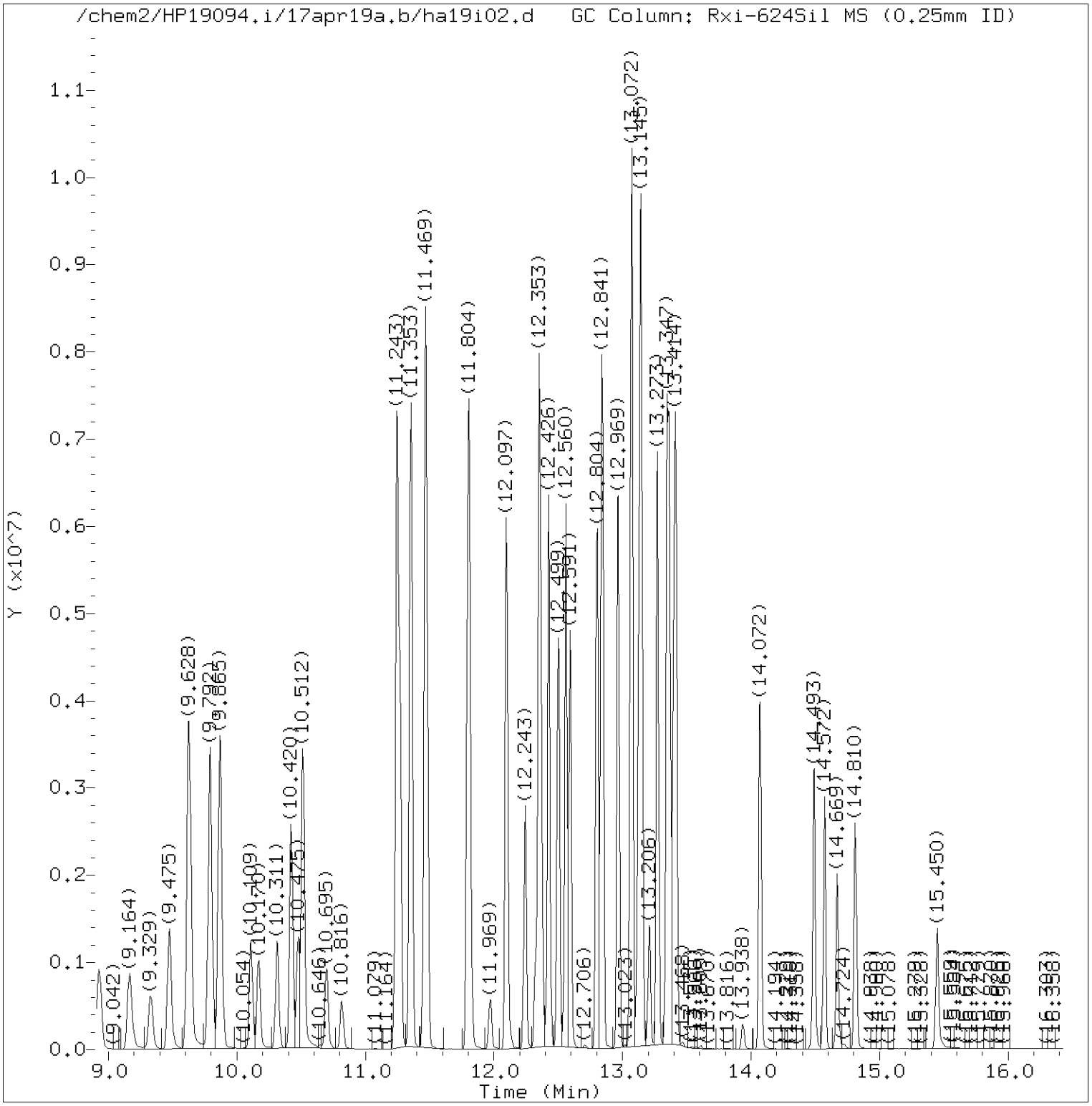
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.019	85	1071262	9.669
2) Chloromethane	(2)	2.160	50	1092226	9.390
5) Vinyl Chloride	(2)	2.300	62	953003	9.334
6) 1,3-Butadiene	(2)	2.312	39	1492747	9.282
7) Bromomethane	(2)	2.629	94	609079	9.497
8) Chloroethane	(2)	2.733	64	538059	9.200
9) Dichlorofluoromethane	(2)	2.958	67	1305115	9.698
10) Trichlorofluoromethane	(2)	3.044	101	1183579	10.005
11) Ethyl ether	(2)	3.306	59	463452	9.888
12) Freon 123a	(2)	3.361	67	902075	10.106
13) Acrolein	(1)	3.464	56	2762988	534.913
15) 1,1-Dichloroethene	(2)	3.623	96	637174	10.029
14) Acetone	(1)	3.641	43	641303	102.527
16) Freon 113	(2)	3.647	101	677975	10.138
17) Methyl Iodide	(2)	3.824	142	1167566	9.894
18) Carbon Disulfide	(2)	3.946	76	1792746	10.057
21) Methyl Acetate	(1)	4.068	43	207306M	9.753
22) Allyl Chloride	(2)	4.098	41	1216942	9.870
23) Methylene Chloride	(2)	4.275	84	673081	9.701
26)*t-Butyl Alcohol-d10	(1)	4.299	65	67885M	50.000
28) t-Butyl Alcohol	(1)	4.403	59	349391	205.706
29) Acrylonitrile	(1)	4.586	53	472610	55.913
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	1326574	10.421
31) trans-1,2-Dichloroethene	(2)	4.720	96	702761	10.016
32) n-Hexane	(2)	5.147	57	1184016	11.008
33) 1,1-Dichloroethane	(2)	5.366	63	1341424	9.689
34) di-Isopropyl Ether	(2)	5.421	45	2407178	10.203
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	1212212	10.364
37) Ethyl t-butyl ether	(2)	5.952	59	1894771	10.446
40) 1,2-Dichloroethene (Total)	(2)		96	1483818	19.989
38) 2-Butanone	(1)	6.128	43	1398892	109.649
39) cis-1,2-Dichloroethene	(2)	6.183	96	781057	9.973
42) Propionitrile	(1)	6.208	54	631605	208.364
41) 2,2-Dichloropropane	(2)	6.208	77	1039712	10.024
45) Methacrylonitrile	(1)	6.421	67	1400493	110.504
47) Bromochloromethane	(2)	6.519	128	299989	9.687
48) Tetrahydrofuran	(1)	6.543	71	350865	110.089
49) Chloroform	(2)	6.659	83	1278502	9.788

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	654497	10.196
50)$Dibromofluoromethane	(2)	6.872	111	675876	10.251
51) 1,1,1-Trichloroethane	(2)	6.909	97	1092724	9.823
52) Cyclohexane	(2)	7.031	56	1403831	10.236
52) Cyclohexane	(2)	7.031	84	1131033M	10.242
52) Cyclohexane	(2)	7.031	69	413049	10.733
55) 1,1-Dichloropropene	(2)	7.116	75	1057901	10.240
54) Carbon Tetrachloride	(2)	7.134	117	926635	9.923
56) Isobutyl Alcohol	(1)	7.220	41	328311	447.932
57)$1,2-Dichloroethane-d4	(2)	7.335	102	104170	10.036
57)$1,2-Dichloroethane-d4	(2)	7.335	65	512298	10.139
57)$1,2-Dichloroethane-d4	(2)	7.329	104	64153	10.197
58) Benzene	(2)	7.378	78	2950193	9.834
59) 1,2-Dichloroethane	(2)	7.439	62	712157	9.930
60) t-Amyl methyl ether	(2)	7.567	73	1540965	10.448
63)*Fluorobenzene	(2)	7.781	96	2863672	10.000
62) n-Heptane	(2)	7.805	43	1342480	10.602
65) n-Butanol	(1)	8.104	56	568957M	1054.252
67) Trichloroethene	(2)	8.262	95	777450	9.789
70) 1,2-Dichloropropane	(2)	8.591	63	782054	9.997
69) Methylcyclohexane	(2)	8.597	83	1398483	10.424
71) Methyl Methacrylate	(1)	8.658	69	275510M	11.883
72) 1,4-Dioxane	(1)	8.689	88	62881M	480.375
73) Dibromomethane	(2)	8.701	93	303095	10.050
74) Bromodichloromethane	(2)	8.927	83	834117	10.099
76) 2-Nitropropane	(1)	9.164	41	813840	106.430
80) cis-1,3-Dichloropropene	(2)	9.475	75	996206	10.699
81) 4-Methyl-2-Pentanone	(1)	9.628	43	3778195	111.760
82)$Toluene-d8	(3)	9.792	98	2797178	9.742
82)$Toluene-d8	(3)	9.792	100	1801336	9.743
83) Toluene	(3)	9.865	92	1819632	9.591
84) trans-1,3-Dichloropropene	(3)	10.109	75	754766	10.212
85) 1,3-Dichloropropene (total)	(3)		75	1750972	20.911
86) Ethyl Methacrylate	(3)	10.170	69	582092	10.647
88) 1,1,2-Trichloroethane	(3)	10.311	97	433031	9.825
89) Tetrachloroethene	(3)	10.420	166	854667	9.713
90) 1,3-Dichloropropane	(3)	10.475	76	766685	9.720
91) 2-Hexanone	(1)	10.512	43	2610250	109.558

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	515238	9.865
95) 1,2-Dibromoethane	(3)	10.816	107	403655	9.685
97)*Chlorobenzene-d5	(3)	11.243	117	1964158	10.000
98) Chlorobenzene	(3)	11.268	112	1981165	9.577
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	658759	9.564
100) Ethylbenzene	(3)	11.353	91	3645850	9.917
101) m+p-Xylene	(3)	11.469	106	2779520	19.884
105) Xylene (Total)	(3)		106	4138521	30.002
104) o-Xylene	(3)	11.798	106	1359001	10.123
106) Styrene	(3)	11.810	104	2140342	10.350
107) Bromoform	(3)	11.975	173	270000	10.351
108) Isopropylbenzene	(3)	12.097	105	3608335	10.271
111)$4-Bromofluorobenzene	(3)	12.243	95	825254	10.116
111)$4-Bromofluorobenzene	(3)	12.243	174	741991	10.219
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	526007	9.380
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	1044235A	116.340
114) Bromobenzene	(4)	12.359	156	795361	9.302
116) 1,2,3-Trichloropropane	(4)	12.377	110	127632	9.097
117) n-Propylbenzene	(4)	12.426	91	4472359	9.783
119) 2-Chlorotoluene	(4)	12.505	126	818841	9.471
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	3036642	9.872
122) 4-Chlorotoluene	(4)	12.591	126	839721	9.663
125) tert-Butylbenzene	(4)	12.804	134	638983M	9.564
126) Pentachloroethane	(4)	12.834	167	489943	9.816
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	3083341	10.056
128) sec-Butylbenzene	(4)	12.969	105	4043809	10.087
131) 1,3-Dichlorobenzene	(4)	13.066	146	1609033	9.578
132) p-Isopropyltoluene	(4)	13.072	119	3376502	10.293
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	868838	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	1594143	9.106
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	1267094	9.374
136) Benzyl Chloride	(4)	13.212	126	188592	10.673
138) n-Butylbenzene	(4)	13.365	92	1736495	10.781
139) 1,2-Dichlorobenzene	(4)	13.395	146	1396754	9.361
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	59646A	11.912
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	969316	10.075
146) Hexachlorobutadiene	(4)	14.572	225	486582	10.210
147) Naphthalene	(4)	14.669	128	1420704	10.035

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

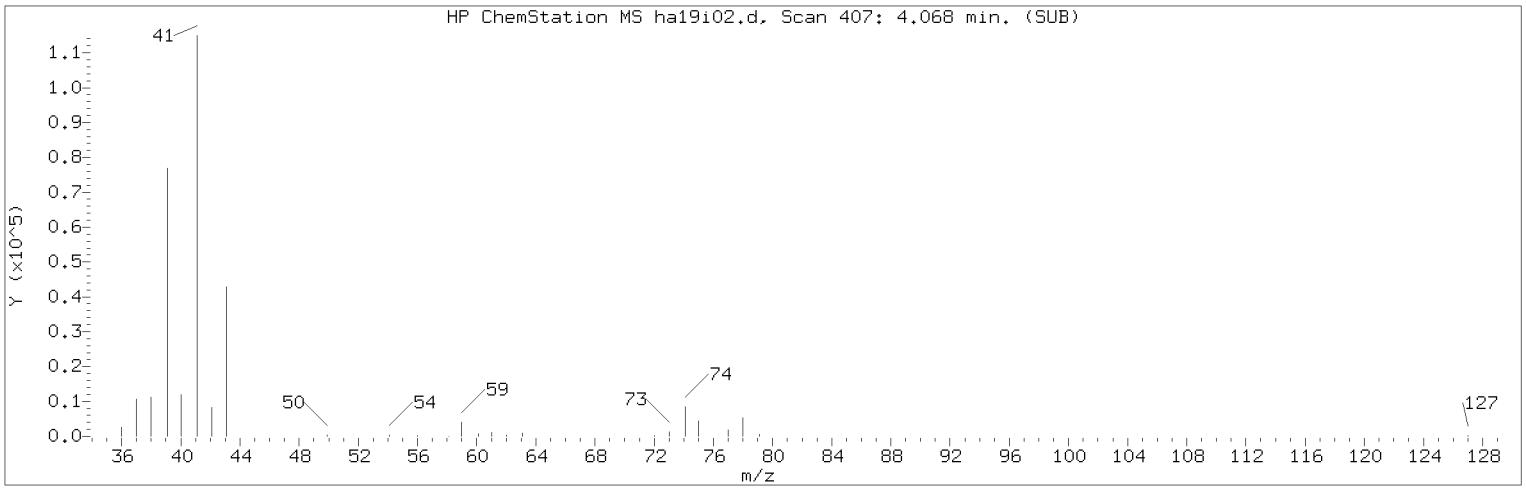
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

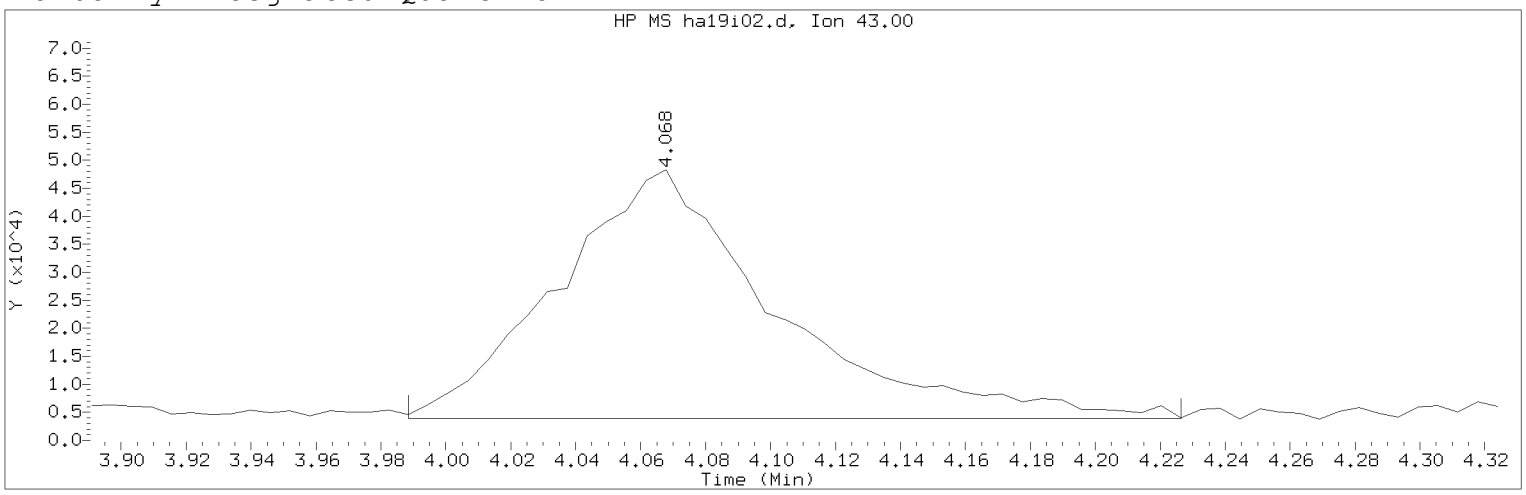
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	773785	9.519

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

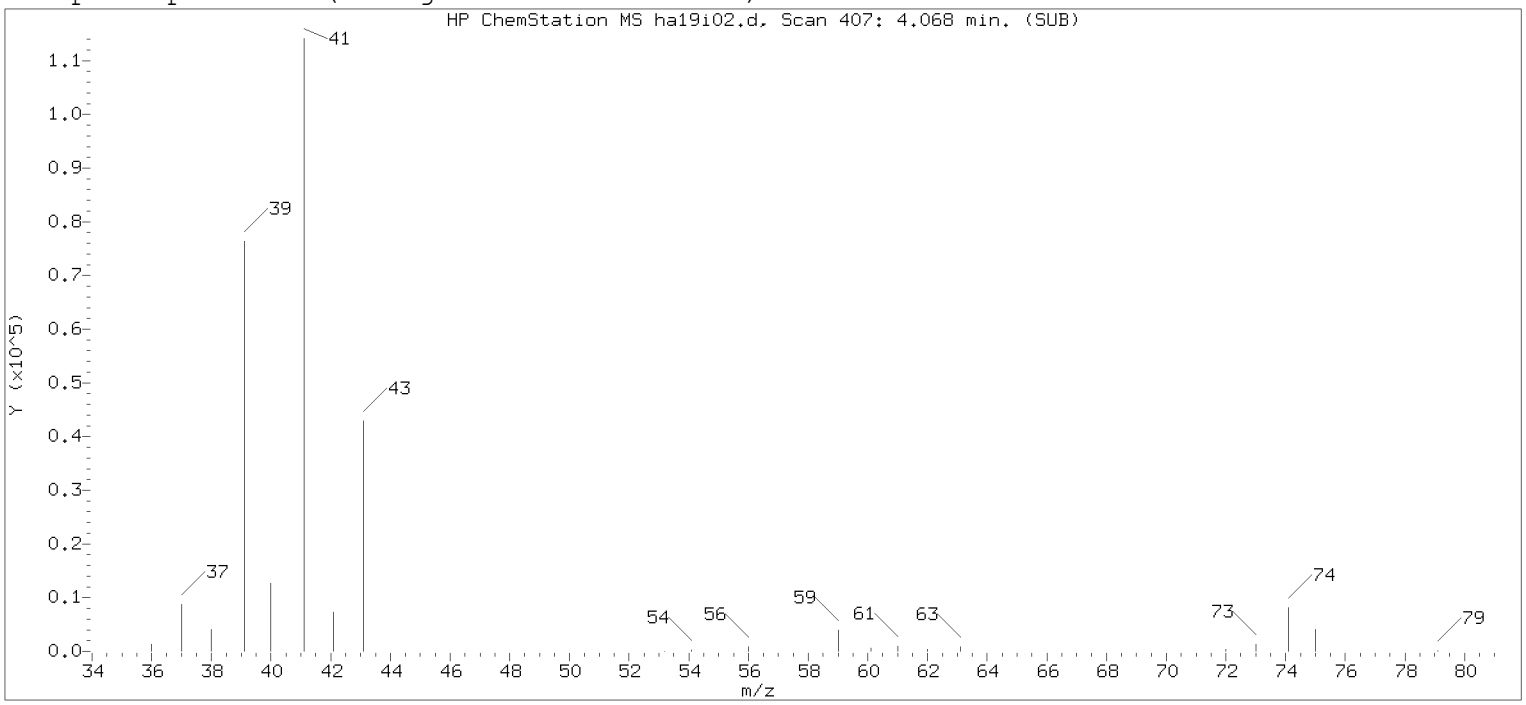
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 407
Retention Time (minutes): 4.068
Quant Ion : 43.00
Area (flag) : 207306M
On-Column Amount (ng) : 9.7534
Integration start scan : 393 Integration stop scan: 432
Y at integration start : 3910 Y at integration end: 3910

Reason for manual integration: improper integration

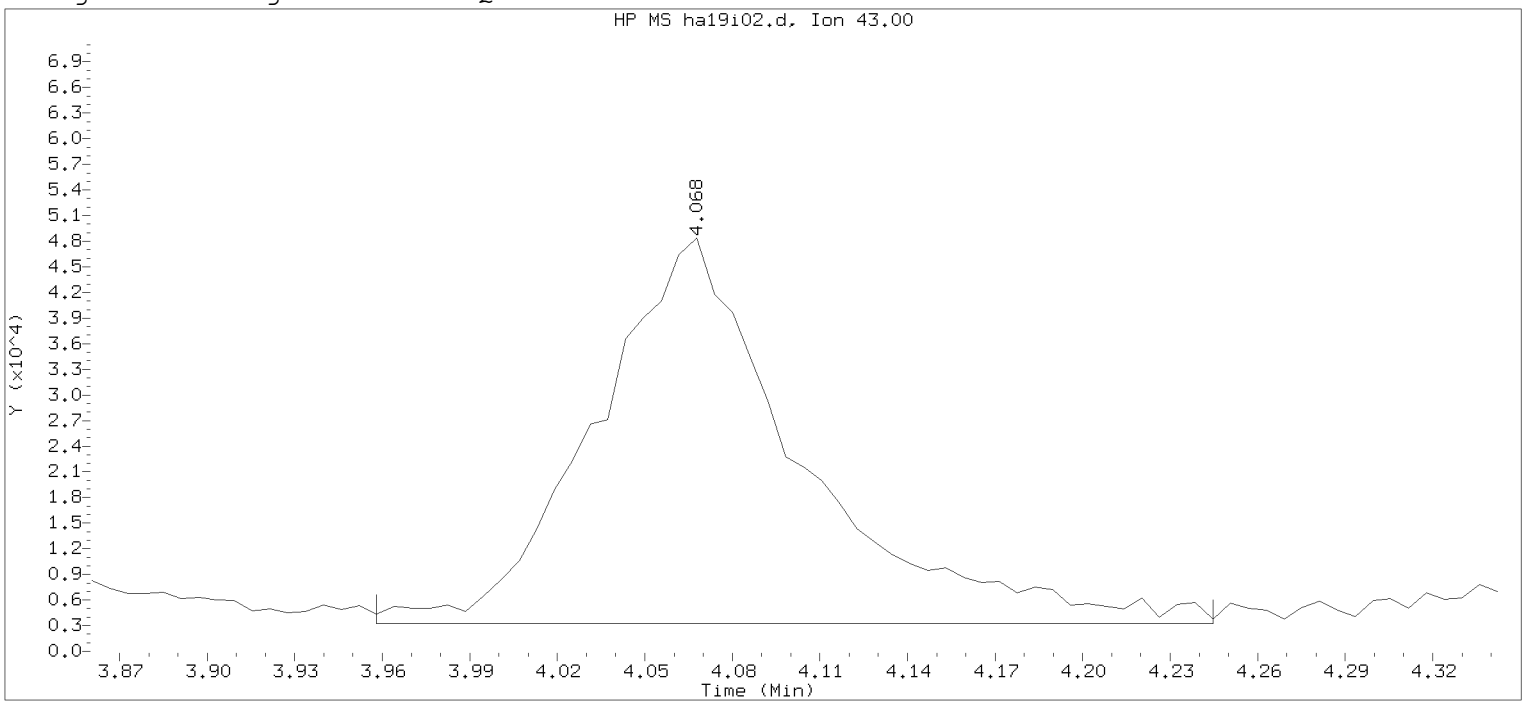
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

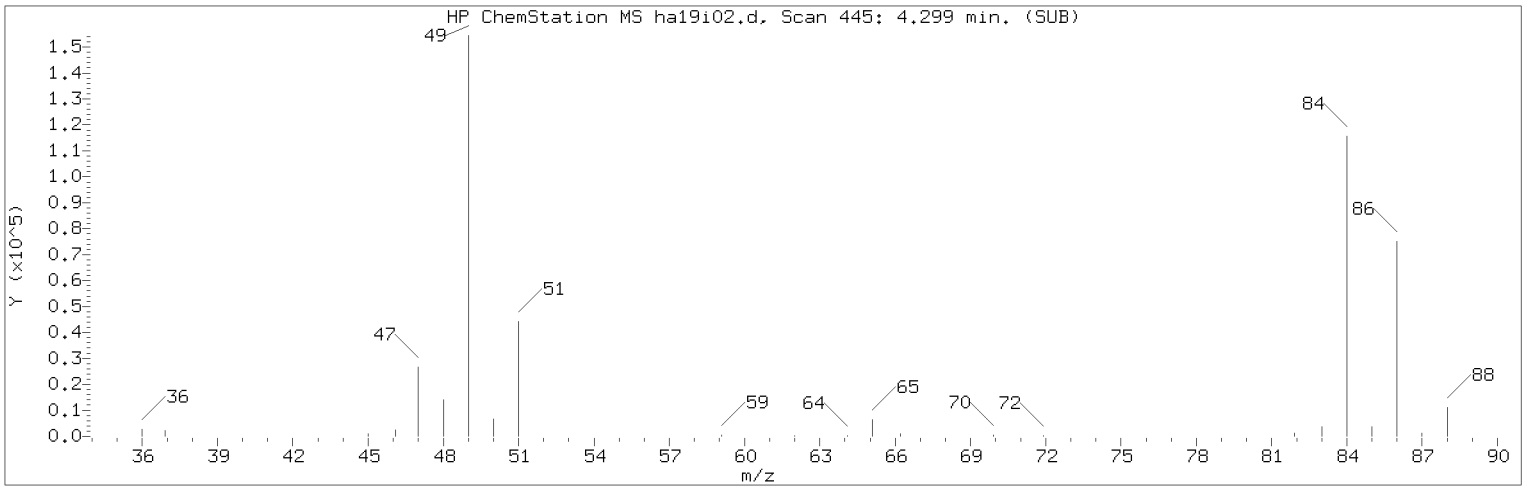
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

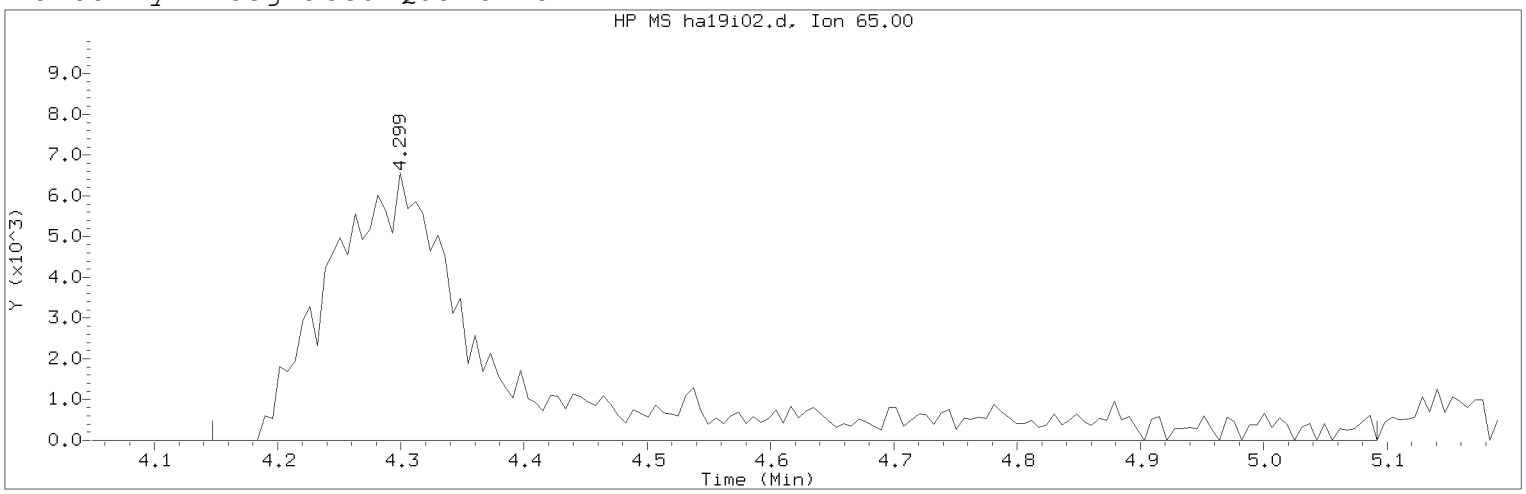
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 407
Retention Time (minutes): 4.068
Quant Ion : 43.00
Area : 221682
On-column Amount (ng) : 14.8497
Integration start scan : 388 Integration stop scan: 435
Y at integration start : 3257 Y at integration end: 3257

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature user k...2013

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

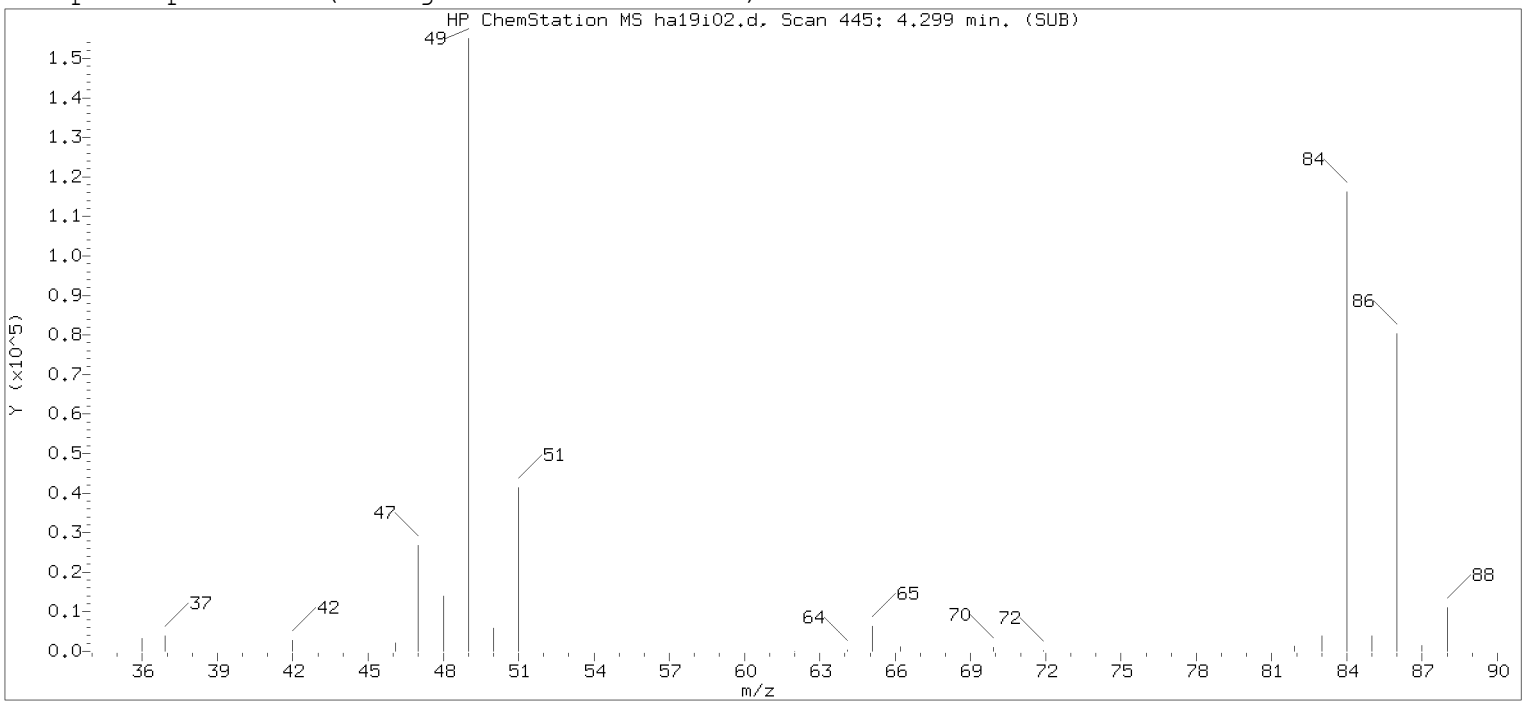
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.299
Quant Ion : 65.00
Area (flag) : 67885M
On-Column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 574
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

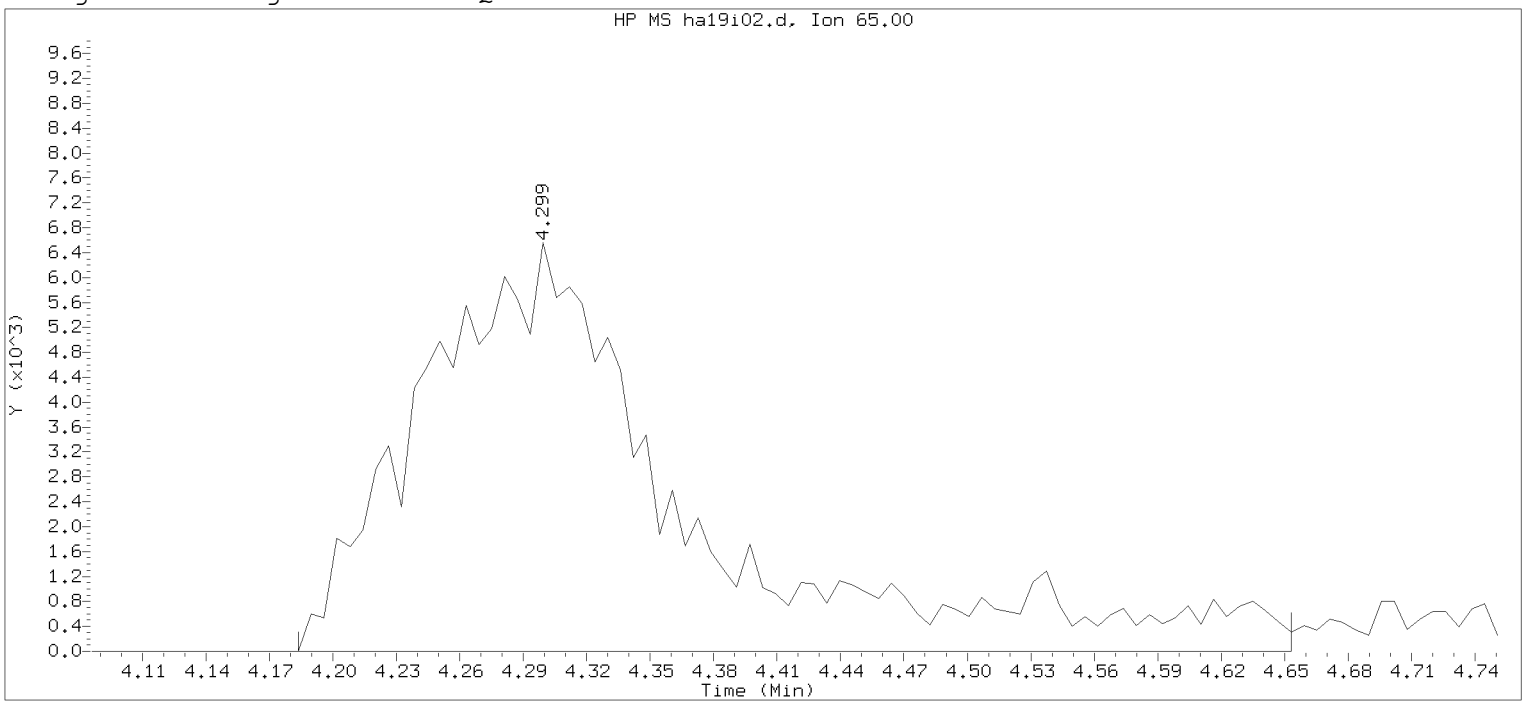
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

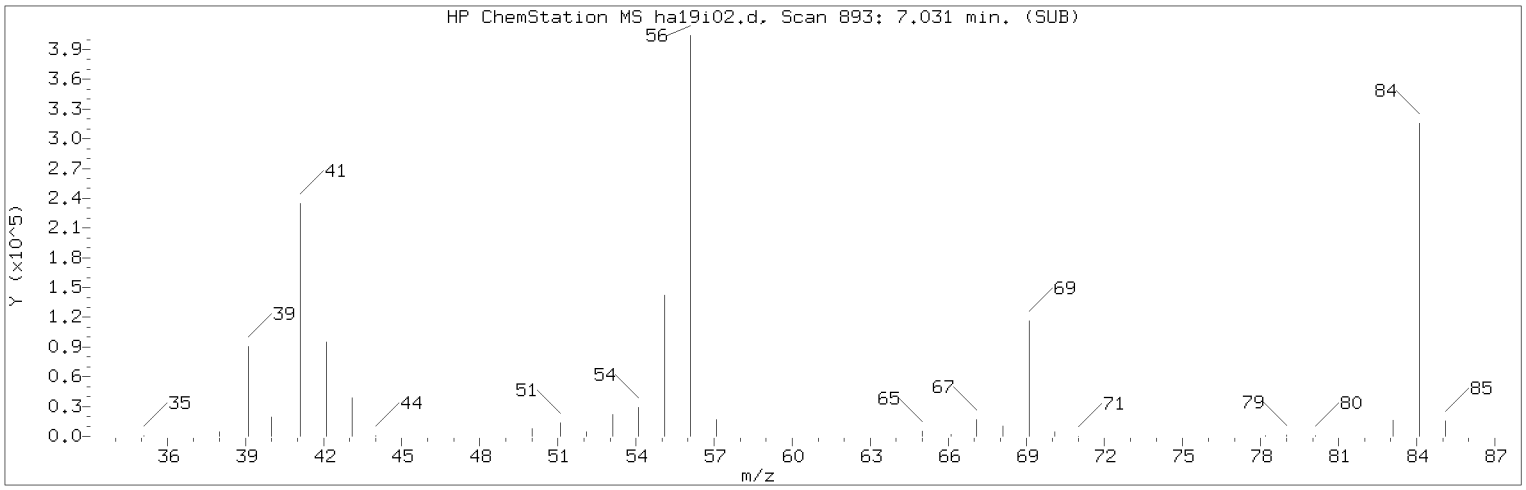
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

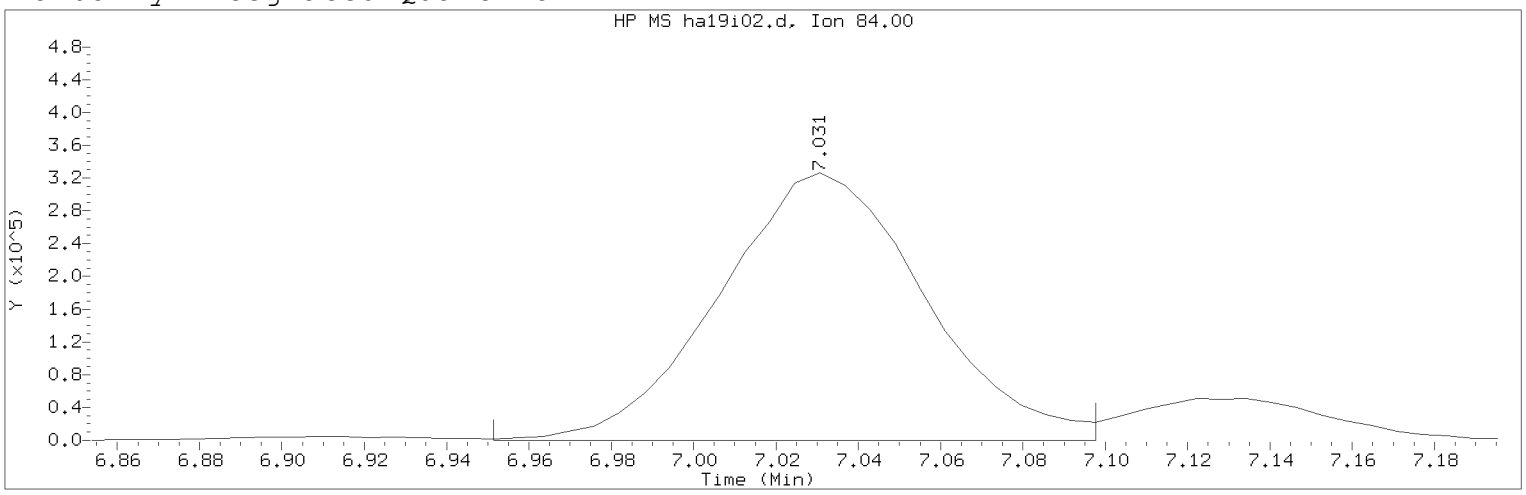
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.299
Quant Ion : 65.00
Area : 56605
On-column Amount (ng) : 50.0000
Integration start scan : 425 Integration stop scan: 502
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2014

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

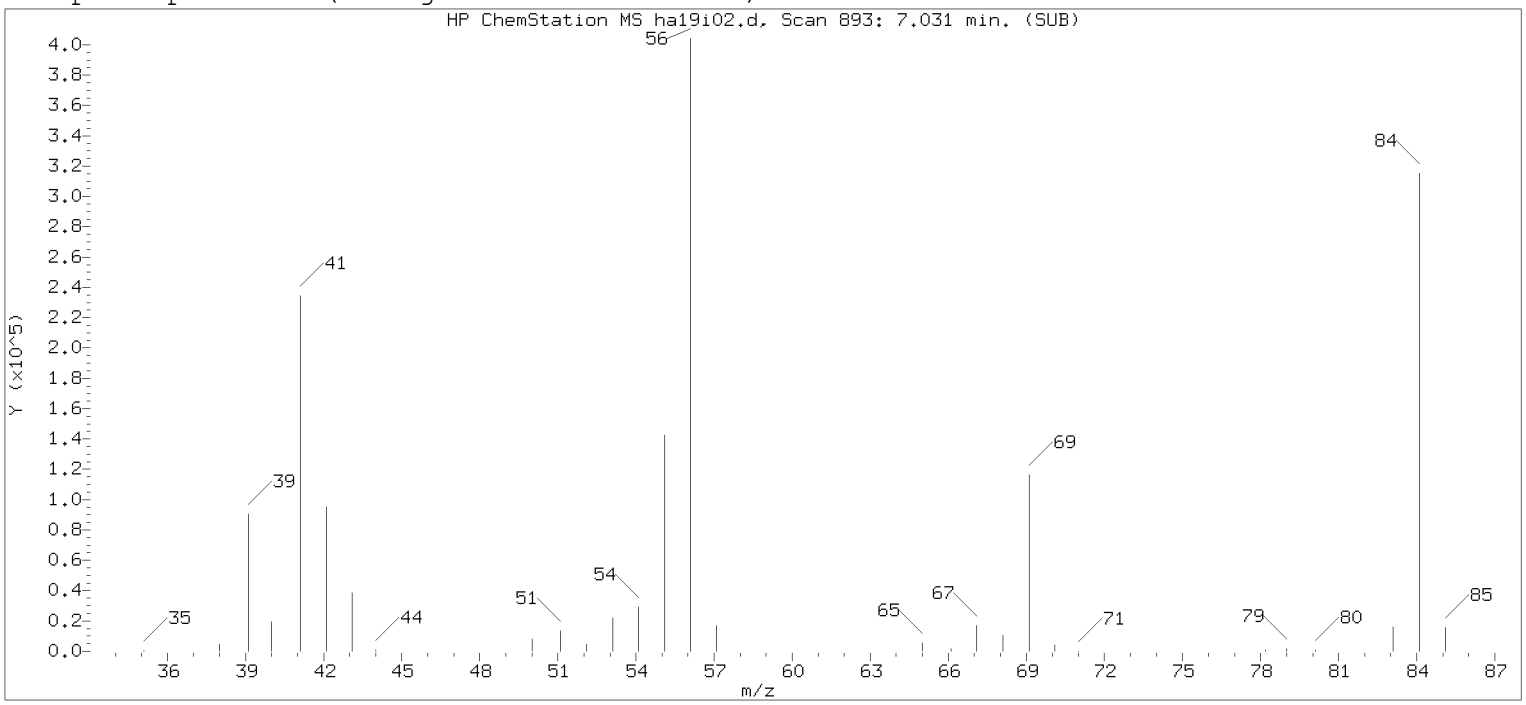
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 893
Retention Time (minutes): 7.031
Quant Ion : 84.00
Area (flag) : 1131033M
On-Column Amount (ng) : 10.2423
Integration start scan : 879 Integration stop scan: 903
Y at integration start : 103 Y at integration end: 150

Reason for manual integration: improper integration

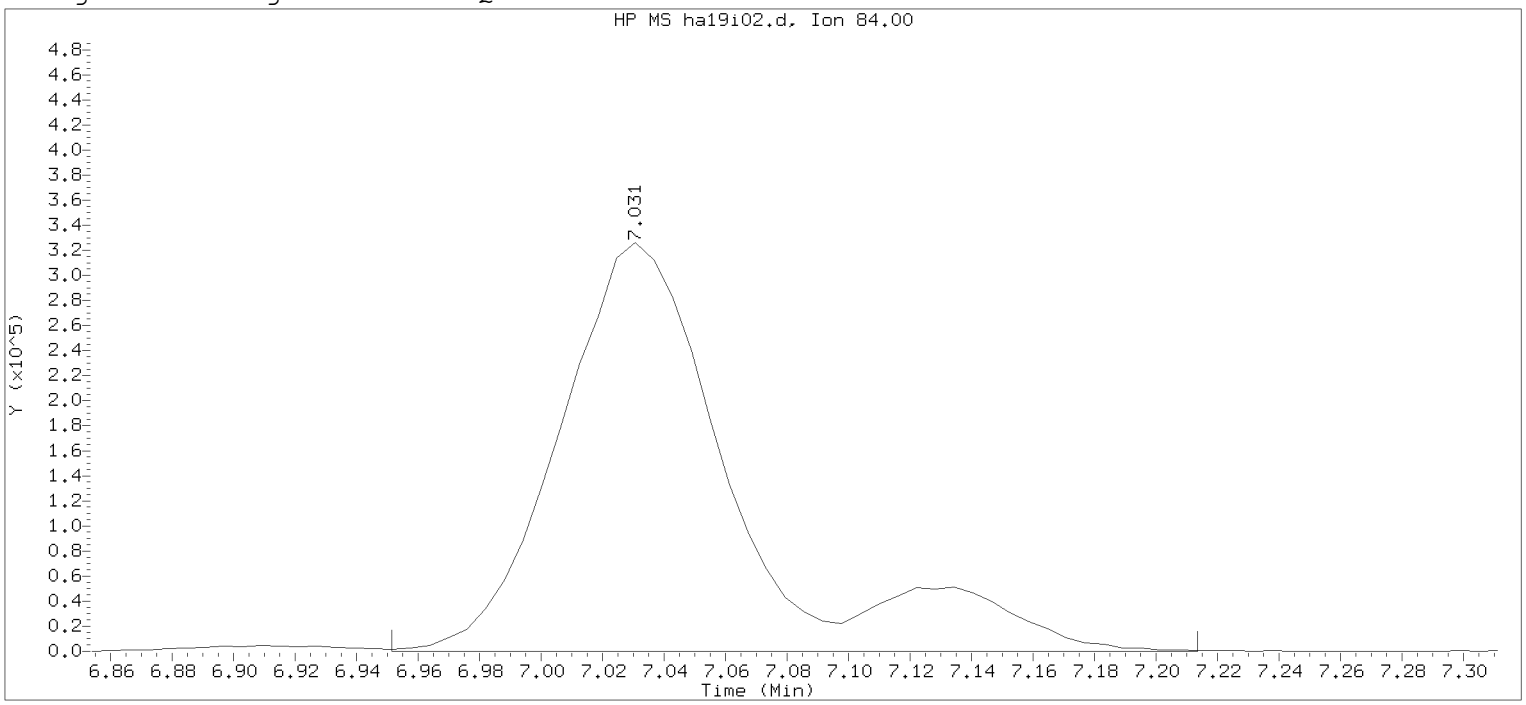
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

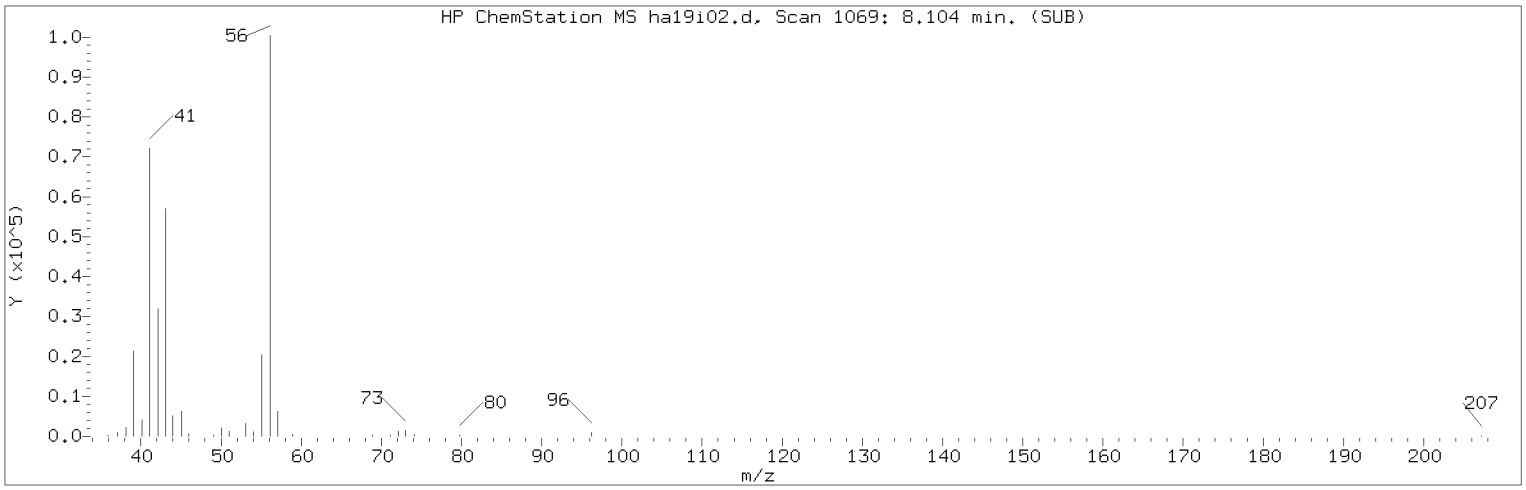
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

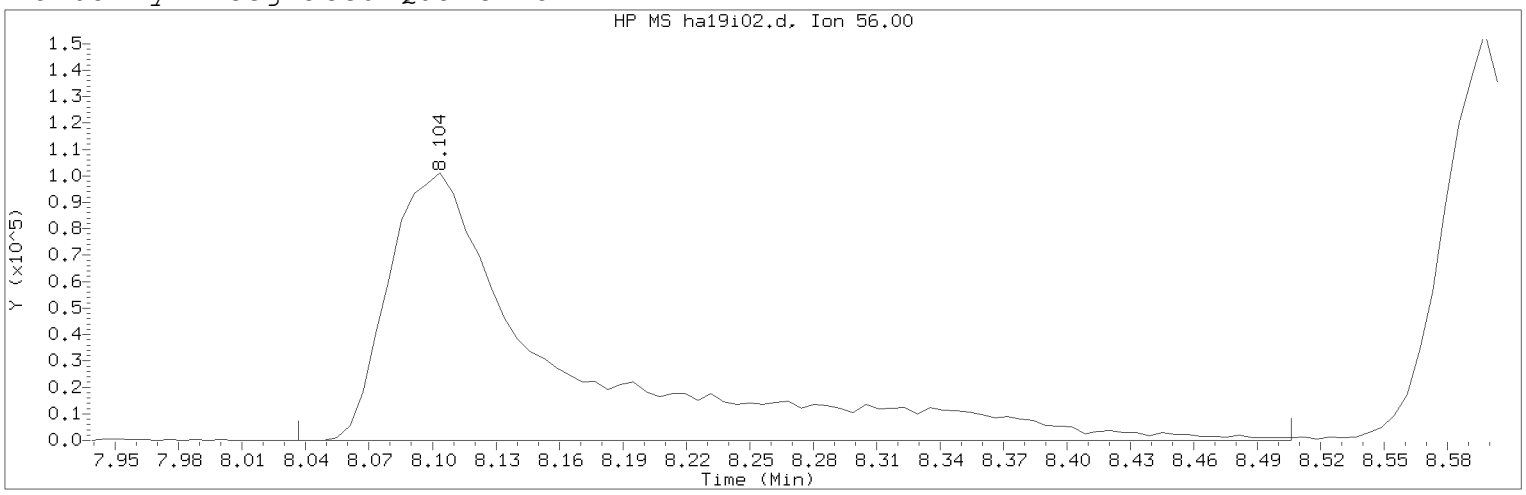
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 893
Retention Time (minutes): 7.031
Quant Ion : 84.00
Area : 1294855
On-column Amount (ng) : 11.3043
Integration start scan : 879 Integration stop scan: 922
Y at integration start : 103 Y at integration end: 189

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2016

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

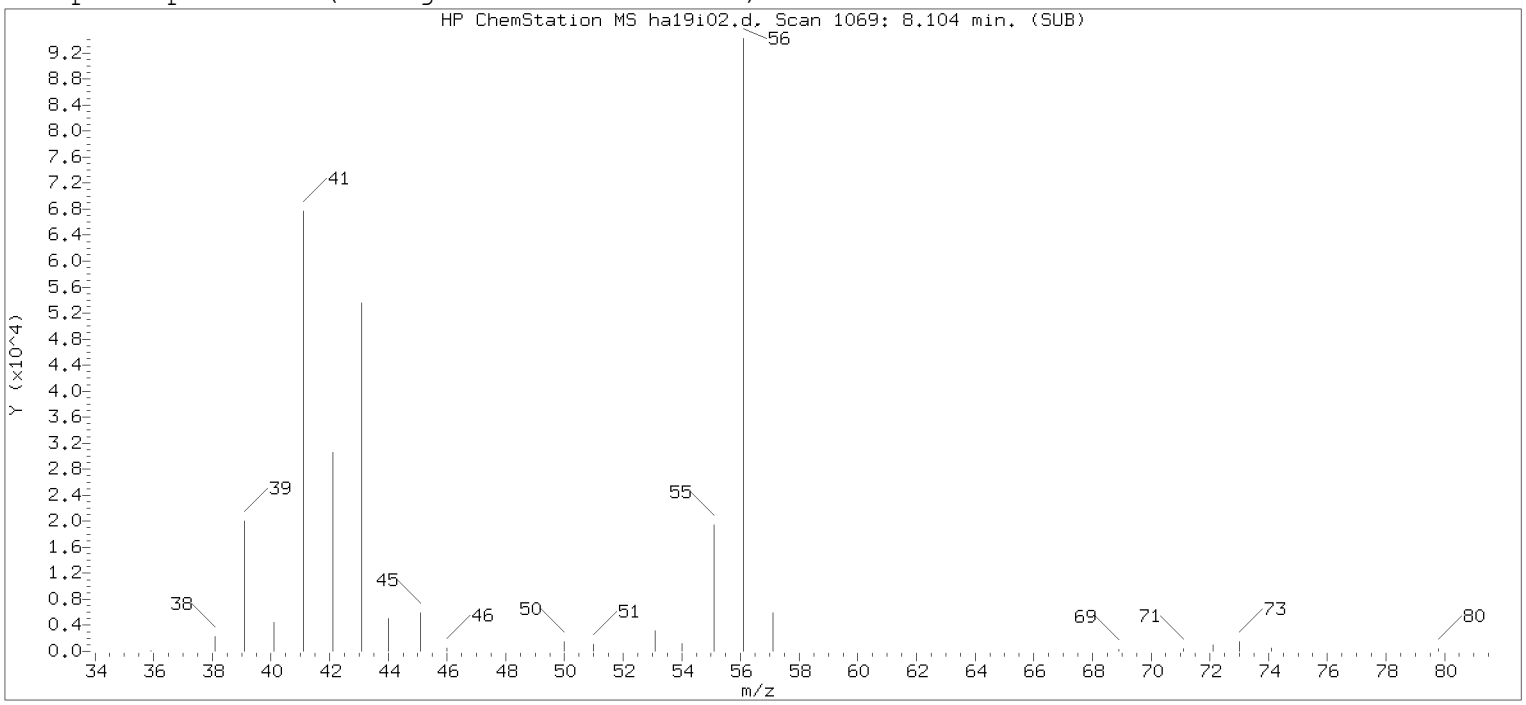
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area (flag) : 568957M
On-Column Amount (ng) : 1054.2522
Integration start scan : 1057 Integration stop scan: 1134
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

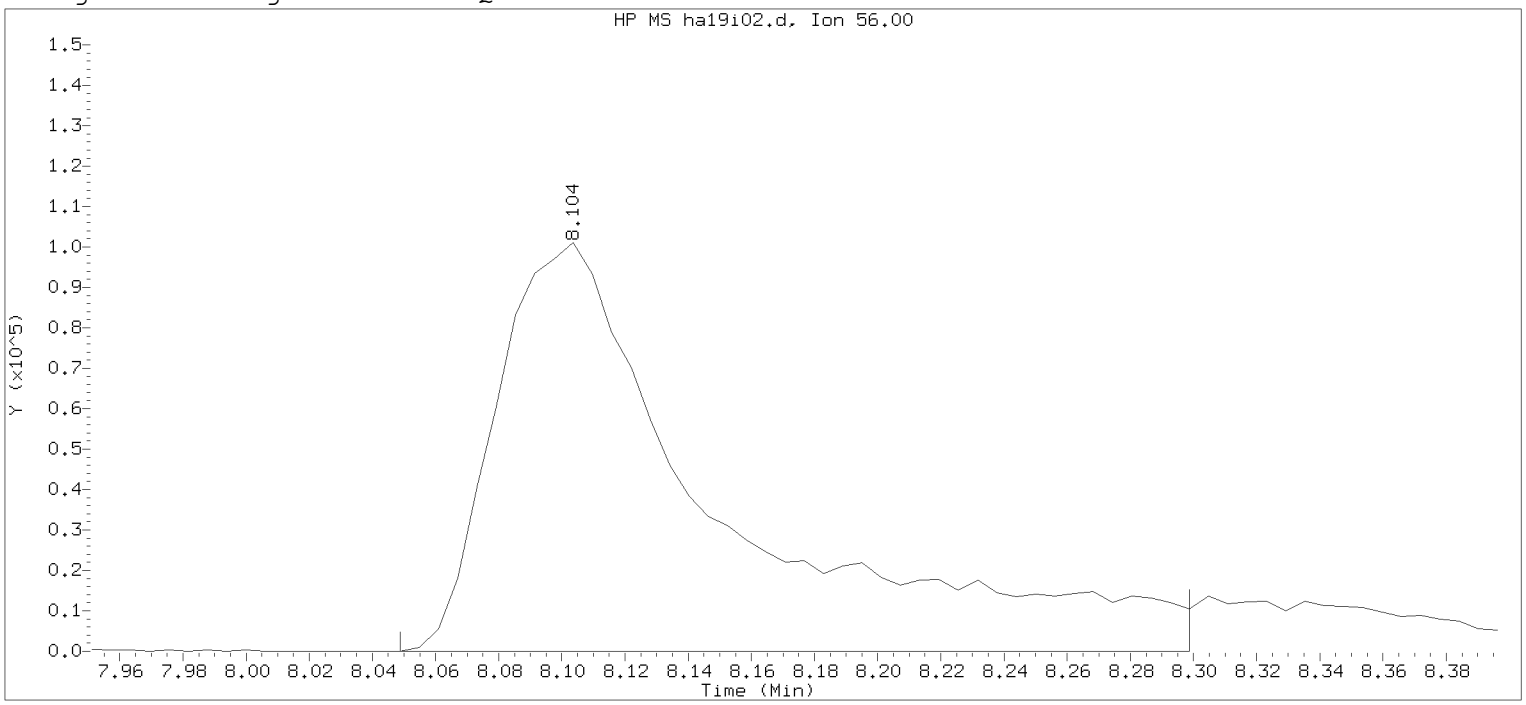
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

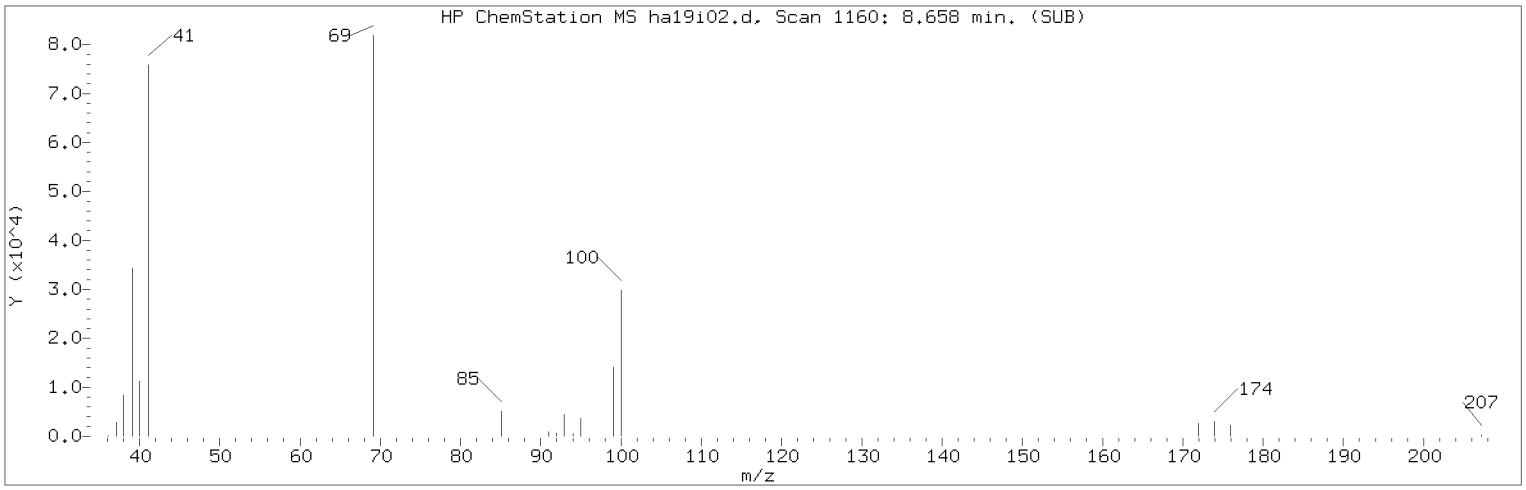
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

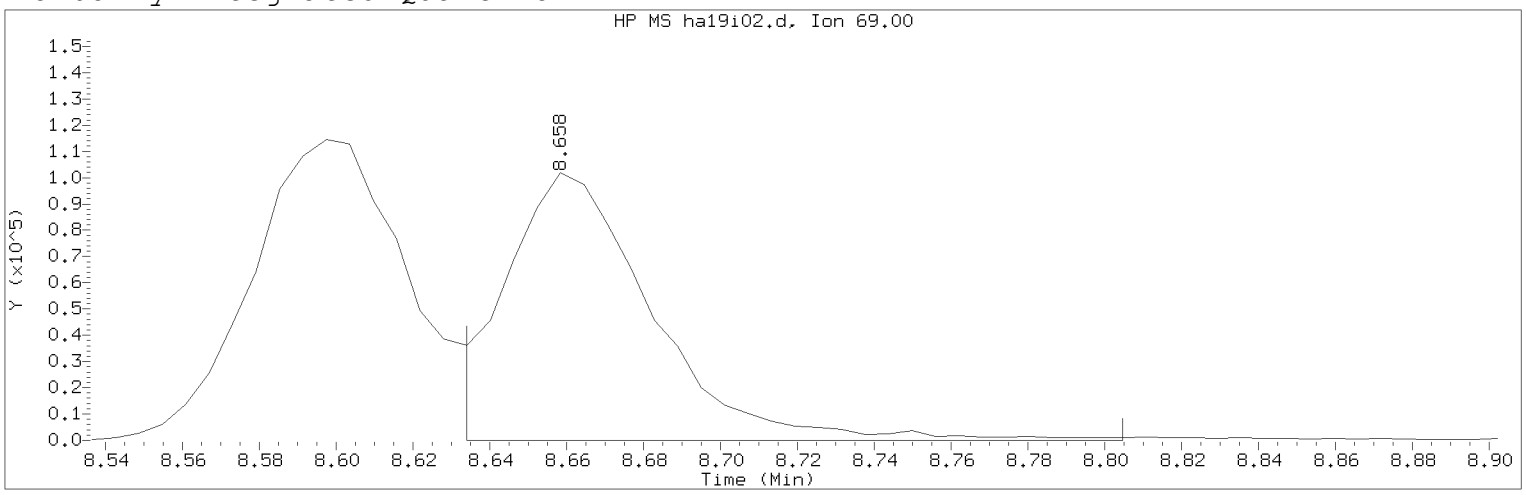
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area : 494439
On-column Amount (ng) : 1147.1115
Integration start scan : 1059 Integration stop scan: 1100
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key ID: 2618

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

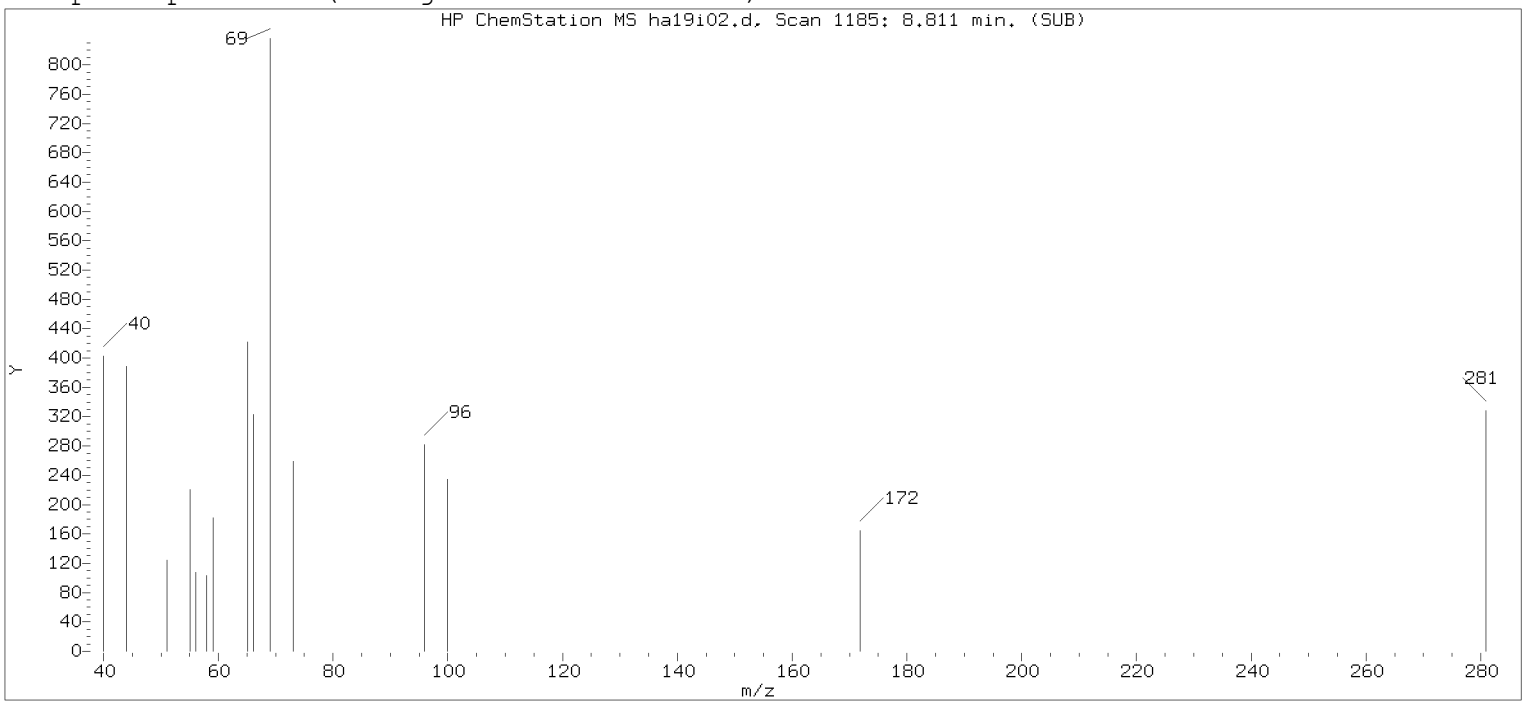
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.658
Quant Ion : 69.00
Area (flag) : 275510M
On-Column Amount (ng) : 11.8833
Integration start scan : 1155 Integration stop scan: 1183
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

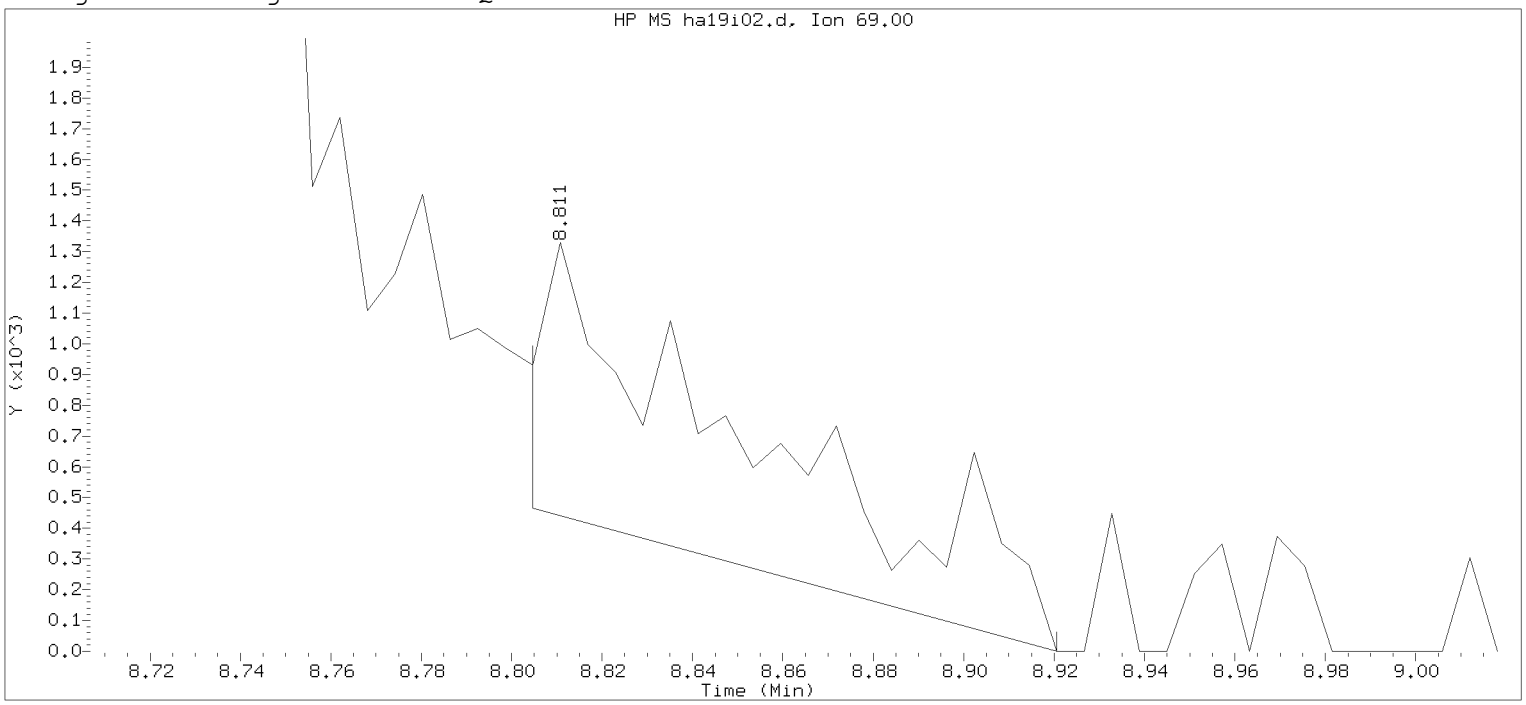
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

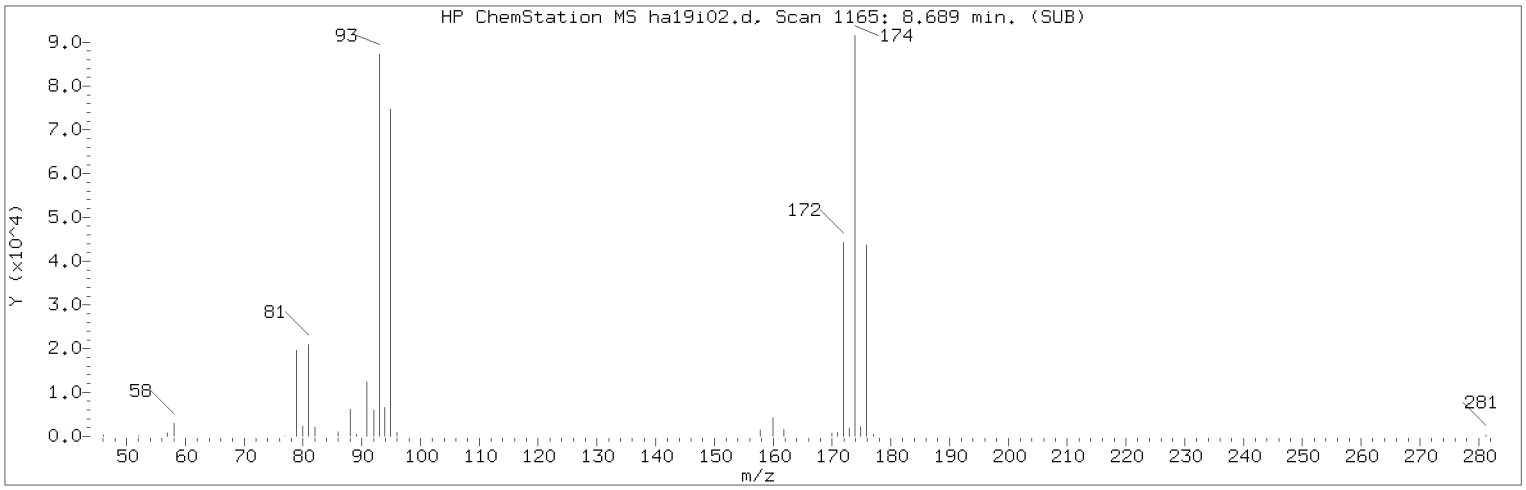
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

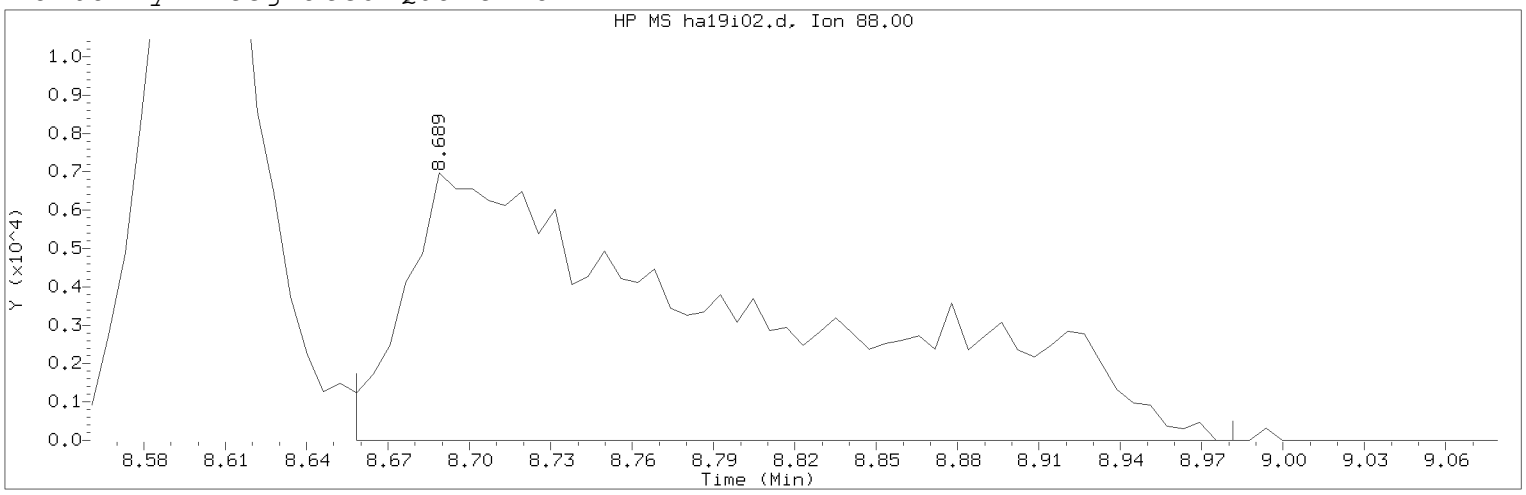
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1185
Retention Time (minutes): 8.811
Quant Ion : 69.00
Area : 2840
On-column Amount (ng) : 0.1976
Integration start scan : 1183 Integration stop scan: 1202
Y at integration start : 466 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2608

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

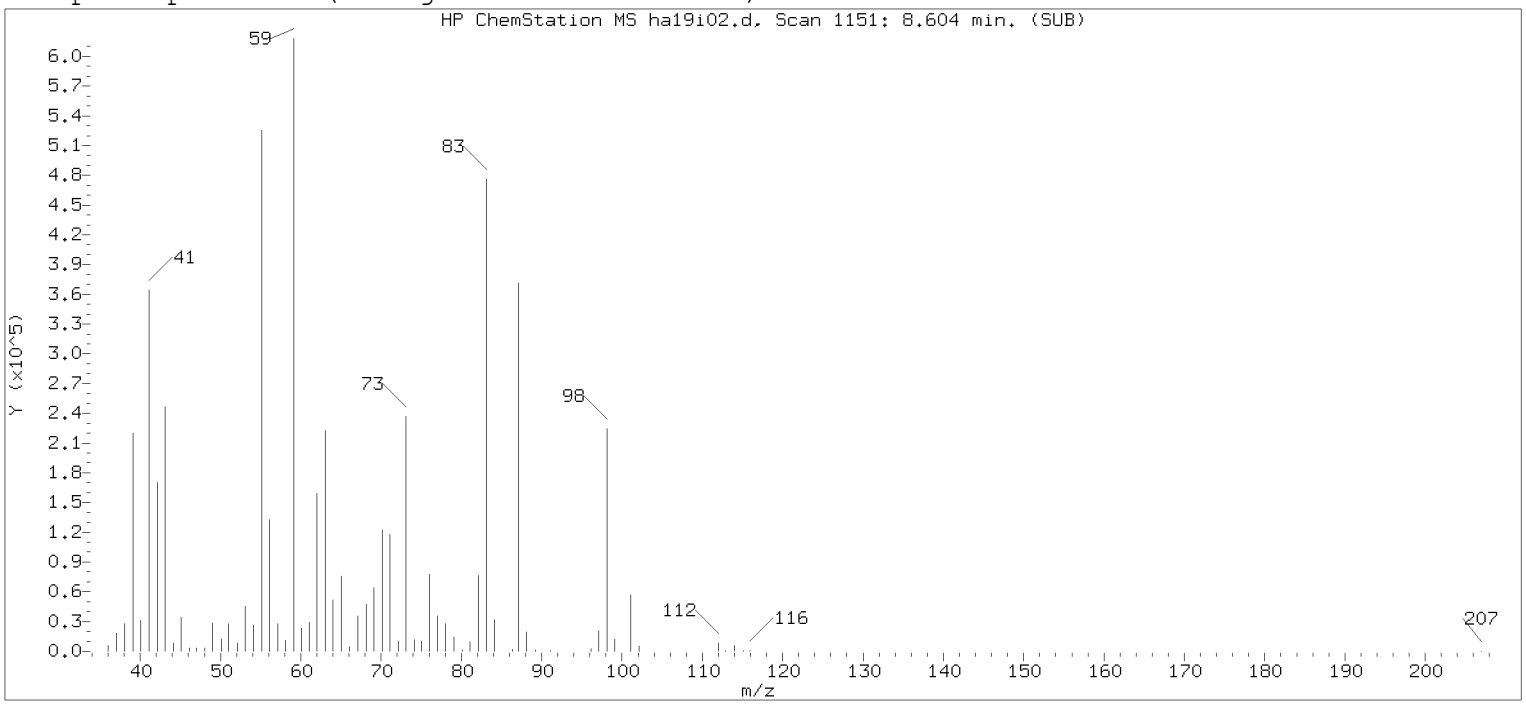
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1165
Retention Time (minutes): 8.689
Quant Ion : 88.00
Area (flag) : 62881M
On-Column Amount (ng) : 480.3753
Integration start scan : 1159 Integration stop scan: 1212
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

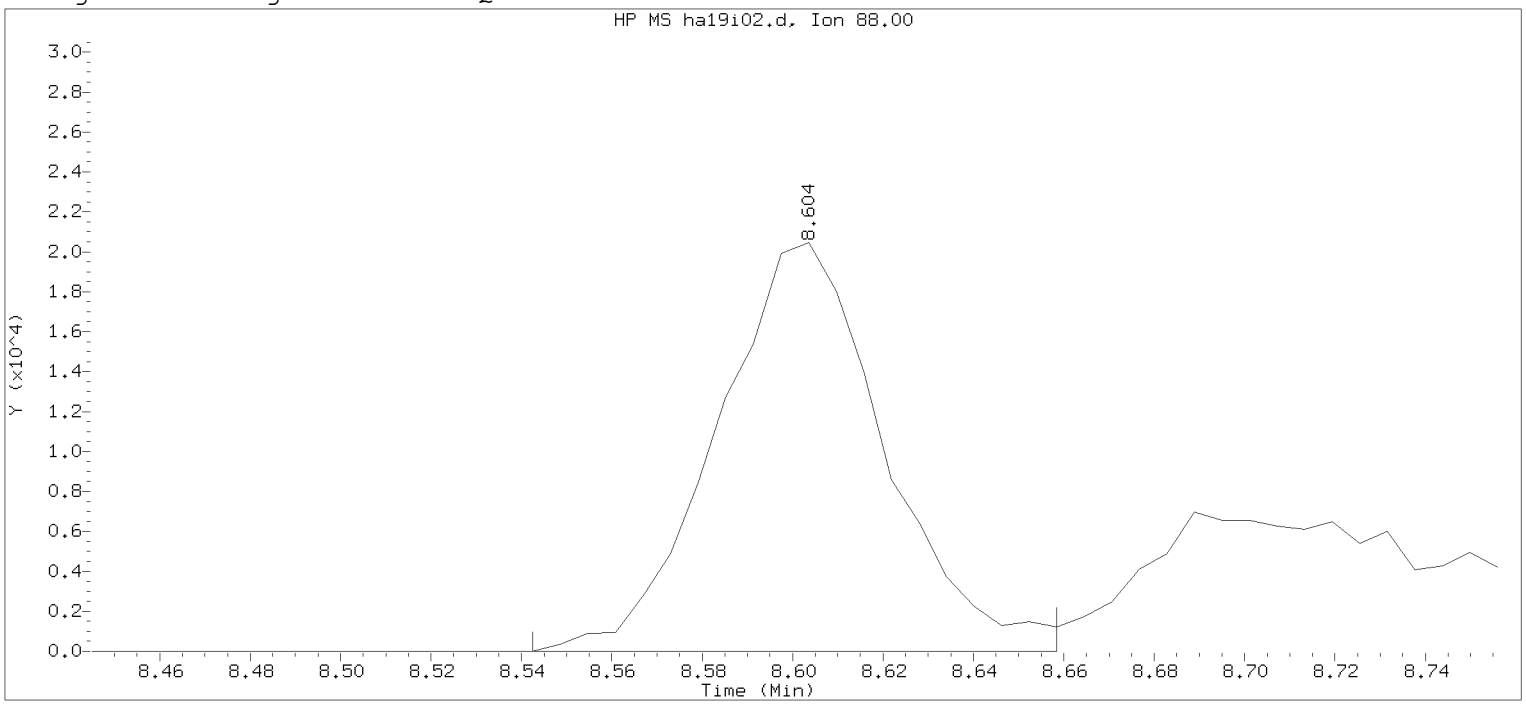
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

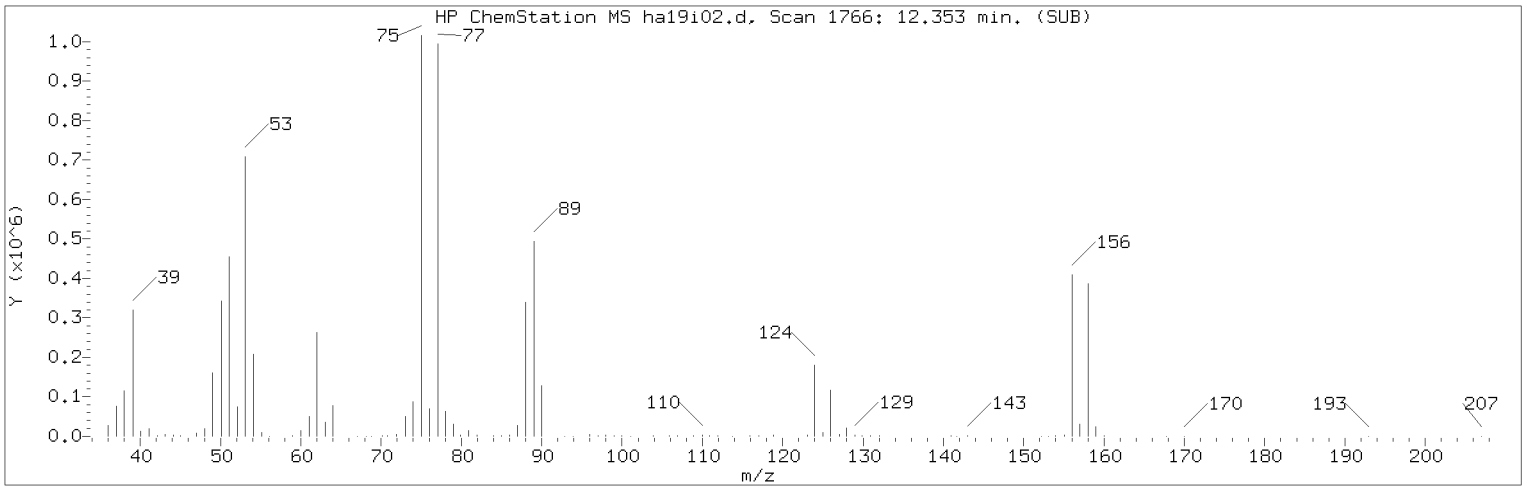
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

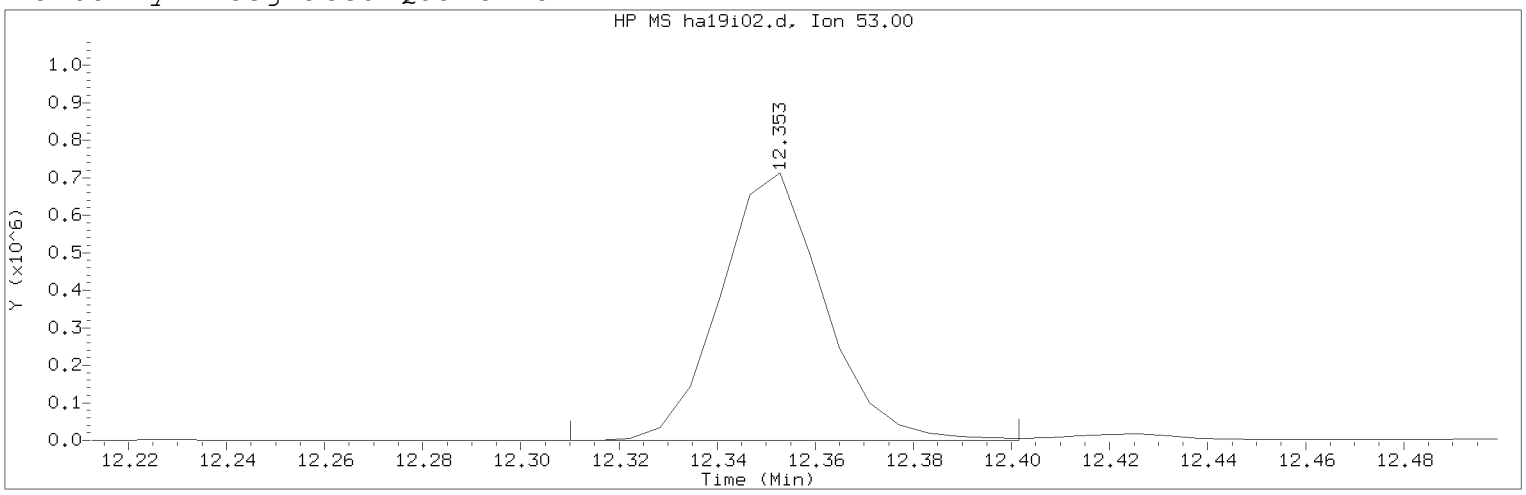
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 52357
On-column Amount (ng) : 396.6429
Integration start scan : 1140 Integration stop scan: 1159
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2022

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

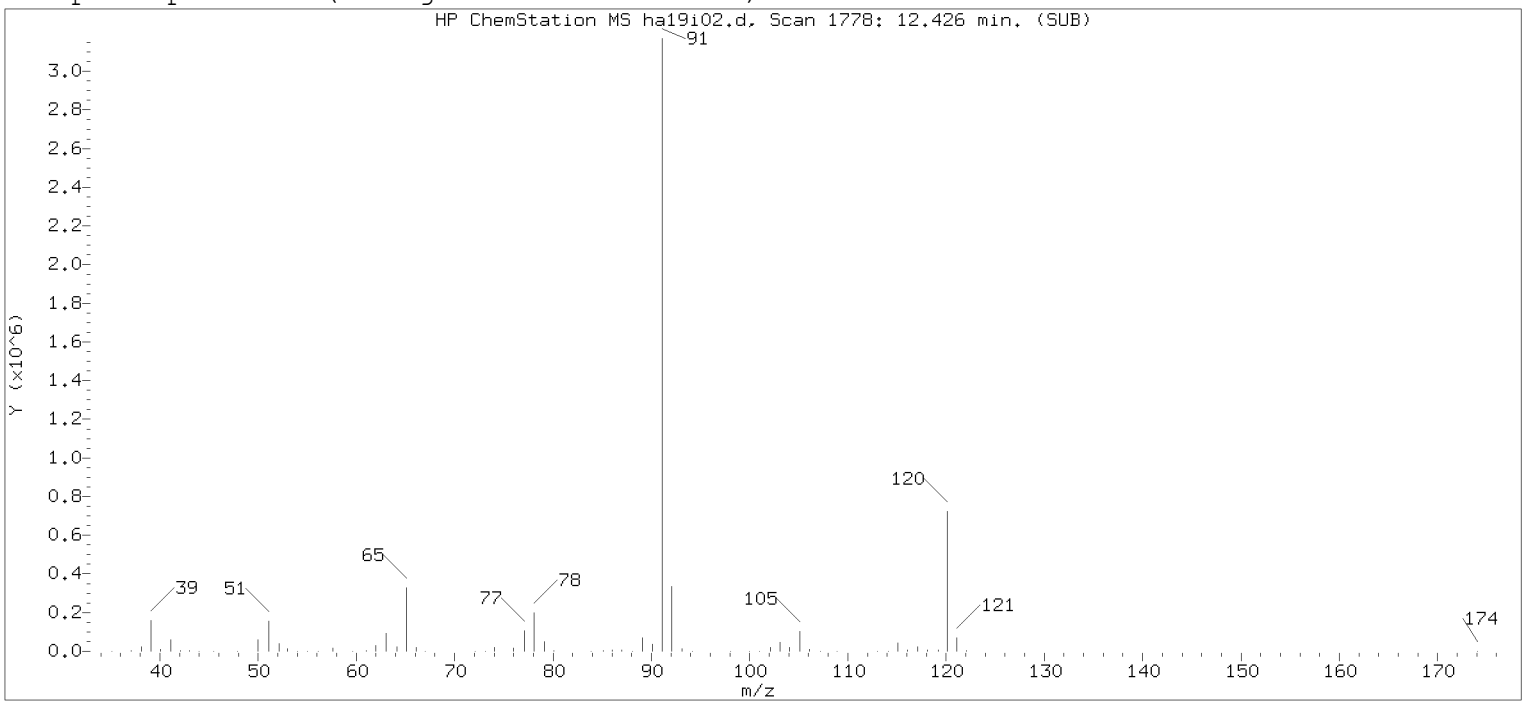
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 1044235A
On-Column Amount (ng) : 116.3404
Integration start scan : 1758 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

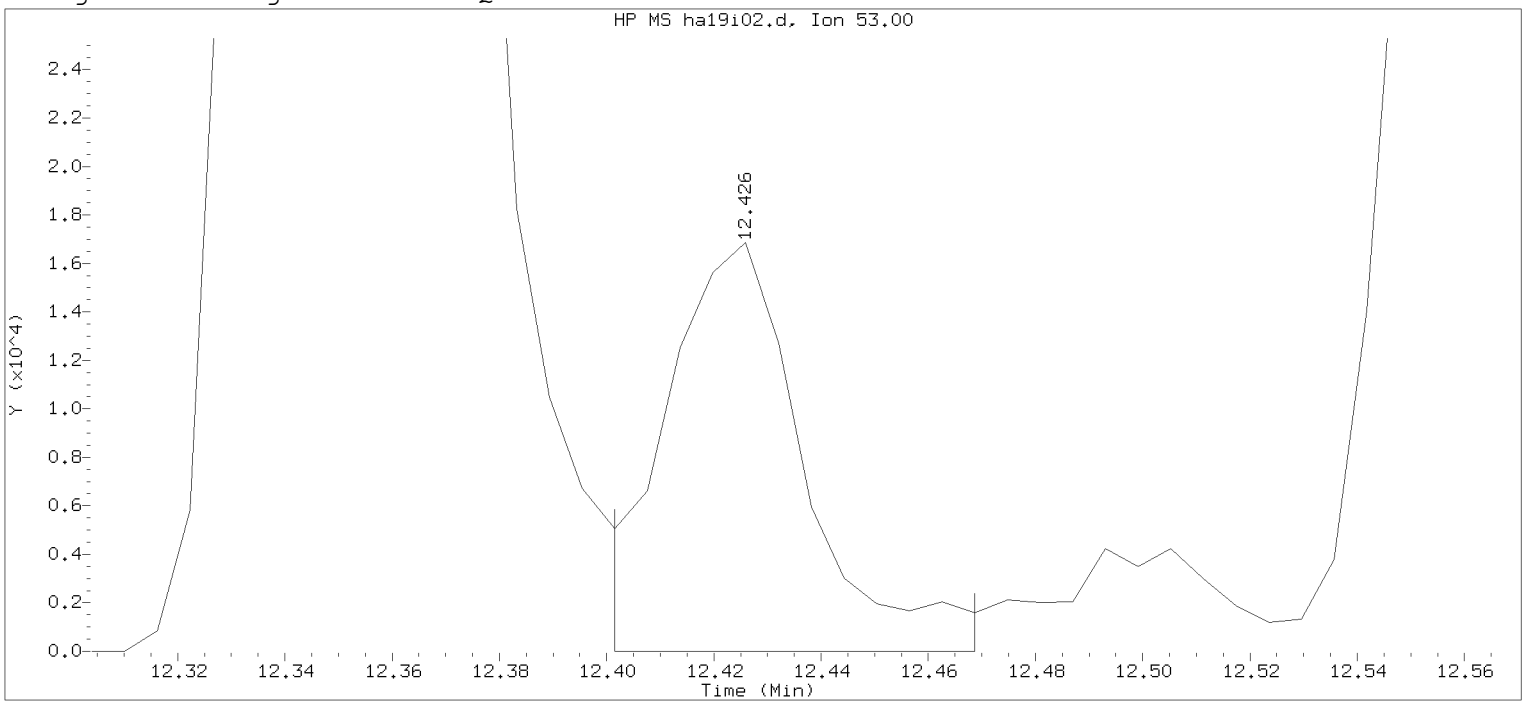
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

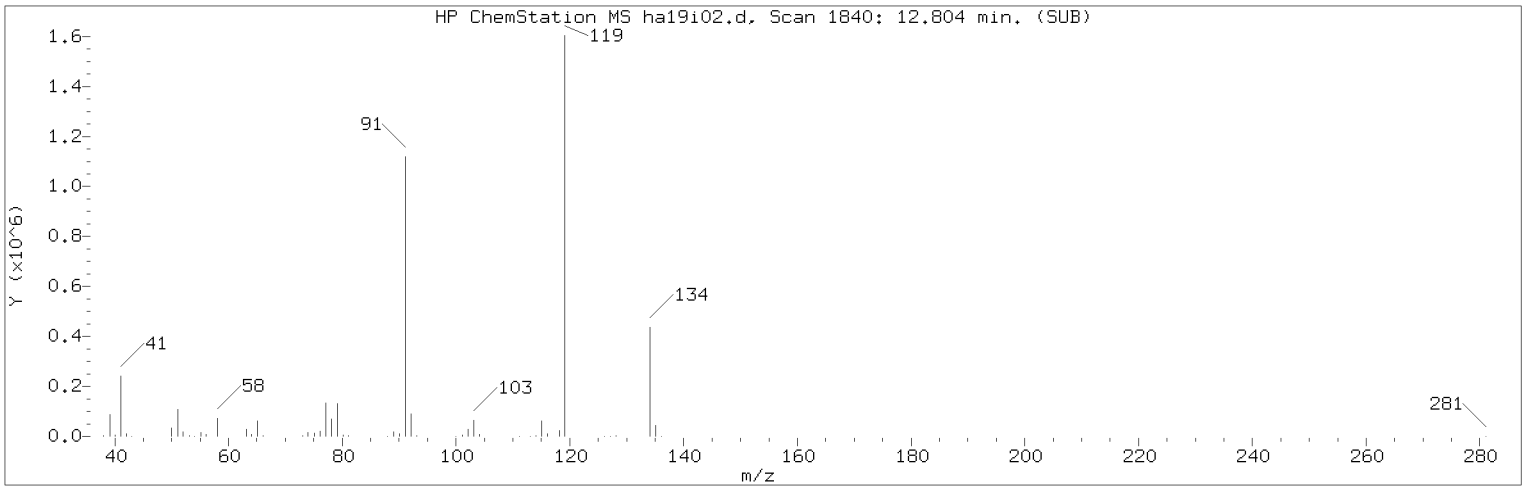
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

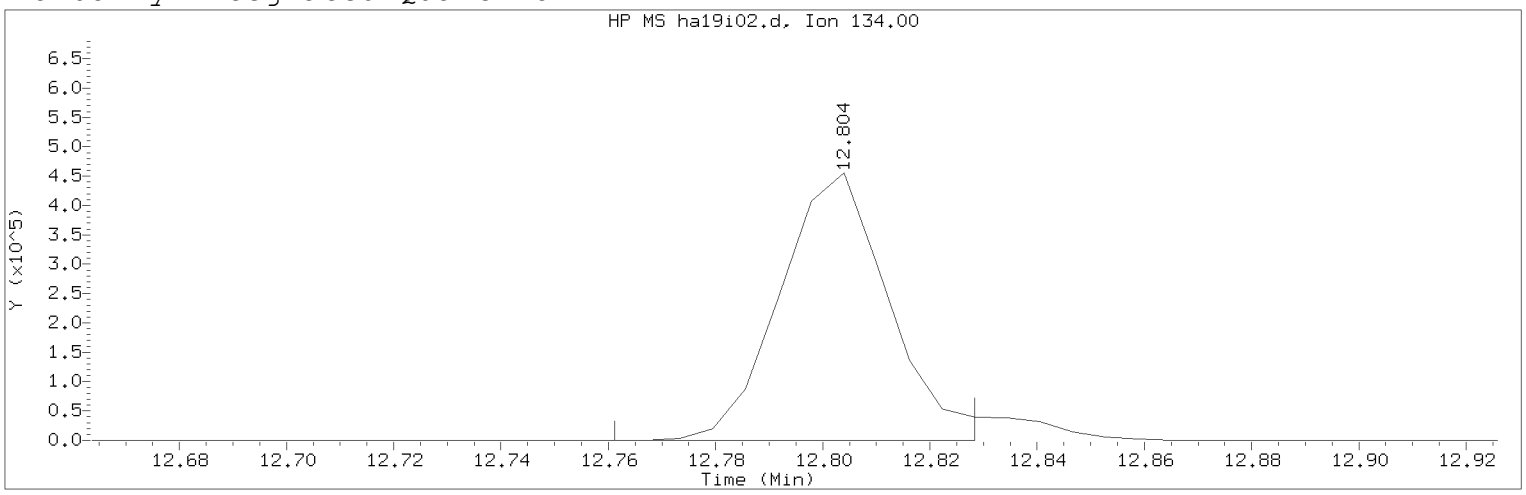
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1778
Retention Time (minutes): 12.426
Quant Ion : 53.00
Area : 30090
On-column Amount (ng) : 7.0915
Integration start scan : 1773 Integration stop scan: 1784
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2.6.0.8

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

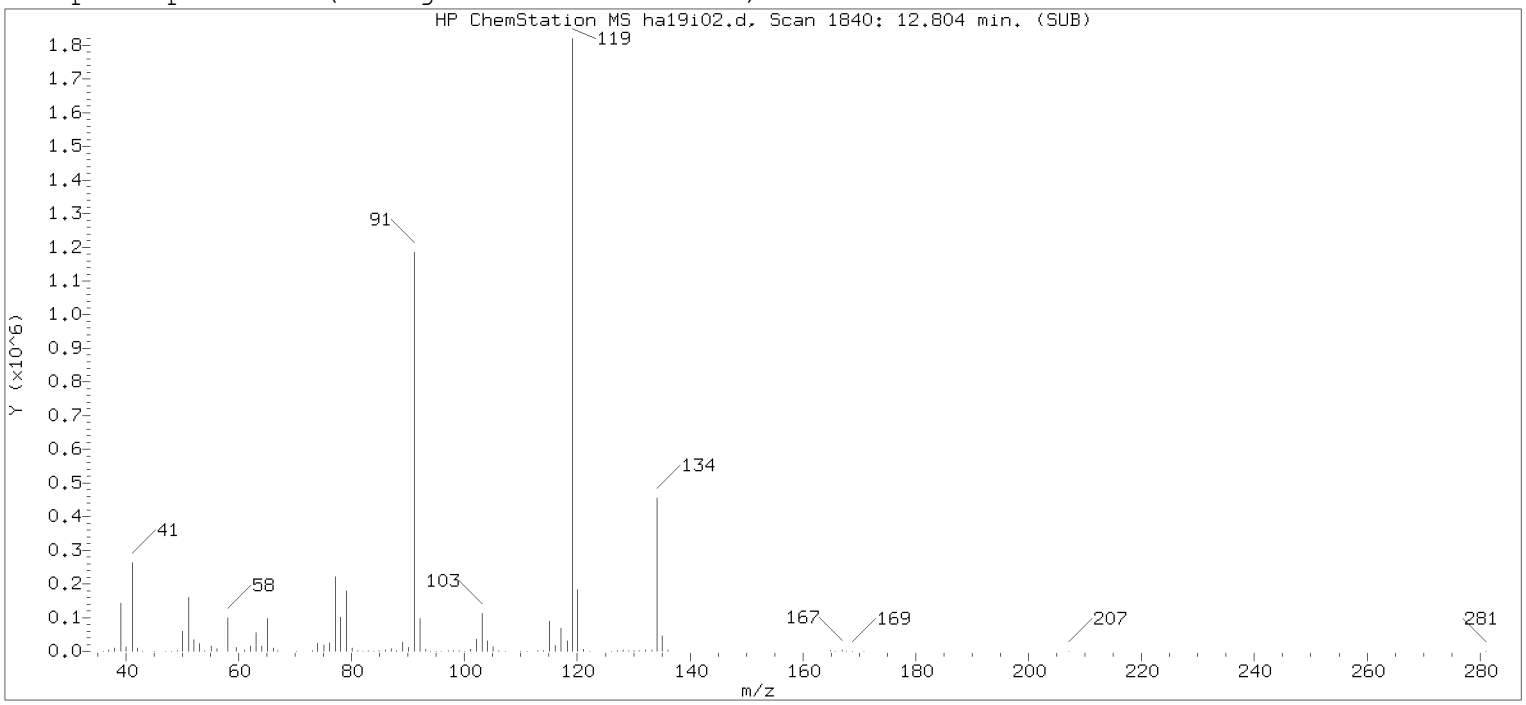
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 638983M
On-Column Amount (ng) : 9.5643
Integration start scan : 1832 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

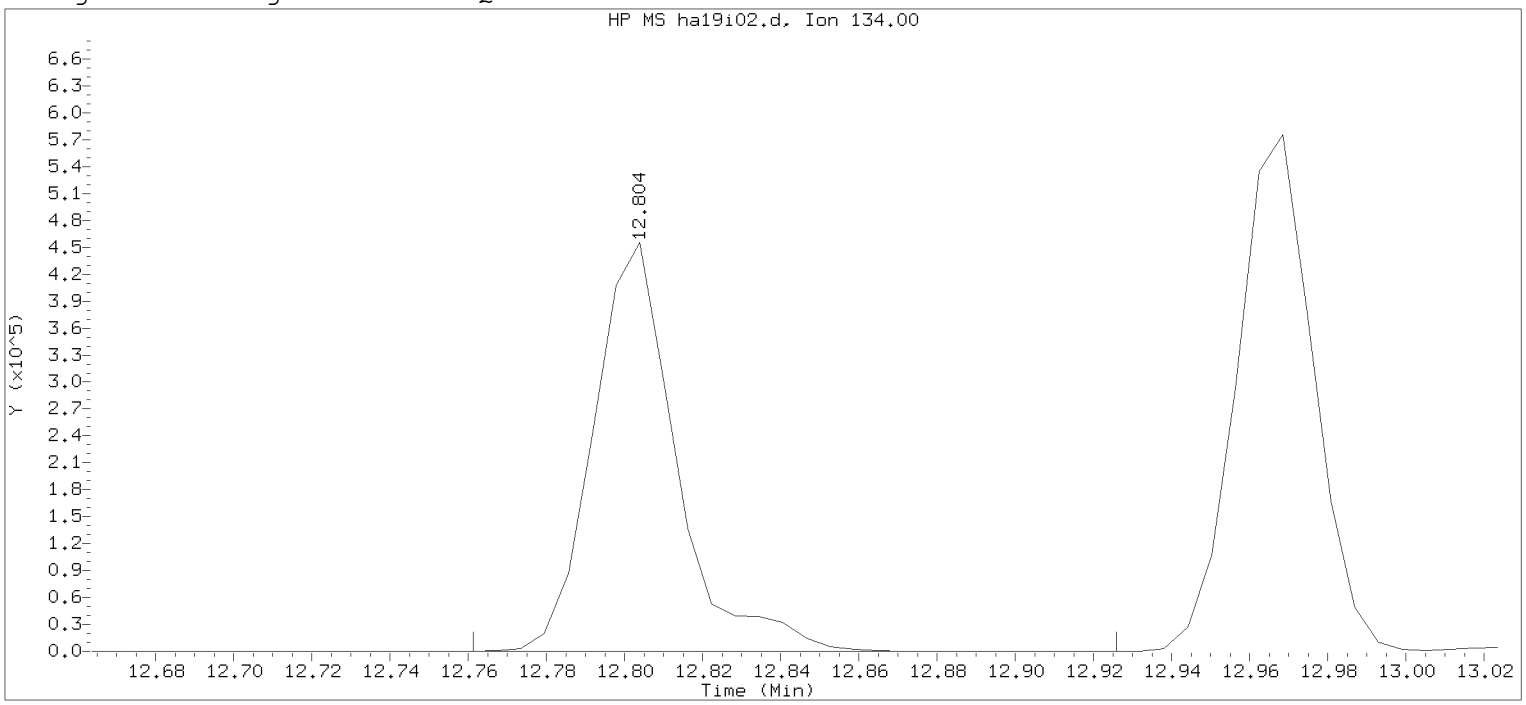
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

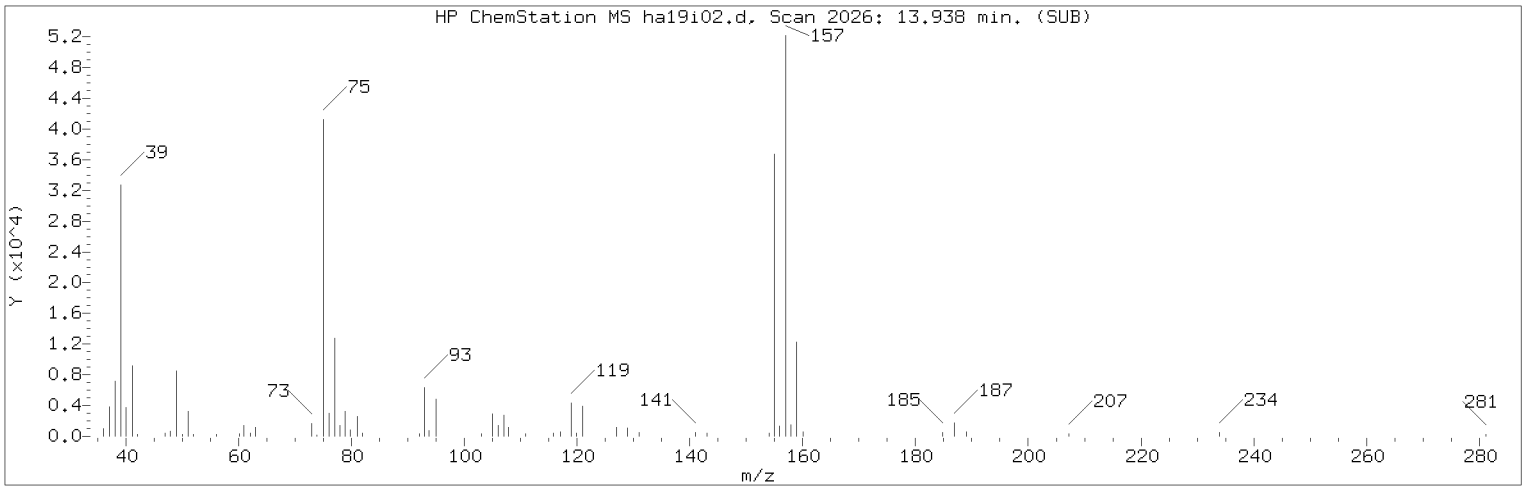
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

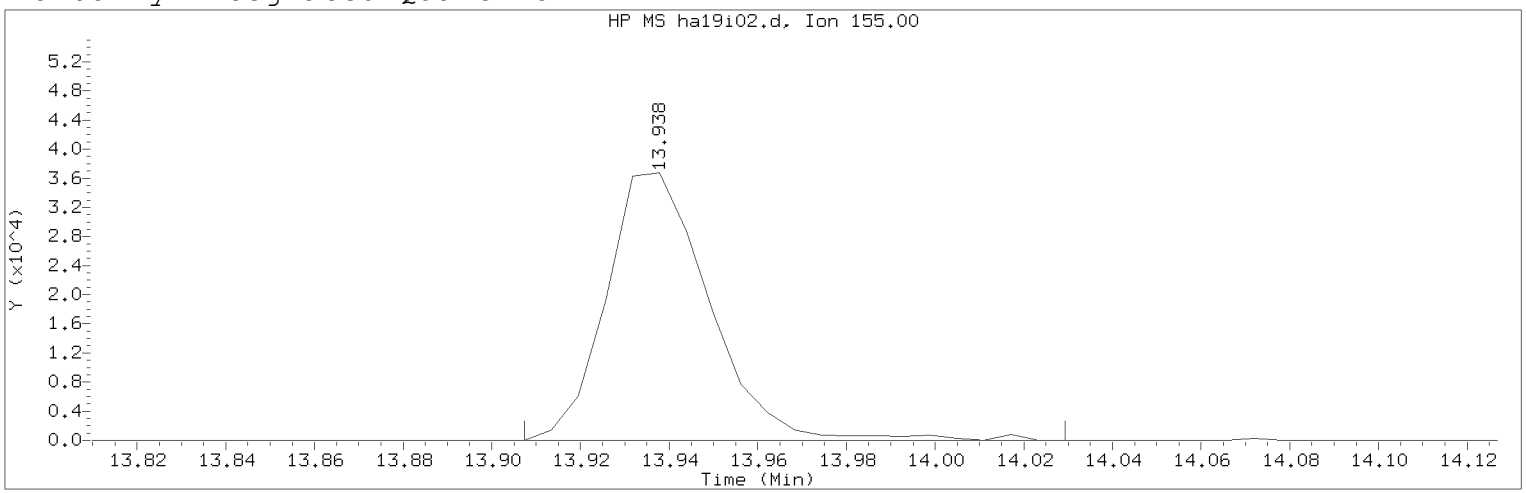
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 672816
On-column Amount (ng) : 9.2262
Integration start scan : 1832 Integration stop scan: 1859
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD010 Lab Sample ID: VSTD010

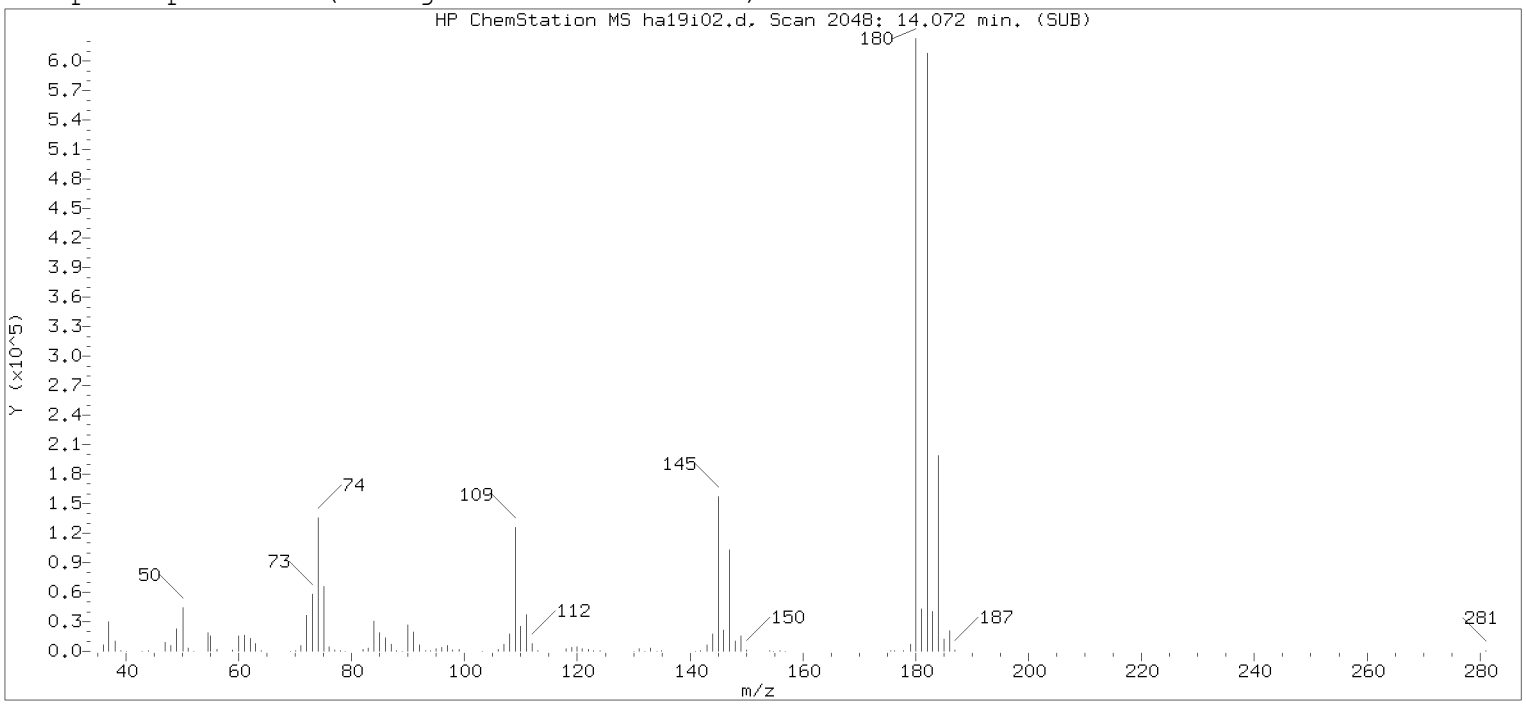
Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2026
Retention Time (minutes): 13.938
Quant Ion : 155.00
Area (flag) : 59646A
On-Column Amount (ng) : 11.9117
Integration start scan : 2020 Integration stop scan: 2040
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

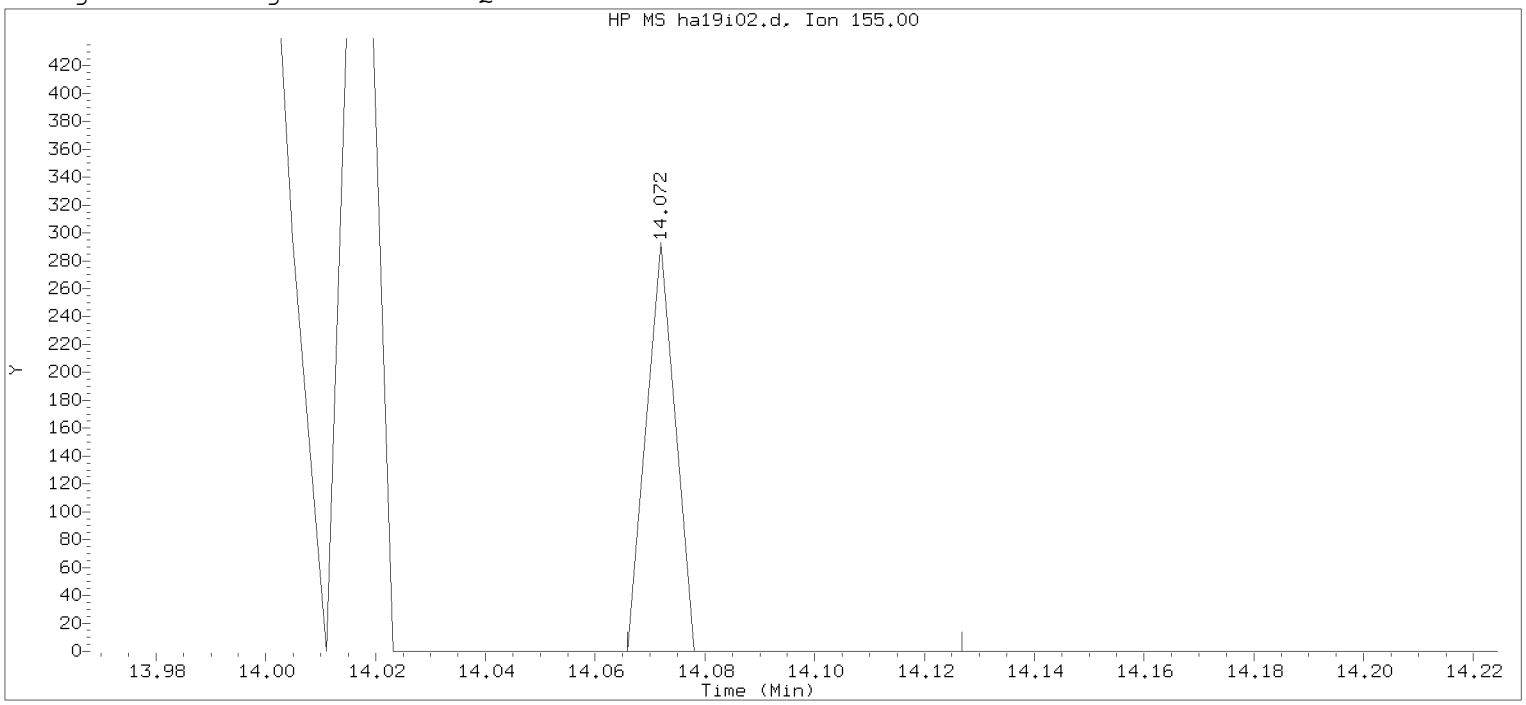
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



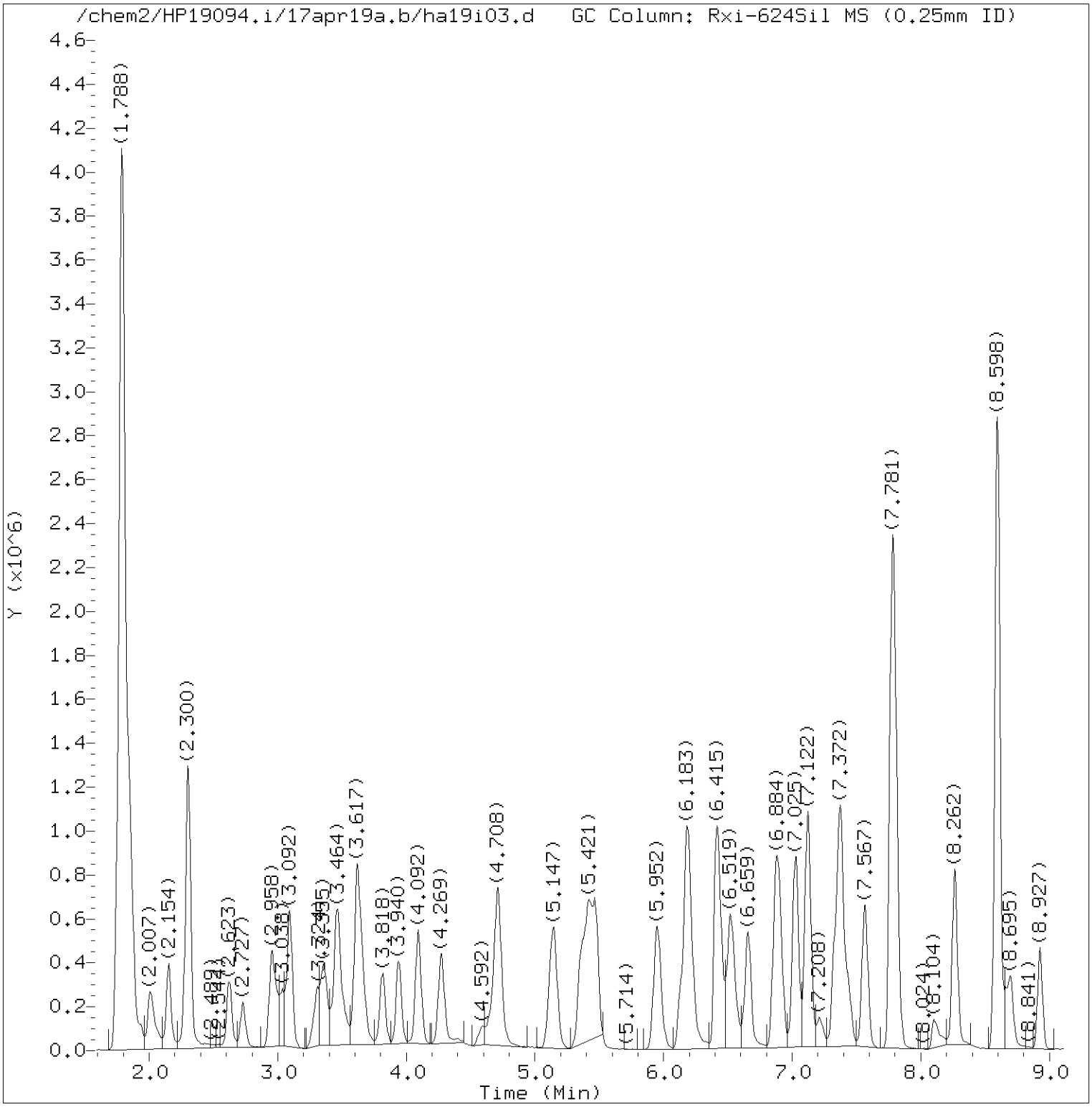
Data File: /chem2/HP19094.i/17apr19a.b/ha19i02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:18 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:37
Date, time and analyst ID of latest file update: 19-Apr-2017 12:37 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2048
Retention Time (minutes): 14.072
Quant Ion : 155.00
Area : 107
On-column Amount (ng) : 0.0378
Integration start scan : 2046 Integration stop scan: 2056
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2.6.0



Total Ion Chromatogram (TIC)

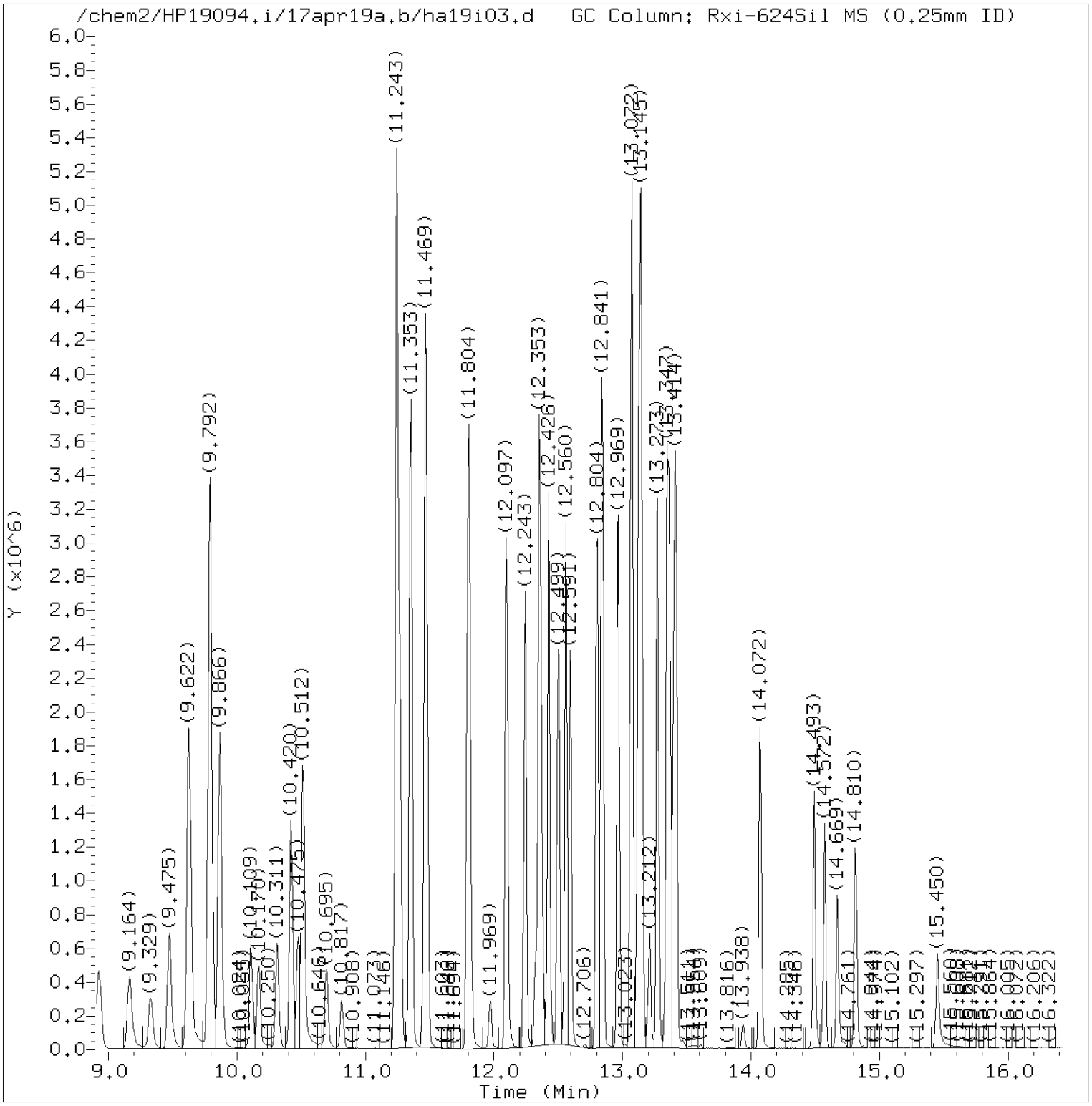
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	528926	4.755
2) Chloromethane	(2)	2.154	50	545593	4.672
5) Vinyl Chloride	(2)	2.288	62	464629	4.533
6) 1,3-Butadiene	(2)	2.306	39	774372	4.796
7) Bromomethane	(2)	2.617	94	301413	4.681
8) Chloroethane	(2)	2.733	64	280420	4.776
9) Dichlorofluoromethane	(2)	2.952	67	667963	4.944
10) Trichlorofluoromethane	(2)	3.032	101	596527	5.022
11) Ethyl ether	(2)	3.300	59	237449	5.046
12) Freon 123a	(2)	3.355	67	474190	5.291
13) Acrolein	(1)	3.464	56	1435703	262.935
15) 1,1-Dichloroethene	(2)	3.611	96	326196	5.114
14) Acetone	(1)	3.623	43	321683M	48.650
16) Freon 113	(2)	3.647	101	352835	5.255
17) Methyl Iodide	(2)	3.818	142	608438	5.135
18) Carbon Disulfide	(2)	3.940	76	901757	5.038
21) Methyl Acetate	(1)	4.068	43	109275	4.863
22) Allyl Chloride	(2)	4.092	41	619363	5.003
23) Methylene Chloride	(2)	4.269	84	351791	5.050
26)*t-Butyl Alcohol-d10	(1)	4.306	65	71762M	50.000
28) t-Butyl Alcohol	(1)	4.403	59	151046	84.125
29) Acrylonitrile	(1)	4.598	53	232934	26.069
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	669087	5.235
31) trans-1,2-Dichloroethene	(2)	4.720	96	370253	5.256
32) n-Hexane	(2)	5.147	57	603359	5.587
33) 1,1-Dichloroethane	(2)	5.360	63	718210	5.167
34) di-Isopropyl Ether	(2)	5.415	45	1230438	5.194
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	623368	5.308
37) Ethyl t-butyl ether	(2)	5.952	59	965810	5.303
40) 1,2-Dichloroethene (Total)	(2)		96	765399	10.282
38) 2-Butanone	(1)	6.122	43	719234	53.330
39) cis-1,2-Dichloroethene	(2)	6.177	96	395146	5.025
41) 2,2-Dichloropropane	(2)	6.202	77	534003	5.128
42) Propionitrile	(1)	6.208	54	335847	104.809
45) Methacrylonitrile	(1)	6.421	67	709682	52.971
47) Bromochloromethane	(2)	6.513	128	147612	4.748
48) Tetrahydrofuran	(1)	6.531	71	187859	55.759
49) Chloroform	(2)	6.659	83	658333	5.020

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	643970	9.992
50)$Dibromofluoromethane	(2)	6.872	111	662876	10.014
51) 1,1,1-Trichloroethane	(2)	6.903	97	565737	5.065
52) Cyclohexane	(2)	7.025	56	727268	5.282
52) Cyclohexane	(2)	7.031	84	573992	5.070
52) Cyclohexane	(2)	7.019	69	211838	5.483
55) 1,1-Dichloropropene	(2)	7.122	75	540304	5.209
54) Carbon Tetrachloride	(2)	7.134	117	483099	5.153
56) Isobutyl Alcohol	(1)	7.214	41	180504	232.966
57)$1,2-Dichloroethane-d4	(2)	7.329	102	106025	10.174
57)$1,2-Dichloroethane-d4	(2)	7.329	65	491332	9.685
57)$1,2-Dichloroethane-d4	(2)	7.323	104	63799	10.100
58) Benzene	(2)	7.372	78	1540706	5.115
59) 1,2-Dichloroethane	(2)	7.433	62	372628	5.175
60) t-Amyl methyl ether	(2)	7.567	73	786659	5.312
63)*Fluorobenzene	(2)	7.774	96	2875093	10.000
62) n-Heptane	(2)	7.805	43	681161	5.358
65) n-Butanol	(1)	8.104	56	295989M	518.824
67) Trichloroethene	(2)	8.262	95	400802	5.027
70) 1,2-Dichloropropane	(2)	8.591	63	397998	5.067
69) Methylcyclohexane	(2)	8.598	83	714121	5.302
71) Methyl Methacrylate	(1)	8.658	69	137114M	5.594
73) Dibromomethane	(2)	8.701	93	153587	5.072
72) 1,4-Dioxane	(1)	8.762	88	37550A	269.863
74) Bromodichloromethane	(2)	8.927	83	426475	5.143
76) 2-Nitropropane	(1)	9.164	41	427733	52.915
80) cis-1,3-Dichloropropene	(2)	9.475	75	490800	5.250
81) 4-Methyl-2-Pentanone	(1)	9.622	43	1951526	54.608
82)$Toluene-d8	(3)	9.792	98	2782414	9.934
82)$Toluene-d8	(3)	9.792	100	1794837	9.952
83) Toluene	(3)	9.866	92	947952	5.122
84) trans-1,3-Dichloropropene	(3)	10.109	75	372638	5.168
85) 1,3-Dichloropropene (total)	(3)		75	863438	10.418
86) Ethyl Methacrylate	(3)	10.170	69	289708	5.432
88) 1,1,2-Trichloroethane	(3)	10.317	97	218565	5.084
89) Tetrachloroethene	(3)	10.420	166	438595	5.110
90) 1,3-Dichloropropane	(3)	10.475	76	386696	5.026
91) 2-Hexanone	(1)	10.512	43	1327854	52.722

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	256579	5.036
95) 1,2-Dibromoethane	(3)	10.817	107	202838	4.989
97)*Chlorobenzene-d5	(3)	11.243	117	1916028	10.000
98) Chlorobenzene	(3)	11.268	112	1013579	5.023
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	335821	4.998
100) Ethylbenzene	(3)	11.353	91	1855553	5.174
101) m+p-Xylene	(3)	11.469	106	1412667	10.360
105) Xylene (Total)	(3)		106	2100708	15.612
104) o-Xylene	(3)	11.798	106	688041	5.254
106) Styrene	(3)	11.810	104	1075924	5.334
107) Bromoform	(3)	11.975	173	128273	5.041
108) Isopropylbenzene	(3)	12.097	105	1819693	5.310
111)$4-Bromofluorobenzene	(3)	12.243	95	793787	9.975
111)$4-Bromofluorobenzene	(3)	12.243	174	705289	9.958
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	263387	4.994
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	488943A	51.531
114) Bromobenzene	(4)	12.359	156	401762	4.996
116) 1,2,3-Trichloropropane	(4)	12.377	110	64991	4.926
117) n-Propylbenzene	(4)	12.426	91	2256214	5.247
119) 2-Chlorotoluene	(4)	12.505	126	425735	5.236
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	1525353	5.272
122) 4-Chlorotoluene	(4)	12.597	126	415728	5.087
125) tert-Butylbenzene	(4)	12.804	134	325824M	5.185
126) Pentachloroethane	(4)	12.834	167	235546	5.018
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1534482	5.321
128) sec-Butylbenzene	(4)	12.969	105	2013392M	5.340
131) 1,3-Dichlorobenzene	(4)	13.066	146	802938	5.082
132) p-Isopropyltoluene	(4)	13.072	119	1672418	5.421
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	817140	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	794518	4.825
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	615145	4.839
136) Benzyl Chloride	(4)	13.212	126	90315	5.435
138) n-Butylbenzene	(4)	13.365	92	858809	5.669
139) 1,2-Dichlorobenzene	(4)	13.395	146	710911	5.066
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	28578A	5.399
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	456045	5.040
146) Hexachlorobutadiene	(4)	14.572	225	222387	4.962
147) Naphthalene	(4)	14.669	128	703176	5.281

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

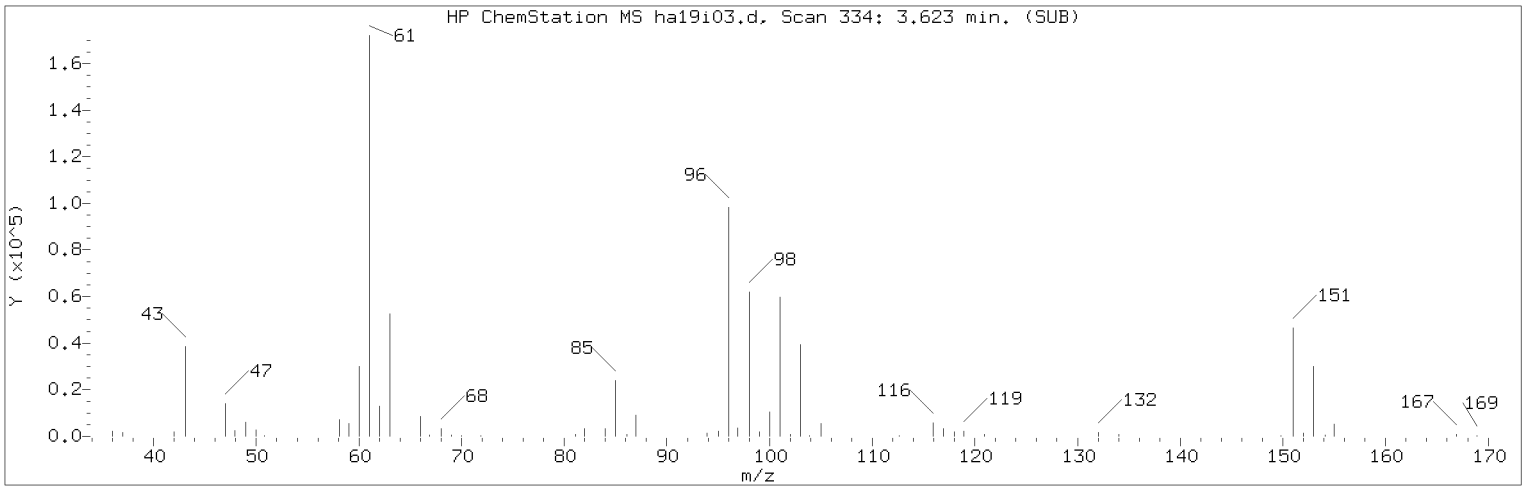
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

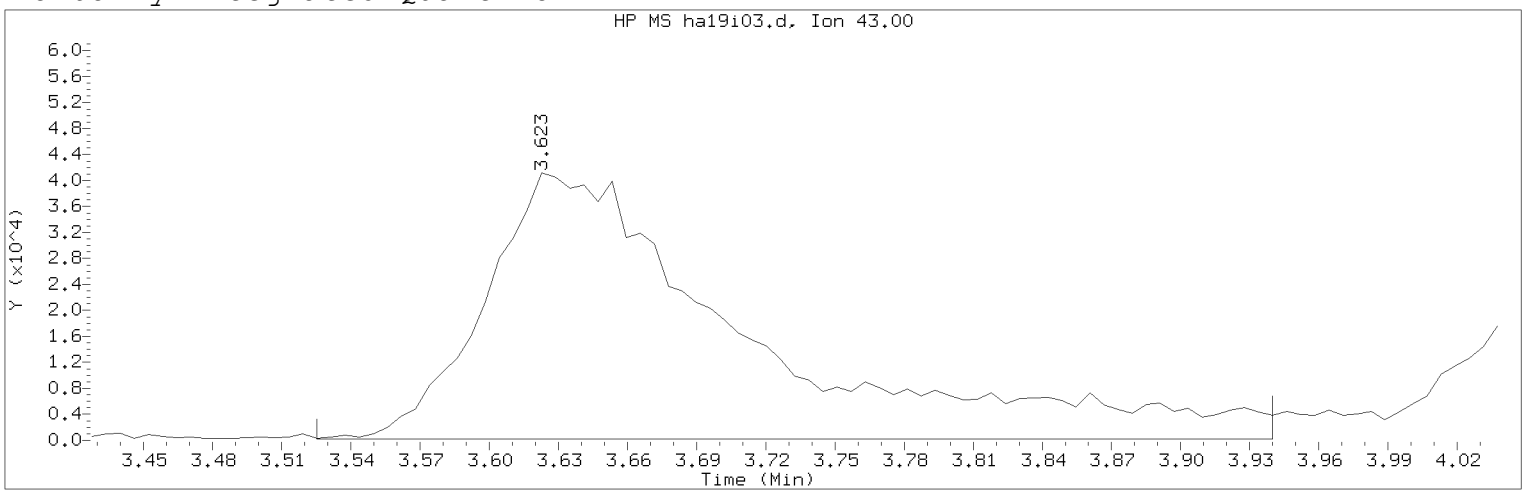
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	379632	4.966

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

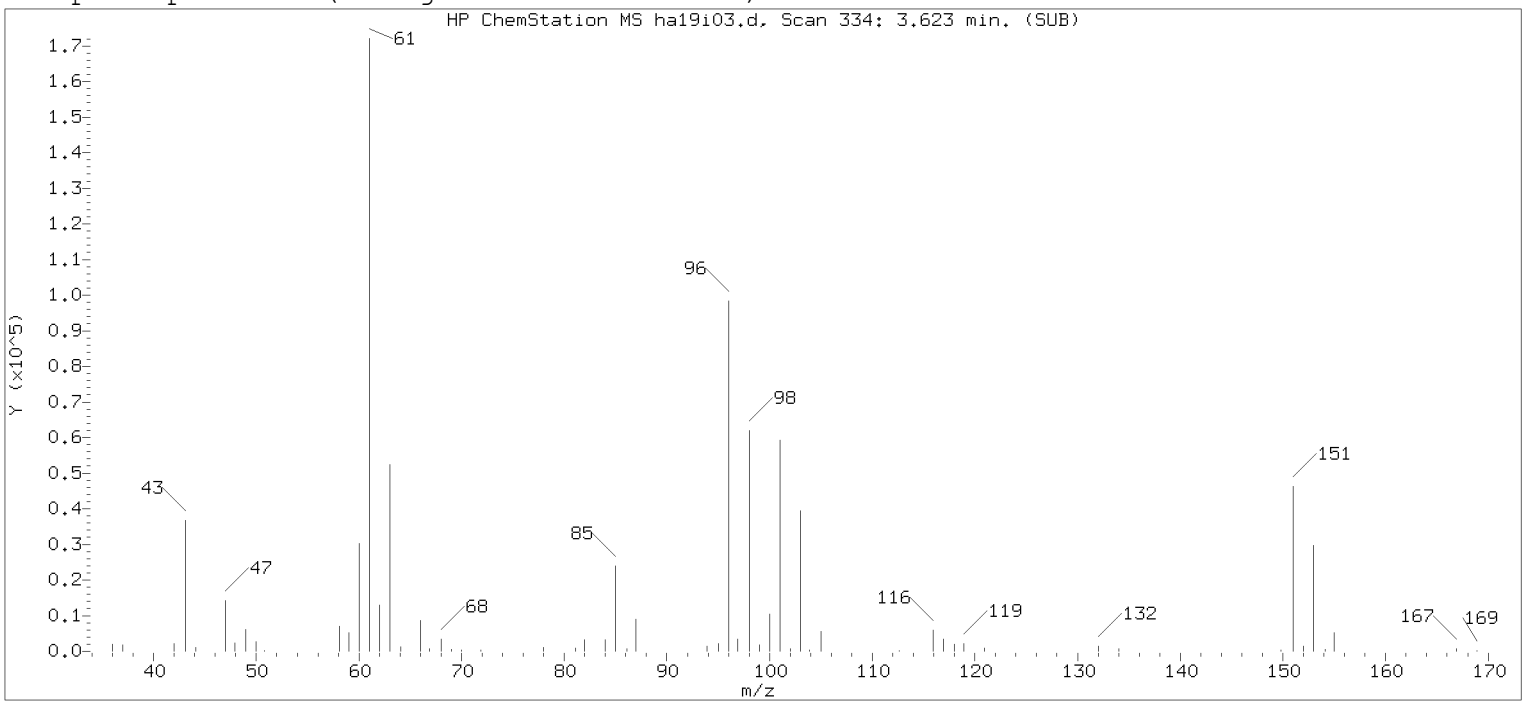
Compound Number : 14
Compound Name : Acetone
Scan Number : 334
Retention Time (minutes): 3.623
Quant Ion : 43.00
Area (flag) : 321683M
On-Column Amount (ng) : 48.6498
Integration start scan : 317 Integration stop scan: 385
Y at integration start : 198 Y at integration end: 198

Reason for manual integration: improper integration

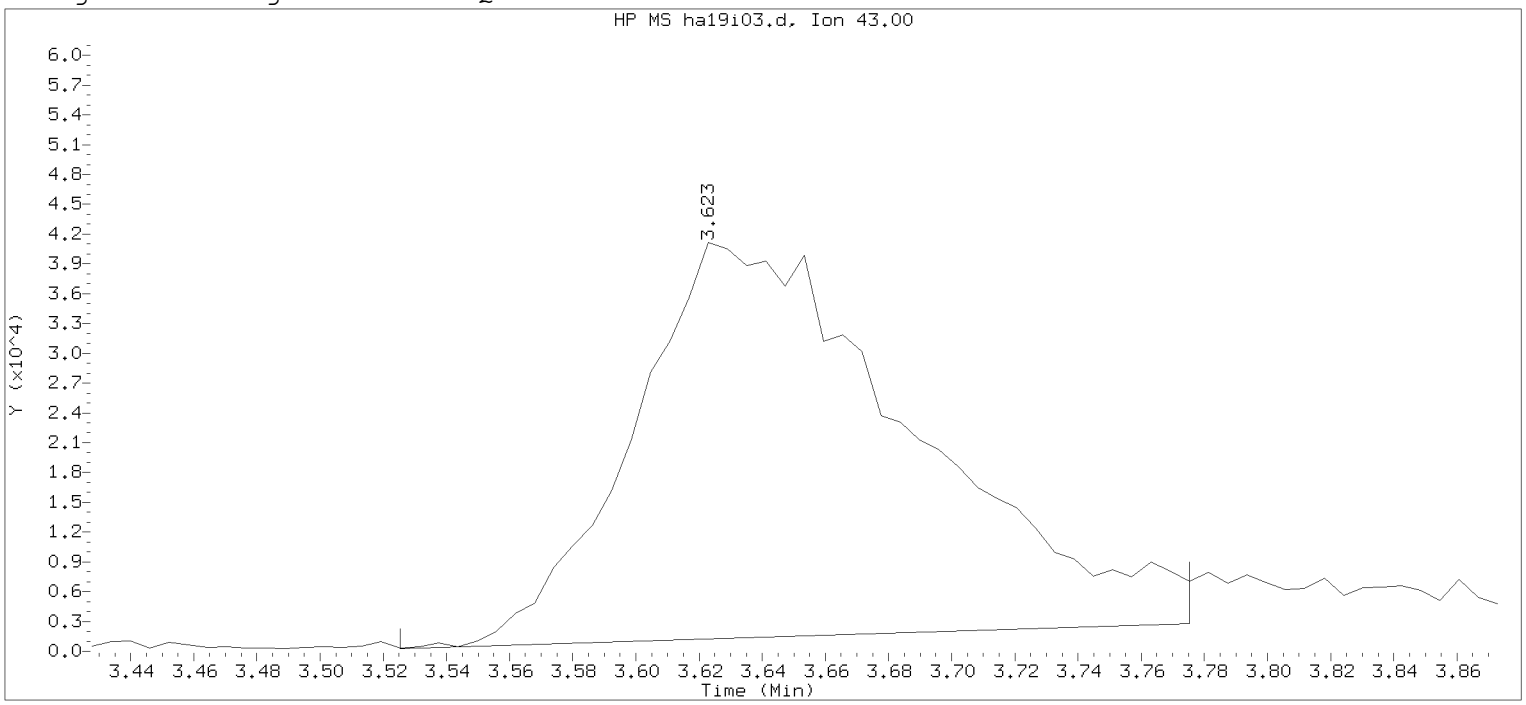
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

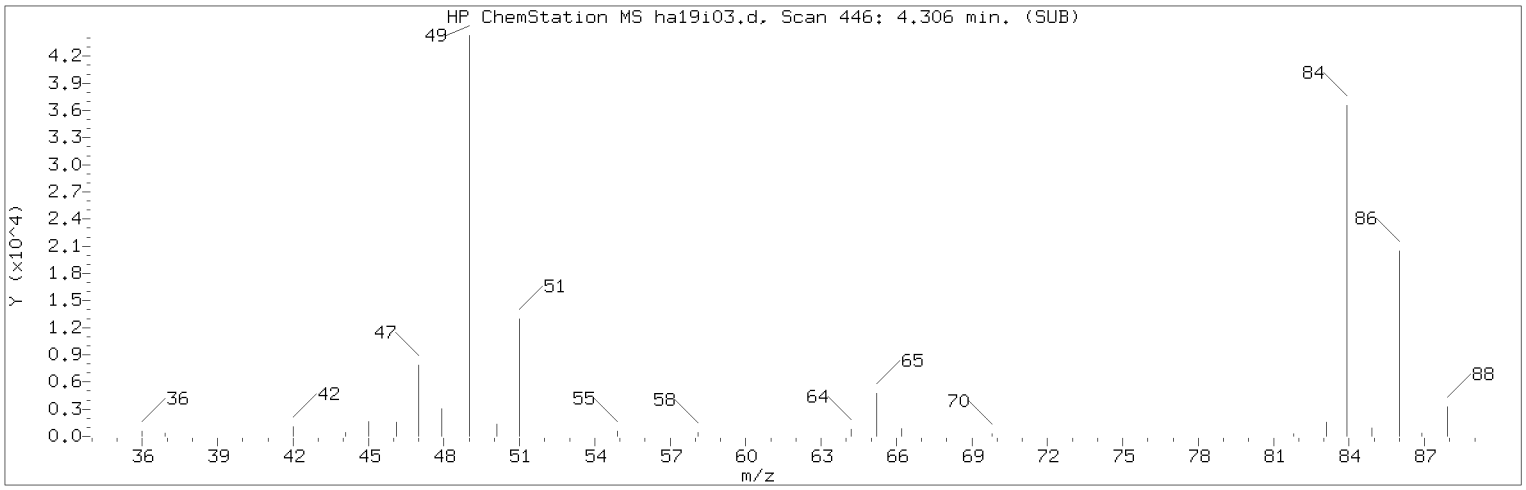
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

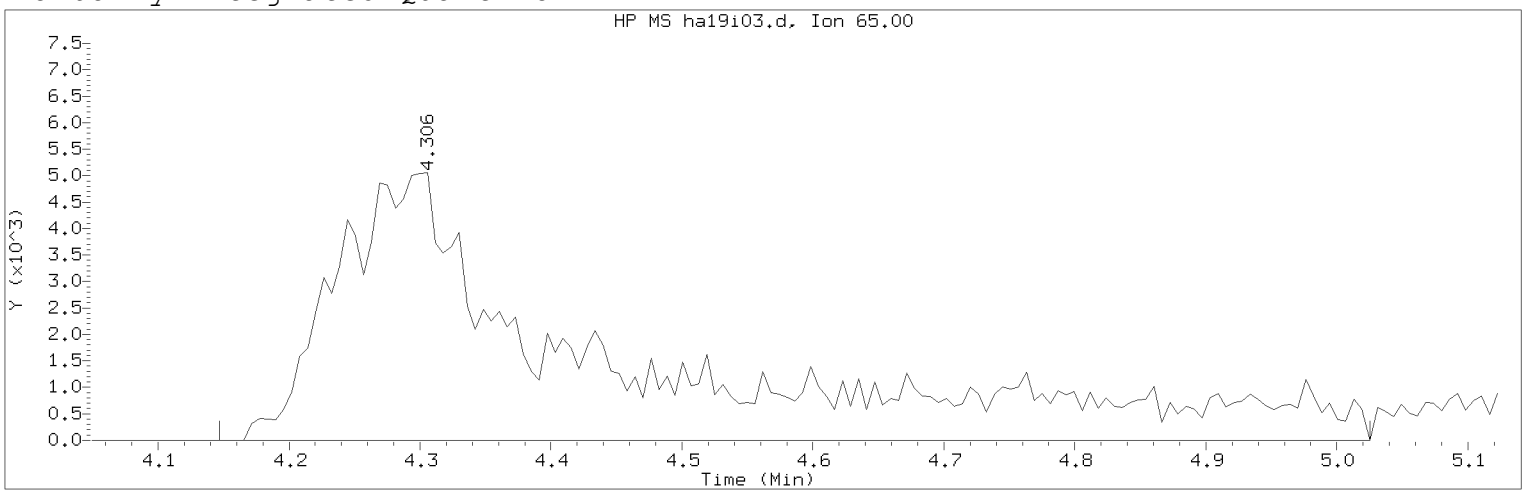
Compound Number : 14
Compound Name : Acetone
Scan Number : 334
Retention Time (minutes): 3.623
Quant Ion : 43.00
Area : 246744
On-column Amount (ng) : 36.4893
Integration start scan : 317 Integration stop scan: 358
Y at integration start : 255 Y at integration end: 2749

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2636

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

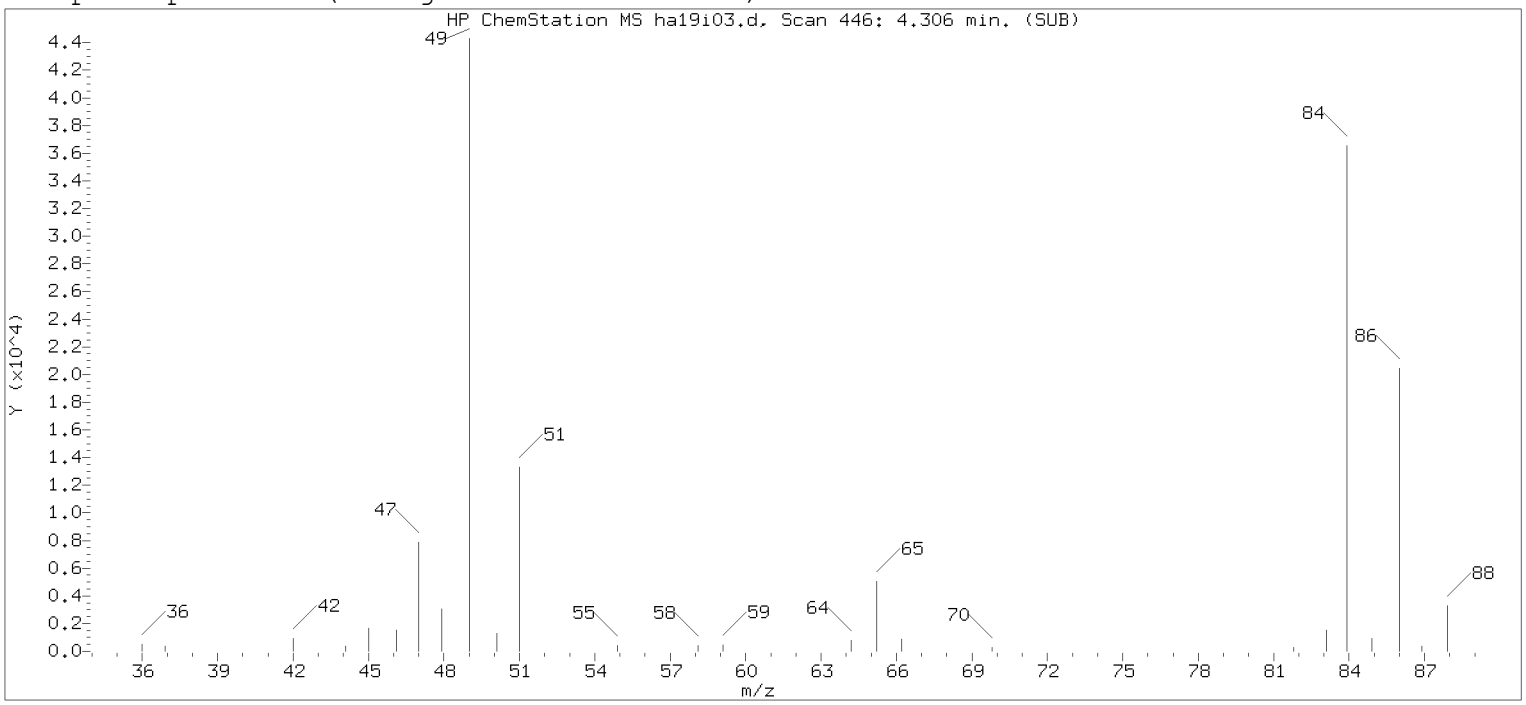
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 446
Retention Time (minutes): 4.306
Quant Ion : 65.00
Area (flag) : 71762M
On-Column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 563
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

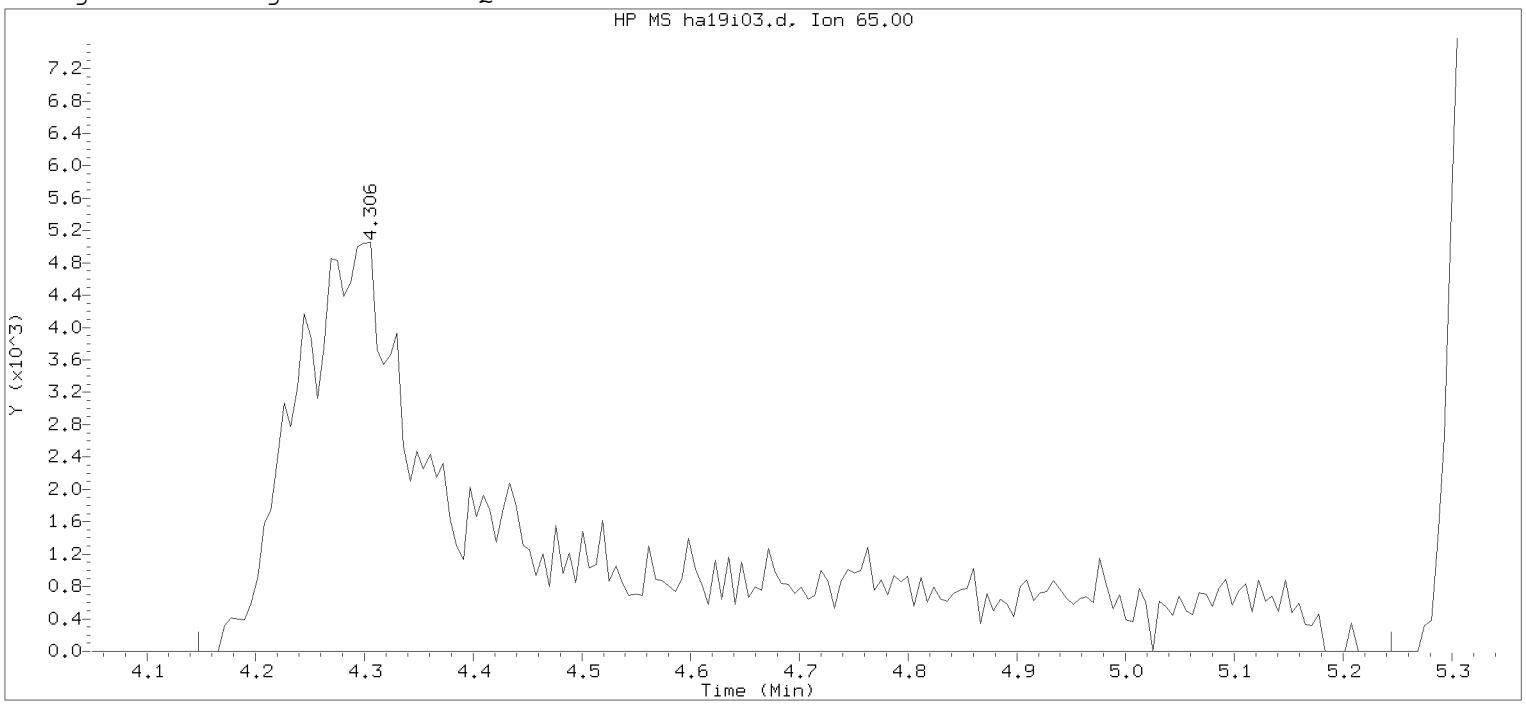
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

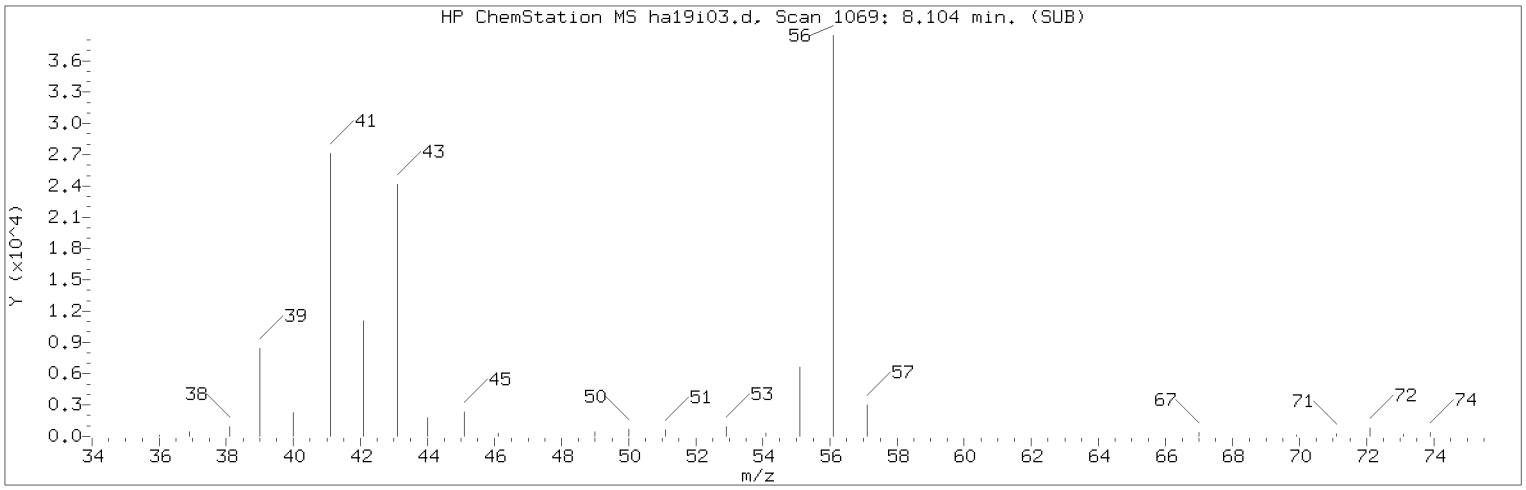
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

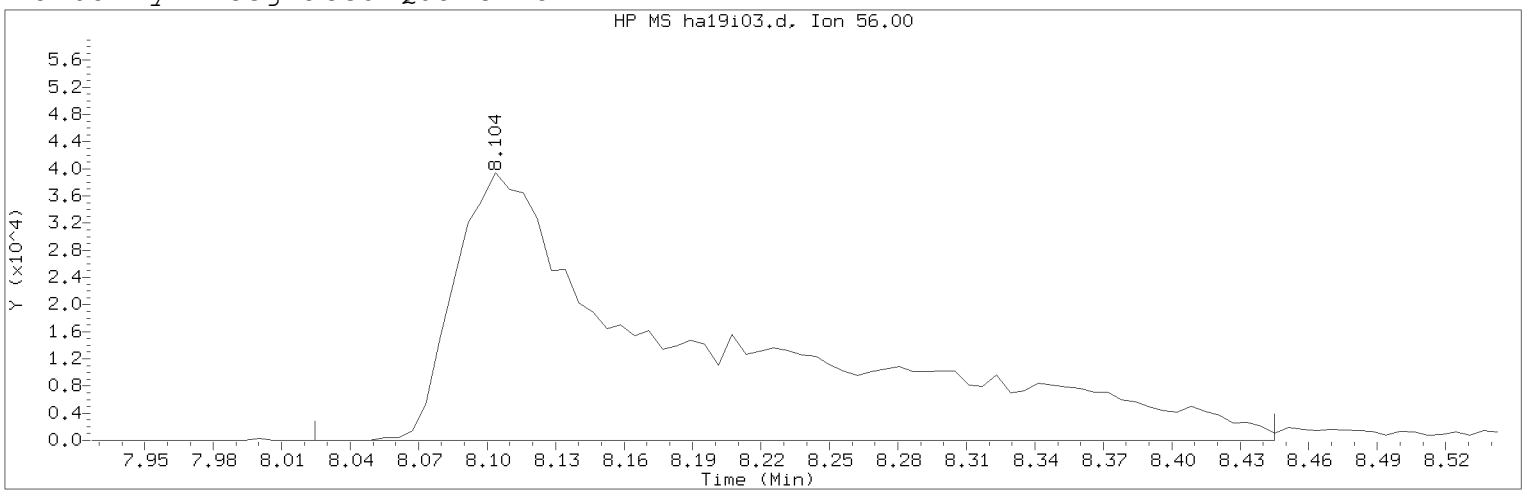
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 446
Retention Time (minutes): 4.306
Quant Ion : 65.00
Area : 77469
On-column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 599
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Kevin A. Sposito 04/20/2017

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

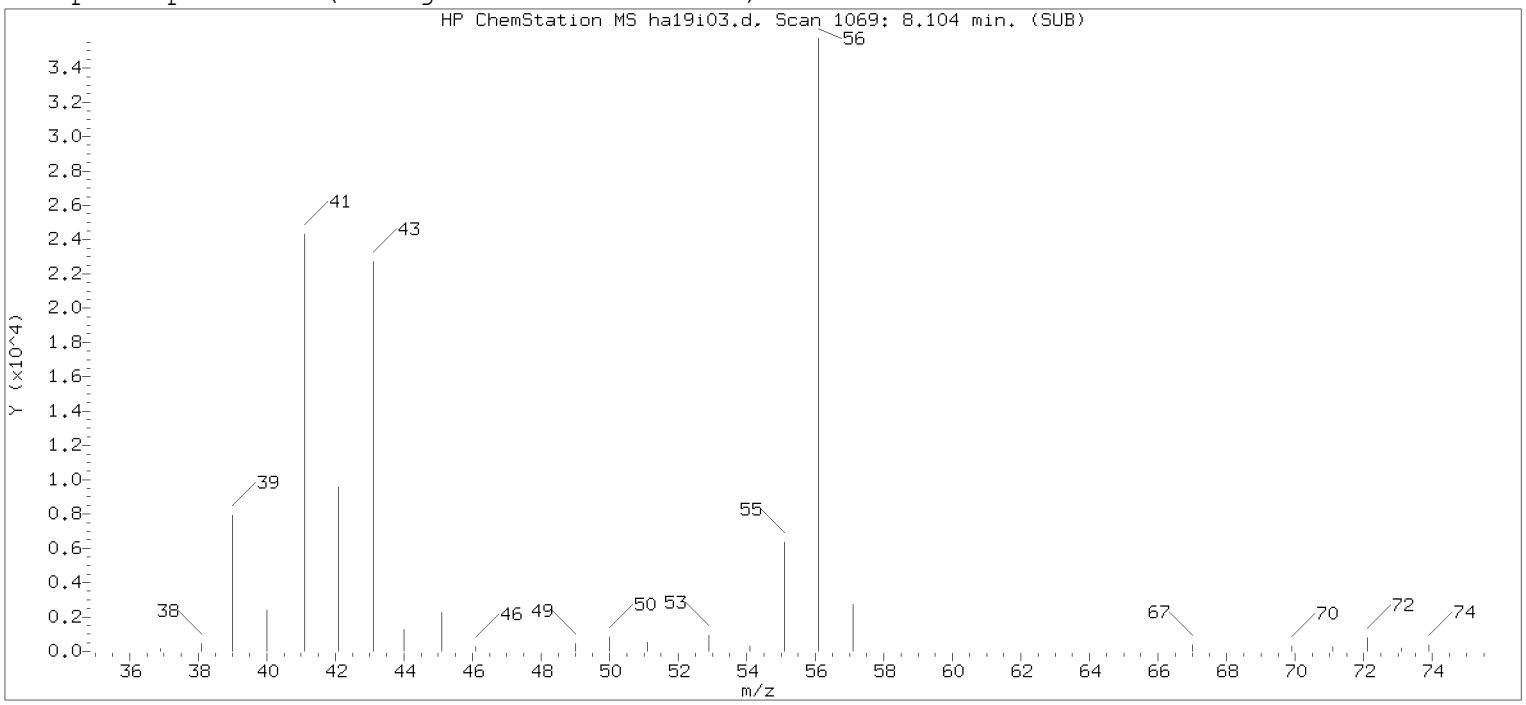
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area (flag) : 295989M
On-Column Amount (ng) : 518.8238
Integration start scan : 1055 Integration stop scan: 1124
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

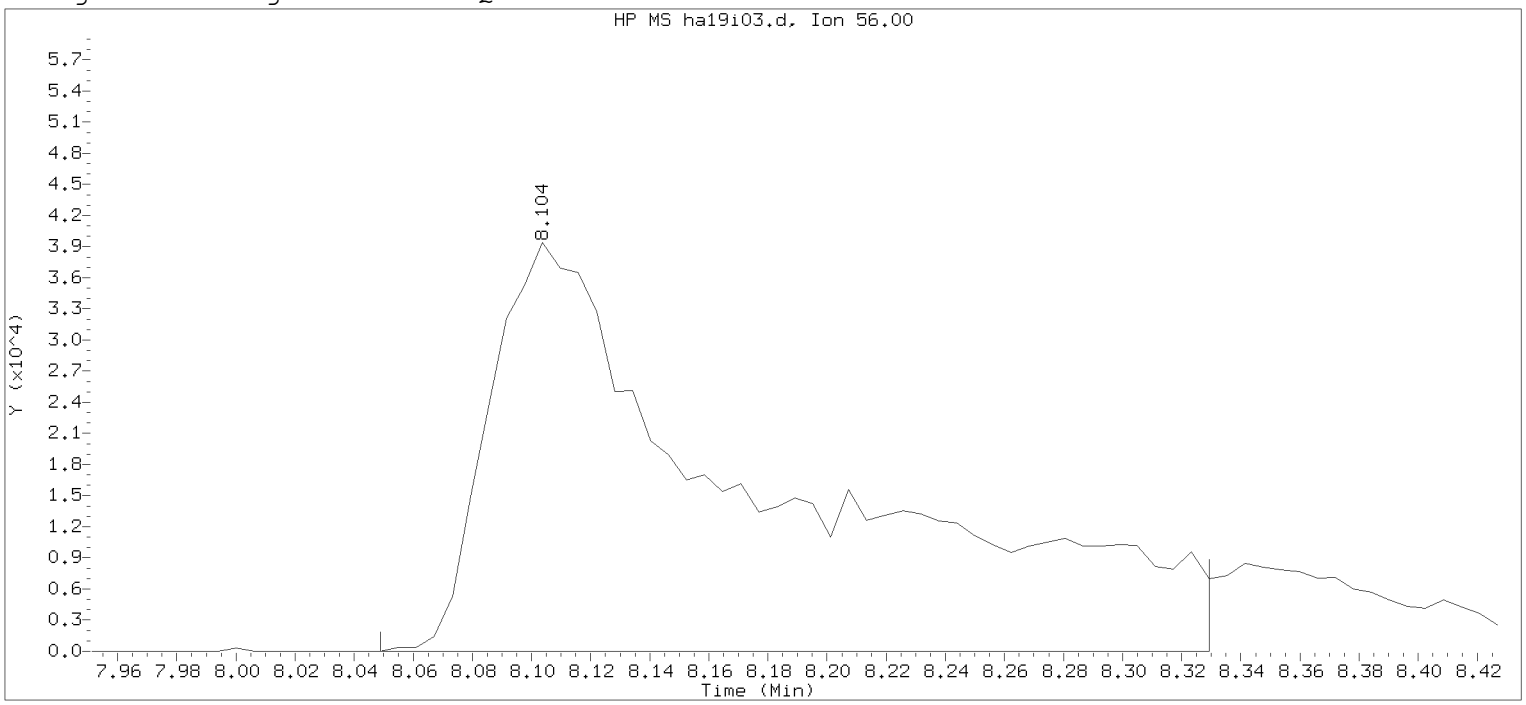
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

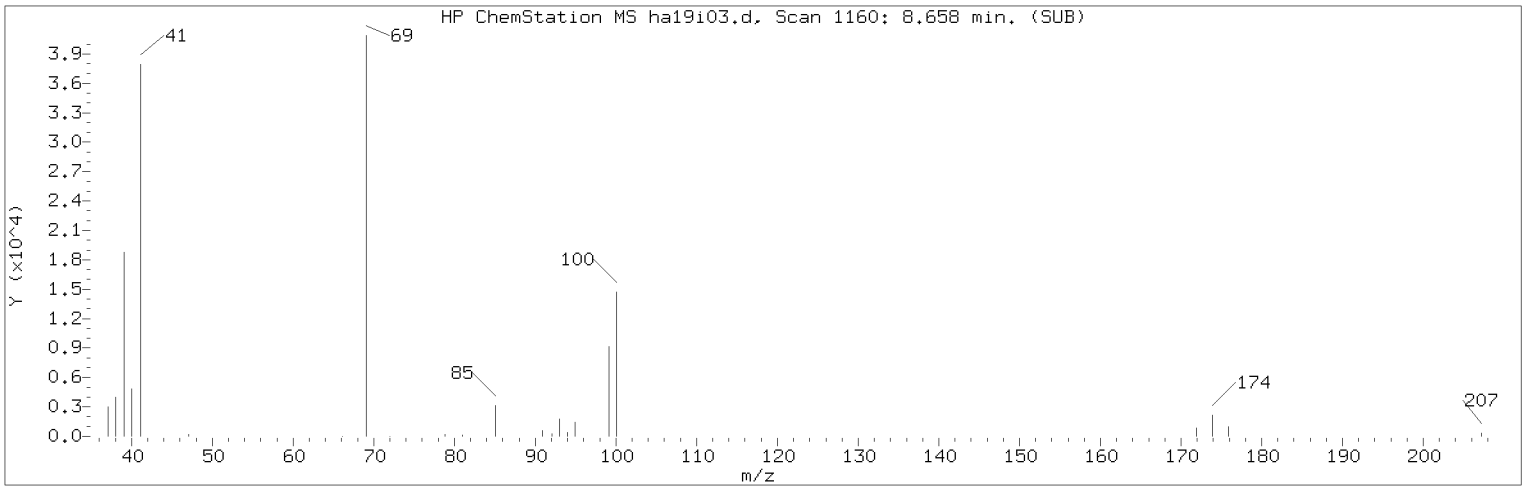
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

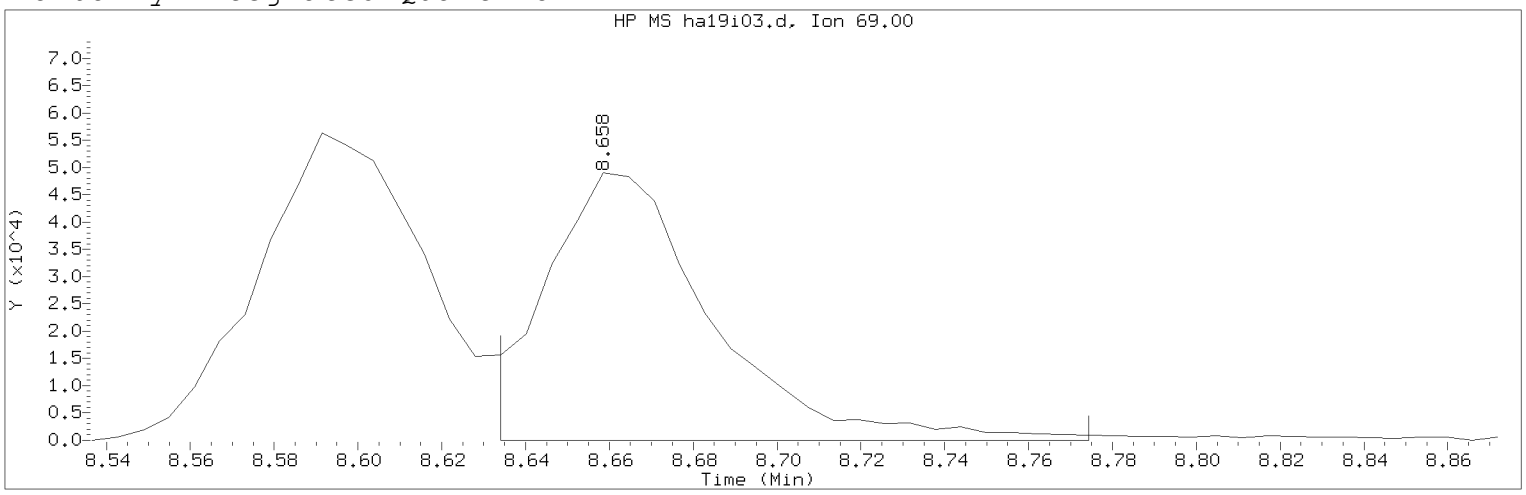
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1069
Retention Time (minutes): 8.104
Quant Ion : 56.00
Area : 258178
On-column Amount (ng) : 457.1172
Integration start scan : 1059 Integration stop scan: 1105
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

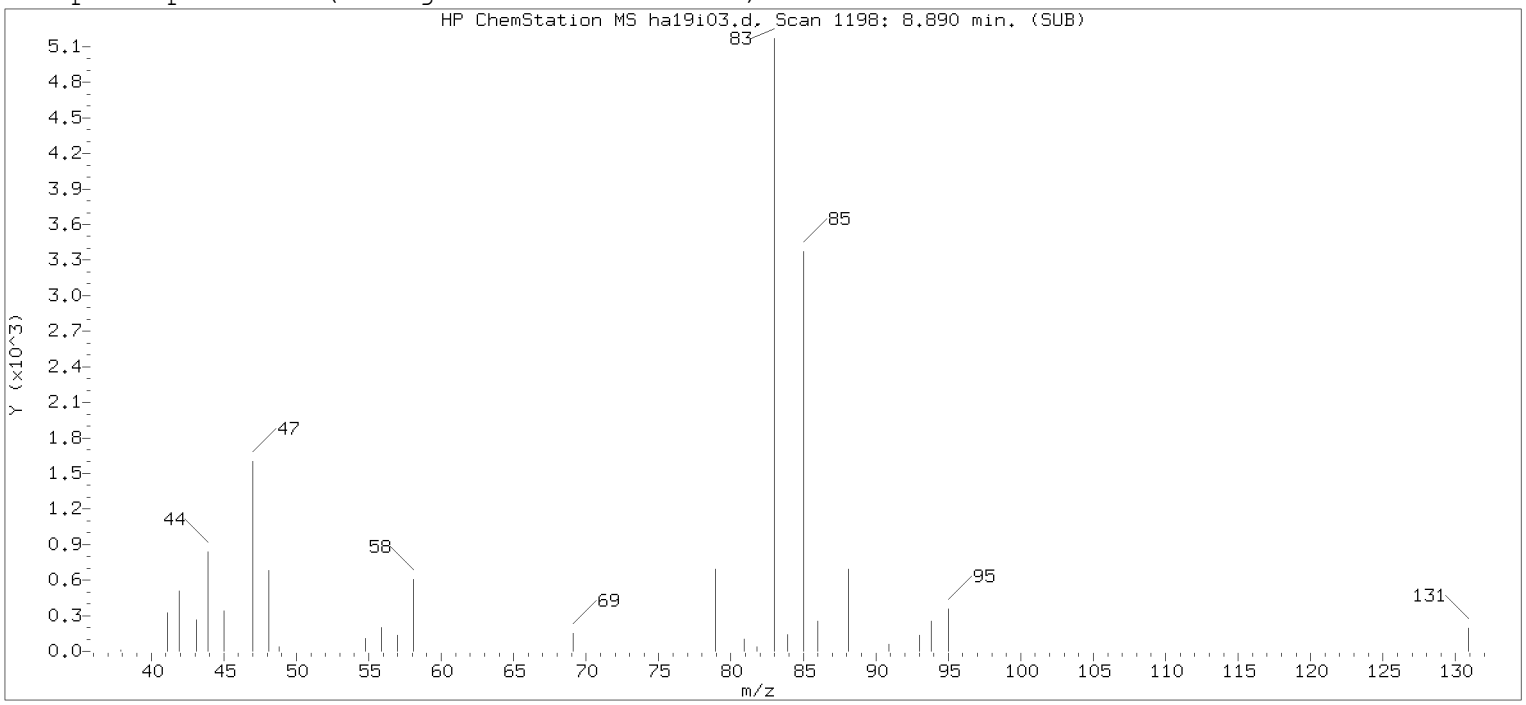
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.658
Quant Ion : 69.00
Area (flag) : 137114M
On-Column Amount (ng) : 5.5945
Integration start scan : 1155 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

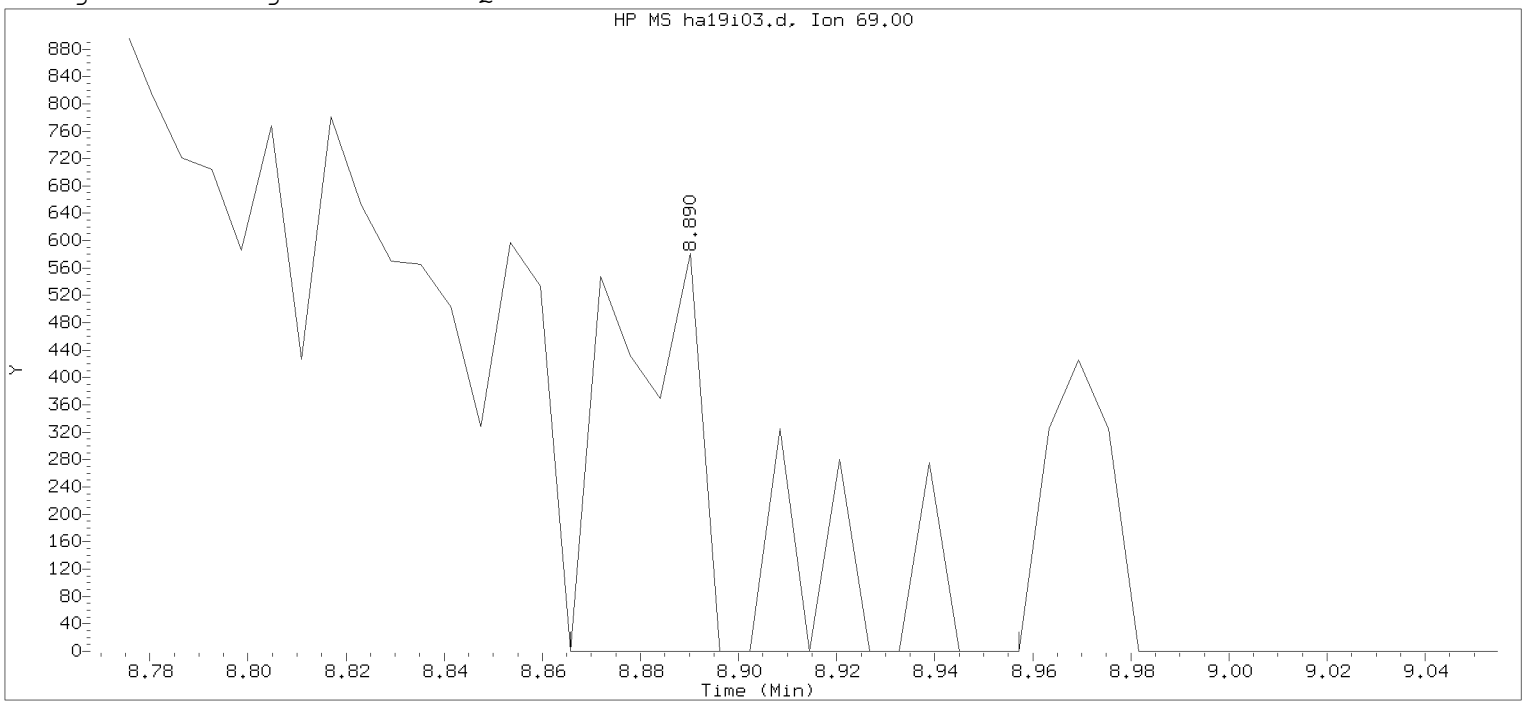
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

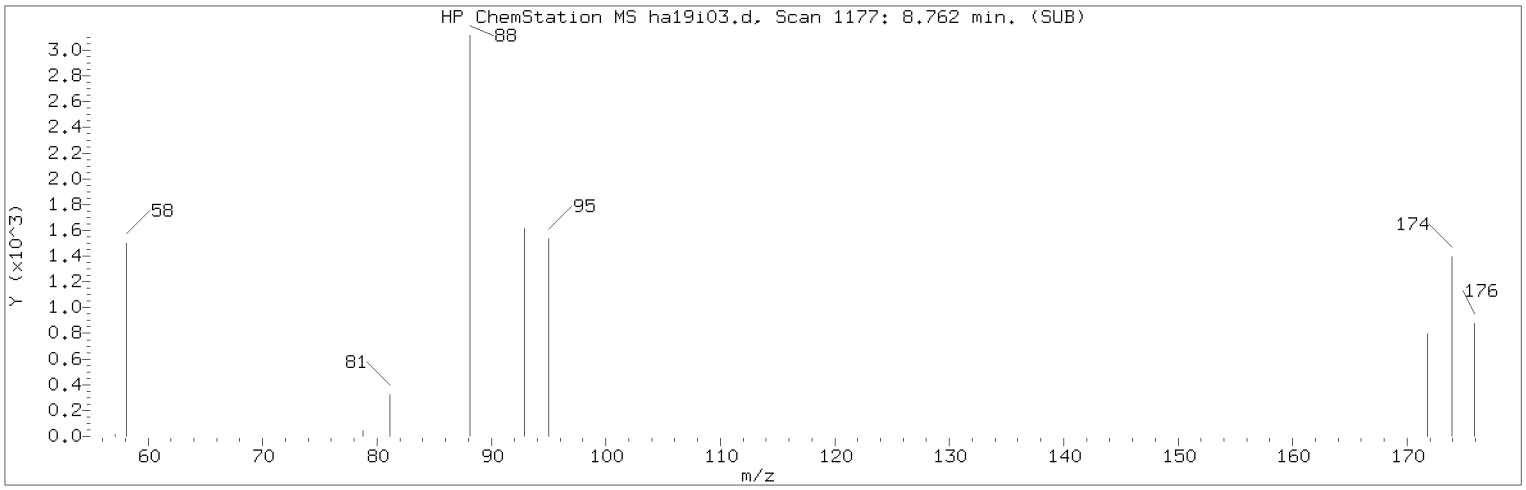
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

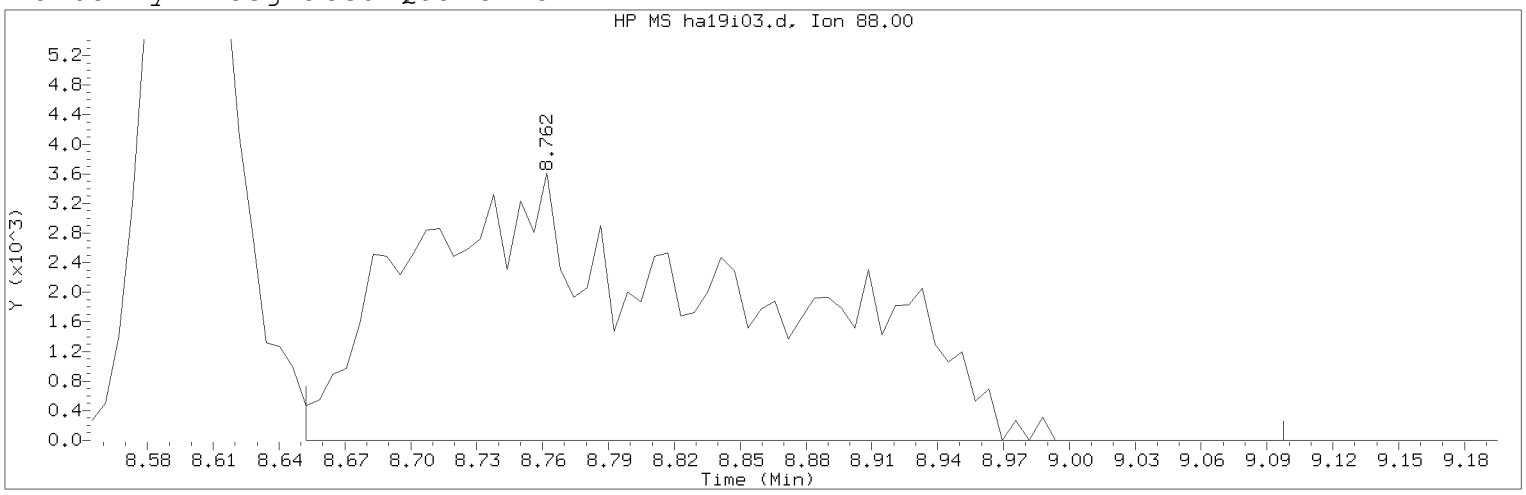
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1198
Retention Time (minutes): 8.890
Quant Ion : 69.00
Area : 1028
On-column Amount (ng) : 0.0613
Integration start scan : 1193 Integration stop scan: 1208
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2.0.2.3

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

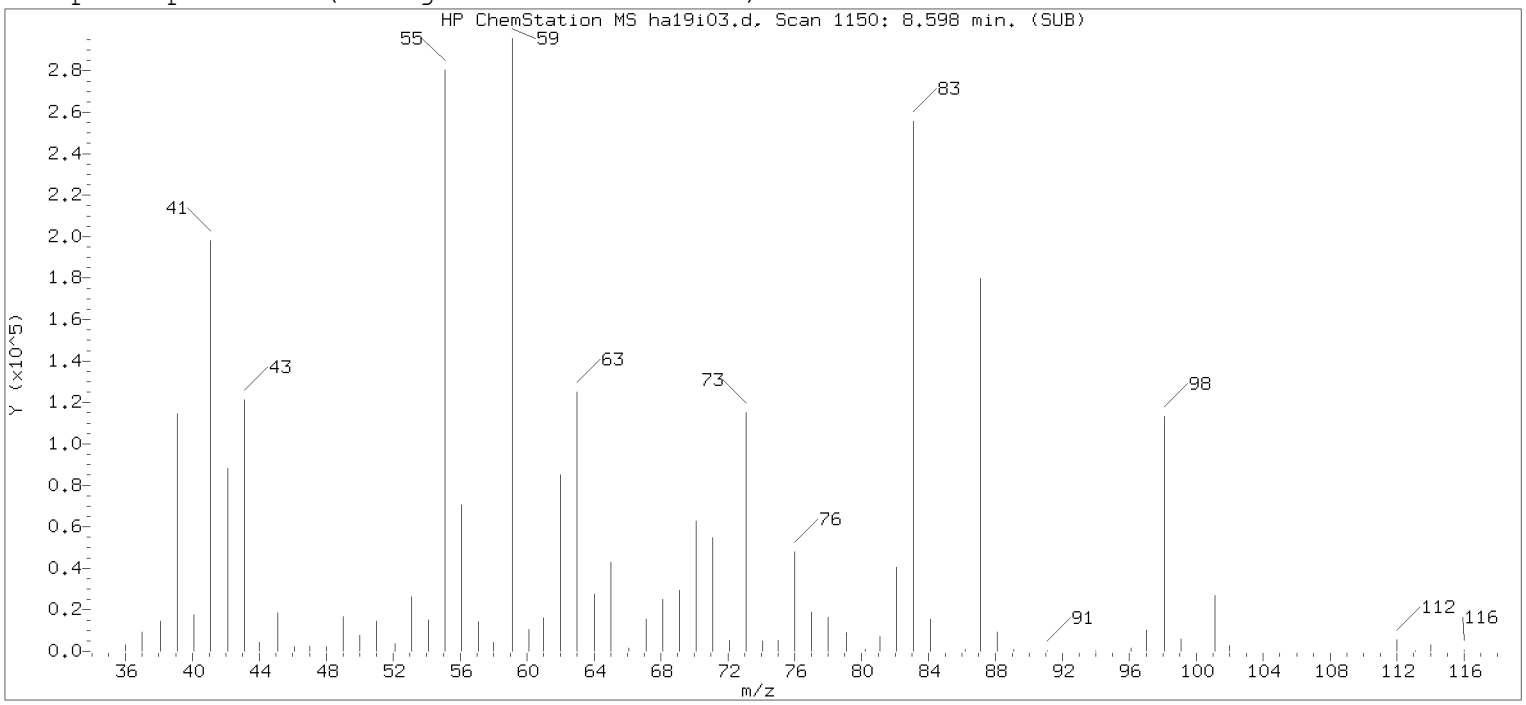
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1177
Retention Time (minutes): 8.762
Quant Ion : 88.00
Area (flag) : 37550A
On-Column Amount (ng) : 269.8626
Integration start scan : 1158 Integration stop scan: 1231
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

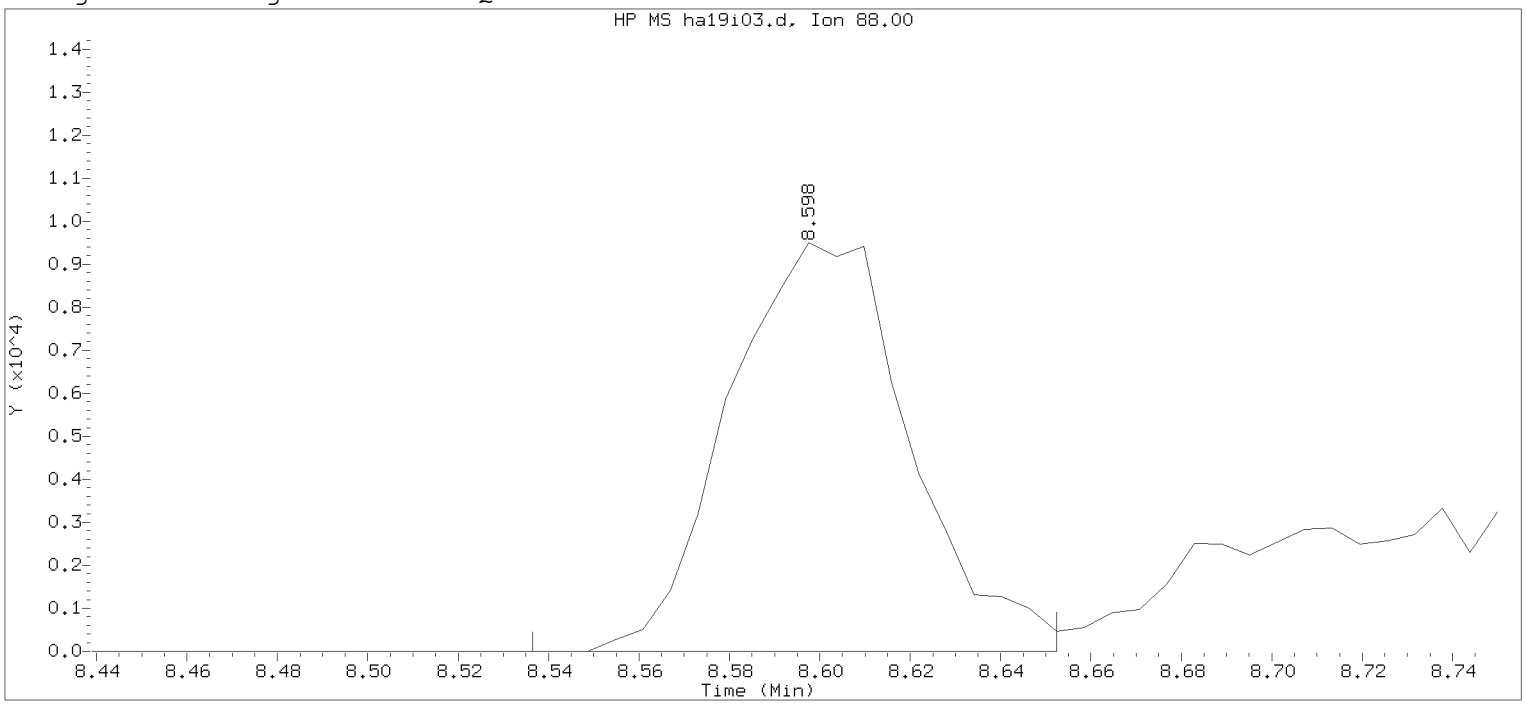
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

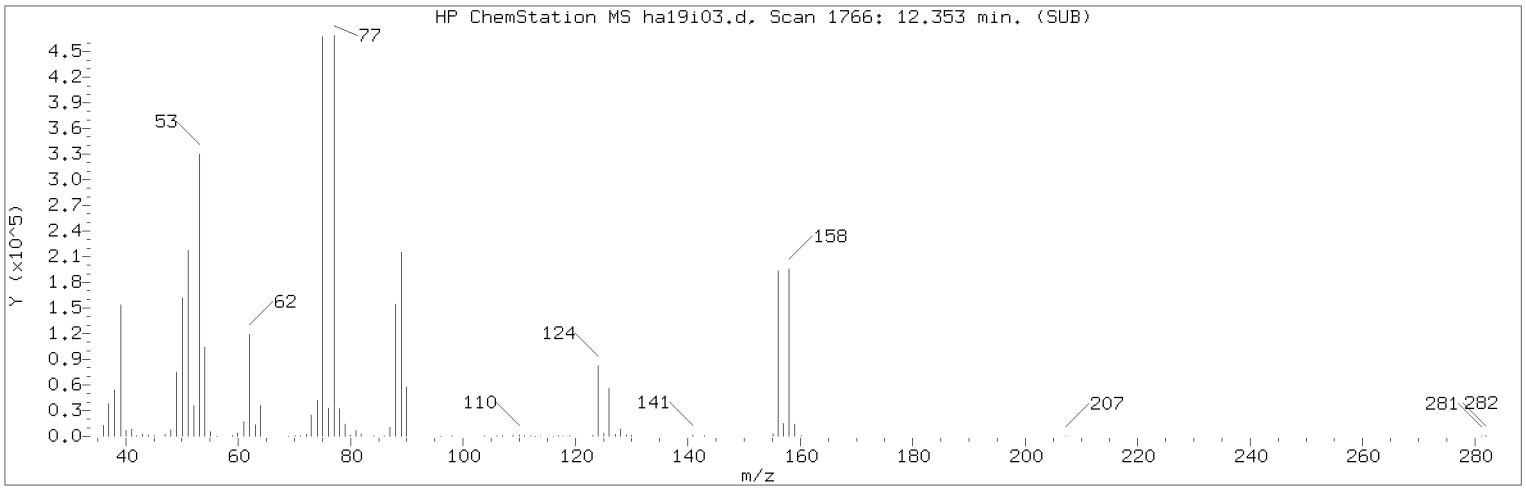
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

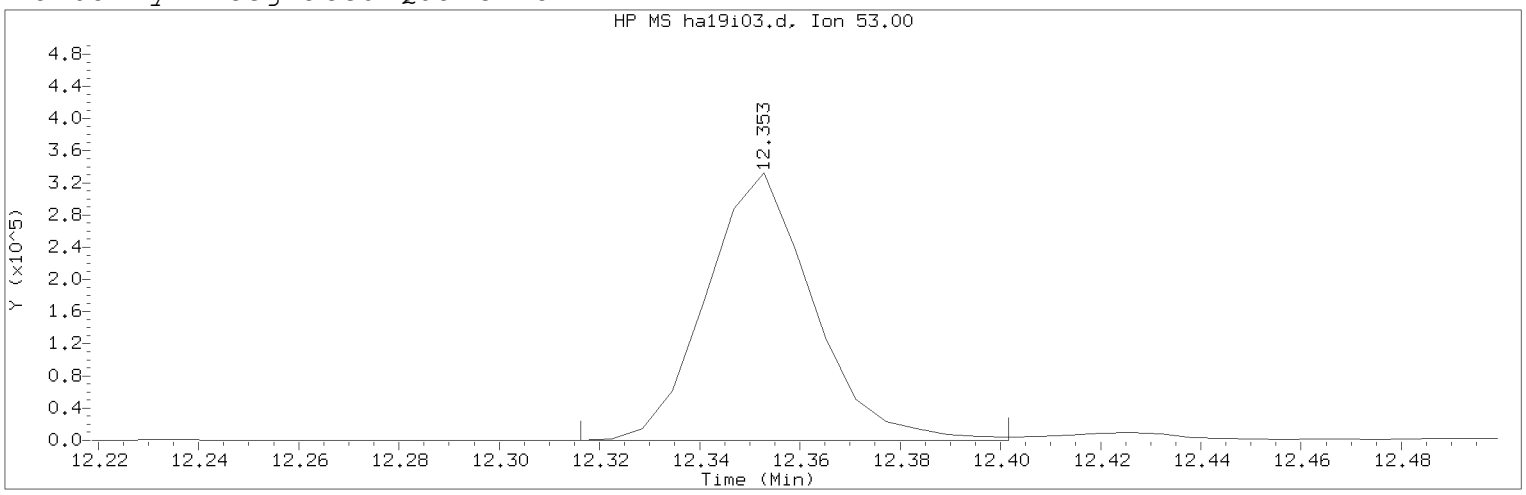
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 26338
On-column Amount (ng) : 157.3260
Integration start scan : 1139 Integration stop scan: 1158
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key ID: 0x2648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

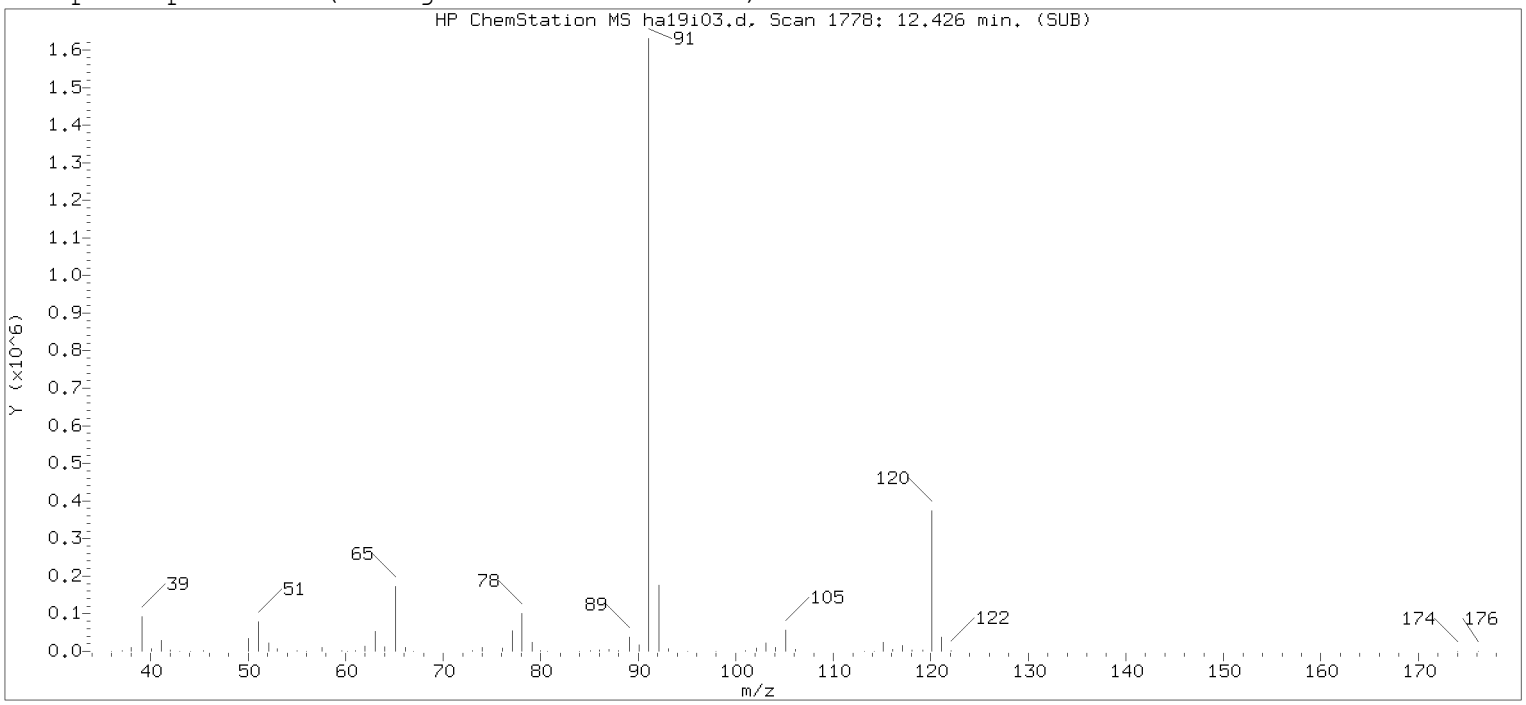
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 488943A
On-Column Amount (ng) : 51.5312
Integration start scan : 1759 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

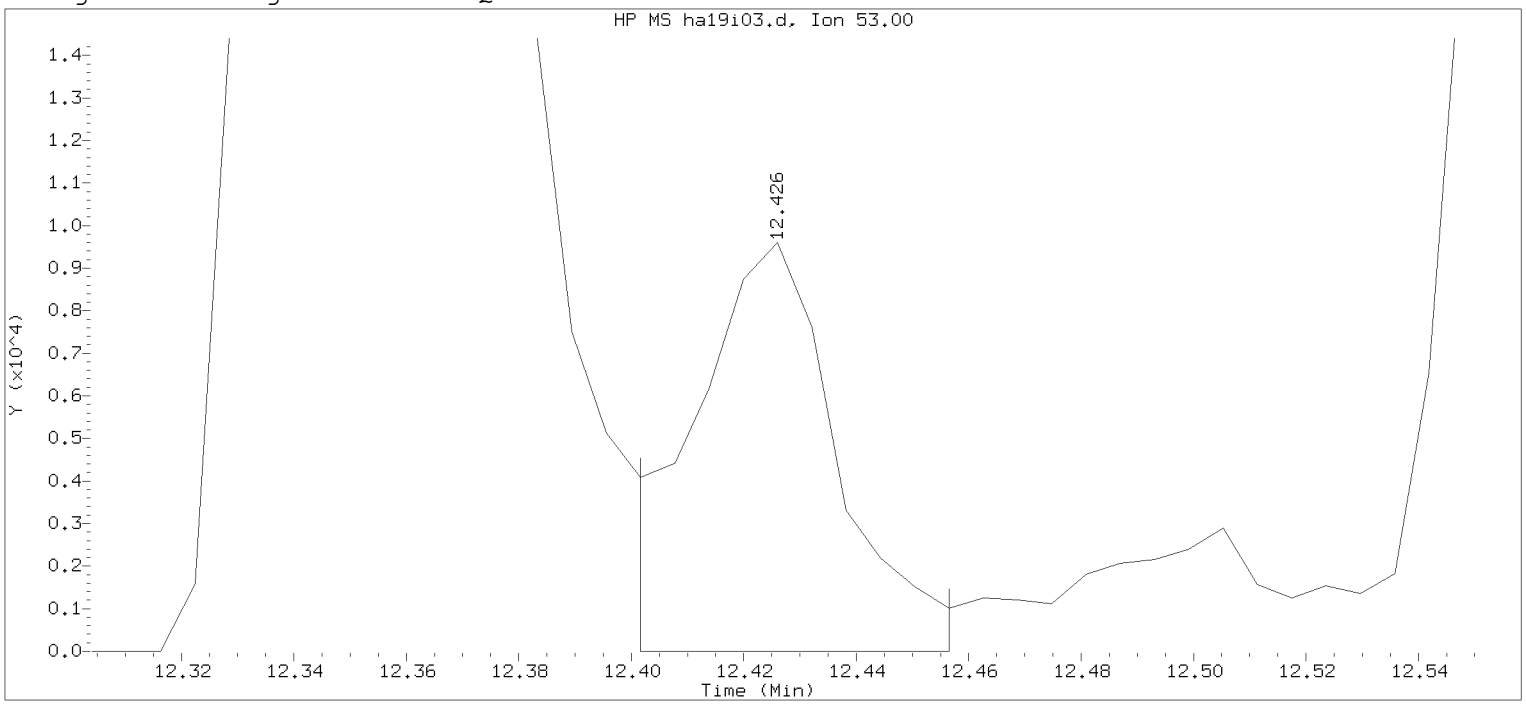
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

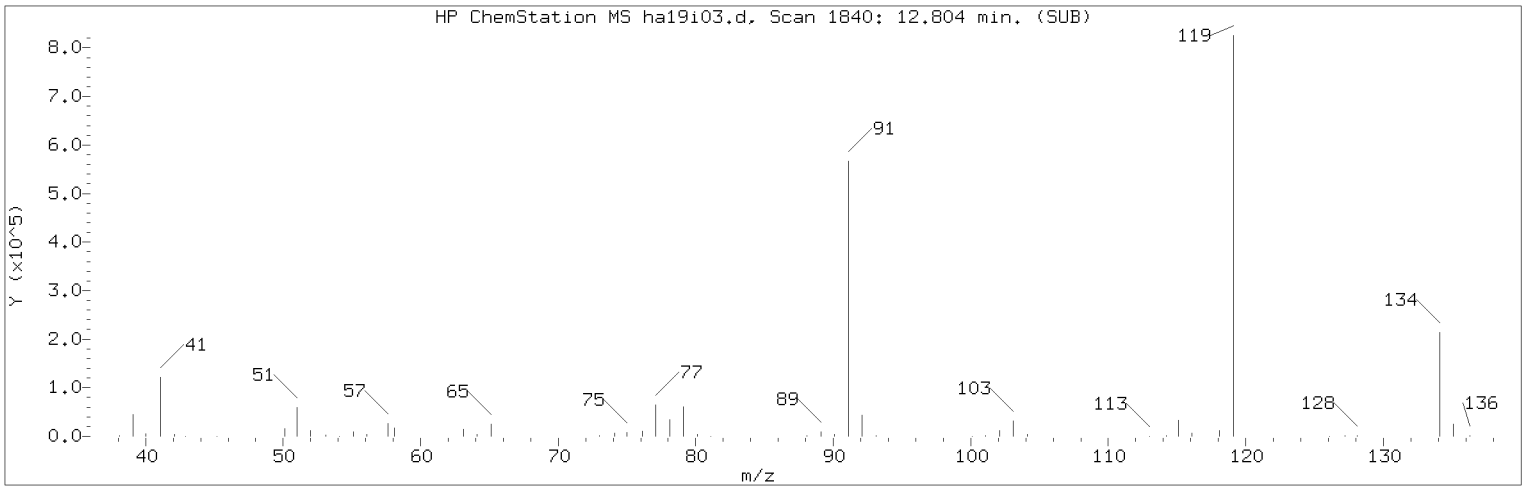
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

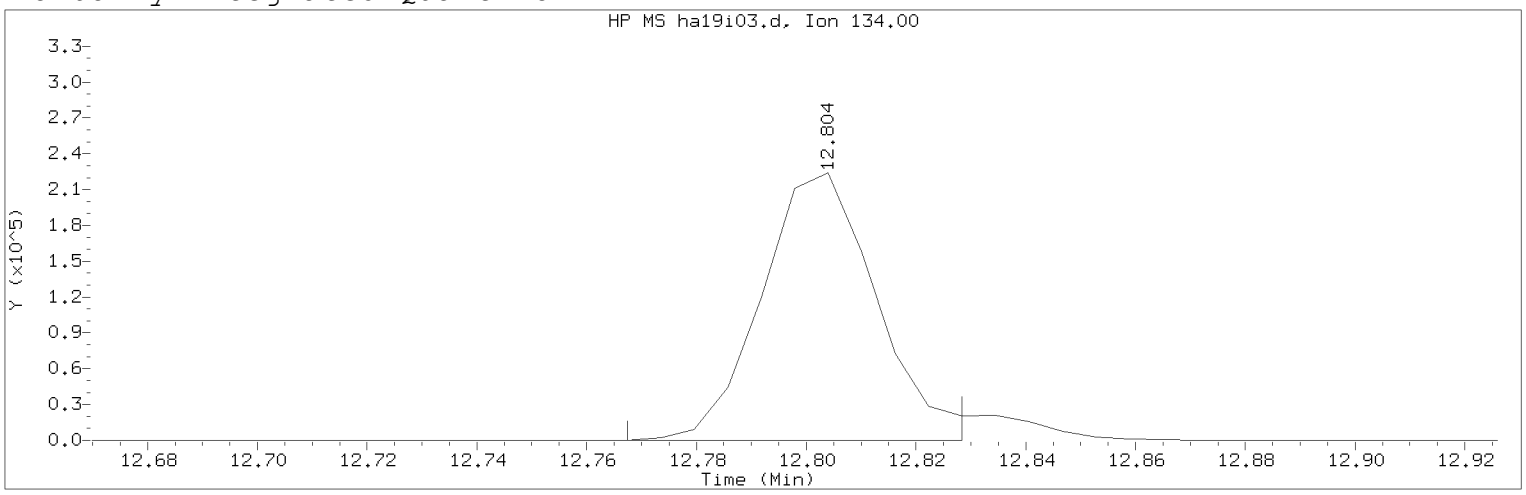
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1778
Retention Time (minutes): 12.426
Quant Ion : 53.00
Area : 16866
On-column Amount (ng) : 3.6265
Integration start scan : 1773 Integration stop scan: 1782
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2.6.48

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

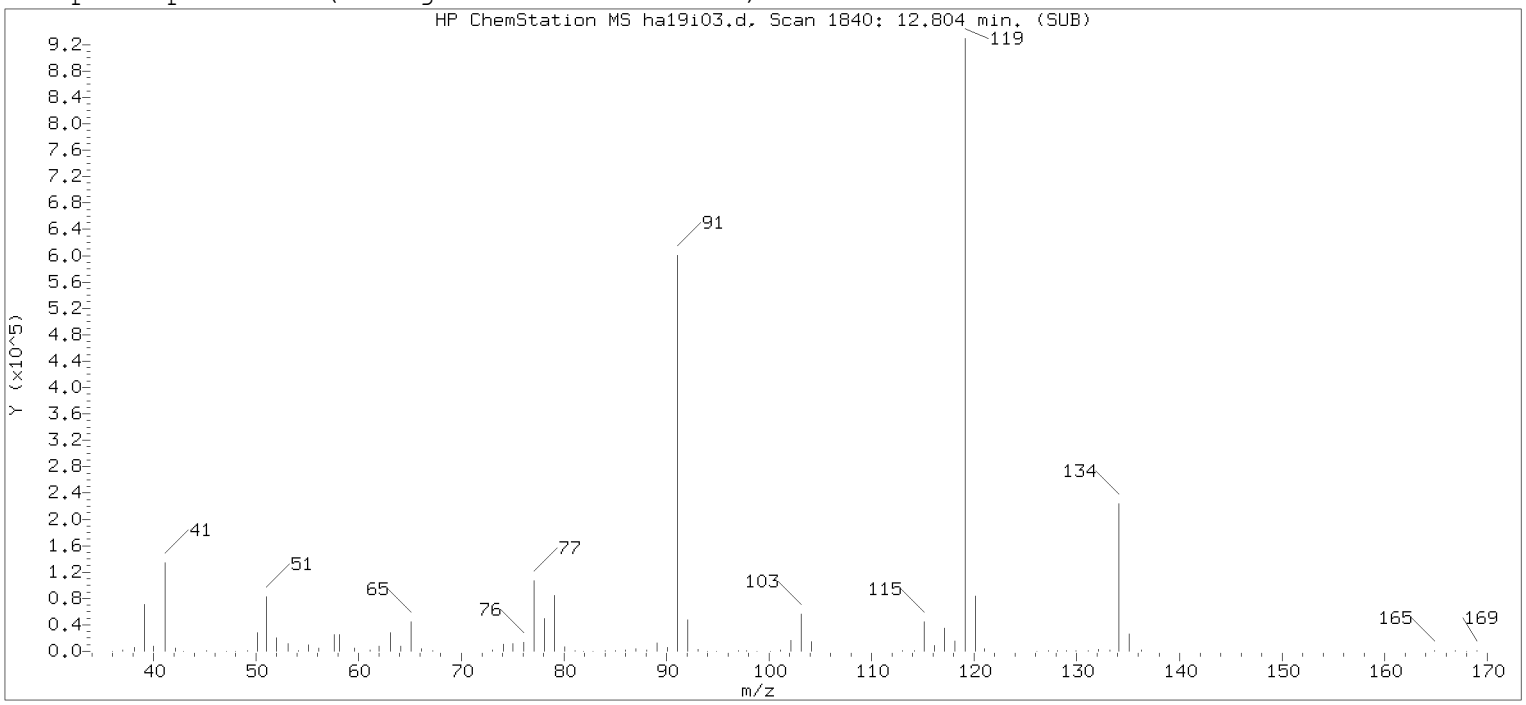
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 325824M
On-Column Amount (ng) : 5.1855
Integration start scan : 1833 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

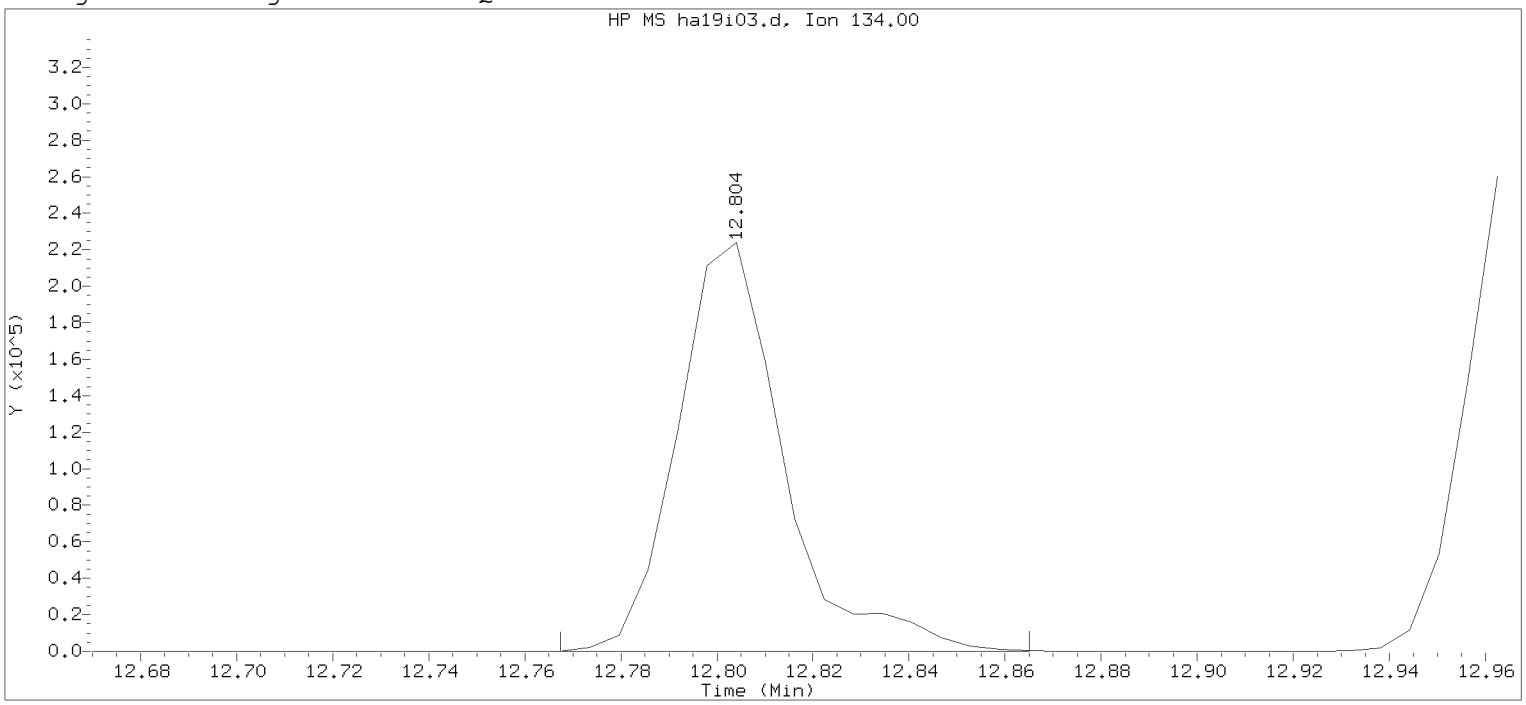
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

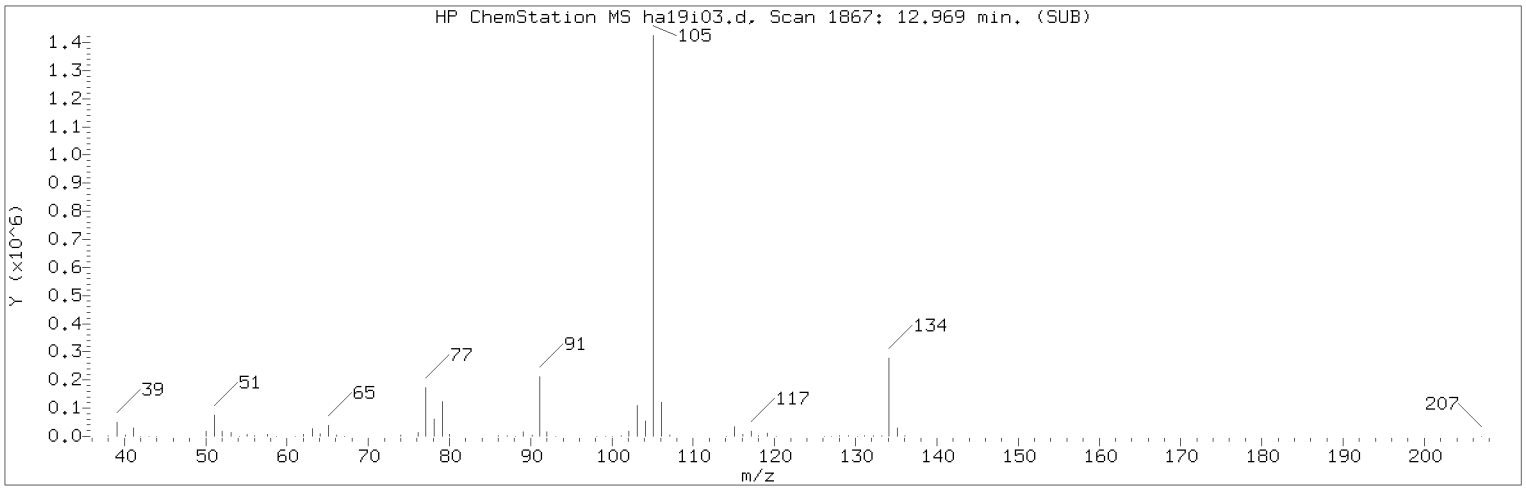
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

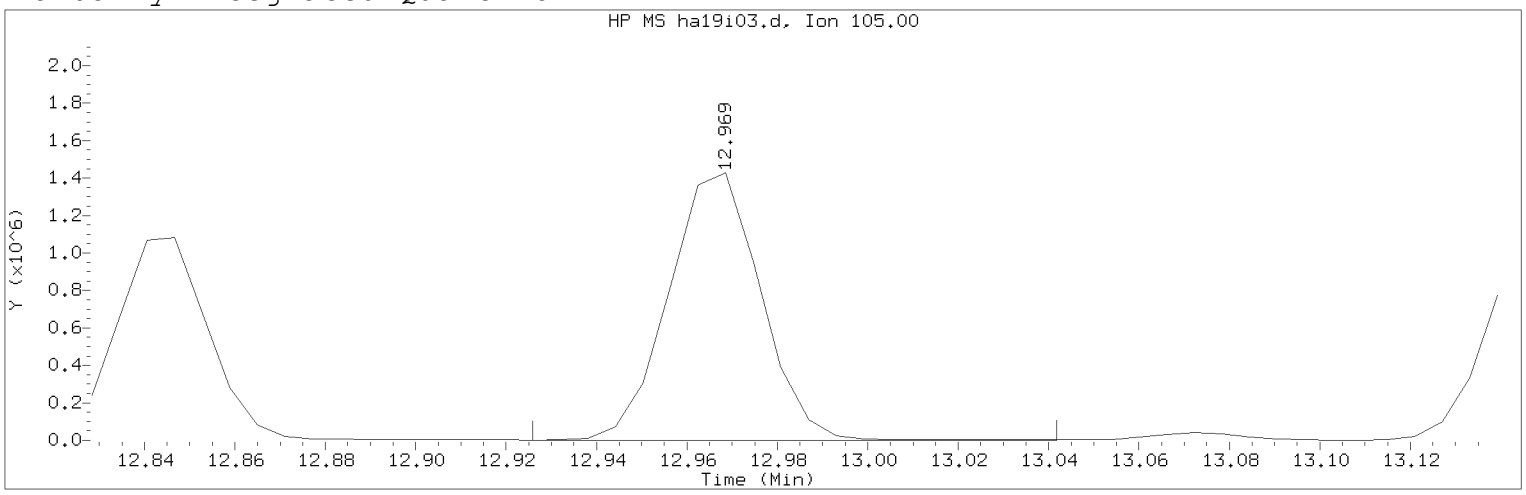
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 343481
On-column Amount (ng) : 5.0181
Integration start scan : 1833 Integration stop scan: 1849
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2C6

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

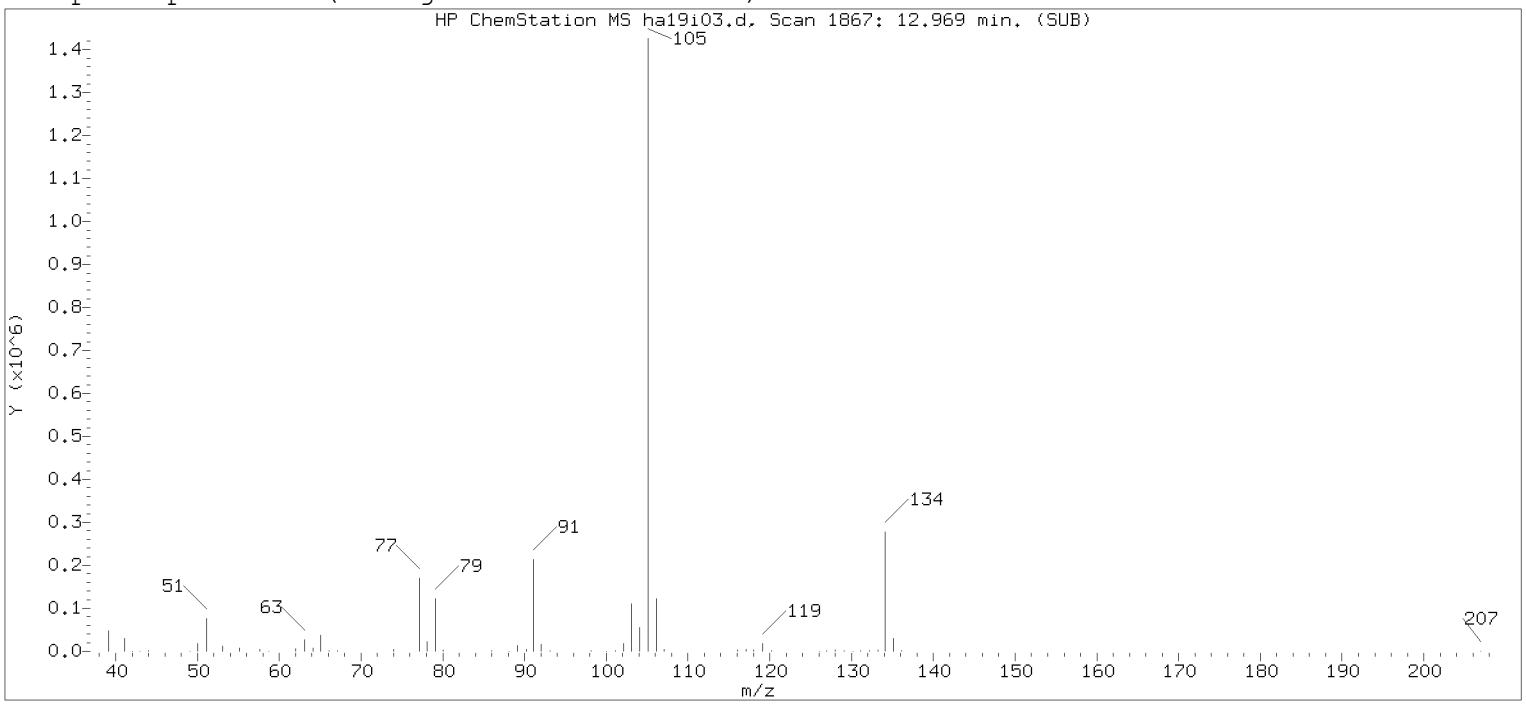
Compound Number : 128
Compound Name : sec-Butylbenzene
Scan Number : 1867
Retention Time (minutes): 12.969
Quant Ion : 105.00
Area (flag) : 2013392M
On-Column Amount (ng) : 5.3400
Integration start scan : 1859 Integration stop scan: 1878
Y at integration start : 302 Y at integration end: 302

Reason for manual integration: improper integration

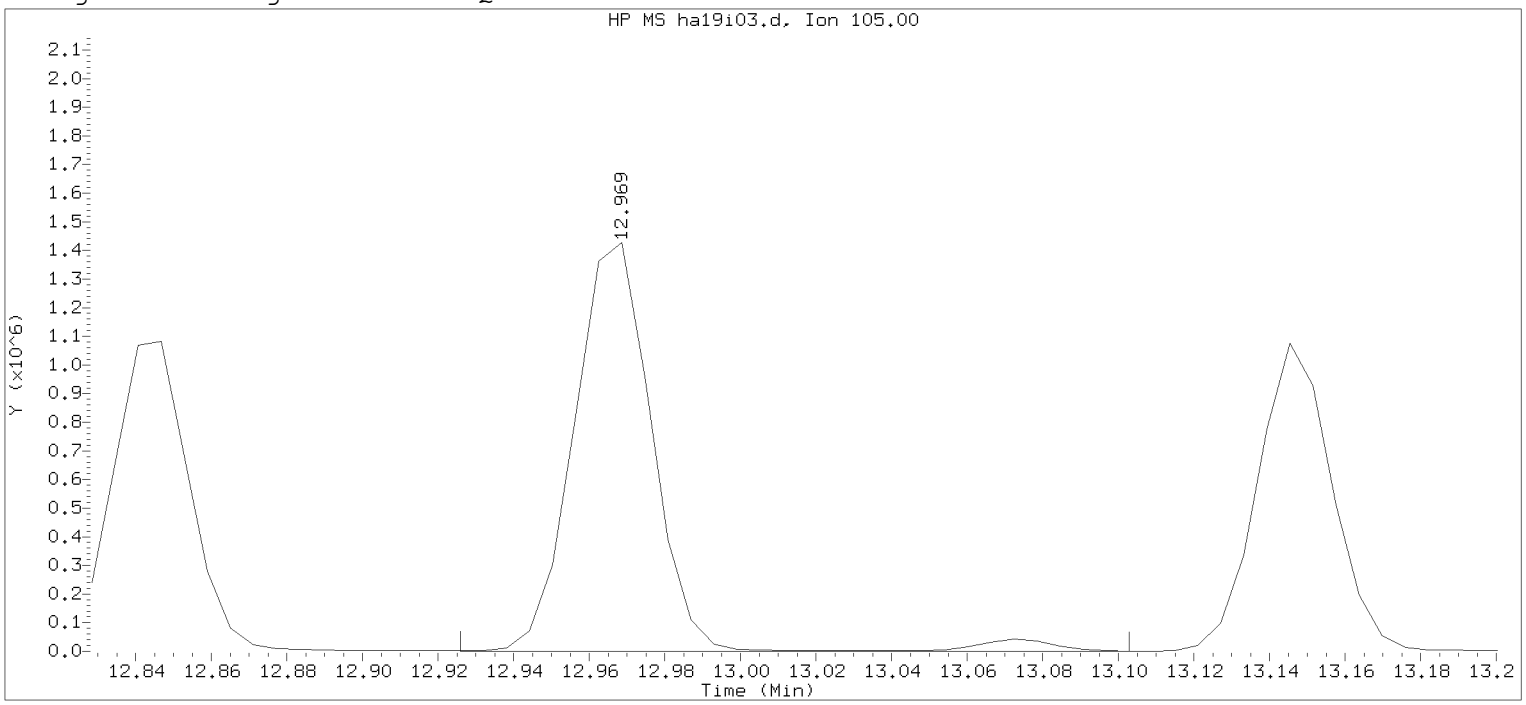
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

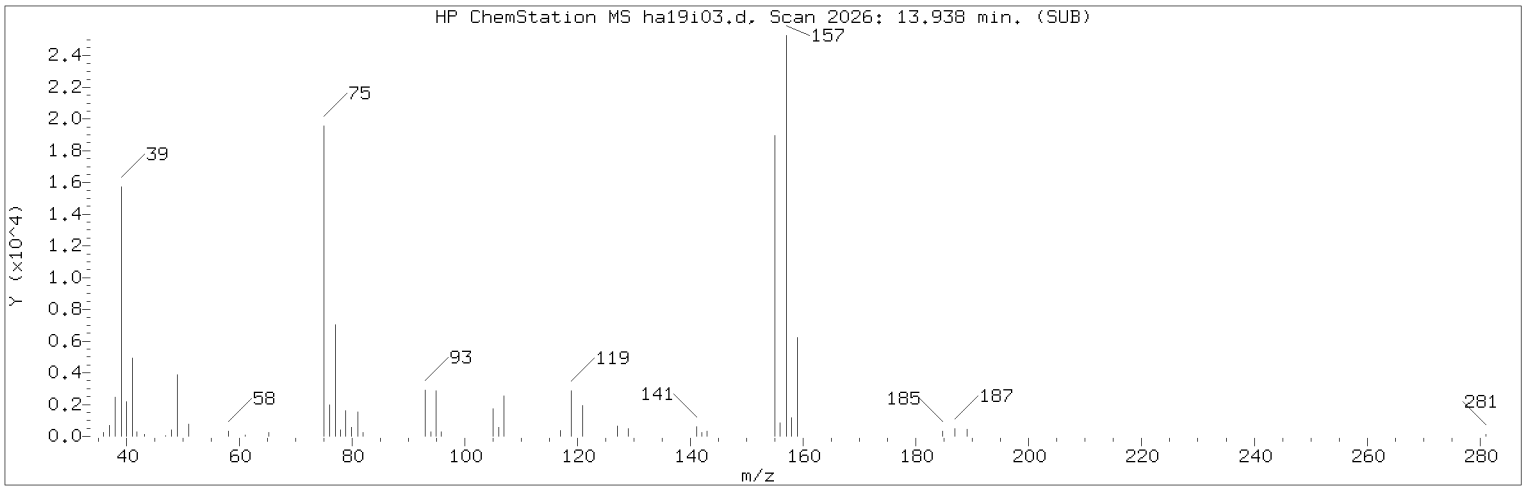
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

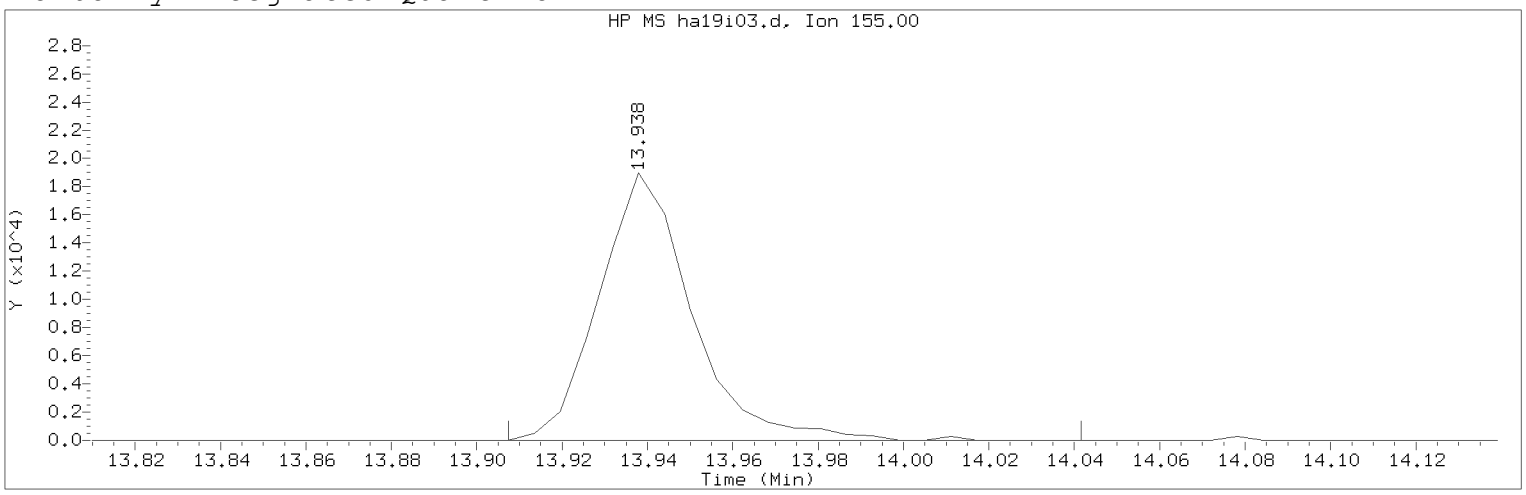
Compound Number : 128
Compound Name : sec-Butylbenzene
Scan Number : 1867
Retention Time (minutes): 12.969
Quant Ion : 105.00
Area : 2070605
On-column Amount (ng) : 5.1178
Integration start scan : 1859 Integration stop scan: 1888
Y at integration start : 302 Y at integration end: 302

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2638

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD005 Lab Sample ID: VSTD005

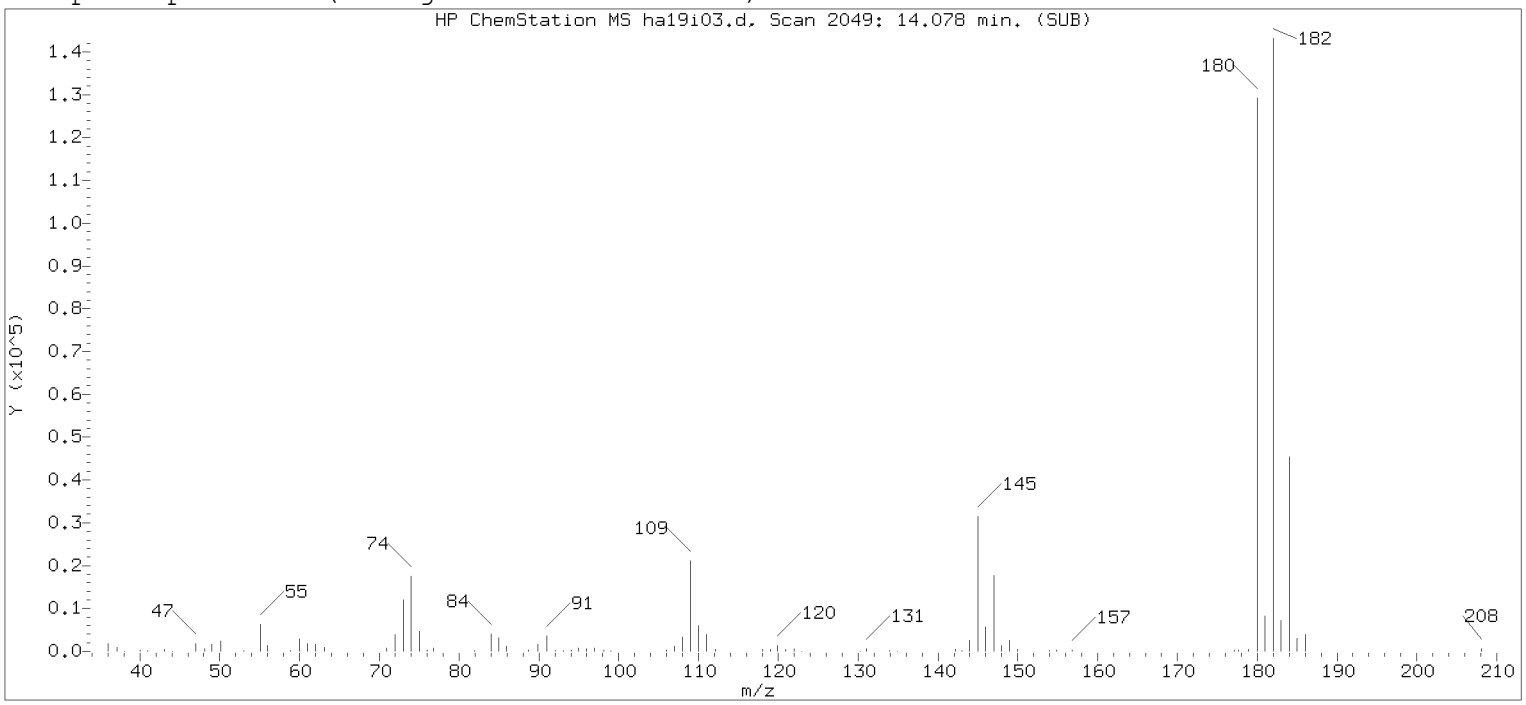
Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2026
Retention Time (minutes): 13.938
Quant Ion : 155.00
Area (flag) : 28578A
On-Column Amount (ng) : 5.3989
Integration start scan : 2020 Integration stop scan: 2042
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

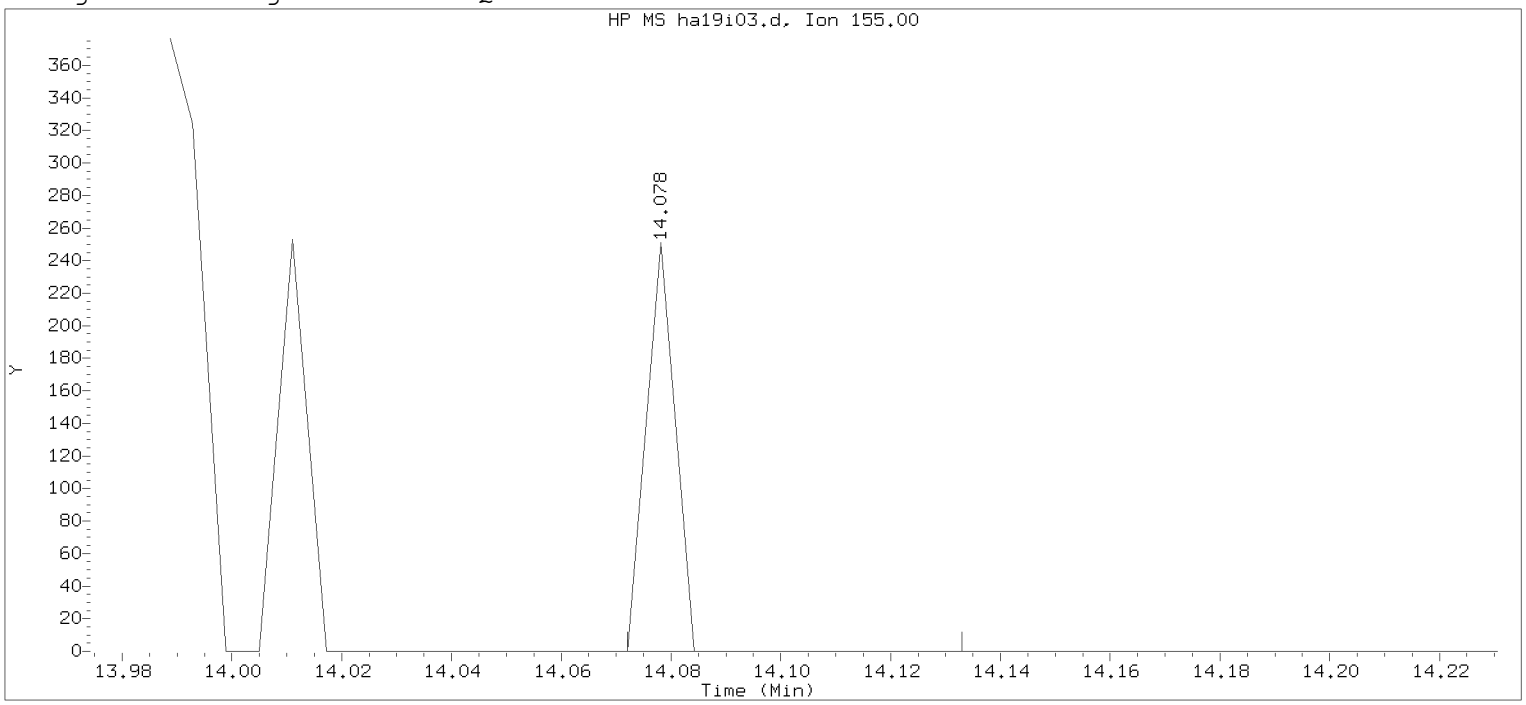
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:26.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



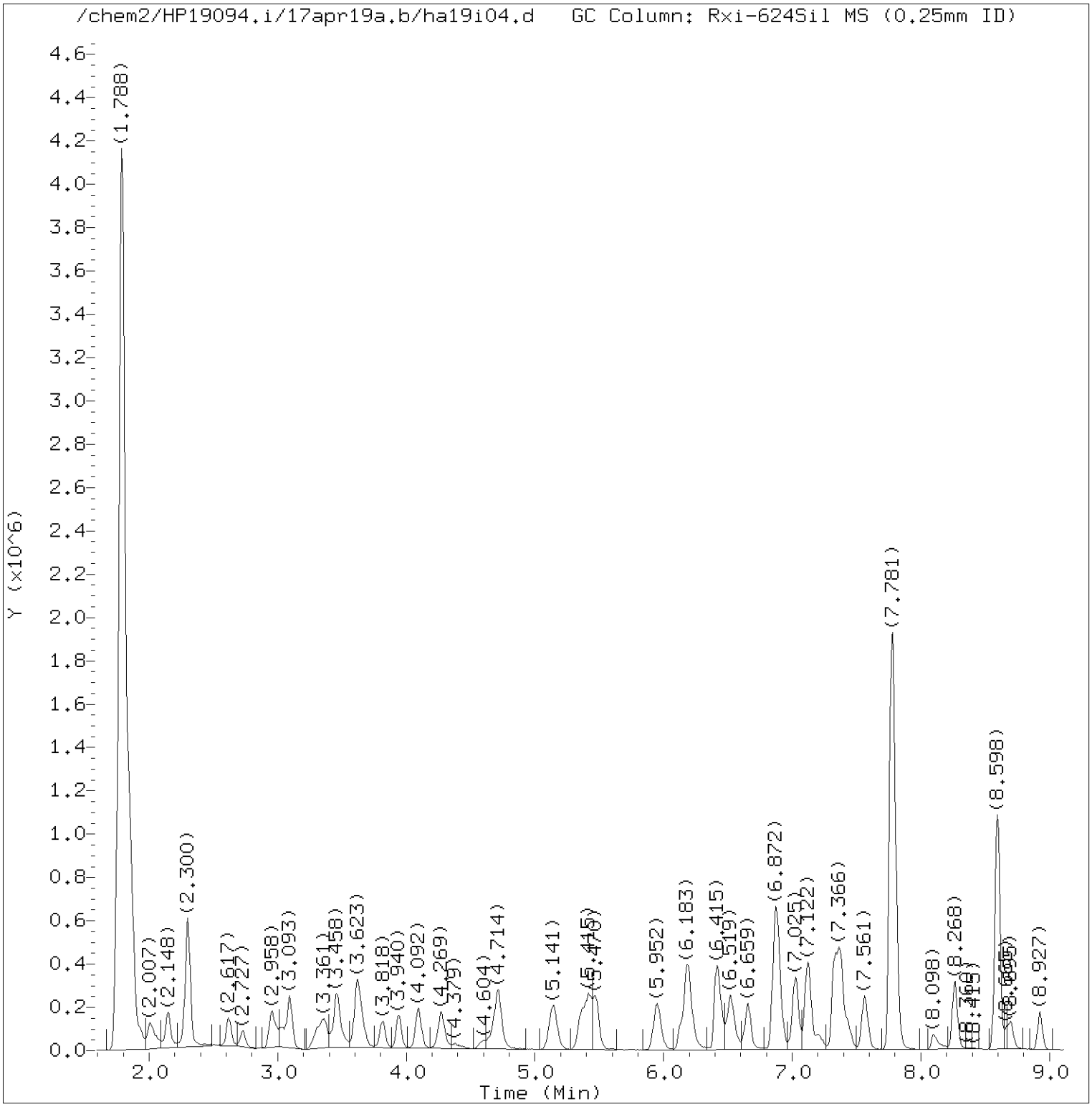
Data File: /chem2/HP19094.i/17apr19a.b/ha19i03.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:39 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 12:57
Date, time and analyst ID of latest file update: 19-Apr-2017 12:57 Automation

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compound Number : 143
Compound Name : 1,2-Dibromo-3-chloropropane
Scan Number : 2049
Retention Time (minutes): 14.078
Quant Ion : 155.00
Area : 91
On-column Amount (ng) : 0.0285
Integration start scan : 2047 Integration stop scan: 2057
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:26.
Target 3.5 esignature used. Key: 2048



Total Ion Chromatogram (TIC)

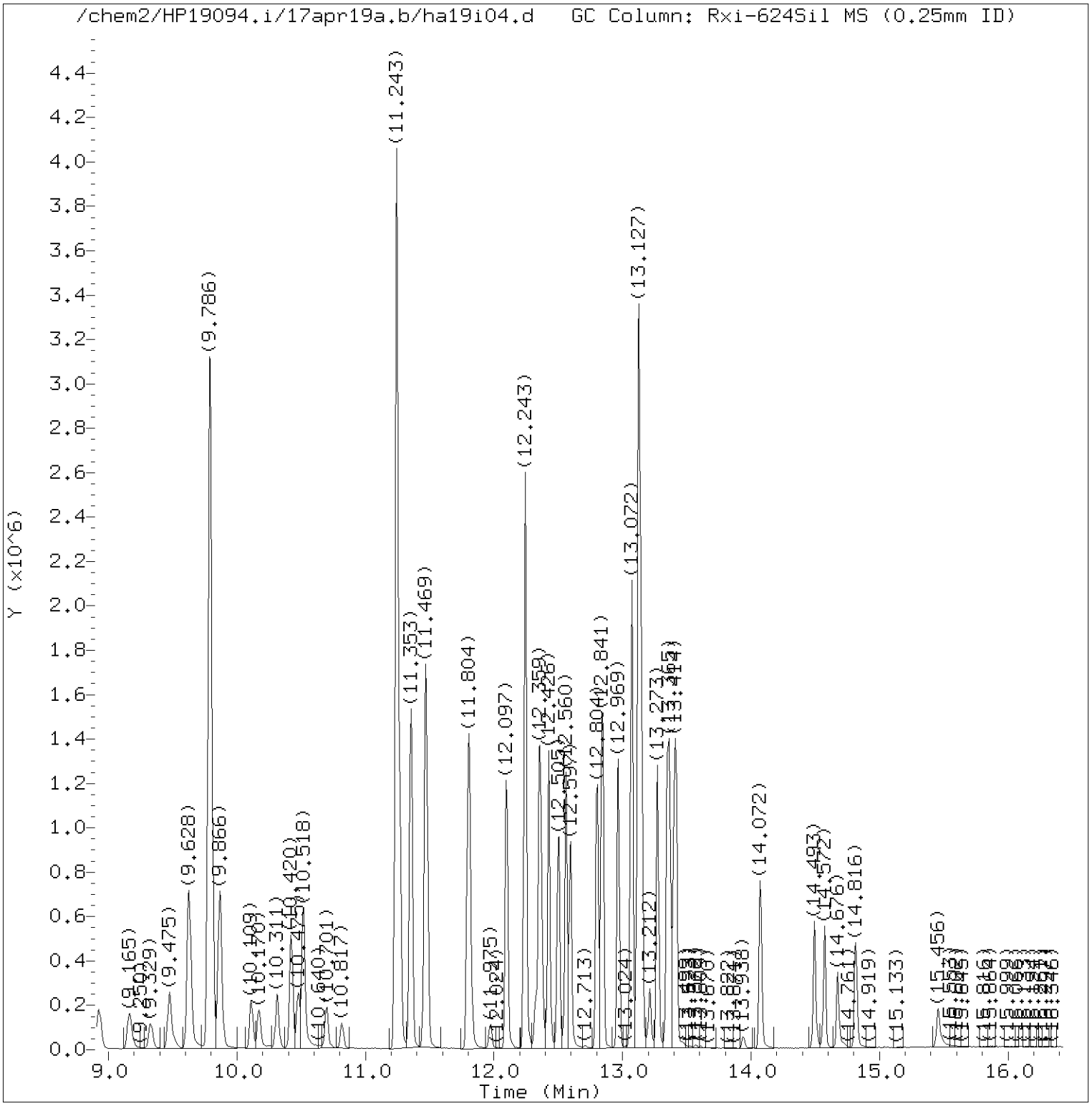
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	214933	2.092
2) Chloromethane	(2)	2.148	50	225851	2.094
5) Vinyl Chloride	(2)	2.288	62	199865	2.111
6) 1,3-Butadiene	(2)	2.300	39	345235	2.315
7) Bromomethane	(2)	2.617	94	125537	2.111
8) Chloroethane	(2)	2.727	64	108321	1.997
9) Dichlorofluoromethane	(2)	2.946	67	258118	2.068
10) Trichlorofluoromethane	(2)	3.032	101	222848	2.031
11) Ethyl ether	(2)	3.306	59	84043	1.933
12) Freon 123a	(2)	3.349	67	179587	2.169
13) Acrolein	(1)	3.458	56	511106	98.742
15) 1,1-Dichloroethene	(2)	3.617	96	126774	2.152
14) Acetone	(1)	3.623	43	121402	19.368
16) Freon 113	(2)	3.635	101	132614	2.138
17) Methyl Iodide	(2)	3.818	142	229743	2.099
18) Carbon Disulfide	(2)	3.940	76	351900	2.129
21) Methyl Acetate	(1)	4.062	43	35434	1.664
22) Allyl Chloride	(2)	4.098	41	224070	1.960
26)*t-Butyl Alcohol-d10	(1)	4.257	65	68028	50.000
23) Methylene Chloride	(2)	4.269	84	130911	2.034
28) t-Butyl Alcohol	(1)	4.379	59	73057	42.922
29) Acrylonitrile	(1)	4.598	53	88750	10.478
30) Methyl Tertiary Butyl Ether	(2)	4.702	73	254578	2.156
31) trans-1,2-Dichloroethene	(2)	4.720	96	136501	2.098
32) n-Hexane	(2)	5.147	57	221575	2.221
33) 1,1-Dichloroethane	(2)	5.354	63	275757	2.148
34) di-Isopropyl Ether	(2)	5.415	45	464544	2.123
35) 2-Chloro-1,3-Butadiene	(2)	5.476	53	235409	2.170
37) Ethyl t-butyl ether	(2)	5.952	59	357666	2.126
40) 1,2-Dichloroethene (Total)	(2)		96	291974	4.238
38) 2-Butanone	(1)	6.122	43	271057	21.202
39) cis-1,2-Dichloroethene	(2)	6.177	96	155473	2.141
42) Propionitrile	(1)	6.189	54	122663	40.381
41) 2,2-Dichloropropane	(2)	6.196	77	206491	2.147
45) Methacrylonitrile	(1)	6.415	67	262452	20.665
47) Bromochloromethane	(2)	6.513	128	56709	1.975
48) Tetrahydrofuran	(1)	6.531	71	67886	21.255
49) Chloroform	(2)	6.659	83	255967	2.113

* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	596099	10.013
50)$Dibromofluoromethane	(2)	6.866	111	604932	9.893
51) 1,1,1-Trichloroethane	(2)	6.909	97	219568	2.128
52) Cyclohexane	(2)	7.031	56	271103	2.131
52) Cyclohexane	(2)	7.025	84	215212M	2.154
52) Cyclohexane	(2)	7.025	69	77017	2.158
55) 1,1-Dichloropropene	(2)	7.122	75	209573	2.187
54) Carbon Tetrachloride	(2)	7.128	117	189179	2.184
56) Isobutyl Alcohol	(1)	7.201	41	74392	101.284
57)$1,2-Dichloroethane-d4	(2)	7.336	102	92983	9.659
57)$1,2-Dichloroethane-d4	(2)	7.329	65	467588	9.979
57)$1,2-Dichloroethane-d4	(2)	7.317	104	52387	8.978
58) Benzene	(2)	7.378	78	590415	2.122
59) 1,2-Dichloroethane	(2)	7.433	62	138075	2.076
60) t-Amyl methyl ether	(2)	7.561	73	294416	2.152
63)*Fluorobenzene	(2)	7.775	96	2655800	10.000
62) n-Heptane	(2)	7.805	43	251776	2.144
65) n-Butanol	(1)	8.098	56	113225M	209.360
67) Trichloroethene	(2)	8.268	95	151791	2.061
70) 1,2-Dichloropropane	(2)	8.591	63	153366	2.114
69) Methylcyclohexane	(2)	8.598	83	256321	2.060
71) Methyl Methacrylate	(1)	8.665	69	50497	2.173
73) Dibromomethane	(2)	8.695	93	58111	2.078
72) 1,4-Dioxane	(1)	8.726	88	15642A	116.750
74) Bromodichloromethane	(2)	8.927	83	162841	2.126
76) 2-Nitropropane	(1)	9.165	41	156496	20.423
80) cis-1,3-Dichloropropene	(2)	9.475	75	185134	2.144
81) 4-Methyl-2-Pentanone	(1)	9.628	43	705793A	20.834
82)$Toluene-d8	(3)	9.786	98	2590118	9.552
82)$Toluene-d8	(3)	9.786	100	1662193	9.520
83) Toluene	(3)	9.866	92	363552	2.029
84) trans-1,3-Dichloropropene	(3)	10.109	75	135993	1.948
85) 1,3-Dichloropropene (total)	(3)		75	321127	4.092
86) Ethyl Methacrylate	(3)	10.170	69	108084	2.093
88) 1,1,2-Trichloroethane	(3)	10.311	97	84724	2.036
89) Tetrachloroethene	(3)	10.426	166	172348	2.074
90) 1,3-Dichloropropane	(3)	10.475	76	150411	2.019
91) 2-Hexanone	(1)	10.518	43	531567	22.264

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.701	129	103122	2.091
95) 1,2-Dibromoethane	(3)	10.817	107	83577	2.123
97)*Chlorobenzene-d5	(3)	11.243	117	1854966	10.000
98) Chlorobenzene	(3)	11.268	112	417252	2.136
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	137269	2.110
100) Ethylbenzene	(3)	11.359	91	751832	2.165
101) m+p-Xylene	(3)	11.469	106	577164	4.372
105) Xylene (Total)	(3)		106	857089	6.579
104) o-Xylene	(3)	11.798	106	279925	2.208
106) Styrene	(3)	11.816	104	433158	2.218
107) Bromoform	(3)	11.975	173	54776	2.224
108) Isopropylbenzene	(3)	12.097	105	730153	2.201
111)$4-Bromofluorobenzene	(3)	12.243	95	780719	10.134
111)$4-Bromofluorobenzene	(3)	12.243	174	691175	10.080
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	104644	2.052
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	188111M	20.914
114) Bromobenzene	(4)	12.359	156	165563	2.129
116) 1,2,3-Trichloropropane	(4)	12.377	110	26520	2.078
117) n-Propylbenzene	(4)	12.426	91	911475	2.192
119) 2-Chlorotoluene	(4)	12.505	126	169029	2.150
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	614947	2.198
122) 4-Chlorotoluene	(4)	12.597	126	172657	2.184
125) tert-Butylbenzene	(4)	12.804	134	135295	2.226
126) Pentachloroethane	(4)	12.835	167	89686	1.976
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	619265	2.221
128) sec-Butylbenzene	(4)	12.969	105	797302	2.187
131) 1,3-Dichlorobenzene	(4)	13.066	146	321679	2.105
132) p-Isopropyltoluene	(4)	13.072	119	667388	2.237
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	790252	10.000
135) 1,2,3-Trimethylbenzene	(4)	13.145	120	246842	2.008
134) 1,4-Dichlorobenzene	(4)	13.145	146	333573	2.095
136) Benzyl Chloride	(4)	13.212	126	35310	2.197
138) n-Butylbenzene	(4)	13.365	92	336964	2.300
139) 1,2-Dichlorobenzene	(4)	13.401	146	289413	2.133
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	10984	2.189
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	182178	2.082
146) Hexachlorobutadiene	(4)	14.572	225	93394	2.155
147) Naphthalene	(4)	14.676	128	270419	2.100

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

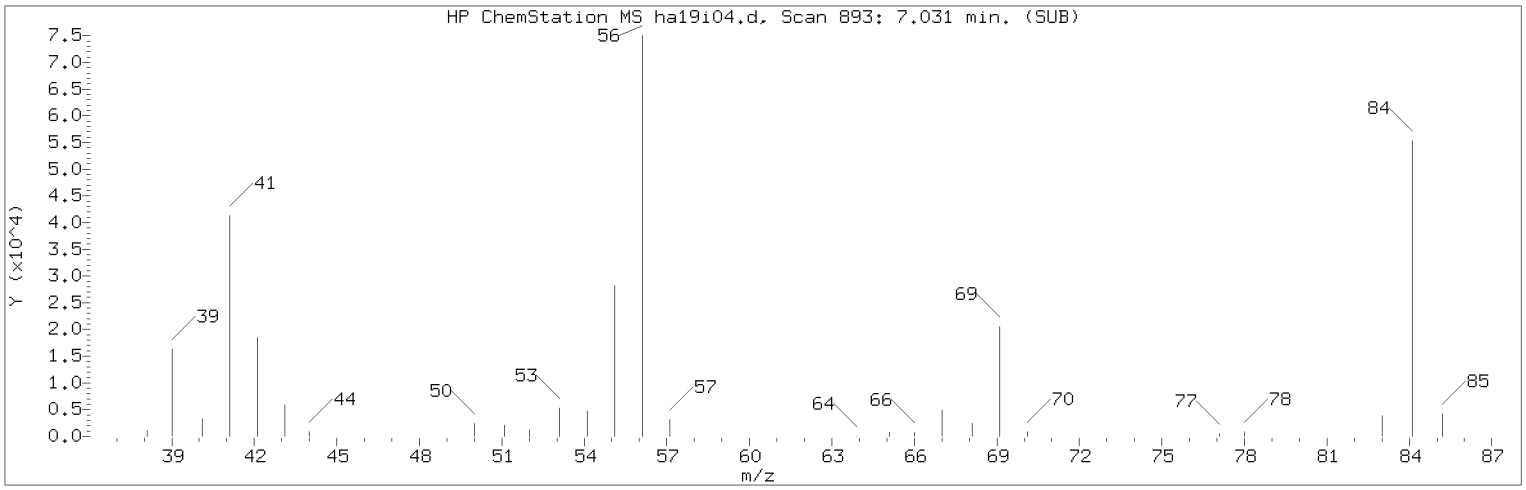
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

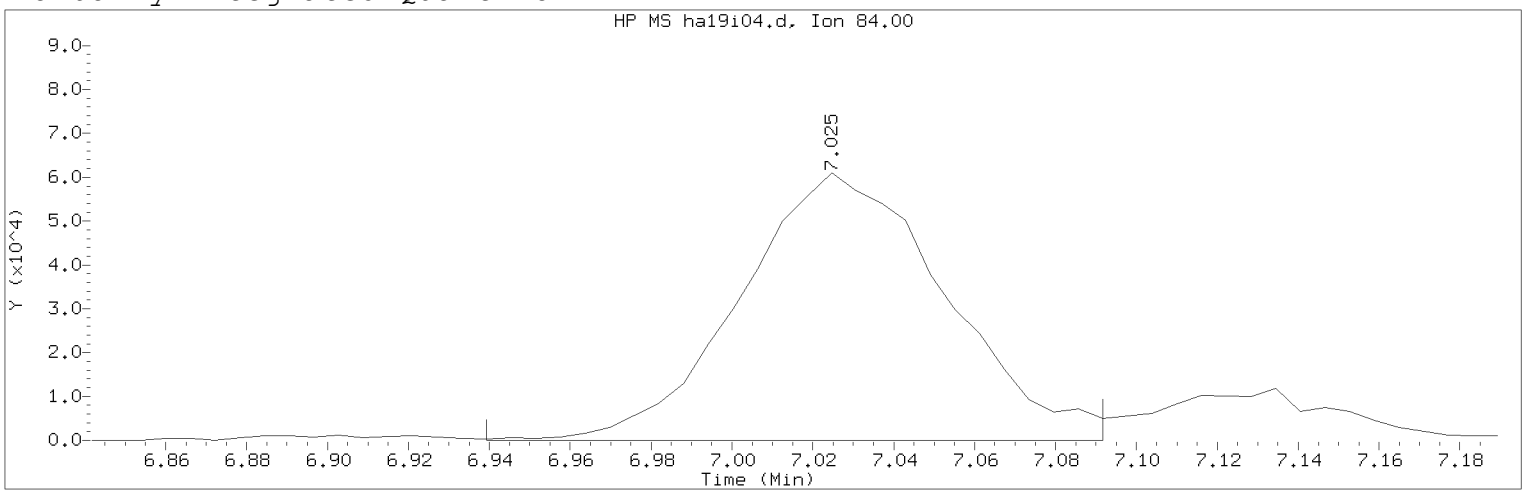
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	158250	2.140

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

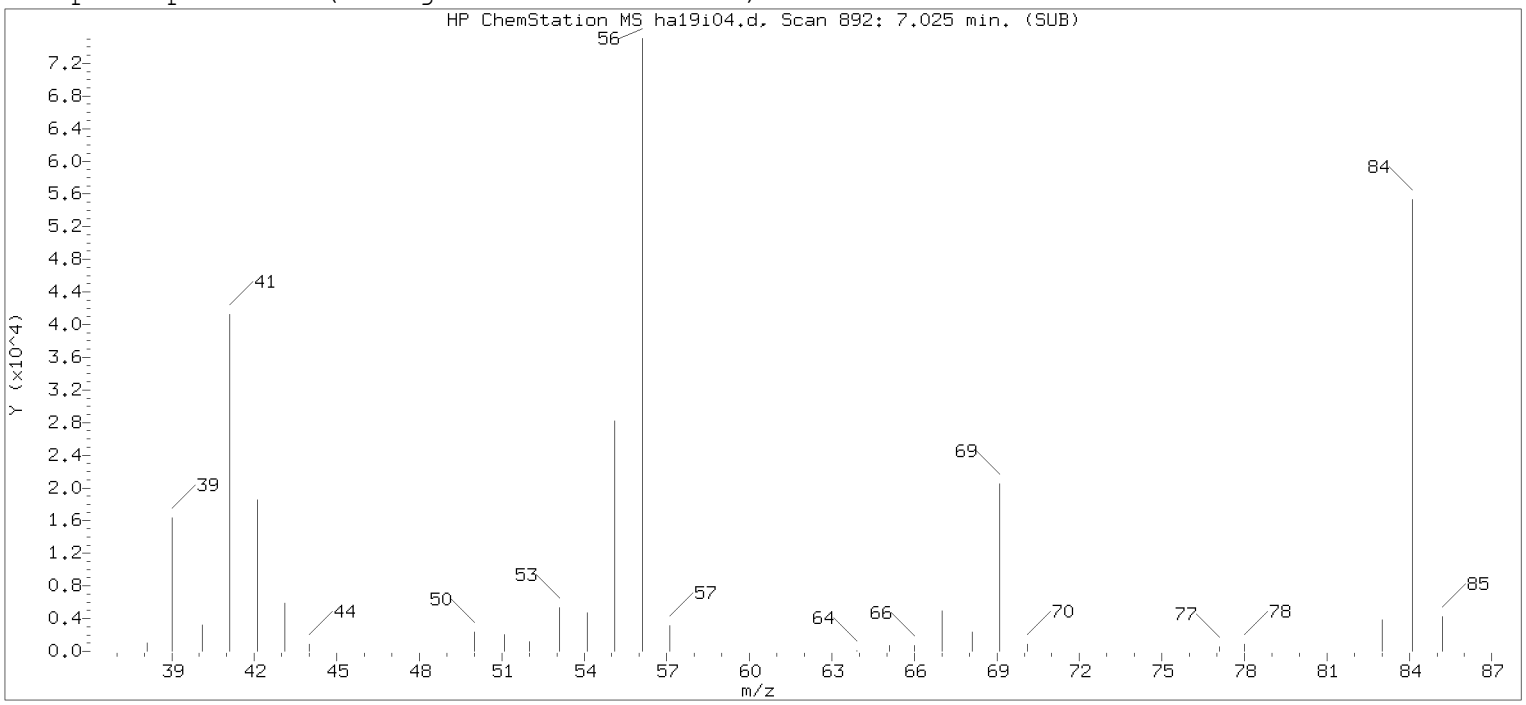
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 892
Retention Time (minutes): 7.025
Quant Ion : 84.00
Area (flag) : 215212M
On-Column Amount (ng) : 2.1543
Integration start scan : 877 Integration stop scan: 902
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

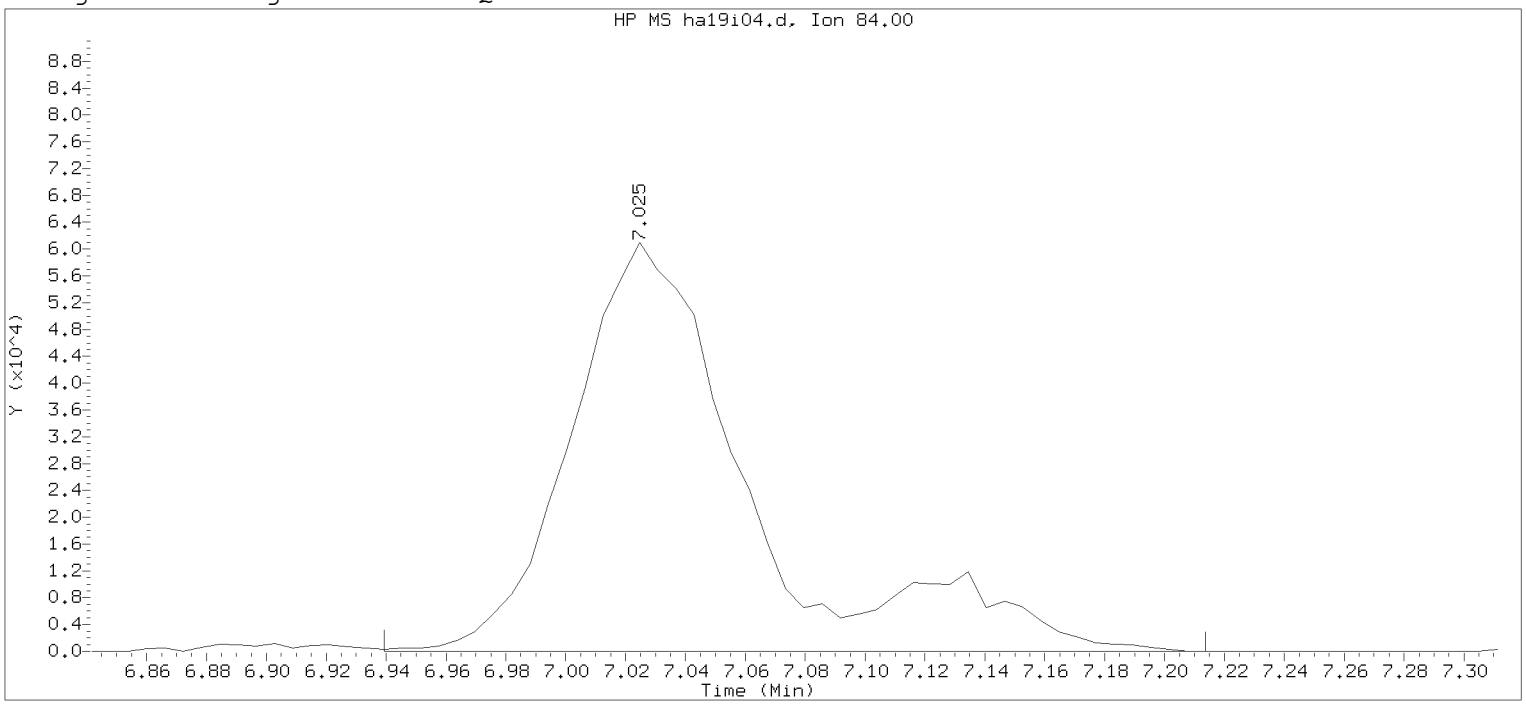
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

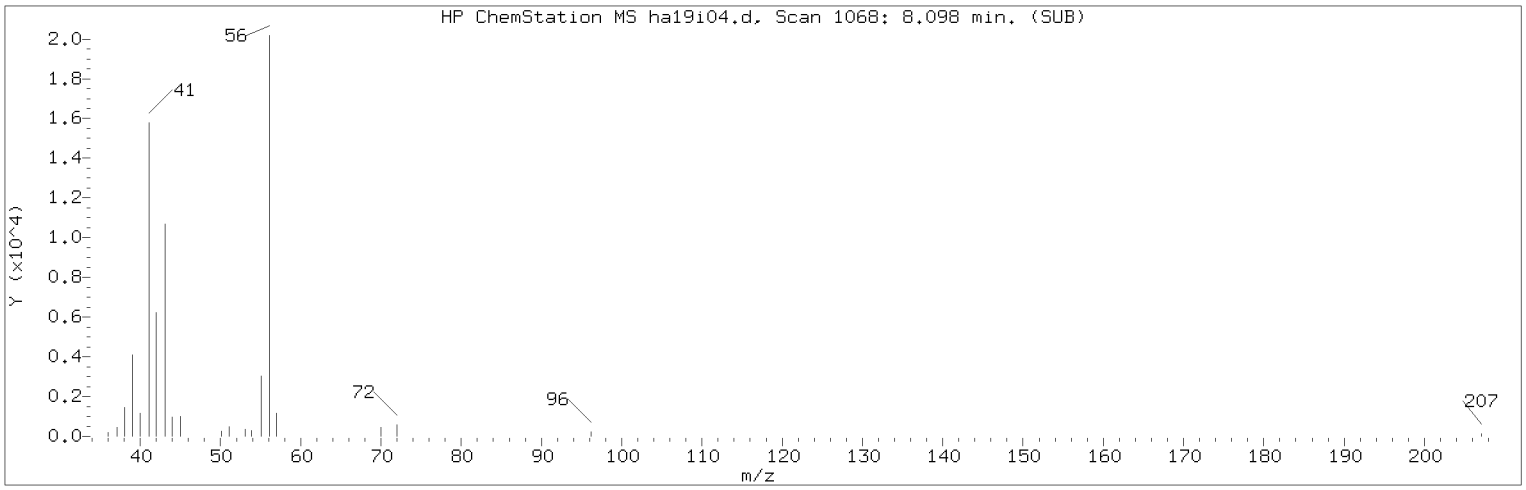
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

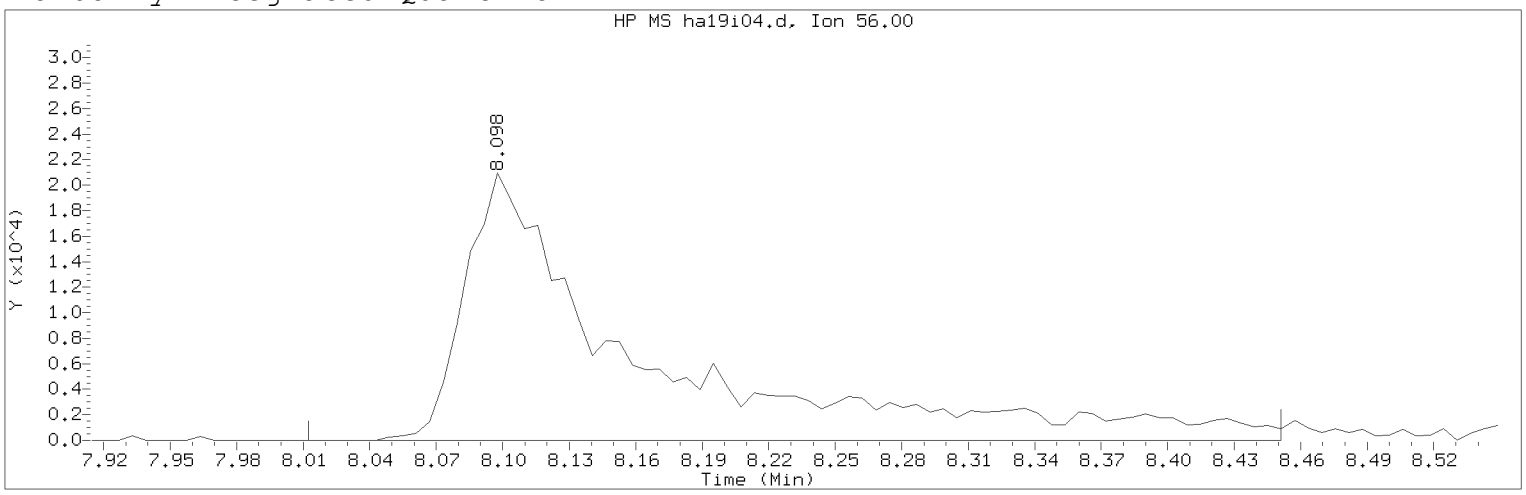
Compound Number	: 52		
Compound Name	: Cyclohexane		
Scan Number	: 892		
Retention Time (minutes)	: 7.025		
Quant Ion	: 84.00		
Area	: 250410		
On-column Amount (ng)	: 2.2933		
Integration start scan	: 877	Integration stop scan:	922
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

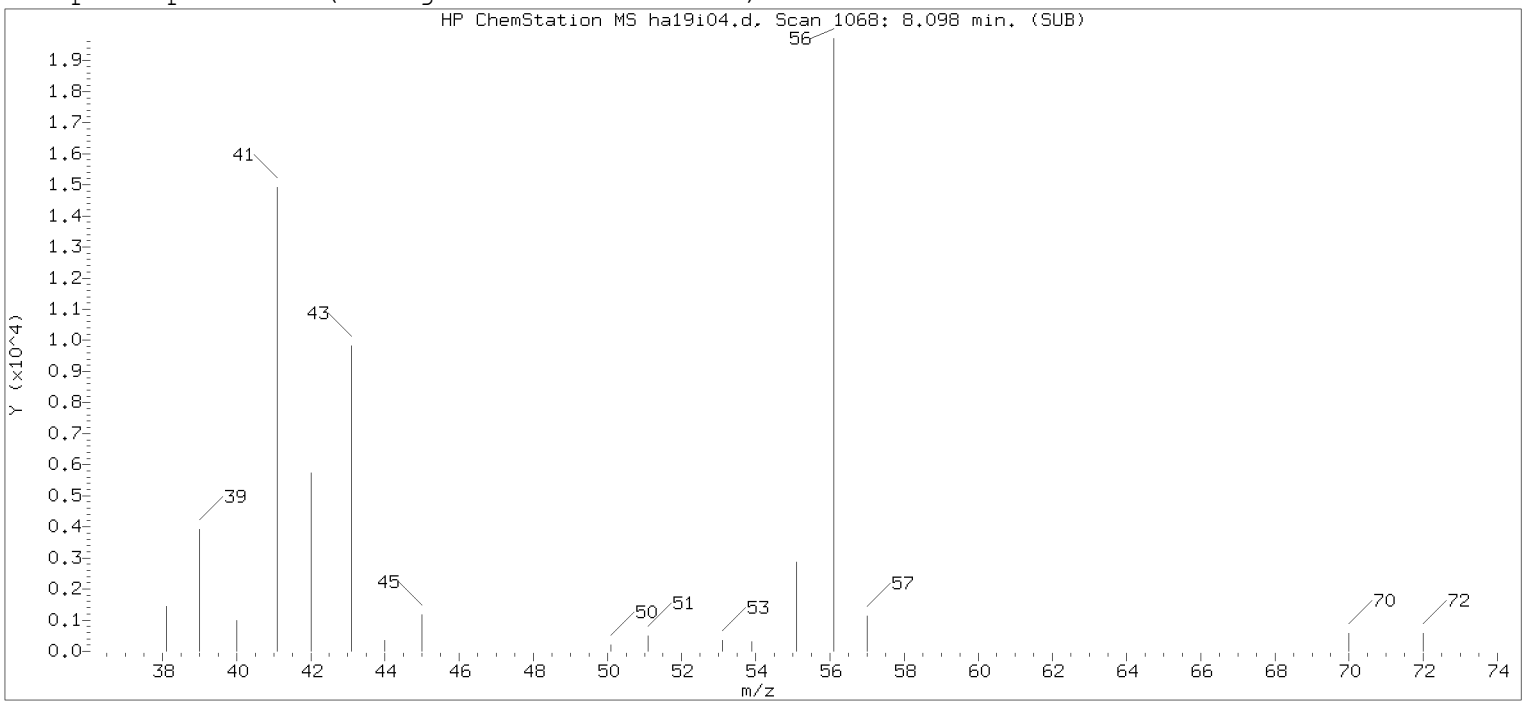
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1068
Retention Time (minutes): 8.098
Quant Ion : 56.00
Area (flag) : 113225M
On-Column Amount (ng) : 209.3599
Integration start scan : 1053 Integration stop scan: 1125
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

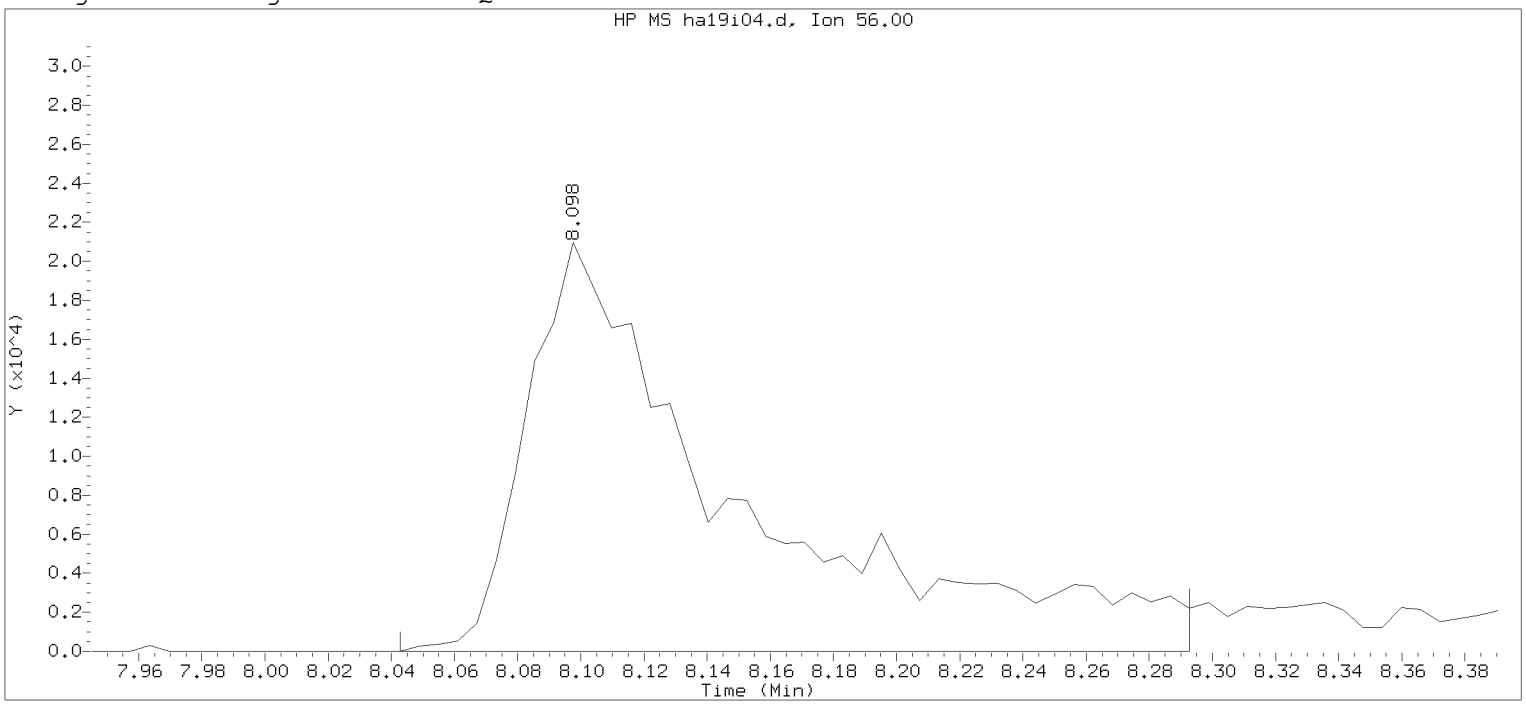
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

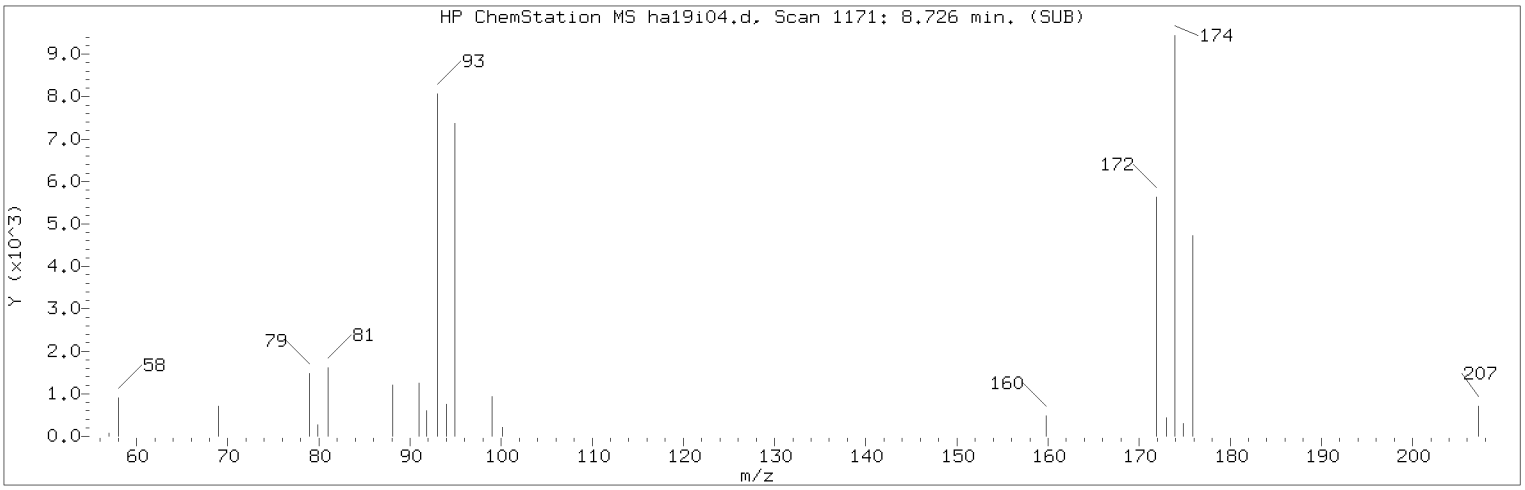
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

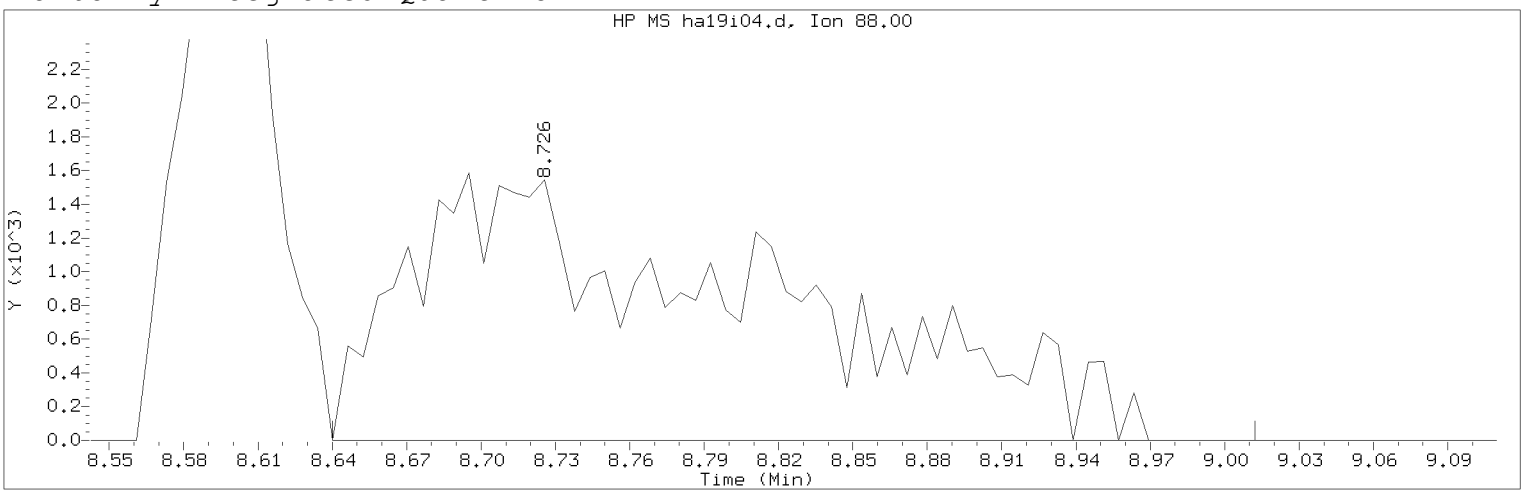
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1068
Retention Time (minutes): 8.098
Quant Ion : 56.00
Area : 96156
On-column Amount (ng) : 198.9785
Integration start scan : 1058 Integration stop scan: 1099
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2662

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

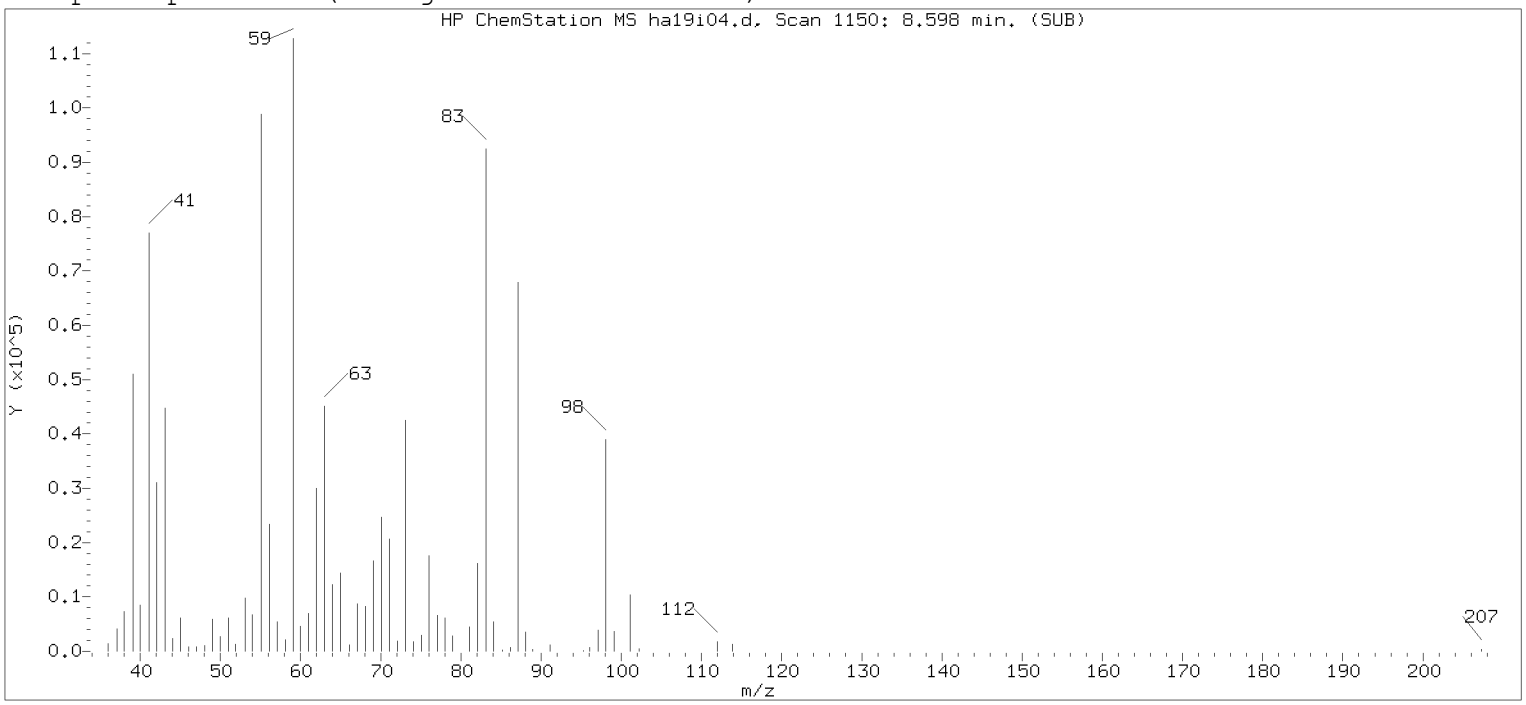
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1171
Retention Time (minutes): 8.726
Quant Ion : 88.00
Area (flag) : 15642A
On-Column Amount (ng) : 116.7502
Integration start scan : 1156 Integration stop scan: 1217
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

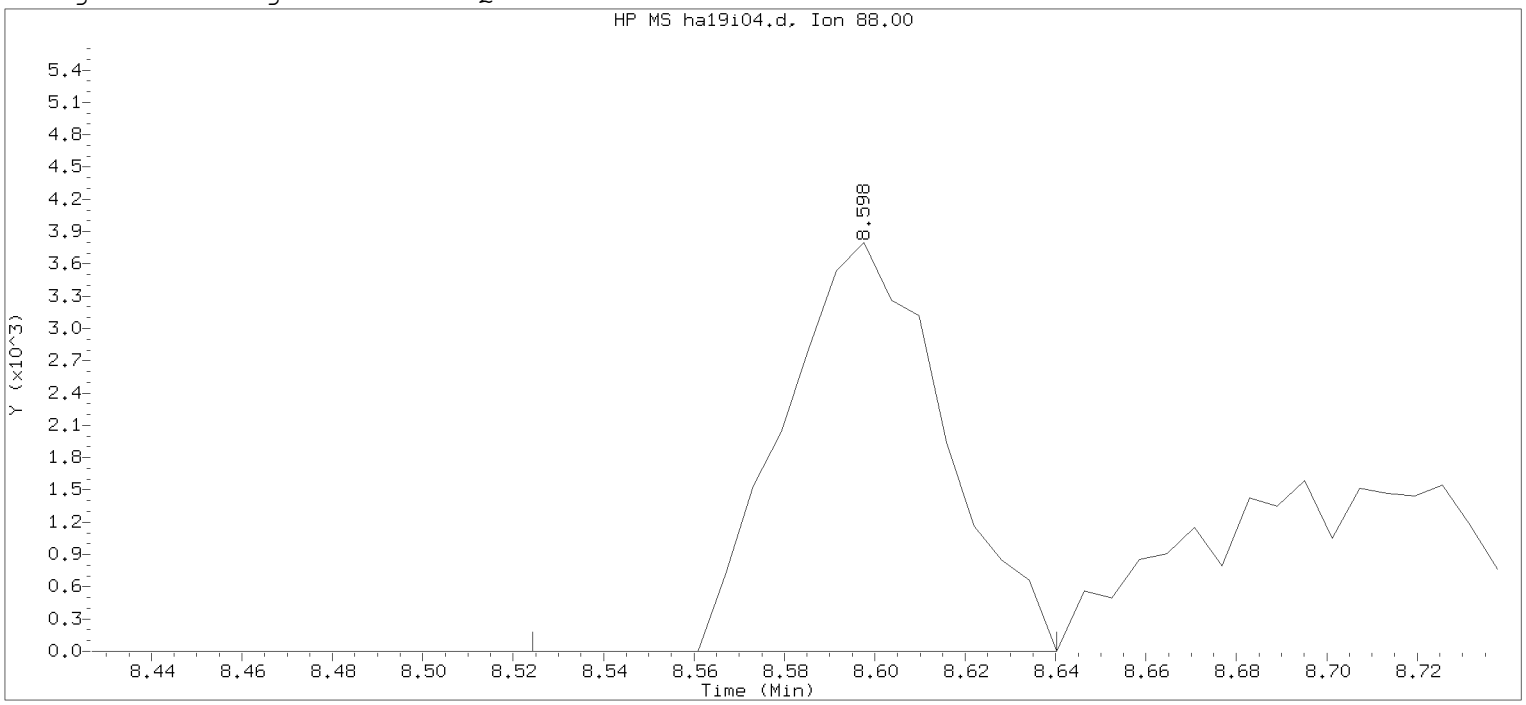
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

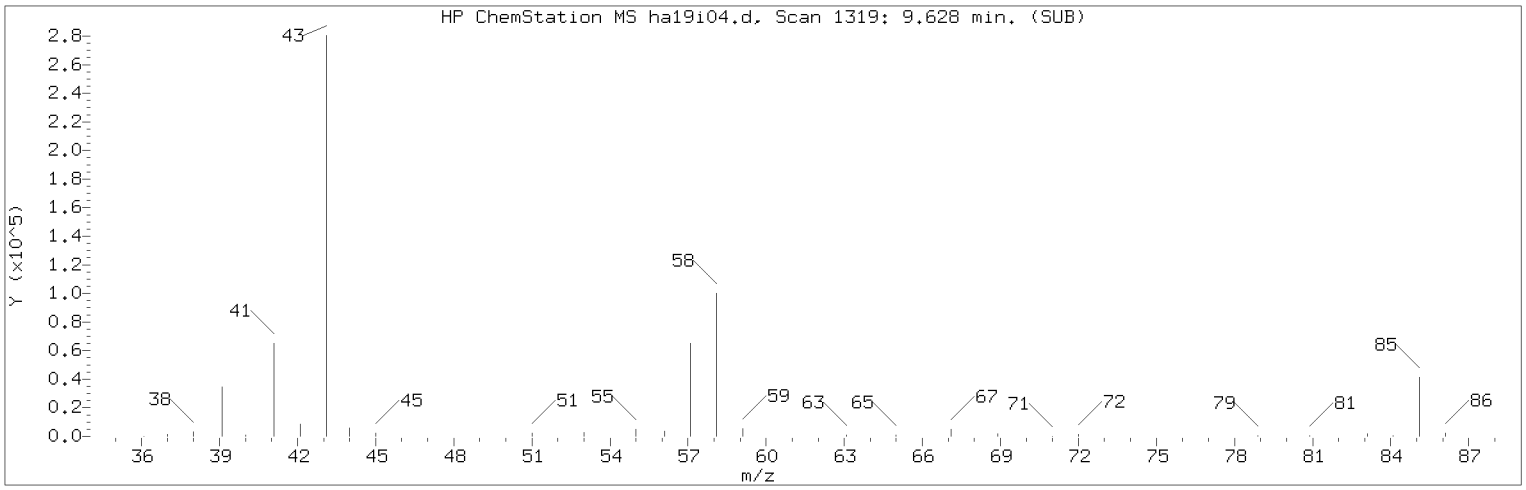
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

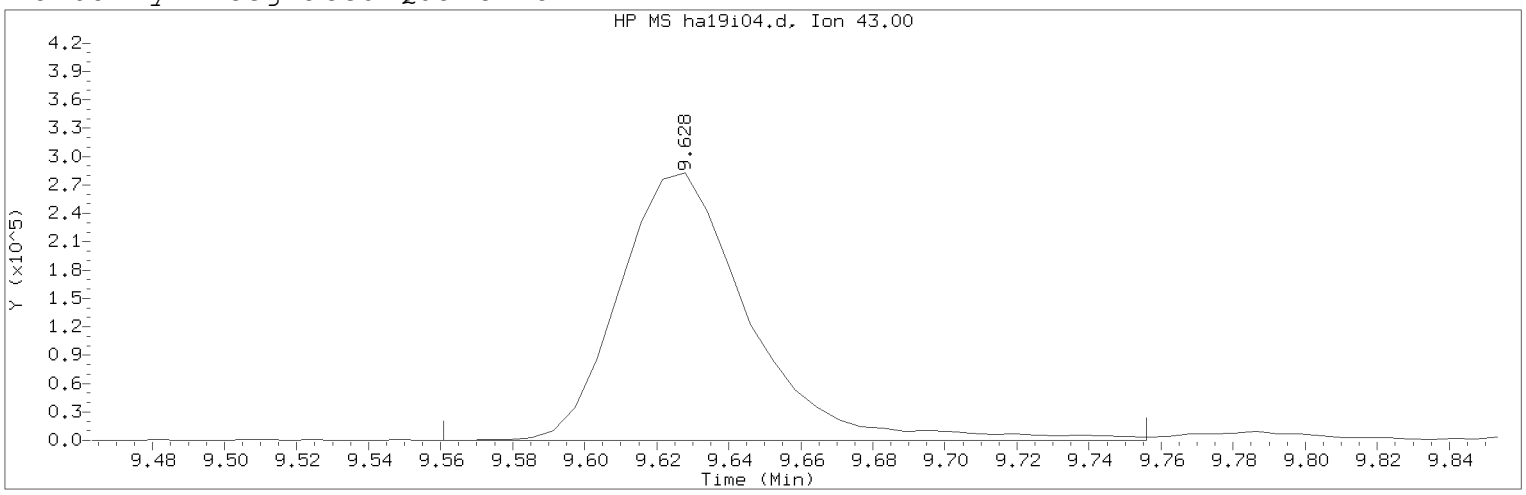
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 9294
On-column Amount (ng) : 68.1186
Integration start scan : 1137 Integration stop scan: 1156
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2604

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

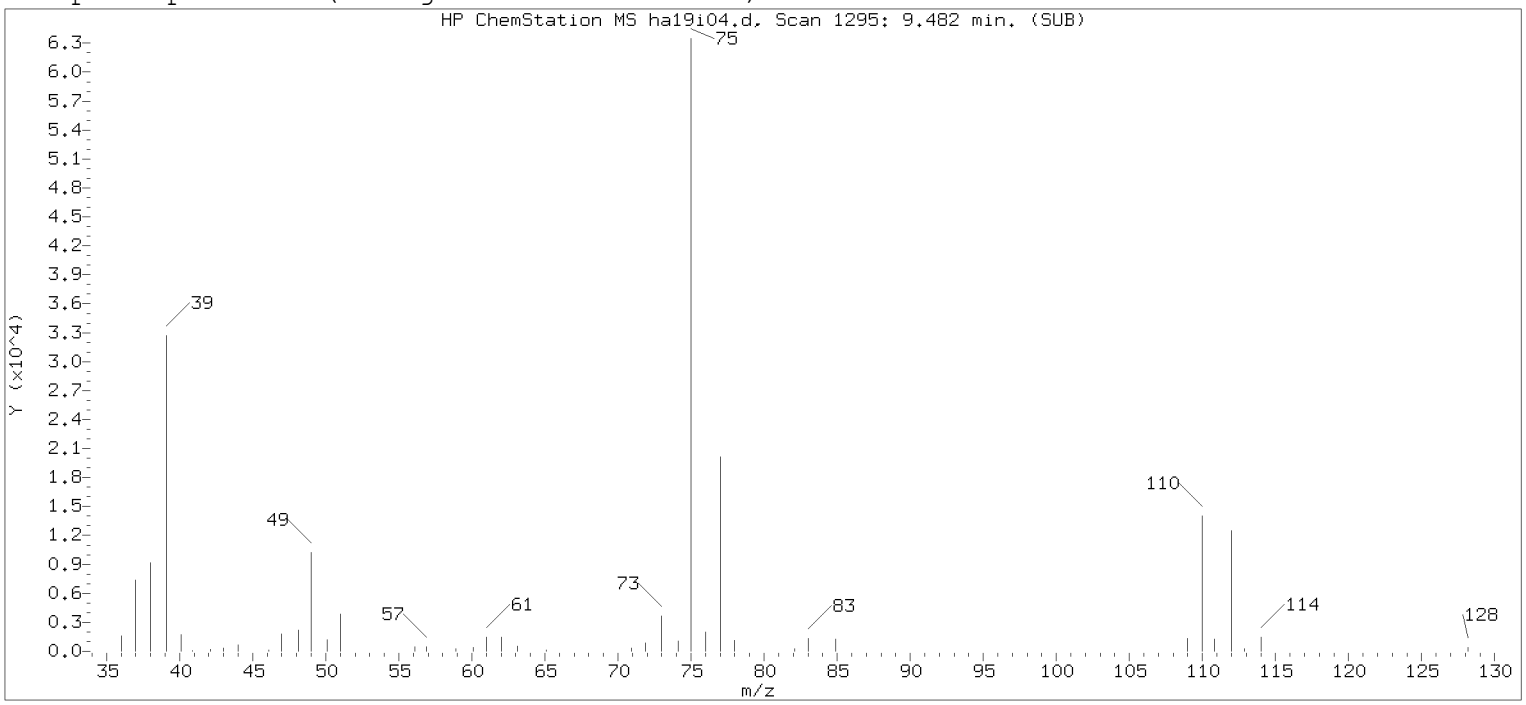
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area (flag) : 705793A
On-Column Amount (ng) : 20.8337
Integration start scan : 1307 Integration stop scan: 1339
Y at integration start : 0 Y at integration end: 63

Reason for manual integration: improper integration

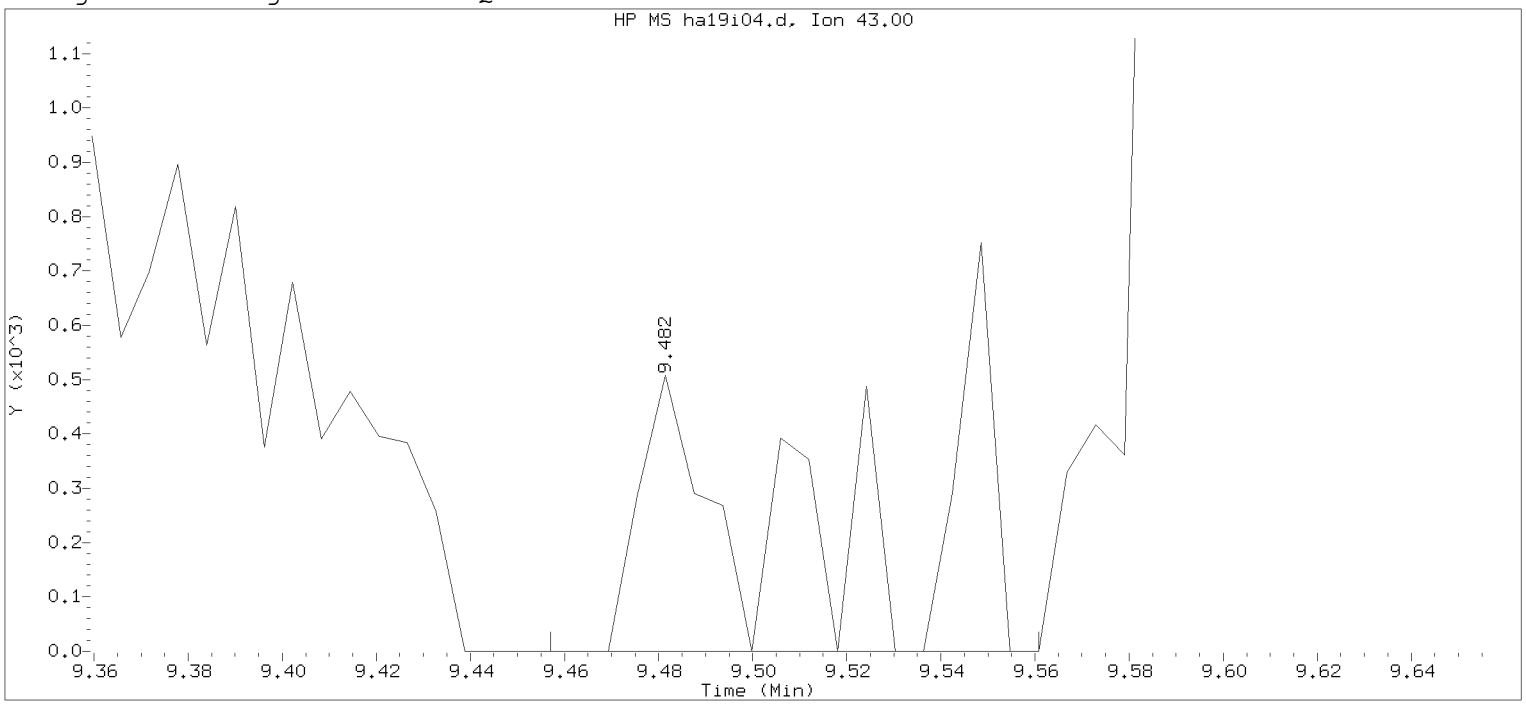
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

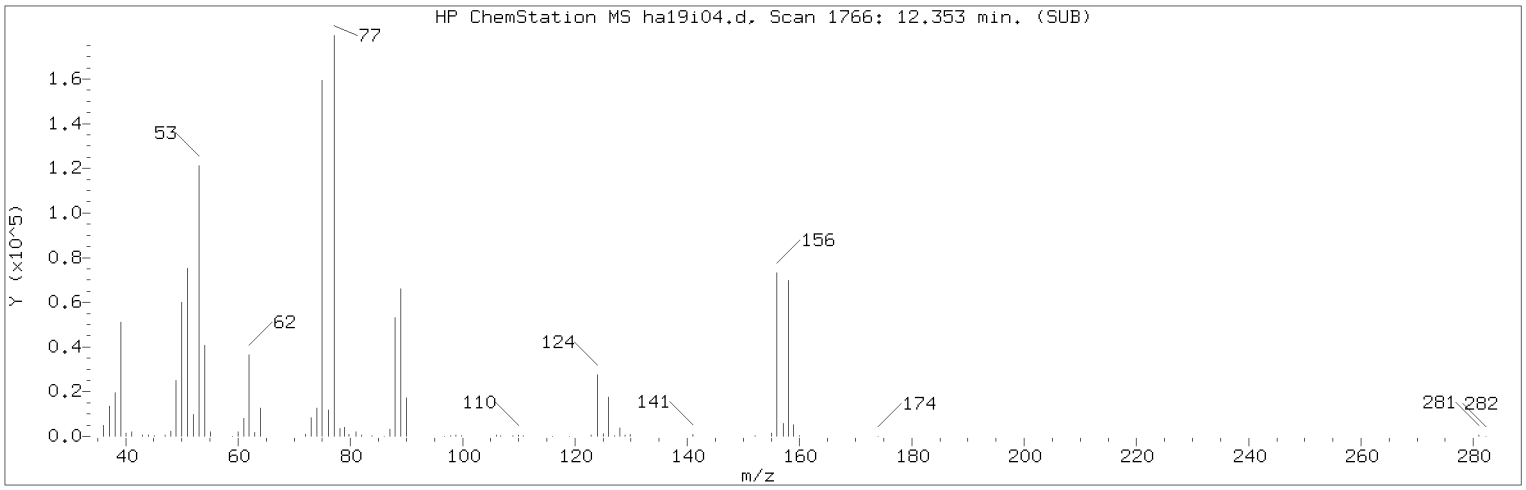
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

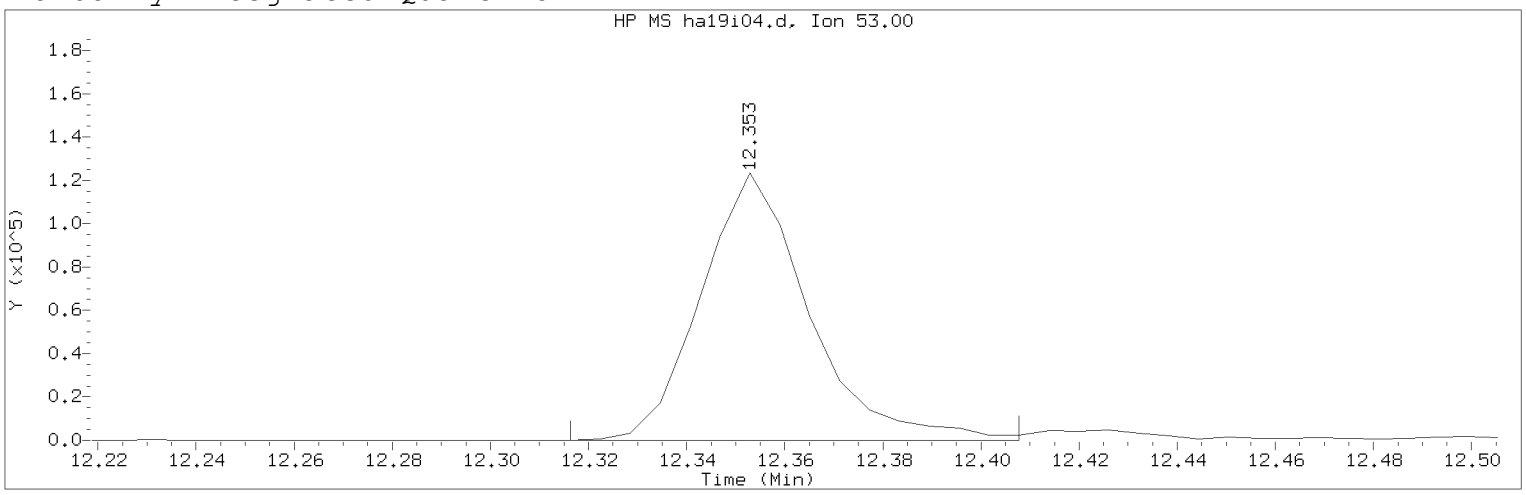
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1295
Retention Time (minutes): 9.482
Quant Ion : 43.00
Area : 1327
On-column Amount (ng) : 0.0489
Integration start scan : 1290 Integration stop scan: 1307
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2668

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD002 Lab Sample ID: VSTD002

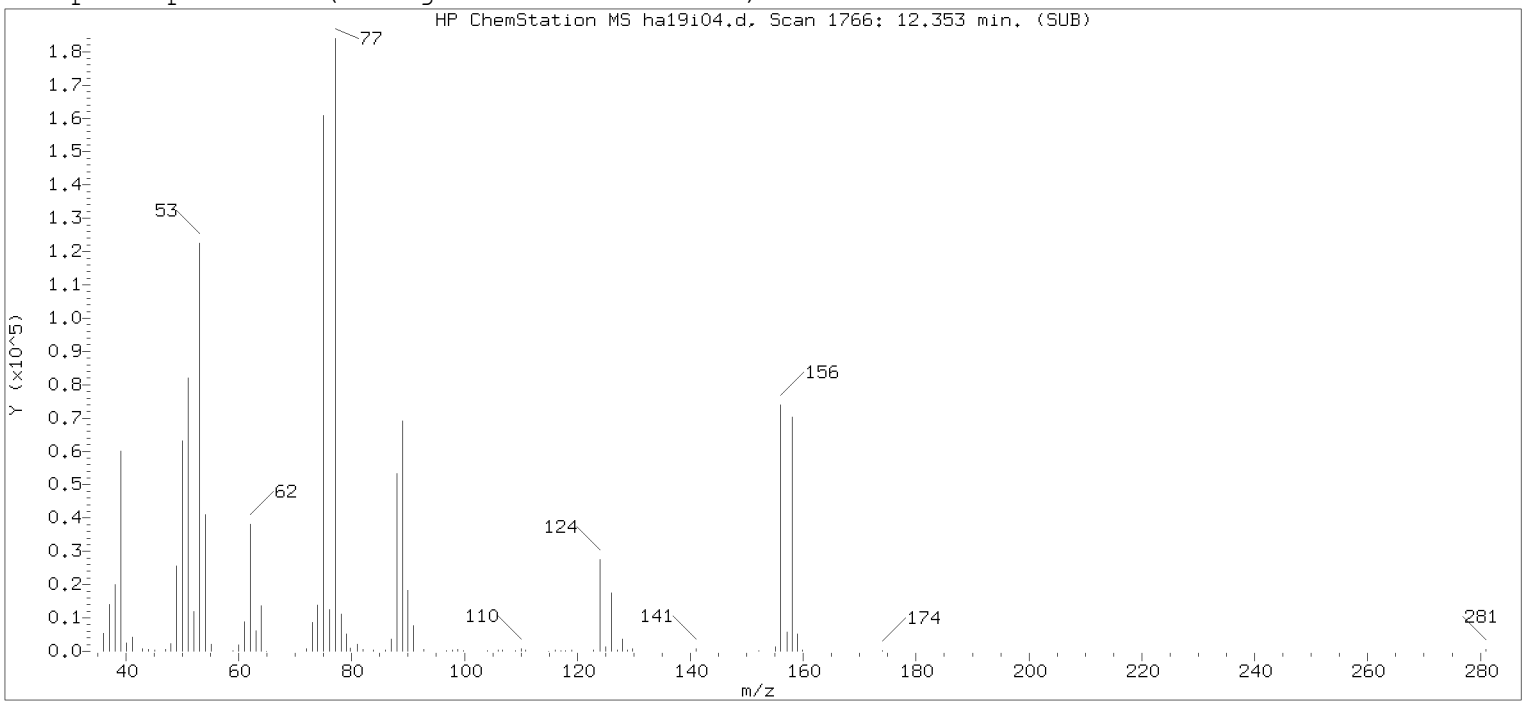
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 188111M
On-Column Amount (ng) : 20.9138
Integration start scan : 1759 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

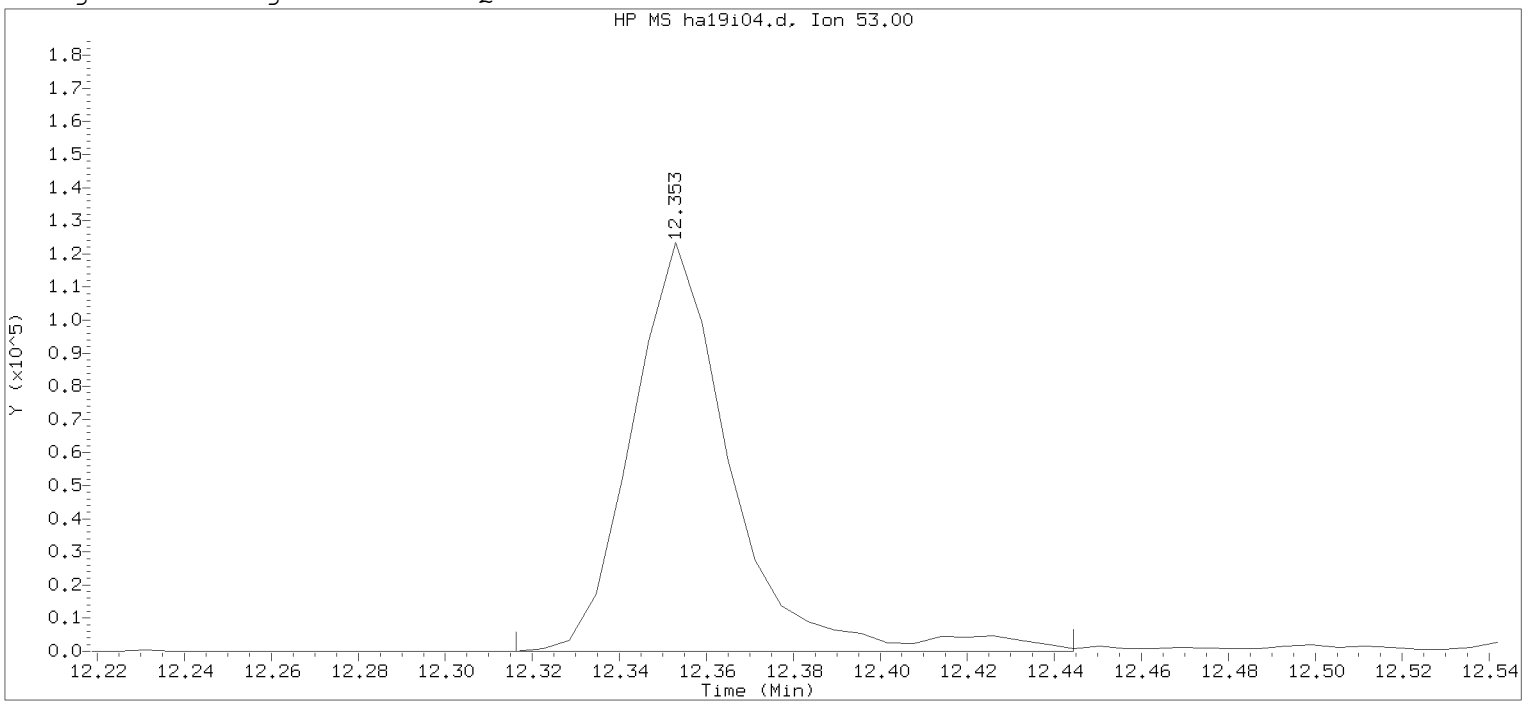
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



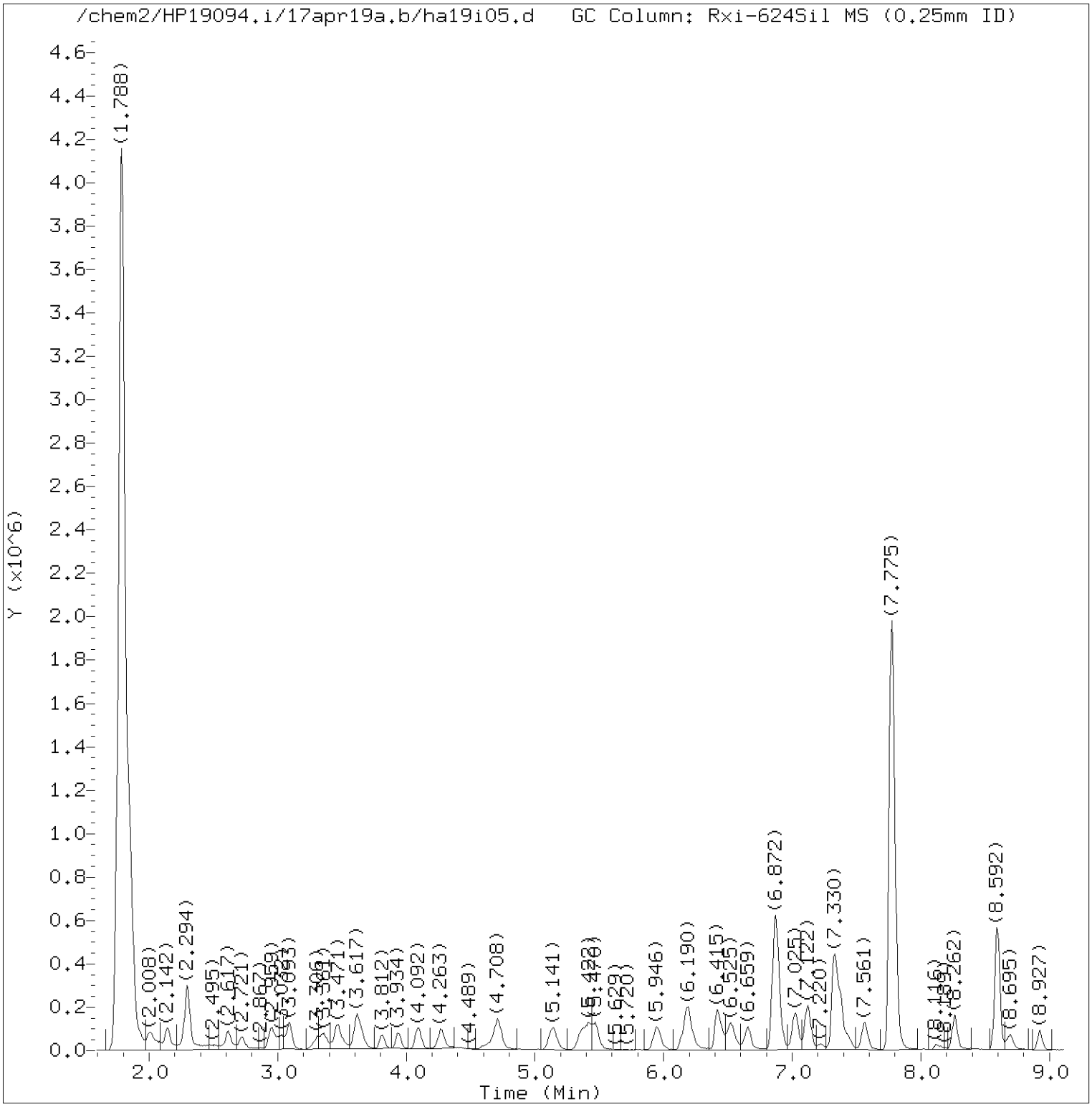
Data File: /chem2/HP19094.i/17apr19a.b/ha19i04.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 12:59 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:17
Date, time and analyst ID of latest file update: 19-Apr-2017 13:17 Automation

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area : 195033
On-column Amount (ng) : 43.4217
Integration start scan : 1759 Integration stop scan: 1780
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used [illegible]



Total Ion Chromatogram (TIC)

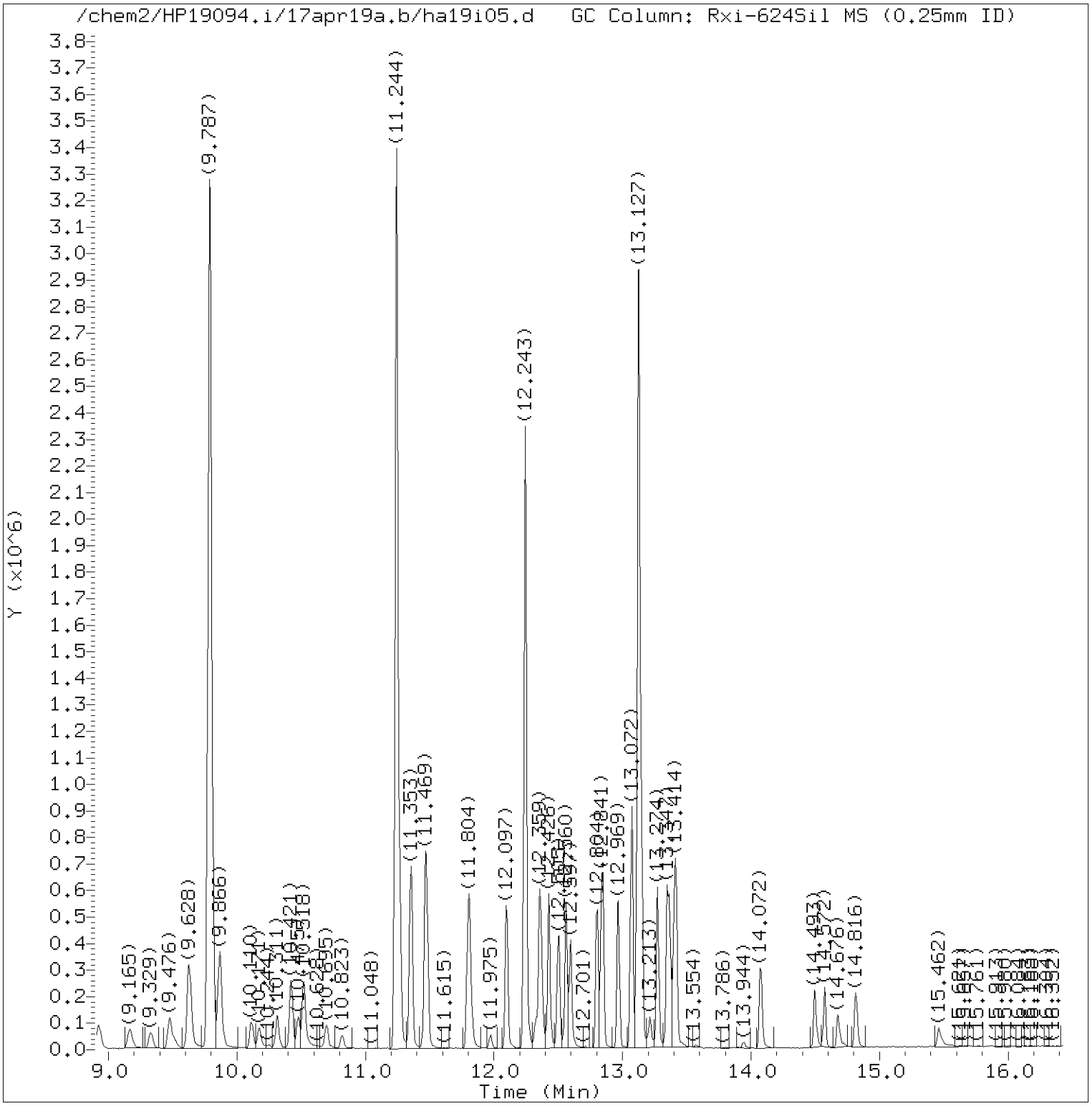
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	121714	1.128
2) Chloromethane	(2)	2.142	50	118684	1.048
5) Vinyl Chloride	(2)	2.276	62	105428	1.060
6) 1,3-Butadiene	(2)	2.300	39	167328	1.068
7) Bromomethane	(2)	2.611	94	67092	1.074
8) Chloroethane	(2)	2.727	64	58245	1.023
9) Dichlorofluoromethane	(2)	2.952	67	142043	1.084
10) Trichlorofluoromethane	(2)	3.038	101	127050	1.103
11) Ethyl ether	(2)	3.294	59	50130	1.098
12) Freon 123a	(2)	3.349	67	93440	1.075
13) Acrolein	(1)	3.465	56	250827	53.108
15) 1,1-Dichloroethene	(2)	3.611	96	64526	1.043
16) Freon 113	(2)	3.635	101	70371	1.081
14) Acetone	(1)	3.635	43	61987	10.838
17) Methyl Iodide	(2)	3.812	142	116892	1.017
18) Carbon Disulfide	(2)	3.934	76	177132	1.020
21) Methyl Acetate	(1)	4.080	43	24125	1.241
22) Allyl Chloride	(2)	4.092	41	124858	1.040
23) Methylene Chloride	(2)	4.269	84	67736	1.003
26)*t-Butyl Alcohol-d10	(1)	4.300	65	62071M	50.000
28) t-Butyl Alcohol	(1)	4.416	59	30393M	19.570
29) Acrylonitrile	(1)	4.598	53	42204	5.461
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	122889	0.991
31) trans-1,2-Dichloroethene	(2)	4.714	96	69423	1.016
32) n-Hexane	(2)	5.153	57	104987	1.002
33) 1,1-Dichloroethane	(2)	5.354	63	139552	1.035
34) di-Isopropyl Ether	(2)	5.409	45	226580	0.986
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	114878	1.009
37) Ethyl t-butyl ether	(2)	5.952	59	176241	0.998
40) 1,2-Dichloroethene (Total)	(2)		96	147248	2.037
38) 2-Butanone	(1)	6.135	43	117940	10.110
39) cis-1,2-Dichloroethene	(2)	6.177	96	77825	1.020
41) 2,2-Dichloropropane	(2)	6.202	77	104301	1.033
42) Propionitrile	(1)	6.226	54	54150	19.537
45) Methacrylonitrile	(1)	6.421	67	122705	10.589
47) Bromochloromethane	(2)	6.525	128	31822	1.055
48) Tetrahydrofuran	(1)	6.531	71	31230	10.717
49) Chloroform	(2)	6.659	83	127278	1.001

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.866	113	605676	9.689
50)$Dibromofluoromethane	(2)	6.872	111	619445	9.648
51) 1,1,1-Trichloroethane	(2)	6.903	97	108634	1.003
52) Cyclohexane	(2)	7.031	56	134088	1.004
52) Cyclohexane	(2)	7.025	84	107796	1.050
52) Cyclohexane	(2)	7.031	69	38267	1.021
55) 1,1-Dichloropropene	(2)	7.122	75	102369	1.018
54) Carbon Tetrachloride	(2)	7.128	117	93602	1.029
56) Isobutyl Alcohol	(1)	7.232	41	35056	52.309
57)$1,2-Dichloroethane-d4	(2)	7.324	102	100320	9.925
57)$1,2-Dichloroethane-d4	(2)	7.330	65	489559	9.950
57)$1,2-Dichloroethane-d4	(2)	7.330	104	62123	10.140
58) Benzene	(2)	7.378	78	296353	1.014
59) 1,2-Dichloroethane	(2)	7.427	62	73001	1.045
60) t-Amyl methyl ether	(2)	7.567	73	144225	1.004
63)*Fluorobenzene	(2)	7.775	96	2788645	10.000
62) n-Heptane	(2)	7.799	43	126399	1.025
65) n-Butanol	(1)	8.122	56	40434M	81.940
67) Trichloroethene	(2)	8.262	95	79402	1.027
70) 1,2-Dichloropropane	(2)	8.586	63	76486	1.004
69) Methylcyclohexane	(2)	8.598	83	133848	1.025
71) Methyl Methacrylate	(1)	8.671	69	22174M	1.046
73) Dibromomethane	(2)	8.695	93	29335	0.999
72) 1,4-Dioxane	(1)	8.695	88	6215M	49.018
74) Bromodichloromethane	(2)	8.927	83	81025	1.007
76) 2-Nitropropane	(1)	9.171	41	73784	10.553
80) cis-1,3-Dichloropropene	(2)	9.476	75	87425	0.964
81) 4-Methyl-2-Pentanone	(1)	9.628	43	324011	10.482
82)$Toluene-d8	(3)	9.787	98	2672599	10.623
82)$Toluene-d8	(3)	9.787	100	1717313	10.600
83) Toluene	(3)	9.866	92	179589	1.080
84) trans-1,3-Dichloropropene	(3)	10.110	75	65238	1.007
85) 1,3-Dichloropropene (total)	(3)		75	152663	1.971
86) Ethyl Methacrylate	(3)	10.171	69	45380	0.947
88) 1,1,2-Trichloroethane	(3)	10.311	97	41372	1.071
89) Tetrachloroethene	(3)	10.421	166	83314	1.081
90) 1,3-Dichloropropane	(3)	10.481	76	71755	1.038
91) 2-Hexanone	(1)	10.518	43	231090	10.608

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	46004	1.005
95) 1,2-Dibromoethane	(3)	10.823	107	36855	1.009
97)*Chlorobenzene-d5	(3)	11.244	117	1721164	10.000
98) Chlorobenzene	(3)	11.268	112	192469	1.062
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	64428	1.067
100) Ethylbenzene	(3)	11.359	91	339458	1.054
101) m+p-Xylene	(3)	11.469	106	262916	2.146
105) Xylene (Total)	(3)		106	384762	3.183
104) o-Xylene	(3)	11.798	106	121846	1.036
106) Styrene	(3)	11.817	104	185704M	1.034
107) Bromoform	(3)	11.975	173	22020	0.963
108) Isopropylbenzene	(3)	12.097	105	321646	1.045
111)$4-Bromofluorobenzene	(3)	12.243	95	712856	9.972
111)$4-Bromofluorobenzene	(3)	12.243	174	640351	10.064
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	49045	1.029
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	78326A	9.544
114) Bromobenzene	(4)	12.359	156	76825	1.057
116) 1,2,3-Trichloropropane	(4)	12.377	110	12003	1.006
117) n-Propylbenzene	(4)	12.426	91	400981	1.032
119) 2-Chlorotoluene	(4)	12.505	126	74346	1.011
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	274441	1.049
122) 4-Chlorotoluene	(4)	12.597	126	77251	1.046
125) tert-Butylbenzene	(4)	12.804	134	54746M	0.964
126) Pentachloroethane	(4)	12.835	167	46993	1.107
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	269992	1.036
128) sec-Butylbenzene	(4)	12.963	105	346230	1.016
131) 1,3-Dichlorobenzene	(4)	13.072	146	147525	1.033
132) p-Isopropyltoluene	(4)	13.072	119	283359	1.016
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	738701	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	157926	1.061
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	124841	1.086
136) Benzyl Chloride	(4)	13.219	126	13920	0.927
138) n-Butylbenzene	(4)	13.365	92	135149	0.987
139) 1,2-Dichlorobenzene	(4)	13.396	146	133706	1.054
143) 1,2-Dibromo-3-chloropropane	(1)	13.944	155	4111	0.898
145) 1,2,4-Trichlorobenzene	(4)	14.499	180	81123	0.992
146) Hexachlorobutadiene	(4)	14.572	225	37780	0.932
147) Naphthalene	(4)	14.676	128	118724	0.986

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

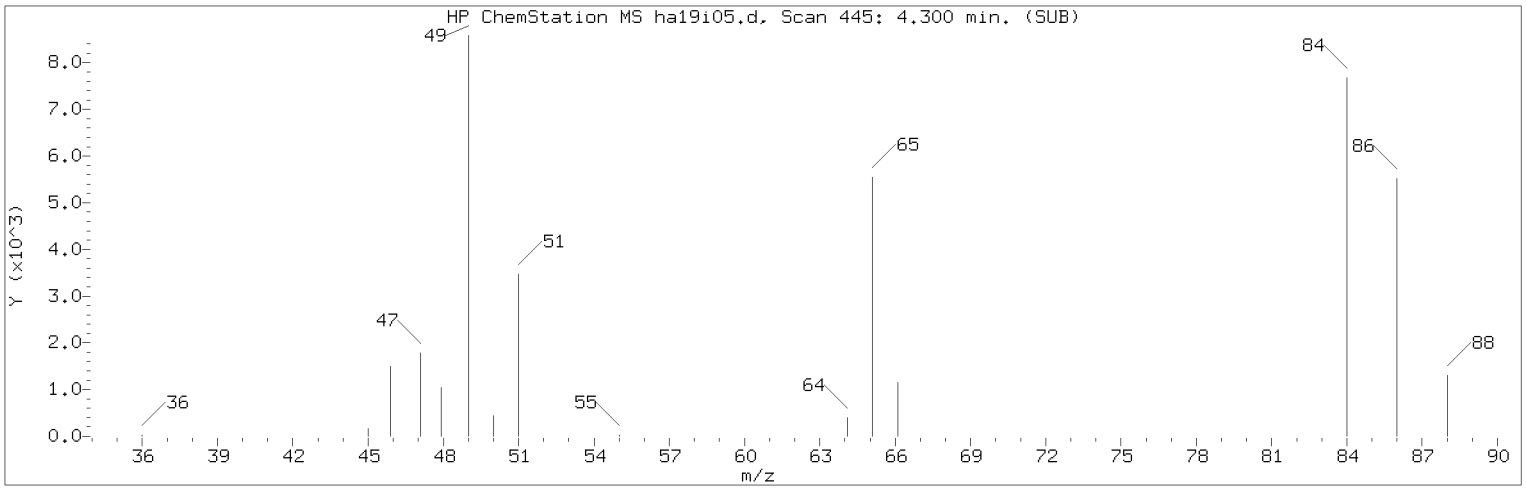
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

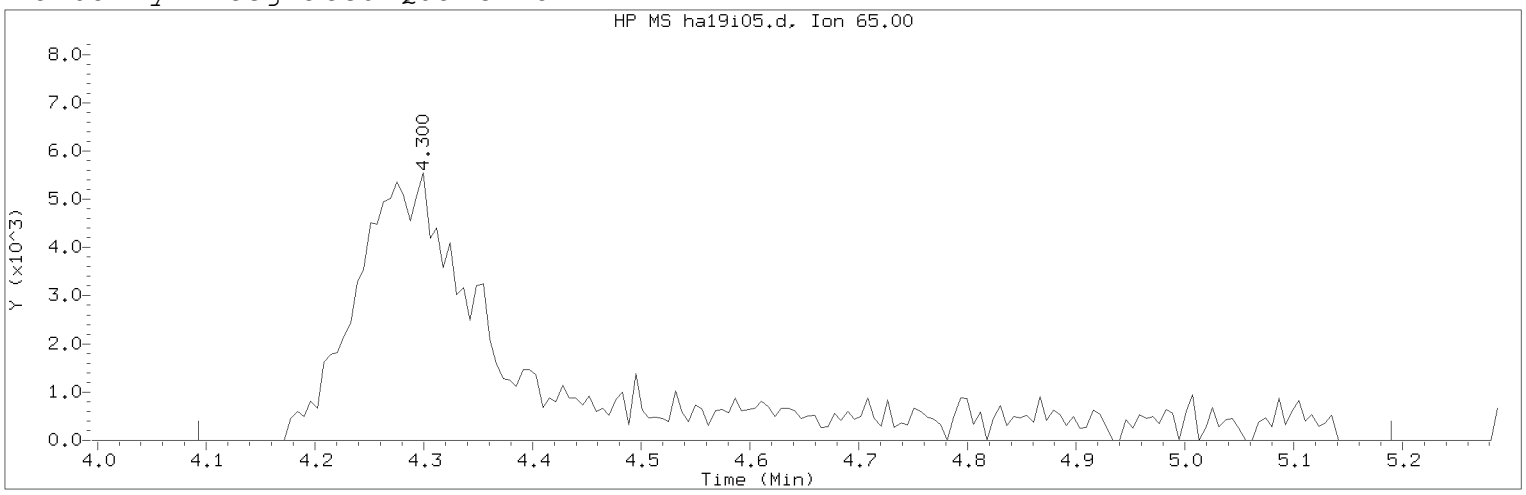
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.816	180	69266	1.002

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

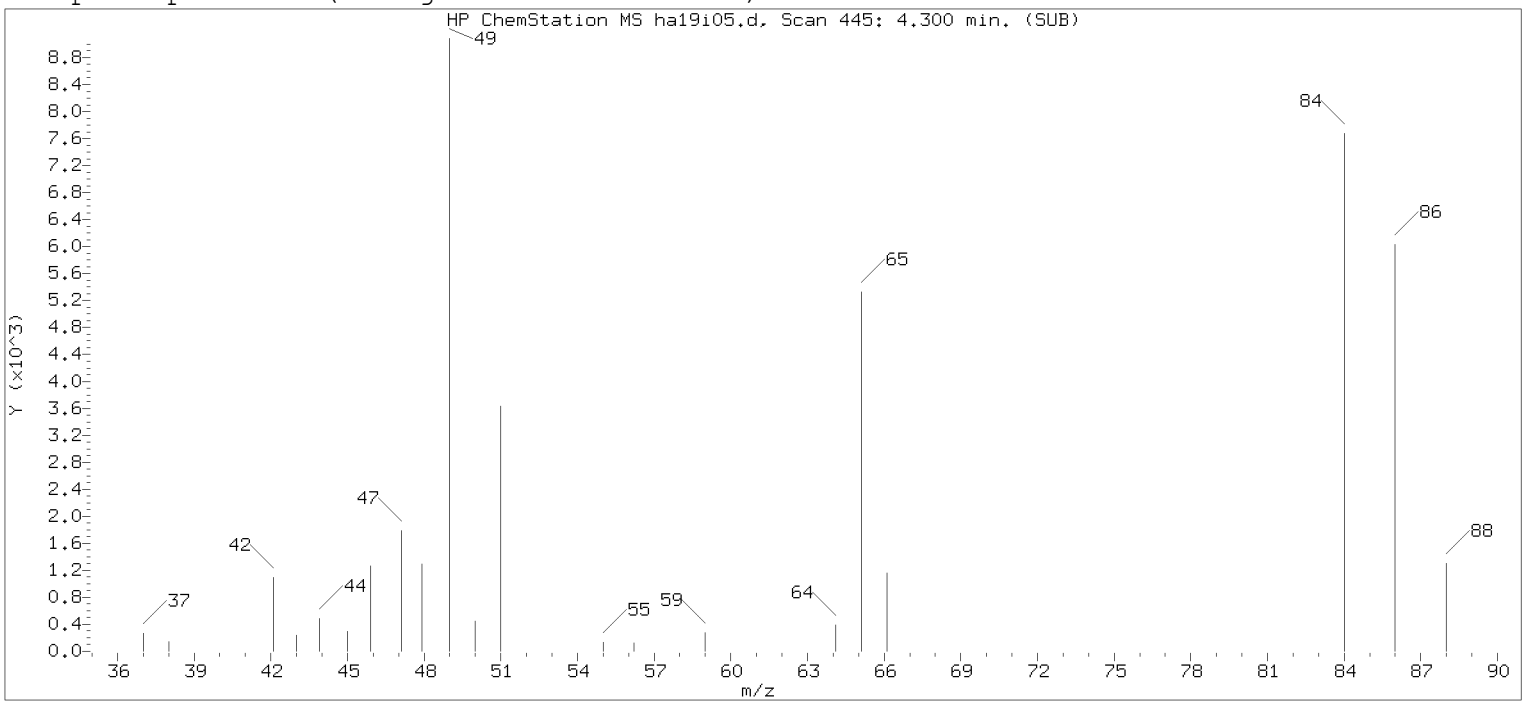
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.300
Quant Ion : 65.00
Area (flag) : 62071M
On-Column Amount (ng) : 50.0000
Integration start scan : 410 Integration stop scan: 590
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

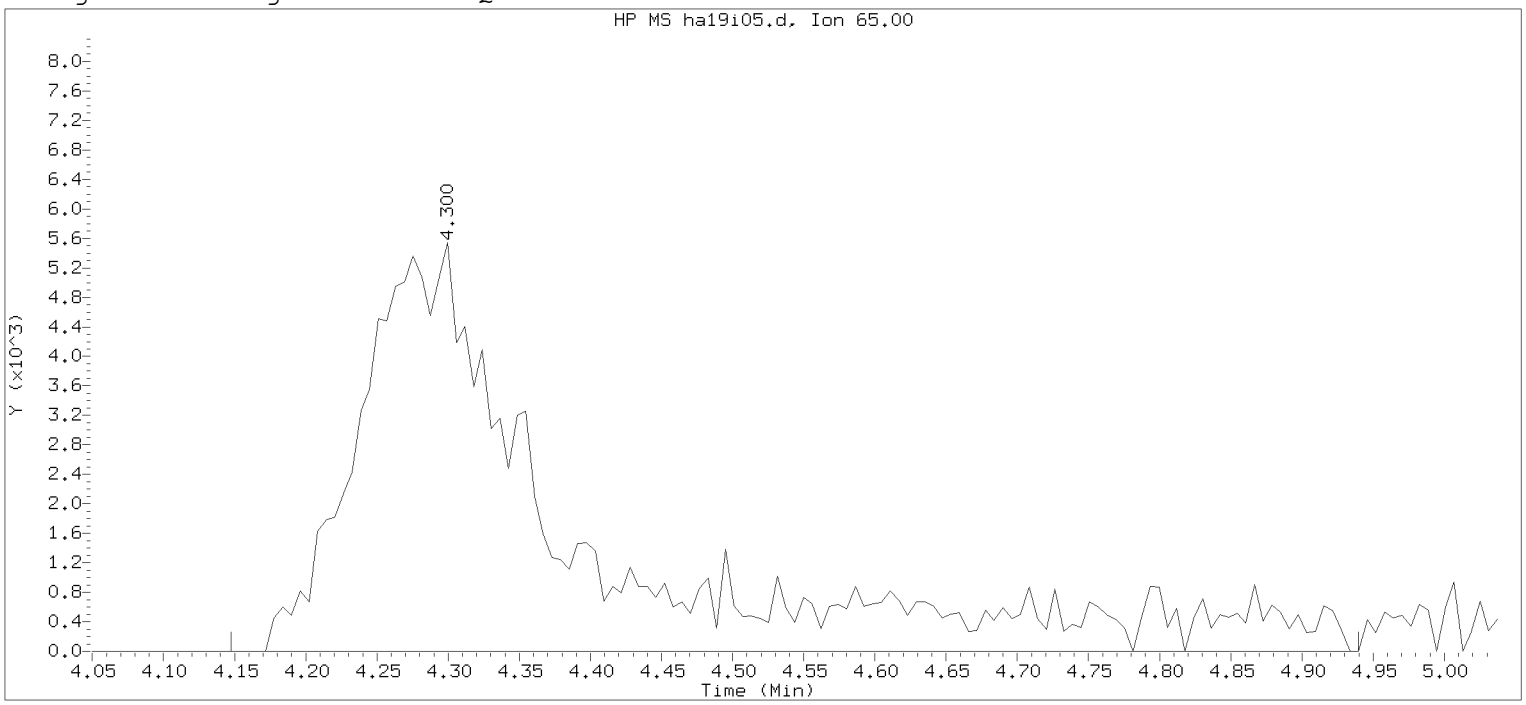
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

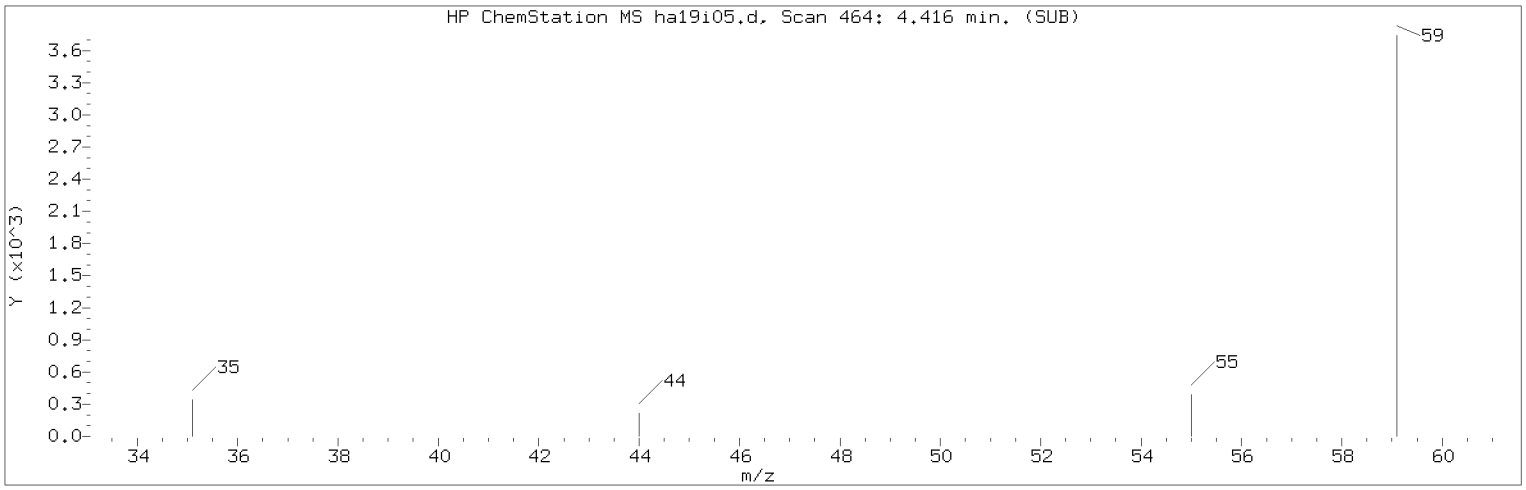
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

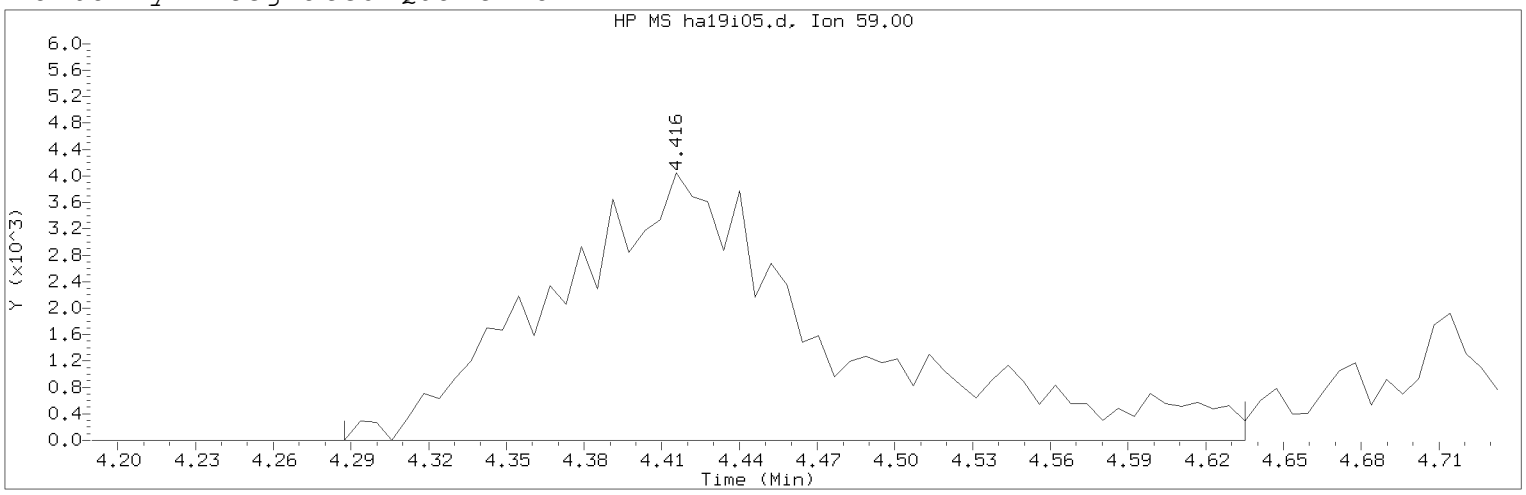
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 445
Retention Time (minutes): 4.300
Quant Ion : 65.00
Area : 57165
On-column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 549
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2678

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

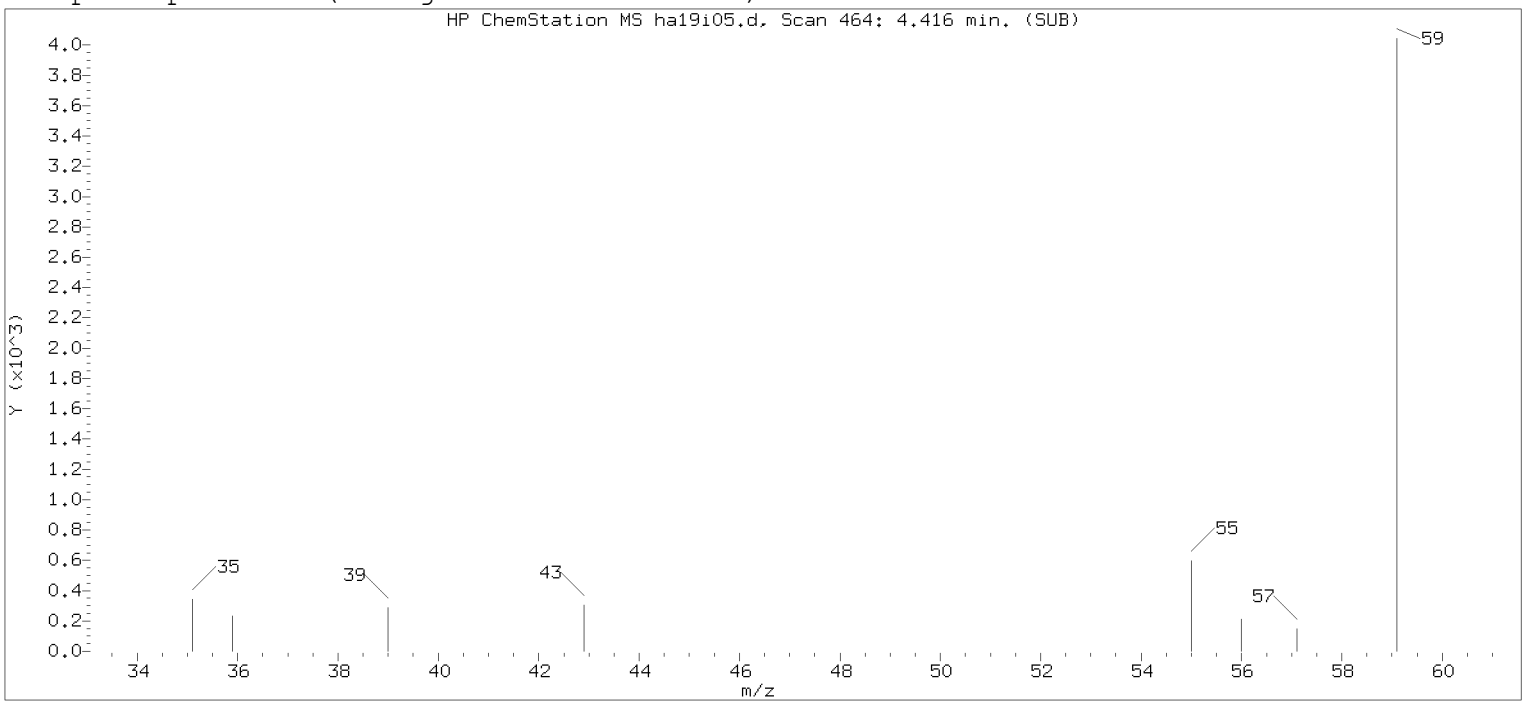
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 464
Retention Time (minutes): 4.416
Quant Ion : 59.00
Area (flag) : 30393M
On-Column Amount (ng) : 19.5701
Integration start scan : 442 Integration stop scan: 499
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

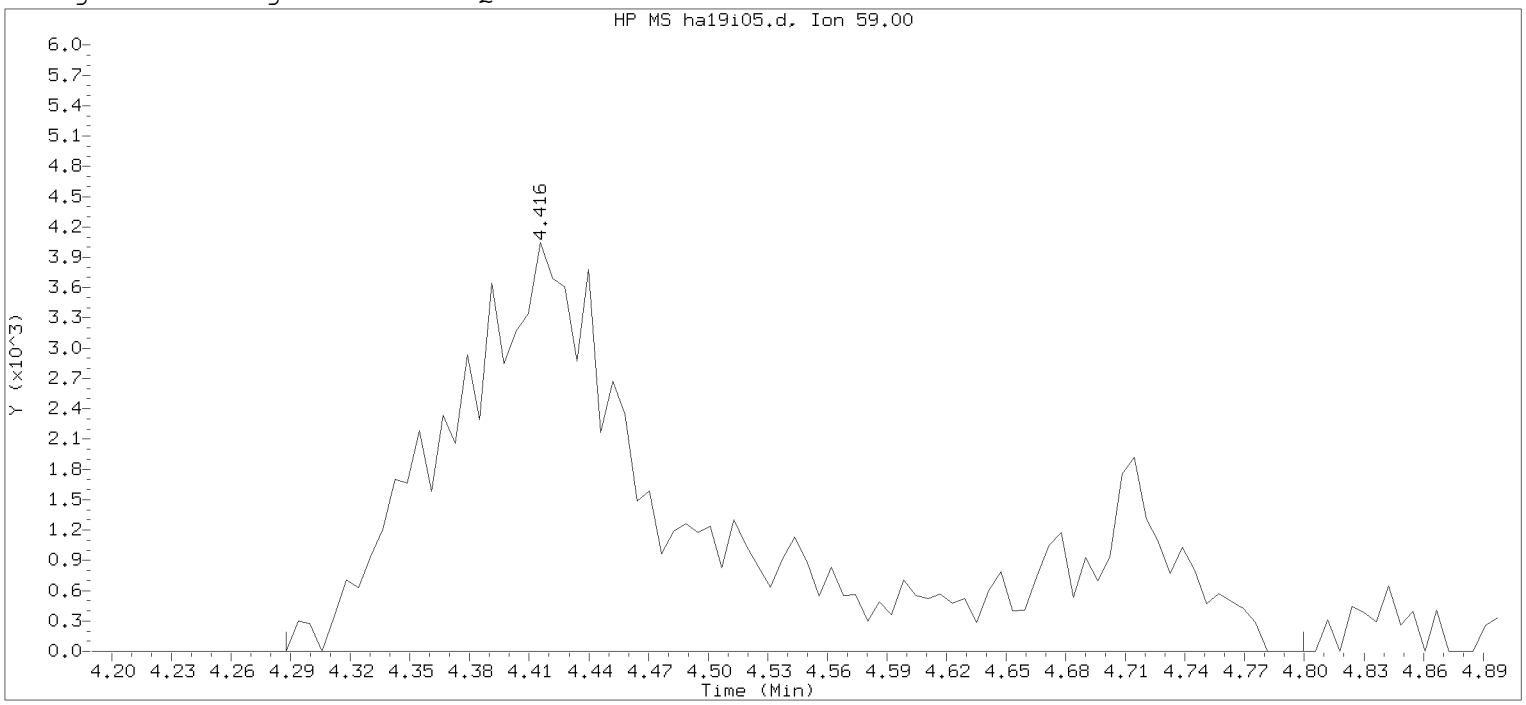
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

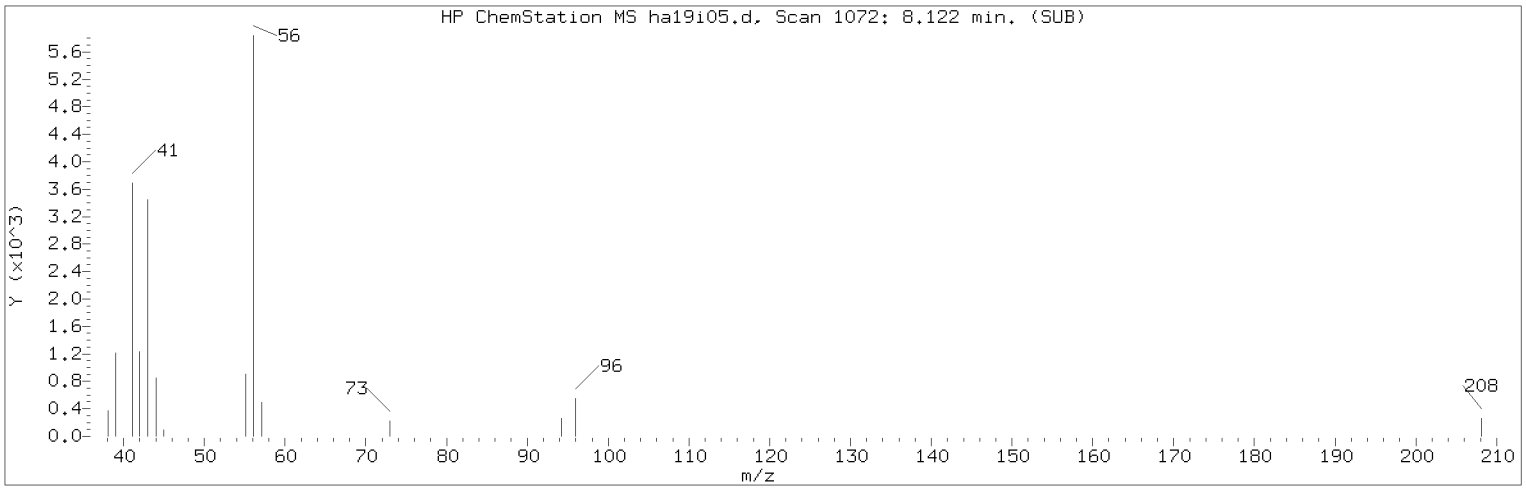
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

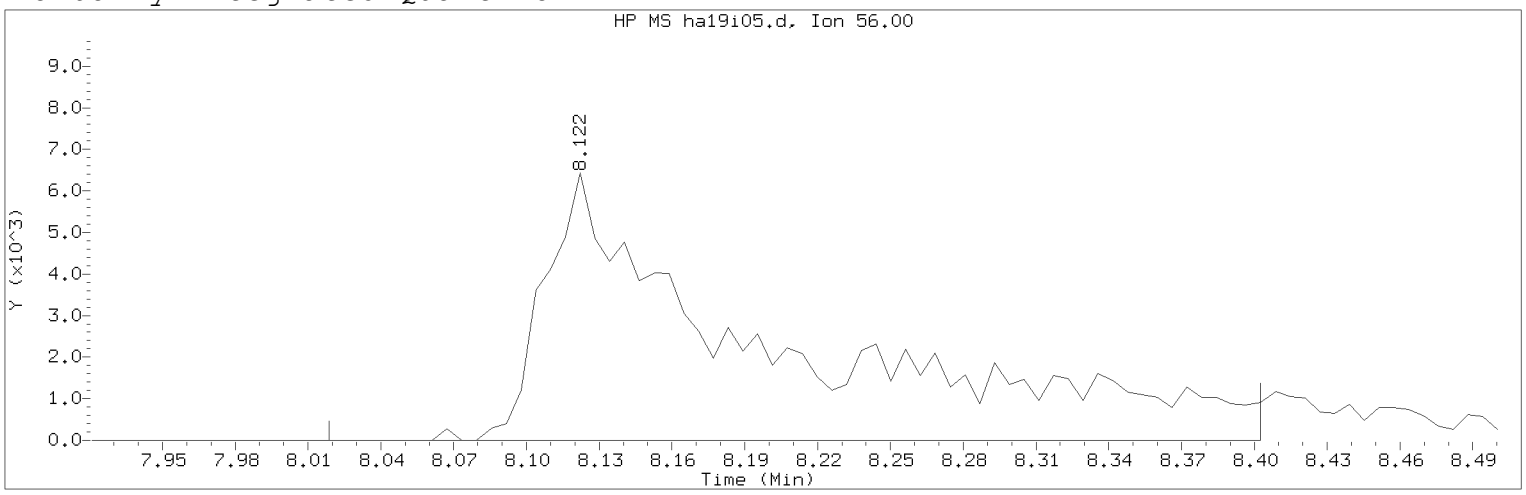
Compound Number	: 28		
Compound Name	: t-Butyl Alcohol		
Scan Number	: 464		
Retention Time (minutes)	: 4.416		
Quant Ion	: 59.00		
Area	: 37406		
On-column Amount (ng)	: 23.1270		
Integration start scan	: 442	Integration stop scan:	526
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2048

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

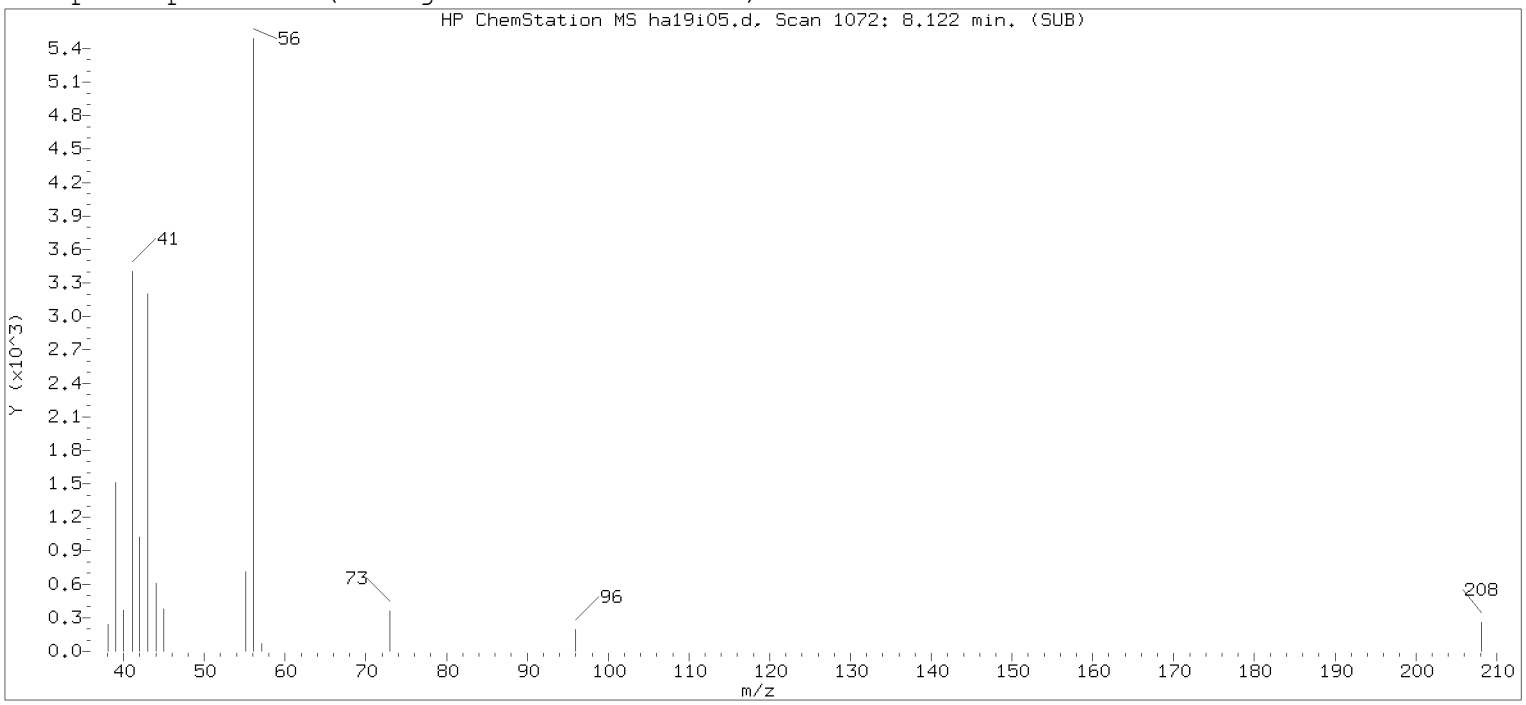
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1072
Retention Time (minutes): 8.122
Quant Ion : 56.00
Area (flag) : 40434M
On-Column Amount (ng) : 81.9402
Integration start scan : 1054 Integration stop scan: 1117
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

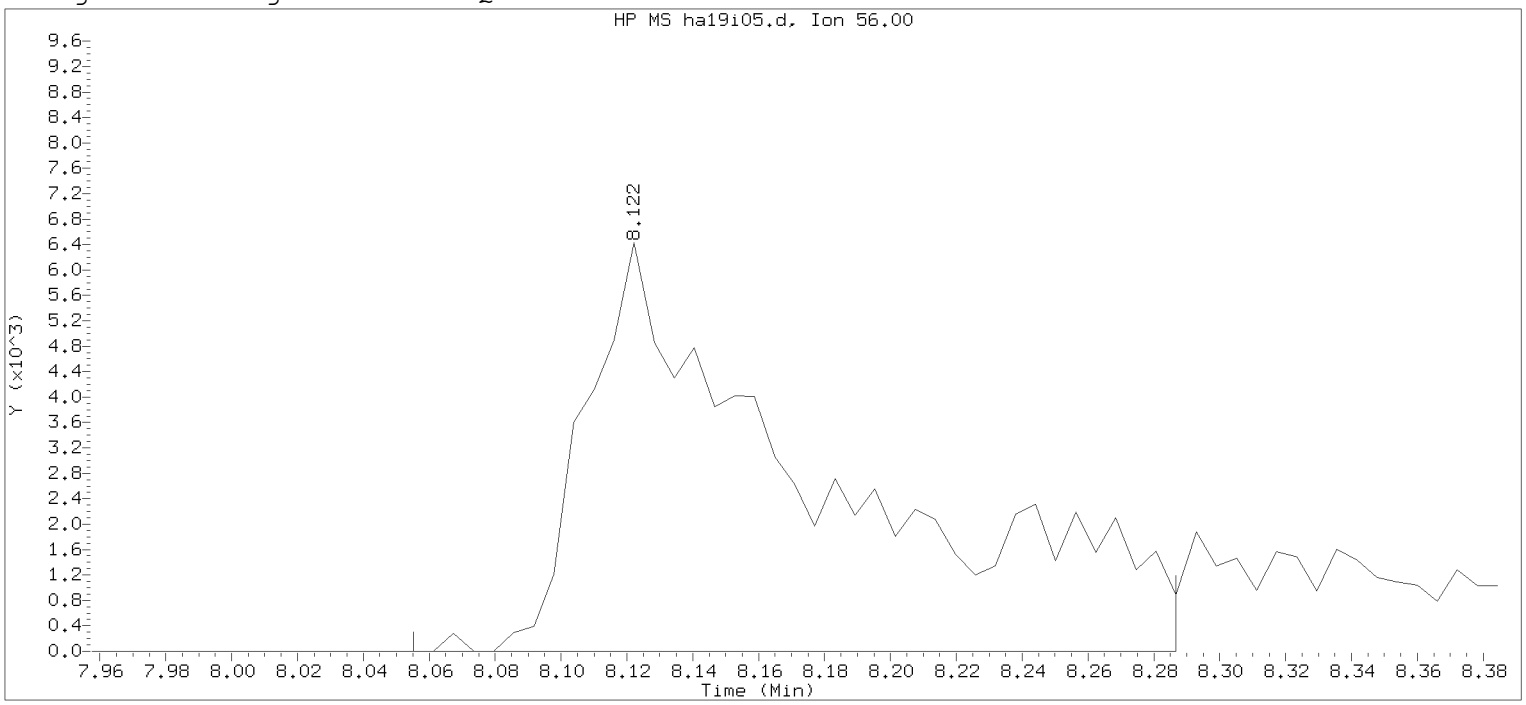
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

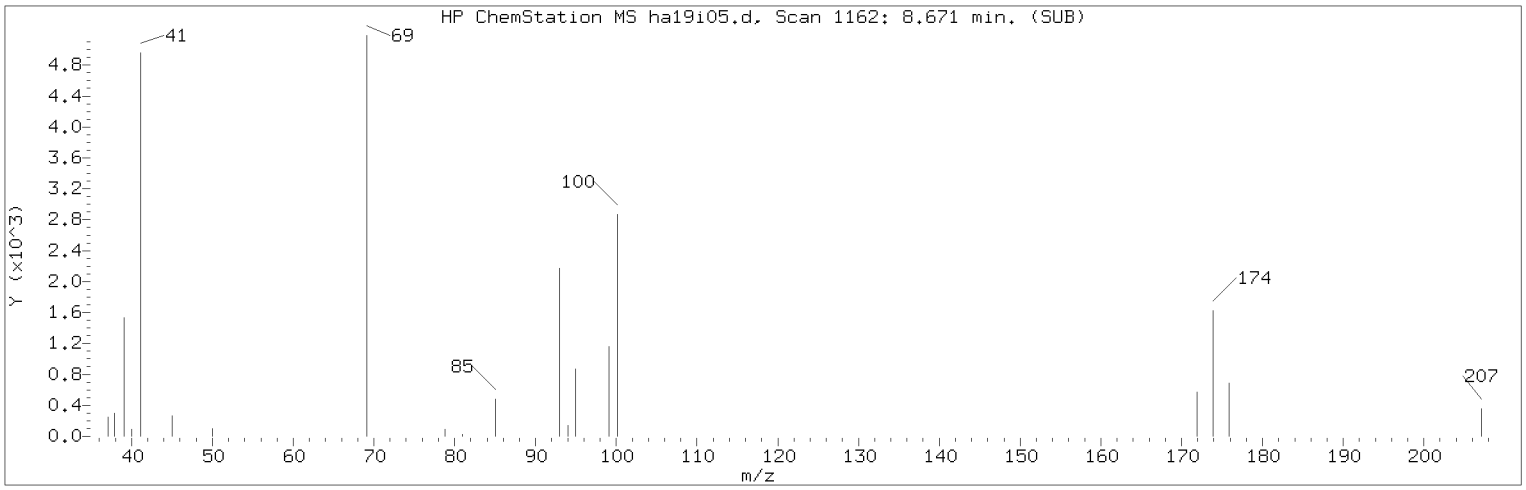
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

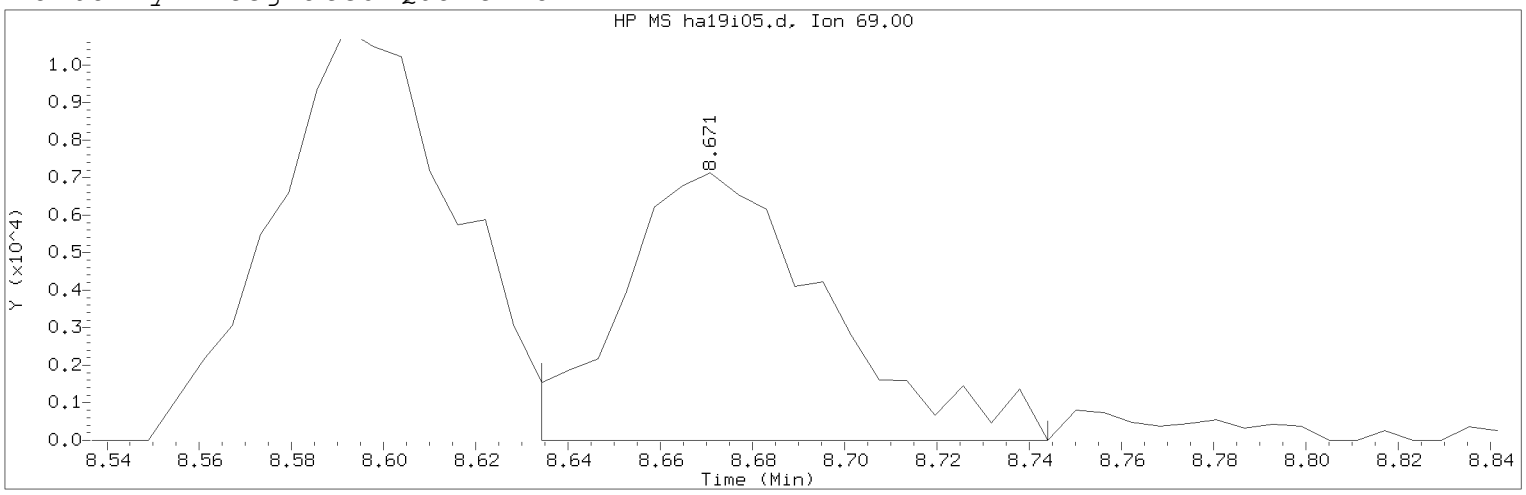
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1072
Retention Time (minutes): 8.122
Quant Ion : 56.00
Area : 31947
On-column Amount (ng) : 83.2201
Integration start scan : 1060 Integration stop scan: 1098
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2608

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

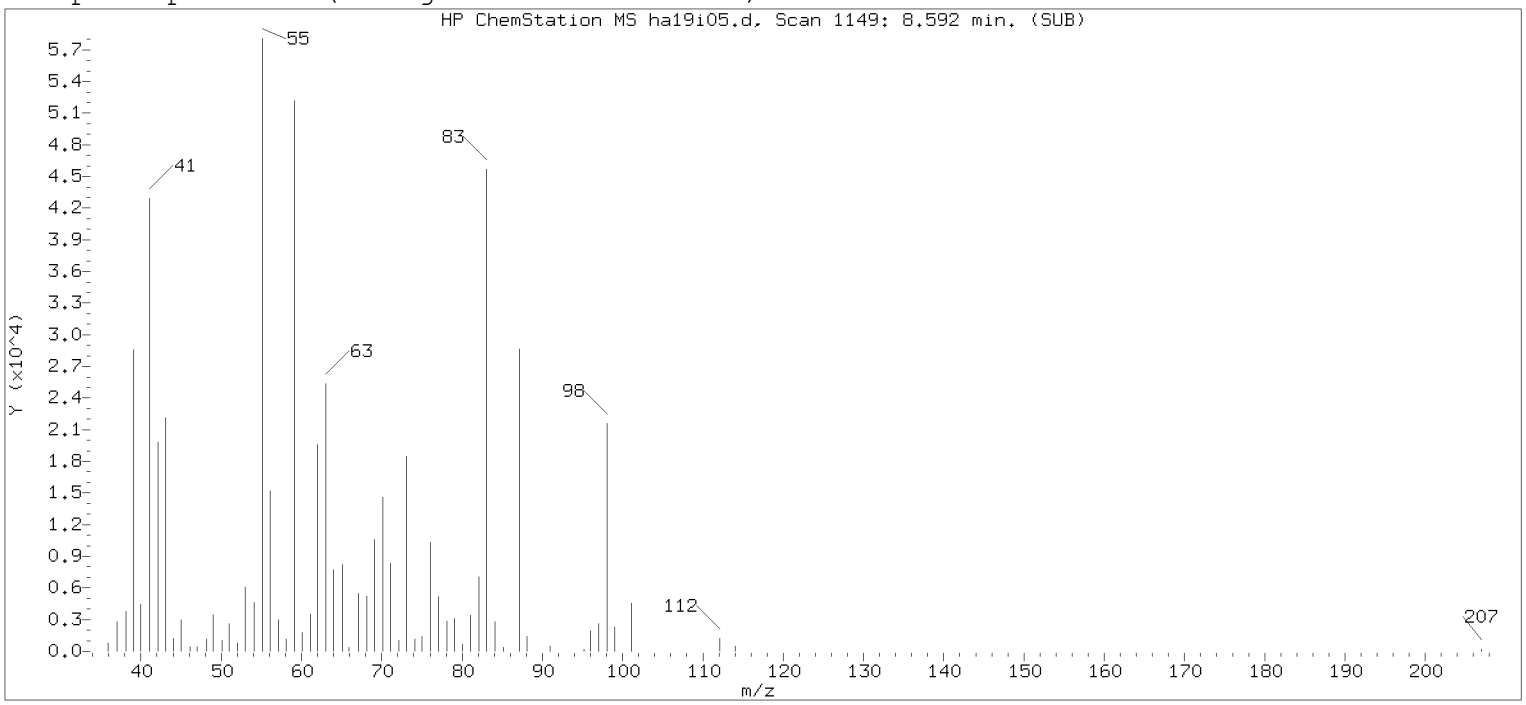
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1162
Retention Time (minutes): 8.671
Quant Ion : 69.00
Area (flag) : 22174M
On-Column Amount (ng) : 1.0460
Integration start scan : 1155 Integration stop scan: 1173
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

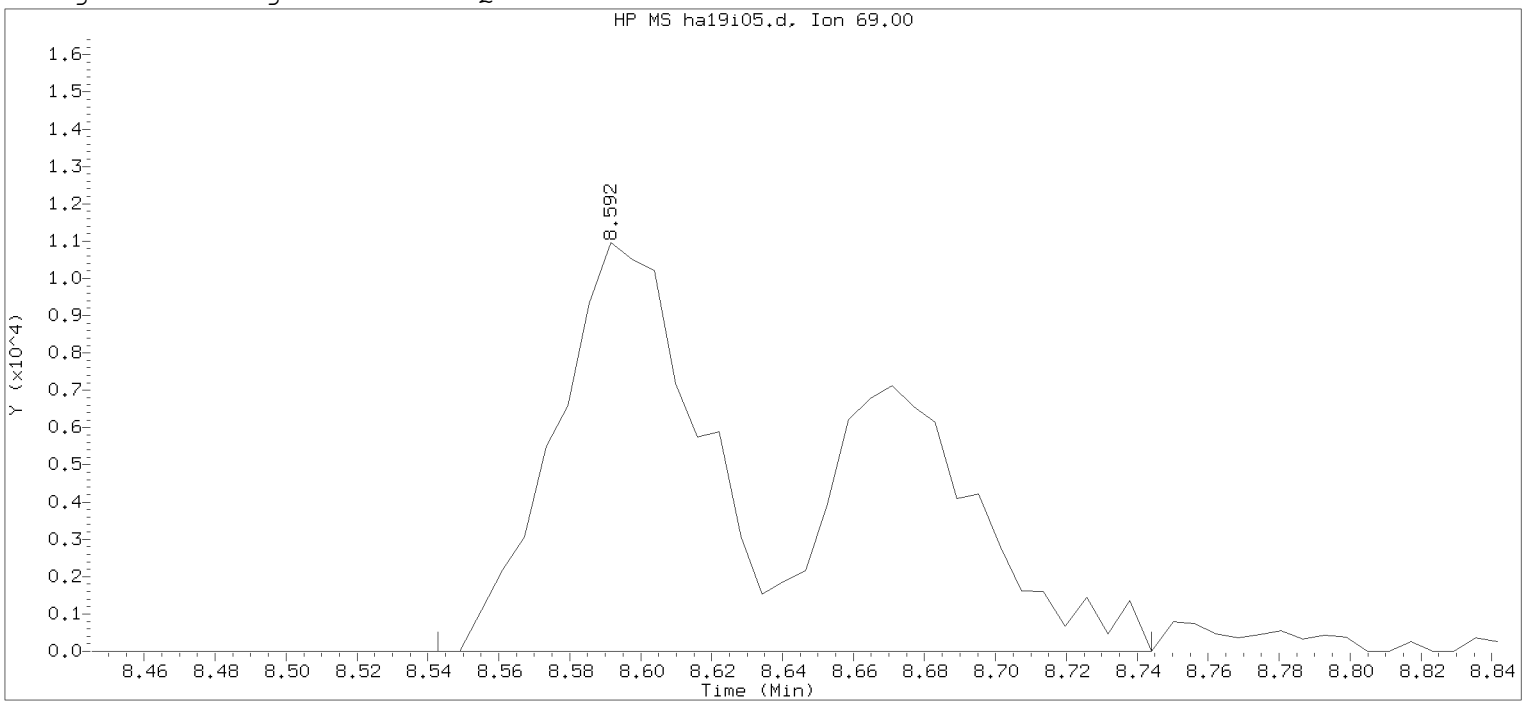
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

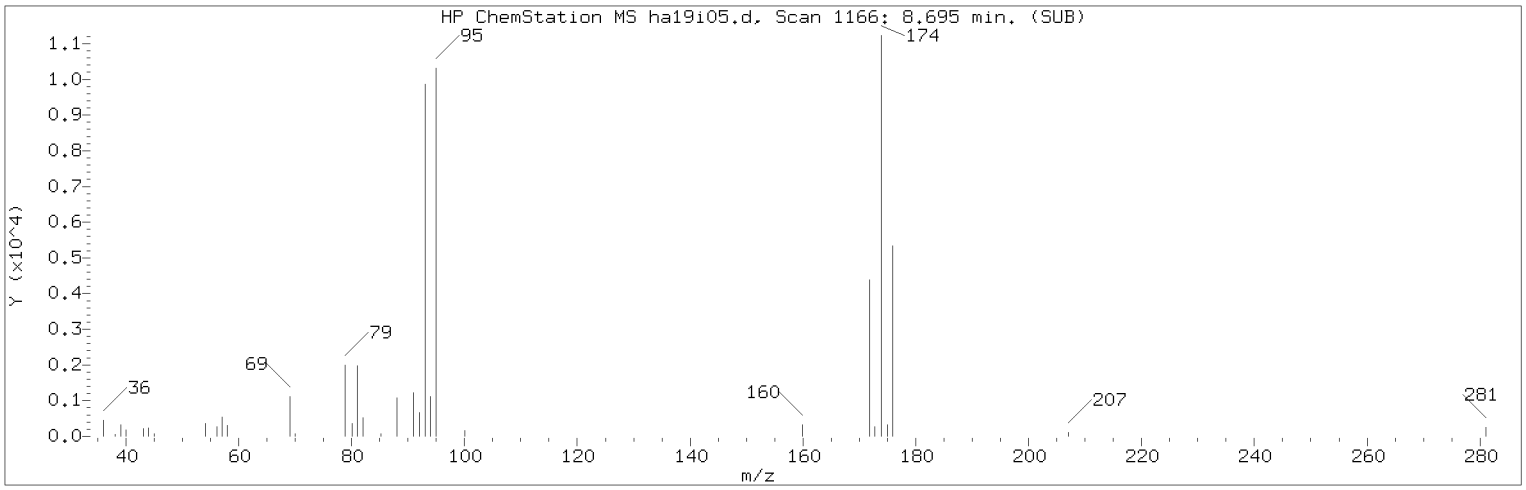
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

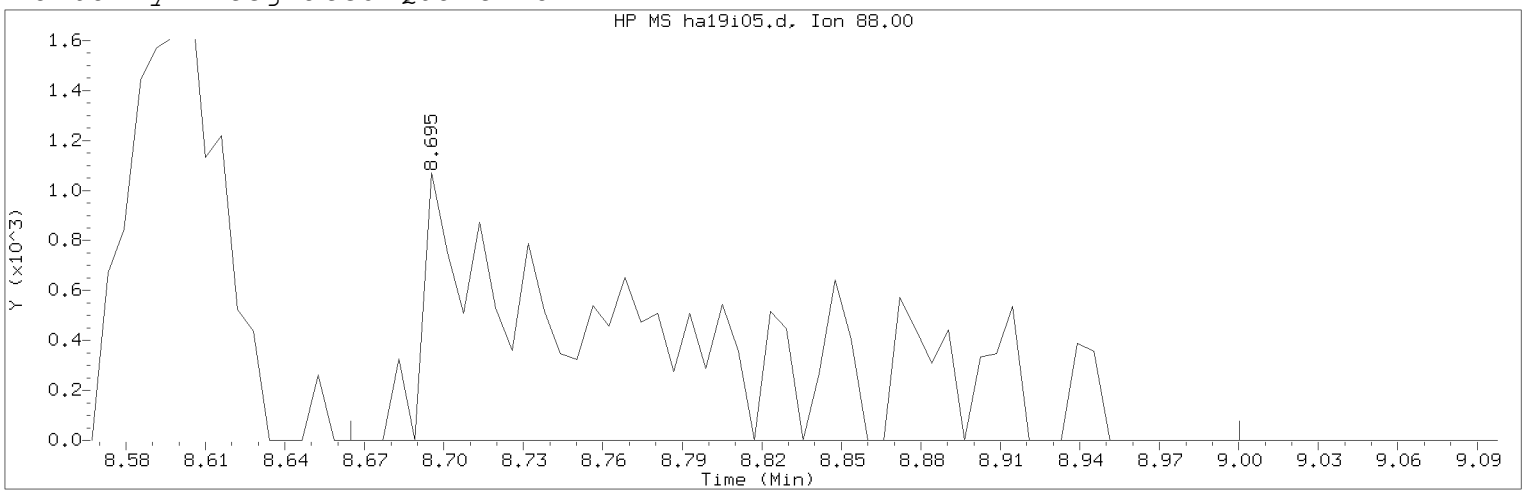
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1149
Retention Time (minutes): 8.592
Quant Ion : 69.00
Area : 51912
On-column Amount (ng) : 2.8236
Integration start scan : 1140 Integration stop scan: 1173
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2682

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

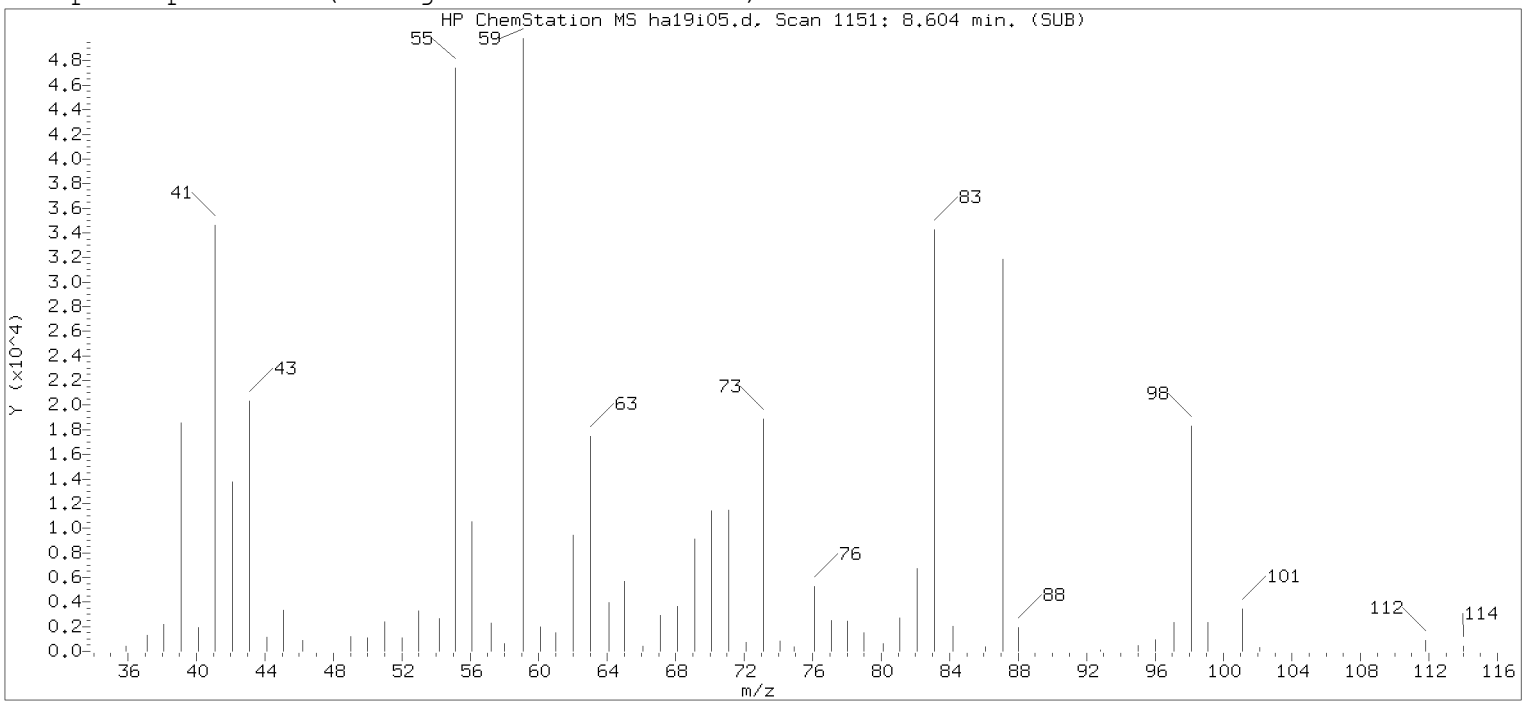
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1166
Retention Time (minutes): 8.695
Quant Ion : 88.00
Area (flag) : 6215M
On-Column Amount (ng) : 49.0179
Integration start scan : 1160 Integration stop scan: 1215
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

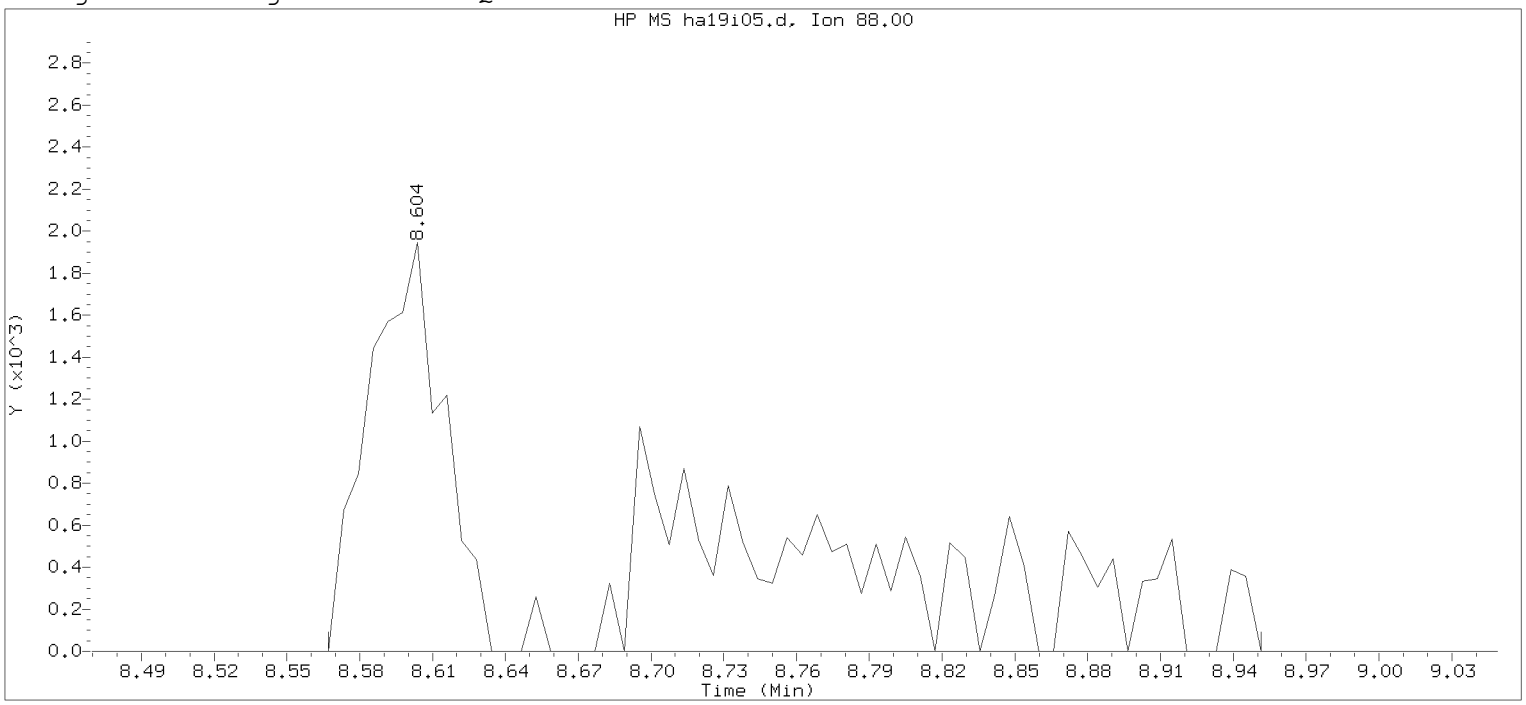
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

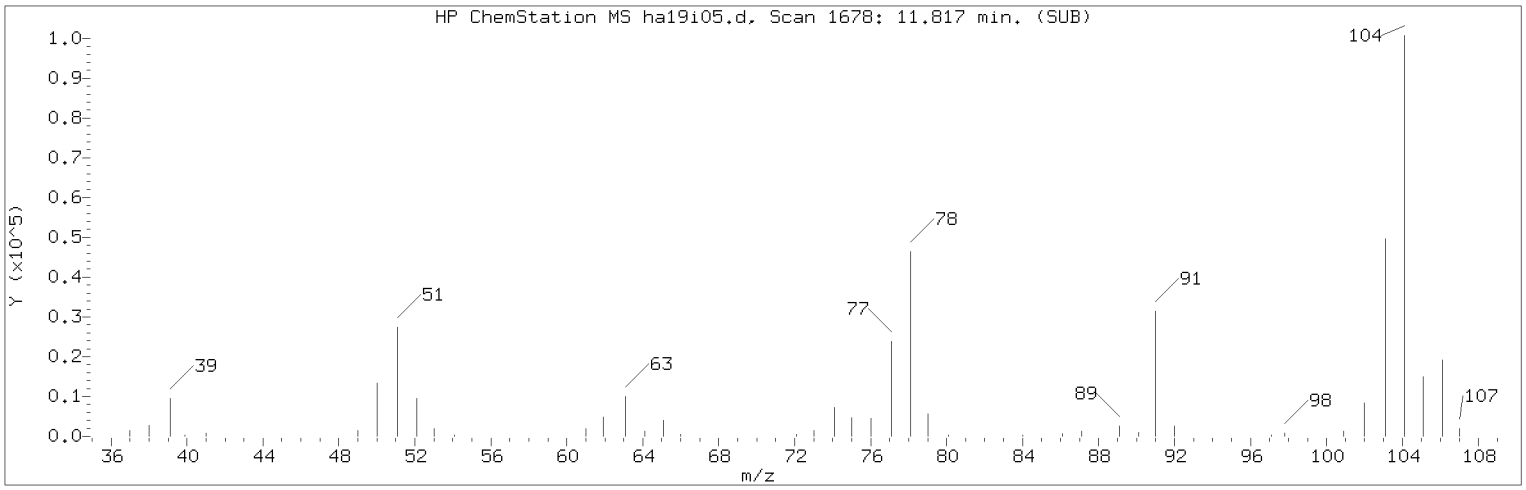
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

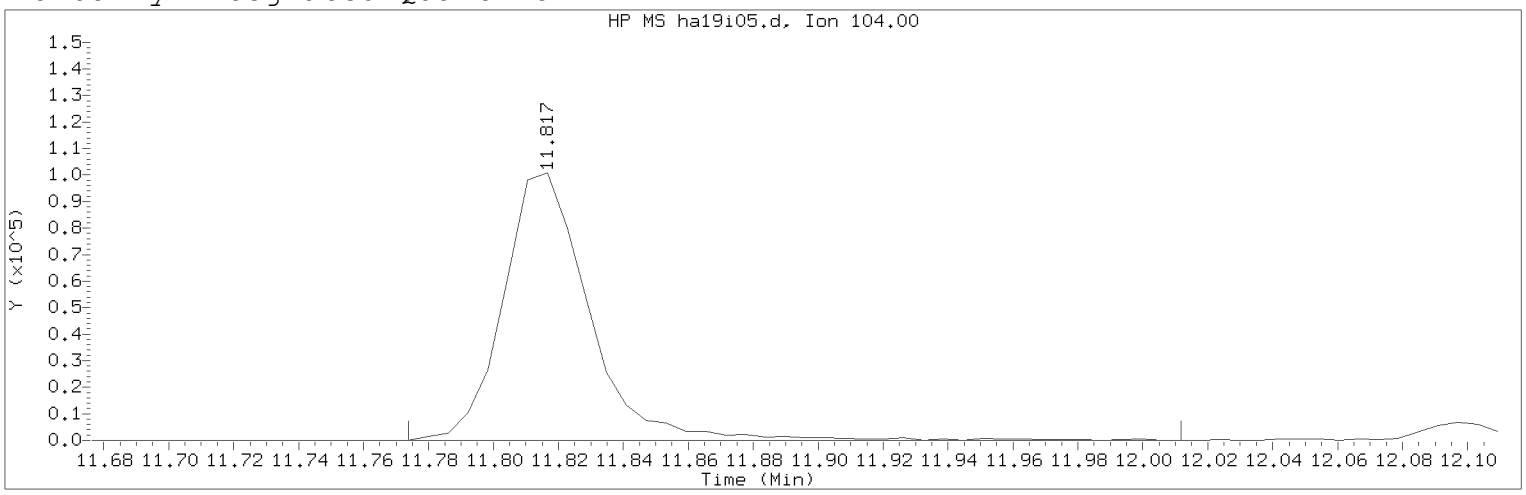
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 10481
On-column Amount (ng) : 81.4184
Integration start scan : 1144 Integration stop scan: 1207
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key ID: 0x2C6B4B48

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

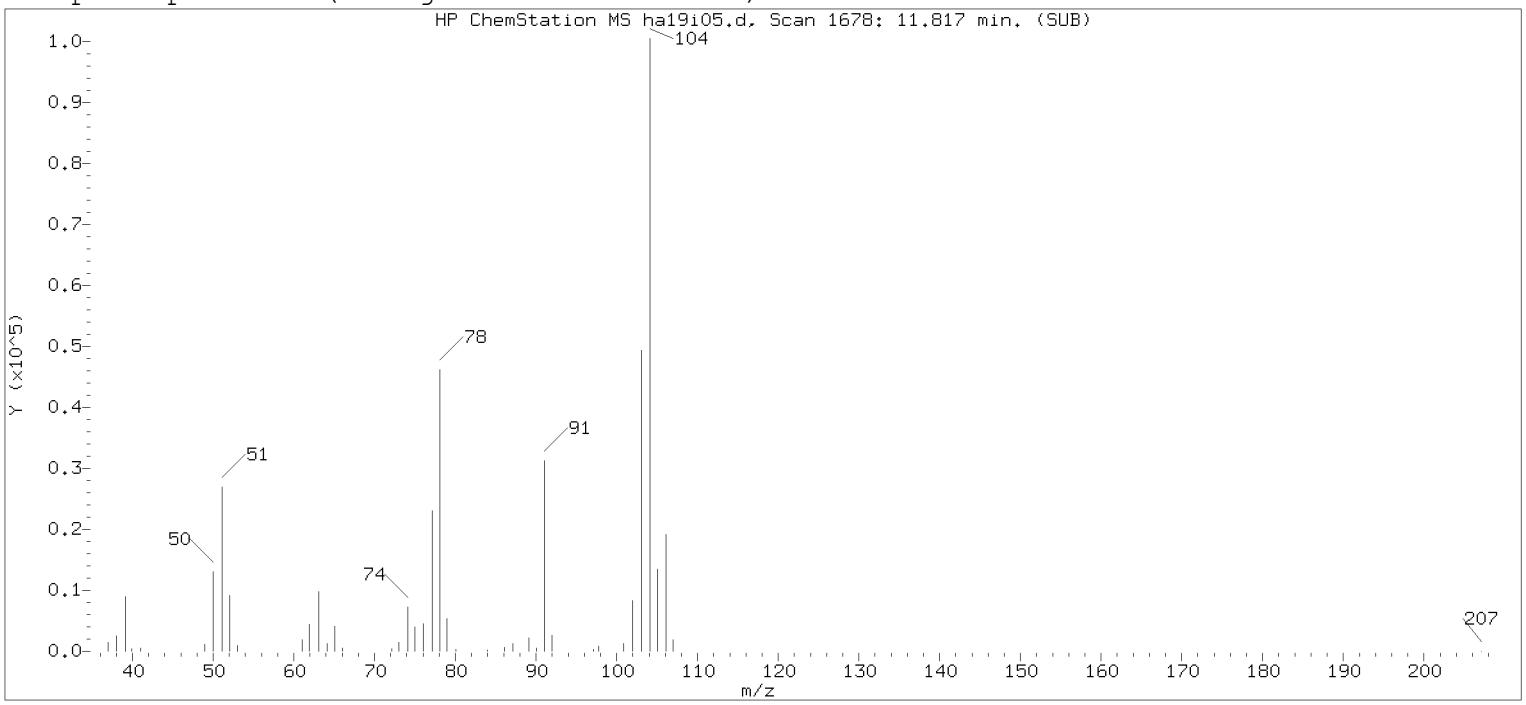
Compound Number : 106
Compound Name : Styrene
Scan Number : 1678
Retention Time (minutes): 11.817
Quant Ion : 104.00
Area (flag) : 185704M
On-Column Amount (ng) : 1.0339
Integration start scan : 1670 Integration stop scan: 1709
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

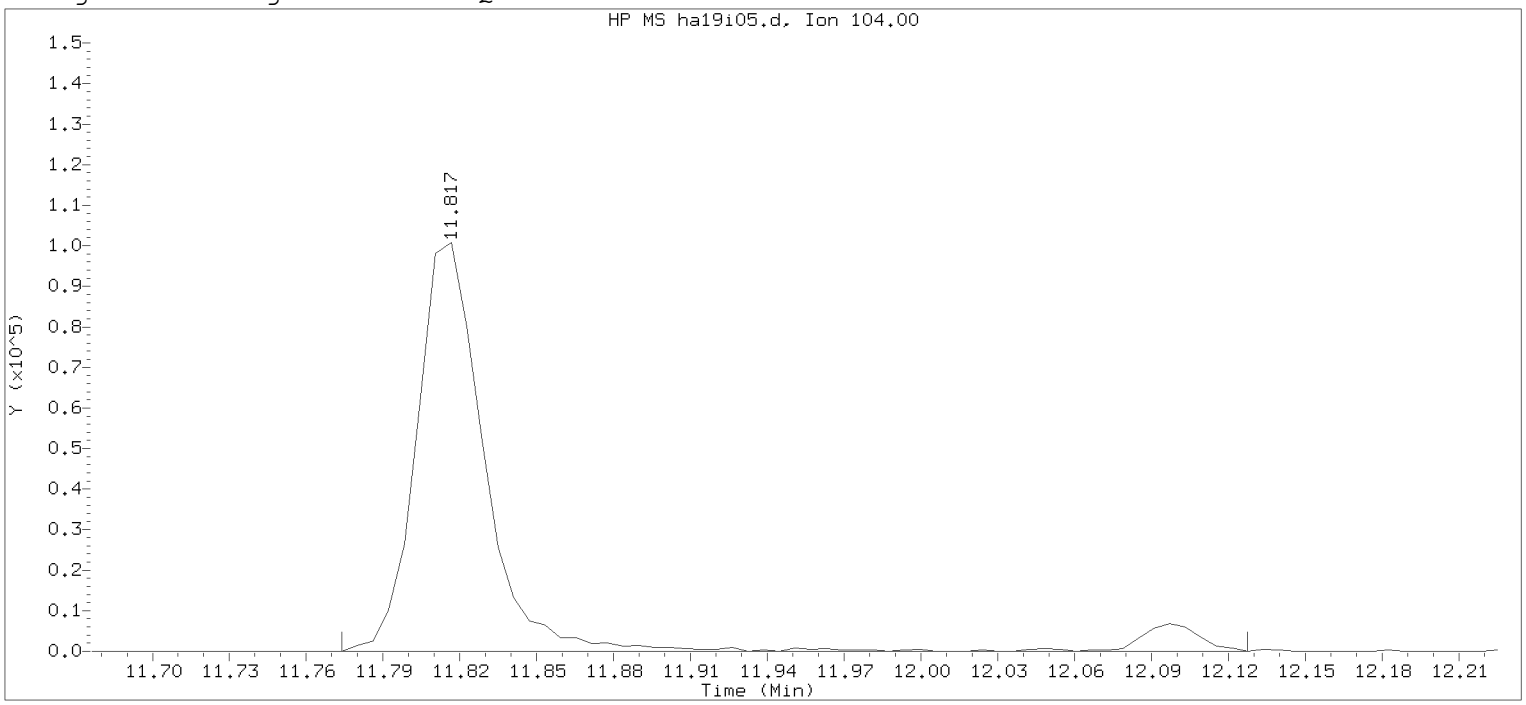
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

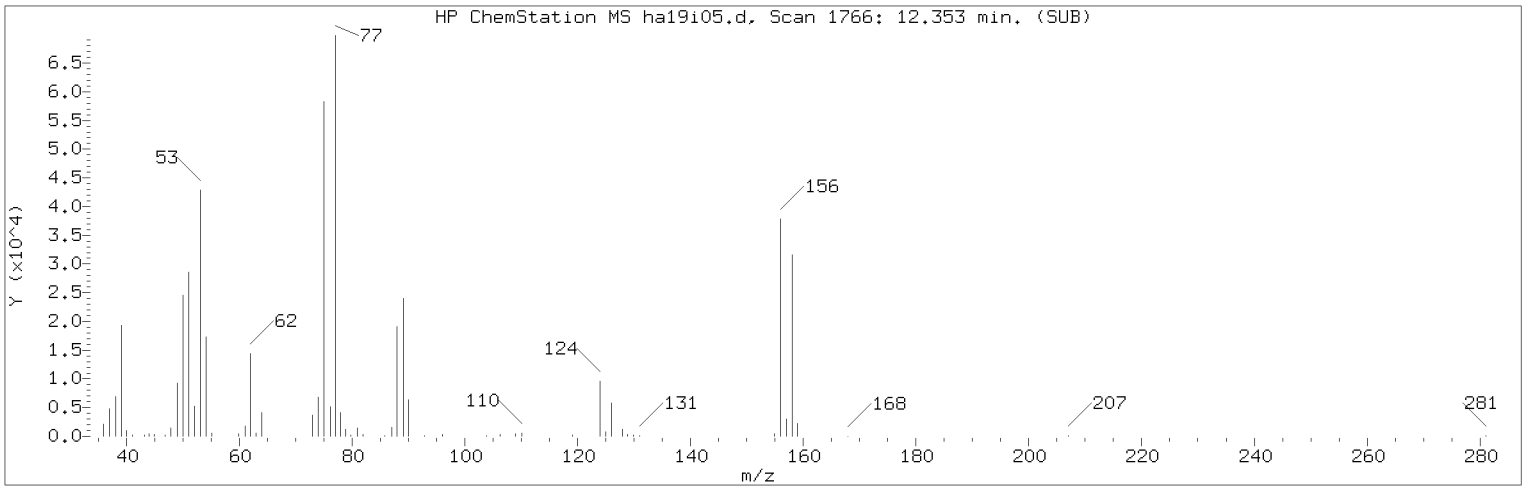
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

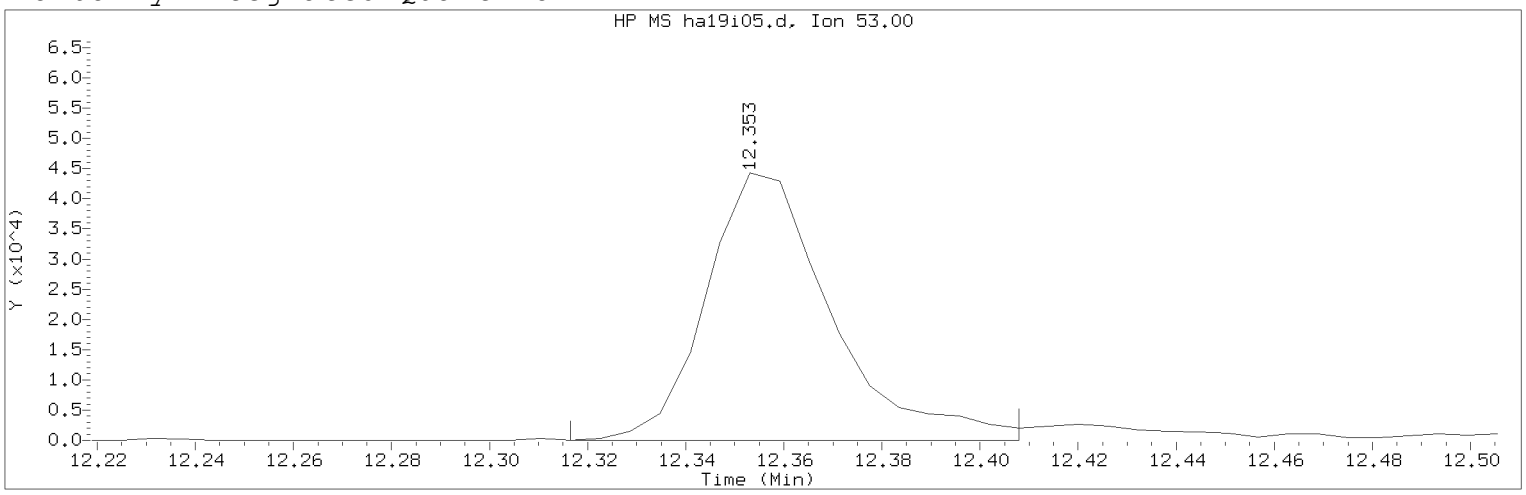
Compound Number : 106
Compound Name : Styrene
Scan Number : 1678
Retention Time (minutes): 11.817
Quant Ion : 104.00
Area : 196827
On-column Amount (ng) : 1.0162
Integration start scan : 1670 Integration stop scan: 1728
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2686

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

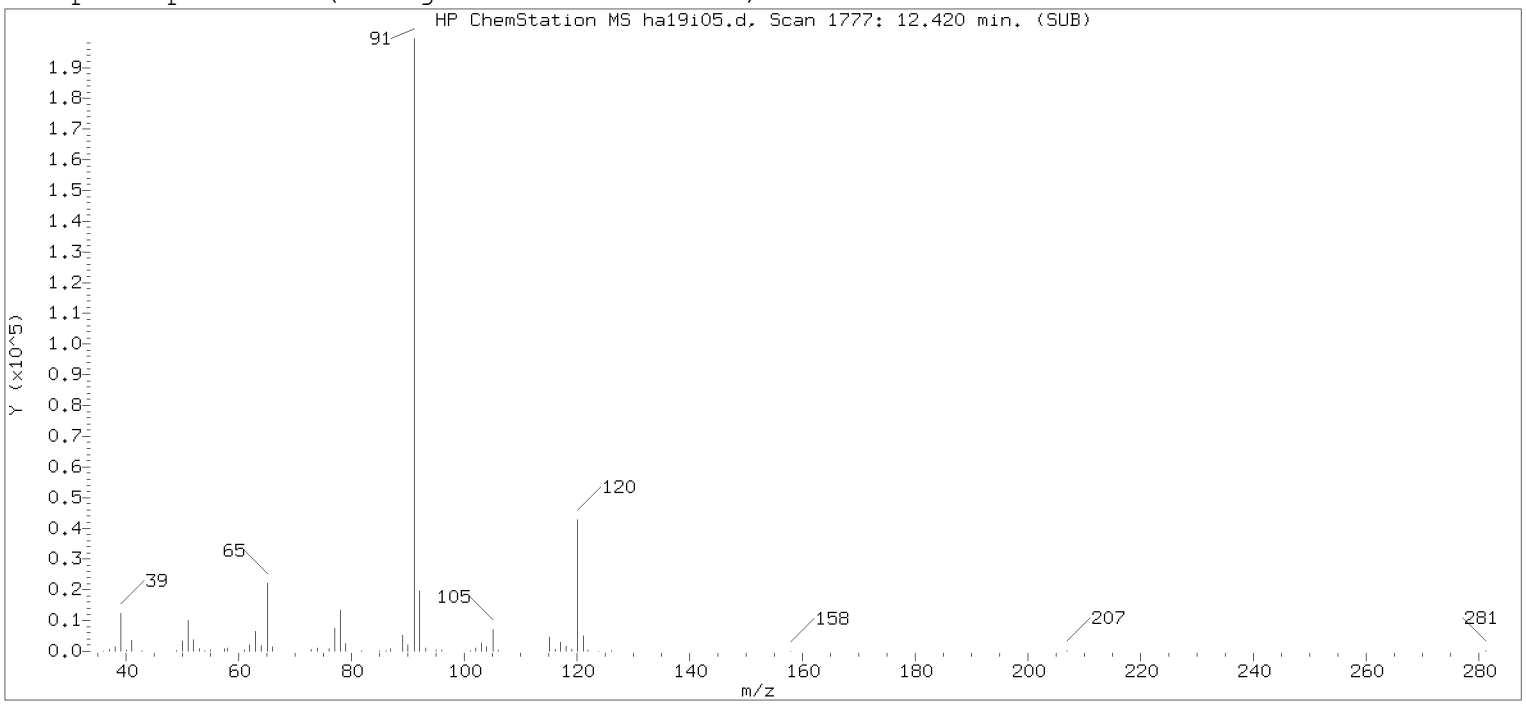
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1766
Retention Time (minutes): 12.353
Quant Ion : 53.00
Area (flag) : 78326A
On-Column Amount (ng) : 9.5438
Integration start scan : 1759 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

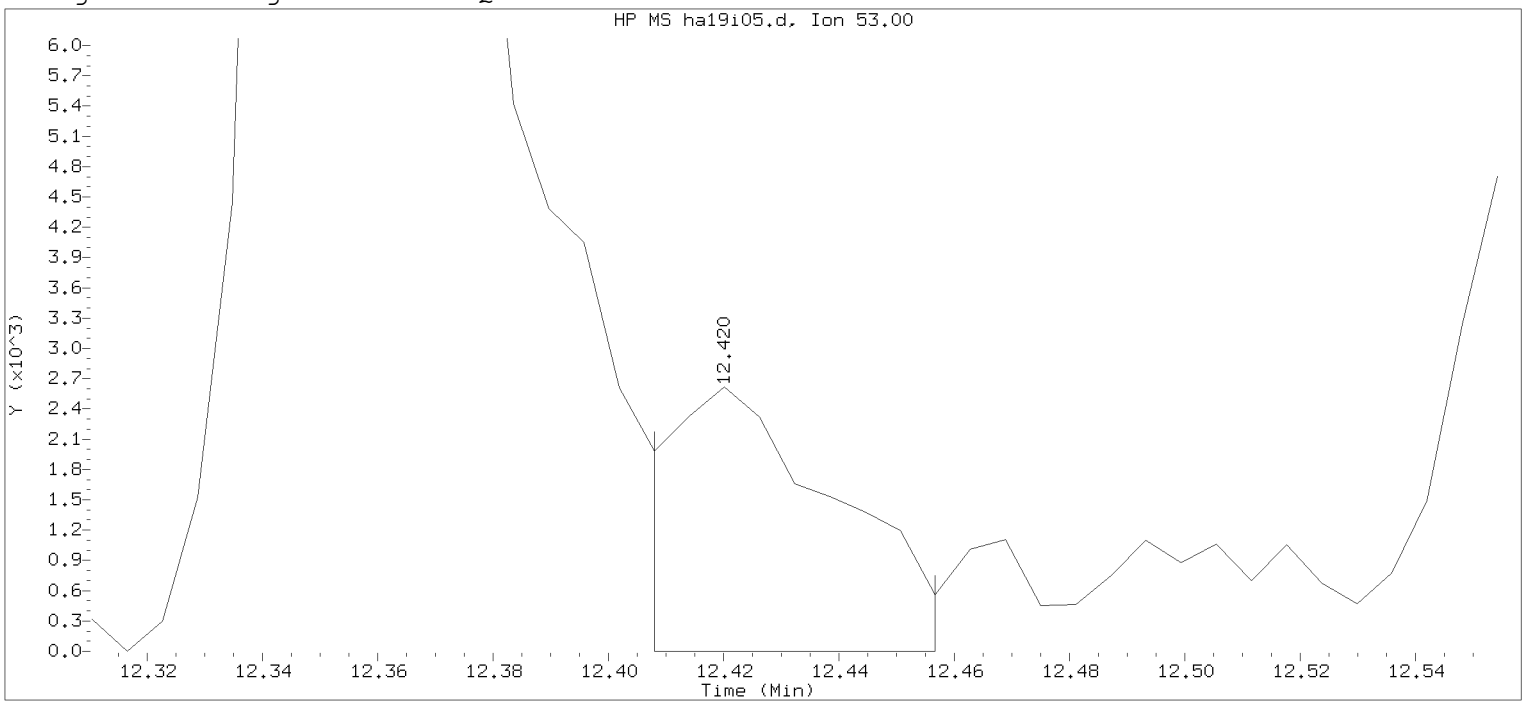
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

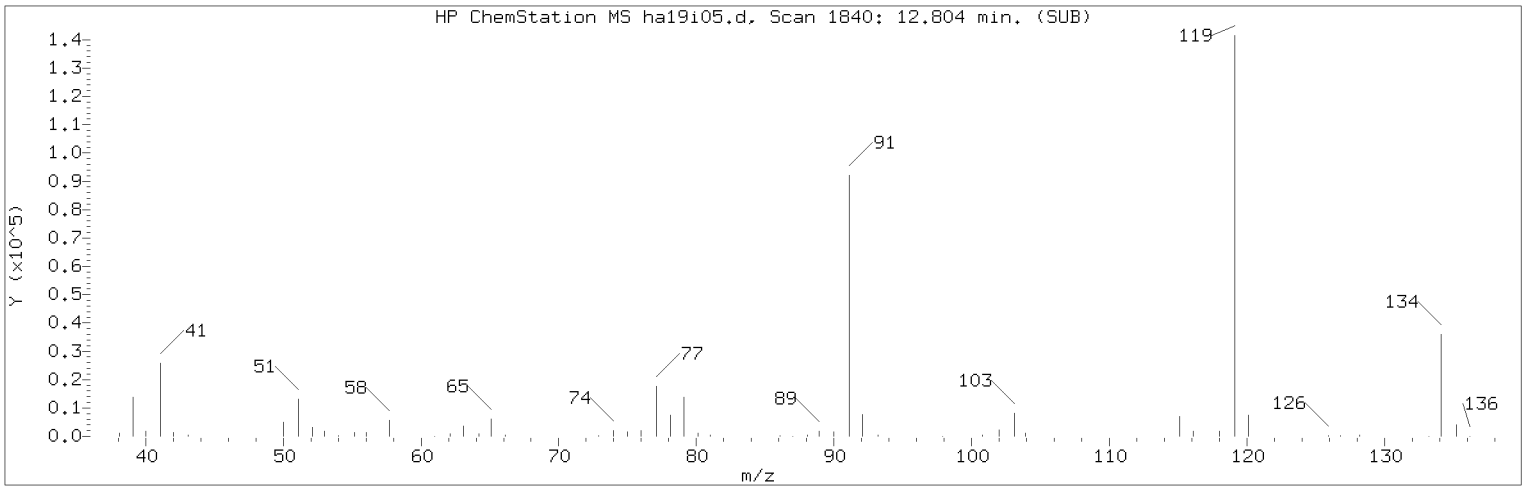
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

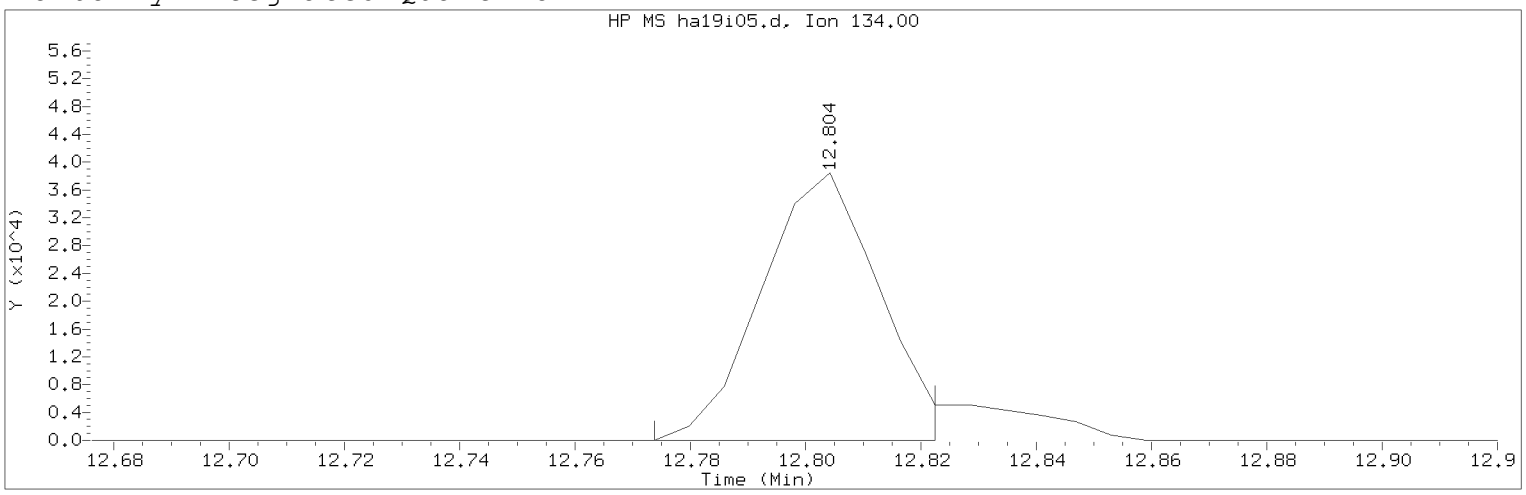
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1777
Retention Time (minutes): 12.420
Quant Ion : 53.00
Area : 5232
On-column Amount (ng) : 1.7690
Integration start scan : 1774 Integration stop scan: 1782
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2688

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:26 kas02648

Sample Name: VSTD001 Lab Sample ID: VSTD001

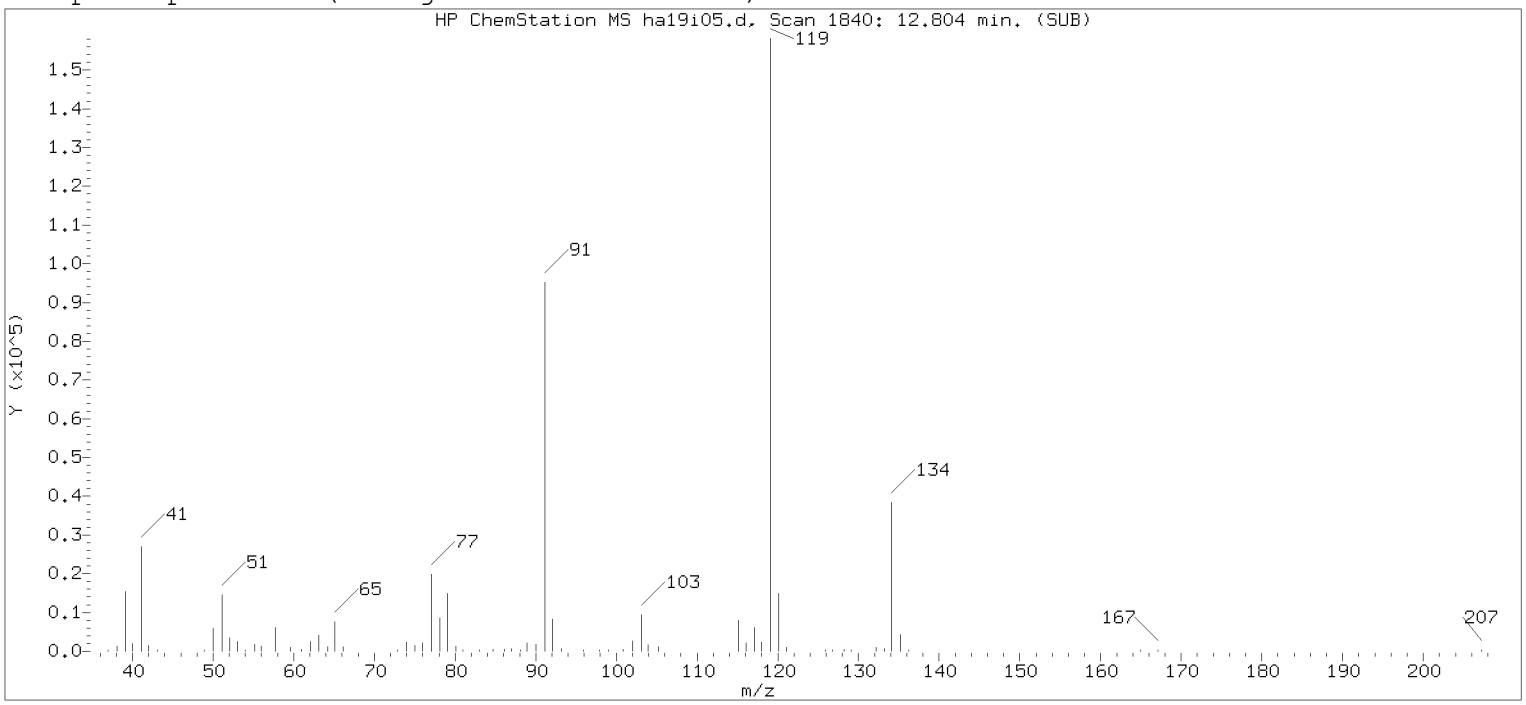
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area (flag) : 54746M
On-Column Amount (ng) : 0.9638
Integration start scan : 1834 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

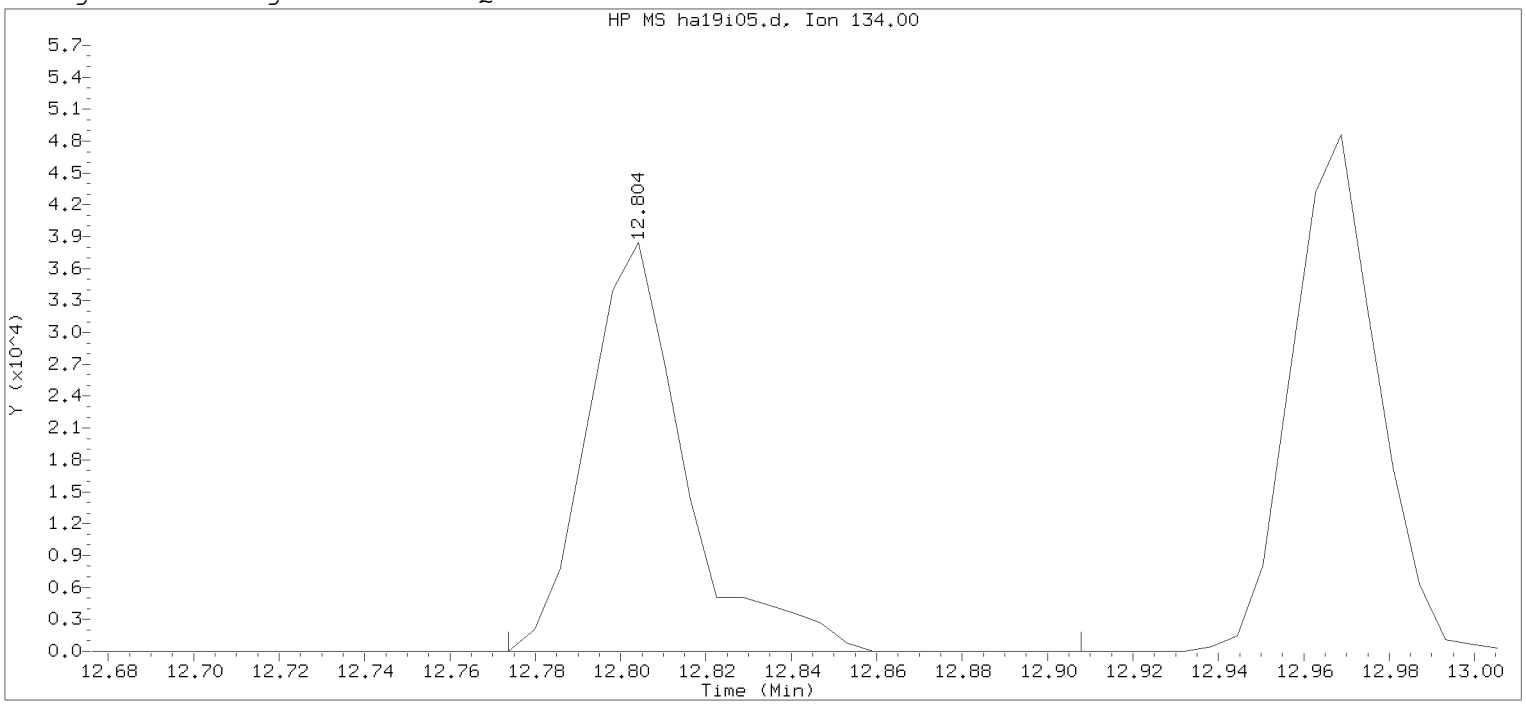
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



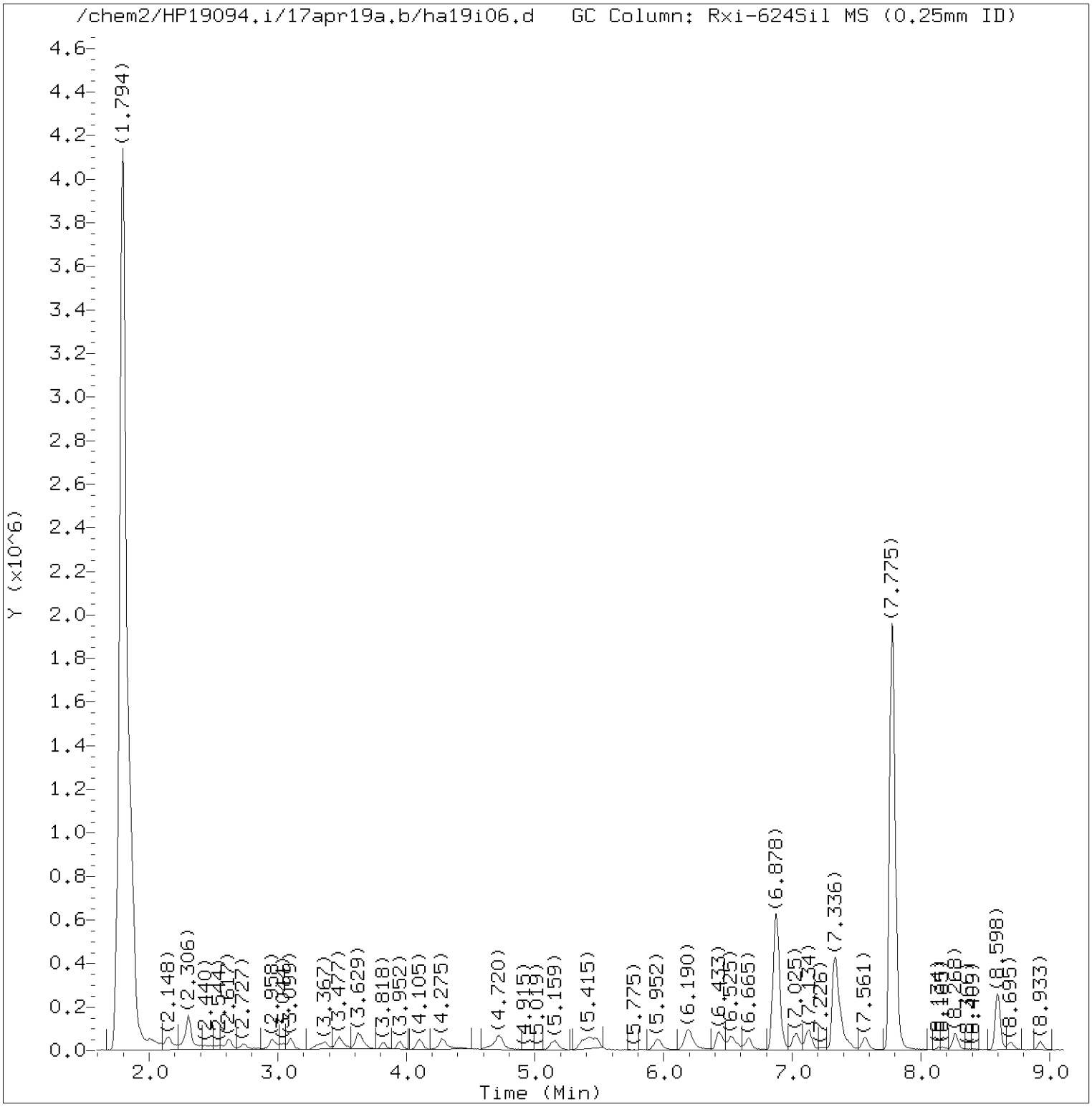
Data File: /chem2/HP19094.i/17apr19a.b/ha19i05.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:19 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:37
Date, time and analyst ID of latest file update: 19-Apr-2017 13:37 Automation

Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1840
Retention Time (minutes): 12.804
Quant Ion : 134.00
Area : 60754
On-column Amount (ng) : 0.9902
Integration start scan : 1834 Integration stop scan: 1856
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2693



Total Ion Chromatogram (TIC)

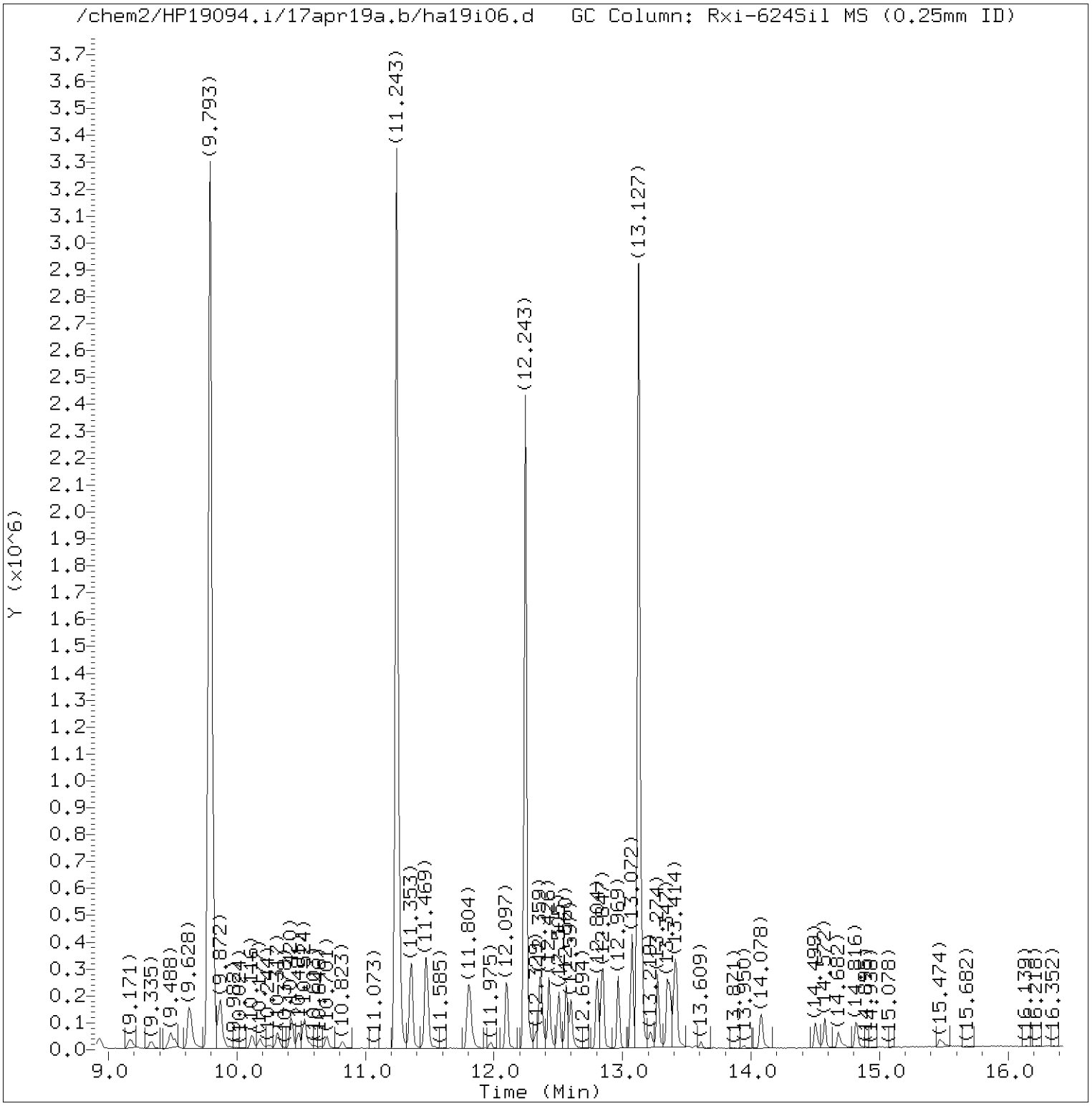
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.020	85	51596	0.473
2) Chloromethane	(2)	2.148	50	58545	0.527
5) Vinyl Chloride	(2)	2.288	62	49244	0.503
6) 1,3-Butadiene	(2)	2.306	39	82743	0.524
7) Bromomethane	(2)	2.623	94	30656	0.493
8) Chloroethane	(2)	2.727	64	29168	0.524
9) Dichlorofluoromethane	(2)	2.958	67	61625	0.473
10) Trichlorofluoromethane	(2)	3.044	101	54020	0.465
11) Ethyl ether	(2)	3.306	59	22023	0.485
12) Freon 123a	(2)	3.367	67	41324	0.463
13) Acrolein	(1)	3.477	56	131393	22.601
15) 1,1-Dichloroethene	(2)	3.623	96	28739	0.456
16) Freon 113	(2)	3.653	101	30900	0.457
14) Acetone	(1)	3.678	43	32388	4.861
17) Methyl Iodide	(2)	3.818	142	56460	0.484
18) Carbon Disulfide	(2)	3.952	76	82495	0.467
21) Methyl Acetate	(1)	4.074	43	13525M	0.565
22) Allyl Chloride	(2)	4.105	41	59536	0.493
23) Methylene Chloride	(2)	4.281	84	33472	0.495
26)*t-Butyl Alcohol-d10	(1)	4.342	65	75157	50.000
28) t-Butyl Alcohol	(1)	4.409	59	20596M	10.784
29) Acrylonitrile	(1)	4.635	53	20648	2.115
30) Methyl Tertiary Butyl Ether	(2)	4.708	73	56537	0.447
31) trans-1,2-Dichloroethene	(2)	4.720	96	32459	0.467
32) n-Hexane	(2)	5.153	57	44481M	0.401
33) 1,1-Dichloroethane	(2)	5.360	63	68216	0.494
34) di-Isopropyl Ether	(2)	5.421	45	110010	0.469
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	51910	0.441
37) Ethyl t-butyl ether	(2)	5.946	59	82948	0.456
40) 1,2-Dichloroethene (Total)	(2)		96	69104	0.940
38) 2-Butanone	(1)	6.159	43	69249	4.732
39) cis-1,2-Dichloroethene	(2)	6.183	96	36645	0.473
41) 2,2-Dichloropropane	(2)	6.202	77	45212	0.442
42) Propionitrile	(1)	6.244	54	33295	9.772
45) Methacrylonitrile	(1)	6.433	67	62980	4.387
47) Bromochloromethane	(2)	6.525	128	13954	0.470
48) Tetrahydrofuran	(1)	6.537	71	15759	4.310
49) Chloroform	(2)	6.665	83	63570	0.495

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	633930	10.034
50)$Dibromofluoromethane	(2)	6.878	111	650969	10.037
51) 1,1,1-Trichloroethane	(2)	6.903	97	53724	0.490
52) Cyclohexane	(2)	7.025	56	68966	0.494
52) Cyclohexane	(2)	7.037	84	42730	0.379
52) Cyclohexane	(2)	7.037	69	17349	0.439
55) 1,1-Dichloropropene	(2)	7.122	75	46872	0.452
54) Carbon Tetrachloride	(2)	7.141	117	41106	0.445
56) Isobutyl Alcohol	(1)	7.226	41	19813	24.940
57)$1,2-Dichloroethane-d4	(2)	7.330	102	103773	10.134
57)$1,2-Dichloroethane-d4	(2)	7.336	65	497994	10.056
57)$1,2-Dichloroethane-d4	(2)	7.330	104	61335	9.955
58) Benzene	(2)	7.384	78	143284	0.484
59) 1,2-Dichloroethane	(2)	7.445	62	35127	0.491
60) t-Amyl methyl ether	(2)	7.561	73	64314	0.436
63)*Fluorobenzene	(2)	7.775	96	2807038	10.000
62) n-Heptane	(2)	7.811	43	53238	0.417
65) n-Butanol	(1)	8.146	56	28373M	47.054
67) Trichloroethene	(2)	8.275	95	36862	0.476
70) 1,2-Dichloropropane	(2)	8.598	63	38889	0.501
69) Methylcyclohexane	(2)	8.598	83	57084	0.428
71) Methyl Methacrylate	(1)	8.677	69	10889	0.399
73) Dibromomethane	(2)	8.707	93	14876	0.498
72) 1,4-Dioxane	(1)	8.768	88	1496M	7.167
74) Bromodichloromethane	(2)	8.933	83	36661	0.448
76) 2-Nitropropane	(1)	9.171	41	36896	4.325
80) cis-1,3-Dichloropropene	(2)	9.476	75	40979	0.437
81) 4-Methyl-2-Pentanone	(1)	9.628	43	161786M	4.218
82)$Toluene-d8	(3)	9.793	98	2704235	10.242
82)$Toluene-d8	(3)	9.793	100	1745778	10.256
83) Toluene	(3)	9.872	92	85856	0.489
84) trans-1,3-Dichloropropene	(3)	10.116	75	32031	0.468
85) 1,3-Dichloropropene (total)	(3)		75	73010	0.904
86) Ethyl Methacrylate	(3)	10.177	69	23329	0.451
88) 1,1,2-Trichloroethane	(3)	10.323	97	19721	0.482
89) Tetrachloroethene	(3)	10.427	166	38516	0.471
90) 1,3-Dichloropropane	(3)	10.481	76	35303	0.488
91) 2-Hexanone	(1)	10.524	43	110495	4.094

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.701	129	22306	0.464
95) 1,2-Dibromoethane	(3)	10.823	107	19440	0.504
97)*Chlorobenzene-d5	(3)	11.243	117	1818984	10.000
98) Chlorobenzene	(3)	11.274	112	93850	0.488
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	31786	0.495
100) Ethylbenzene	(3)	11.359	91	158354	0.459
101) m+p-Xylene	(3)	11.475	106	122745	0.928
105) Xylene (Total)	(3)		106	182485	1.395
104) o-Xylene	(3)	11.798	106	59740	0.467
106) Styrene	(3)	11.816	104	82460	0.417
107) Bromoform	(3)	11.975	173	10327	0.424
108) Isopropylbenzene	(3)	12.097	105	146390	0.439
111)$4-Bromofluorobenzene	(3)	12.243	95	756904	9.947
111)$4-Bromofluorobenzene	(3)	12.243	174	659592	9.745
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	25459	0.527
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	33996A	3.421
114) Bromobenzene	(4)	12.365	156	37363	0.503
116) 1,2,3-Trichloropropane	(4)	12.383	110	6249	0.524
117) n-Propylbenzene	(4)	12.426	91	190164	0.471
119) 2-Chlorotoluene	(4)	12.505	126	38560	0.506
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	126072	0.461
122) 4-Chlorotoluene	(4)	12.597	126	38463	0.500
125) tert-Butylbenzene	(4)	12.804	134	29223	0.497
126) Pentachloroethane	(4)	12.835	167	20605	0.472
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	123814	0.452
128) sec-Butylbenzene	(4)	12.969	105	166632	0.465
131) 1,3-Dichlorobenzene	(4)	13.072	146	71803	0.489
132) p-Isopropyltoluene	(4)	13.078	119	128903	0.436
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	760024	10.000
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	57962	0.499
134) 1,4-Dichlorobenzene	(4)	13.146	146	76808	0.512
136) Benzyl Chloride	(4)	13.219	126	7034	0.441
138) n-Butylbenzene	(4)	13.371	92	56530	0.386
139) 1,2-Dichlorobenzene	(4)	13.402	146	63422	0.489
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	2263	0.398
145) 1,2,4-Trichlorobenzene	(4)	14.505	180	38879	0.465
146) Hexachlorobutadiene	(4)	14.572	225	18704	0.449
147) Naphthalene	(4)	14.682	128	57745	0.468

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

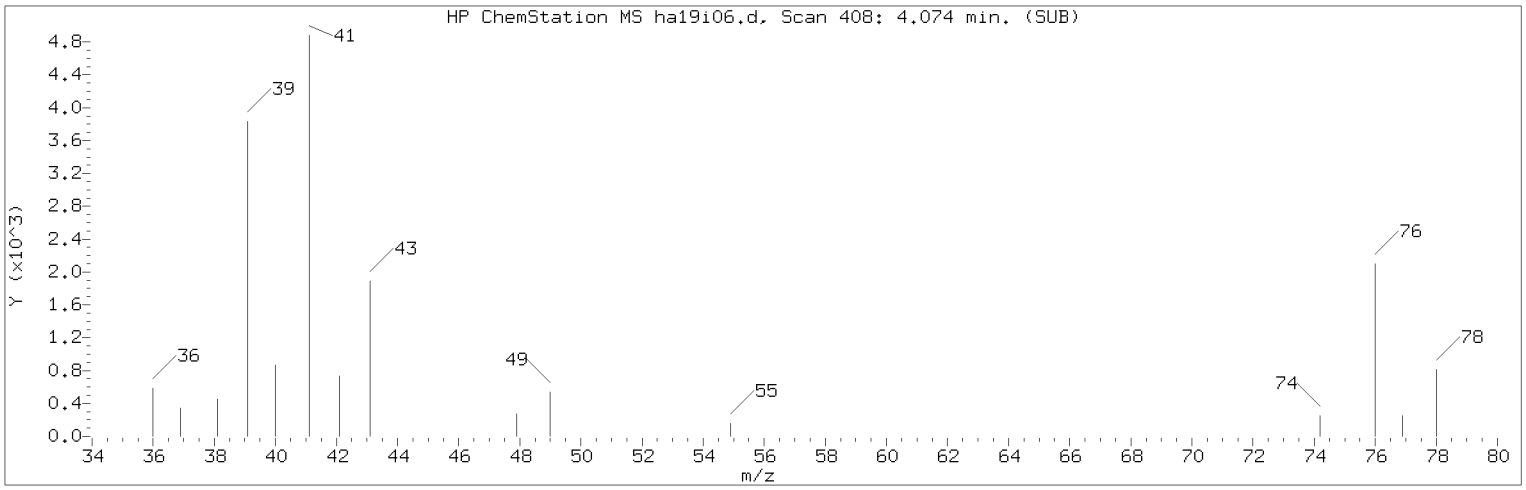
Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	32601M	0.472

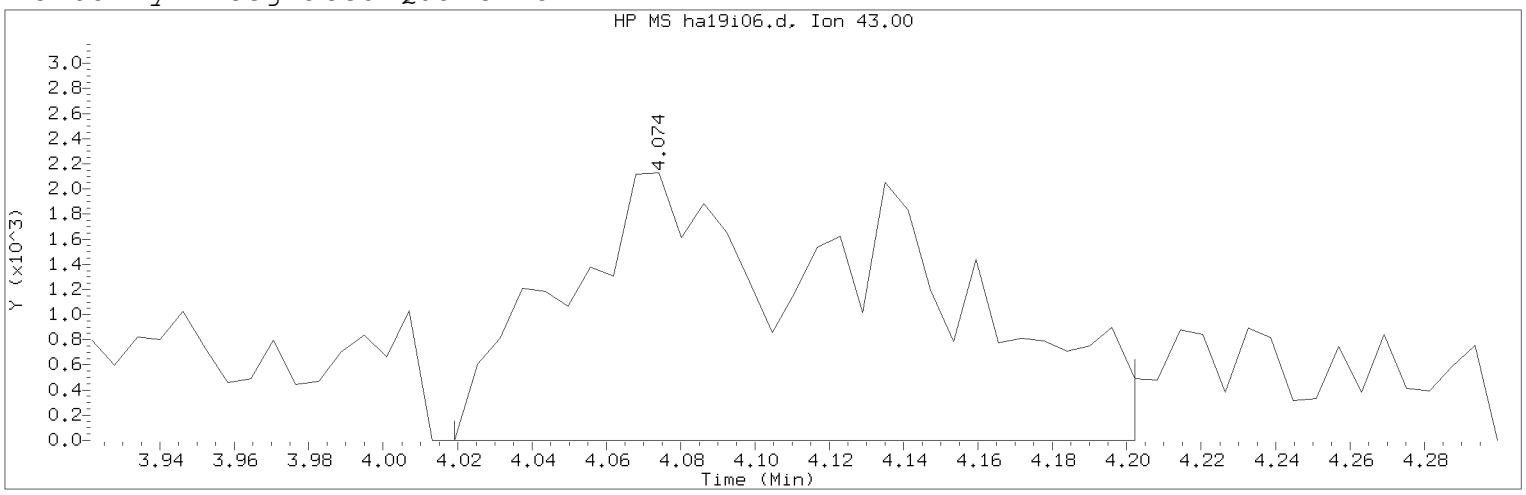
M = Compound was manually integrated.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

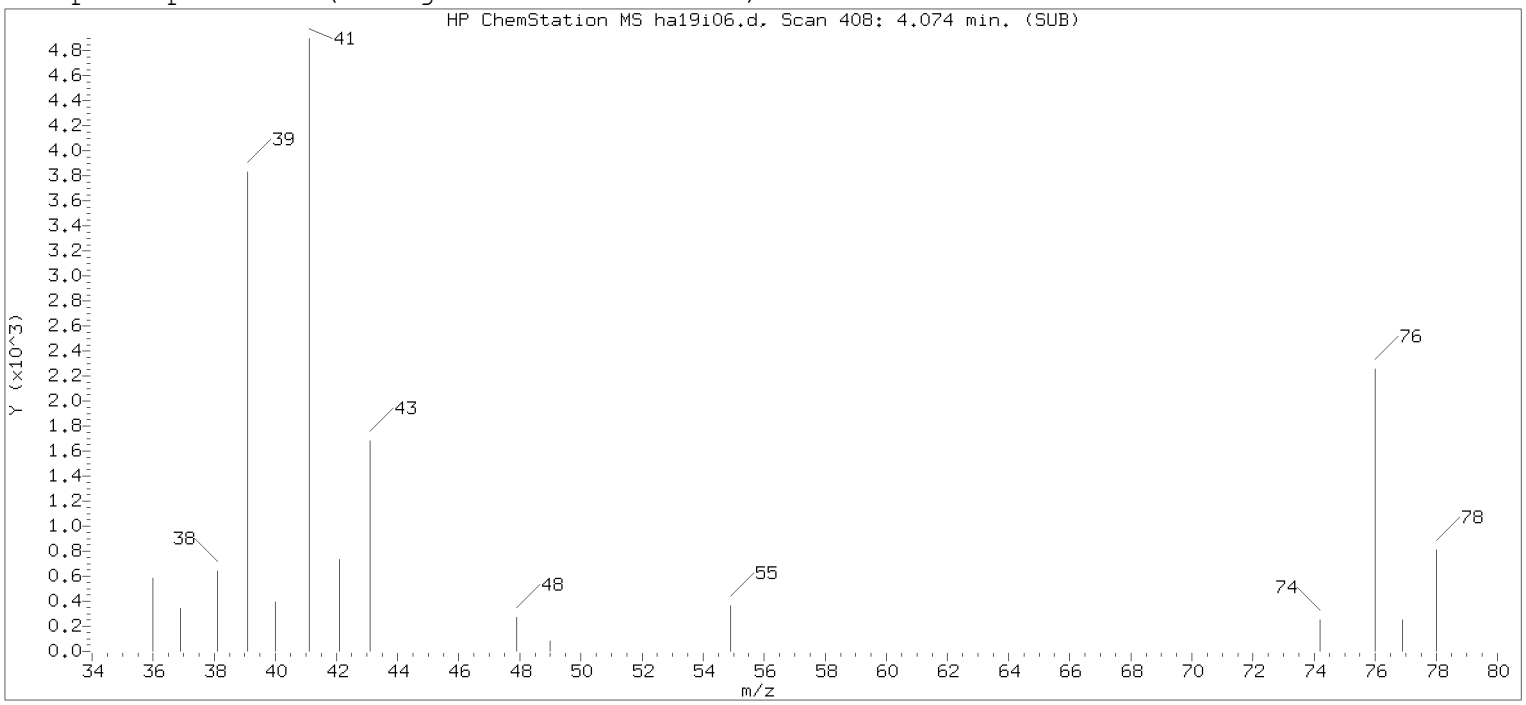
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 408
Retention Time (minutes): 4.074
Quant Ion : 43.00
Area (flag) : 13525M
On-Column Amount (ng) : 0.5645
Integration start scan : 398 Integration stop scan: 428
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

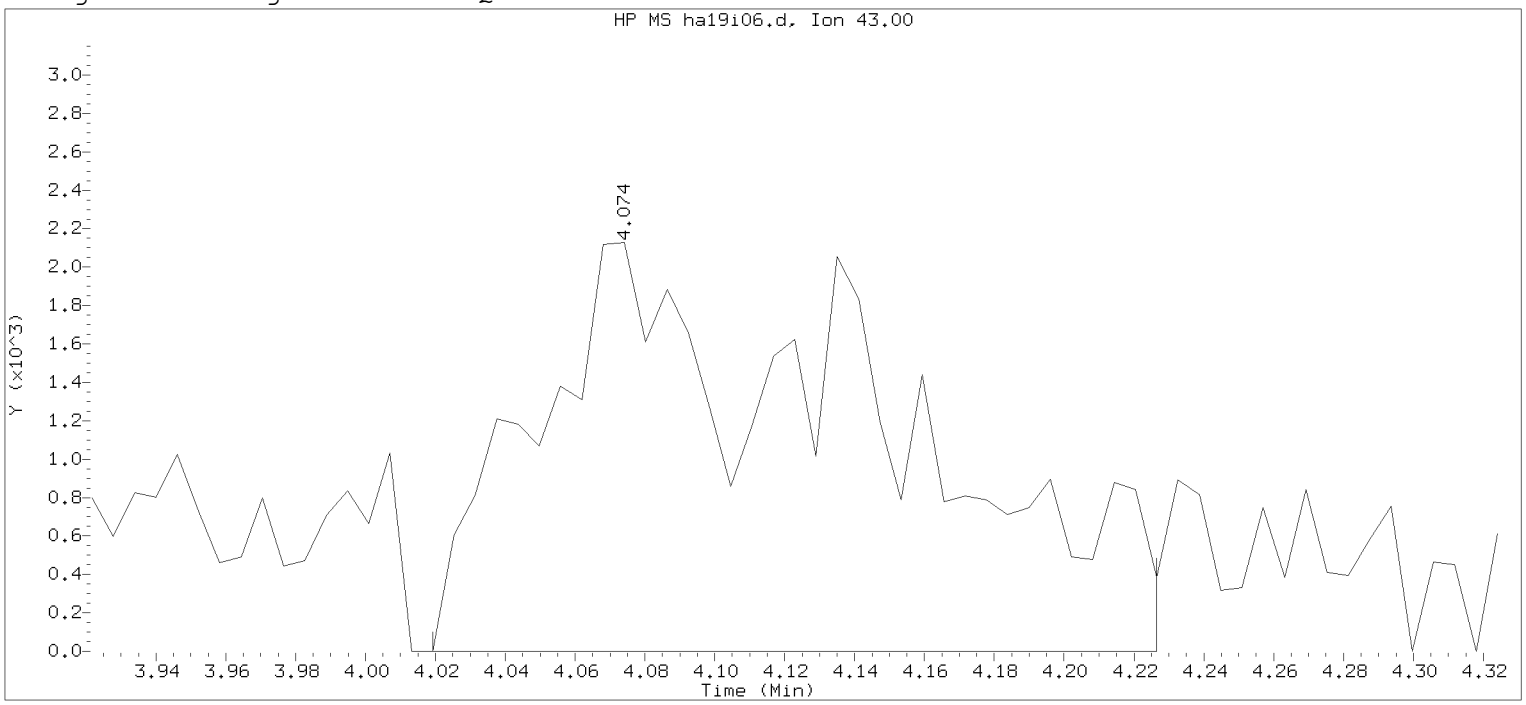
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

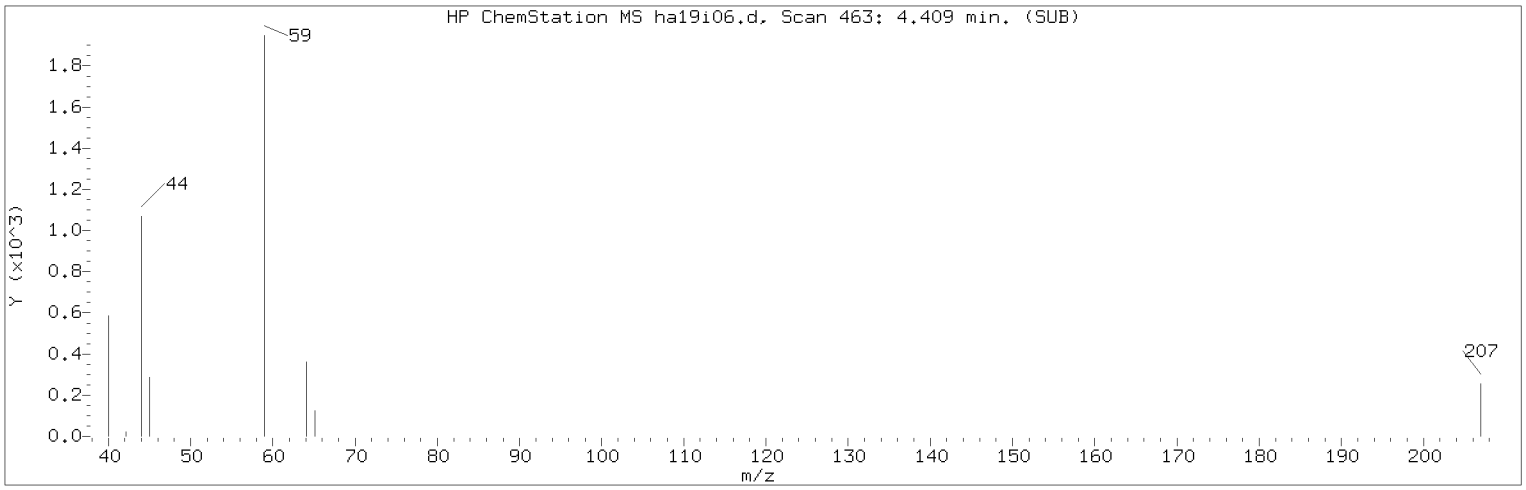
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

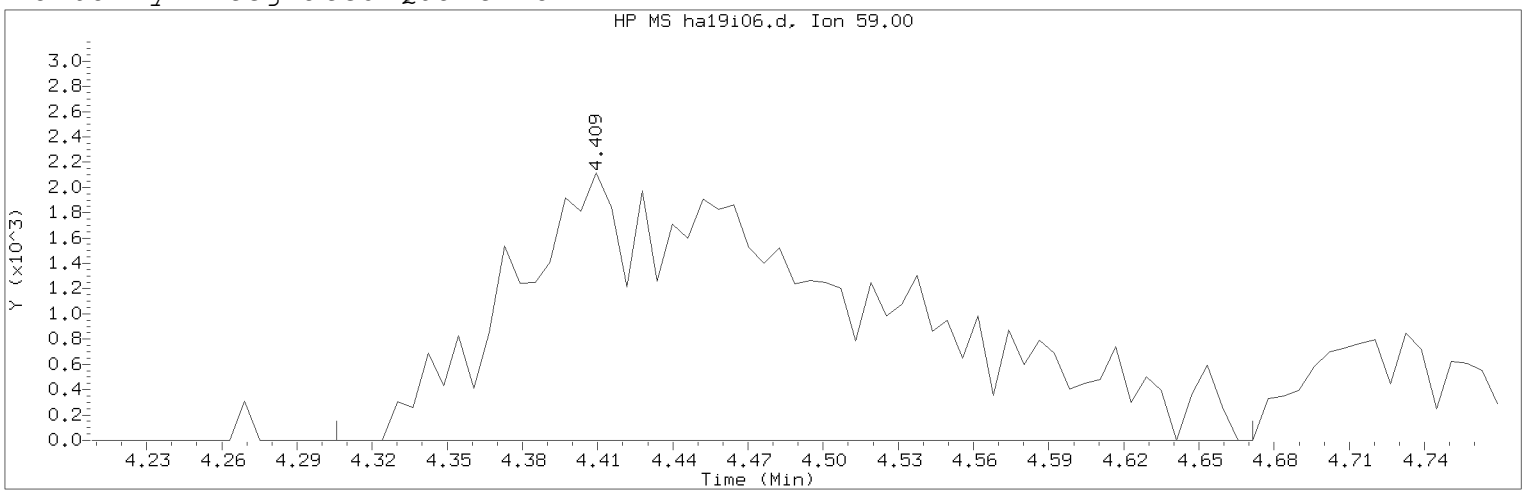
Compound Number : 21
Compound Name : Methyl Acetate
Scan Number : 408
Retention Time (minutes): 4.074
Quant Ion : 43.00
Area : 14399
On-column Amount (ng) : 0.5615
Integration start scan : 398 Integration stop scan: 432
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2698

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

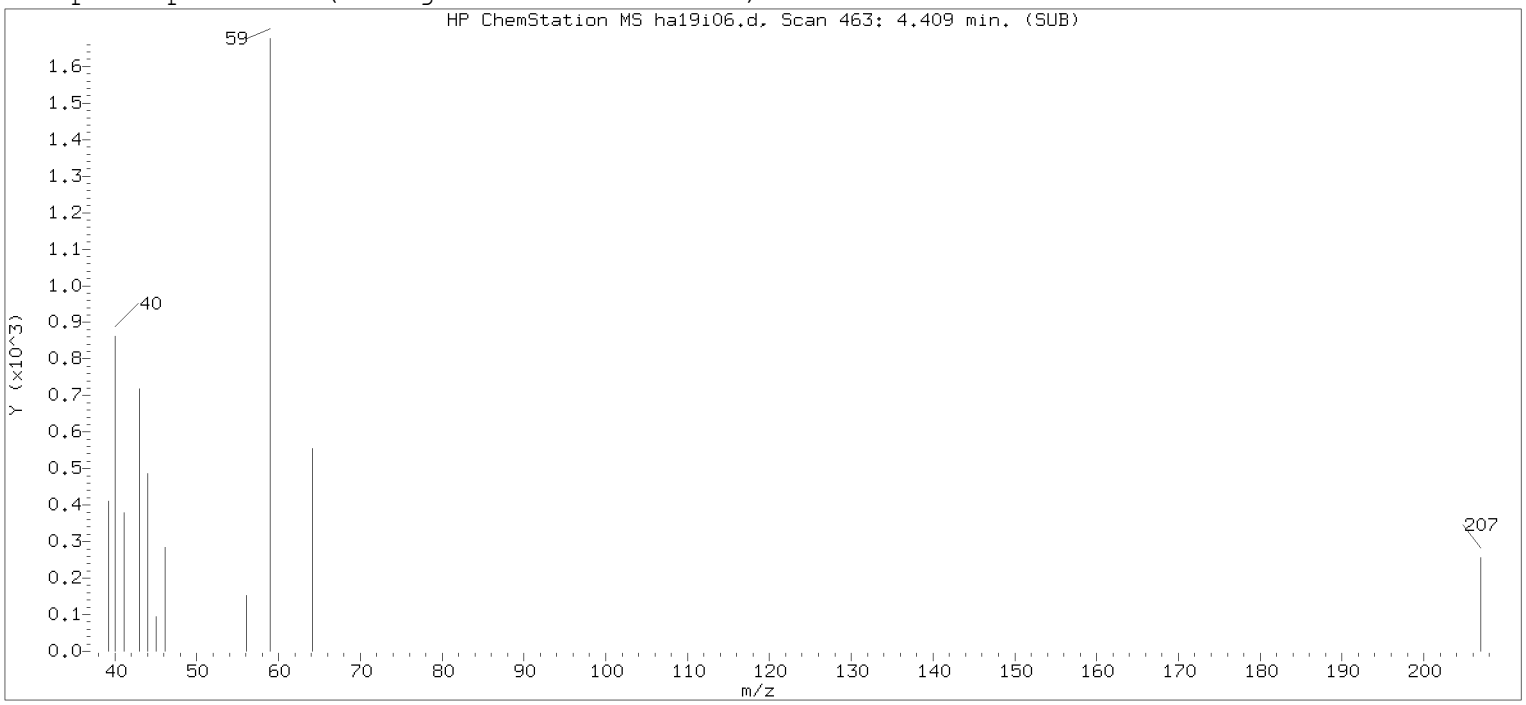
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 463
Retention Time (minutes): 4.409
Quant Ion : 59.00
Area (flag) : 20596M
On-Column Amount (ng) : 10.7836
Integration start scan : 445 Integration stop scan: 505
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

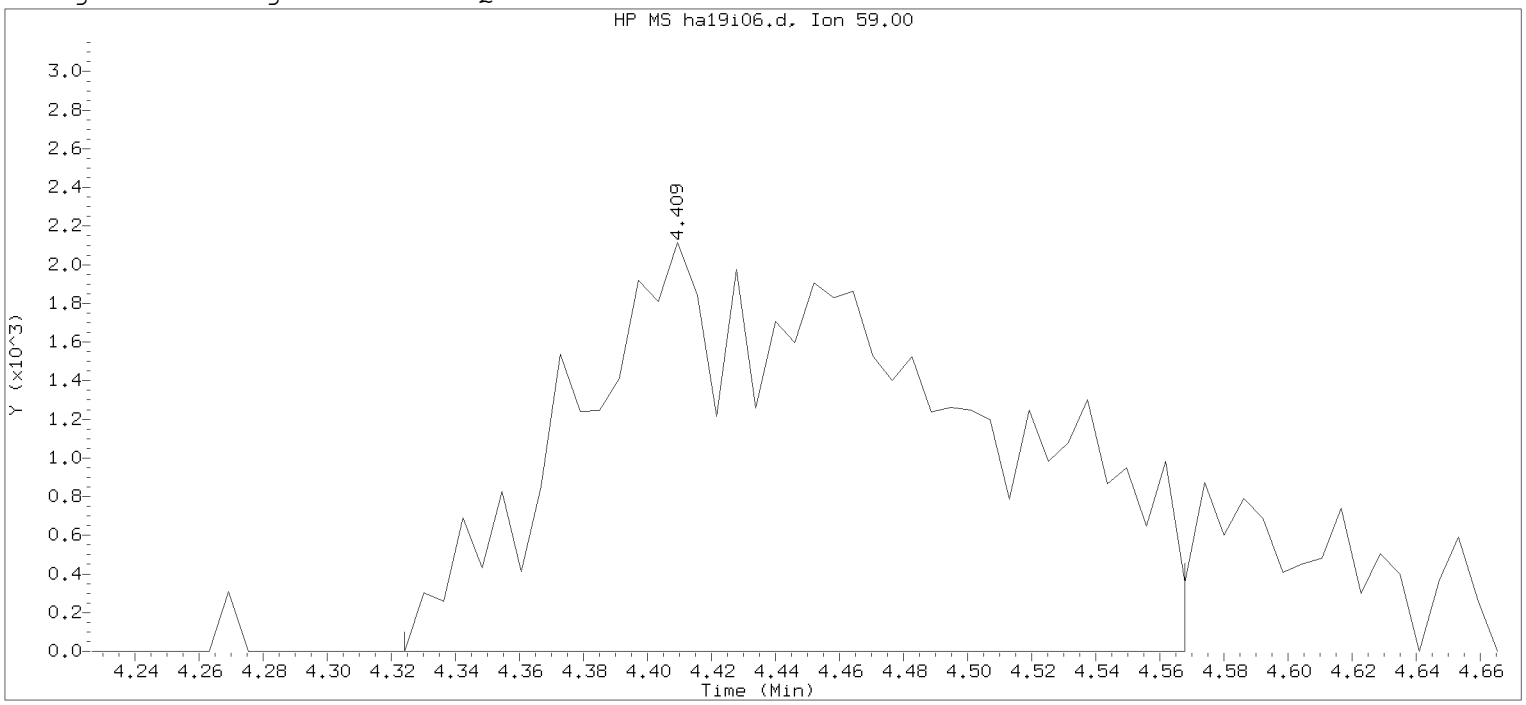
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

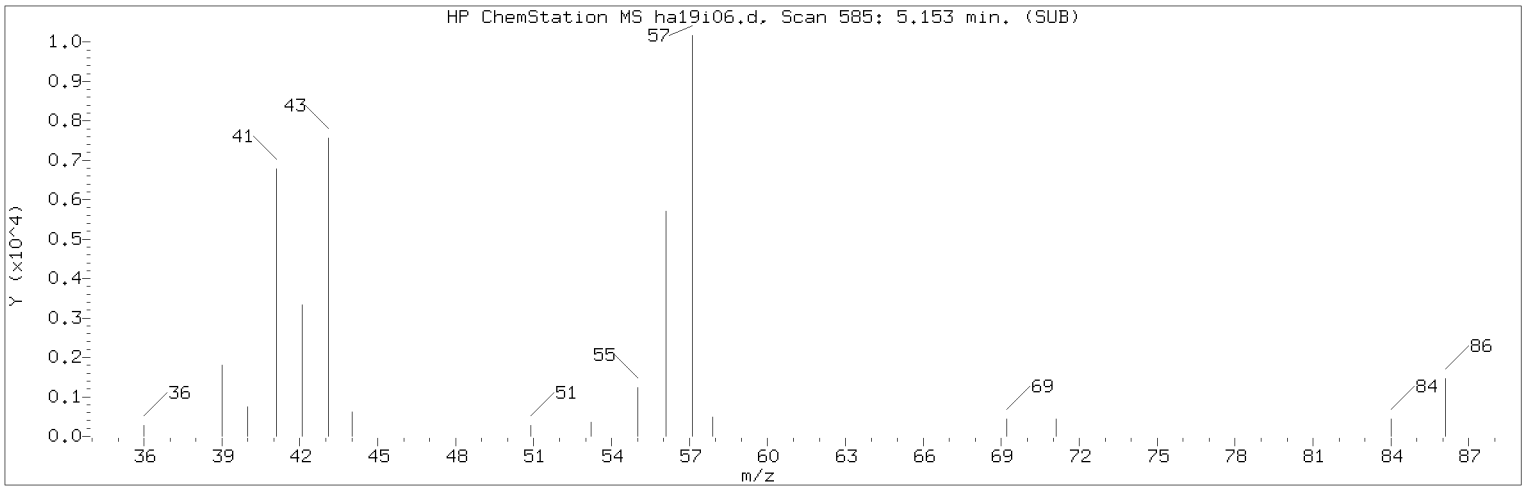
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

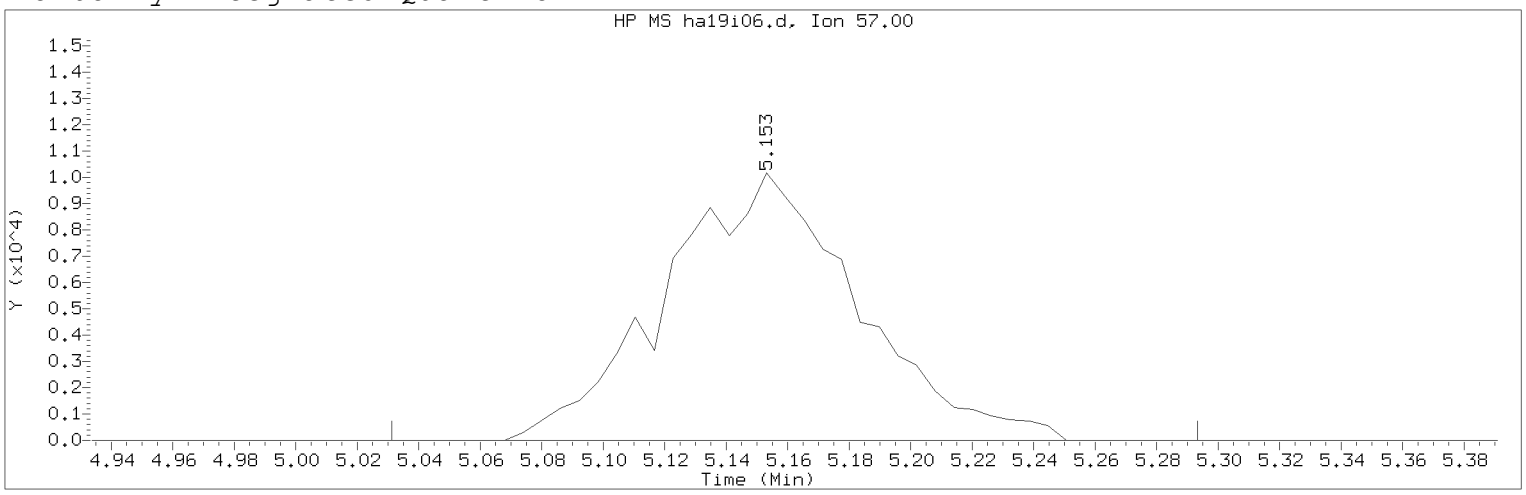
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 463
Retention Time (minutes): 4.409
Quant Ion : 59.00
Area : 17806
On-column Amount (ng) : 8.7314
Integration start scan : 448 Integration stop scan: 488
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Version 2.7.0.8

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

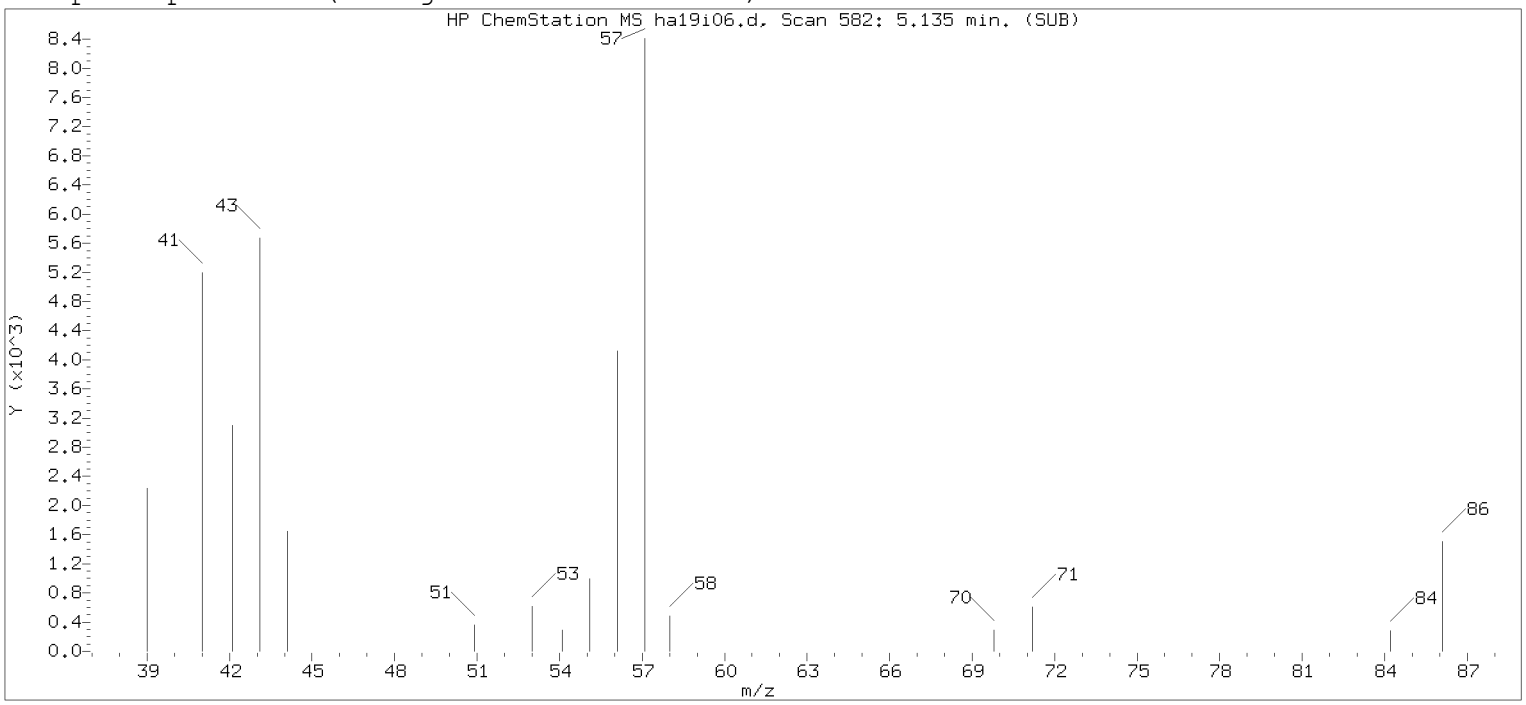
Compound Number : 32
Compound Name : n-Hexane
Scan Number : 585
Retention Time (minutes): 5.153
Quant Ion : 57.00
Area (flag) : 44481M
On-Column Amount (ng) : 0.4013
Integration start scan : 564 Integration stop scan: 607
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

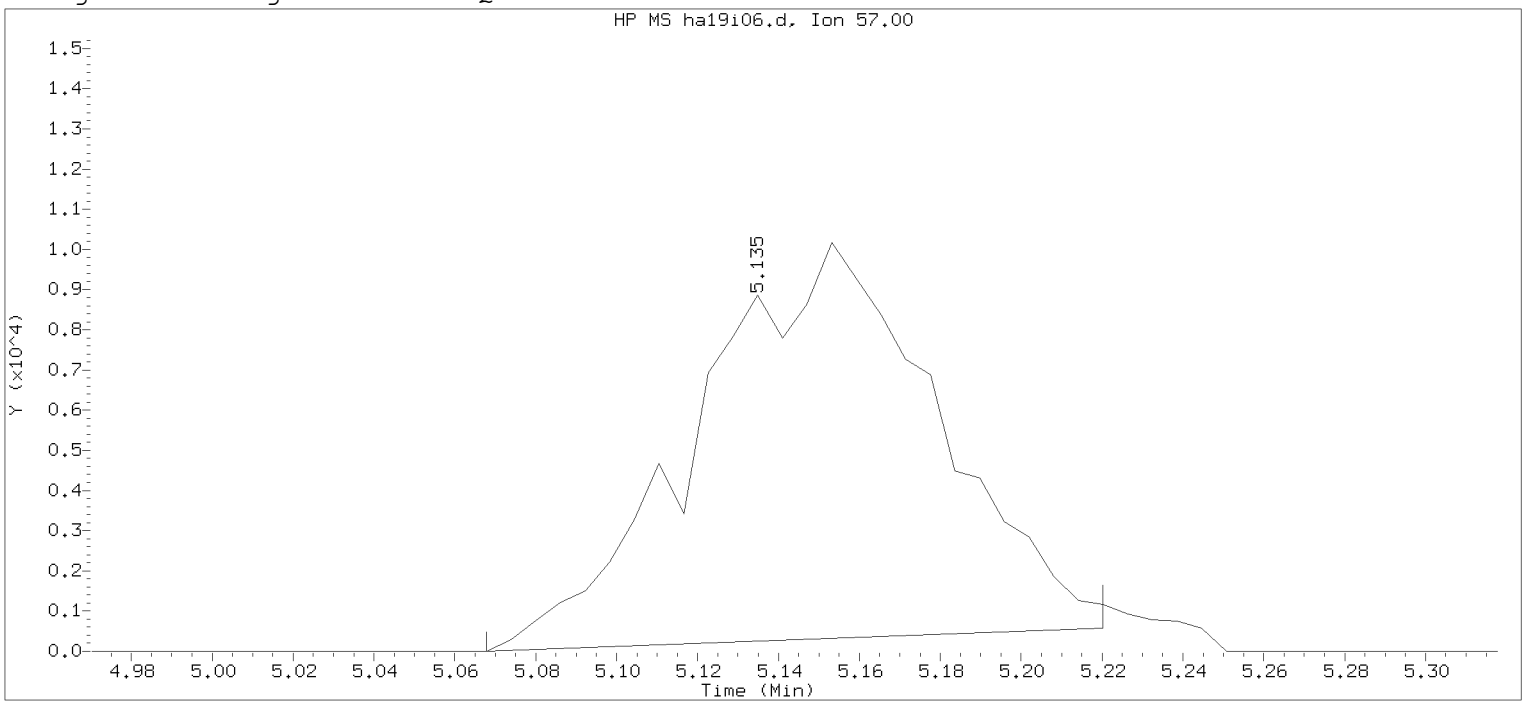
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

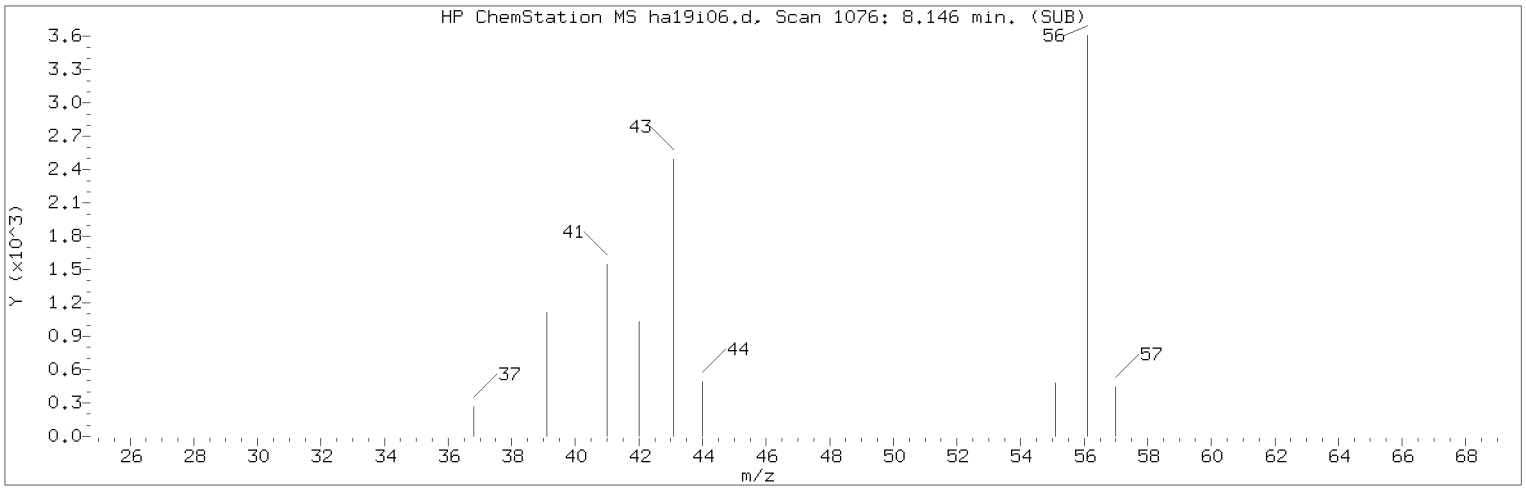
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

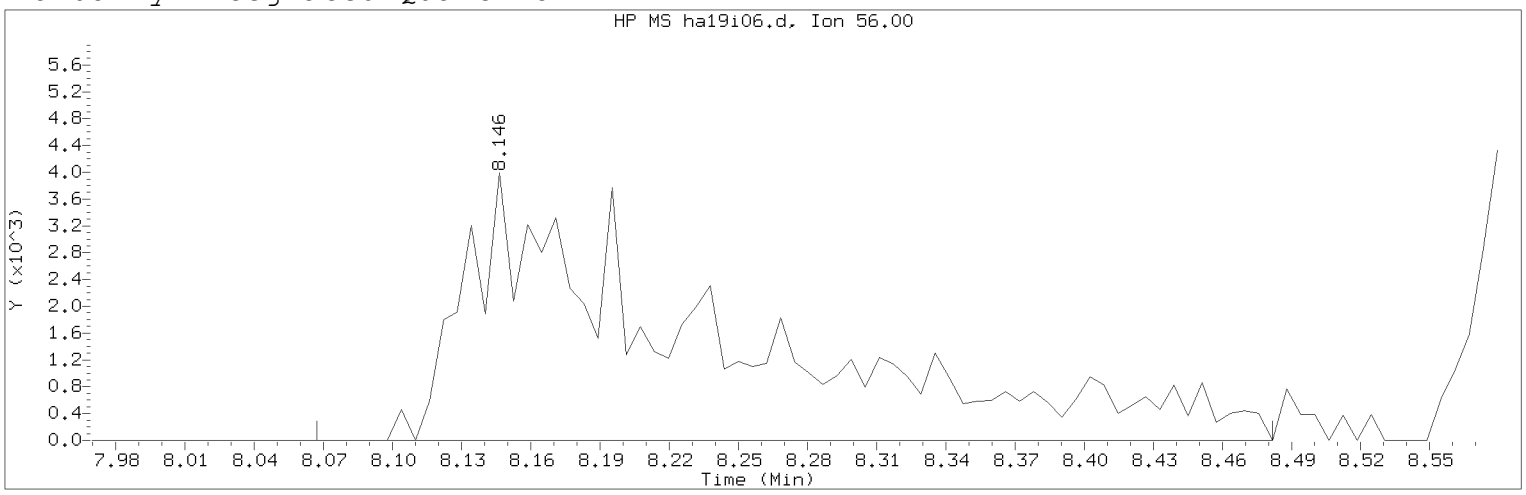
Compound Number	: 32		
Compound Name	: n-Hexane		
Scan Number	: 582		
Retention Time (minutes)	: 5.135		
Quant Ion	: 57.00		
Area	: 40507		
On-column Amount (ng)	: 0.3683		
Integration start scan	: 570	Integration stop scan:	595
Y at integration start	: 0	Y at integration end:	582

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature user Kevin A. Sposito

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

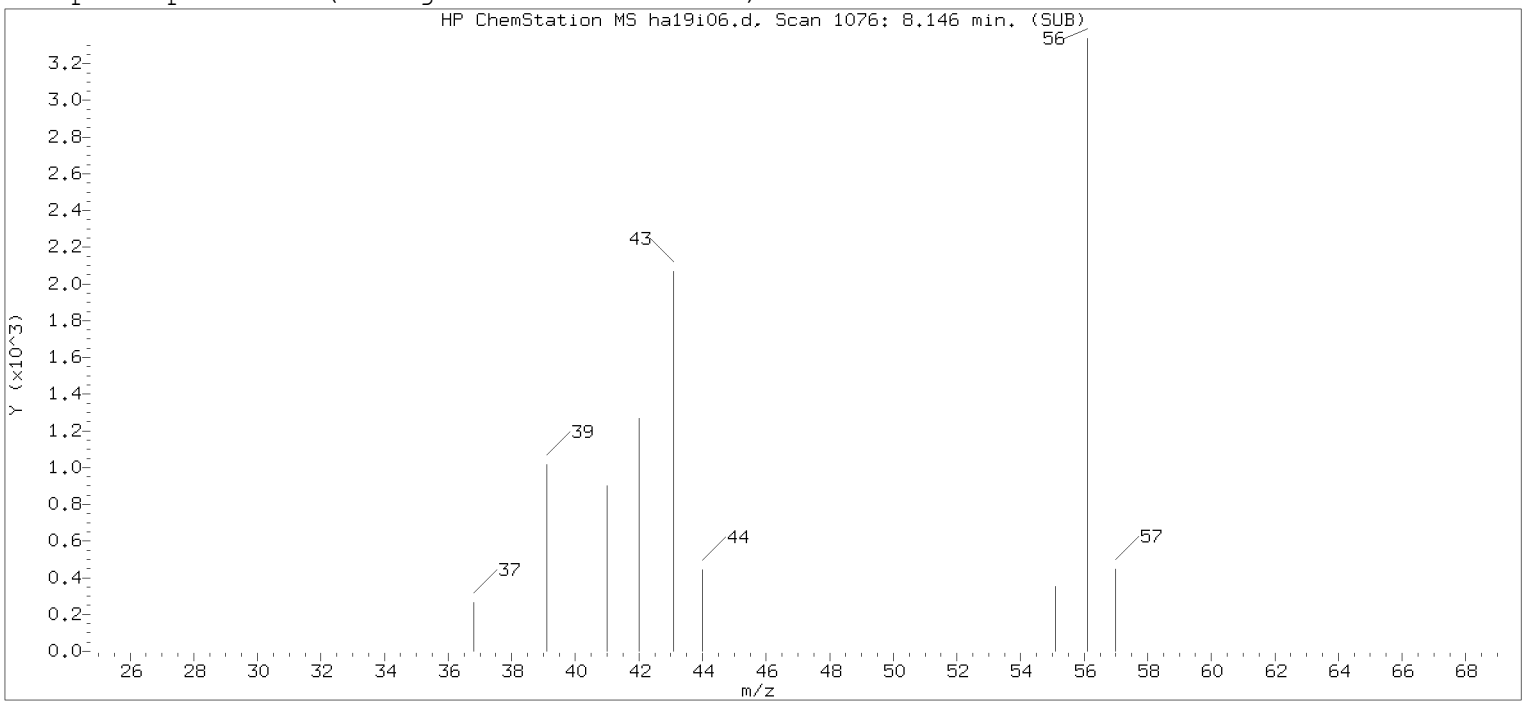
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1076
Retention Time (minutes): 8.146
Quant Ion : 56.00
Area (flag) : 28373M
On-Column Amount (ng) : 47.0544
Integration start scan : 1062 Integration stop scan: 1130
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

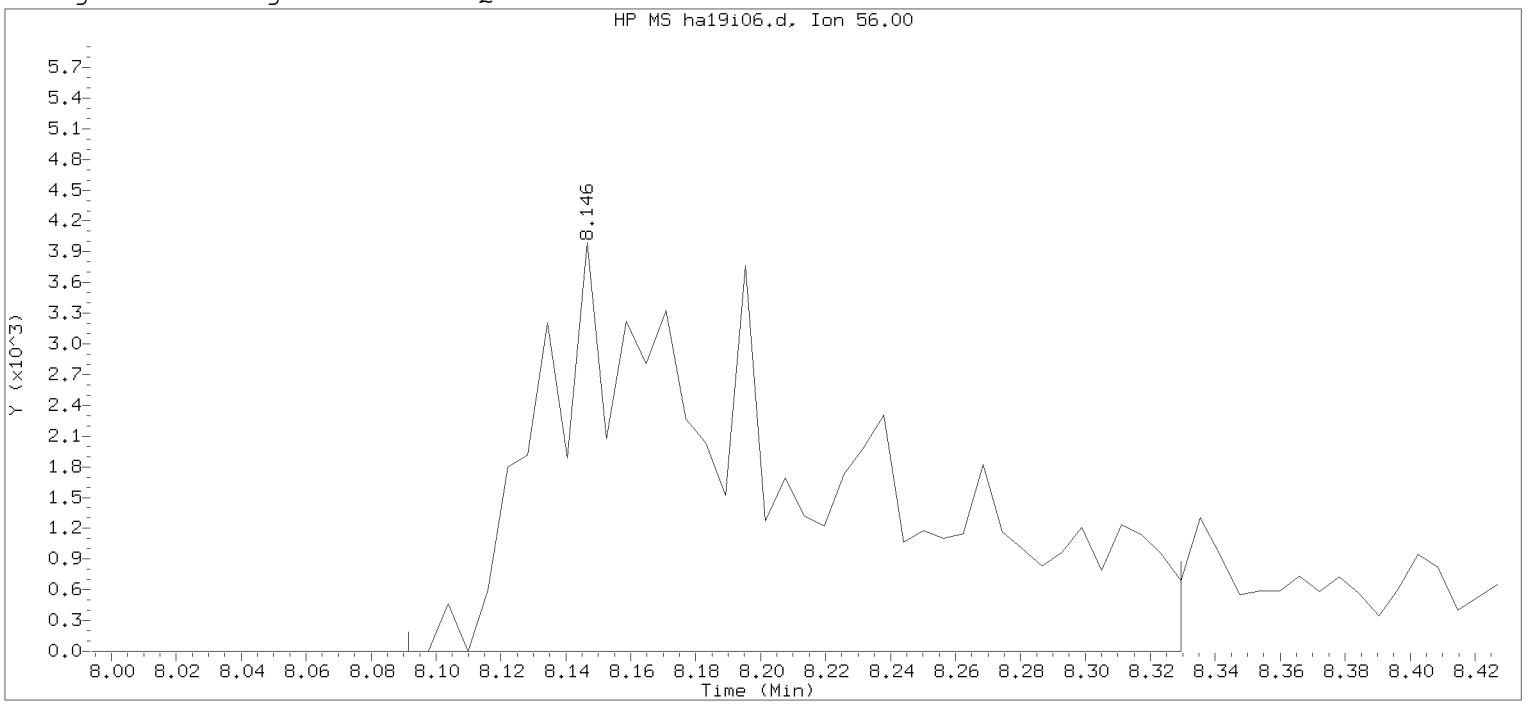
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

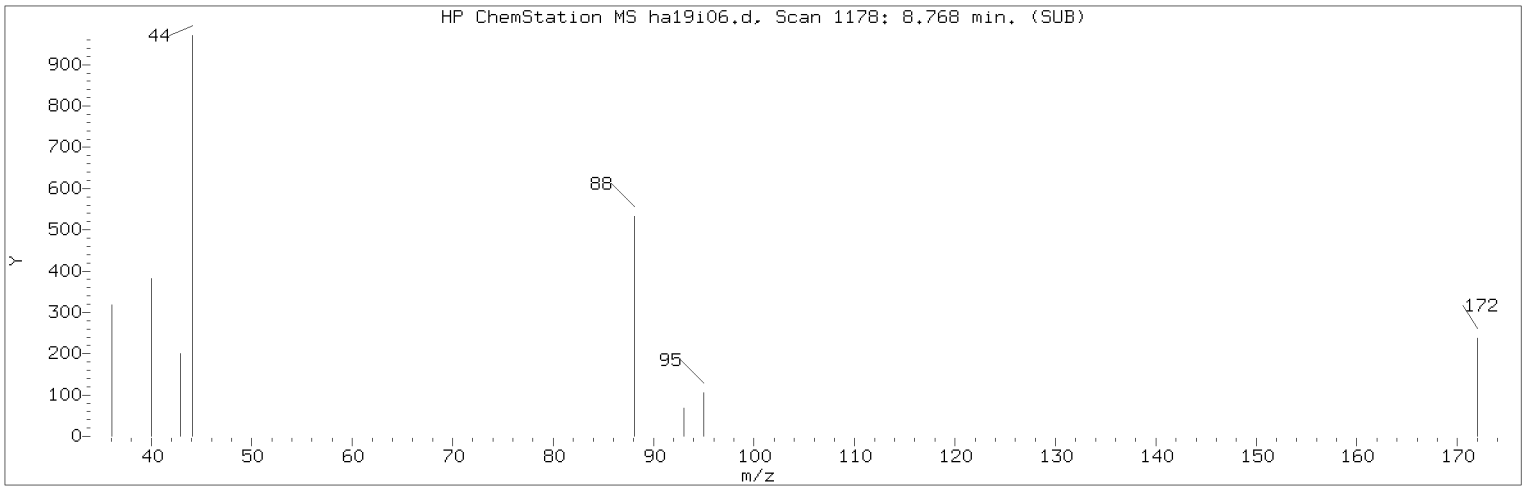
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

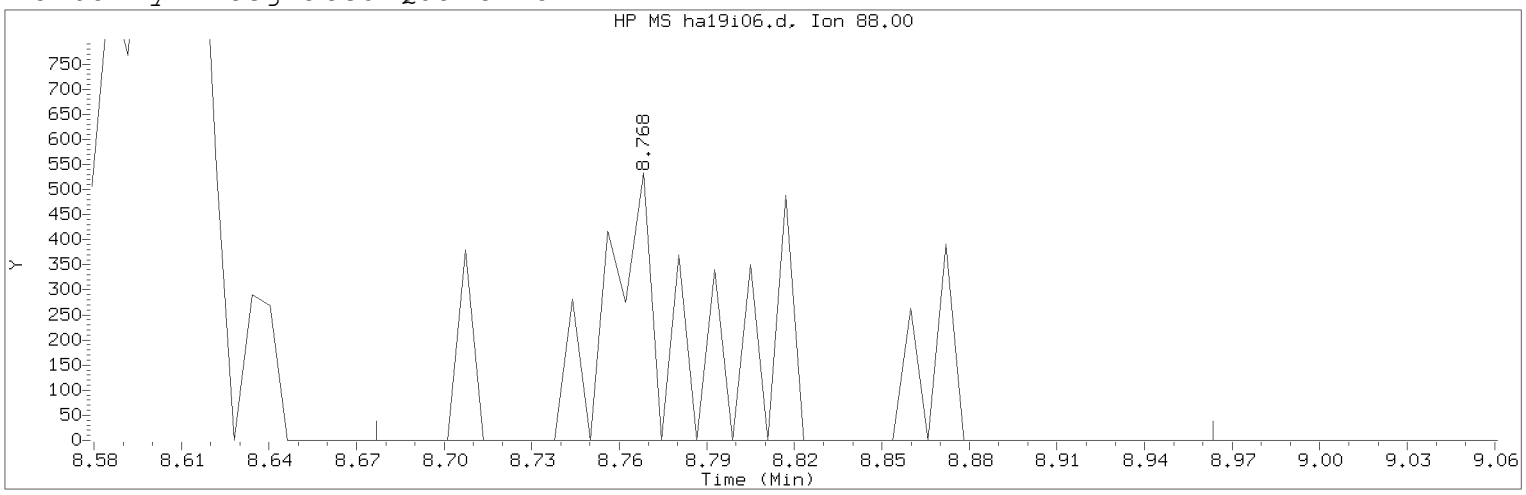
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1076
Retention Time (minutes): 8.146
Quant Ion : 56.00
Area : 22799
On-column Amount (ng) : 48.2577
Integration start scan : 1066 Integration stop scan: 1105
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

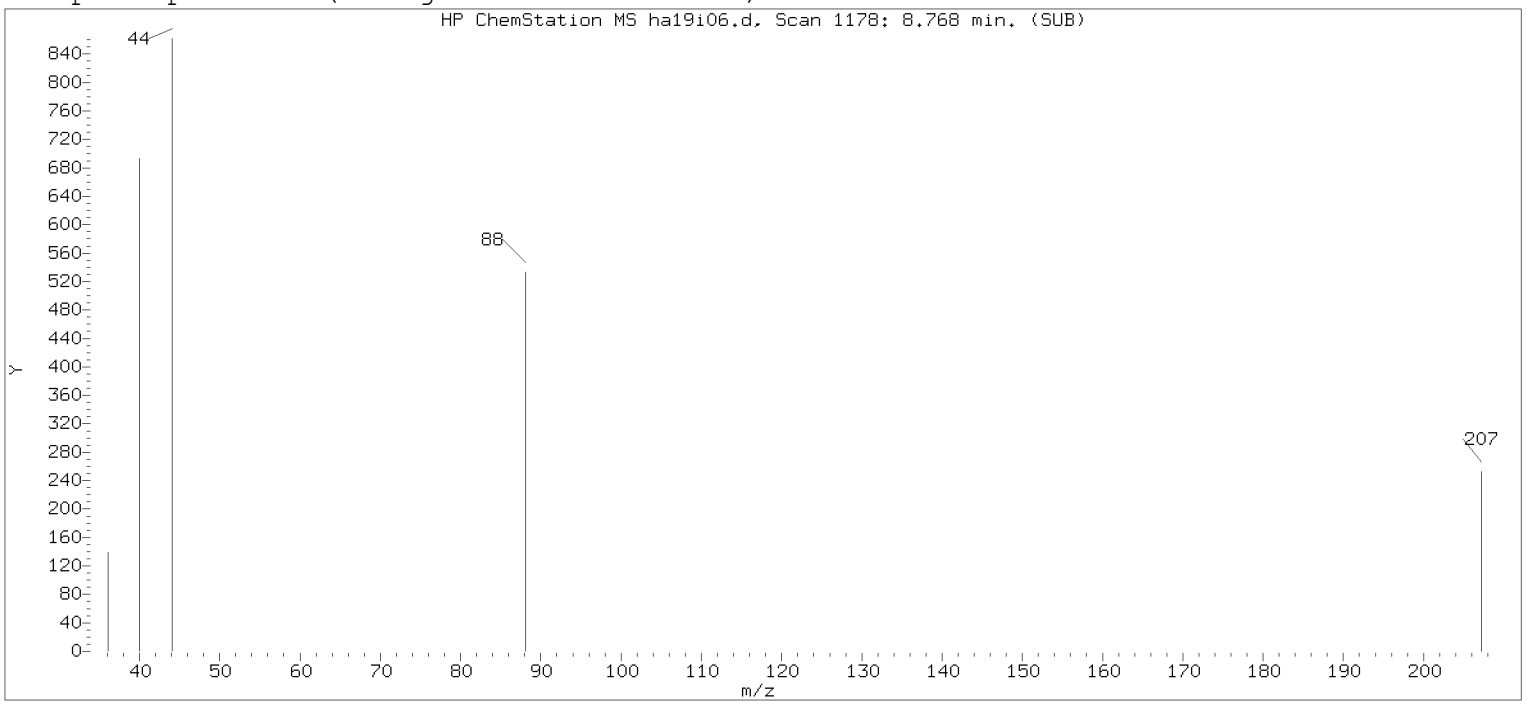
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1178
Retention Time (minutes): 8.768
Quant Ion : 88.00
Area (flag) : 1496M
On-Column Amount (ng) : 7.1667
Integration start scan : 1162 Integration stop scan: 1209
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

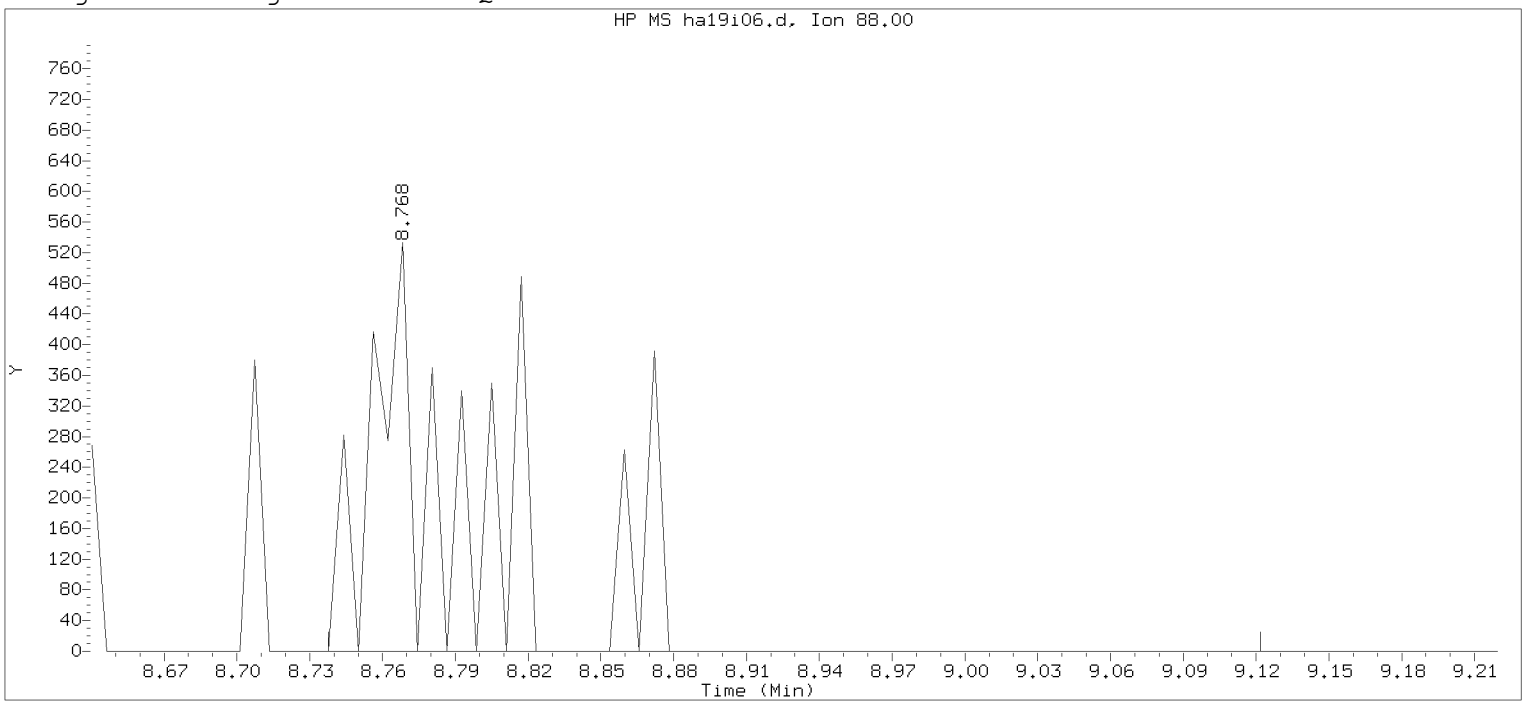
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

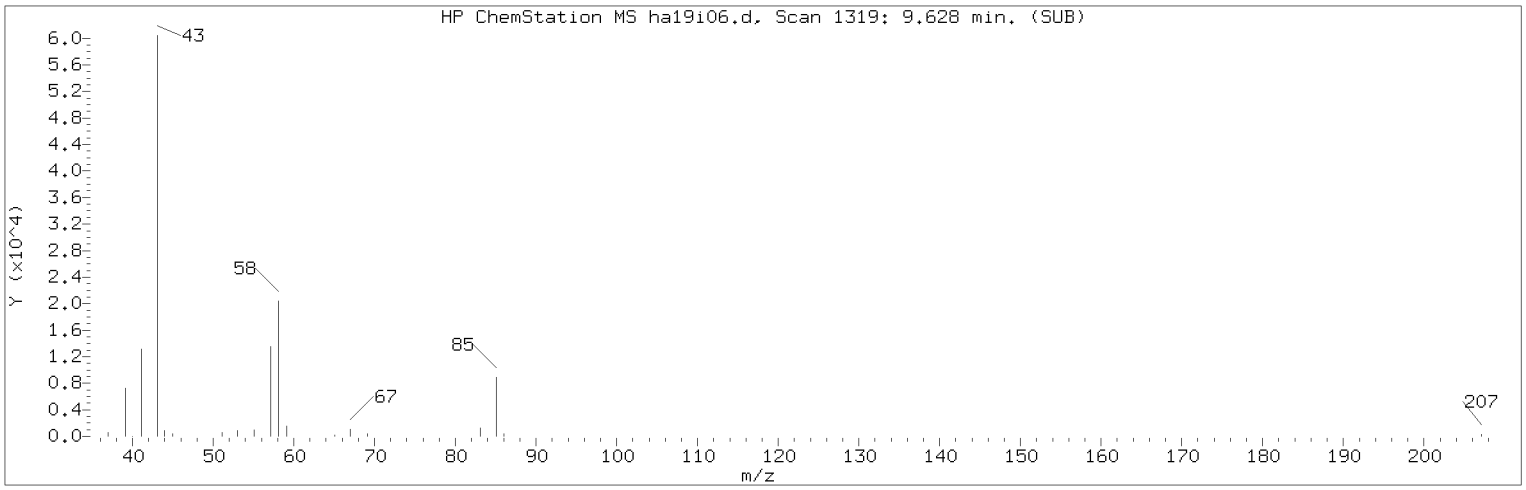
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

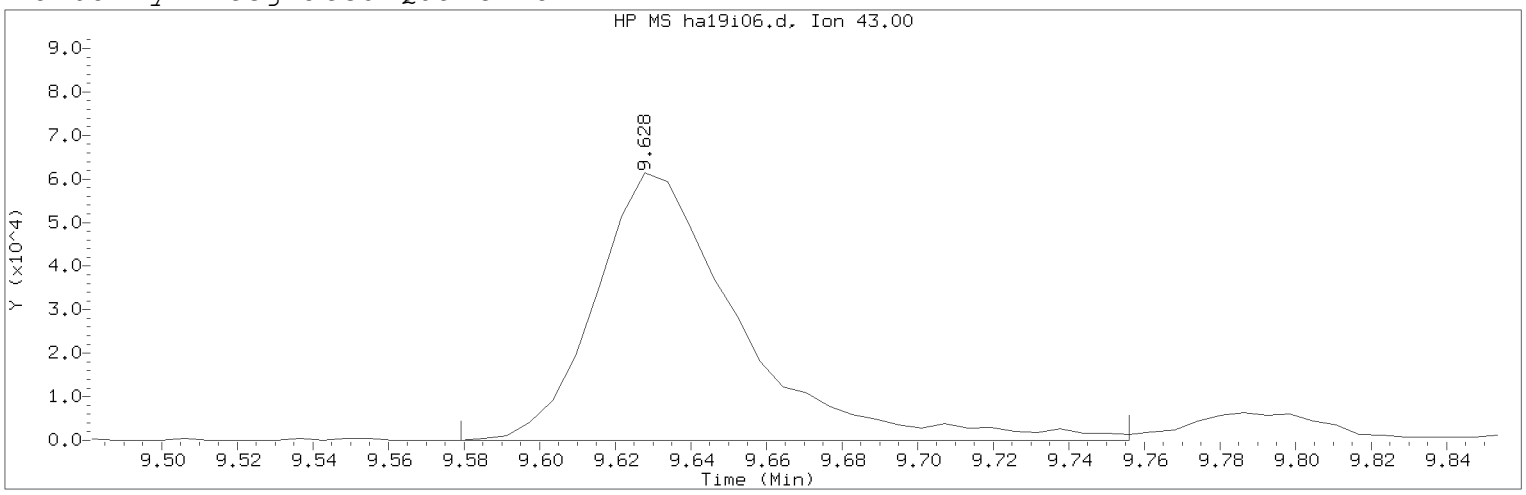
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1178
Retention Time (minutes): 8.768
Quant Ion : 88.00
Area : 1357
On-column Amount (ng) : 8.7560
Integration start scan : 1172 Integration stop scan: 1235
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2706

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

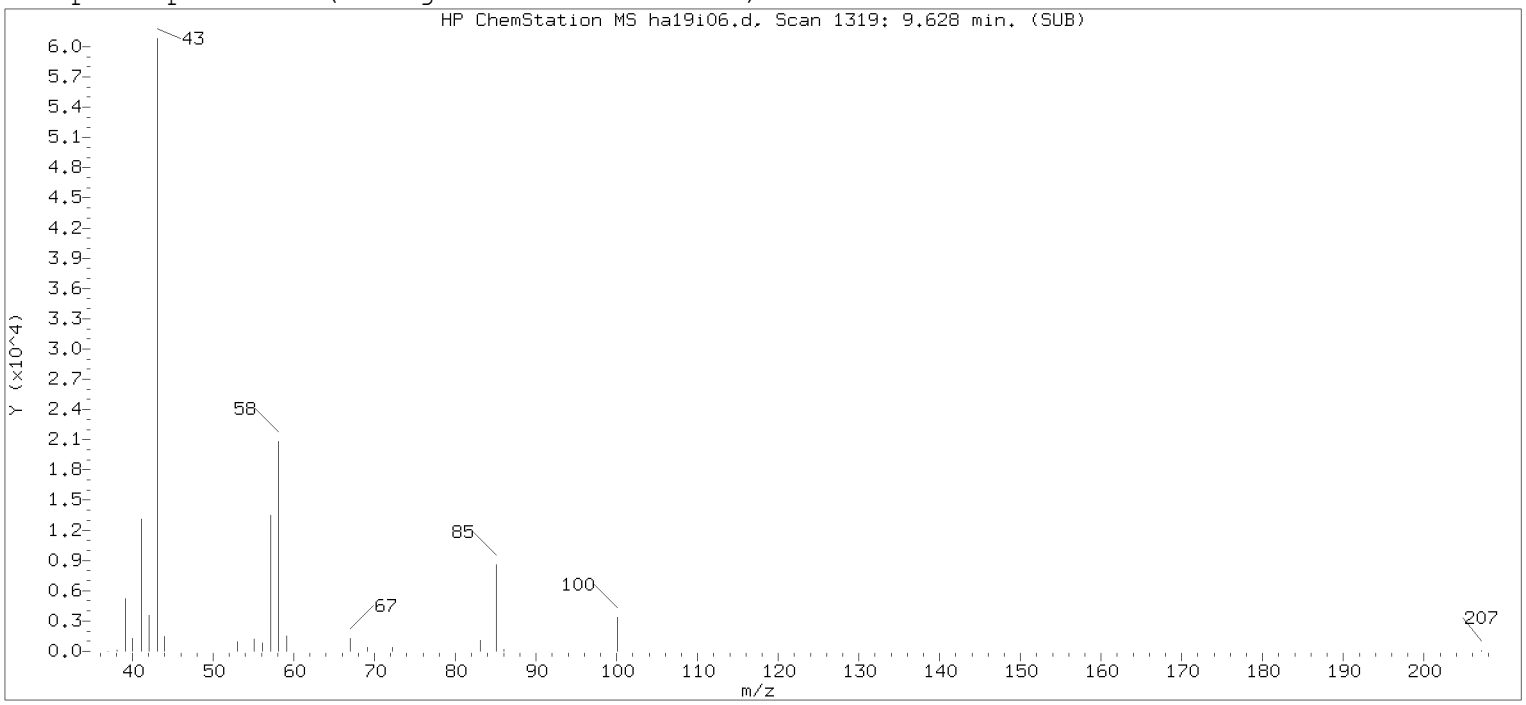
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area (flag) : 161786M
On-Column Amount (ng) : 4.2178
Integration start scan : 1310 Integration stop scan: 1339
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

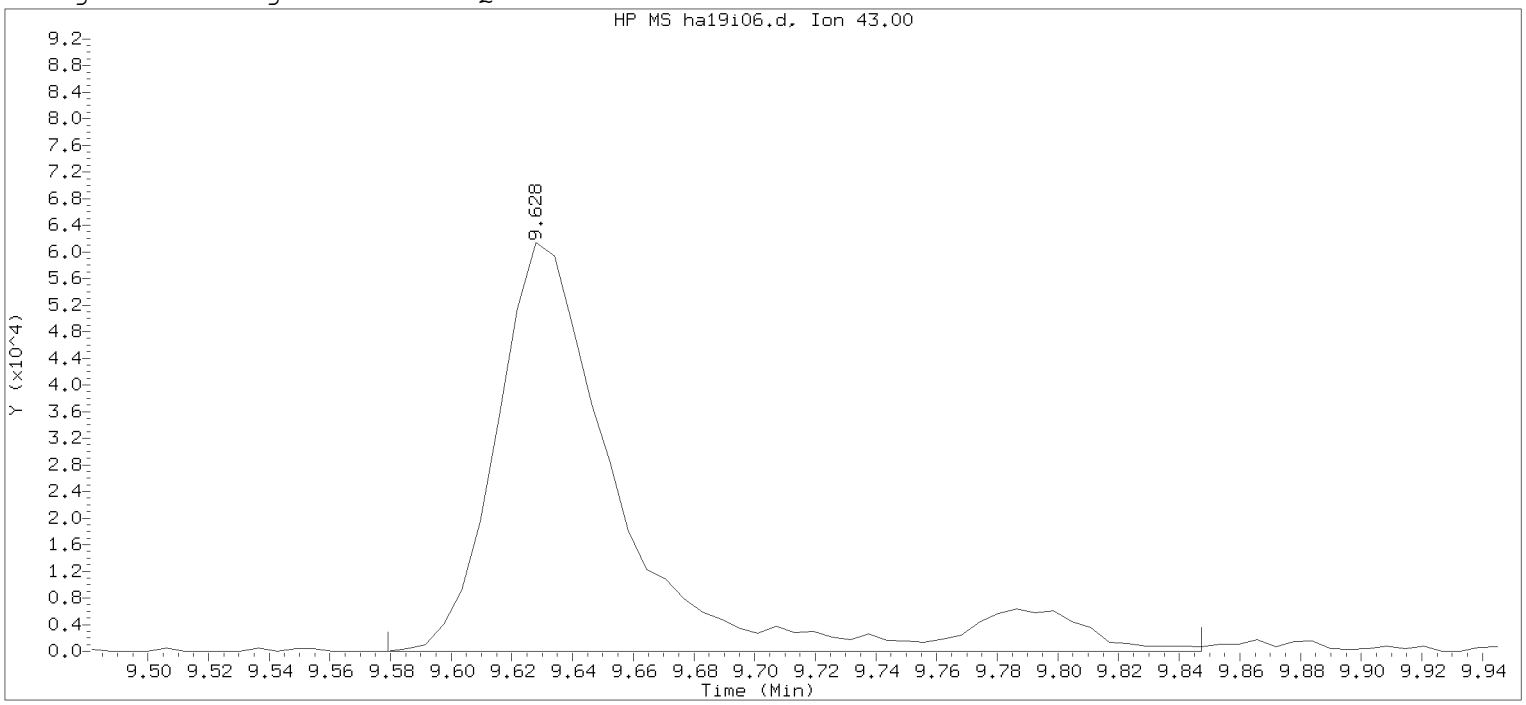
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

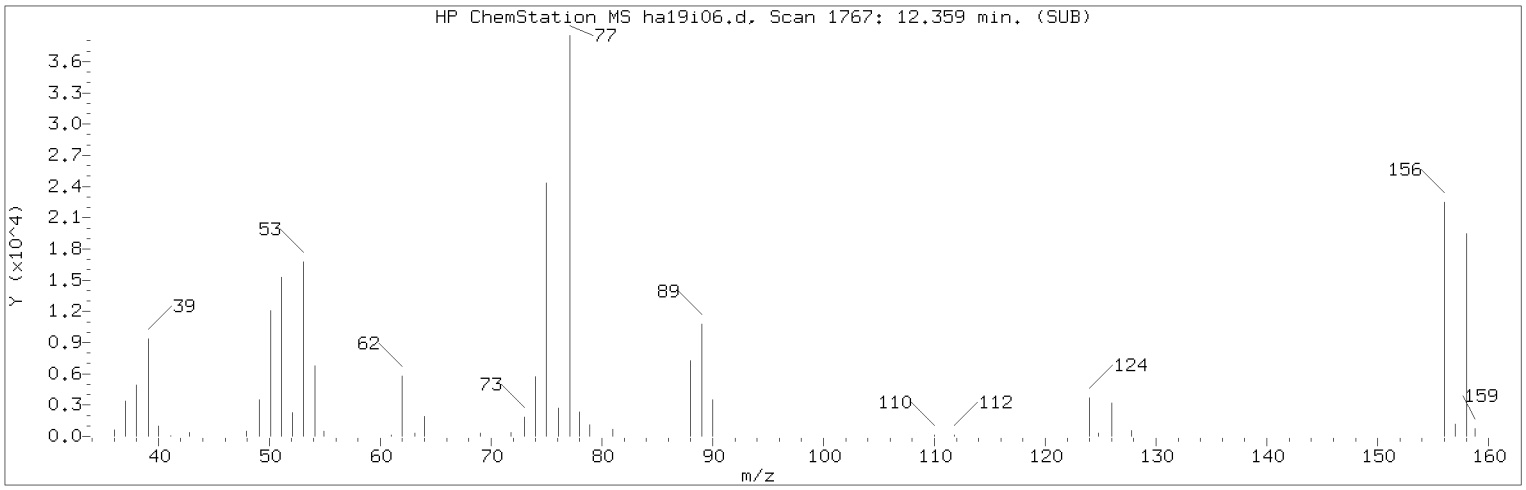
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

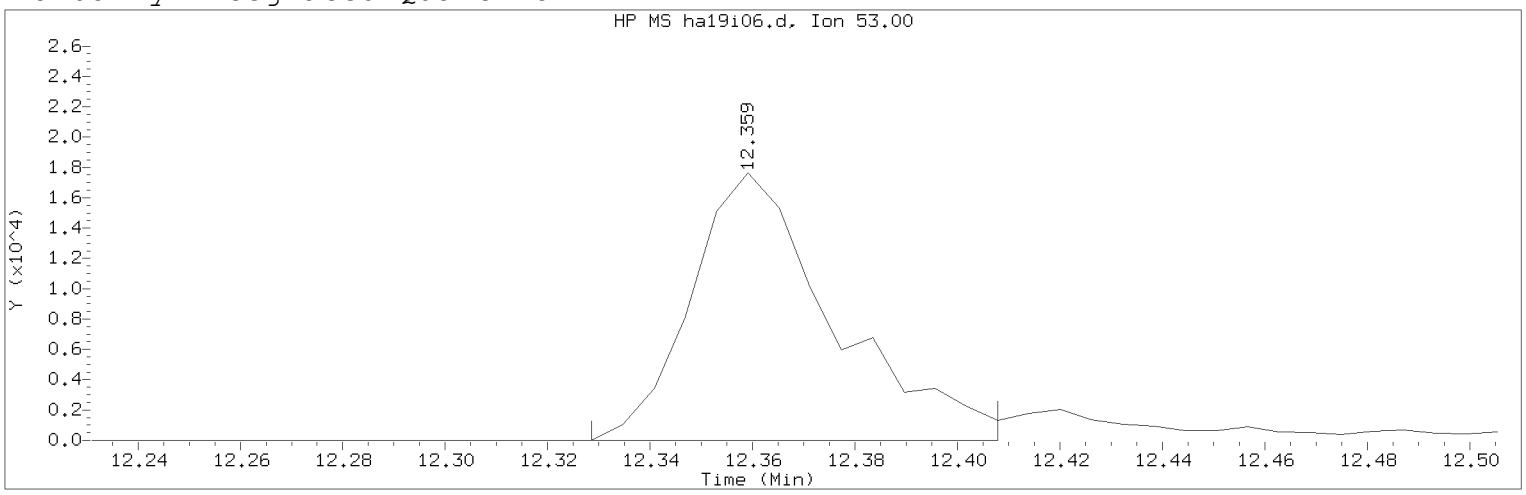
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1319
Retention Time (minutes): 9.628
Quant Ion : 43.00
Area : 178480
On-column Amount (ng) : 5.3960
Integration start scan : 1310 Integration stop scan: 1354
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2708

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

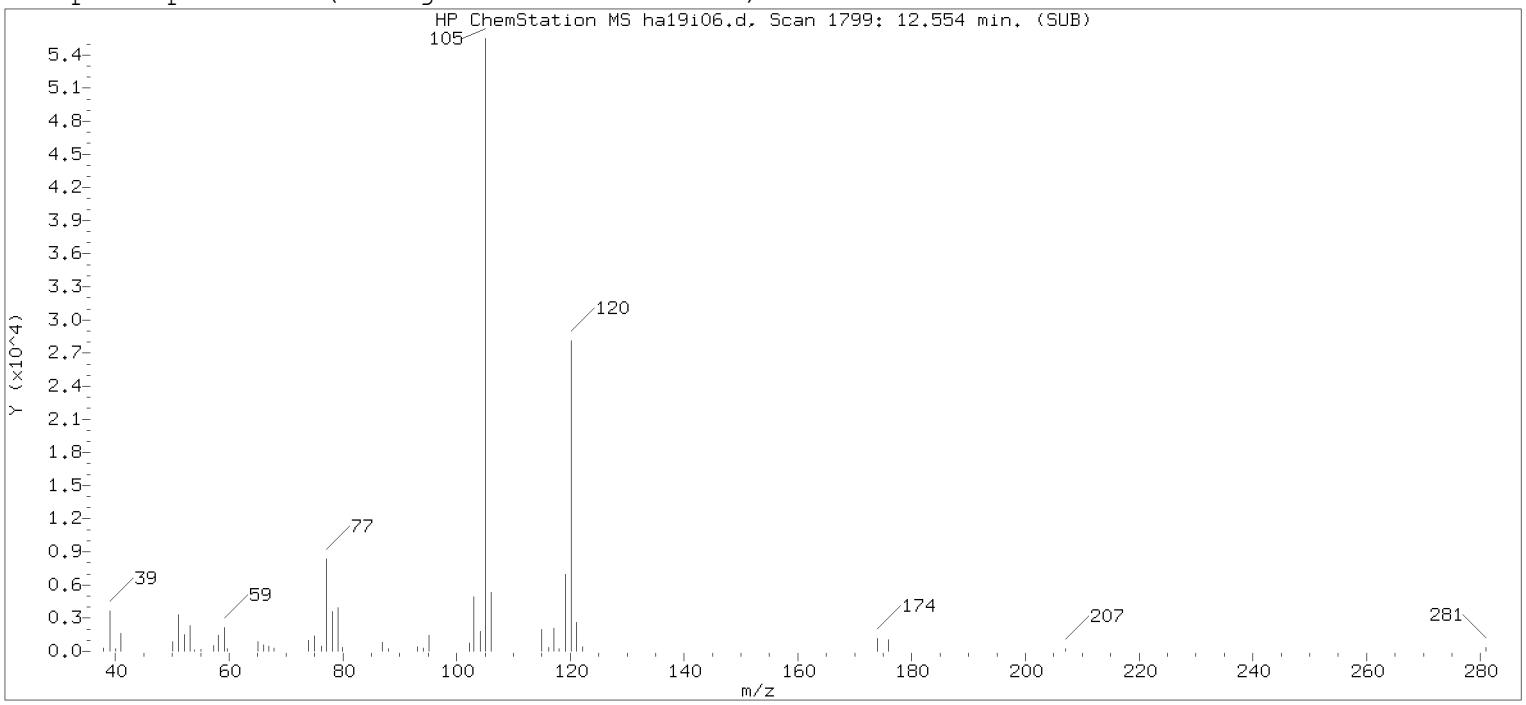
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1767
Retention Time (minutes): 12.359
Quant Ion : 53.00
Area (flag) : 33996A
On-Column Amount (ng) : 3.4211
Integration start scan : 1761 Integration stop scan: 1774
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

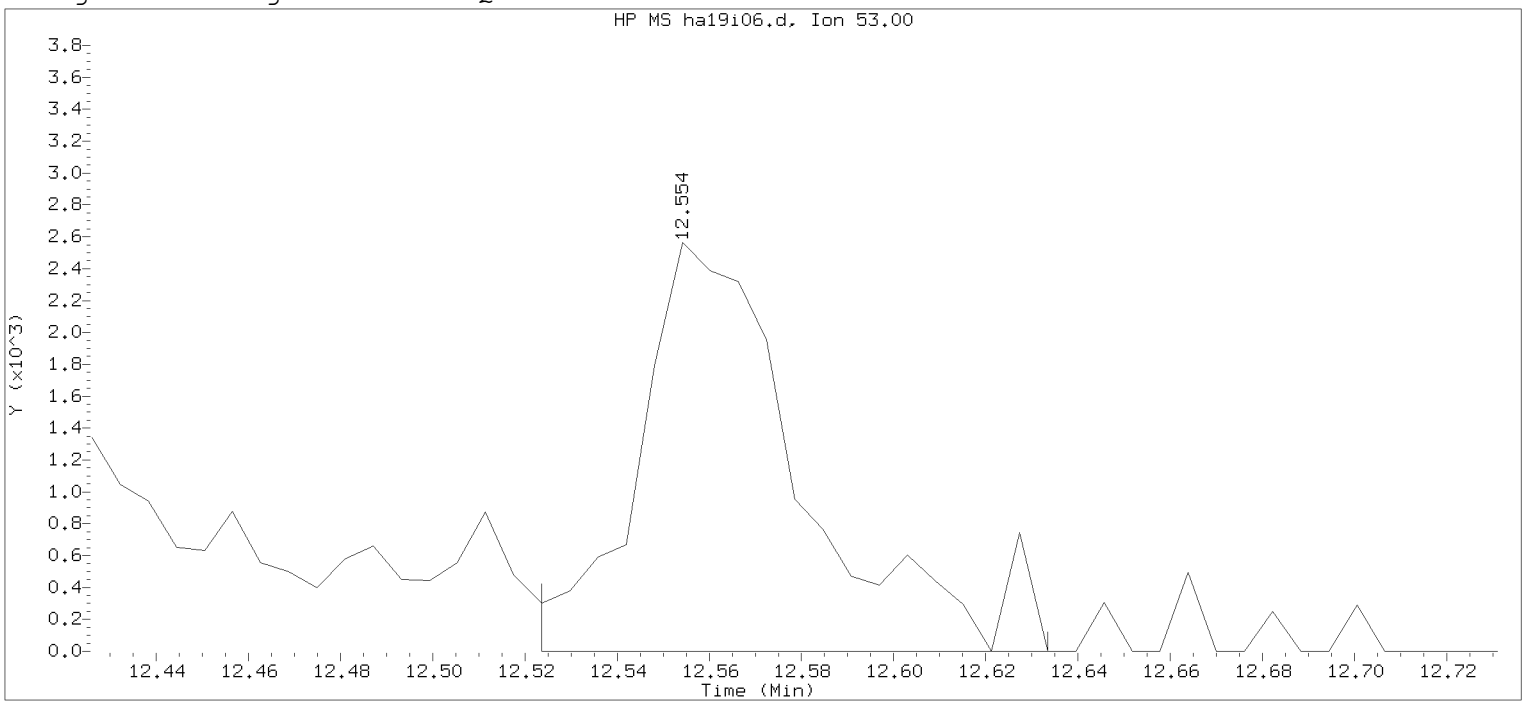
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

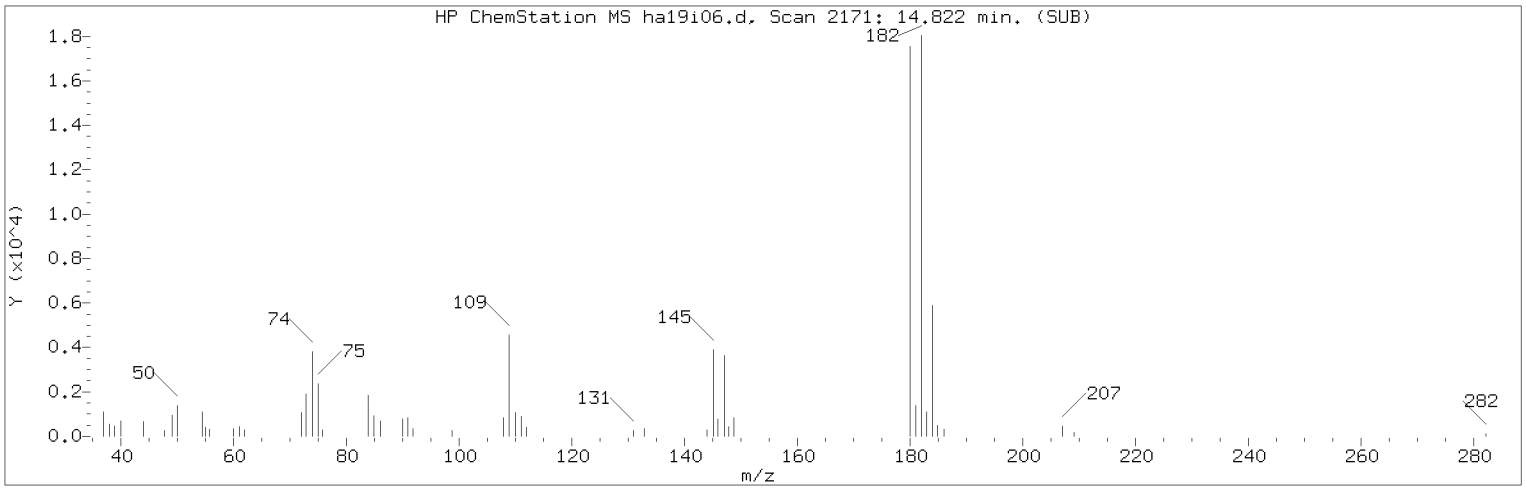
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

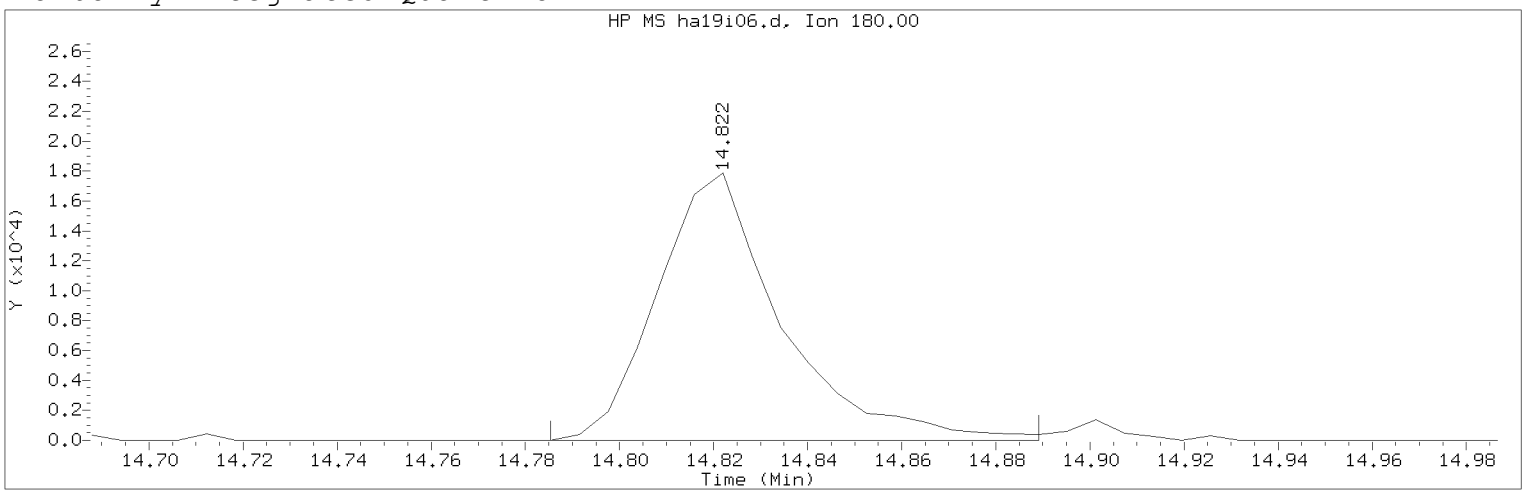
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1799
Retention Time (minutes): 12.554
Quant Ion : 53.00
Area : 6397
On-column Amount (ng) : 2.1520
Integration start scan : 1793 Integration stop scan: 1811
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 09:54 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

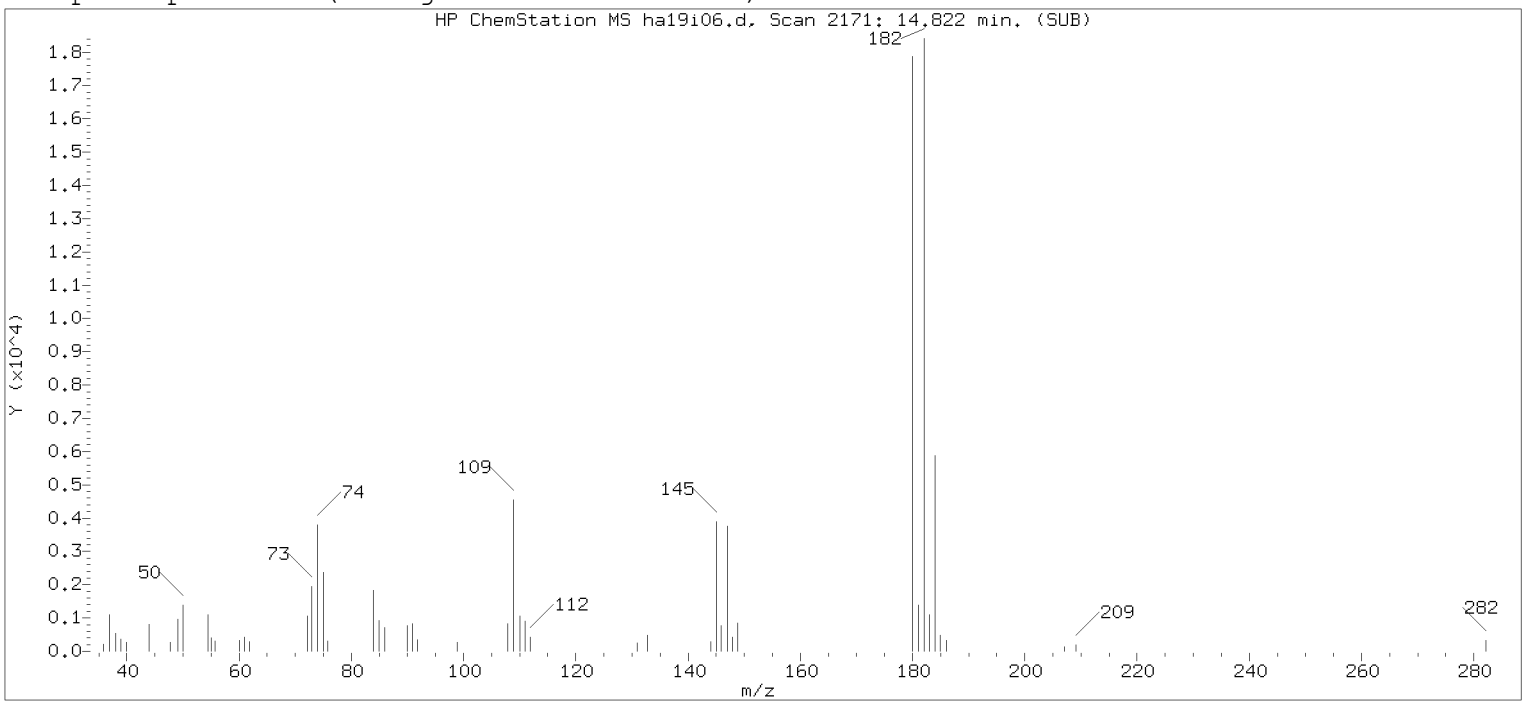
Compound Number : 148
Compound Name : 1,2,3-Trichlorobenzene
Scan Number : 2171
Retention Time (minutes): 14.822
Quant Ion : 180.00
Area (flag) : 32601M
On-Column Amount (ng) : 0.4716
Integration start scan : 2164 Integration stop scan: 2181
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

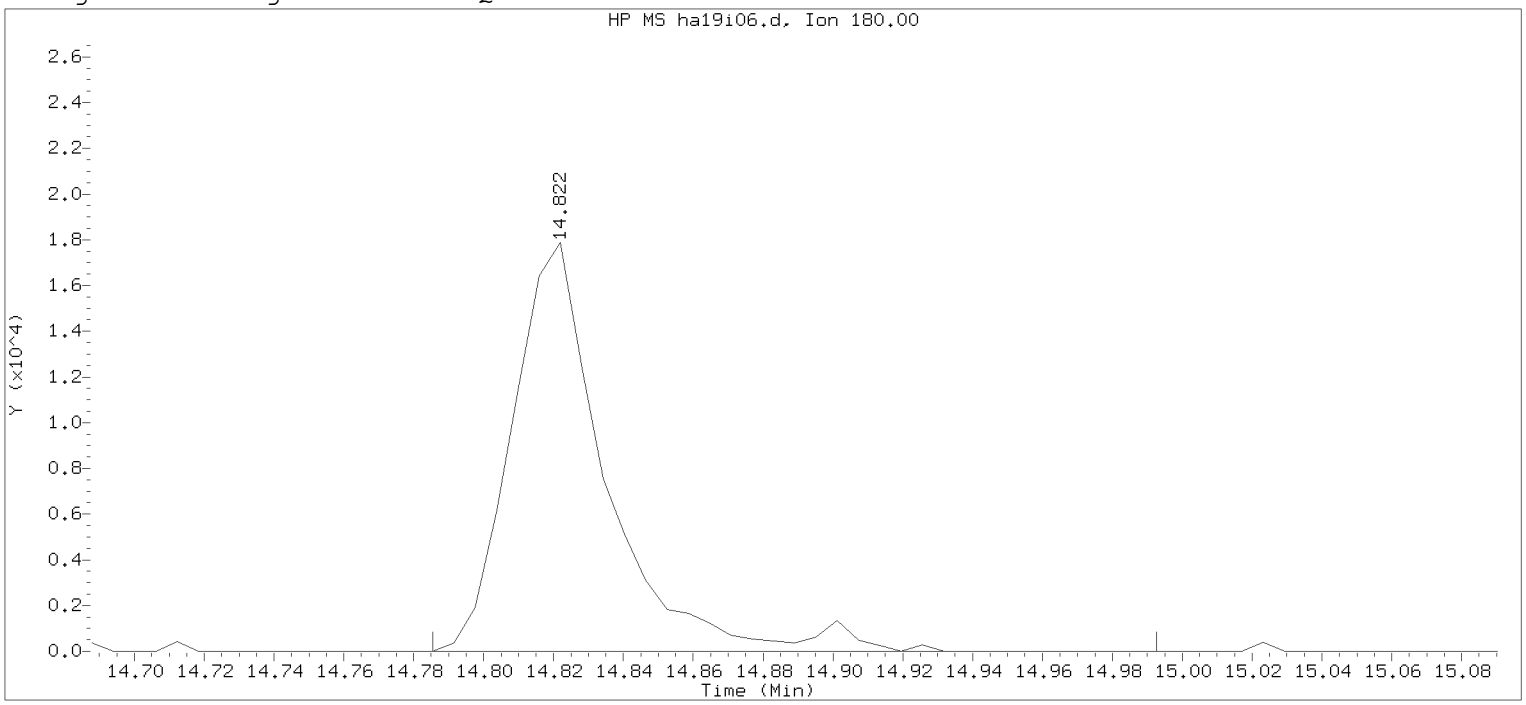
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



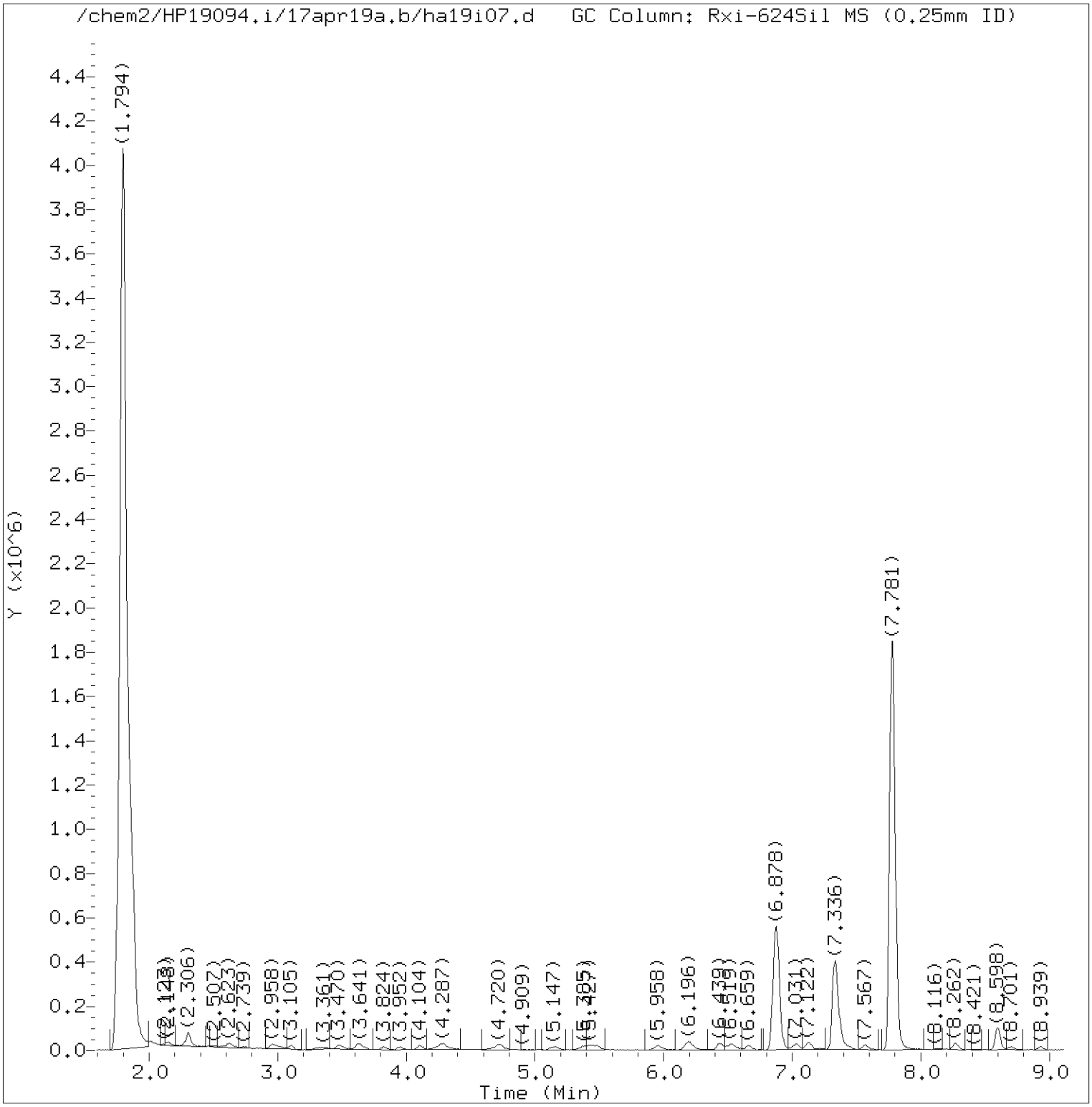
Data File: /chem2/HP19094.i/17apr19a.b/ha19i06.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 13:40 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 13:58
Date, time and analyst ID of latest file update: 19-Apr-2017 13:58 Automation

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compound Number : 148
Compound Name : 1,2,3-Trichlorobenzene
Scan Number : 2171
Retention Time (minutes): 14.822
Quant Ion : 180.00
Area : 33697
On-column Amount (ng) : 0.4652
Integration start scan : 2164 Integration stop scan: 2198
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2712



Total Ion Chromatogram (TIC)

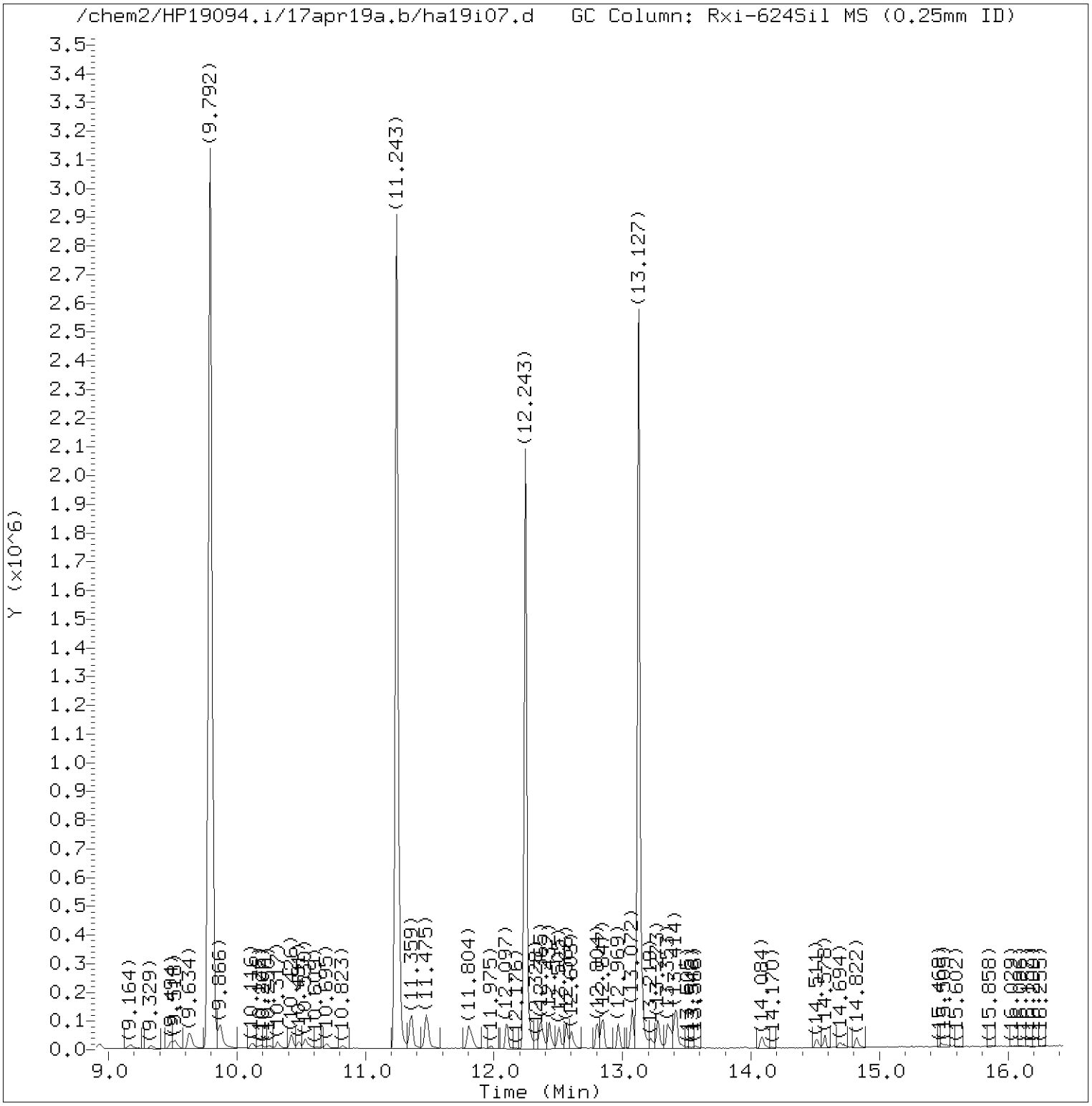
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.013	85	20246	0.196
2) Chloromethane	(2)	2.154	50	24937	0.230
5) Vinyl Chloride	(2)	2.294	62	21428	0.225
6) 1,3-Butadiene	(2)	2.312	39	29750	0.198
7) Bromomethane	(2)	2.623	94	12763	0.213
8) Chloroethane	(2)	2.733	64	12858	0.236
9) Dichlorofluoromethane	(2)	2.958	67	26975	0.215
10) Trichlorofluoromethane	(2)	3.001	101	21854	0.198
11) Ethyl ether	(2)	3.312	59	9318	0.213
12) Freon 123a	(2)	3.361	67	14711M	0.177
13) Acrolein	(1)	3.470	56	47366	9.004
15) 1,1-Dichloroethene	(2)	3.617	96	11046	0.186
16) Freon 113	(2)	3.641	101	10199	0.164
14) Acetone	(1)	3.647	43	18606M	2.921
17) Methyl Iodide	(2)	3.824	142	20954	0.190
18) Carbon Disulfide	(2)	3.946	76	31065	0.187
21) Methyl Acetate	(1)	4.044	43	3859	0.178
22) Allyl Chloride	(2)	4.104	41	23113	0.201
26)*t-Butyl Alcohol-d10	(1)	4.269	65	69135	50.000
23) Methylene Chloride	(2)	4.293	84	13412	0.207
28) t-Butyl Alcohol	(1)	4.367	59	6268M	3.624
29) Acrylonitrile	(1)	4.629	53	6386	0.742
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	21661	0.182
31) trans-1,2-Dichloroethene	(2)	4.739	96	12281	0.188
32) n-Hexane	(2)	5.135	57	13894	0.139
33) 1,1-Dichloroethane	(2)	5.366	63	22956	0.178
34) di-Isopropyl Ether	(2)	5.427	45	40075	0.182
35) 2-Chloro-1,3-Butadiene	(2)	5.482	53	18472	0.169
37) Ethyl t-butyl ether	(2)	5.952	59	29316	0.173
40) 1,2-Dichloroethene (Total)	(2)		96	26137	0.377
38) 2-Butanone	(1)	6.177	43	20357	1.567
39) cis-1,2-Dichloroethene	(2)	6.196	96	13856	0.190
41) 2,2-Dichloropropane	(2)	6.208	77	18757	0.194
42) Propionitrile	(1)	6.275	54	11215M	3.633
45) Methacrylonitrile	(1)	6.439	67	22223	1.722
47) Bromochloromethane	(2)	6.519	128	6531	0.226
48) Tetrahydrofuran	(1)	6.543	71	5077	1.564
49) Chloroform	(2)	6.659	83	24058	0.197

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.878	113	584209	9.758
50)$Dibromofluoromethane	(2)	6.878	111	601893	9.788
51) 1,1,1-Trichloroethane	(2)	6.909	97	20081	0.194
52) Cyclohexane	(2)	7.031	56	19710	0.154
52) Cyclohexane	(2)	7.043	84	15620M	0.159
52) Cyclohexane	(2)	7.025	69	5133	0.143
55) 1,1-Dichloropropene	(2)	7.122	75	16557	0.172
54) Carbon Tetrachloride	(2)	7.141	117	16436	0.189
56) Isobutyl Alcohol	(1)	7.214	41	8405	11.260
57)$1,2-Dichloroethane-d4	(2)	7.342	102	93064	9.613
57)$1,2-Dichloroethane-d4	(2)	7.336	65	471539	10.007
57)$1,2-Dichloroethane-d4	(2)	7.336	104	59004	10.056
58) Benzene	(2)	7.372	78	53395	0.191
59) 1,2-Dichloroethane	(2)	7.433	62	11962	0.179
60) t-Amyl methyl ether	(2)	7.567	73	24093	0.175
63)*Fluorobenzene	(2)	7.781	96	2670698	10.000
62) n-Heptane	(2)	7.811	43	19508	0.165
65) n-Butanol	(1)	8.146	56	10386M	18.897
67) Trichloroethene	(2)	8.262	95	15322	0.207
70) 1,2-Dichloropropane	(2)	8.585	63	13449	0.184
69) Methylcyclohexane	(2)	8.591	83	22748	0.182
72) 1,4-Dioxane	(1)	8.604	88	712	2.156
71) Methyl Methacrylate	(1)	8.671	69	2959M	0.125
73) Dibromomethane	(2)	8.713	93	5276	0.188
74) Bromodichloromethane	(2)	8.933	83	14508	0.188
76) 2-Nitropropane	(1)	9.164	41	14850	1.907
80) cis-1,3-Dichloropropene	(2)	9.488	75	14406	0.166
81) 4-Methyl-2-Pentanone	(1)	9.634	43	58585	1.702
82)$Toluene-d8	(3)	9.792	98	2536575	10.420
82)$Toluene-d8	(3)	9.792	100	1622755	10.352
83) Toluene	(3)	9.866	92	32248	0.200
84) trans-1,3-Dichloropropene	(3)	10.122	75	12482	0.199
85) 1,3-Dichloropropene (total)	(3)		75	26888	0.365
86) Ethyl Methacrylate	(3)	10.183	69	8110	0.175
88) 1,1,2-Trichloroethane	(3)	10.323	97	7397	0.198
89) Tetrachloroethene	(3)	10.426	166	14657	0.196
90) 1,3-Dichloropropane	(3)	10.481	76	14147	0.212
91) 2-Hexanone	(1)	10.530	43	41737	1.720

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	9151	0.207
95) 1,2-Dibromoethane	(3)	10.823	107	7111	0.201
97)*Chlorobenzene-d5	(3)	11.243	117	1665343	10.000
98) Chlorobenzene	(3)	11.268	112	34464	0.196
99) 1,1,1,2-Tetrachloroethane	(3)	11.353	131	11214	0.192
100) Ethylbenzene	(3)	11.359	91	57644	0.185
101) m+p-Xylene	(3)	11.475	106	41138	0.347
105) Xylene (Total)	(3)		106	59980	0.513
104) o-Xylene	(3)	11.798	106	18842	0.166
106) Styrene	(3)	11.822	104	28140	0.160
107) Bromoform	(3)	11.975	173	4183	0.189
108) Isopropylbenzene	(3)	12.103	105	50541	0.170
111)$4-Bromofluorobenzene	(3)	12.243	95	661705	9.567
111)$4-Bromofluorobenzene	(3)	12.243	174	591325	9.605
113) 1,1,2,2-Tetrachloroethane	(4)	12.328	83	9493	0.219
114) Bromobenzene	(4)	12.359	156	13715	0.208
115) trans-1,4-Dichloro-2-butene	(1)	12.359	53	11684	1.278
116) 1,2,3-Trichloropropane	(4)	12.389	110	2540	0.234
117) n-Propylbenzene	(4)	12.432	91	66474	0.188
119) 2-Chlorotoluene	(4)	12.511	126	12768	0.191
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	42934	0.181
122) 4-Chlorotoluene	(4)	12.603	126	12397	0.185
125) tert-Butylbenzene	(4)	12.804	134	9993	0.194
126) Pentachloroethane	(4)	12.835	167	7770	0.201
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	41282	0.174
128) sec-Butylbenzene	(4)	12.969	105	53943	0.174
132) p-Isopropyltoluene	(4)	13.072	119	41832	0.165
131) 1,3-Dichlorobenzene	(4)	13.072	146	26095	0.201
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	671591	10.000
134) 1,4-Dichlorobenzene	(4)	13.145	146	30420	0.225
135) 1,2,3-Trimethylbenzene	(4)	13.152	120	22990	0.220
136) Benzyl Chloride	(4)	13.219	126	2226M	0.163
138) n-Butylbenzene	(4)	13.371	92	18856	0.151
139) 1,2-Dichlorobenzene	(4)	13.401	146	24037	0.208
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	866	0.170
145) 1,2,4-Trichlorobenzene	(4)	14.511	180	15367	0.207
146) Hexachlorobutadiene	(4)	14.572	225	7417	0.201
147) Naphthalene	(4)	14.688	128	22330	0.204

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

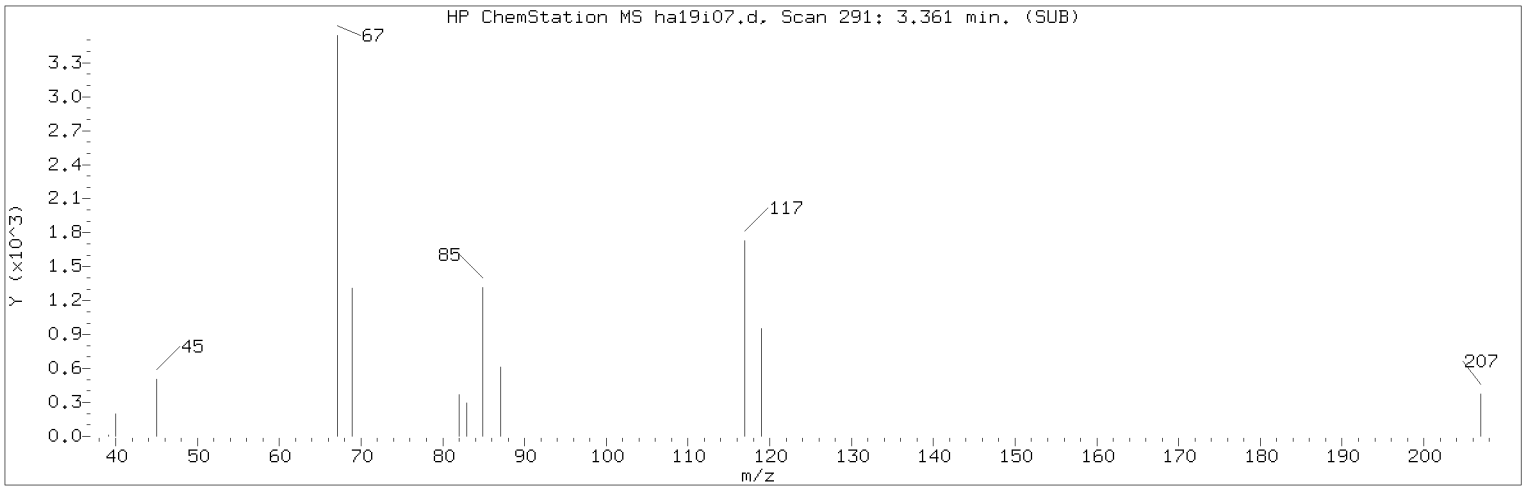
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

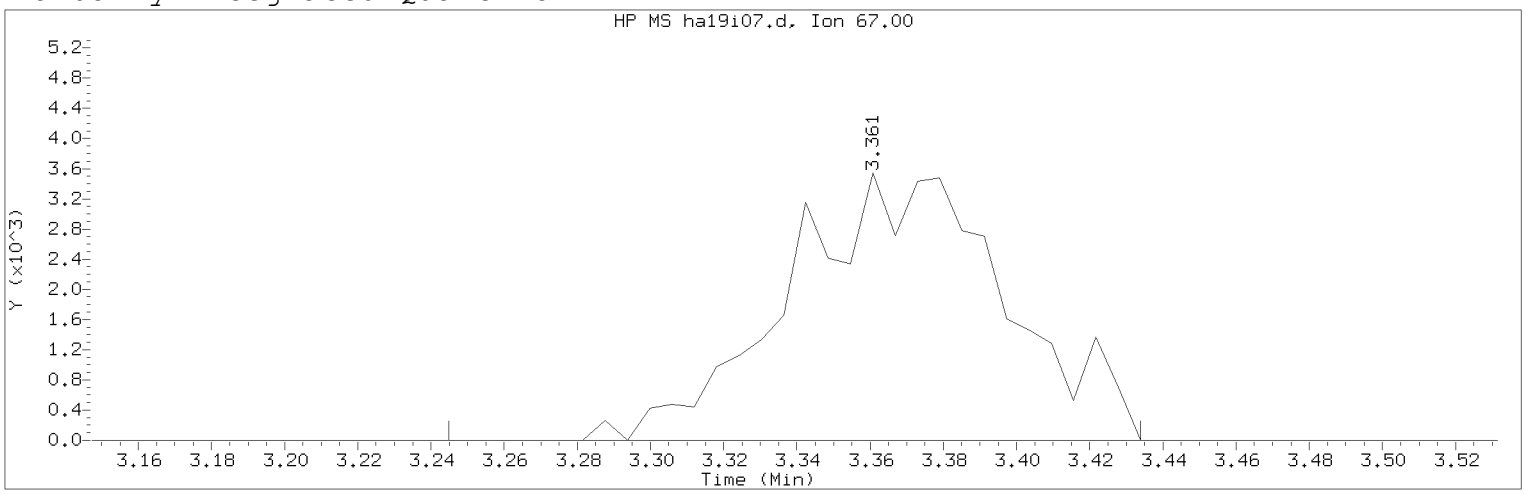
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.822	180	14668	0.233

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

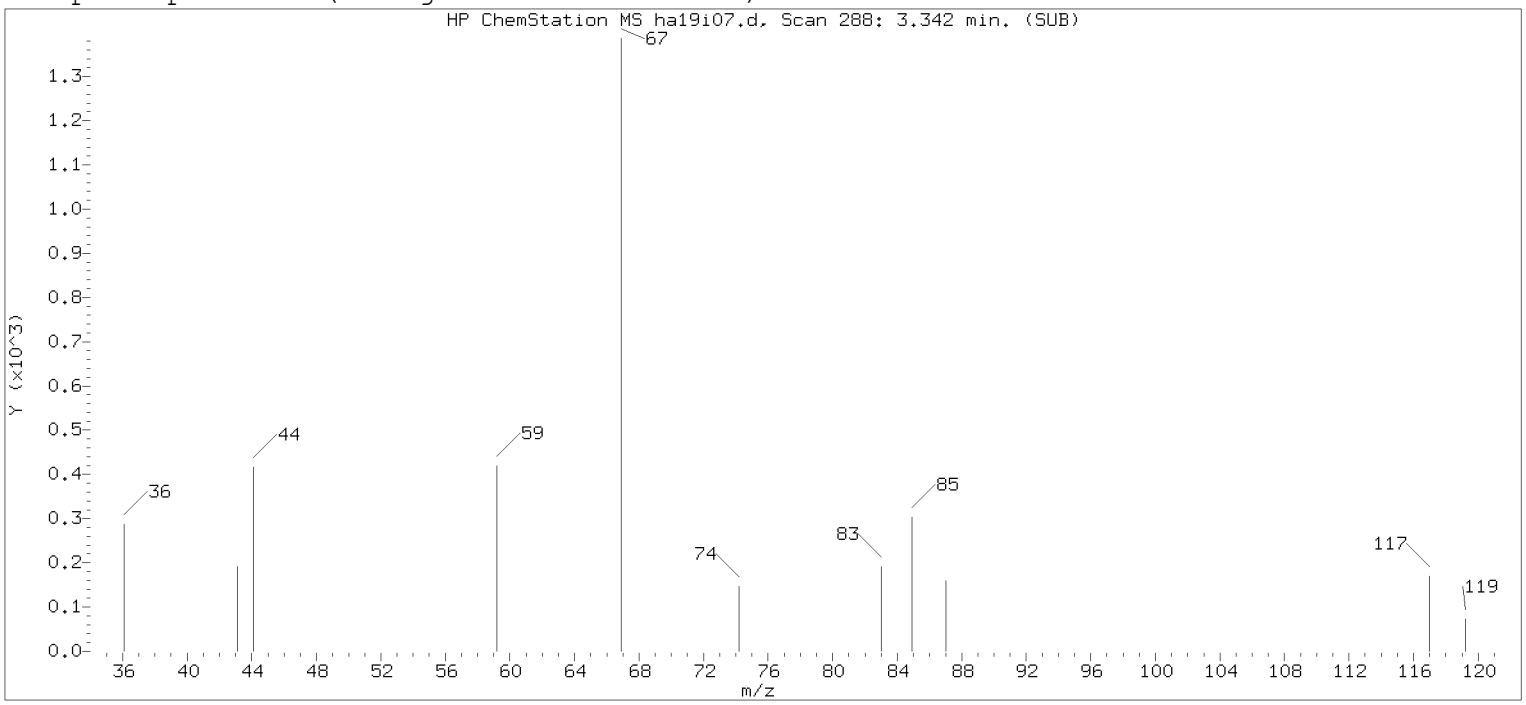
Compound Number : 12
Compound Name : Freon 123a
Scan Number : 291
Retention Time (minutes): 3.361
Quant Ion : 67.00
Area (flag) : 14711M
On-Column Amount (ng) : 0.1767
Integration start scan : 271 Integration stop scan: 302
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

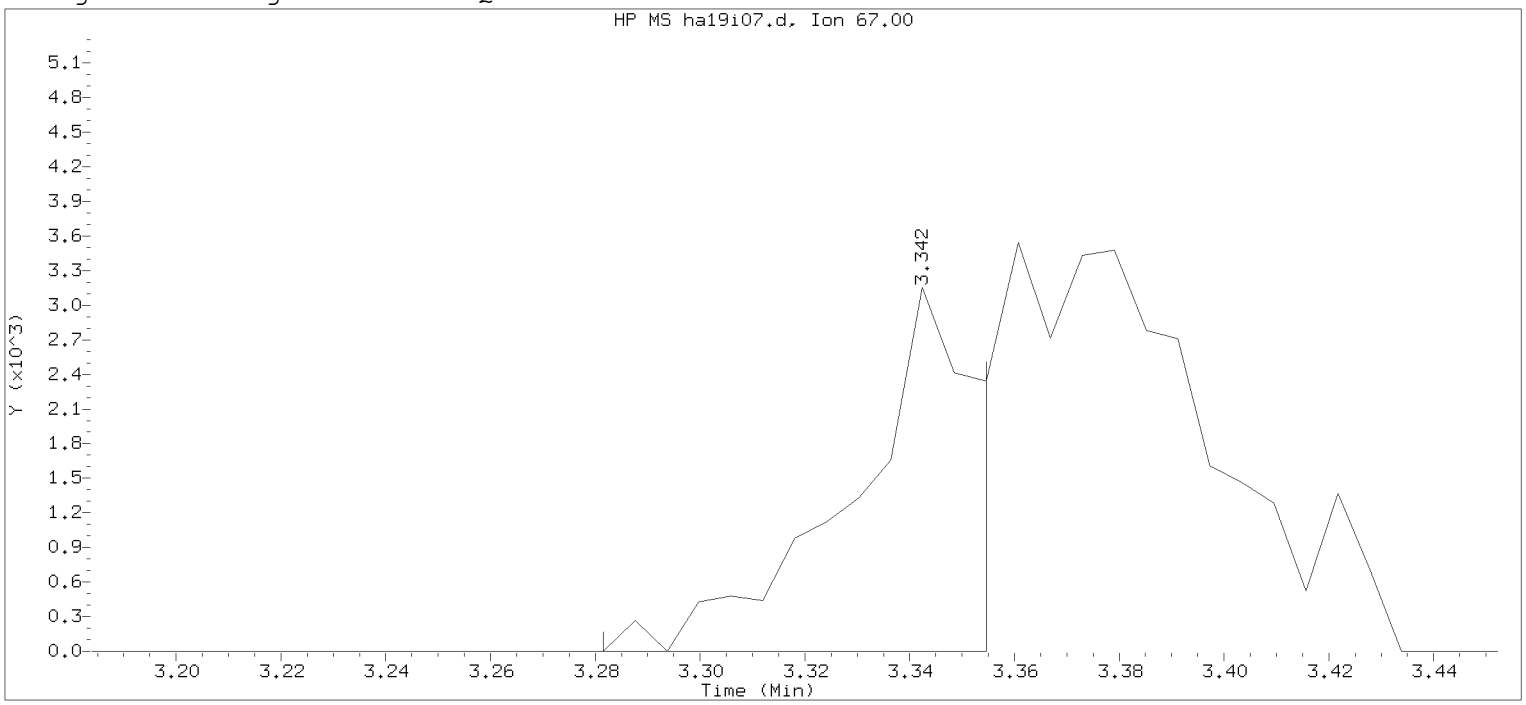
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

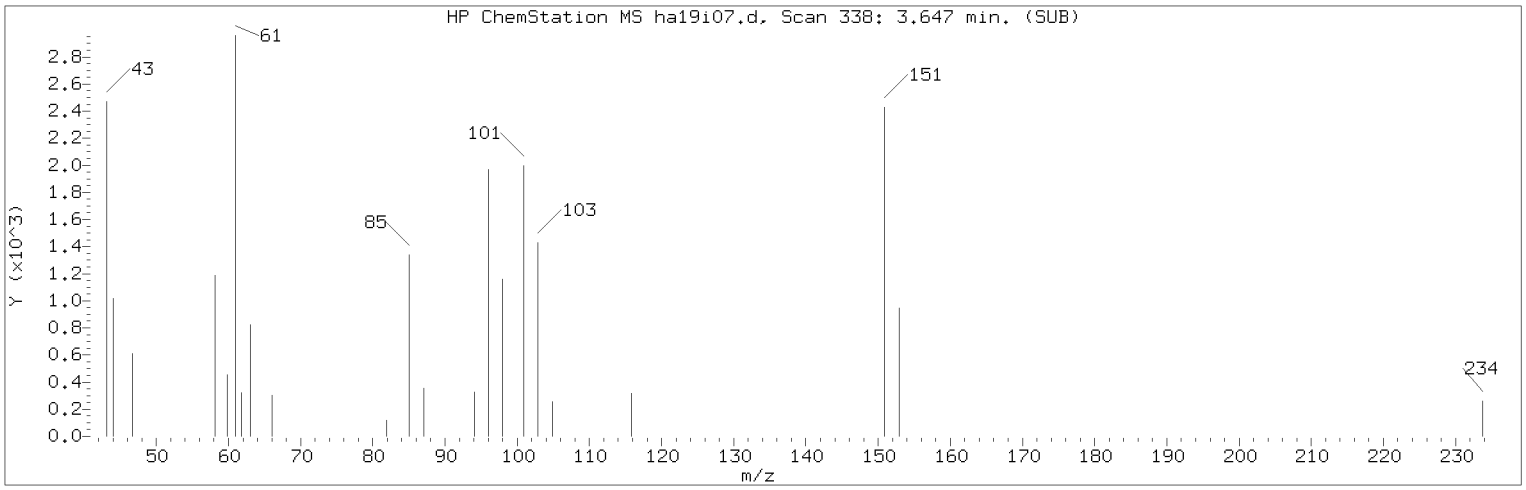
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

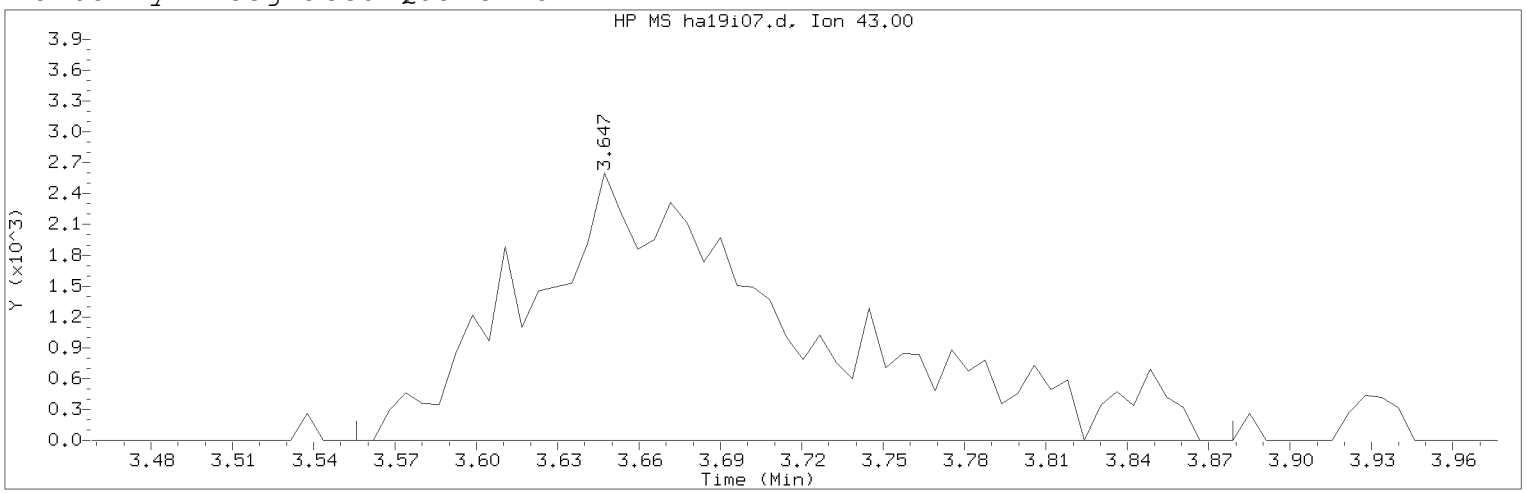
Compound Number	: 12		
Compound Name	: Freon 123a		
Scan Number	: 288		
Retention Time (minutes)	: 3.342		
Quant Ion	: 67.00		
Area	: 4919		
On-column Amount (ng)	: 0.0645		
Integration start scan	: 277	Integration stop scan:	289
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2703

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

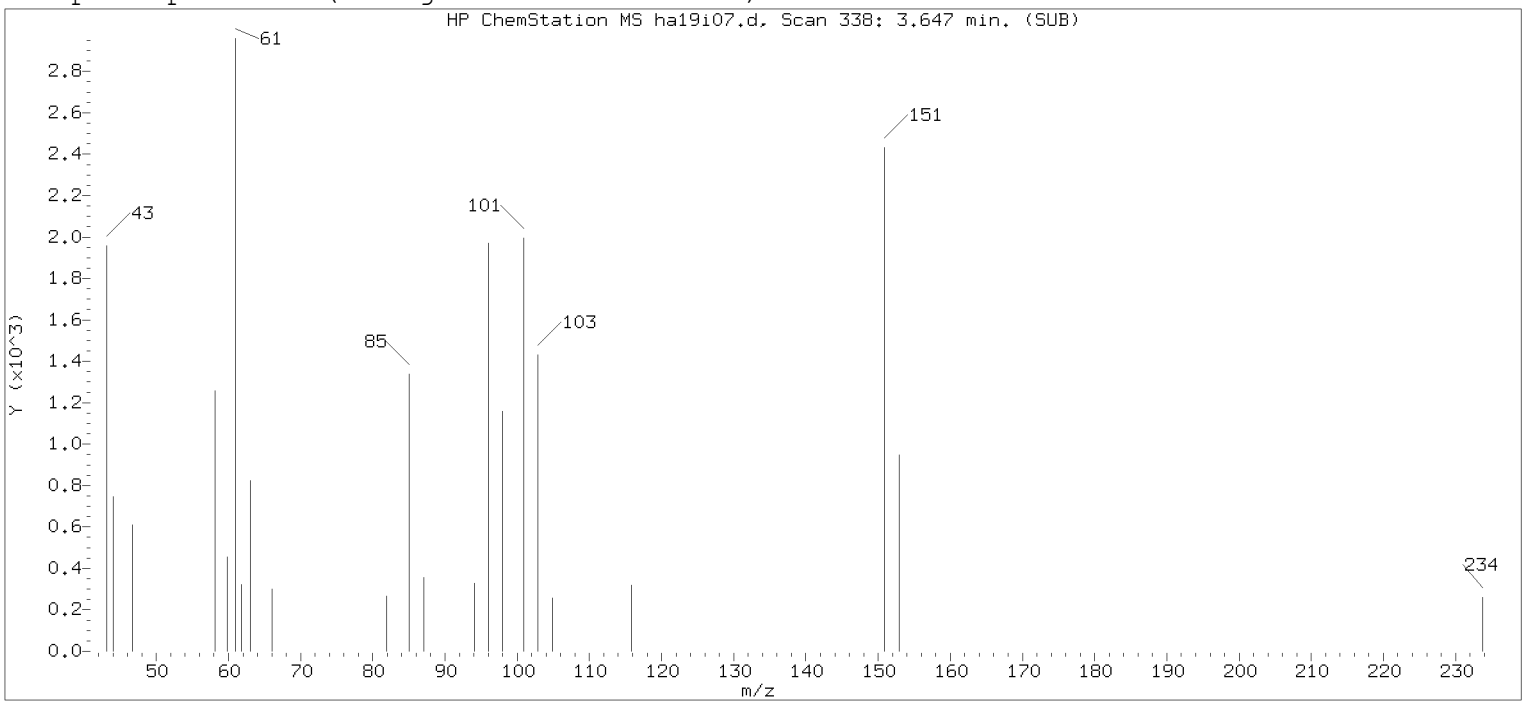
Compound Number : 14
Compound Name : Acetone
Scan Number : 338
Retention Time (minutes): 3.647
Quant Ion : 43.00
Area (flag) : 18606M
On-Column Amount (ng) : 2.9208
Integration start scan : 322 Integration stop scan: 375
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

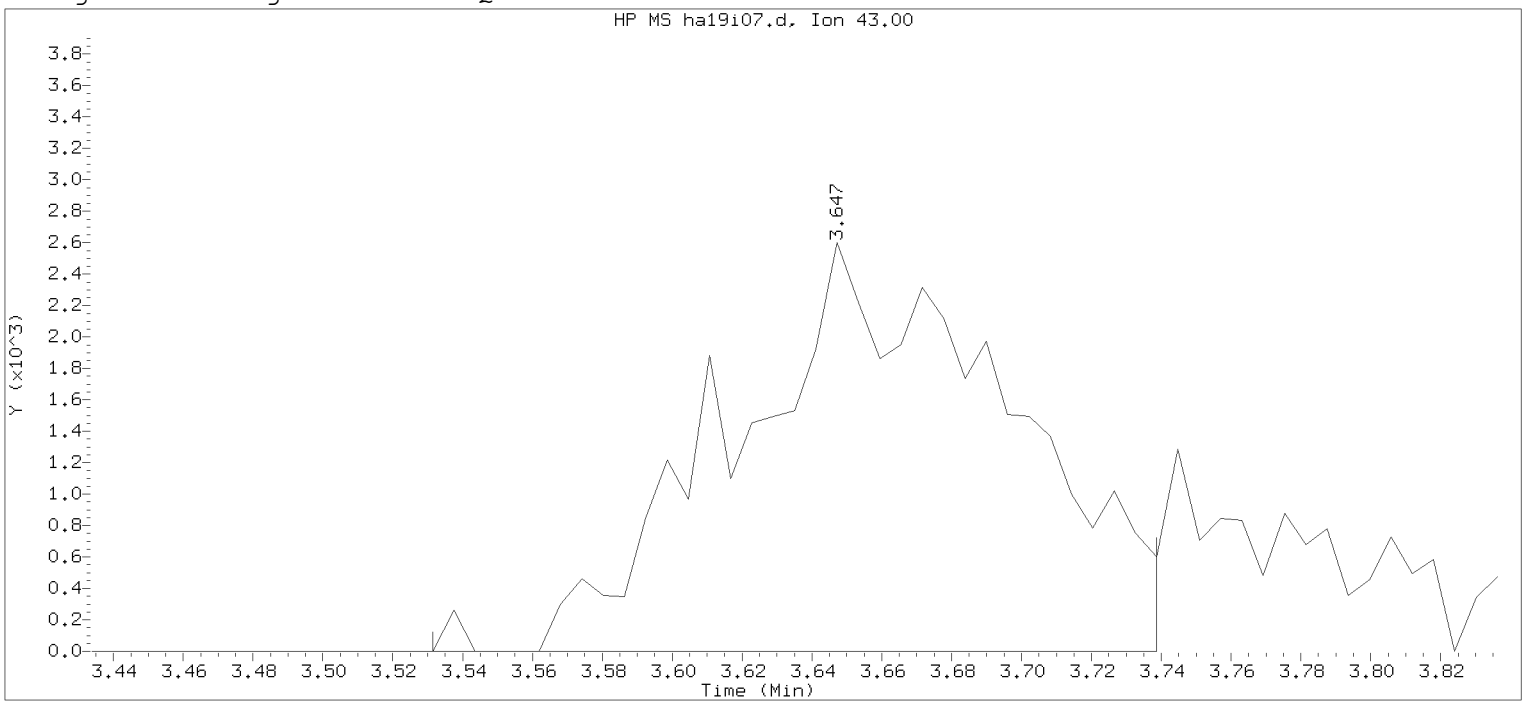
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

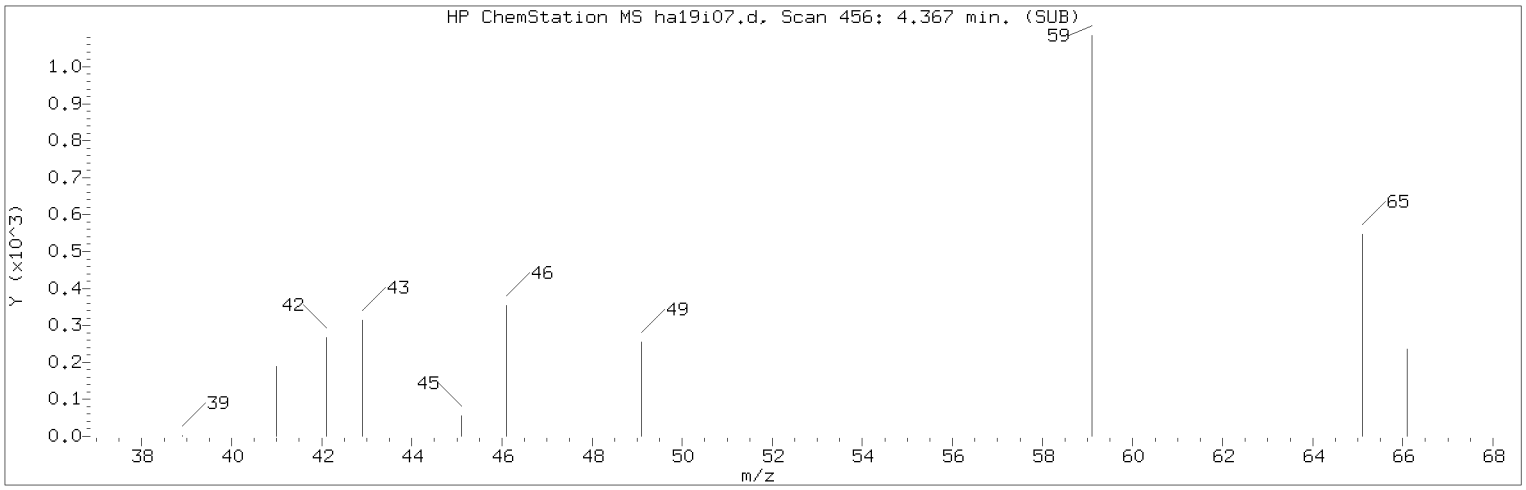
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

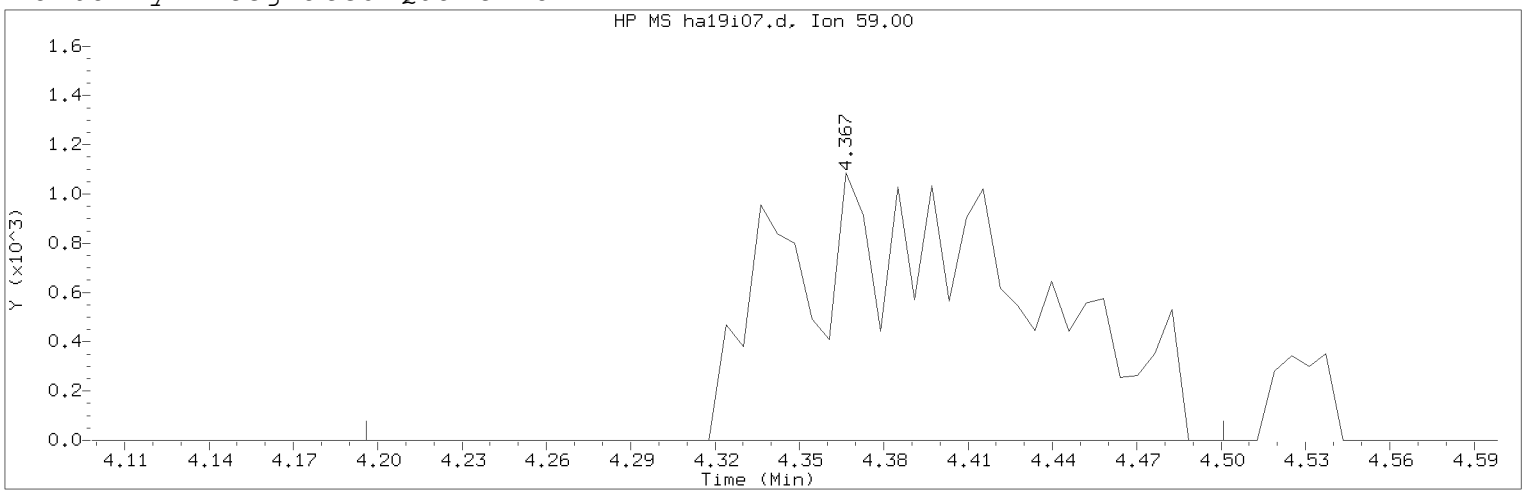
Compound Number : 14
Compound Name : Acetone
Scan Number : 338
Retention Time (minutes): 3.647
Quant Ion : 43.00
Area : 14311
On-column Amount (ng) : 2.2335
Integration start scan : 318 Integration stop scan: 352
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

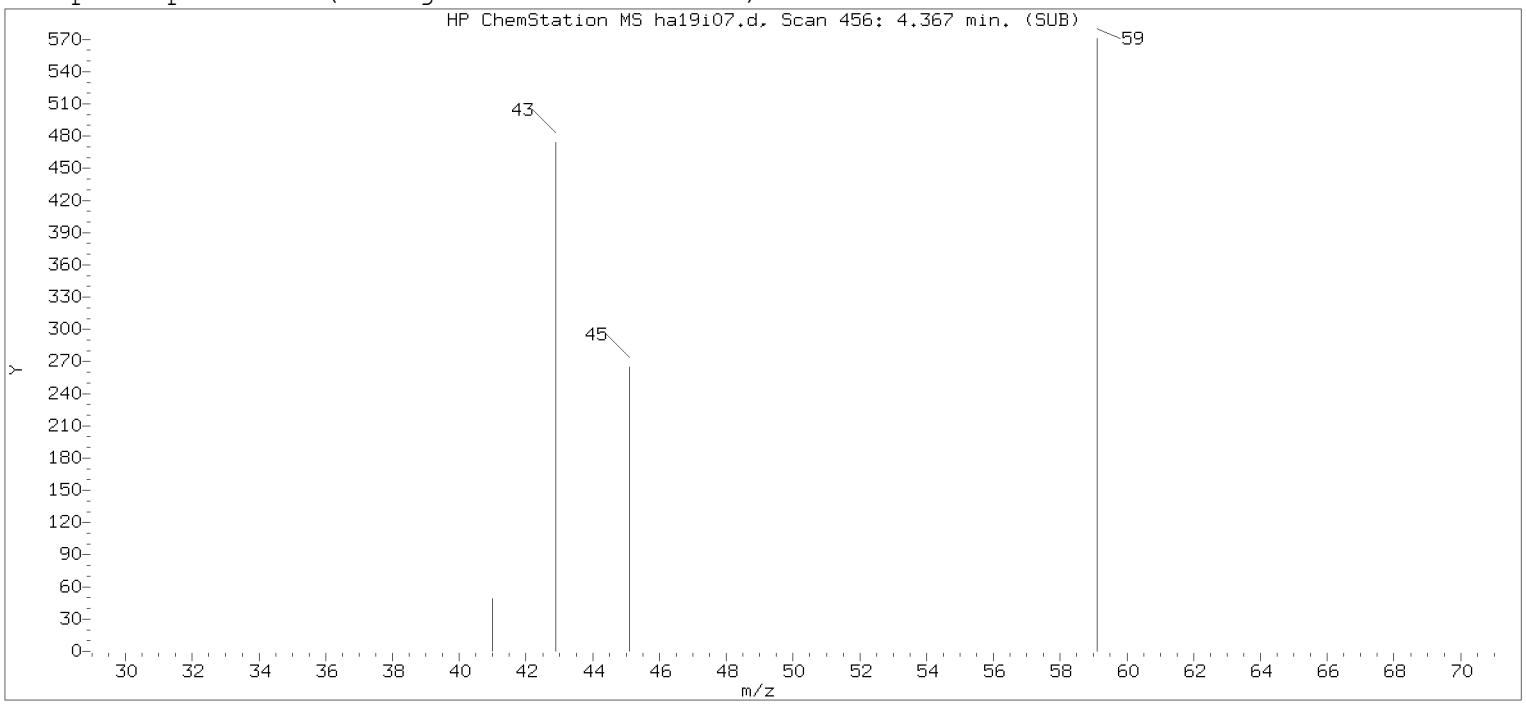
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 456
Retention Time (minutes): 4.367
Quant Ion : 59.00
Area (flag) : 6268M
On-Column Amount (ng) : 3.6236
Integration start scan : 427 Integration stop scan: 477
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

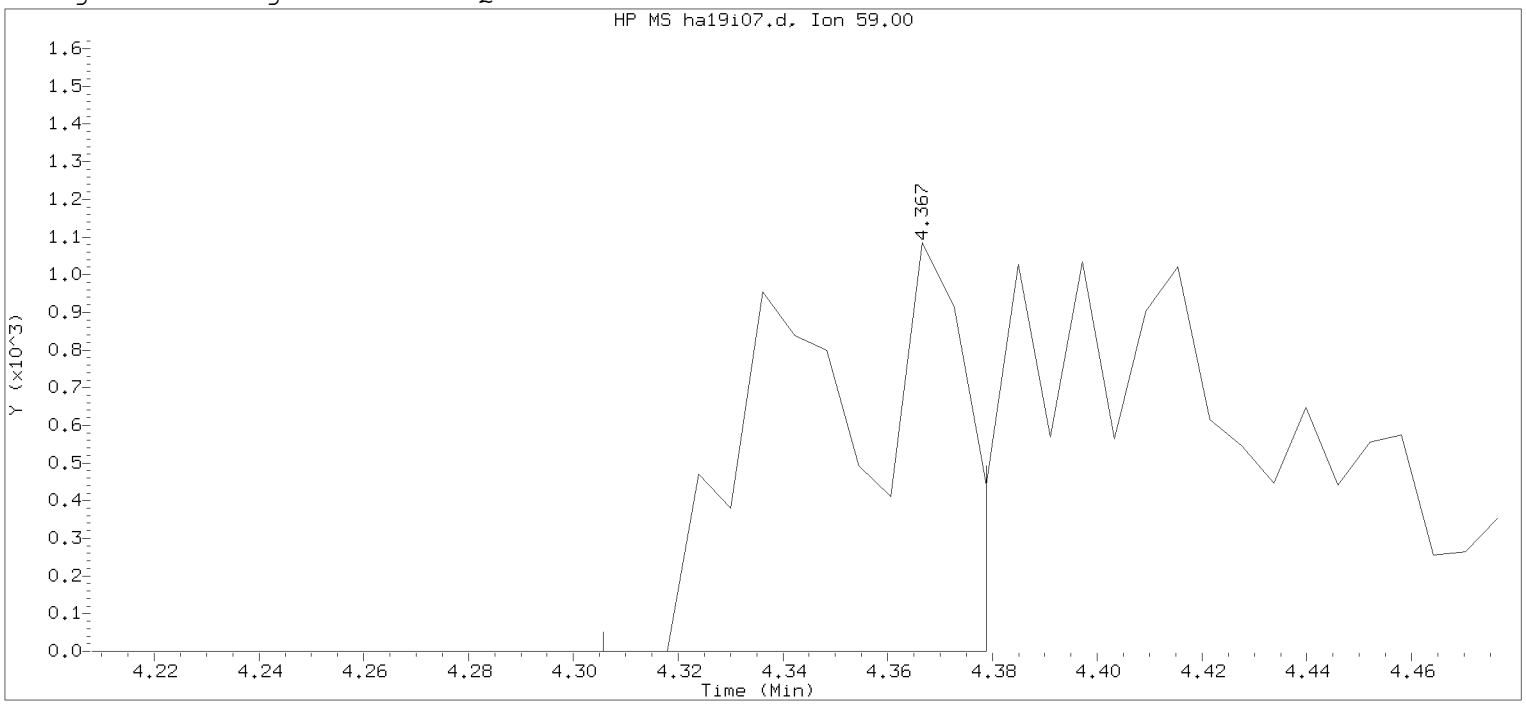
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

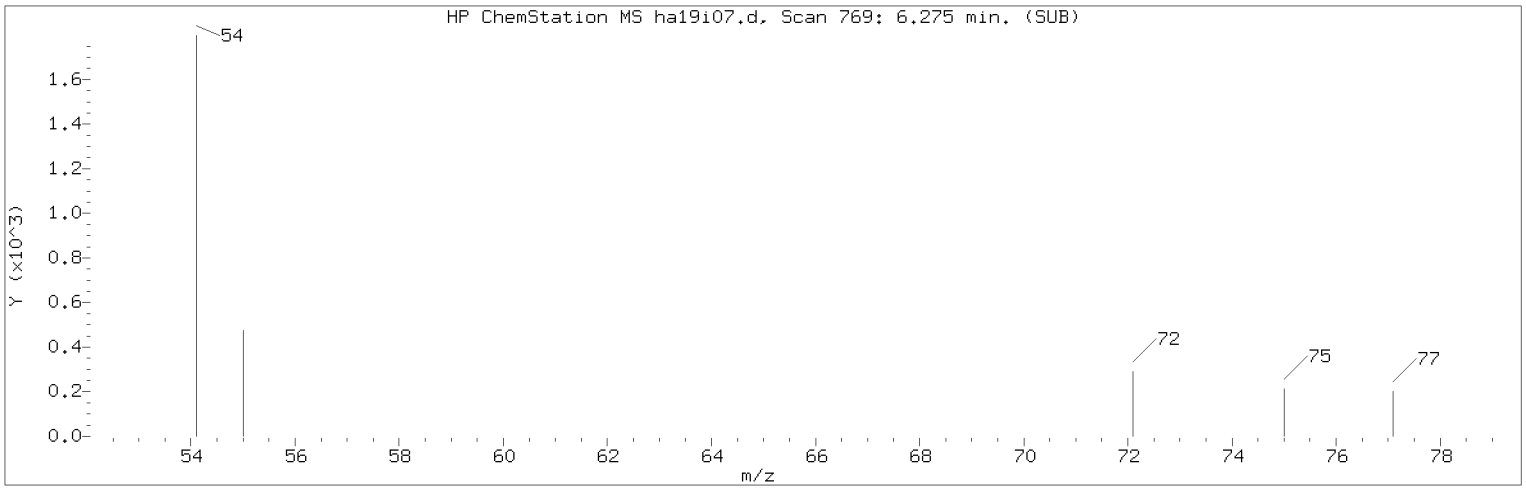
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

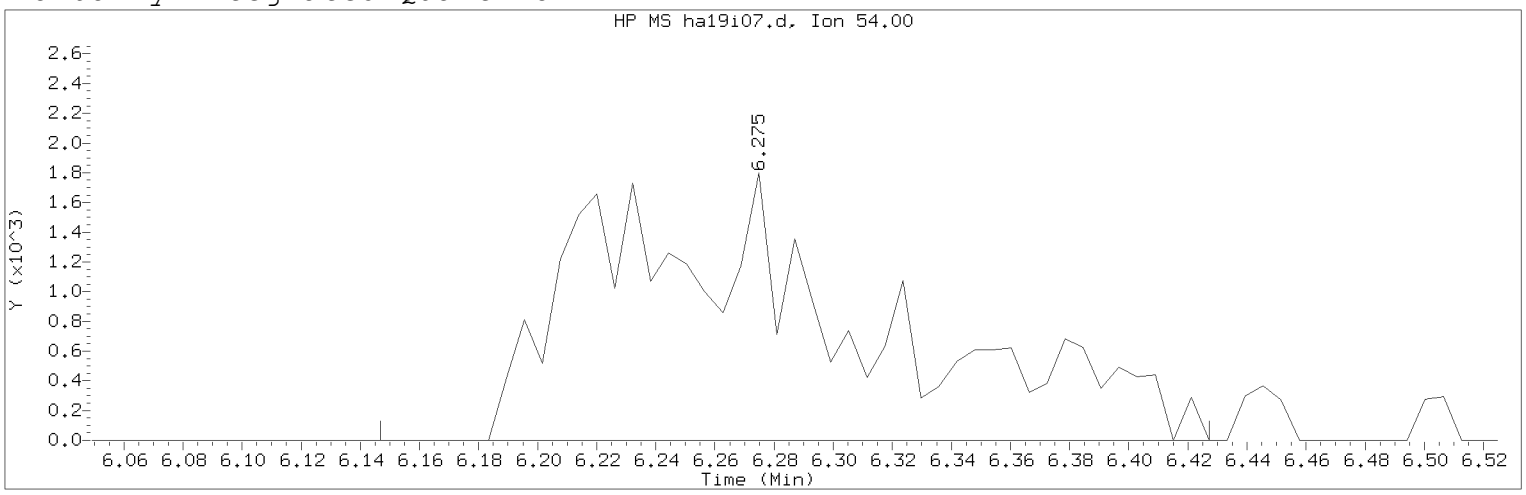
Compound Number	: 28		
Compound Name	: t-Butyl Alcohol		
Scan Number	: 456		
Retention Time (minutes)	: 4.367		
Quant Ion	: 59.00		
Area	: 2401		
On-column Amount (ng)	: 1.4320		
Integration start scan	: 445	Integration stop scan:	457
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2748

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

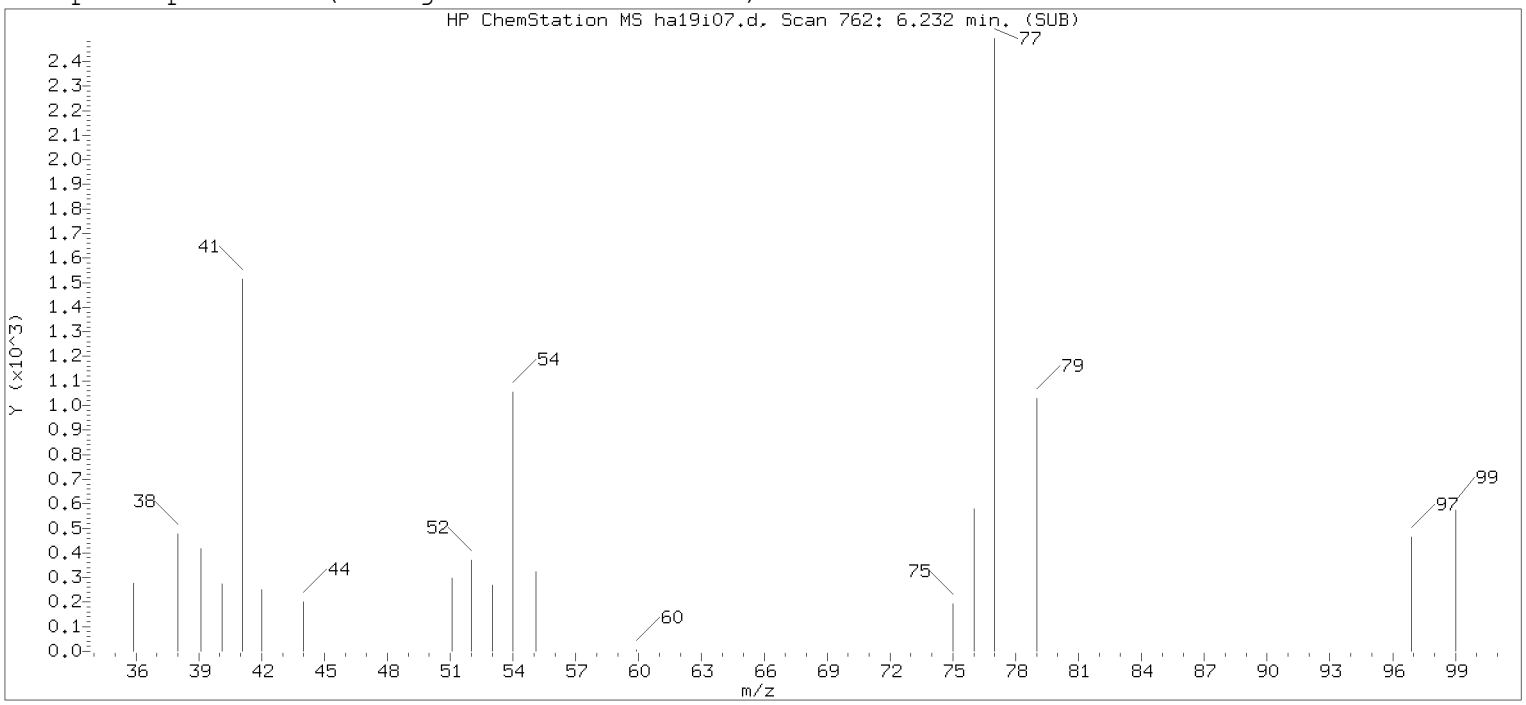
Compound Number : 42
Compound Name : Propionitrile
Scan Number : 769
Retention Time (minutes): 6.275
Quant Ion : 54.00
Area (flag) : 11215M
On-Column Amount (ng) : 3.6329
Integration start scan : 747 Integration stop scan: 793
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

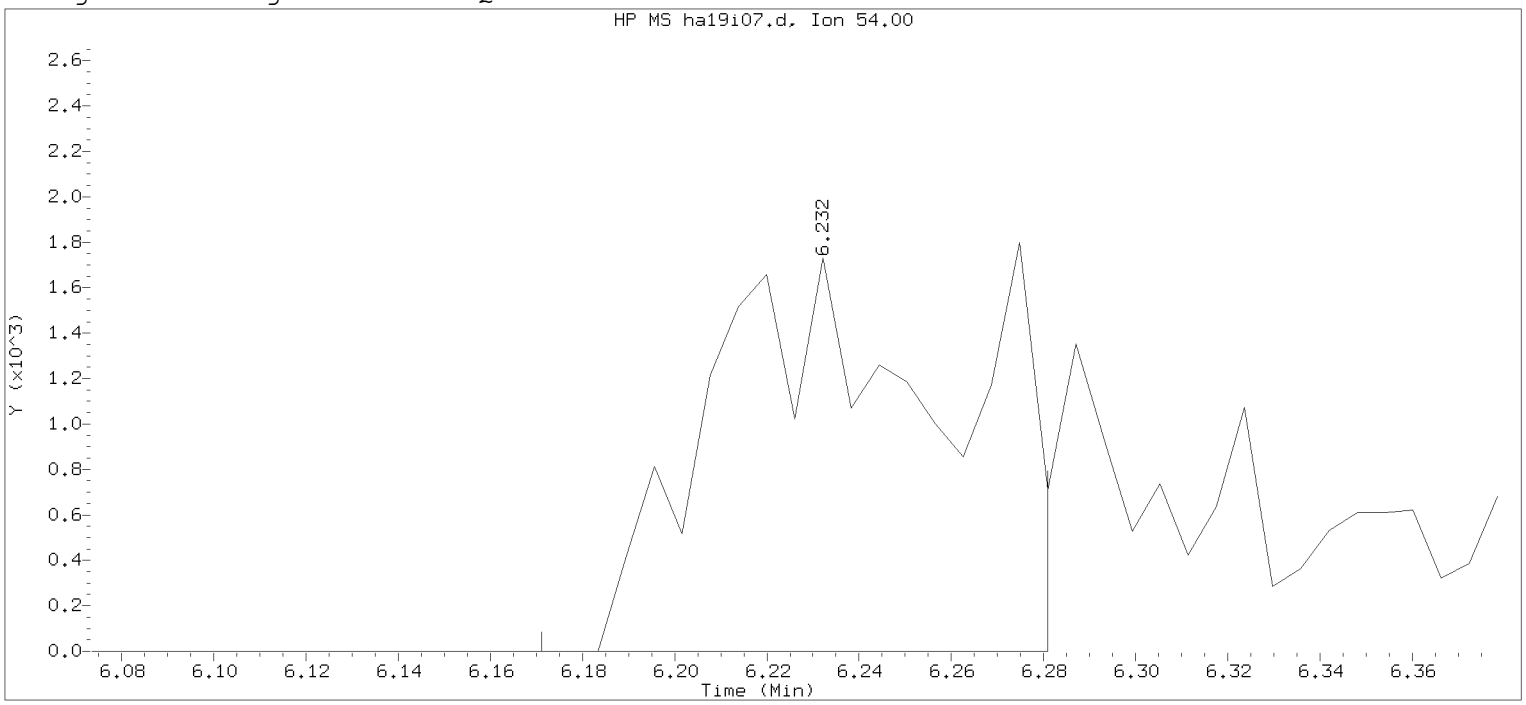
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

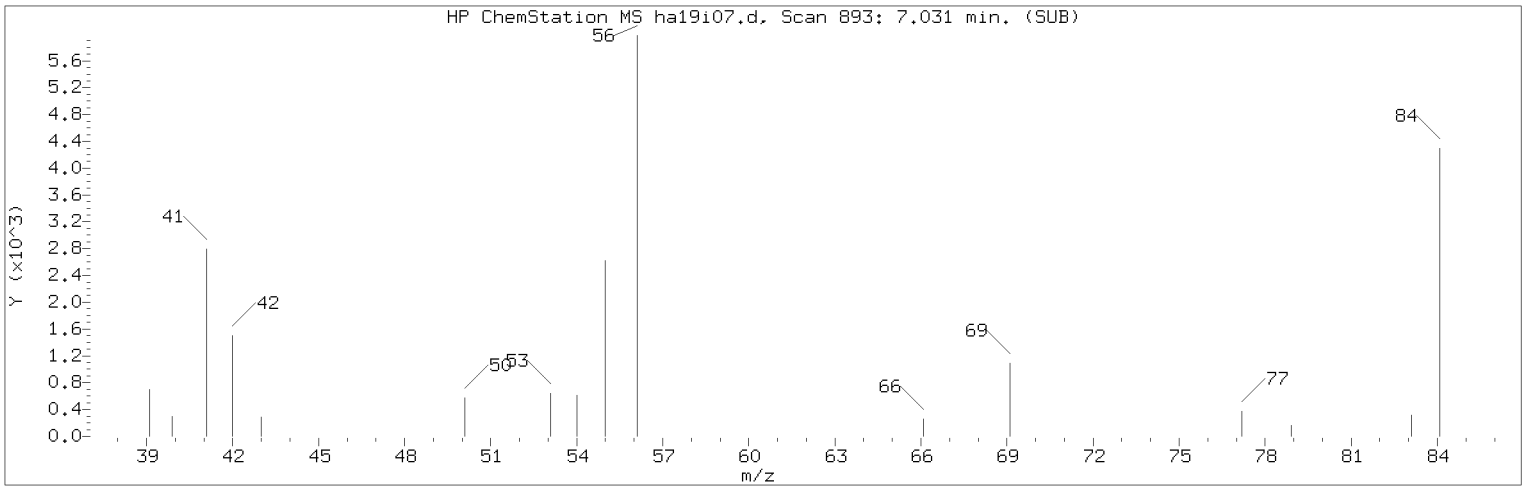
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

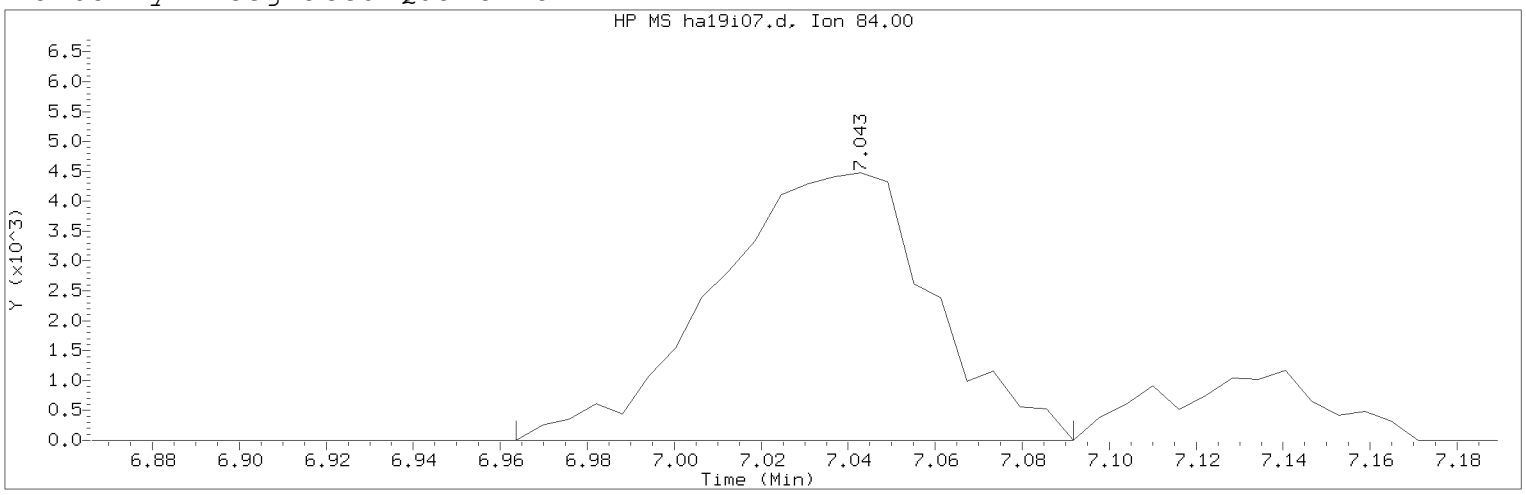
Compound Number : 42
Compound Name : Propionitrile
Scan Number : 762
Retention Time (minutes): 6.232
Quant Ion : 54.00
Area : 6433
On-column Amount (ng) : 2.1305
Integration start scan : 751 Integration stop scan: 769
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2726

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

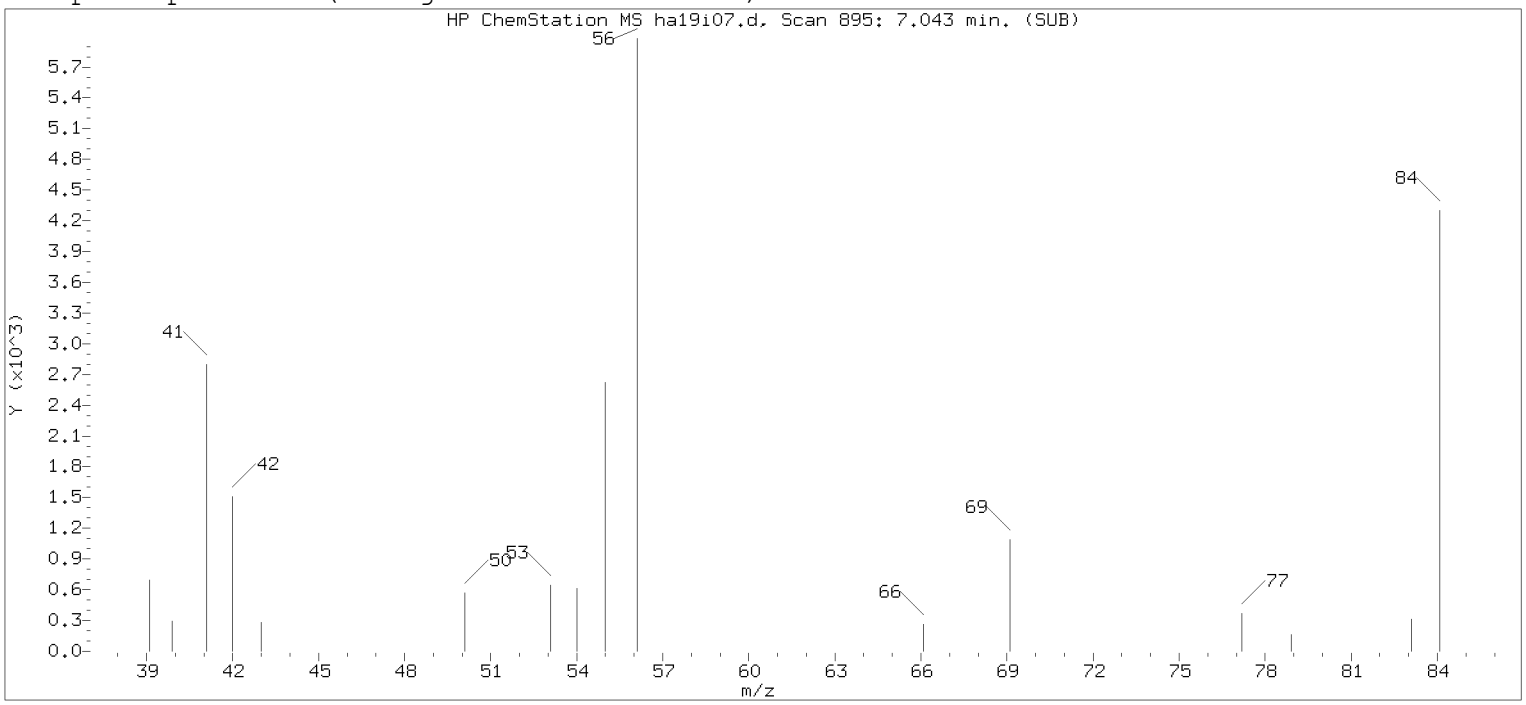
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 895
Retention Time (minutes): 7.043
Quant Ion : 84.00
Area (flag) : 15620M
On-Column Amount (ng) : 0.1589
Integration start scan : 881 Integration stop scan: 902
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

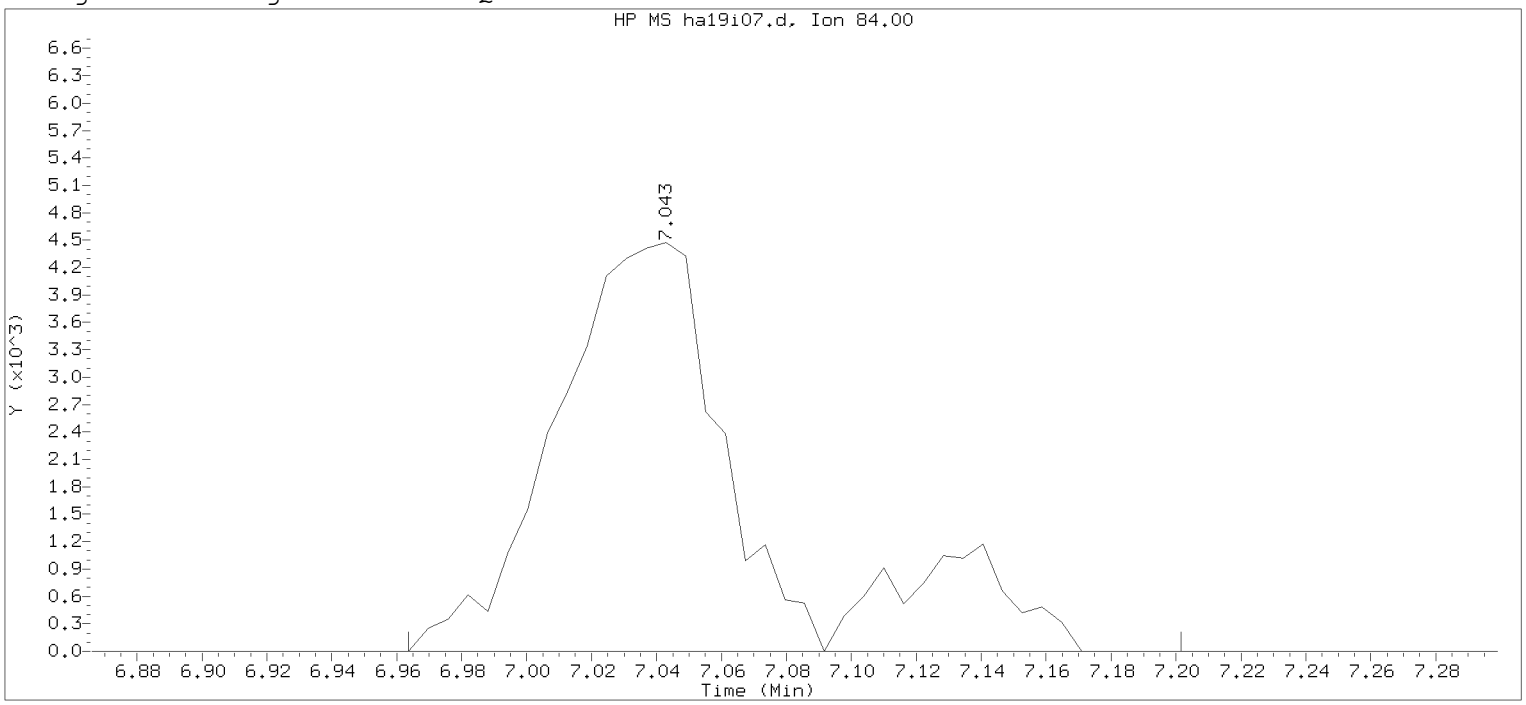
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

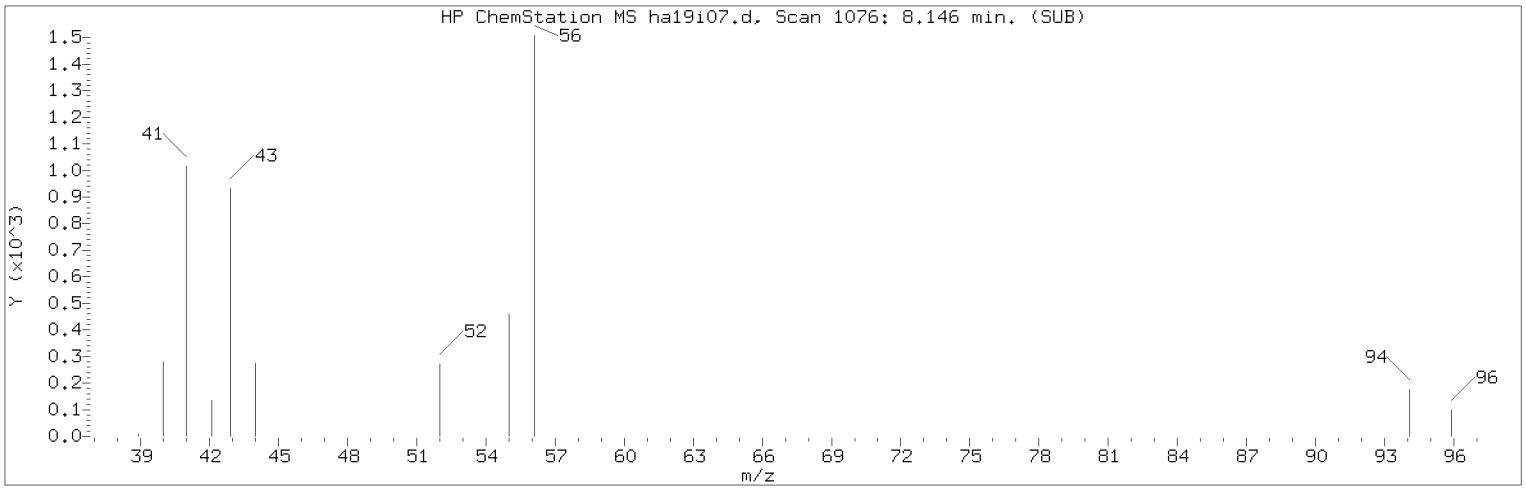
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

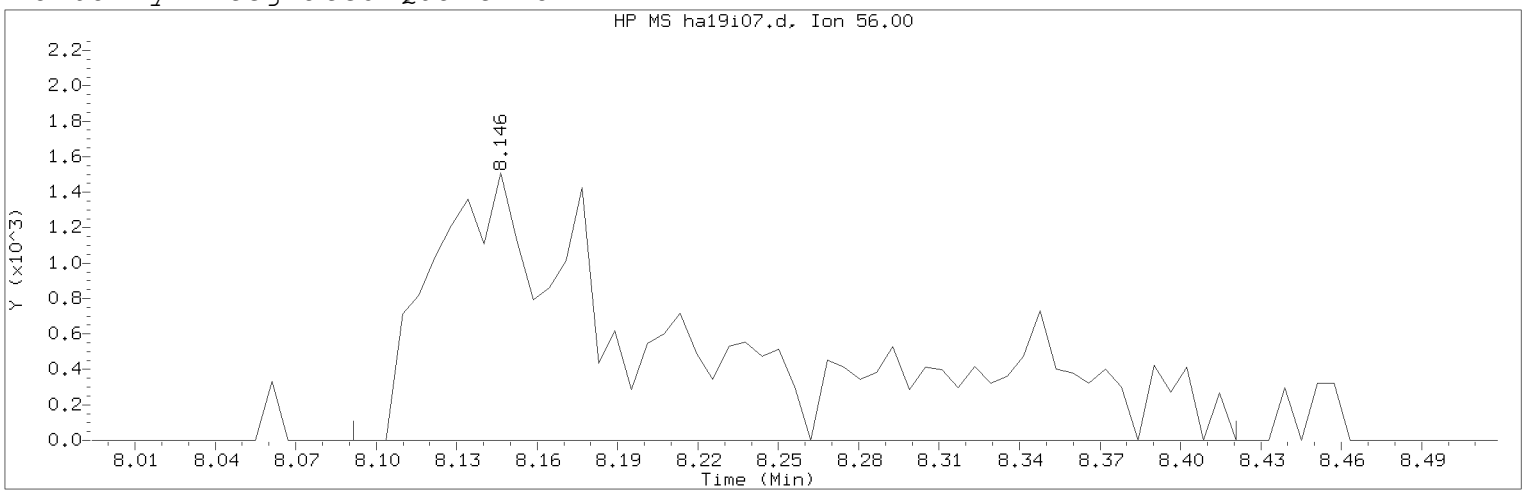
Compound Number : 52
Compound Name : Cyclohexane
Scan Number : 895
Retention Time (minutes): 7.043
Quant Ion : 84.00
Area : 18646
On-column Amount (ng) : 0.1773
Integration start scan : 881 Integration stop scan: 920
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

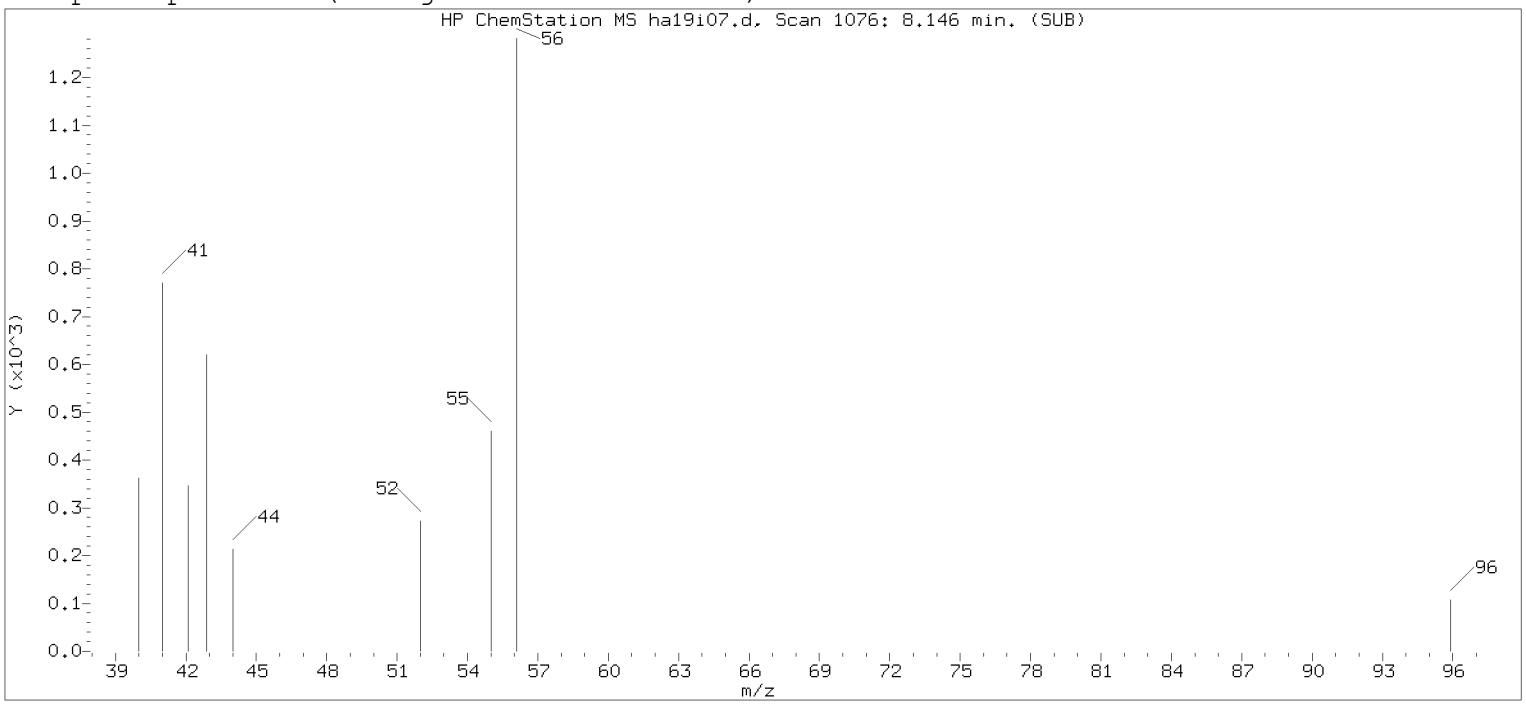
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1076
Retention Time (minutes): 8.146
Quant Ion : 56.00
Area (flag) : 10386M
On-Column Amount (ng) : 18.8968
Integration start scan : 1066 Integration stop scan: 1120
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

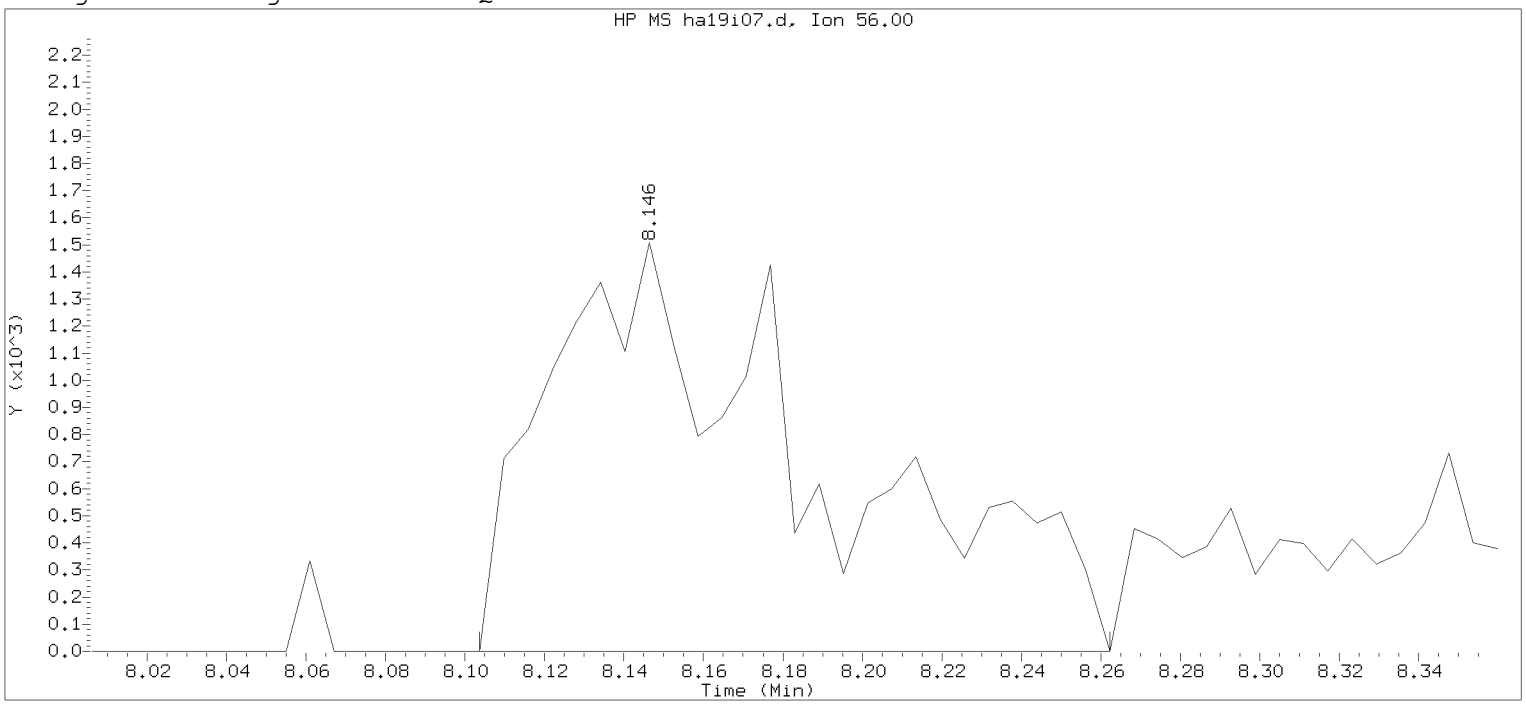
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

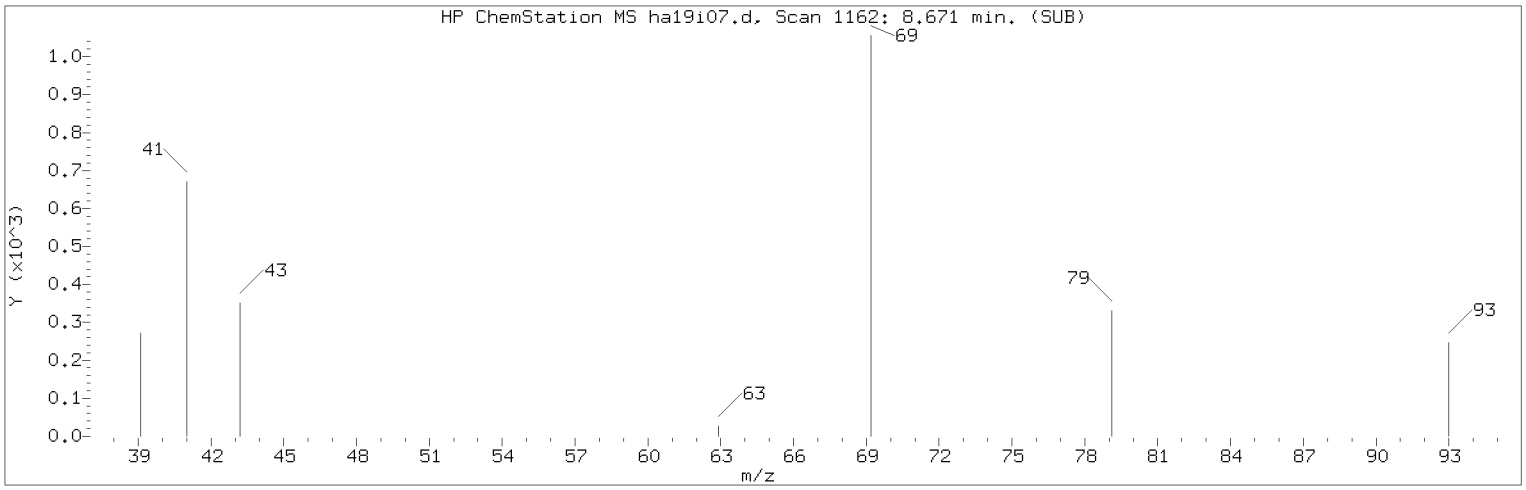
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

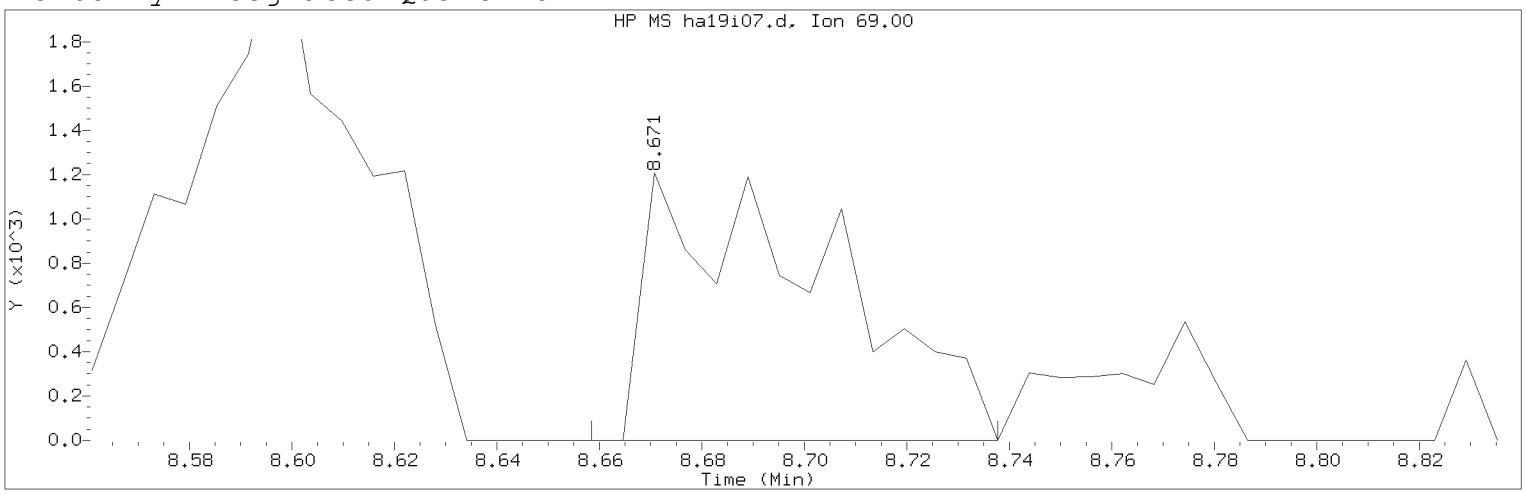
Compound Number	: 65		
Compound Name	: n-Butanol		
Scan Number	: 1076		
Retention Time (minutes)	: 8.146		
Quant Ion	: 56.00		
Area	: 7093		
On-column Amount (ng)	: 18.2964		
Integration start scan	: 1068	Integration stop scan:	1094
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2738

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

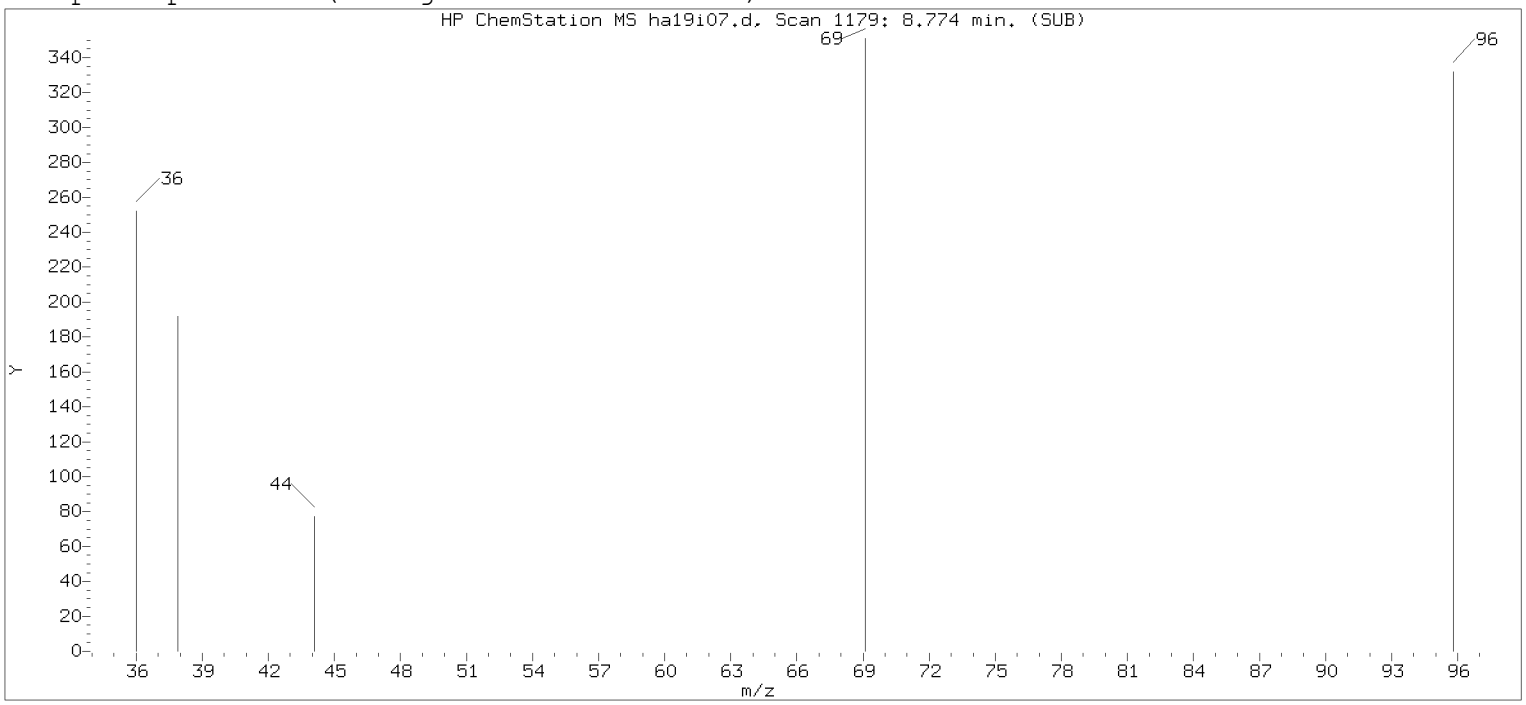
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1162
Retention Time (minutes): 8.671
Quant Ion : 69.00
Area (flag) : 2959M
On-Column Amount (ng) : 0.1253
Integration start scan : 1159 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

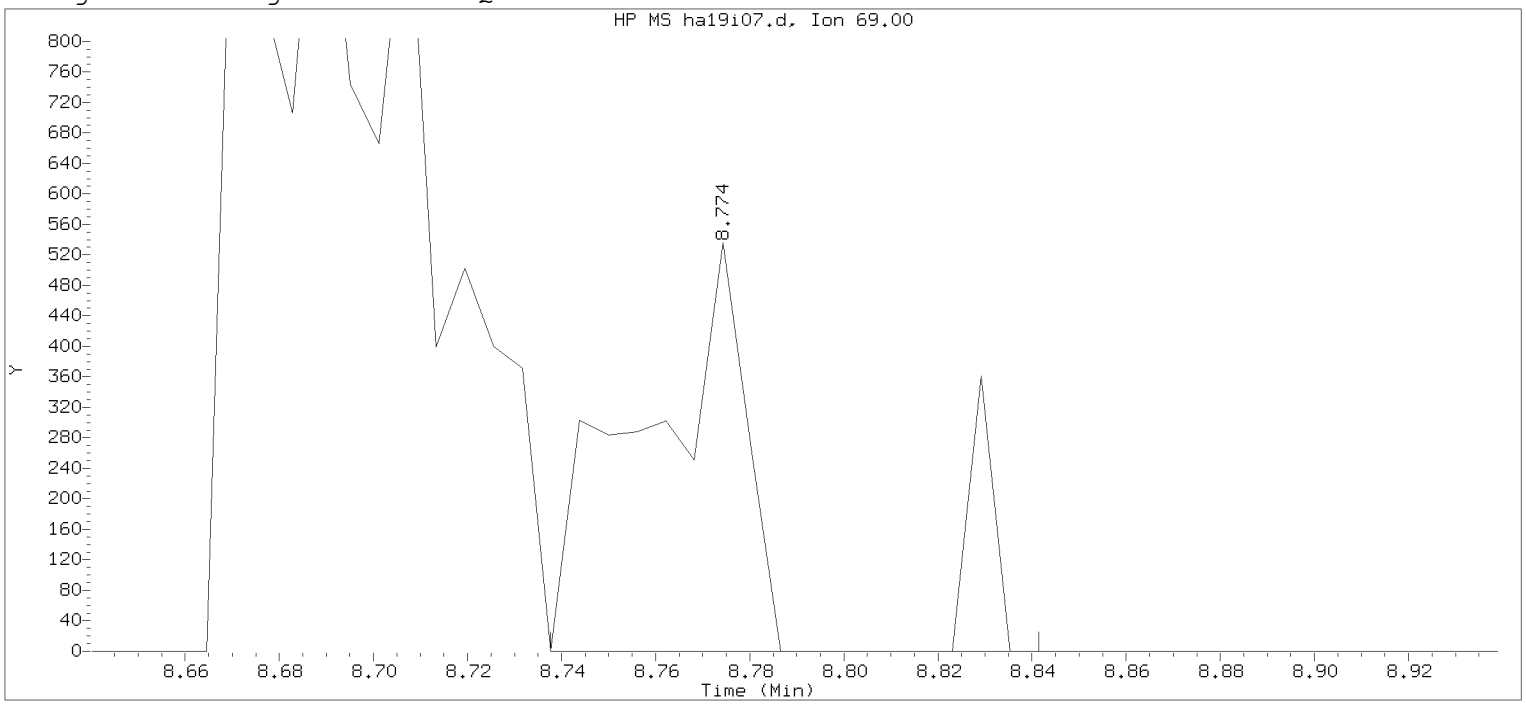
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

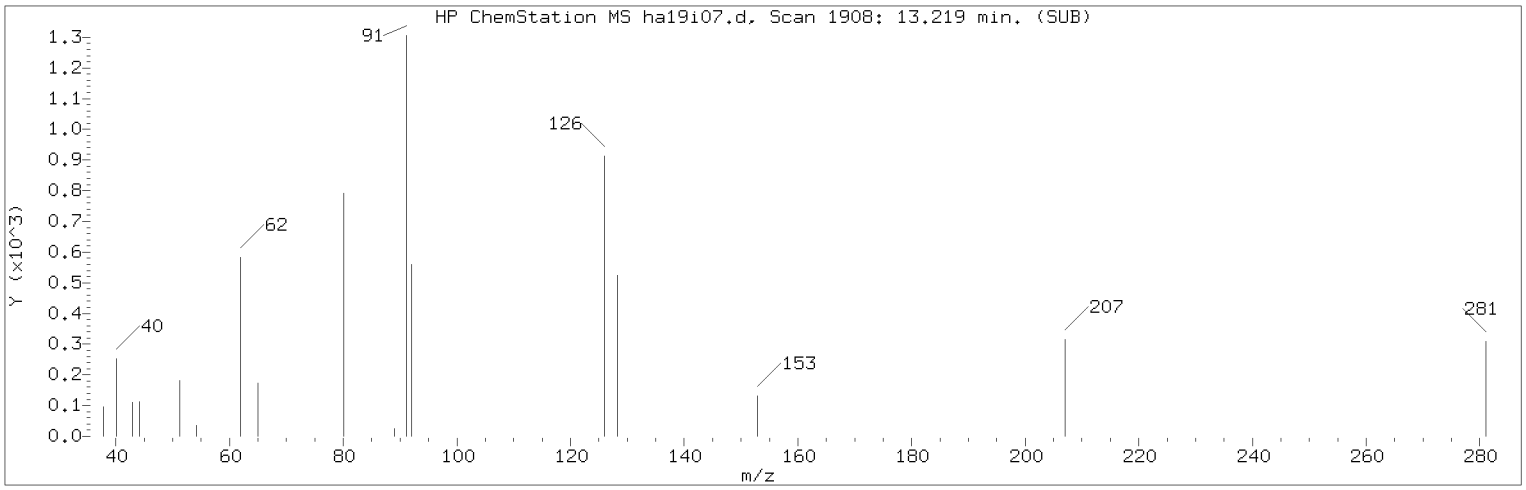
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

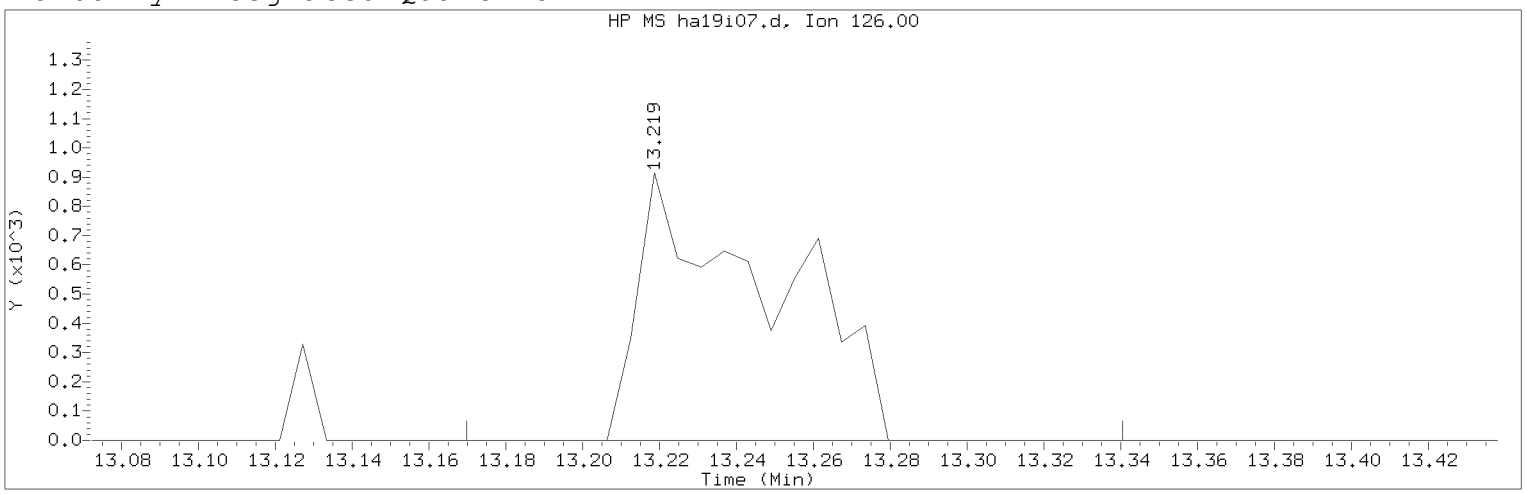
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1179
Retention Time (minutes): 8.774
Quant Ion : 69.00
Area : 945
On-column Amount (ng) : 0.0466
Integration start scan : 1172 Integration stop scan: 1189
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2732

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:25 kas02648

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

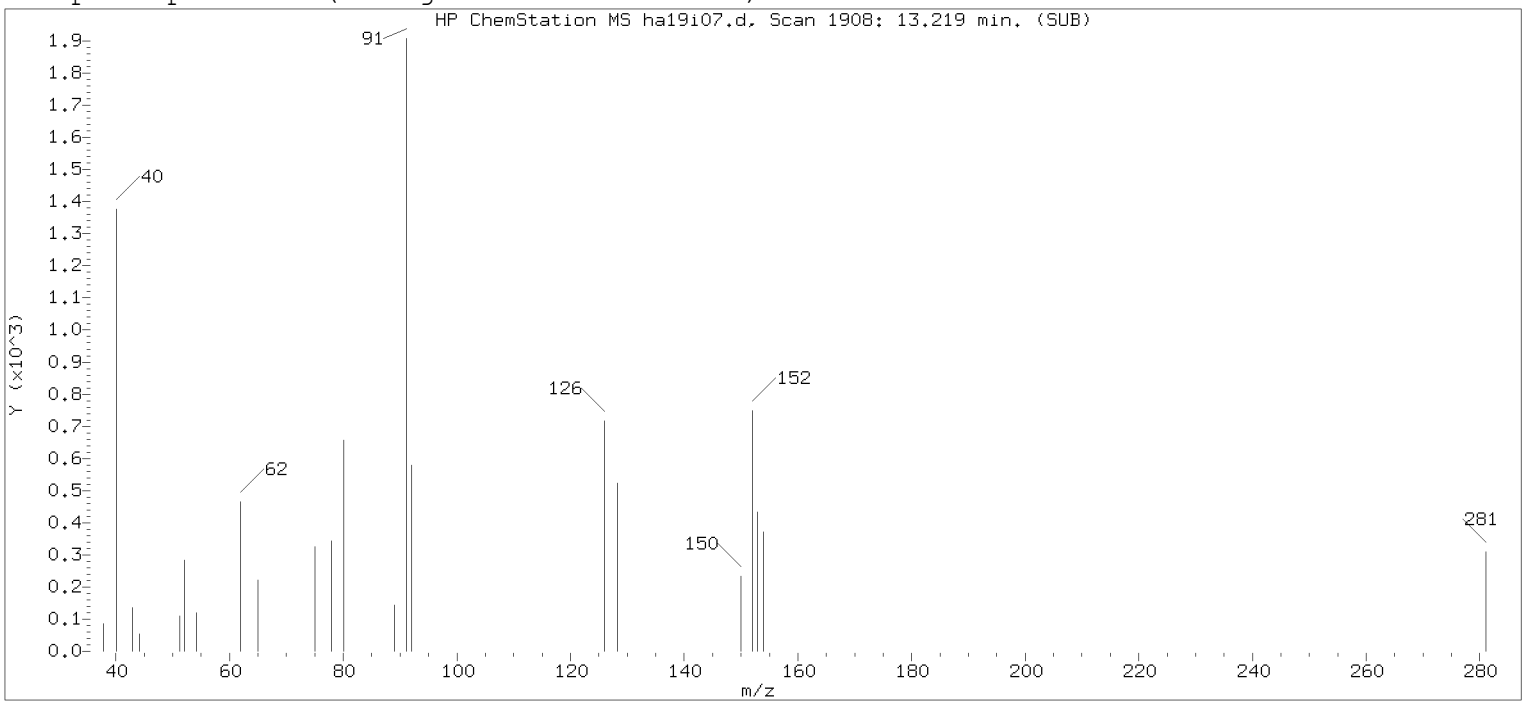
Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1908
Retention Time (minutes): 13.219
Quant Ion : 126.00
Area (flag) : 2226M
On-Column Amount (ng) : 0.1630
Integration start scan : 1899 Integration stop scan: 1927
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

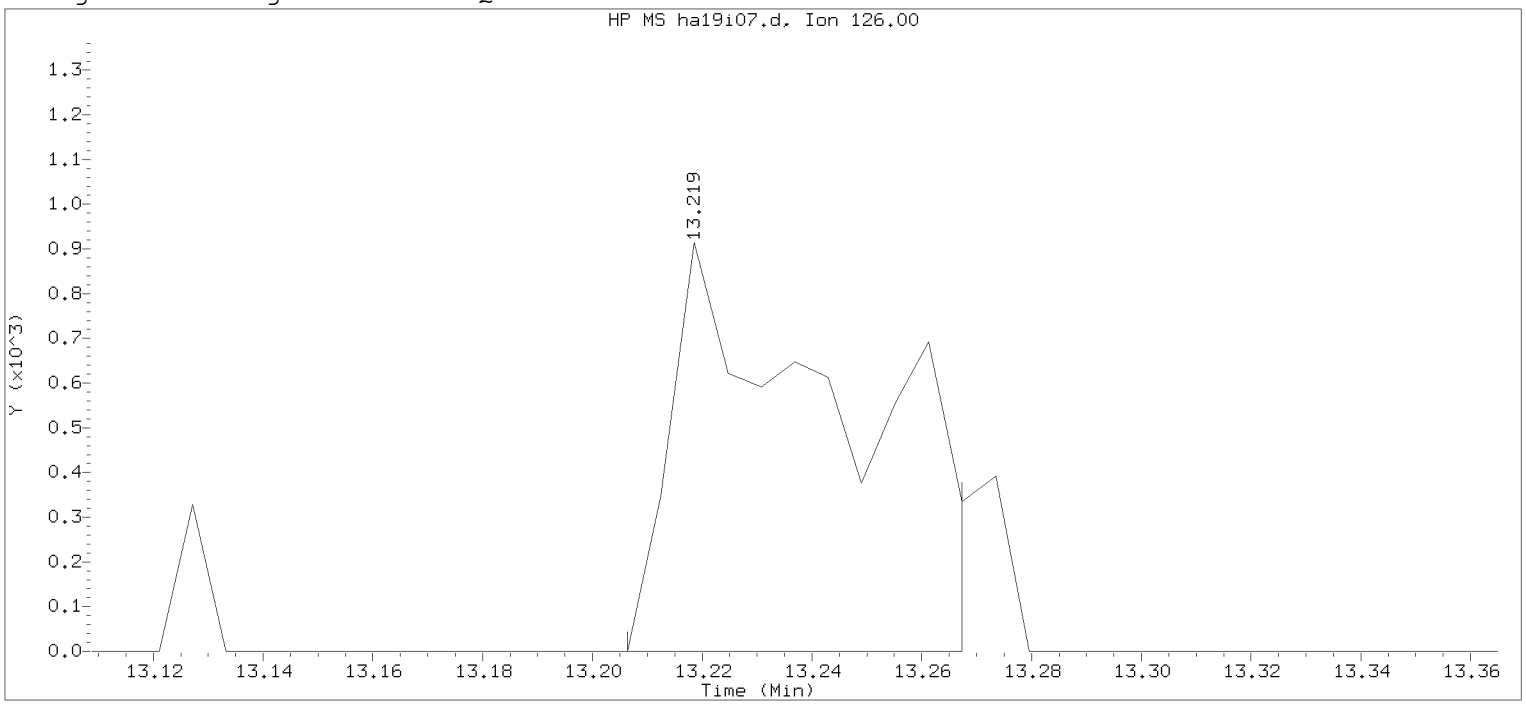
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:27.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



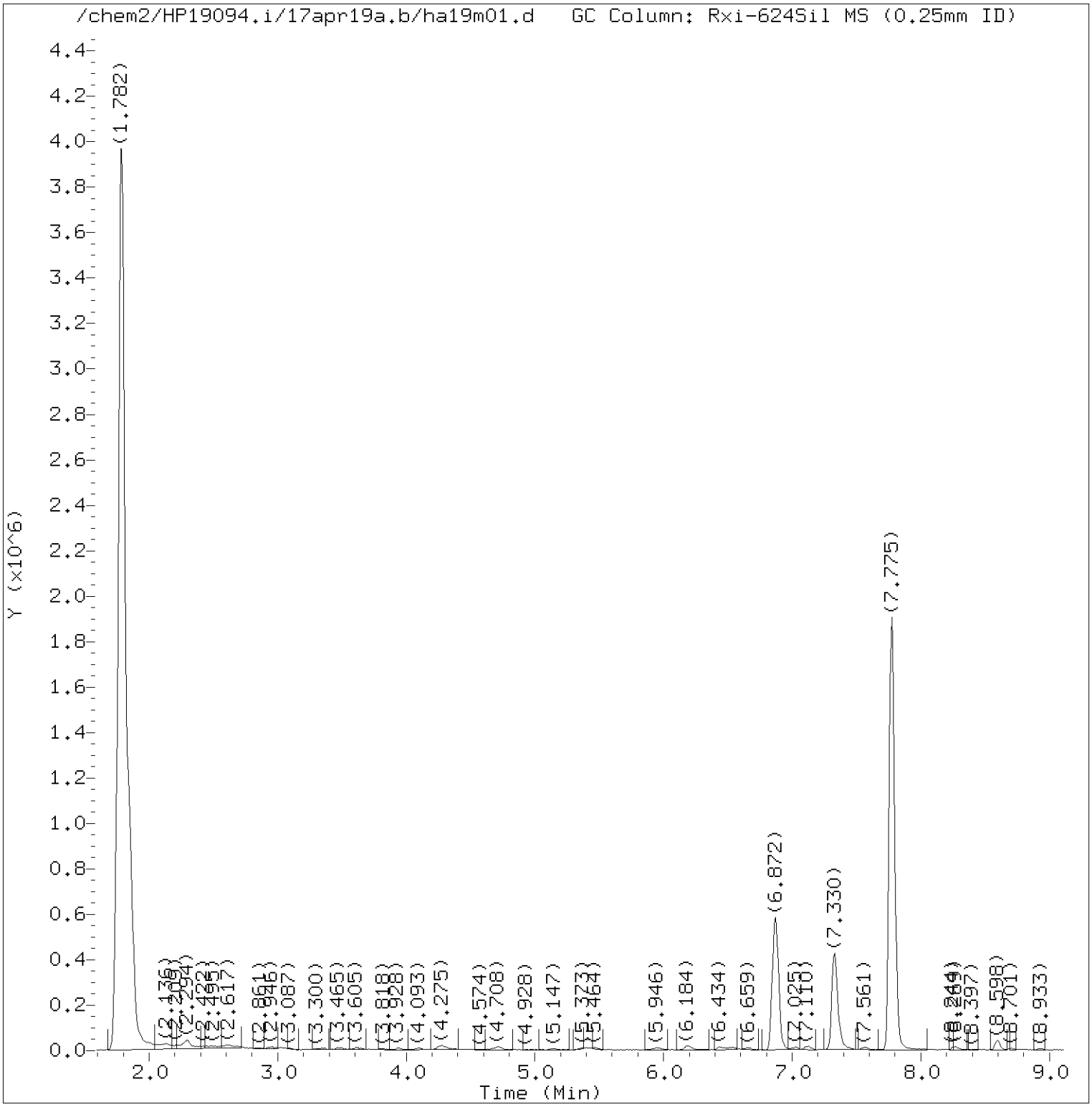
Data File: /chem2/HP19094.i/17apr19a.b/ha19i07.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:00 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:18 Automation

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1908
Retention Time (minutes): 13.219
Quant Ion : 126.00
Area : 2022
On-column Amount (ng) : 0.1497
Integration start scan : 1905 Integration stop scan: 1915
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:27.
Target 3.5 esignature used. Key: 2734



Total Ion Chromatogram (TIC)

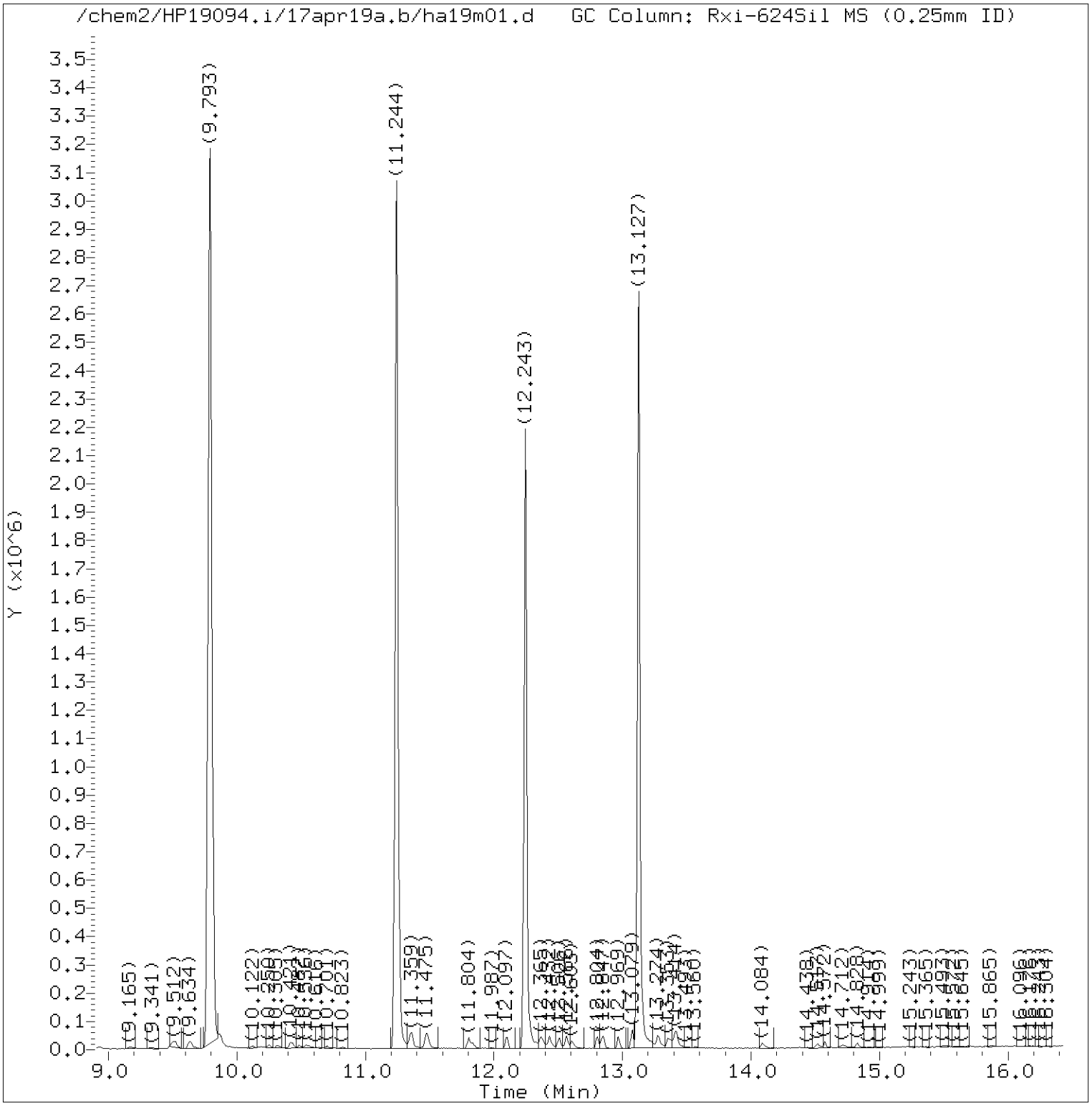
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.008	85	8201	0.078
2) Chloromethane	(2)	2.142	50	12796	0.117
5) Vinyl Chloride	(2)	2.276	62	9900	0.103
6) 1,3-Butadiene	(2)	2.288	39	14922M	0.098
7) Bromomethane	(2)	2.611	94	6265	0.104
8) Chloroethane	(2)	2.727	64	6479	0.117
9) Dichlorofluoromethane	(2)	2.946	67	12953	0.102
10) Trichlorofluoromethane	(2)	2.995	101	9056	0.081
11) Ethyl ether	(2)	3.300	59	3683	0.083
12) Freon 123a	(2)	3.349	67	7958	0.095
13) Acrolein	(1)	3.465	56	22999	4.861
15) 1,1-Dichloroethene	(2)	3.623	96	4983	0.083
16) Freon 113	(2)	3.654	101	3683	0.058
14) Acetone	(1)	3.678	43	8839	1.543
17) Methyl Iodide	(2)	3.812	142	10203	0.092
18) Carbon Disulfide	(2)	3.928	76	16658	0.099
21) Methyl Acetate	(1)	4.050	43	2632	0.135
22) Allyl Chloride	(2)	4.099	41	10861	0.093
26)*t-Butyl Alcohol-d10	(1)	4.257	65	62185	50.000
23) Methylene Chloride	(2)	4.275	84	6362	0.097
28) t-Butyl Alcohol	(1)	4.440	59	1085M	0.697
29) Acrylonitrile	(1)	4.659	53	2444	0.316
30) Methyl Tertiary Butyl Ether	(2)	4.672	73	10843	0.090
31) trans-1,2-Dichloroethene	(2)	4.714	96	6522	0.099
32) n-Hexane	(2)	5.135	57	4526	0.045
33) 1,1-Dichloroethane	(2)	5.348	63	12250	0.094
34) di-Isopropyl Ether	(2)	5.397	45	18886	0.085
35) 2-Chloro-1,3-Butadiene	(2)	5.464	53	8348	0.076
37) Ethyl t-butyl ether	(2)	5.946	59	14391	0.084
40) 1,2-Dichloroethene (Total)	(2)		96	13393	0.192
39) cis-1,2-Dichloroethene	(2)	6.184	96	6871	0.093
41) 2,2-Dichloropropane	(2)	6.196	77	8847	0.090
38) 2-Butanone	(1)	6.202	43	9435M	0.807
42) Propionitrile	(1)	6.281	54	3915	1.410
45) Methacrylonitrile	(1)	6.434	67	8829	0.760
47) Bromochloromethane	(2)	6.525	128	2664	0.091
48) Tetrahydrofuran	(1)	6.537	71	2632	0.902
49) Chloroform	(2)	6.653	83	11346	0.092

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	607526	10.033
51) 1,1,1-Trichloroethane	(2)	6.915	97	8731	0.083
52) Cyclohexane	(2)	7.025	56	6646	0.051
55) 1,1-Dichloropropene	(2)	7.129	75	7704	0.079
54) Carbon Tetrachloride	(2)	7.135	117	7080	0.080
56) Isobutyl Alcohol	(1)	7.244	41	2629	3.916
57)$1,2-Dichloroethane-d4	(2)	7.330	102	99434	10.155
58) Benzene	(2)	7.372	78	26951	0.095
59) 1,2-Dichloroethane	(2)	7.439	62	6145	0.091
60) t-Amyl methyl ether	(2)	7.543	73	10311	0.074
63)*Fluorobenzene	(2)	7.775	96	2701236	10.000
62) n-Heptane	(2)	7.817	43	7631	0.064
65) n-Butanol	(1)	8.183	56	2008	4.062
67) Trichloroethene	(2)	8.269	95	7294	0.097
69) Methylcyclohexane	(2)	8.598	83	6994	0.055
70) 1,2-Dichloropropane	(2)	8.610	63	6730	0.091
73) Dibromomethane	(2)	8.695	93	2415	0.085
71) Methyl Methacrylate	(1)	8.726	69	1082M	0.051
74) Bromodichloromethane	(2)	8.921	83	6611	0.085
76) 2-Nitropropane	(1)	9.171	41	6247M	0.892
80) cis-1,3-Dichloropropene	(2)	9.488	75	7006	0.080
81) 4-Methyl-2-Pentanone	(1)	9.634	43	24554M	0.793
82)$Toluene-d8	(3)	9.793	98	2606070	10.184
83) Toluene	(3)	9.860	92	16927	0.100
84) trans-1,3-Dichloropropene	(3)	10.122	75	4640	0.070
85) 1,3-Dichloropropene (total)	(3)		75	11646	0.150
86) Ethyl Methacrylate	(3)	10.183	69	3465	0.071
88) 1,1,2-Trichloroethane	(3)	10.305	97	3153	0.080
89) Tetrachloroethene	(3)	10.427	166	8038	0.102
90) 1,3-Dichloropropane	(3)	10.482	76	6565	0.093
91) 2-Hexanone	(1)	10.536	43	18988	0.870
93) Dibromochloromethane	(3)	10.701	129	3898	0.084
95) 1,2-Dibromoethane	(3)	10.823	107	3137	0.084
97)*Chlorobenzene-d5	(3)	11.244	117	1750659	10.000
98) Chlorobenzene	(3)	11.268	112	18125	0.098
99) 1,1,1,2-Tetrachloroethane	(3)	11.341	131	5842	0.095
100) Ethylbenzene	(3)	11.359	91	29608	0.090
101) m+p-Xylene	(3)	11.481	106	18449	0.148

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

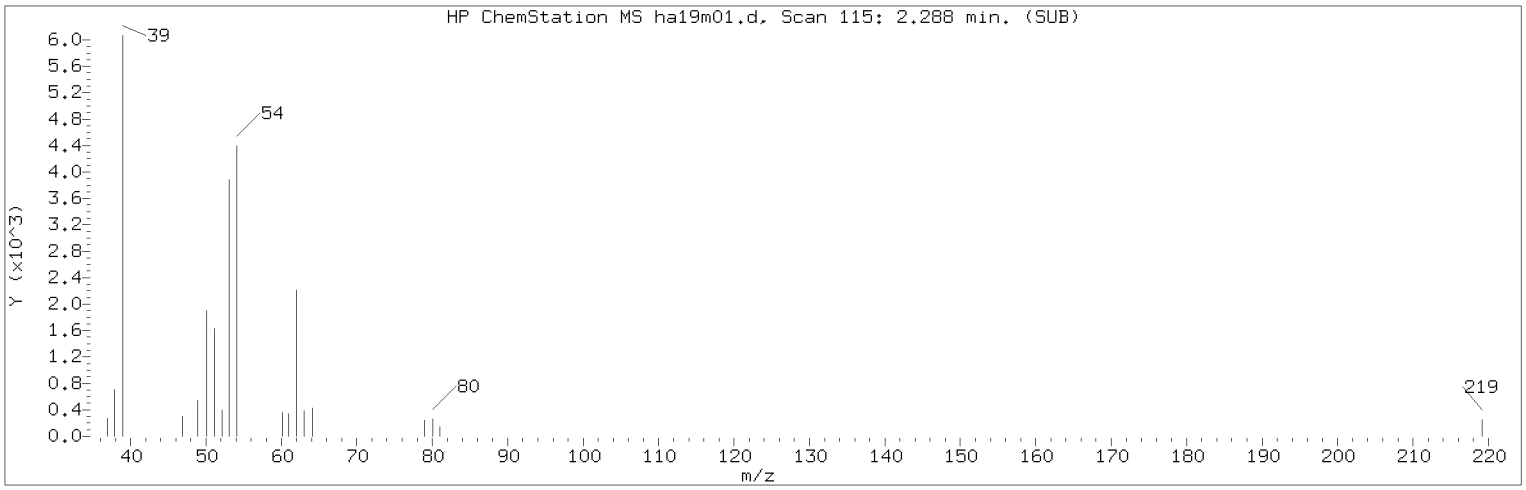
Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
105) Xylene (Total)	(3)		106	28171	0.229
104) o-Xylene	(3)	11.804	106	9722	0.081
106) Styrene	(3)	11.835	104	13219	0.072
107) Bromoform	(3)	11.981	173	1901	0.082
108) Isopropylbenzene	(3)	12.103	105	23140	0.074
111)$4-Bromofluorobenzene	(3)	12.243	95	701352	9.646
113) 1,1,2,2-Tetrachloroethane	(4)	12.329	83	4990	0.108
114) Bromobenzene	(4)	12.365	156	6504	0.092
115) trans-1,4-Dichloro-2-butene	(1)	12.377	53	5163	0.628
116) 1,2,3-Trichloropropane	(4)	12.384	110	921	0.079
117) n-Propylbenzene	(4)	12.432	91	31628	0.084
119) 2-Chlorotoluene	(4)	12.512	126	6299	0.088
121) 1,3,5-Trimethylbenzene	(4)	12.566	105	20509	0.081
122) 4-Chlorotoluene	(4)	12.615	126	6130M	0.085
125) tert-Butylbenzene	(4)	12.804	134	3719	0.067
126) Pentachloroethane	(4)	12.841	167	3697	0.090
127) 1,2,4-Trimethylbenzene	(4)	12.853	105	19625	0.077
128) sec-Butylbenzene	(4)	12.969	105	27217	0.082
131) 1,3-Dichlorobenzene	(4)	13.072	146	12155	0.087
132) p-Isopropyltoluene	(4)	13.079	119	19624	0.072
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	718732	10.000
134) 1,4-Dichlorobenzene	(4)	13.146	146	14969	0.103
135) 1,2,3-Trimethylbenzene	(4)	13.158	120	10043	0.090
136) Benzyl Chloride	(4)	13.231	126	779	0.053
138) n-Butylbenzene	(4)	13.377	92	7816	0.059
139) 1,2-Dichlorobenzene	(4)	13.408	146	10743	0.087
143) 1,2-Dibromo-3-chloropropane	(1)	13.950	155	393	0.086
145) 1,2,4-Trichlorobenzene	(4)	14.523	180	7514	0.094
146) Hexachlorobutadiene	(4)	14.572	225	3606	0.091
147) Naphthalene	(4)	14.700	128	10405	0.089
148) 1,2,3-Trichlorobenzene	(4)	14.828	180	7066	0.105

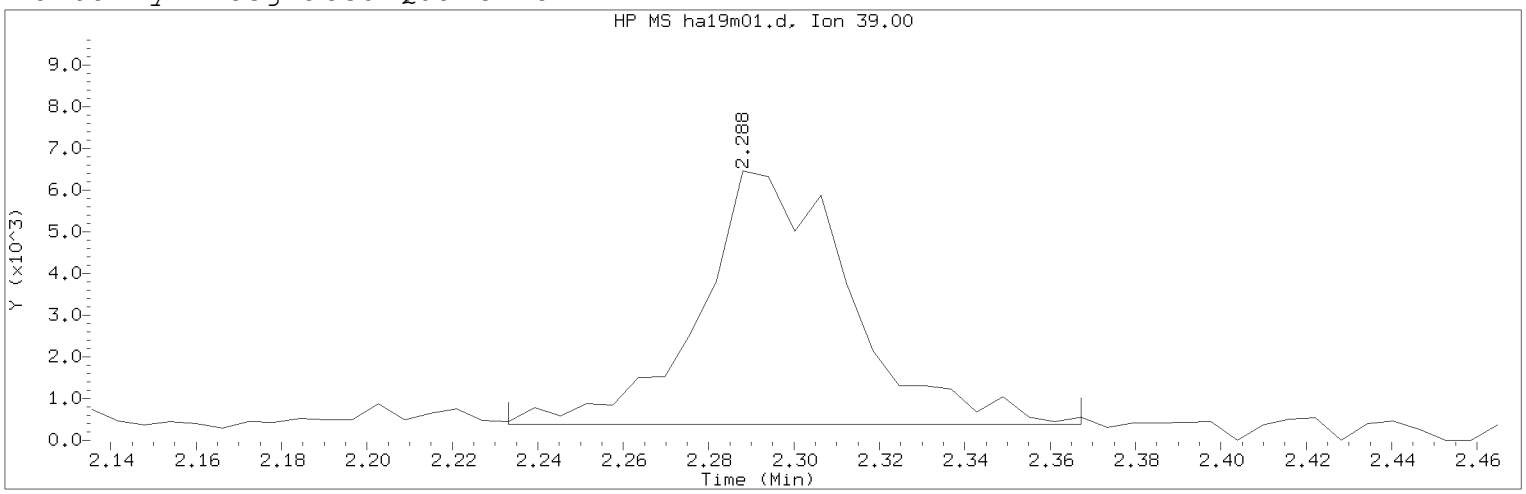
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

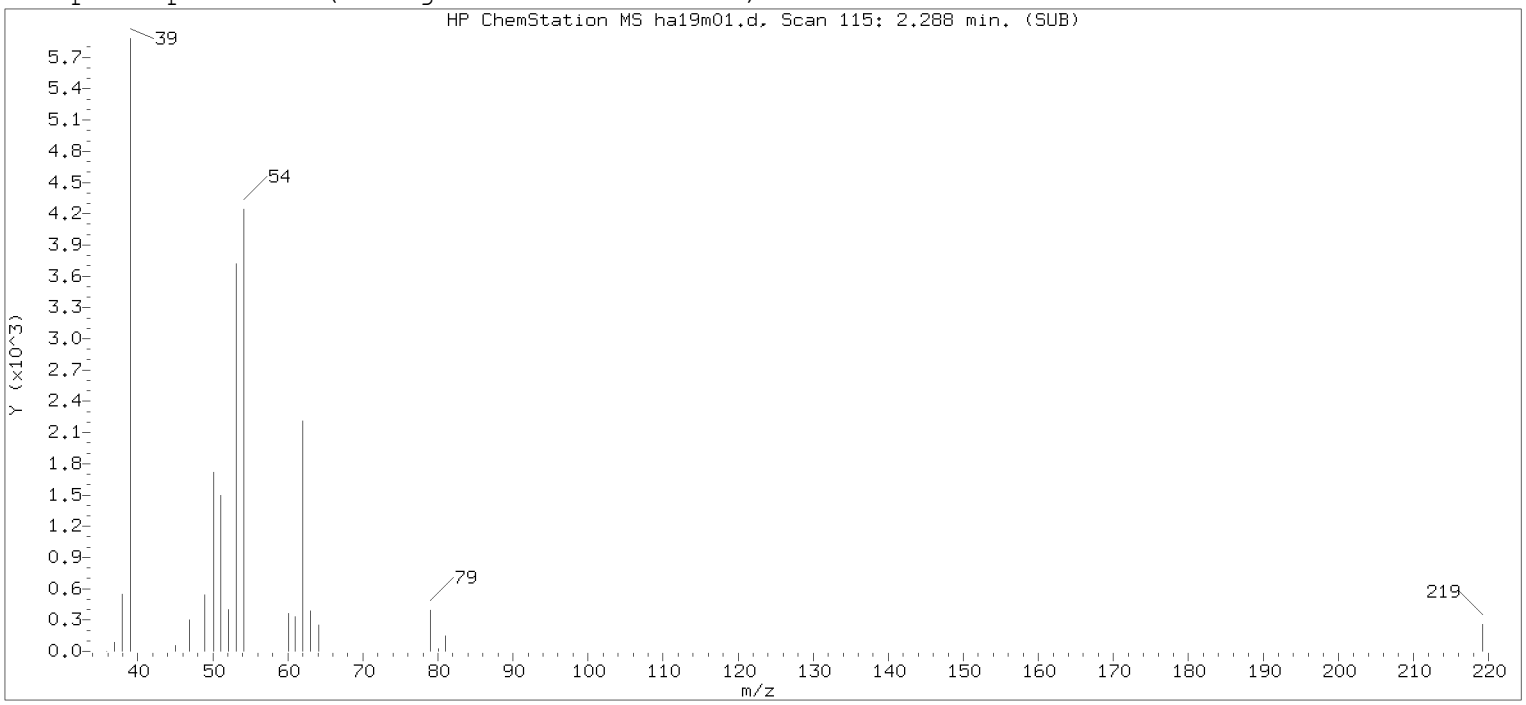
Compound Number : 6
Compound Name : 1,3-Butadiene
Scan Number : 115
Retention Time (minutes): 2.288
Quant Ion : 39.00
Area (flag) : 14922M
On-Column Amount (ng) : 0.0984
Integration start scan : 105 Integration stop scan: 127
Y at integration start : 384 Y at integration end: 384

Reason for manual integration: improper integration

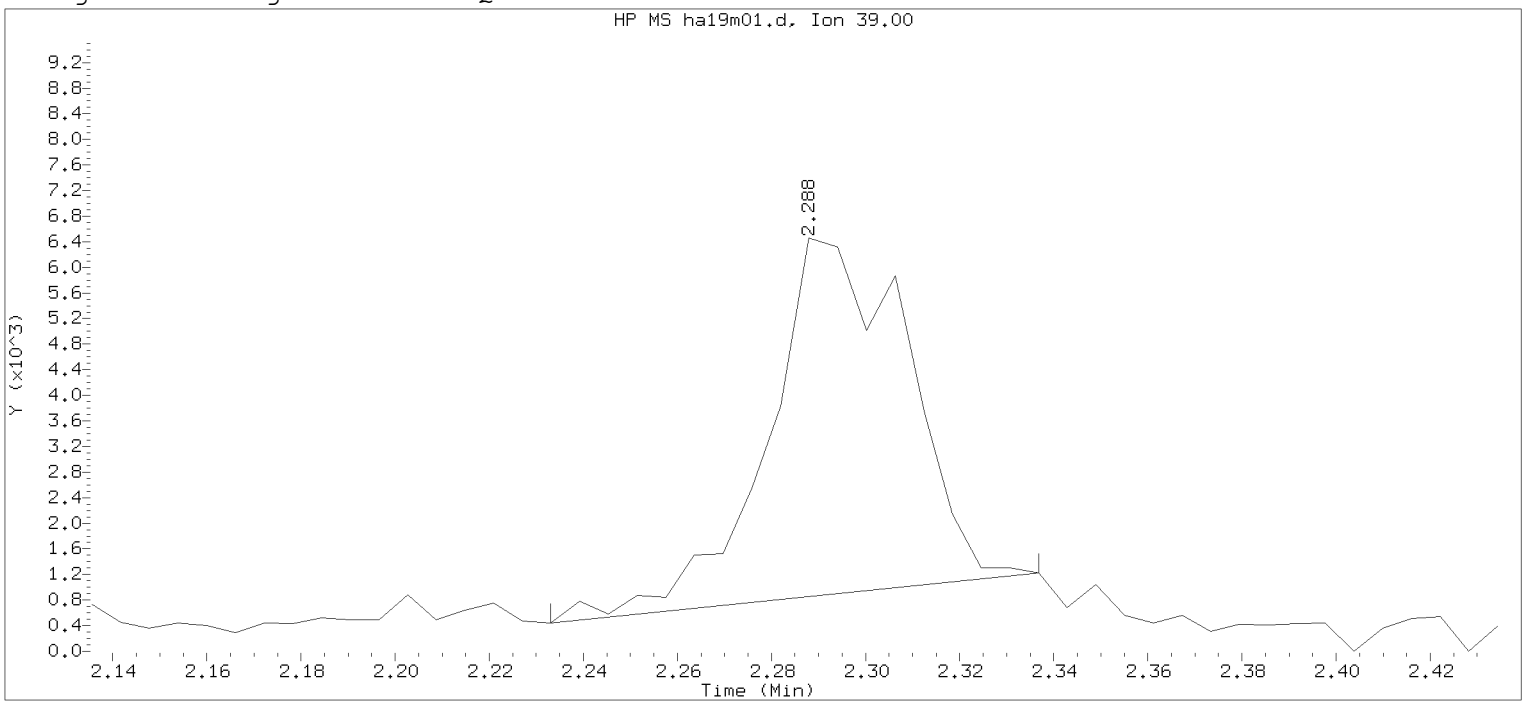
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

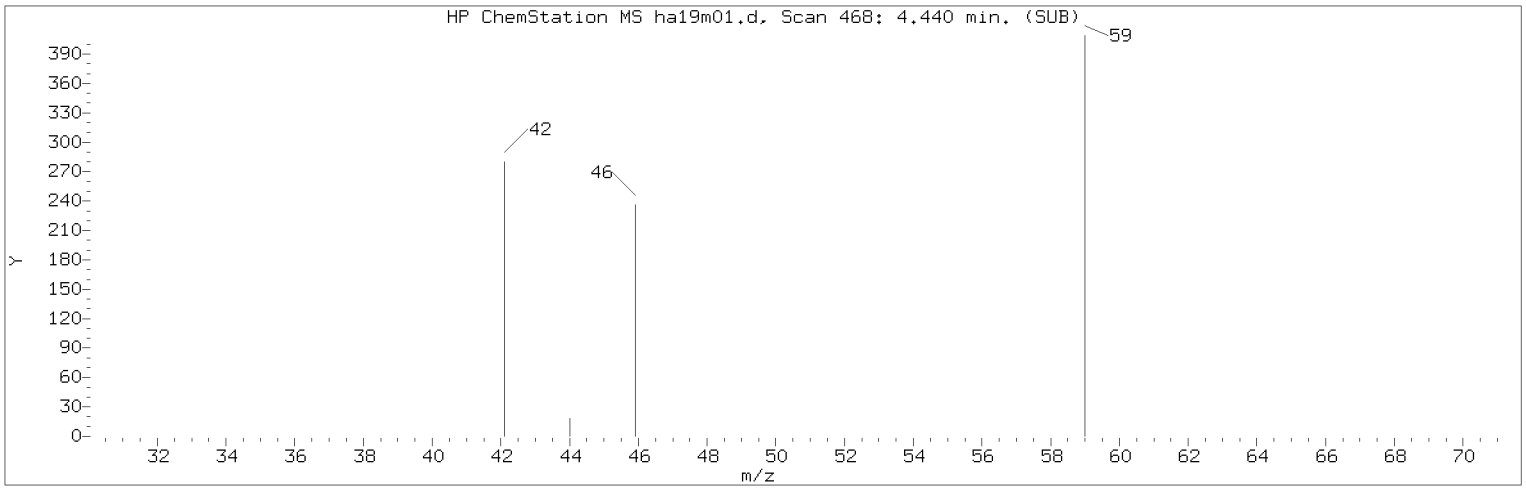
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

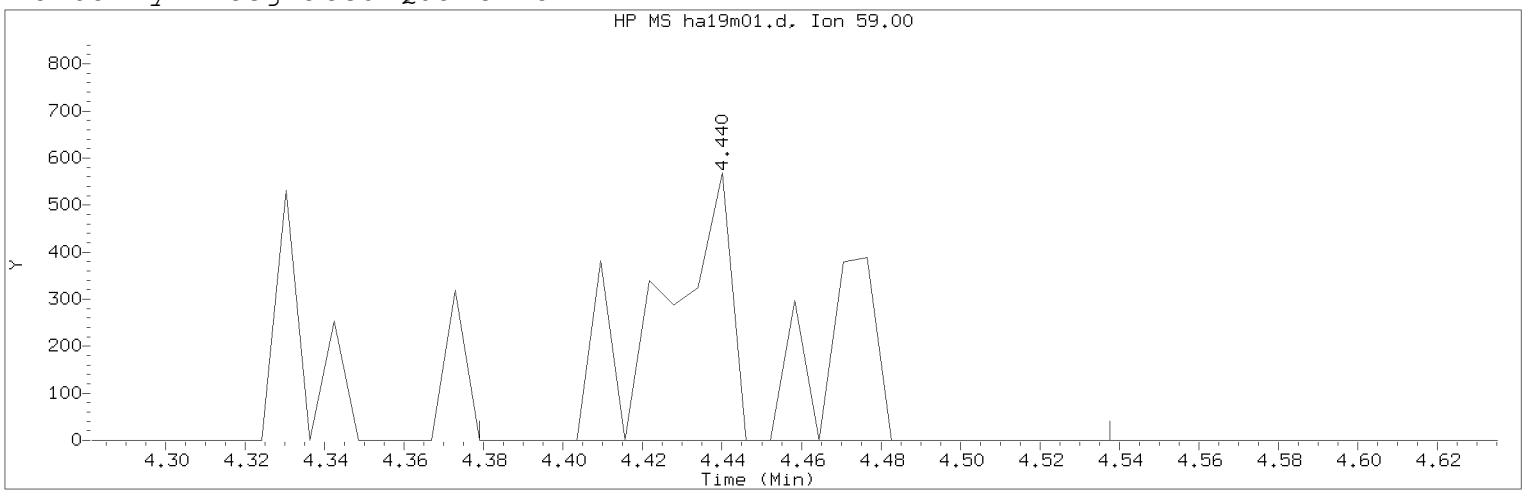
Compound Number : 6
Compound Name : 1,3-Butadiene
Scan Number : 115
Retention Time (minutes): 2.288
Quant Ion : 39.00
Area : 11455
On-column Amount (ng) : 0.0755
Integration start scan : 105 Integration stop scan: 122
Y at integration start : 444 Y at integration end: 1225

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2743

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

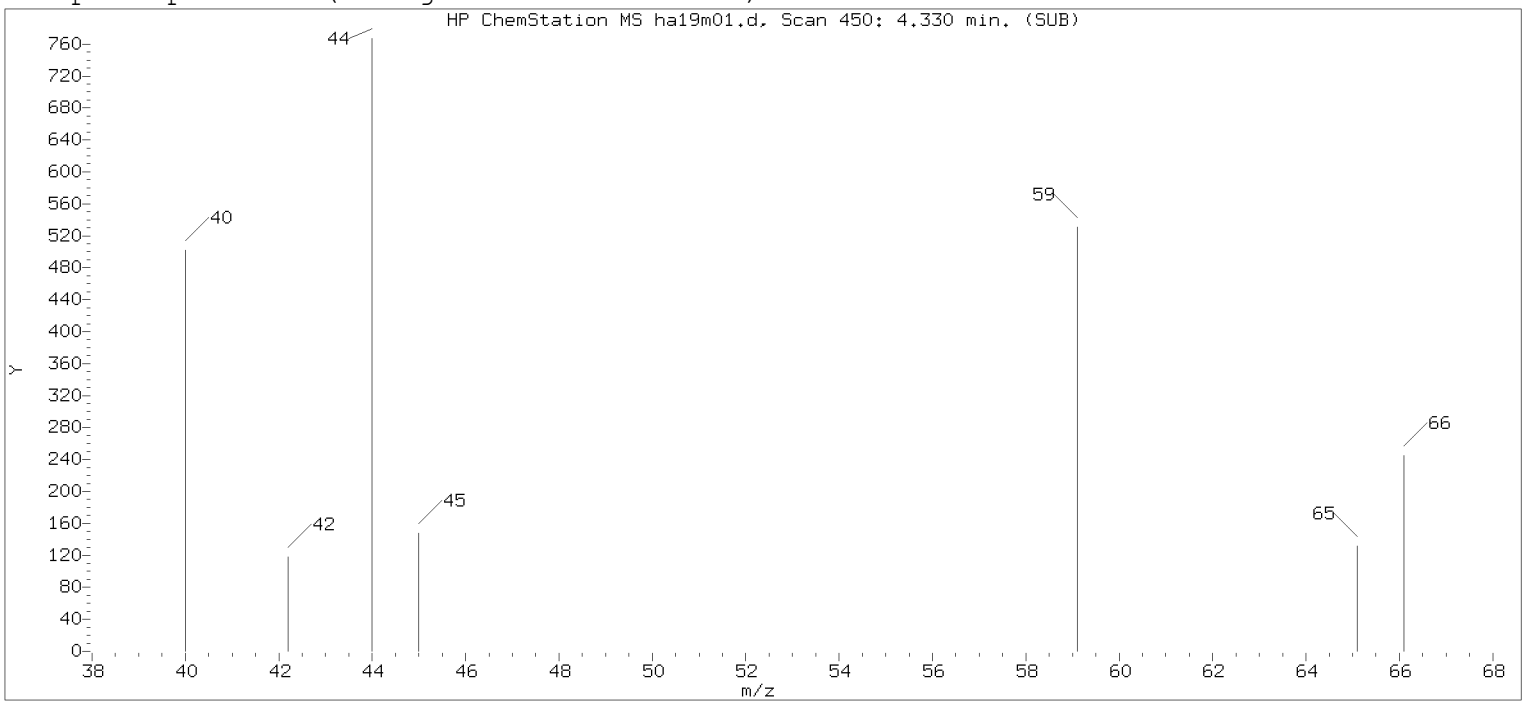
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 468
Retention Time (minutes): 4.440
Quant Ion : 59.00
Area (flag) : 1085M
On-Column Amount (ng) : 0.6974
Integration start scan : 457 Integration stop scan: 483
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

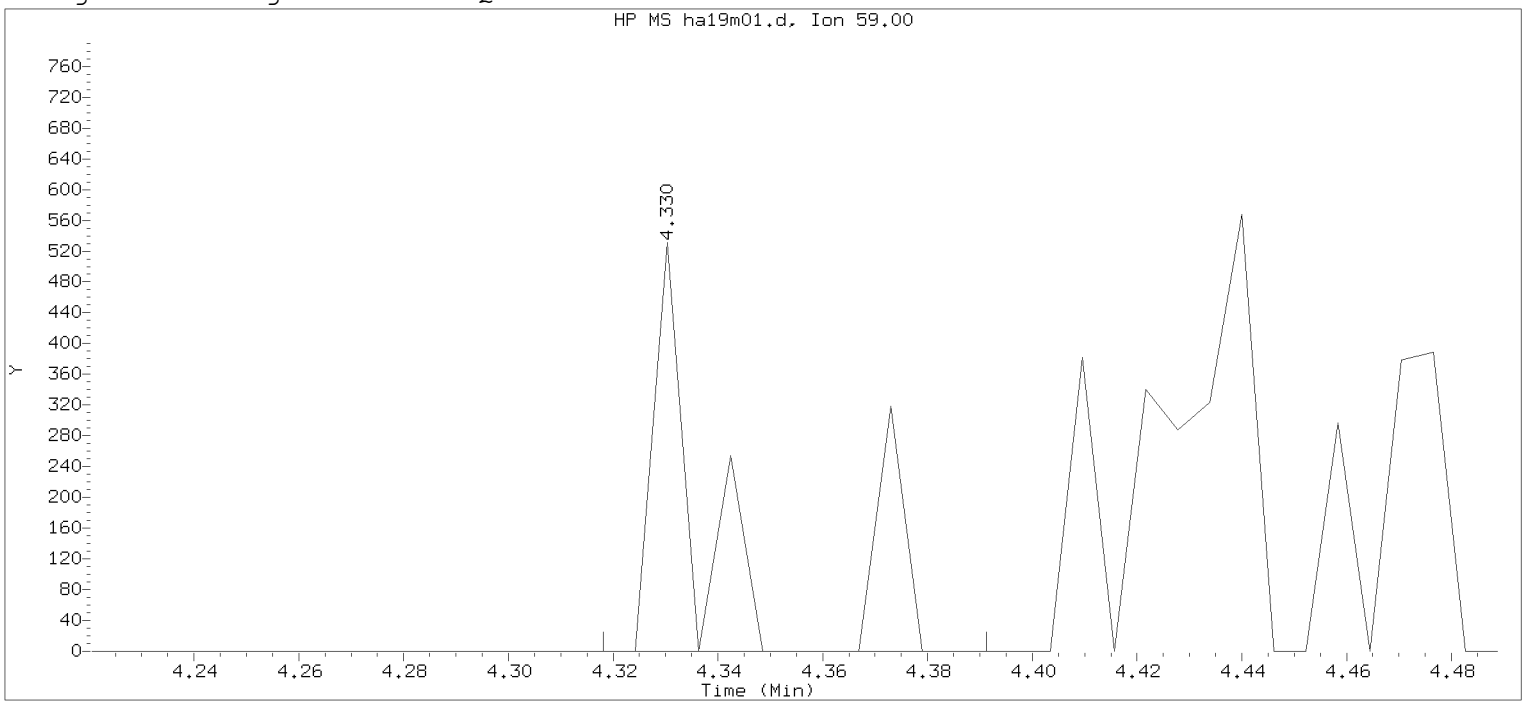
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

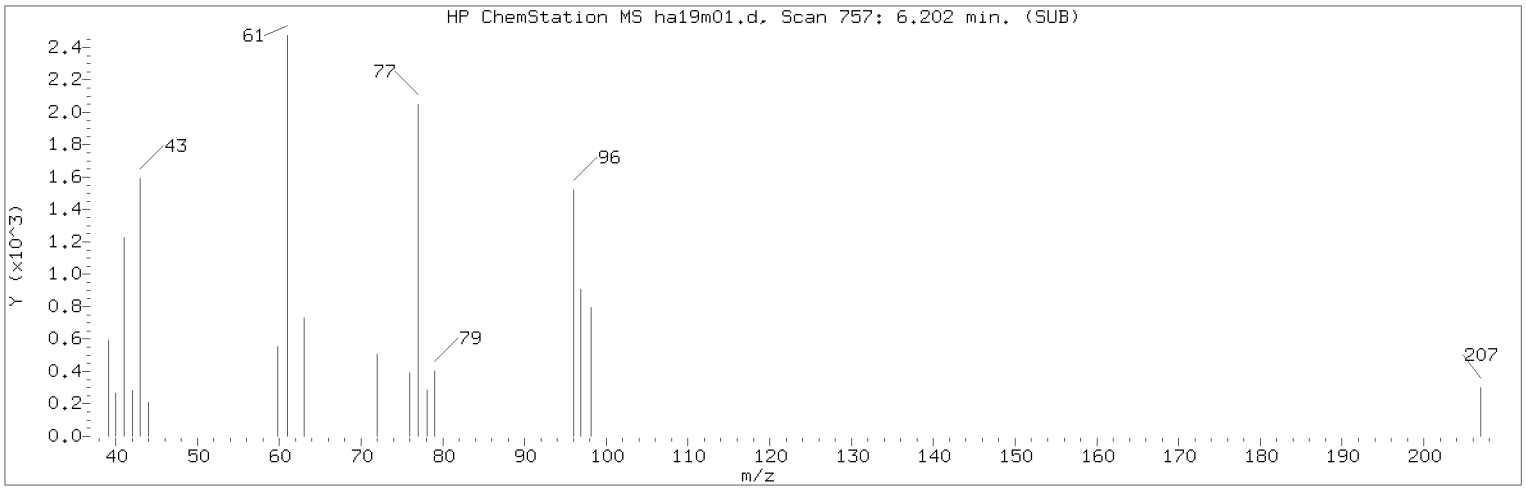
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

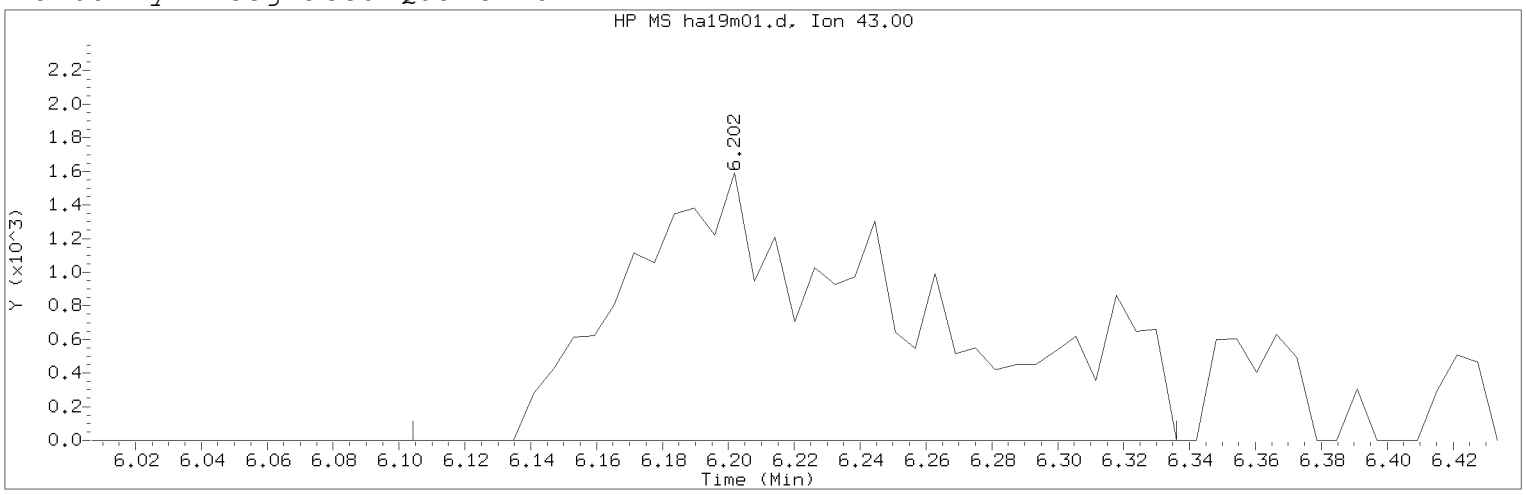
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 450
Retention Time (minutes): 4.330
Quant Ion : 59.00
Area : 403
On-column Amount (ng) : 0.2887
Integration start scan : 447 Integration stop scan: 459
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2743

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

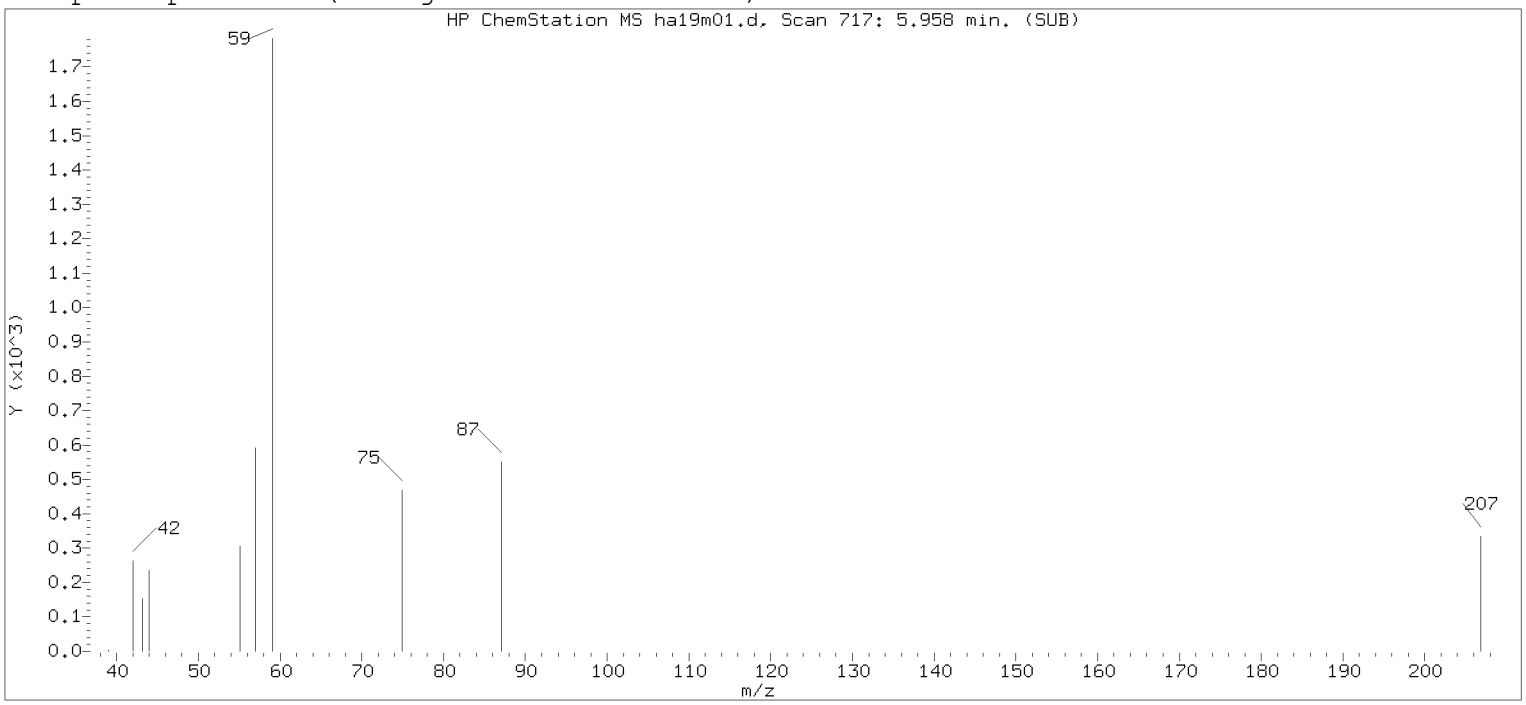
Compound Number : 38
Compound Name : 2-Butanone
Scan Number : 757
Retention Time (minutes): 6.202
Quant Ion : 43.00
Area (flag) : 9435M
On-Column Amount (ng) : 0.8073
Integration start scan : 740 Integration stop scan: 778
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

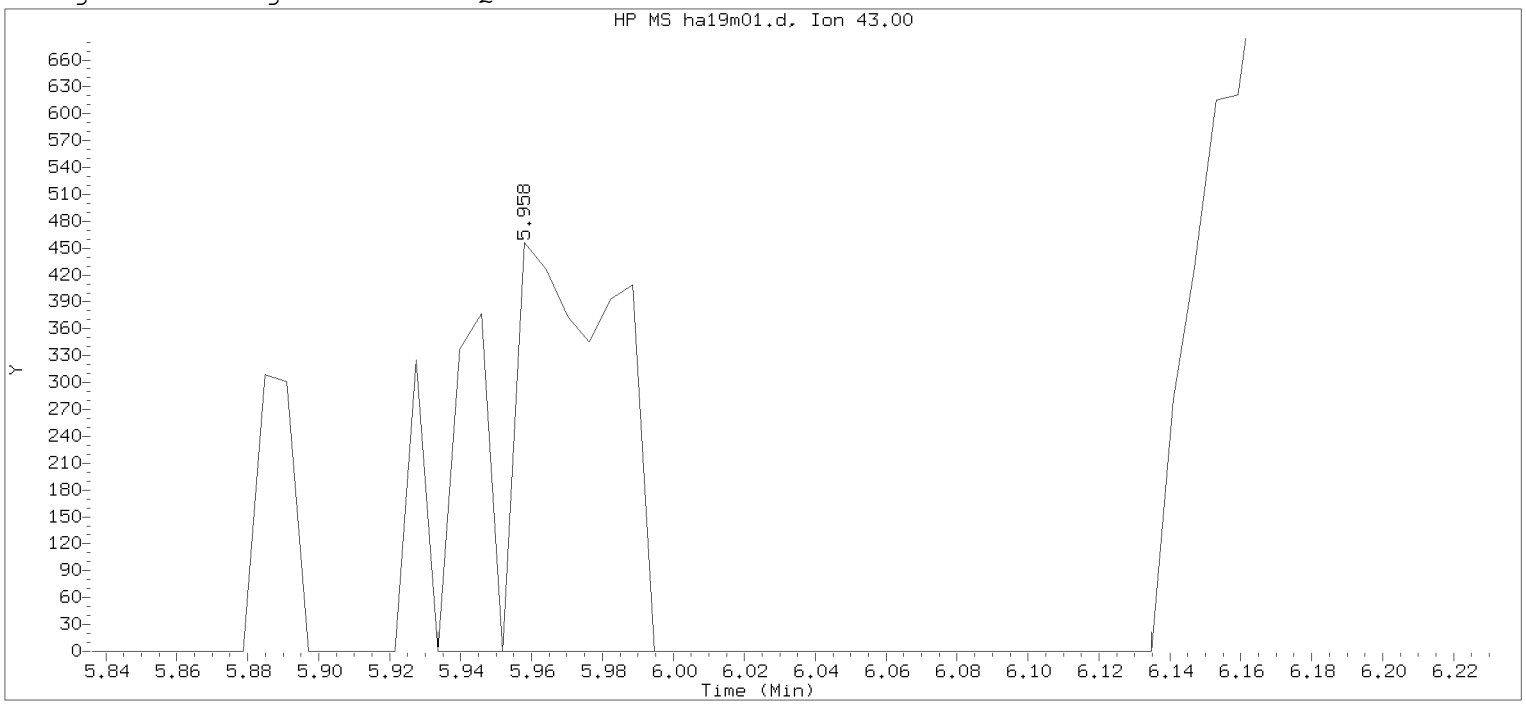
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

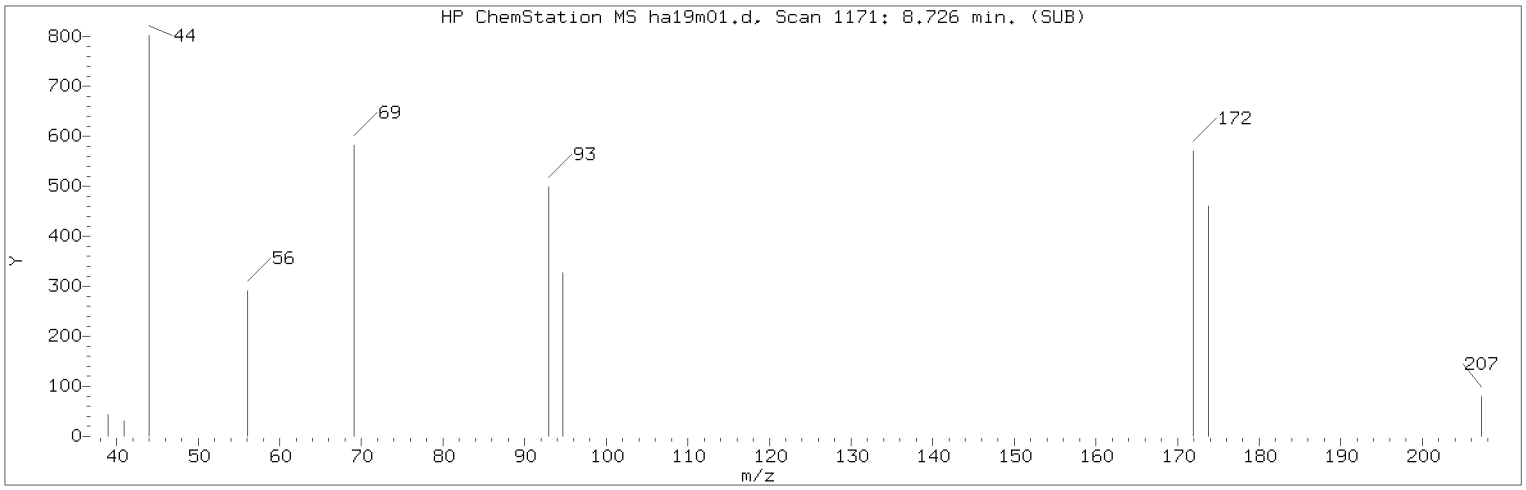
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

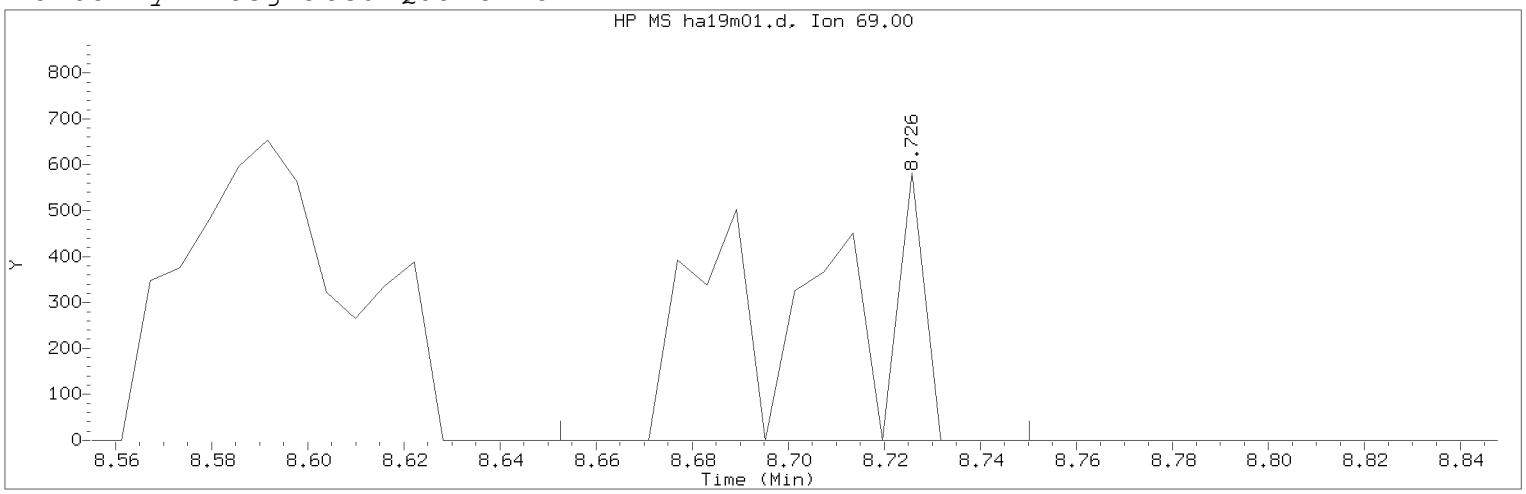
Compound Number : 38
Compound Name : 2-Butanone
Scan Number : 717
Retention Time (minutes): 5.958
Quant Ion : 43.00
Area : 1139
On-column Amount (ng) : 0.0975
Integration start scan : 712 Integration stop scan: 745
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2743

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

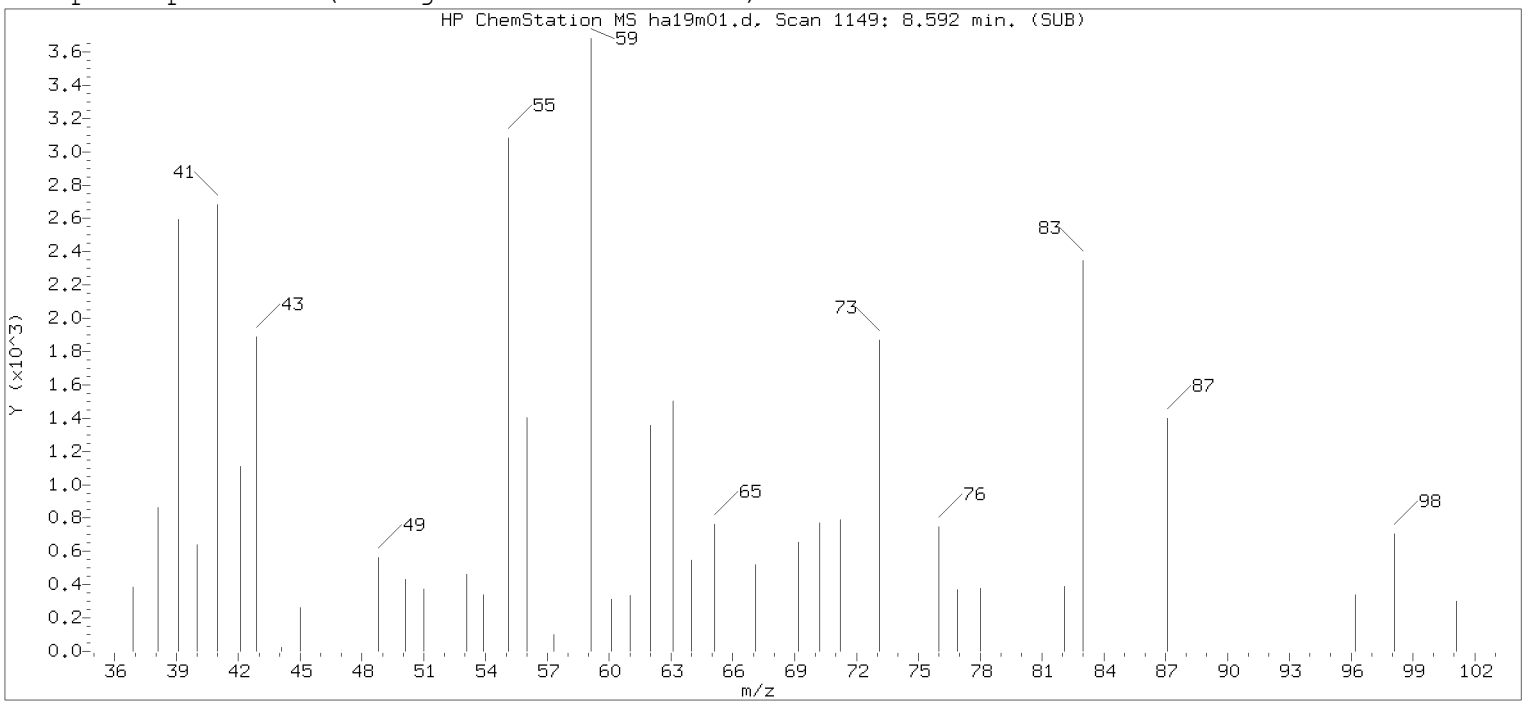
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1171
Retention Time (minutes): 8.726
Quant Ion : 69.00
Area (flag) : 1082M
On-Column Amount (ng) : 0.0509
Integration start scan : 1158 Integration stop scan: 1174
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

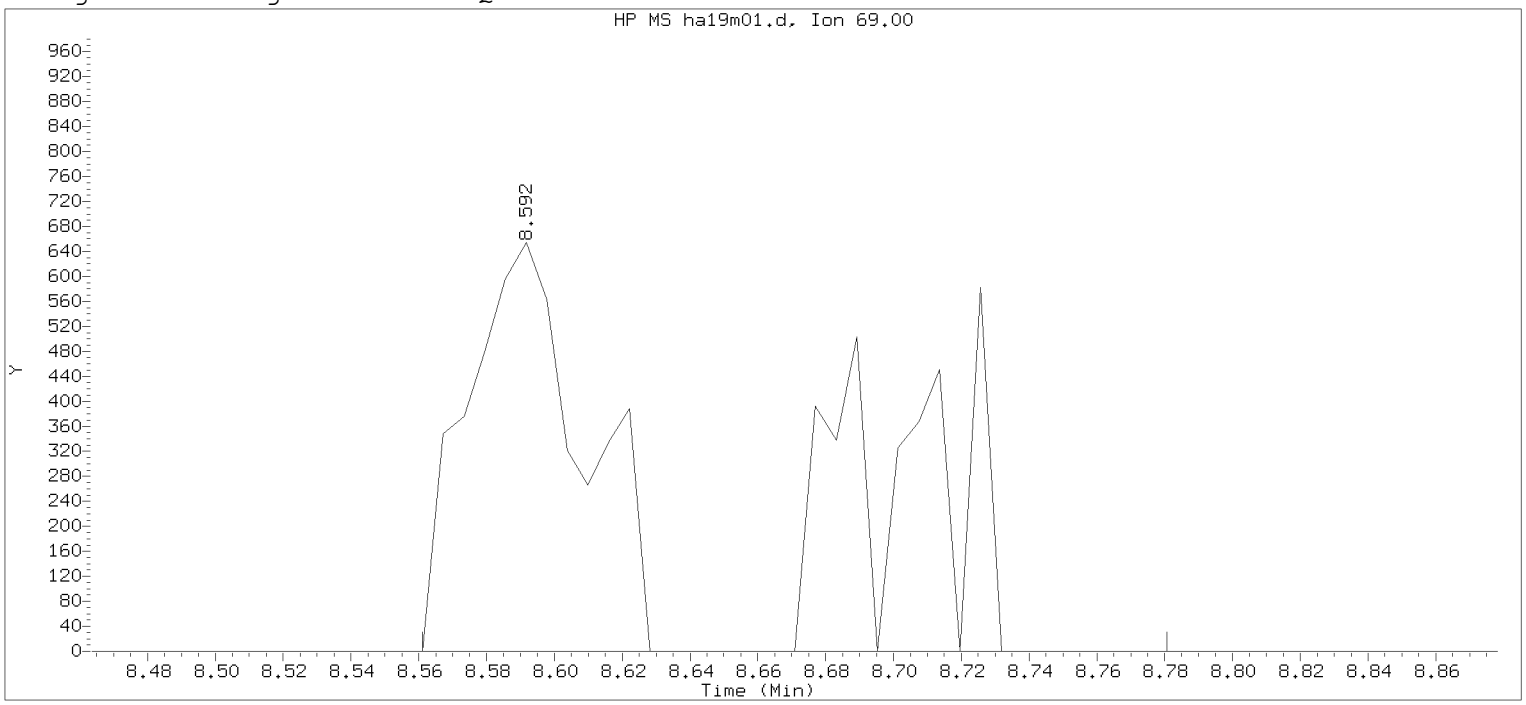
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

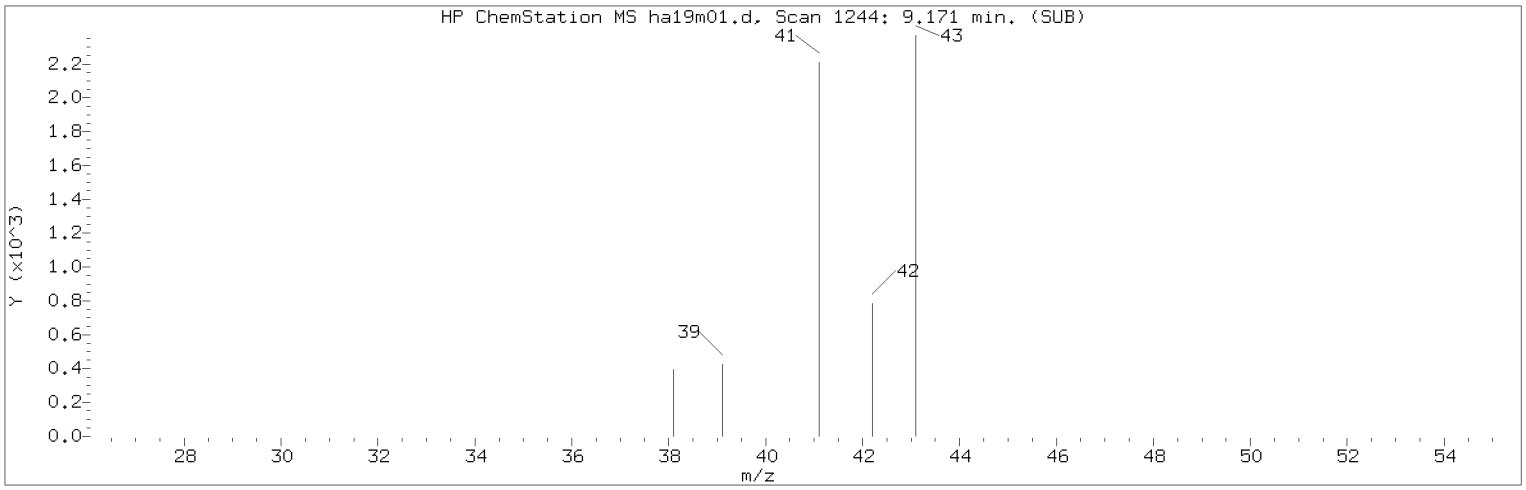
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

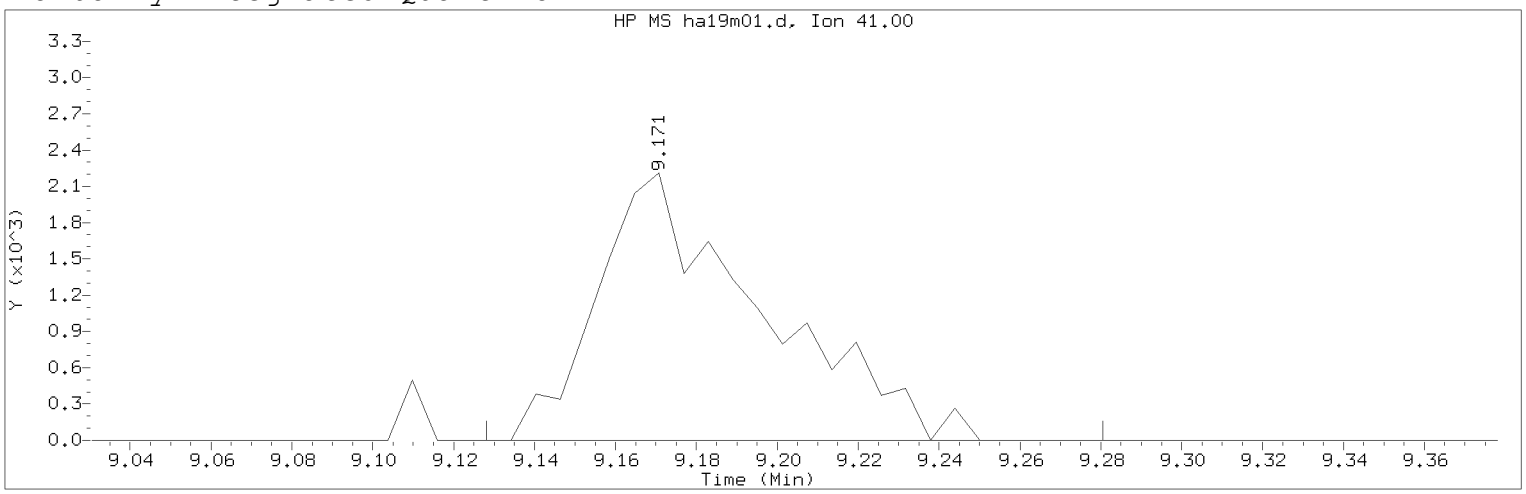
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1149
Retention Time (minutes): 8.592
Quant Ion : 69.00
Area : 2666
On-column Amount (ng) : 0.1337
Integration start scan : 1143 Integration stop scan: 1179
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2748

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

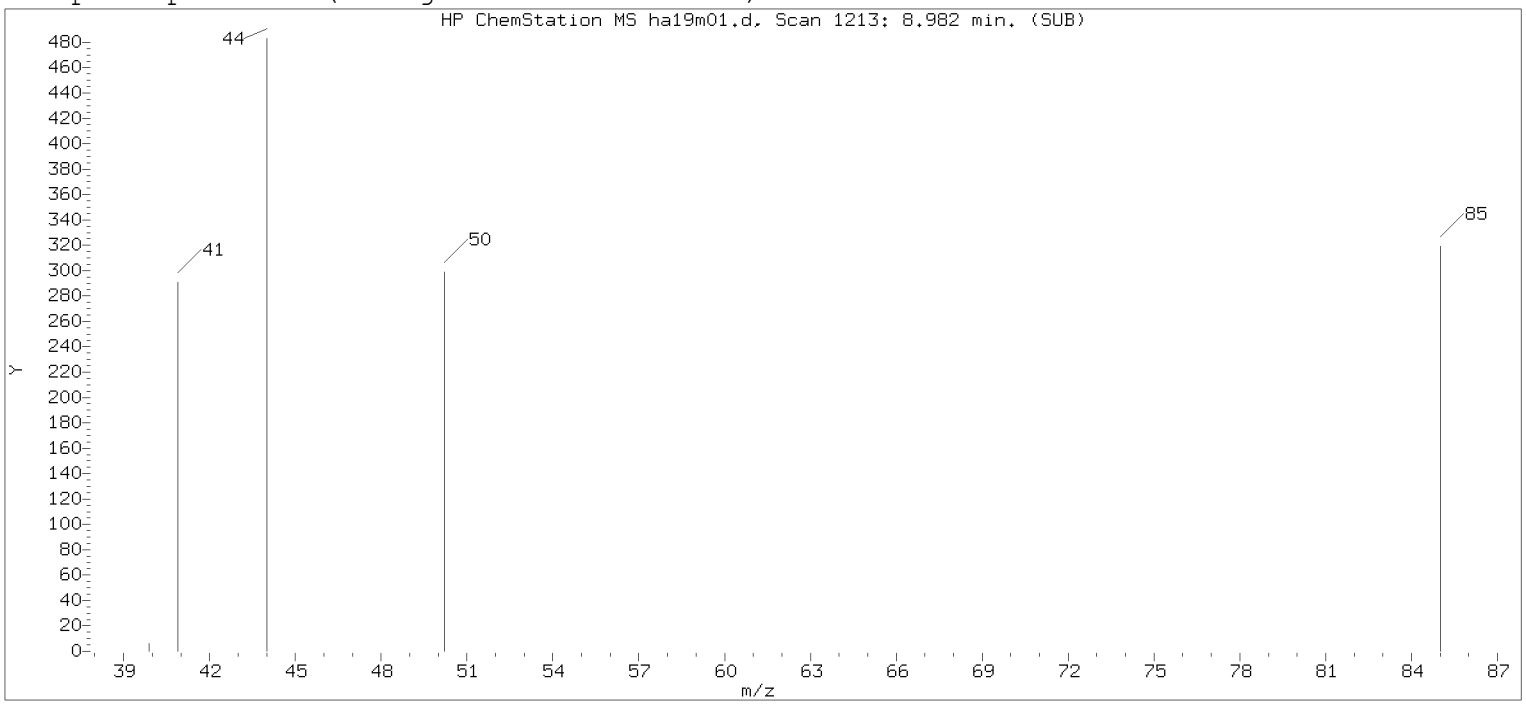
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1244
Retention Time (minutes): 9.171
Quant Ion : 41.00
Area (flag) : 6247M
On-Column Amount (ng) : 0.8918
Integration start scan : 1236 Integration stop scan: 1261
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

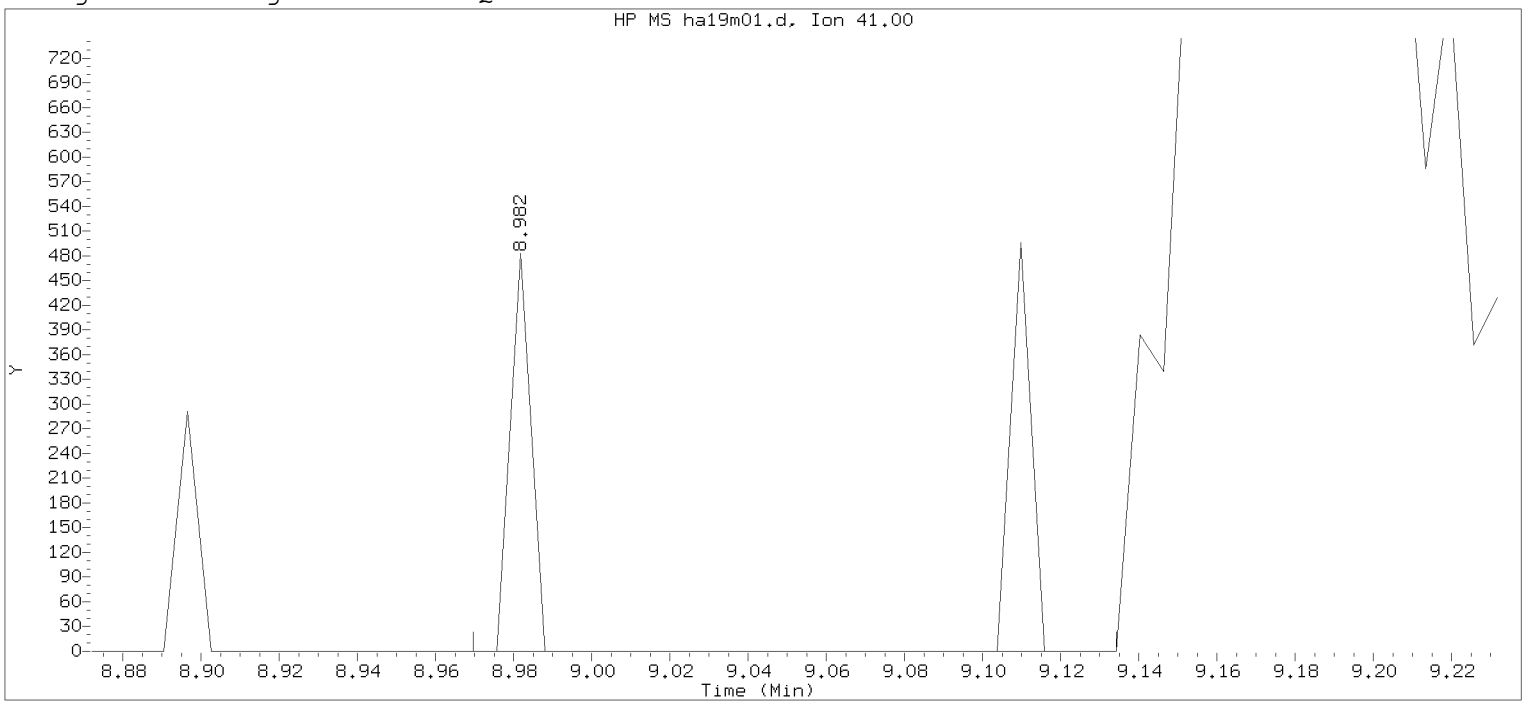
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

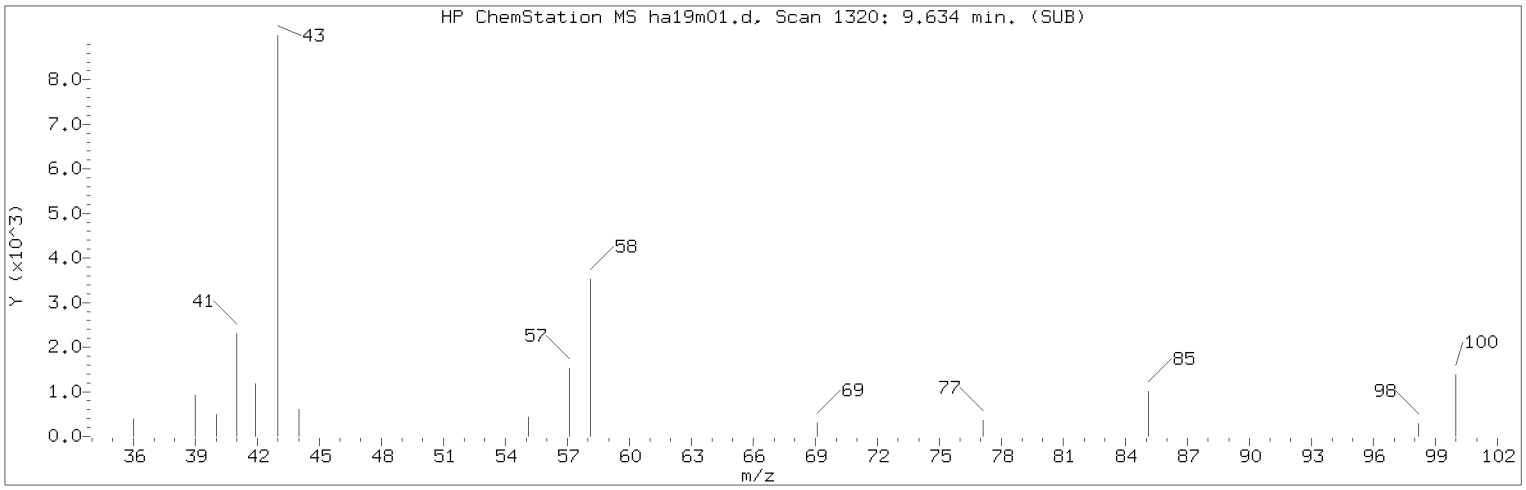
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

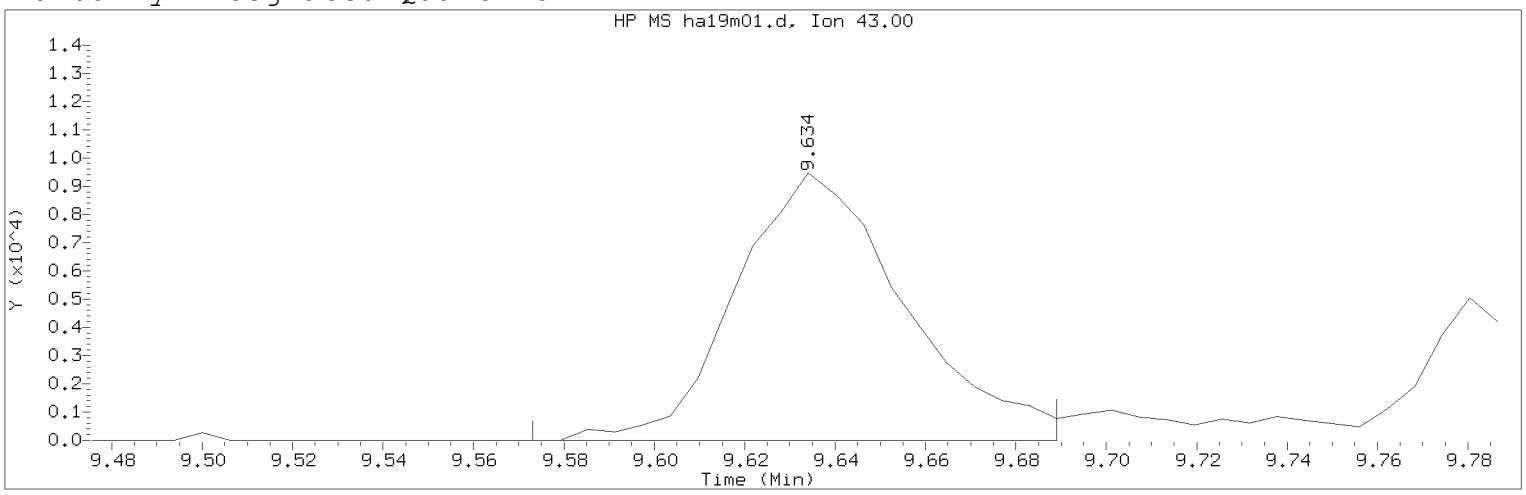
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1213
Retention Time (minutes): 8.982
Quant Ion : 41.00
Area : 358
On-column Amount (ng) : 0.0511
Integration start scan : 1210 Integration stop scan: 1237
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2749

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

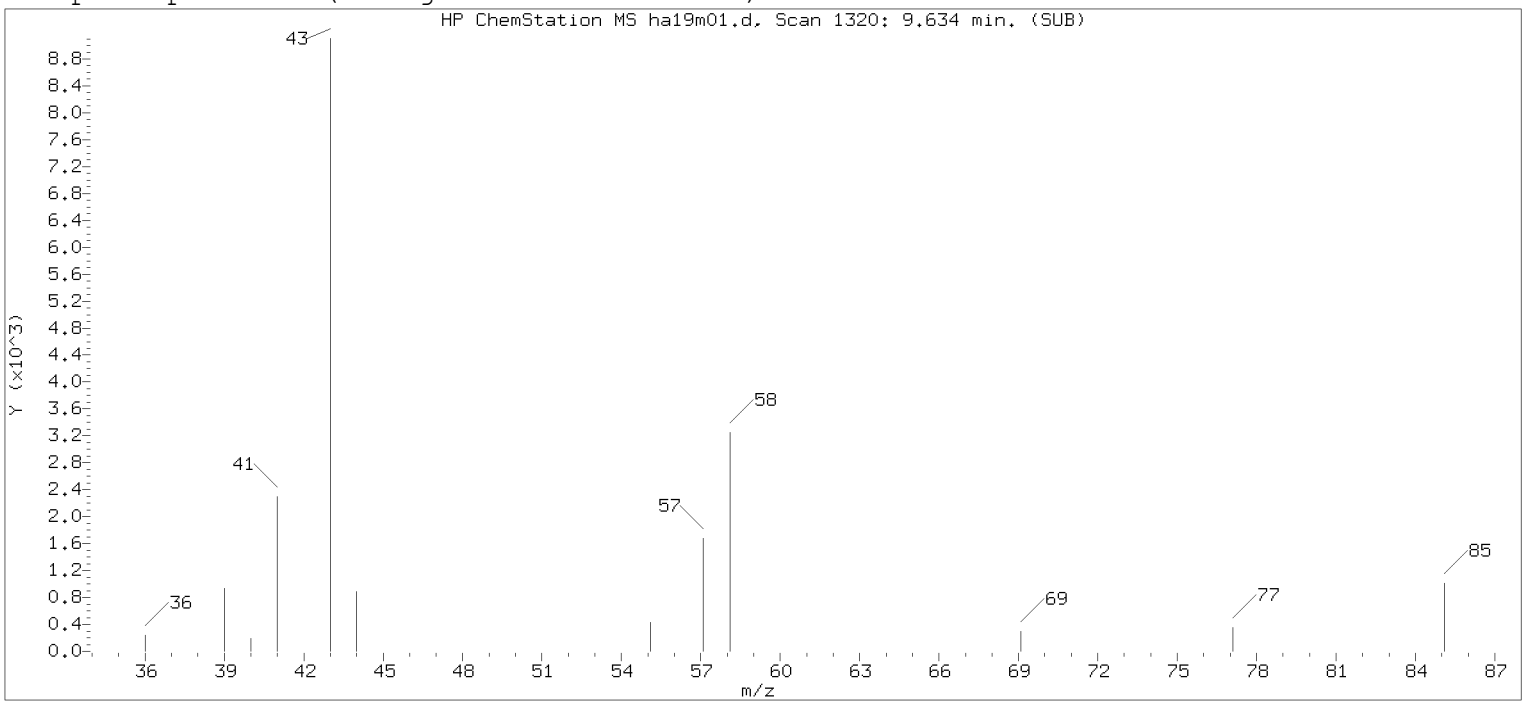
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1320
Retention Time (minutes): 9.634
Quant Ion : 43.00
Area (flag) : 24554M
On-Column Amount (ng) : 0.7929
Integration start scan : 1309 Integration stop scan: 1328
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

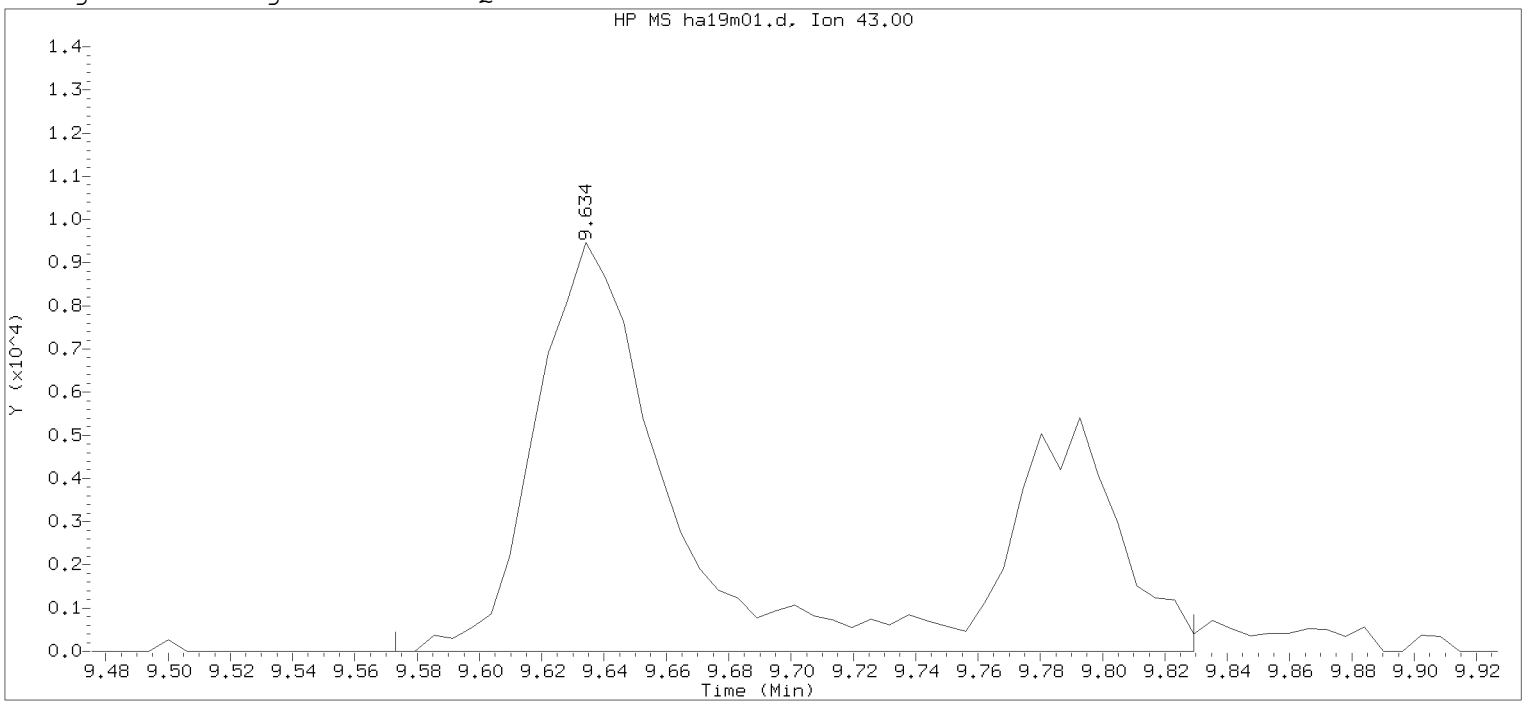
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

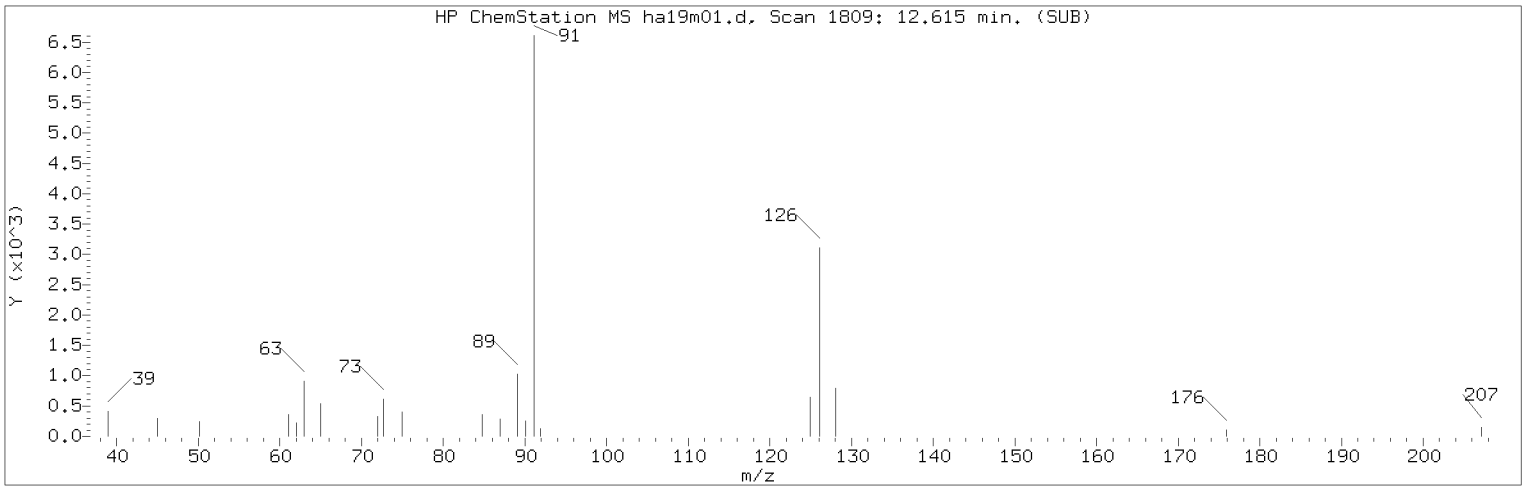
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

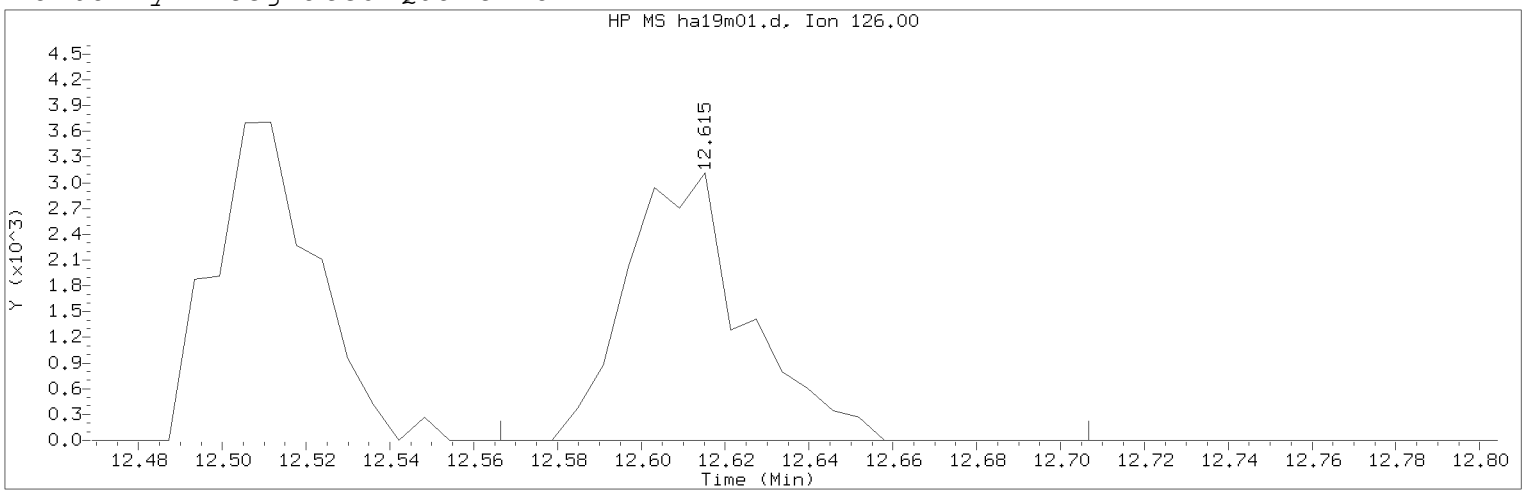
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1320
Retention Time (minutes): 9.634
Quant Ion : 43.00
Area : 39442
On-column Amount (ng) : 1.2576
Integration start scan : 1309 Integration stop scan: 1351
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature user key 2743

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

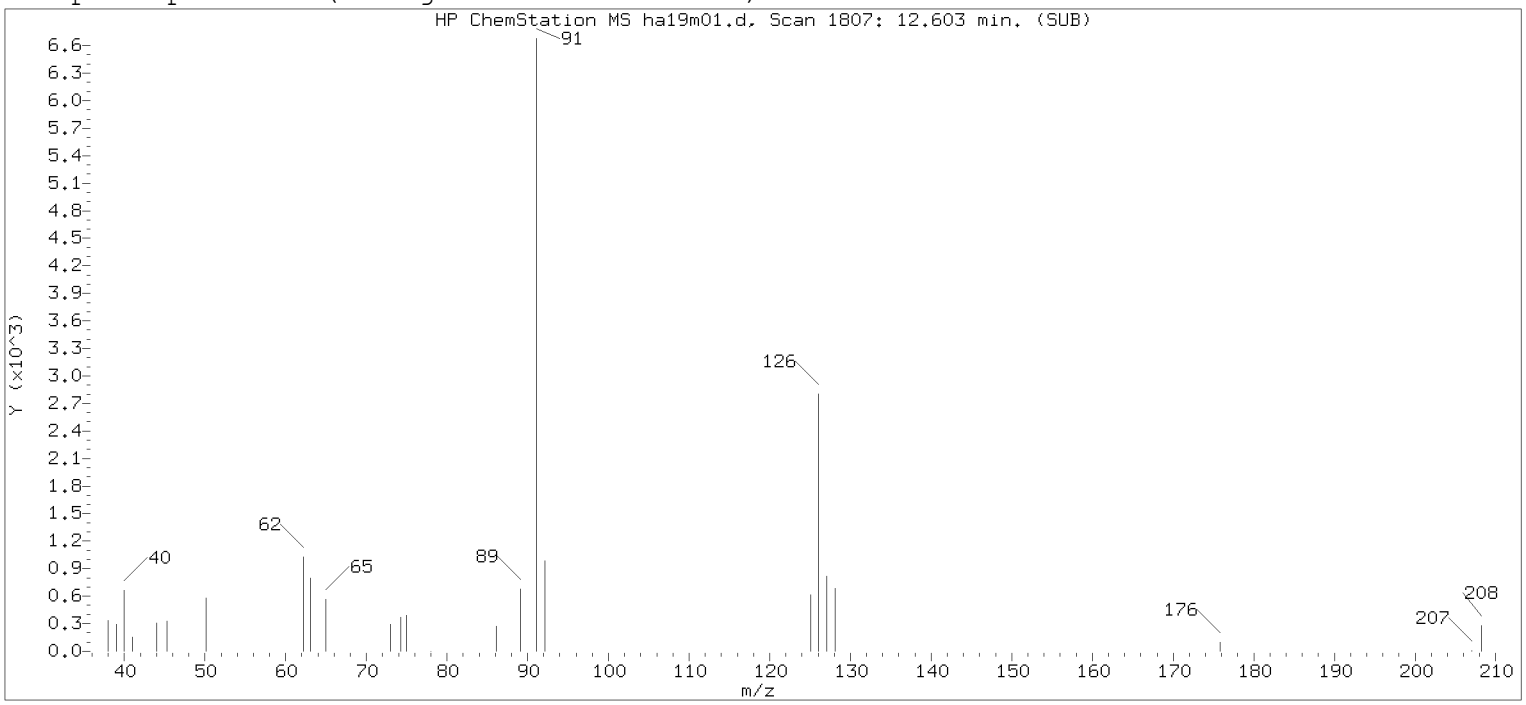
Compound Number : 122
Compound Name : 4-Chlorotoluene
Scan Number : 1809
Retention Time (minutes): 12.615
Quant Ion : 126.00
Area (flag) : 6130M
On-Column Amount (ng) : 0.0853
Integration start scan : 1800 Integration stop scan: 1823
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

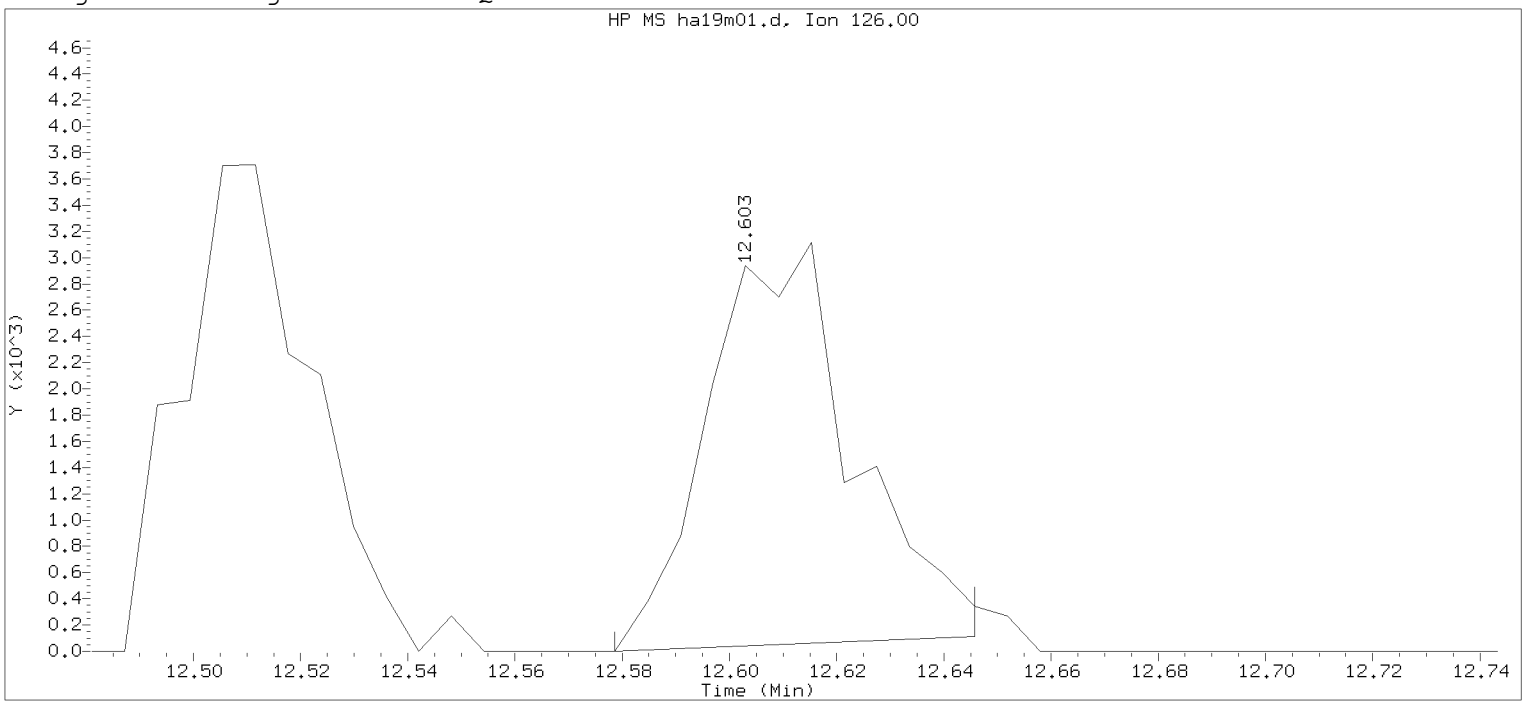
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



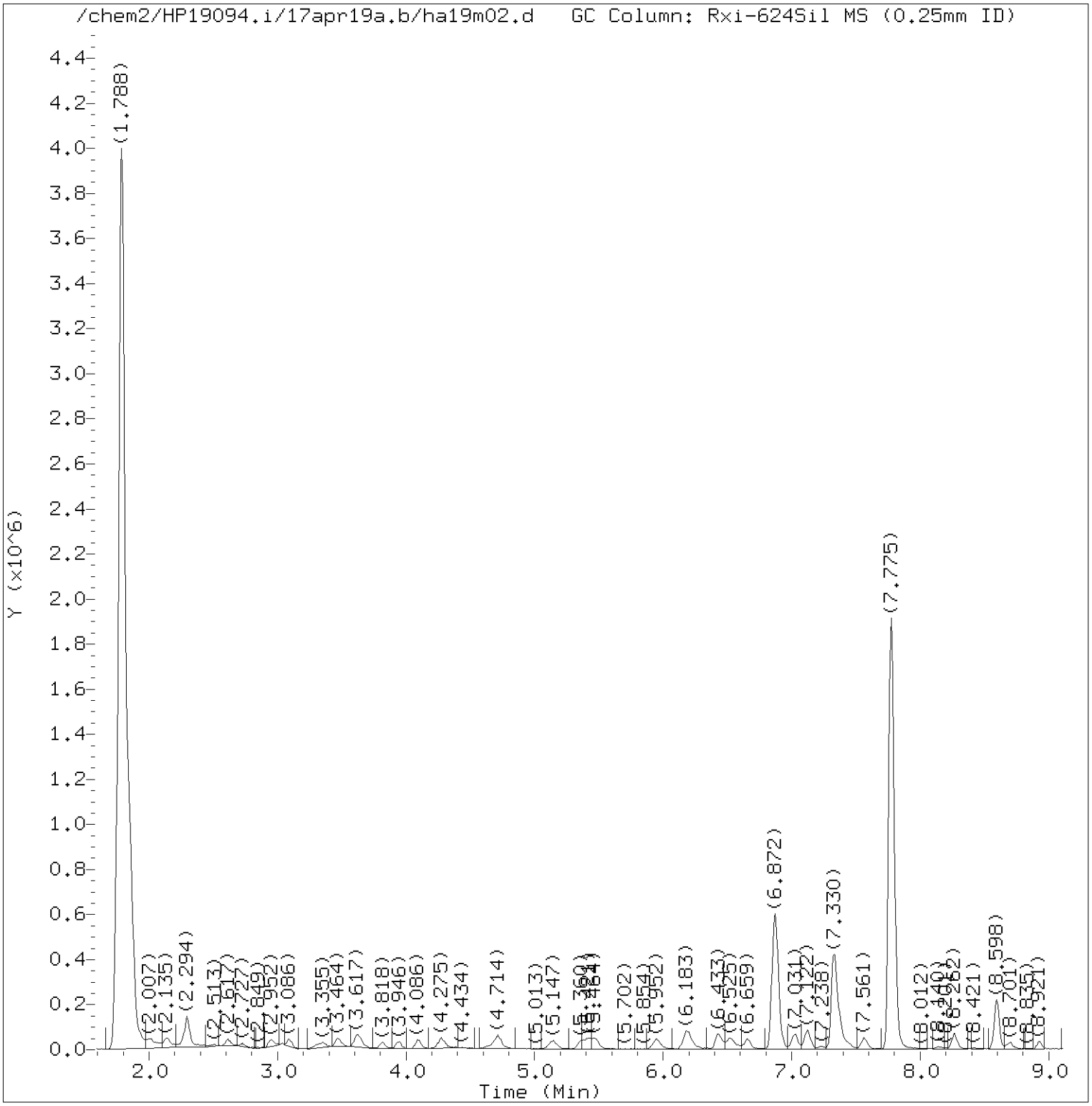
Data File: /chem2/HP19094.i/17apr19a.b/ha19m01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:21 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:18
Date, time and analyst ID of latest file update: 19-Apr-2017 14:39 Automation

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compound Number : 122
Compound Name : 4-Chlorotoluene
Scan Number : 1807
Retention Time (minutes): 12.603
Quant Ion : 126.00
Area : 5745
On-column Amount (ng) : 0.0799
Integration start scan : 1802 Integration stop scan: 1813
Y at integration start : 0 Y at integration end: 111

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2743



Total Ion Chromatogram (TIC)

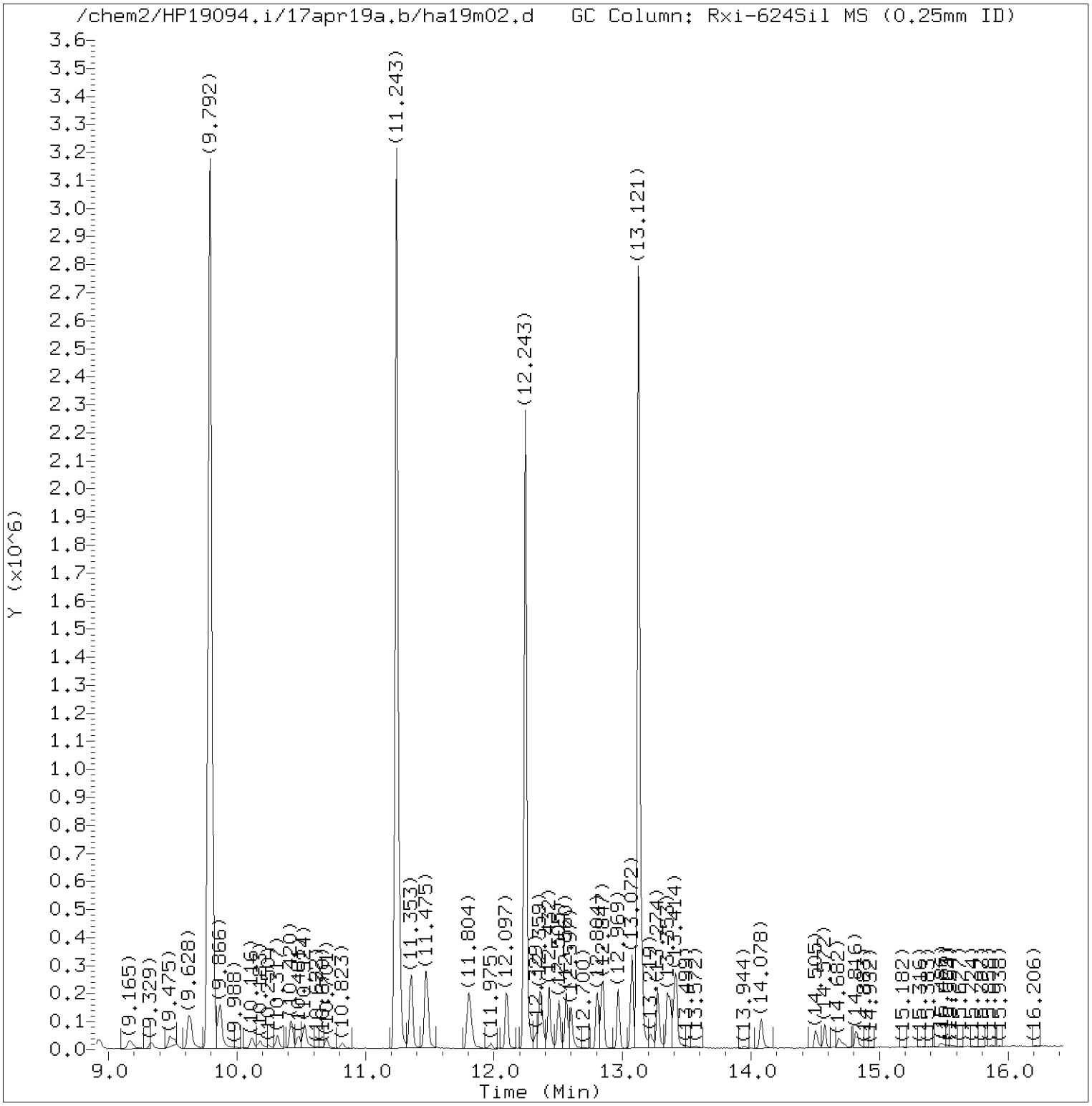
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

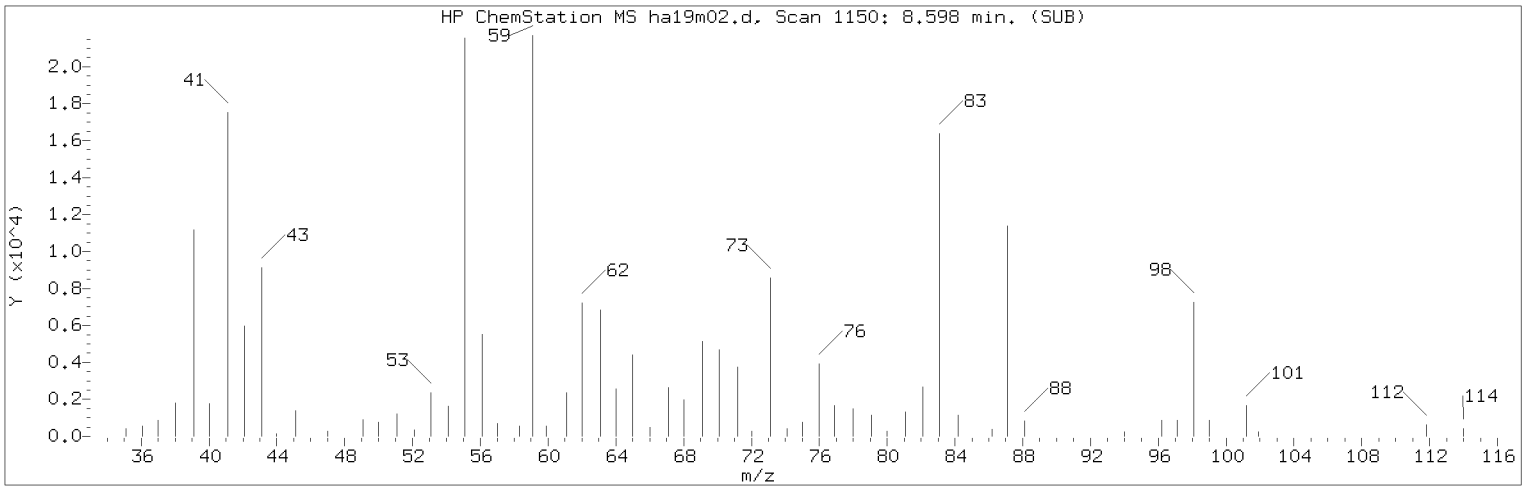
Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
26)*t-Butyl Alcohol-d10	(1)	4.300	65	56137	50.000
50)$Dibromofluoromethane	(2)	6.872	113	614234	10.125
57)$1,2-Dichloroethane-d4	(2)	7.323	102	100511	10.246
63)*Fluorobenzene	(2)	7.775	96	2706333	10.000
72) 1,4-Dioxane	(1)	8.598	88	2201M	17.242
82)$Toluene-d8	(3)	9.792	98	2610619	10.302
97)*Chlorobenzene-d5	(3)	11.243	117	1733515	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	715050	9.932
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	727953	10.000

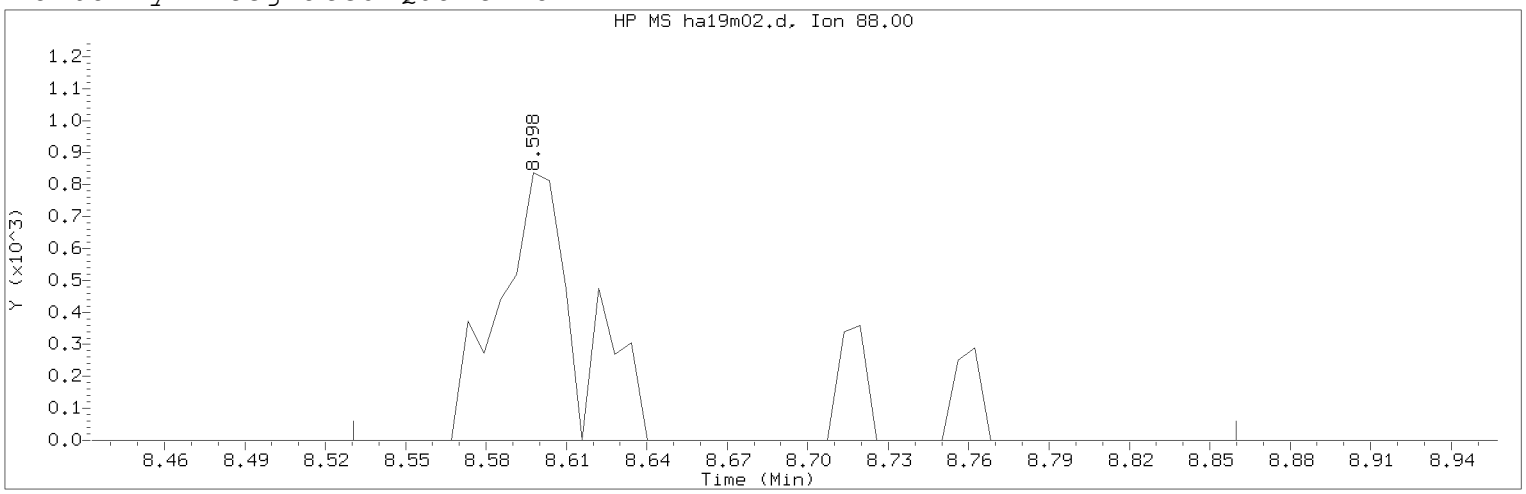
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 15:37
Date, time and analyst ID of latest file update: 19-Apr-2017 15:39 msk07970

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

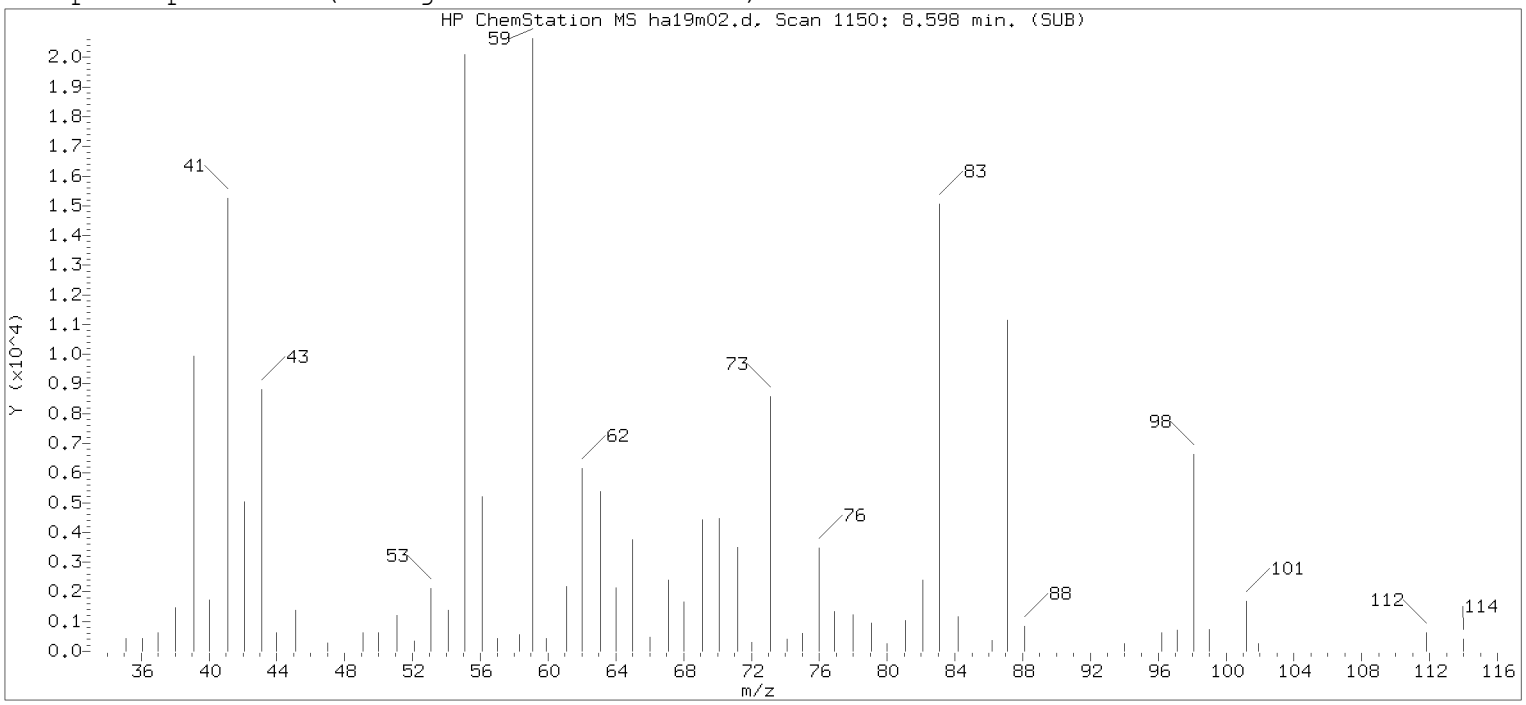
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area (flag) : 2201M
On-Column Amount (ng) : 17.2419
Integration start scan : 1138 Integration stop scan: 1192
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

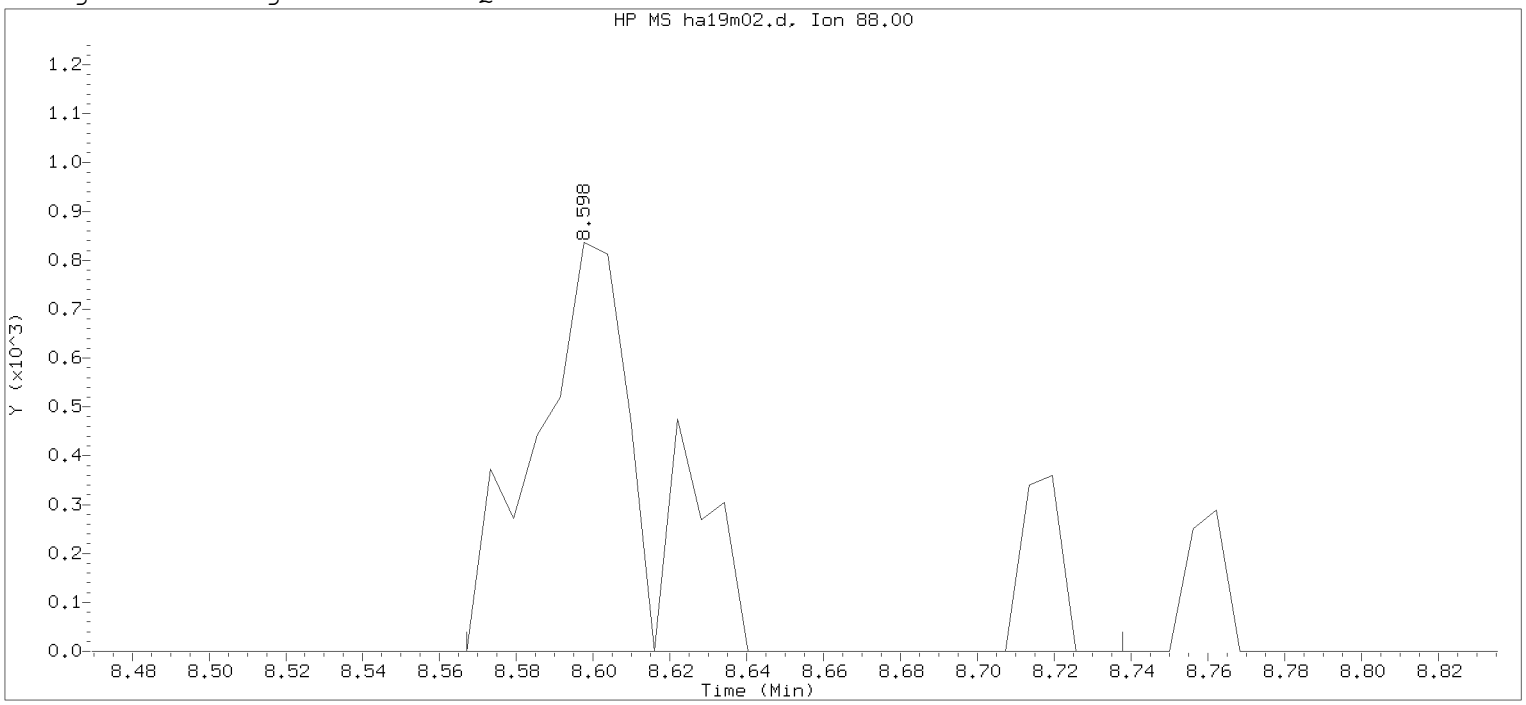
Analyst responsible for change: Digitally signed by Matthew S. Krause
on 04/19/2017 at 19:46.
Target 3.5 esignature user ID: msk07970

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



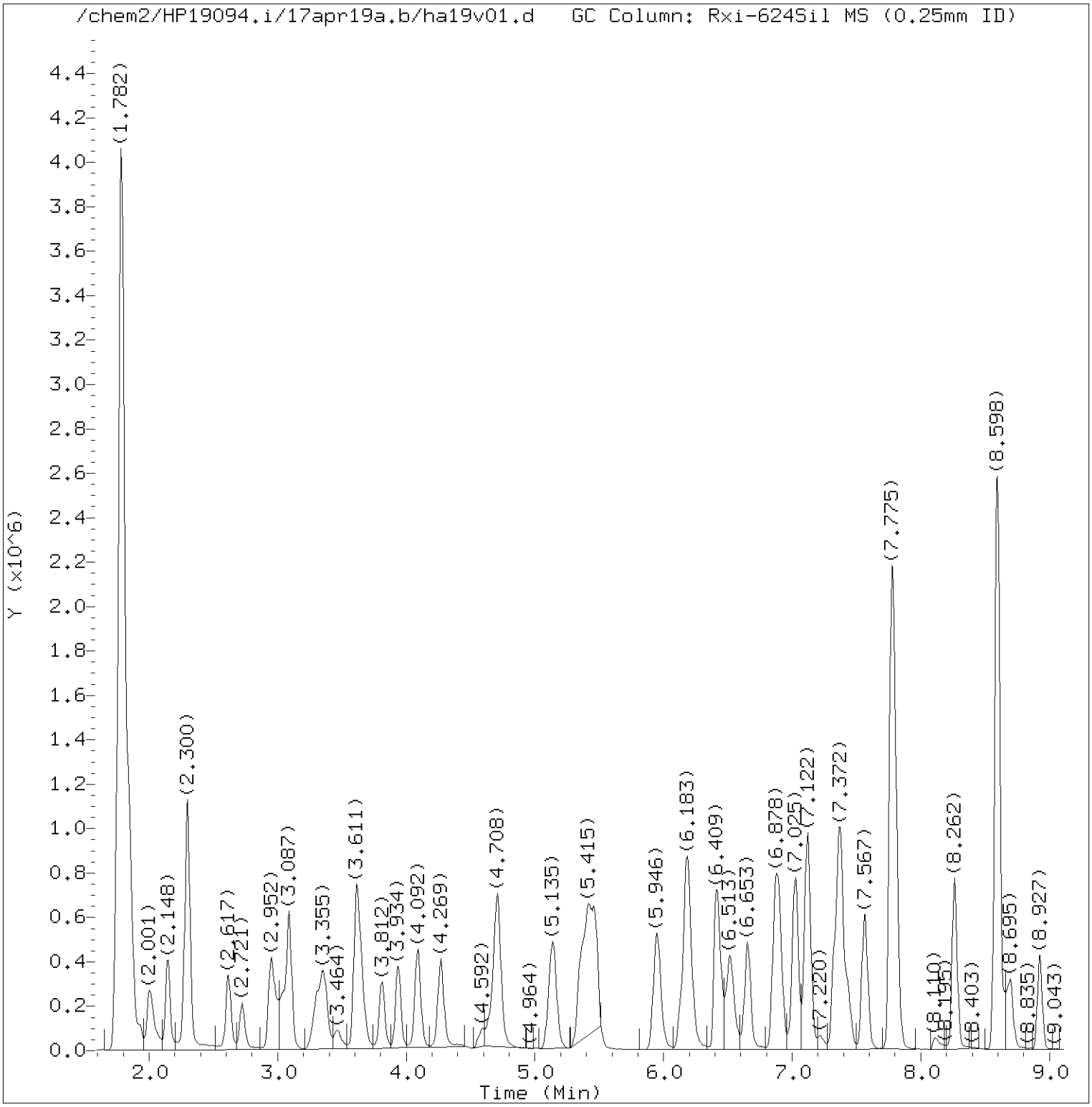
Data File: /chem2/HP19094.i/17apr19a.b/ha19m02.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 14:41 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 14DIOX
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 14:59 Automation

Sample Name: MDL0.4 Lab Sample ID: MDL0.4

Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 2004
On-column Amount (ng) : 15.4065
Integration start scan : 1144 Integration stop scan: 1172
Y at integration start : 0 Y at integration end: 0

Digitally signed by Matthew S. Krause on 04/19/2017 at 19:46.
Target 3.5 esignature used [illegible]



Total Ion Chromatogram (TIC)

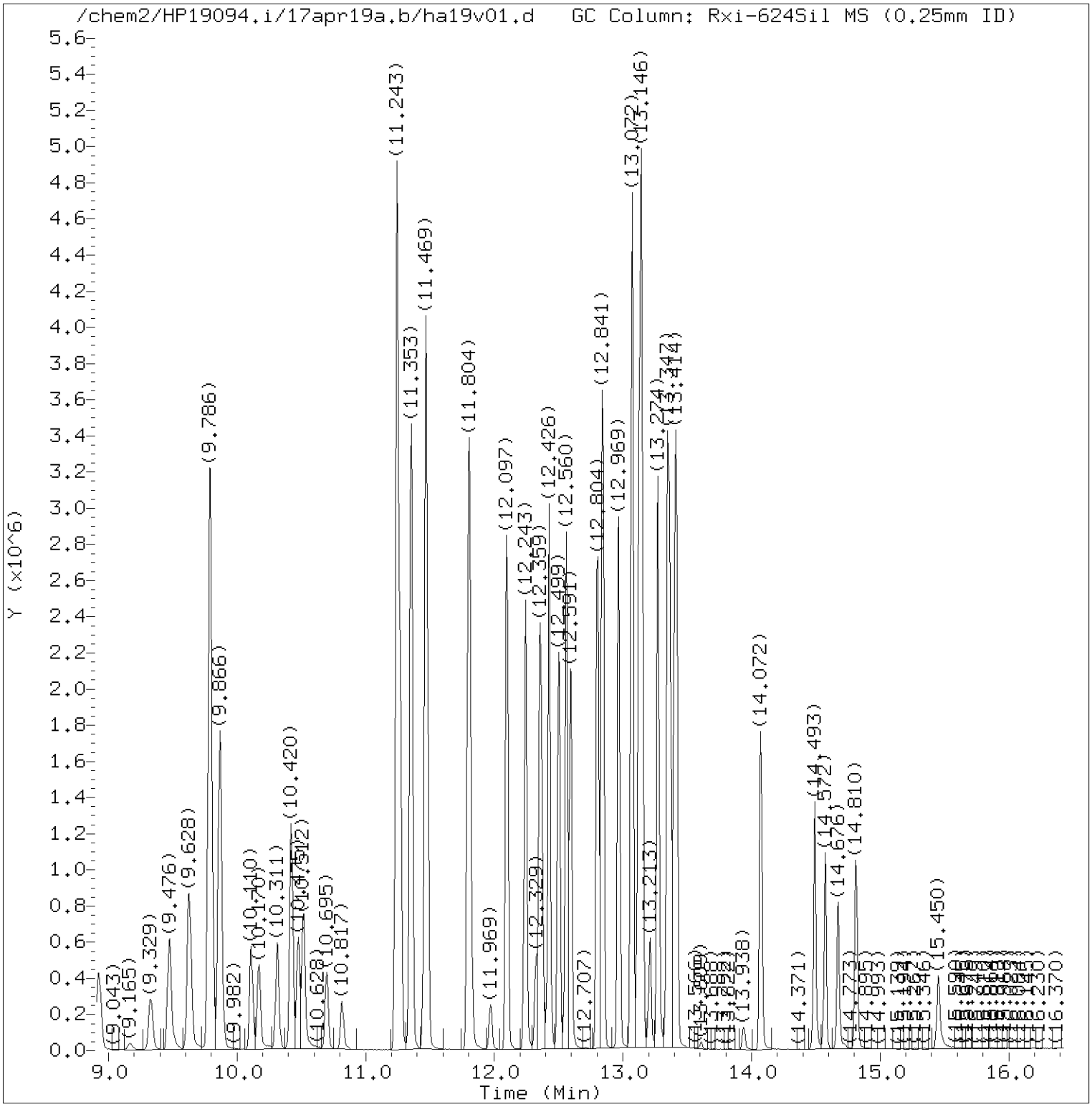
Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.001	85	563011	5.308
2) Chloromethane	(2)	2.148	50	578444	5.194
5) Vinyl Chloride	(2)	2.282	62	500909	5.124
6) 1,3-Butadiene	(2)	2.300	39	633079	4.112
7) Bromomethane	(2)	2.617	94	323185	5.263
8) Chloroethane	(2)	2.721	64	272135	4.860
9) Dichlorofluoromethane	(2)	2.946	67	624740	4.849
10) Trichlorofluoromethane	(2)	3.032	101	556123	4.910
11) Ethyl ether	(2)	3.300	59	213655M	4.761
12) Freon 123a	(2)	3.355	67	446006	5.219
13) Acrolein	(1)	3.471	56	179786	36.009
15) 1,1-Dichloroethene	(2)	3.605	96	307542	5.056
16) Freon 113	(2)	3.641	101	327270	5.111
14) Acetone	(1)	3.641	43	206697	34.187
17) Methyl Iodide	(2)	3.812	142	562737	4.981
18) Carbon Disulfide	(2)	3.934	76	864141	5.063
21) Methyl Acetate	(1)	4.068	43	101283	4.930
22) Allyl Chloride	(2)	4.092	41	526149	4.457
26)*t-Butyl Alcohol-d10	(1)	4.257	65	65618M	50.000
23) Methylene Chloride	(2)	4.269	84	327256	4.926
28) t-Butyl Alcohol	(1)	4.422	59	69703M	42.456
29) Acrylonitrile	(1)	4.592	53	228043	27.911
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	633118	5.194
31) trans-1,2-Dichloroethene	(2)	4.708	96	342063	5.092
32) n-Hexane	(2)	5.135	57	514137	4.993
33) 1,1-Dichloroethane	(2)	5.354	63	662036	4.995
34) di-Isopropyl Ether	(2)	5.409	45	1194051	5.286
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	586459	5.237
37) Ethyl t-butyl ether	(2)	5.946	59	887440	5.110
40) 1,2-Dichloroethene (Total)	(2)		96	712881	10.037
38) 2-Butanone	(1)	6.122	43	486160	39.423
39) cis-1,2-Dichloroethene	(2)	6.177	96	370818	4.945
41) 2,2-Dichloropropane	(2)	6.196	77	490856	4.943
42) Propionitrile	(1)	6.208	54	97975	33.438
45) Methacrylonitrile	(1)	6.409	67	487503	39.795
47) Bromochloromethane	(2)	6.513	128	141182	4.762
48) Tetrahydrofuran	(1)	6.525	71	85029	27.601
49) Chloroform	(2)	6.653	83	613368	4.905

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.866	113	598765	9.742
51) 1,1,1-Trichloroethane	(2)	6.903	97	526746	4.946
52) Cyclohexane	(2)	7.025	56	640415	4.877
55) 1,1-Dichloropropene	(2)	7.116	75	476431	4.817
54) Carbon Tetrachloride	(2)	7.122	117	442505	4.949
56) Isobutyl Alcohol	(1)	7.226	41	75268M	106.240
57)$1,2-Dichloroethane-d4	(2)	7.317	102	96640	9.724
58) Benzene	(2)	7.372	78	1414274	4.924
59) 1,2-Dichloroethane	(2)	7.433	62	340036	4.952
60) t-Amyl methyl ether	(2)	7.567	73	728163	5.156
63)*Fluorobenzene	(2)	7.775	96	2741774	10.000
62) n-Heptane	(2)	7.799	43	575765	4.749
65) n-Butanol	(1)	8.110	56	106580M	204.311
67) Trichloroethene	(2)	8.262	95	374579	4.926
70) 1,2-Dichloropropane	(2)	8.585	63	375823	5.018
69) Methylcyclohexane	(2)	8.598	83	596840	4.646
71) Methyl Methacrylate	(1)	8.659	69	133421M	5.954
73) Dibromomethane	(2)	8.695	93	145895	5.053
72) 1,4-Dioxane	(1)	8.713	88	13854MA	106.938
74) Bromodichloromethane	(2)	8.927	83	394161	4.984
76) 2-Nitropropane	(1)	9.165	41	39085A	5.288
80) cis-1,3-Dichloropropene	(2)	9.476	75	442513	4.964
81) 4-Methyl-2-Pentanone	(1)	9.622	43	849519A	25.997
82)$Toluene-d8	(3)	9.793	98	2654233	10.329
83) Toluene	(3)	9.866	92	887106	5.224
84) trans-1,3-Dichloropropene	(3)	10.110	75	346271	5.235
85) 1,3-Dichloropropene (total)	(3)		75	788784	10.198
86) Ethyl Methacrylate	(3)	10.170	69	267539	5.468
88) 1,1,2-Trichloroethane	(3)	10.311	97	200345	5.079
89) Tetrachloroethene	(3)	10.420	166	411880	5.230
90) 1,3-Dichloropropane	(3)	10.475	76	367527	5.206
91) 2-Hexanone	(1)	10.512	43	594667	25.822
93) Dibromochloromethane	(3)	10.695	129	232377	4.971
95) 1,2-Dibromoethane	(3)	10.817	107	193073	5.176
97)*Chlorobenzene-d5	(3)	11.243	117	1757963	10.000
98) Chlorobenzene	(3)	11.268	112	935162	5.051
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	310848	5.042
100) Ethylbenzene	(3)	11.353	91	1700363	5.168

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

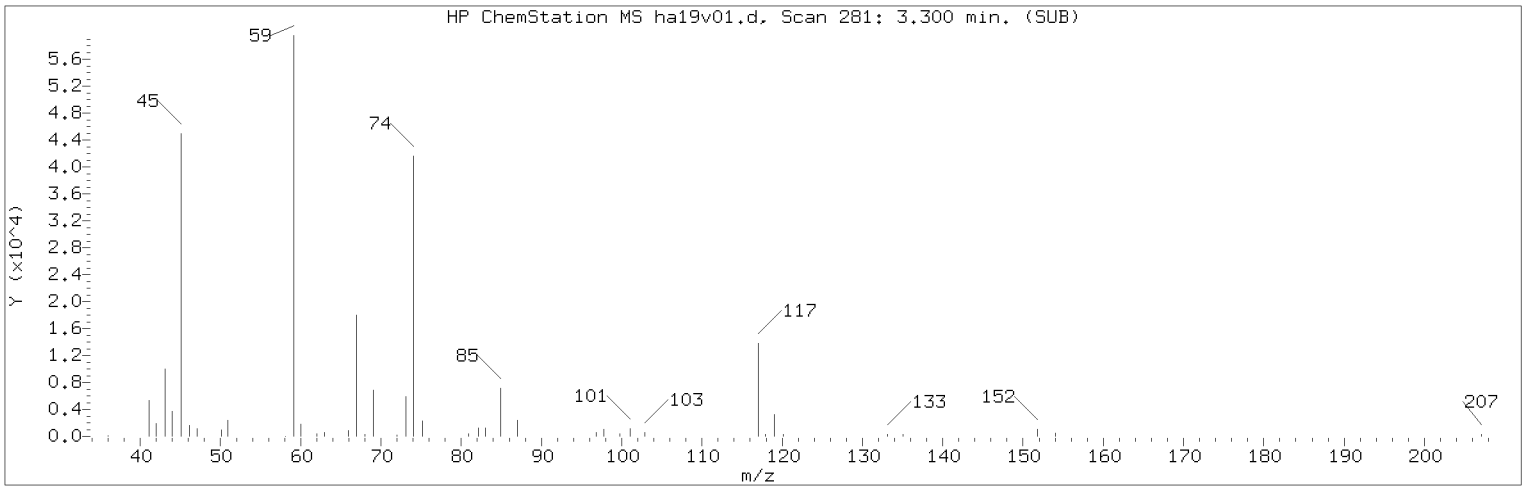
Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
101) m+p-Xylene	(3)	11.469	106	1319755	10.549
105) Xylene (Total)	(3)		106	1945056	15.753
104) o-Xylene	(3)	11.798	106	625301	5.204
106) Styrene	(3)	11.810	104	1008060	5.495
107) Bromoform	(3)	11.969	173	118111	5.059
108) Isopropylbenzene	(3)	12.097	105	1685793	5.362
111)$4-Bromofluorobenzene	(3)	12.243	95	734620	10.062
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	240295	4.911
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	215887	24.883
114) Bromobenzene	(4)	12.359	156	372979	4.999
116) 1,2,3-Trichloropropane	(4)	12.377	110	63233	5.166
117) n-Propylbenzene	(4)	12.426	91	2070313	5.190
119) 2-Chlorotoluene	(4)	12.505	126	384491	5.097
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	1400449	5.218
122) 4-Chlorotoluene	(4)	12.597	126	387082	5.105
125) tert-Butylbenzene	(4)	12.804	134	311249	5.339
126) Pentachloroethane	(4)	12.835	167	232955	5.349
127) 1,2,4-Trimethylbenzene	(4)	12.847	105	1403354	5.246
128) sec-Butylbenzene	(4)	12.969	105	1825078	5.218
131) 1,3-Dichlorobenzene	(4)	13.066	146	734703	5.012
132) p-Isopropyltoluene	(4)	13.072	119	1514018	5.290
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	758097	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	740069	4.845
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	630317	5.344
136) Benzyl Chloride	(4)	13.213	126	81548M	5.289
138) n-Butylbenzene	(4)	13.365	92	760910	5.414
139) 1,2-Dichlorobenzene	(4)	13.395	146	651502	5.004
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	25331	5.234
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	407028	4.849
146) Hexachlorobutadiene	(4)	14.572	225	184349	4.433
147) Naphthalene	(4)	14.676	128	613328	4.965
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	330585	4.661

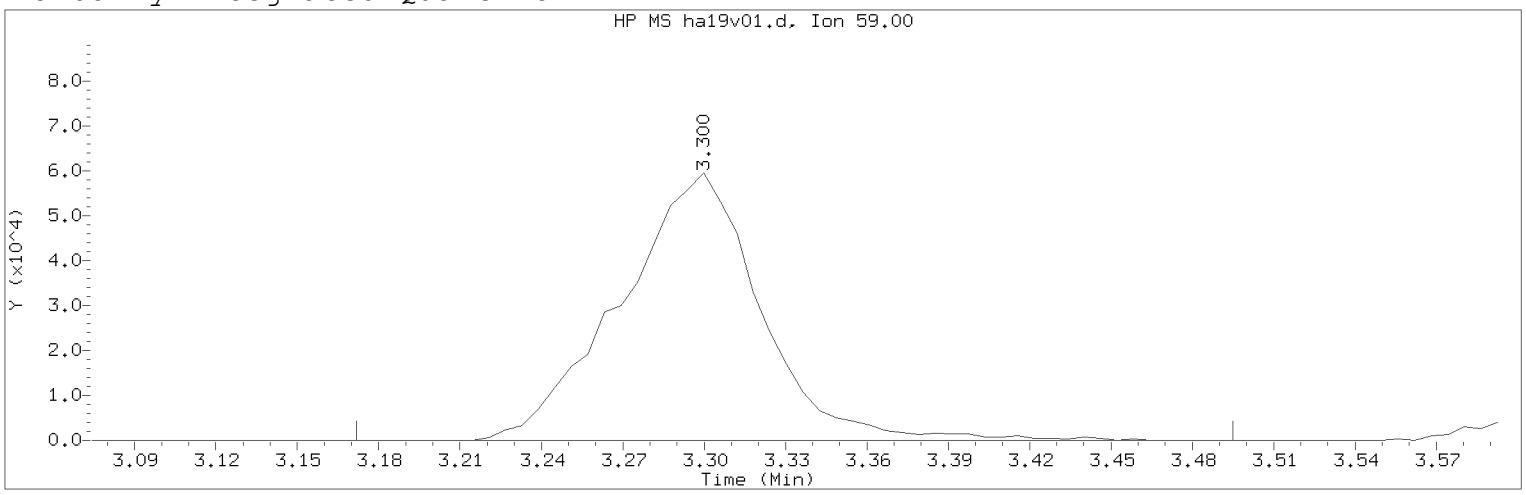
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

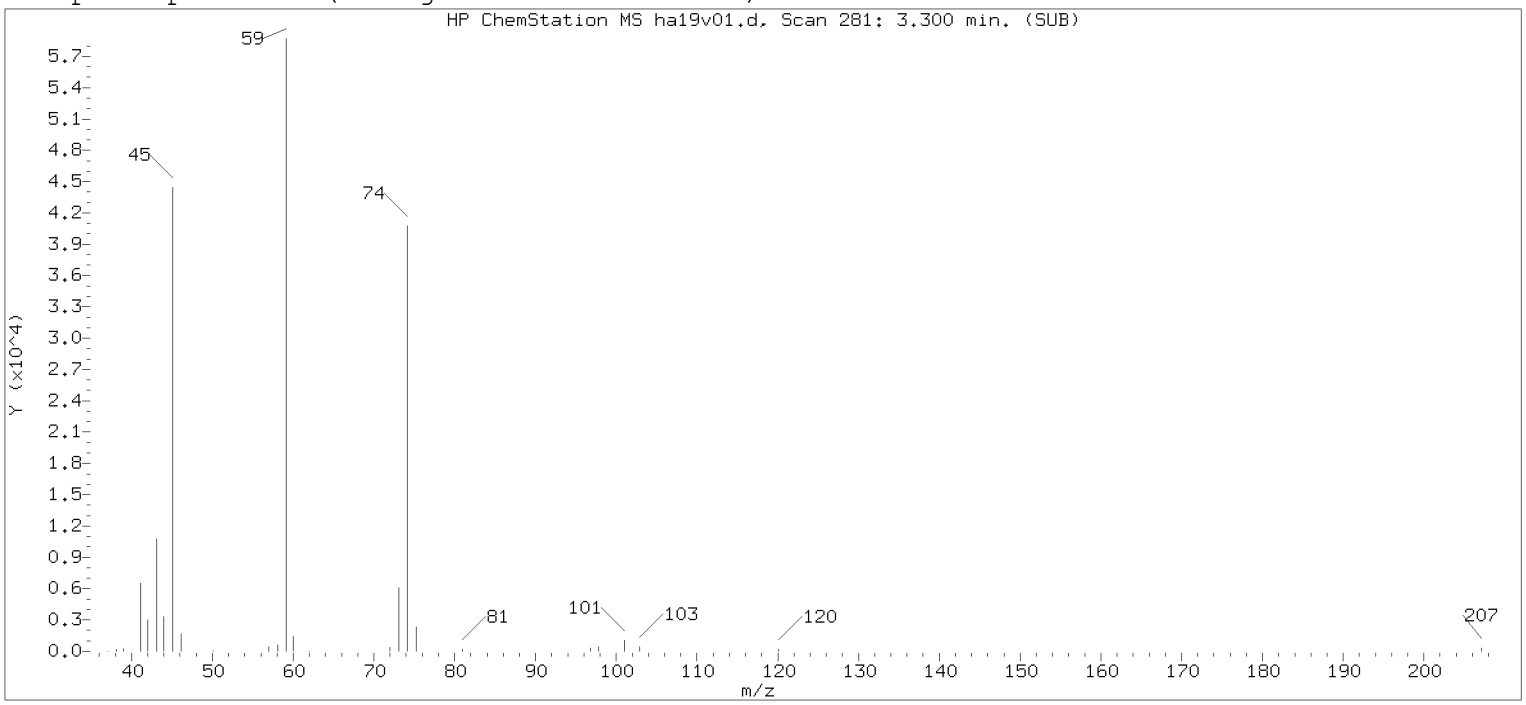
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Quant Ion : 59.00
Area (flag) : 213655M
On-Column Amount (ng) : 4.7610
Integration start scan : 259 Integration stop scan: 312
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

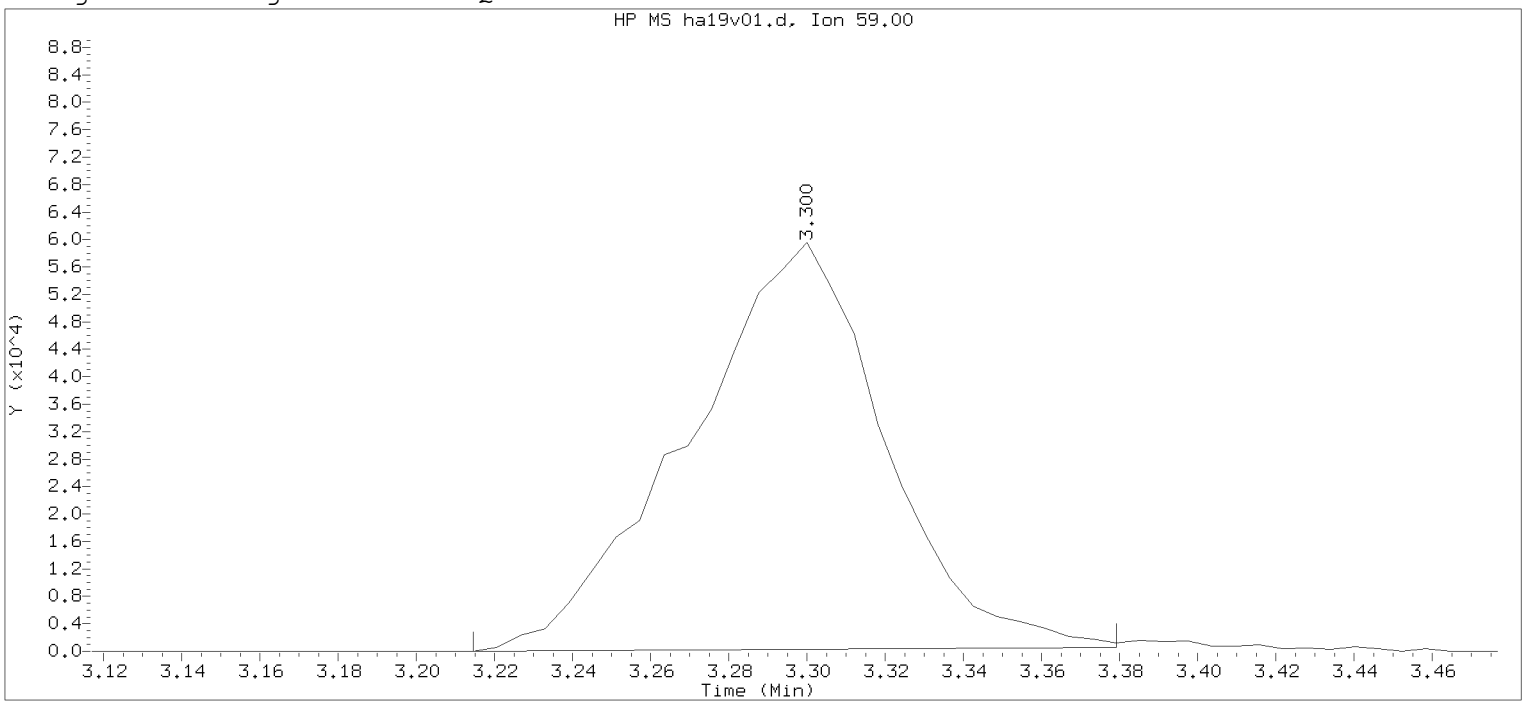
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

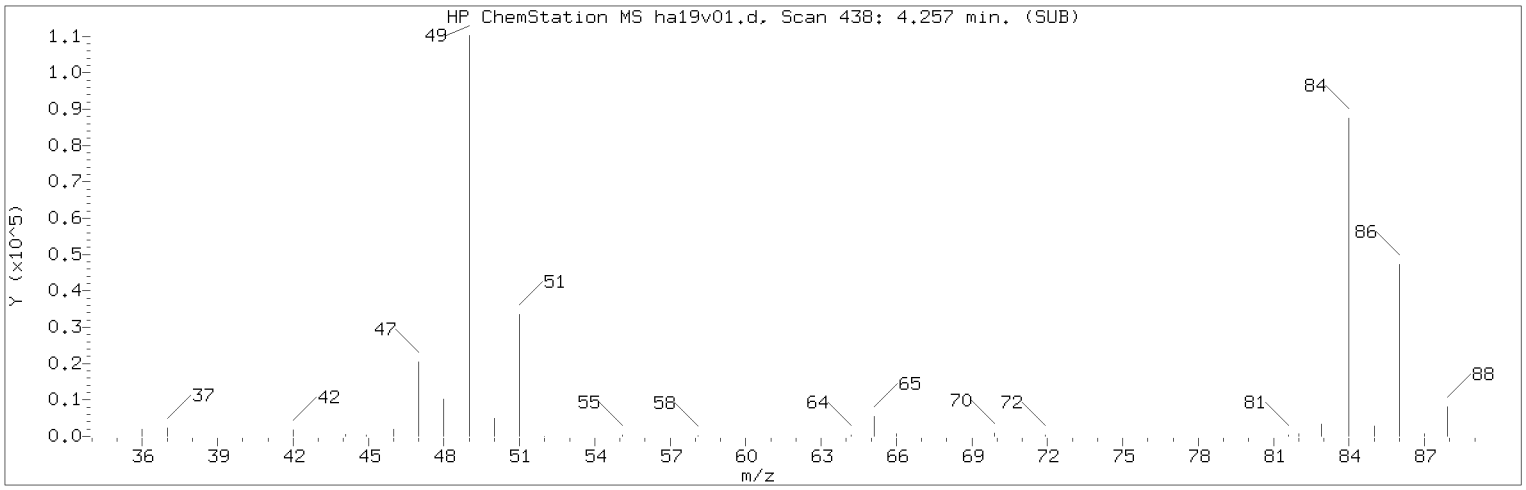
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

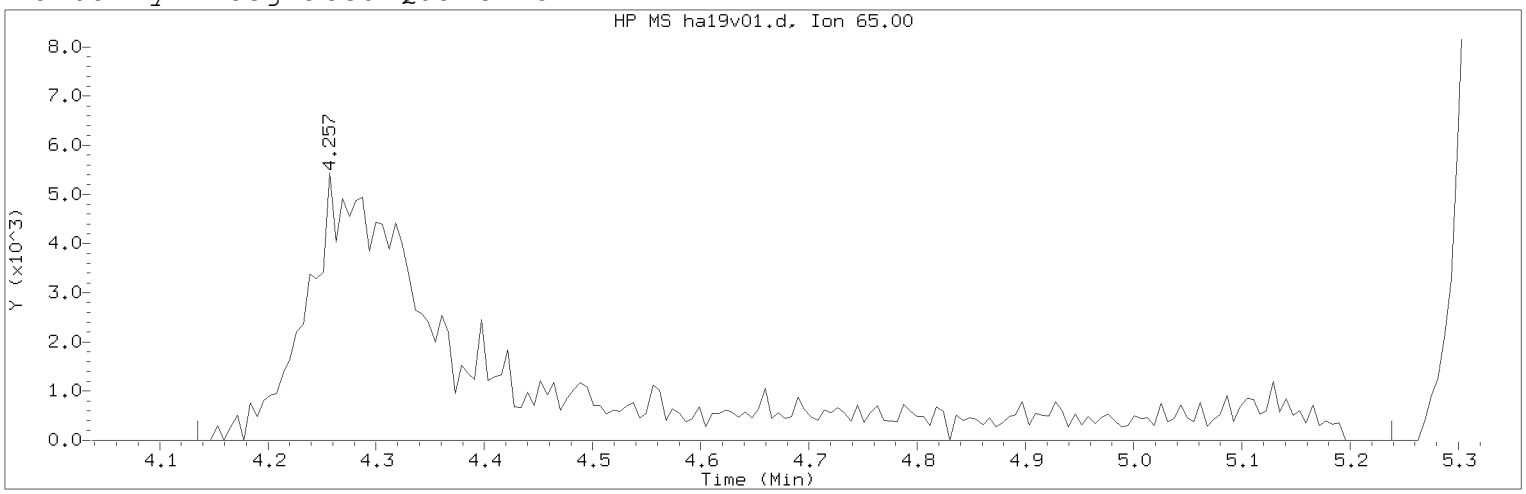
Compound Number : 11
Compound Name : Ethyl ether
Scan Number : 281
Retention Time (minutes): 3.300
Quant Ion : 59.00
Area : 207431
On-column Amount (ng) : 4.6224
Integration start scan : 266 Integration stop scan: 293
Y at integration start : 0 Y at integration end: 517

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2765

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

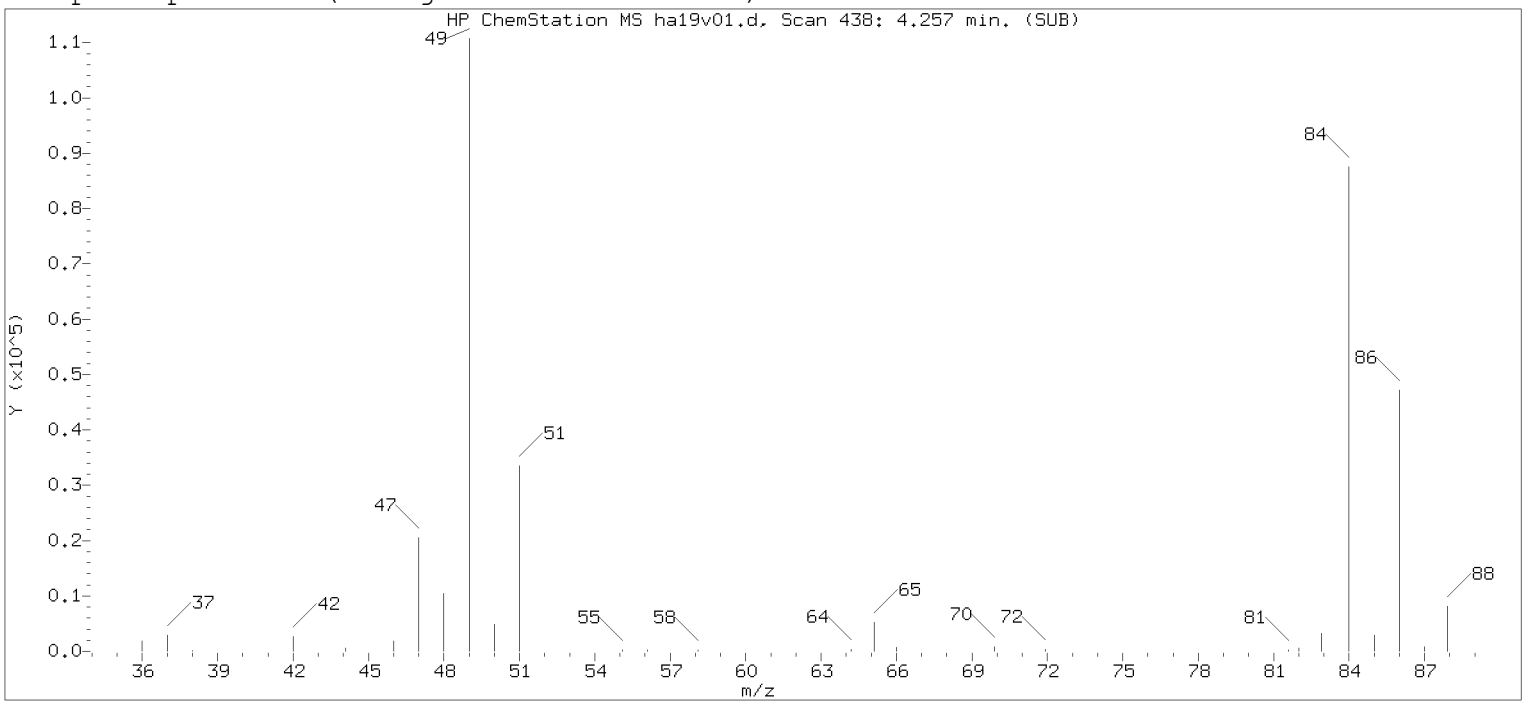
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 65618M
On-Column Amount (ng) : 50.0000
Integration start scan : 417 Integration stop scan: 598
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

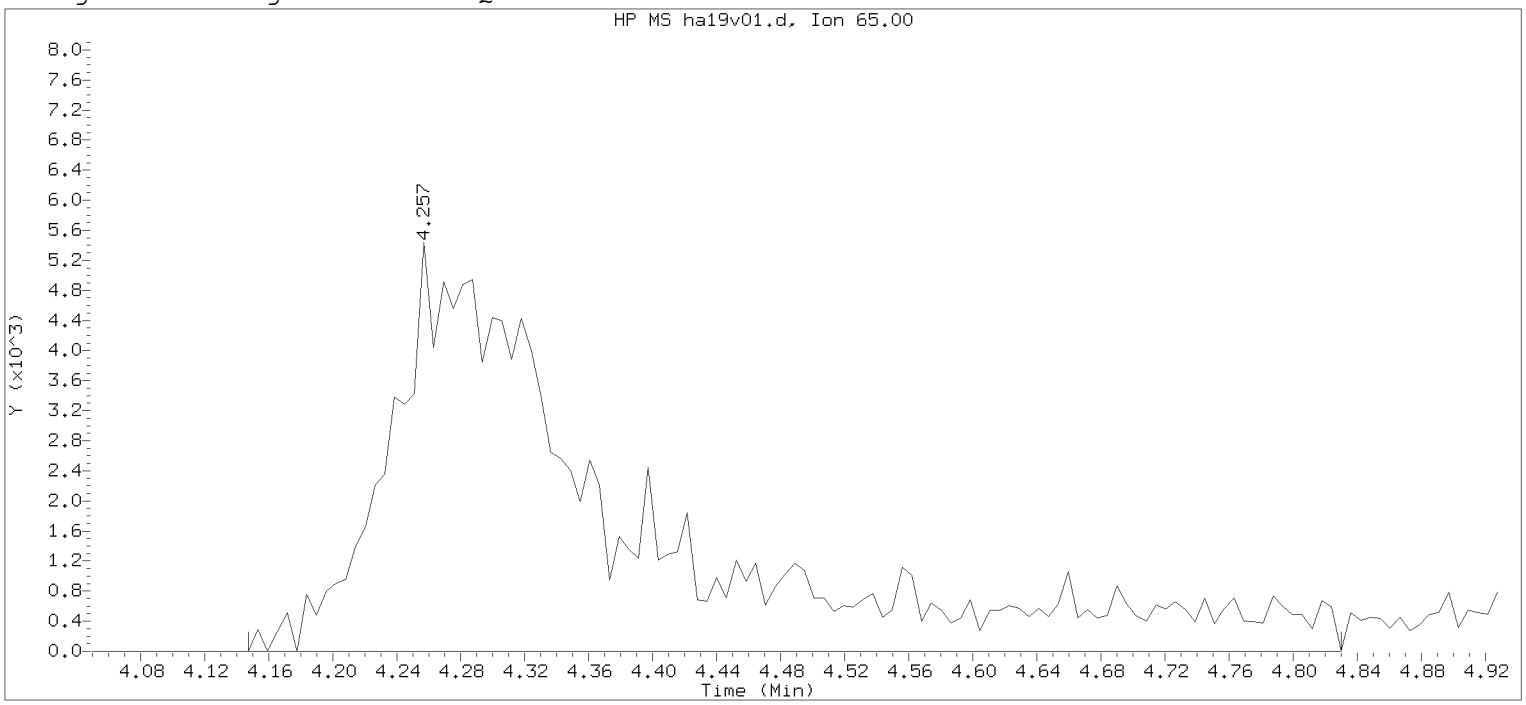
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

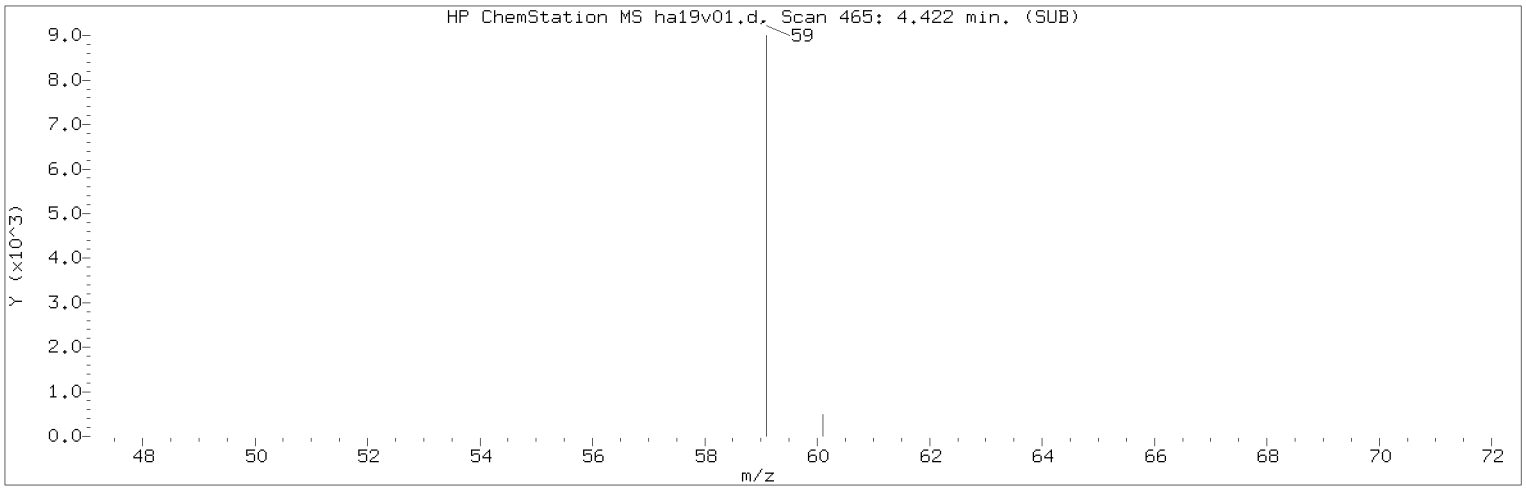
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

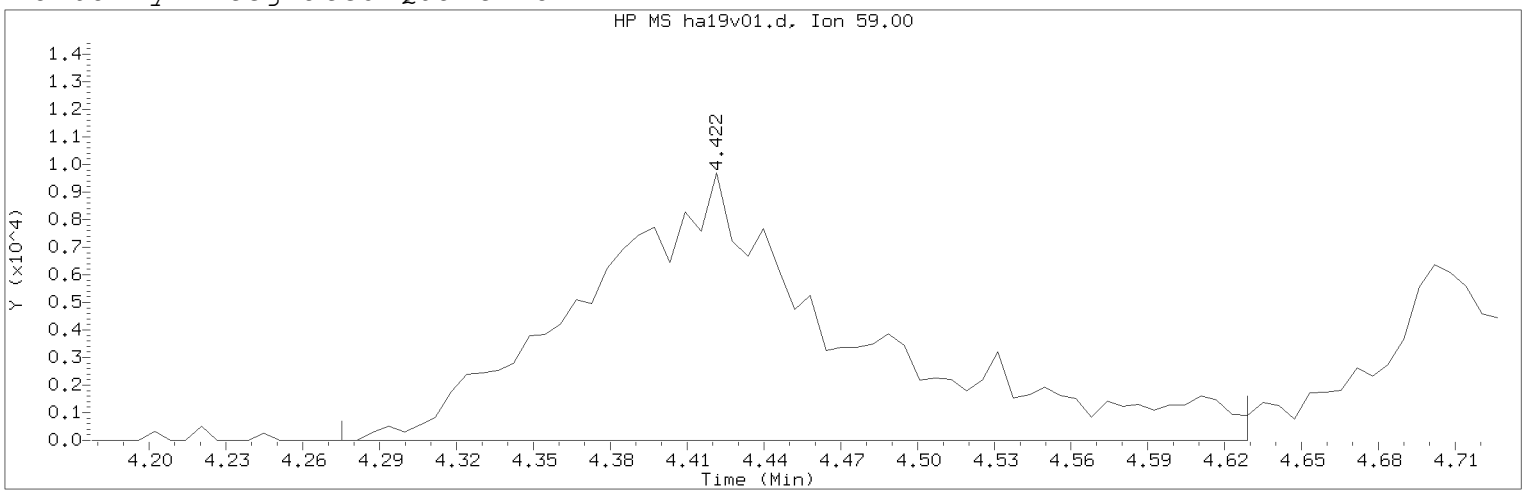
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 54672
On-column Amount (ng) : 50.0000
Integration start scan : 419 Integration stop scan: 531
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2778

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

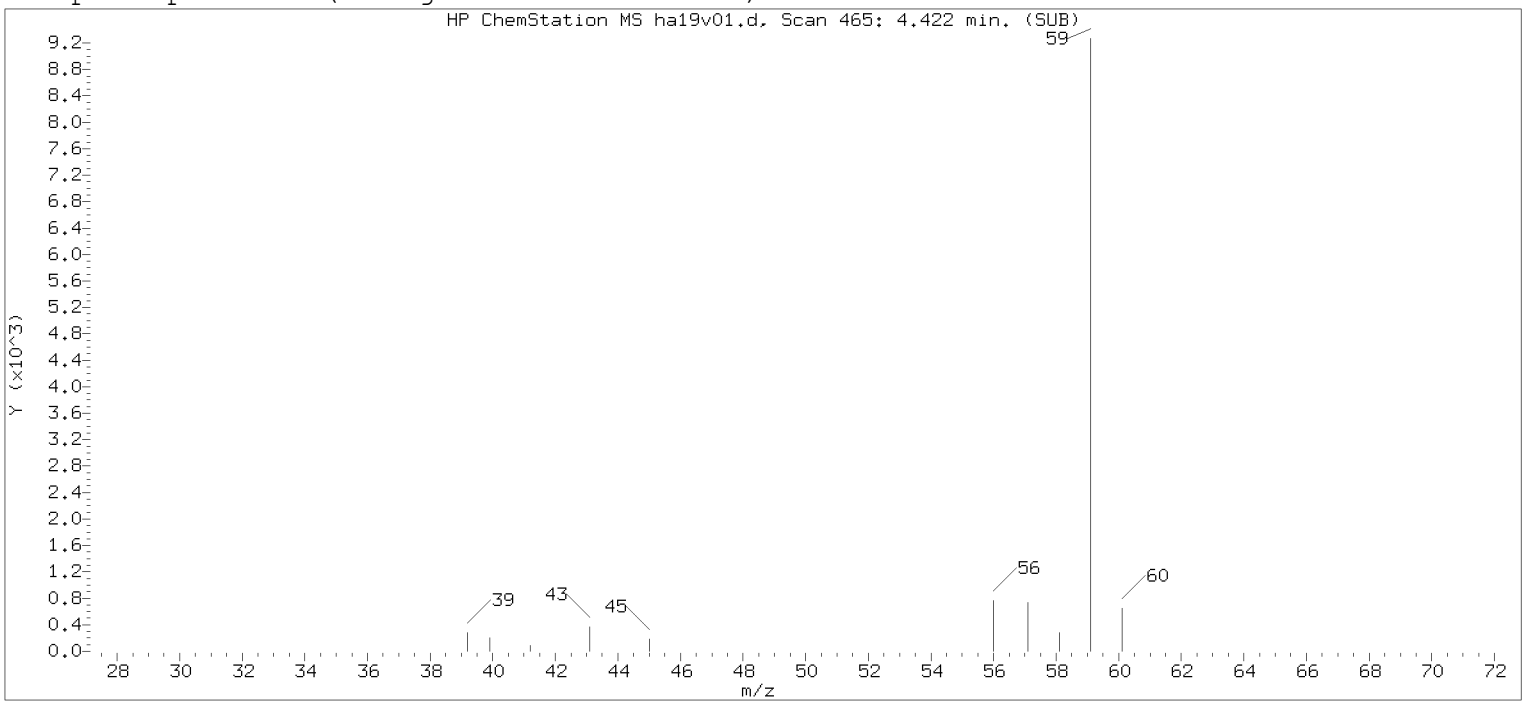
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 465
Retention Time (minutes): 4.422
Quant Ion : 59.00
Area (flag) : 69703M
On-Column Amount (ng) : 42.4558
Integration start scan : 440 Integration stop scan: 498
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

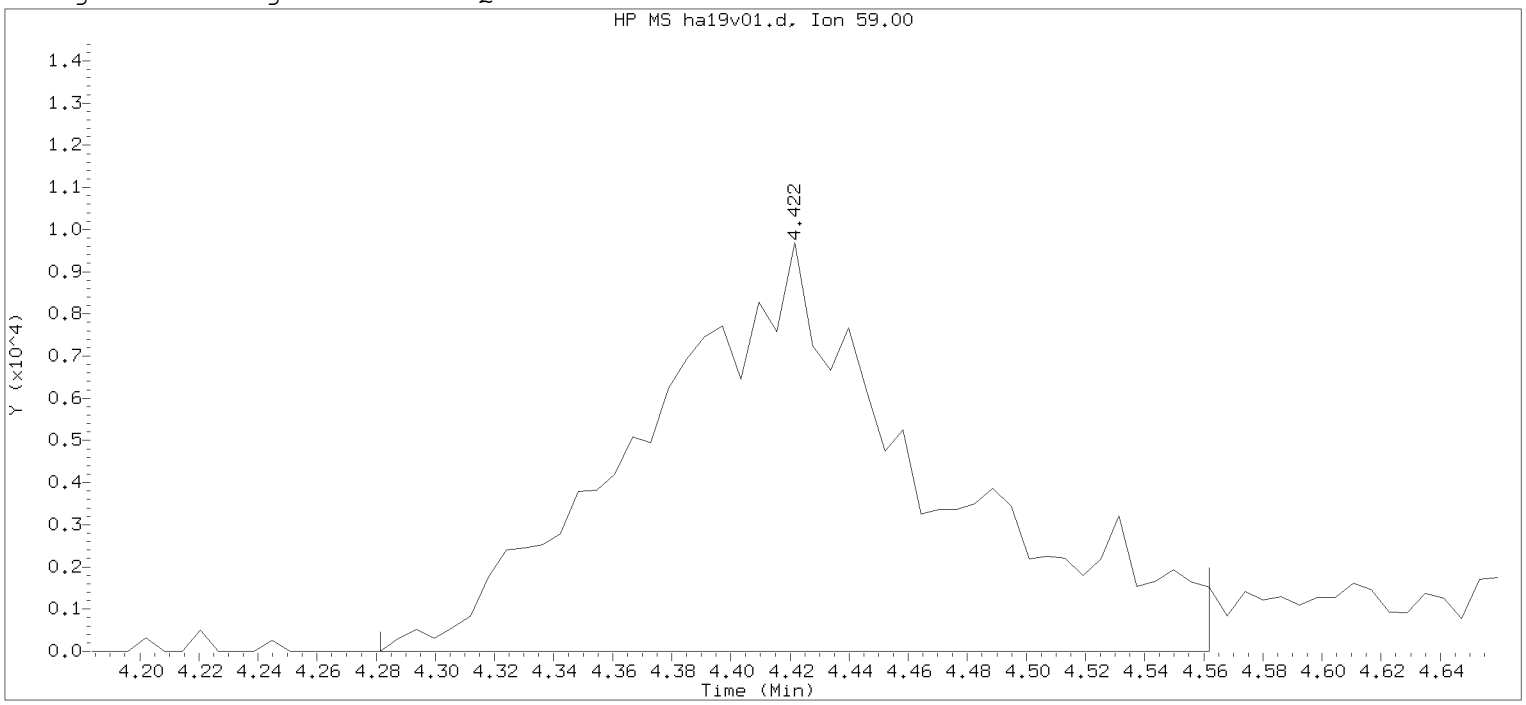
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

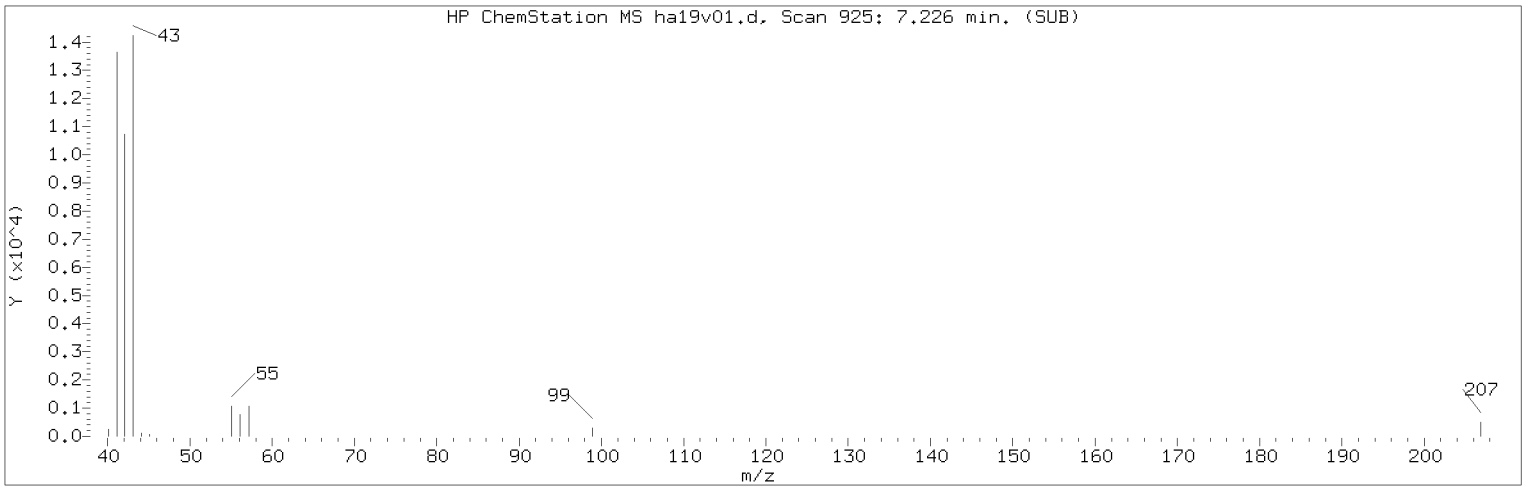
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

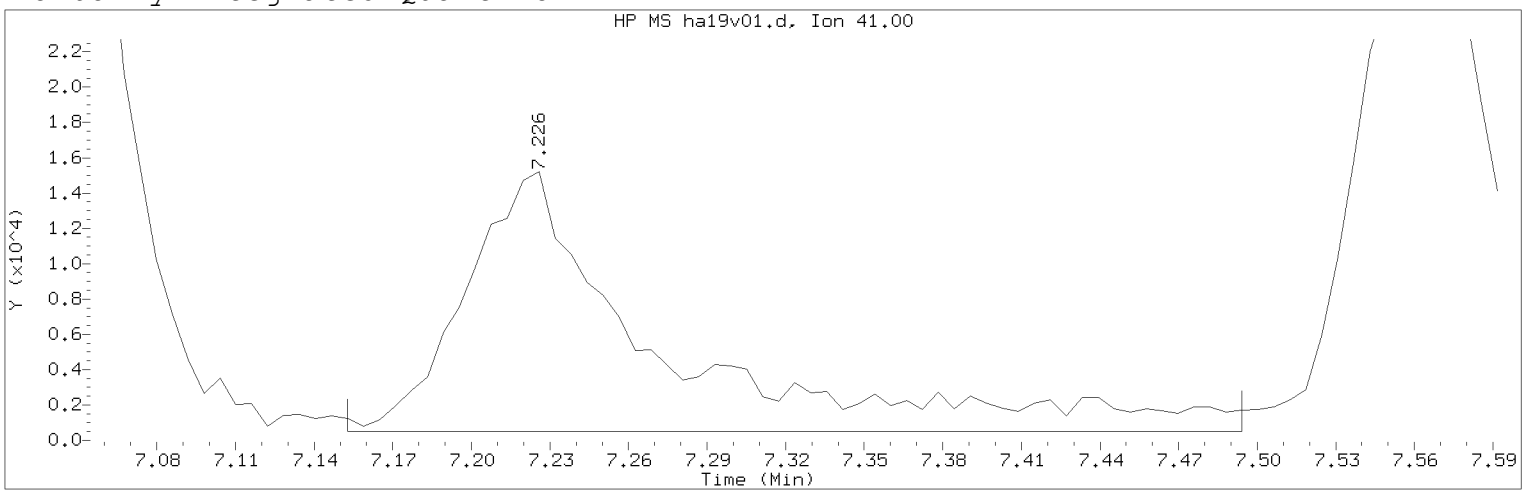
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 465
Retention Time (minutes): 4.422
Quant Ion : 59.00
Area : 64552
On-column Amount (ng) : 47.1900
Integration start scan : 441 Integration stop scan: 487
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2769

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

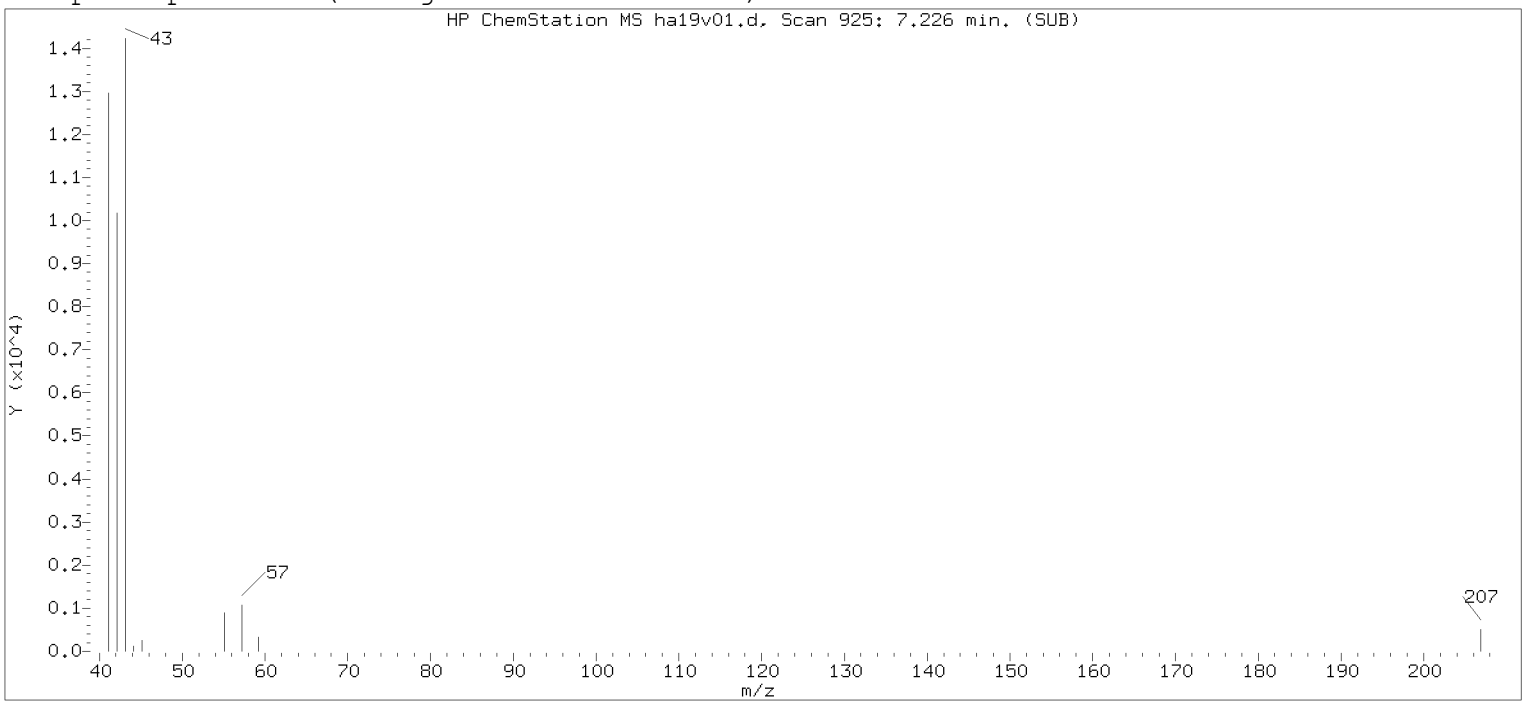
Compound Number : 56
Compound Name : Isobutyl Alcohol
Scan Number : 925
Retention Time (minutes): 7.226
Quant Ion : 41.00
Area (flag) : 75268M
On-Column Amount (ng) : 106.2399
Integration start scan : 912 Integration stop scan: 968
Y at integration start : 503 Y at integration end: 503

Reason for manual integration: improper integration

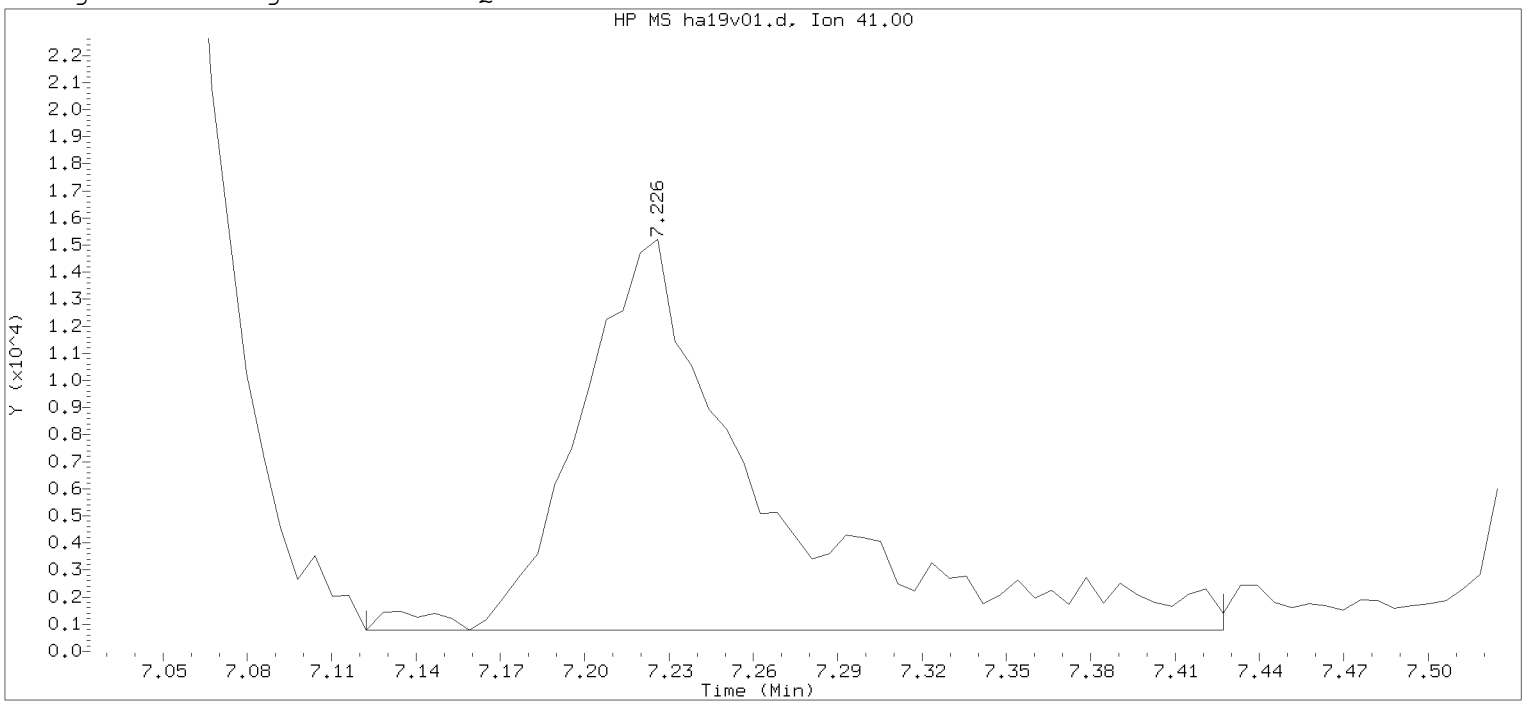
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

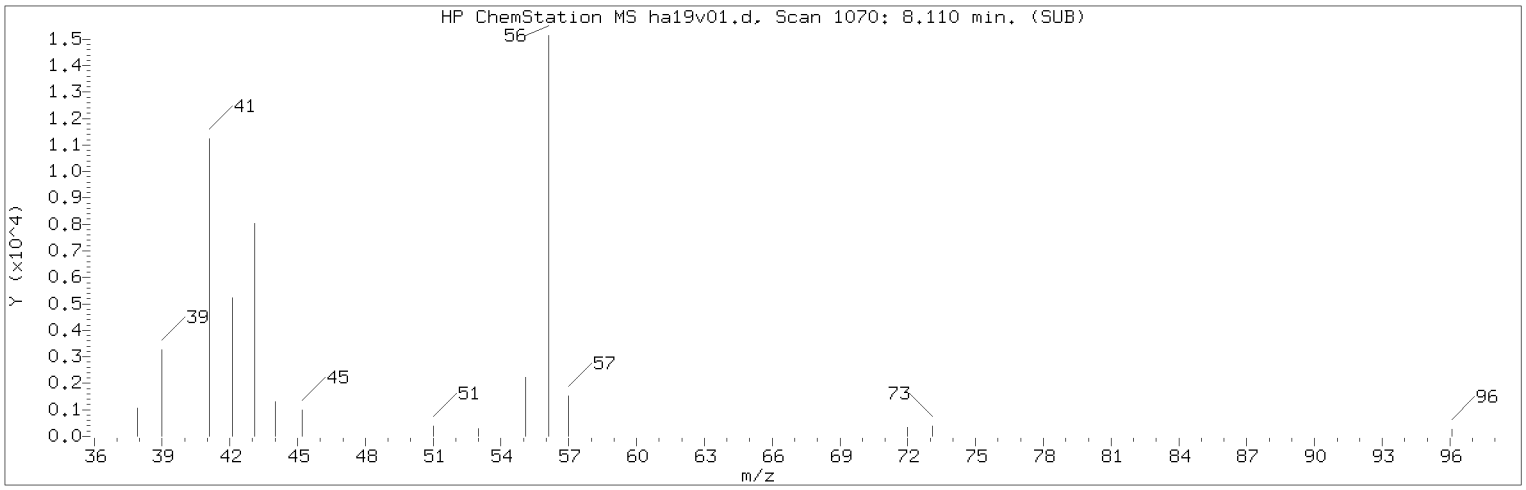
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

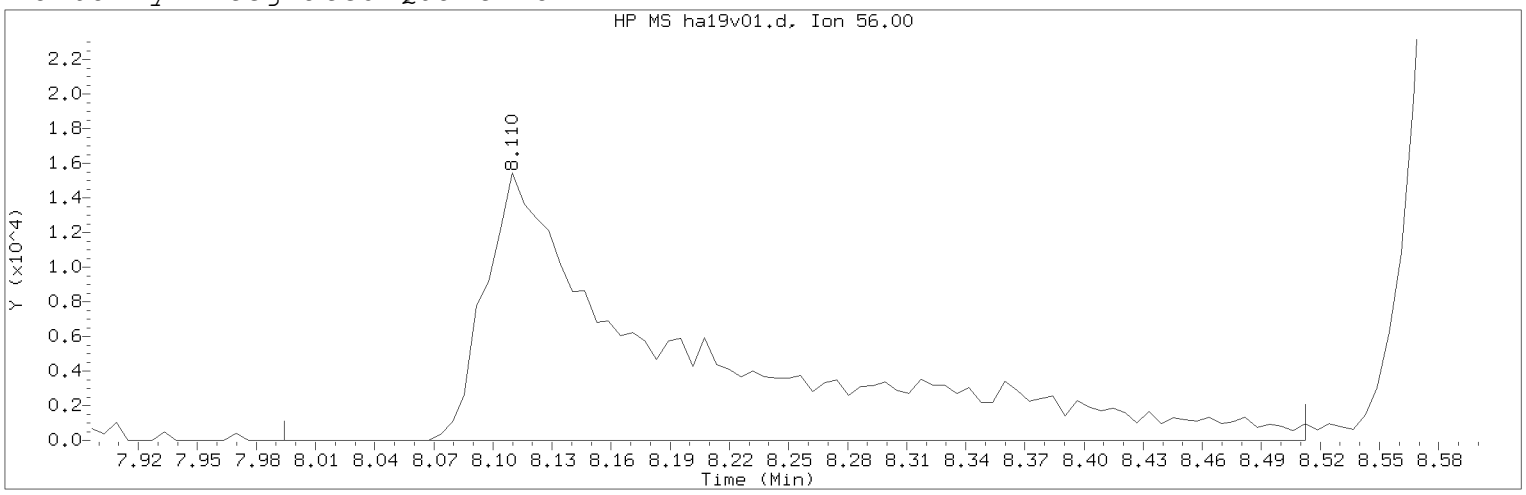
Compound Number : 56
Compound Name : Isobutyl Alcohol
Scan Number : 925
Retention Time (minutes): 7.226
Quant Ion : 41.00
Area : 65776
On-column Amount (ng) : 111.4287
Integration start scan : 907 Integration stop scan: 957
Y at integration start : 791 Y at integration end: 791

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2743

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

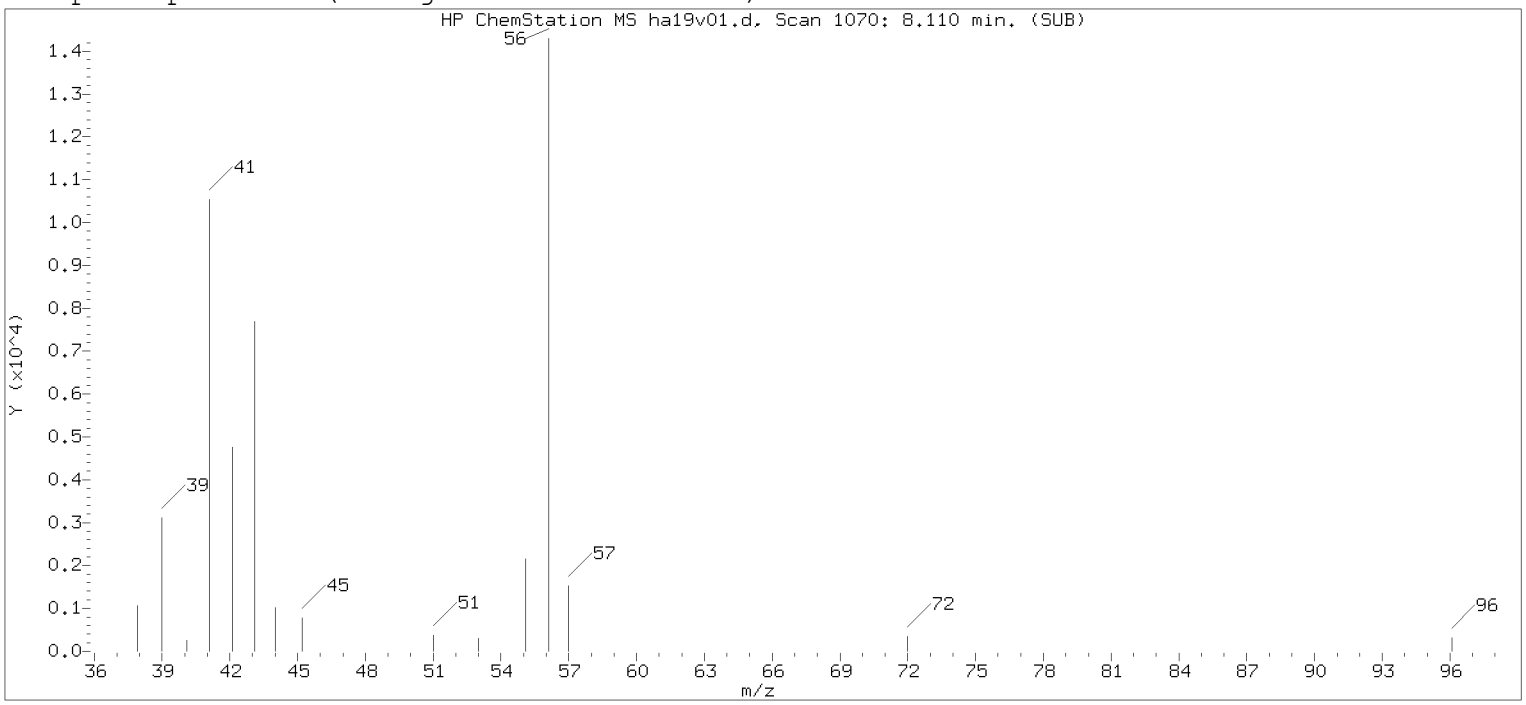
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1070
Retention Time (minutes): 8.110
Quant Ion : 56.00
Area (flag) : 106580M
On-Column Amount (ng) : 204.3109
Integration start scan : 1050 Integration stop scan: 1135
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

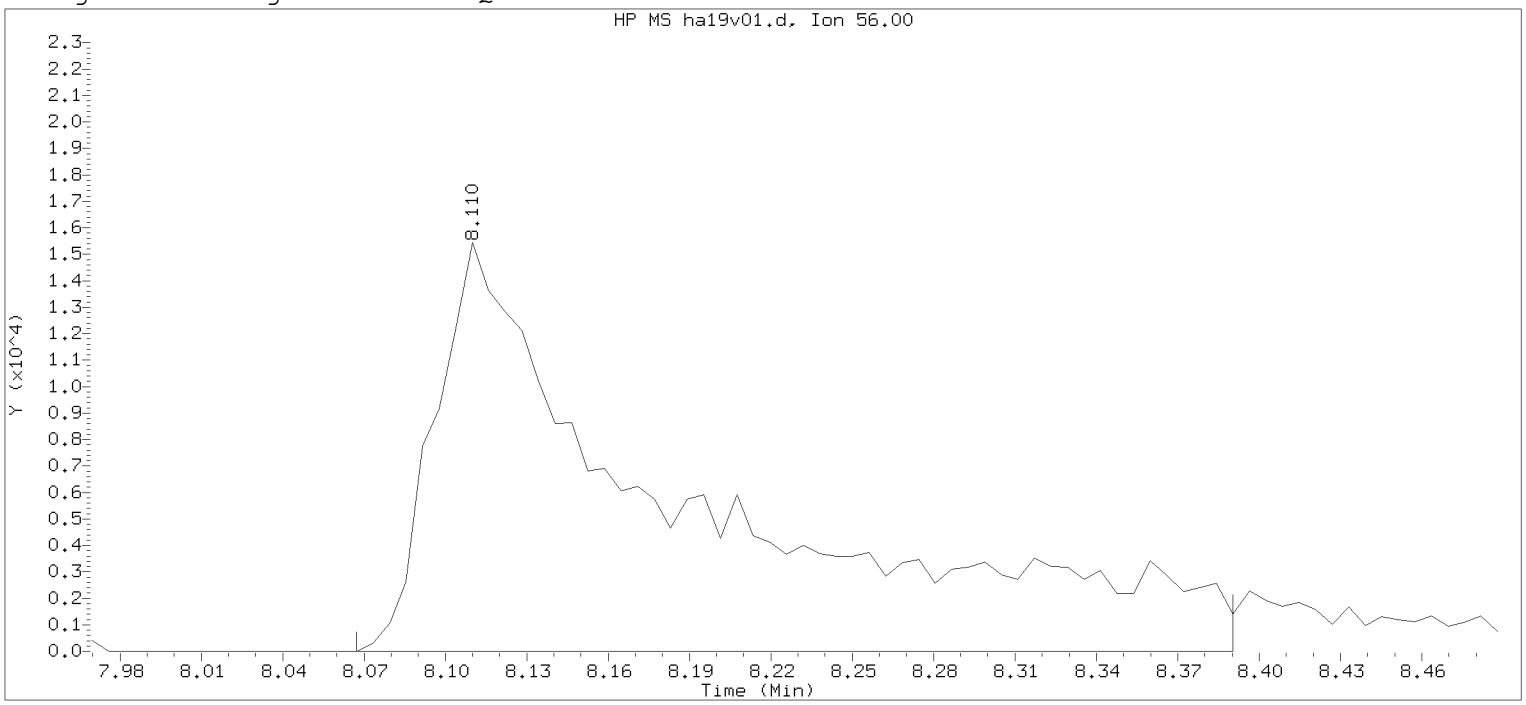
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

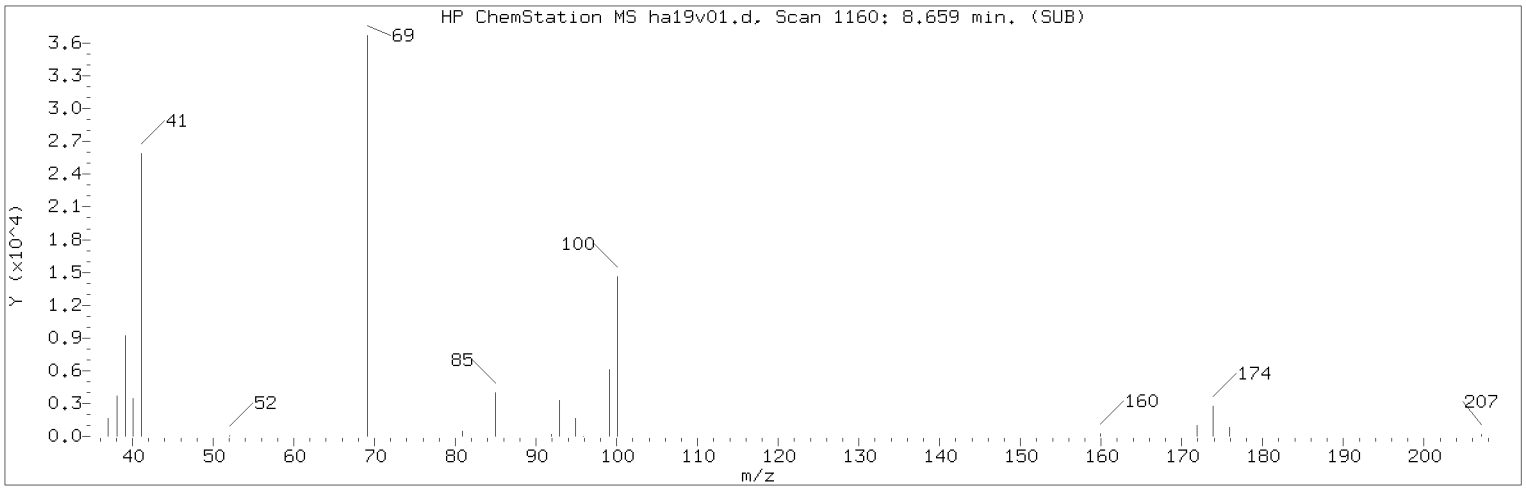
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

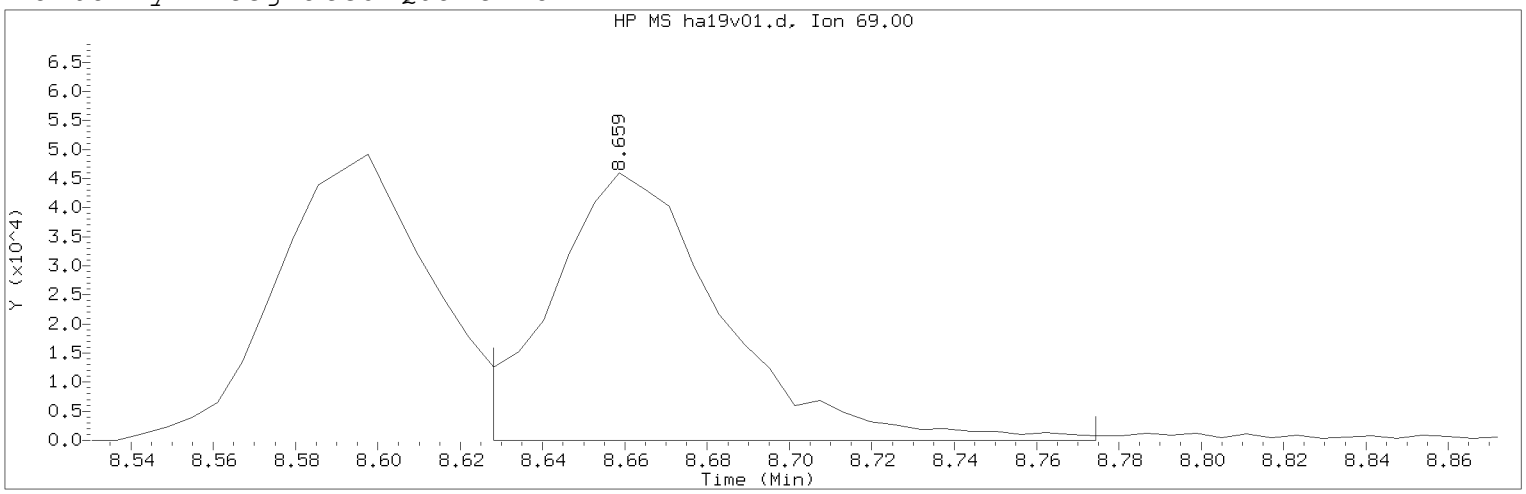
Compound Number : 65
Compound Name : n-Butanol
Scan Number : 1070
Retention Time (minutes): 8.110
Quant Ion : 56.00
Area : 97051
On-column Amount (ng) : 223.2892
Integration start scan : 1062 Integration stop scan: 1115
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2743

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

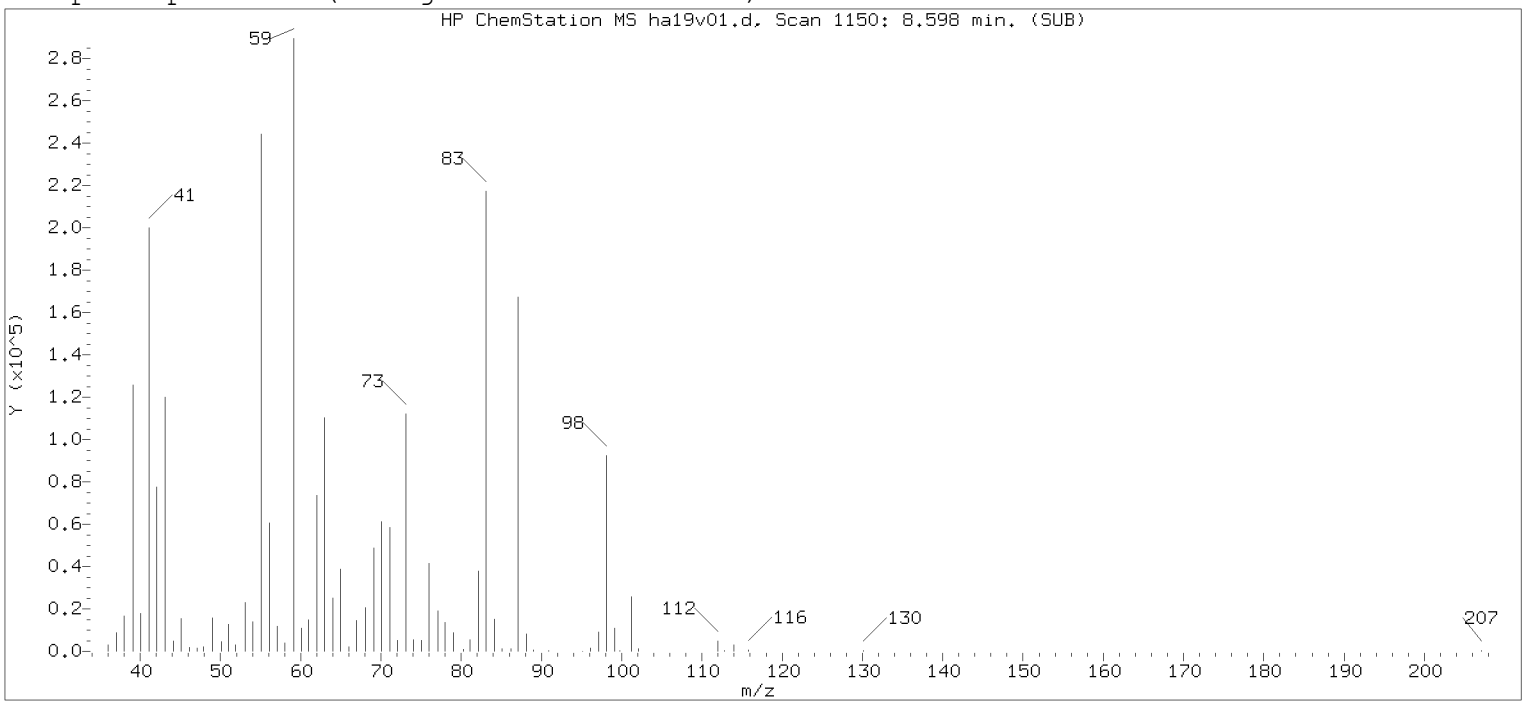
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 133421M
On-Column Amount (ng) : 5.9535
Integration start scan : 1154 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

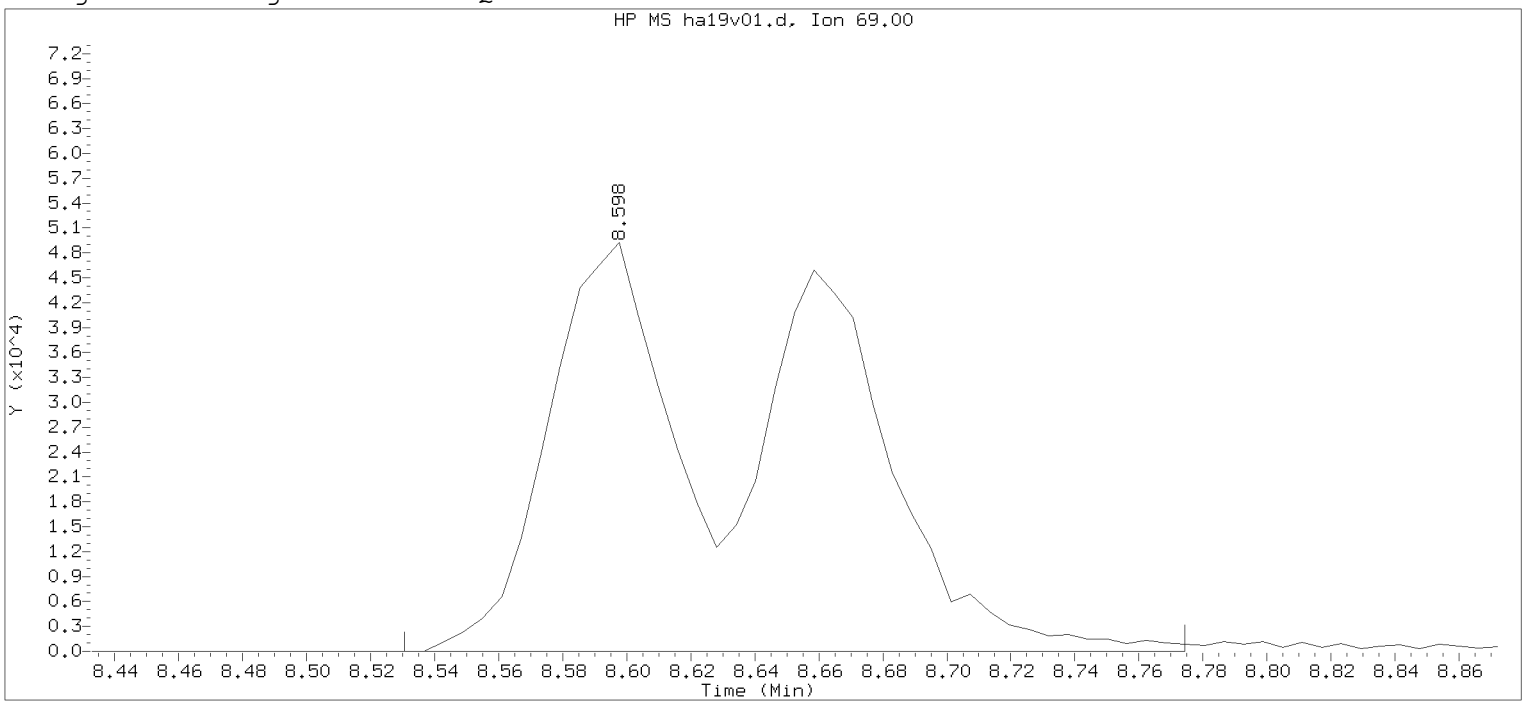
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

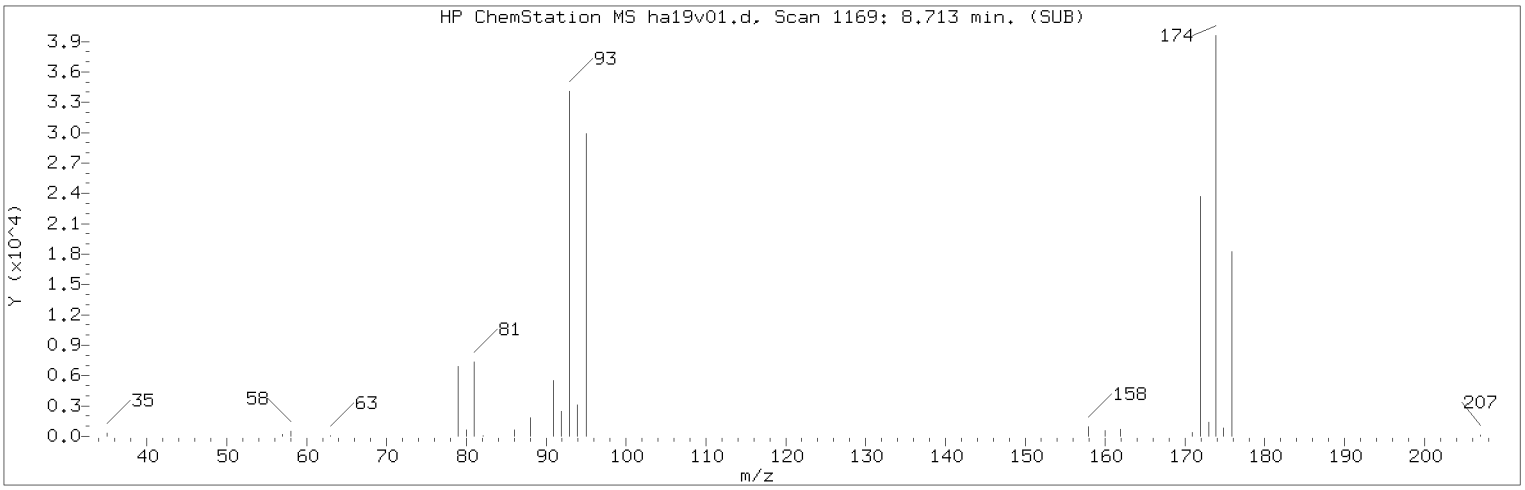
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

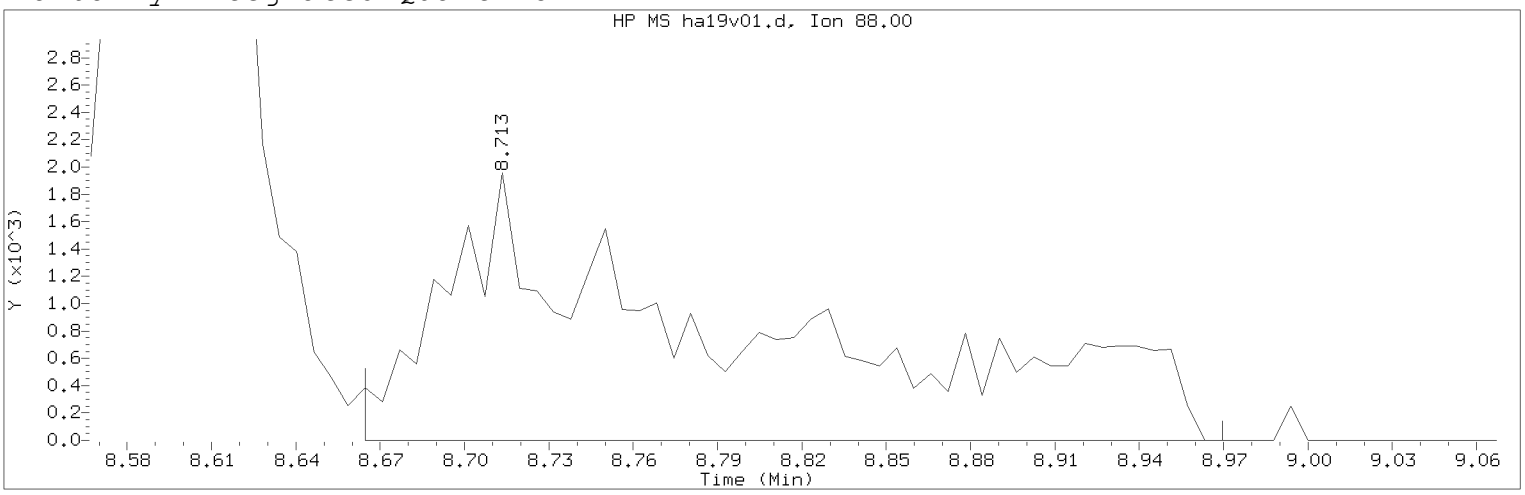
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 69.00
Area : 257555
On-column Amount (ng) : 13.7934
Integration start scan : 1138 Integration stop scan: 1178
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2775

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

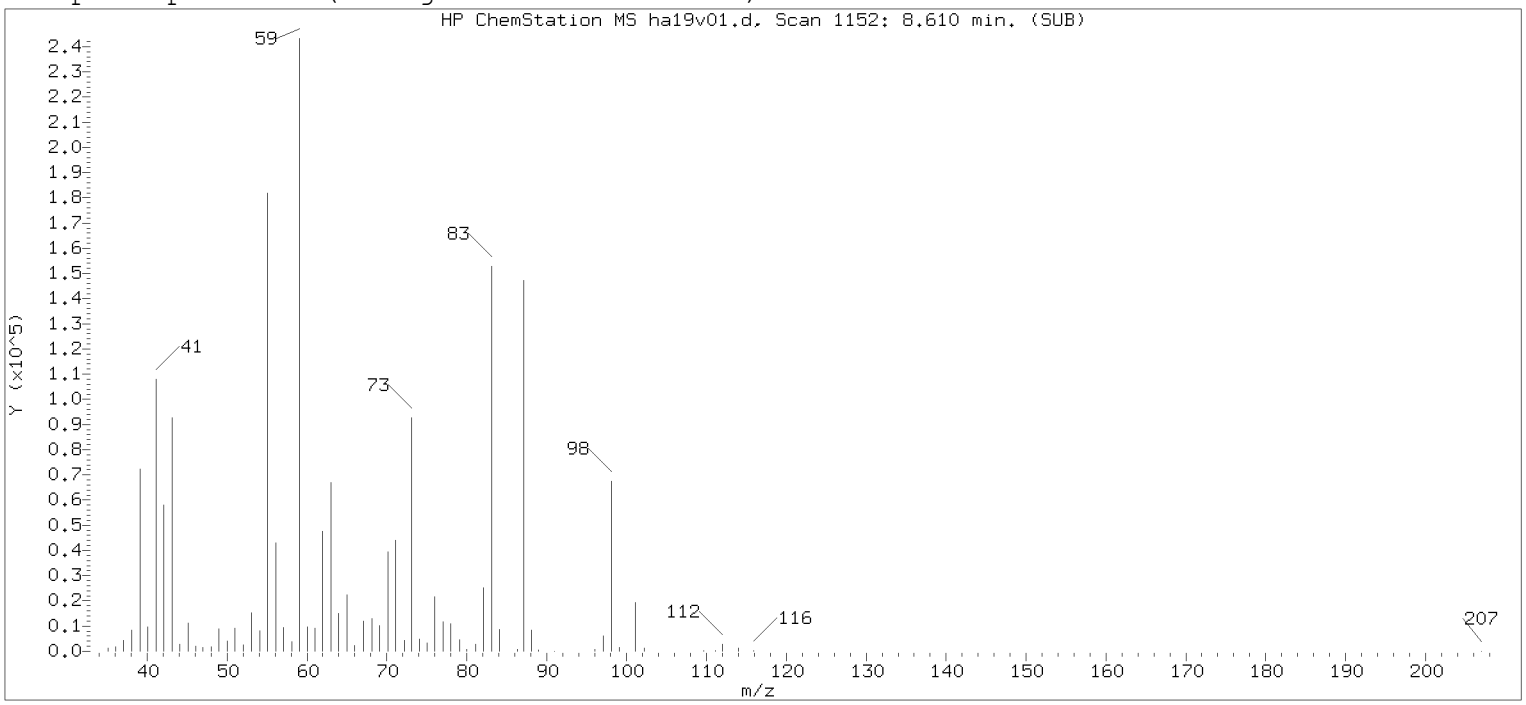
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1169
Retention Time (minutes): 8.713
Quant Ion : 88.00
Area (flag) : 13854MA
On-Column Amount (ng) : 106.9377
Integration start scan : 1160 Integration stop scan: 1210
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

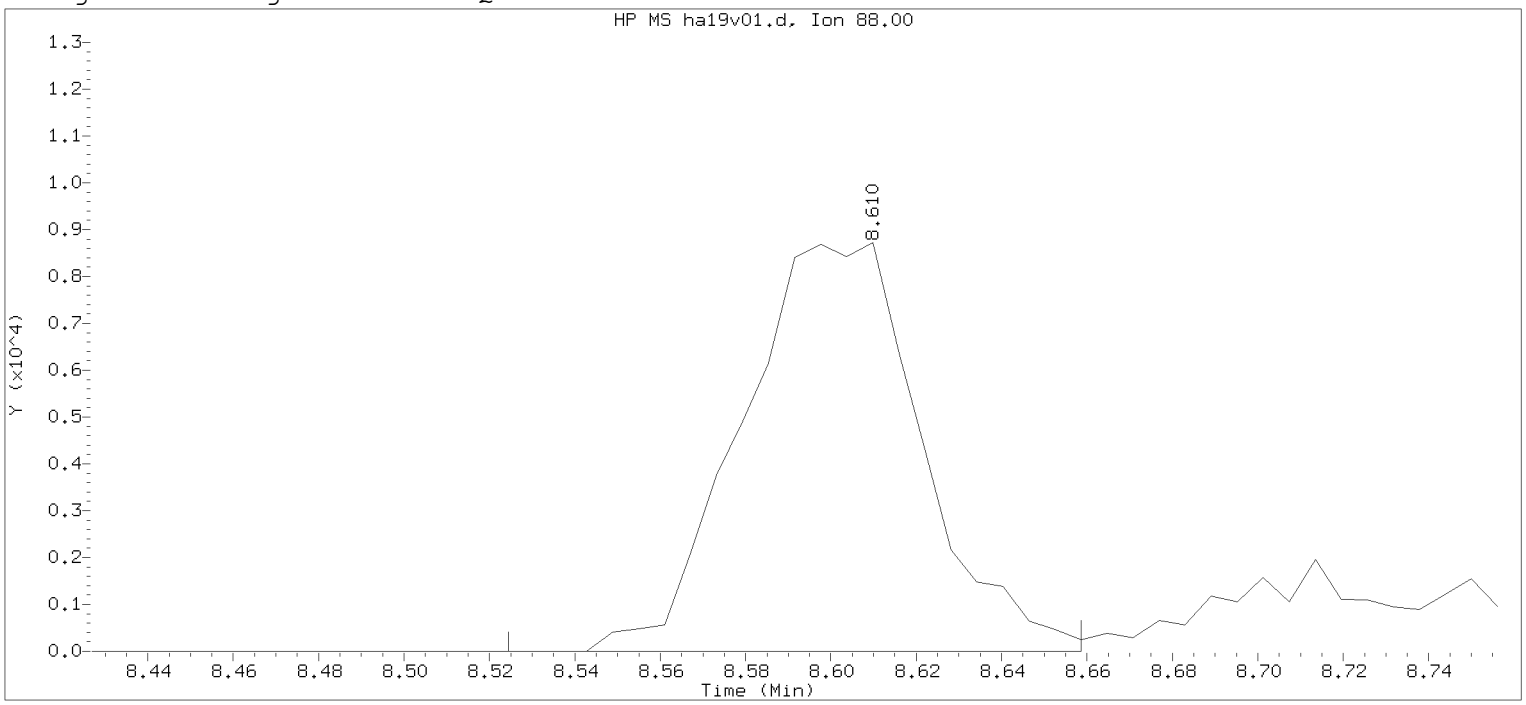
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

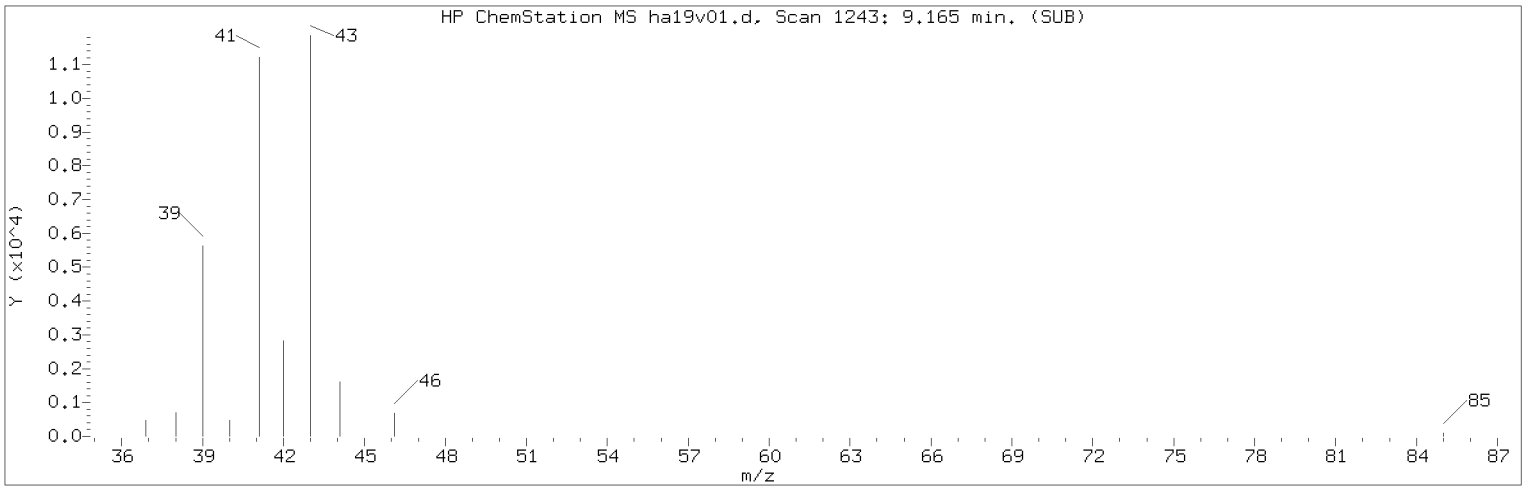
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

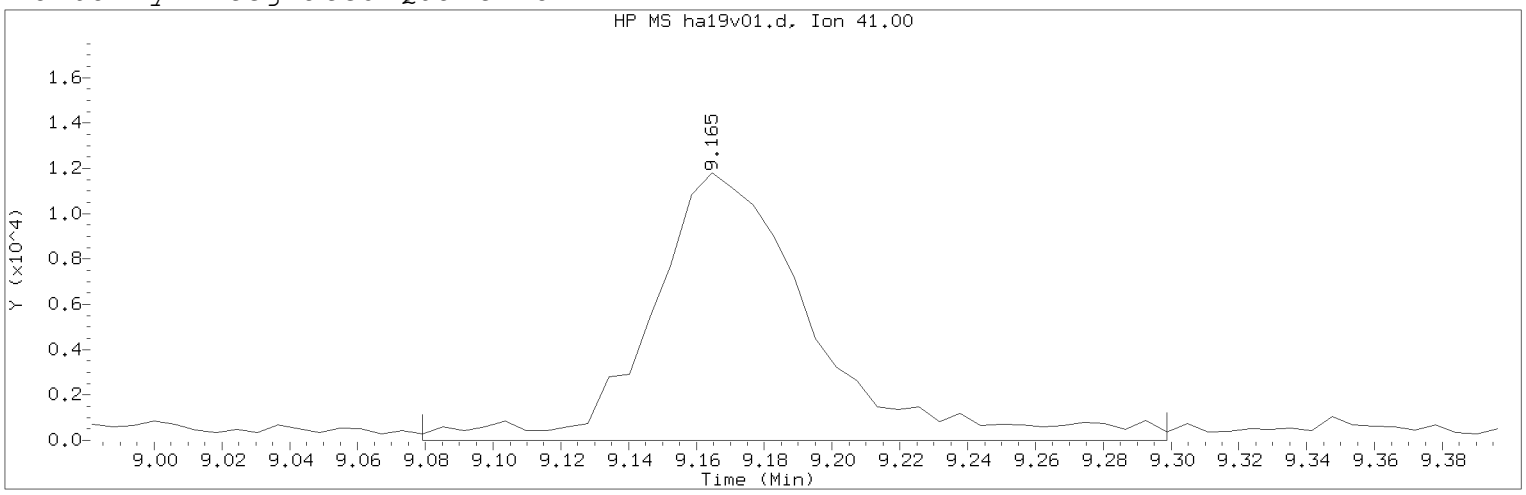
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1152
Retention Time (minutes): 8.610
Quant Ion : 88.00
Area : 25437
On-column Amount (ng) : 239.5816
Integration start scan : 1137 Integration stop scan: 1159
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2747

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

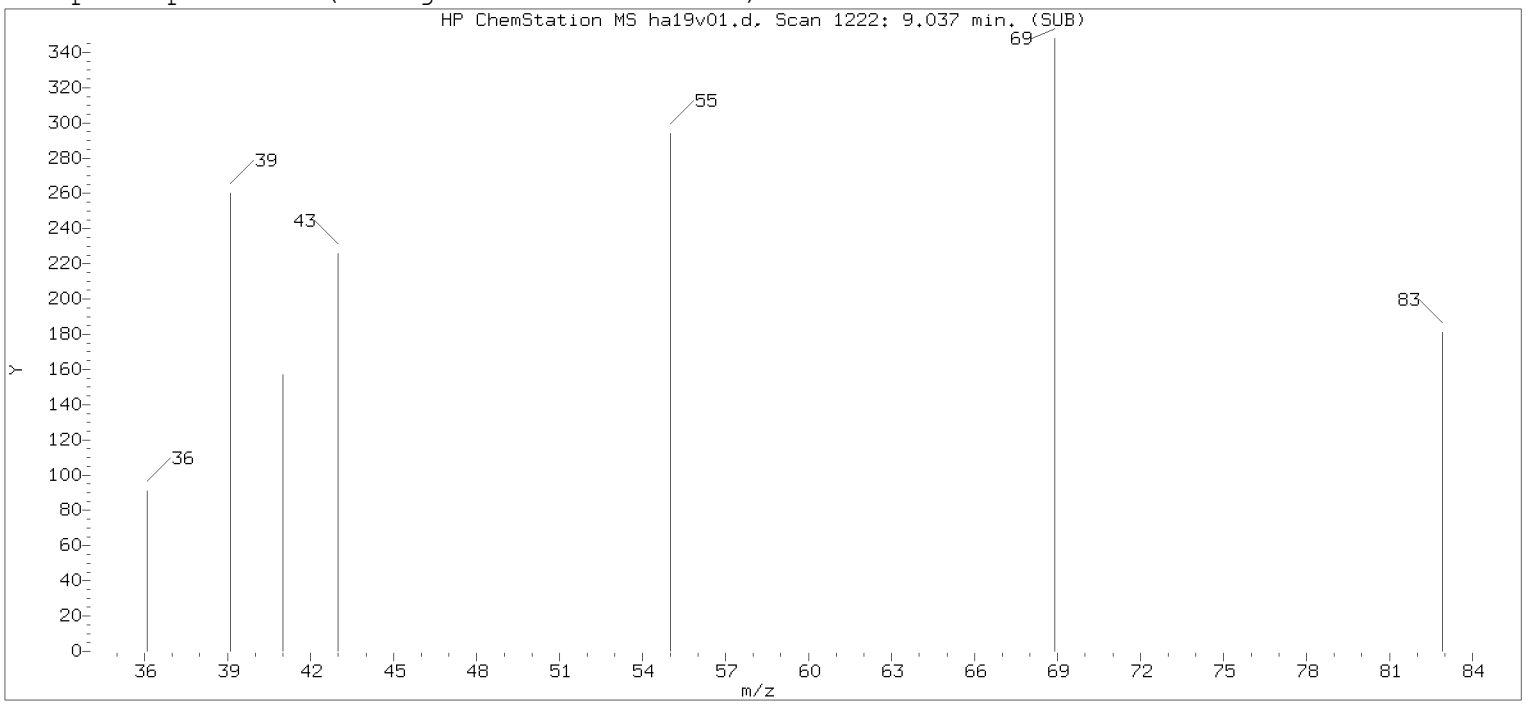
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1243
Retention Time (minutes): 9.165
Quant Ion : 41.00
Area (flag) : 39085A
On-Column Amount (ng) : 5.2879
Integration start scan : 1228 Integration stop scan: 1264
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

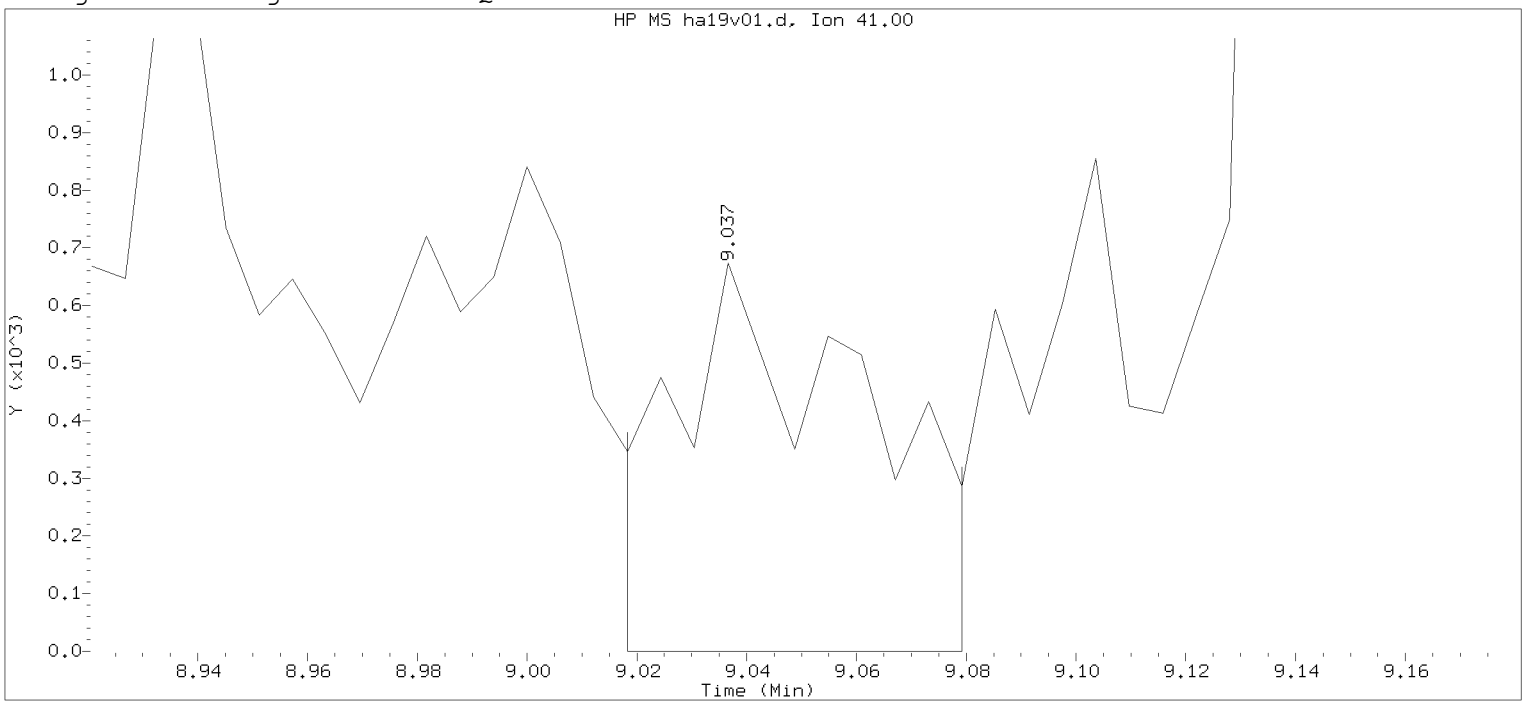
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

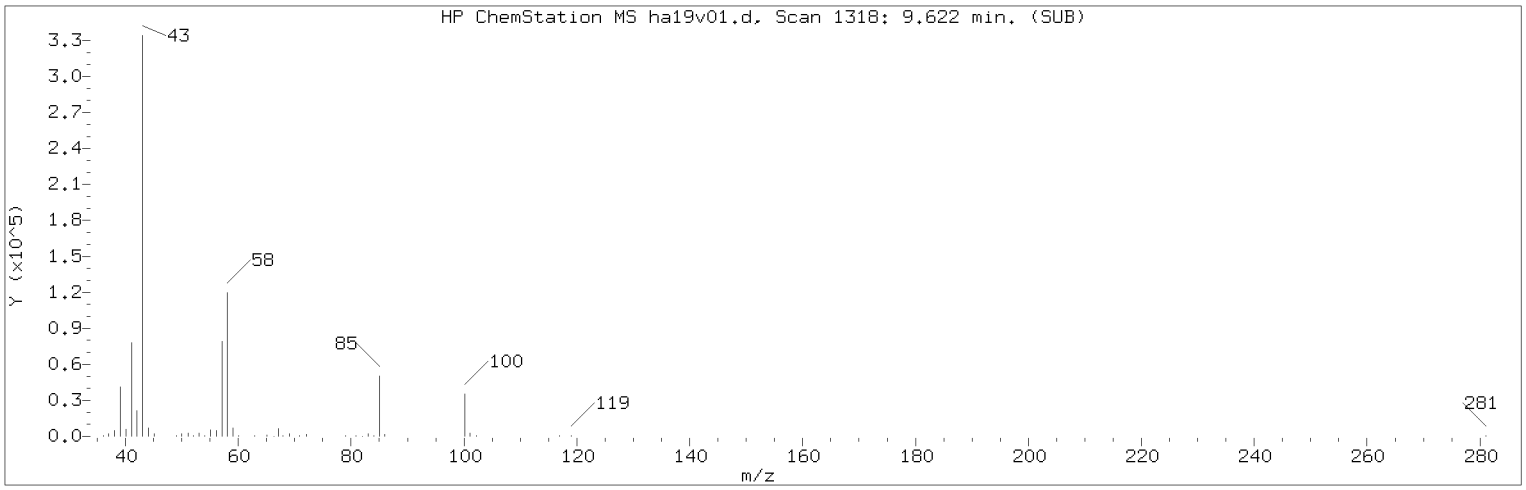
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

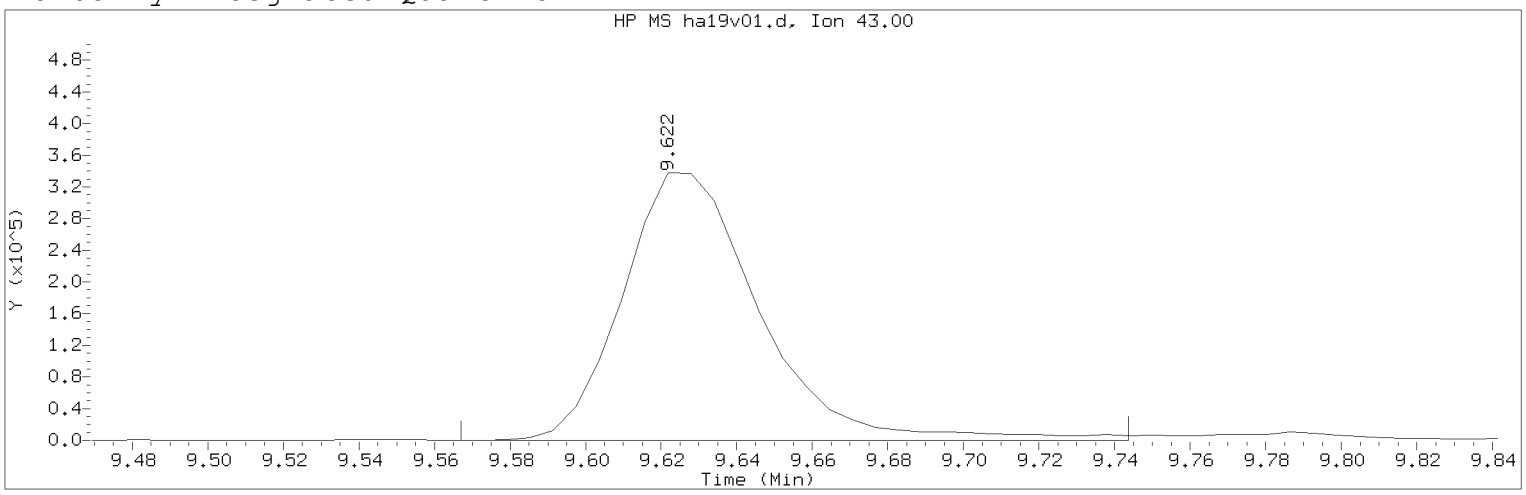
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1222
Retention Time (minutes): 9.037
Quant Ion : 41.00
Area : 1635
On-column Amount (ng) : 0.2656
Integration start scan : 1218 Integration stop scan: 1228
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2749

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

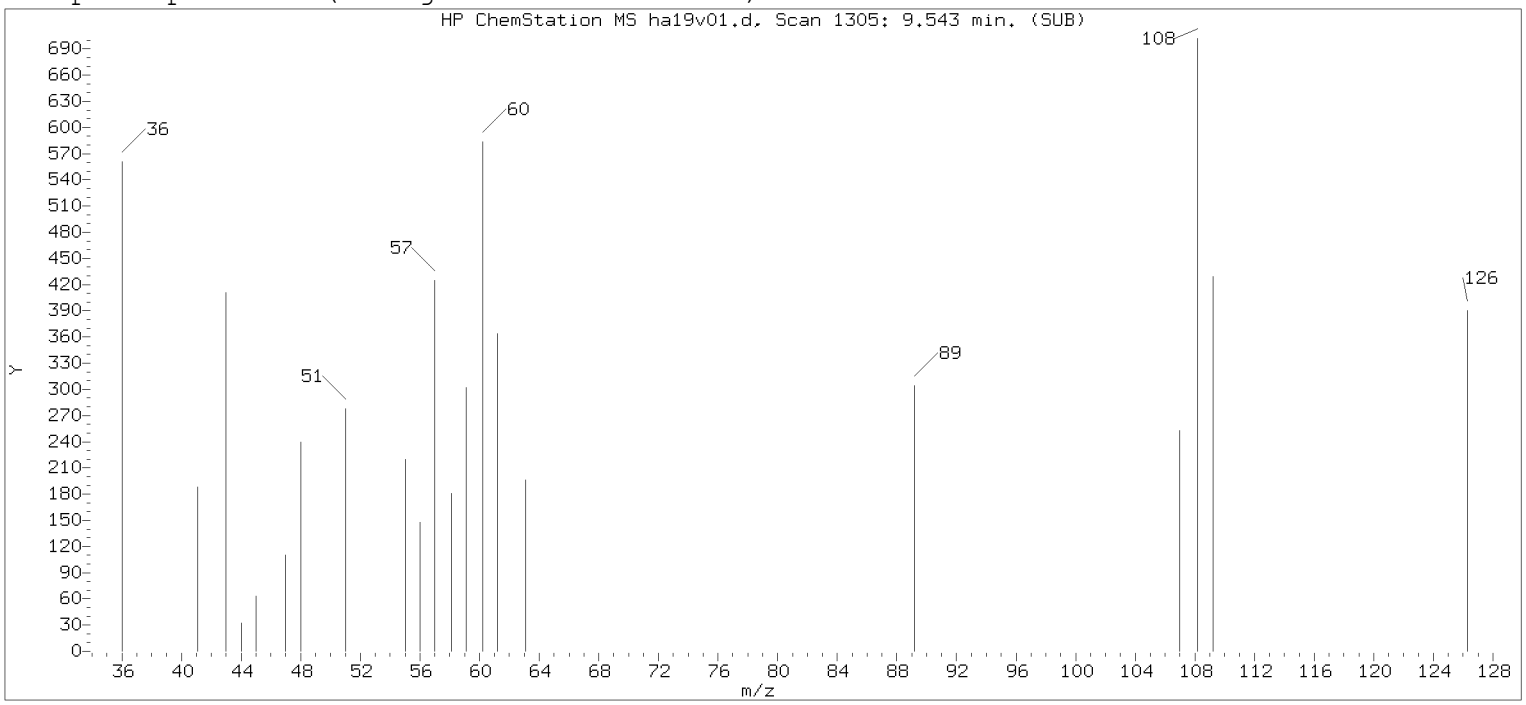
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1318
Retention Time (minutes): 9.622
Quant Ion : 43.00
Area (flag) : 849519A
On-Column Amount (ng) : 25.9972
Integration start scan : 1308 Integration stop scan: 1337
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

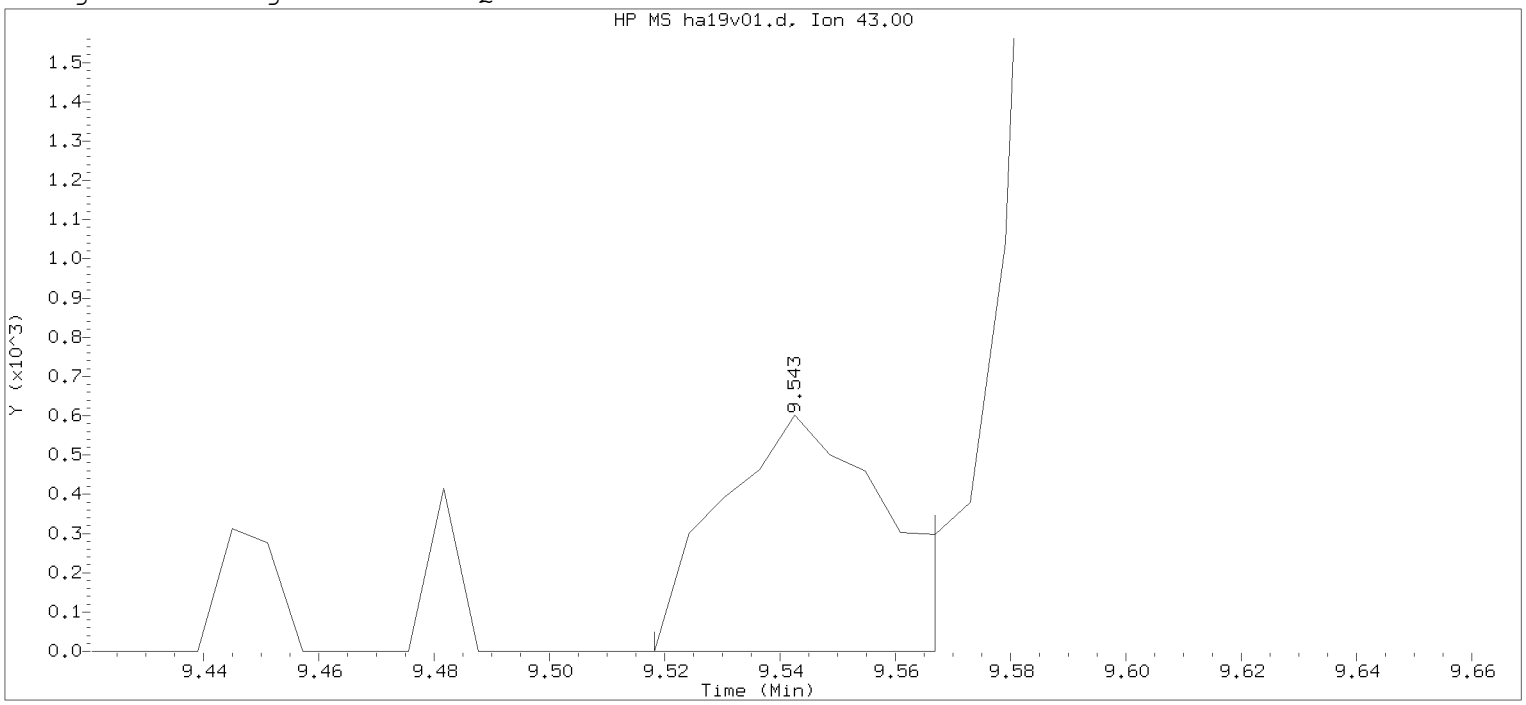
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

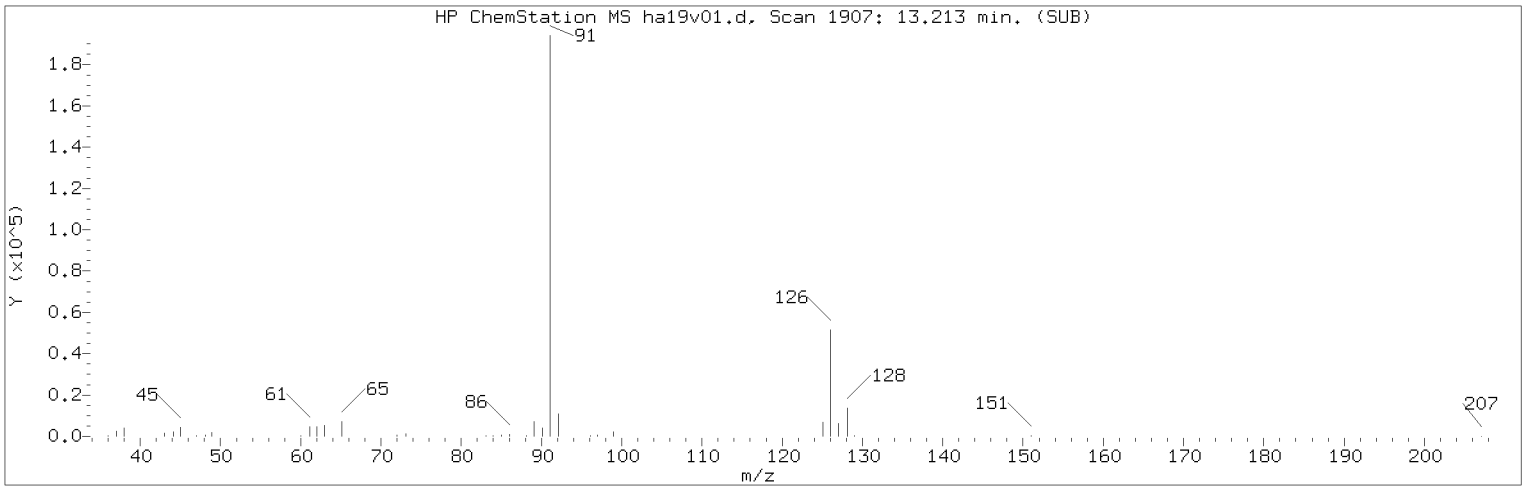
Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

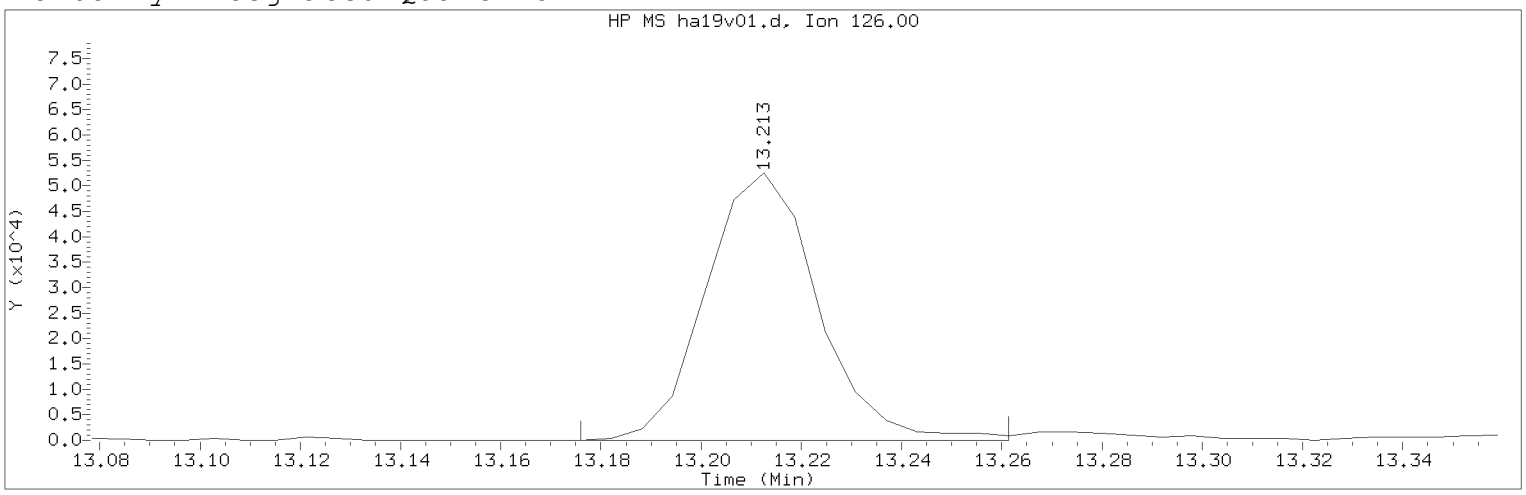
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1305
Retention Time (minutes): 9.543
Quant Ion : 43.00
Area : 1158
On-column Amount (ng) : 0.0425
Integration start scan : 1300 Integration stop scan: 1308
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2743

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 20-APR-2017 09:54
Date, time and analyst ID of latest file update: 20-Apr-2017 11:28 kas02648

Sample Name: LCSHLG Lab Sample ID: LCSHLG

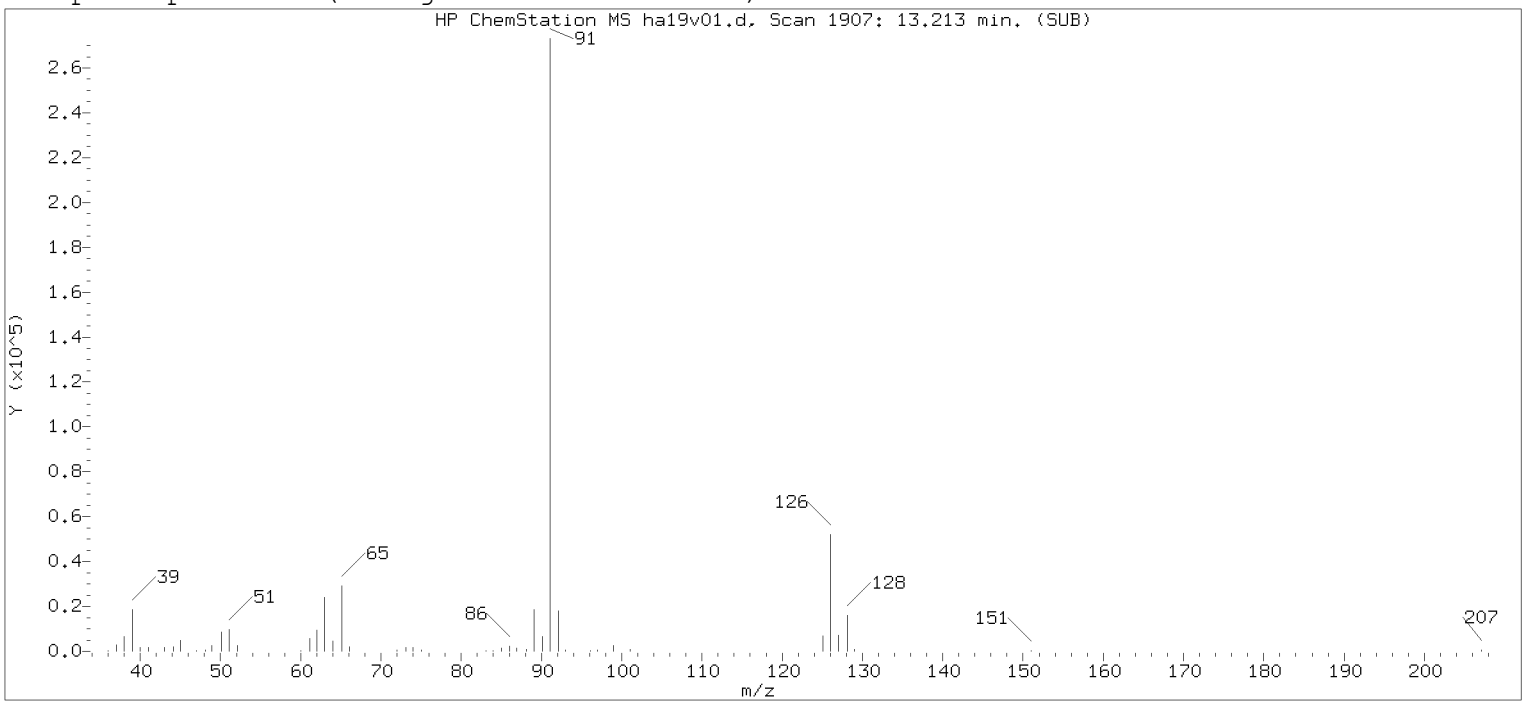
Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1907
Retention Time (minutes): 13.213
Quant Ion : 126.00
Area (flag) : 81548M
On-Column Amount (ng) : 5.2894
Integration start scan : 1900 Integration stop scan: 1914
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

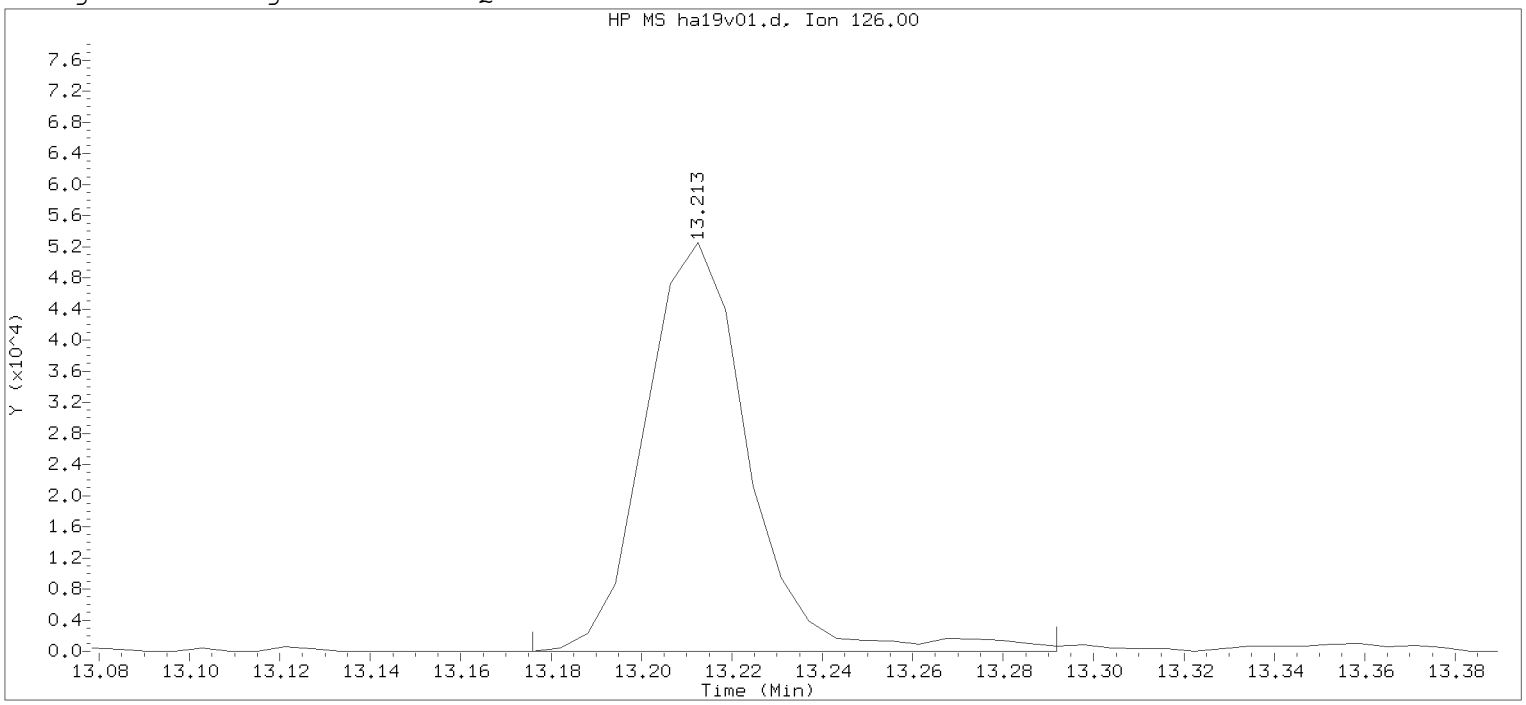
Analyst responsible for change: Digitally signed by Kevin A. Sposito
on 04/20/2017 at 11:32.
Target 3.5 esignature user ID: kas02648

Secondary review performed and digitally signed by Chad A. Moline on 04/20/2017 at 12:14.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17apr19a.b/ha19v01.d Instrument ID: HP19094.i
Injection date and time: 19-APR-2017 15:01 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17apr19a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 19-APR-2017 14:50
Date, time and analyst ID of latest file update: 19-Apr-2017 15:19 Automation

Sample Name: LCSHLG Lab Sample ID: LCSHLG

Compound Number : 136
Compound Name : Benzyl Chloride
Scan Number : 1907
Retention Time (minutes): 13.213
Quant Ion : 126.00
Area : 83737
On-column Amount (ng) : 5.4314
Integration start scan : 1900 Integration stop scan: 1919
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin A. Sposito on 04/20/2017 at 11:32.
Target 3.5 esignature used. Key: 2783

Data File: /chem2/HP19094.i/17may25b.b/hy25t05.d

Date : 25-MAY-2017 17:03

Client ID: bfb 50ng

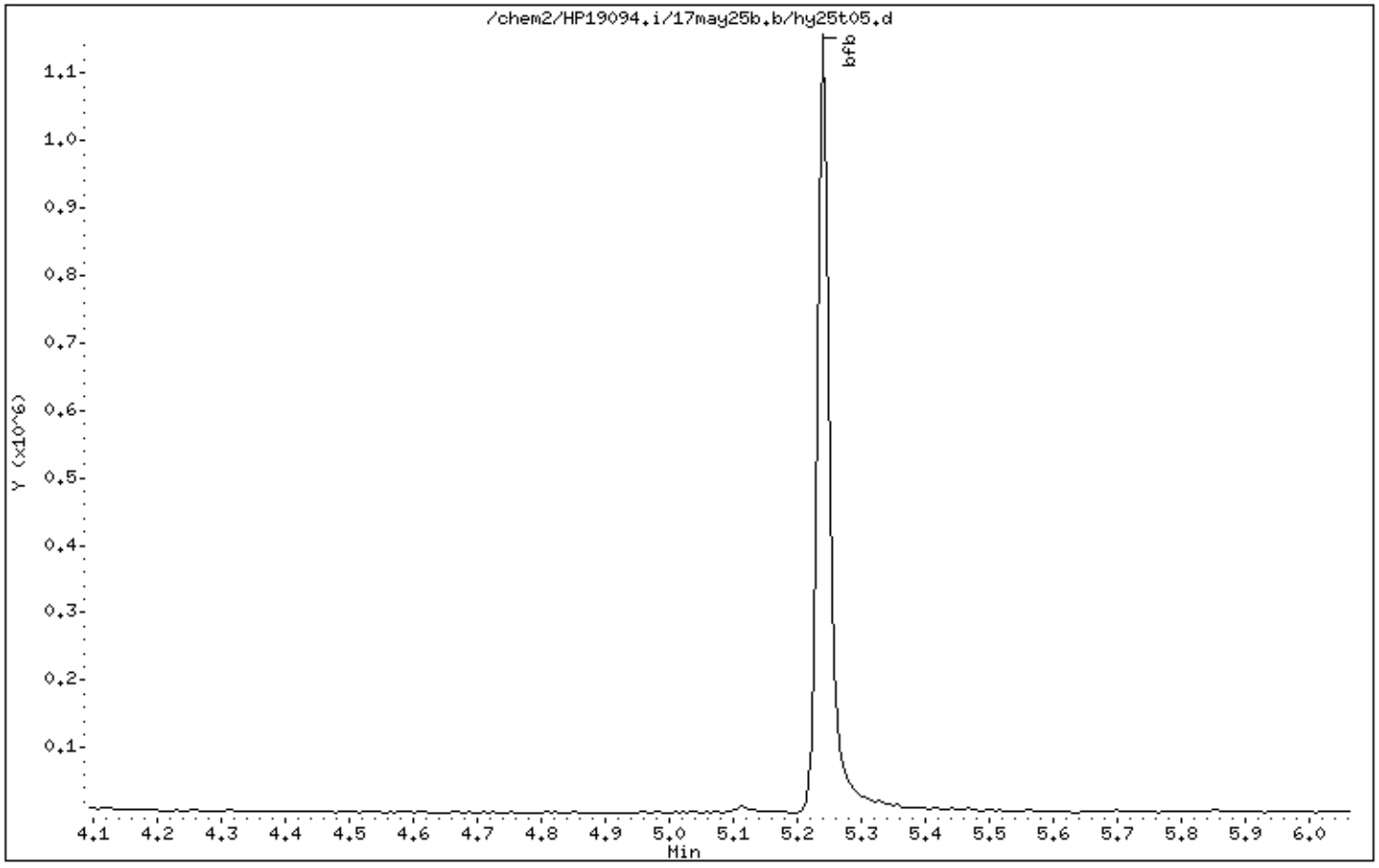
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: DVV10203

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Don V. Viray on 05/25/2017 at 17:10.
Target 3.5 esignature user ID: dvv10203

Data File: /chem2/HP19094.i/17may25b.b/hy25t05.d

Date : 25-MAY-2017 17:03

Client ID: bfb 50ng

Instrument: HP19094.i

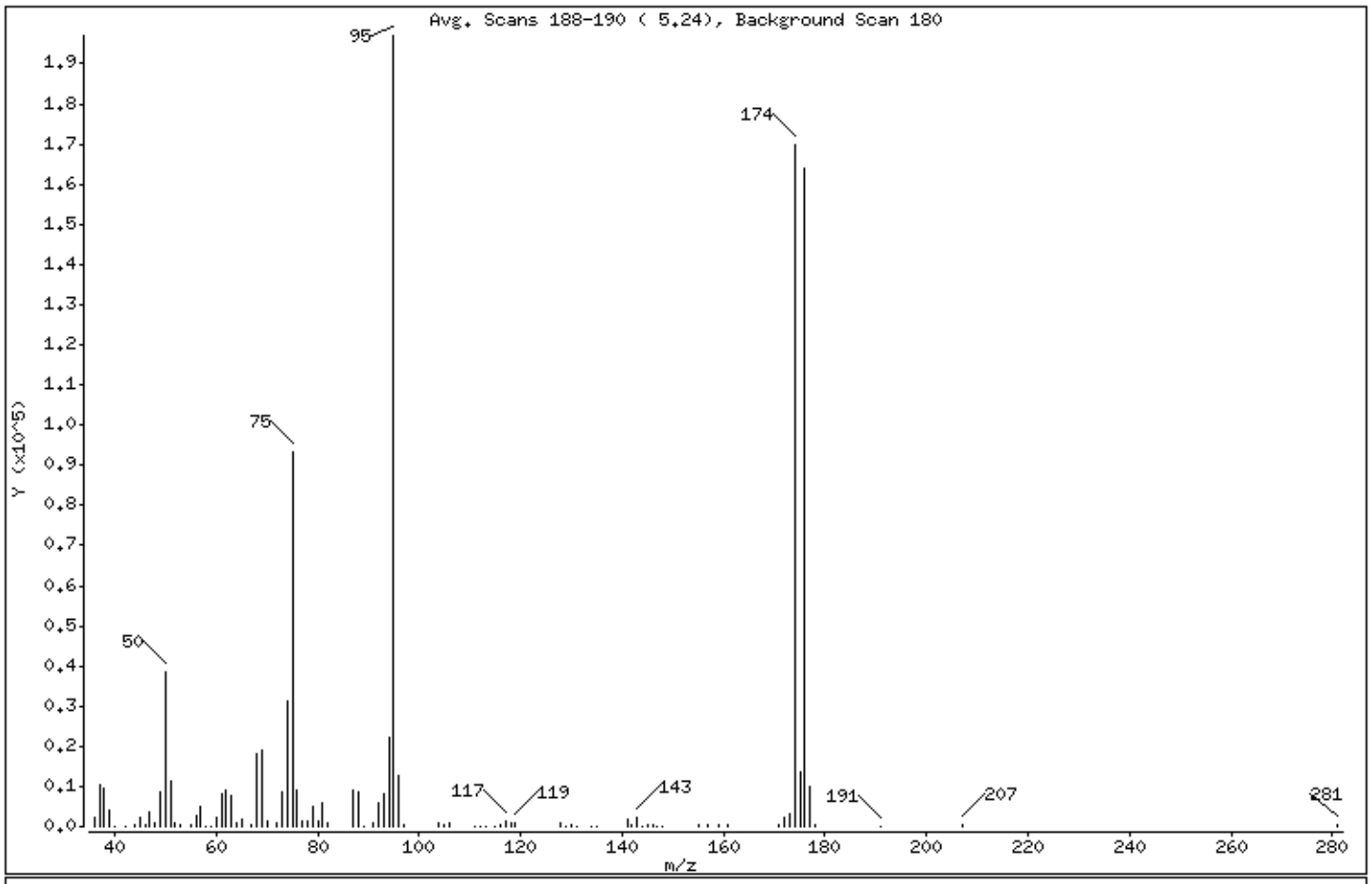
Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: DVV10203

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.43
75	30.00 - 60.00% of mass 95	47.25
96	5.00 - 9.00% of mass 95	6.32
173	Less than 2.00% of mass 174	1.56 (1.81)
174	50.00 - 100.00% of mass 95	86.16
175	5.00 - 9.00% of mass 174	6.79 (7.89)
176	95.00 - 101.00% of mass 174	83.11 (96.46)
177	5.00 - 9.00% of mass 176	5.11 (6.14)

Digitally signed by Don V. Viray on 05/25/2017 at 17:10.
Target 3.5 esignature user ID: dvv10203

Data File: /chem2/HP19094.i/17may25b.b/hy25t05.d

Date : 25-MAY-2017 17:03

Client ID: bfb 50ng

Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: DVV10203

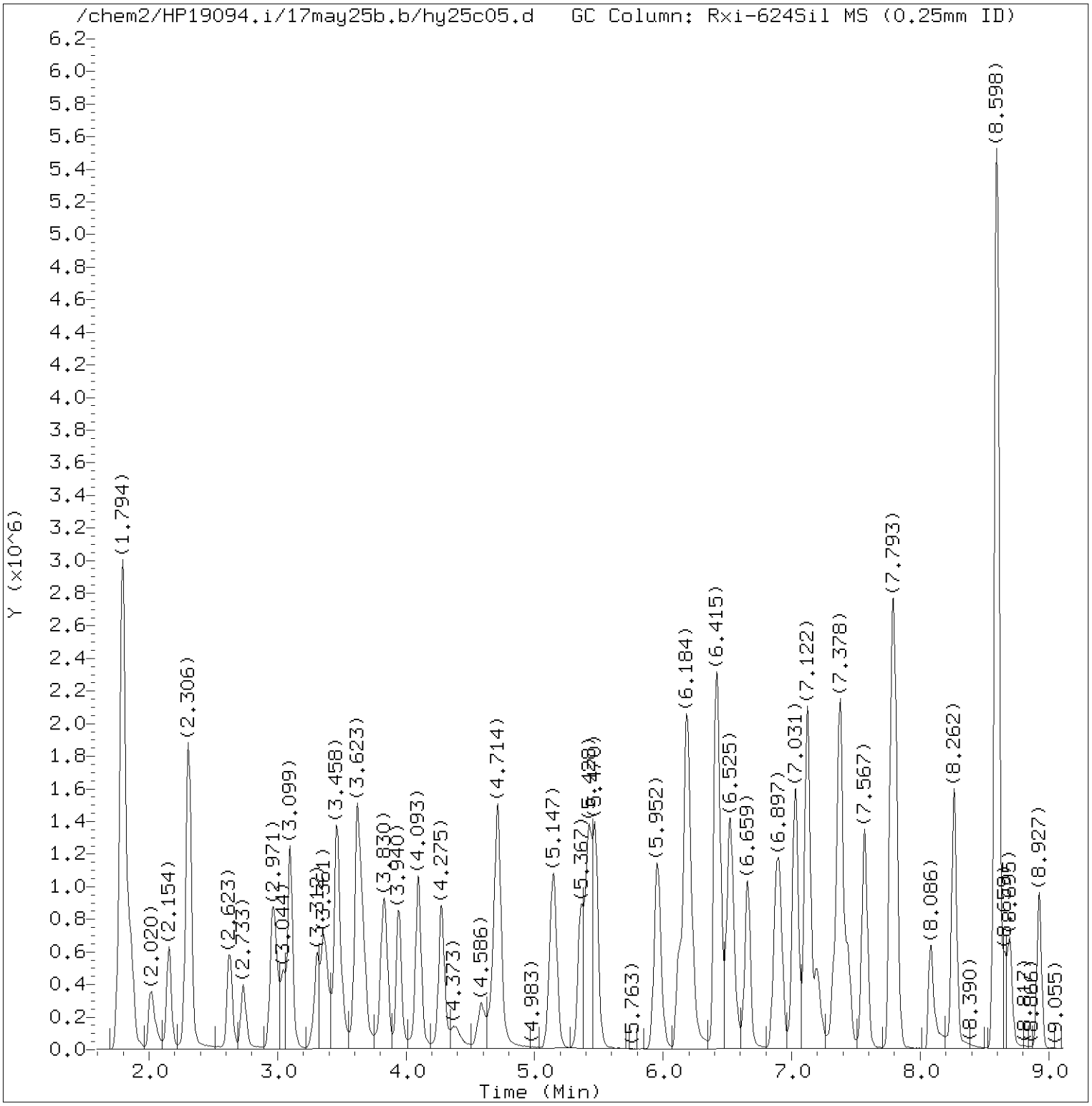
Column phase: Rxi-624Sil MS

Column diameter: 0.25

Data File: hy25t05.d
Spectrum: Avg. Scans 188-190 (5.24), Background Scan 180
Location of Maximum: 95.00
Number of points: 92

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	2172	63.00	7557	94.00	22376	144.00	105
37.00	10498	64.00	1043	95.00	196992	145.00	478
38.00	9525	65.00	1705	96.00	12455	146.00	285
39.00	4128	67.00	424	97.00	231	147.00	207
40.00	112	68.00	17968	104.00	880	148.00	122
42.00	105	69.00	19120	105.00	297	155.00	521
44.00	519	70.00	1562	106.00	856	157.00	237
45.00	2147	72.00	945	111.00	101	159.00	281
46.00	329	73.00	8617	112.00	84	161.00	255
47.00	3502	74.00	31304	113.00	128	171.00	334
48.00	1079	75.00	93088	115.00	140	172.00	2405
49.00	8613	76.00	9129	116.00	670	173.00	3071
50.00	38272	77.00	1427	117.00	1347	174.00	169728
51.00	11481	78.00	1505	118.00	759	175.00	13385
52.00	694	79.00	5098	119.00	1104	176.00	163712
53.00	508	80.00	1375	128.00	716	177.00	10061
55.00	542	81.00	5693	129.00	149	178.00	319
56.00	2834	82.00	1078	130.00	608	191.00	93
57.00	4860	87.00	9096	131.00	205	207.00	363
58.00	90	88.00	8786	134.00	147	281.00	464
59.00	99	89.00	212	135.00	85		
60.00	2352	91.00	694	141.00	1789		
61.00	8046	92.00	5788	142.00	291		
62.00	8897	93.00	8341	143.00	2175		

Digitally signed by Don V. Viray on 05/25/2017 at 17:10.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

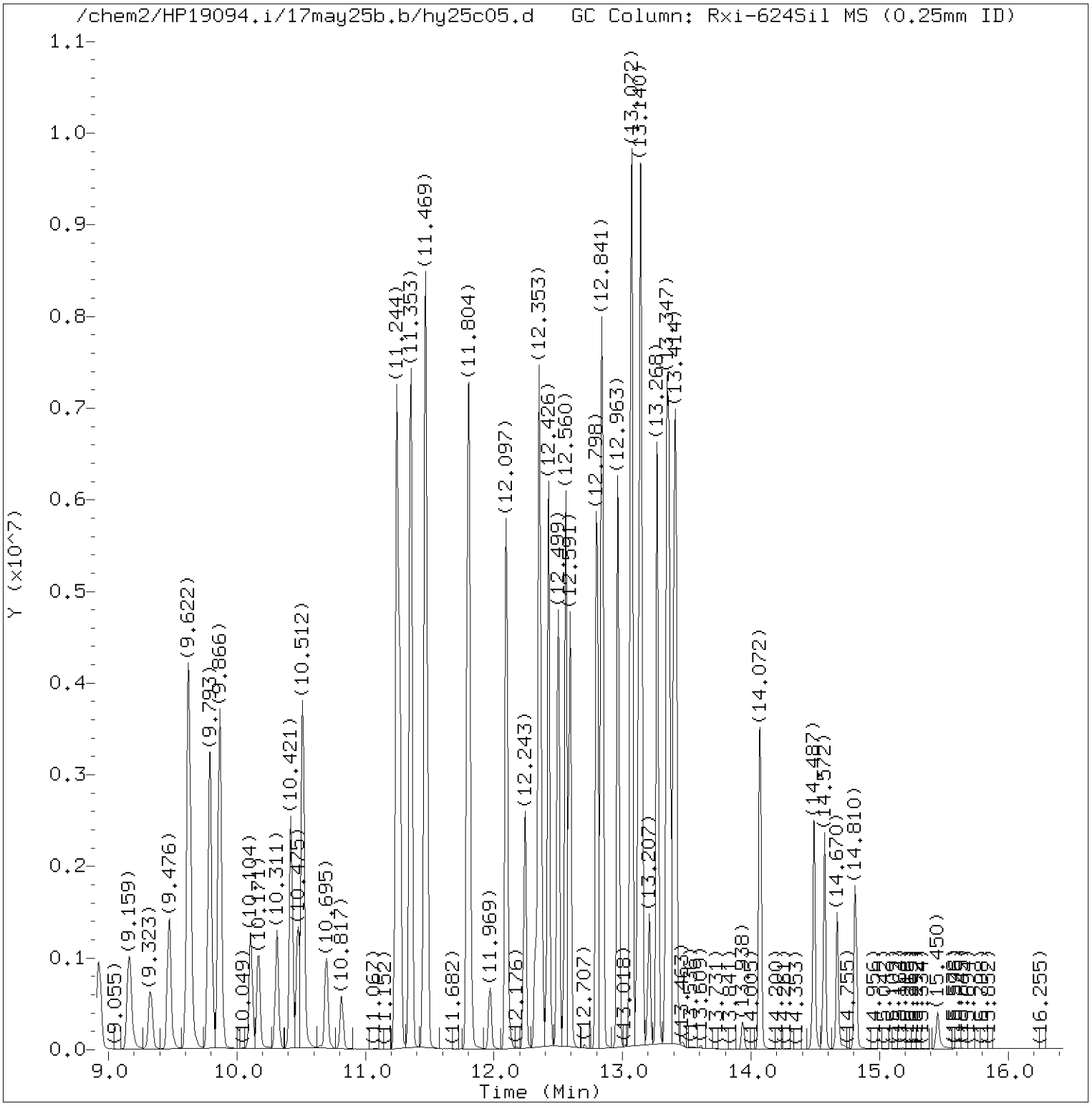
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.020	85	817055	8.074
2) Chloromethane	(2)	2.154	50	991275	9.331
5) Vinyl Chloride	(2)	2.288	62	935439	10.031
6) 1,3-Butadiene	(2)	2.312	39	1214196M	8.266
7) Bromomethane	(2)	2.623	94	627302	10.710
8) Chloroethane	(2)	2.733	64	555749	10.404
9) Dichlorofluoromethane	(2)	2.965	67	1355102	11.025
10) Trichlorofluoromethane	(2)	3.044	101	1089419	10.083
11) Ethyl ether	(2)	3.306	59	477786	11.161
12) Freon 123a	(2)	3.361	67	871877	10.695
13) Acrolein	(1)	3.458	56	2395998	359.357
15) 1,1-Dichloroethene	(2)	3.617	96	576374	9.933
14) Acetone	(1)	3.629	43	800127	99.099
16) Freon 113	(2)	3.660	101	647931	10.608
17) Methyl Iodide	(2)	3.818	142	1150281	10.672
18) Carbon Disulfide	(2)	3.940	76	1826981	11.221
21) Methyl Acetate	(1)	4.062	43	266718	9.721
22) Allyl Chloride	(2)	4.093	41	1141369	10.135
26)*t-Butyl Alcohol-d10	(1)	4.263	65	87627M	50.000
23) Methylene Chloride	(2)	4.275	84	671523	10.597
28) t-Butyl Alcohol	(1)	4.385	59	398334	181.685
29) Acrylonitrile	(1)	4.586	53	580736	53.226
30) Methyl Tertiary Butyl Ether	(2)	4.696	73	1290877	11.102
31) trans-1,2-Dichloroethene	(2)	4.714	96	668596	10.434
32) n-Hexane	(2)	5.147	57	1039175	10.579
33) 1,1-Dichloroethane	(2)	5.361	63	1338452	10.585
34) di-Isopropyl Ether	(2)	5.422	45	2300923	10.678
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	1153436	10.797
37) Ethyl t-butyl ether	(2)	5.952	59	1775108	10.715
40) 1,2-Dichloroethene (Total)	(2)		96	1419243	20.928
38) 2-Butanone	(1)	6.117	43	1597469	97.004
39) cis-1,2-Dichloroethene	(2)	6.177	96	750647	10.494
42) Propionitrile	(1)	6.184	54	875684	223.801
41) 2,2-Dichloropropane	(2)	6.202	77	1004208	10.601
45) Methacrylonitrile	(1)	6.415	67	1490131	91.087
47) Bromochloromethane	(2)	6.519	128	313316	11.078
48) Tetrahydrofuran	(1)	6.537	71	390694	94.968
49) Chloroform	(2)	6.659	83	1214932	10.184

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.872	113	621606	10.602
50)$Dibromofluoromethane	(2)	6.872	111	636632	10.572
51) 1,1,1-Trichloroethane	(2)	6.903	97	1009158	9.933
52) Cyclohexane	(2)	7.031	56	1288299	10.285
52) Cyclohexane	(2)	7.031	84	1011950	10.512
52) Cyclohexane	(2)	7.025	69	371544	10.571
55) 1,1-Dichloropropene	(2)	7.122	75	998071	10.577
54) Carbon Tetrachloride	(2)	7.129	117	893124	10.472
56) Isobutyl Alcohol	(1)	7.196	41	523772	553.611
57)$1,2-Dichloroethane-d4	(2)	7.336	102	102871	10.851
57)$1,2-Dichloroethane-d4	(2)	7.330	65	493522	10.694
57)$1,2-Dichloroethane-d4	(2)	7.336	104	63405	11.034
58) Benzene	(2)	7.378	78	2909205	10.617
59) 1,2-Dichloroethane	(2)	7.439	62	727417	11.105
60) t-Amyl methyl ether	(2)	7.567	73	1517769	11.267
63)*Fluorobenzene	(2)	7.781	96	2615487	10.000
62) n-Heptane	(2)	7.805	43	1209917	10.462
65) n-Butanol	(1)	8.080	56	775580	1113.339
67) Trichloroethene	(2)	8.262	95	741252	10.219
70) 1,2-Dichloropropane	(2)	8.586	63	760434	10.643
69) Methylcyclohexane	(2)	8.598	83	1262062	10.300
71) Methyl Methacrylate	(1)	8.659	69	283863A	9.485
72) 1,4-Dioxane	(1)	8.689	88	77119M	456.234
73) Dibromomethane	(2)	8.695	93	309243	11.227
74) Bromodichloromethane	(2)	8.927	83	855010	11.334
76) 2-Nitropropane	(1)	9.159	41	903845A	91.570
80) cis-1,3-Dichloropropene	(2)	9.476	75	1008103	11.854
81) 4-Methyl-2-Pentanone	(1)	9.622	43	3958568	90.715
82)$Toluene-d8	(3)	9.793	98	2638575	9.664
82)$Toluene-d8	(3)	9.793	100	1700502	9.672
83) Toluene	(3)	9.866	92	1822251	10.100
84) trans-1,3-Dichloropropene	(3)	10.104	75	755840	10.754
85) 1,3-Dichloropropene (total)	(3)		75	1763943	22.608
86) Ethyl Methacrylate	(3)	10.171	69	567975	10.925
88) 1,1,2-Trichloroethane	(3)	10.311	97	432941	10.330
89) Tetrachloroethene	(3)	10.421	166	815813	9.750
90) 1,3-Dichloropropane	(3)	10.475	76	780368	10.404
91) 2-Hexanone	(1)	10.512	43	2758742	89.703

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	549148	11.057
95) 1,2-Dibromoethane	(3)	10.817	107	405263	10.225
97)*Chlorobenzene-d5	(3)	11.244	117	1867782	10.000
98) Chlorobenzene	(3)	11.268	112	1999702	10.165
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	671735	10.255
100) Ethylbenzene	(3)	11.353	91	3565064	10.198
101) m+p-Xylene	(3)	11.469	106	2792658	21.009
105) Xylene (Total)	(3)		106	4132510	31.505
104) o-Xylene	(3)	11.798	106	1339852	10.495
106) Styrene	(3)	11.811	104	2150565	11.033
107) Bromoform	(3)	11.969	173	287688	11.599
108) Isopropylbenzene	(3)	12.097	105	3460229	10.358
111)$4-Bromofluorobenzene	(3)	12.243	95	803946	10.364
111)$4-Bromofluorobenzene	(3)	12.243	174	692870	10.035
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	523124	9.665
115) trans-1,4-Dichloro-2-butene	(1)	12.347	53	892031	76.992
114) Bromobenzene	(4)	12.359	156	789640	9.568
116) 1,2,3-Trichloropropane	(4)	12.377	110	133414	9.852
117) n-Propylbenzene	(4)	12.426	91	4326849	9.805
119) 2-Chlorotoluene	(4)	12.499	126	823862	9.872
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	2951602	9.941
122) 4-Chlorotoluene	(4)	12.591	126	839731	10.011
125) tert-Butylbenzene	(4)	12.798	134	623728M	9.672
126) Pentachloroethane	(4)	12.835	167	507626	10.537
127) 1,2,4-Trimethylbenzene	(4)	12.841	105	2974234	10.050
128) sec-Butylbenzene	(4)	12.963	105	3794935	9.807
131) 1,3-Dichlorobenzene	(4)	13.066	146	1561309	9.629
132) p-Isopropyltoluene	(4)	13.072	119	3226222	10.189
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	838650	10.000
134) 1,4-Dichlorobenzene	(4)	13.140	146	1543192	9.132
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	1296412	9.936
136) Benzyl Chloride	(4)	13.207	126	194163	11.384
138) n-Butylbenzene	(4)	13.365	92	1661394	10.686
139) 1,2-Dichlorobenzene	(4)	13.396	146	1357651	9.427
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	59581	9.218
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	746123	8.034
146) Hexachlorobutadiene	(4)	14.572	225	394340	8.572
147) Naphthalene	(4)	14.670	128	1053739	7.711

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

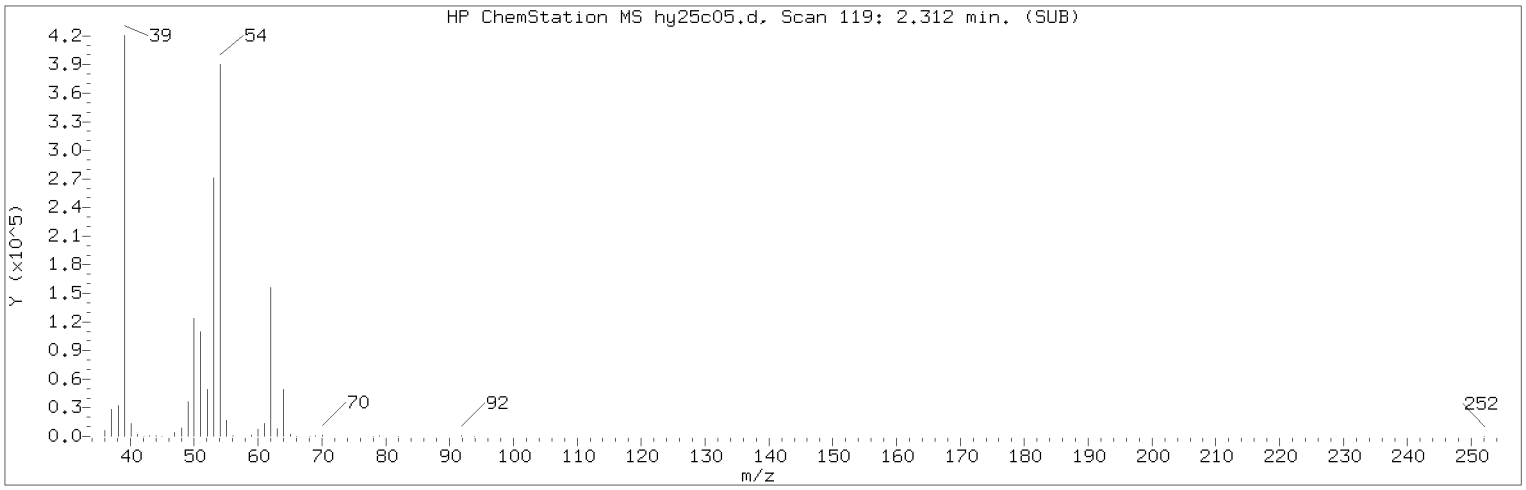
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

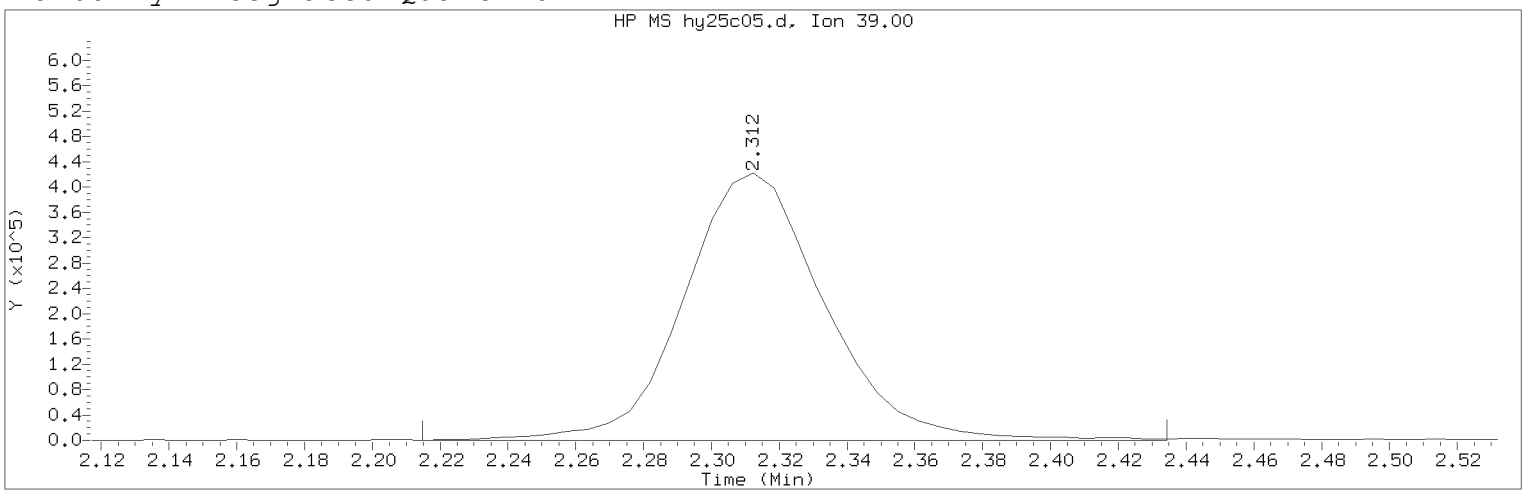
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	552779	7.045

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

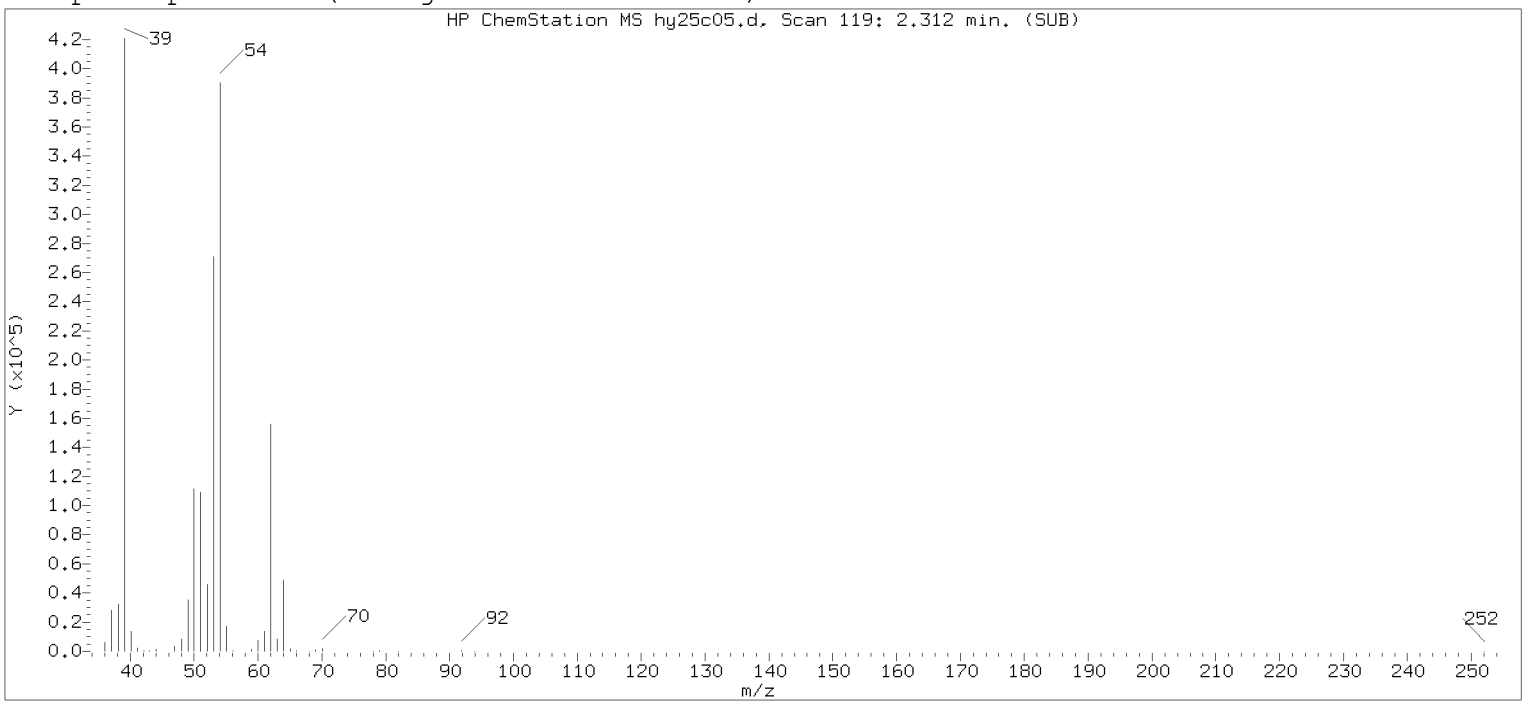
Compound Number : 6
Compound Name : 1,3-Butadiene
Scan Number : 119
Retention Time (minutes): 2.312
Quant Ion : 39.00
Area (flag) : 1214196M
On-Column Amount (ng) : 8.2663
Integration start scan : 102 Integration stop scan: 138
Y at integration start : 303 Y at integration end: 303

Reason for manual integration: improper integration

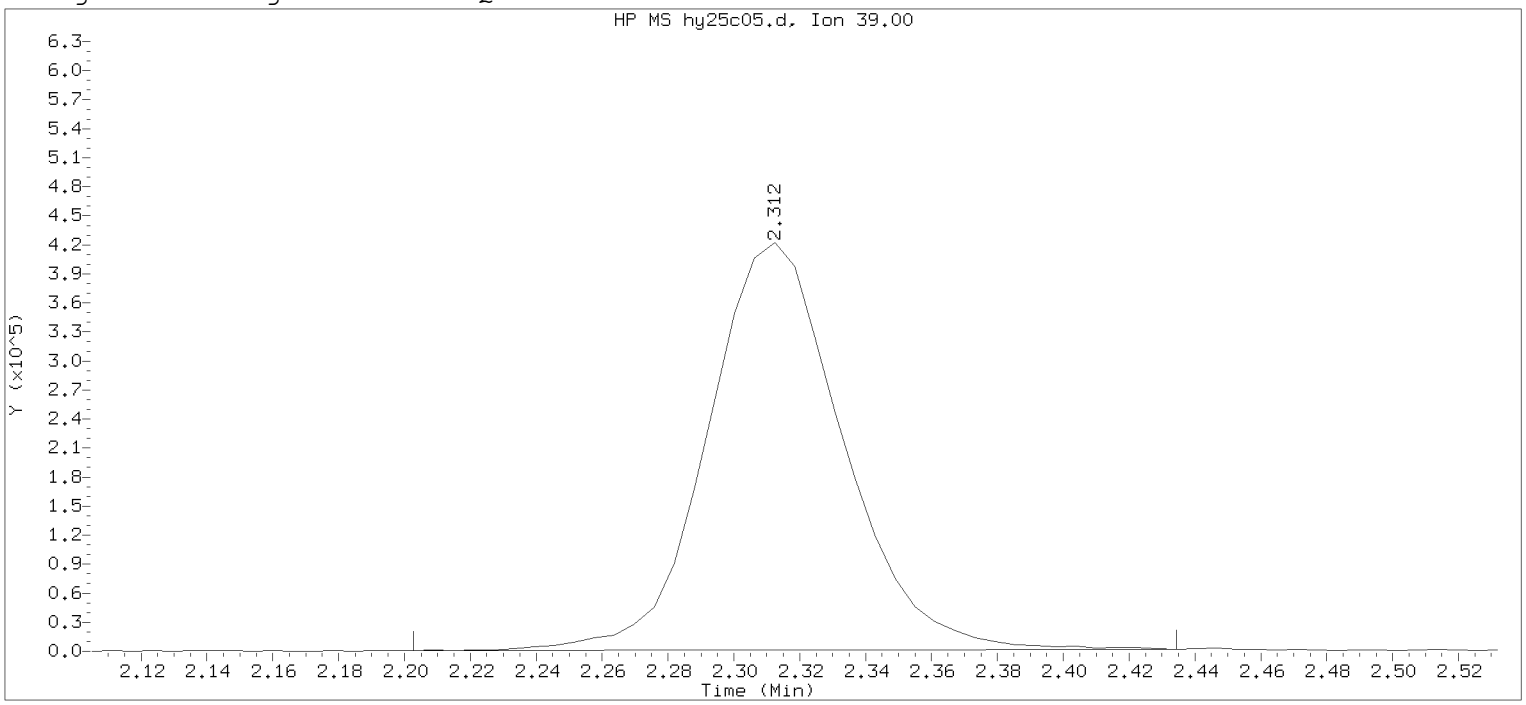
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

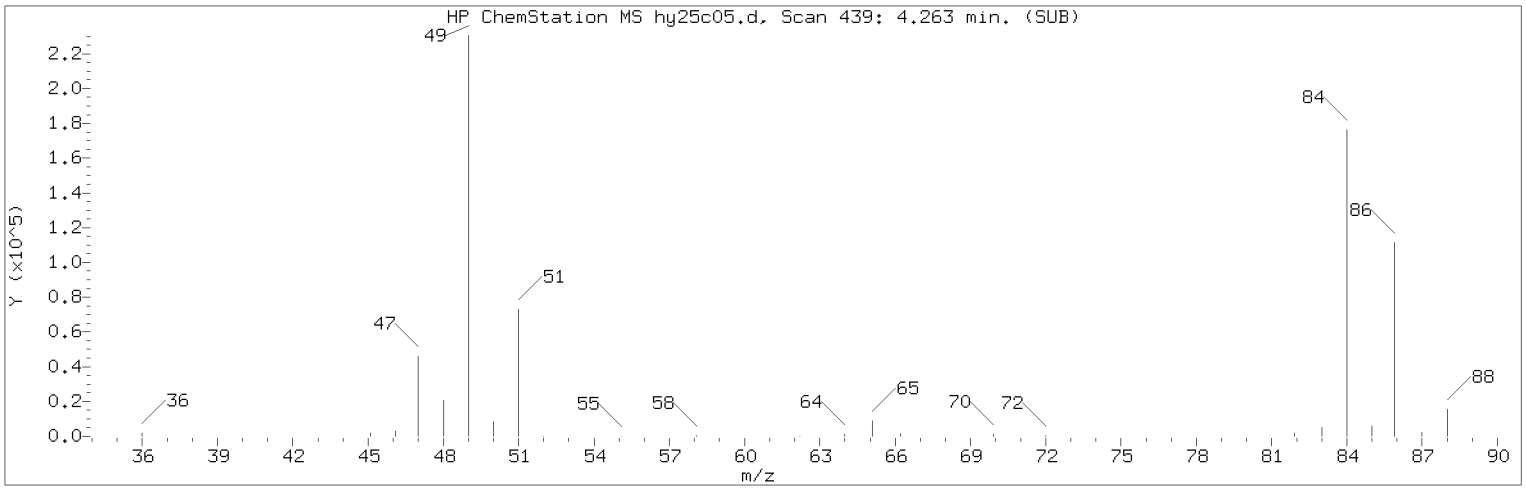
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 25-MAY-2017 18:03
Date, time and analyst ID of latest file update: 25-May-2017 18:04 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

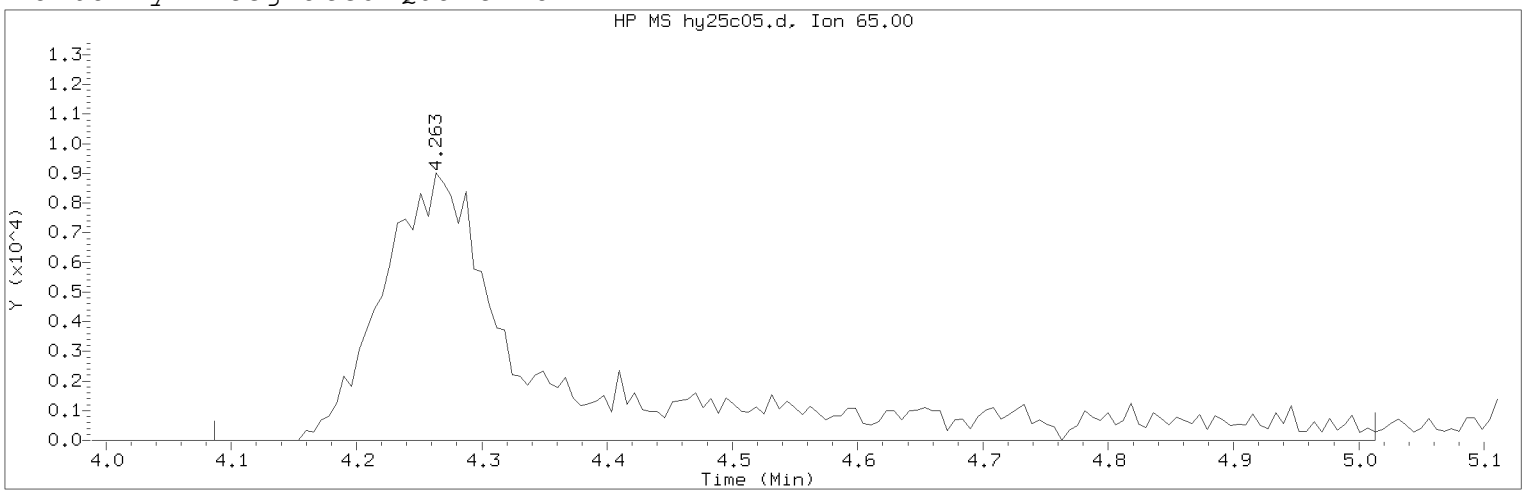
Compound Number : 6
Compound Name : 1,3-Butadiene
Scan Number : 119
Retention Time (minutes): 2.312
Quant Ion : 39.00
Area : 1200272
On-column Amount (ng) : 8.1715
Integration start scan : 100 Integration stop scan: 138
Y at integration start : 372 Y at integration end: 2238

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used on 05/30/2017

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

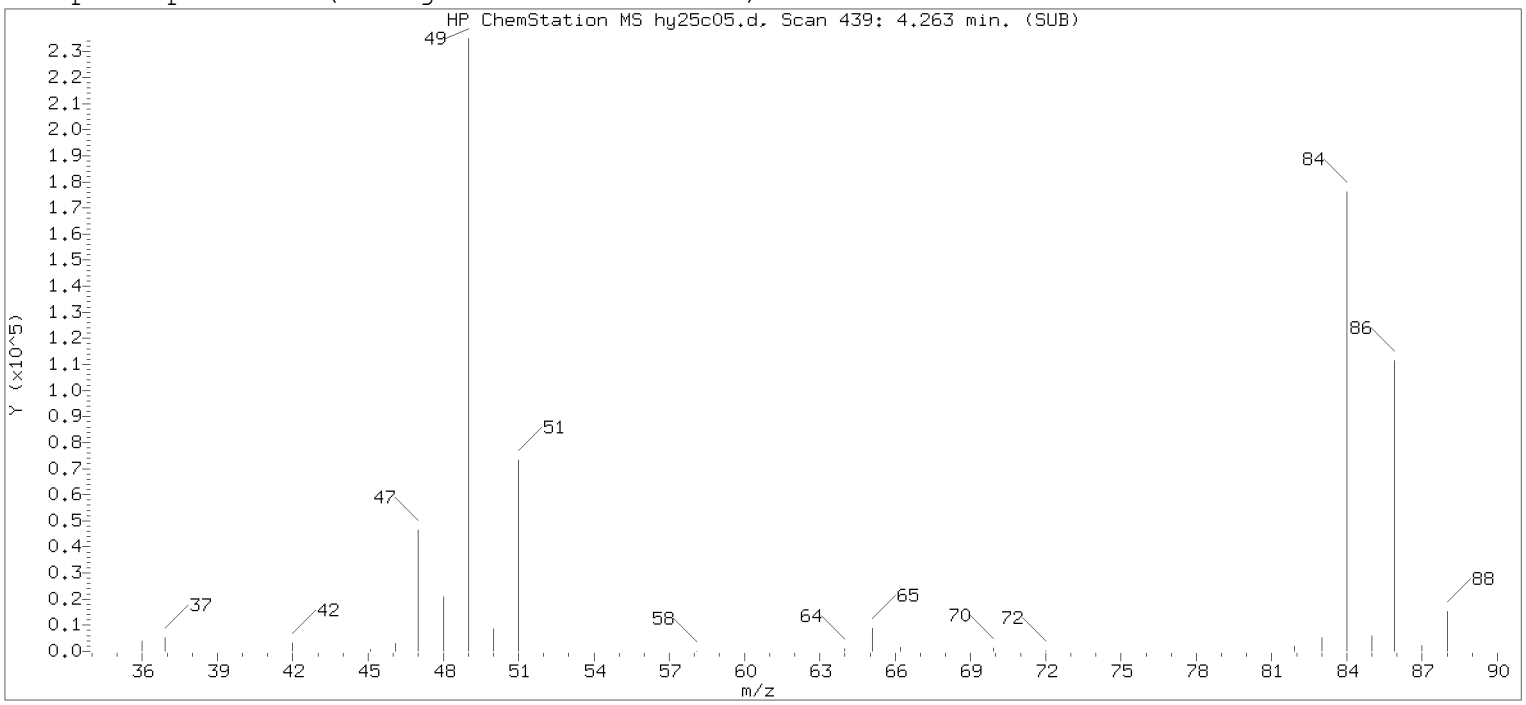
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 439
Retention Time (minutes): 4.263
Quant Ion : 65.00
Area (flag) : 87627M
On-Column Amount (ng) : 50.0000
Integration start scan : 409 Integration stop scan: 561
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

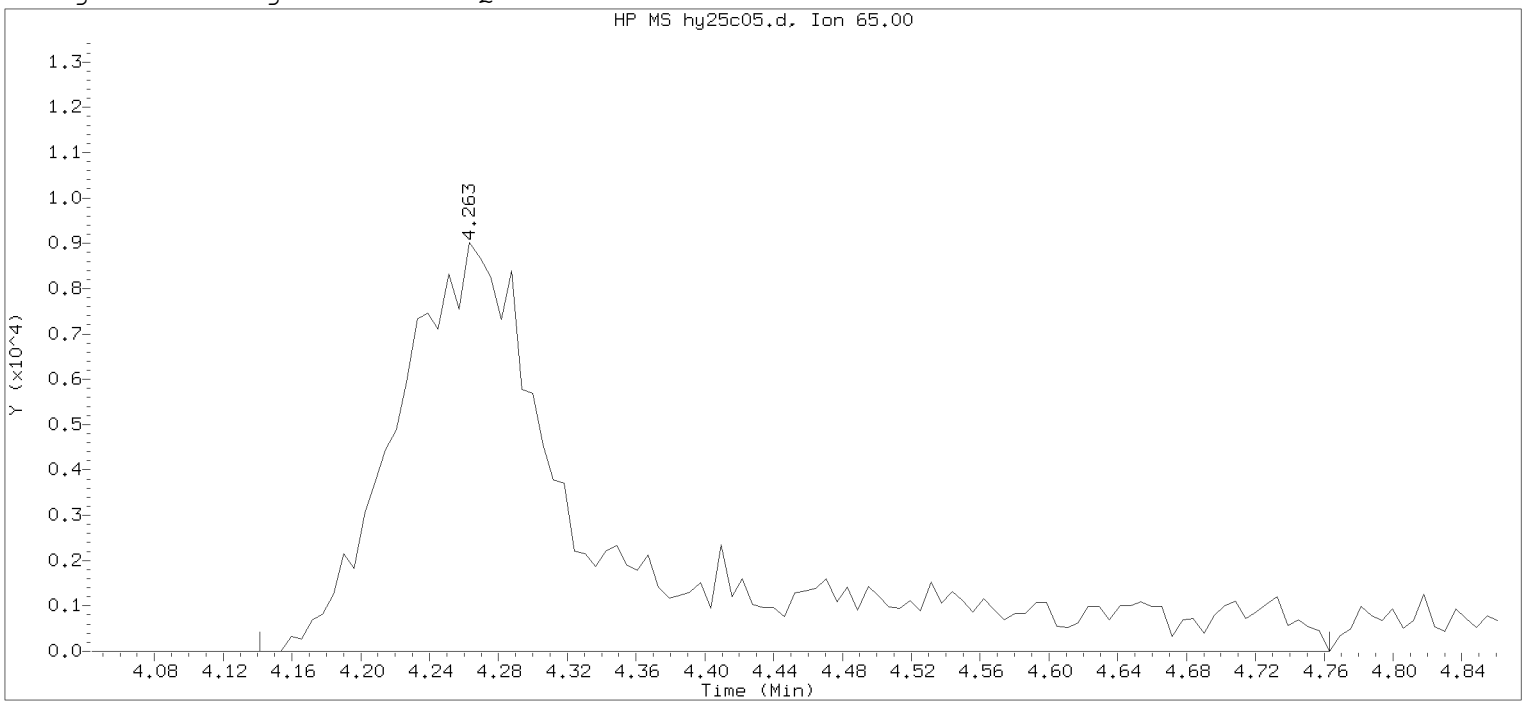
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

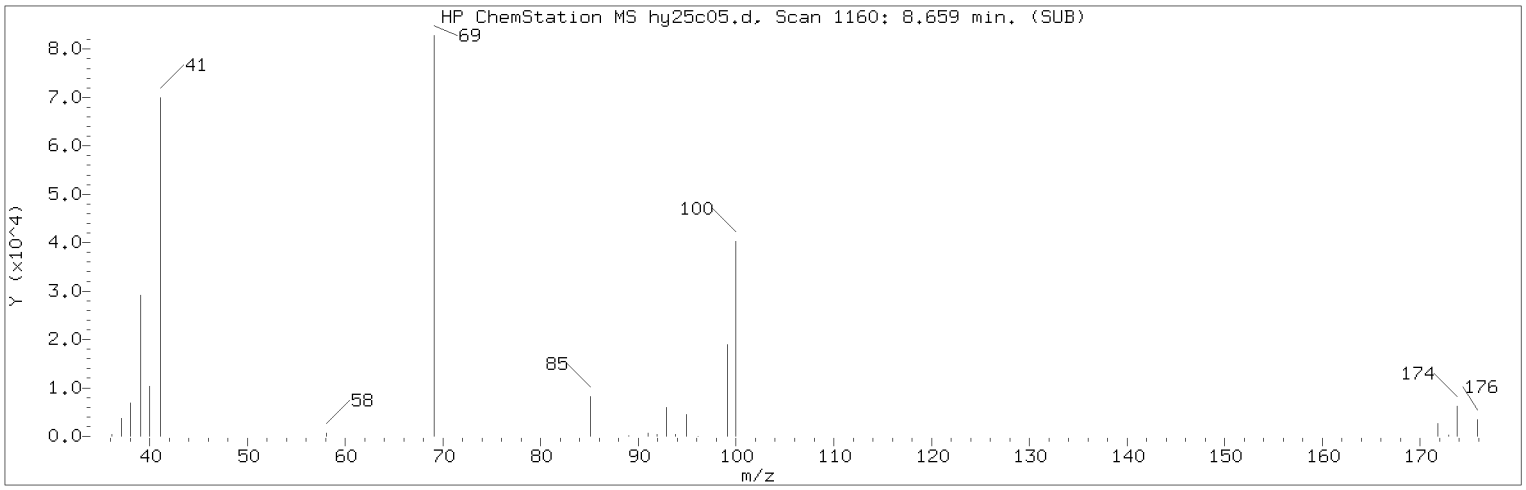
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 25-MAY-2017 18:03
Date, time and analyst ID of latest file update: 25-May-2017 18:04 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

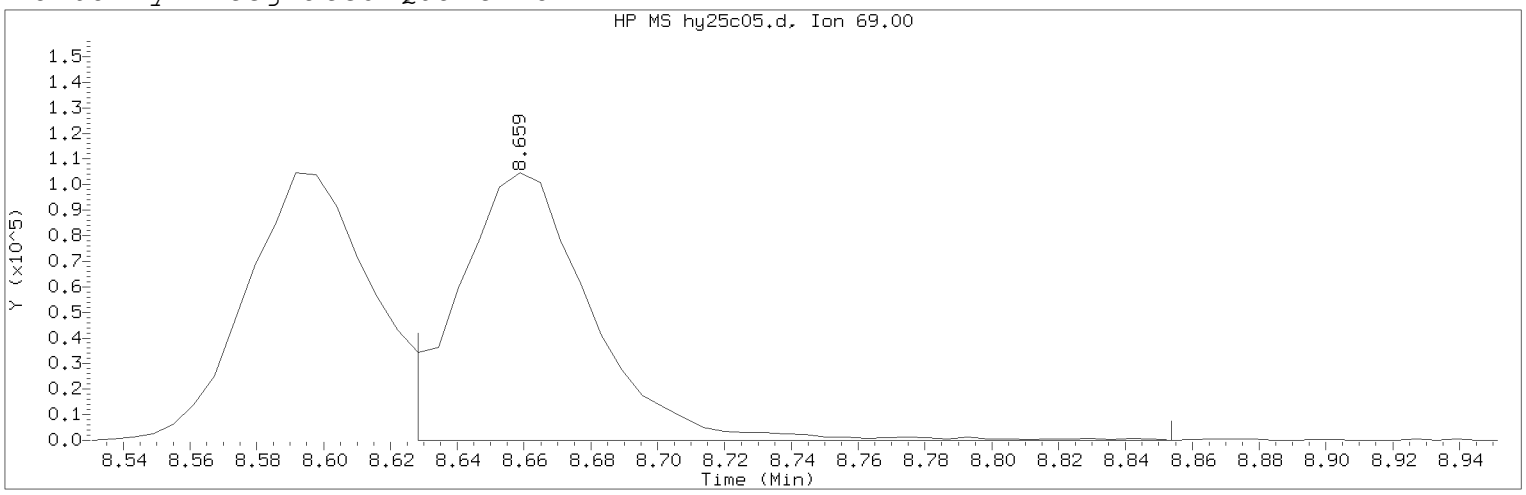
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 439
Retention Time (minutes): 4.263
Quant Ion : 65.00
Area : 78287
On-column Amount (ng) : 50.0000
Integration start scan : 418 Integration stop scan: 520
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used on 05/30/2017.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

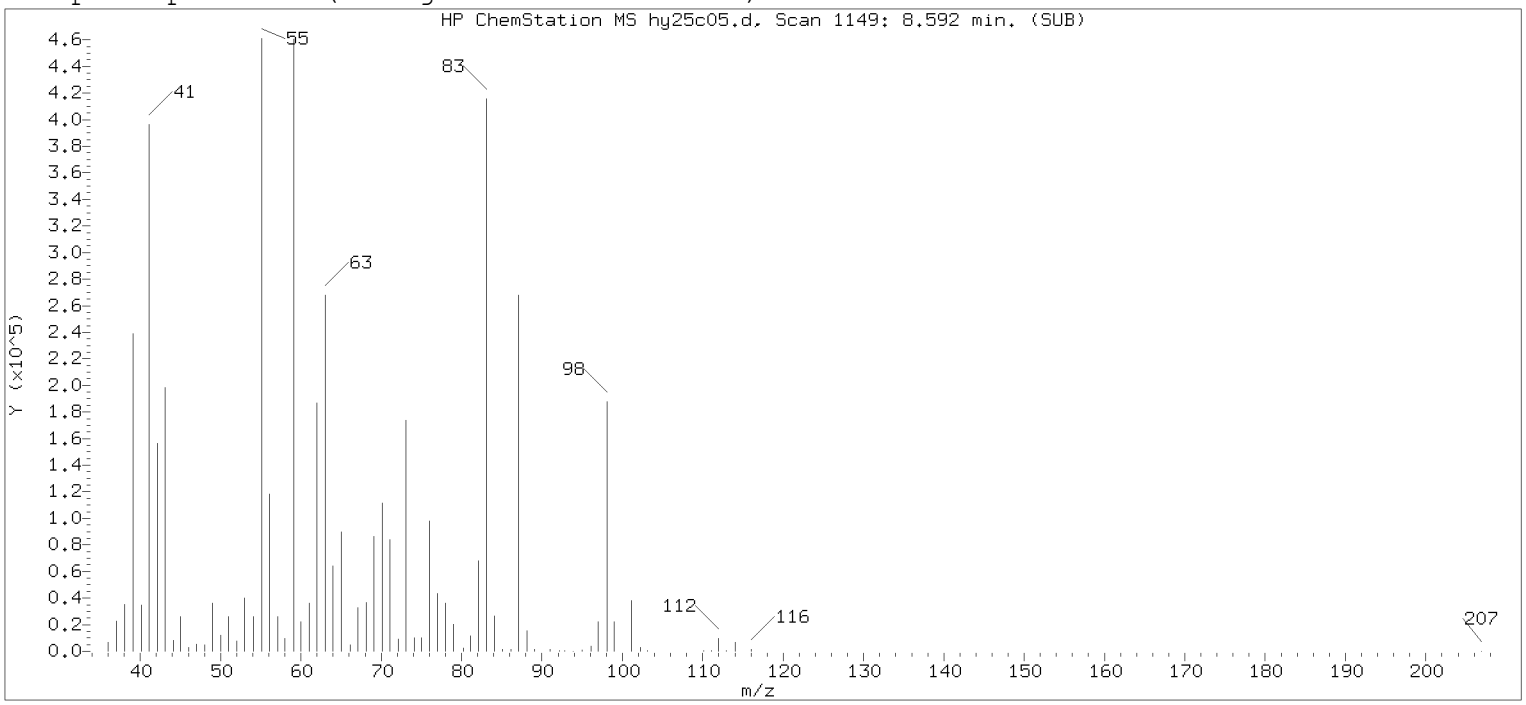
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 283863A
On-Column Amount (ng) : 9.4851
Integration start scan : 1154 Integration stop scan: 1191
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

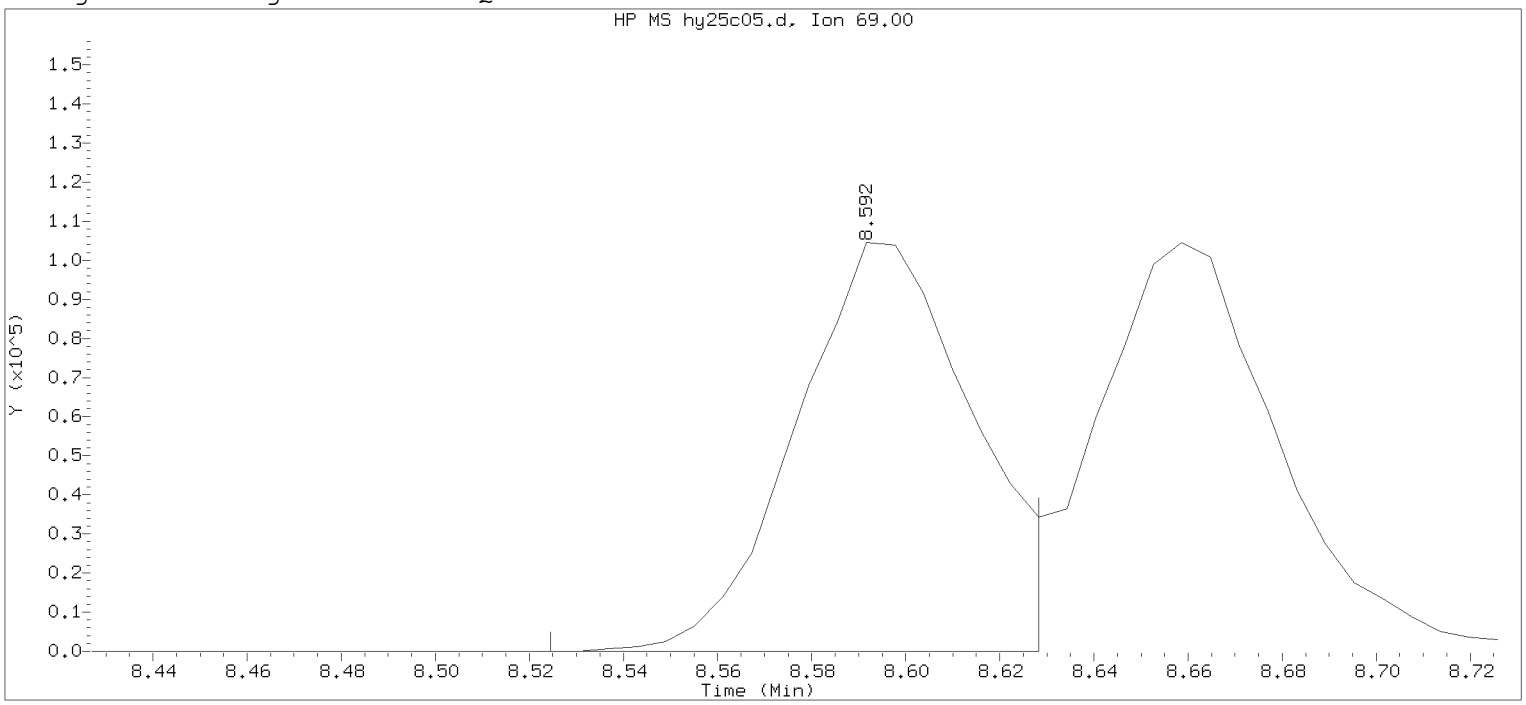
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

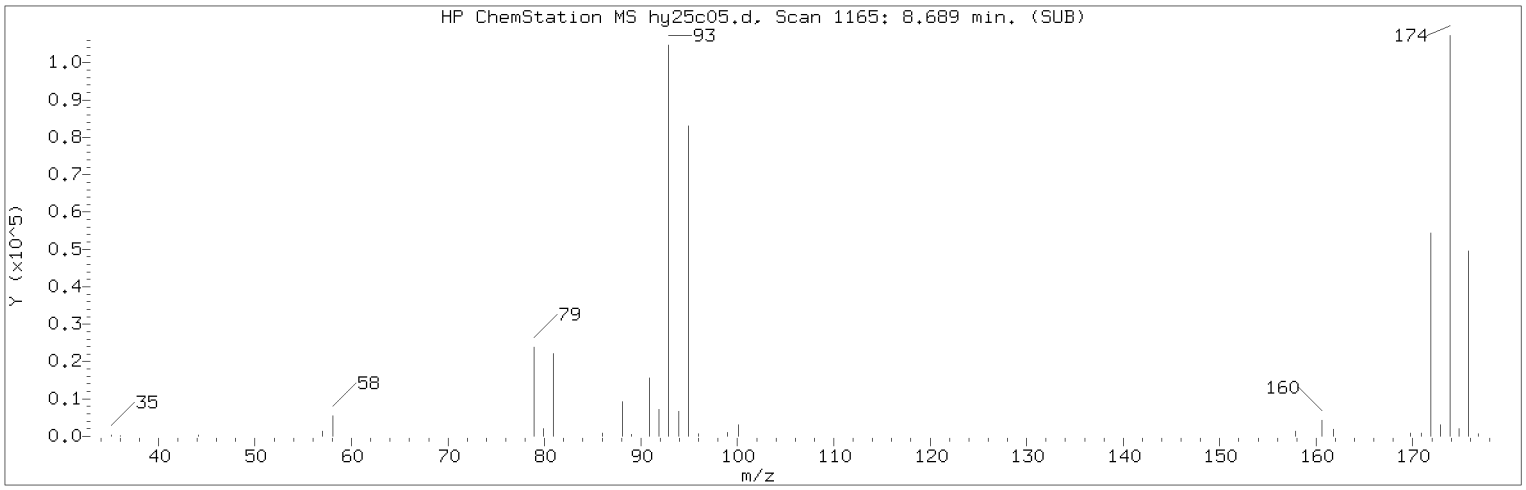
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 25-MAY-2017 18:03
Date, time and analyst ID of latest file update: 25-May-2017 18:04 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

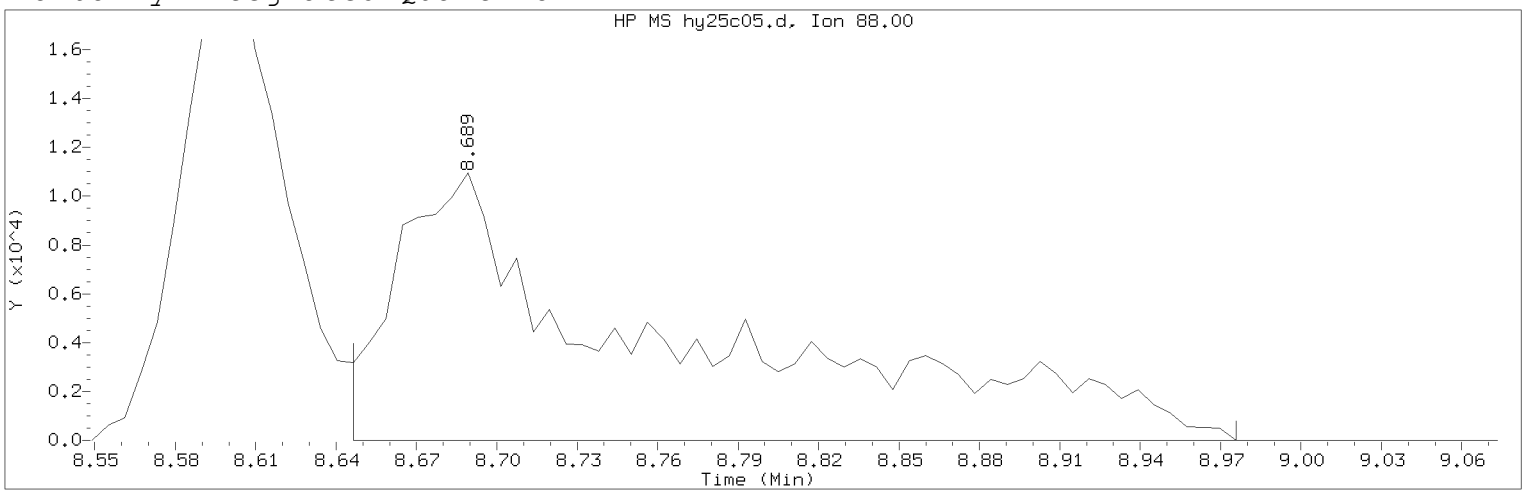
Compound Number	: 71		
Compound Name	: Methyl Methacrylate		
Scan Number	: 1149		
Retention Time (minutes)	: 8.592		
Quant Ion	: 69.00		
Area	: 269878		
On-column Amount (ng)	: 10.0936		
Integration start scan	: 1137	Integration stop scan:	1154
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used on 05/30/2017.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

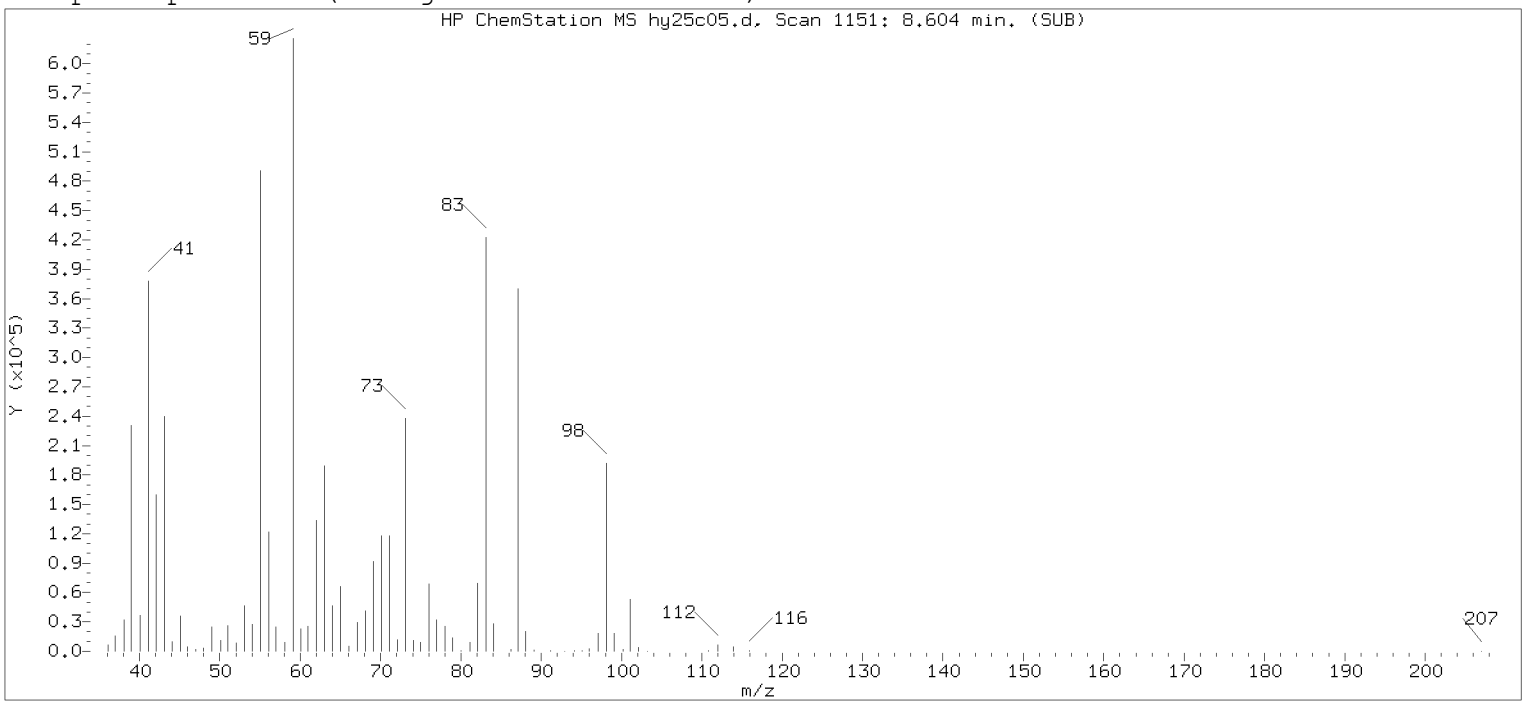
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1165
Retention Time (minutes): 8.689
Quant Ion : 88.00
Area (flag) : 77119M
On-Column Amount (ng) : 456.2337
Integration start scan : 1157 Integration stop scan: 1211
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

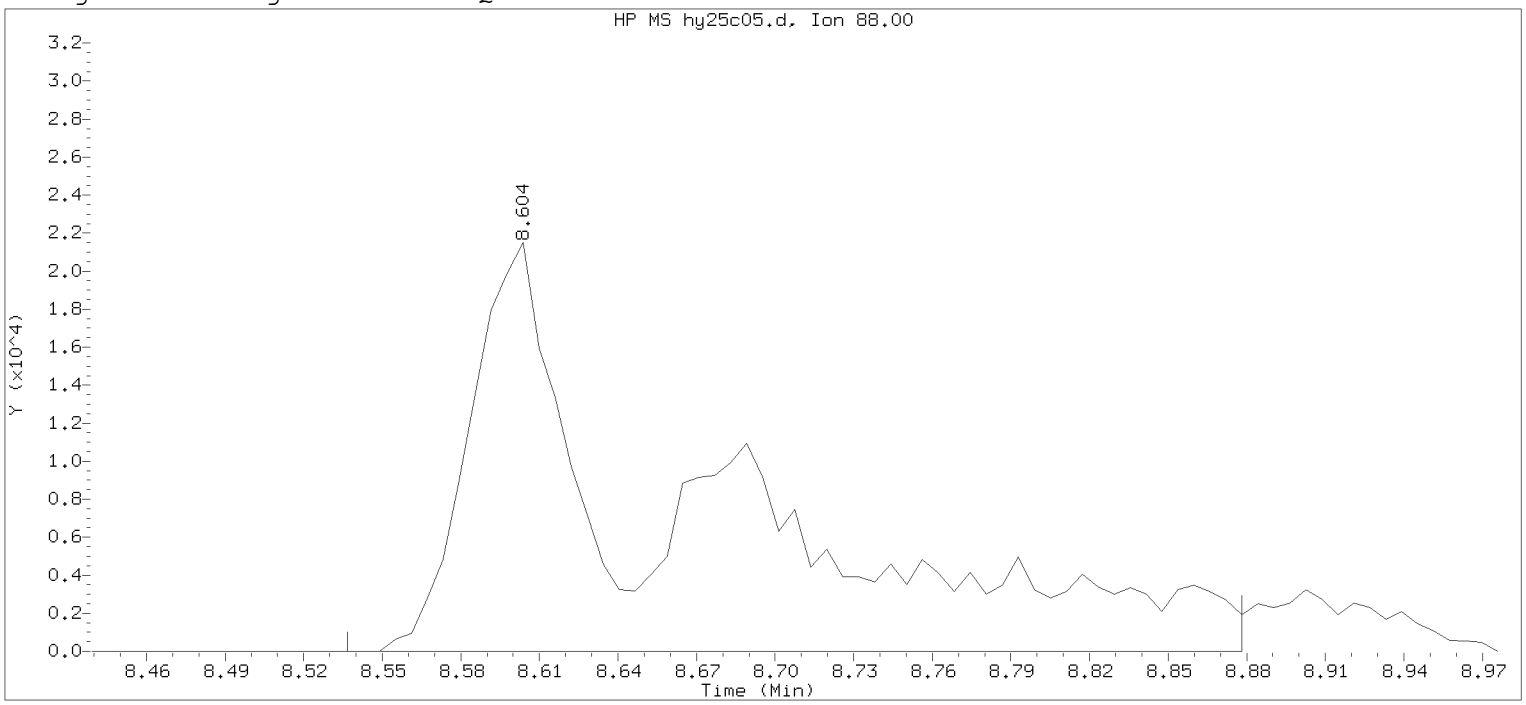
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

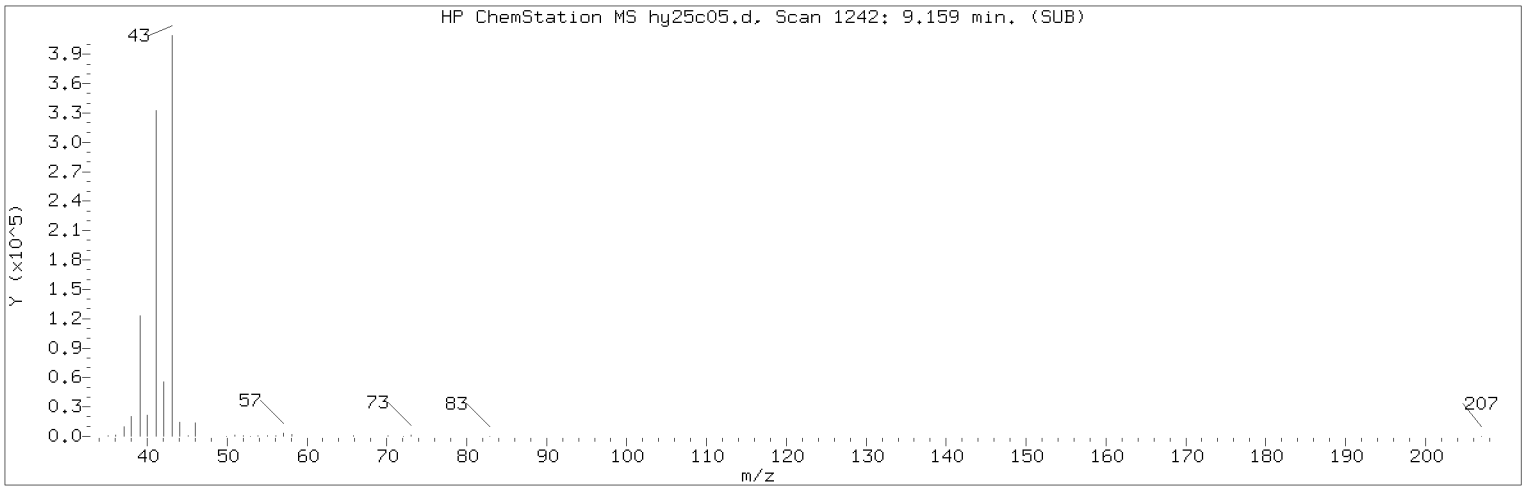
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 25-MAY-2017 18:03
Date, time and analyst ID of latest file update: 25-May-2017 18:04 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

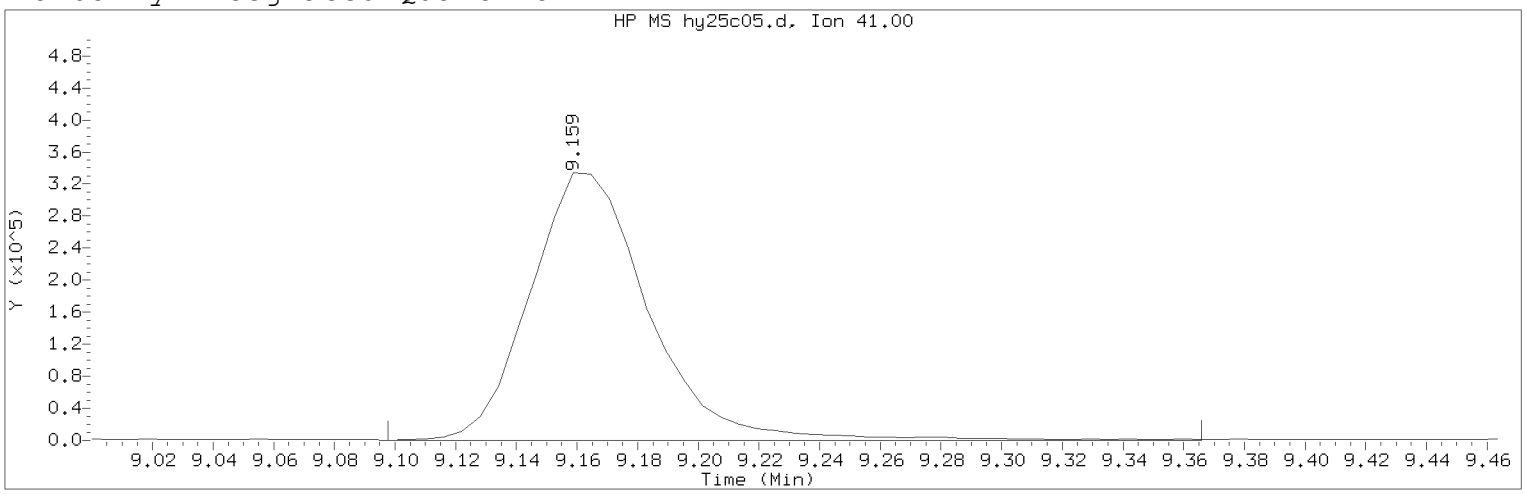
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 119646
On-column Amount (ng) : 795.1025
Integration start scan : 1139 Integration stop scan: 1195
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used on 05/30/2017

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

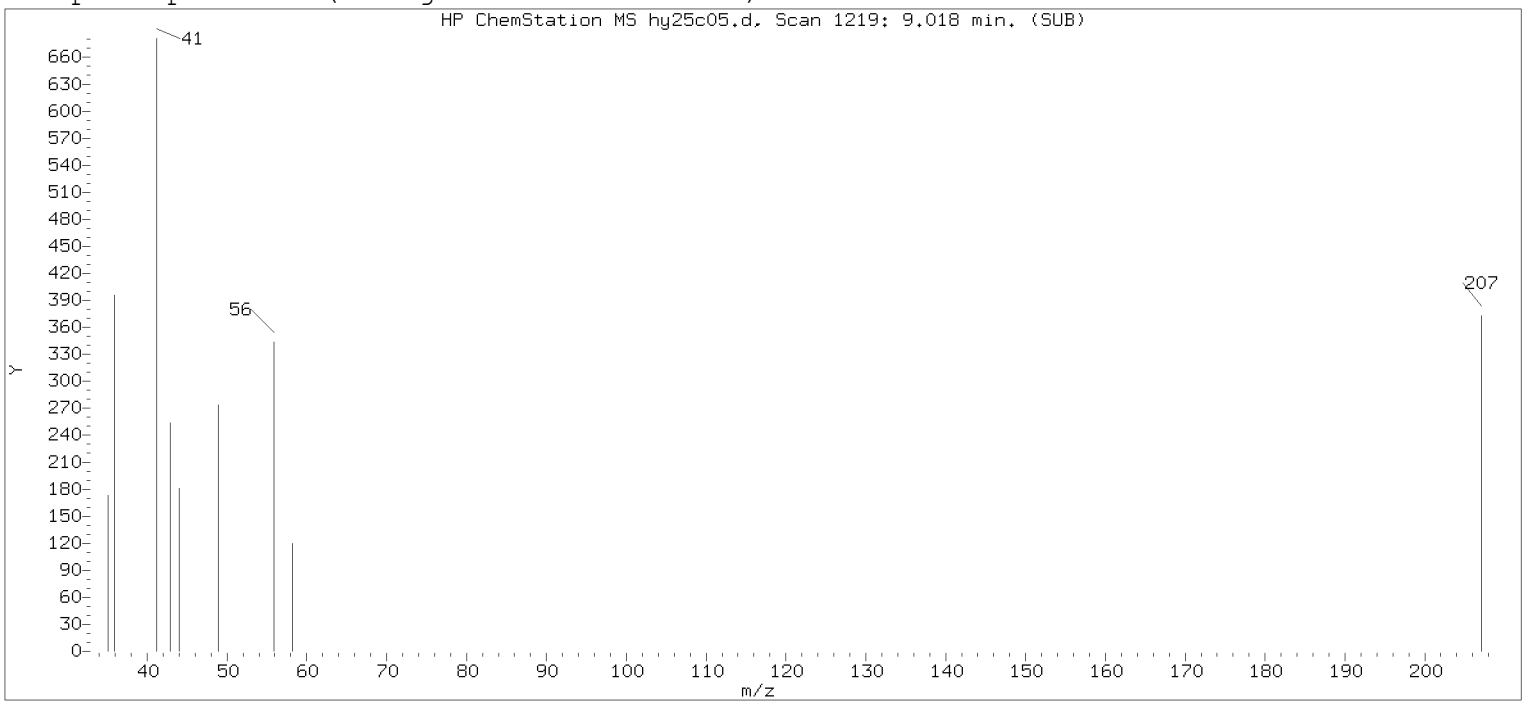
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1242
Retention Time (minutes): 9.159
Quant Ion : 41.00
Area (flag) : 903845A
On-Column Amount (ng) : 91.5705
Integration start scan : 1231 Integration stop scan: 1275
Y at integration start : 310 Y at integration end: 310

Reason for manual integration: improper integration

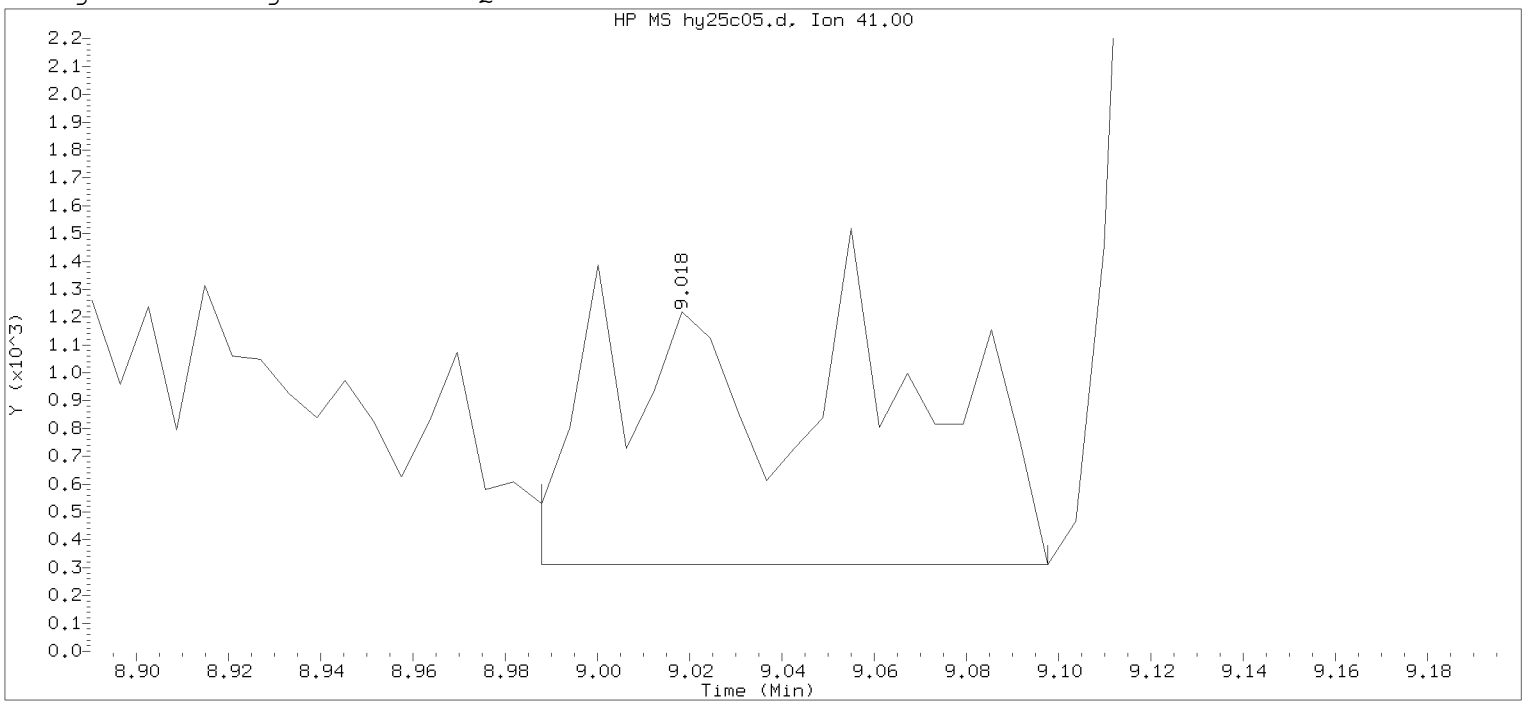
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

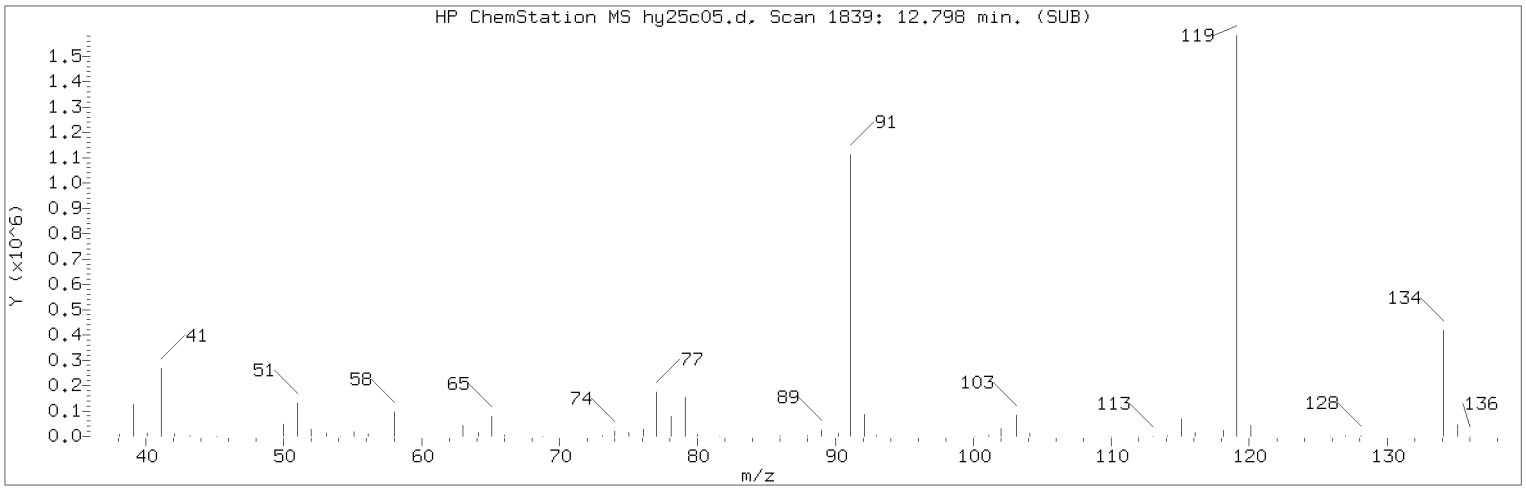
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 25-MAY-2017 18:03
Date, time and analyst ID of latest file update: 25-May-2017 18:04 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

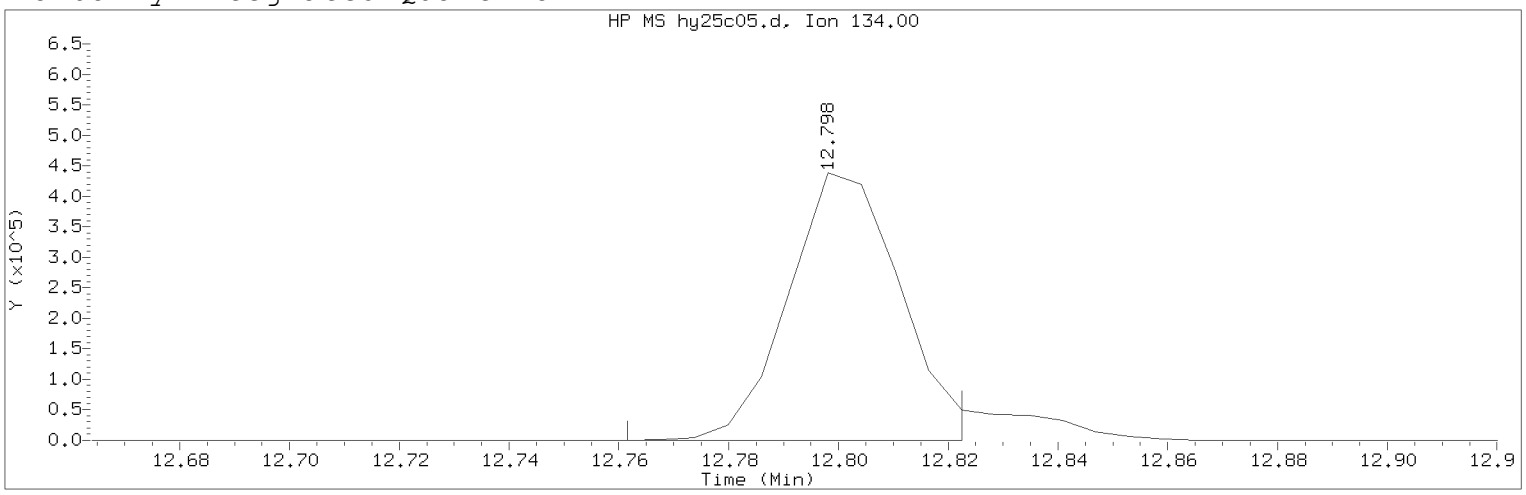
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1219
Retention Time (minutes): 9.018
Quant Ion : 41.00
Area : 4005
On-column Amount (ng) : 0.4542
Integration start scan : 1213 Integration stop scan: 1231
Y at integration start : 310 Y at integration end: 310

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used during data review.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:06 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

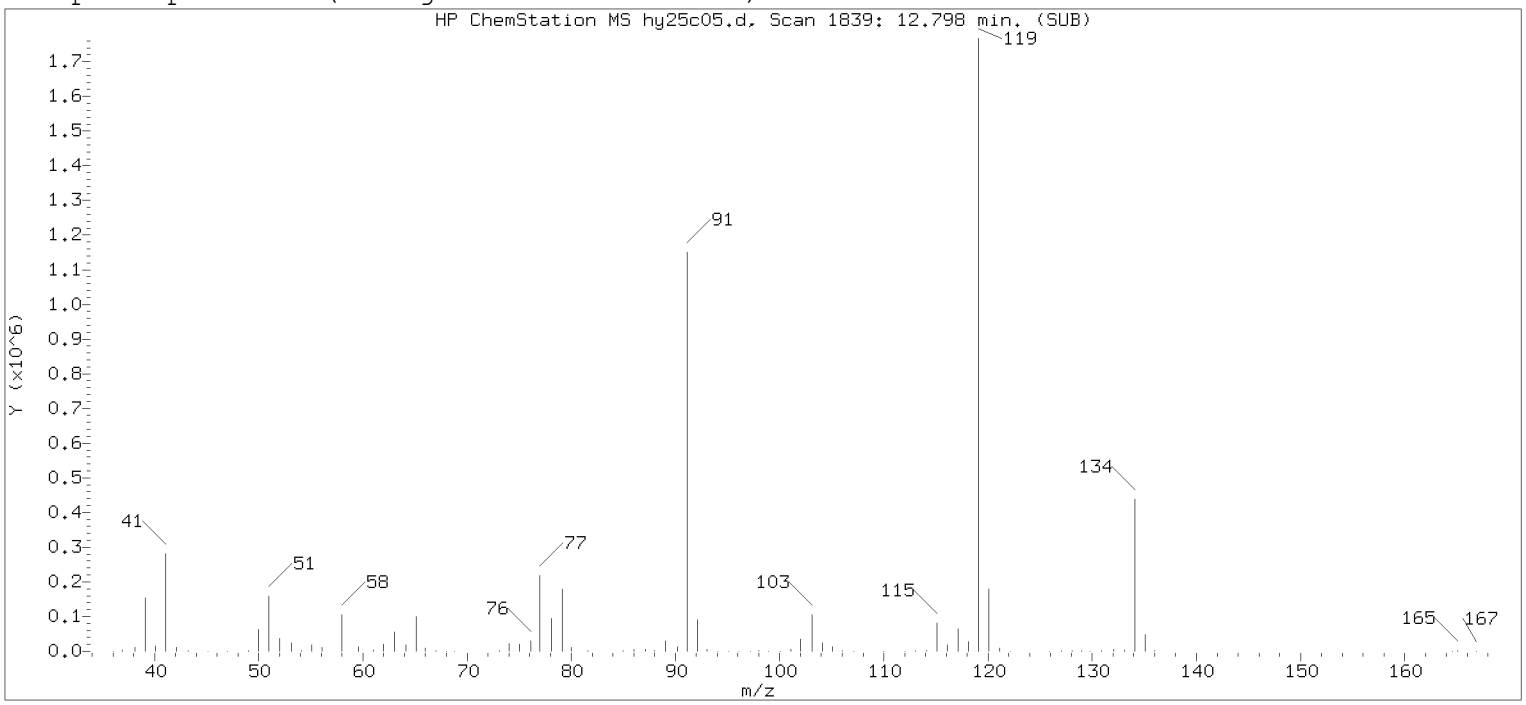
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1839
Retention Time (minutes): 12.798
Quant Ion : 134.00
Area (flag) : 623728M
On-Column Amount (ng) : 9.6720
Integration start scan : 1832 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

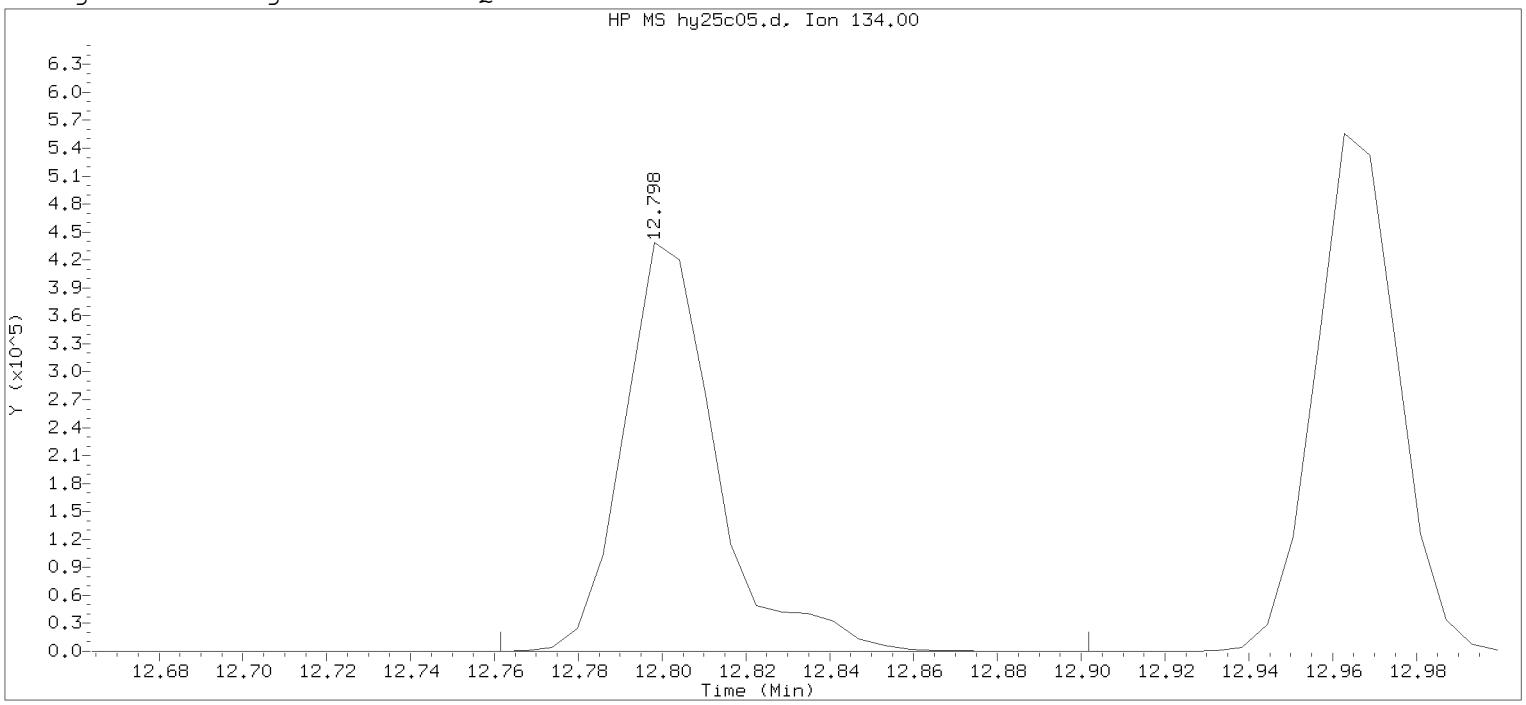
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 17:45 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 25-MAY-2017 18:03
Date, time and analyst ID of latest file update: 25-May-2017 18:04 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1839
Retention Time (minutes): 12.798
Quant Ion : 134.00
Area : 674117
On-column Amount (ng) : 10.4534
Integration start scan : 1832 Integration stop scan: 1855
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used on 10/03/2016

Data File: /chem2/HP19094.i/17may26a.b/hy26t02.d

Date : 26-MAY-2017 08:11

Client ID: bfb 50ng

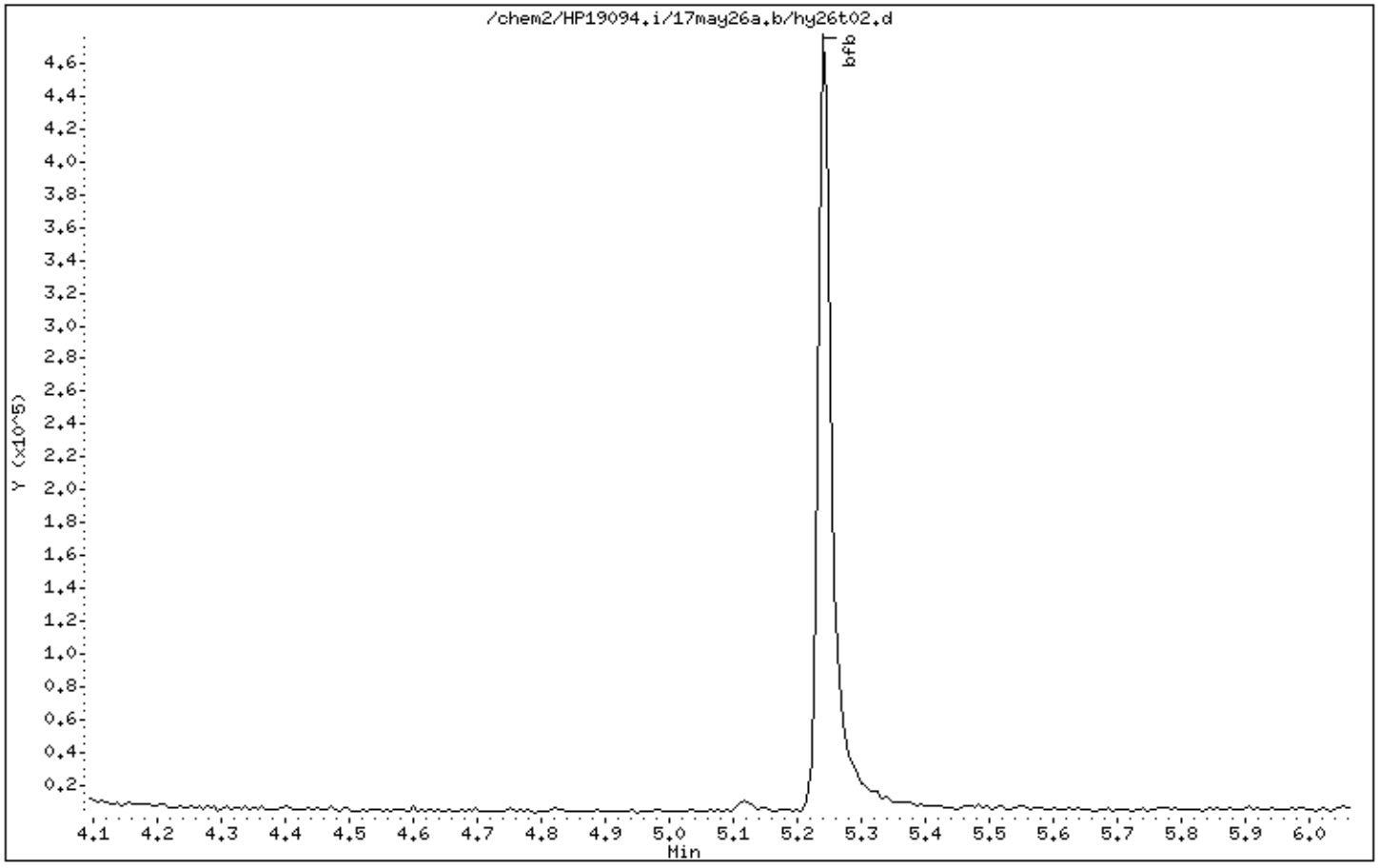
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 08:17.
Target 3.5 esignature user ID: kel01973

Data File: /chem2/HP19094.i/17may26a.b/hy26t02.d

Date : 26-MAY-2017 08:11

Client ID: bfb 50ng

Instrument: HP19094.i

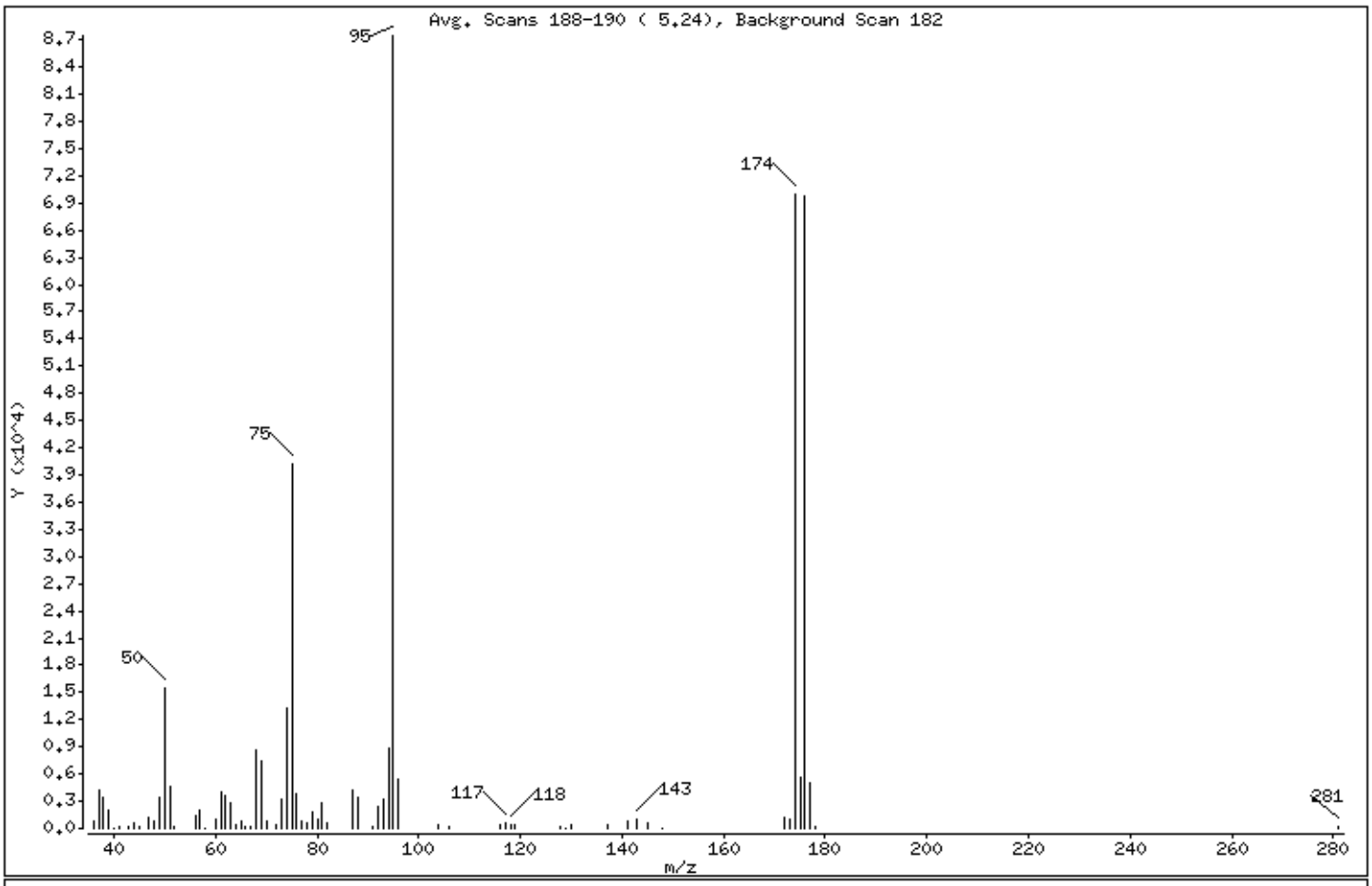
Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.71
75	30.00 - 60.00% of mass 95	46.02
96	5.00 - 9.00% of mass 95	6.10
173	Less than 2.00% of mass 174	1.10 (1.38)
174	50.00 - 100.00% of mass 95	79.99
175	5.00 - 9.00% of mass 174	6.52 (8.15)
176	95.00 - 101.00% of mass 174	79.76 (99.71)
177	5.00 - 9.00% of mass 176	5.77 (7.23)

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 08:17.
Target 3.5 esignature user ID: kel01973

Date : 26-MAY-2017 08:11

Client ID: bfb 50ng Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

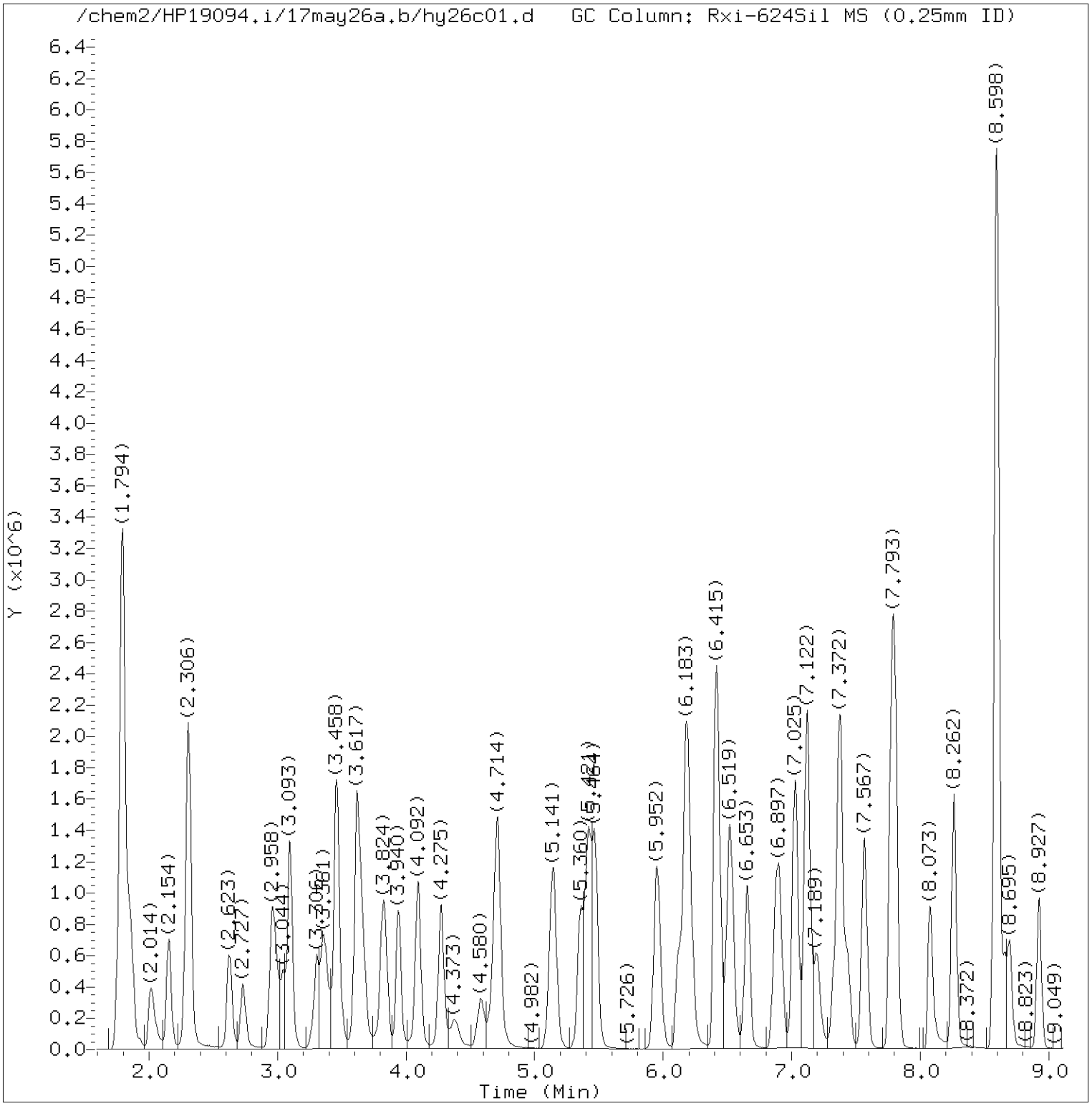
Operator: KEL01973

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: hy26t02.d
Spectrum: Avg. Scans 188-190 (5.24), Background Scan 182
Location of Maximum: 95.00
Number of points: 70

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	862	60.00	906	79.00	1881	128.00	214
37.00	4293	61.00	4064	80.00	925	129.00	84
38.00	3438	62.00	3617	81.00	2760	130.00	322
39.00	1984	63.00	2752	82.00	581	137.00	327
40.00	12	64.00	440	87.00	4220	141.00	781
41.00	120	65.00	729	88.00	3437	143.00	1014
43.00	133	66.00	107	91.00	201	145.00	577
44.00	551	67.00	107	92.00	2382	148.00	88
45.00	293	68.00	8639	93.00	3270	172.00	1158
47.00	1207	69.00	7409	94.00	8815	173.00	966
48.00	724	70.00	834	95.00	87456	174.00	69960
49.00	3433	72.00	483	96.00	5339	175.00	5700
50.00	15489	73.00	3313	104.00	372	176.00	69752
51.00	4666	74.00	13249	106.00	164	177.00	5046
52.00	232	75.00	40240	116.00	373	178.00	104
56.00	1315	76.00	3806	117.00	558	281.00	143
57.00	2042	77.00	877	118.00	386		
58.00	87	78.00	581	119.00	380		

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 08:17.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

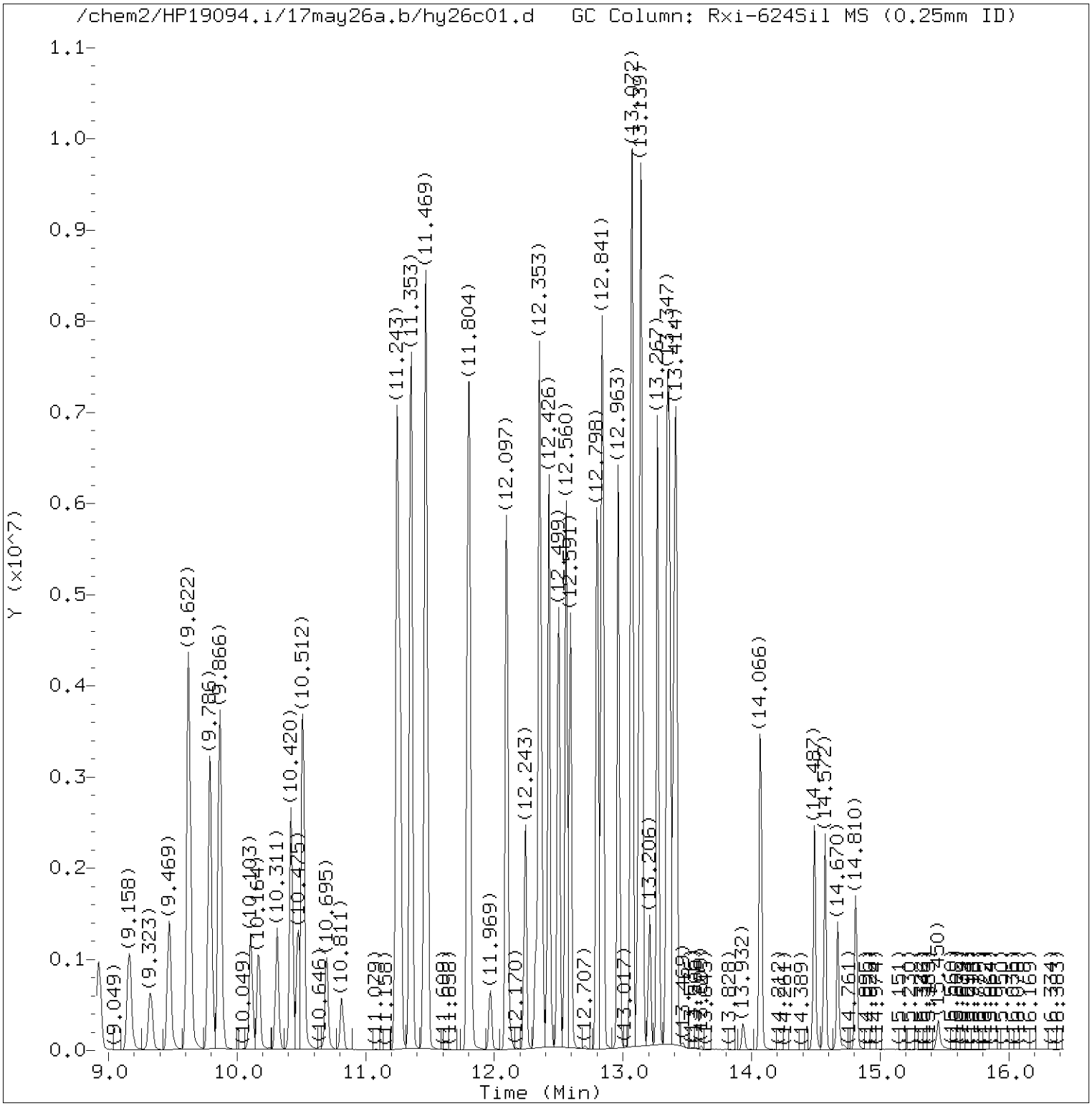
Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.020	85	893441	9.007
2) Chloromethane	(2)	2.154	50	1111719	10.675
5) Vinyl Chloride	(2)	2.288	62	996442	10.901
6) 1,3-Butadiene	(2)	2.306	39	1324838	9.201
7) Bromomethane	(2)	2.623	94	648717	11.299
8) Chloroethane	(2)	2.733	64	585520	11.182
9) Dichlorofluoromethane	(2)	2.958	67	1436081	11.919
10) Trichlorofluoromethane	(2)	3.038	101	1157040	10.924
11) Ethyl ether	(2)	3.300	59	473255	11.278
12) Freon 123a	(2)	3.361	67	917060	11.476
13) Acrolein	(1)	3.458	56	2581915	373.701
15) 1,1-Dichloroethene	(2)	3.617	96	585978	10.302
14) Acetone	(1)	3.623	43	910137	108.782
16) Freon 113	(2)	3.653	101	684572	11.434
17) Methyl Iodide	(2)	3.812	142	1171371	11.087
18) Carbon Disulfide	(2)	3.940	76	1894810	11.873
21) Methyl Acetate	(1)	4.056	43	242055	8.514
22) Allyl Chloride	(2)	4.098	41	1159125	10.501
26)*t-Butyl Alcohol-d10	(1)	4.251	65	90802	50.000
23) Methylene Chloride	(2)	4.269	84	666860	10.736
28) t-Butyl Alcohol	(1)	4.379	59	525082M	231.121
29) Acrylonitrile	(1)	4.580	53	578469	51.164
30) Methyl Tertiary Butyl Ether	(2)	4.684	73	1290034	11.319
31) trans-1,2-Dichloroethene	(2)	4.720	96	694595	11.058
32) n-Hexane	(2)	5.141	57	1122298	11.655
33) 1,1-Dichloroethane	(2)	5.354	63	1366390	11.024
34) di-Isopropyl Ether	(2)	5.421	45	2359982	11.173
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	1192414	11.387
37) Ethyl t-butyl ether	(2)	5.958	59	1806975	11.127
40) 1,2-Dichloroethene (Total)	(2)		96	1472222	22.148
38) 2-Butanone	(1)	6.116	43	1566430	91.793
39) cis-1,2-Dichloroethene	(2)	6.177	96	777627	11.091
42) Propionitrile	(1)	6.196	54	884174	218.069
41) 2,2-Dichloropropane	(2)	6.196	77	1053624	11.347
45) Methacrylonitrile	(1)	6.415	67	1475455	87.037
47) Bromochloromethane	(2)	6.513	128	307159	11.079
48) Tetrahydrofuran	(1)	6.525	71	385178	90.353
49) Chloroform	(2)	6.653	83	1245255	10.649

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
50)$Dibromofluoromethane	(2)	6.866	113	592947	10.317
50)$Dibromofluoromethane	(2)	6.872	111	604345	10.238
51) 1,1,1-Trichloroethane	(2)	6.903	97	1049402	10.537
52) Cyclohexane	(2)	7.025	56	1369893	11.157
52) Cyclohexane	(2)	7.031	84	1087922	11.529
52) Cyclohexane	(2)	7.031	69	404096	11.729
55) 1,1-Dichloropropene	(2)	7.116	75	1038551	11.228
54) Carbon Tetrachloride	(2)	7.128	117	931369	11.141
56) Isobutyl Alcohol	(1)	7.189	41	540478	551.293
57)$1,2-Dichloroethane-d4	(2)	7.323	102	96700	10.406
57)$1,2-Dichloroethane-d4	(2)	7.330	65	455743	10.075
57)$1,2-Dichloroethane-d4	(2)	7.336	104	61262	10.876
58) Benzene	(2)	7.378	78	2962956	11.031
59) 1,2-Dichloroethane	(2)	7.433	62	720584M	11.222
60) t-Amyl methyl ether	(2)	7.567	73	1512975	11.458
63)*Fluorobenzene	(2)	7.775	96	2563780	10.000
62) n-Heptane	(2)	7.805	43	1299336	11.462
65) n-Butanol	(1)	8.073	56	848264	1175.099
67) Trichloroethene	(2)	8.262	95	762988	10.731
70) 1,2-Dichloropropane	(2)	8.591	63	773484	11.044
69) Methylcyclohexane	(2)	8.598	83	1351231	11.250
71) Methyl Methacrylate	(1)	8.659	69	278626M	8.985
72) 1,4-Dioxane	(1)	8.665	88	104666M	598.696
73) Dibromomethane	(2)	8.695	93	310485	11.499
74) Bromodichloromethane	(2)	8.927	83	854542	11.556
76) 2-Nitropropane	(1)	9.158	41	899306A	87.925
80) cis-1,3-Dichloropropene	(2)	9.469	75	996144	11.949
81) 4-Methyl-2-Pentanone	(1)	9.622	43	3913213MA	86.540
82)$Toluene-d8	(3)	9.786	98	2580758	9.886
82)$Toluene-d8	(3)	9.786	100	1662583	9.890
83) Toluene	(3)	9.866	92	1845326	10.697
84) trans-1,3-Dichloropropene	(3)	10.103	75	751571	11.183
86) Ethyl Methacrylate	(3)	10.164	69	572191	11.511
85) 1,3-Dichloropropene (total)	(3)		75	1747715	23.133
88) 1,1,2-Trichloroethane	(3)	10.311	97	430495	10.743
89) Tetrachloroethene	(3)	10.420	166	852998	10.662
90) 1,3-Dichloropropane	(3)	10.475	76	776165	10.822
91) 2-Hexanone	(1)	10.512	43	2633052M	82.623

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
93) Dibromochloromethane	(3)	10.695	129	538069	11.331
95) 1,2-Dibromoethane	(3)	10.811	107	400017	10.555
97)*Chlorobenzene-d5	(3)	11.237	117	1785936	10.000
98) Chlorobenzene	(3)	11.268	112	2028308	10.783
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	678286	10.830
100) Ethylbenzene	(3)	11.353	91	3638853	10.886
101) m+p-Xylene	(3)	11.469	106	2829147	22.259
105) Xylene (Total)	(3)		106	4187980	33.391
104) o-Xylene	(3)	11.792	106	1358833	11.132
106) Styrene	(3)	11.810	104	2173548	11.662
107) Bromoform	(3)	11.969	173	281432	11.866
108) Isopropylbenzene	(3)	12.097	105	3538817	11.079
111)$4-Bromofluorobenzene	(3)	12.243	95	753333	10.156
111)$4-Bromofluorobenzene	(3)	12.243	174	654789	9.918
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	520073M	10.341
115) trans-1,4-Dichloro-2-butene	(1)	12.347	53	963900A	80.287
114) Bromobenzene	(4)	12.359	156	792743	10.338
116) 1,2,3-Trichloropropane	(4)	12.377	110	125425	9.968
117) n-Propylbenzene	(4)	12.426	91	4423414	10.788
119) 2-Chlorotoluene	(4)	12.499	126	837623	10.803
121) 1,3,5-Trimethylbenzene	(4)	12.560	105	3023849	10.961
122) 4-Chlorotoluene	(4)	12.591	126	850603	10.914
125) tert-Butylbenzene	(4)	12.798	134	641042M	10.698
126) Pentachloroethane	(4)	12.835	167	509480	11.382
127) 1,2,4-Trimethylbenzene	(4)	12.841	105	3002258	10.918
128) sec-Butylbenzene	(4)	12.963	105	3883433	10.801
131) 1,3-Dichlorobenzene	(4)	13.066	146	1571312	10.429
132) p-Isopropyltoluene	(4)	13.072	119	3274724	11.131
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	779232	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	1534300	9.772
135) 1,2,3-Trimethylbenzene	(4)	13.146	120	1302763	10.747
136) Benzyl Chloride	(4)	13.206	126	193517	12.212
138) n-Butylbenzene	(4)	13.365	92	1691957	11.712
139) 1,2-Dichlorobenzene	(4)	13.395	146	1371420	10.248
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	55475	8.283
145) 1,2,4-Trichlorobenzene	(4)	14.487	180	733300	8.498
146) Hexachlorobutadiene	(4)	14.572	225	392825	9.191
147) Naphthalene	(4)	14.670	128	997160	7.853

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

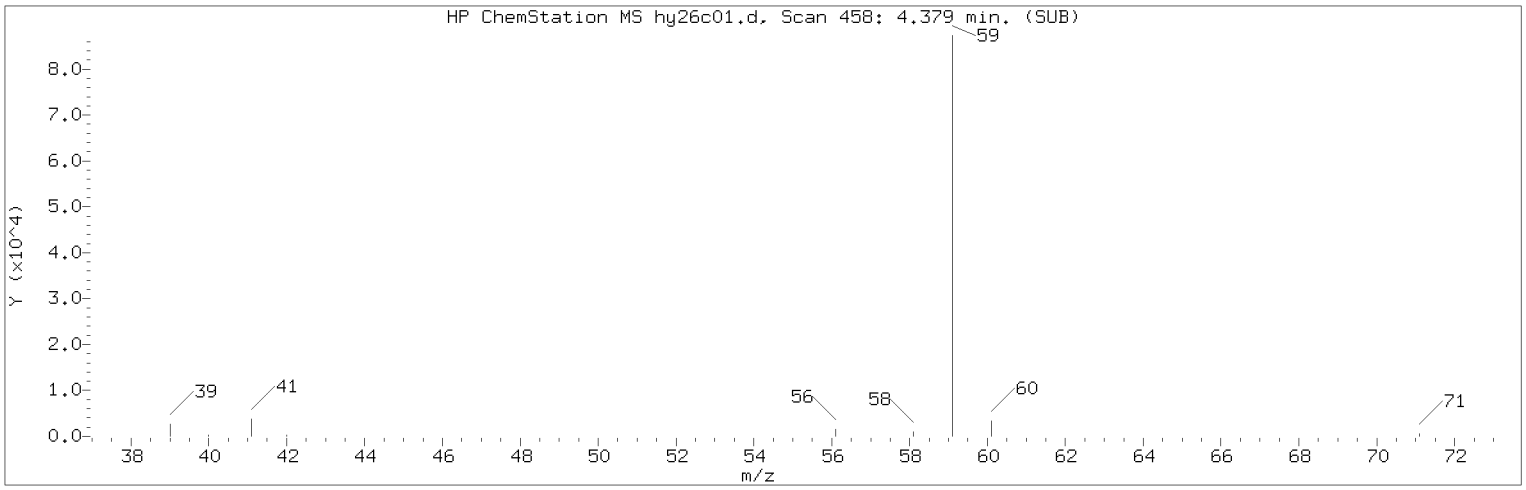
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

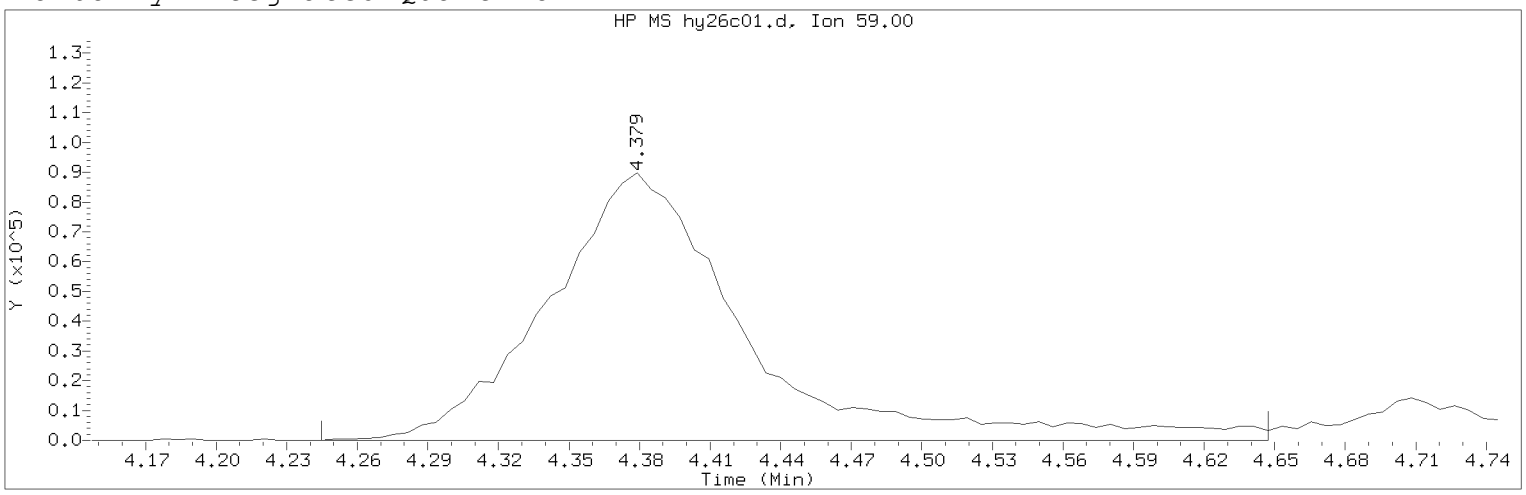
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
148) 1,2,3-Trichlorobenzene	(4)	14.810	180	512745	7.033

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

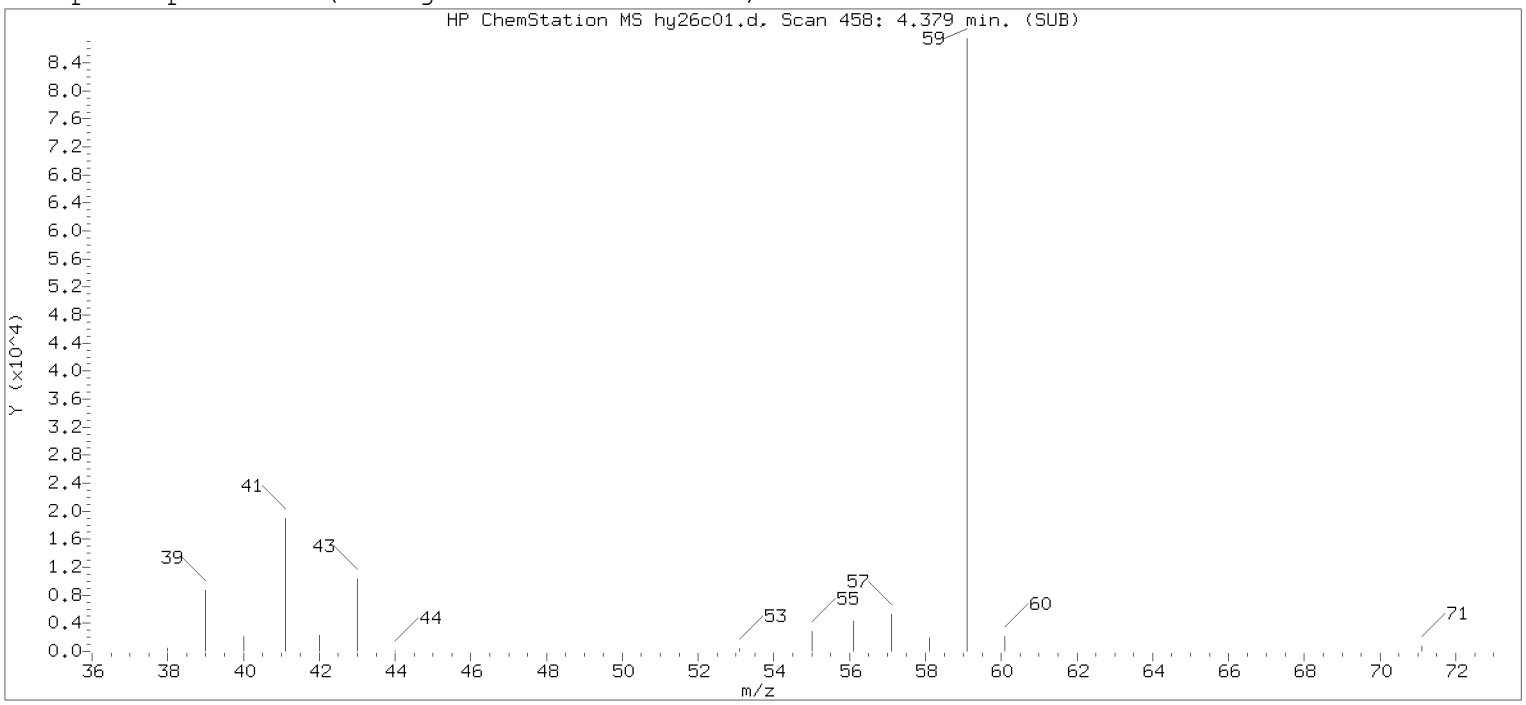
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 458
Retention Time (minutes): 4.379
Quant Ion : 59.00
Area (flag) : 525082M
On-Column Amount (ng) : 231.1215
Integration start scan : 435 Integration stop scan: 501
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

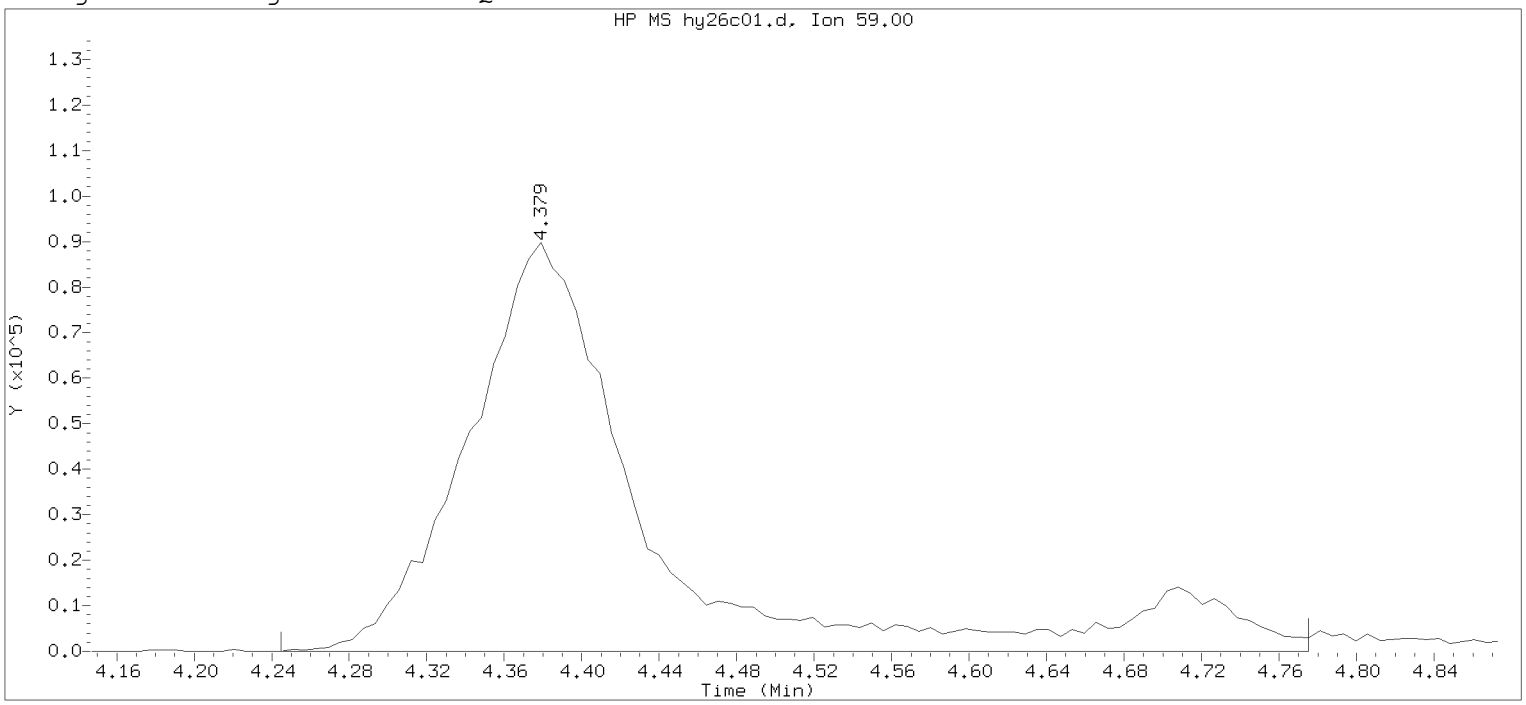
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

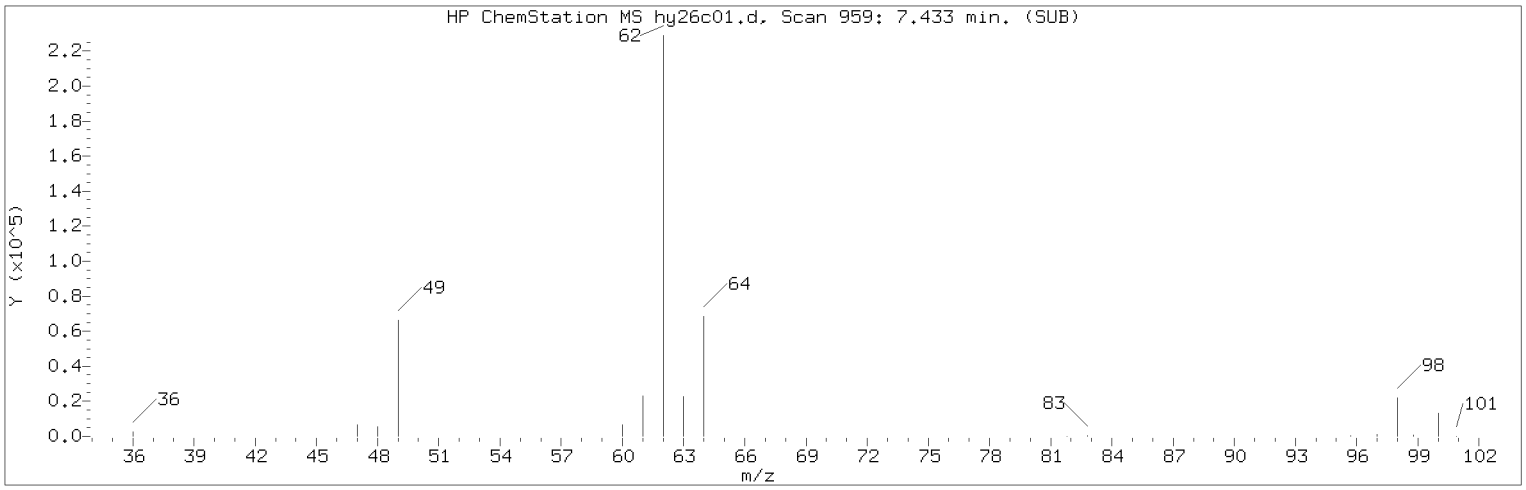
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

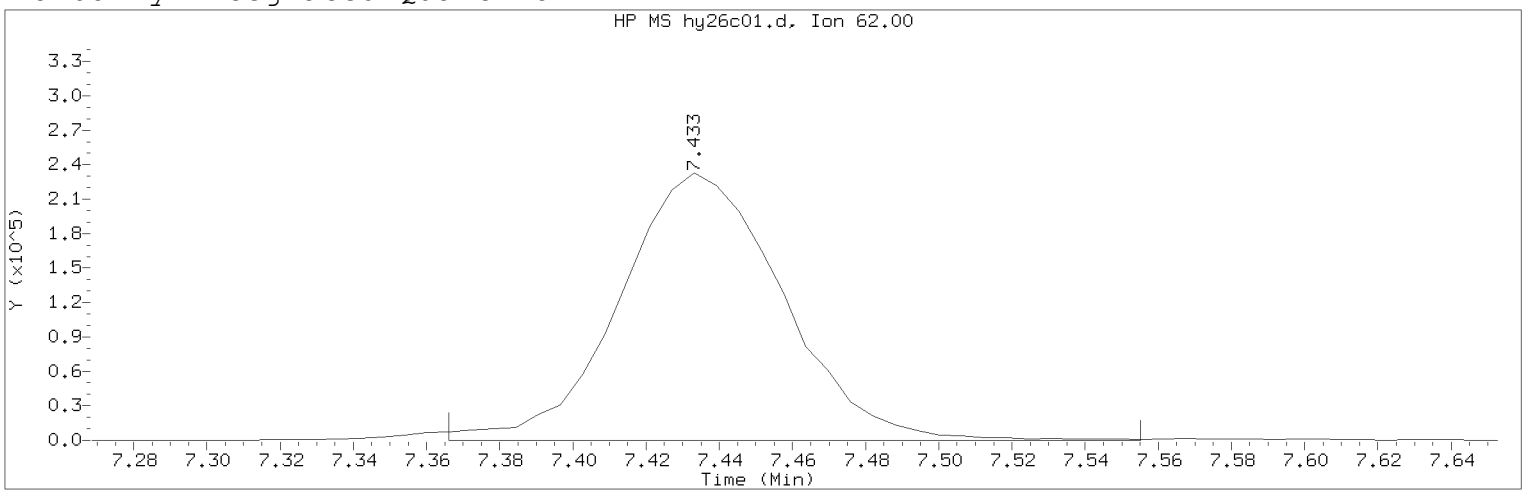
Compound Number : 28
Compound Name : t-Butyl Alcohol
Scan Number : 458
Retention Time (minutes): 4.379
Quant Ion : 59.00
Area : 581457
On-column Amount (ng) : 255.9335
Integration start scan : 435 Integration stop scan: 522
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used. Reason: I approve this record.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

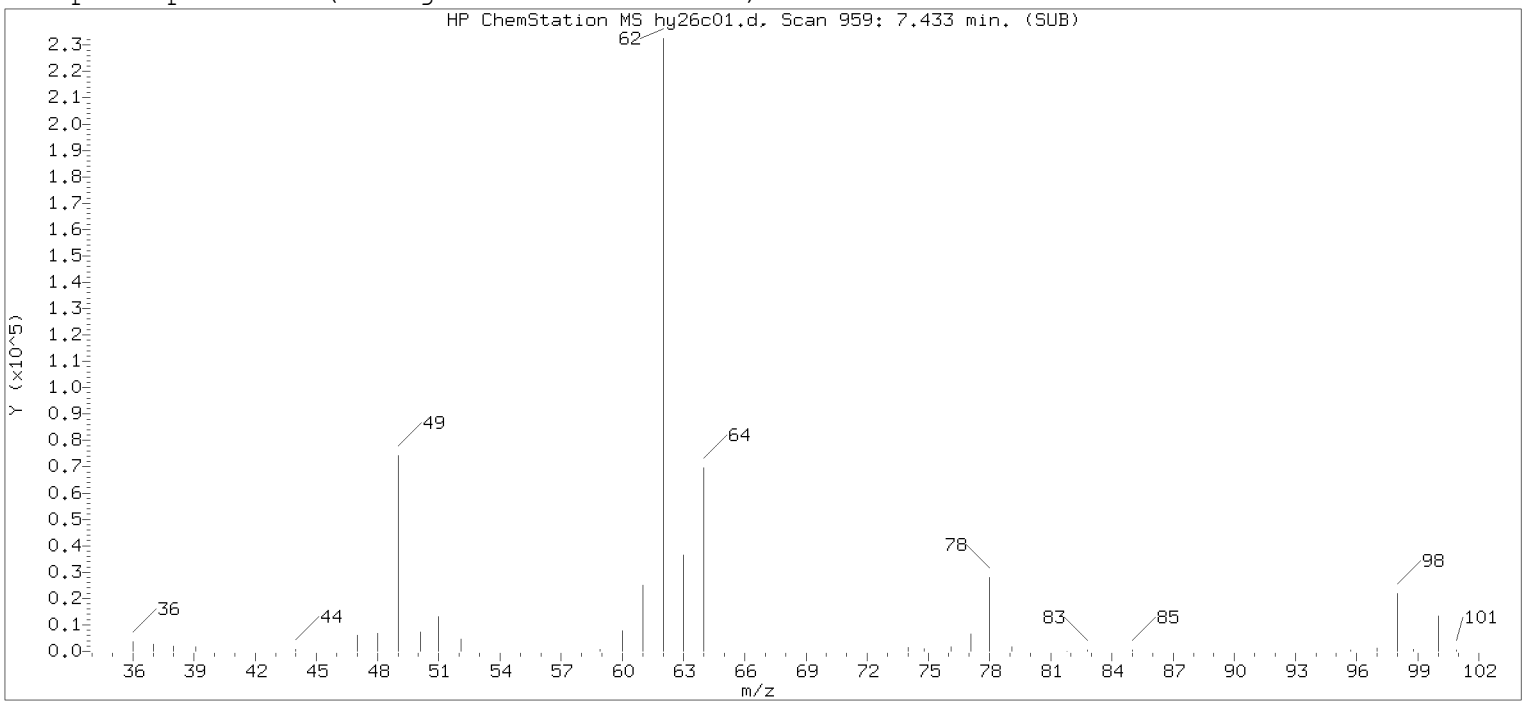
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 959
Retention Time (minutes): 7.433
Quant Ion : 62.00
Area (flag) : 720584M
On-Column Amount (ng) : 11.2223
Integration start scan : 947 Integration stop scan: 978
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

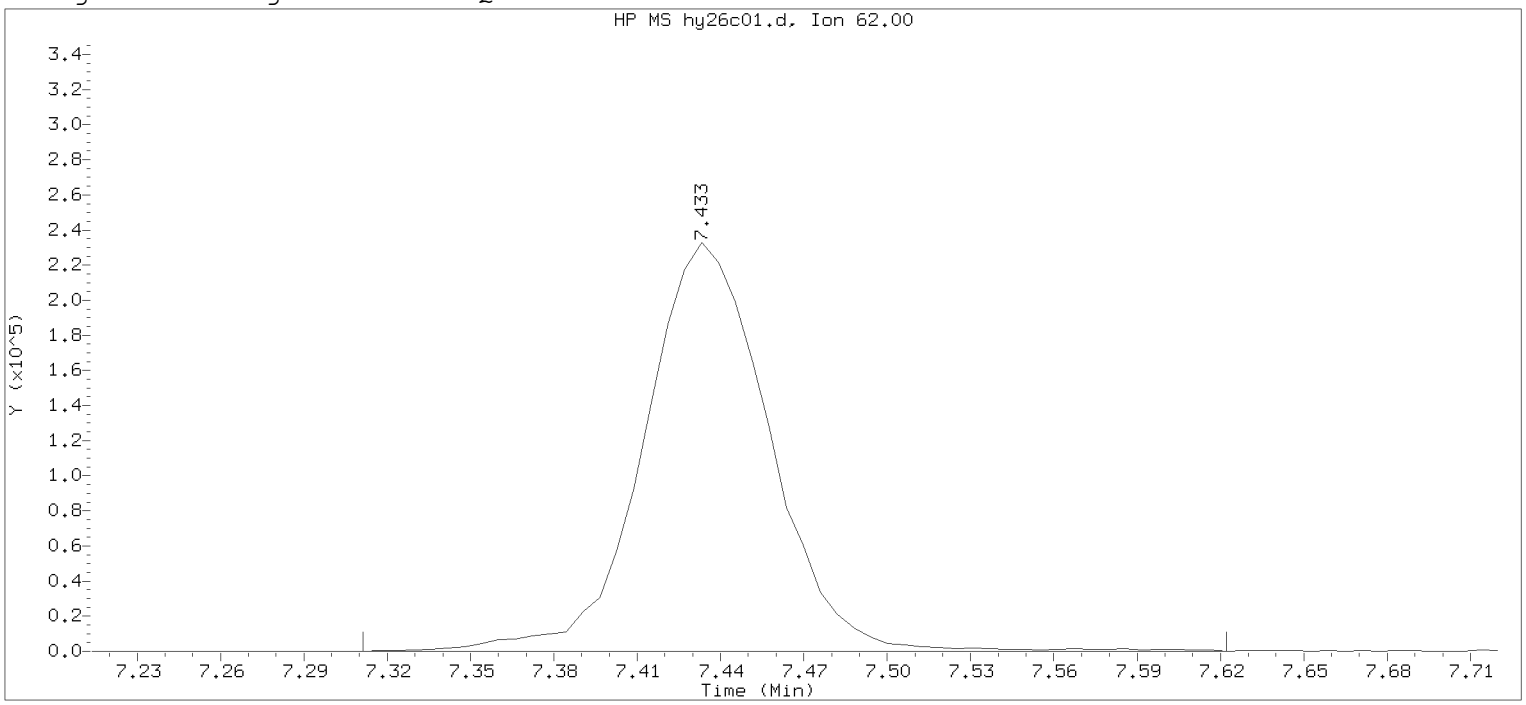
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

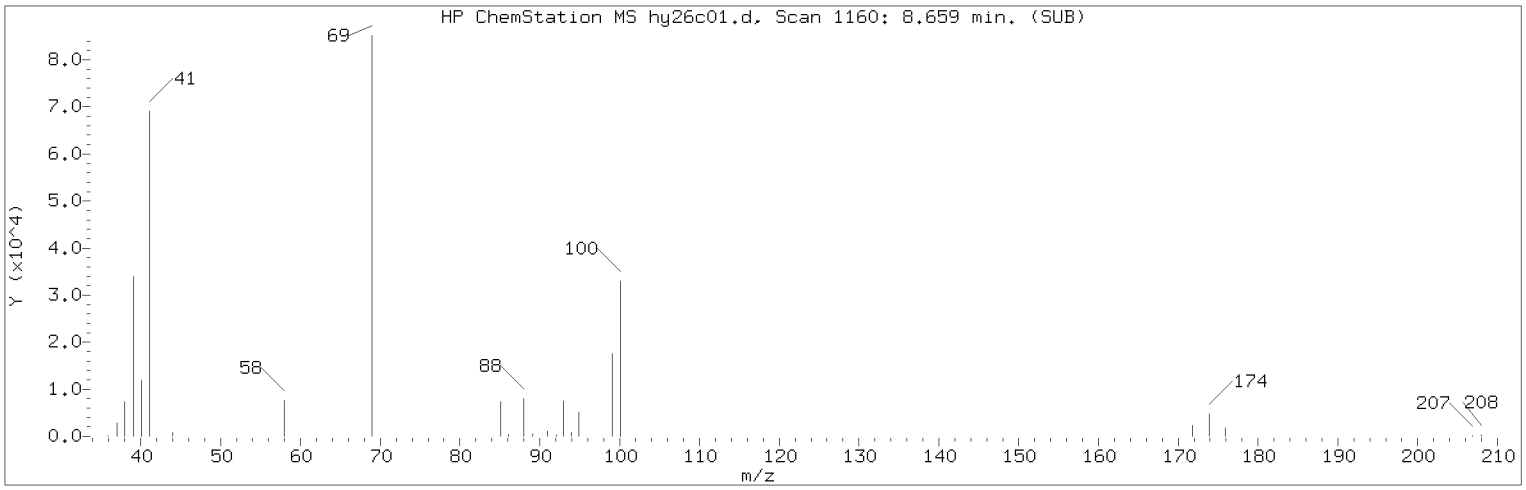
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

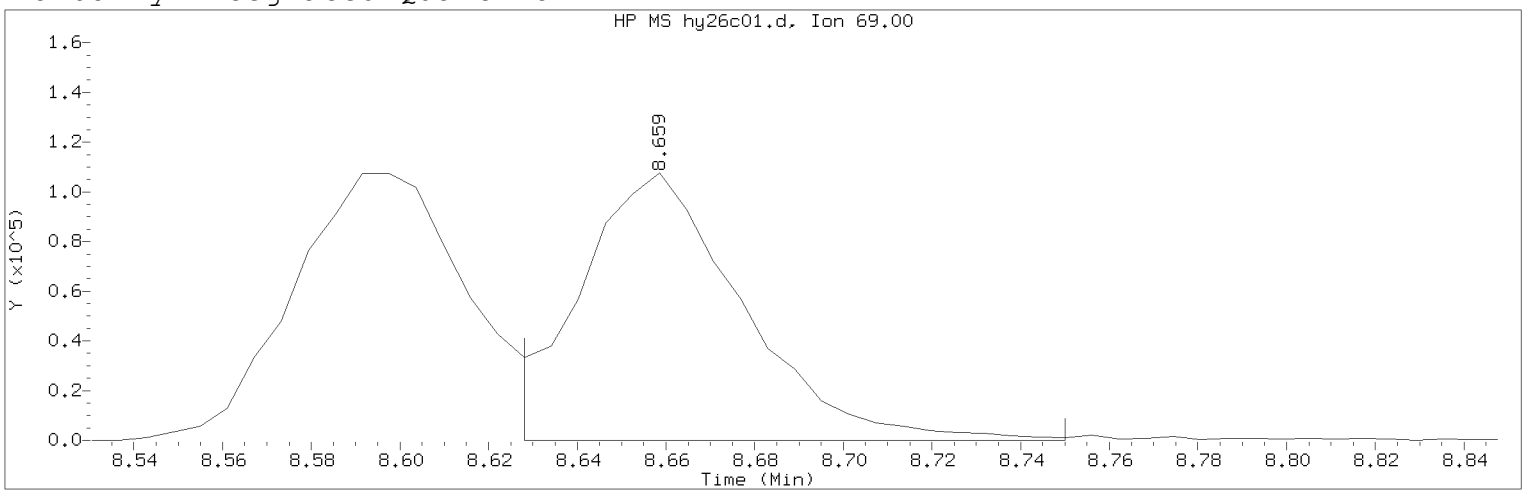
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 959
Retention Time (minutes): 7.433
Quant Ion : 62.00
Area : 730816
On-column Amount (ng) : 11.3817
Integration start scan : 938 Integration stop scan: 989
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

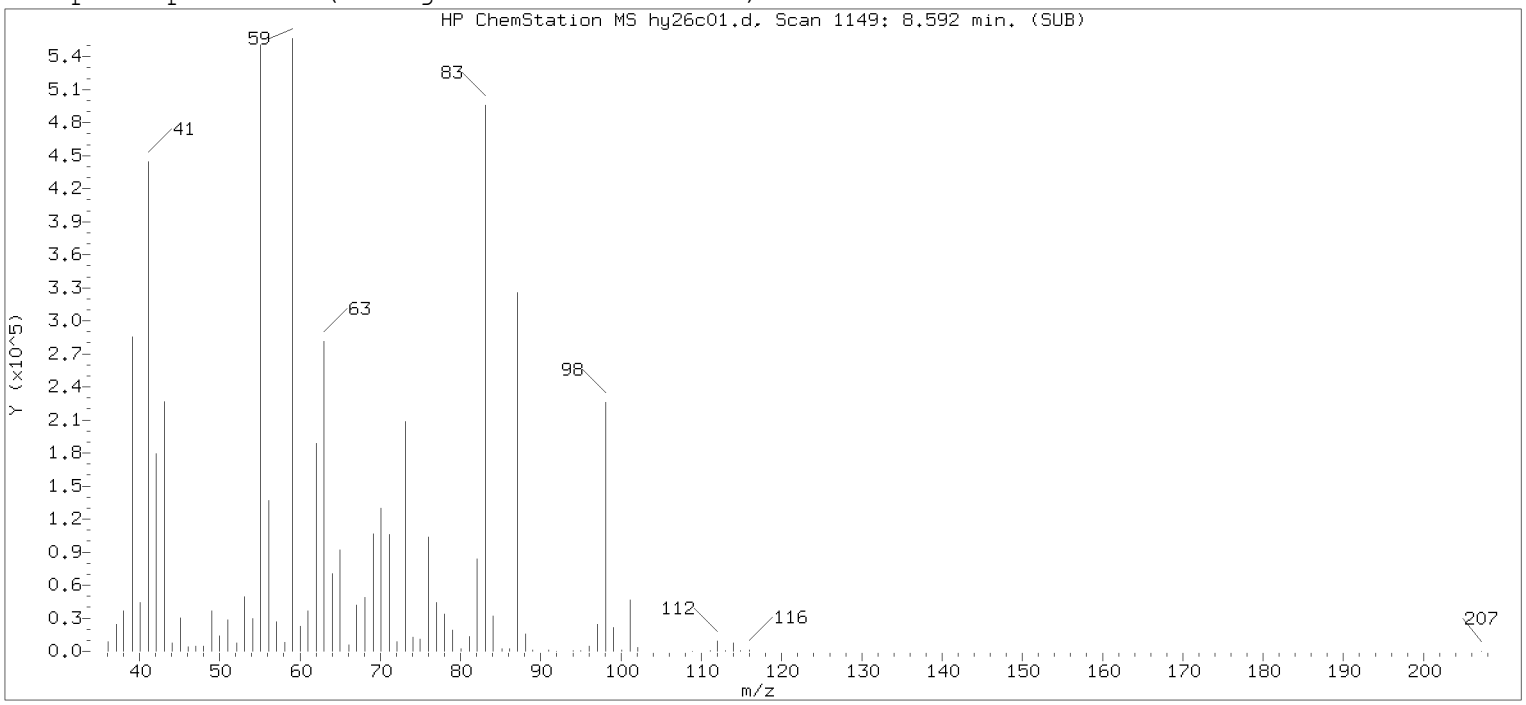
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 278626M
On-Column Amount (ng) : 8.9846
Integration start scan : 1154 Integration stop scan: 1174
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

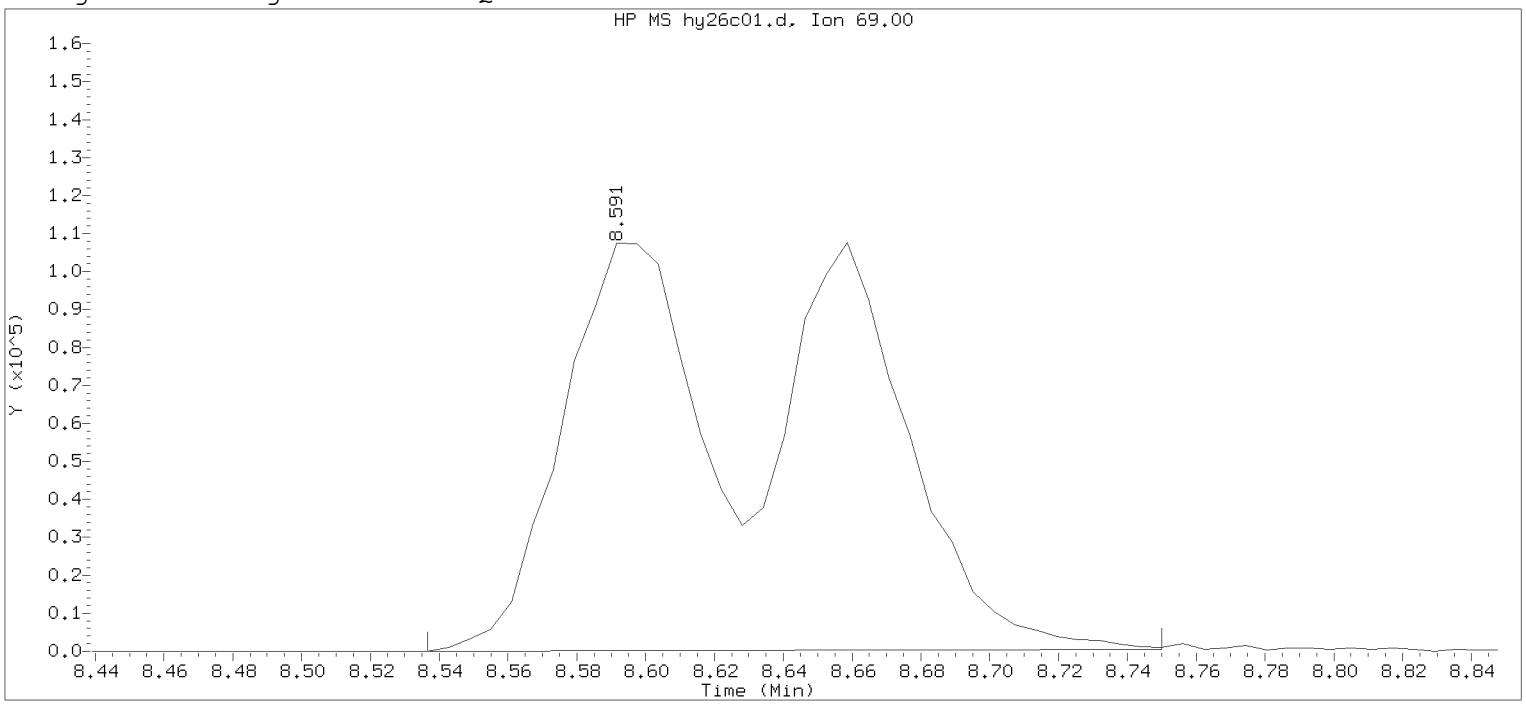
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

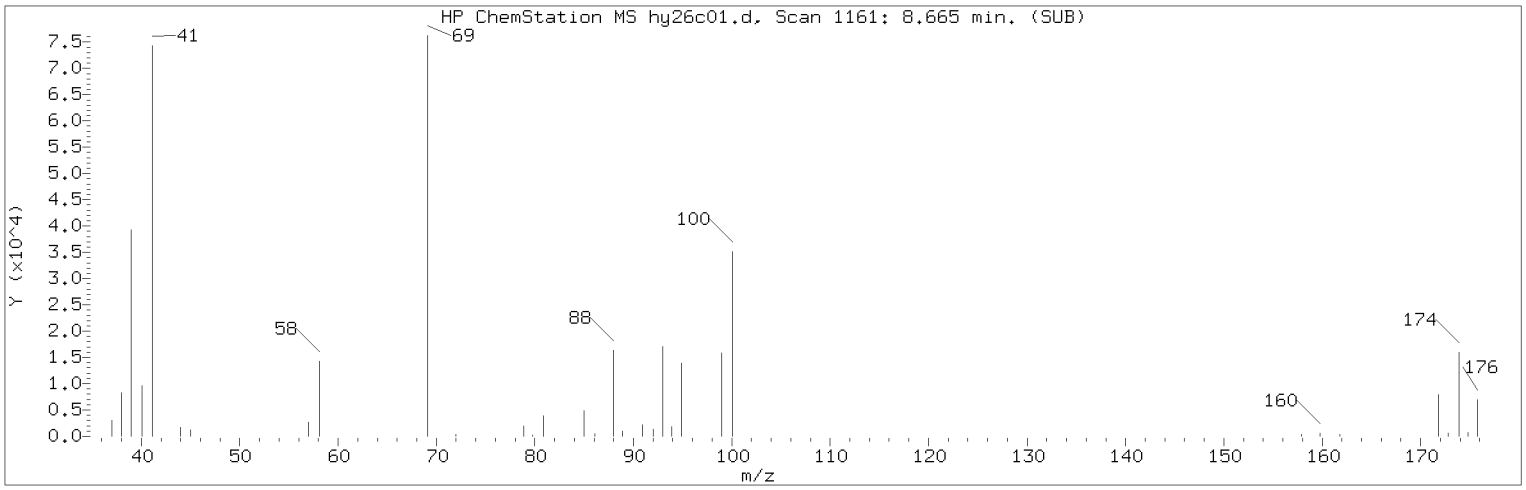
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

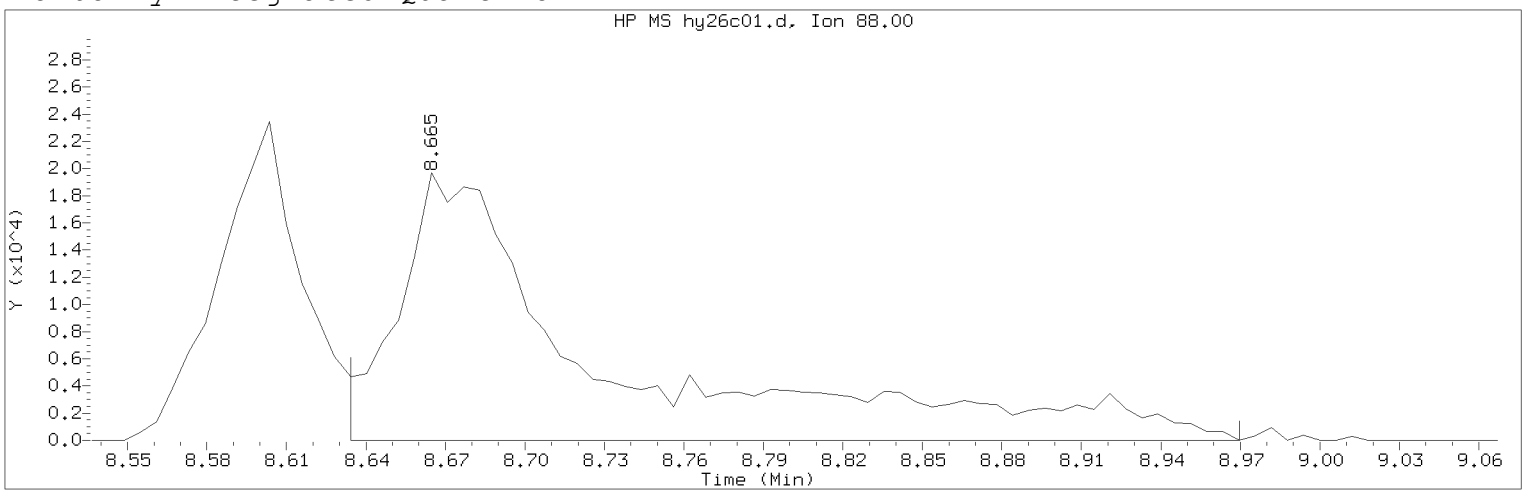
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1149
Retention Time (minutes): 8.591
Quant Ion : 69.00
Area : 555745
On-column Amount (ng) : 17.9205
Integration start scan : 1139 Integration stop scan: 1174
Y at integration start : 0 Y at integration end: 498

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

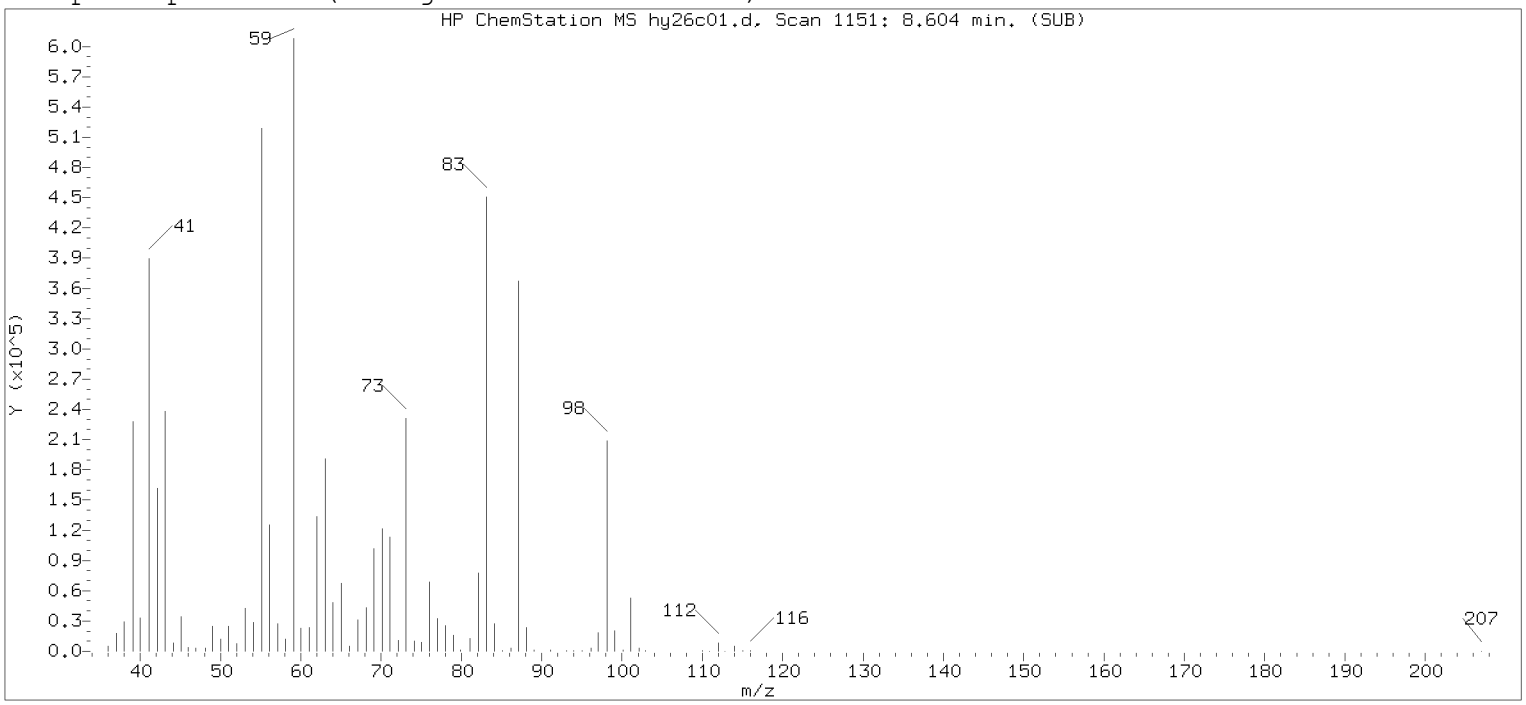
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1161
Retention Time (minutes): 8.665
Quant Ion : 88.00
Area (flag) : 104666M
On-Column Amount (ng) : 598.6962
Integration start scan : 1155 Integration stop scan: 1210
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

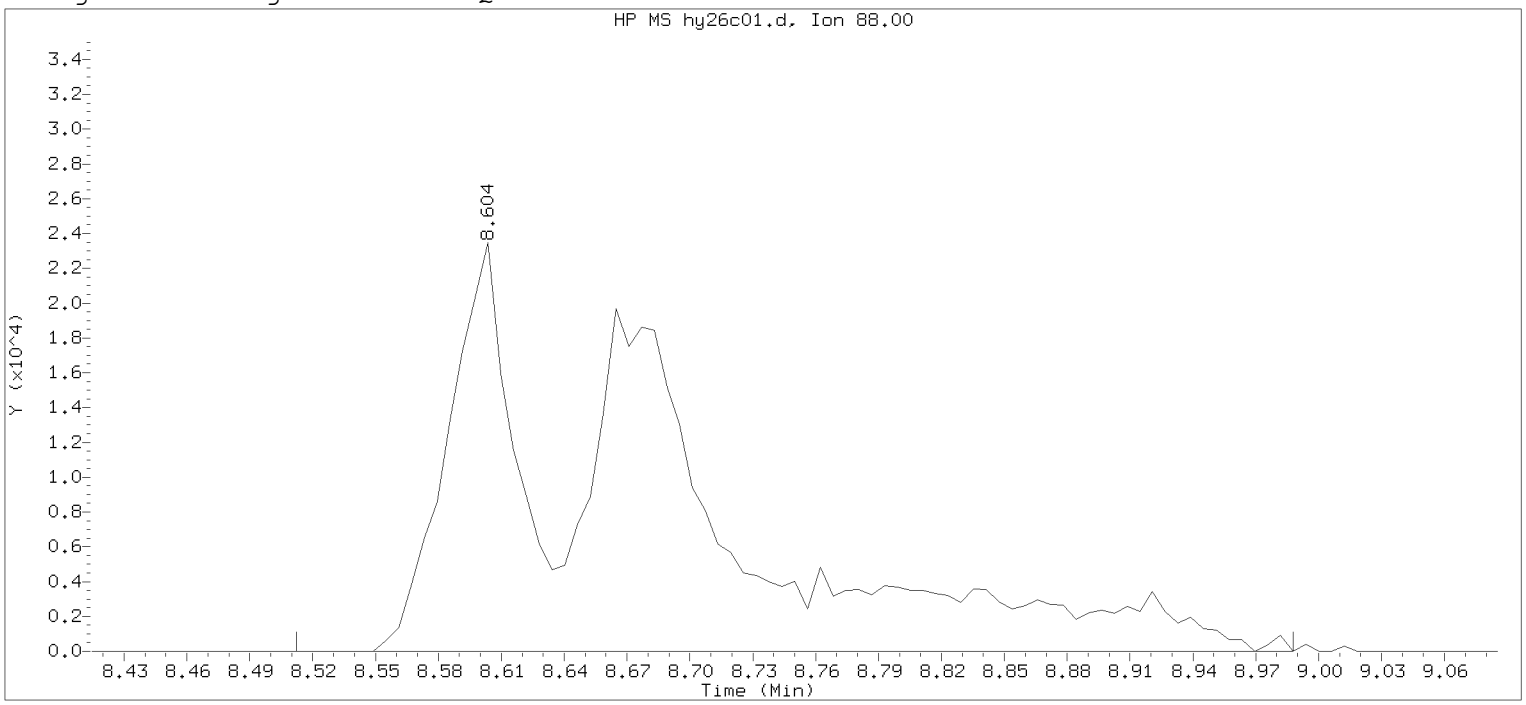
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

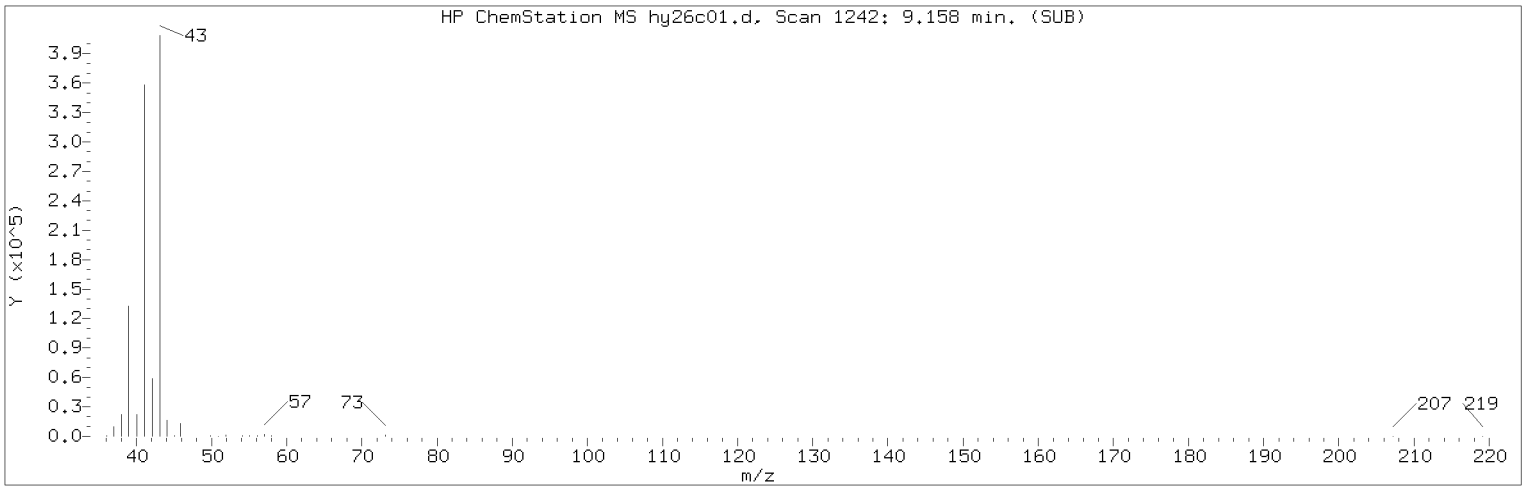
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

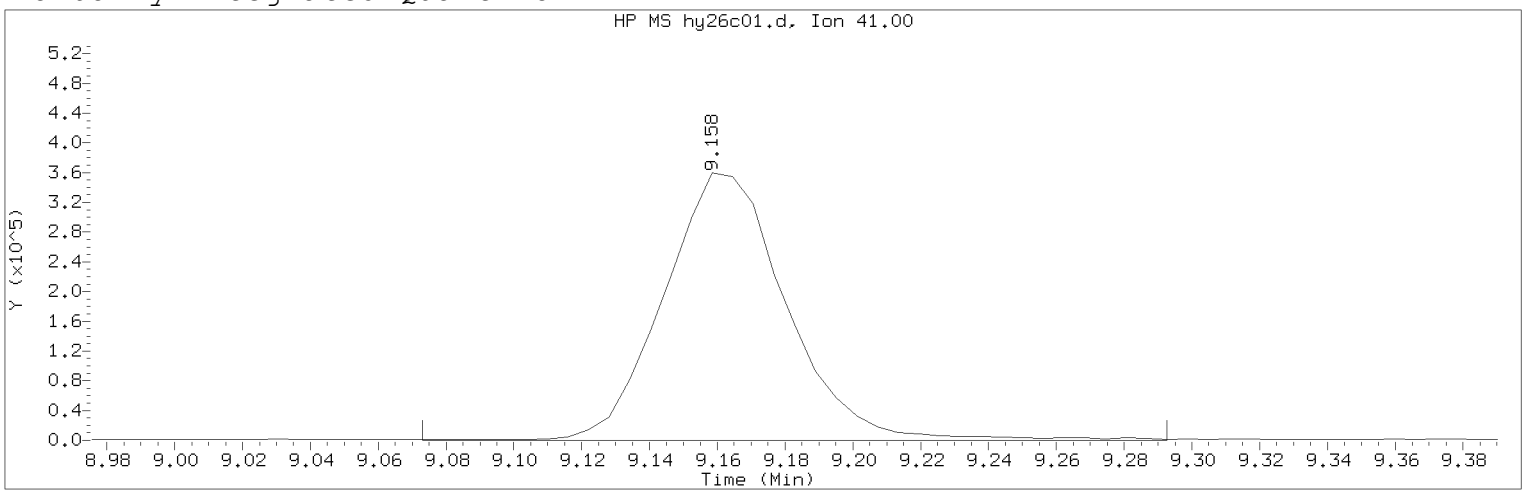
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 155474
On-column Amount (ng) : 891.3359
Integration start scan : 1135 Integration stop scan: 1213
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

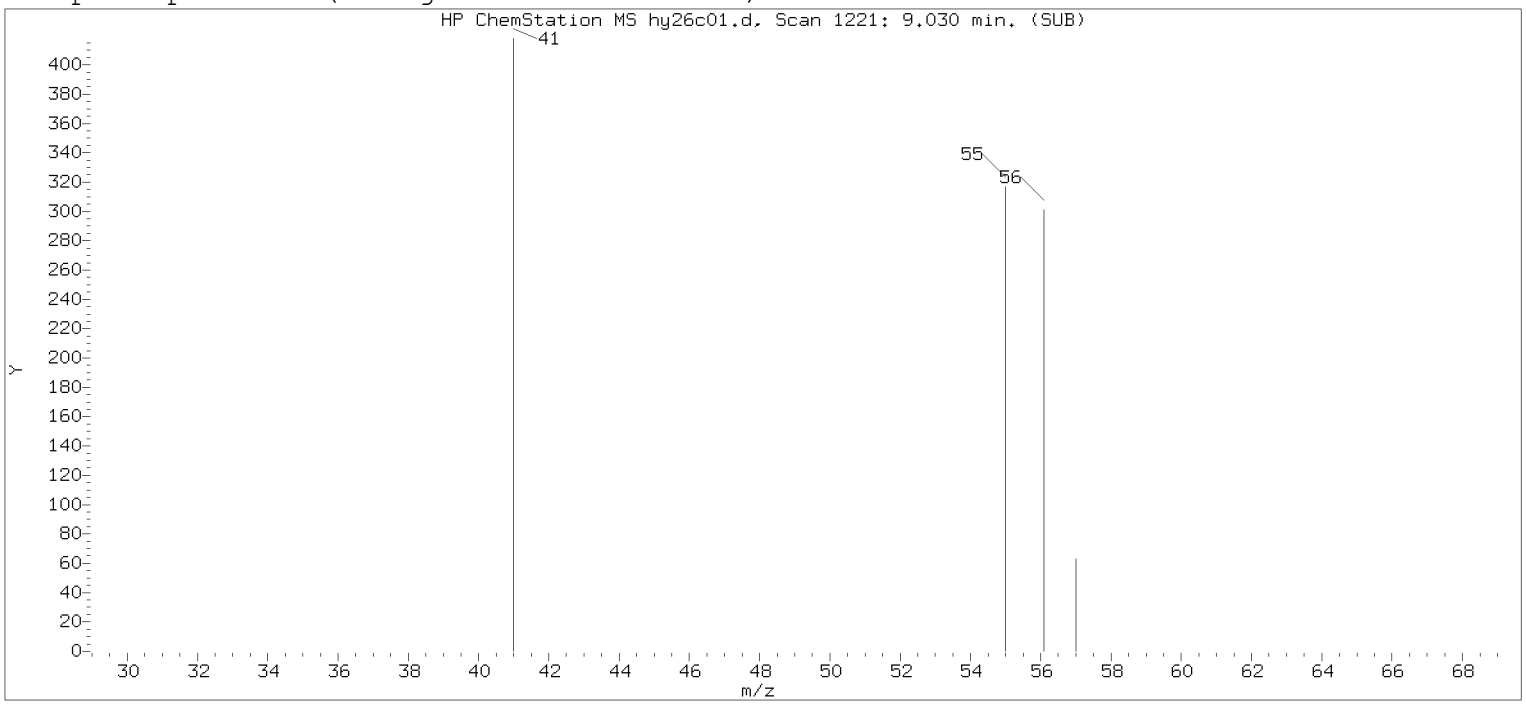
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1242
Retention Time (minutes): 9.158
Quant Ion : 41.00
Area (flag) : 899306A
On-Column Amount (ng) : 87.9248
Integration start scan : 1227 Integration stop scan: 1263
Y at integration start : 357 Y at integration end: 357

Reason for manual integration: improper integration

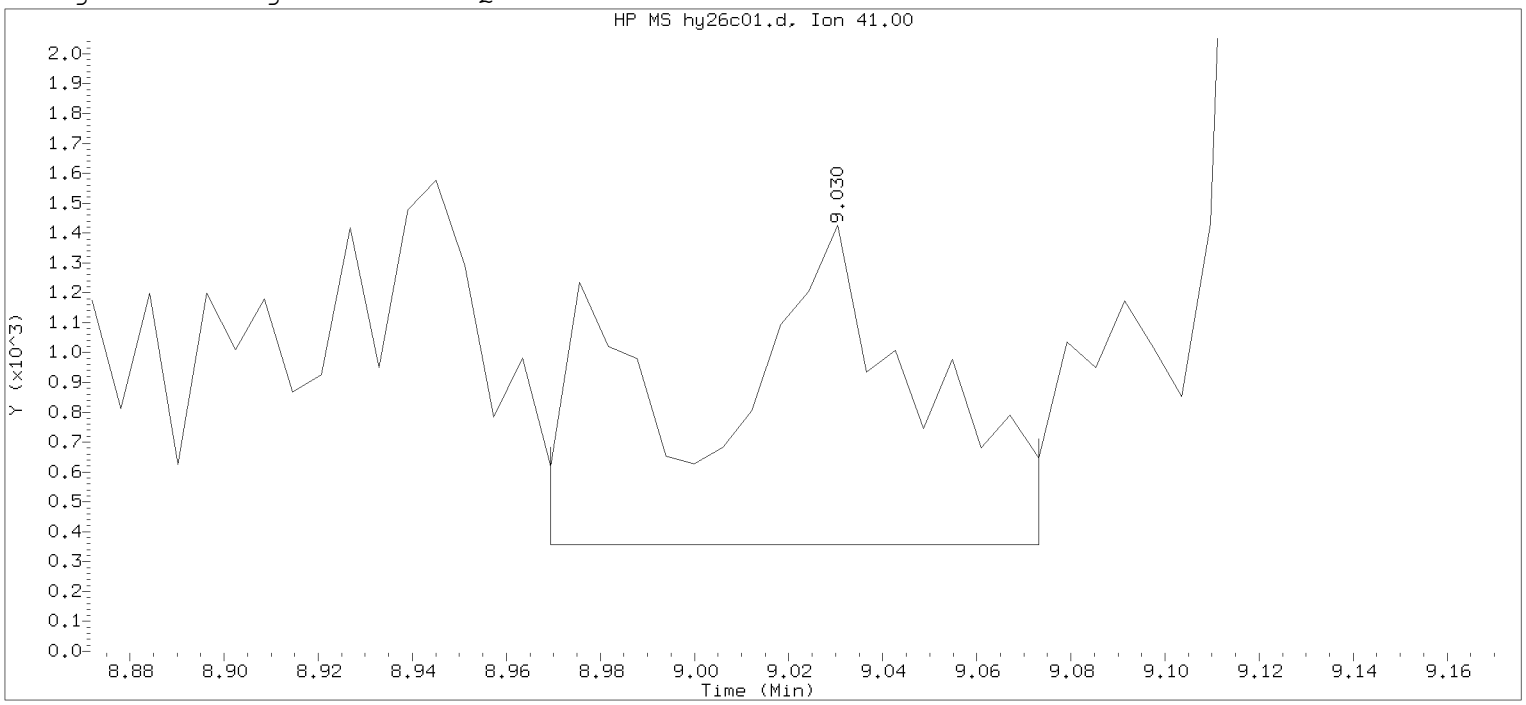
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

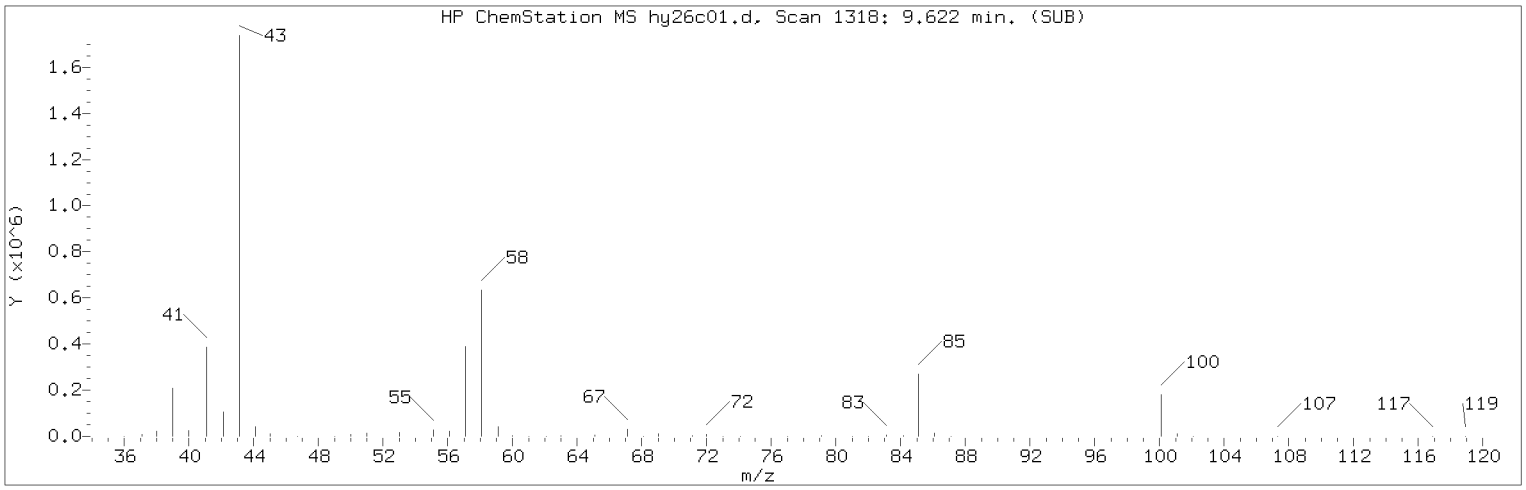
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

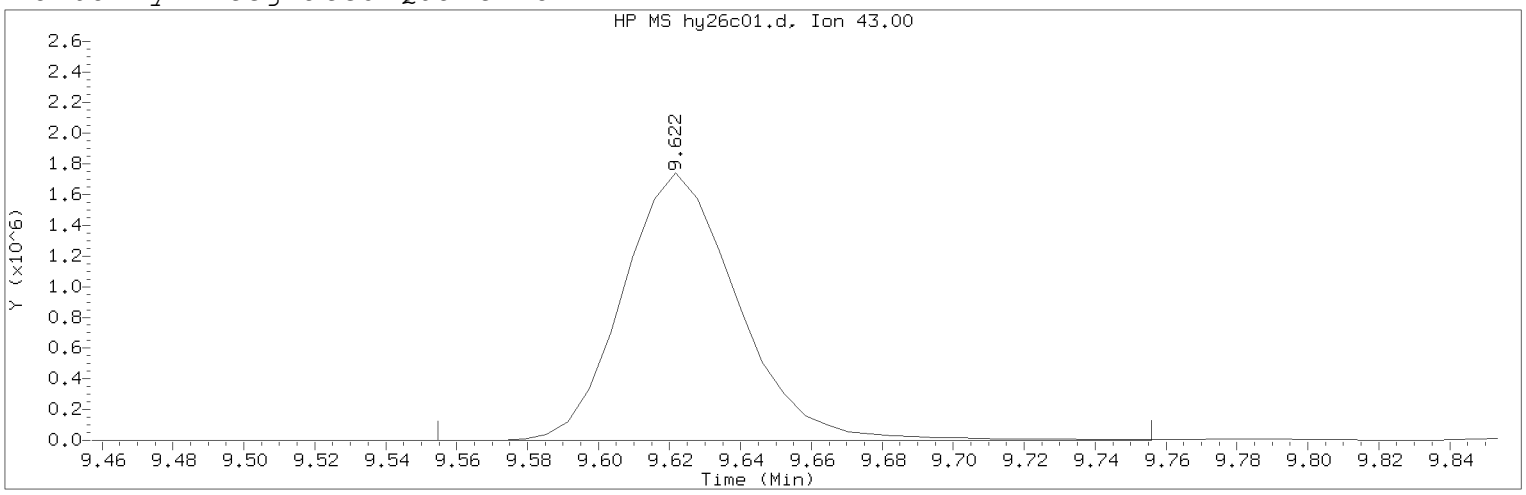
Compound Number : 76
Compound Name : 2-Nitropropane
Scan Number : 1221
Retention Time (minutes): 9.030
Quant Ion : 41.00
Area : 3447
On-column Amount (ng) : 0.3370
Integration start scan : 1210 Integration stop scan: 1227
Y at integration start : 357 Y at integration end: 357

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used. Reason: I approve this document.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

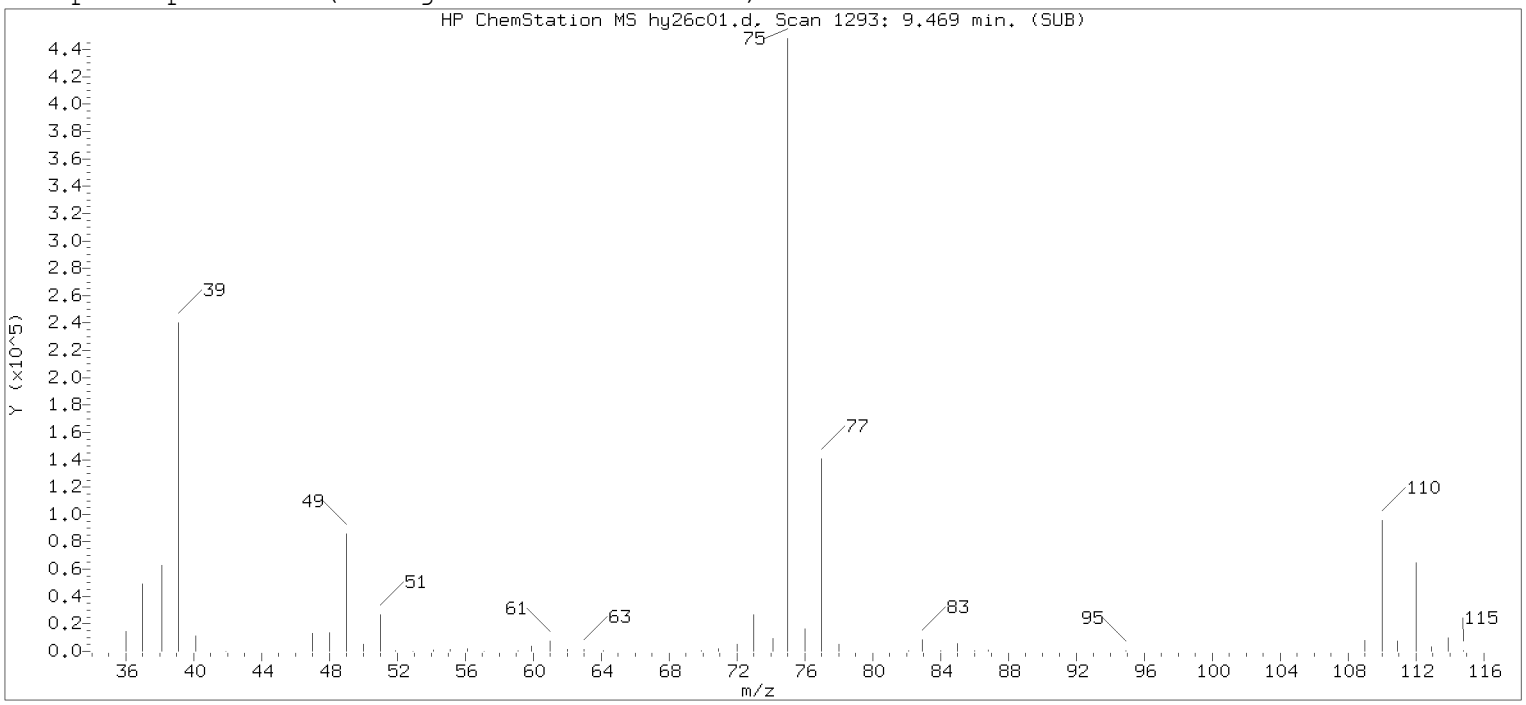
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1318
Retention Time (minutes): 9.622
Quant Ion : 43.00
Area (flag) : 3913213MA
On-Column Amount (ng) : 86.5396
Integration start scan : 1306 Integration stop scan: 1339
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

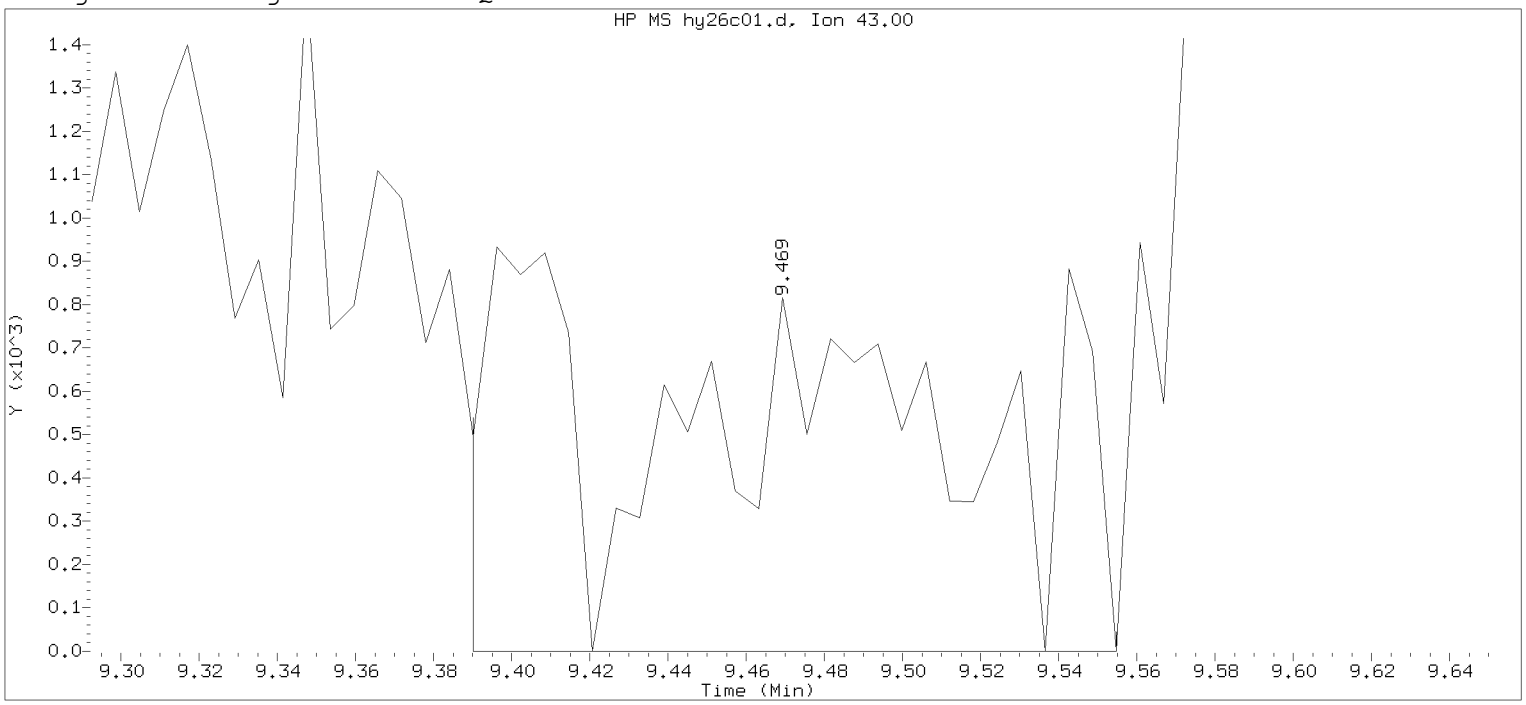
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

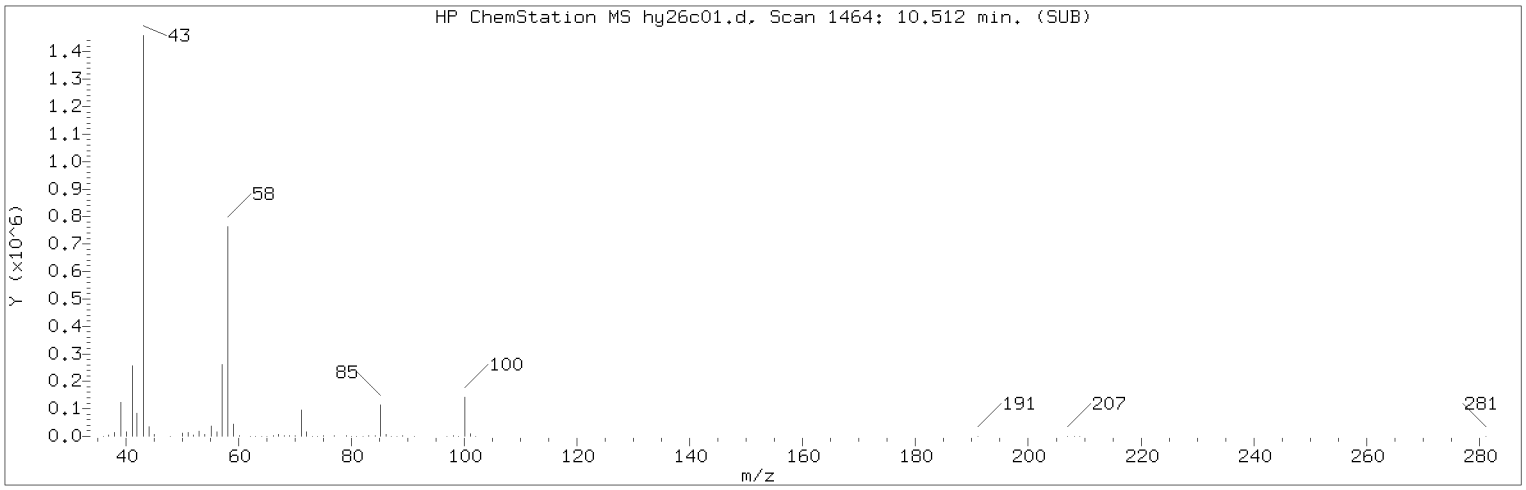
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

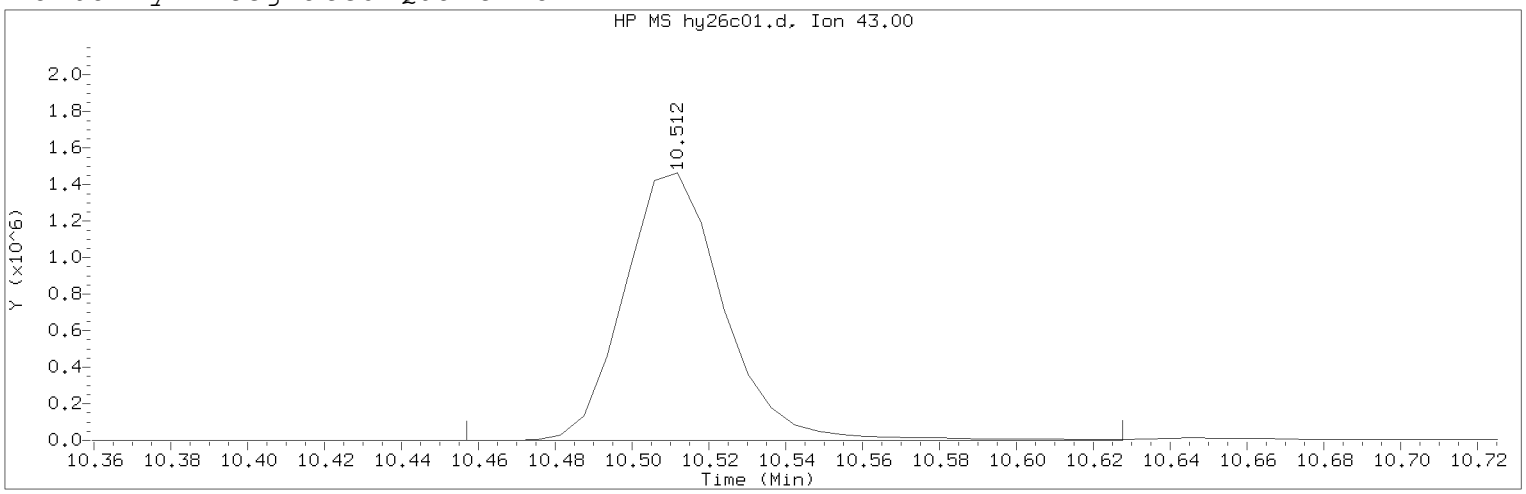
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1293
Retention Time (minutes): 9.469
Quant Ion : 43.00
Area : 5420
On-column Amount (ng) : 0.1199
Integration start scan : 1279 Integration stop scan: 1306
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used. Reason: I approve this document.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

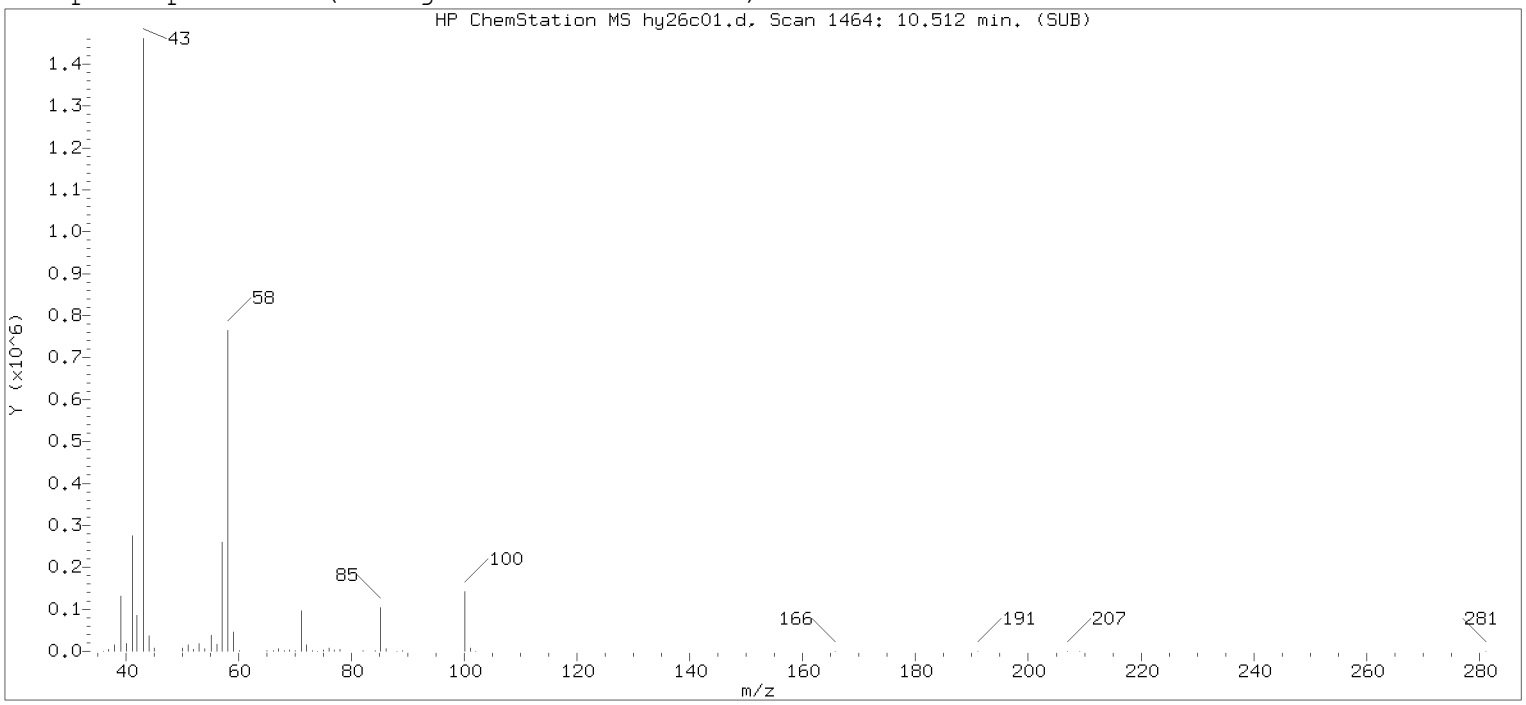
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1464
Retention Time (minutes): 10.512
Quant Ion : 43.00
Area (flag) : 2633052M
On-Column Amount (ng) : 82.6226
Integration start scan : 1454 Integration stop scan: 1482
Y at integration start : 296 Y at integration end: 296

Reason for manual integration: improper integration

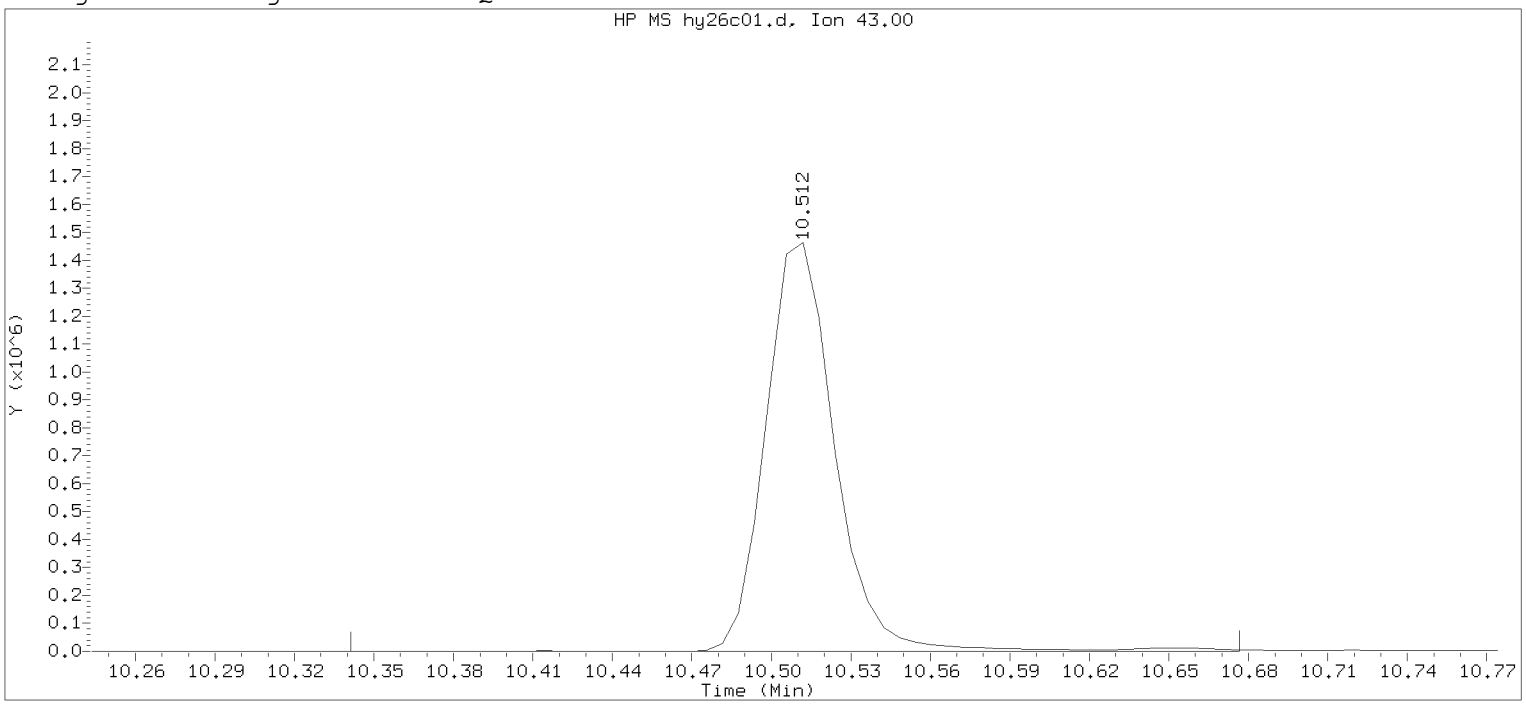
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

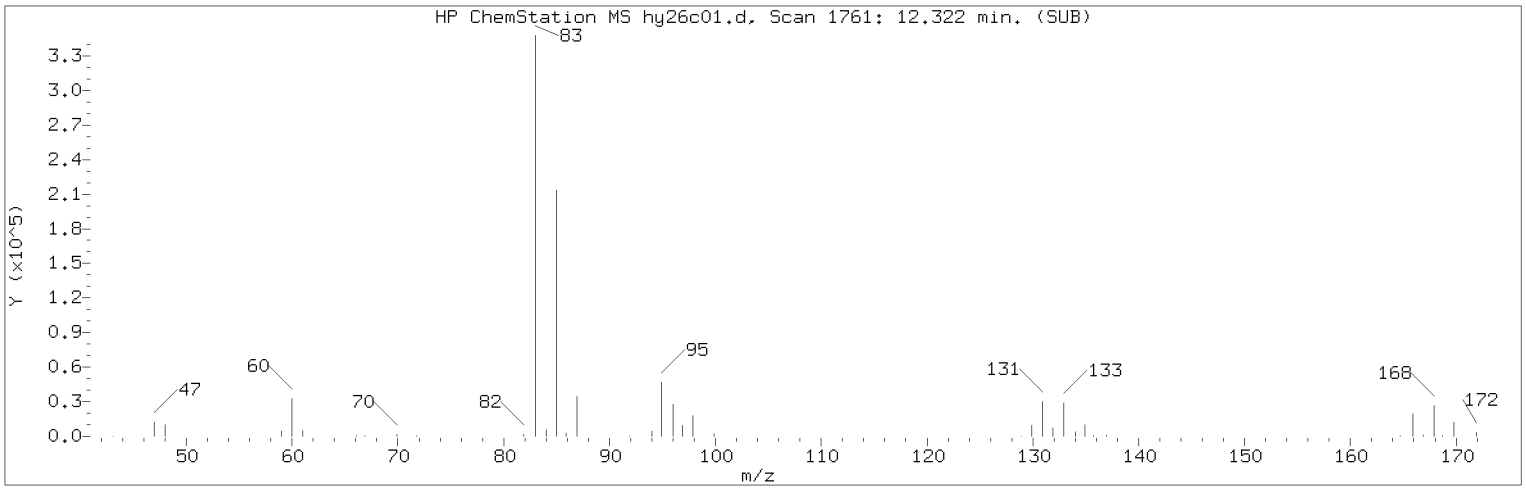
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

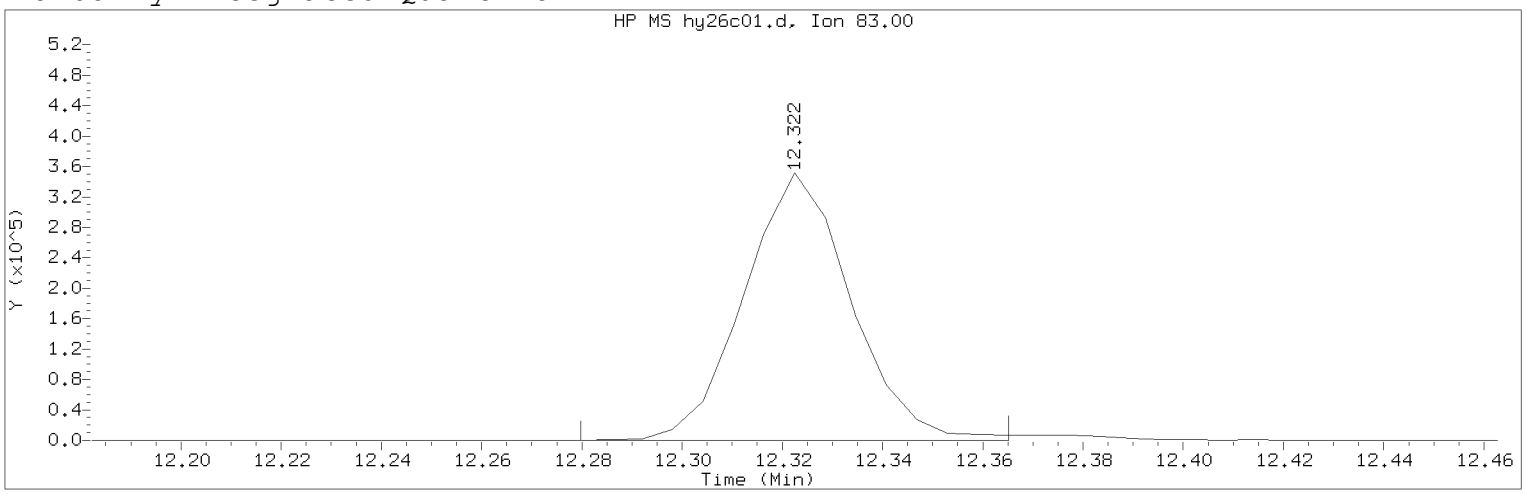
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1464
Retention Time (minutes): 10.512
Quant Ion : 43.00
Area : 2660285
On-column Amount (ng) : 83.4764
Integration start scan : 1435 Integration stop scan: 1490
Y at integration start : 266 Y at integration end: 266

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

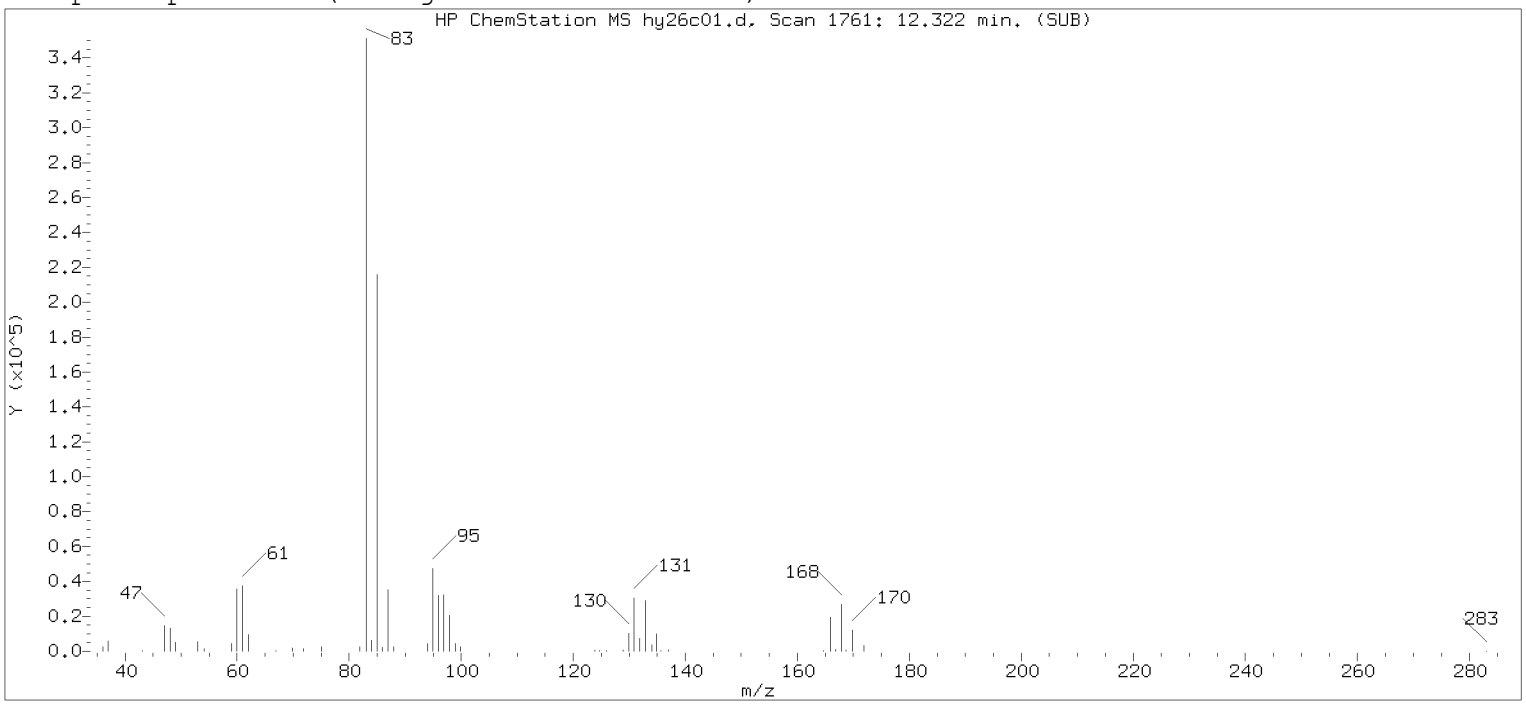
Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1761
Retention Time (minutes): 12.322
Quant Ion : 83.00
Area (flag) : 520073M
On-Column Amount (ng) : 10.3412
Integration start scan : 1753 Integration stop scan: 1767
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

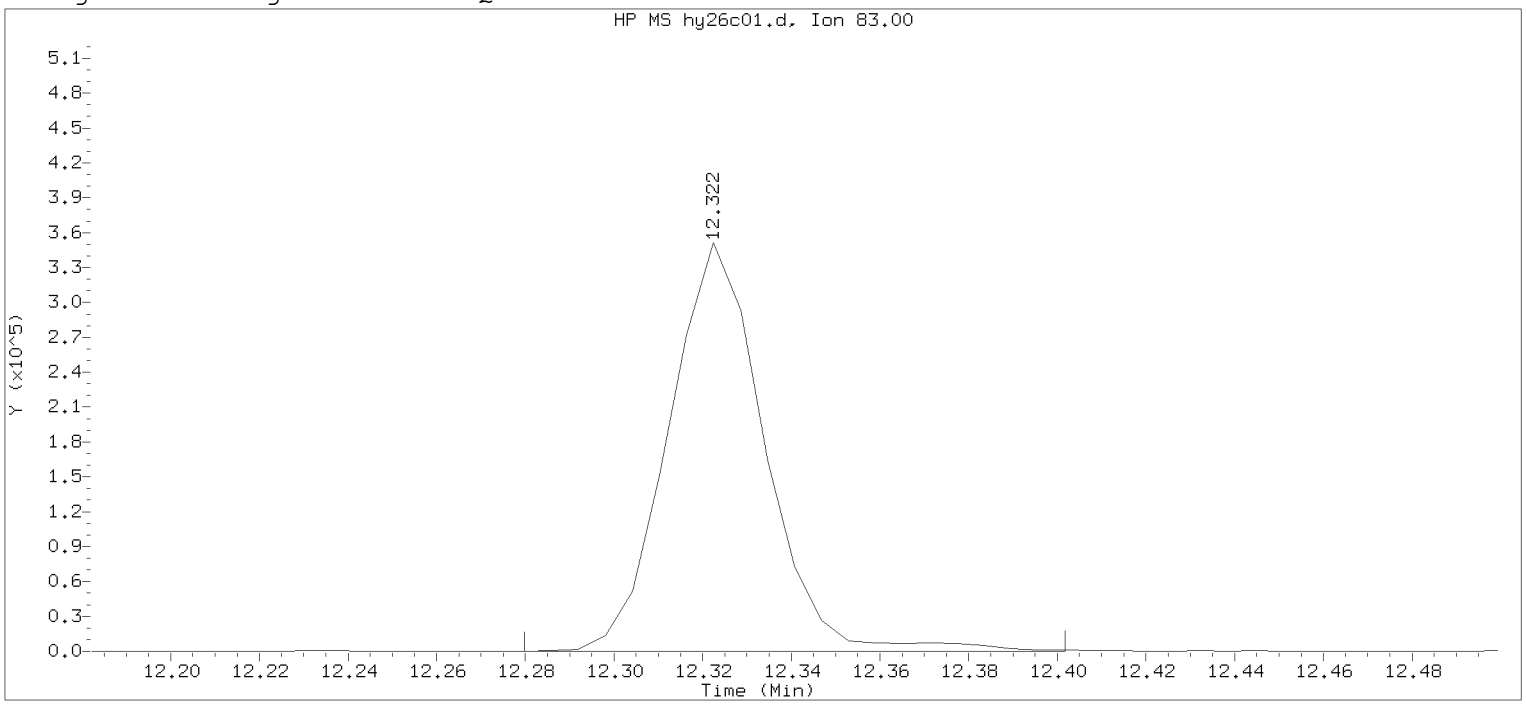
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

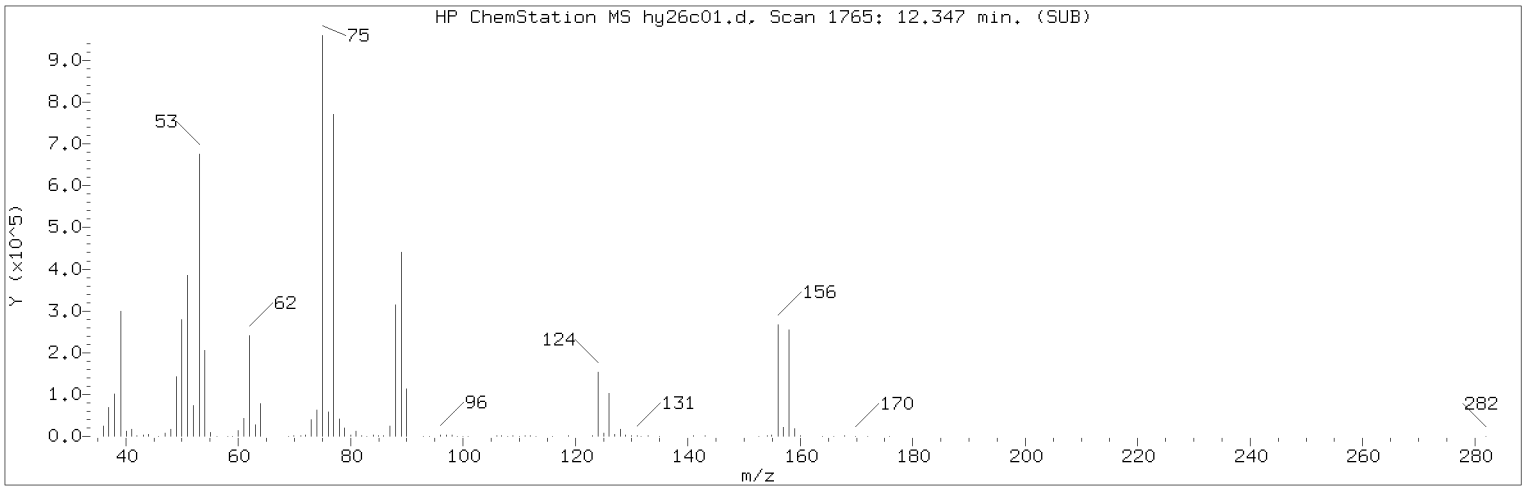
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

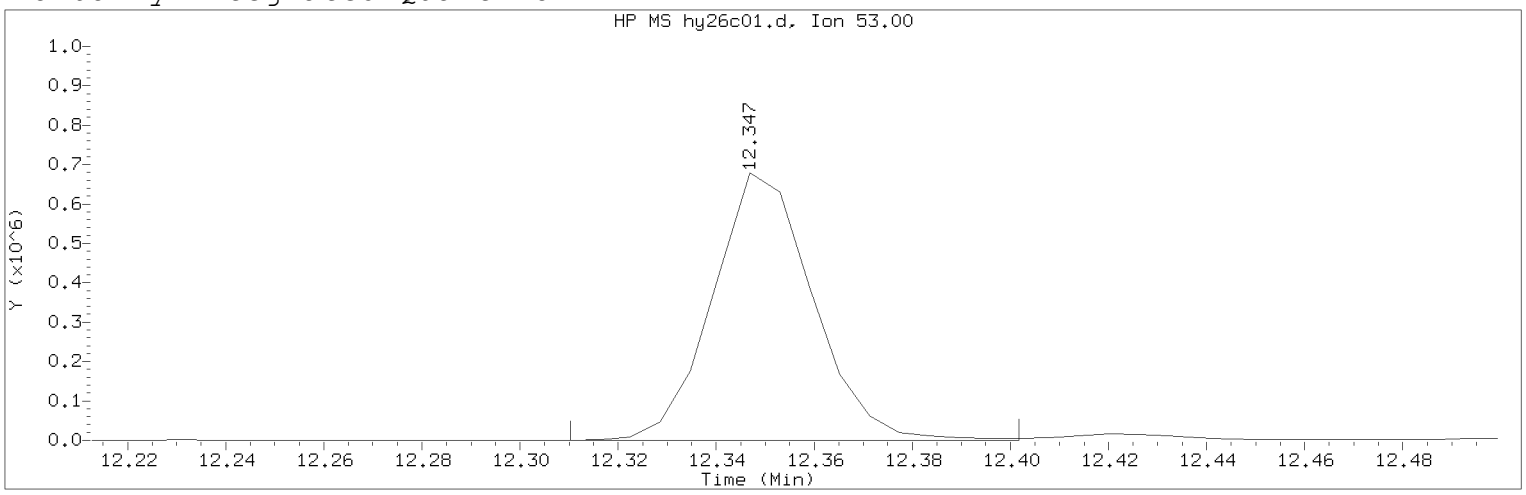
Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1761
Retention Time (minutes): 12.322
Quant Ion : 83.00
Area : 528254
On-column Amount (ng) : 10.5039
Integration start scan : 1753 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

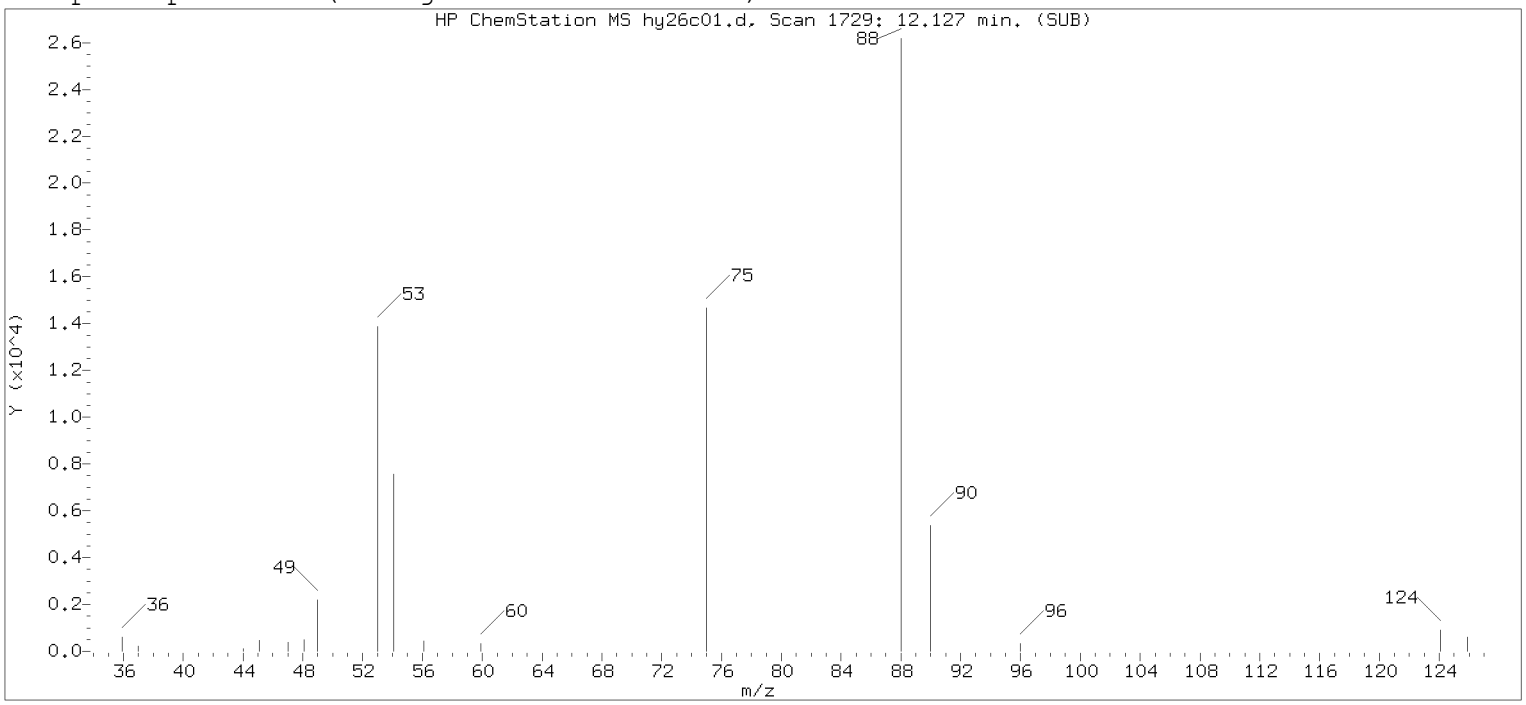
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1765
Retention Time (minutes): 12.347
Quant Ion : 53.00
Area (flag) : 963900A
On-Column Amount (ng) : 80.2865
Integration start scan : 1758 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

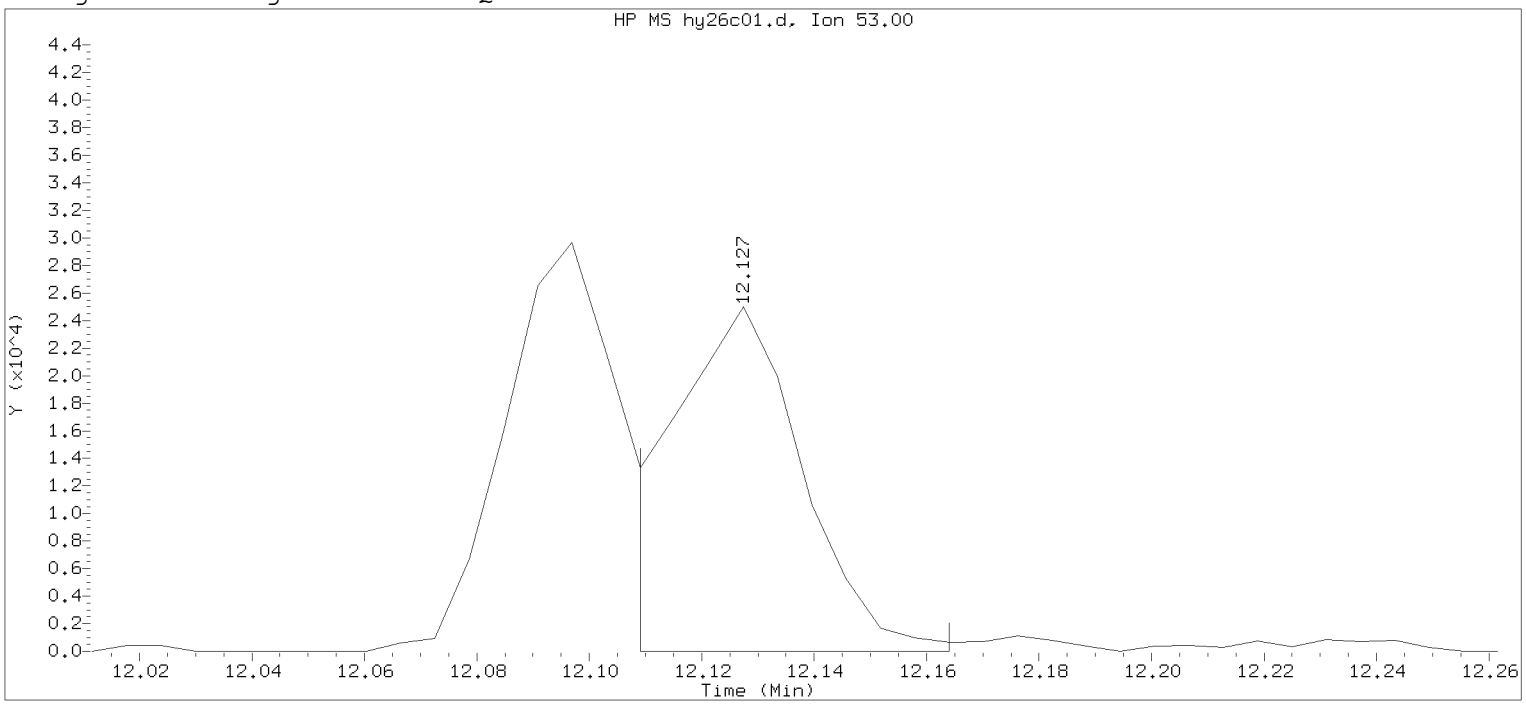
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

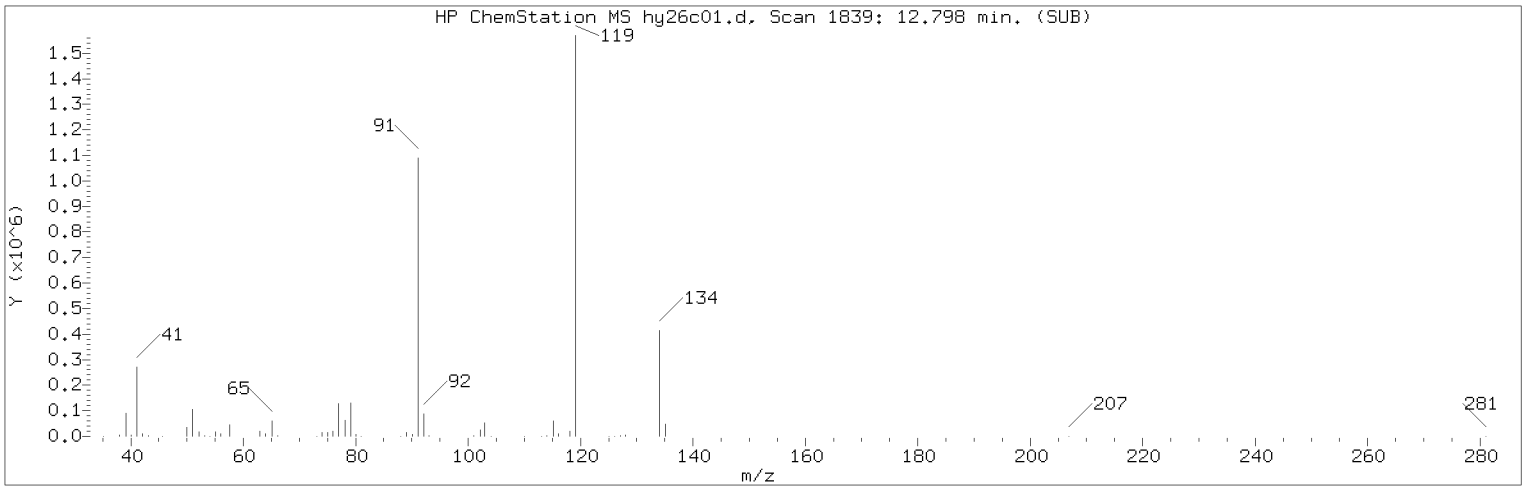
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

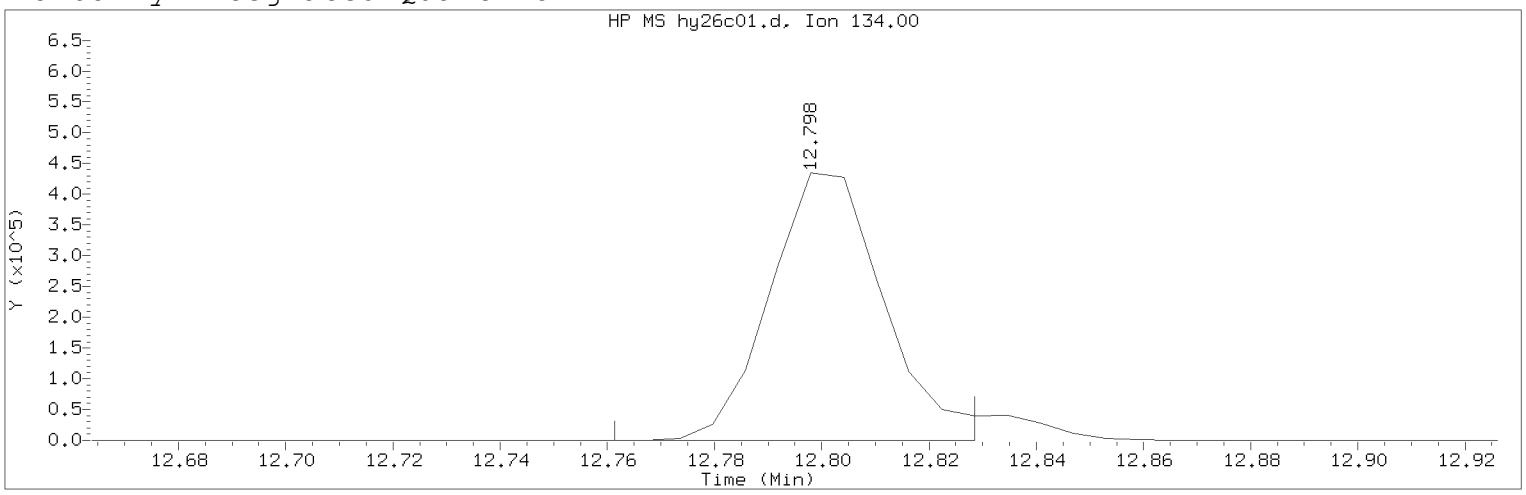
Compound Number : 115
Compound Name : trans-1,4-Dichloro-2-butene
Scan Number : 1729
Retention Time (minutes): 12.127
Quant Ion : 53.00
Area : 39698
On-column Amount (ng) : 5.6259
Integration start scan : 1725 Integration stop scan: 1734
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

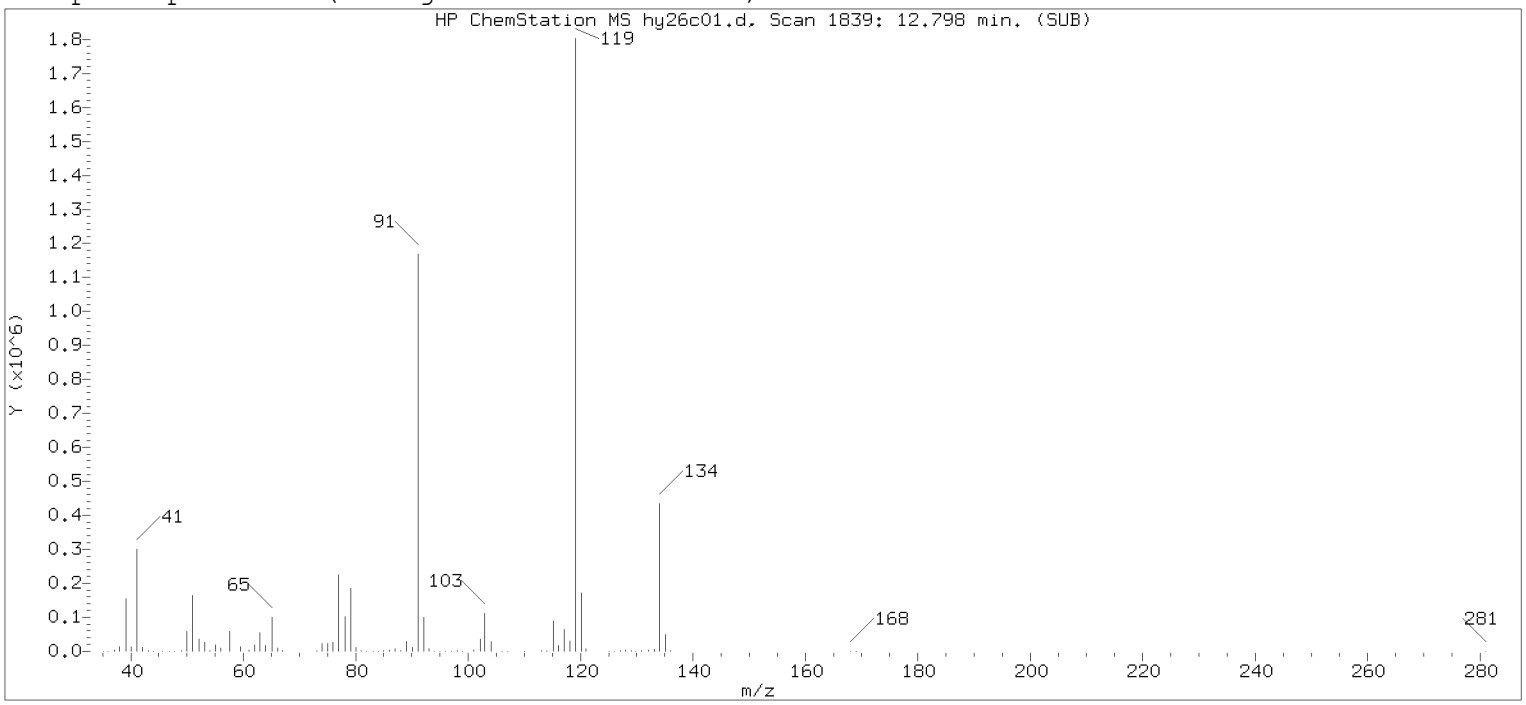
Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1839
Retention Time (minutes): 12.798
Quant Ion : 134.00
Area (flag) : 641042M
On-Column Amount (ng) : 10.6985
Integration start scan : 1832 Integration stop scan: 1843
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

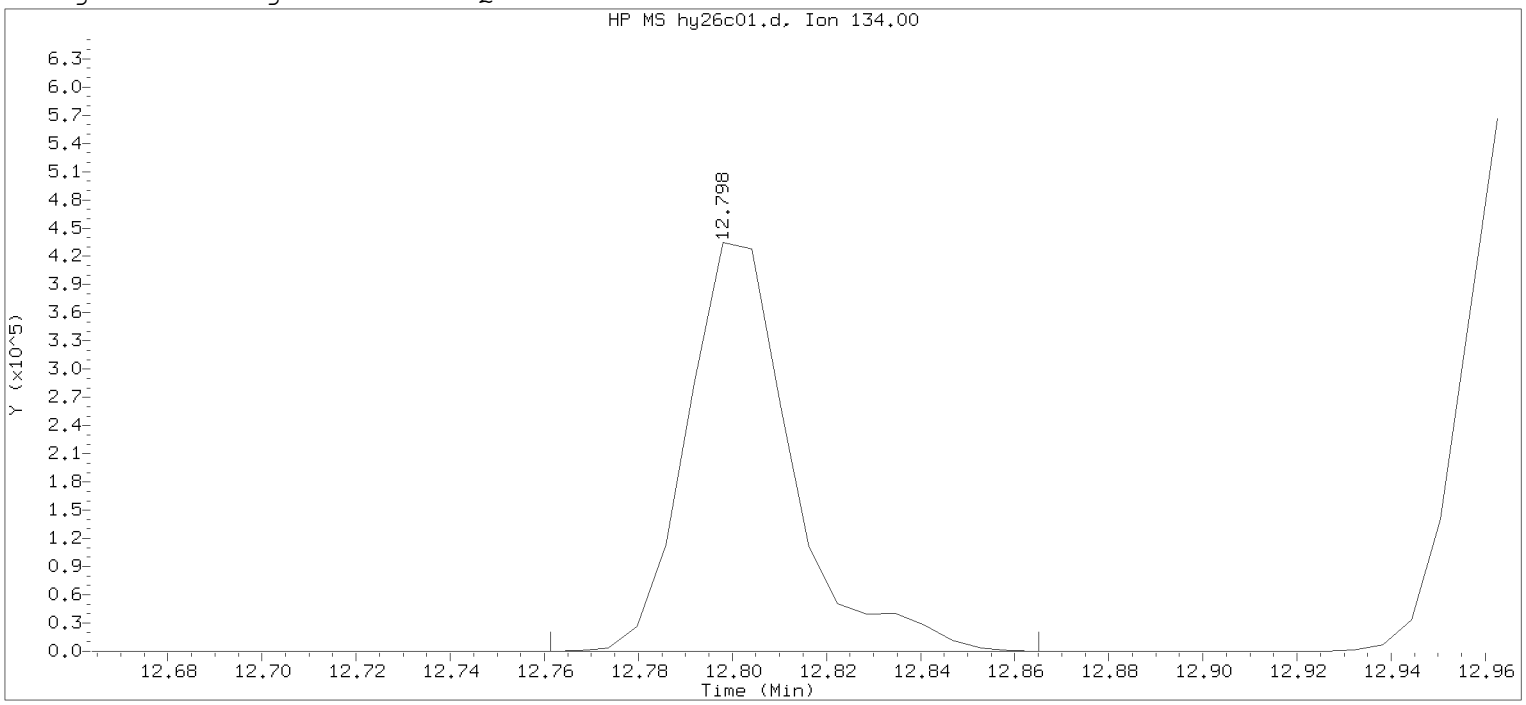
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:47.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 08:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 8260W25
Calibration date and time: 26-MAY-2017 09:13
Date, time and analyst ID of latest file update: 26-May-2017 09:13 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 125
Compound Name : tert-Butylbenzene
Scan Number : 1839
Retention Time (minutes): 12.798
Quant Ion : 134.00
Area : 671809
On-column Amount (ng) : 11.2120
Integration start scan : 1832 Integration stop scan: 1849
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:39.
Target 3.5 esignature used [illegible]

Data File: /chem2/HP19094.i/17may25a.b/hy25t01.d

Date : 25-MAY-2017 10:20

Client ID: bfb 50ng

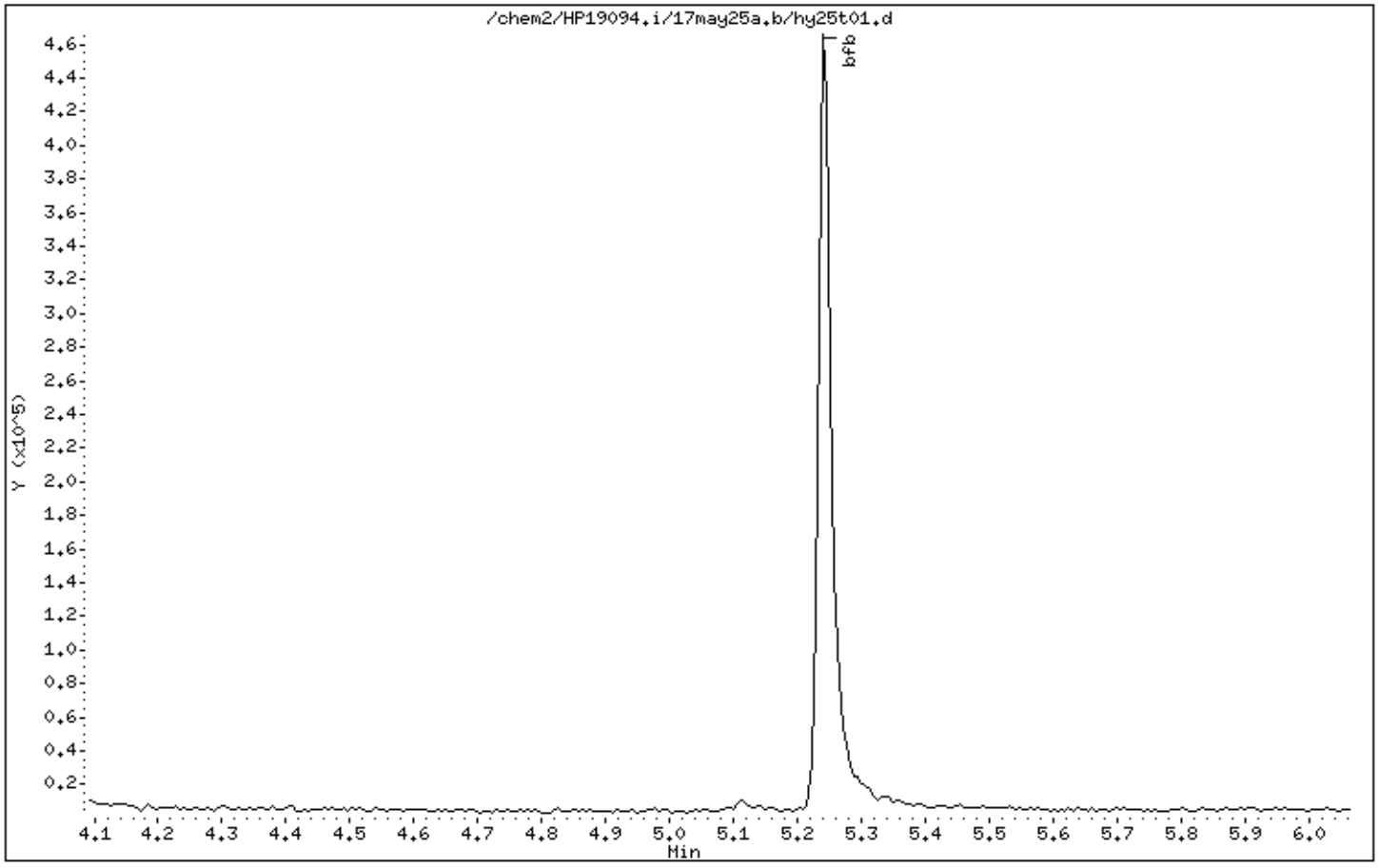
Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25



Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 10:26.
Target 3.5 esignature user ID: kel01973

Data File: /chem2/HP19094.i/17may25a.b/hy25t01.d

Date : 25-MAY-2017 10:20

Client ID: bfb 50ng

Instrument: HP19094.i

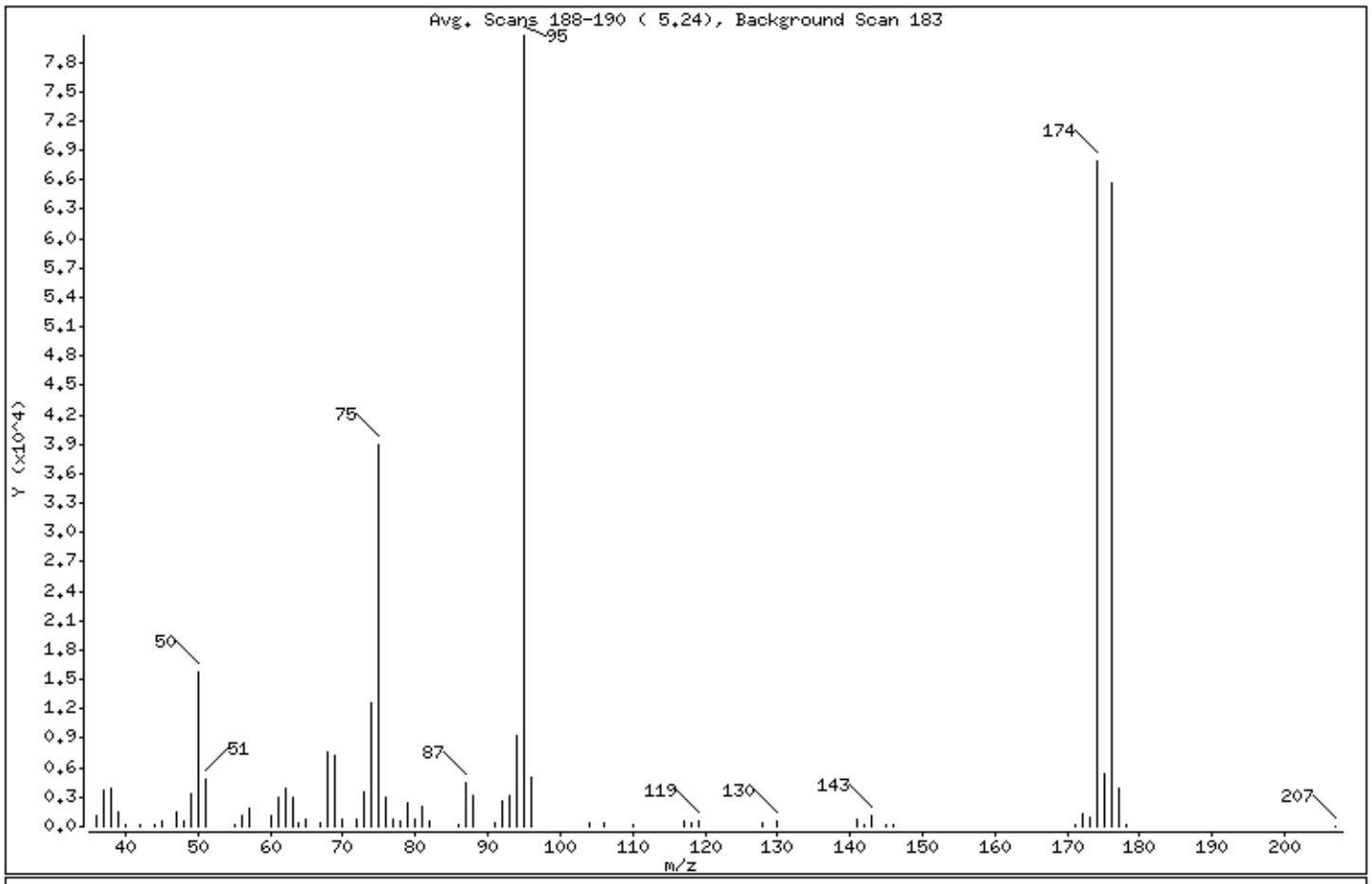
Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

Operator: KEL01973

Column phase: Rxi-624Sil MS

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	19.50
75	30.00 - 60.00% of mass 95	48.32
96	5.00 - 9.00% of mass 95	6.21
173	Less than 2.00% of mass 174	1.05 (1.24)
174	50.00 - 100.00% of mass 95	84.10
175	5.00 - 9.00% of mass 174	6.56 (7.80)
176	95.00 - 101.00% of mass 174	81.42 (96.82)
177	5.00 - 9.00% of mass 176	4.72 (5.80)

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 10:26.
Target 3.5 esignature user ID: kel01973

Date : 25-MAY-2017 10:20

Client ID: bfb 50ng Instrument: HP19094.i

Sample Info: bfb 50ng;bfb 02-20-17;1;3;;;;;

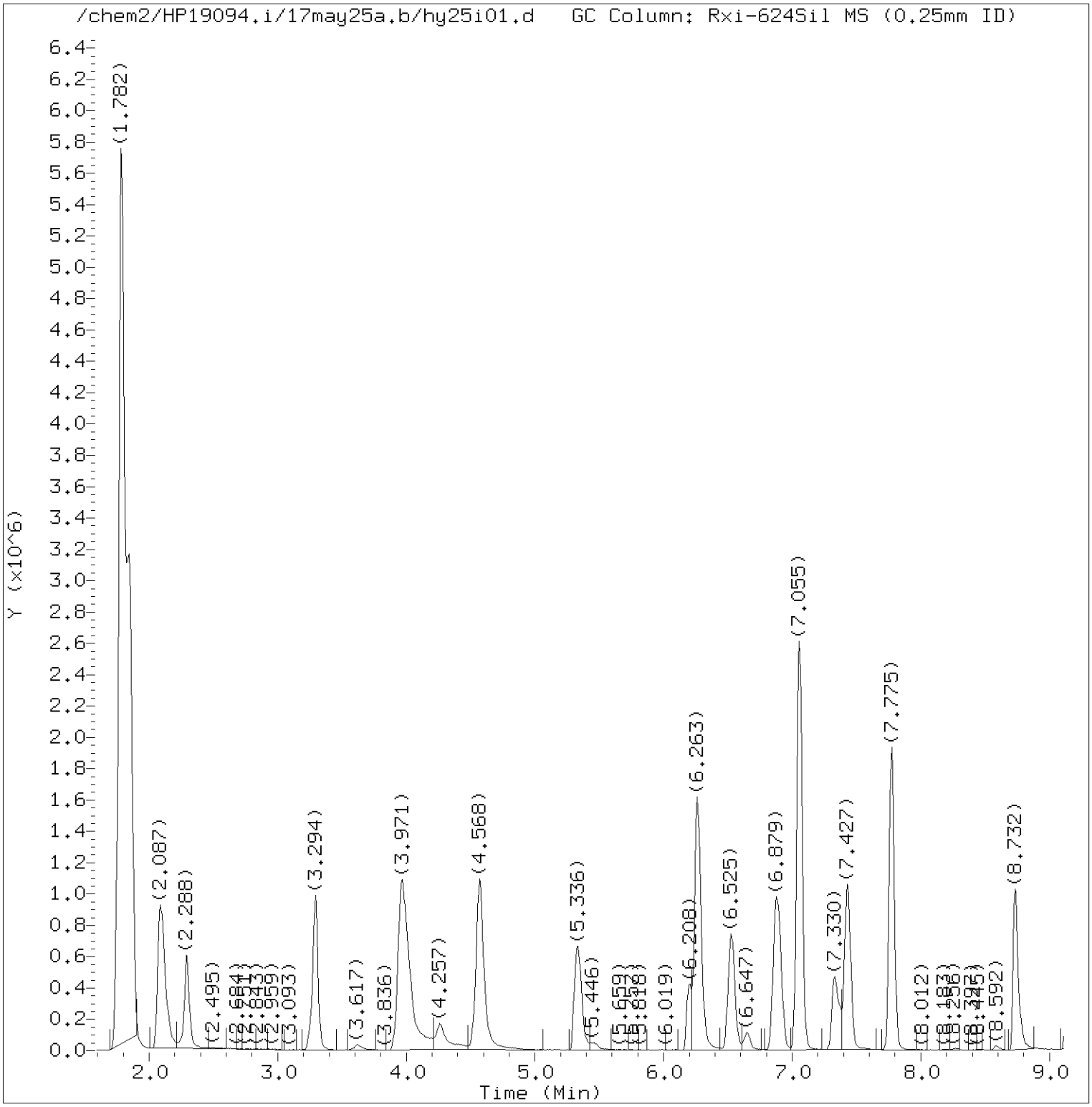
Operator: KEL01973

Column phase: Rxi-624Sil MS Column diameter: 0.25

Data File: hy25t01.d
Spectrum: Avg. Scans 188-190 (5.24), Background Scan 183
Location of Maximum: 95.00
Number of points: 68

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	1140	62.00	3909	82.00	479	141.00	685
37.00	3743	63.00	2911	86.00	192	142.00	103
38.00	3873	64.00	420	87.00	4514	143.00	1076
39.00	1408	65.00	678	88.00	3103	145.00	214
40.00	97	67.00	429	91.00	354	146.00	198
42.00	196	68.00	7557	92.00	2524	171.00	228
44.00	214	69.00	7203	93.00	3206	172.00	1211
45.00	482	70.00	751	94.00	9311	173.00	845
47.00	1422	72.00	714	95.00	80704	174.00	67872
48.00	581	73.00	3514	96.00	5011	175.00	5297
49.00	3428	74.00	12577	104.00	374	176.00	65712
50.00	15735	75.00	38992	106.00	453	177.00	3809
51.00	4895	76.00	2900	110.00	128	178.00	154
55.00	98	77.00	719	117.00	520	207.00	42
56.00	1078	78.00	645	118.00	396		
57.00	1771	79.00	2353	119.00	639		
60.00	1108	80.00	712	128.00	303		
61.00	3052	81.00	2102	130.00	539		

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 10:26.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

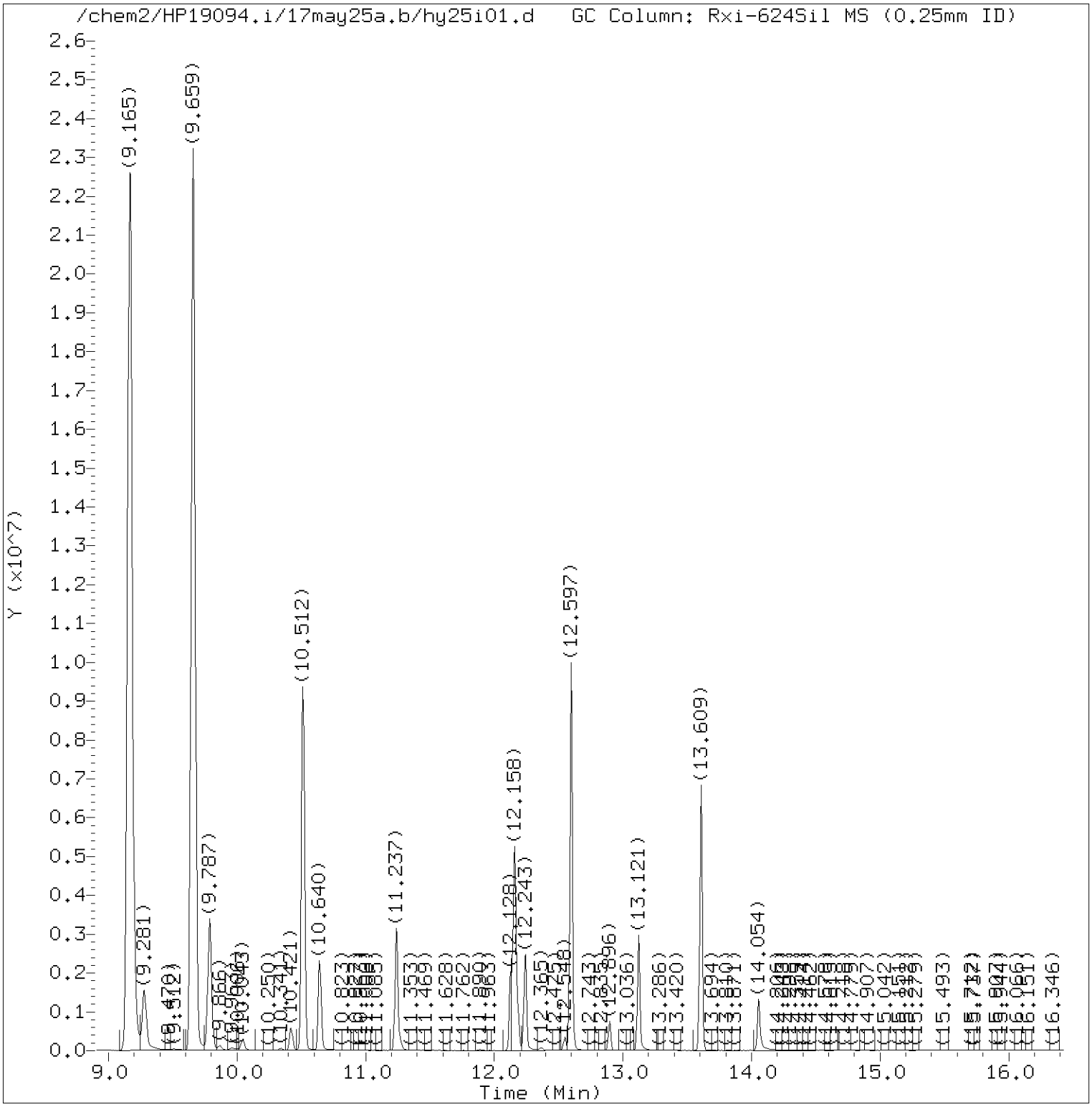
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:03 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:03 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:03 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

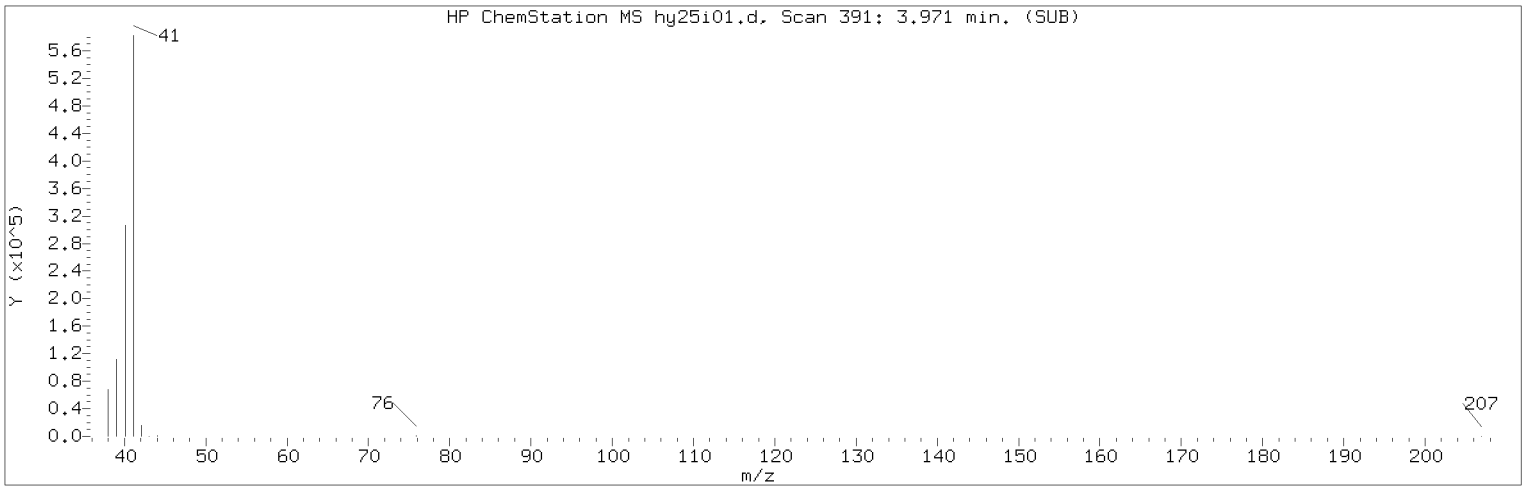
Sample Name: VSTD025 Lab Sample ID: VSTD025

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	2591382	27.609
25) Acetonitrile	(1)	3.971	41	4276045M	950.821
26)*t-Butyl Alcohol-d10	(1)	4.251	65	91060	50.000
36) Vinyl Acetate	(2)	5.336	43	2173248	24.979
43) Methyl Acrylate	(2)	6.263	55	3374229	140.011
53) 1-Chlorobutane	(2)	7.055	56	3108648	23.012
63)*Fluorobenzene	(2)	7.775	96	2565174	10.000
77) Chloroacetonitrile	(2)	9.195	75	1939966	1236.180
78) 2-Chloroethyl vinyl ether	(2)	9.281	63	745047	29.773
97)*Chlorobenzene-d5	(3)	11.237	117	1779509	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.128	88	400223	49.986
112) Cyclohexanone	(1)	12.158	55	2496476M	1771.643
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	748155	10.000
142) Hexachloroethane	(4)	13.609	117	1231539	20.357

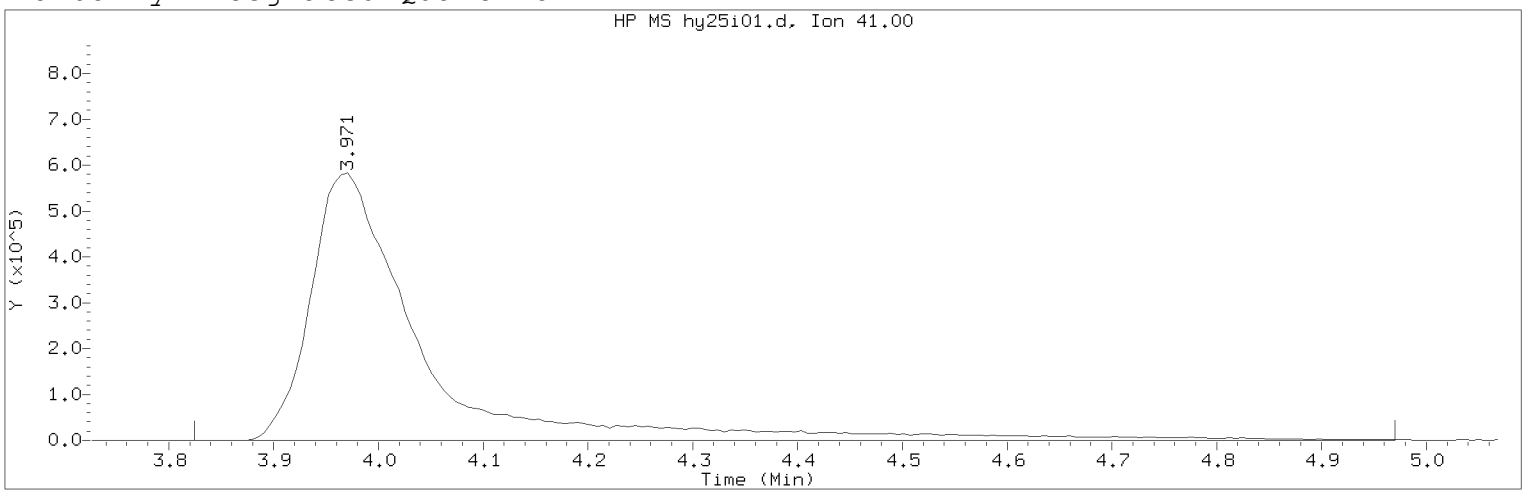
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:03 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

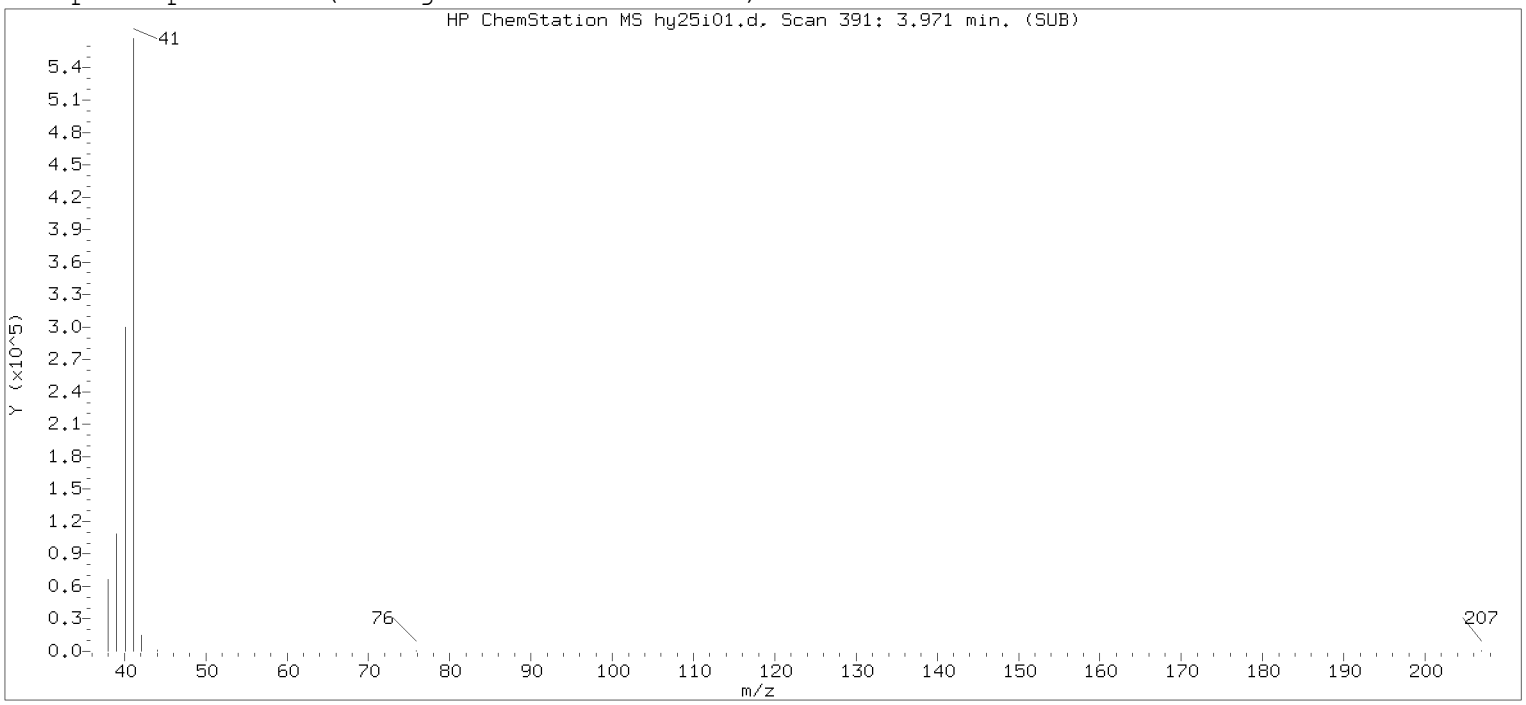
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 391
Retention Time (minutes): 3.971
Quant Ion : 41.00
Area (flag) : 4276045M
On-Column Amount (ng) : 950.8212
Integration start scan : 366 Integration stop scan: 554
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

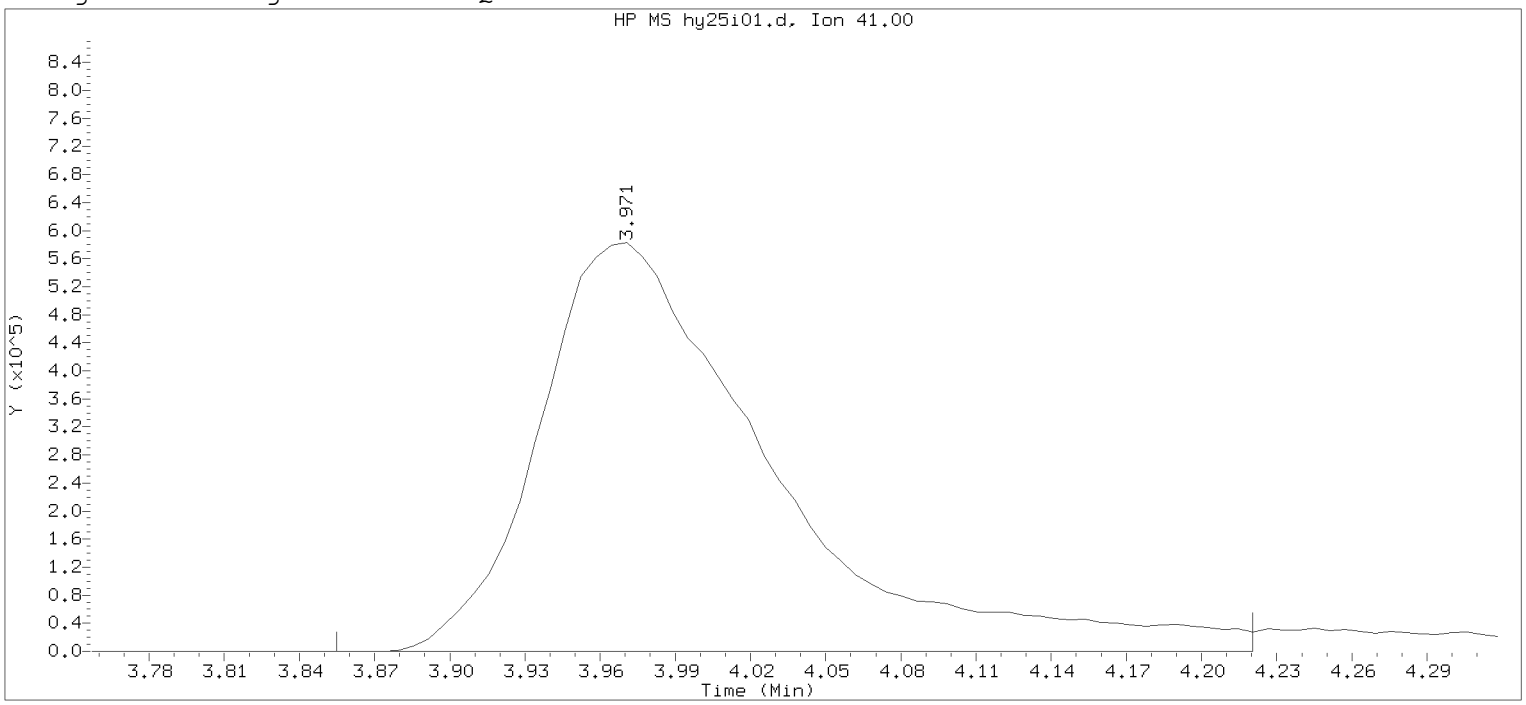
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:03 Analyst ID: kel01973

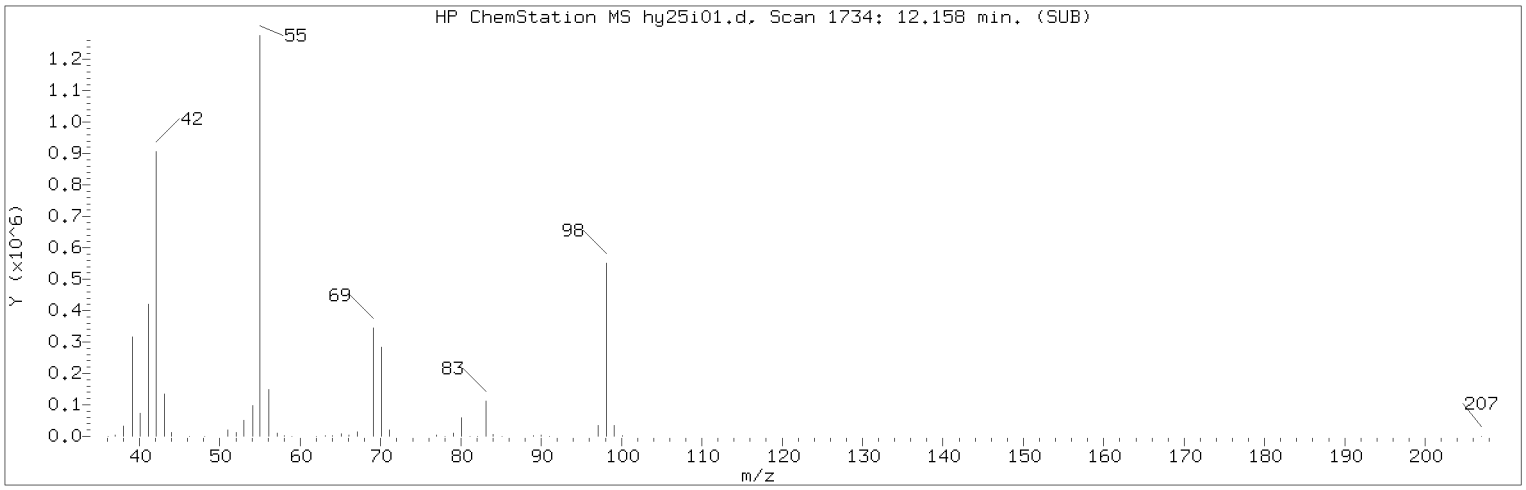
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

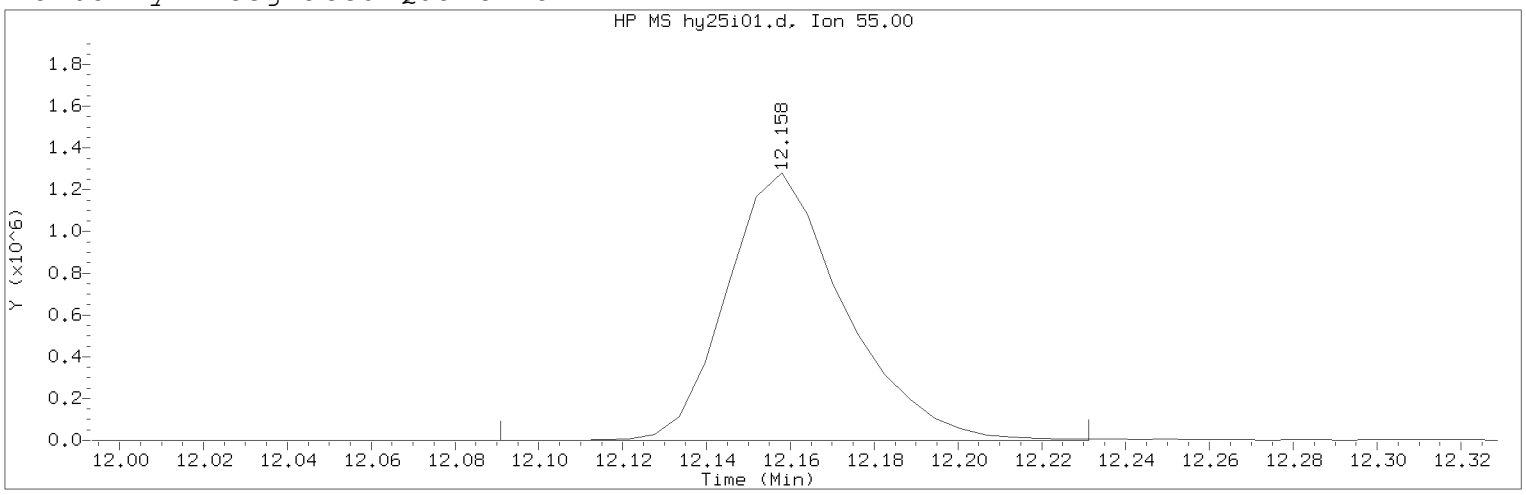
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 391
Retention Time (minutes): 3.971
Quant Ion : 41.00
Area : 3738501
On-column Amount (ng) : 922.3009
Integration start scan : 371 Integration stop scan: 431
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:03 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

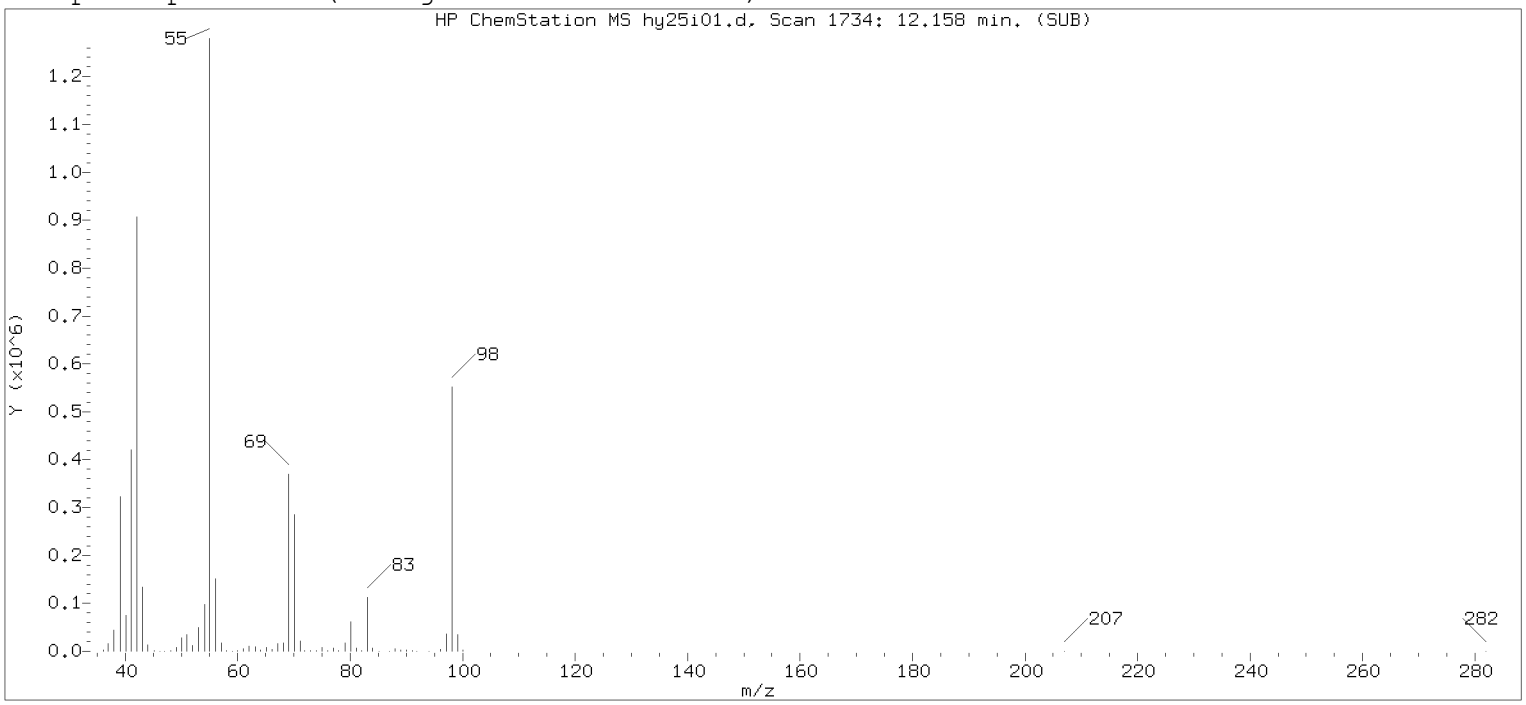
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area (flag) : 2496476M
On-Column Amount (ng) : 1771.6428
Integration start scan : 1722 Integration stop scan: 1745
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

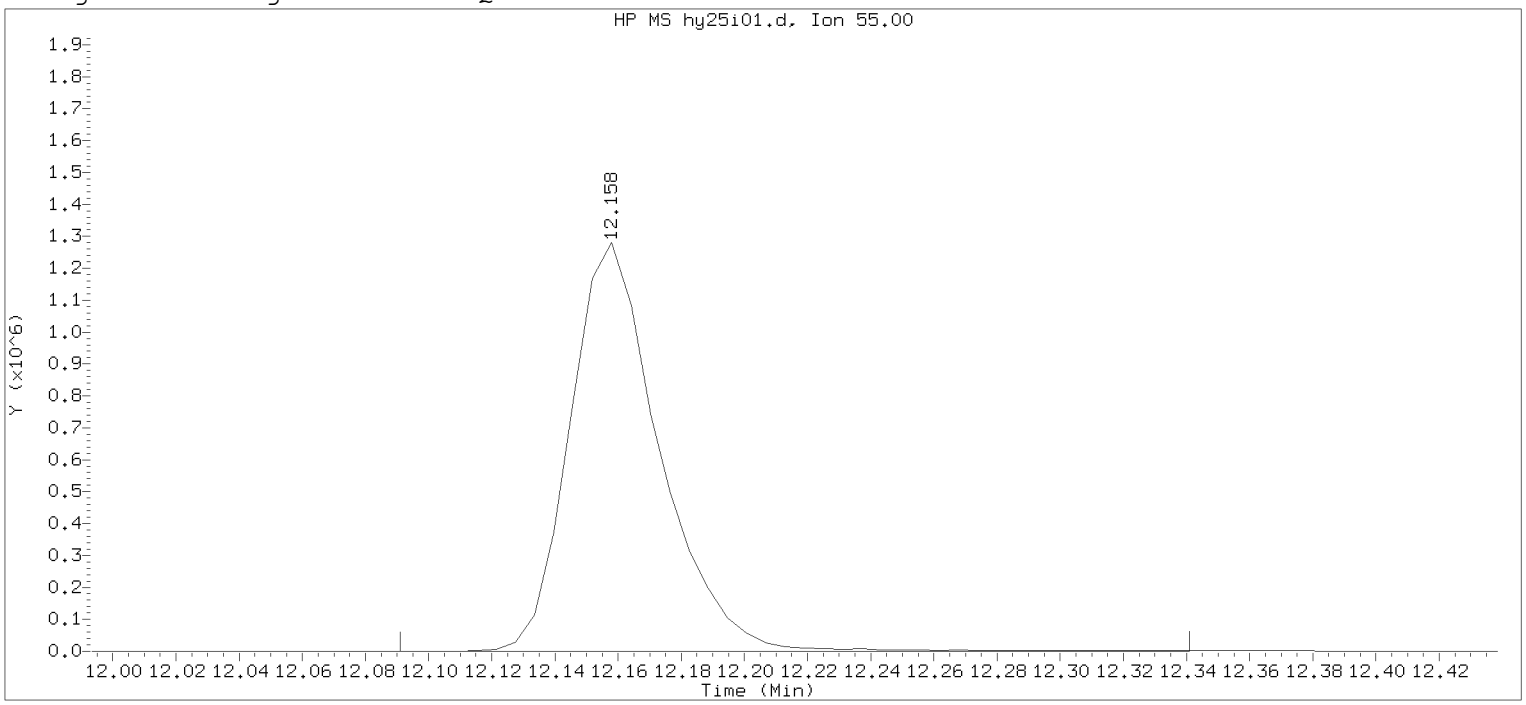
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



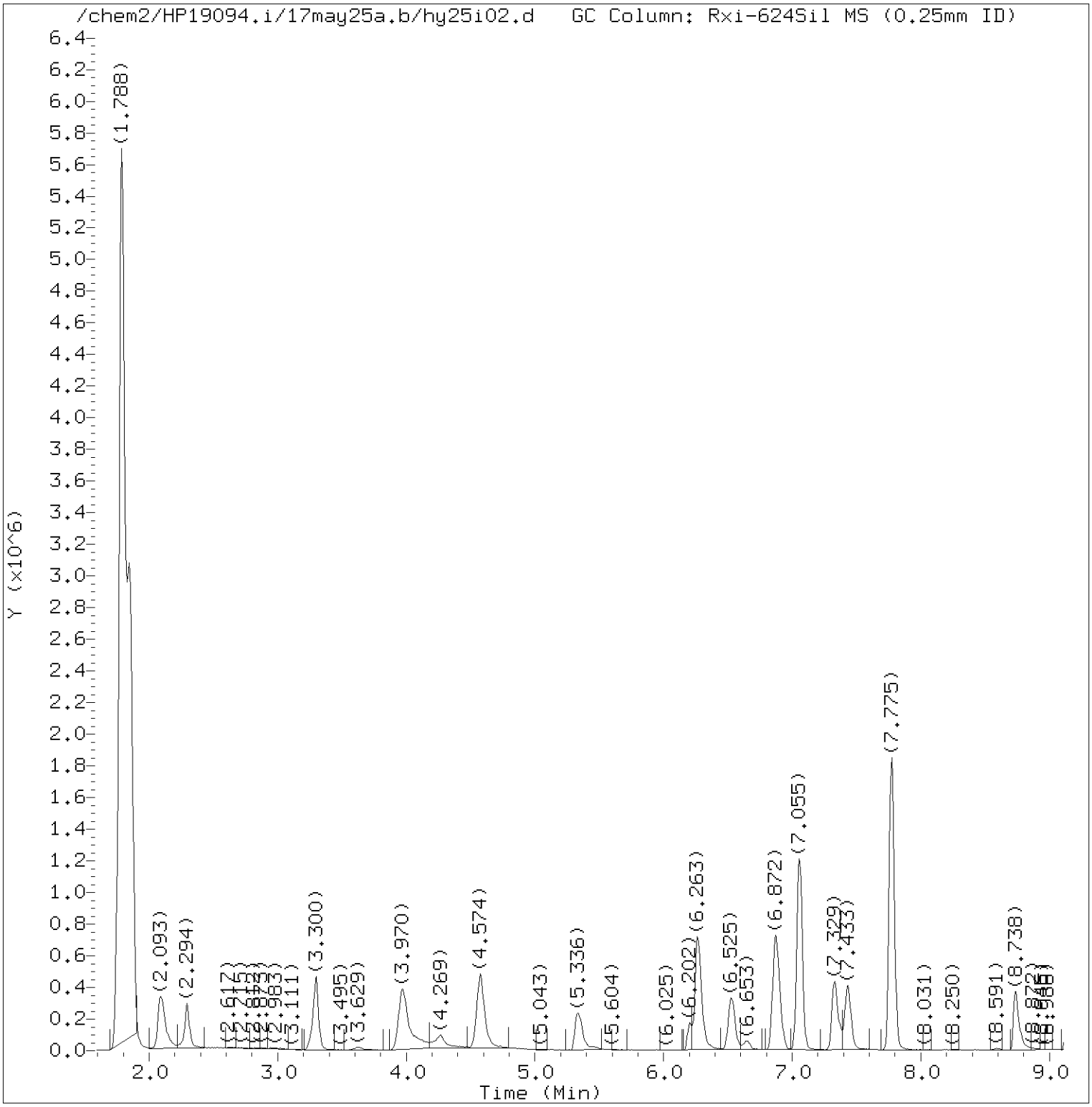
Data File: /chem2/HP19094.i/17may25a.b/hy25i01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:03 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD025 Lab Sample ID: VSTD025

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area : 2513195
On-column Amount (ng) : 1303.5355
Integration start scan : 1722 Integration stop scan: 1763
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I am the author of this document



Total Ion Chromatogram (TIC)

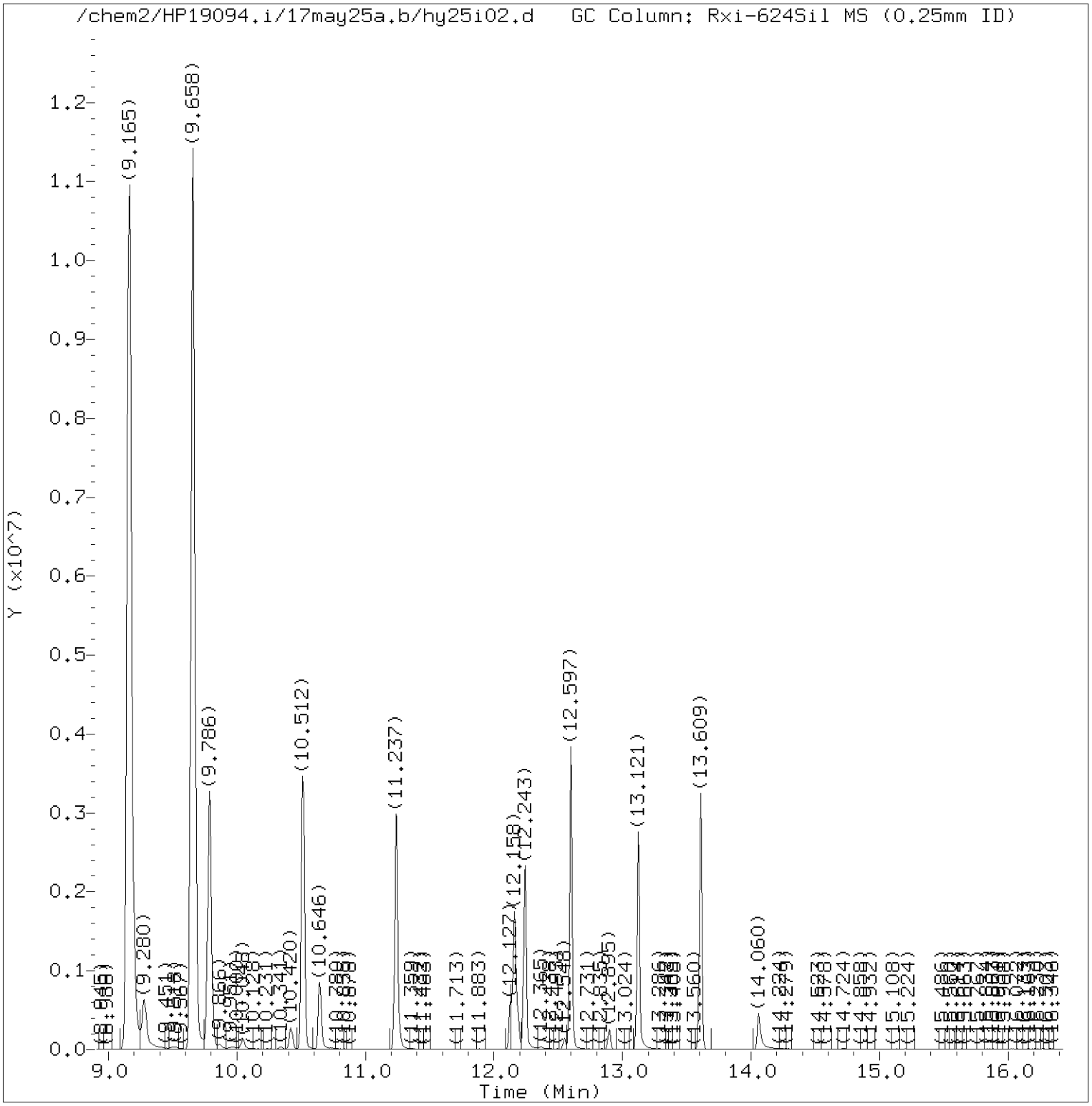
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

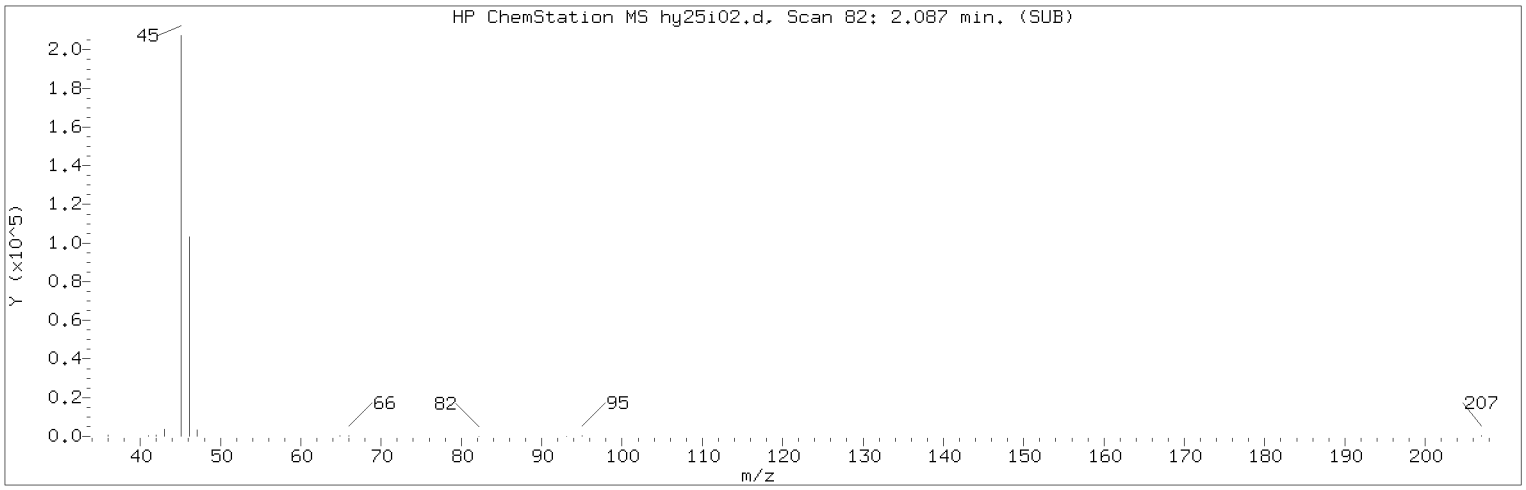
Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	901449MA	9.879
25) Acetonitrile	(1)	3.976	41	1661061M	388.542
26)*t-Butyl Alcohol-d10	(1)	4.251	65	86563	50.000
36) Vinyl Acetate	(2)	5.336	43	783591	10.215
43) Methyl Acrylate	(2)	6.263	55	1514433	64.639
53) 1-Chlorobutane	(2)	7.055	56	1452816	11.063
63)*Fluorobenzene	(2)	7.775	96	2493799	10.000
77) Chloroacetonitrile	(2)	9.195	75	894429	586.258
78) 2-Chloroethyl vinyl ether	(2)	9.280	63	285107	11.719
97)*Chlorobenzene-d5	(3)	11.243	117	1712772	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.127	88	125669	20.207
112) Cyclohexanone	(1)	12.158	55	864756M	645.562
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	714468	10.000
142) Hexachloroethane	(4)	13.609	117	572924	9.917

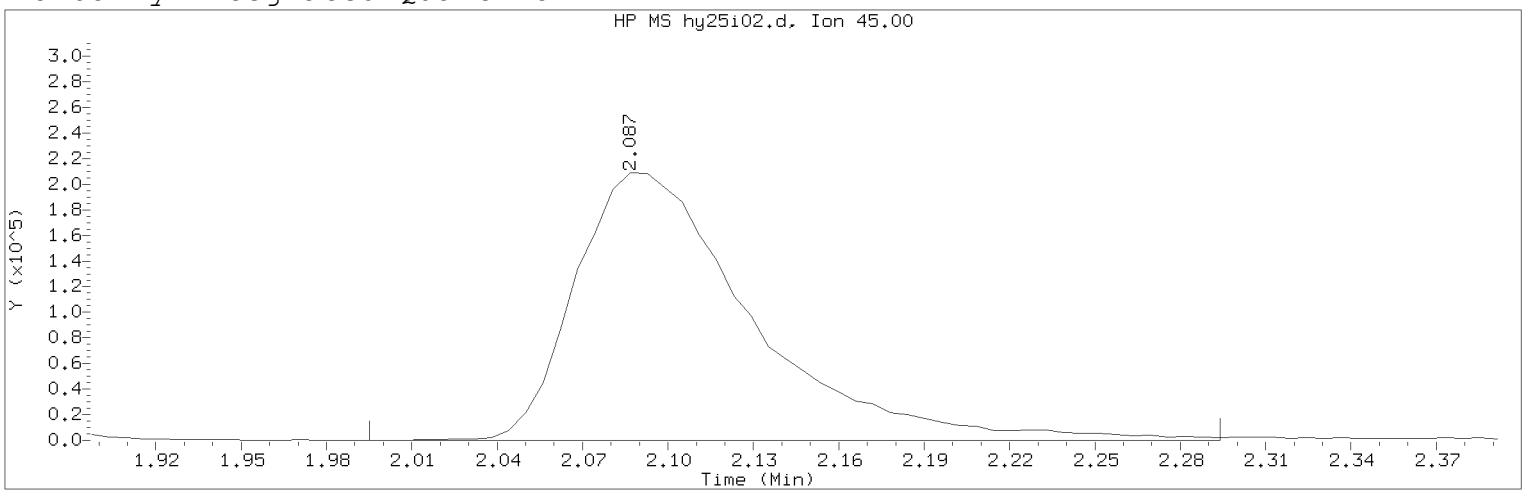
M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

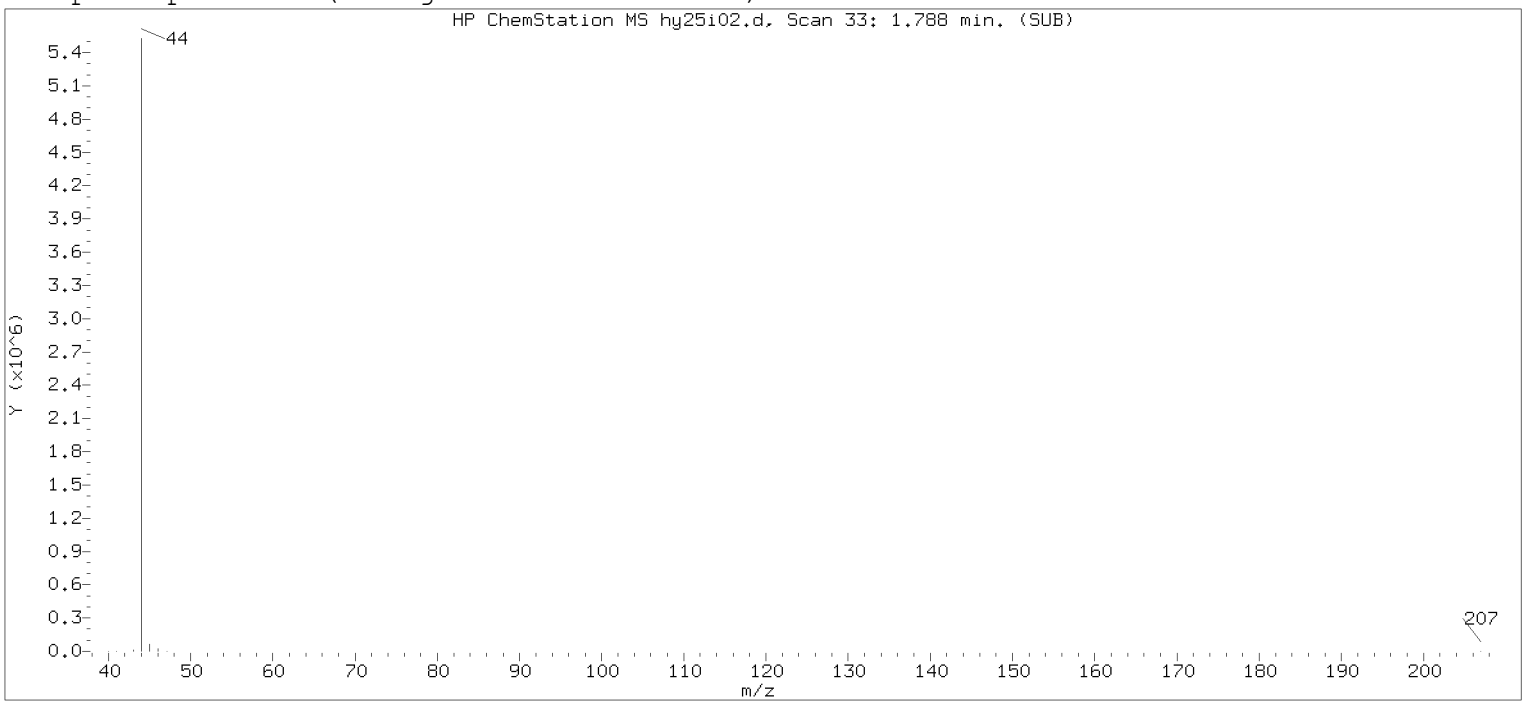
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area (flag) : 901449MA
On-Column Amount (ng) : 9.8790
Integration start scan : 66 Integration stop scan: 115
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

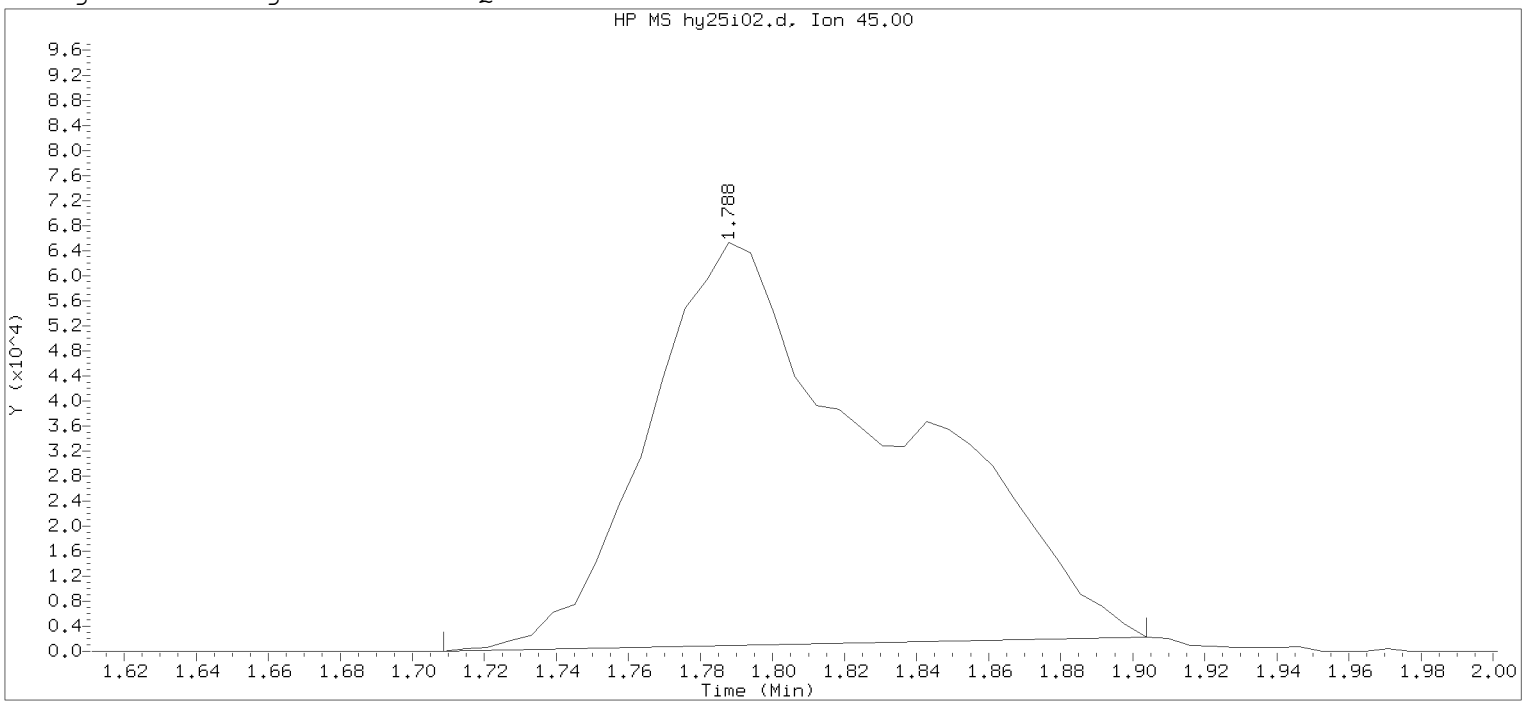
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

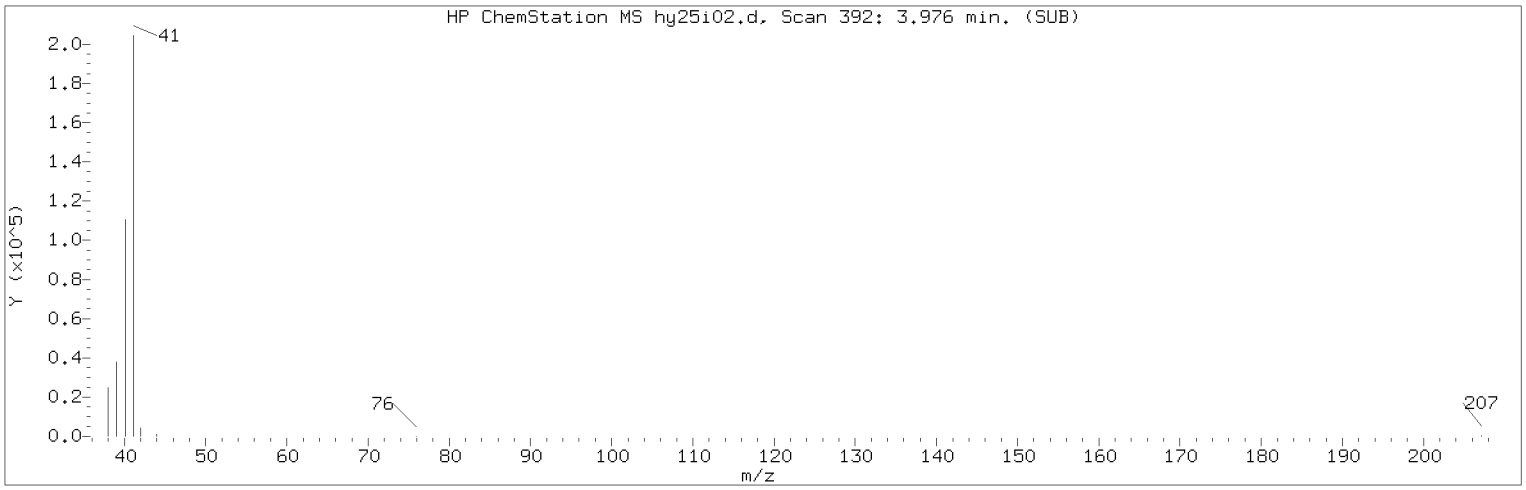
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 11:42
Date, time and analyst ID of latest file update: 25-May-2017 11:42 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

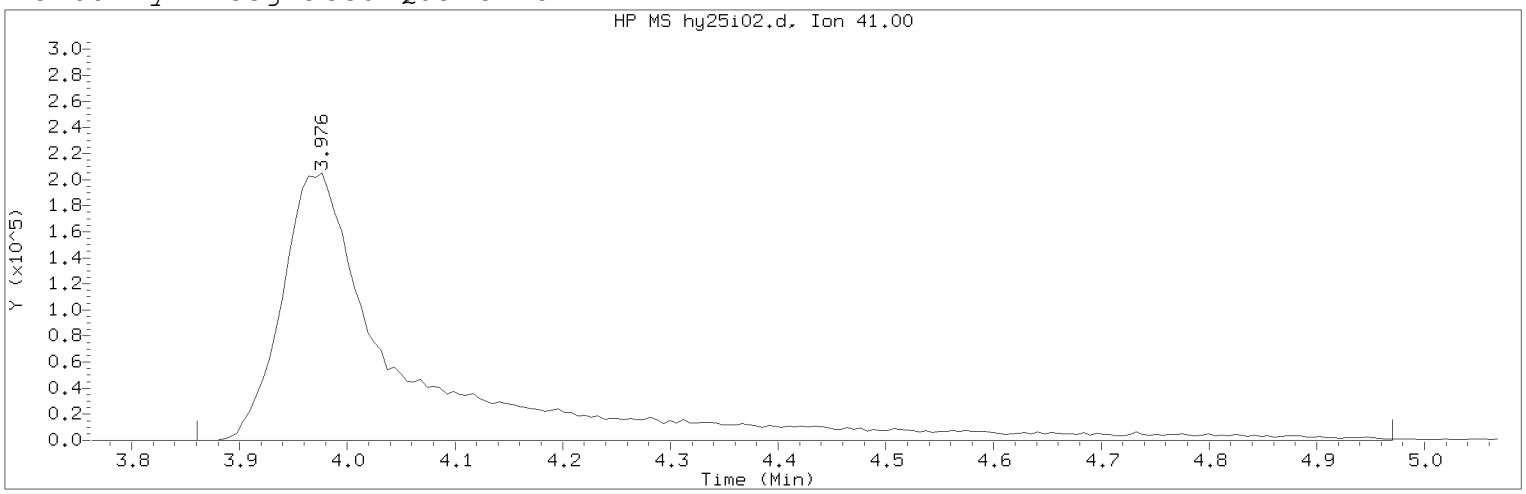
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 33
Retention Time (minutes): 1.788
Quant Ion : 45.00
Area : 303763
On-column Amount (ng) : 14.1150
Integration start scan : 19 Integration stop scan: 51
Y at integration start : 0 Y at integration end: 2297

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I approve this document.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

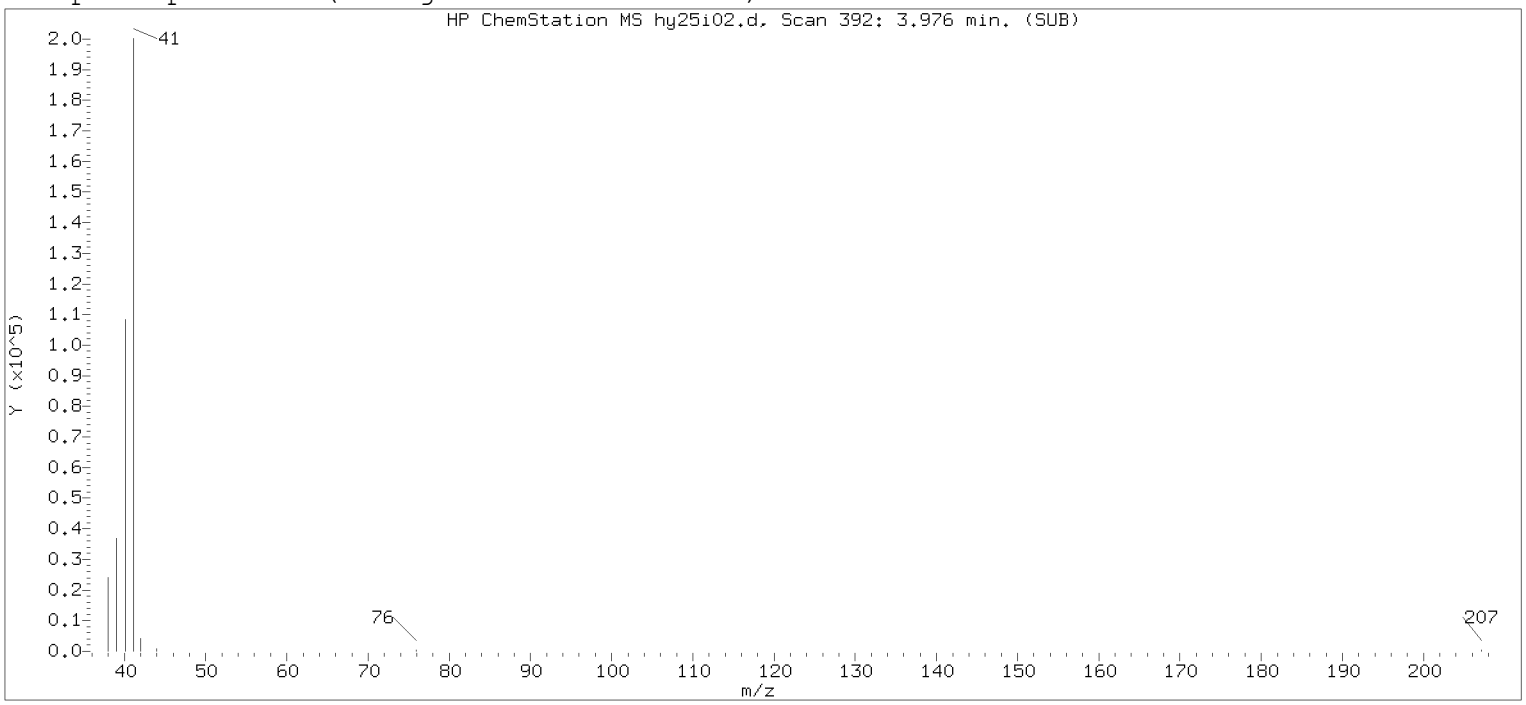
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 392
Retention Time (minutes): 3.976
Quant Ion : 41.00
Area (flag) : 1661061M
On-Column Amount (ng) : 388.5416
Integration start scan : 372 Integration stop scan: 554
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

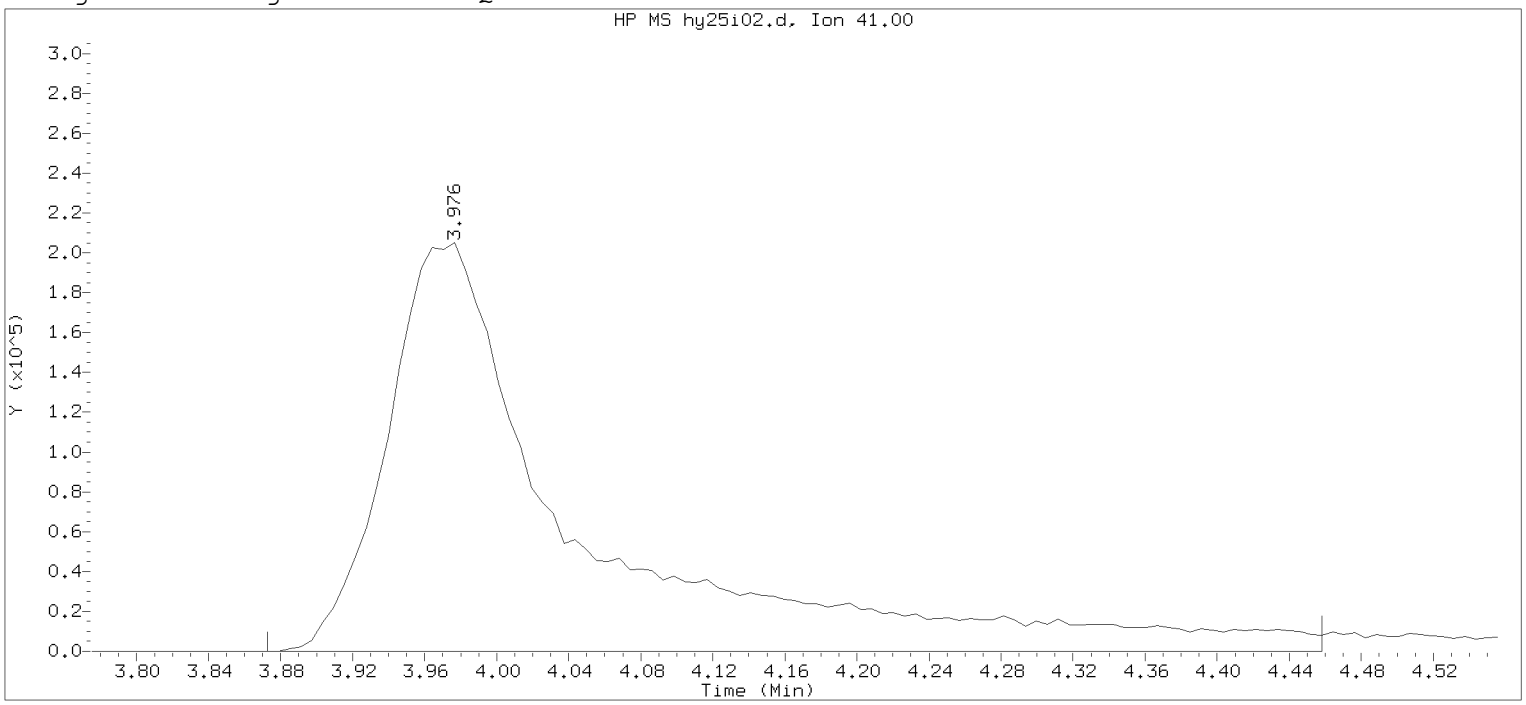
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

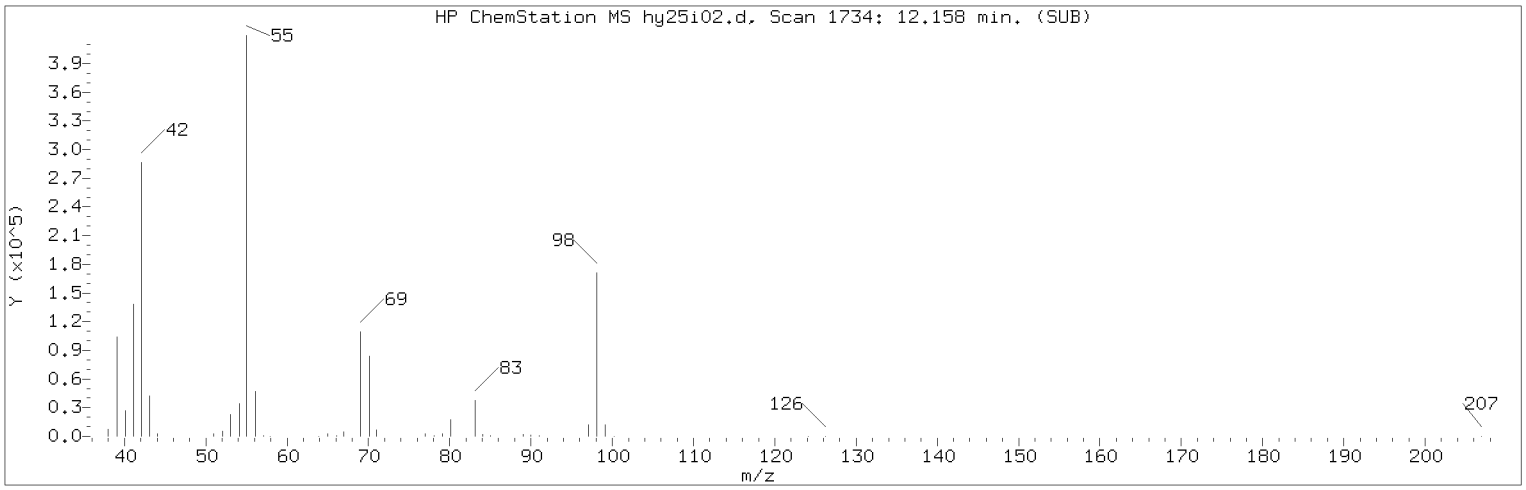
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 11:42
Date, time and analyst ID of latest file update: 25-May-2017 11:42 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

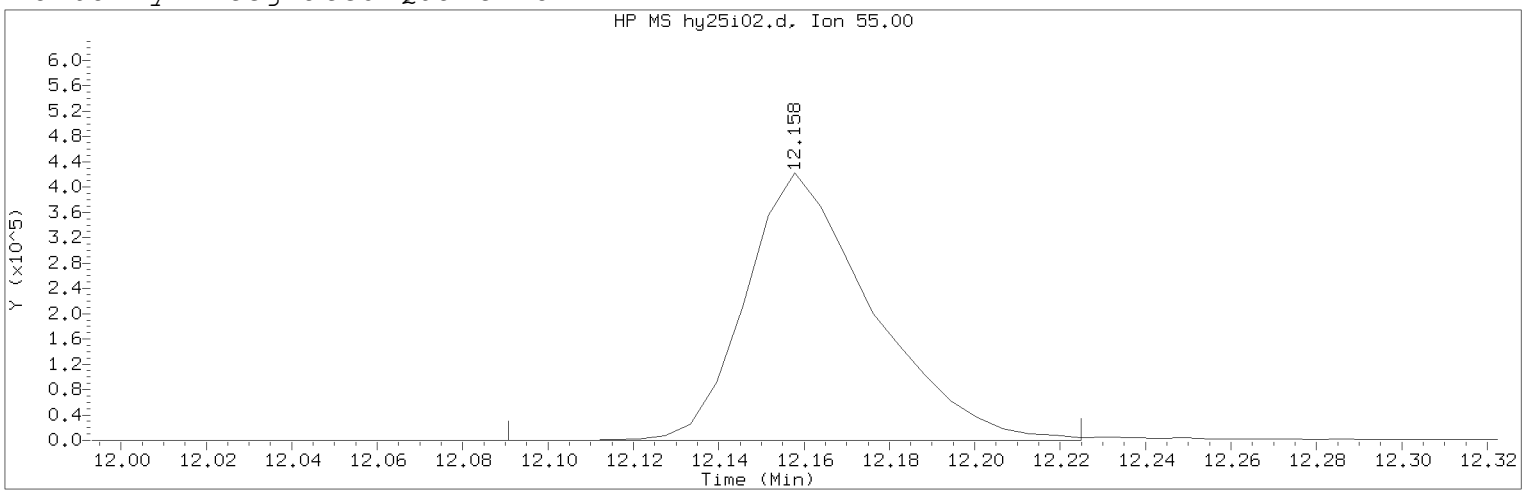
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 392
Retention Time (minutes): 3.976
Quant Ion : 41.00
Area : 1512036
On-column Amount (ng) : 368.8757
Integration start scan : 374 Integration stop scan: 470
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I approve this document.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

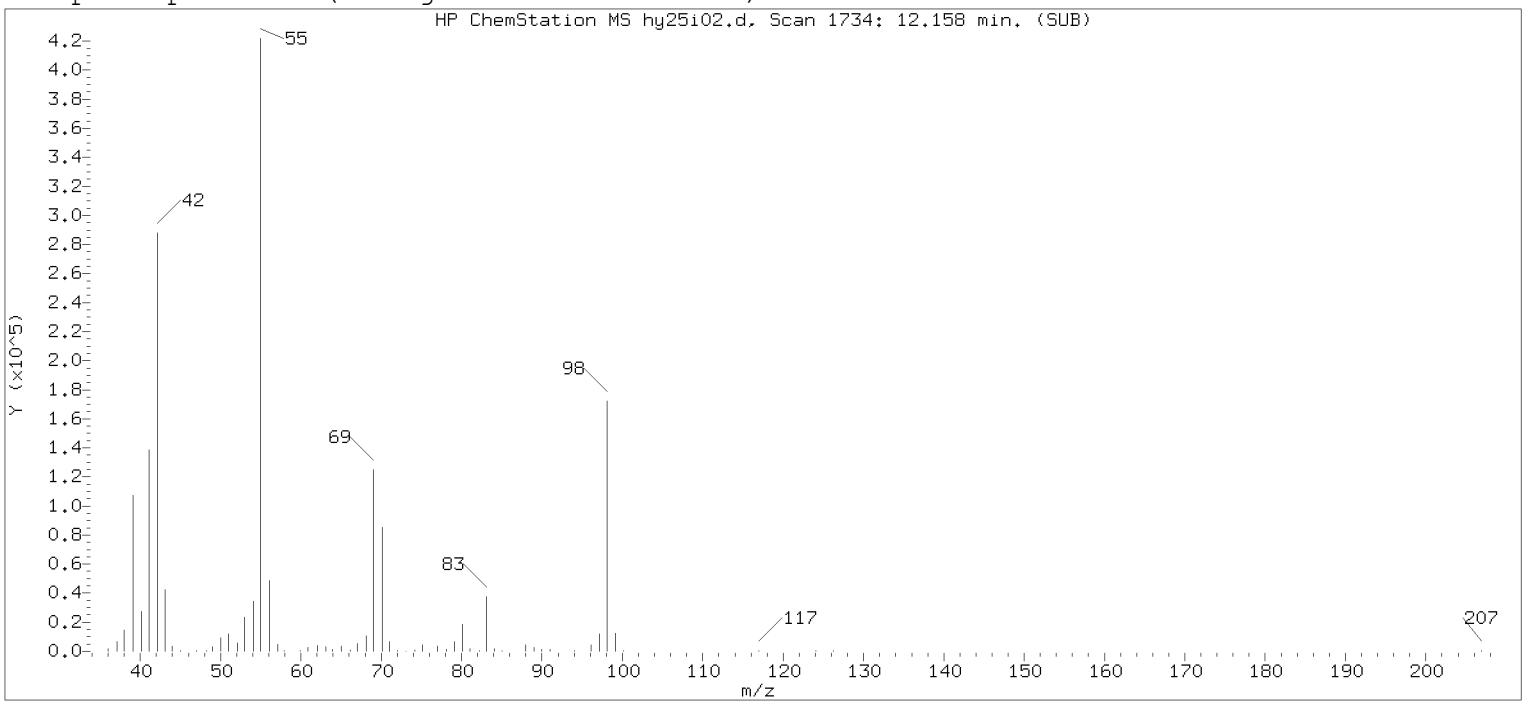
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area (flag) : 864756M
On-Column Amount (ng) : 645.5616
Integration start scan : 1722 Integration stop scan: 1744
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

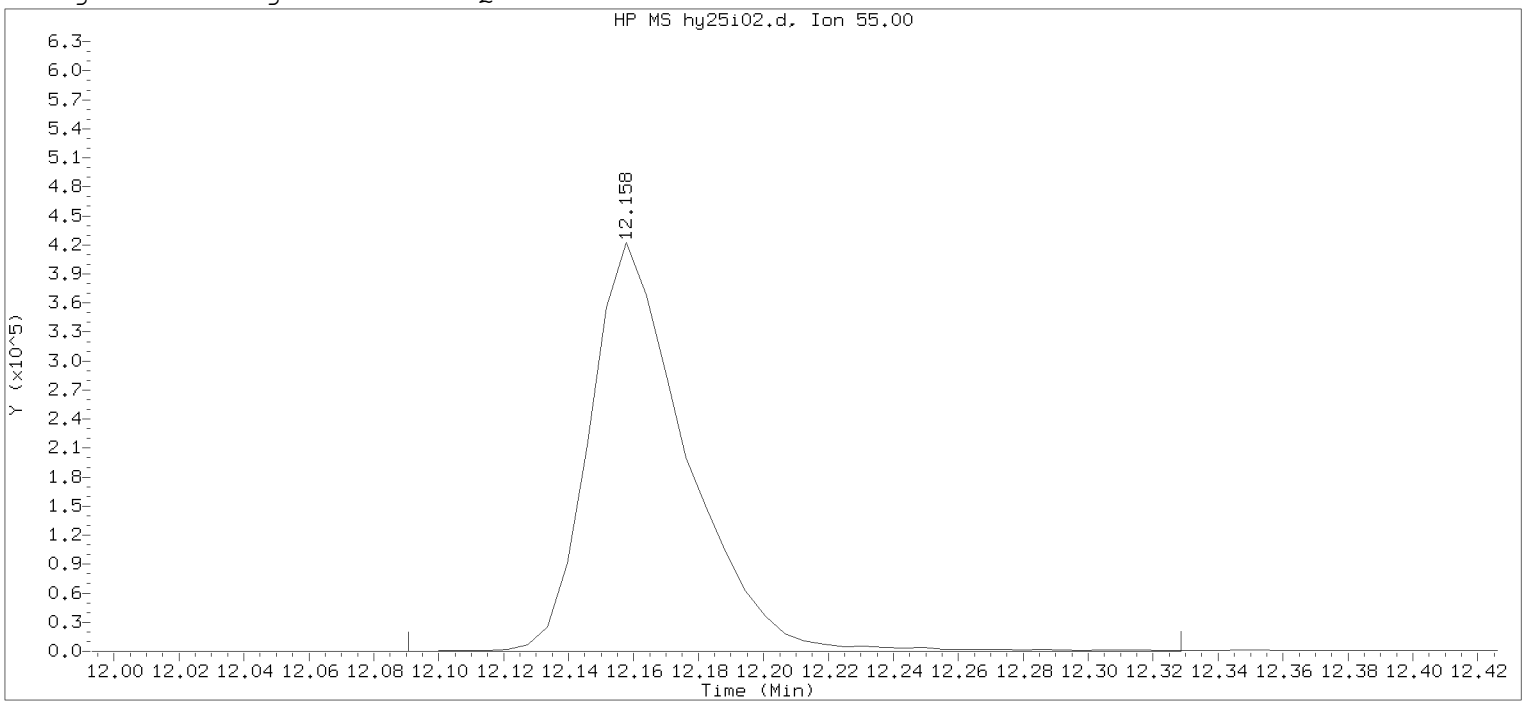
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



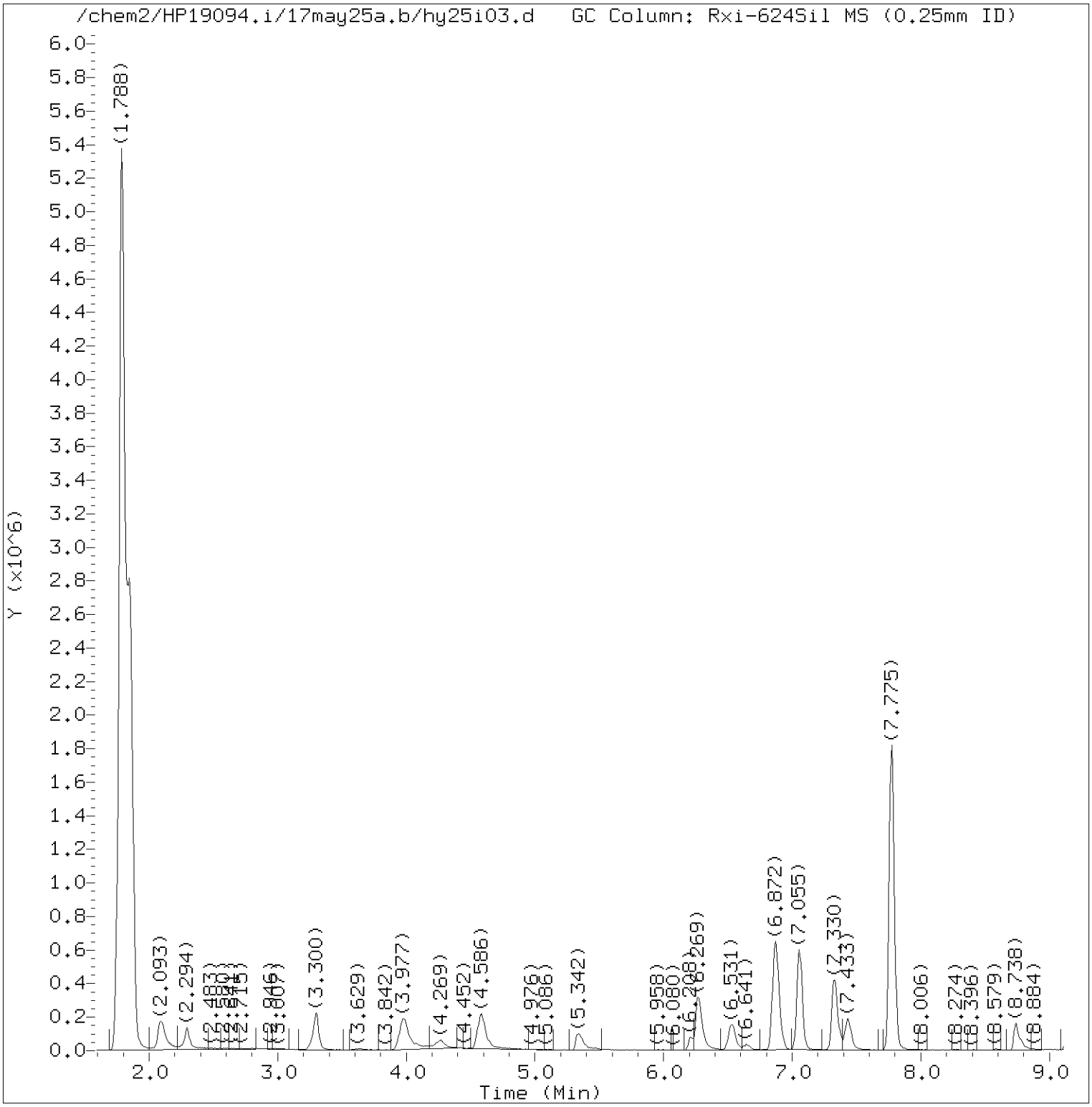
Data File: /chem2/HP19094.i/17may25a.b/hy25i02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:24 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 11:42
Date, time and analyst ID of latest file update: 25-May-2017 11:42 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area : 877135
On-column Amount (ng) : 429.1853
Integration start scan : 1722 Integration stop scan: 1761
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I approve this document.



Total Ion Chromatogram (TIC)

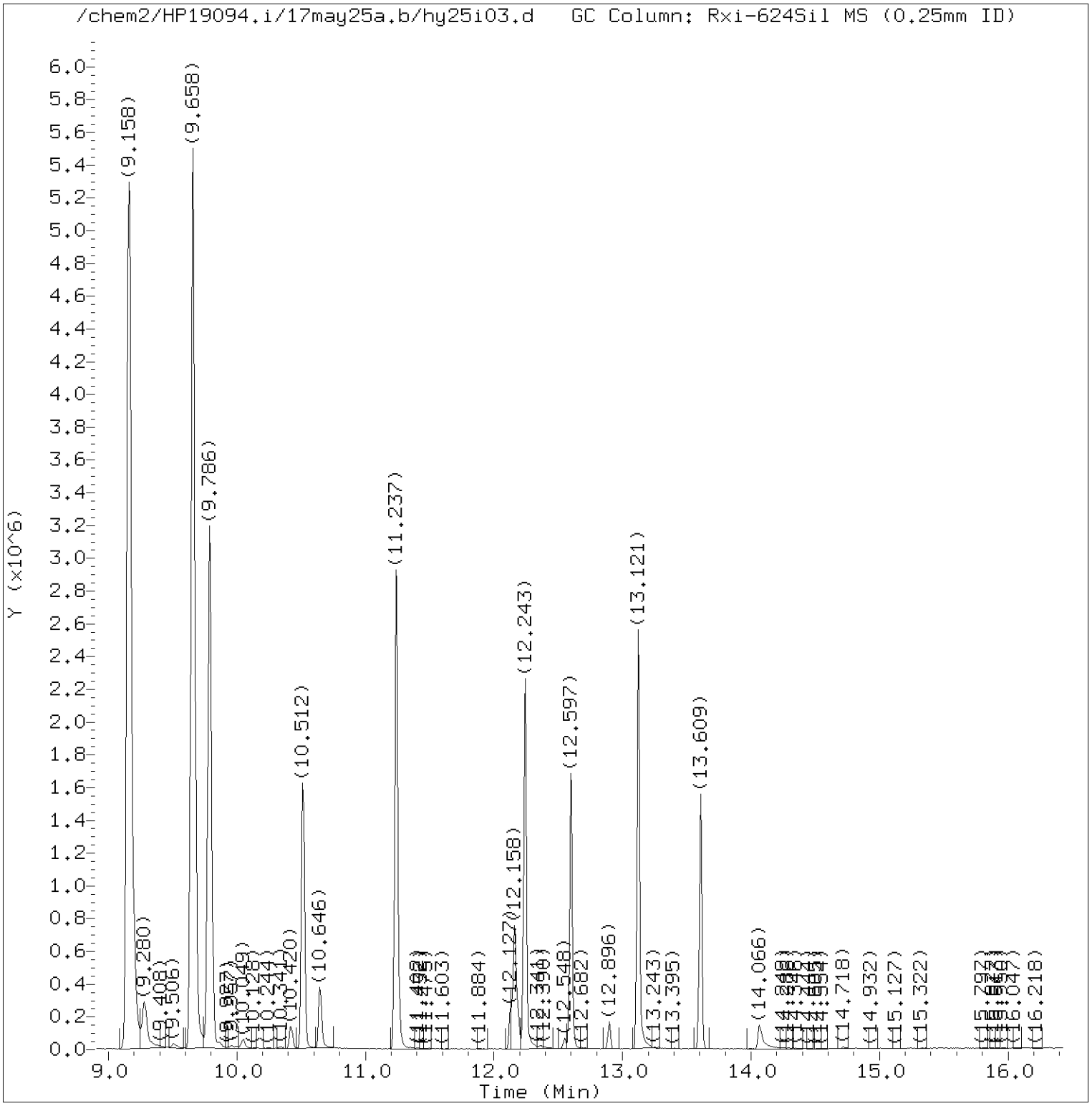
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

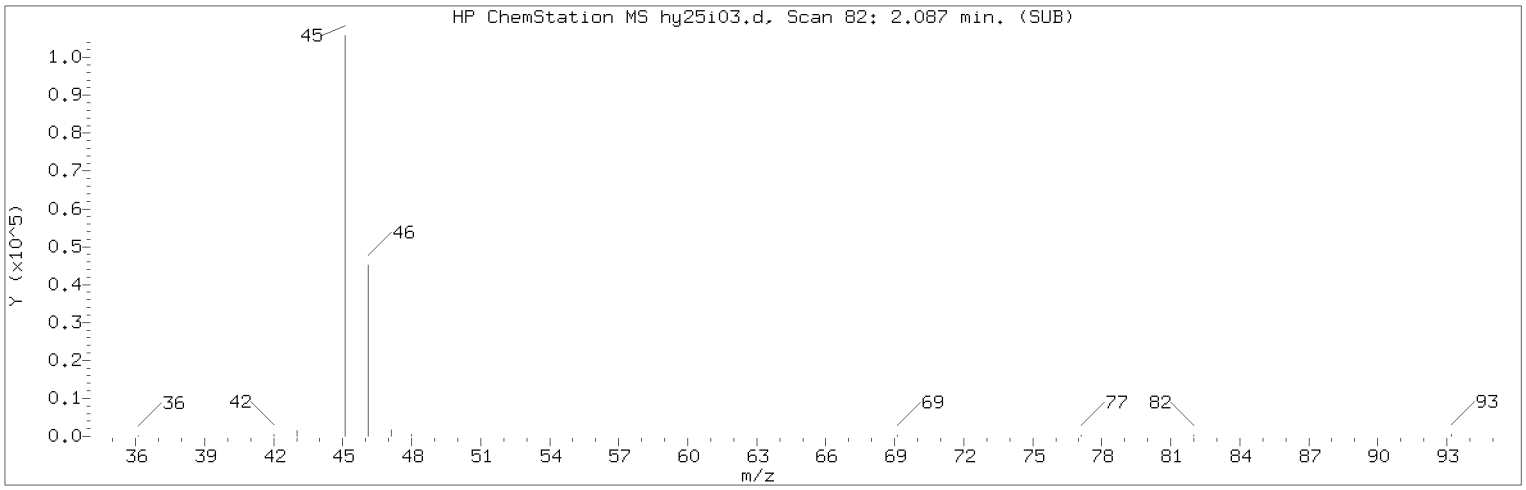
Sample Name: VSTD005 Lab Sample ID: VSTD005

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	441681M	4.941
25) Acetonitrile	(1)	3.983	41	799751M	193.924
26)*t-Butyl Alcohol-d10	(1)	4.257	65	83504M	50.000
36) Vinyl Acetate	(2)	5.342	43	331624	4.686
43) Methyl Acrylate	(2)	6.269	55	682884	29.755
53) 1-Chlorobutane	(2)	7.055	56	702265	5.459
63)*Fluorobenzene	(2)	7.775	96	2442823	10.000
77) Chloroacetonitrile	(2)	9.195	75	420877	281.623
78) 2-Chloroethyl vinyl ether	(2)	9.286	63	131821	5.532
97)*Chlorobenzene-d5	(3)	11.243	117	1678316	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.127	88	53467	9.573
112) Cyclohexanone	(1)	12.158	55	380574M	294.516
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	670917	10.000
142) Hexachloroethane	(4)	13.609	117	270474	4.986

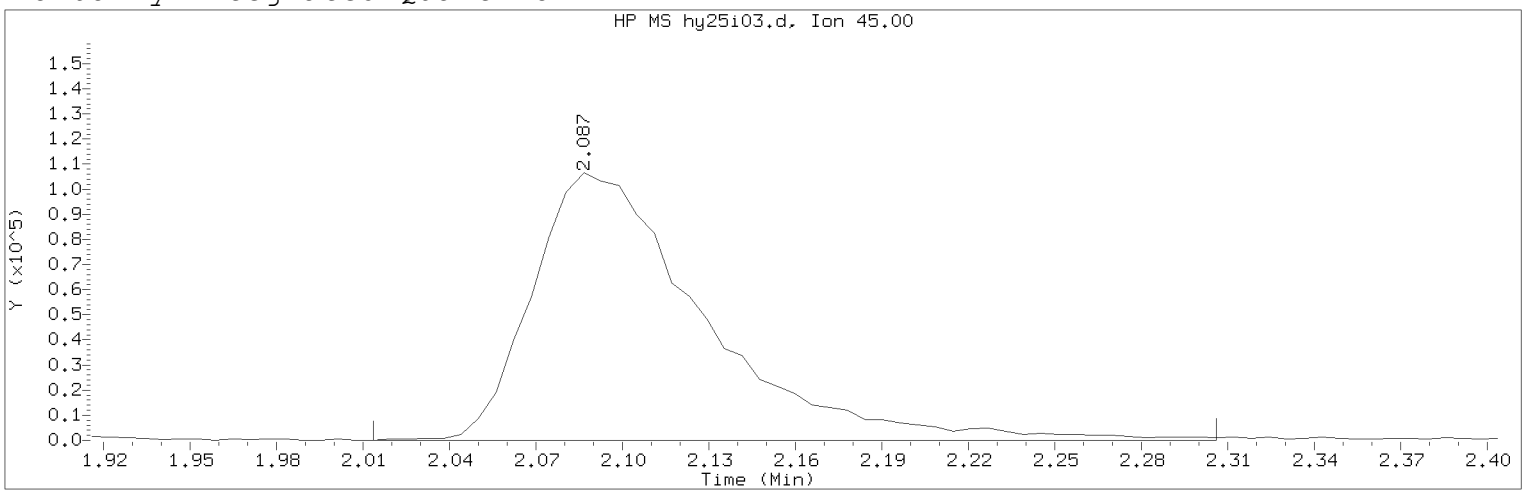
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

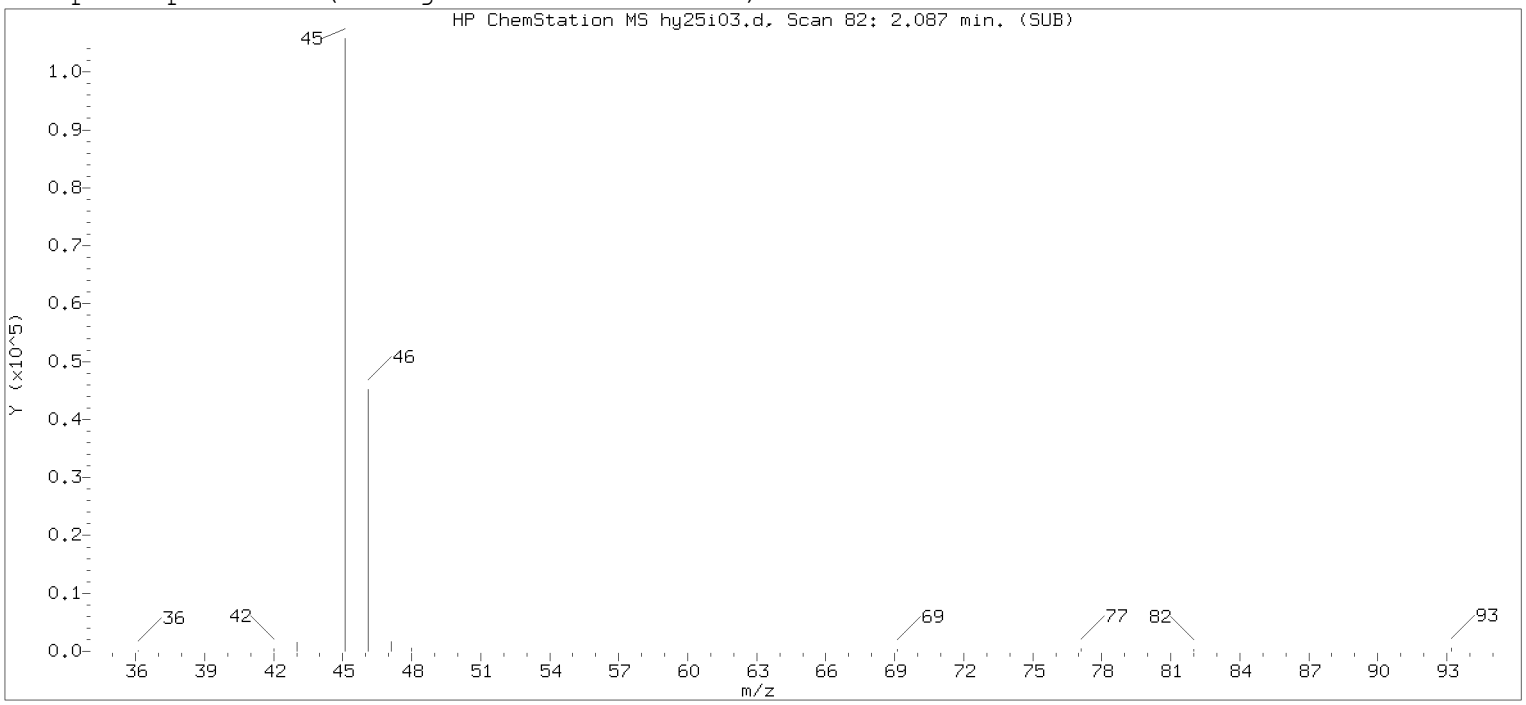
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area (flag) : 441681M
On-Column Amount (ng) : 4.9414
Integration start scan : 69 Integration stop scan: 117
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

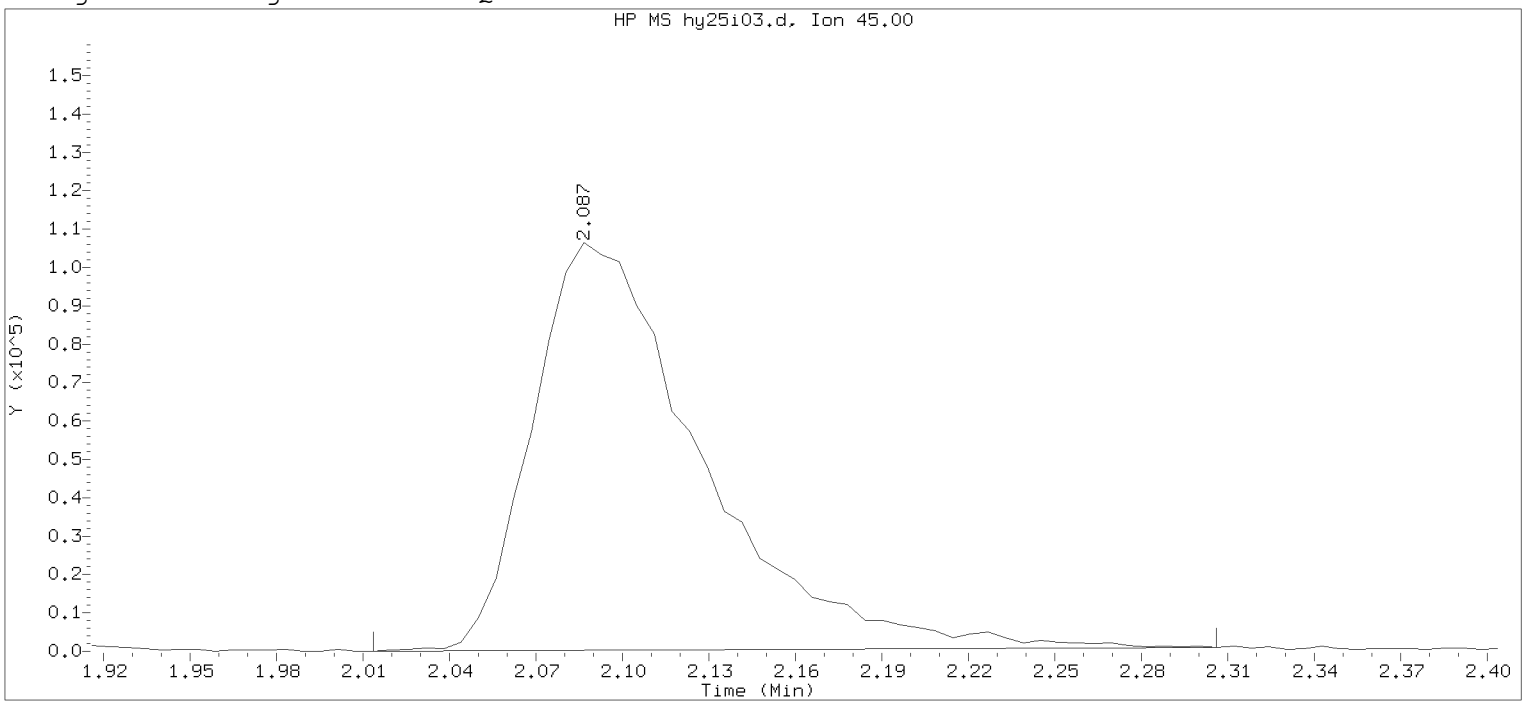
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

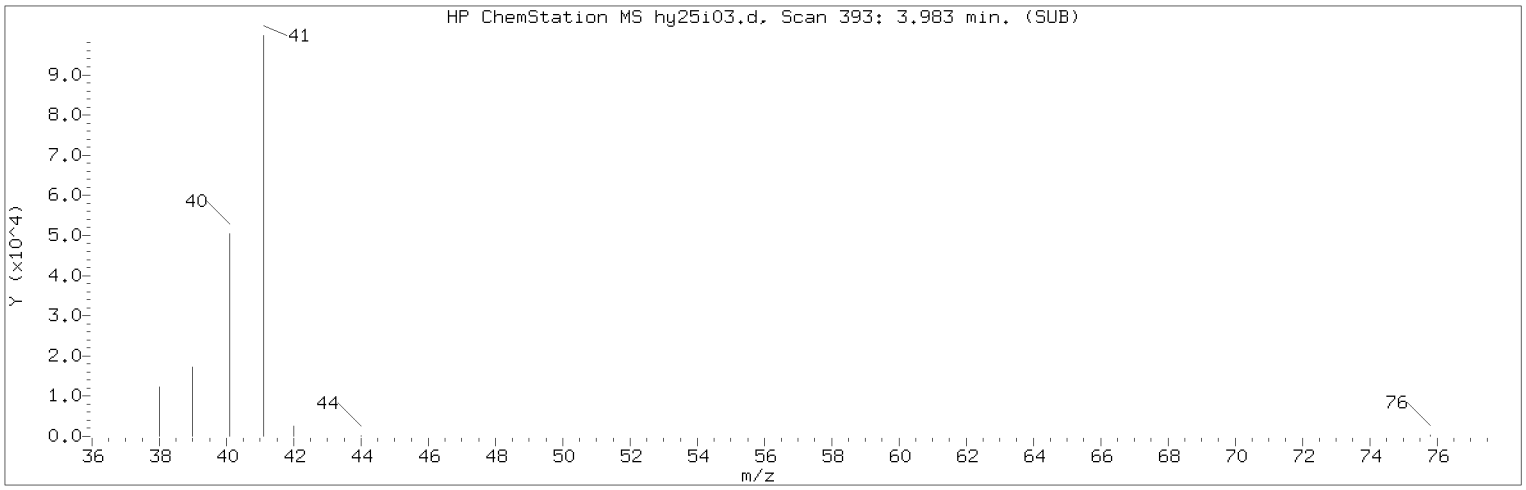
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

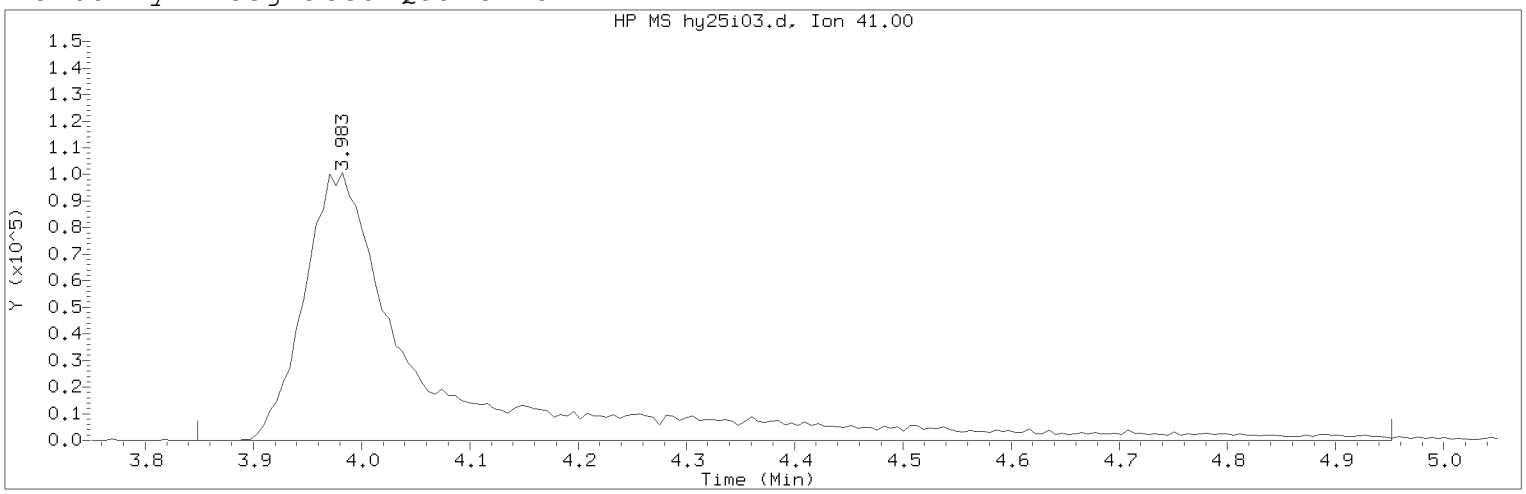
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area : 432114
On-column Amount (ng) : 4.7409
Integration start scan : 69 Integration stop scan: 117
Y at integration start : 0 Y at integration end: 1067

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Page 1873

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

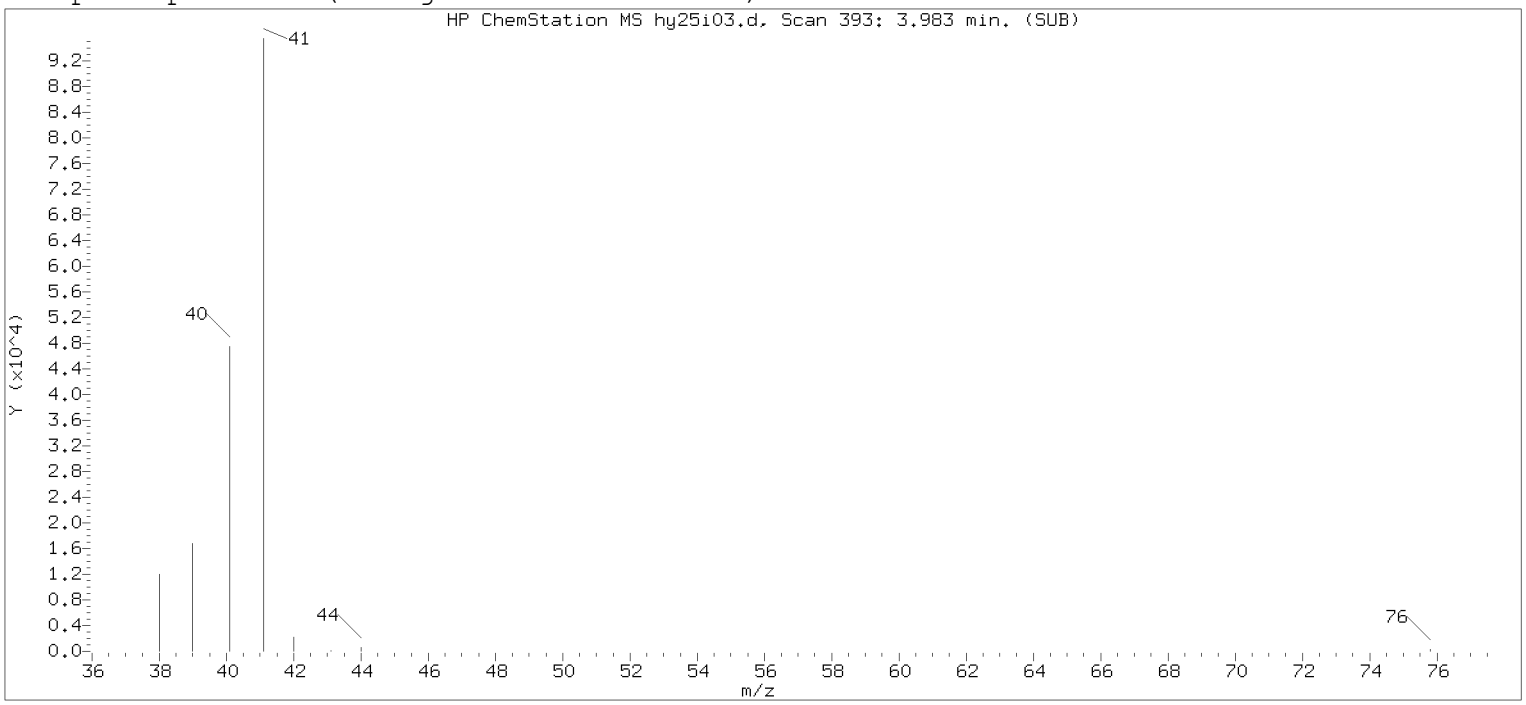
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area (flag) : 799751M
On-Column Amount (ng) : 193.9241
Integration start scan : 370 Integration stop scan: 551
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

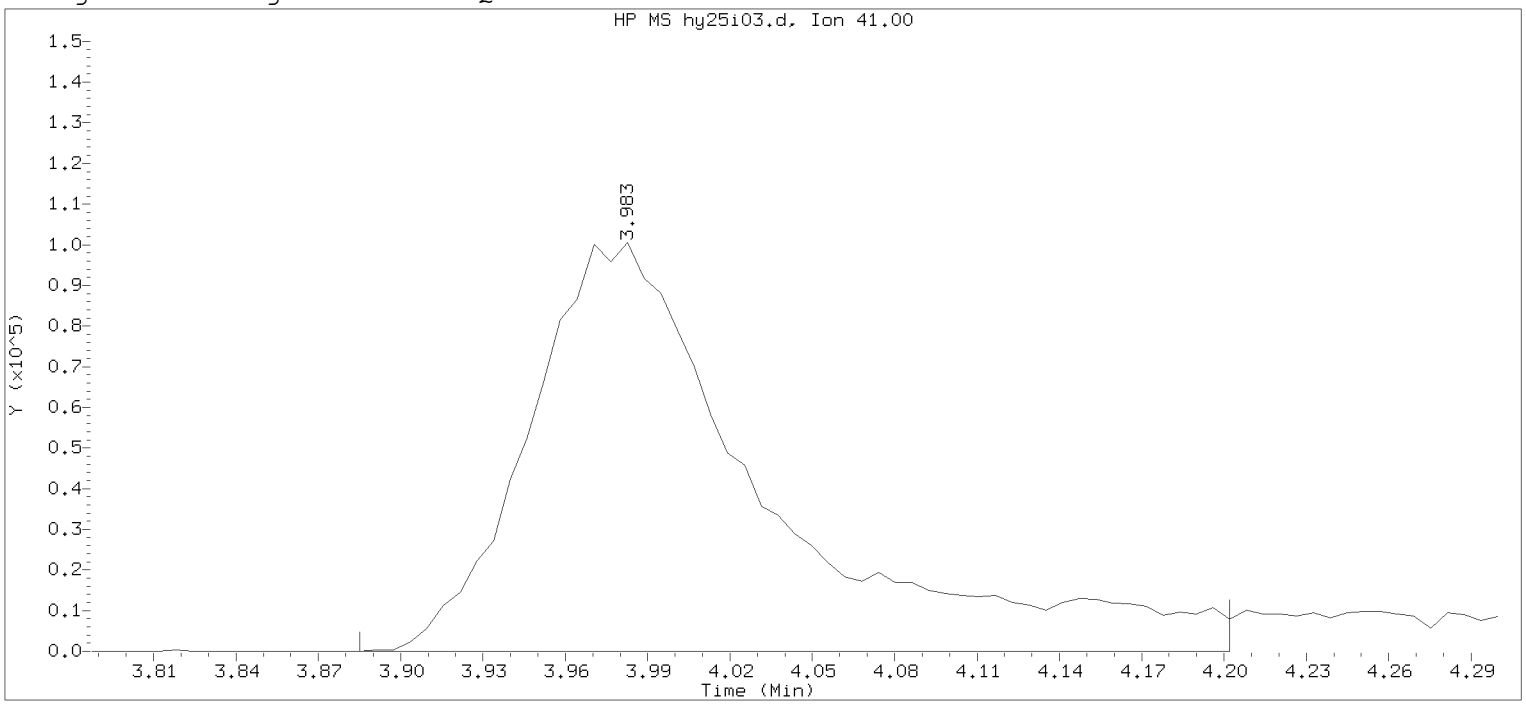
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

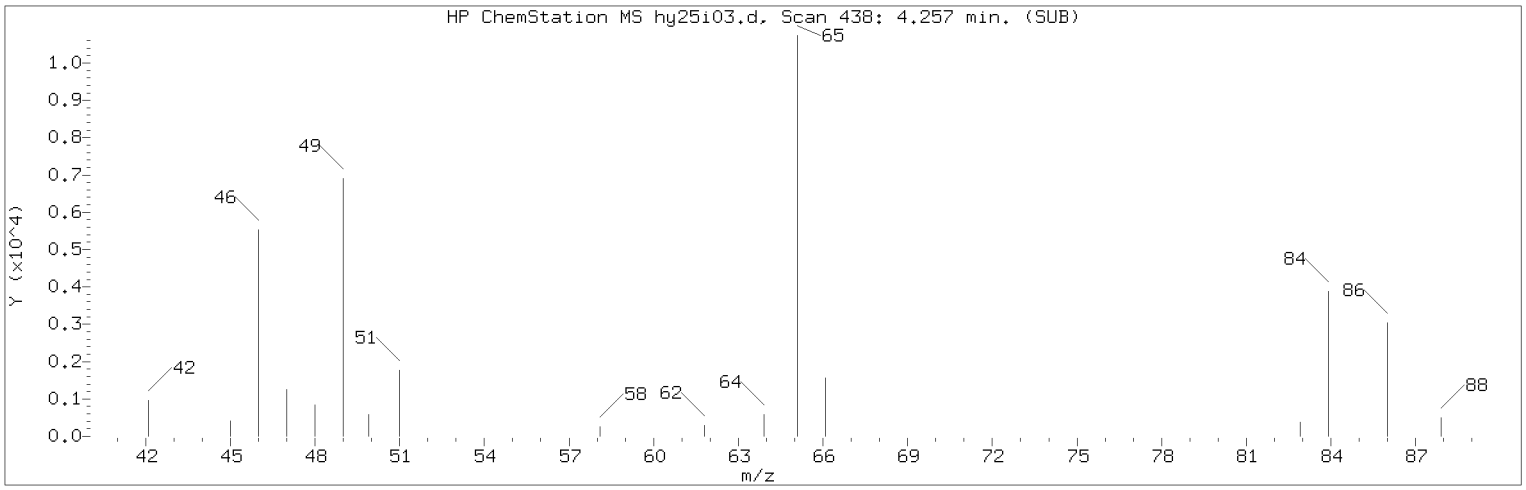
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

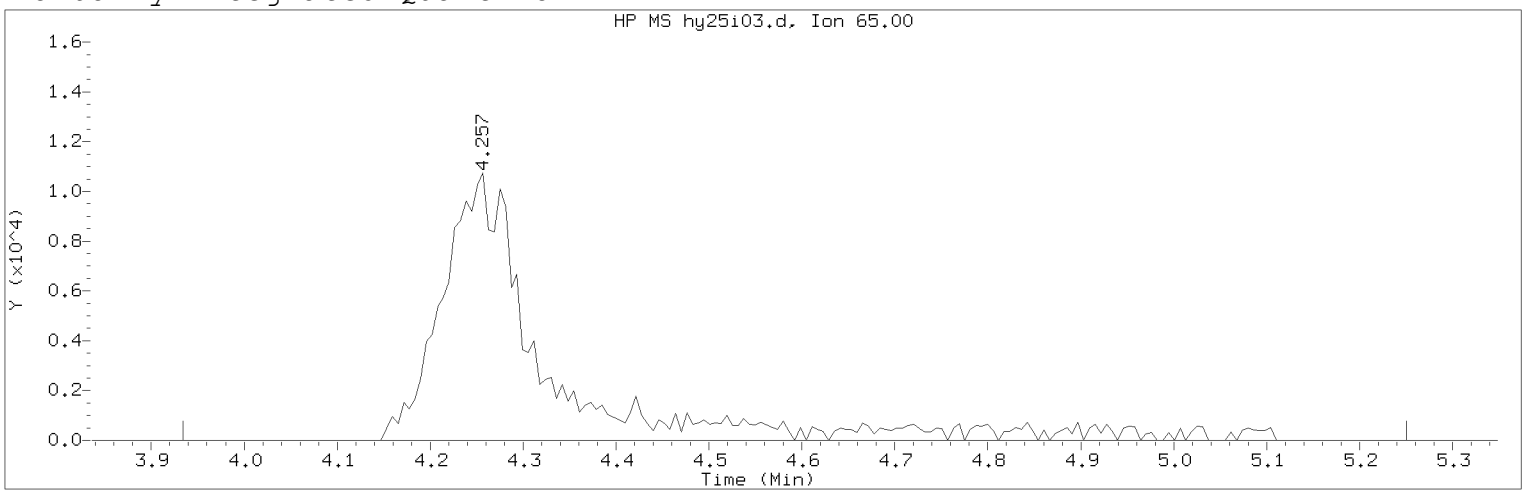
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area : 601255
On-column Amount (ng) : 189.3406
Integration start scan : 376 Integration stop scan: 428
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

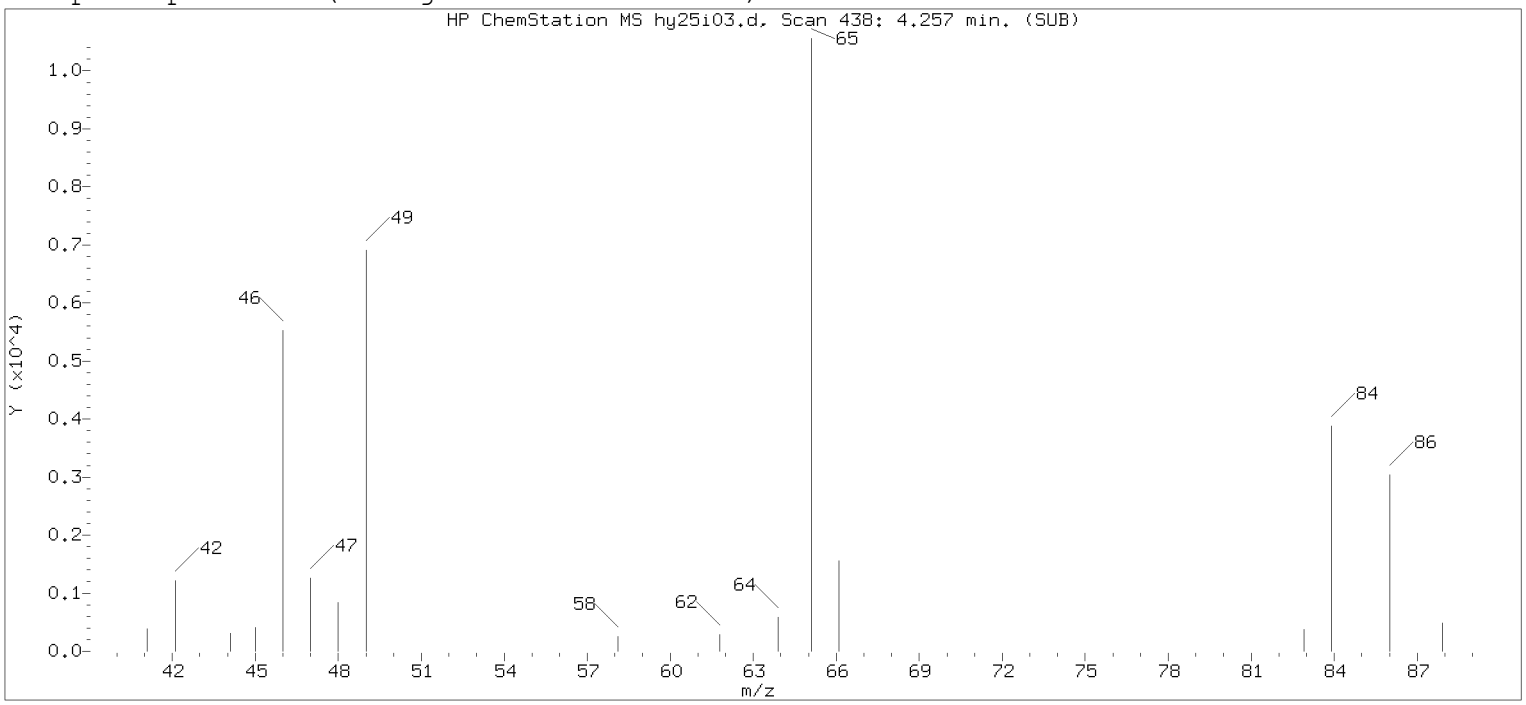
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 83504M
On-Column Amount (ng) : 50.0000
Integration start scan : 384 Integration stop scan: 600
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

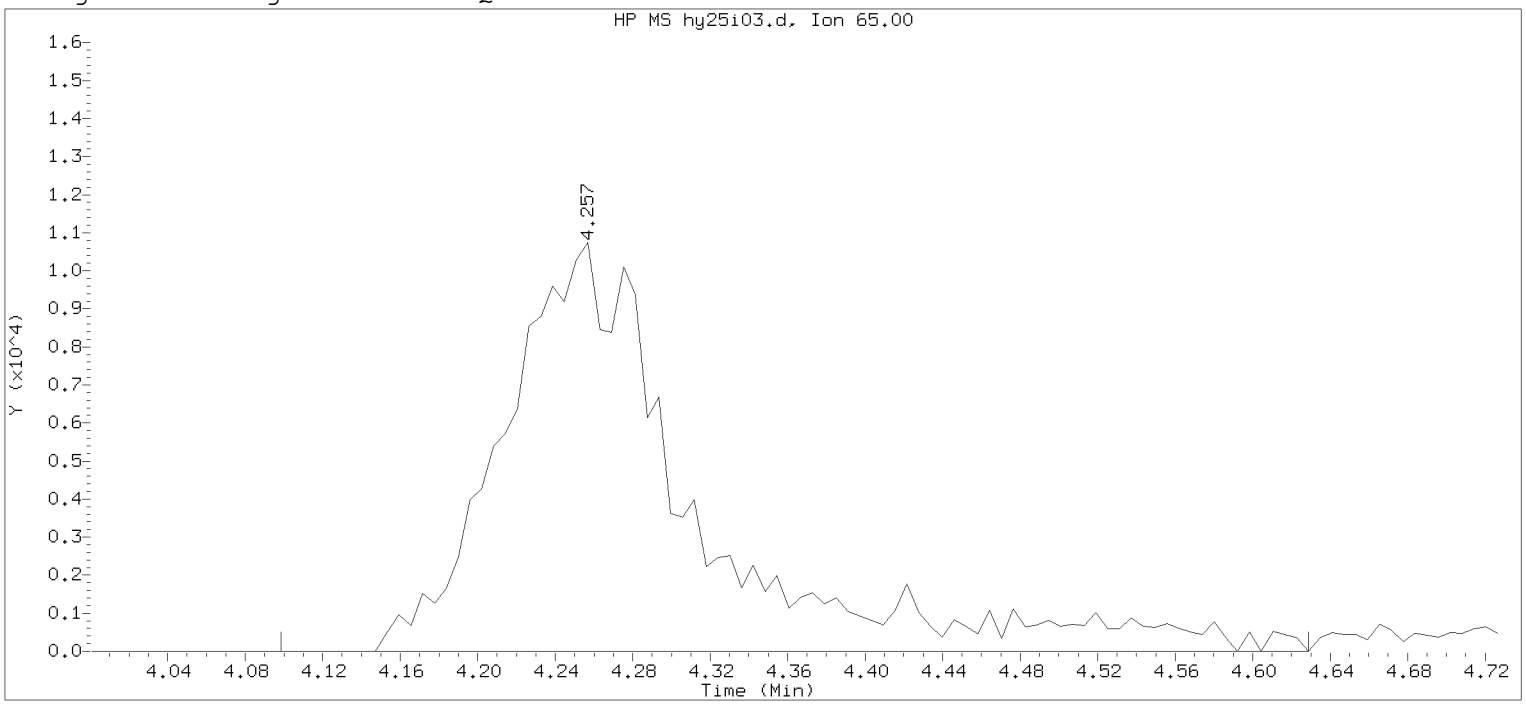
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

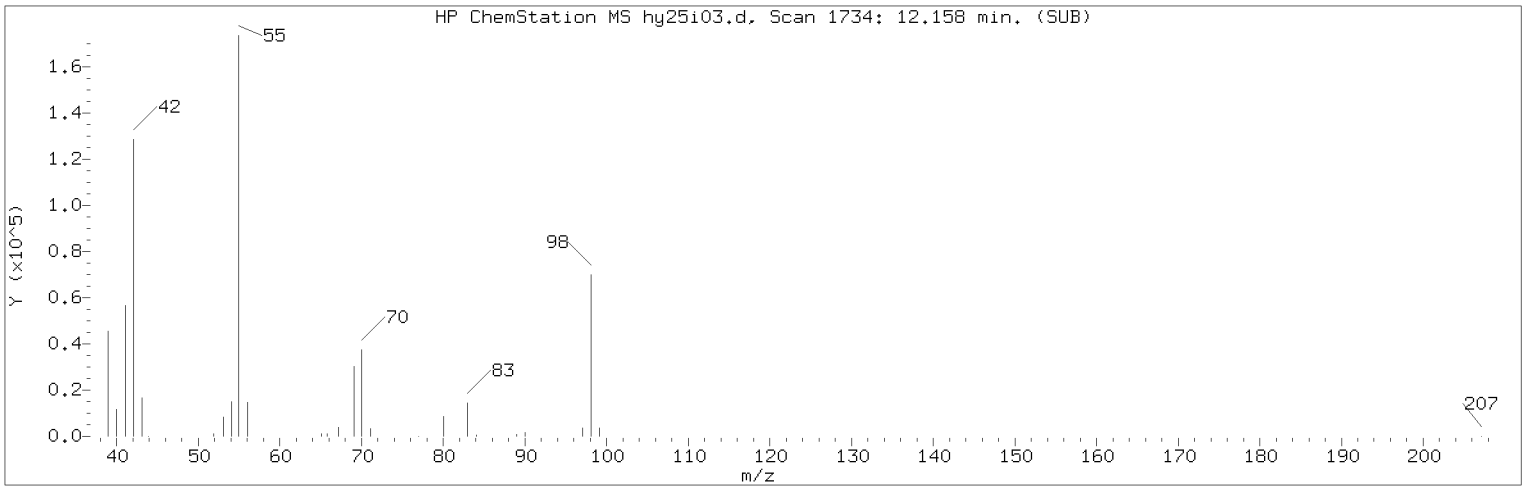
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

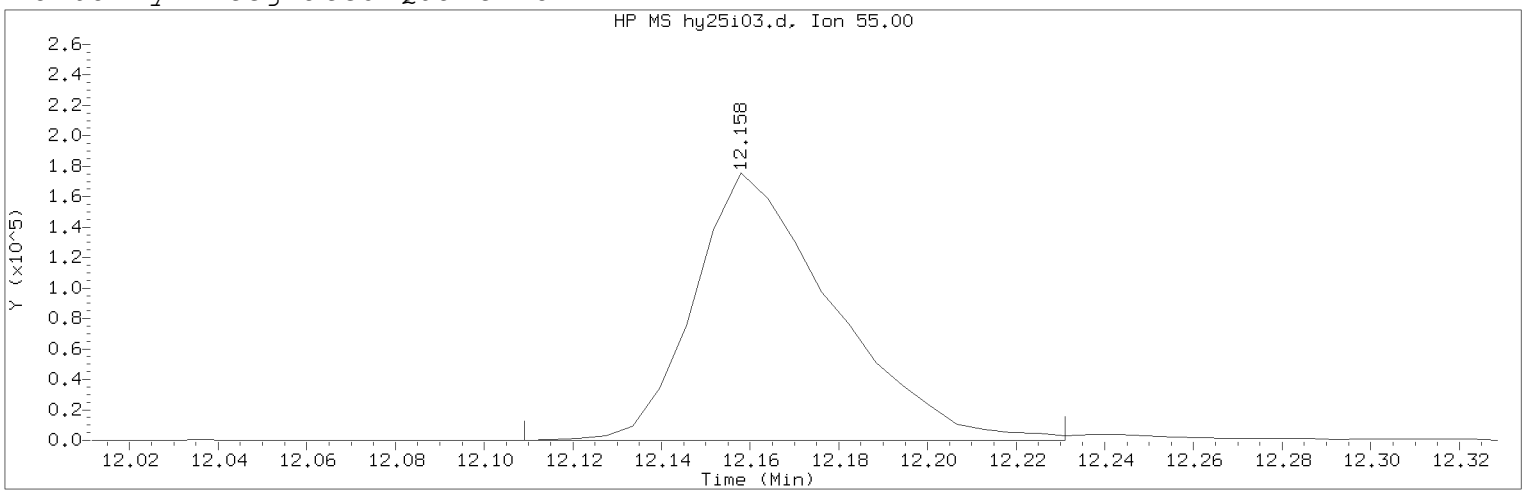
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 73238
On-column Amount (ng) : 50.0000
Integration start scan : 411 Integration stop scan: 498
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Key ID: 1613

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

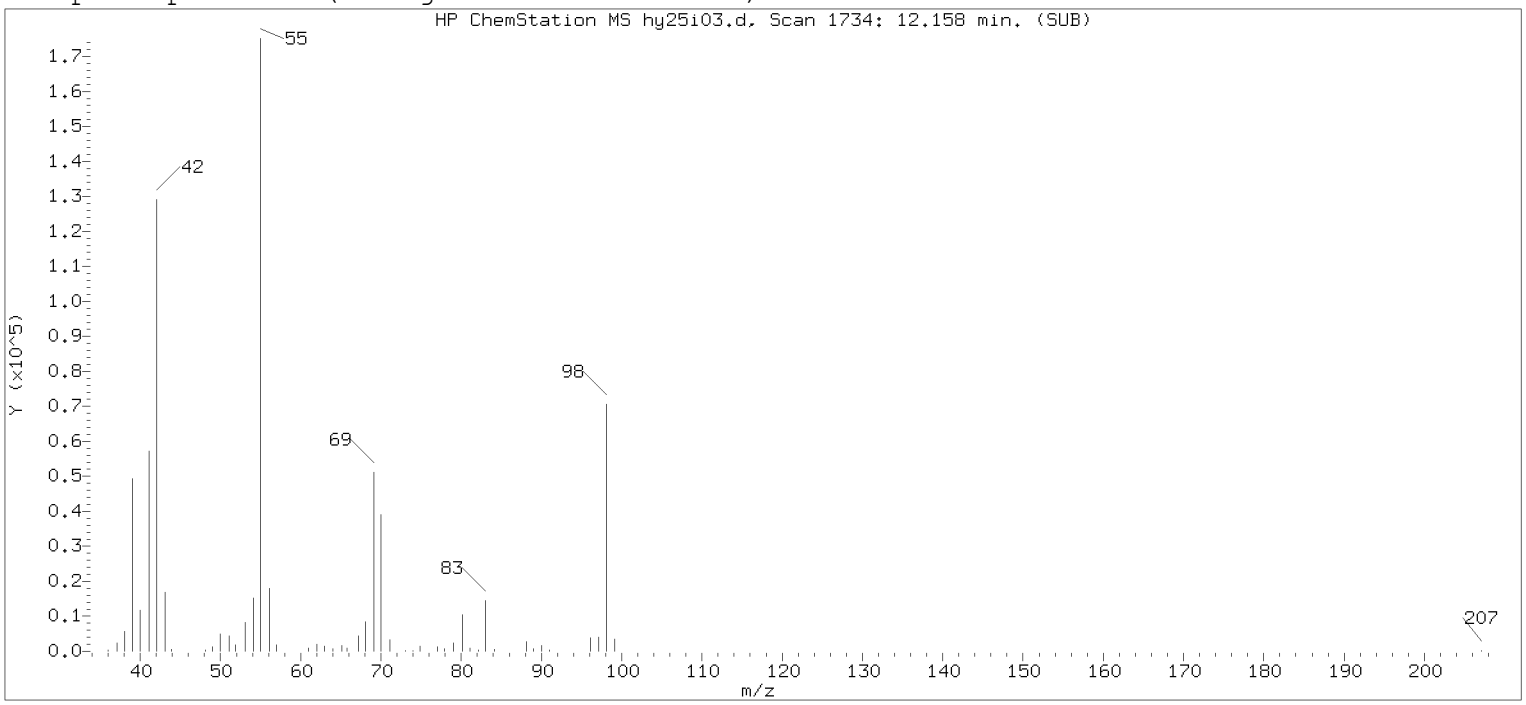
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area (flag) : 380574M
On-Column Amount (ng) : 294.5156
Integration start scan : 1725 Integration stop scan: 1745
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

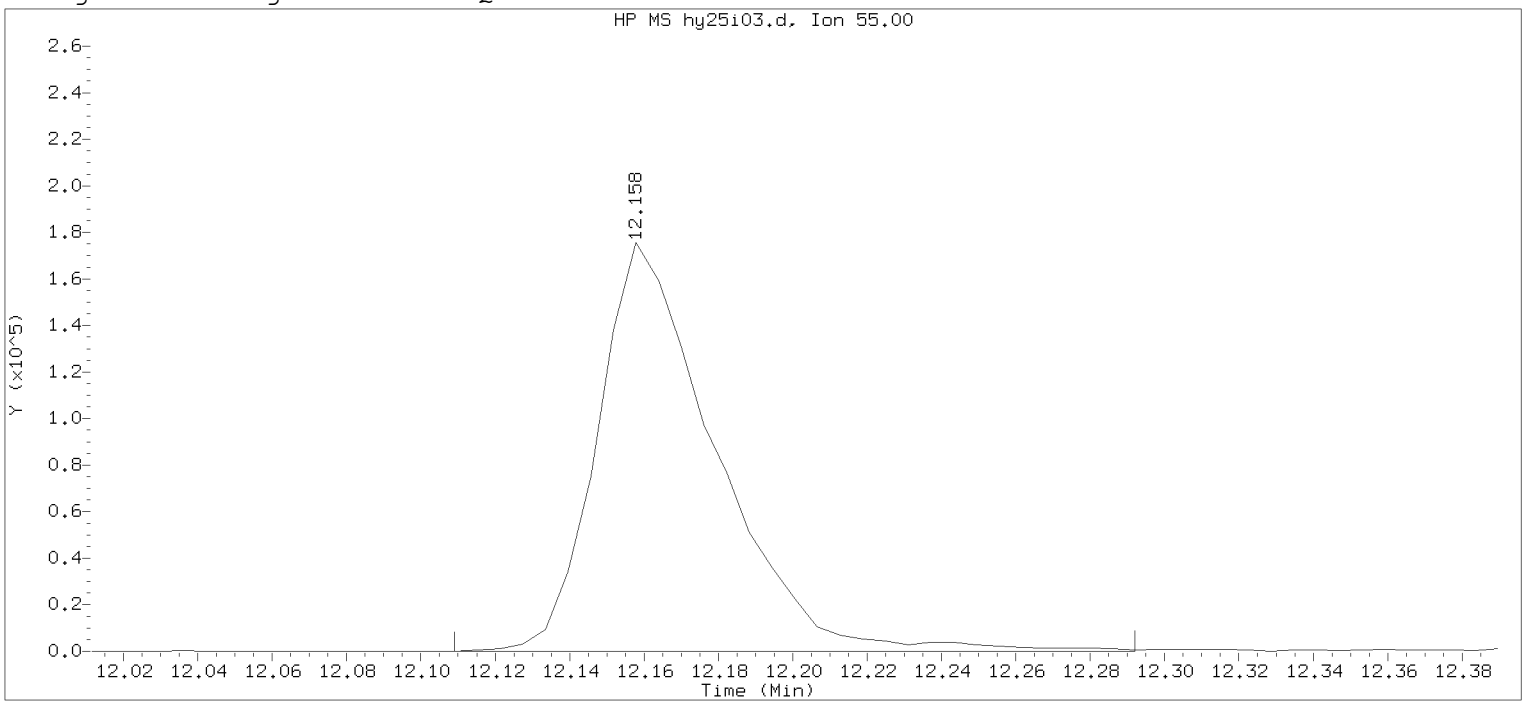
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



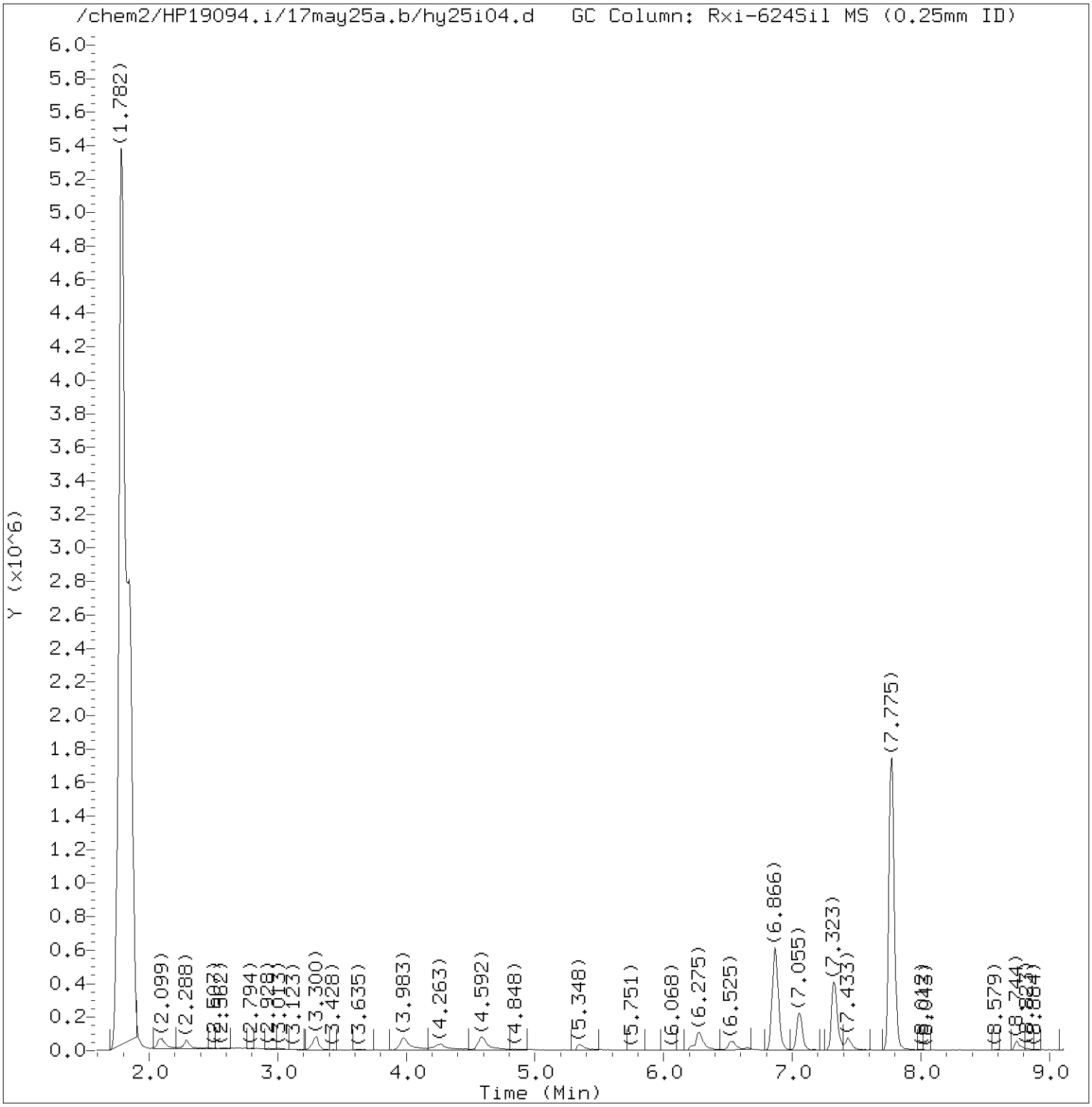
Data File: /chem2/HP19094.i/17may25a.b/hy25i03.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 11:44 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD005 Lab Sample ID: VSTD005

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area : 387821
On-column Amount (ng) : 250.0675
Integration start scan : 1725 Integration stop scan: 1755
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I am the author of this document



Total Ion Chromatogram (TIC)

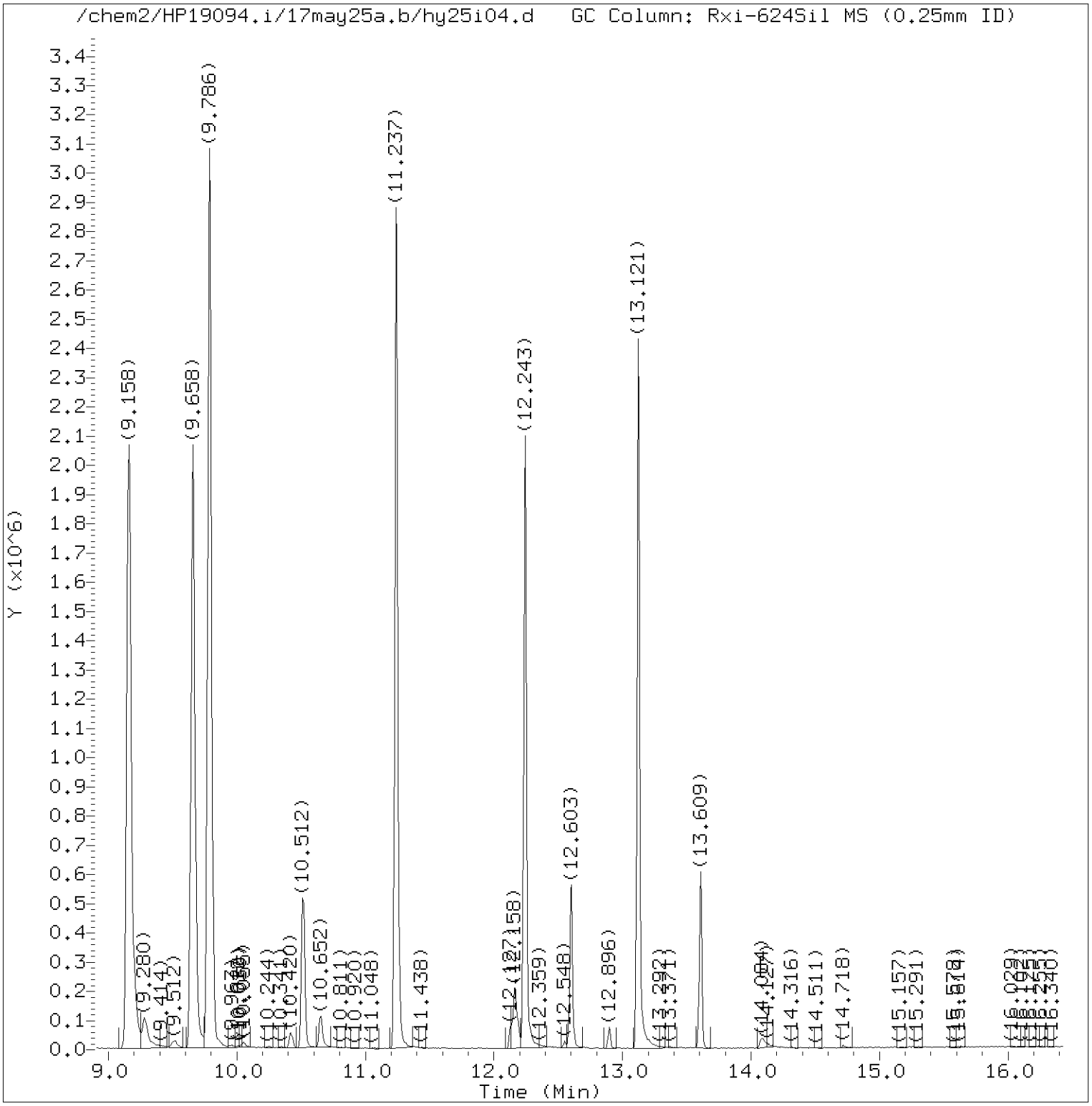
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

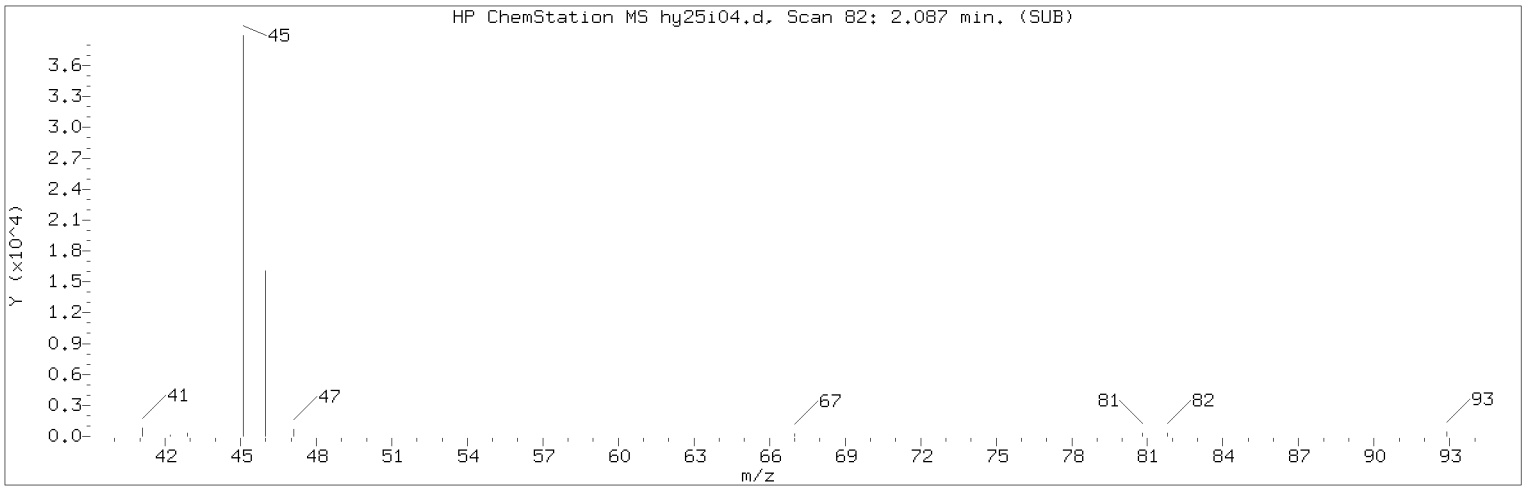
Sample Name: VSTD002 Lab Sample ID: VSTD002

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	161698M	1.845
25) Acetonitrile	(1)	3.983	41	310975M	81.163
26)*t-Butyl Alcohol-d10	(1)	4.257	65	77580	50.000
36) Vinyl Acetate	(2)	5.348	43	112284	1.823
43) Methyl Acrylate	(2)	6.281	55	238774	10.610
53) 1-Chlorobutane	(2)	7.055	56	259422	2.057
63)*Fluorobenzene	(2)	7.775	96	2395429	10.000
77) Chloroacetonitrile	(2)	9.207	75	153473	104.726
78) 2-Chloroethyl vinyl ether	(2)	9.280	63	43715	1.871
97)*Chlorobenzene-d5	(3)	11.237	117	1632772	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.133	88	19234	4.056
112) Cyclohexanone	(1)	12.158	55	108981M	90.777
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	644198	10.000
142) Hexachloroethane	(4)	13.609	117	104485	2.006

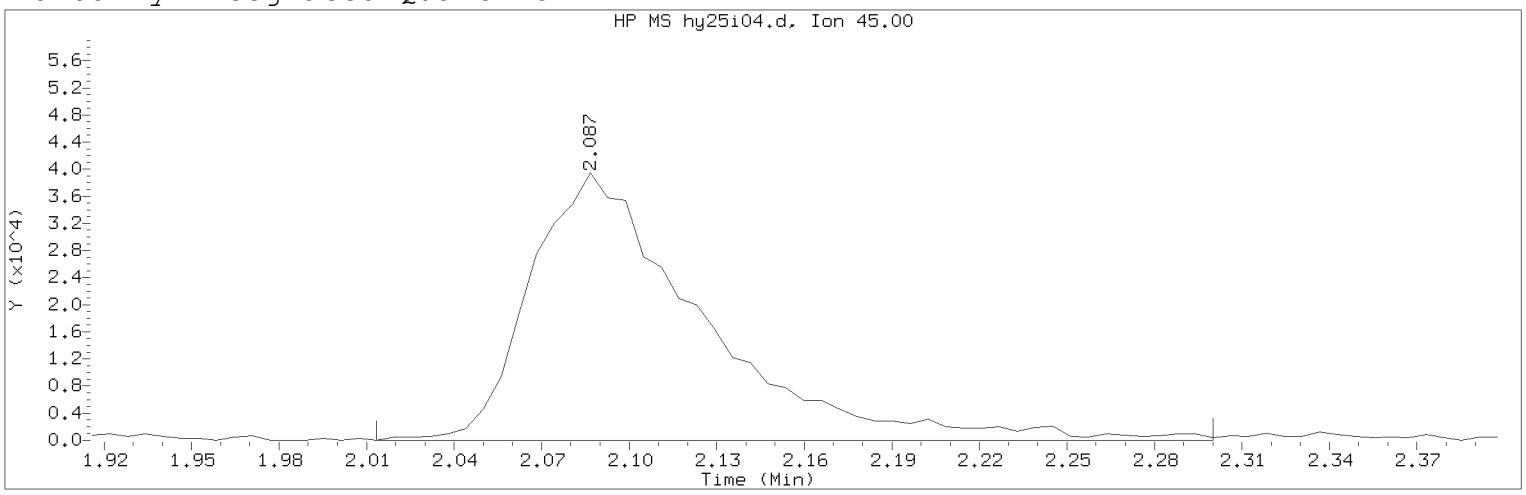
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

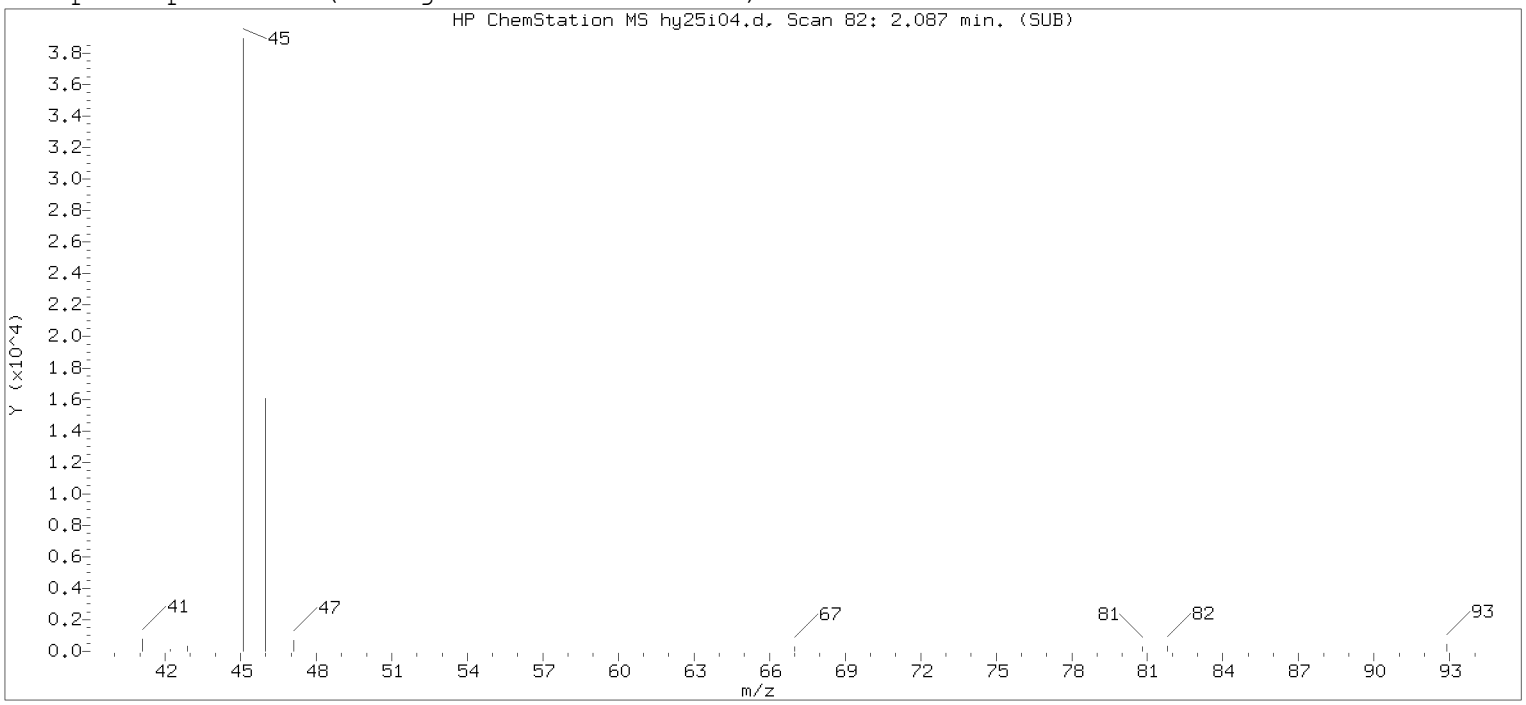
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area (flag) : 161698M
On-Column Amount (ng) : 1.8448
Integration start scan : 69 Integration stop scan: 116
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

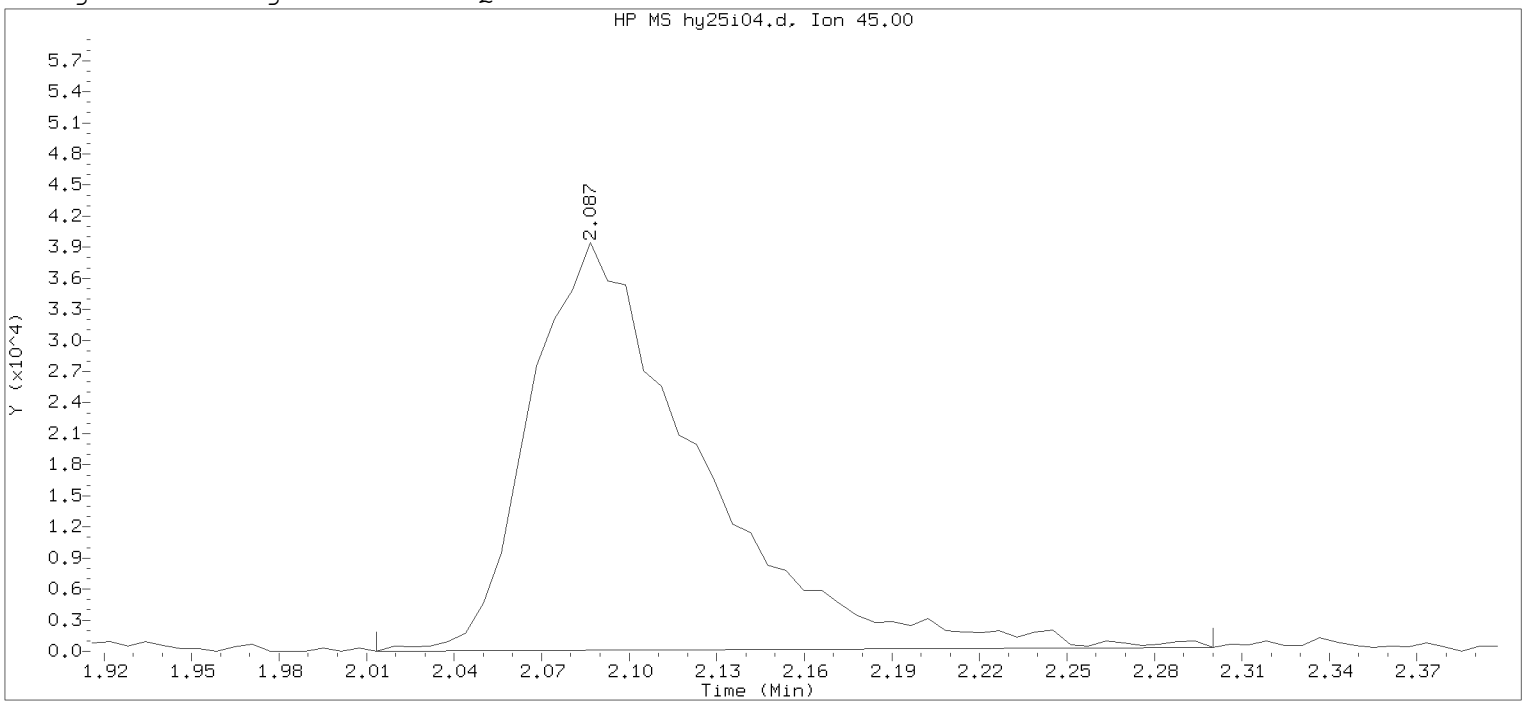
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

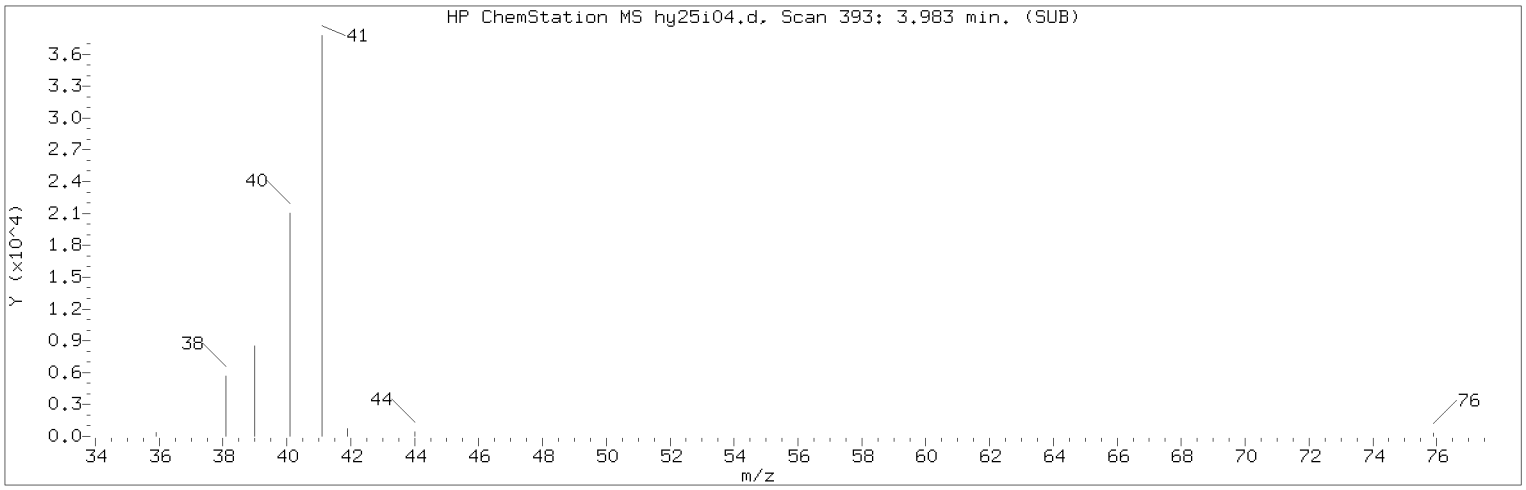
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

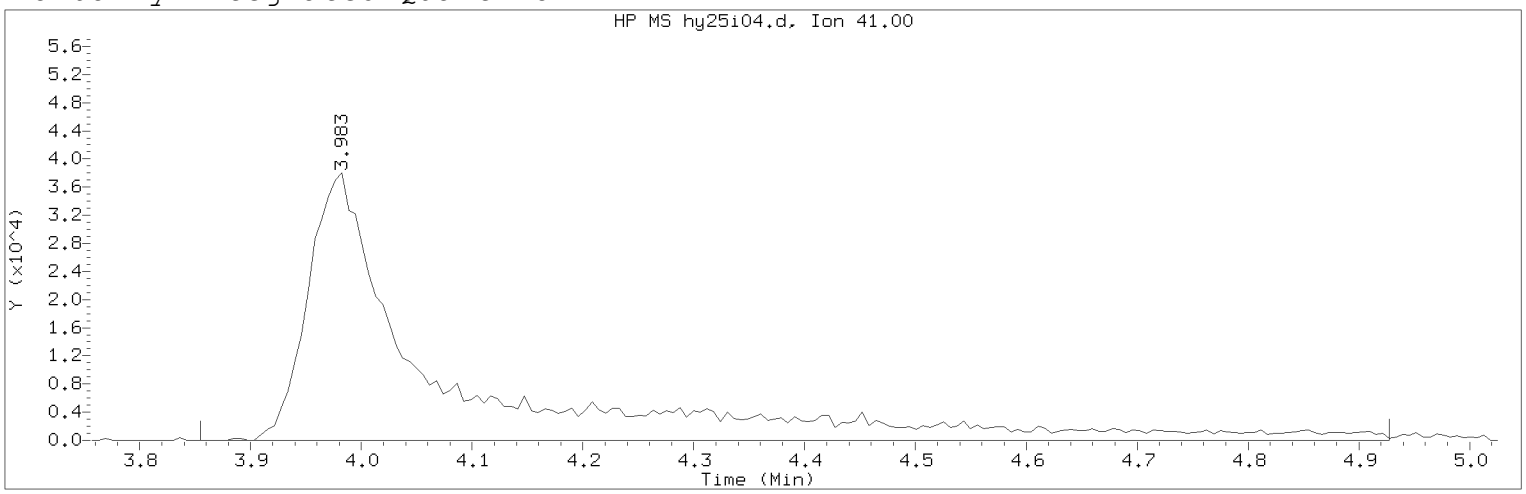
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area : 158190
On-column Amount (ng) : 1.8223
Integration start scan : 69 Integration stop scan: 116
Y at integration start : 0 Y at integration end: 400

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

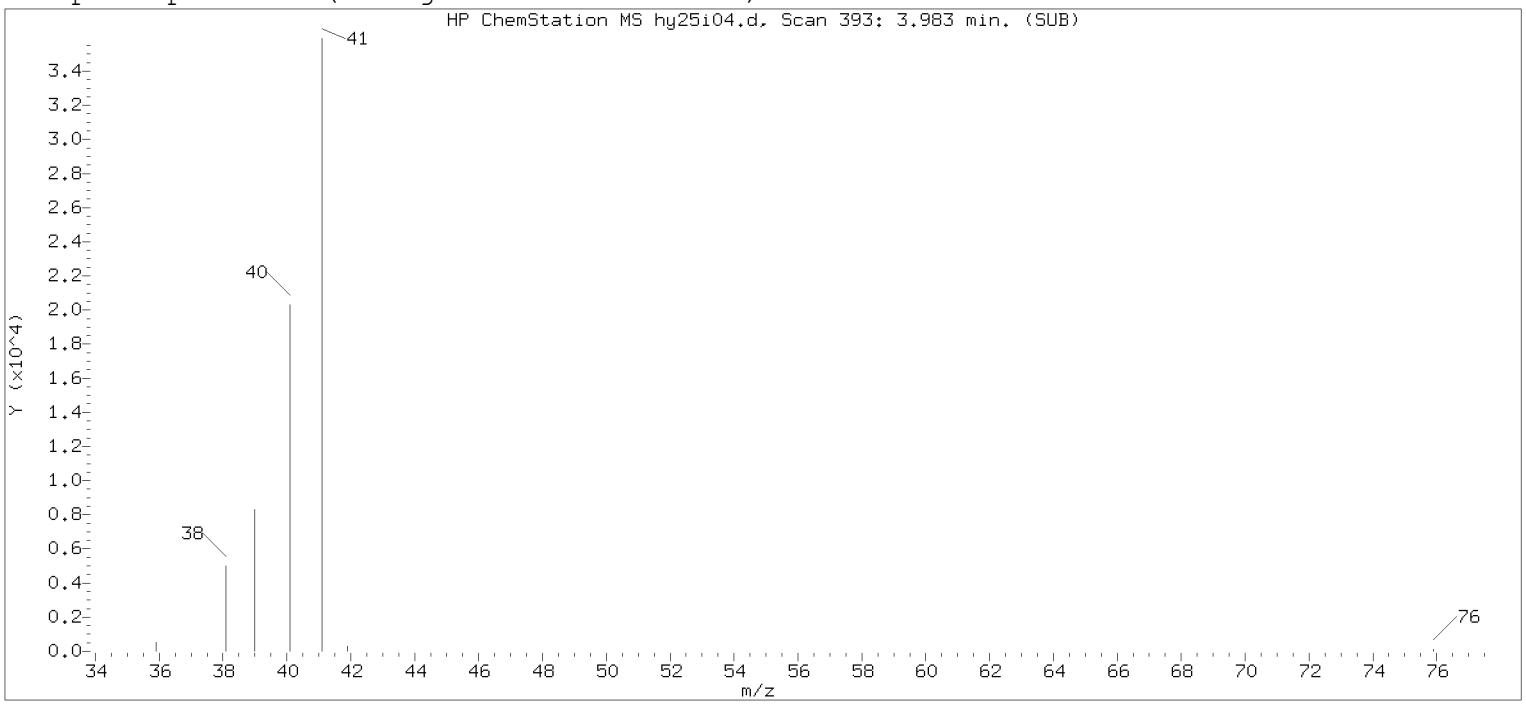
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area (flag) : 310975M
On-Column Amount (ng) : 81.1633
Integration start scan : 371 Integration stop scan: 547
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

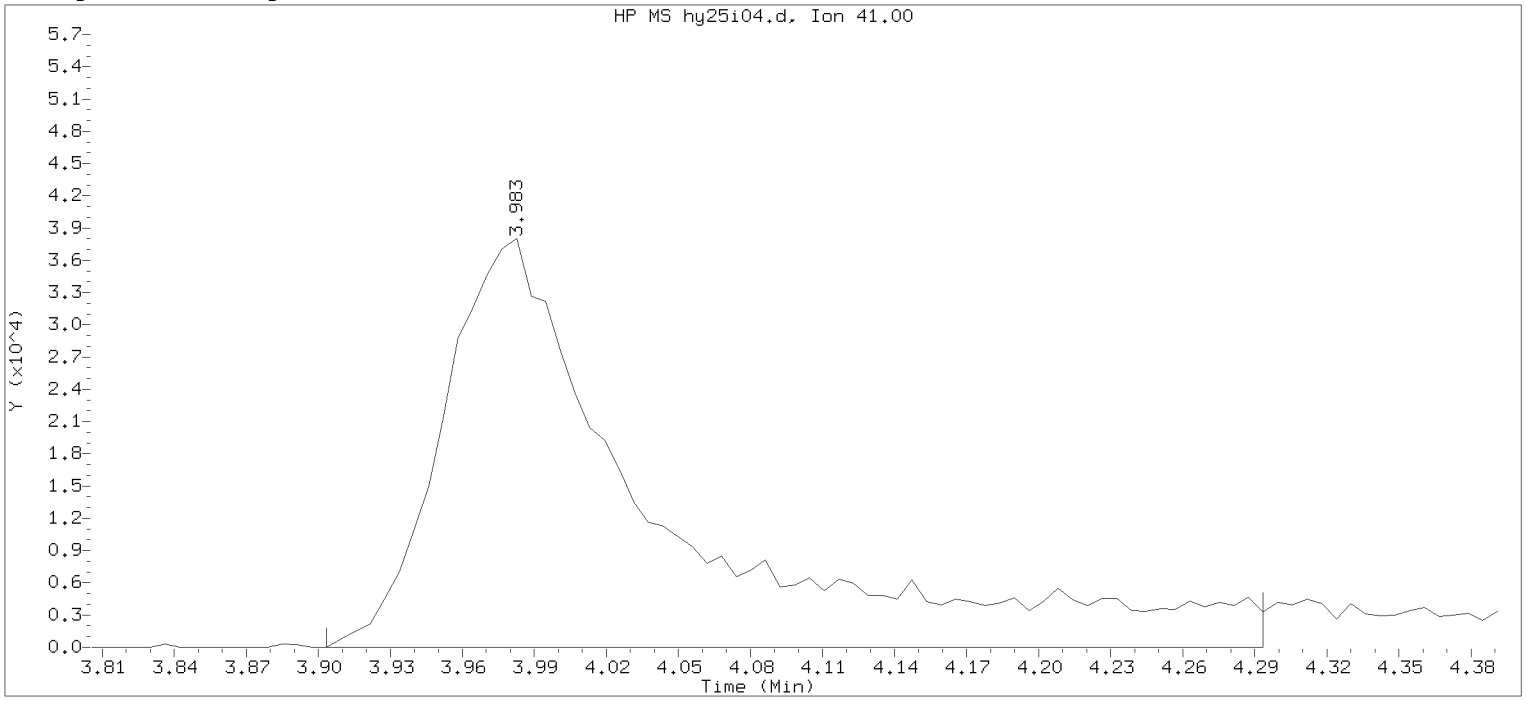
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

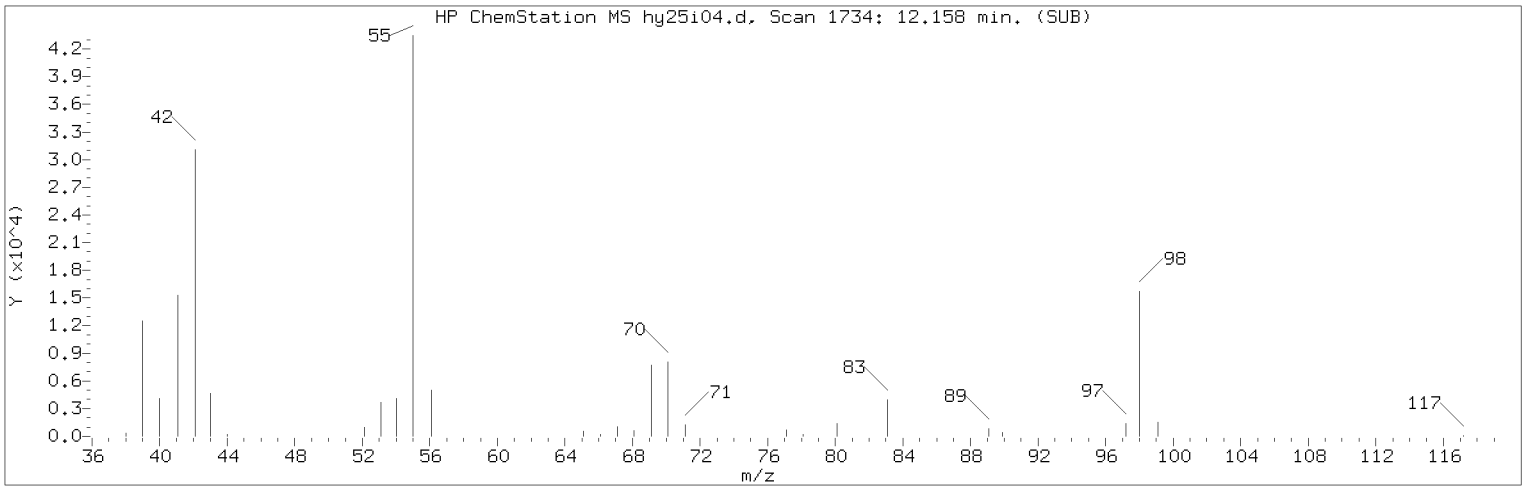
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

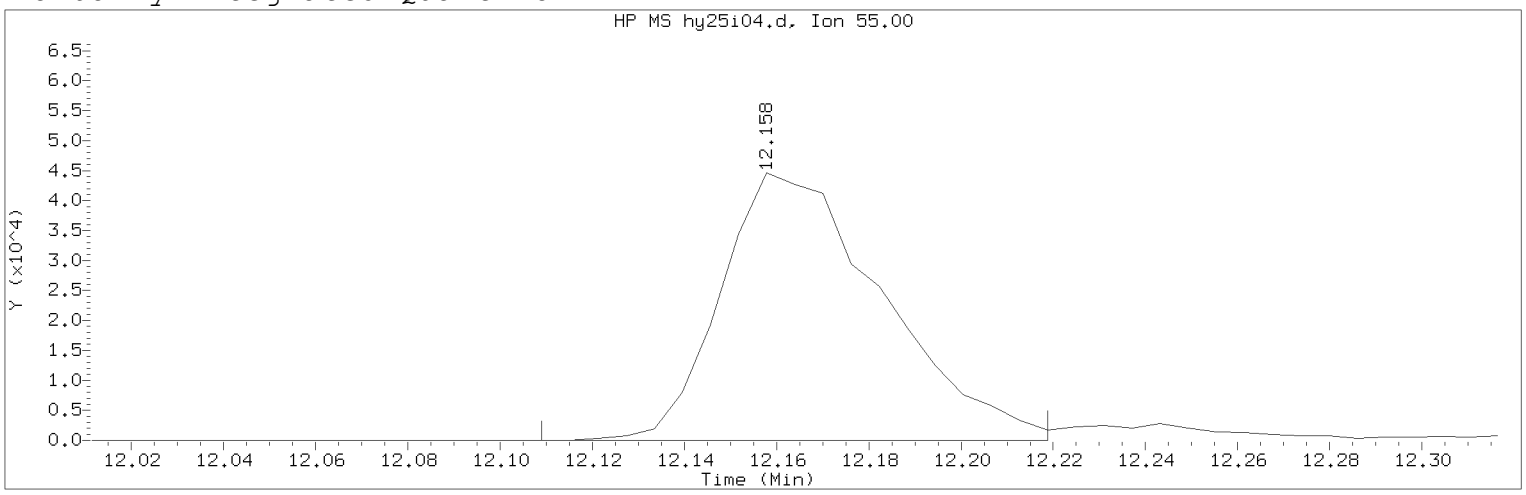
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area : 238549
On-column Amount (ng) : 72.9887
Integration start scan : 379 Integration stop scan: 443
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I approve this document.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

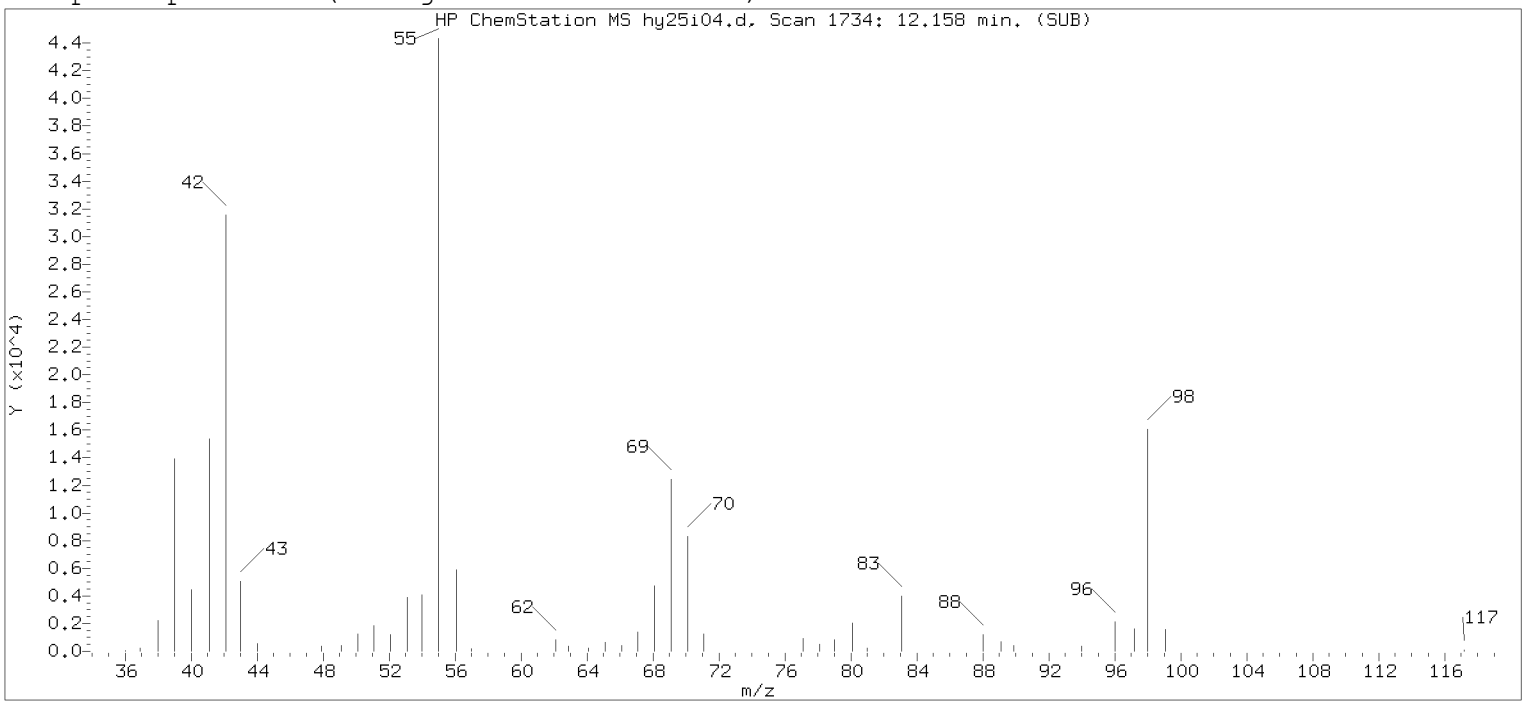
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area (flag) : 108981M
On-Column Amount (ng) : 90.7773
Integration start scan : 1725 Integration stop scan: 1743
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

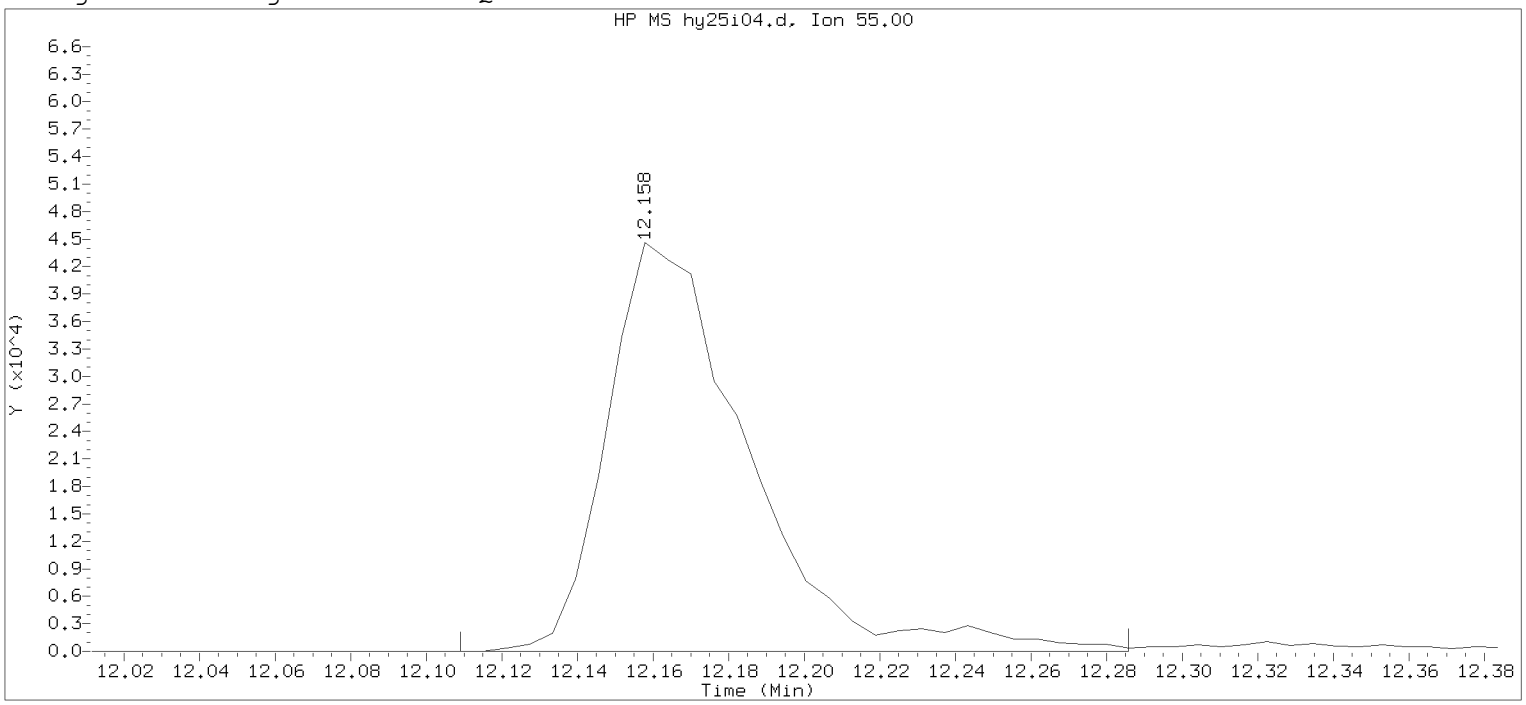
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



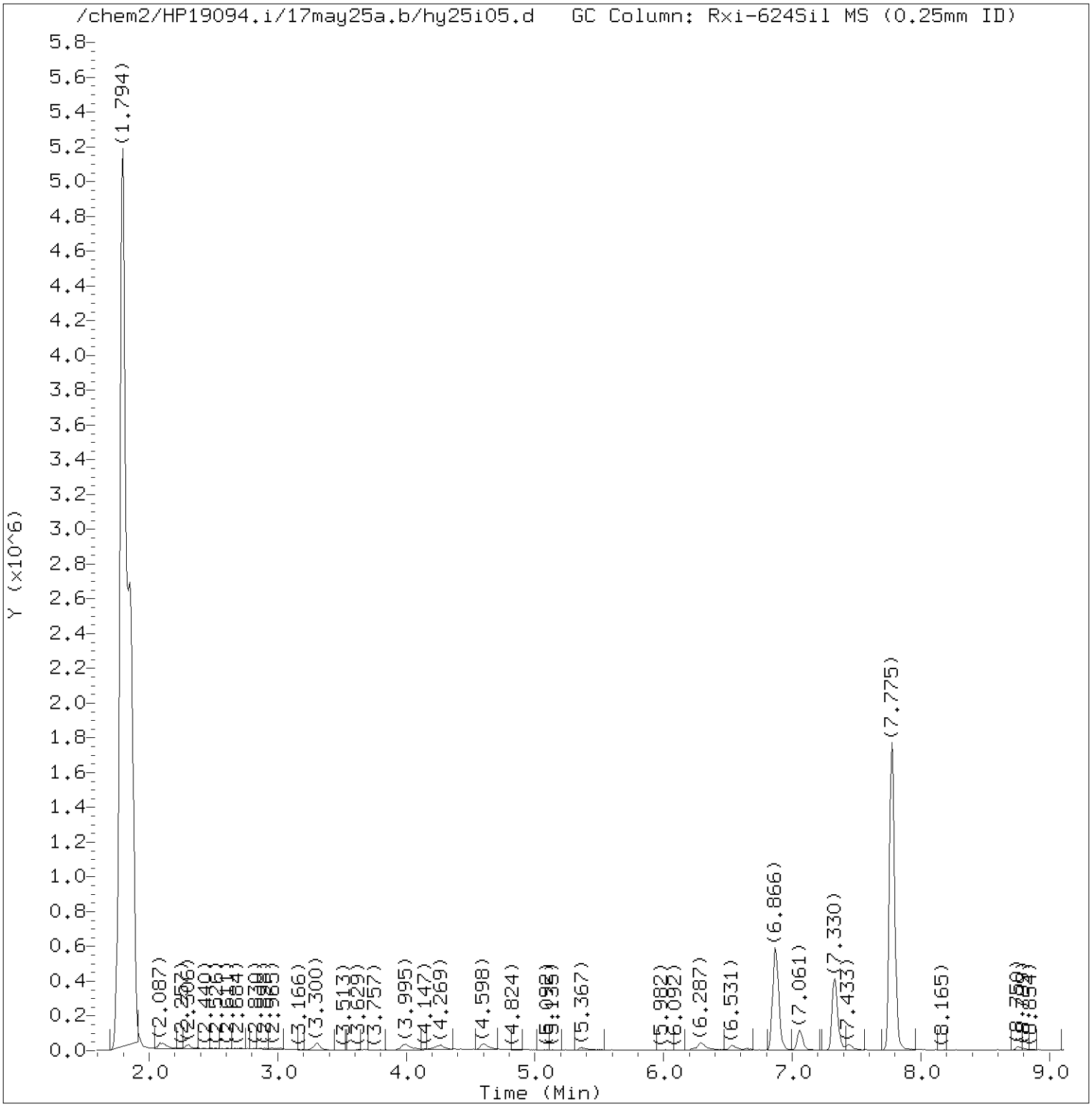
Data File: /chem2/HP19094.i/17may25a.b/hy25i04.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:04 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD002 Lab Sample ID: VSTD002

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area : 115163
On-column Amount (ng) : 75.7648
Integration start scan : 1725 Integration stop scan: 1754
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I approve this document.



Total Ion Chromatogram (TIC)

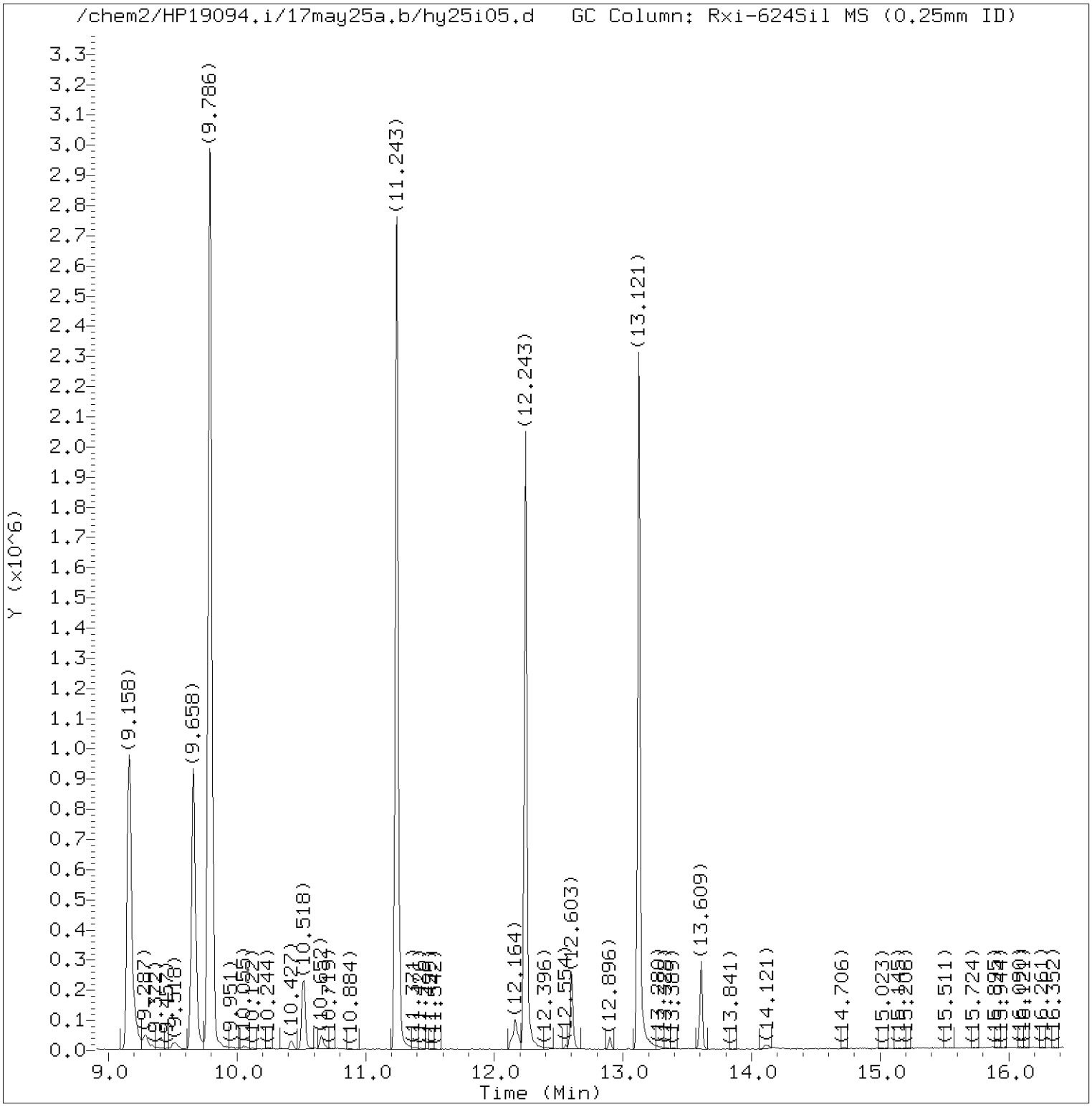
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

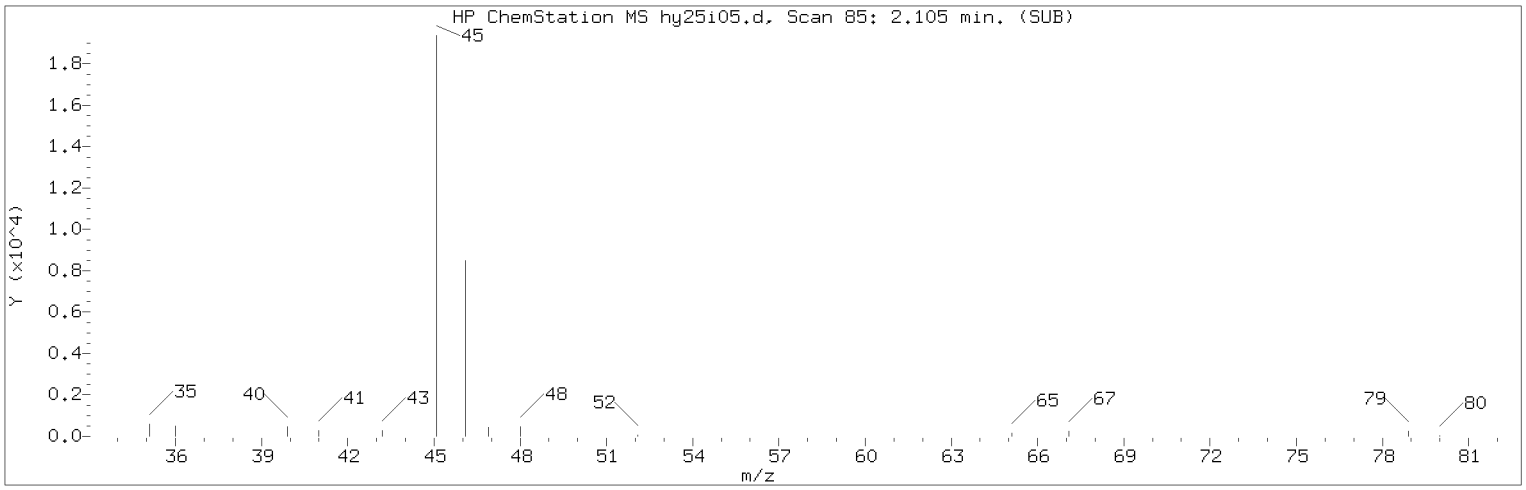
Sample Name: VSTD001 Lab Sample ID: VSTD001

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.105	45	82703M	0.945
25) Acetonitrile	(1)	3.983	41	155026M	42.067
26)*t-Butyl Alcohol-d10	(1)	4.269	65	74618M	50.000
36) Vinyl Acetate	(2)	5.367	43	48988	0.958
43) Methyl Acrylate	(2)	6.287	55	101338	4.508
53) 1-Chlorobutane	(2)	7.061	56	122868	0.975
63)*Fluorobenzene	(2)	7.775	96	2392493	10.000
77) Chloroacetonitrile	(2)	9.207	75	71297M	48.711
78) 2-Chloroethyl vinyl ether	(2)	9.287	63	18656	0.799
97)*Chlorobenzene-d5	(3)	11.243	117	1610782	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.134	88	8754	2.165
112) Cyclohexanone	(1)	12.158	55	50801M	43.995
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	622280	10.000
142) Hexachloroethane	(4)	13.609	117	50417	1.002

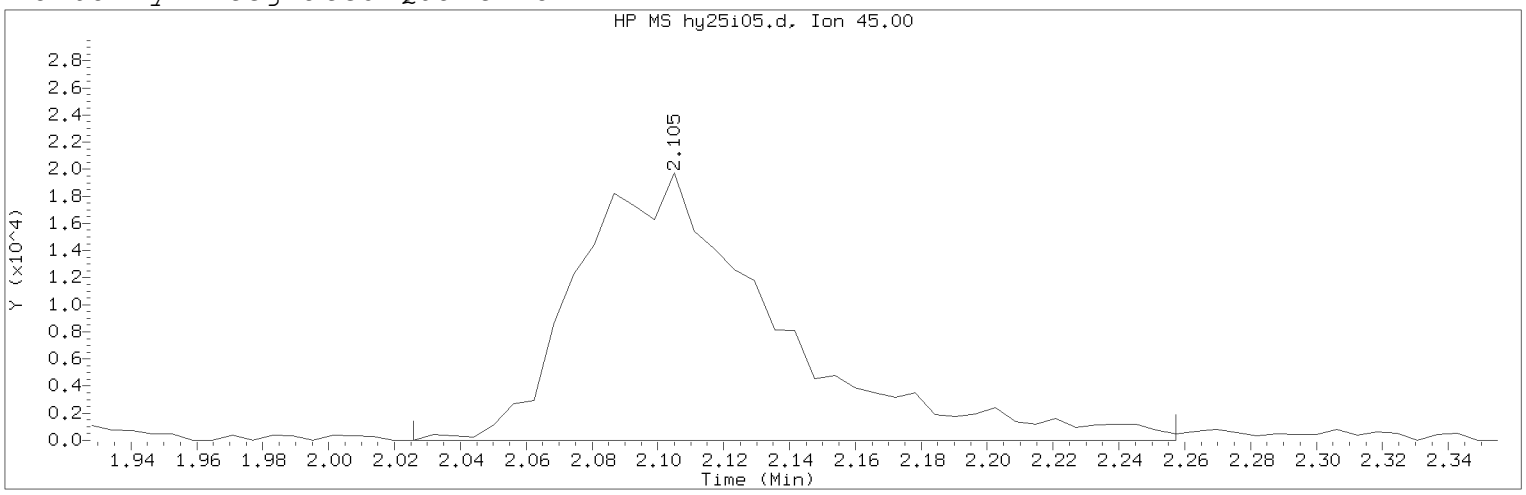
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

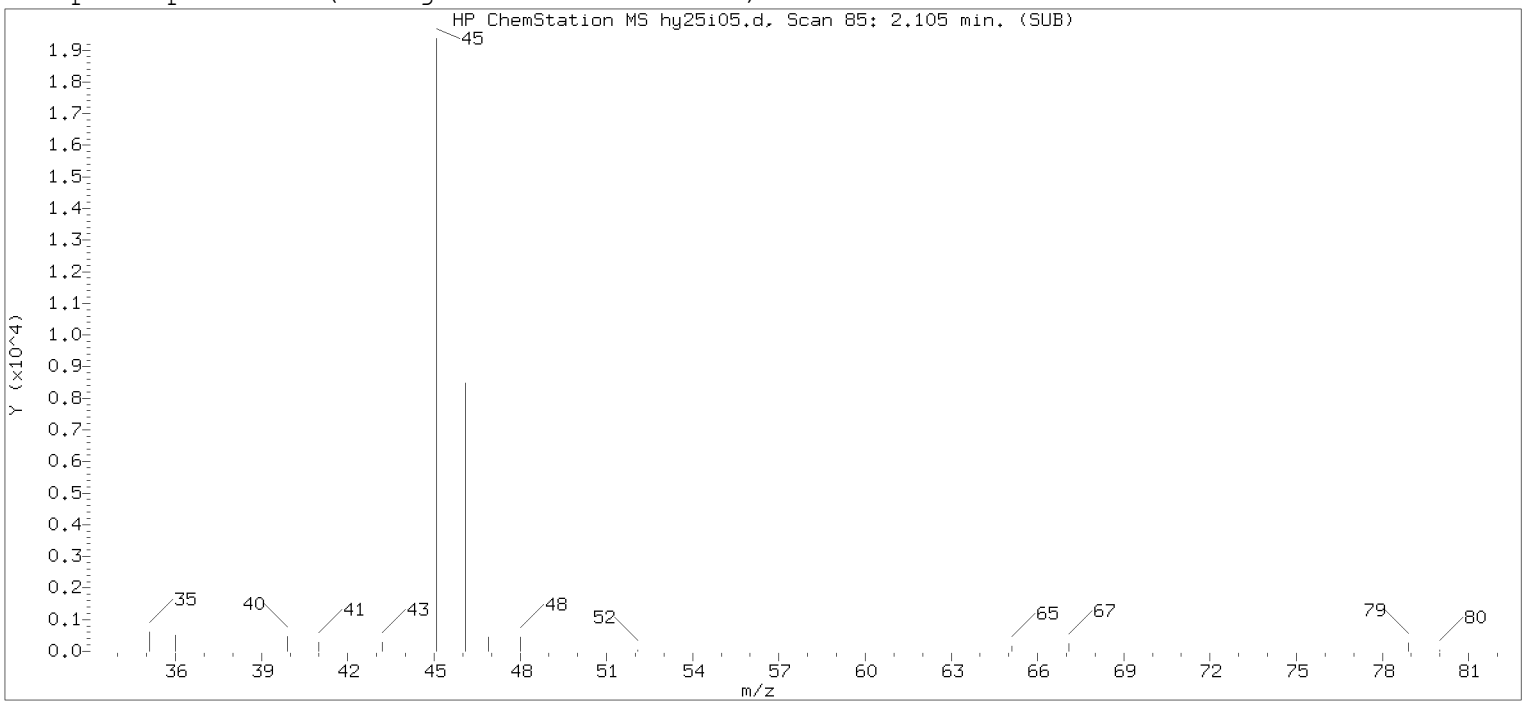
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 85
Retention Time (minutes): 2.105
Quant Ion : 45.00
Area (flag) : 82703M
On-Column Amount (ng) : 0.9447
Integration start scan : 71 Integration stop scan: 109
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

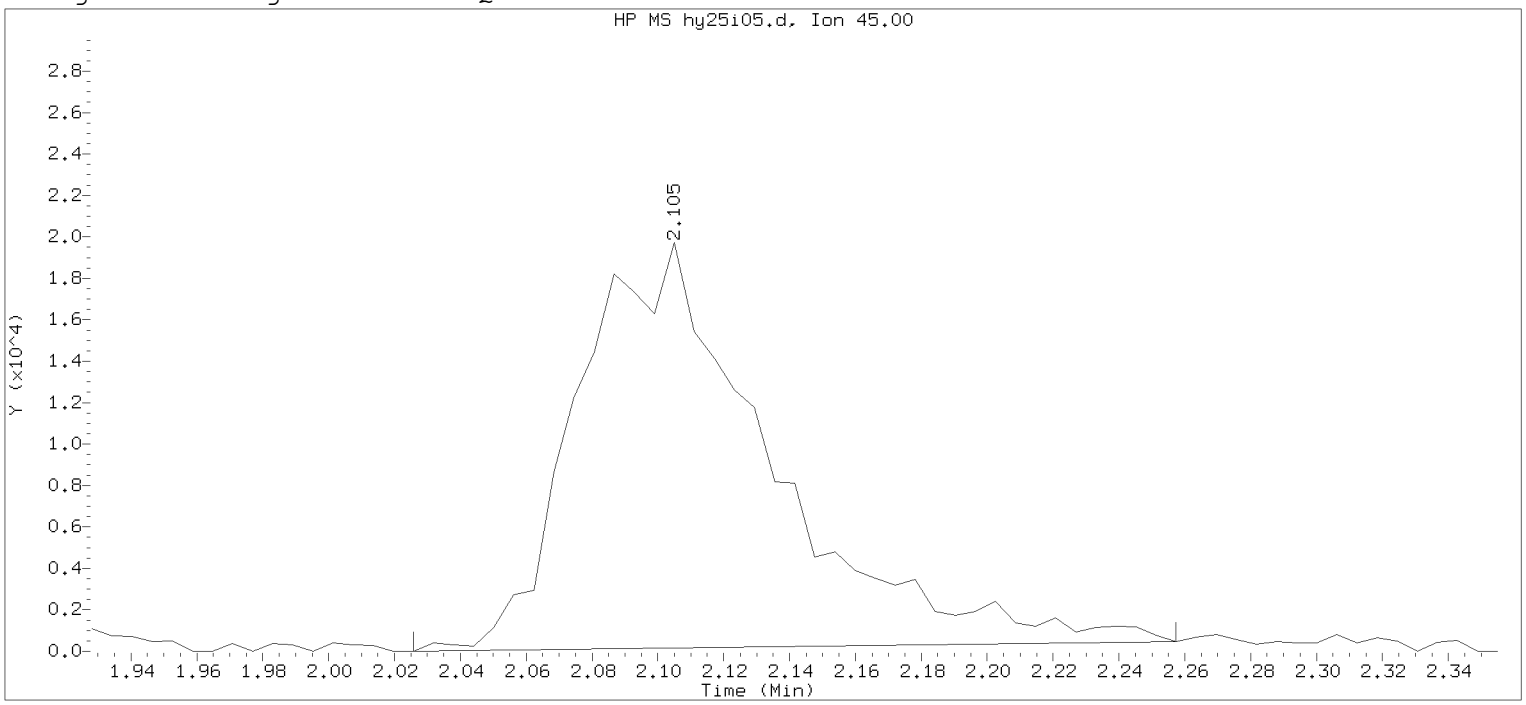
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

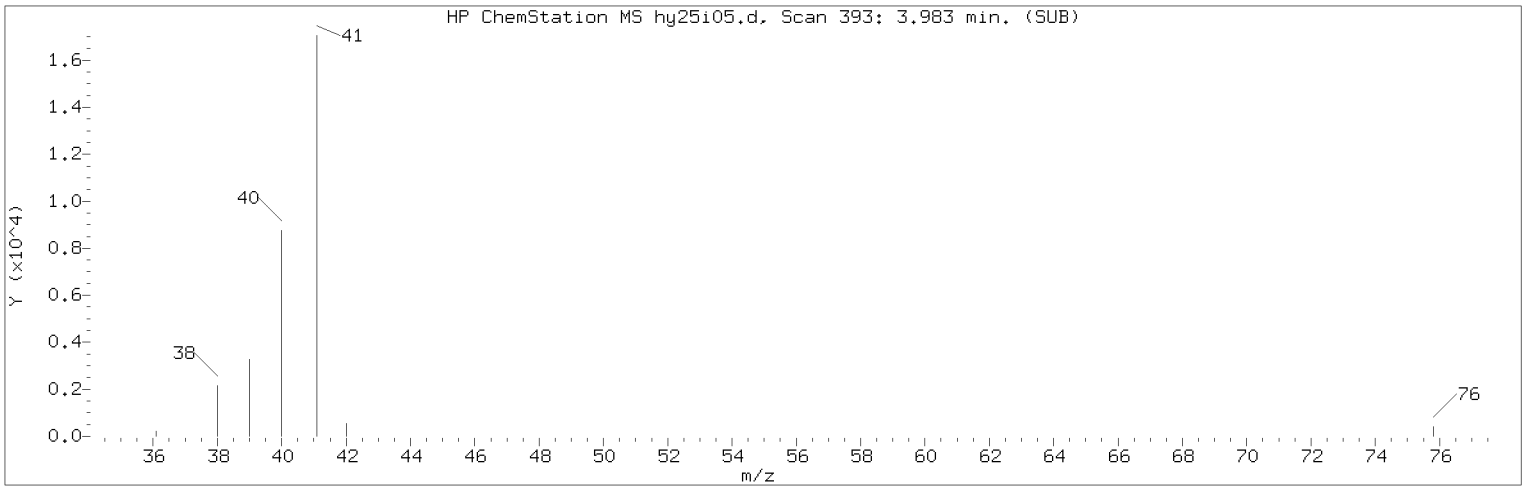
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

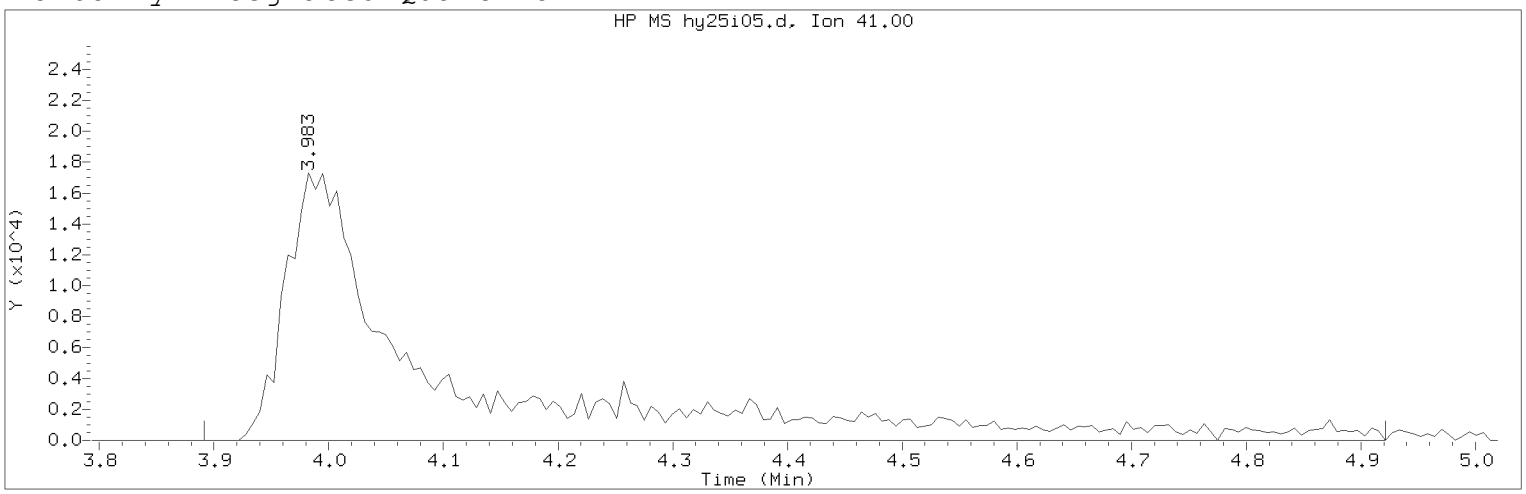
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 85
Retention Time (minutes): 2.105
Quant Ion : 45.00
Area : 79495
On-column Amount (ng) : 0.9324
Integration start scan : 71 Integration stop scan: 109
Y at integration start : 0 Y at integration end: 450

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Key ID: 1973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

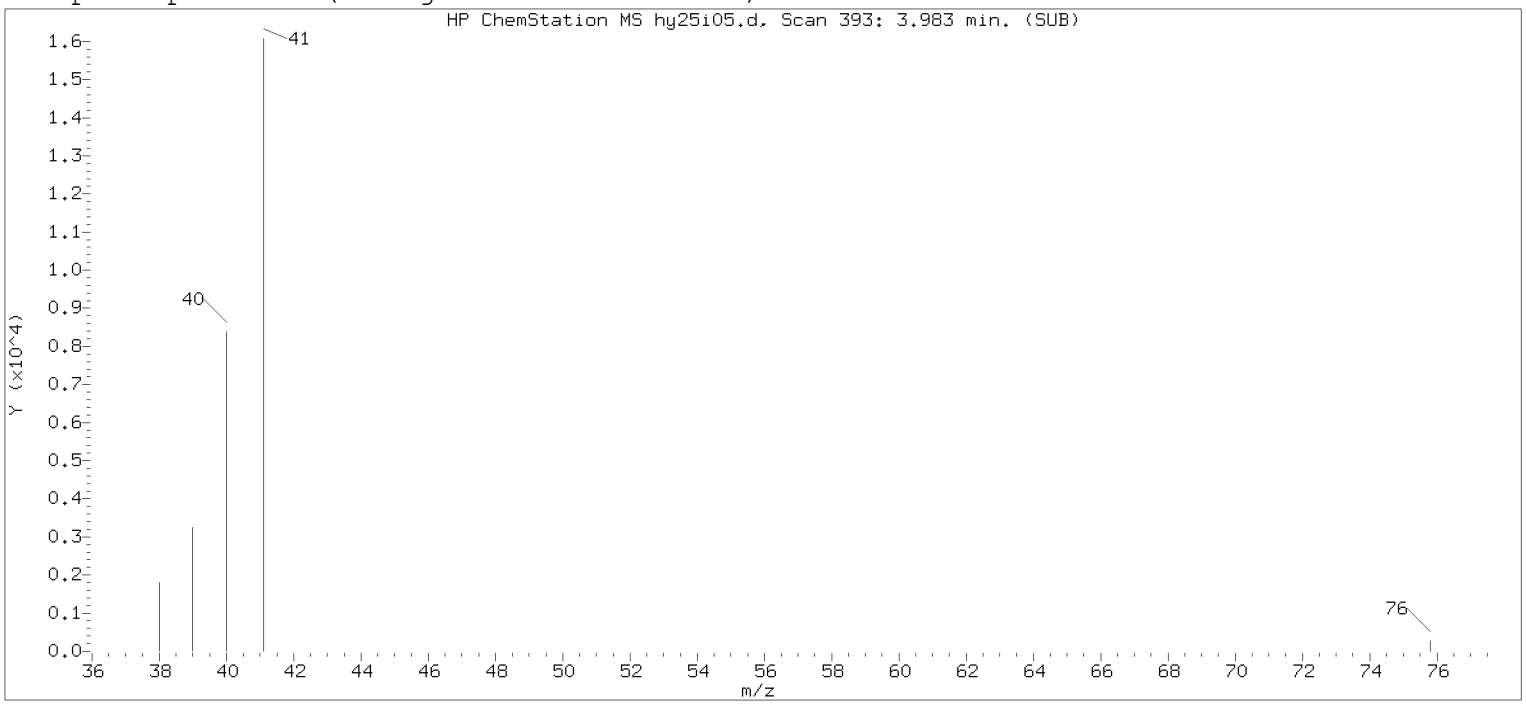
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area (flag) : 155026M
On-Column Amount (ng) : 42.0674
Integration start scan : 377 Integration stop scan: 546
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

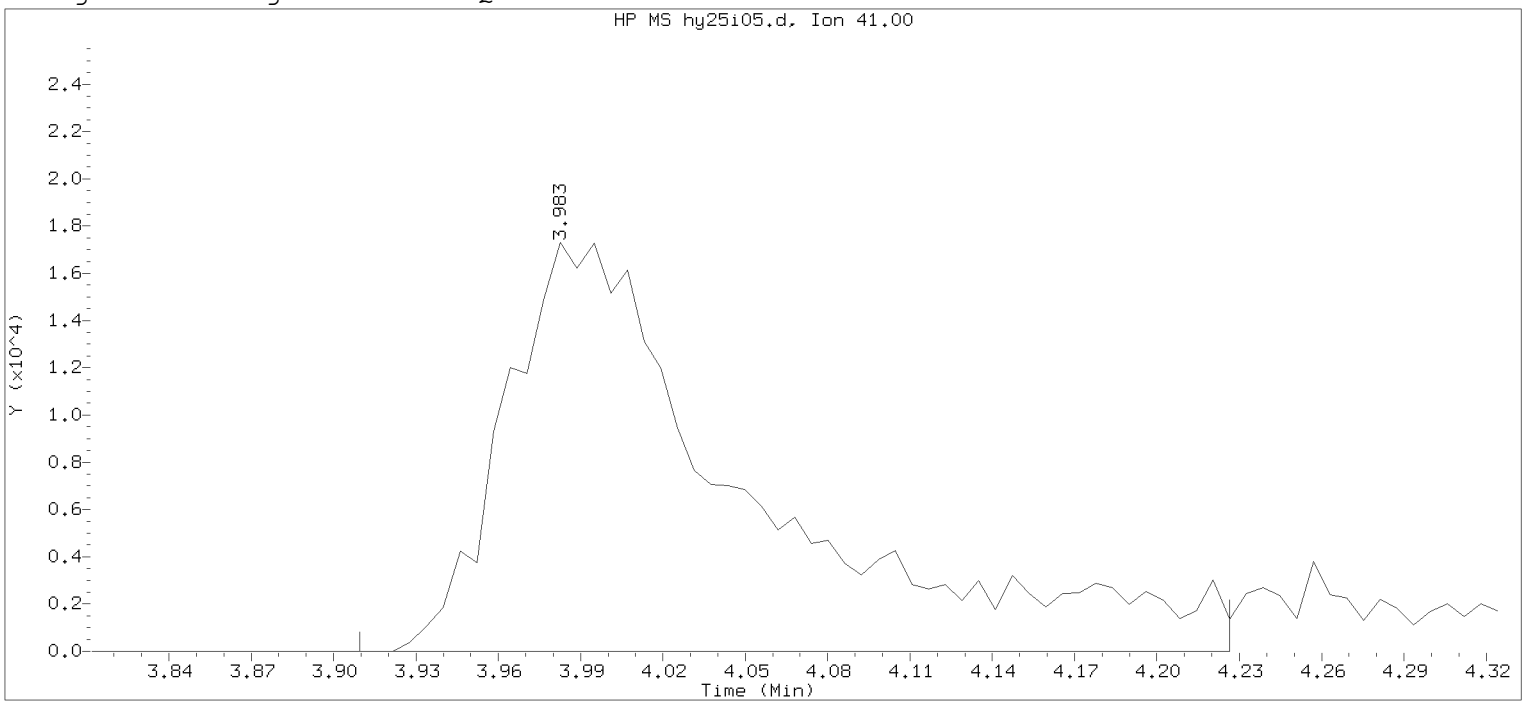
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

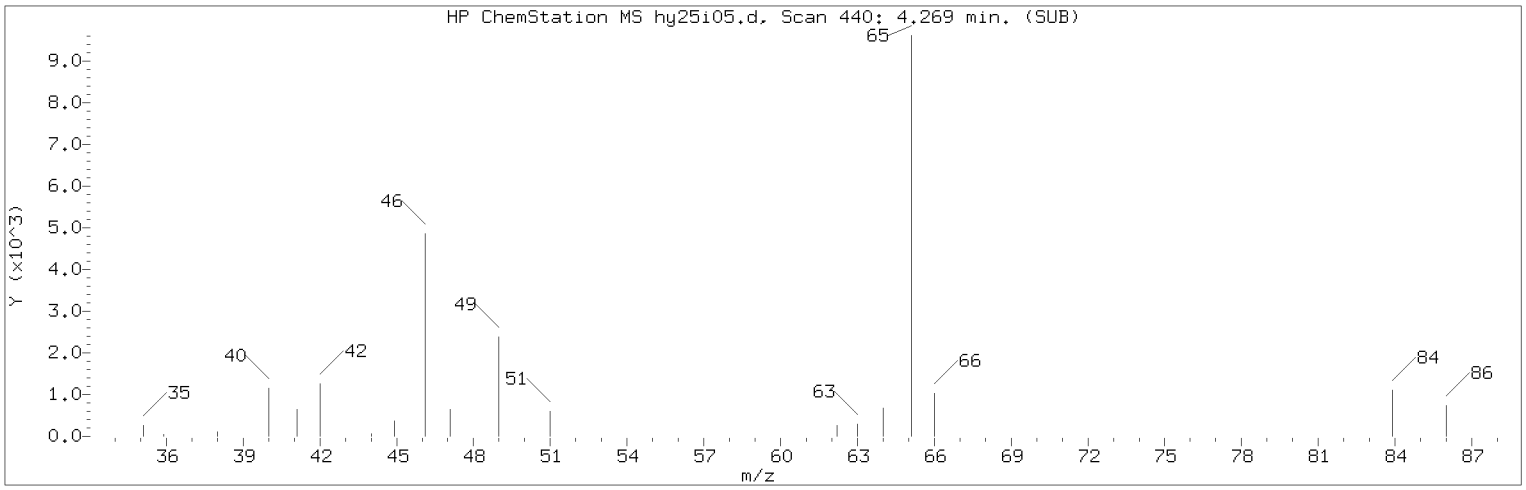
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

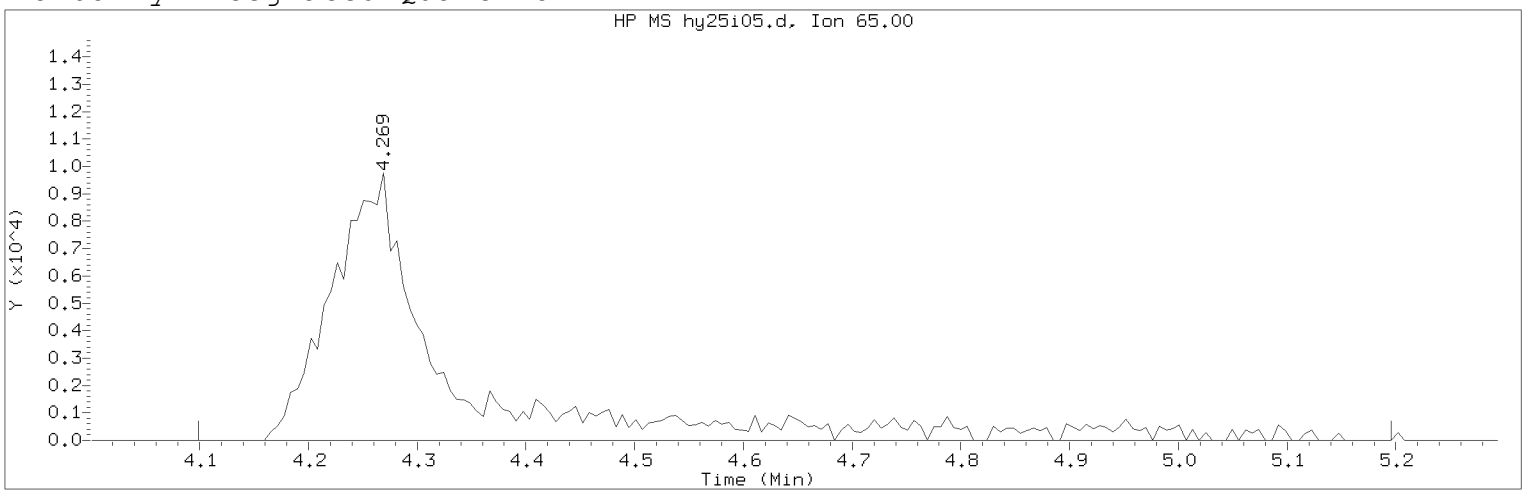
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area : 106965
On-column Amount (ng) : 37.9705
Integration start scan : 380 Integration stop scan: 432
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

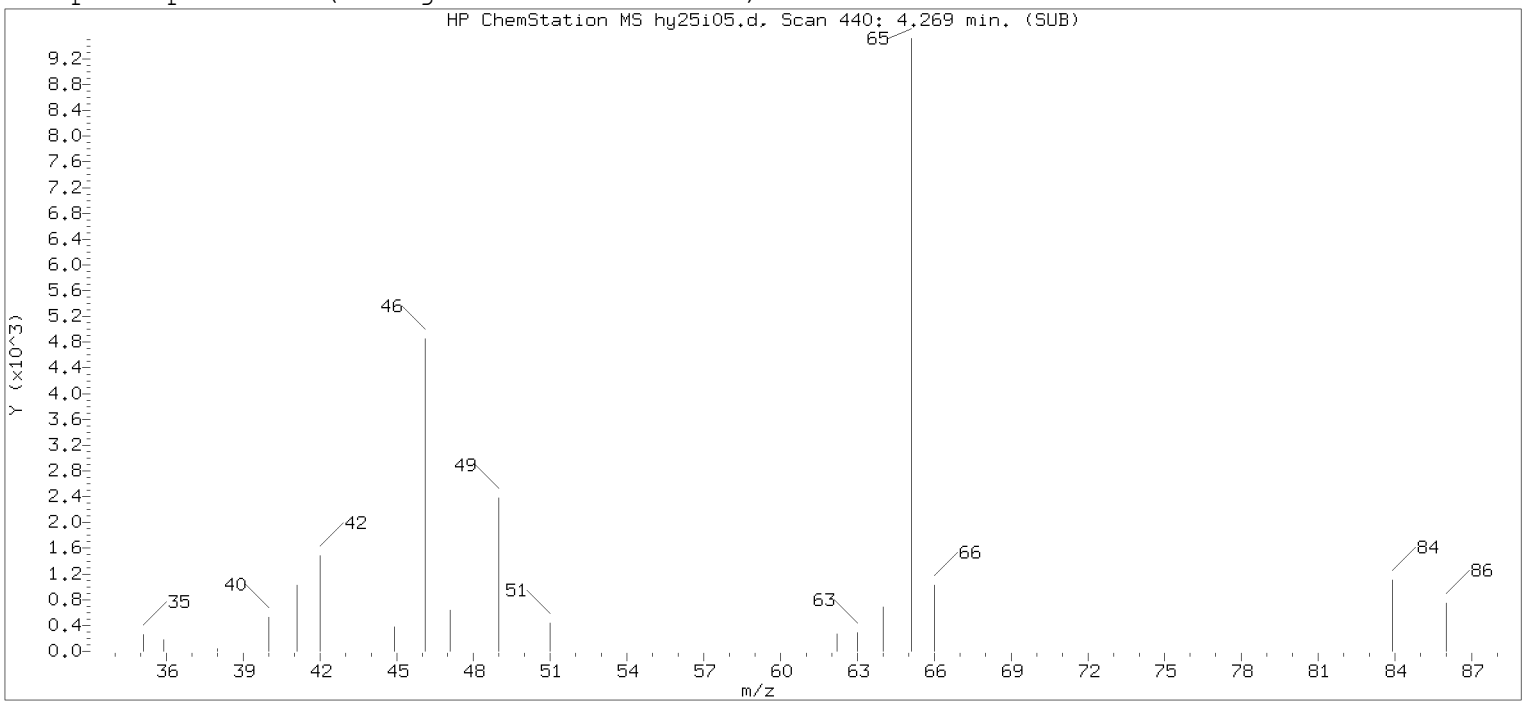
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area (flag) : 74618M
On-Column Amount (ng) : 50.0000
Integration start scan : 411 Integration stop scan: 591
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

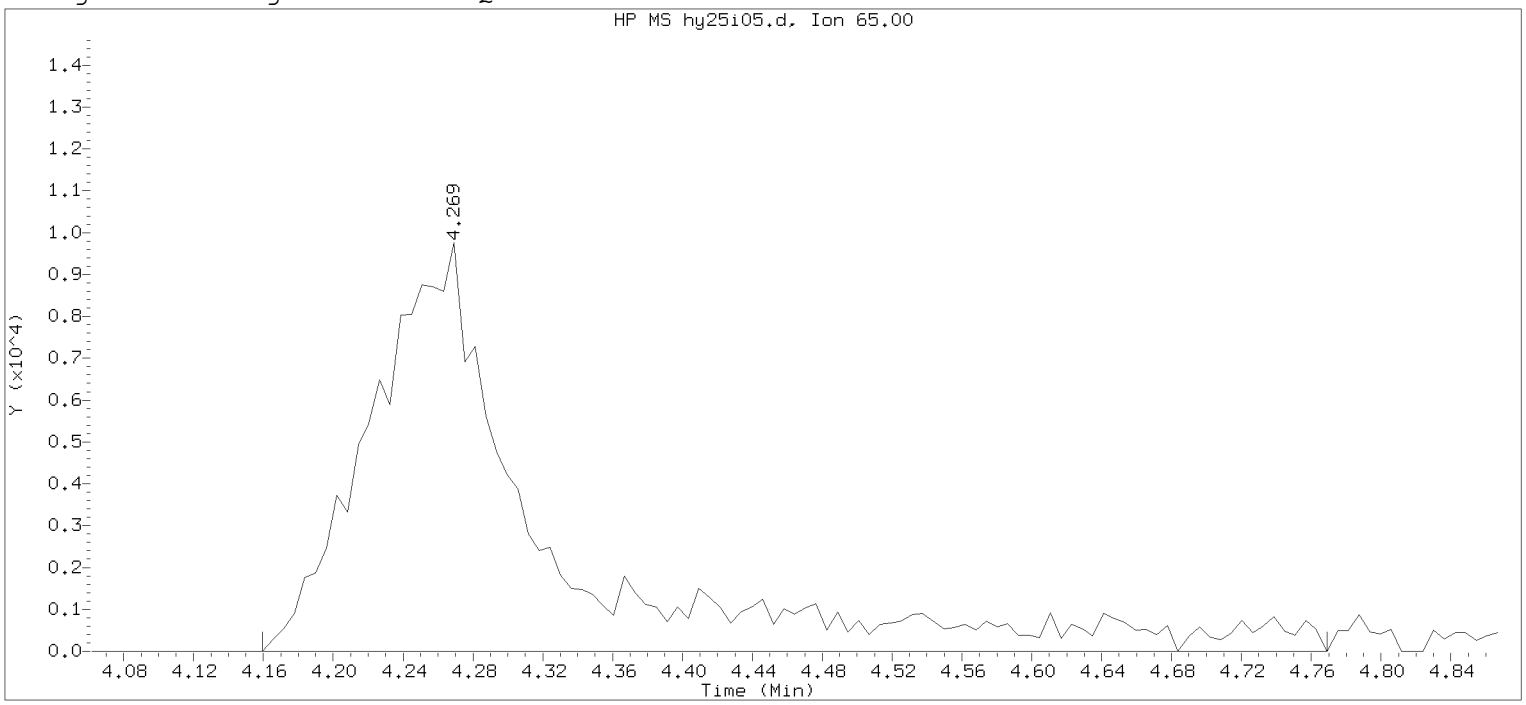
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

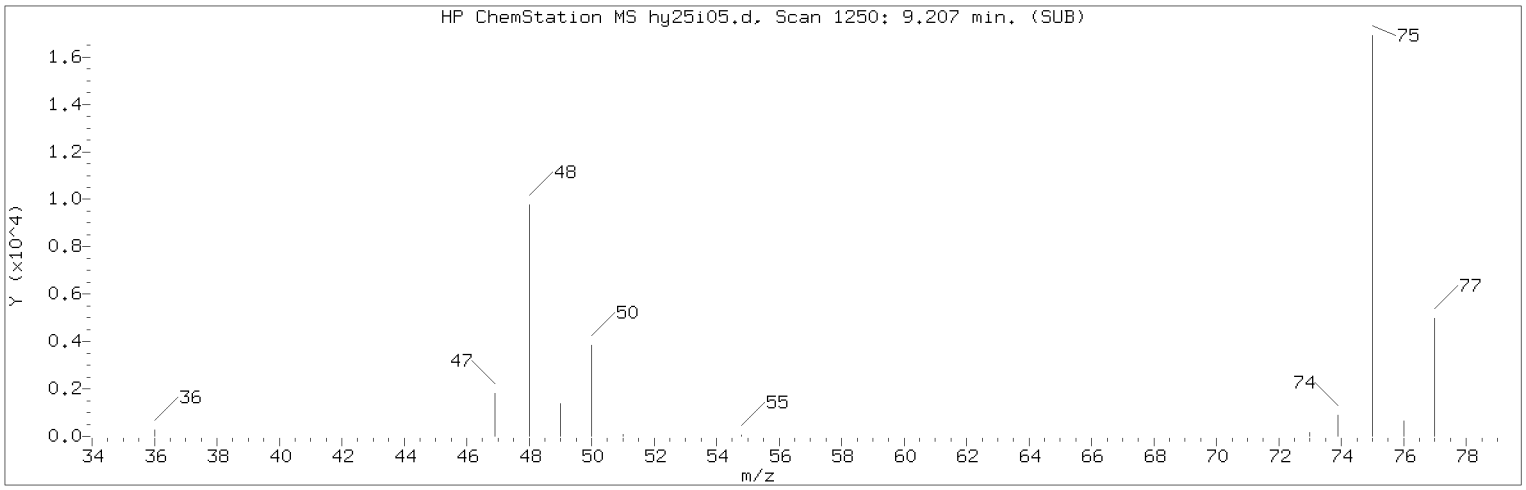
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

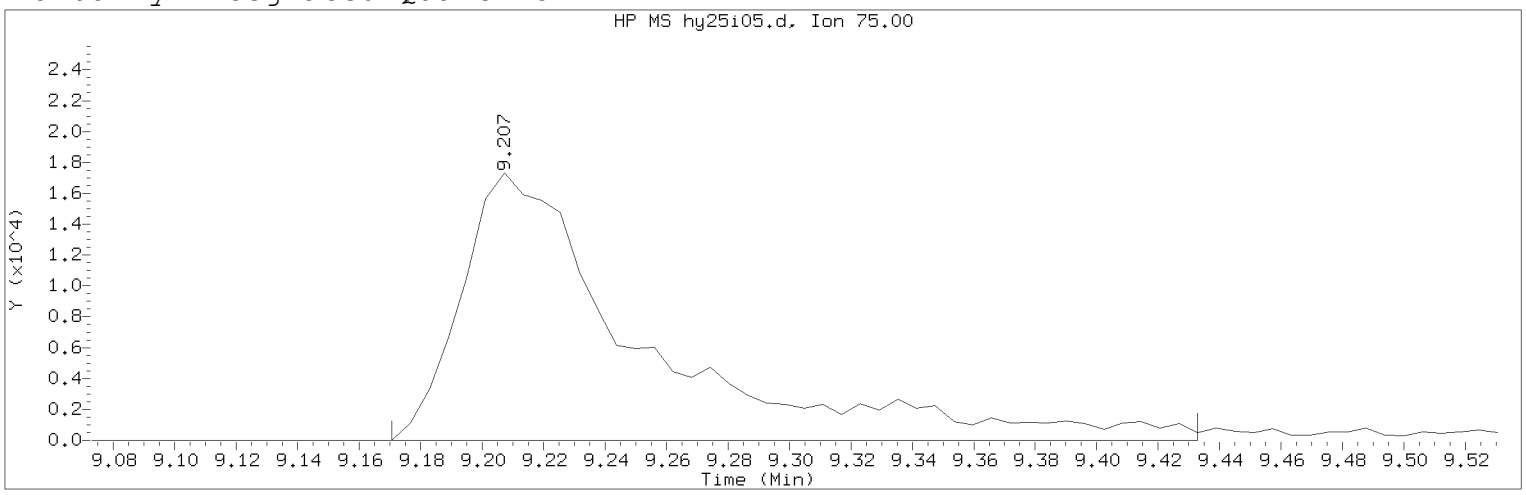
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area : 67717
On-column Amount (ng) : 50.0000
Integration start scan : 421 Integration stop scan: 521
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD001 Lab Sample ID: VSTD001

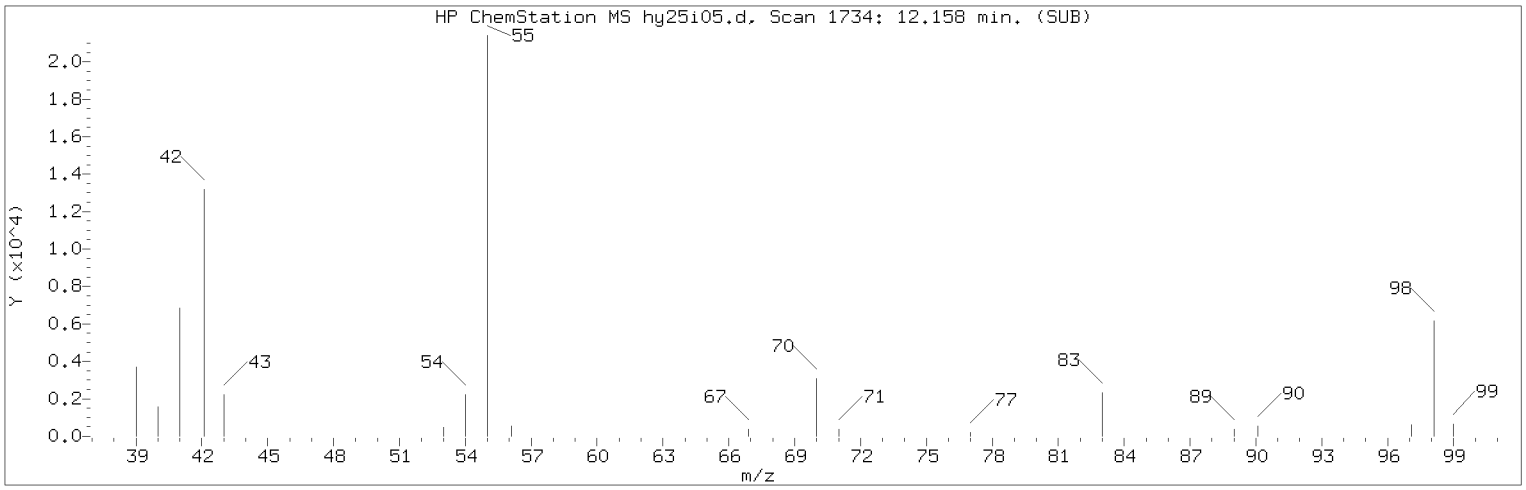
Compound Number : 77
Compound Name : Chloroacetonitrile
Scan Number : 1250
Retention Time (minutes): 9.207
Quant Ion : 75.00
Area (flag) : 71297M
On-Column Amount (ng) : 48.7108
Integration start scan : 1243 Integration stop scan: 1286
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: compound not in processing sublist

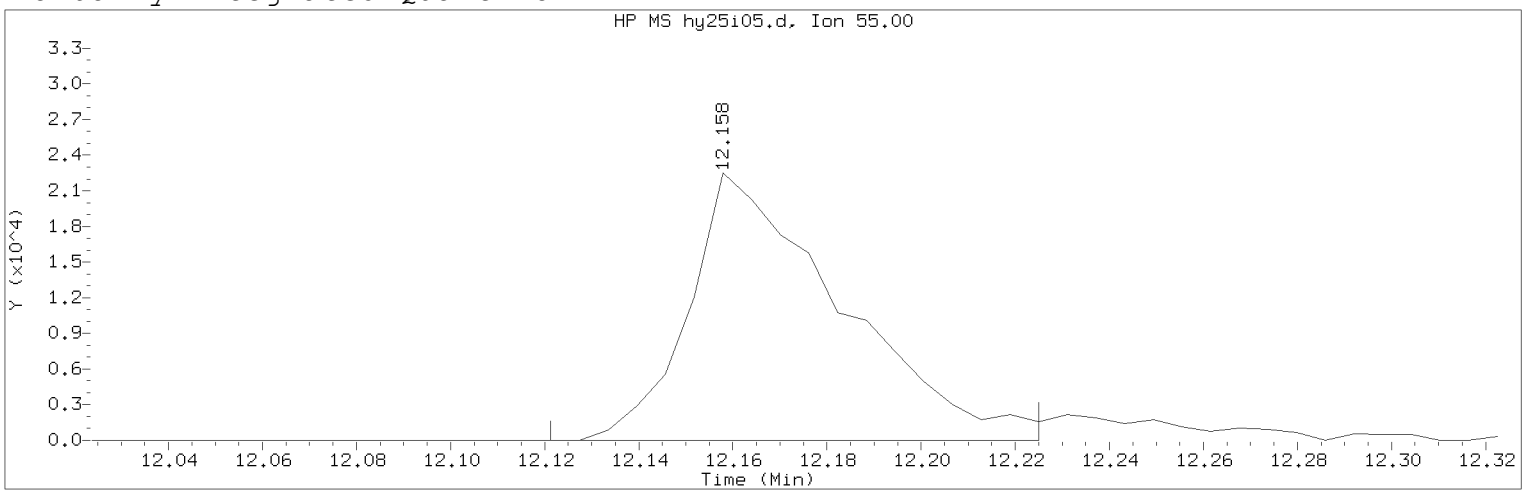
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i05.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:25 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

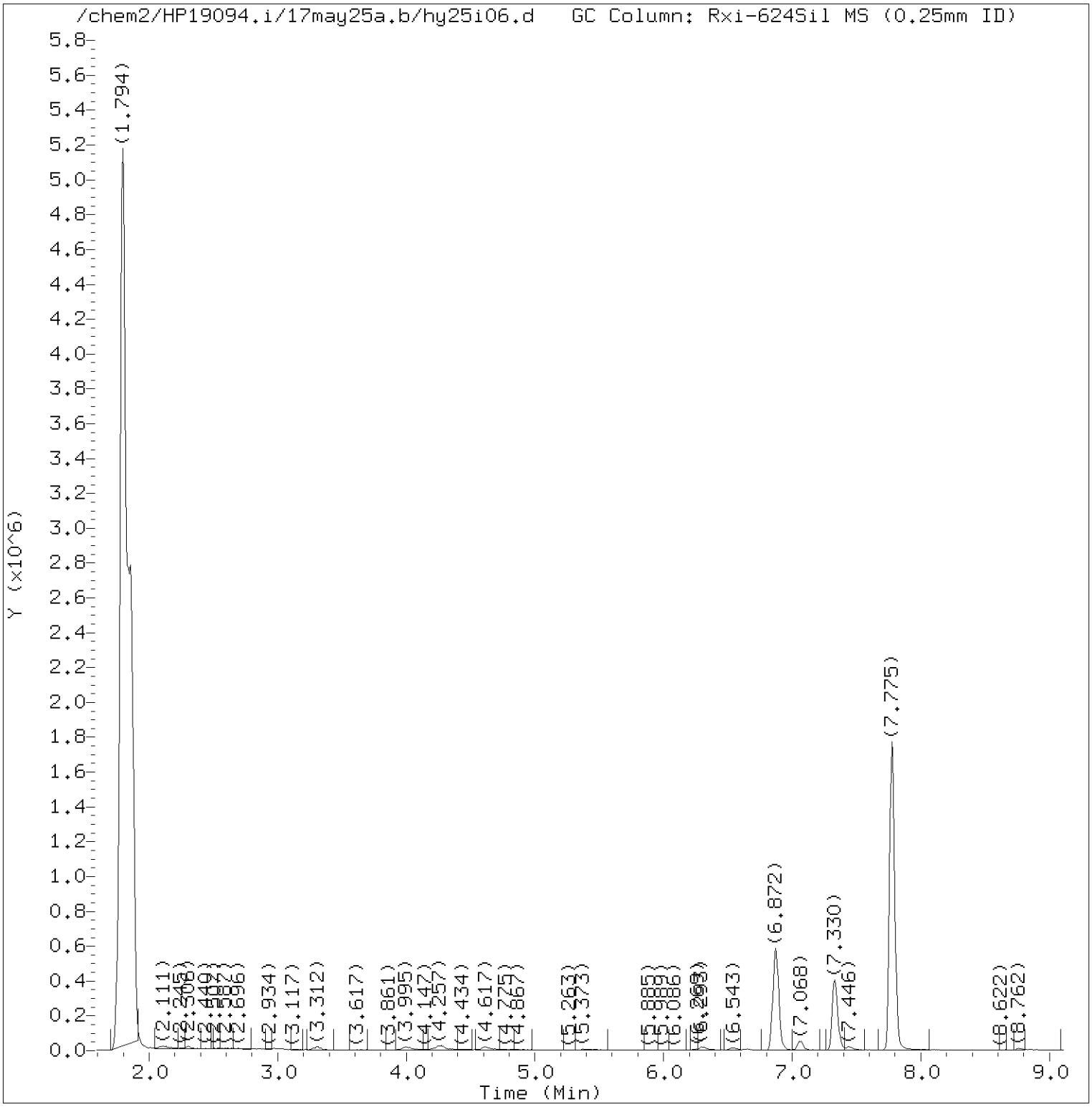
Sample Name: VSTD001 Lab Sample ID: VSTD001

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area (flag) : 50801M
On-Column Amount (ng) : 43.9952
Integration start scan : 1727 Integration stop scan: 1744
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: compound not in processing sublist

Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

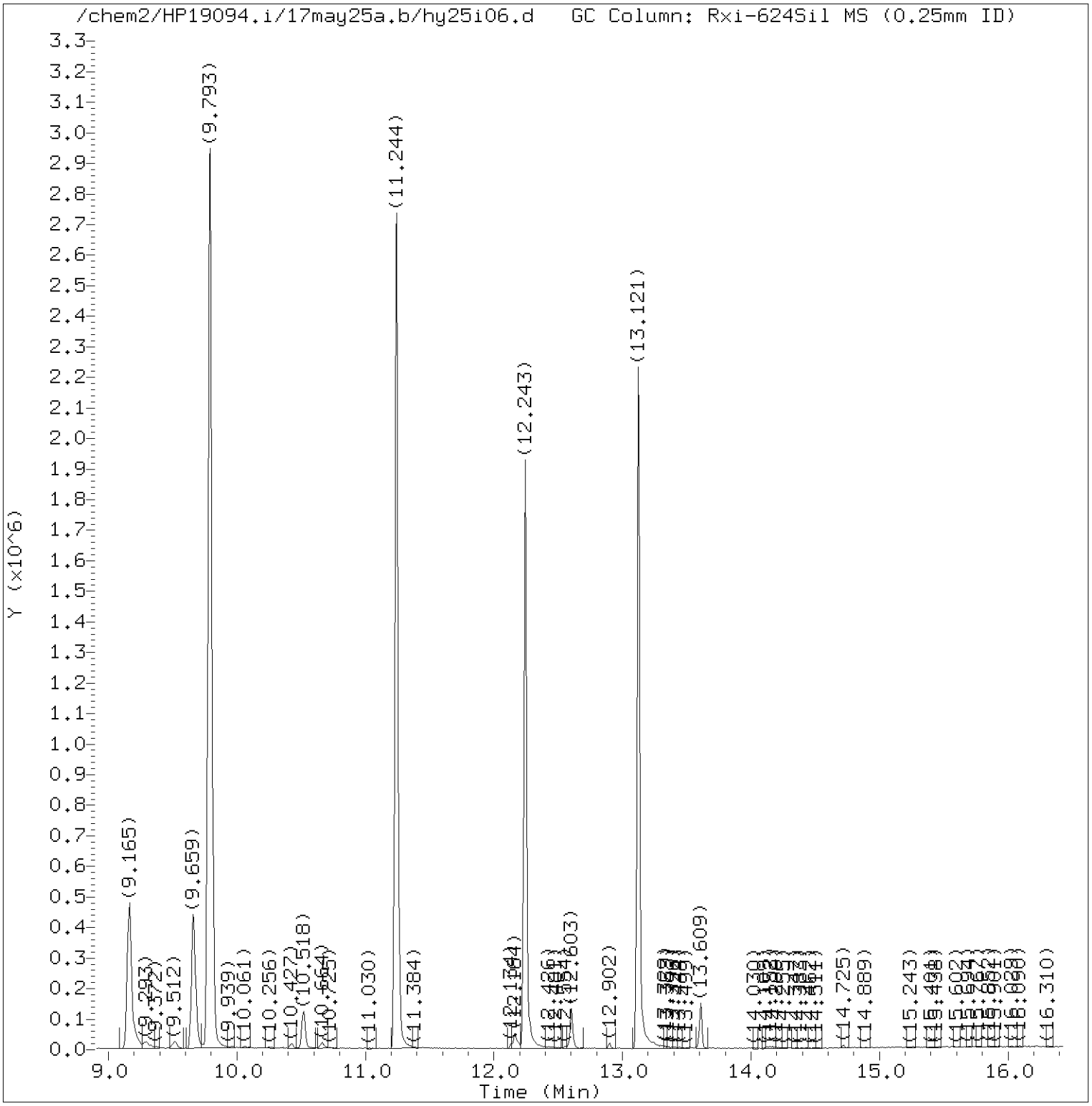
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

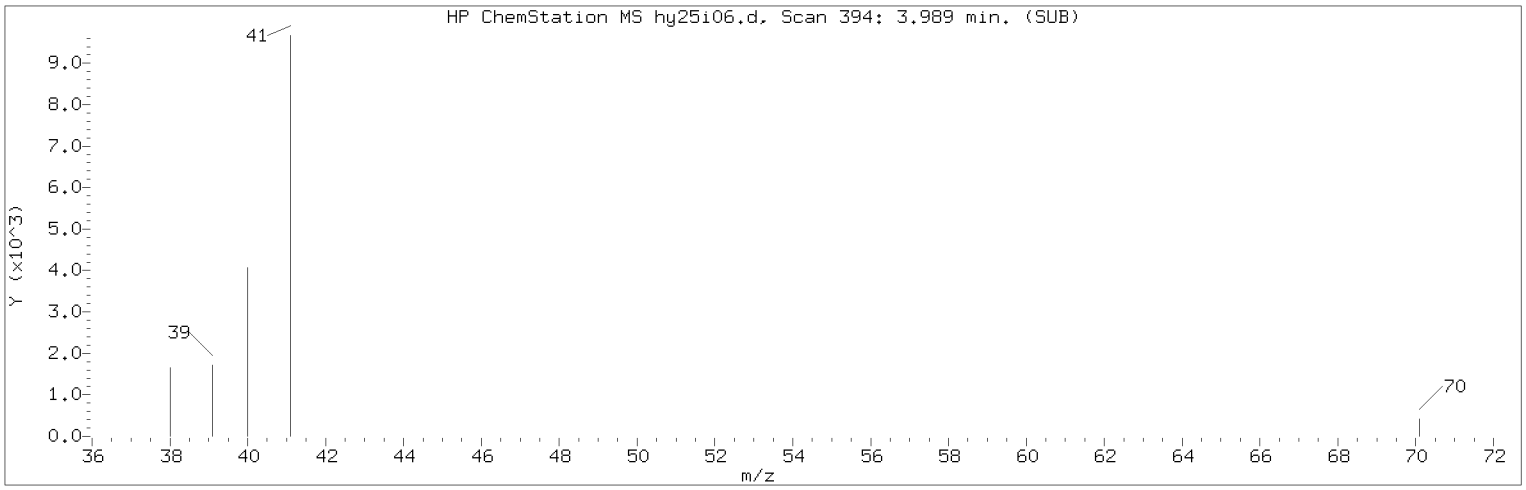
Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	45351	0.526
25) Acetonitrile	(1)	3.989	41	81342M	20.808
26)*t-Butyl Alcohol-d10	(1)	4.275	65	79155M	50.000
36) Vinyl Acetate	(2)	5.373	43	24173	0.622
43) Methyl Acrylate	(2)	6.293	55	41987	1.897
53) 1-Chlorobutane	(2)	7.055	56	58682	0.473
63)*Fluorobenzene	(2)	7.781	96	2355543	10.000
77) Chloroacetonitrile	(2)	9.213	75	33160	23.011
78) 2-Chloroethyl vinyl ether	(2)	9.293	63	9147	0.398
97)*Chlorobenzene-d5	(3)	11.244	117	1578744	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.140	88	3055MA	1.012
112) Cyclohexanone	(1)	12.158	55	22236A	18.153
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	609568	10.000
142) Hexachloroethane	(4)	13.609	117	26310	0.534

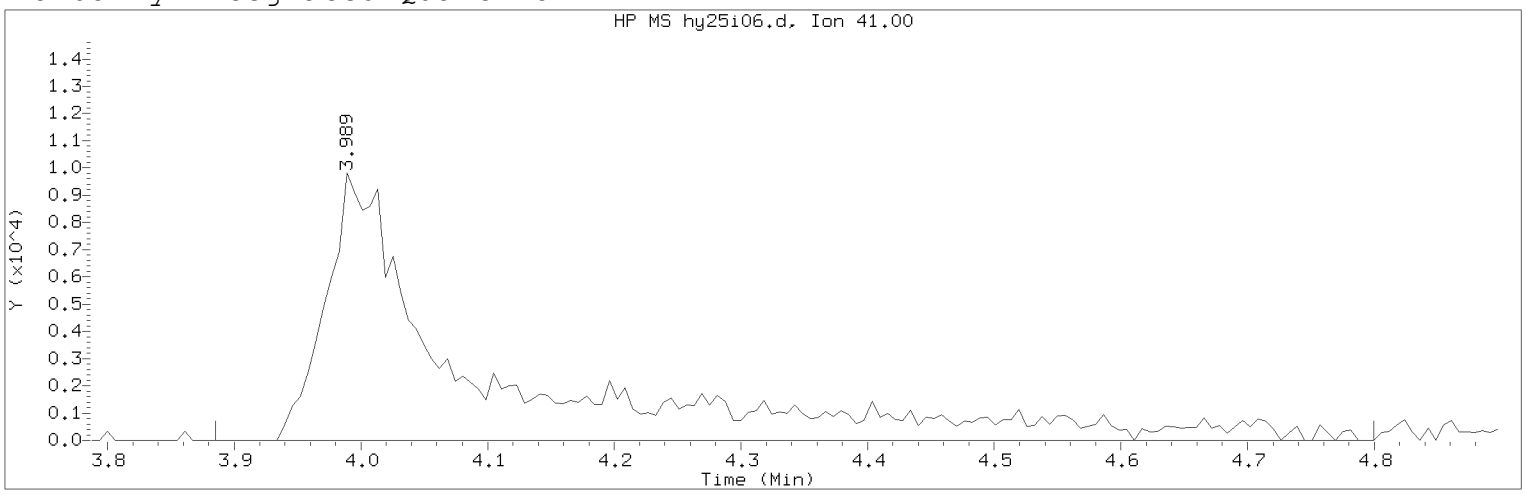
M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

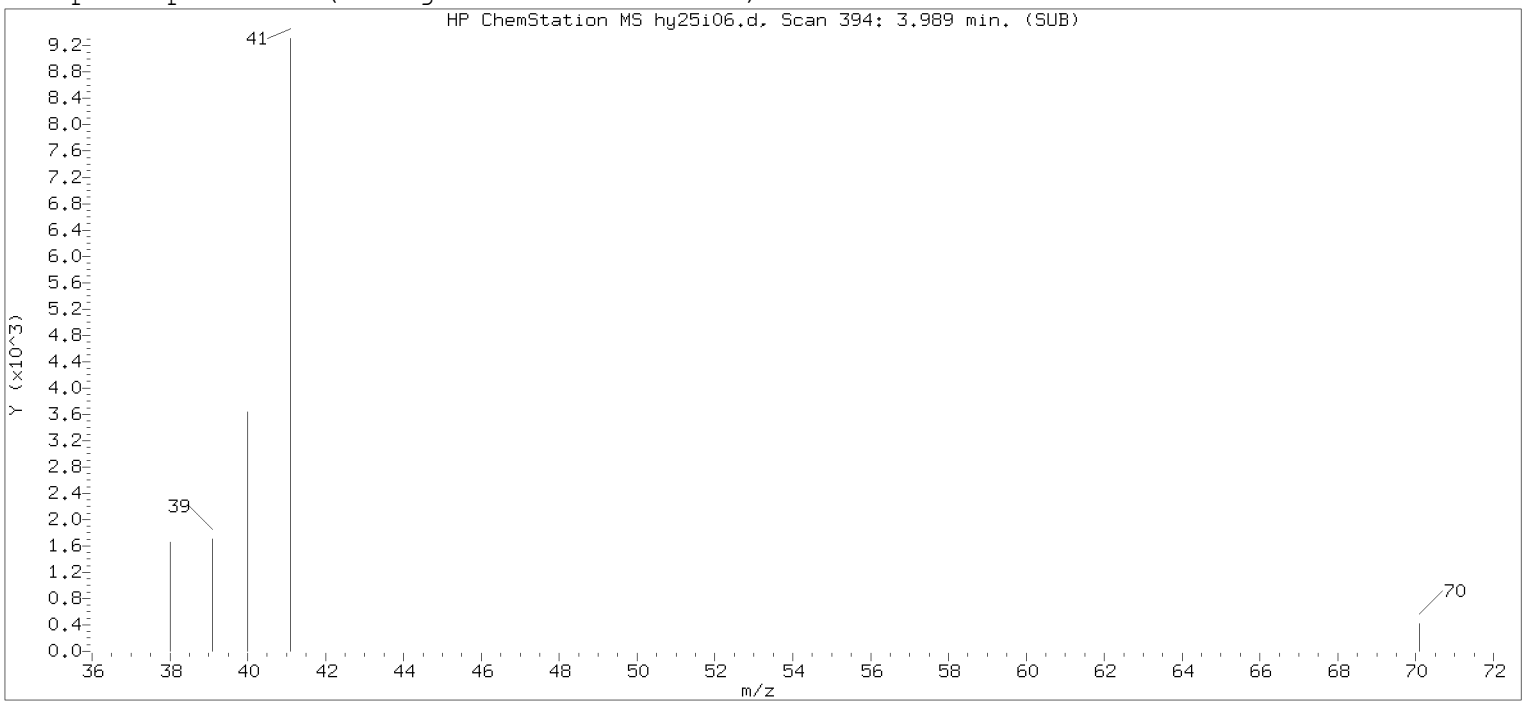
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 394
Retention Time (minutes): 3.989
Quant Ion : 41.00
Area (flag) : 81342M
On-Column Amount (ng) : 20.8075
Integration start scan : 376 Integration stop scan: 526
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

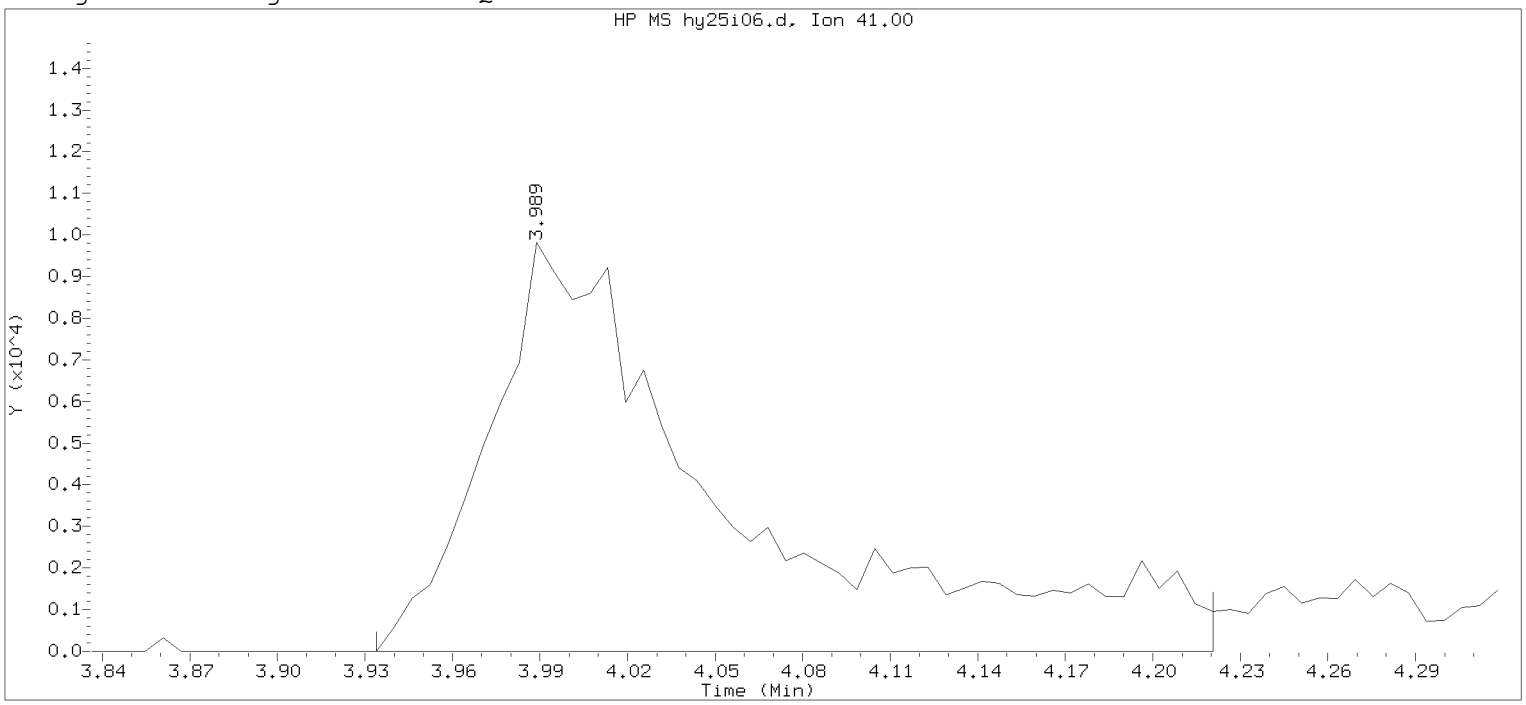
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

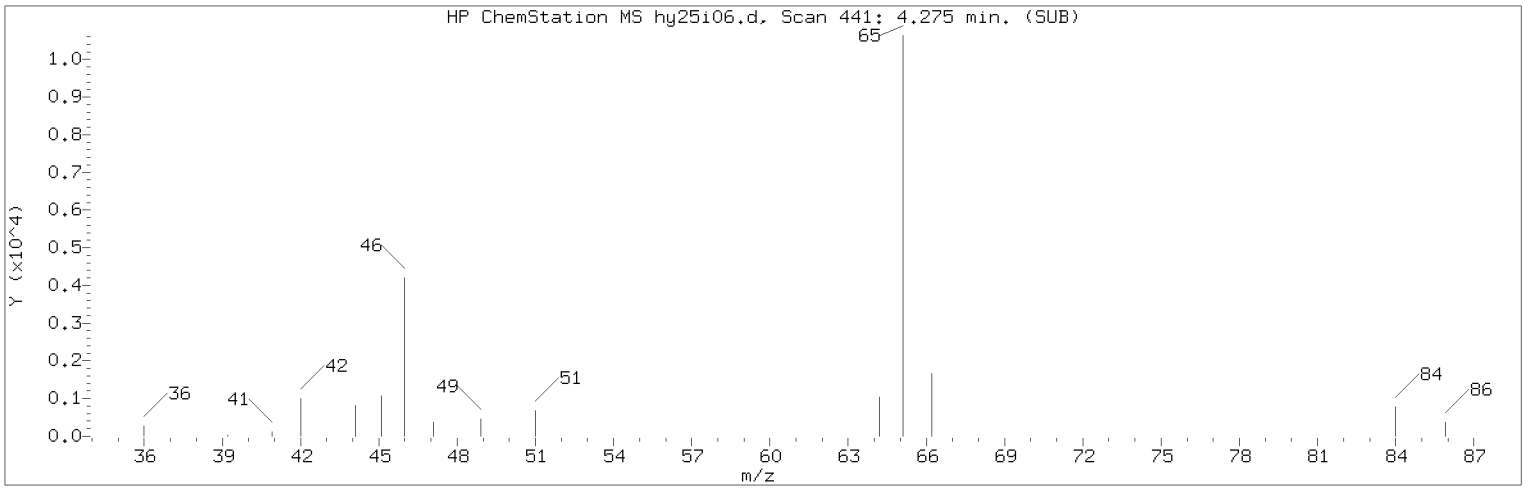
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

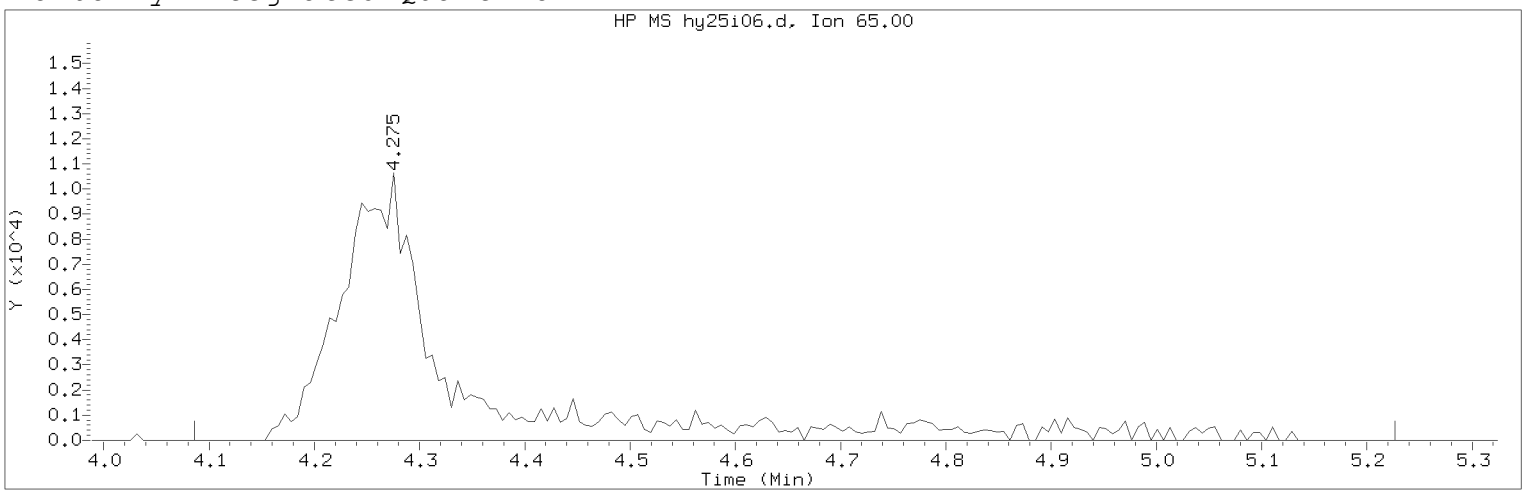
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 394
Retention Time (minutes): 3.989
Quant Ion : 41.00
Area : 56012
On-column Amount (ng) : 19.7026
Integration start scan : 384 Integration stop scan: 431
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Page 1 of 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

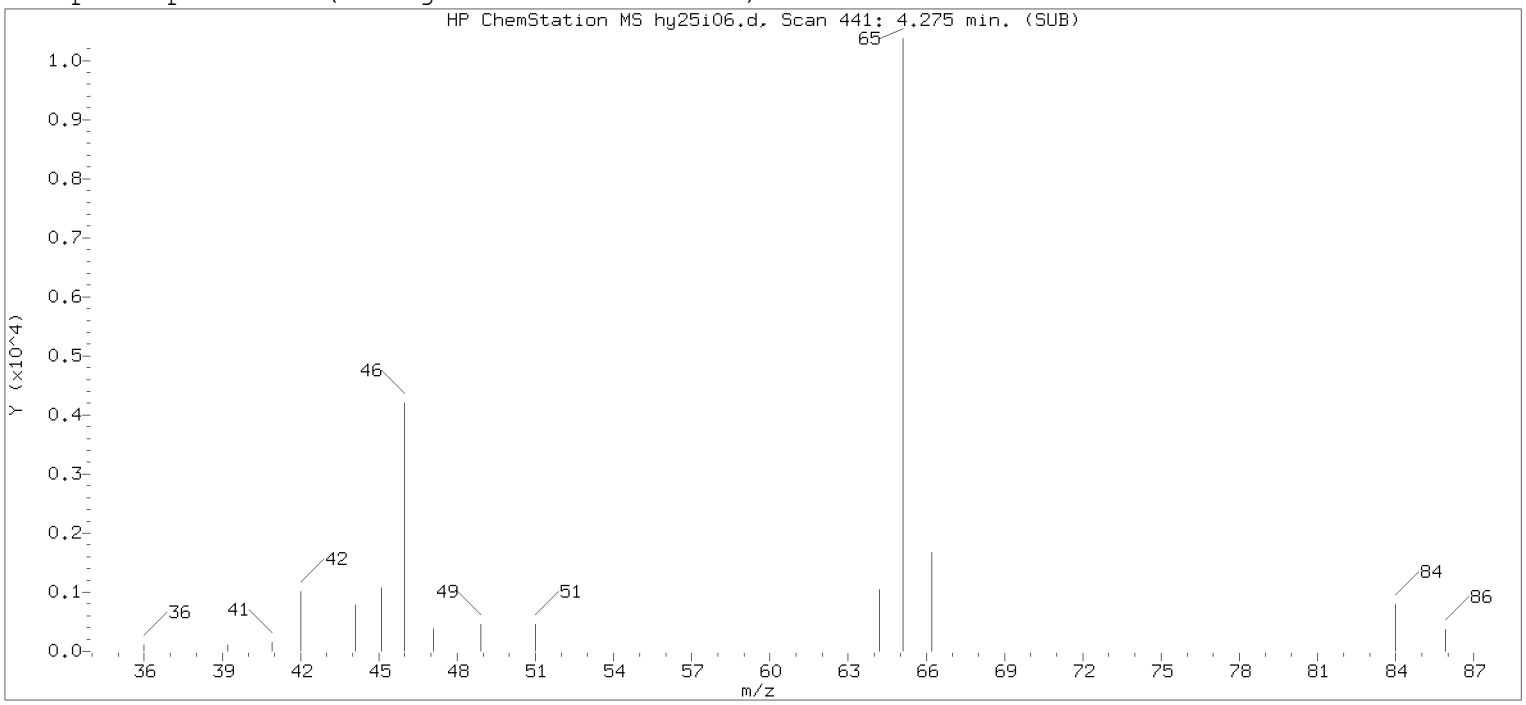
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 441
Retention Time (minutes): 4.275
Quant Ion : 65.00
Area (flag) : 79155M
On-Column Amount (ng) : 50.0000
Integration start scan : 409 Integration stop scan: 596
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

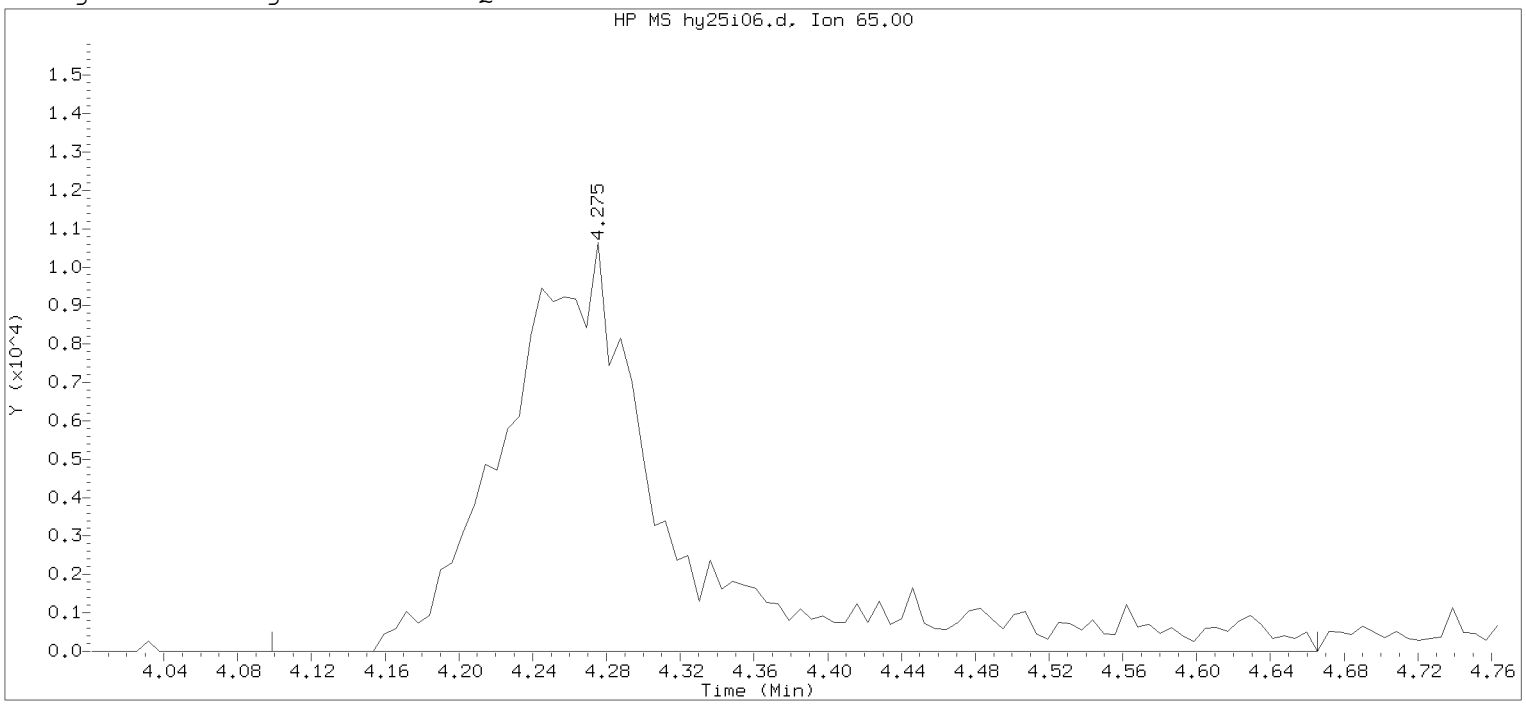
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

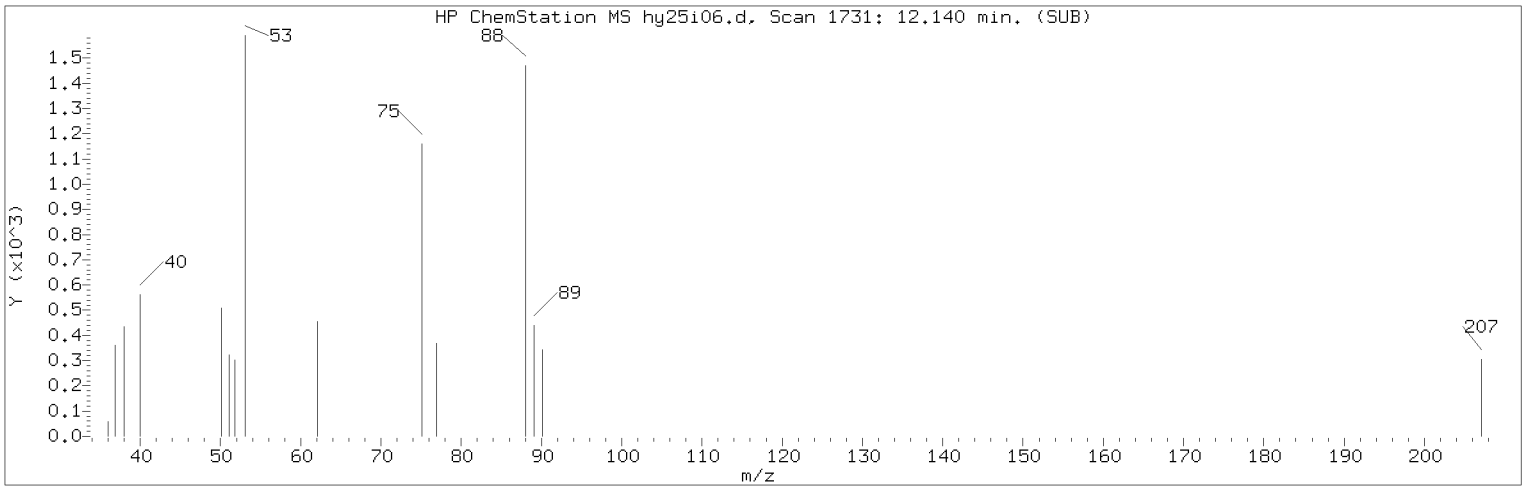
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

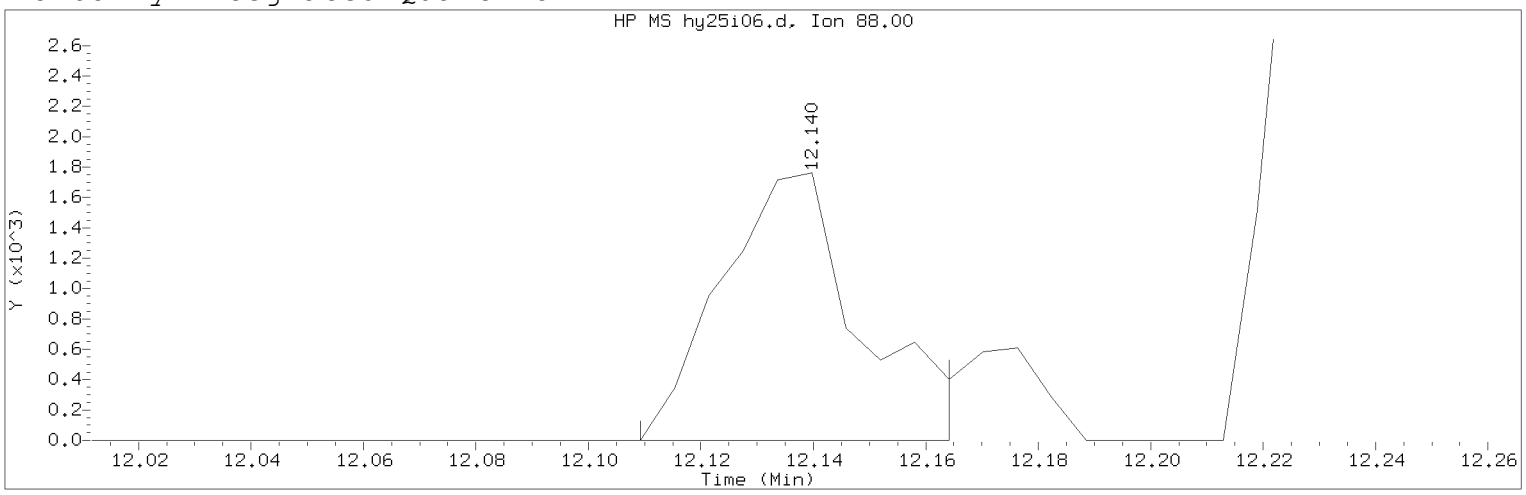
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 441
Retention Time (minutes): 4.275
Quant Ion : 65.00
Area : 68541
On-column Amount (ng) : 50.0000
Integration start scan : 411 Integration stop scan: 504
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Page 1 of 3

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

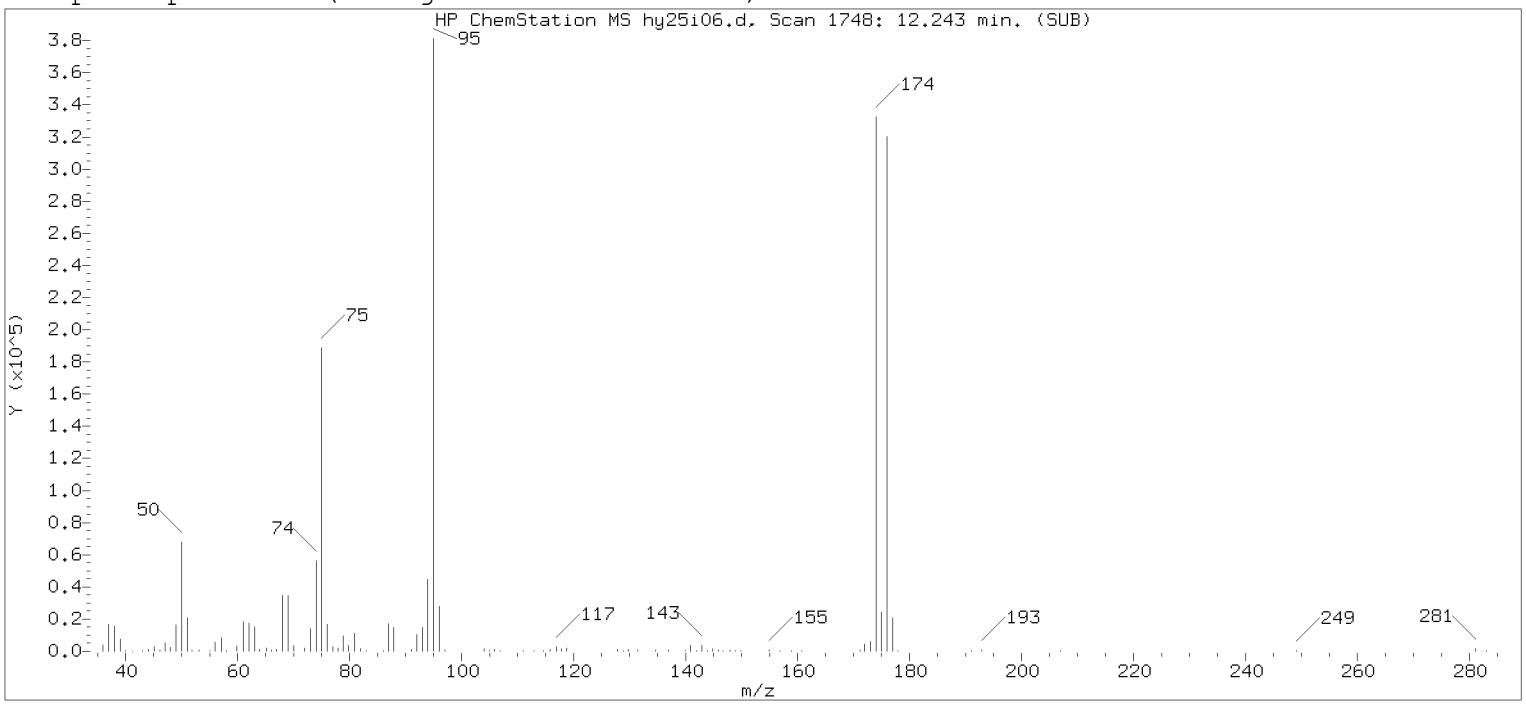
Compound Number : 109
Compound Name : cis-1,4-Dichloro-2-butene
Scan Number : 1731
Retention Time (minutes): 12.140
Quant Ion : 88.00
Area (flag) : 3055MA
On-Column Amount (ng) : 1.0125
Integration start scan : 1725 Integration stop scan: 1734
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

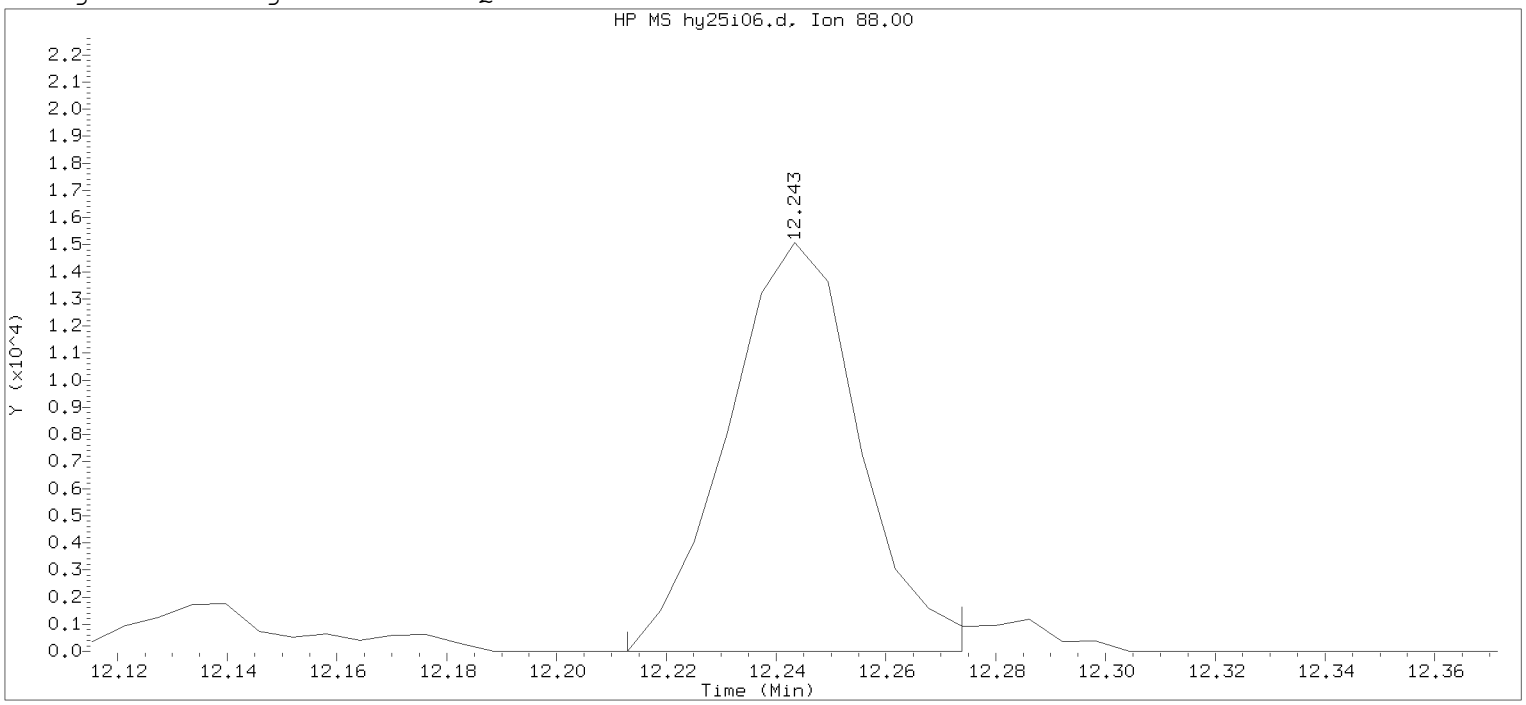
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

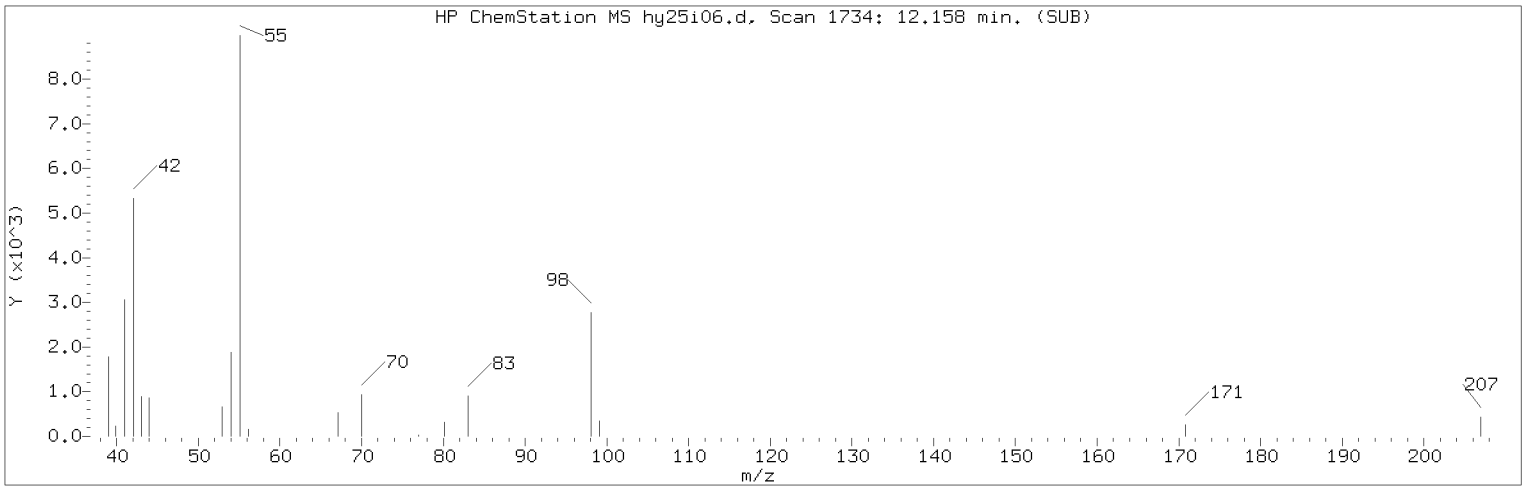
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

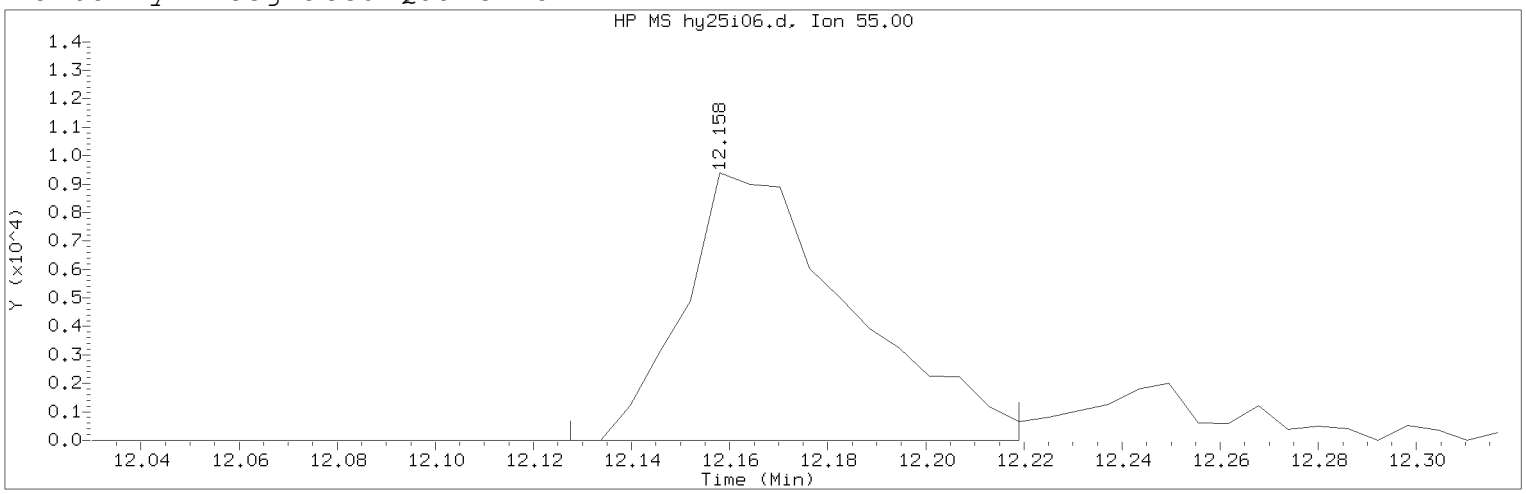
Compound Number : 109
Compound Name : cis-1,4-Dichloro-2-butene
Scan Number : 1748
Retention Time (minutes): 12.243
Quant Ion : 88.00
Area : 24836
On-column Amount (ng) : 3.0093
Integration start scan : 1742 Integration stop scan: 1752
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I approve this document.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

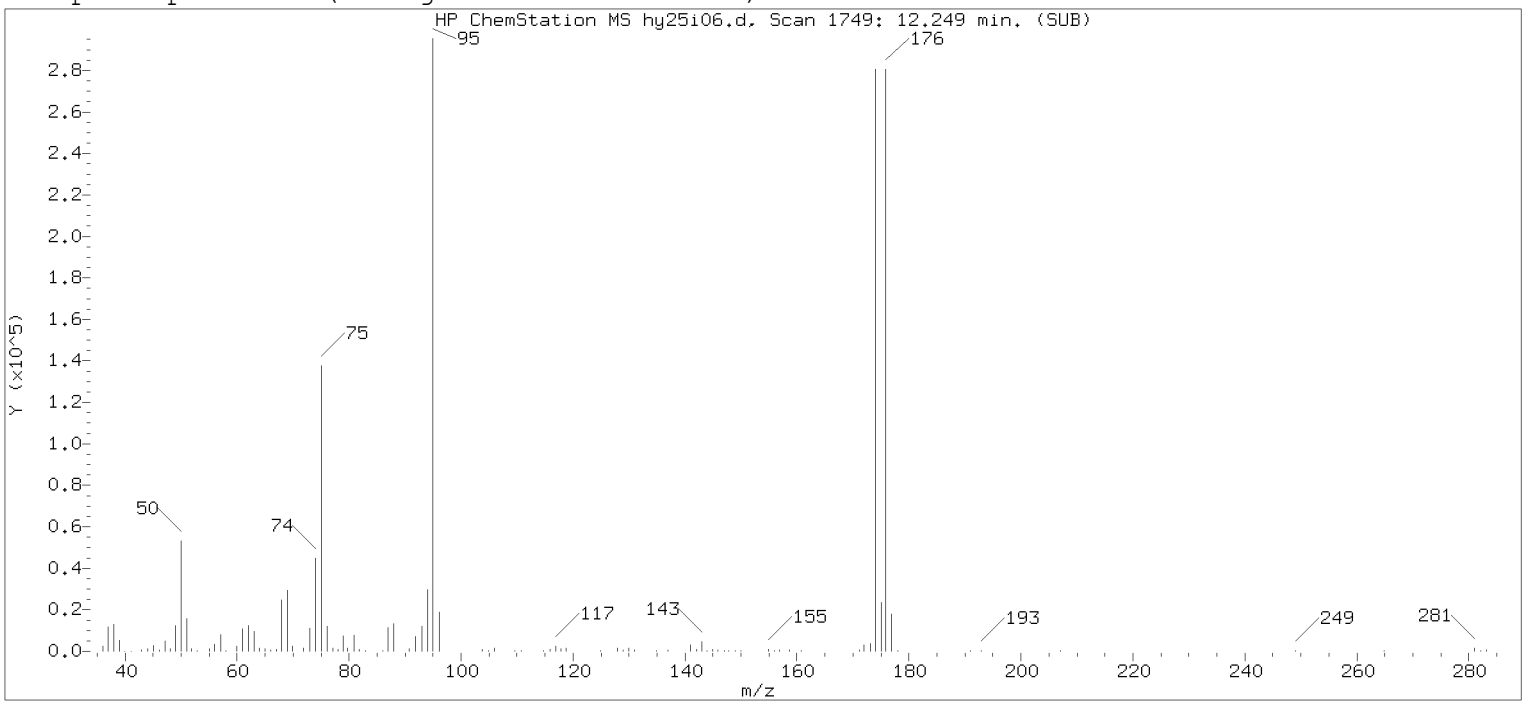
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area (flag) : 22236A
On-Column Amount (ng) : 18.1533
Integration start scan : 1728 Integration stop scan: 1743
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

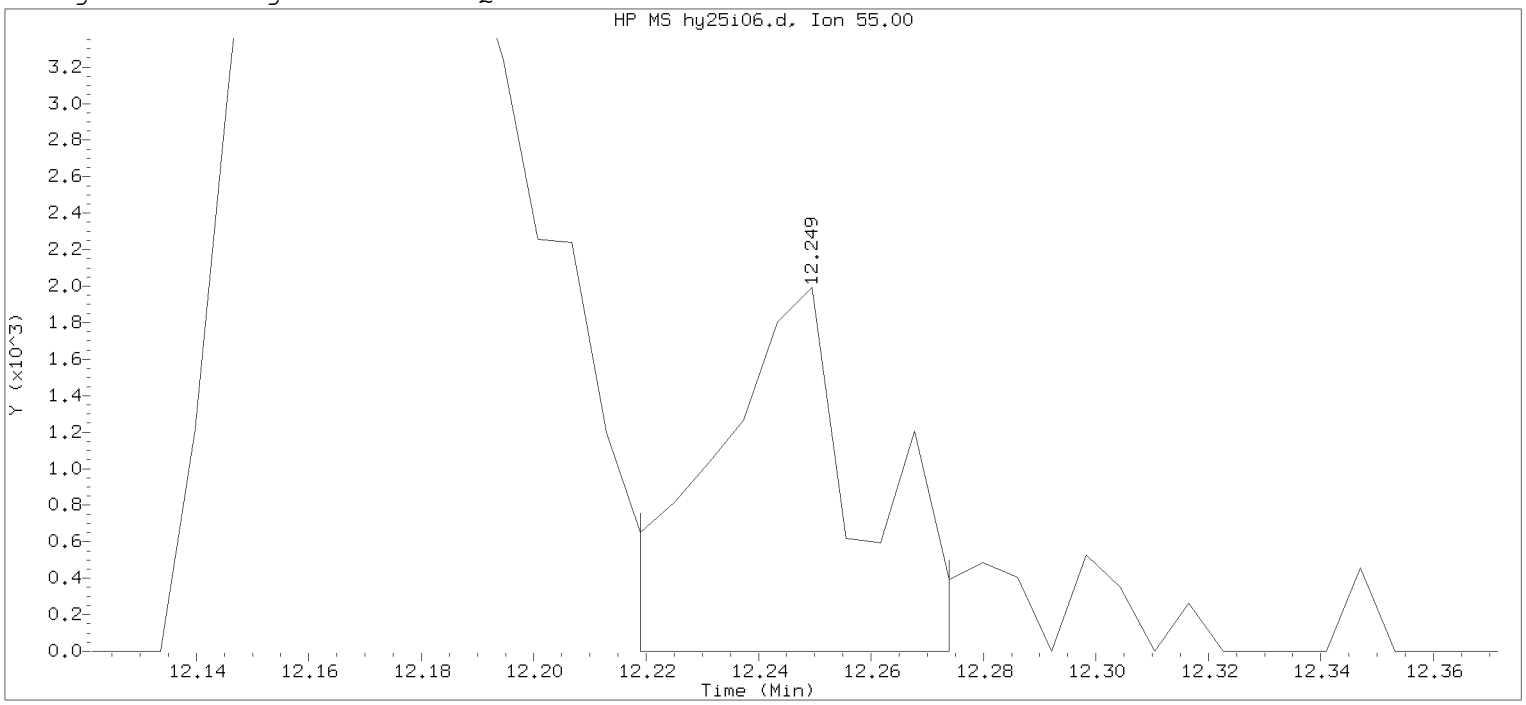
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



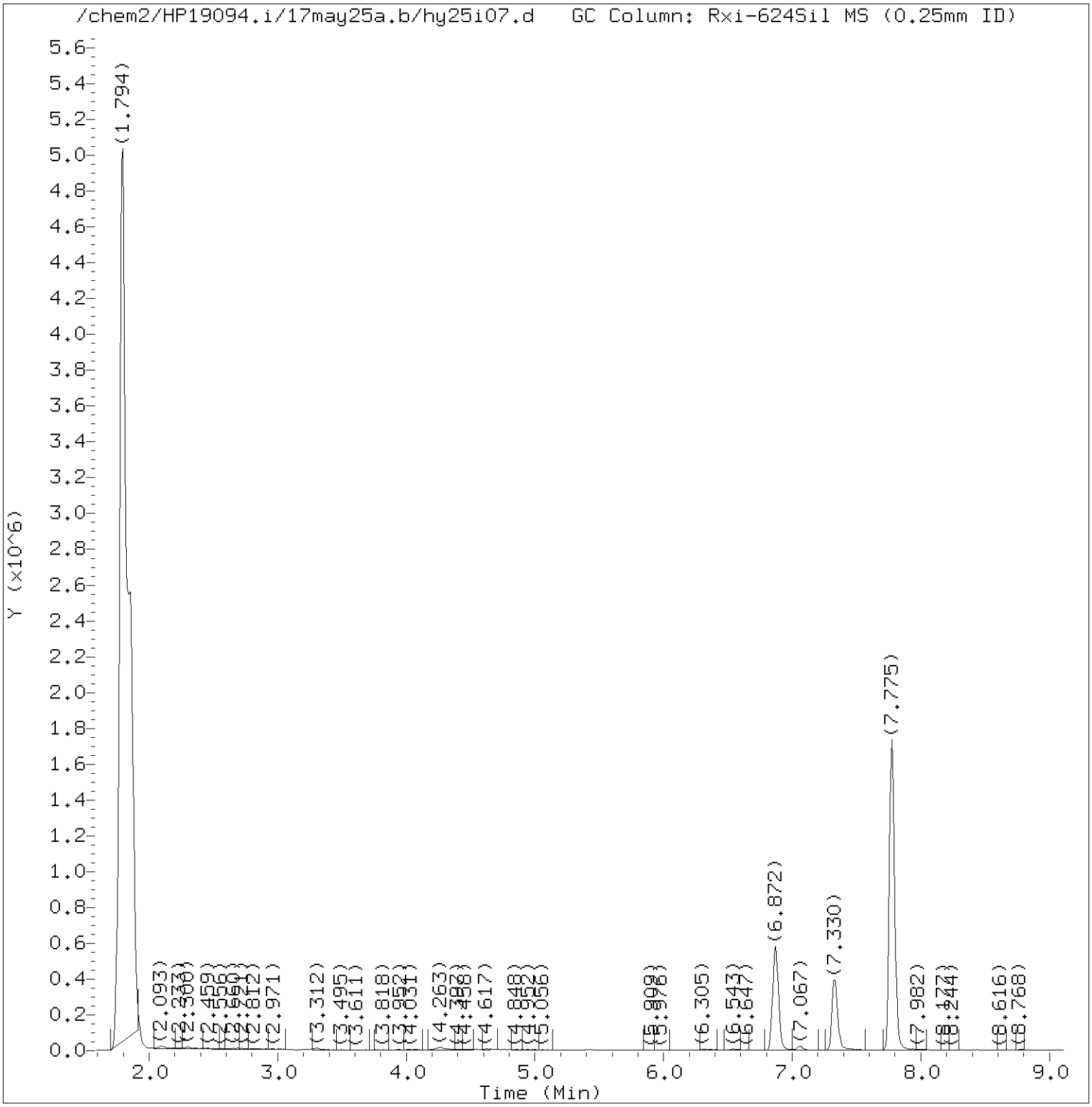
Data File: /chem2/HP19094.i/17may25a.b/hy25i06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 12:45 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD0.5 Lab Sample ID: VSTD0.5

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1749
Retention Time (minutes): 12.249
Quant Ion : 55.00
Area : 3605
On-column Amount (ng) : 3.2506
Integration start scan : 1743 Integration stop scan: 1752
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:52.
Target 3.5 esignature used. Reason: I approve this record.



Total Ion Chromatogram (TIC)

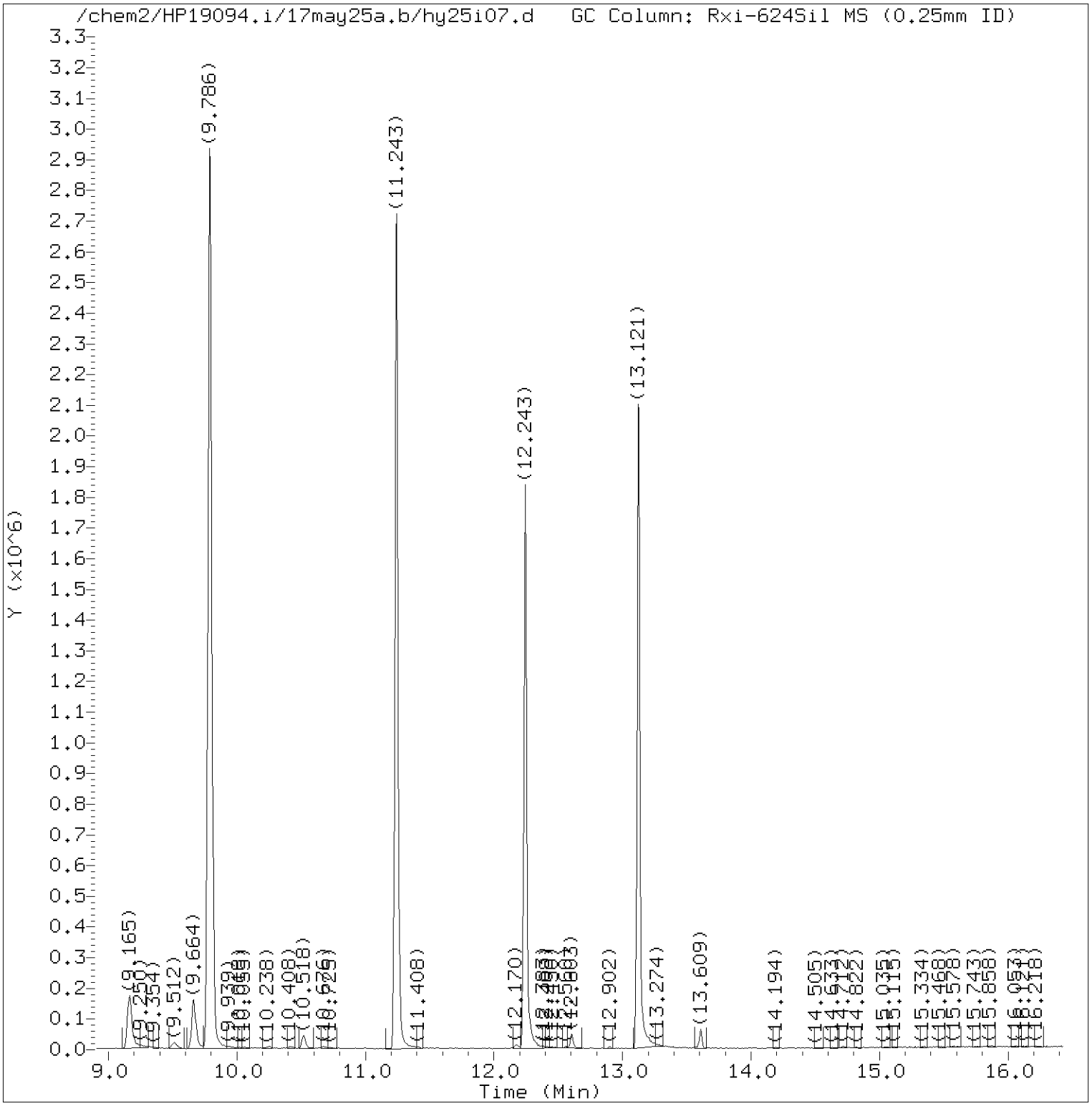
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:53.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:53.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

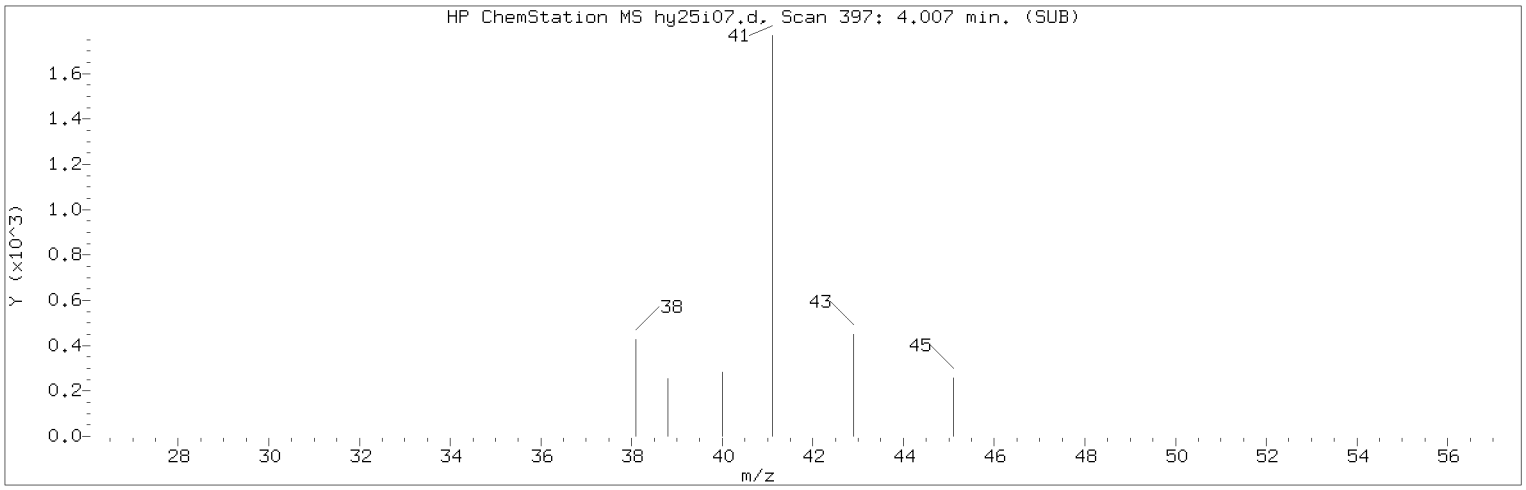
Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.099	45	32741	0.382
25) Acetonitrile	(1)	4.007	41	27573M	8.013
26)*t-Butyl Alcohol-d10	(1)	4.251	65	69676	50.000
36) Vinyl Acetate	(2)	5.415	43	9563M	0.418
43) Methyl Acrylate	(2)	6.305	55	14877M	0.675
53) 1-Chlorobutane	(2)	7.067	56	23011	0.186
63)*Fluorobenzene	(2)	7.775	96	2344623	10.000
77) Chloroacetonitrile	(2)	9.262	75	11047	7.702
78) 2-Chloroethyl vinyl ether	(2)	9.299	63	2639	0.115
97)*Chlorobenzene-d5	(3)	11.243	117	1570922	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.133	88	146	0.475
112) Cyclohexanone	(1)	12.182	55	6466	5.997
133)*1,4-Dichlorobenzene-d4	(4)	13.127	152	589379	10.000
142) Hexachloroethane	(4)	13.609	117	10719	0.225

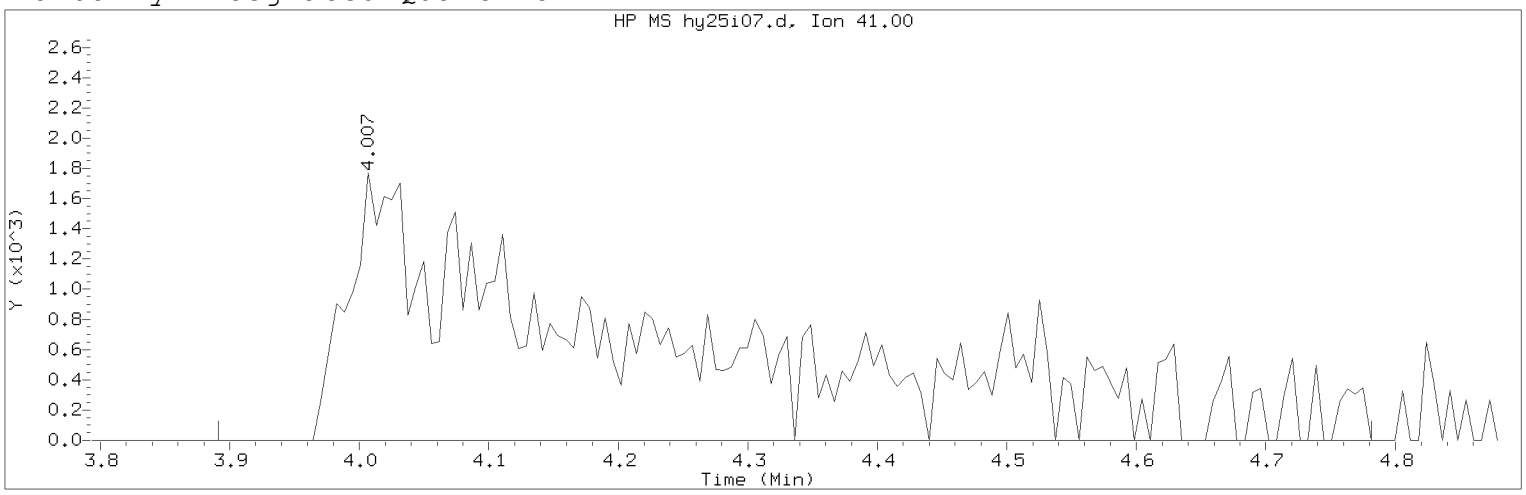
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 15:53.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

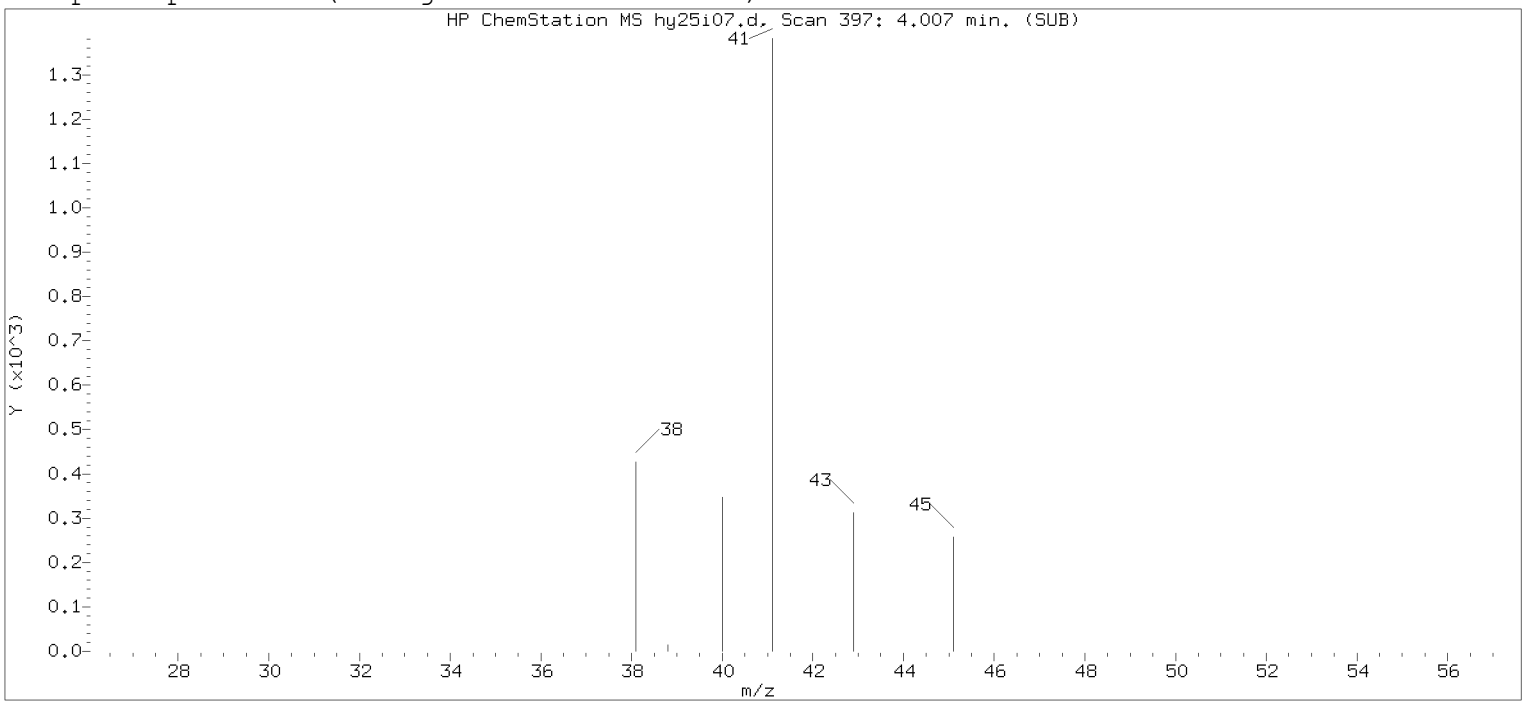
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 397
Retention Time (minutes): 4.007
Quant Ion : 41.00
Area (flag) : 27573M
On-Column Amount (ng) : 8.0128
Integration start scan : 377 Integration stop scan: 523
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

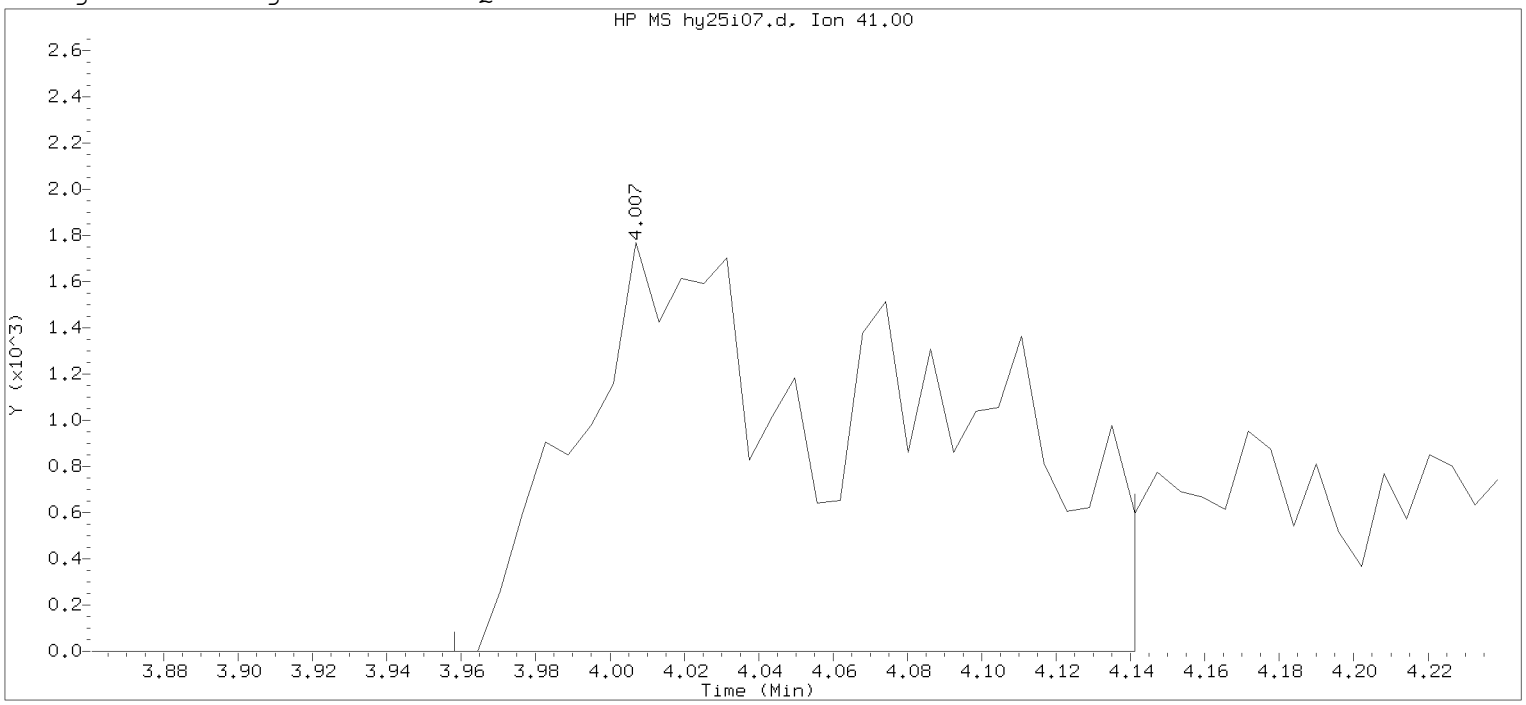
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:53.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

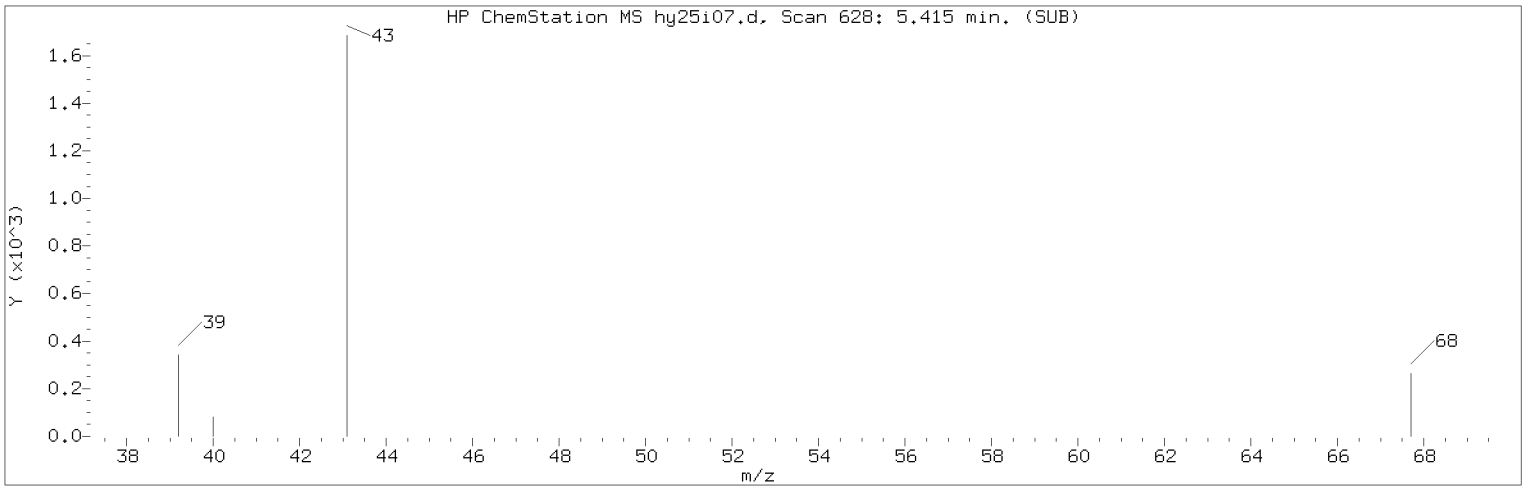
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

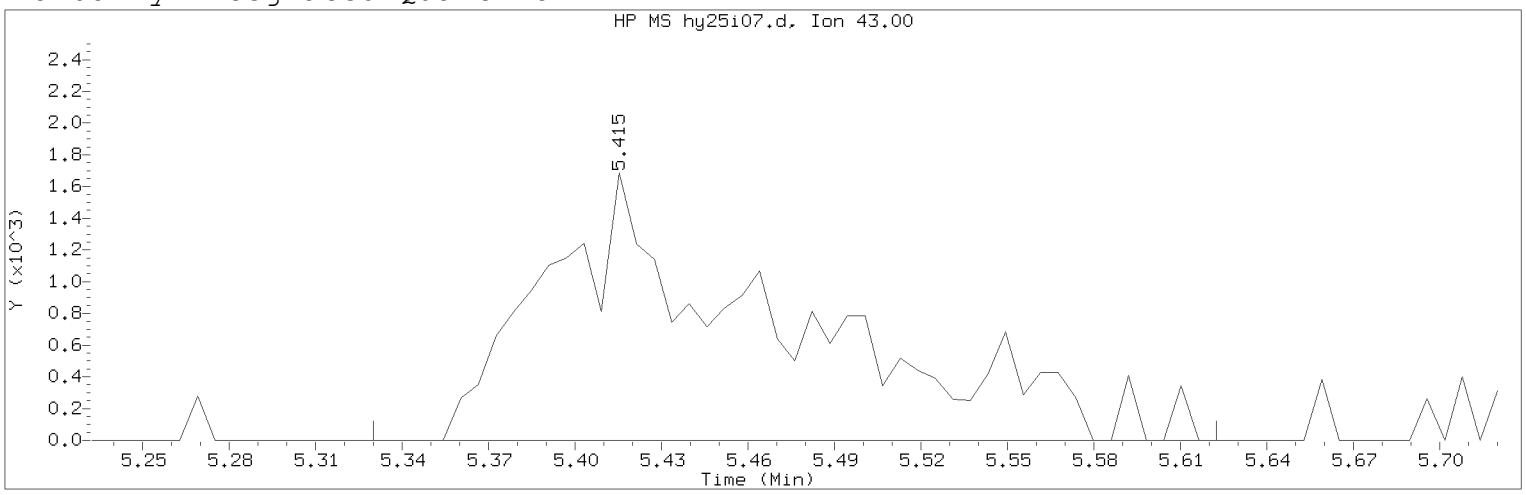
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 397
Retention Time (minutes): 4.007
Quant Ion : 41.00
Area : 10924
On-column Amount (ng) : 4.0883
Integration start scan : 388 Integration stop scan: 418
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:53.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

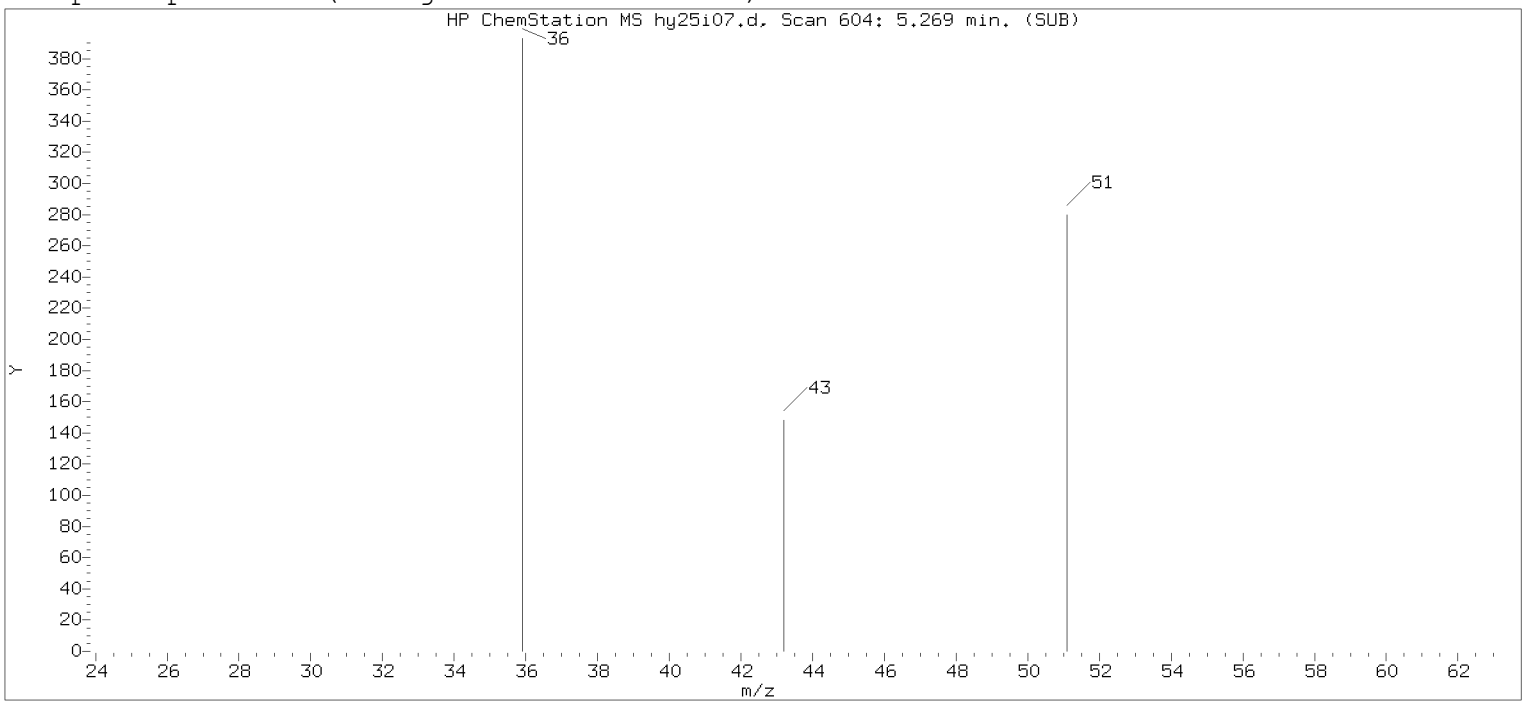
Compound Number : 36
Compound Name : Vinyl Acetate
Scan Number : 628
Retention Time (minutes): 5.415
Quant Ion : 43.00
Area (flag) : 9563M
On-Column Amount (ng) : 0.4180
Integration start scan : 613 Integration stop scan: 661
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

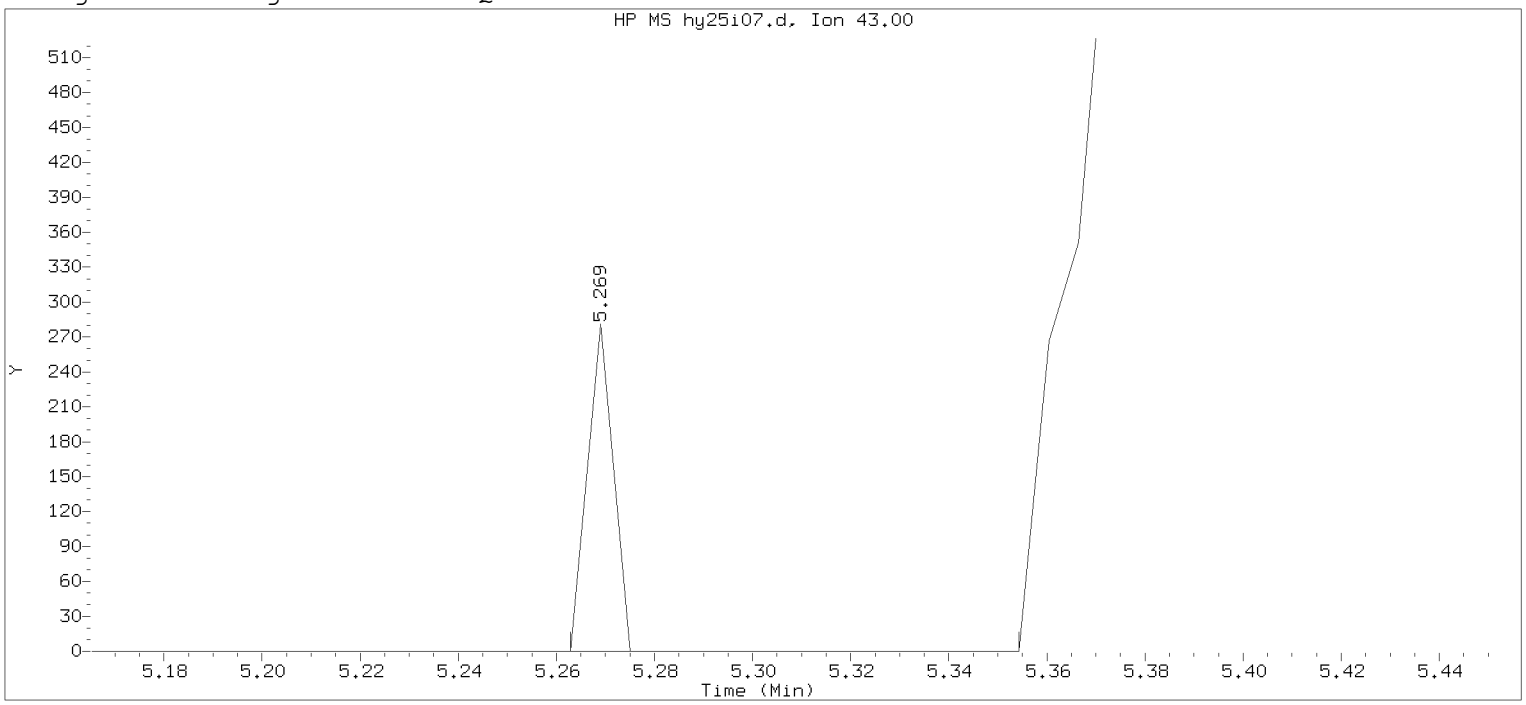
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:53.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

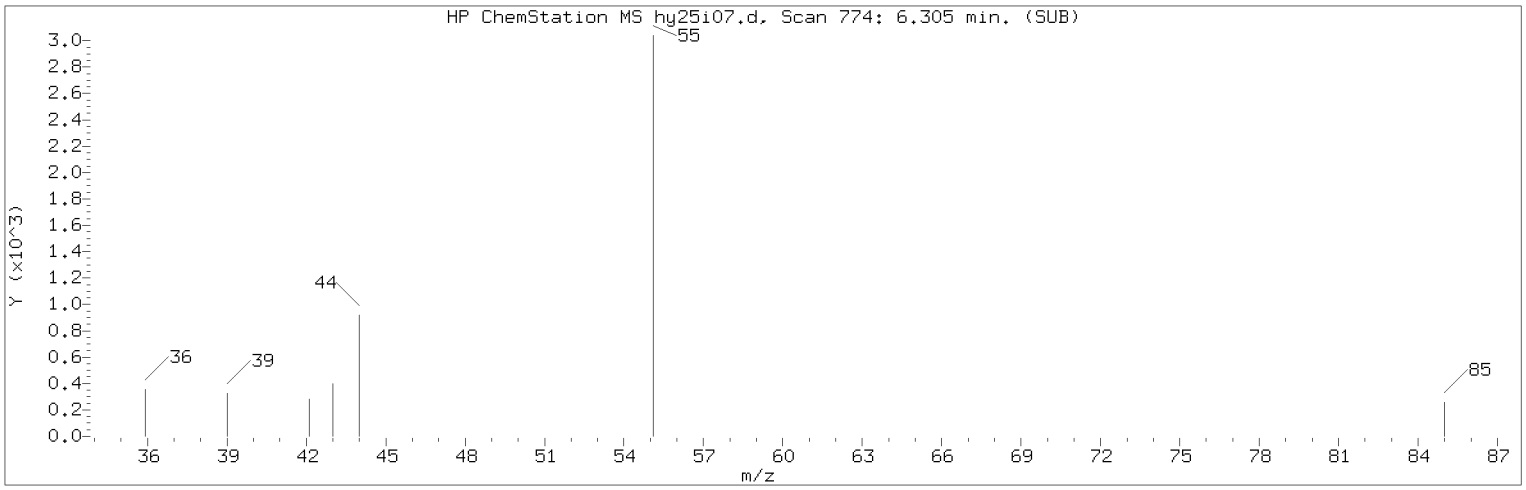
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

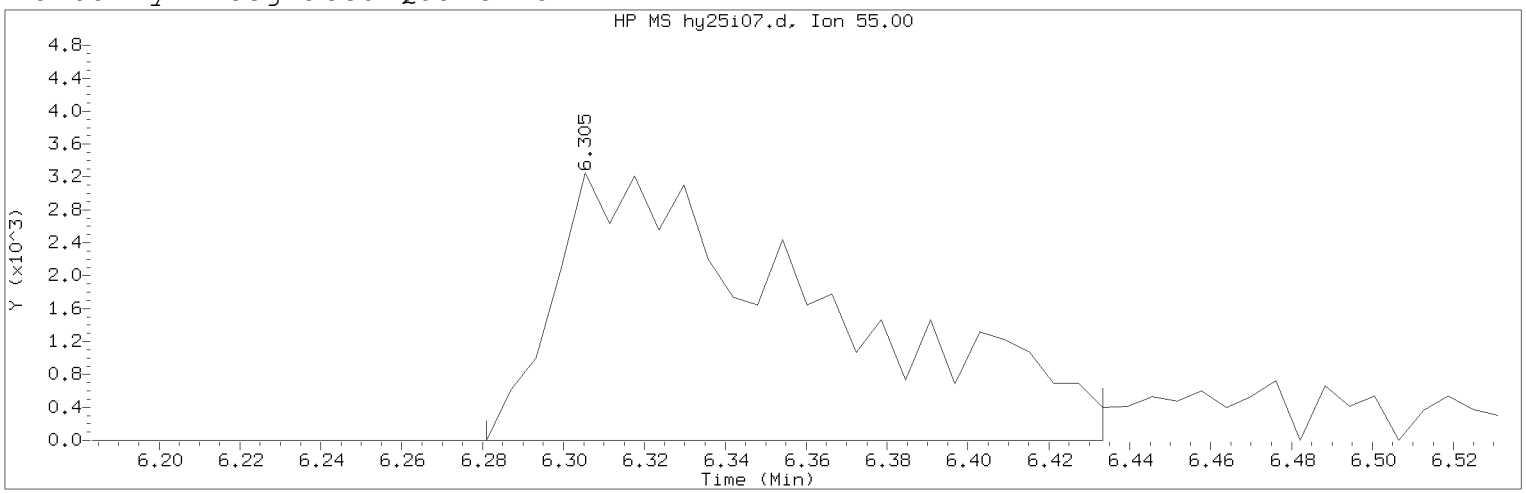
Compound Number : 36
Compound Name : Vinyl Acetate
Scan Number : 604
Retention Time (minutes): 5.269
Quant Ion : 43.00
Area : 102
On-column Amount (ng) : 0.0020
Integration start scan : 602 Integration stop scan: 617
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:53.
Target 3.5 esignature used. kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:51
Date, time and analyst ID of latest file update: 25-May-2017 15:51 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

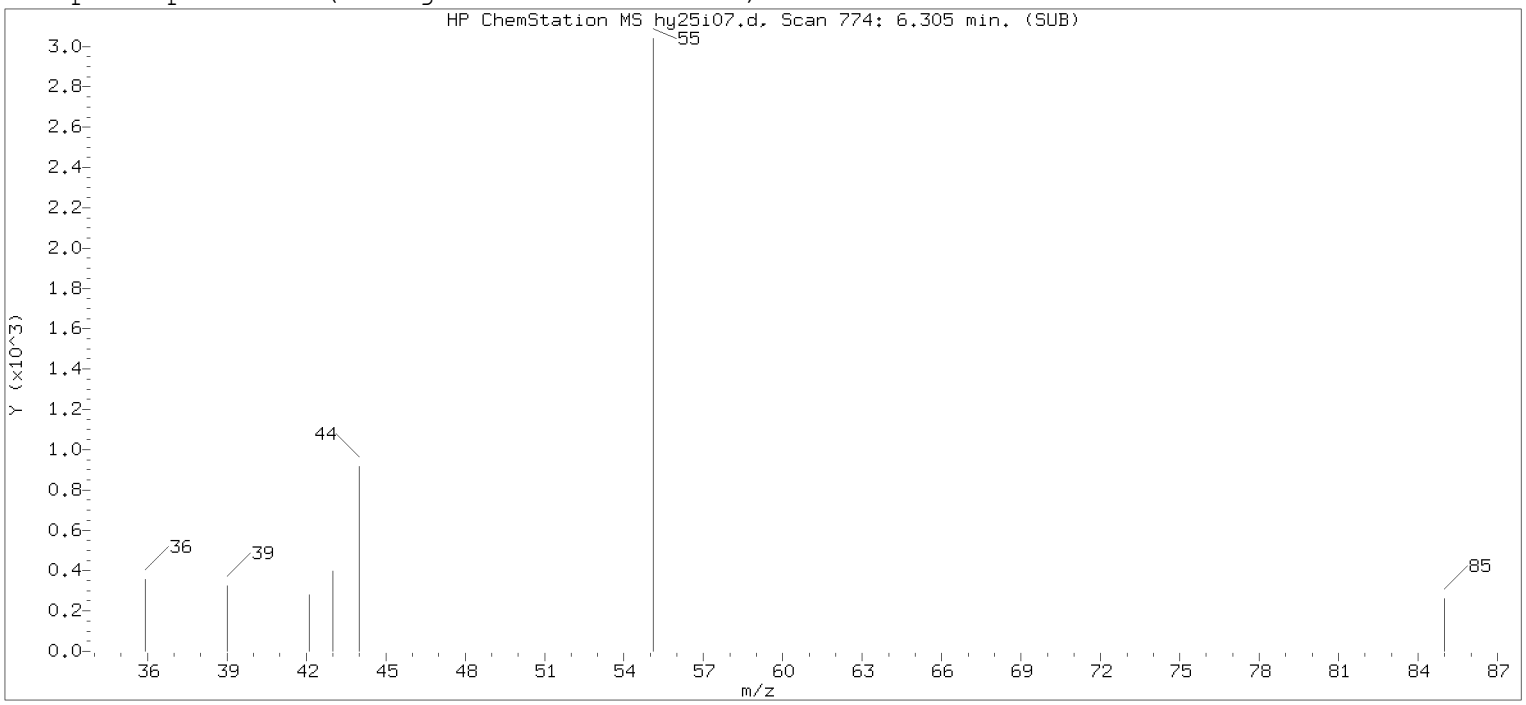
Compound Number : 43
Compound Name : Methyl Acrylate
Scan Number : 774
Retention Time (minutes): 6.305
Quant Ion : 55.00
Area (flag) : 14877M
On-Column Amount (ng) : 0.6754
Integration start scan : 769 Integration stop scan: 794
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

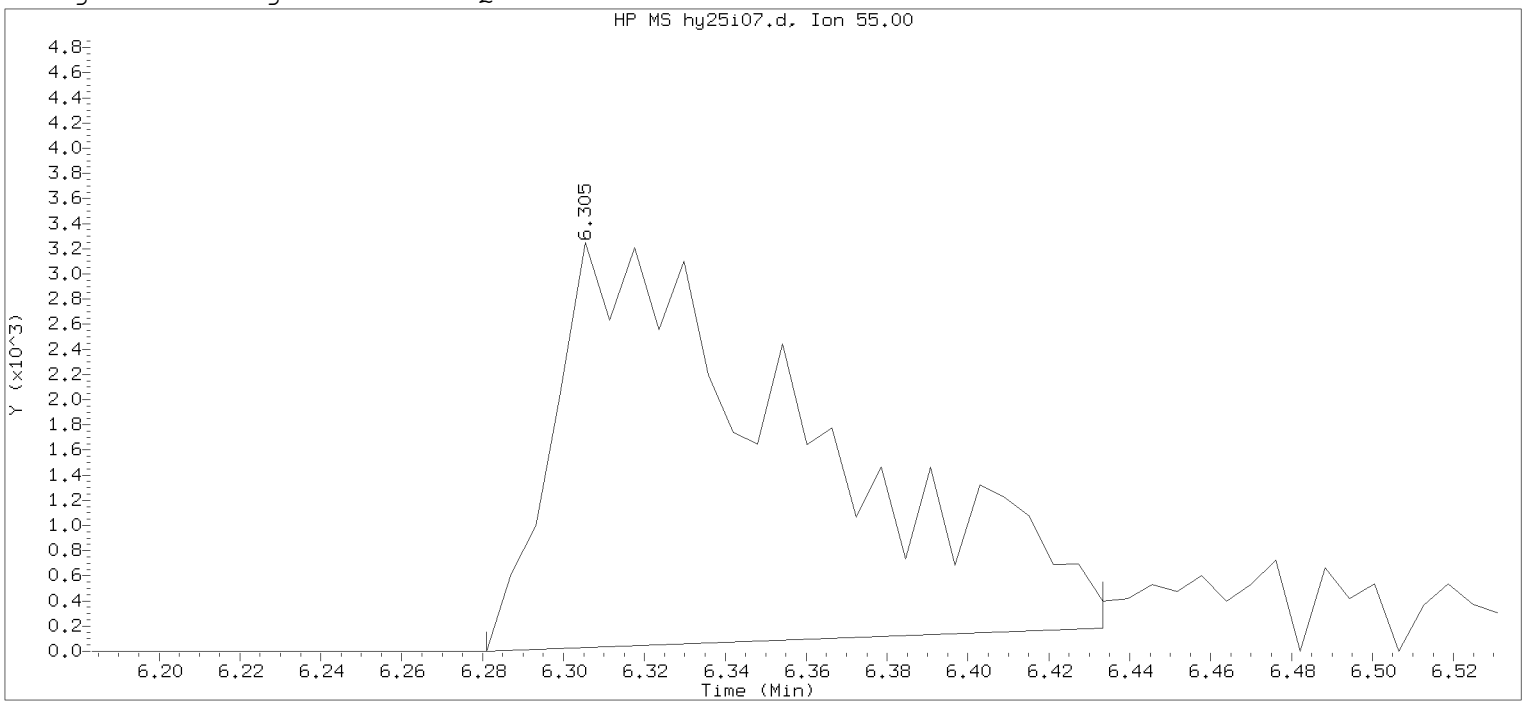
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:53.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



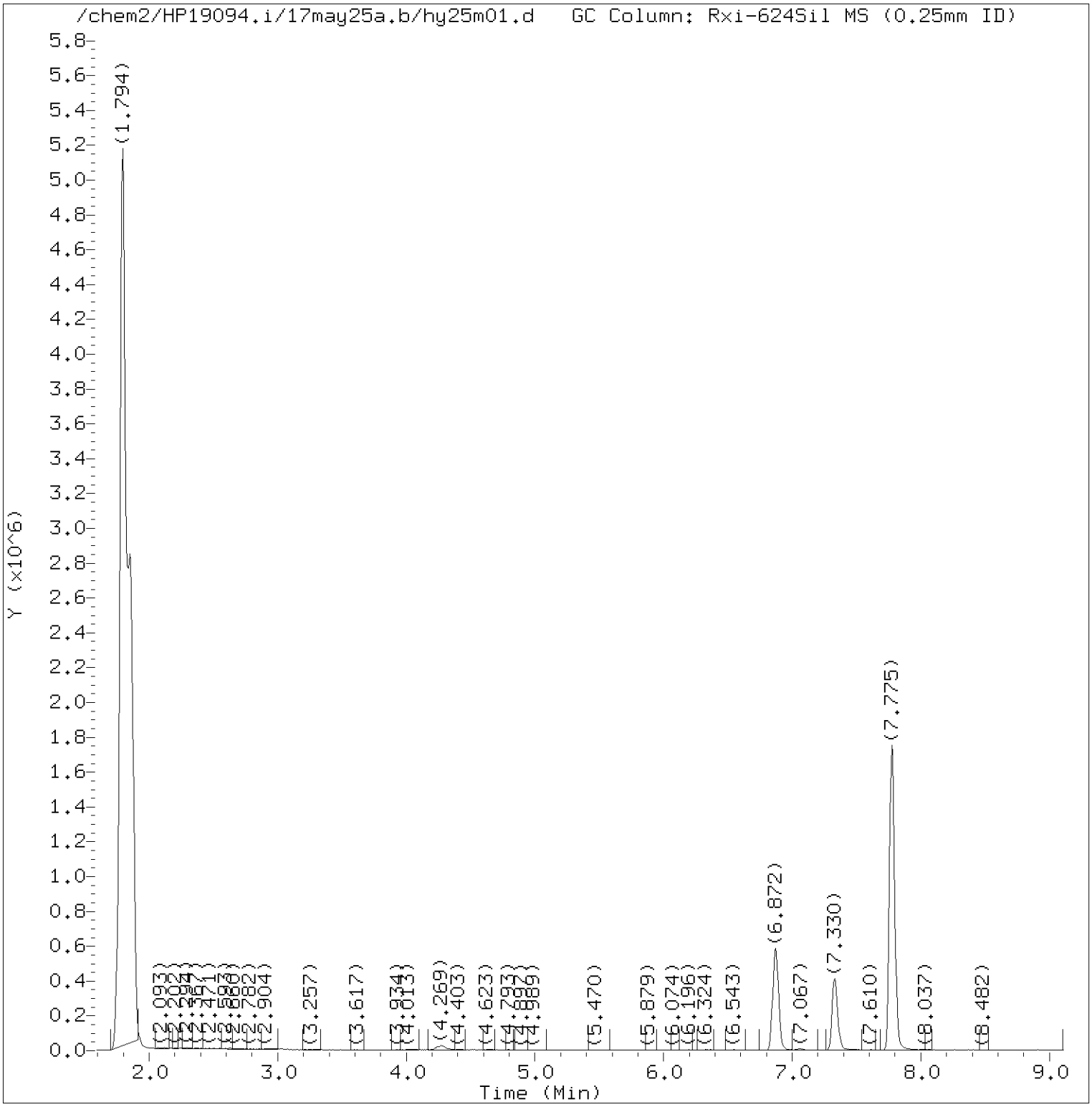
Data File: /chem2/HP19094.i/17may25a.b/hy25i07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:05 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 15:32
Date, time and analyst ID of latest file update: 25-May-2017 15:32 kel01973

Sample Name: VSTD0.2 Lab Sample ID: VSTD0.2

Compound Number : 43
Compound Name : Methyl Acrylate
Scan Number : 774
Retention Time (minutes): 6.305
Quant Ion : 55.00
Area : 13972
On-column Amount (ng) : 0.6381
Integration start scan : 769 Integration stop scan: 794
Y at integration start : 0 Y at integration end: 182

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 15:53.
Target 3.5 esignature used. Key ID: 1973



Total Ion Chromatogram (TIC)

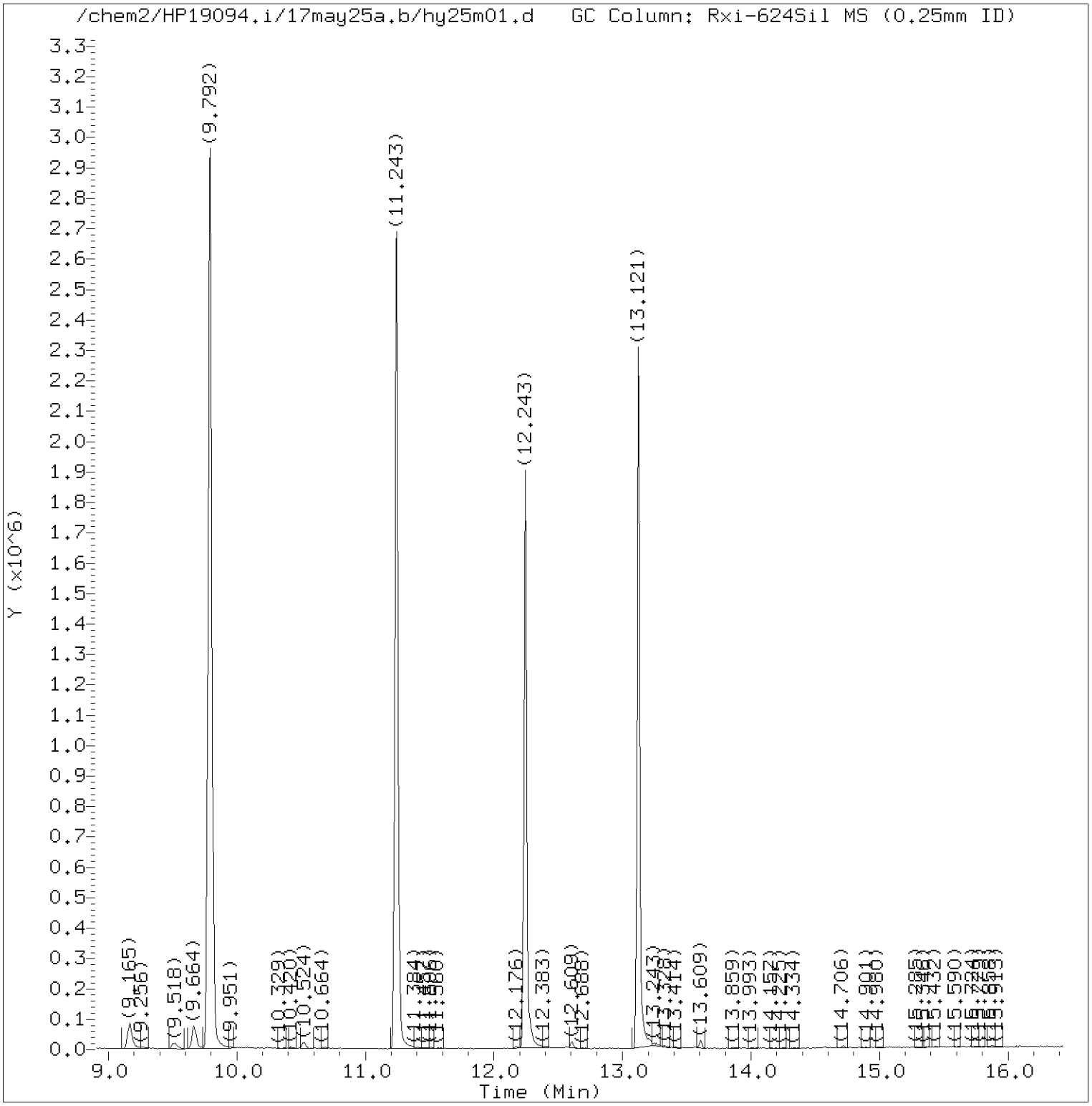
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

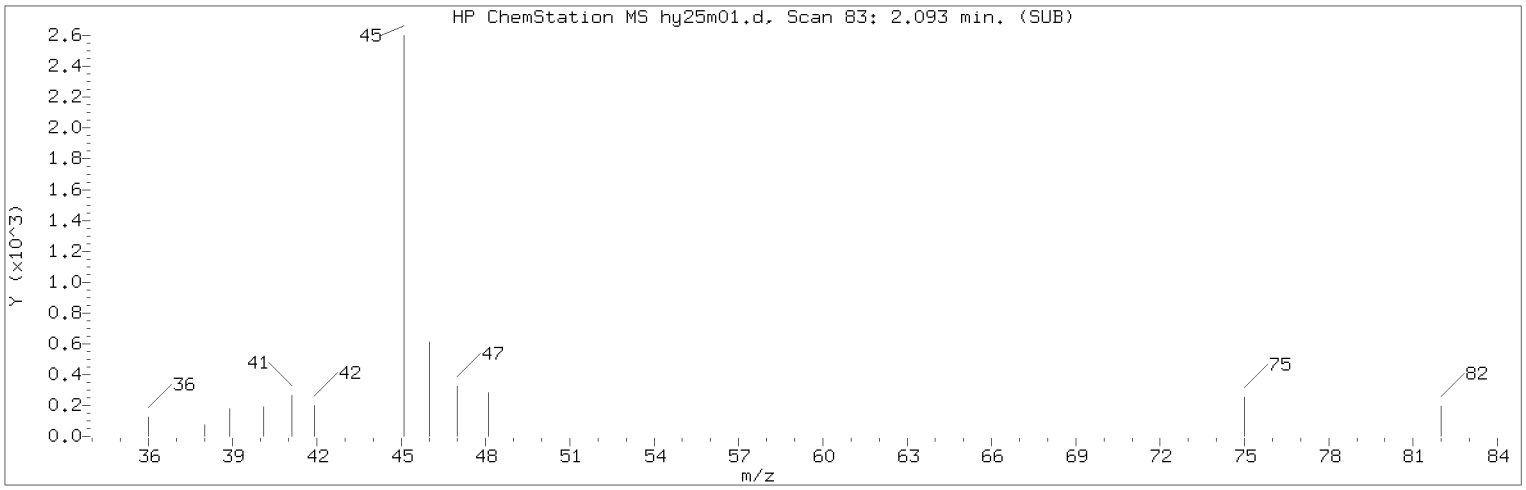
Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	10351M	0.121
25) Acetonitrile	(1)	4.001	41	13232M	3.333
26)*t-Butyl Alcohol-d10	(1)	4.269	65	80374	50.000
36) Vinyl Acetate	(2)	5.415	43	3465	0.332
43) Methyl Acrylate	(2)	6.324	55	7599	0.327
50)$Dibromofluoromethane	(2)	6.872	113	569186	0.000
53) 1-Chlorobutane	(2)	7.067	56	9867	0.080
57)$1,2-Dichloroethane-d4	(2)	7.330	102	93480	0.000
63)*Fluorobenzene	(2)	7.775	96	2347156	10.000
77) Chloroacetonitrile	(2)	9.262	75	3908	2.722
78) 2-Chloroethyl vinyl ether	(2)	9.299	63	1051	0.046
82)$Toluene-d8	(3)	9.792	98	2365538	0.000
97)*Chlorobenzene-d5	(3)	11.243	117	1590070	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.127	88	217	0.484
112) Cyclohexanone	(1)	12.164	55	3082A	16.772
111)$4-Bromofluorobenzene	(3)	12.243	95	601318	0.000
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	613887	10.000
142) Hexachloroethane	(4)	13.603	117	4863	0.098

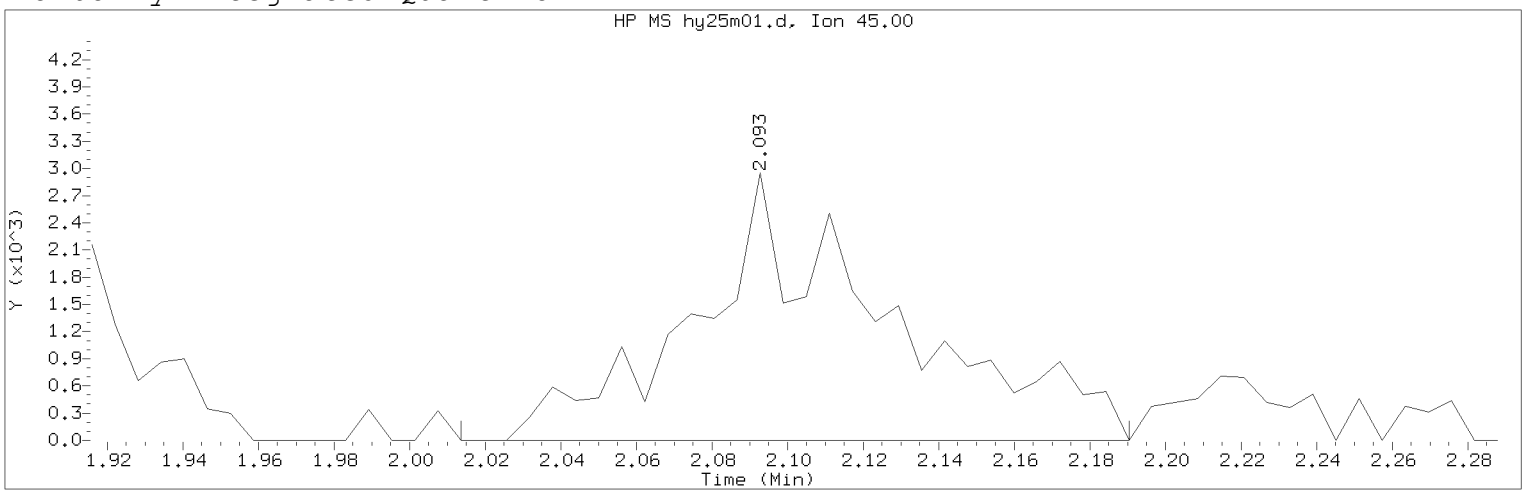
M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

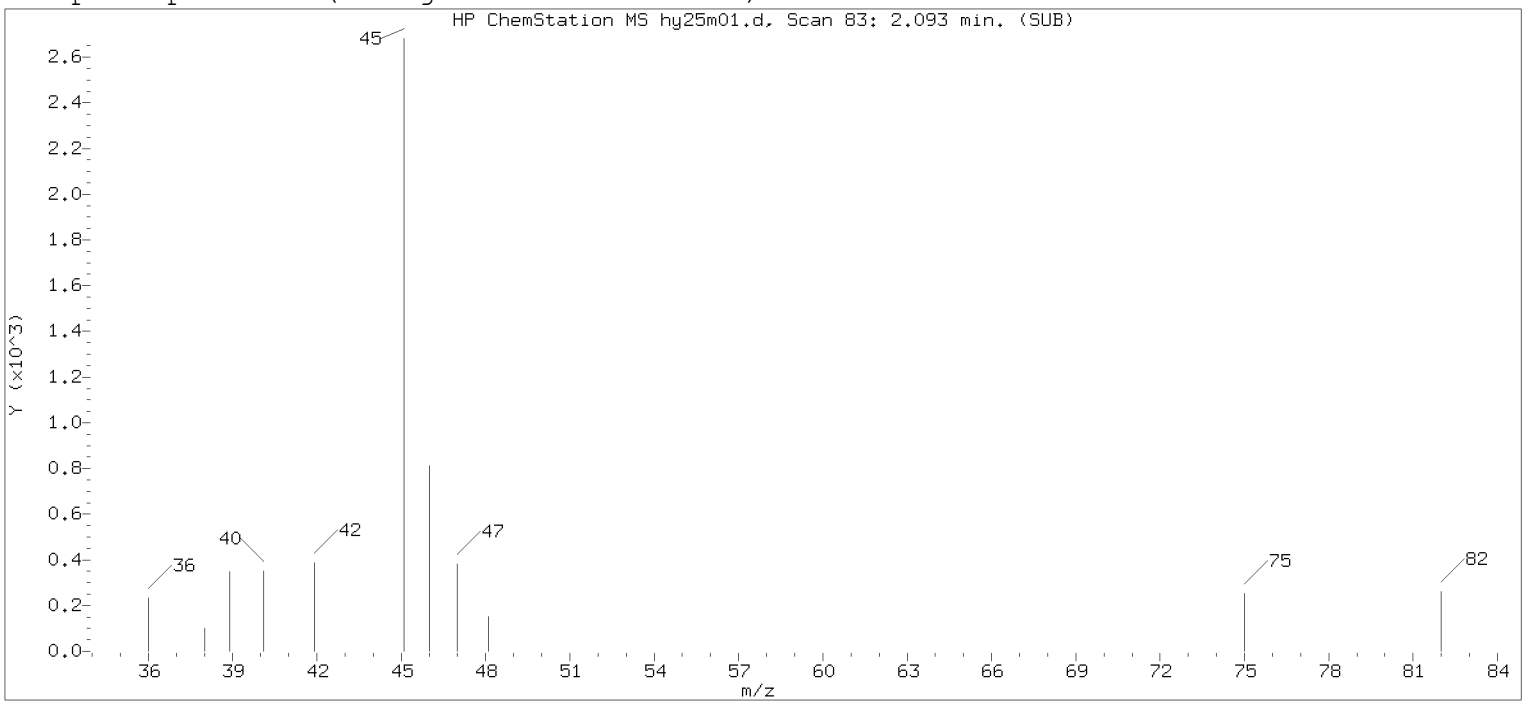
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 83
Retention Time (minutes): 2.093
Quant Ion : 45.00
Area (flag) : 10351M
On-Column Amount (ng) : 0.1205
Integration start scan : 69 Integration stop scan: 98
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

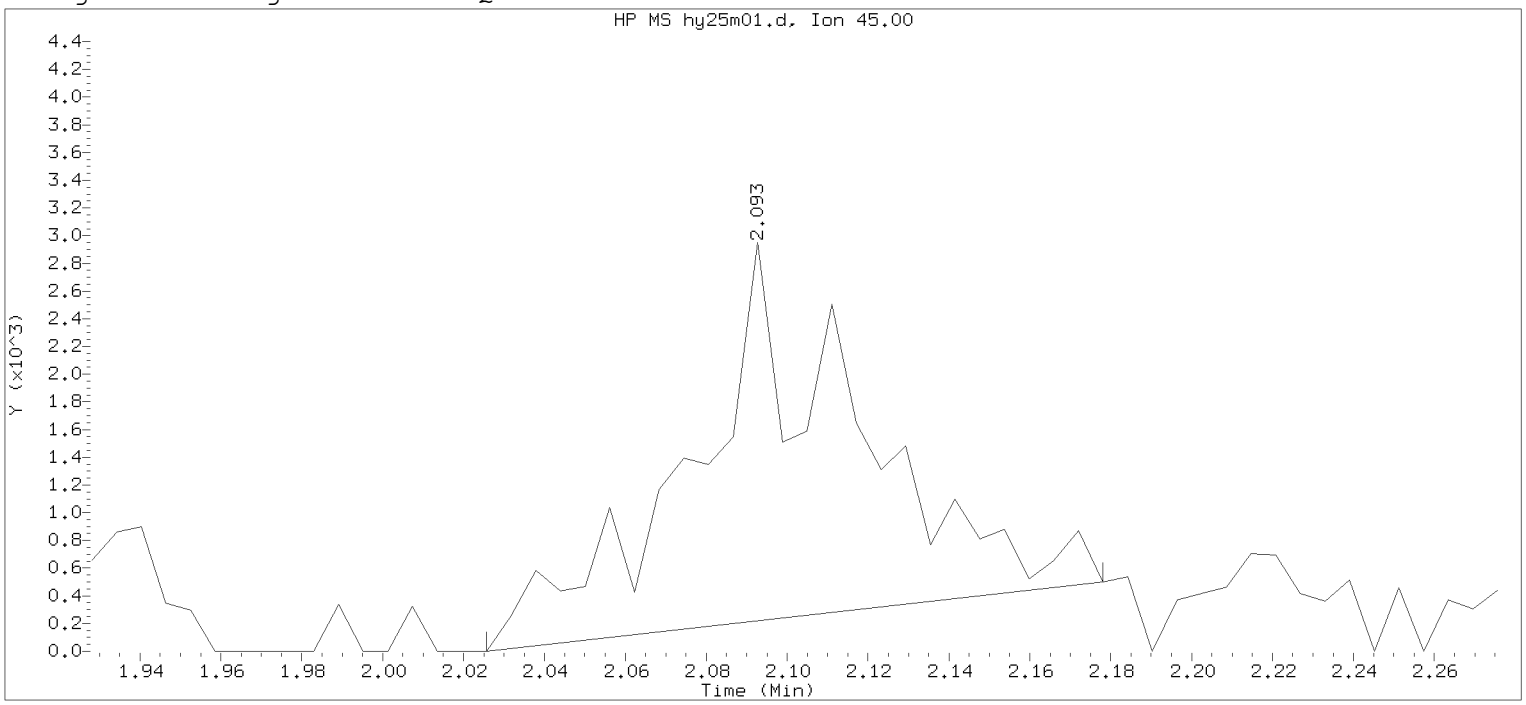
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

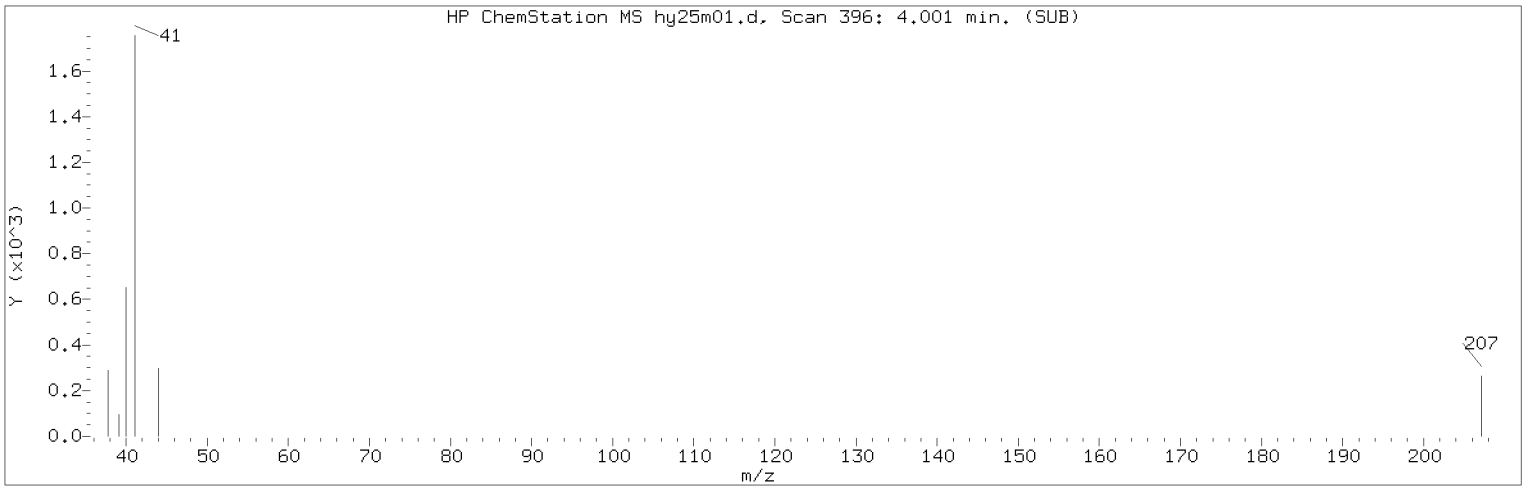
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 15:52
Date, time and analyst ID of latest file update: 25-May-2017 15:52 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

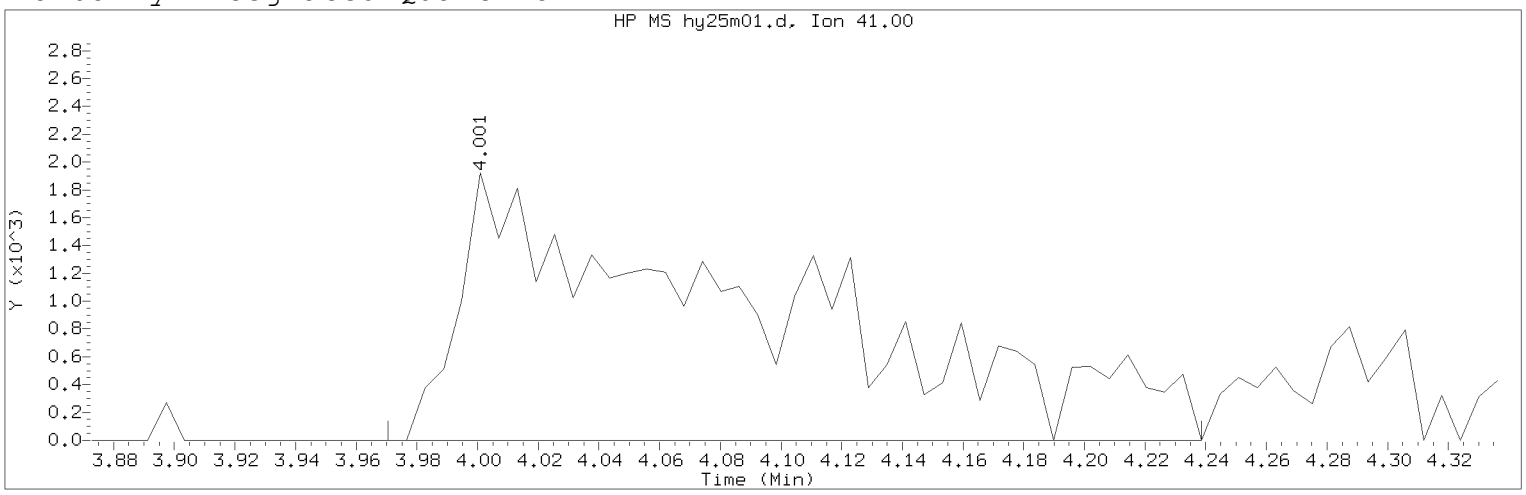
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 83
Retention Time (minutes): 2.093
Quant Ion : 45.00
Area : 7777
On-column Amount (ng) : 0.0906
Integration start scan : 71 Integration stop scan: 96
Y at integration start : 0 Y at integration end: 500

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

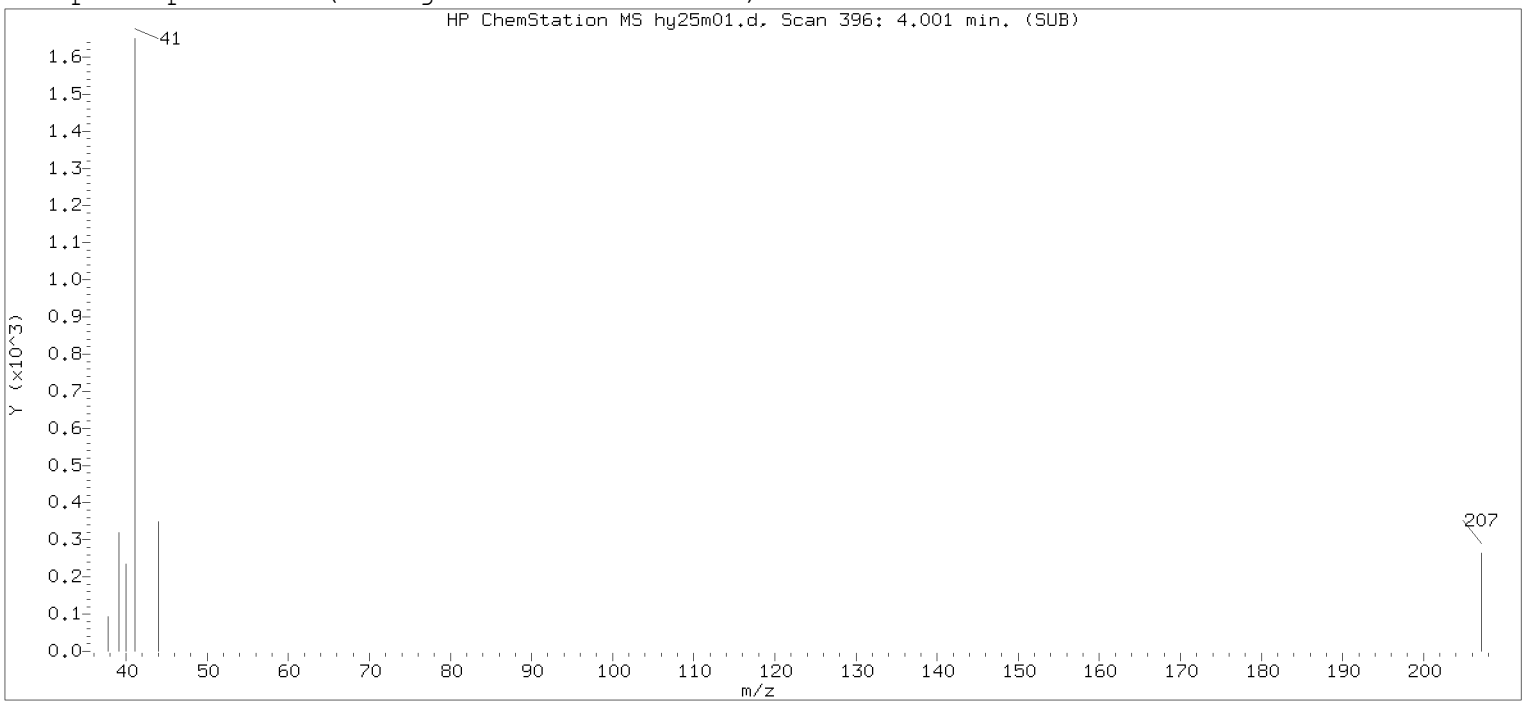
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 396
Retention Time (minutes): 4.001
Quant Ion : 41.00
Area (flag) : 13232M
On-Column Amount (ng) : 3.3335
Integration start scan : 390 Integration stop scan: 434
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

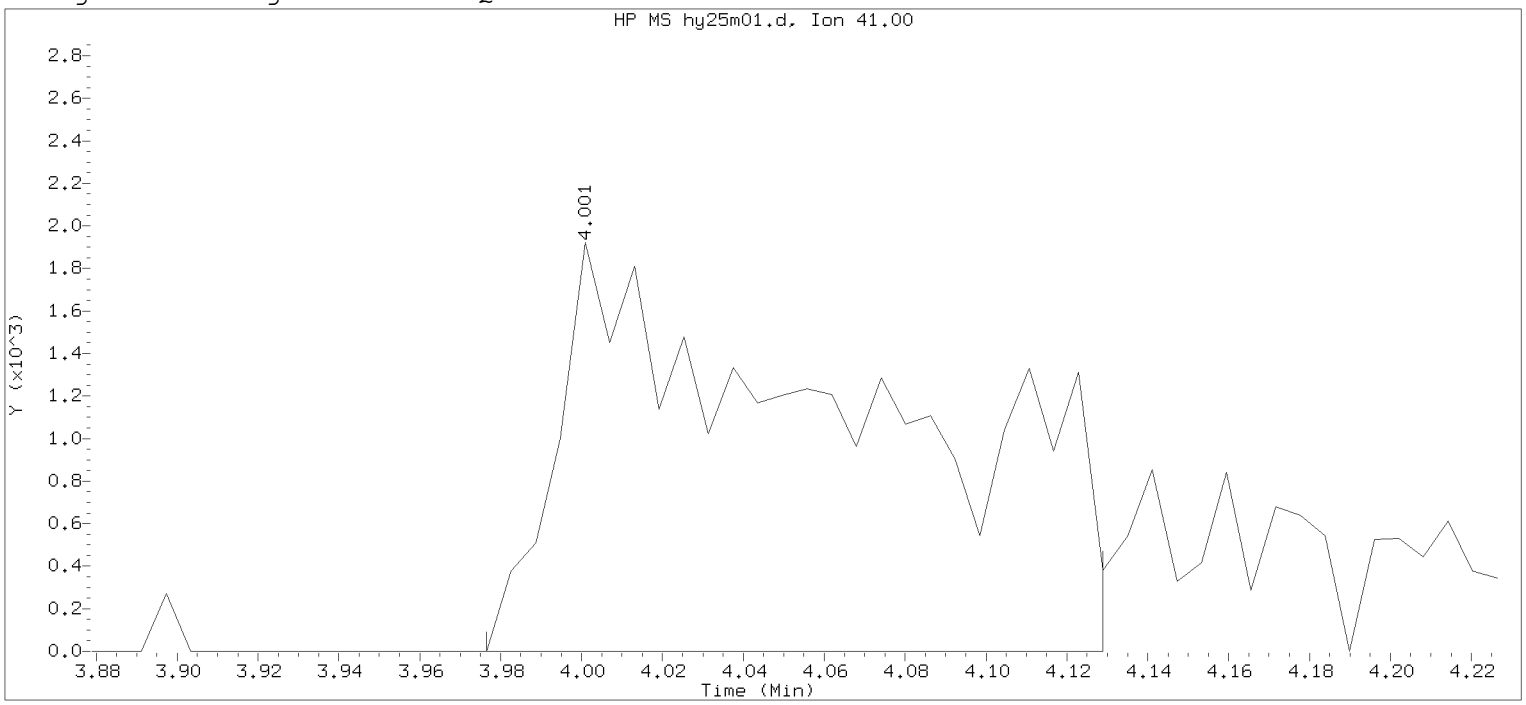
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

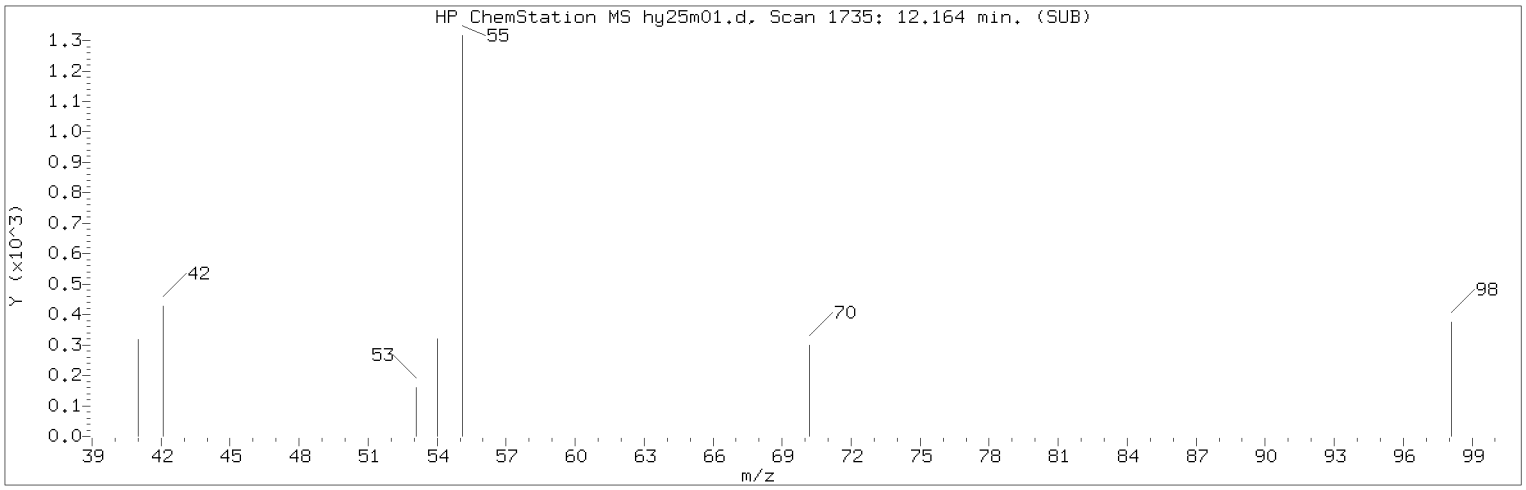
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 15:52
Date, time and analyst ID of latest file update: 25-May-2017 15:52 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

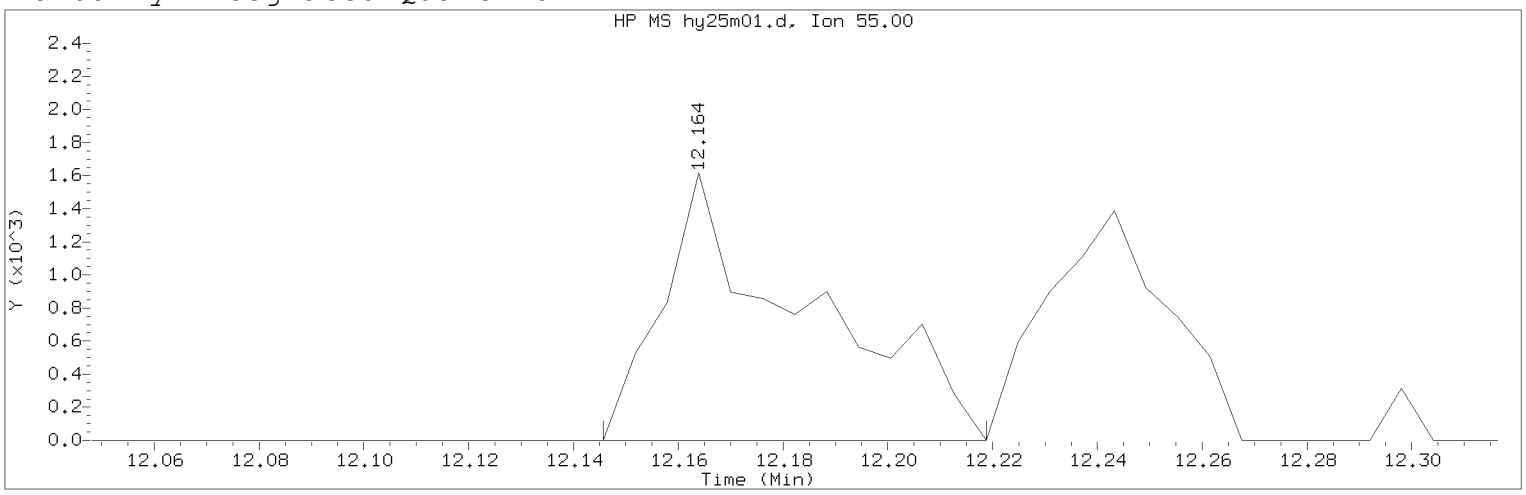
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 396
Retention Time (minutes): 4.001
Quant Ion : 41.00
Area : 10074
On-column Amount (ng) : 2.5379
Integration start scan : 391 Integration stop scan: 416
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature used. Reason: I approve this document.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

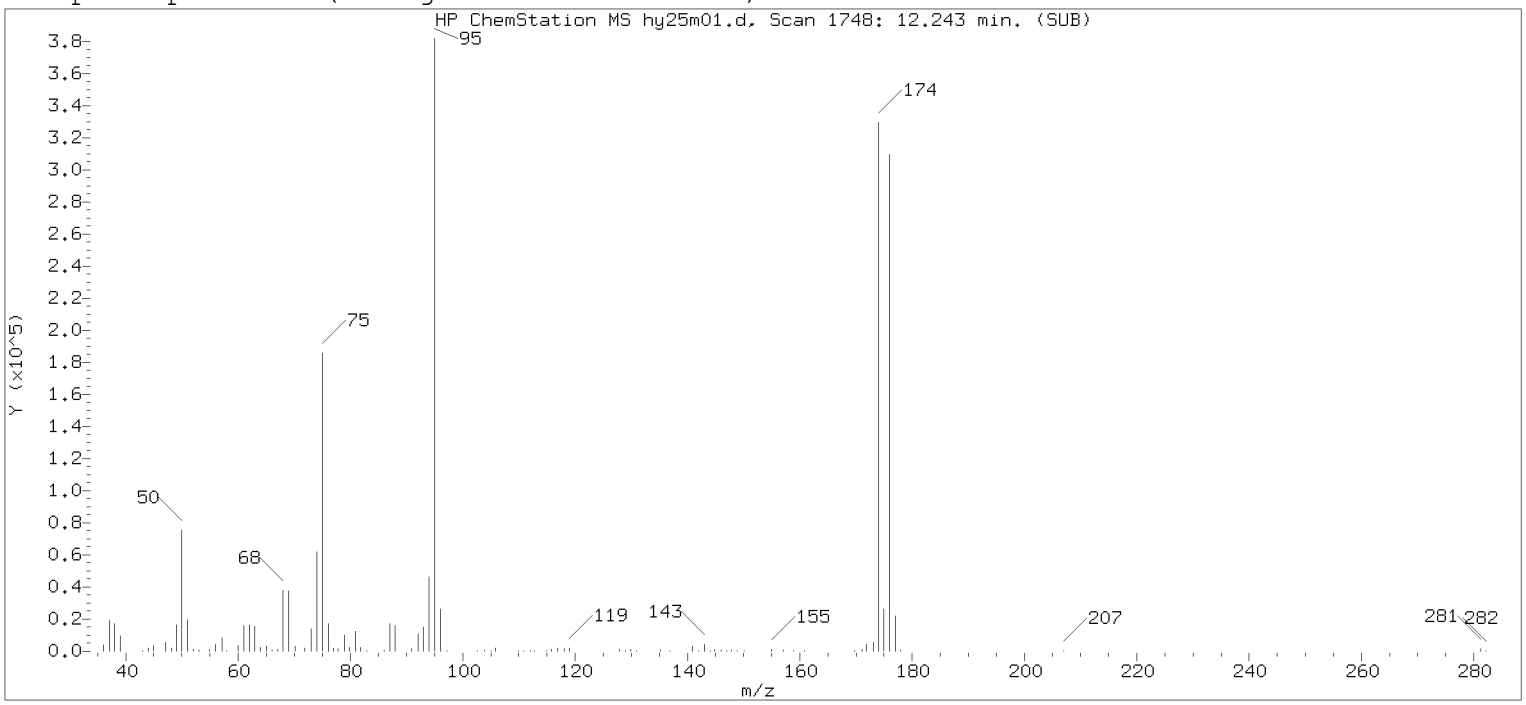
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1735
Retention Time (minutes): 12.164
Quant Ion : 55.00
Area (flag) : 3082A
On-Column Amount (ng) : 16.7724
Integration start scan : 1731 Integration stop scan: 1743
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

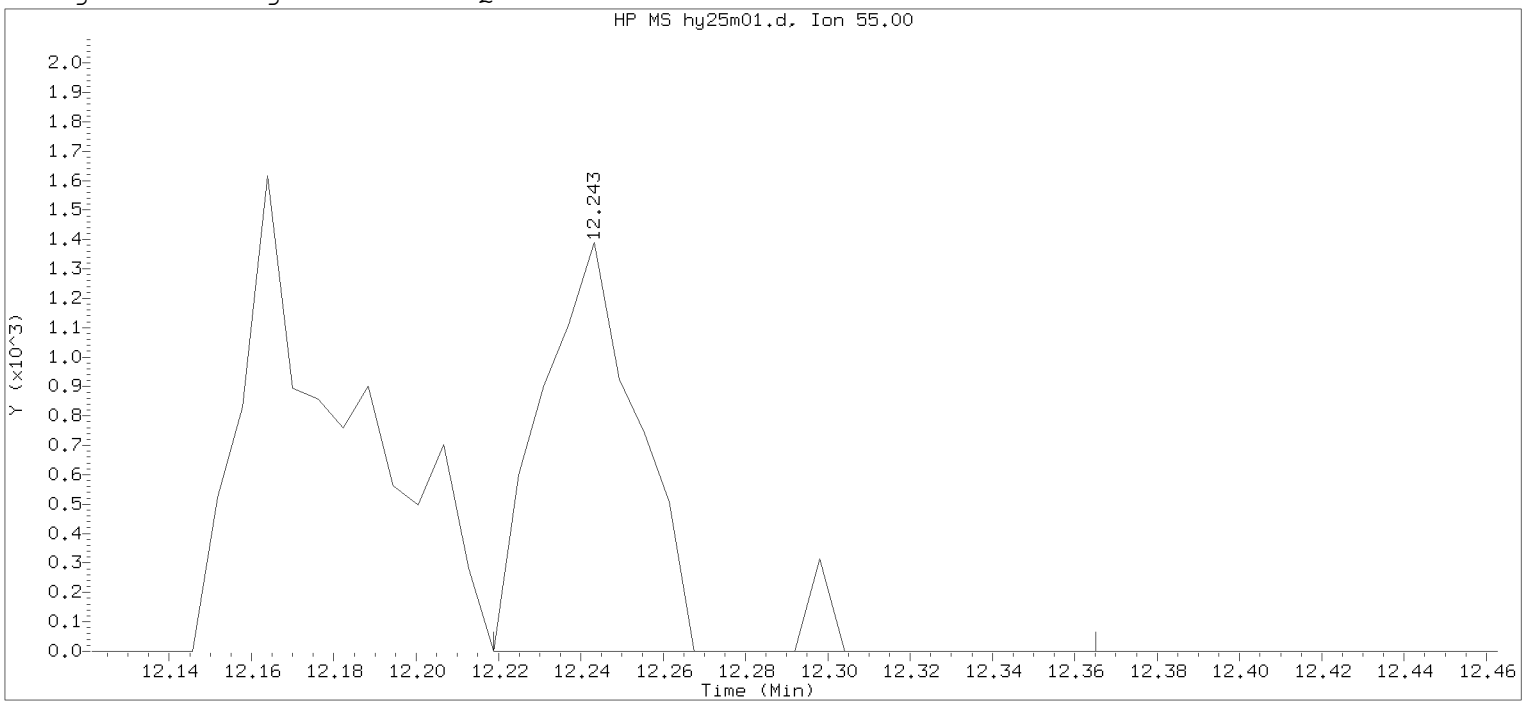
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



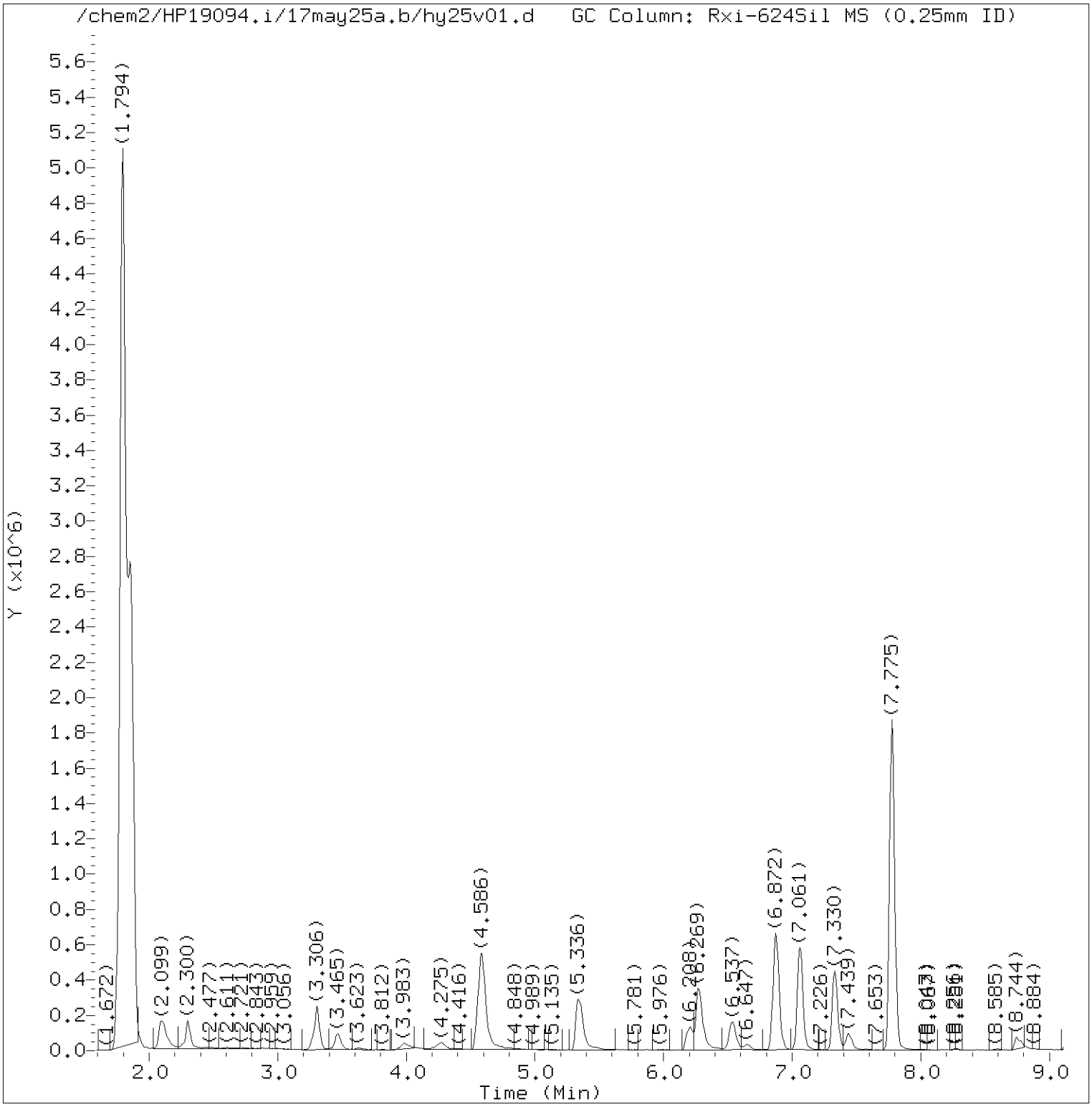
Data File: /chem2/HP19094.i/17may25a.b/hy25m01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 13:26 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 15:52
Date, time and analyst ID of latest file update: 25-May-2017 15:52 kel01973

Sample Name: MDL0.1 Lab Sample ID: MDL0.1

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1748
Retention Time (minutes): 12.243
Quant Ion : 55.00
Area : 2374
On-column Amount (ng) : 16.3191
Integration start scan : 1743 Integration stop scan: 1767
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature used [illegible]



Total Ion Chromatogram (TIC)

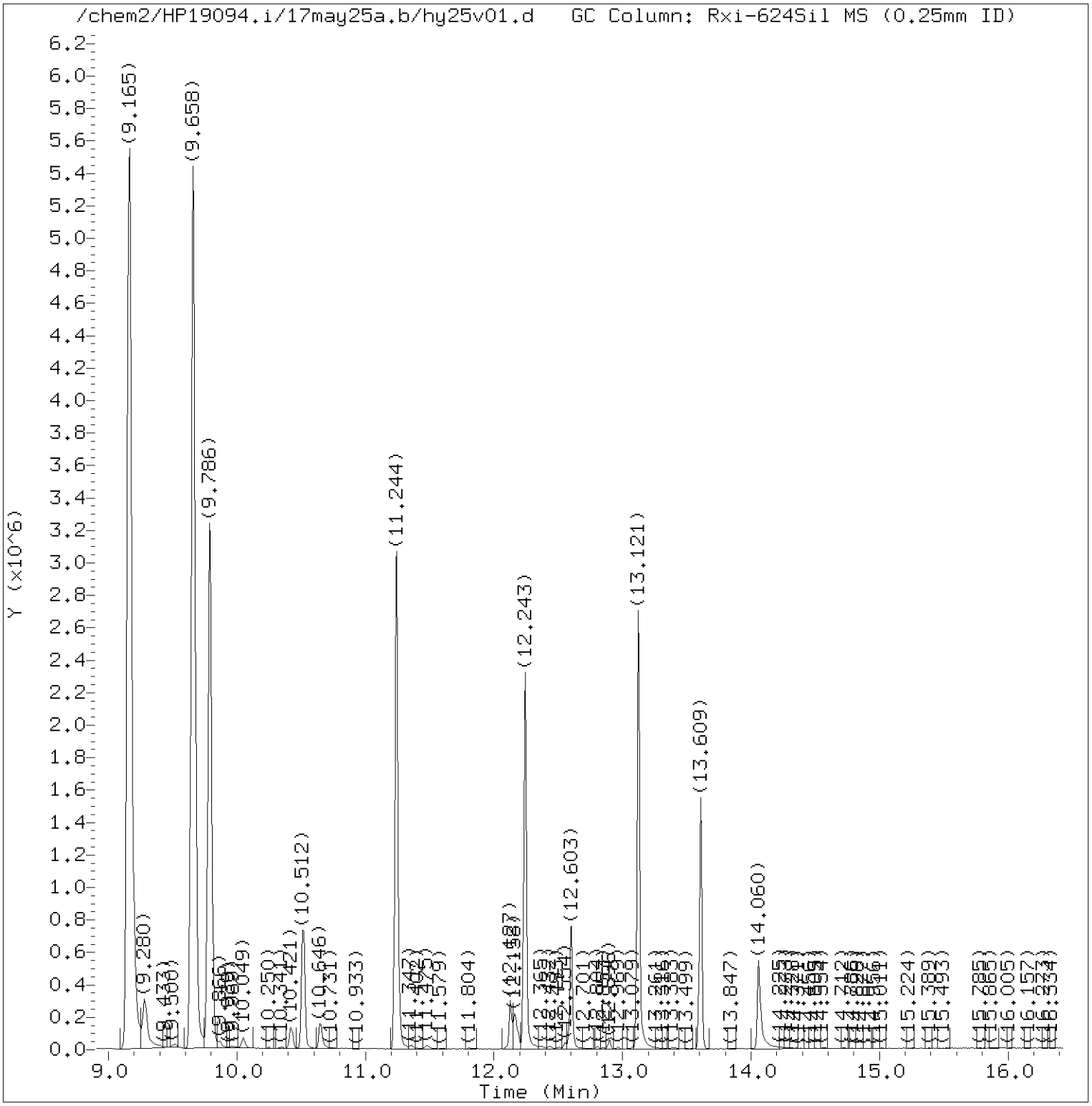
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

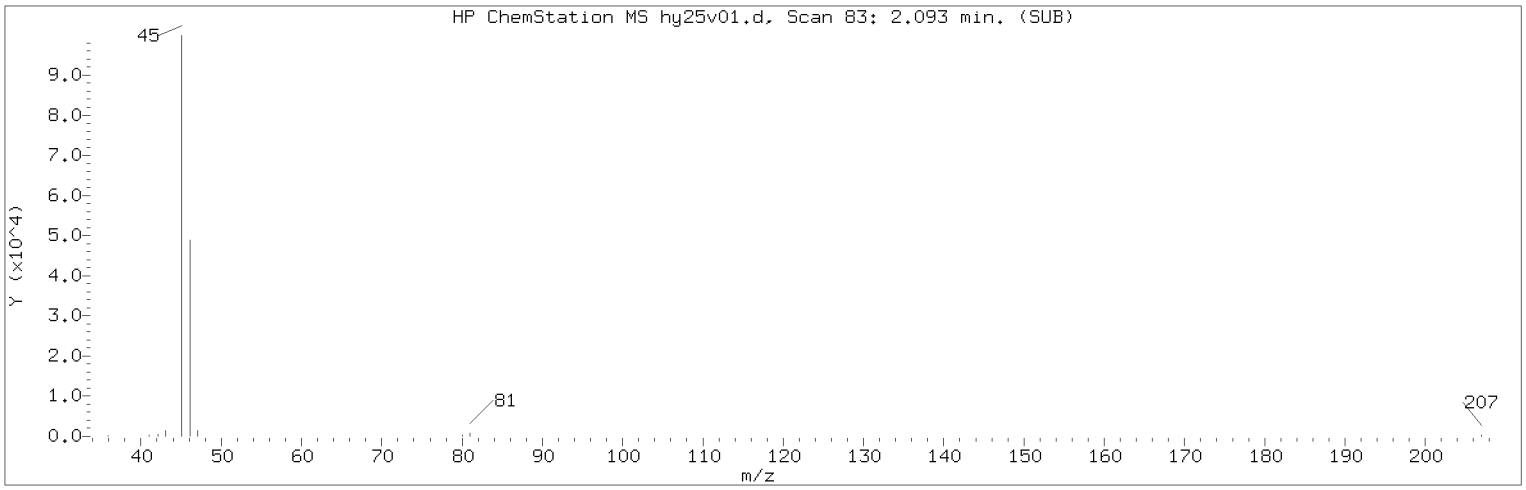
Sample Name: LCSHSM Lab Sample ID: LCSHSM

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	447020M	4.904
25) Acetonitrile	(1)	3.989	41	187439M	44.157
26)*t-Butyl Alcohol-d10	(1)	4.257	65	85949M	50.000
36) Vinyl Acetate	(2)	5.336	43	930502	11.987
43) Methyl Acrylate	(2)	6.269	55	753800	30.555
50)$Dibromofluoromethane	(2)	6.872	113	609273	0.000
53) 1-Chlorobutane	(2)	7.061	56	676924	5.160
57)$1,2-Dichloroethane-d4	(2)	7.330	102	100109	0.000
63)*Fluorobenzene	(2)	7.775	96	2491092	10.000
77) Chloroacetonitrile	(2)	9.201	75	402778	264.290
78) 2-Chloroethyl vinyl ether	(2)	9.280	63	130928	5.388
82)$Toluene-d8	(3)	9.786	98	2568411	0.000
97)*Chlorobenzene-d5	(3)	11.244	117	1747464	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.127	88	65632	11.257
112) Cyclohexanone	(1)	12.158	55	116124M	83.946
111)$4-Bromofluorobenzene	(3)	12.243	95	736341	0.000
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	717663	10.000
142) Hexachloroethane	(4)	13.609	117	264996	4.566

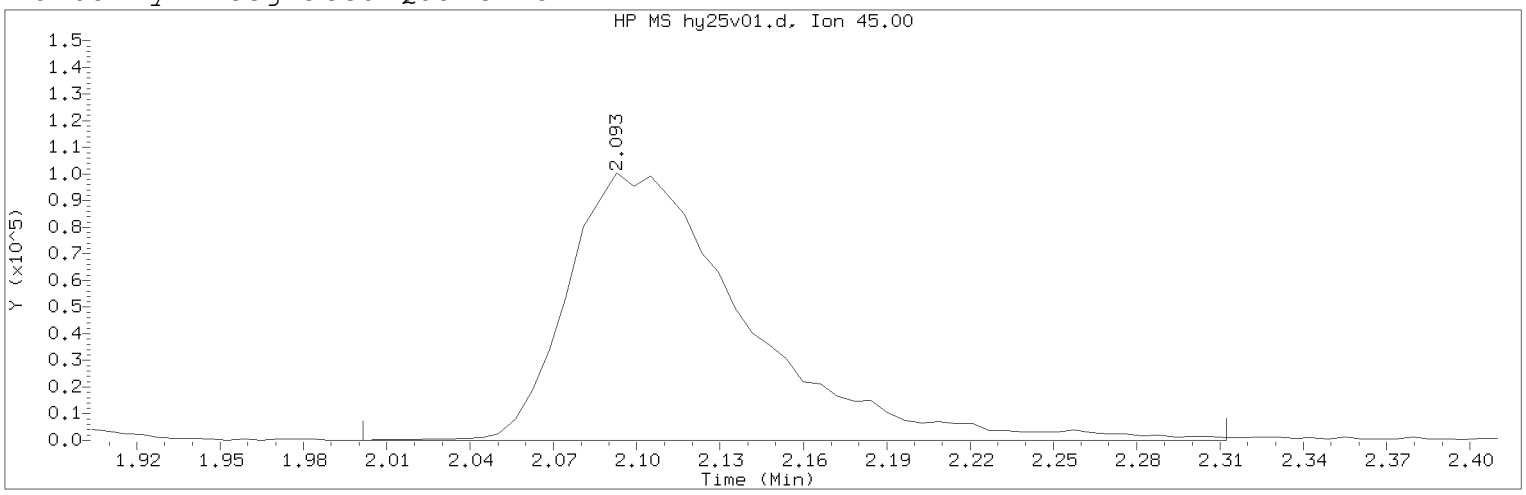
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

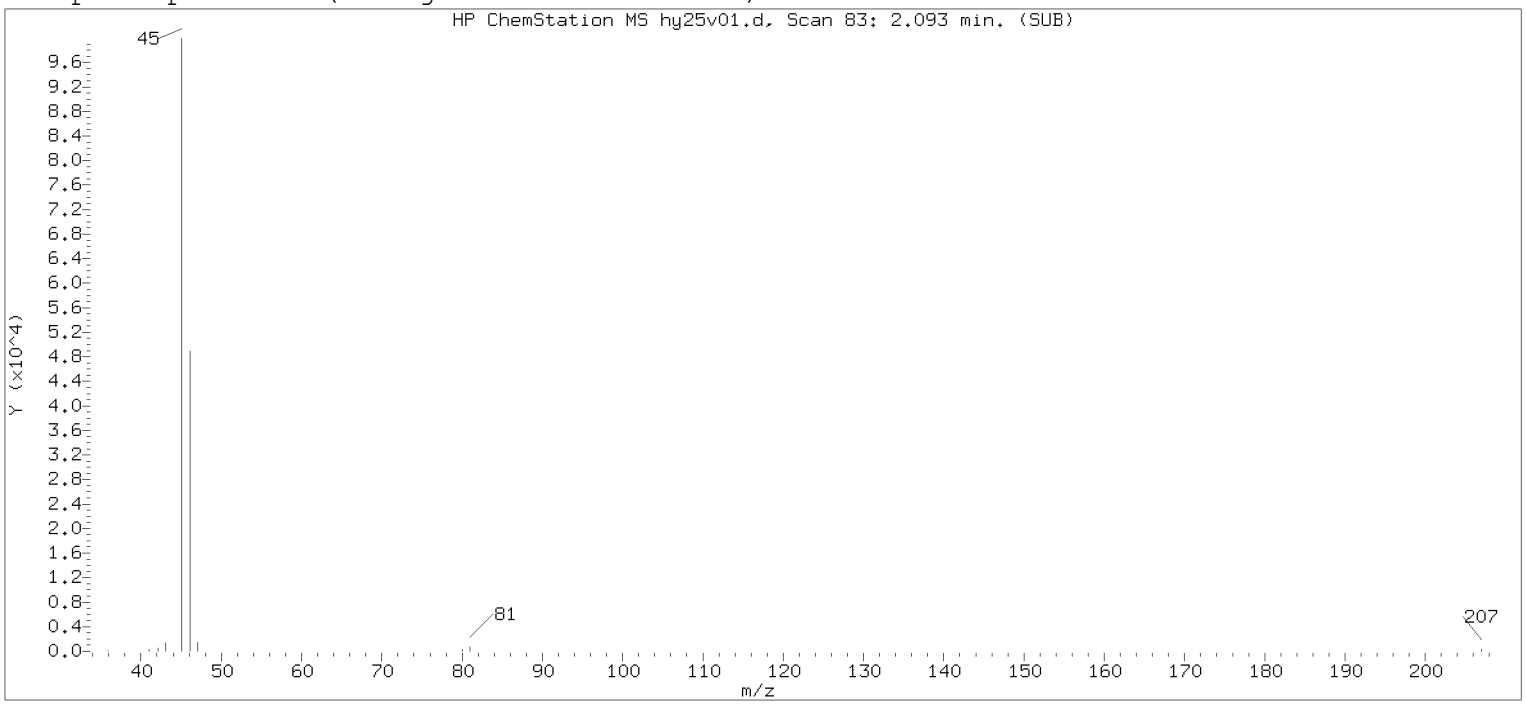
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 83
Retention Time (minutes): 2.093
Quant Ion : 45.00
Area (flag) : 447020M
On-Column Amount (ng) : 4.9042
Integration start scan : 67 Integration stop scan: 118
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

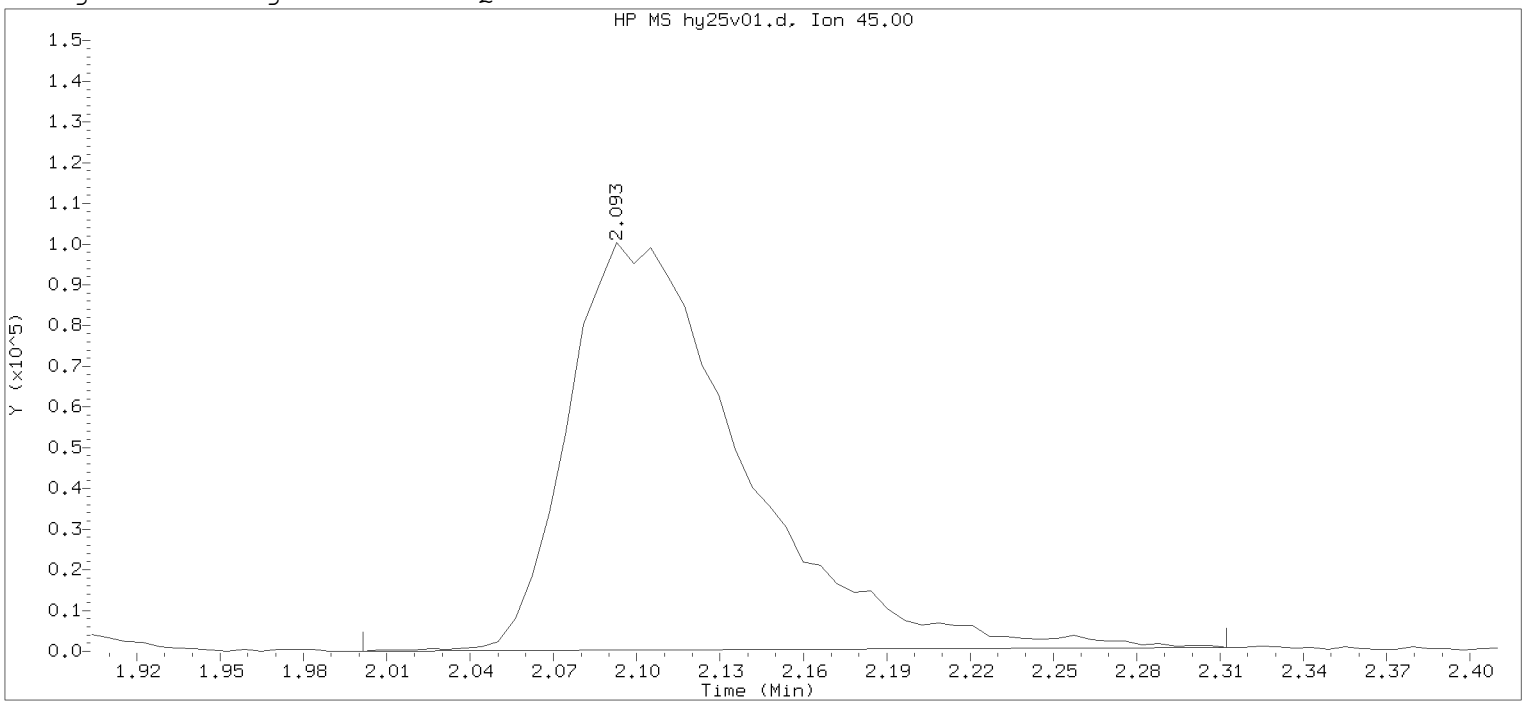
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

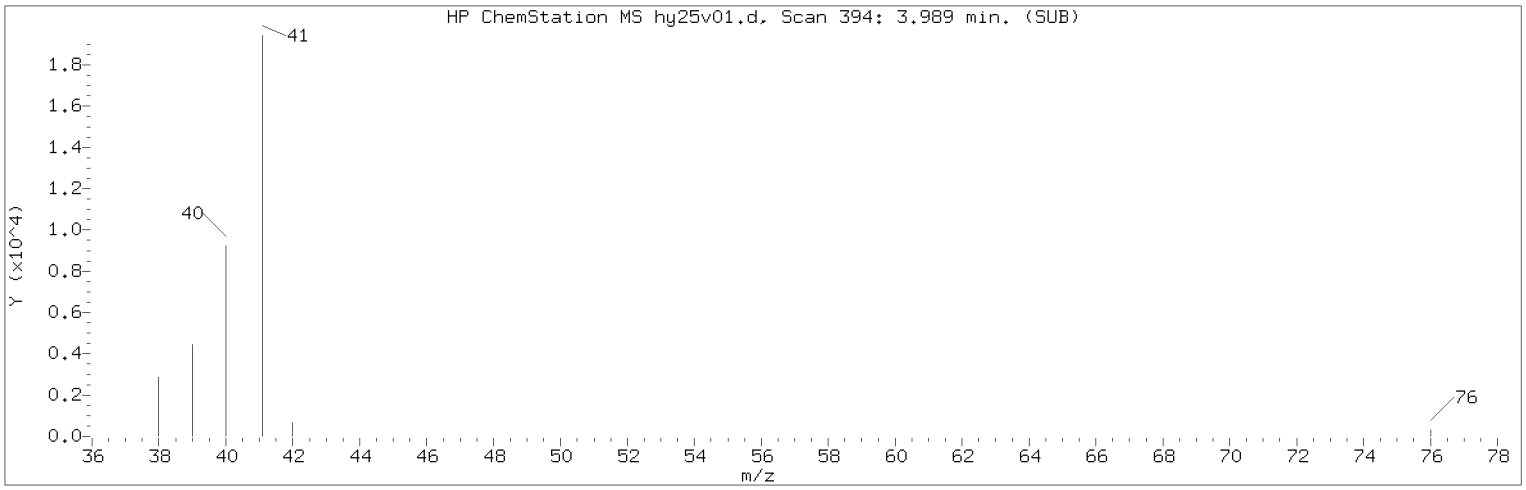
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 15:52
Date, time and analyst ID of latest file update: 25-May-2017 15:52 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

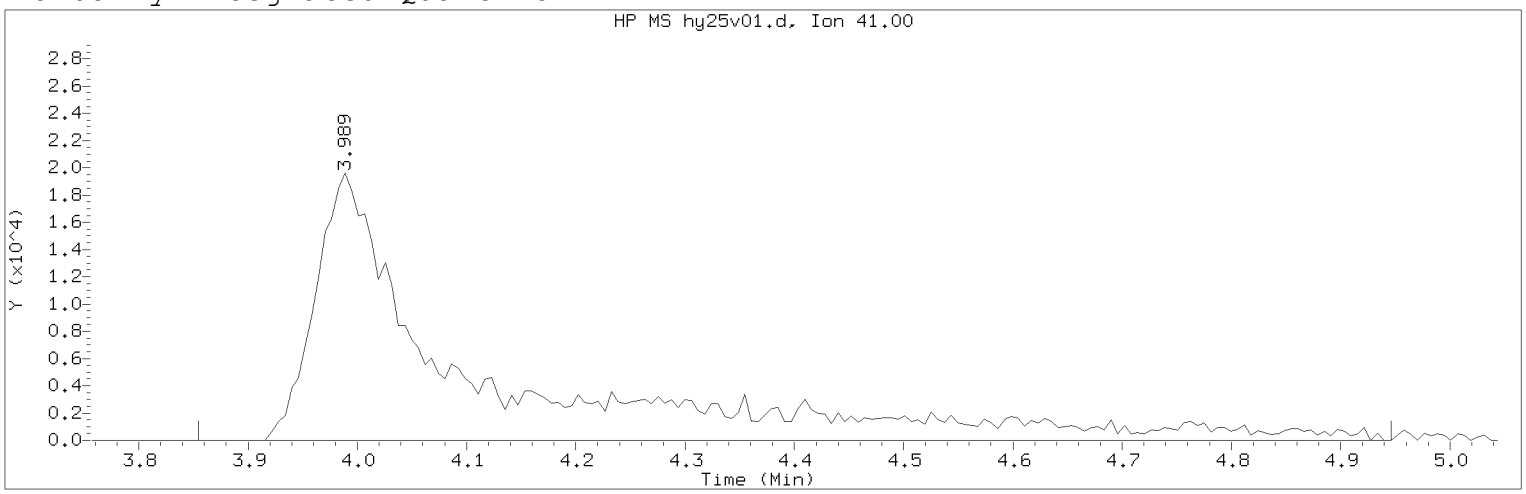
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 83
Retention Time (minutes): 2.093
Quant Ion : 45.00
Area : 438342
On-column Amount (ng) : 4.8090
Integration start scan : 67 Integration stop scan: 118
Y at integration start : 0 Y at integration end: 912

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature used. Page 1 of 3

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

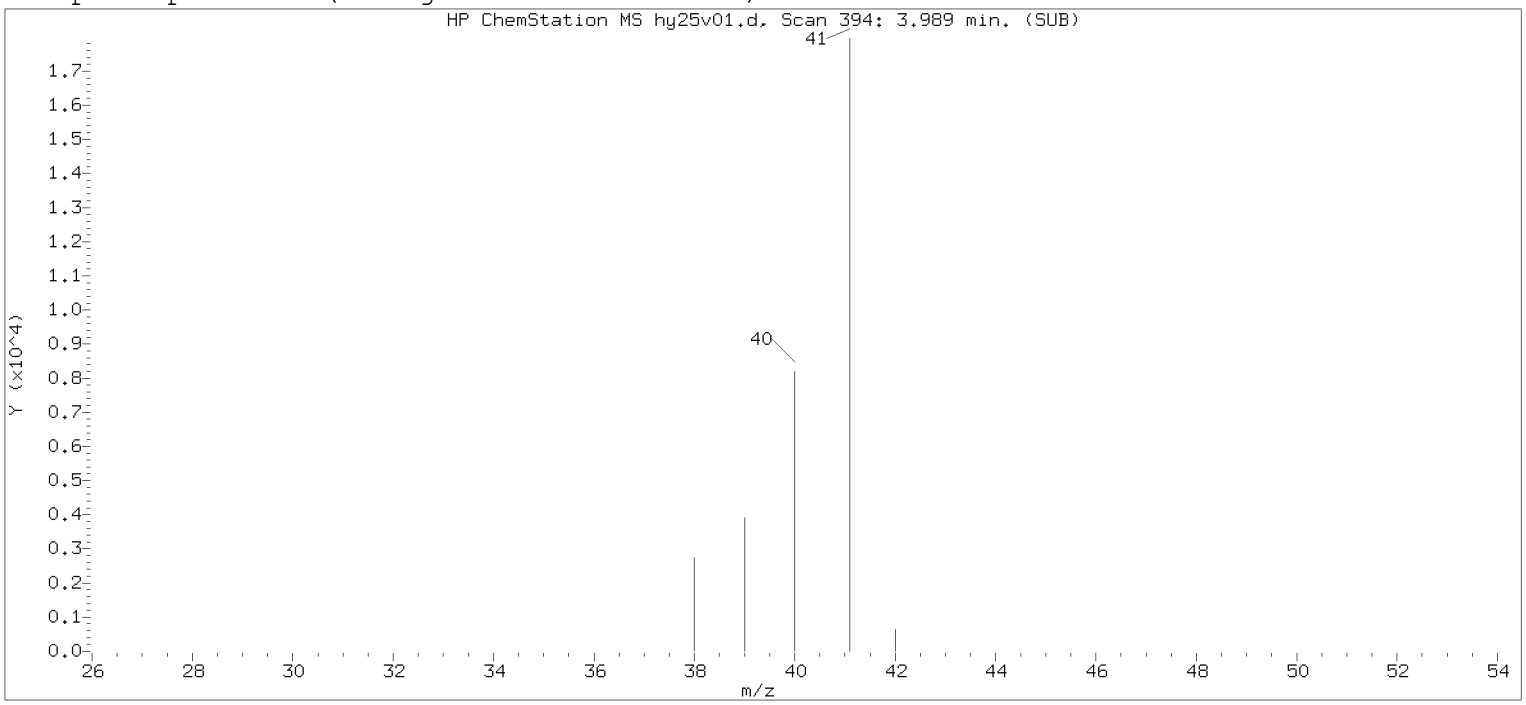
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 394
Retention Time (minutes): 3.989
Quant Ion : 41.00
Area (flag) : 187439M
On-Column Amount (ng) : 44.1574
Integration start scan : 371 Integration stop scan: 550
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

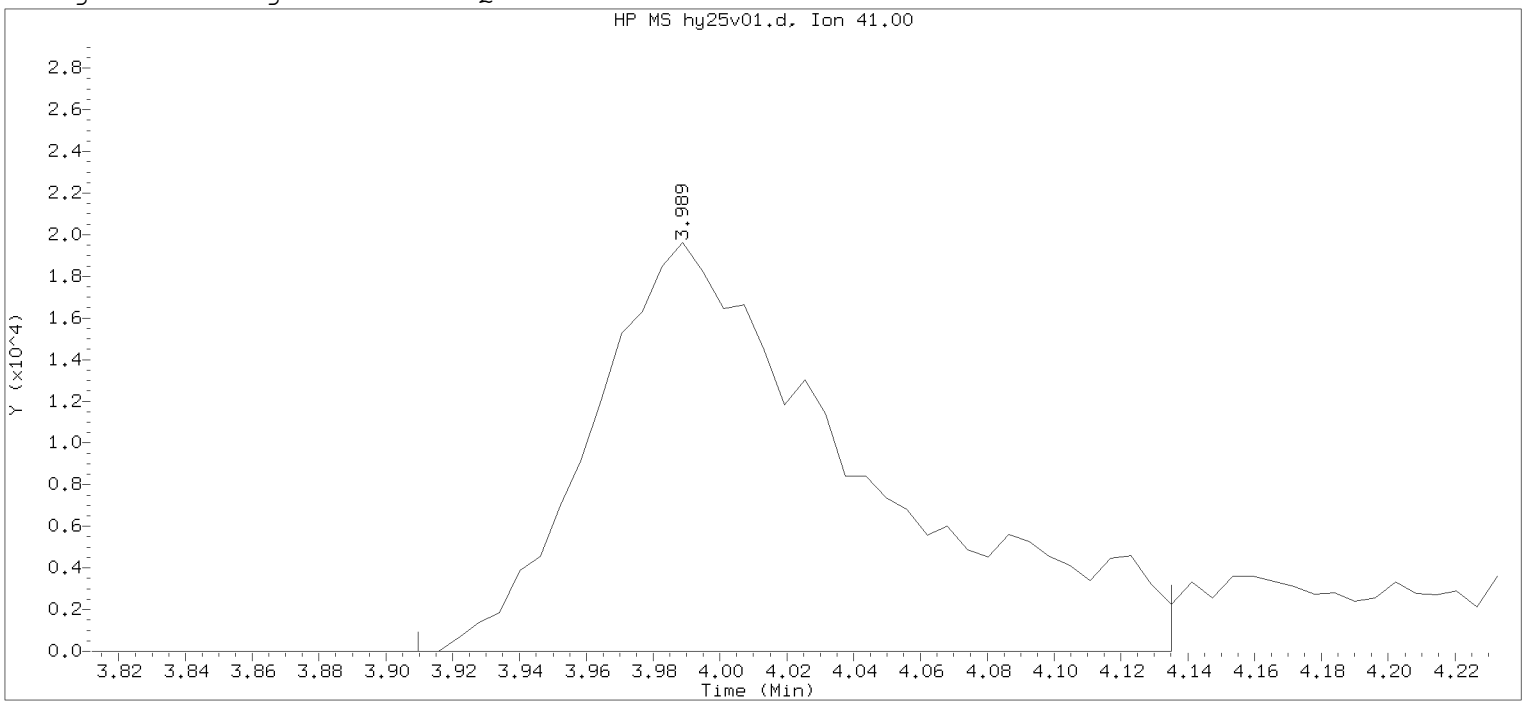
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

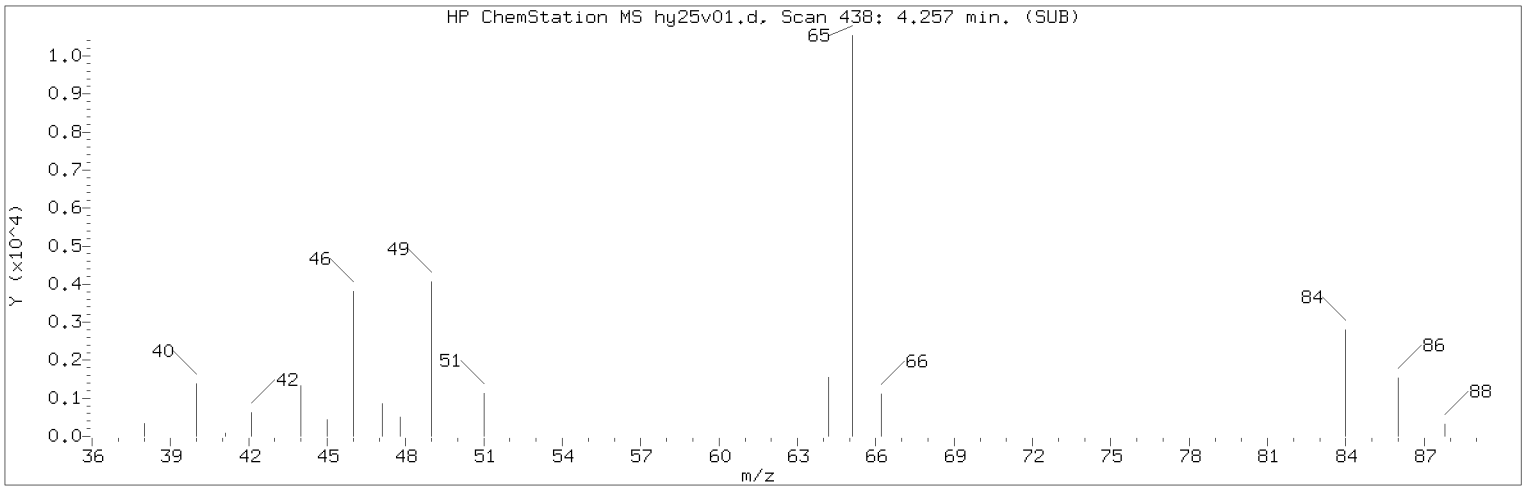
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 15:52
Date, time and analyst ID of latest file update: 25-May-2017 15:52 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

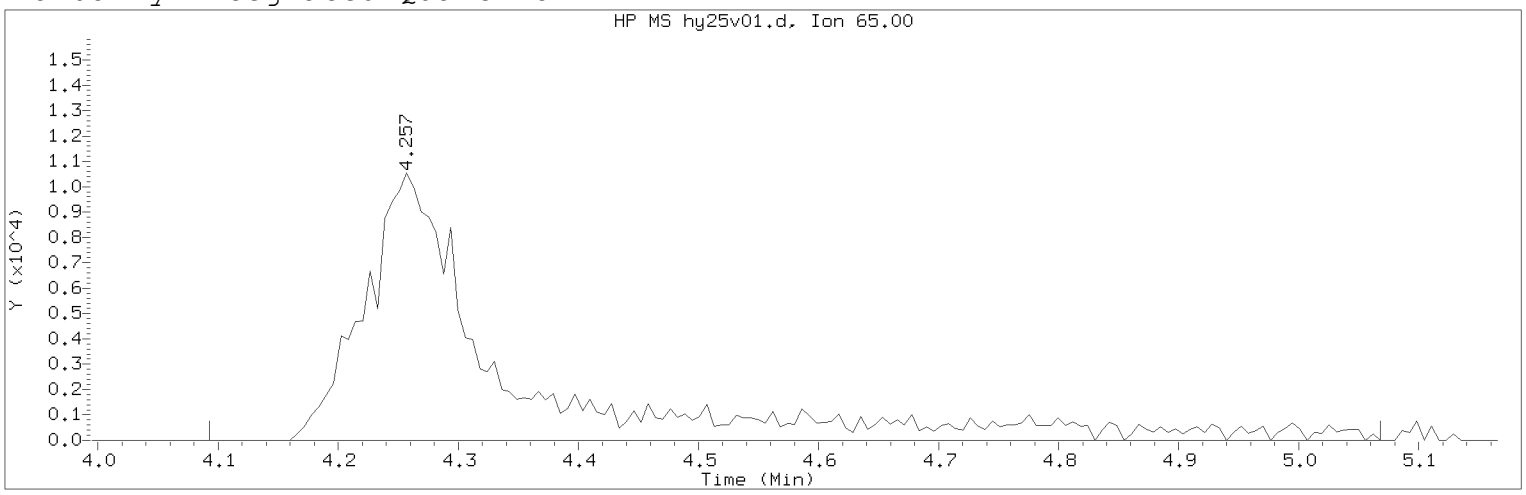
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 394
Retention Time (minutes): 3.989
Quant Ion : 41.00
Area : 109972
On-column Amount (ng) : 27.5888
Integration start scan : 380 Integration stop scan: 417
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

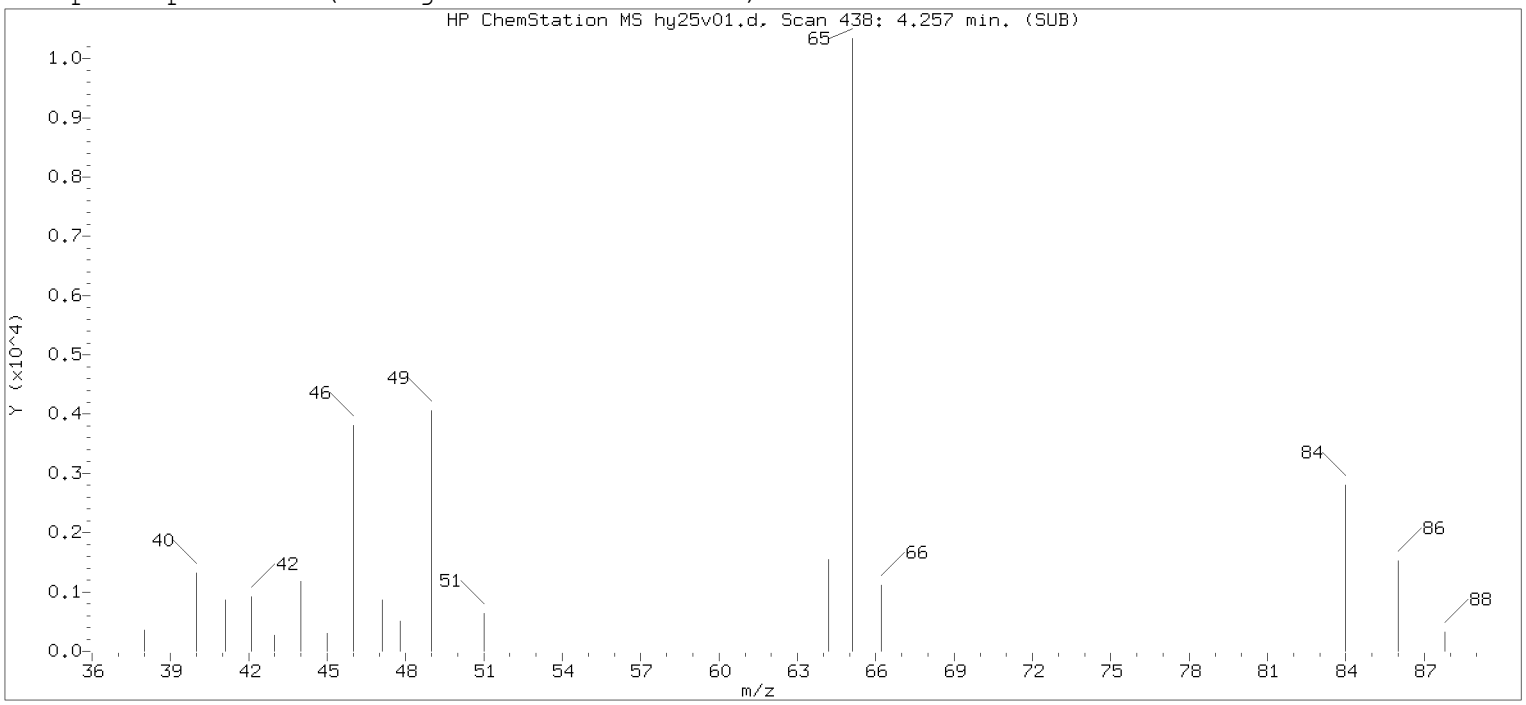
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 85949M
On-Column Amount (ng) : 50.0000
Integration start scan : 410 Integration stop scan: 570
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

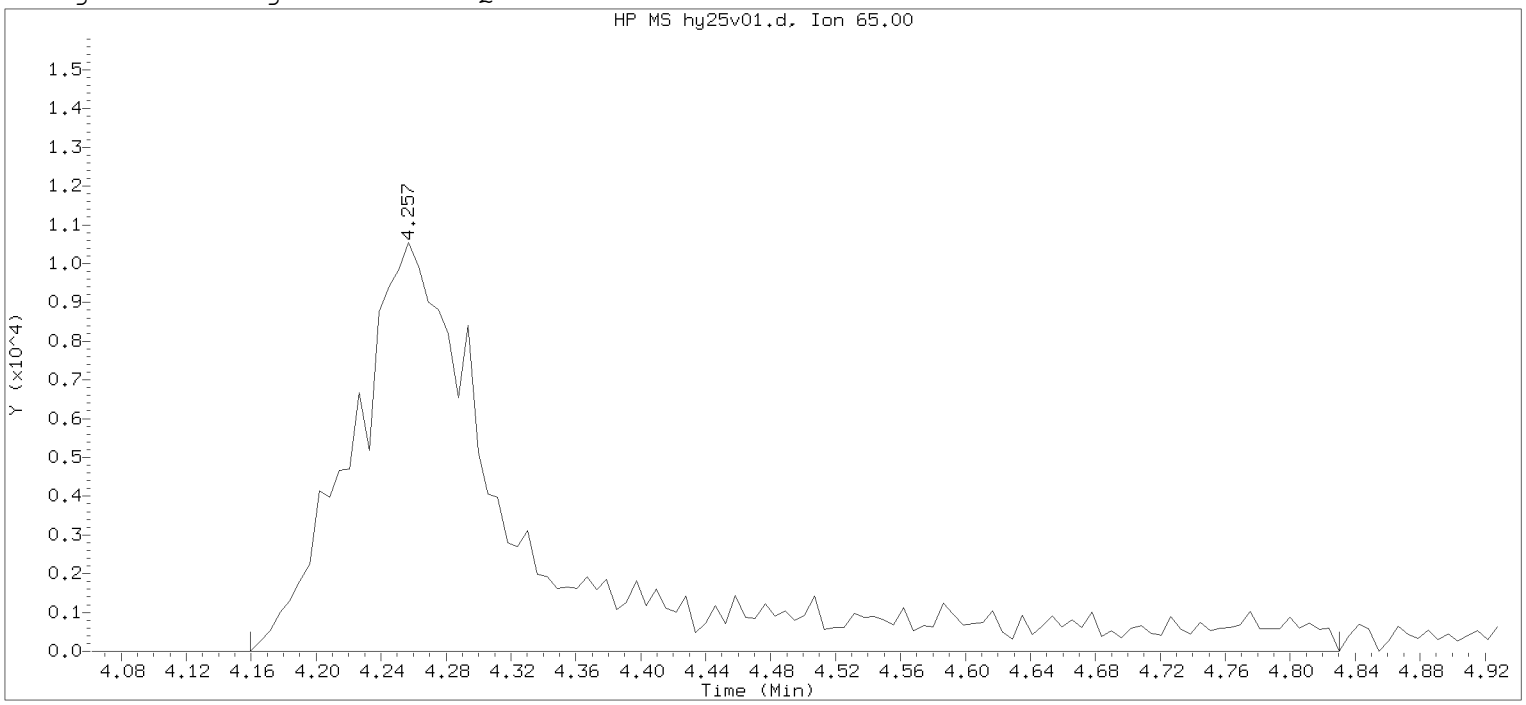
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

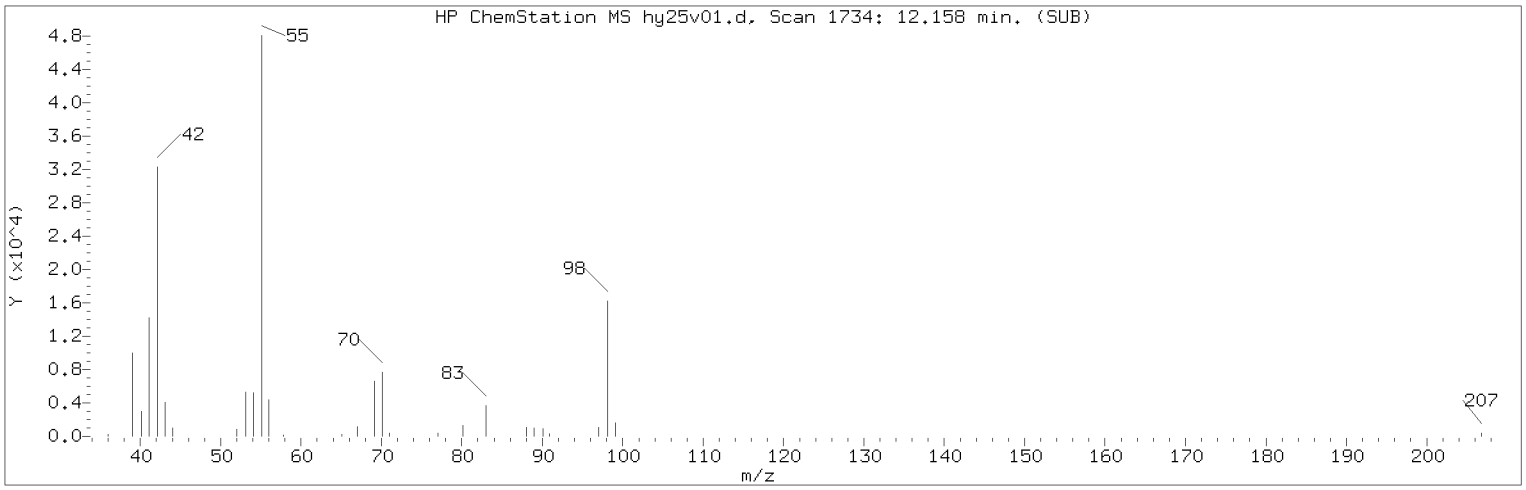
Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 15:52
Date, time and analyst ID of latest file update: 25-May-2017 15:52 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

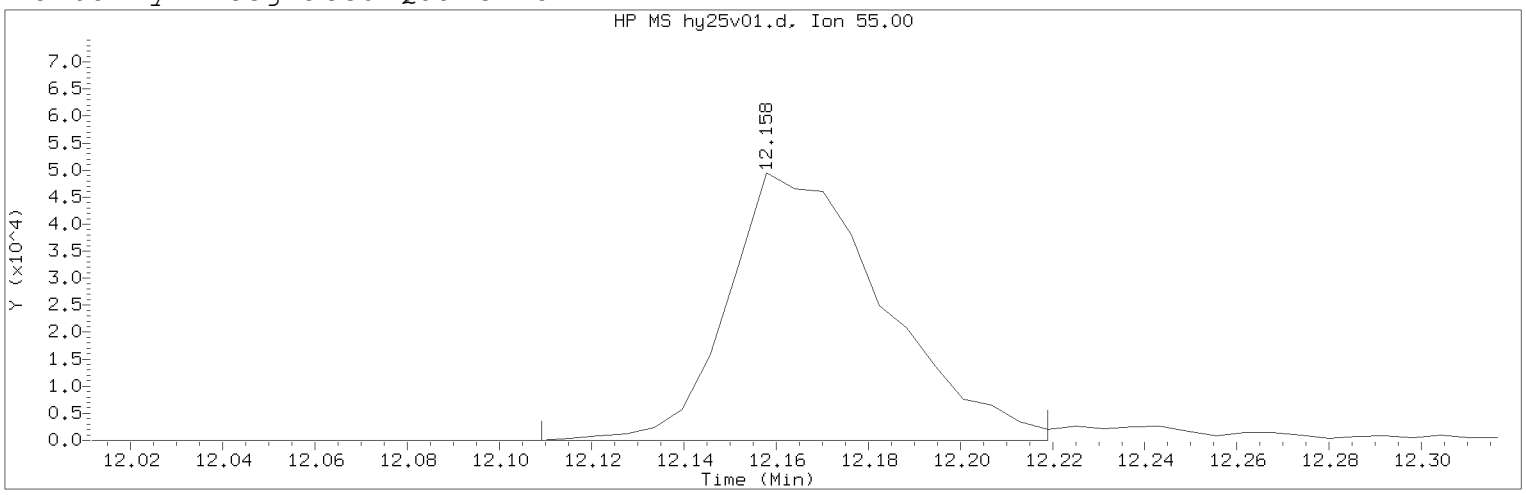
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 80711
On-column Amount (ng) : 50.0000
Integration start scan : 421 Integration stop scan: 531
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature used. Page 1 of 1

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 16:00
Date, time and analyst ID of latest file update: 25-May-2017 16:07 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

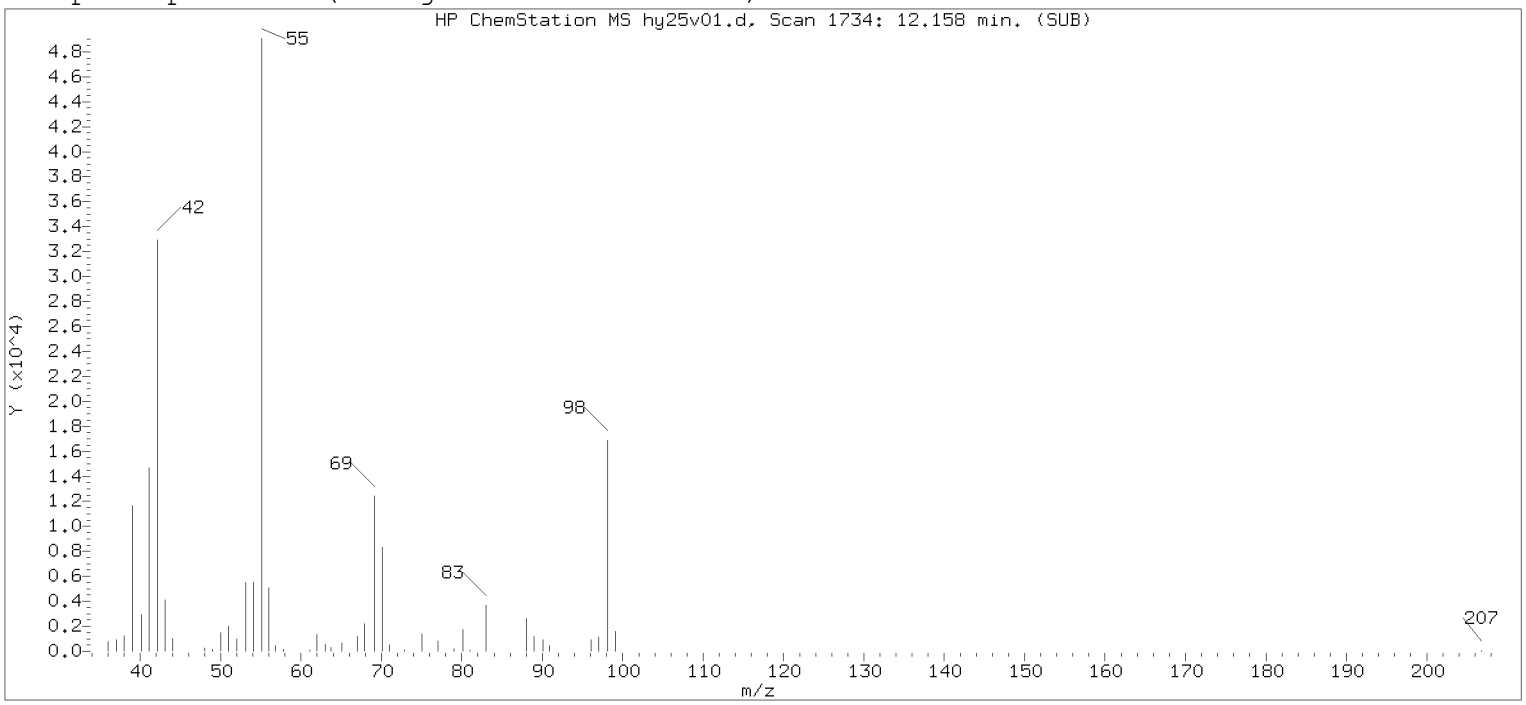
Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area (flag) : 116124M
On-Column Amount (ng) : 83.9455
Integration start scan : 1725 Integration stop scan: 1743
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

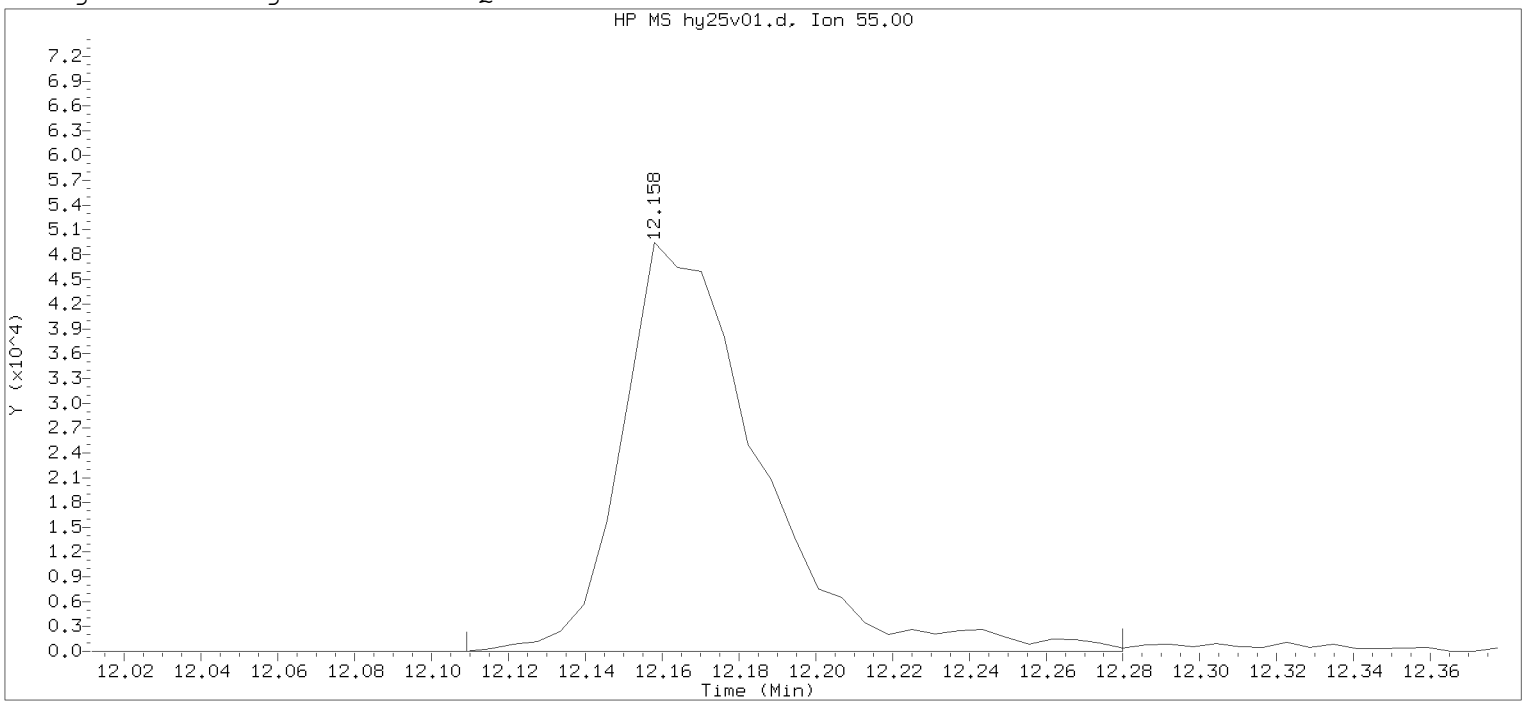
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Chad A. Moline on 05/26/2017 at 14:04.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



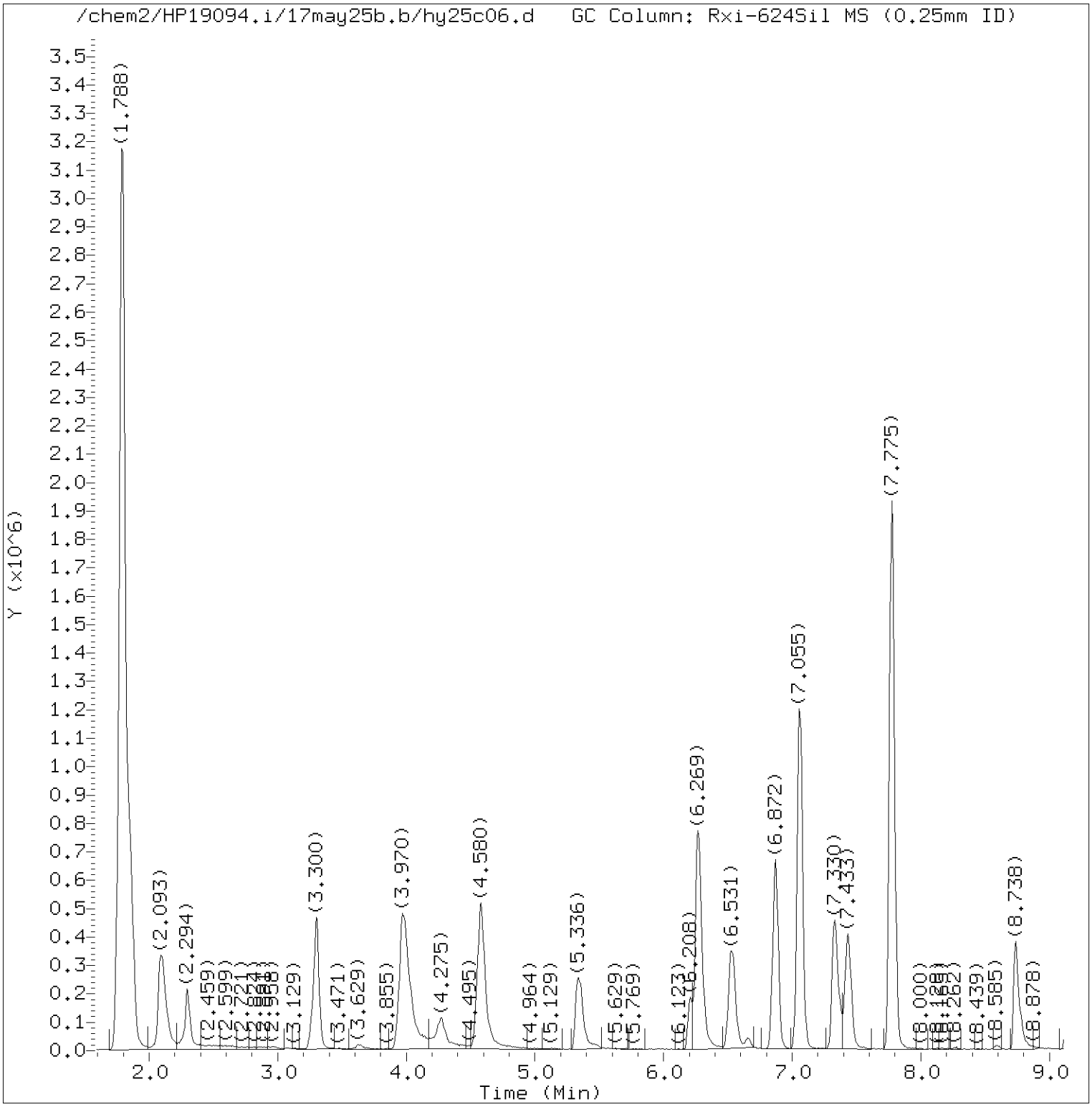
Data File: /chem2/HP19094.i/17may25a.b/hy25v01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 15:09 Analyst ID: kel01973

Method used: /chem2/HP19094.i/17may25a.b/m8260c25.m Sublist used: SMQC
Calibration date and time: 25-MAY-2017 15:52
Date, time and analyst ID of latest file update: 25-May-2017 15:52 kel01973

Sample Name: LCSHSM Lab Sample ID: LCSHSM

Compound Number : 112
Compound Name : Cyclohexanone
Scan Number : 1734
Retention Time (minutes): 12.158
Quant Ion : 55.00
Area : 122133
On-column Amount (ng) : 92.1853
Integration start scan : 1725 Integration stop scan: 1753
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/25/2017 at 16:09.
Target 3.5 esignature used. Reason: I approve this document.



Total Ion Chromatogram (TIC)

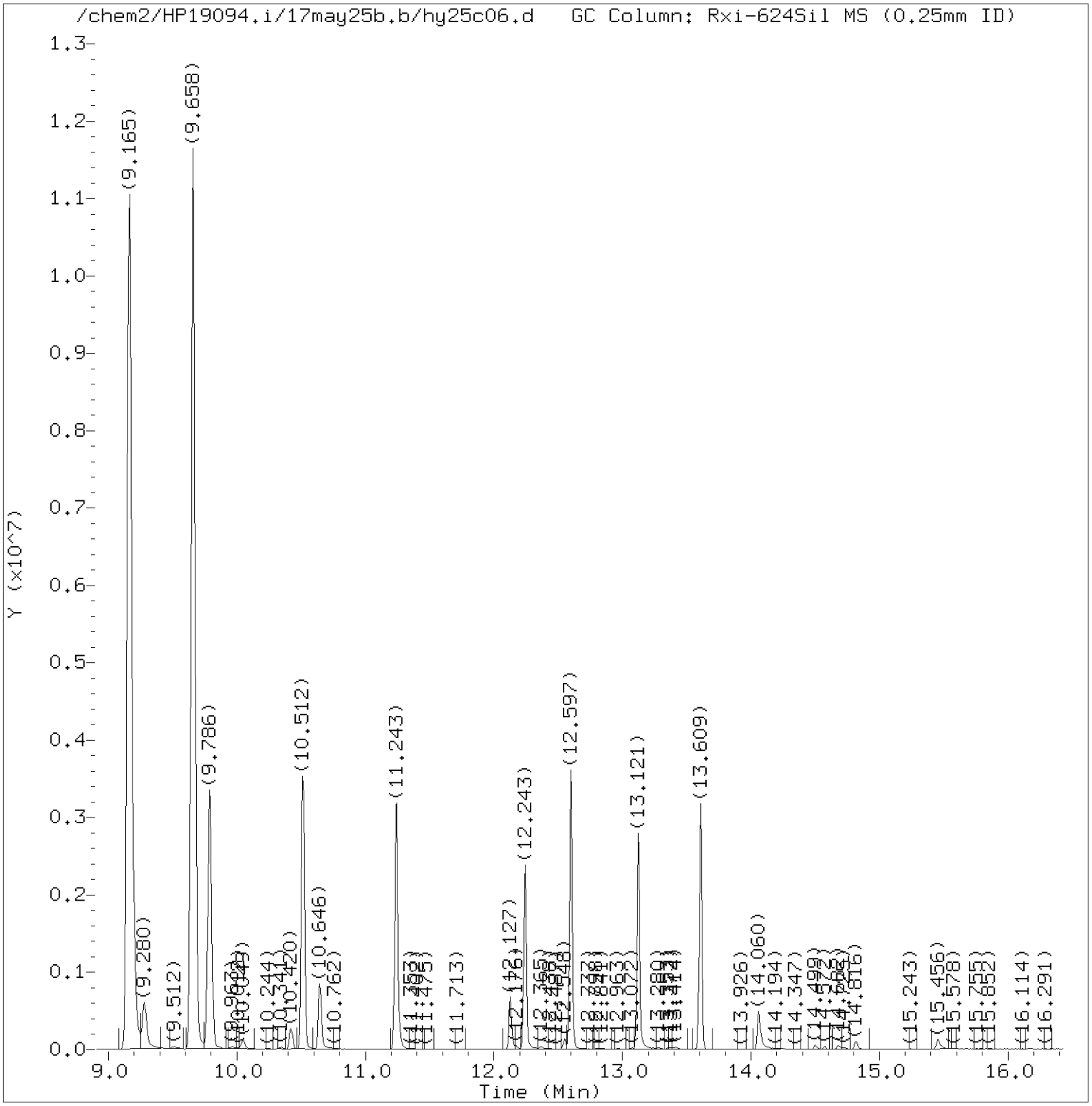
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 30-MAY-2017 22:01
Date, time and analyst ID of latest file update: 30-May-2017 22:01 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 30-MAY-2017 22:01
Date, time and analyst ID of latest file update: 30-May-2017 22:01 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 30-MAY-2017 22:01
Date, time and analyst ID of latest file update: 30-May-2017 22:01 dvv10203

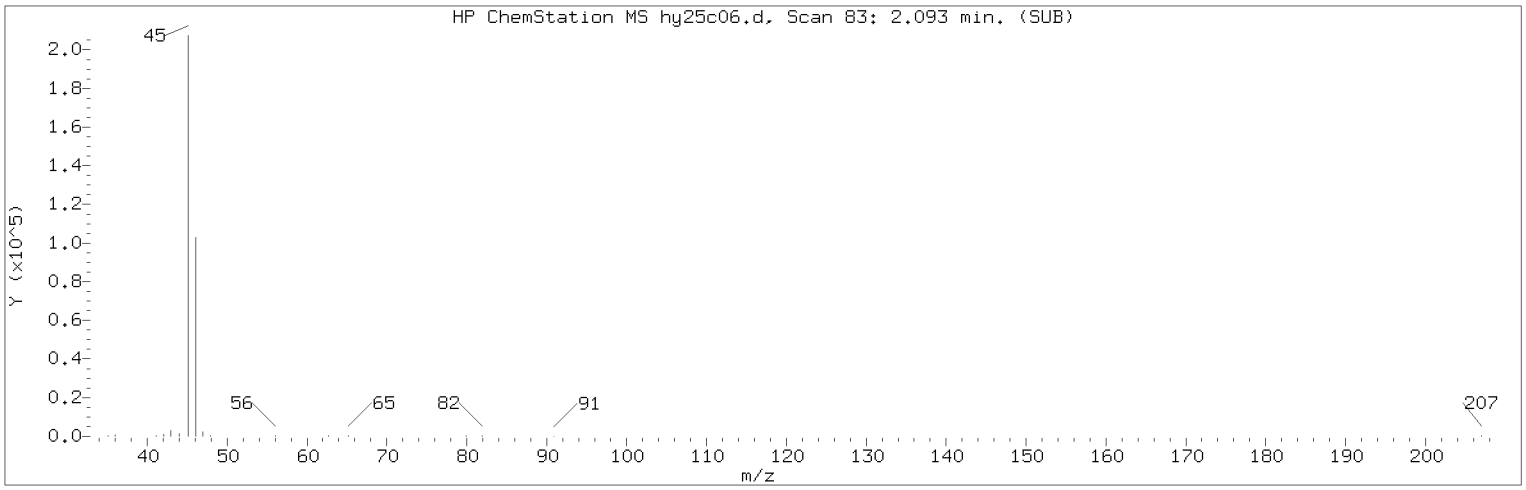
Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	898787M	9.466
25) Acetonitrile	(1)	3.970	41	1809797M	371.107
26)*t-Butyl Alcohol-d10	(1)	4.245	65	98745M	50.000
36) Vinyl Acetate	(2)	5.336	43	857622	10.705
43) Methyl Acrylate	(2)	6.269	55	1604359	62.434
53) 1-Chlorobutane	(2)	7.055	56	1438449	10.527
63)*Fluorobenzene	(2)	7.775	96	2594780	10.000
77) Chloroacetonitrile	(2)	9.195	75	874369	550.806
78) 2-Chloroethyl vinyl ether	(2)	9.280	63	292227	11.545
97)*Chlorobenzene-d5	(3)	11.243	117	1799300	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.127	88	144113	20.302
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	725518	10.000
142) Hexachloroethane	(4)	13.609	117	562288	9.584

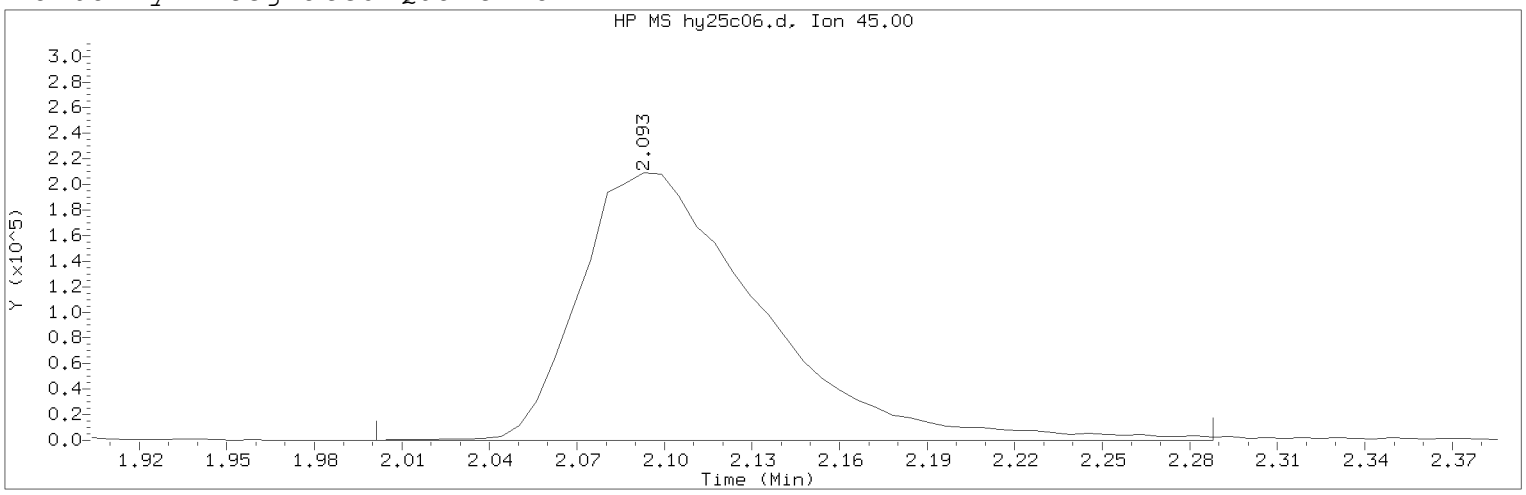
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 30-MAY-2017 22:01
Date, time and analyst ID of latest file update: 30-May-2017 22:01 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

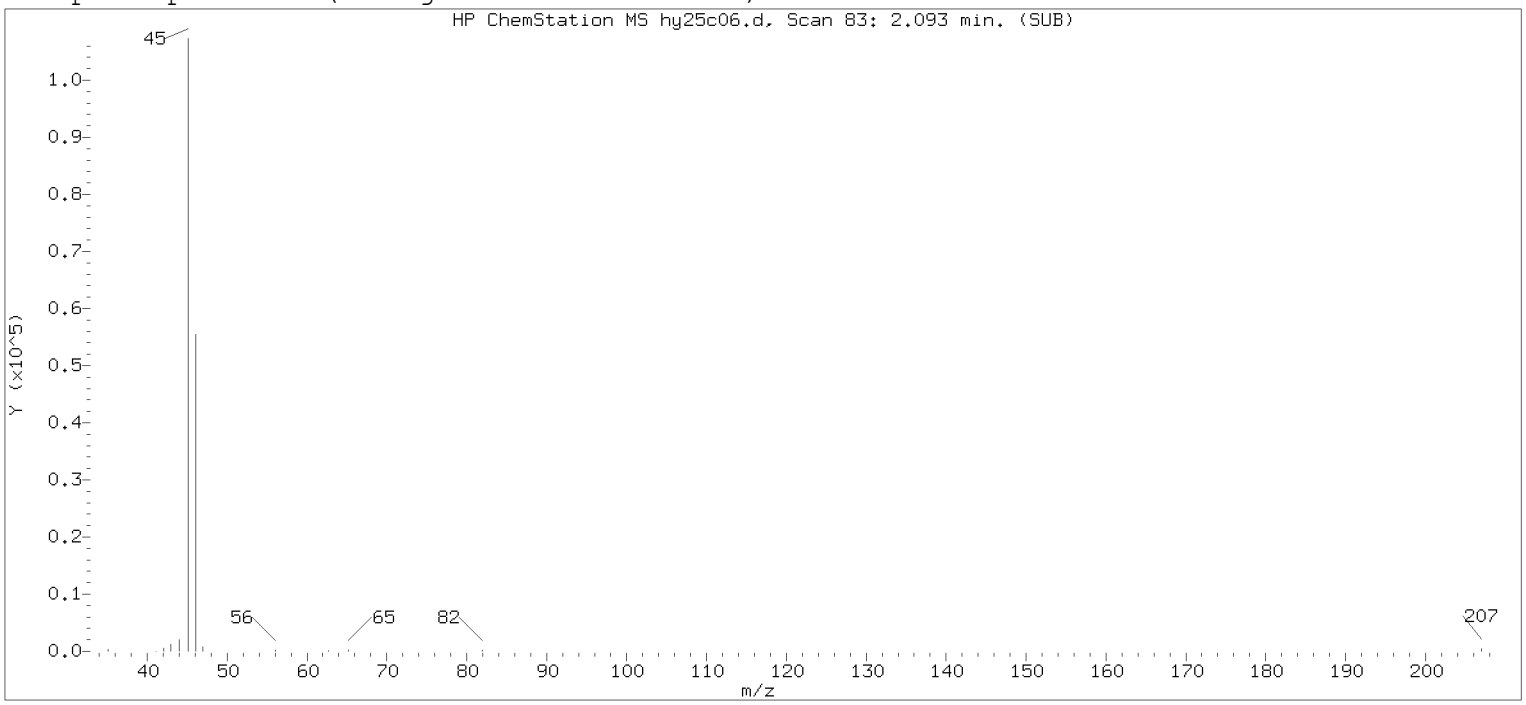
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 83
Retention Time (minutes): 2.093
Quant Ion : 45.00
Area (flag) : 898787M
On-Column Amount (ng) : 9.4665
Integration start scan : 67 Integration stop scan: 114
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

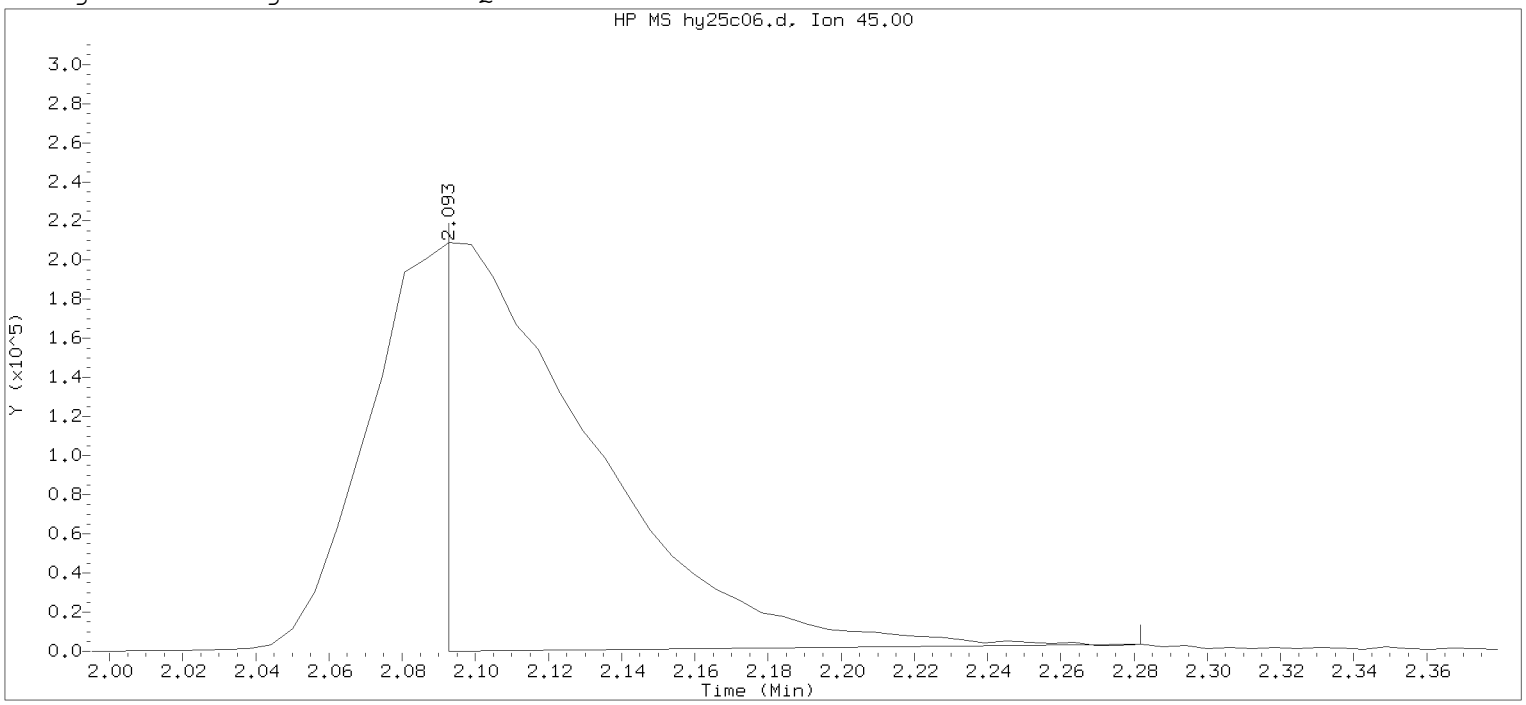
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

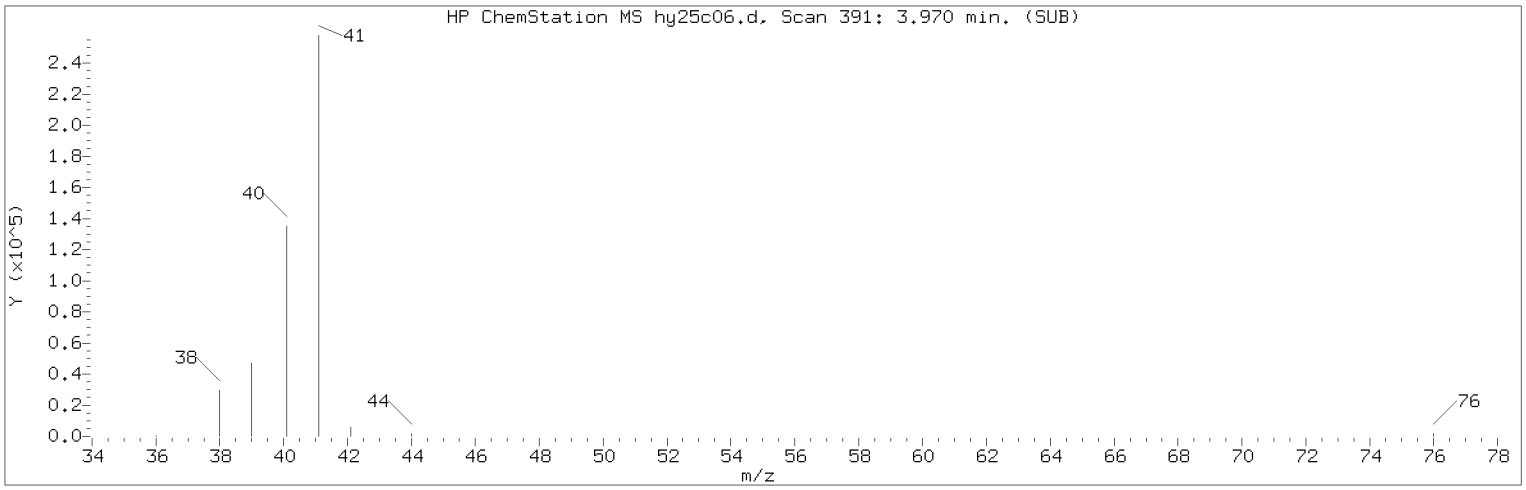
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 18:24
Date, time and analyst ID of latest file update: 25-May-2017 18:24 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

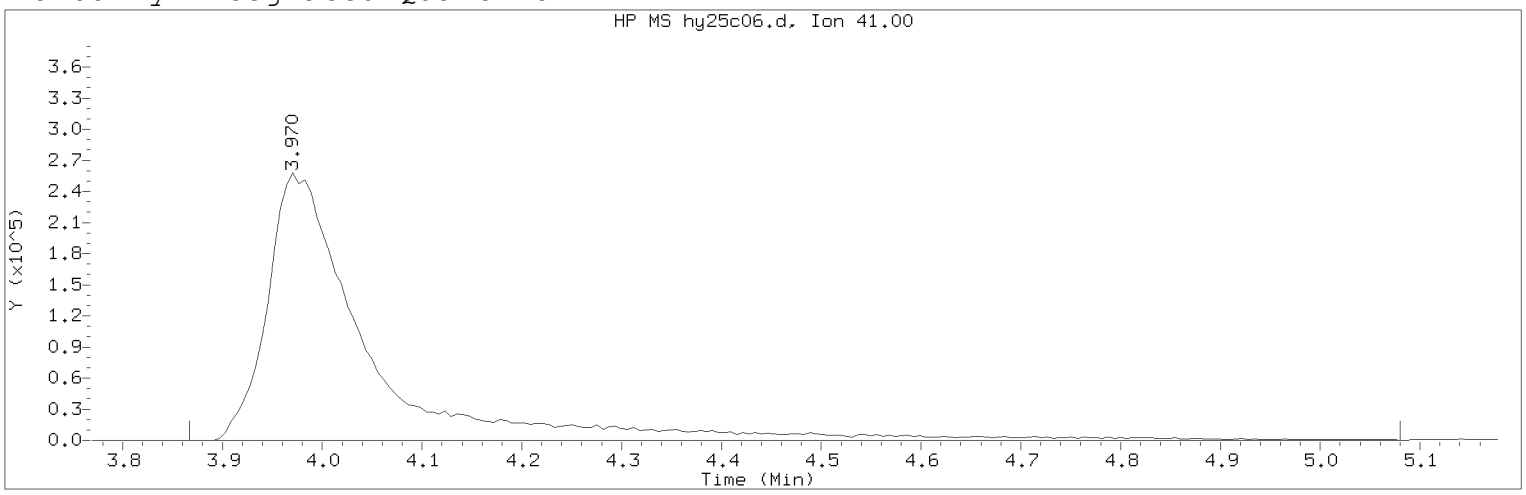
Compound Number	: 4		
Compound Name	: Dimethyl ether		
Scan Number	: 83		
Retention Time (minutes)	: 2.093		
Quant Ion	: 45.00		
Area	: 564946		
On-column Amount (ng)	: 5.9503		
Integration start scan	: 82	Integration stop scan:	113
Y at integration start	: 0	Y at integration end:	3459

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature used on 10/03/2016.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 30-MAY-2017 22:01
Date, time and analyst ID of latest file update: 30-May-2017 22:01 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

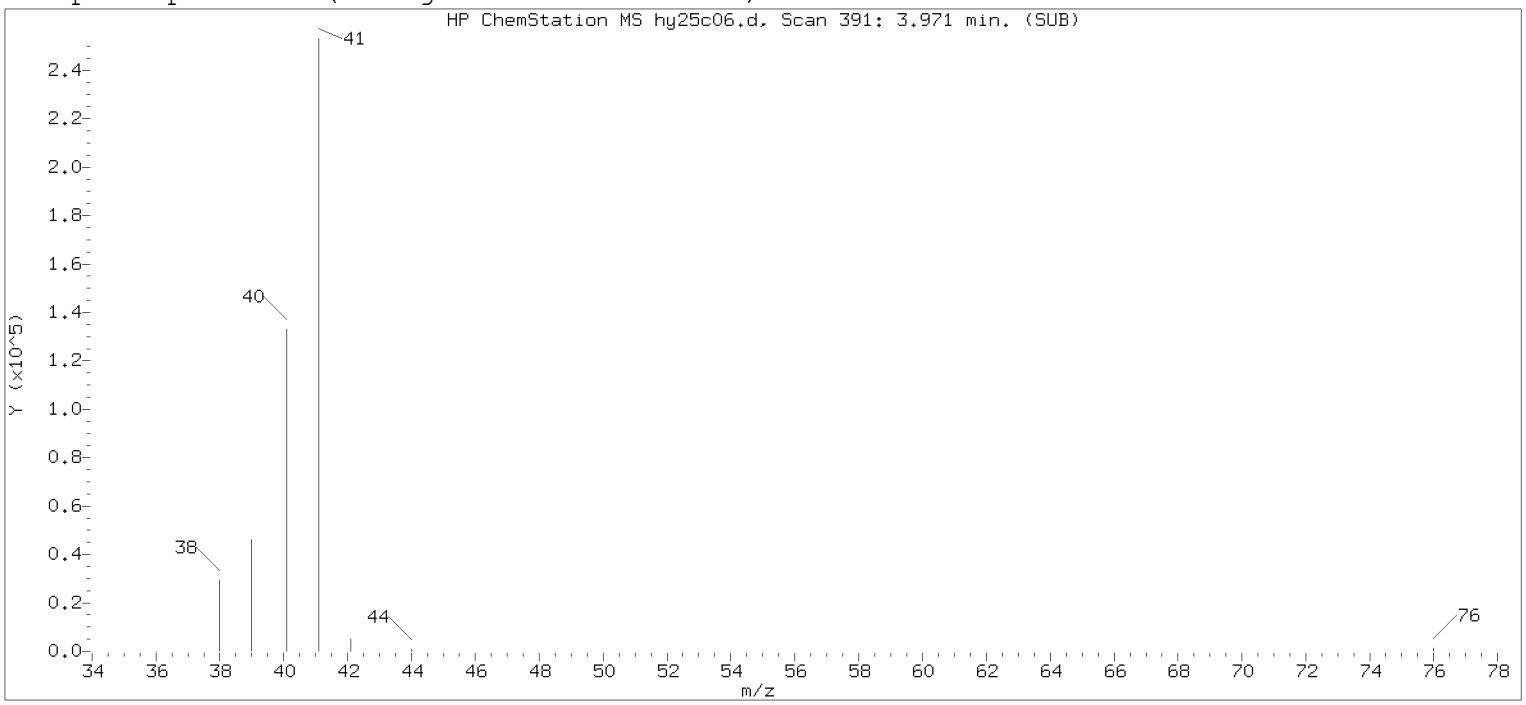
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 391
Retention Time (minutes): 3.970
Quant Ion : 41.00
Area (flag) : 1809797M
On-Column Amount (ng) : 371.1069
Integration start scan : 373 Integration stop scan: 572
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

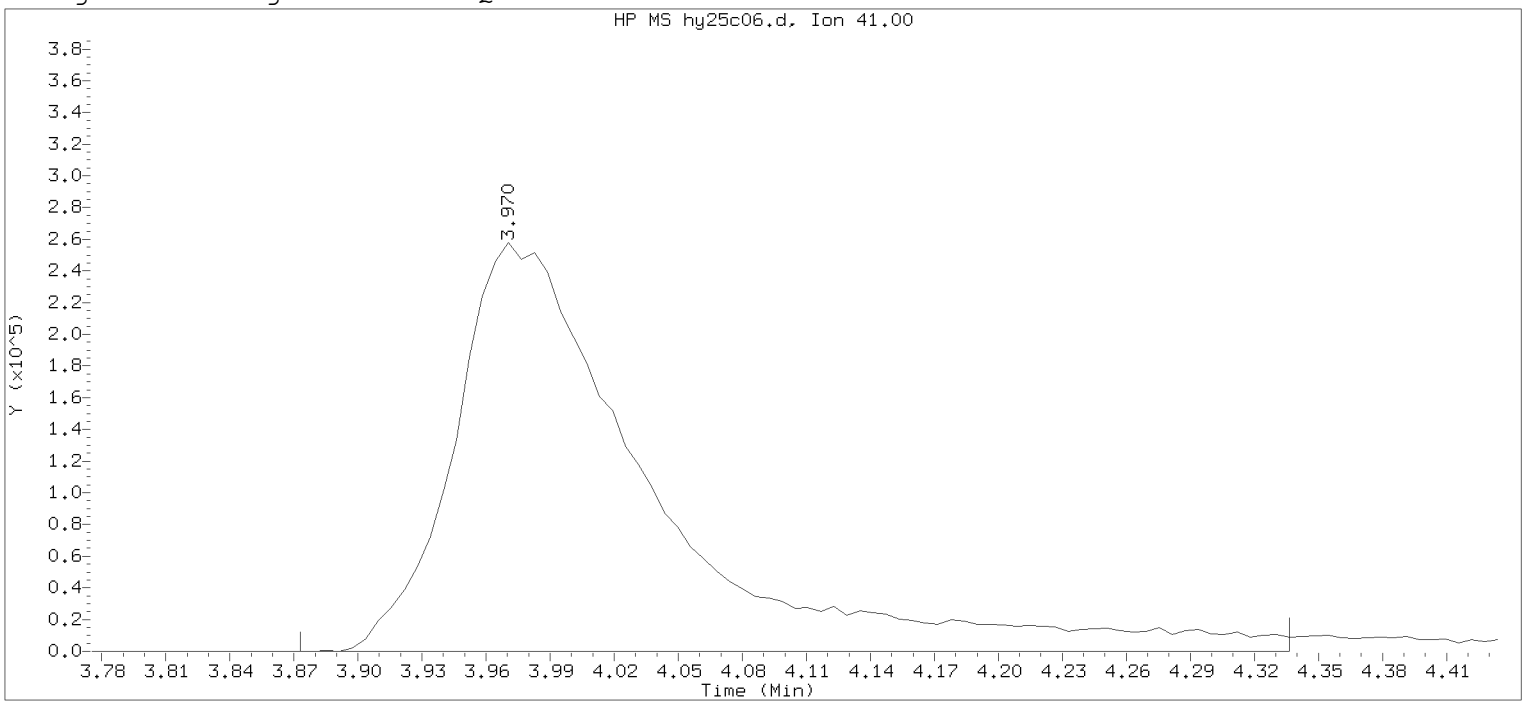
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

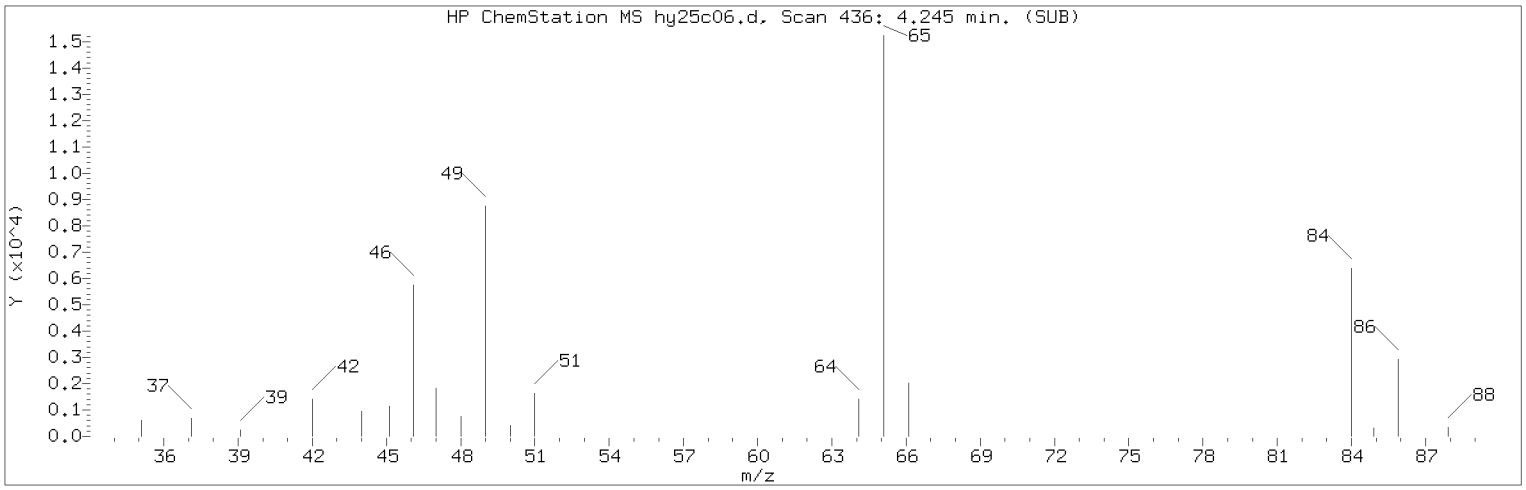
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 18:24
Date, time and analyst ID of latest file update: 25-May-2017 18:24 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

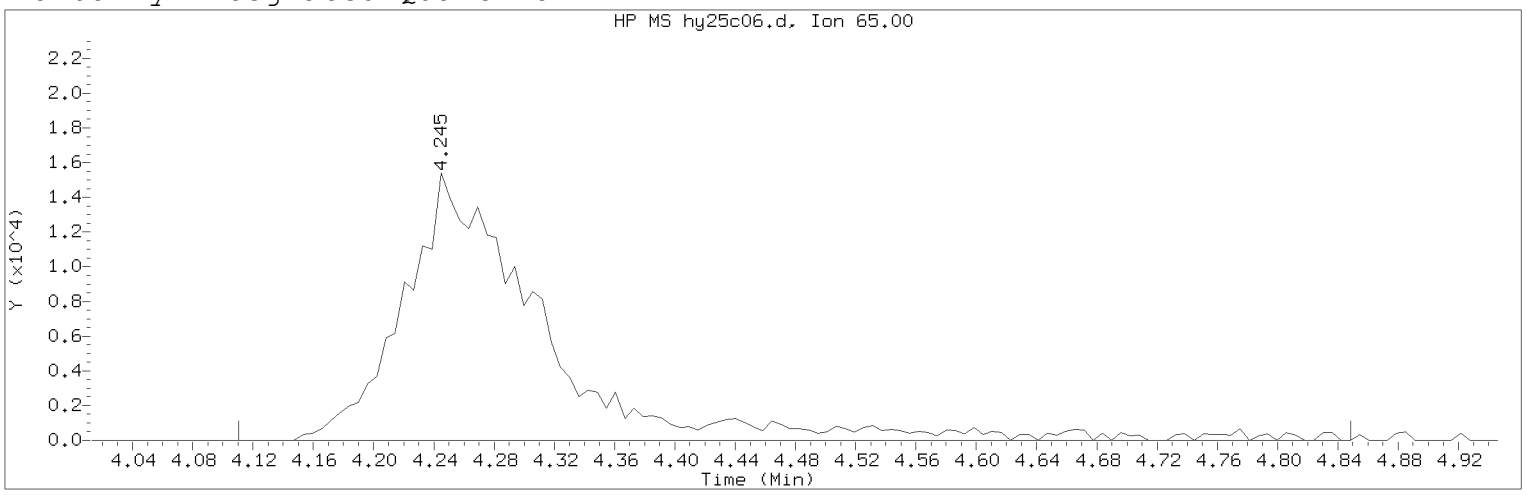
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 391
Retention Time (minutes): 3.970
Quant Ion : 41.00
Area : 1658077
On-column Amount (ng) : 342.8755
Integration start scan : 374 Integration stop scan: 450
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature used on 05/30/2017

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 30-MAY-2017 22:01
Date, time and analyst ID of latest file update: 30-May-2017 22:01 dvv10203

Sample Name: VSTD010 Lab Sample ID: VSTD010

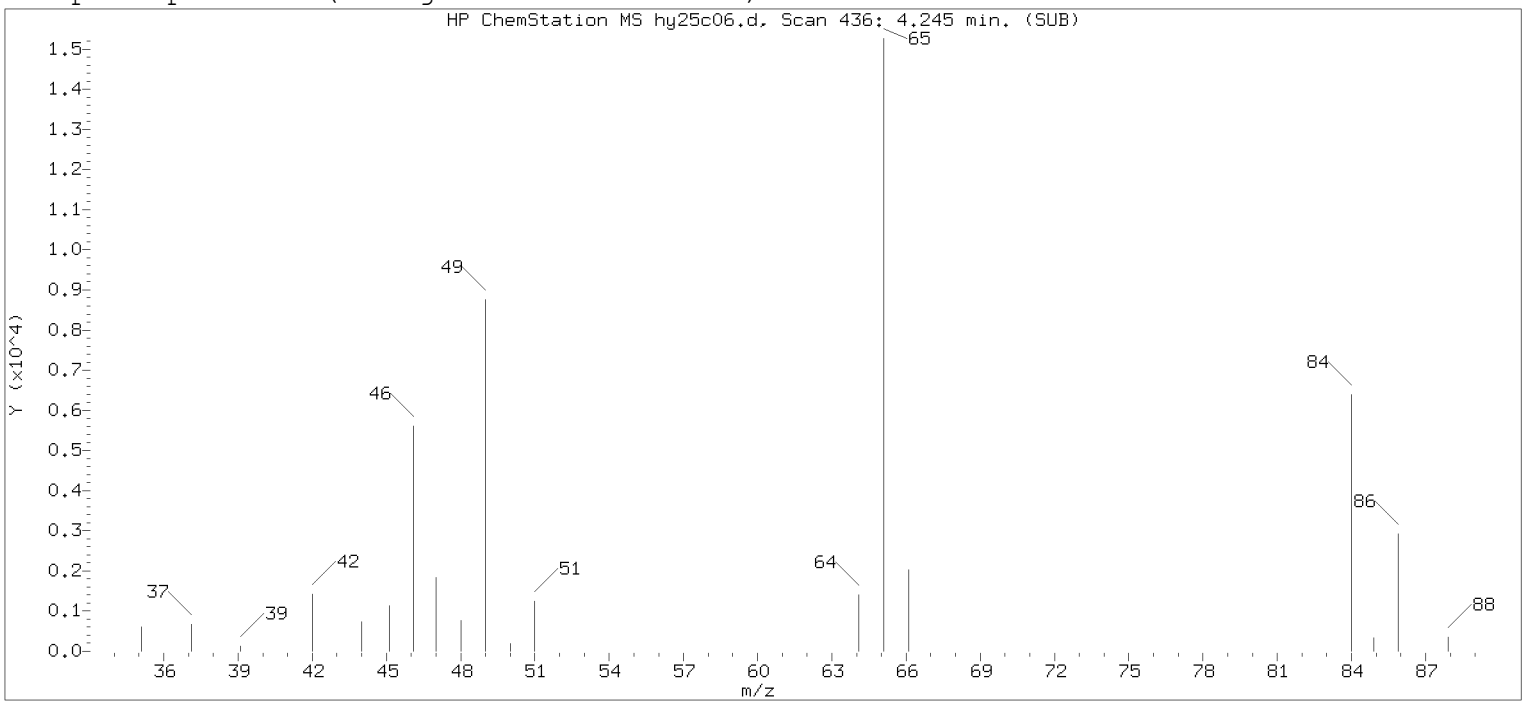
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 436
Retention Time (minutes): 4.245
Quant Ion : 65.00
Area (flag) : 98745M
On-Column Amount (ng) : 50.0000
Integration start scan : 413 Integration stop scan: 534
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

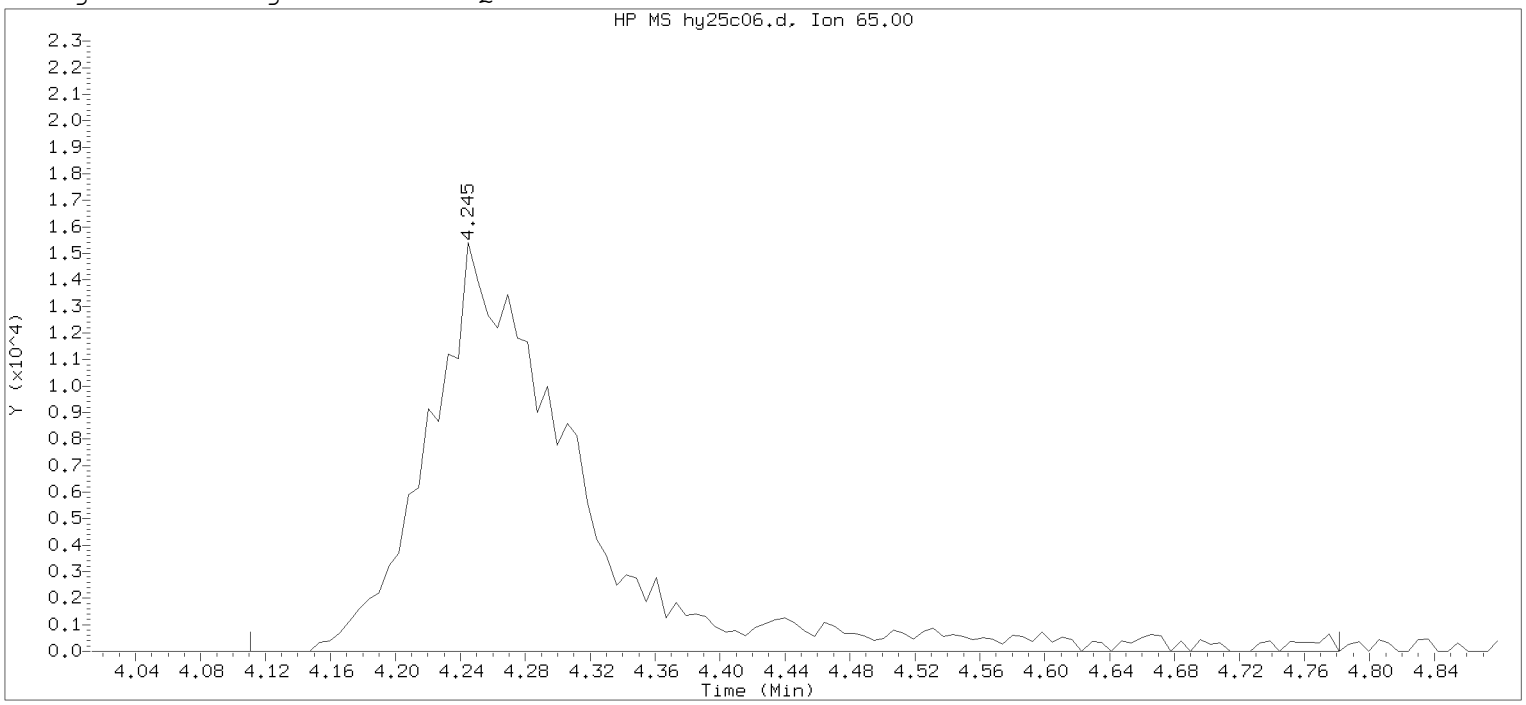
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:15.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



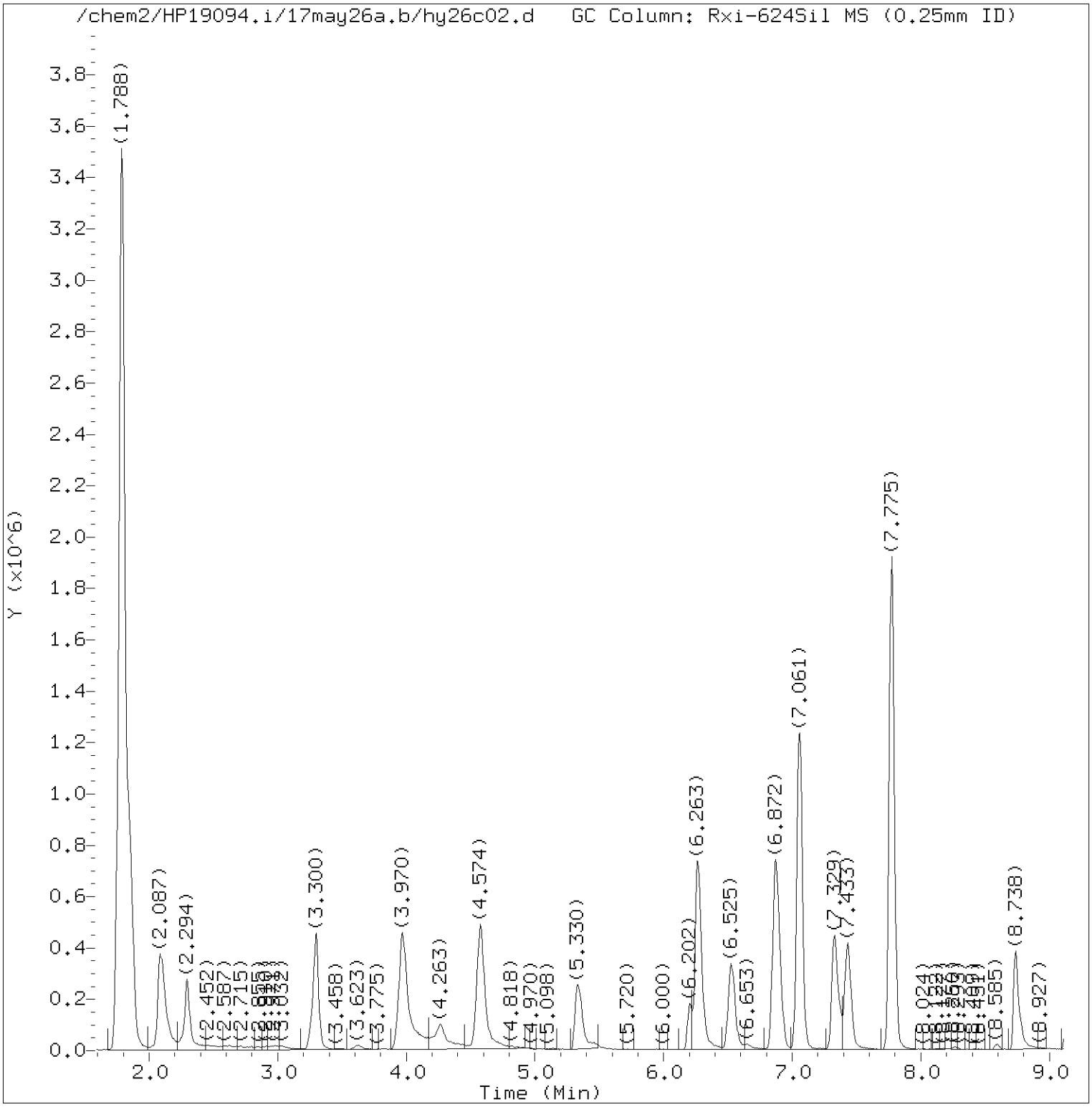
Data File: /chem2/HP19094.i/17may25b.b/hy25c06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:06 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 25-MAY-2017 18:24
Date, time and analyst ID of latest file update: 25-May-2017 18:24 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 436
Retention Time (minutes): 4.245
Quant Ion : 65.00
Area : 97915
On-column Amount (ng) : 50.0000
Integration start scan : 413 Integration stop scan: 523
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:15.
Target 3.5 esignature used during 10/2013



Total Ion Chromatogram (TIC)

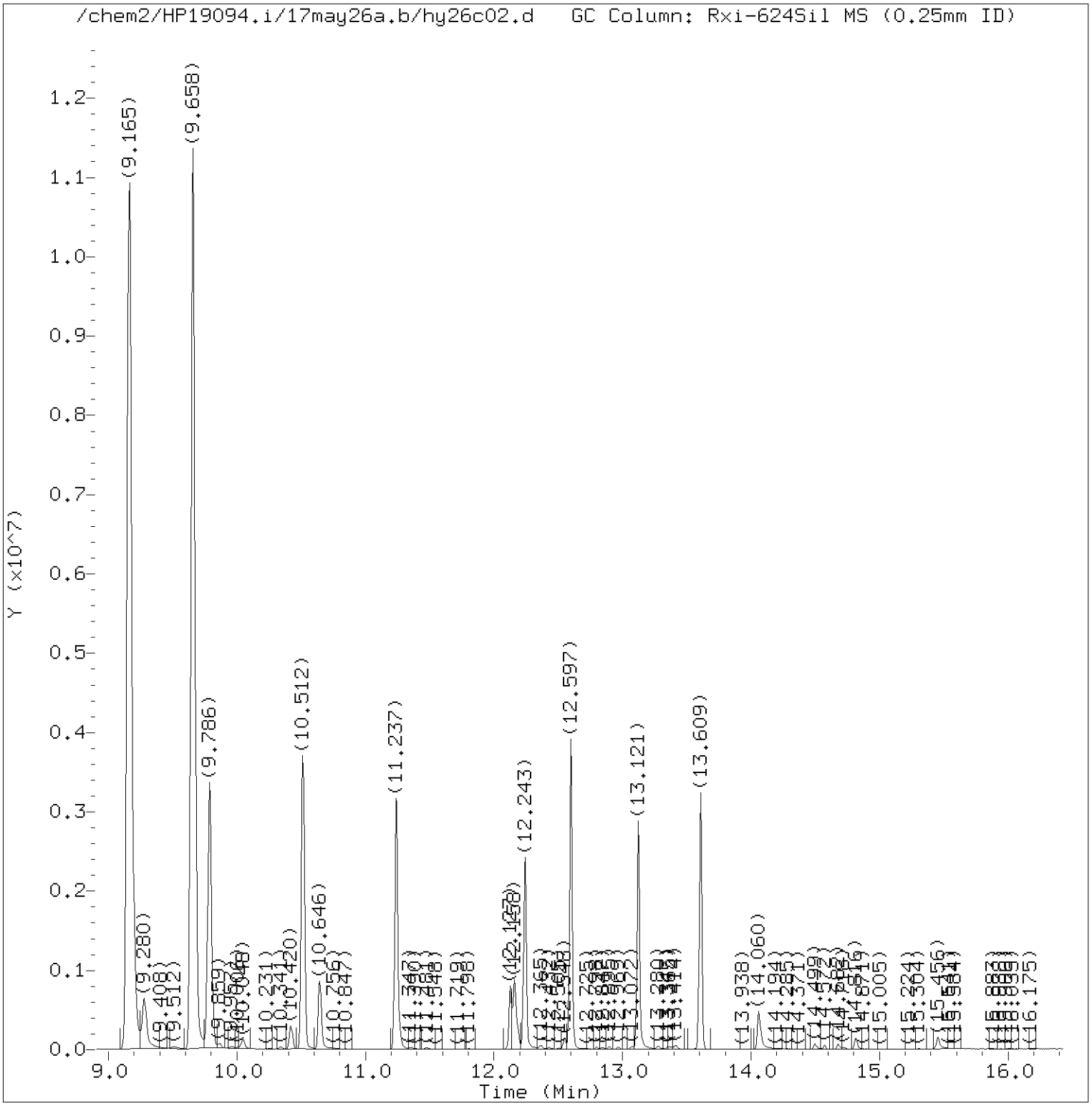
Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:11 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 11:11.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:11 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 11:11.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:11 kel01973

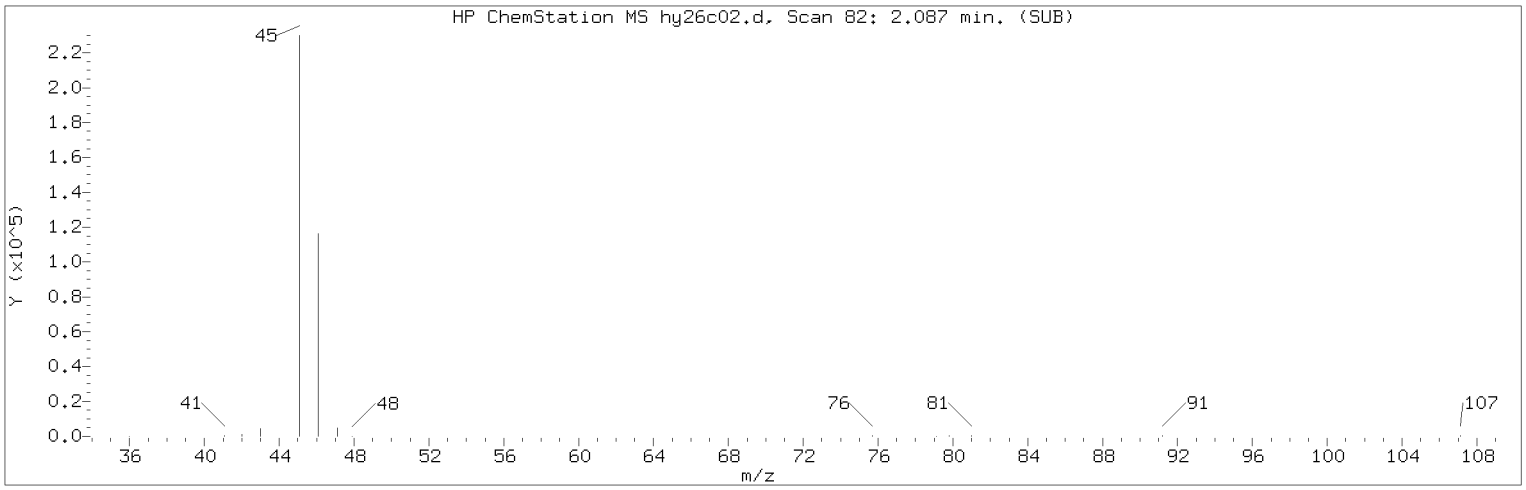
Sample Name: VSTD010 Lab Sample ID: VSTD010

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	1003944M	10.588
25) Acetonitrile	(1)	3.970	41	1697418M	384.734
26)*t-Butyl Alcohol-d10	(1)	4.239	65	89333M	50.000
36) Vinyl Acetate	(2)	5.330	43	831642	10.417
43) Methyl Acrylate	(2)	6.269	55	1546127	60.246
53) 1-Chlorobutane	(2)	7.061	56	1502930	11.013
63)*Fluorobenzene	(2)	7.775	96	2591421	10.000
77) Chloroacetonitrile	(2)	9.195	75	898444	566.706
78) 2-Chloroethyl vinyl ether	(2)	9.280	63	294485	11.649
97)*Chlorobenzene-d5	(3)	11.243	117	1784286	10.000
109) cis-1,4-Dichloro-2-butene	(1)	12.127	88	166461	25.200
112) Cyclohexanone	(1)	12.158	55	448960	267.655
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	717330	10.000
142) Hexachloroethane	(4)	13.609	117	582686	10.045

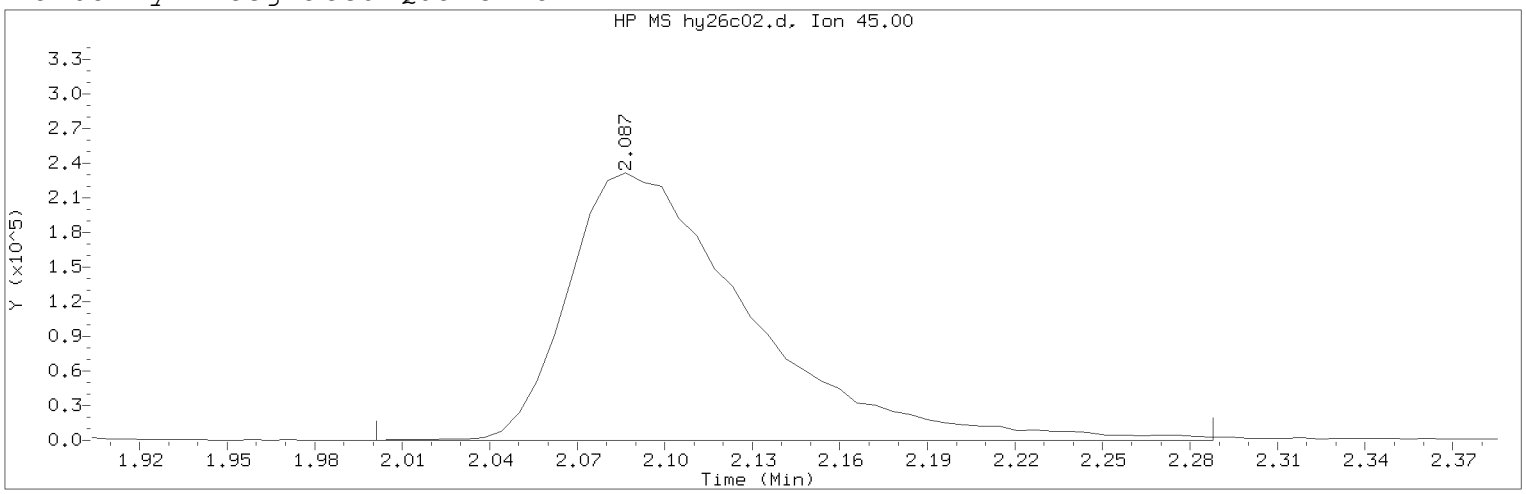
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 11:11.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:11 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

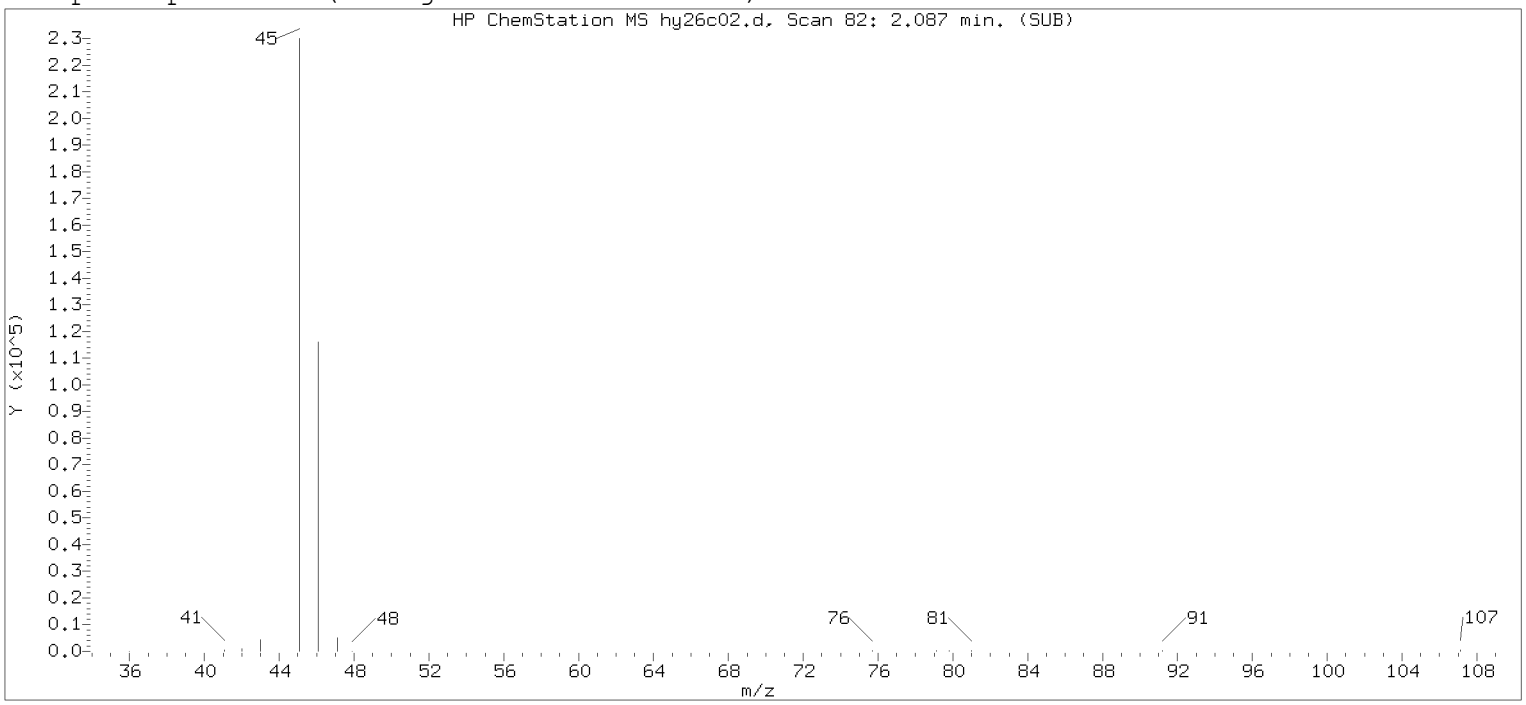
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area (flag) : 1003944M
On-Column Amount (ng) : 10.5878
Integration start scan : 67 Integration stop scan: 114
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

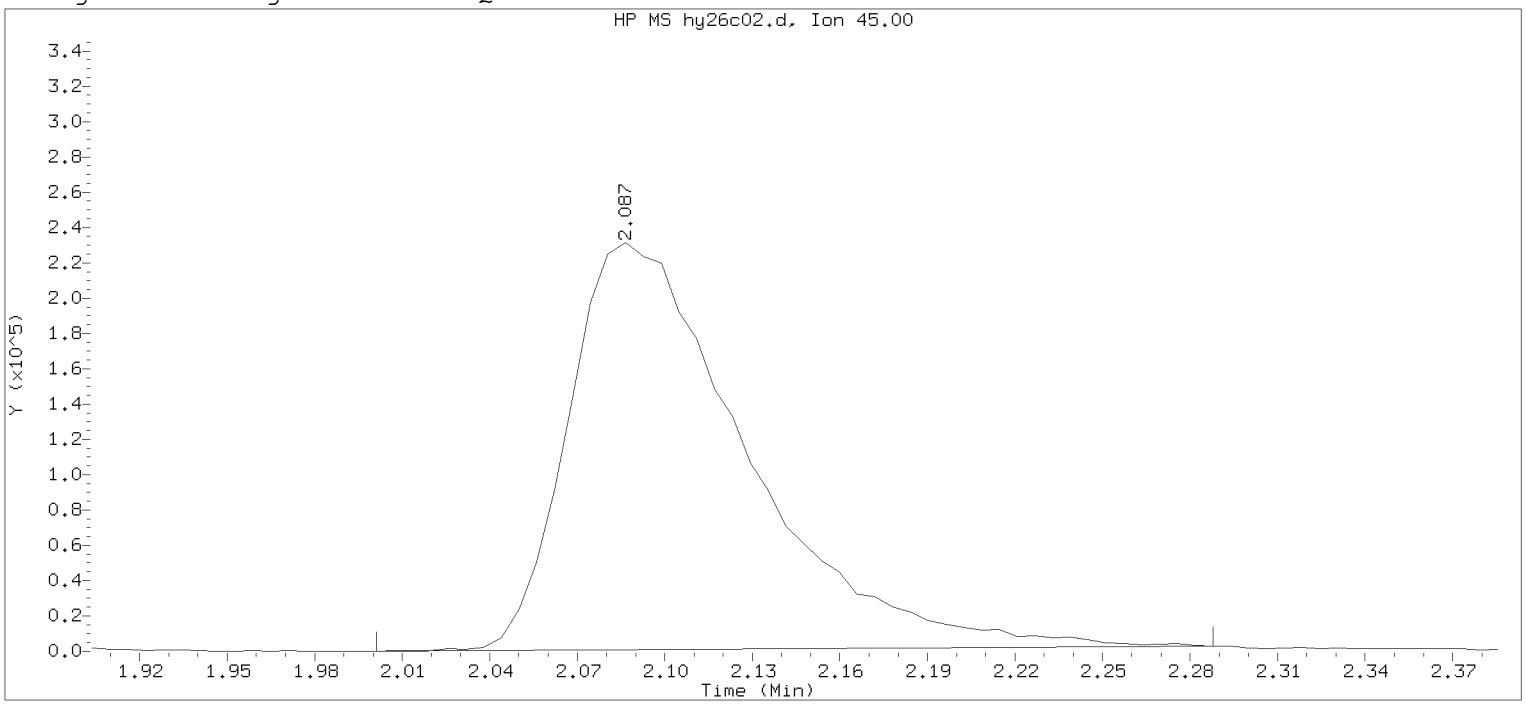
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 11:11.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:41.
PARALLAX ID: prc00685

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

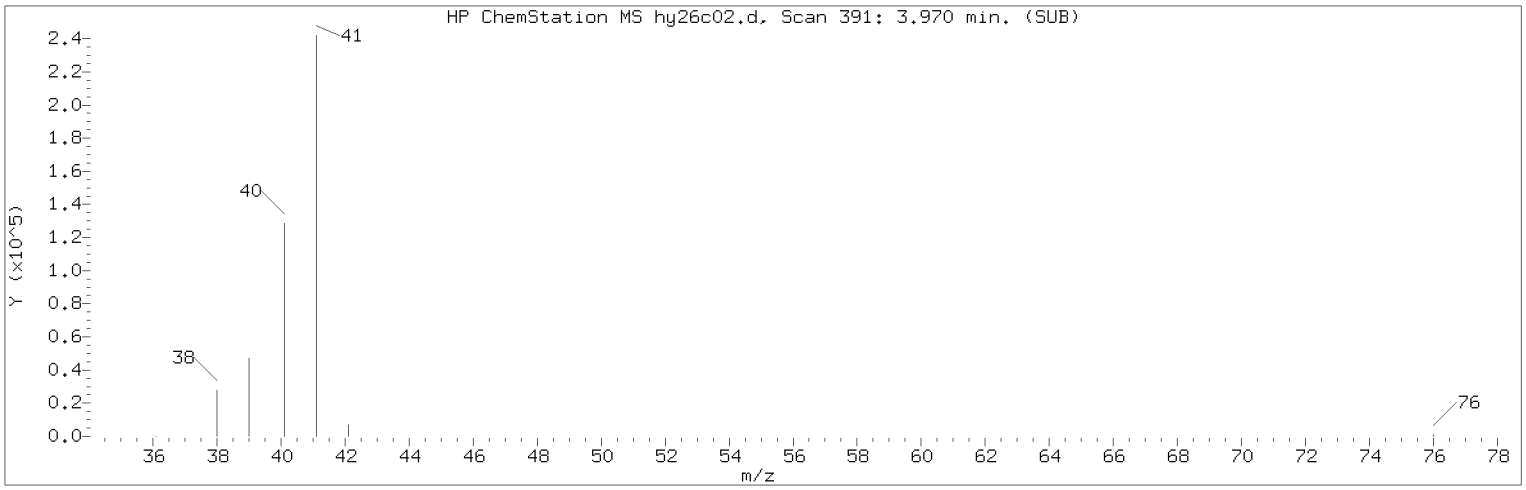
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 09:33
Date, time and analyst ID of latest file update: 26-May-2017 09:33 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

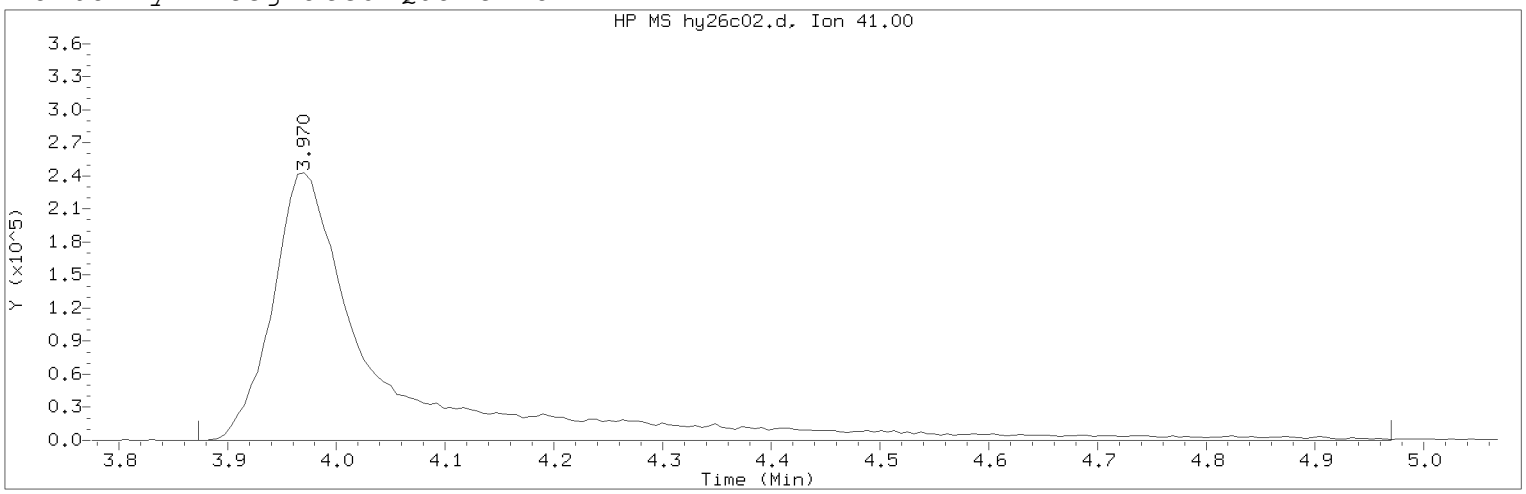
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area : 979673
On-column Amount (ng) : 10.3318
Integration start scan : 67 Integration stop scan: 114
Y at integration start : 0 Y at integration end: 2764

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 11:11.
Target 3.5 esignature used. Reason: I am the author of this document

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:11 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

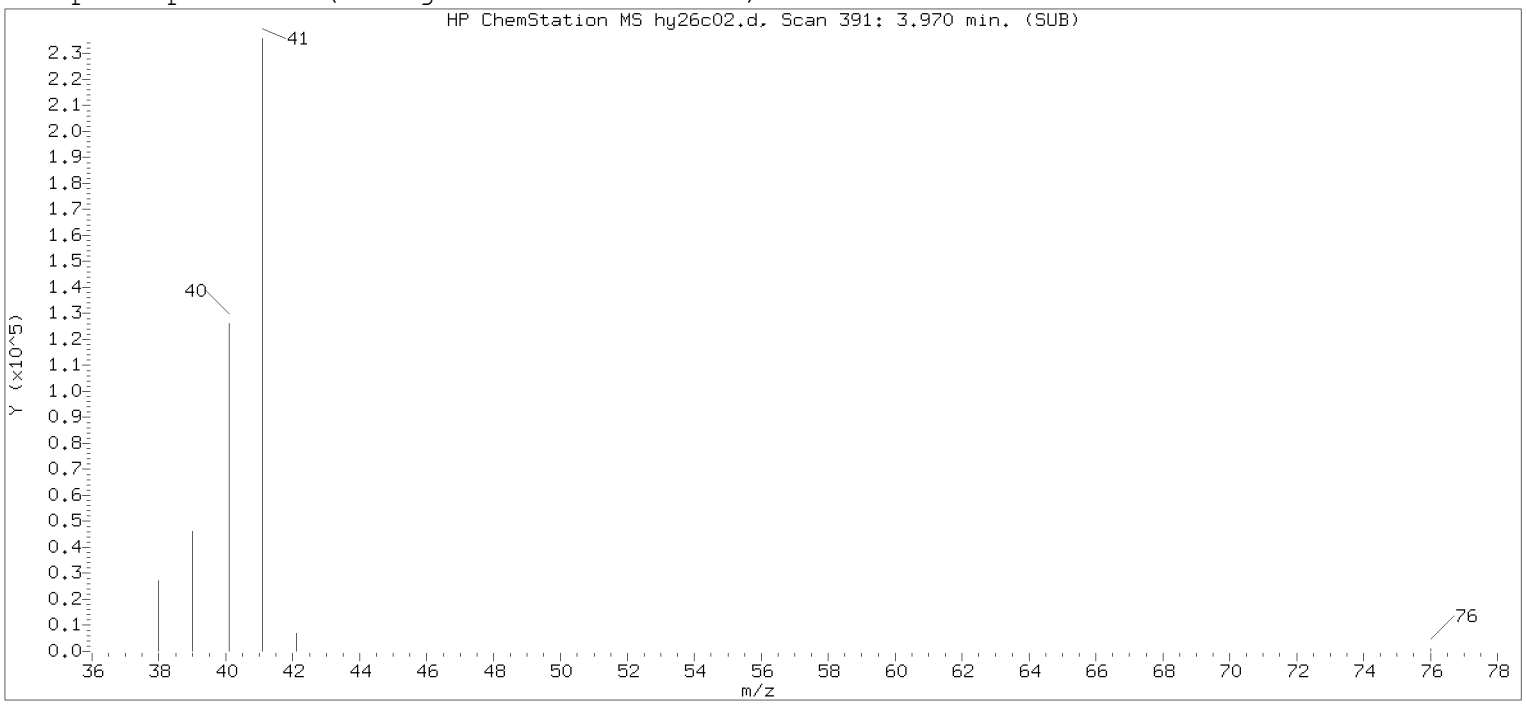
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 391
Retention Time (minutes): 3.970
Quant Ion : 41.00
Area (flag) : 1697418M
On-Column Amount (ng) : 384.7345
Integration start scan : 374 Integration stop scan: 554
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

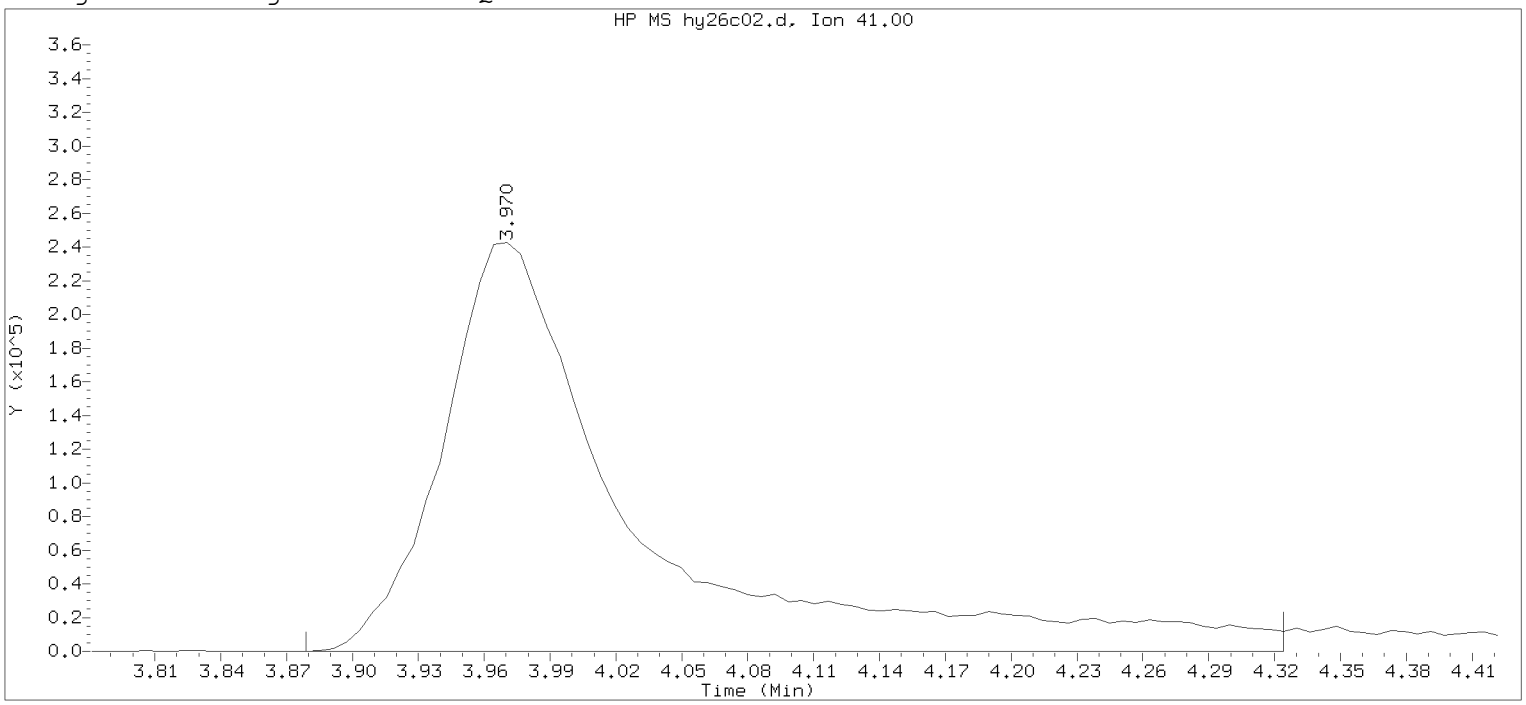
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 11:11.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:41.
PARALLAX ID: prc00685

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

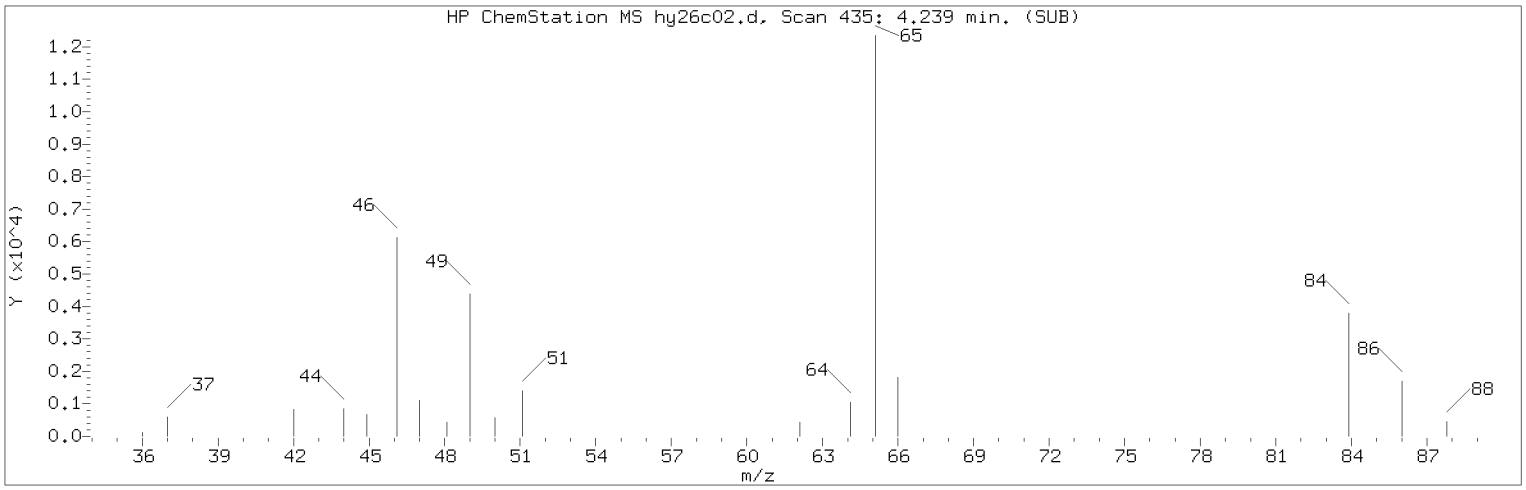
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 09:33
Date, time and analyst ID of latest file update: 26-May-2017 09:33 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

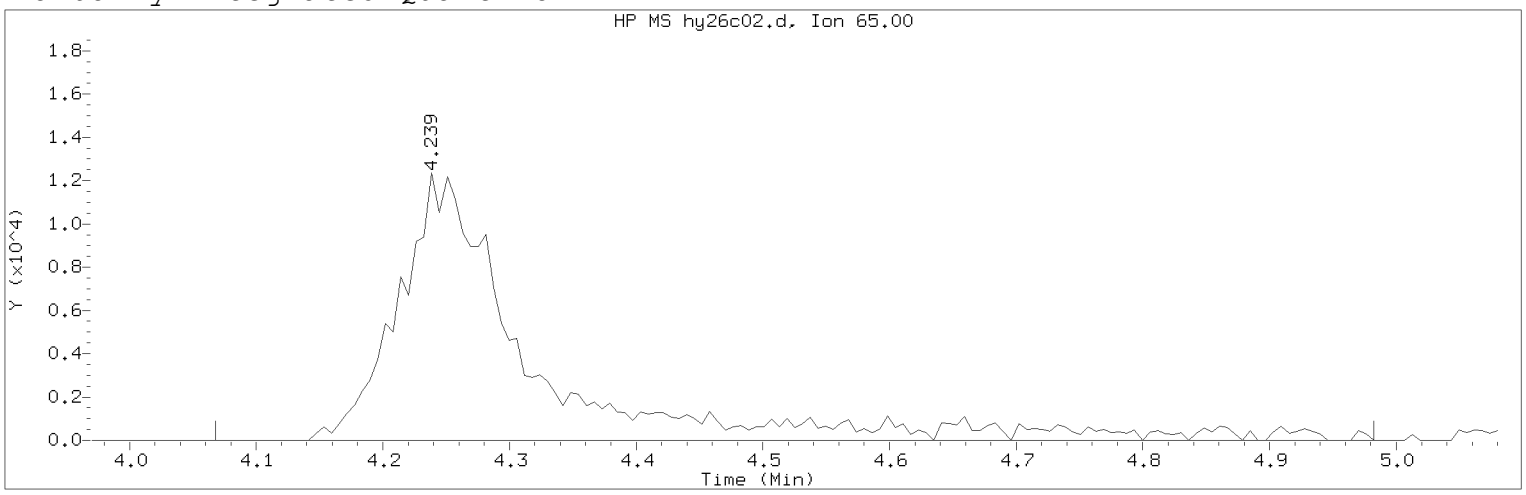
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 391
Retention Time (minutes): 3.970
Quant Ion : 41.00
Area : 1479073
On-column Amount (ng) : 359.6216
Integration start scan : 375 Integration stop scan: 448
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 11:11.
Target 3.5 esignature used [illegible]

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:11 kel01973

Sample Name: VSTD010 Lab Sample ID: VSTD010

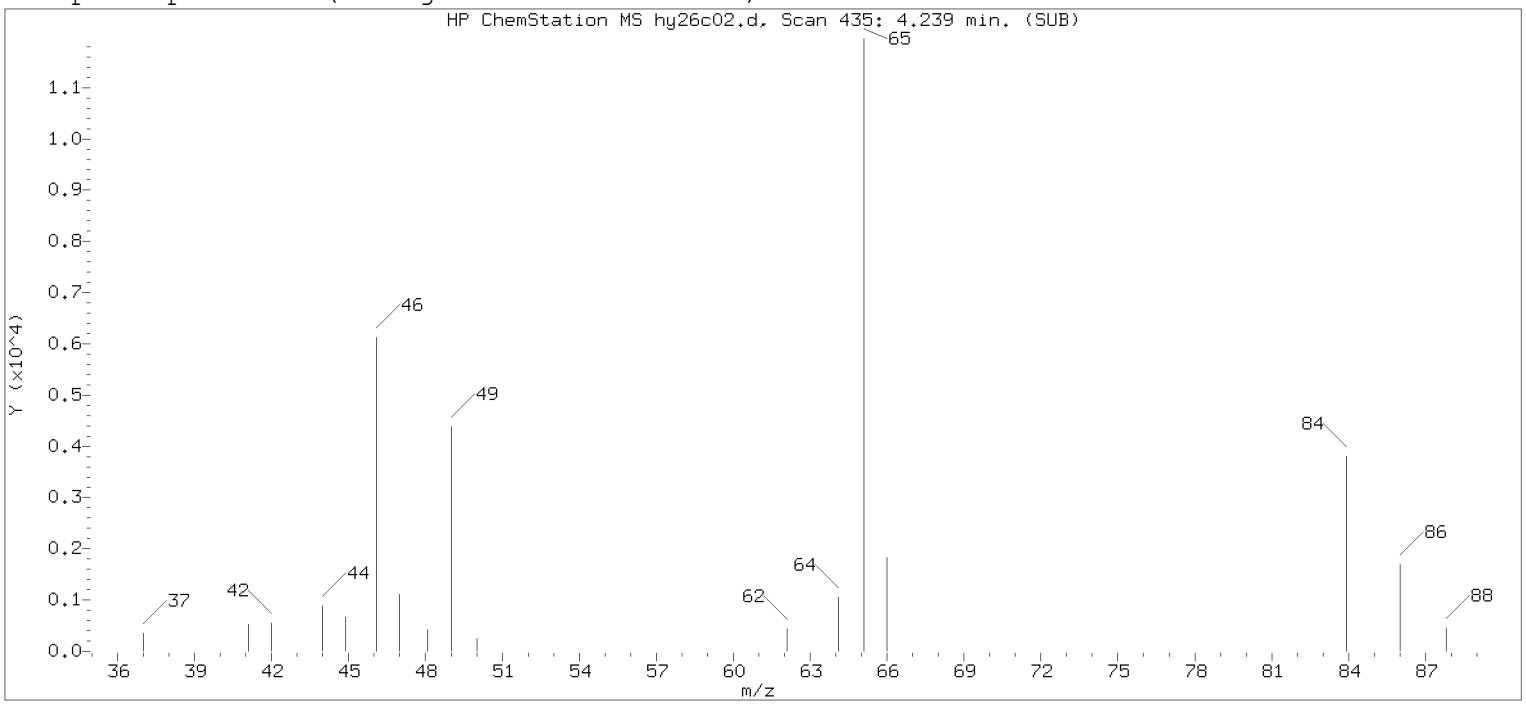
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 435
Retention Time (minutes): 4.239
Quant Ion : 65.00
Area (flag) : 89333M
On-Column Amount (ng) : 50.0000
Integration start scan : 406 Integration stop scan: 556
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

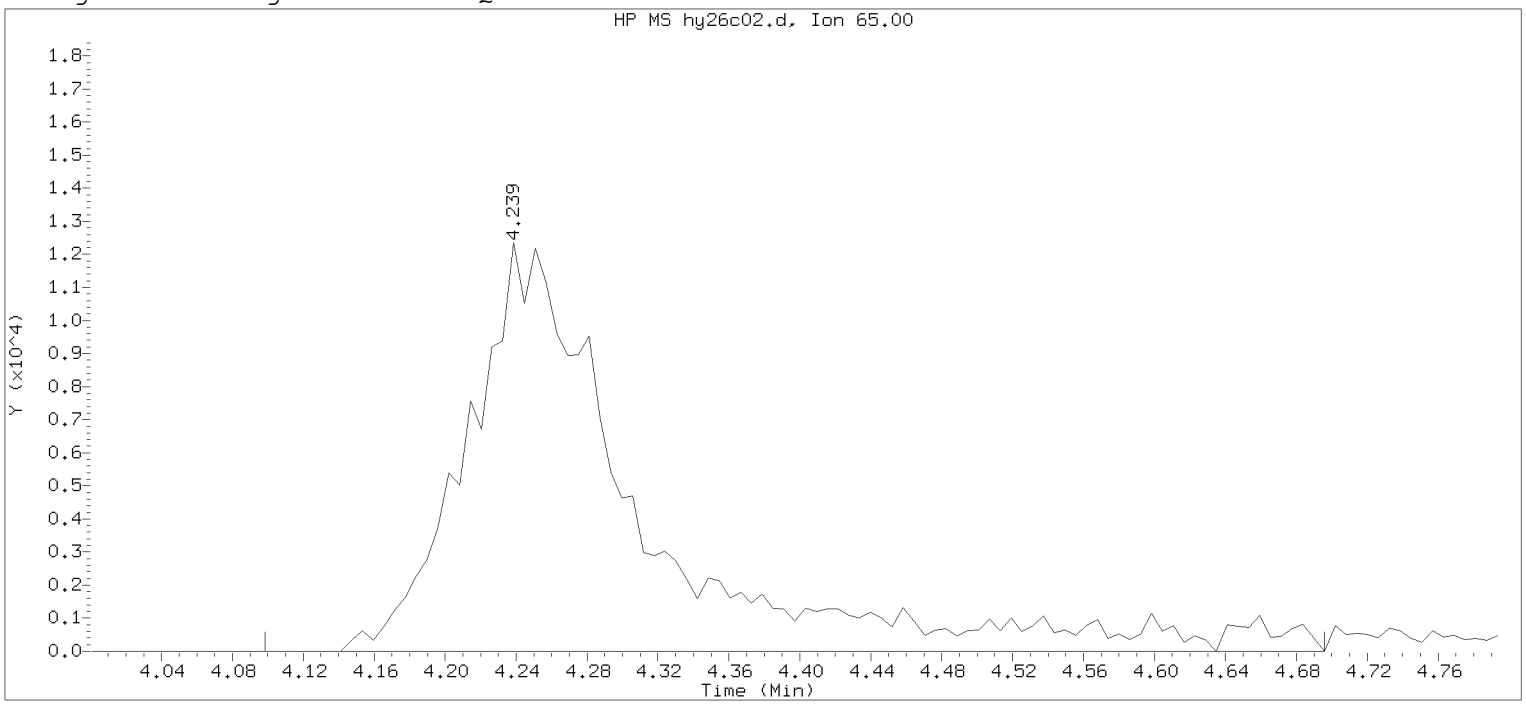
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 11:11.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:41.
PARALLAX ID: prc00685

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26c02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:15 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: SMICAL
Calibration date and time: 26-MAY-2017 09:33
Date, time and analyst ID of latest file update: 26-May-2017 09:33 Automation

Sample Name: VSTD010 Lab Sample ID: VSTD010

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 435
Retention Time (minutes): 4.239
Quant Ion : 65.00
Area : 83277
On-column Amount (ng) : 50.0000
Integration start scan : 411 Integration stop scan: 509
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 11:11.
Target 3.5 esignature used. Reason: I am the author of this document

Raw QC Data

Volatiles by GC/MS

R8504MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8999789MS

Data file: /chem/HP09915.i/17may23a.b/ly23s12.d Injection date and time: **23-MAY-2017 14:11**
Data file Sample Info. Line: R8504MS;8999789MS;1;3;MS;RAE85;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 16:21 kk10002

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **16342**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.568	(0.007)	649	65	207011	(-13)	250.00	
66) Fluorobenzene	7.047	(0.000)	1731	96	1089398	(-8)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	826975	(-8)	50.00	
131) 1,4-Dichlorobenzene-d4	12.642	(-0.003)	3471	152	439782	(-9)	50.00	

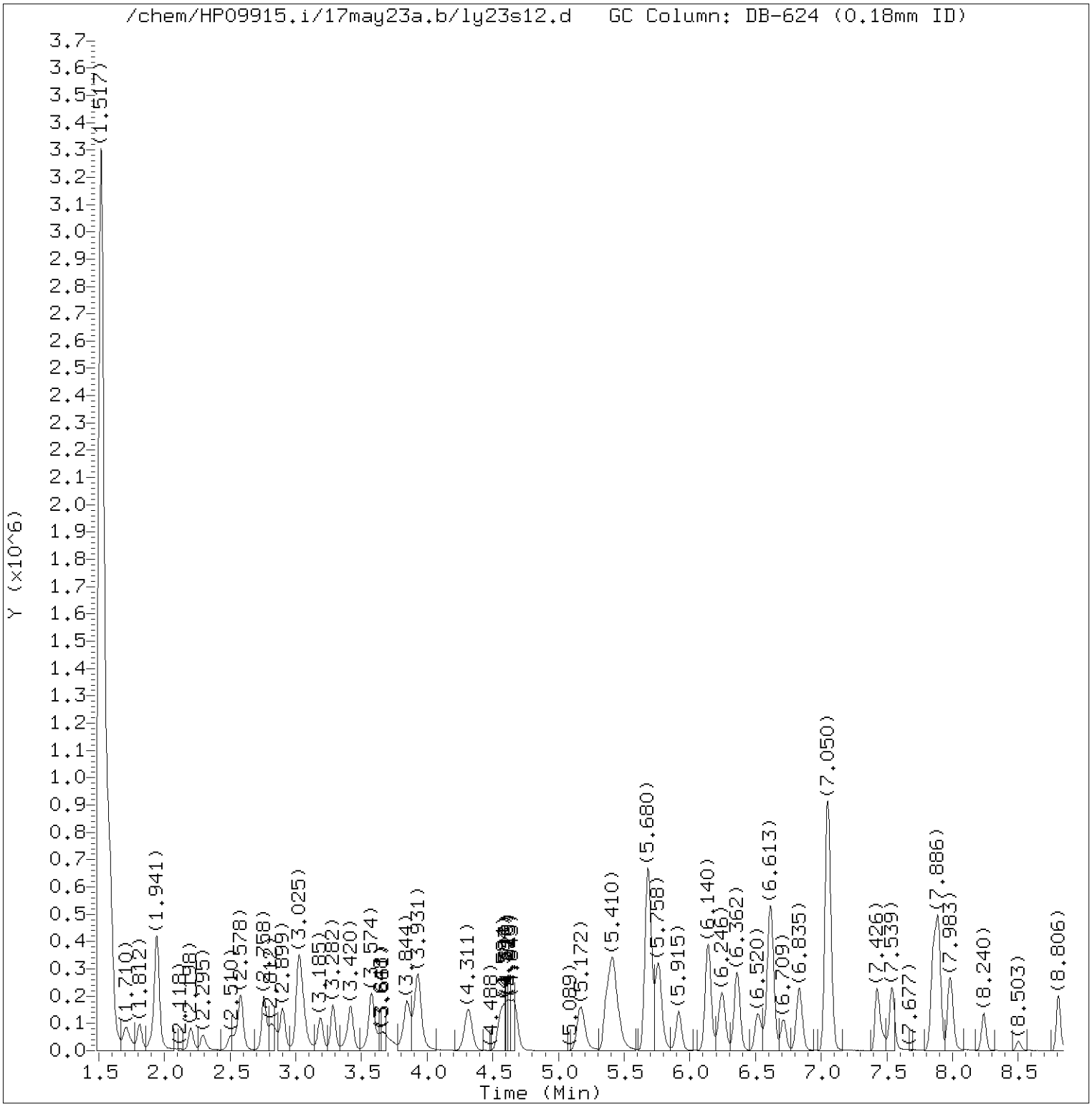
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.140	(0.000)	113	260717	49.009	98%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.603	(0.001)	102	65136	49.239	98%		77 - 113
83) Toluene-d8	(3)	9.137	(0.000)	98	1051831	49.814	100%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.748	(0.000)	95	392585	50.021	100%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
21) 2-Propanol	(1)	3.166	(0.000)	45	58502	119.987	119.99			50	100

Total number of targets = 1

Digitally signed by Kevin Kelly on 05/23/2017 at 16:22. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:38. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

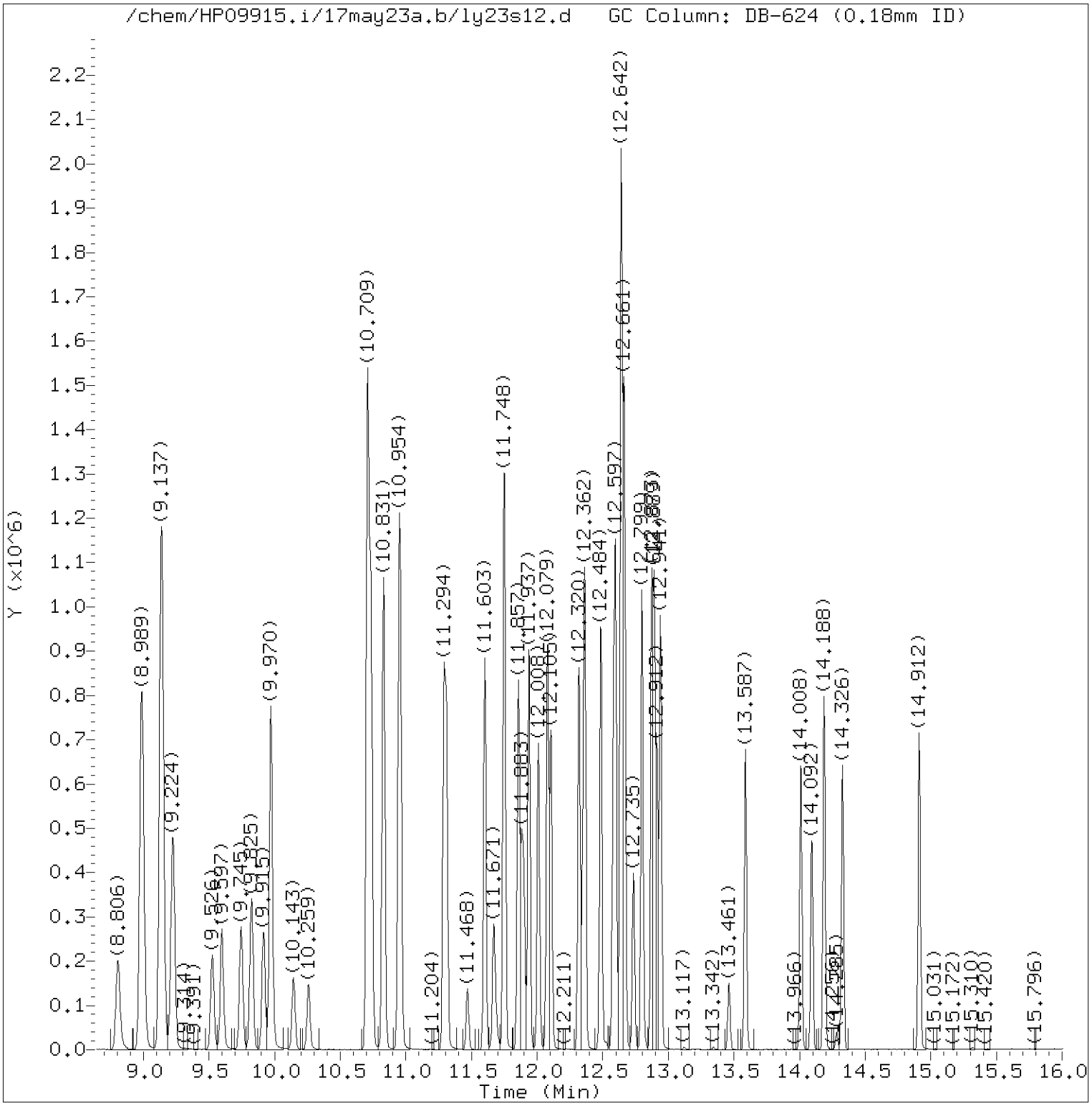
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s12.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:11 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:21 kk10002

Sample Name: R8504MS Lab Sample ID: 8999789MS

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s12.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:11 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:21 kk10002

Sample Name: R8504MS Lab Sample ID: 8999789MS

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s12.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:11 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:21 kk10002

Sample Name: R8504MS Lab Sample ID: 8999789MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
21) 2-Propanol	(1)	3.166	45	58502	119.987
29)*t-Butyl alcohol-d10	(1)	3.568	65	207011	250.000
52)$Dibromofluoromethane	(2)	6.140	113	260717	49.009
57)$1,2-Dichloroethane-d4	(2)	6.603	102	65136	49.239
66)*Fluorobenzene	(2)	7.047	96	1089398	50.000
83)$Toluene-d8	(3)	9.137	98	1051831	49.814
100)*Chlorobenzene-d5	(3)	10.709	117	826975	50.000
114)$4-Bromofluorobenzene	(3)	11.748	95	392585	50.021
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	439782	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem/HP09915.i/17may23a.b/ly23s13.d Injection date and time: **23-MAY-2017 14:33**
Data file Sample Info. Line: R8504MSD;8999790MSD;1;3;MSD;RAE85;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 16:22 kk10002

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **16342**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: **038A** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.575	(0.000)	651	65	212179	(-11)	250.00	
66) Fluorobenzene	7.047	(0.000)	1731	96	1059875	(-10)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	798006	(-11)	50.00	
131) 1,4-Dichlorobenzene-d4	12.639	(0.000)	3470	152	425844	(-12)	50.00	

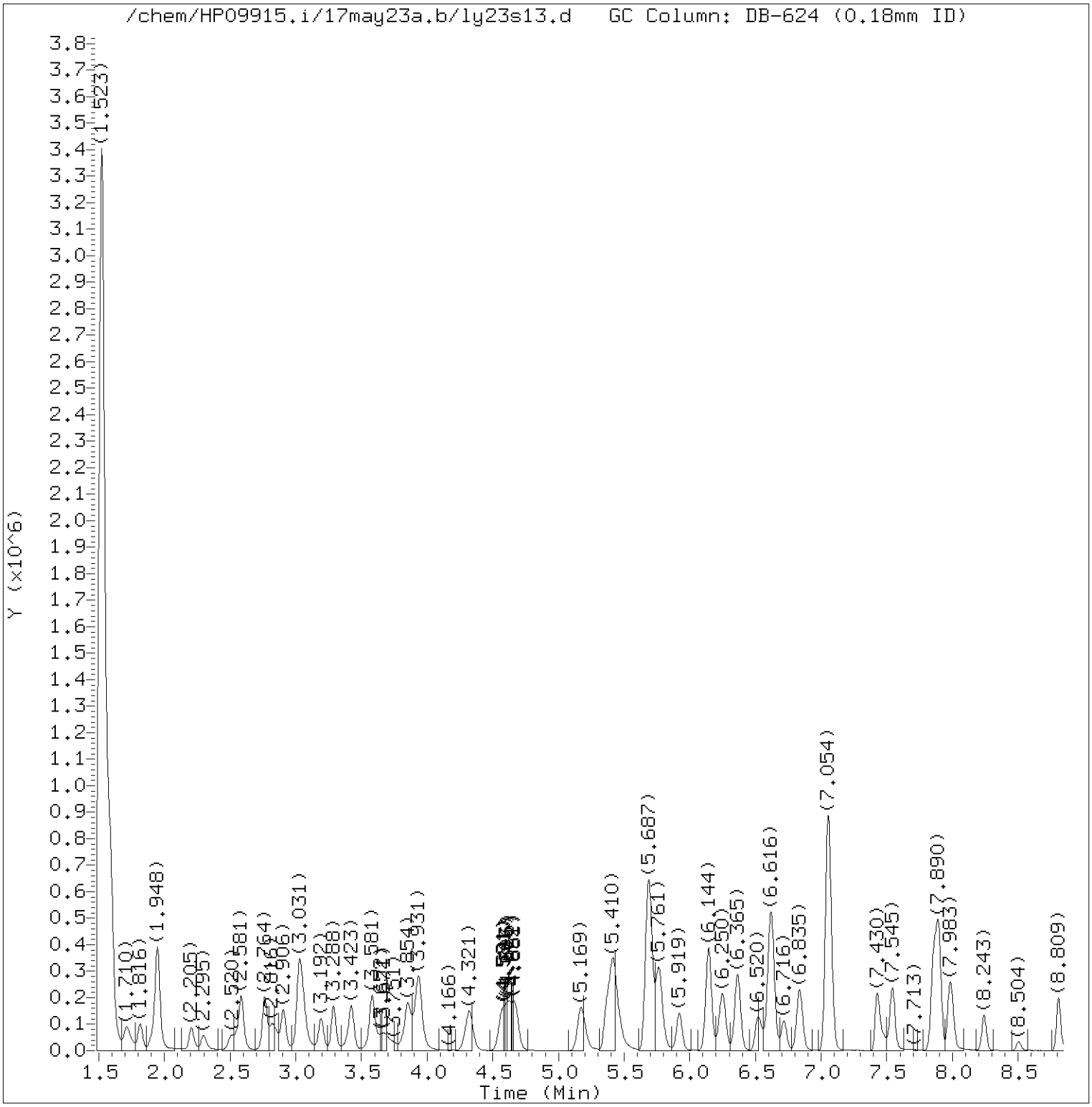
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.144	(0.000)	113	250753	48.449	97%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.613	(0.000)	102	63981	49.713	99%		77 - 113
83) Toluene-d8	(3)	9.140	(0.000)	98	1023987	50.256	101%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.751	(0.000)	95	379657	50.130	100%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
21) 2-Propanol	(1)	3.182	(-0.002)	45	59767	119.596	119.60			50	100

Total number of targets = 1

Digitally signed by Kevin Kelly on 05/23/2017 at 16:22. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:38. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

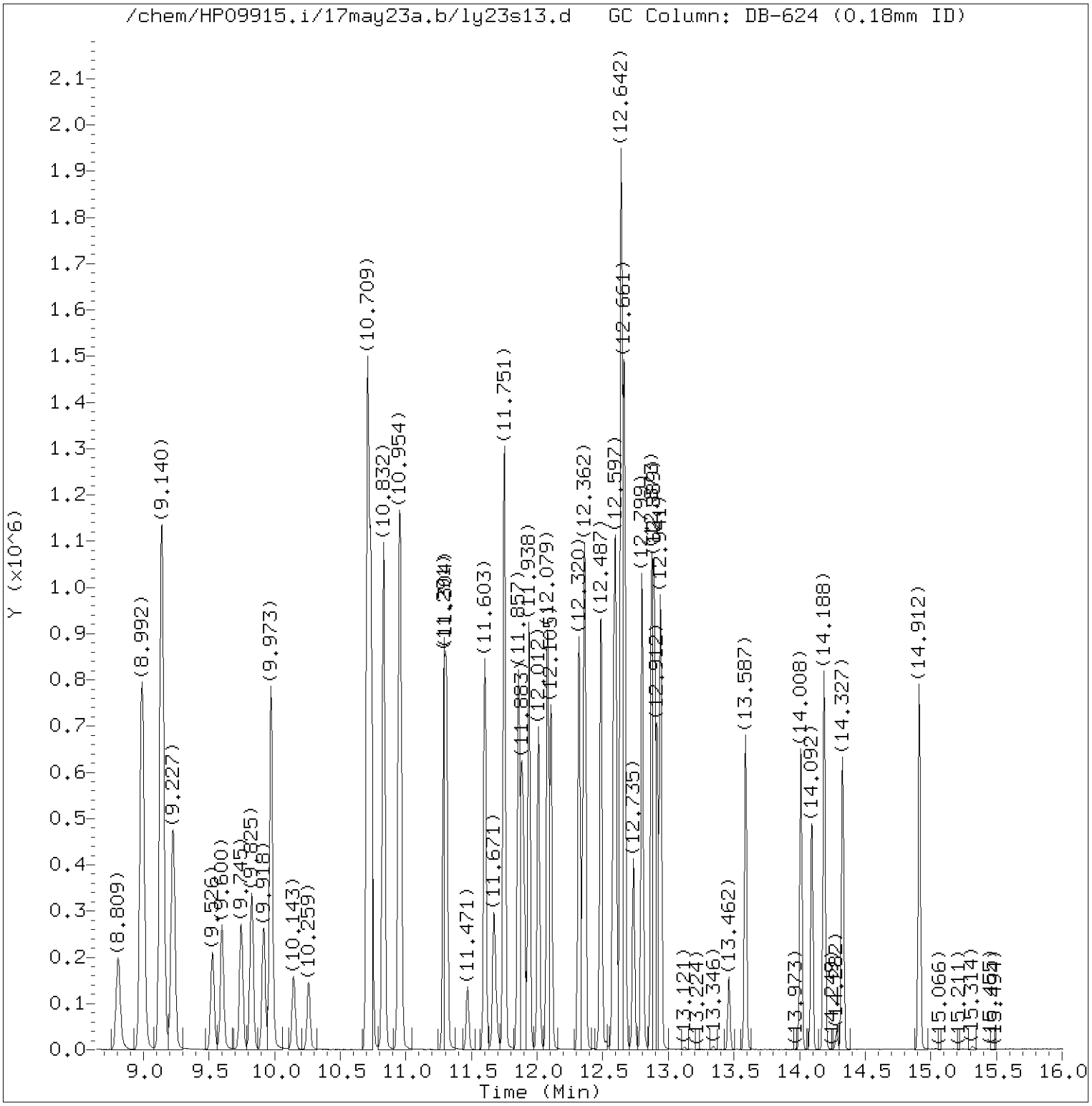
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s13.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:33 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:22 kk10002

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s13.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:33 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:22 kk10002

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s13.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 14:33 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 16342
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 16:22 kk10002

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
21) 2-Propanol	(1)	3.182	45	59767	119.596
29)*t-Butyl alcohol-d10	(1)	3.575	65	212179	250.000
52)$Dibromofluoromethane	(2)	6.144	113	250753	48.449
57)$1,2-Dichloroethane-d4	(2)	6.613	102	63981	49.713
66)*Fluorobenzene	(2)	7.047	96	1059875	50.000
83)$Toluene-d8	(3)	9.140	98	1023987	50.256
100)*Chlorobenzene-d5	(3)	10.709	117	798006	50.000
114)$4-Bromofluorobenzene	(3)	11.751	95	379657	50.130
131)*1,4-Dichlorobenzene-d4	(4)	12.639	152	425844	50.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 16:22.
Target 3.5 esignature user ID: kk10002

R8504MS1 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999789MS

Data file: /chem2/HP19094.i/17may25b.b/hy25s08.d Injection date and time: **25-MAY-2017 22:23**
Data file Sample Info. Line: R8504MS1;8999789MS;1;3;MS;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451A**
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(0.006)	438	65	85347M (-3)	50.00	
63) Fluorobenzene	7.775(0.006)	1015	96	2564126 (-2)	10.00	
97) Chlorobenzene-d5	11.243(0.000)	1584	117	1706390 (-9)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	672918 (-20)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866(0.000)	113	595910	10.367	104%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.329(0.000)	102	100582	10.822	108%		74 - 113
82) Toluene-d8	(3)	9.786(0.001)	98	2587957	10.375	104%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	677798	9.564	96%		78 - 110

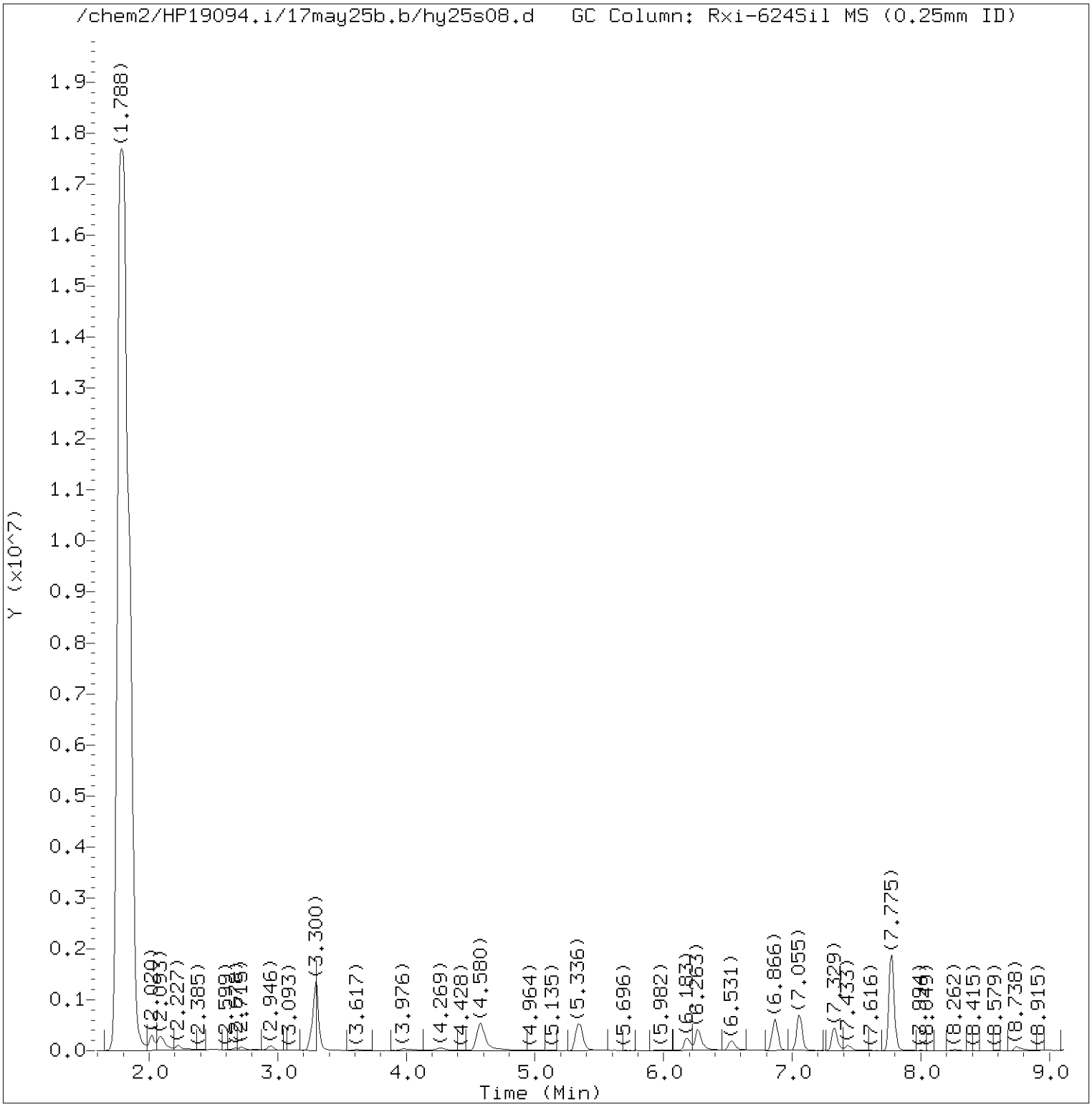
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
4) Dimethyl ether	(2)	2.093(-0.000)	45	620708	6.616	6.62		J	0.1	13
25) Acetonitrile	(1)	3.982(-0.004)	41	162409M	38.531	38.53		J	32	100
36) Vinyl Acetate	(2)	5.330(0.000)	43	1031717	12.837	12.84			3	10
142) Hexachloroethane	(4)	13.609(-0.000)	117	293418	5.392	5.39		J	0.1	10

M = Compound was manually integrated.

Total number of targets = 4

Digitally signed by Don V. Viray on 05/30/2017 at 22:13. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

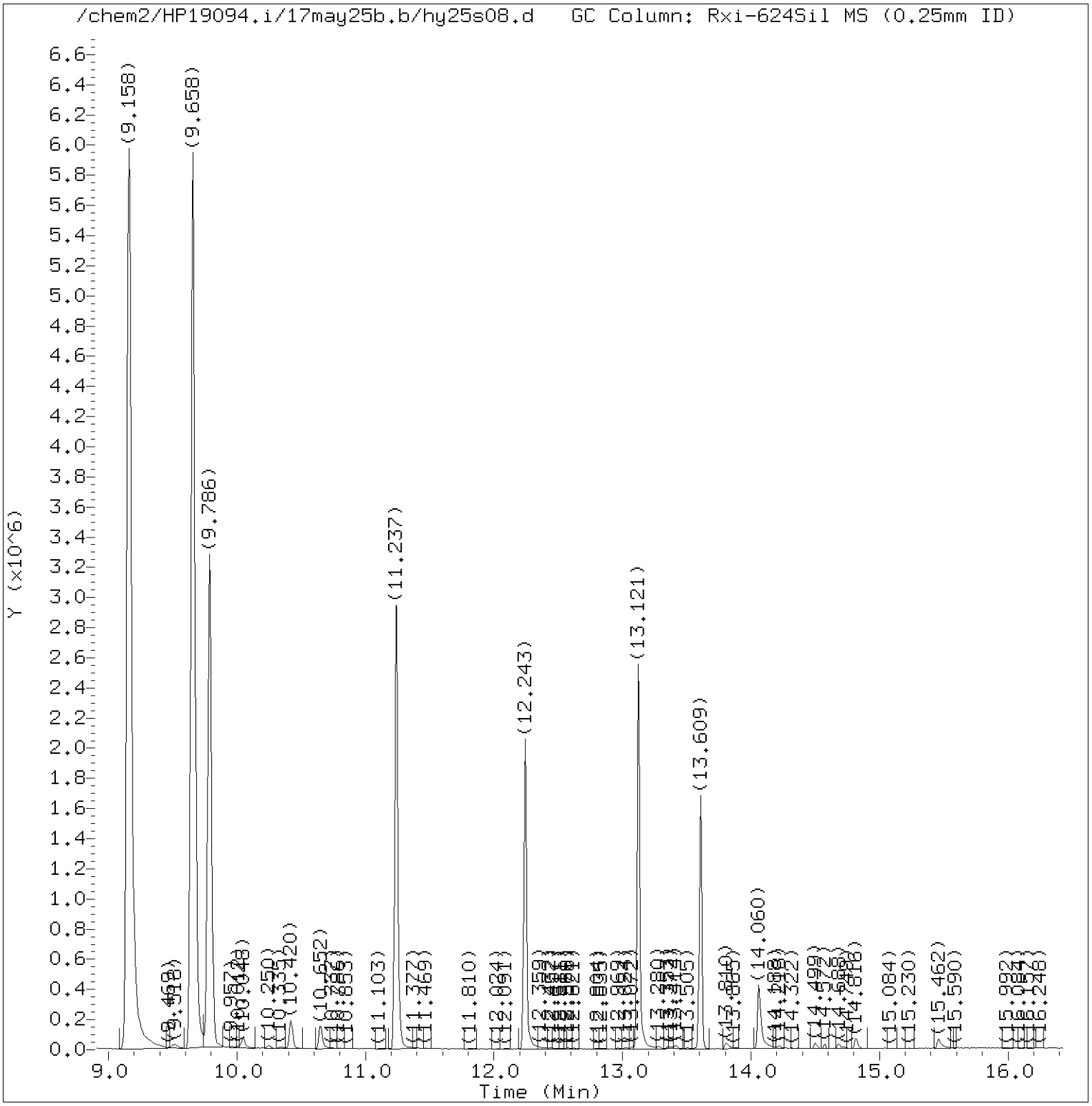
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s08.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:23 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Sample Name: R8504MS1 Lab Sample ID: 8999789MS

Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s08.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:23 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Sample Name: R8504MS1 Lab Sample ID: 8999789MS

Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s08.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:23 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

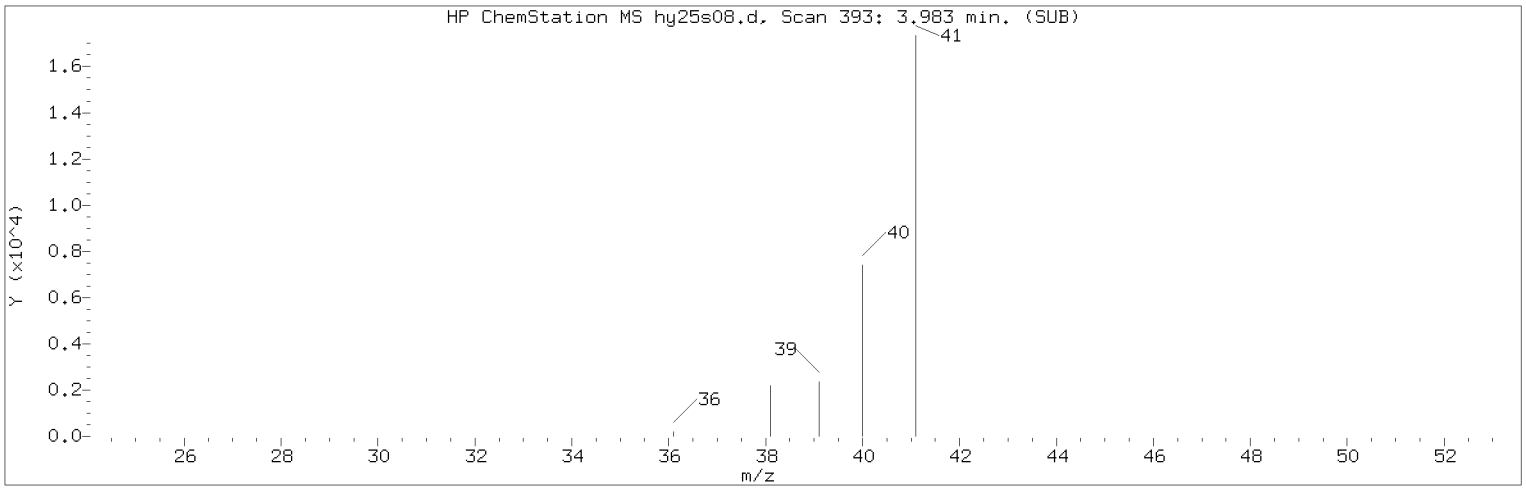
Sample Name: R8504MS1 Lab Sample ID: 8999789MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	620708	6.616
25) Acetonitrile	(1)	3.983	41	162409M	38.531
26)*t-Butyl Alcohol-d10	(1)	4.257	65	85347M	50.000
36) Vinyl Acetate	(2)	5.330	43	1031717	12.837
50)$Dibromofluoromethane	(2)	6.866	113	595910	10.367
57)$1,2-Dichloroethane-d4	(2)	7.329	102	100582	10.822
63)*Fluorobenzene	(2)	7.775	96	2564126	10.000
82)$Toluene-d8	(3)	9.786	98	2587957	10.375
97)*Chlorobenzene-d5	(3)	11.243	117	1706390	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	677798	9.564
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	672918	10.000
142) Hexachloroethane	(4)	13.609	117	293418	5.392

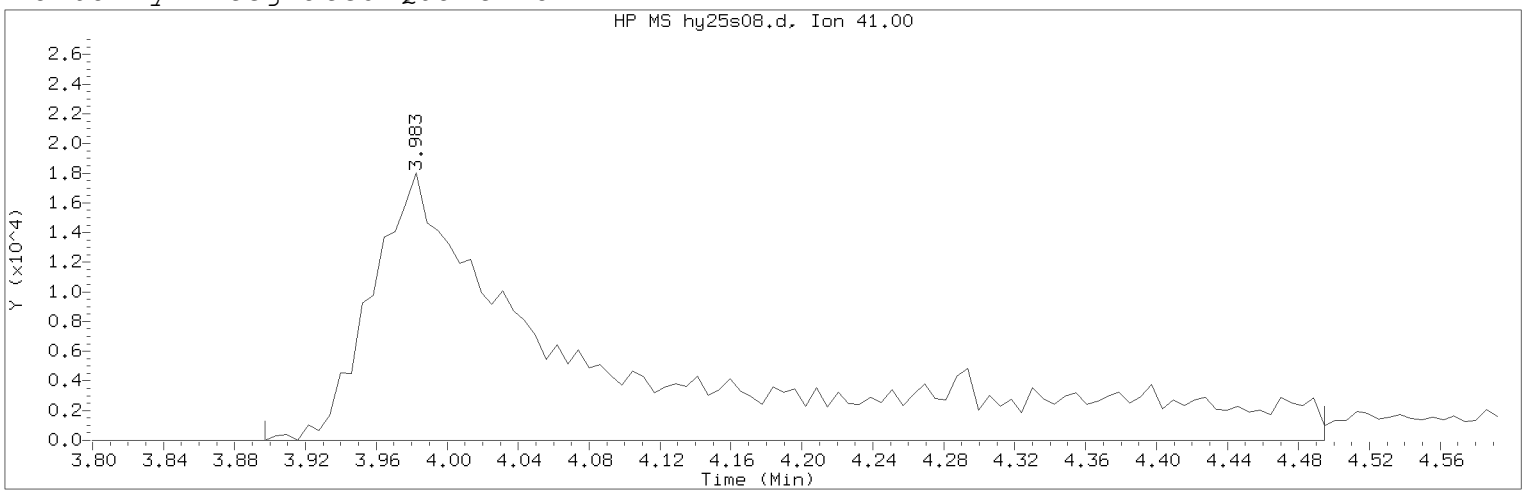
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s08.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:23 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Sample Name: R8504MS1 Lab Sample ID: 8999789MS

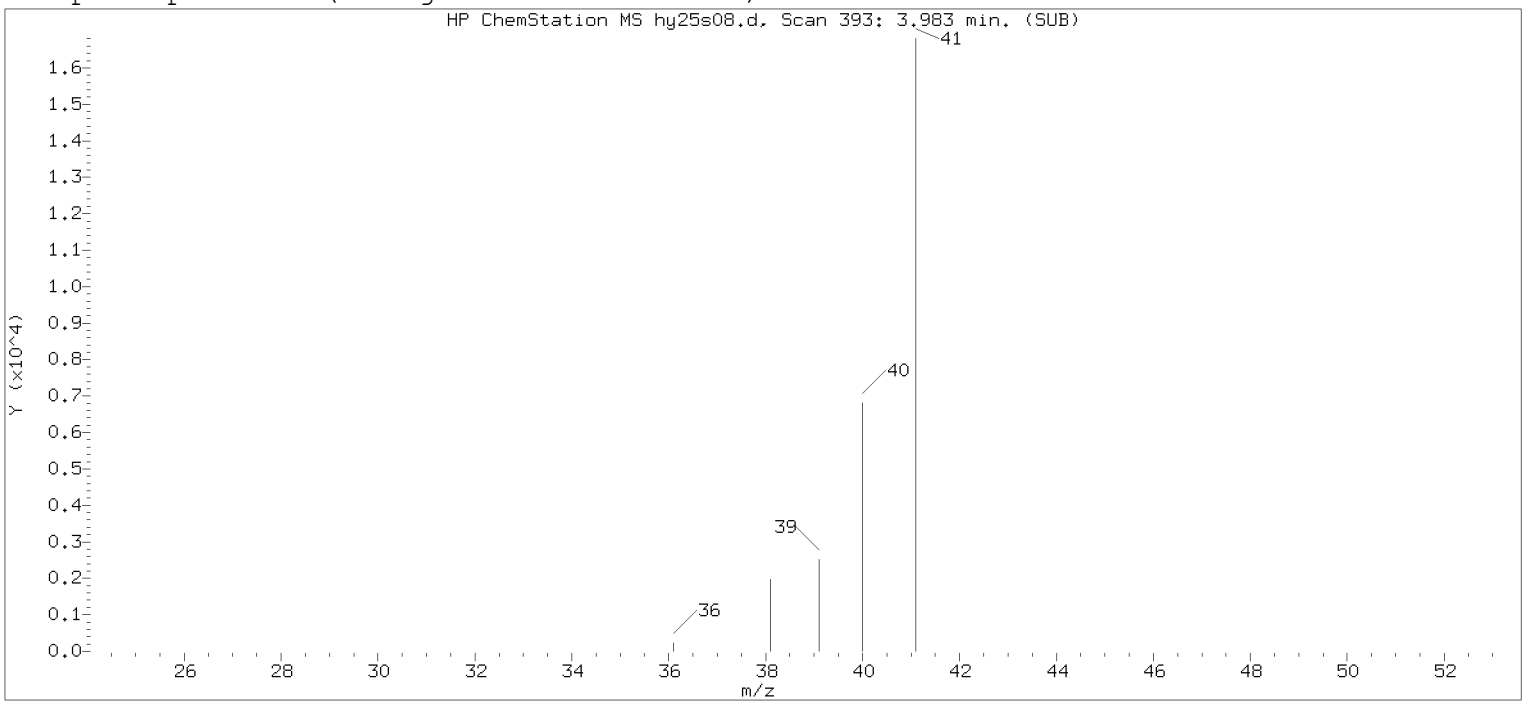
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area (flag) : 162409M
On-Column Amount (ng) : 38.5306
Integration start scan : 378 Integration stop scan: 476
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

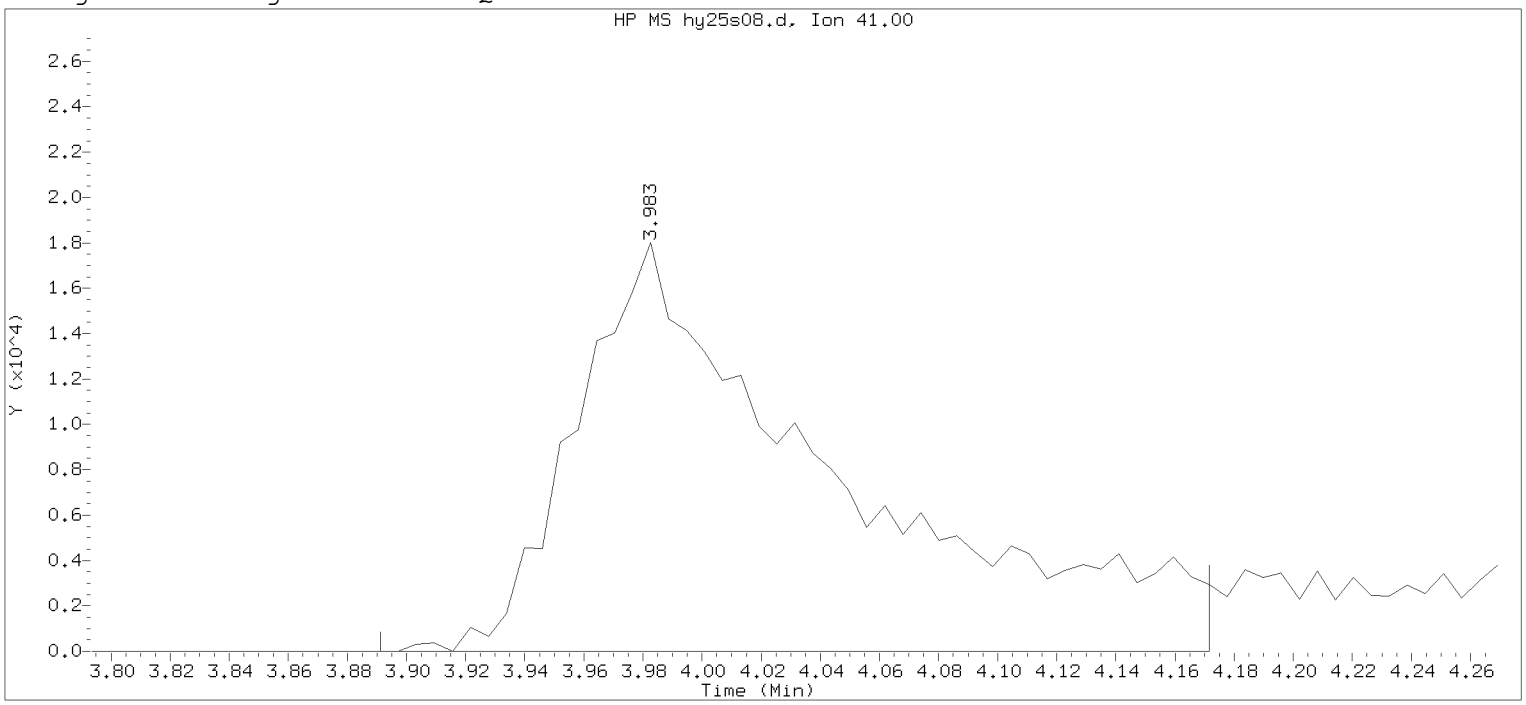
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s08.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:23 Analyst ID: DVV10203

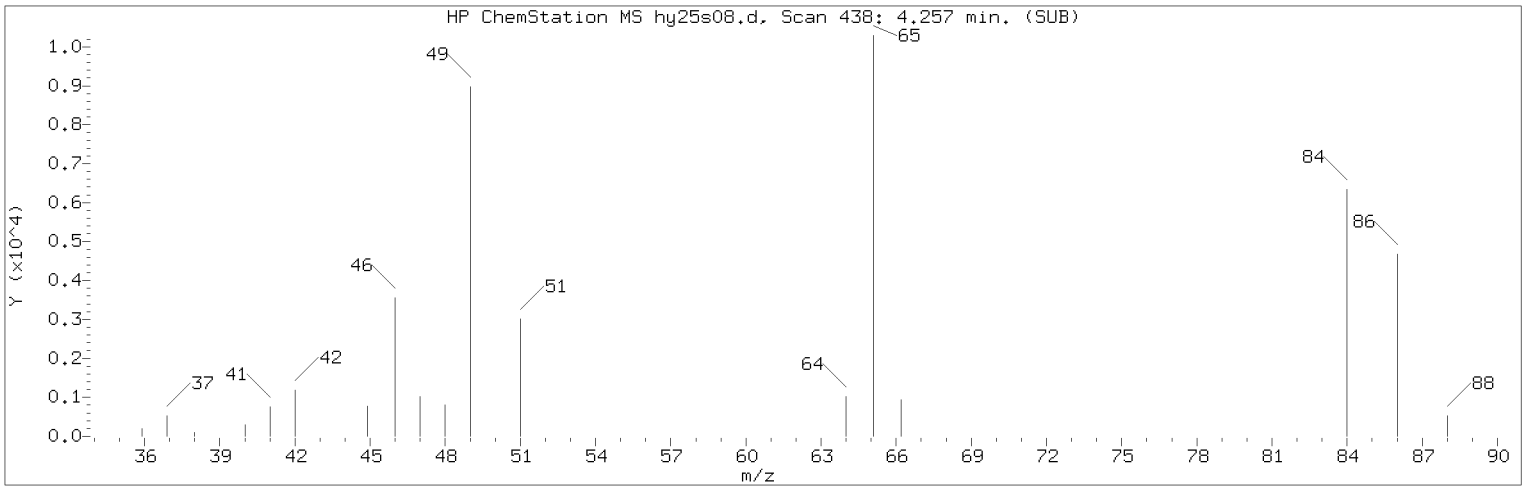
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:41 Automation

Sample Name: R8504MS1 Lab Sample ID: 8999789MS

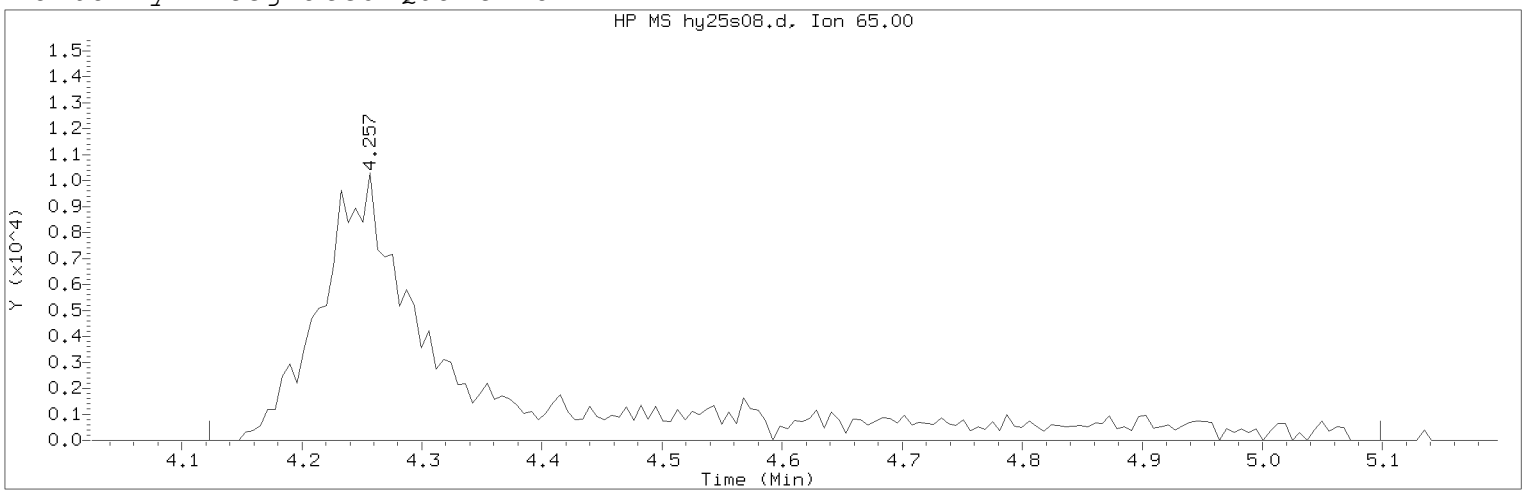
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 393
Retention Time (minutes): 3.983
Quant Ion : 41.00
Area : 108610
On-column Amount (ng) : 33.1843
Integration start scan : 377 Integration stop scan: 423
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature used on 10/03/2016.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s08.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:23 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Sample Name: R8504MS1 Lab Sample ID: 8999789MS

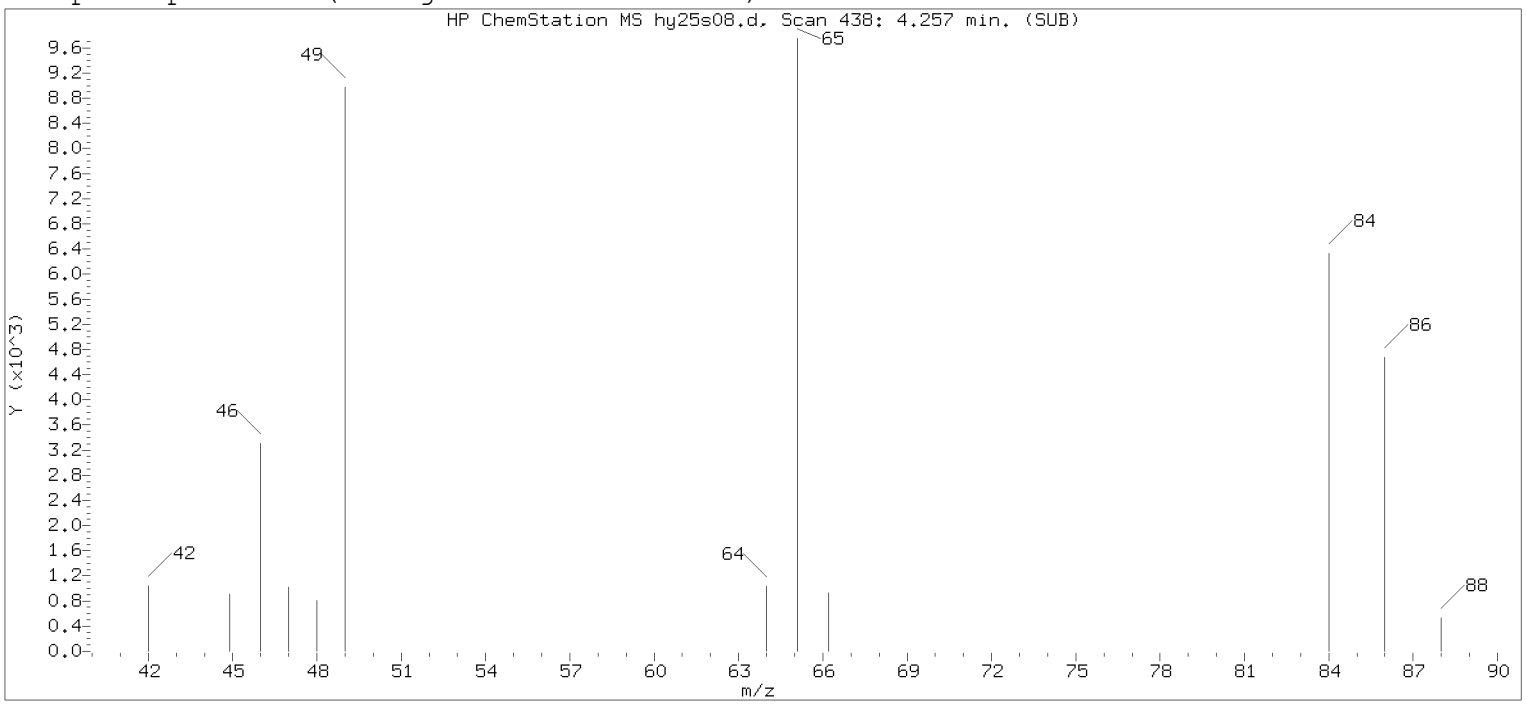
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 85347M
On-Column Amount (ng) : 50.0000
Integration start scan : 415 Integration stop scan: 575
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

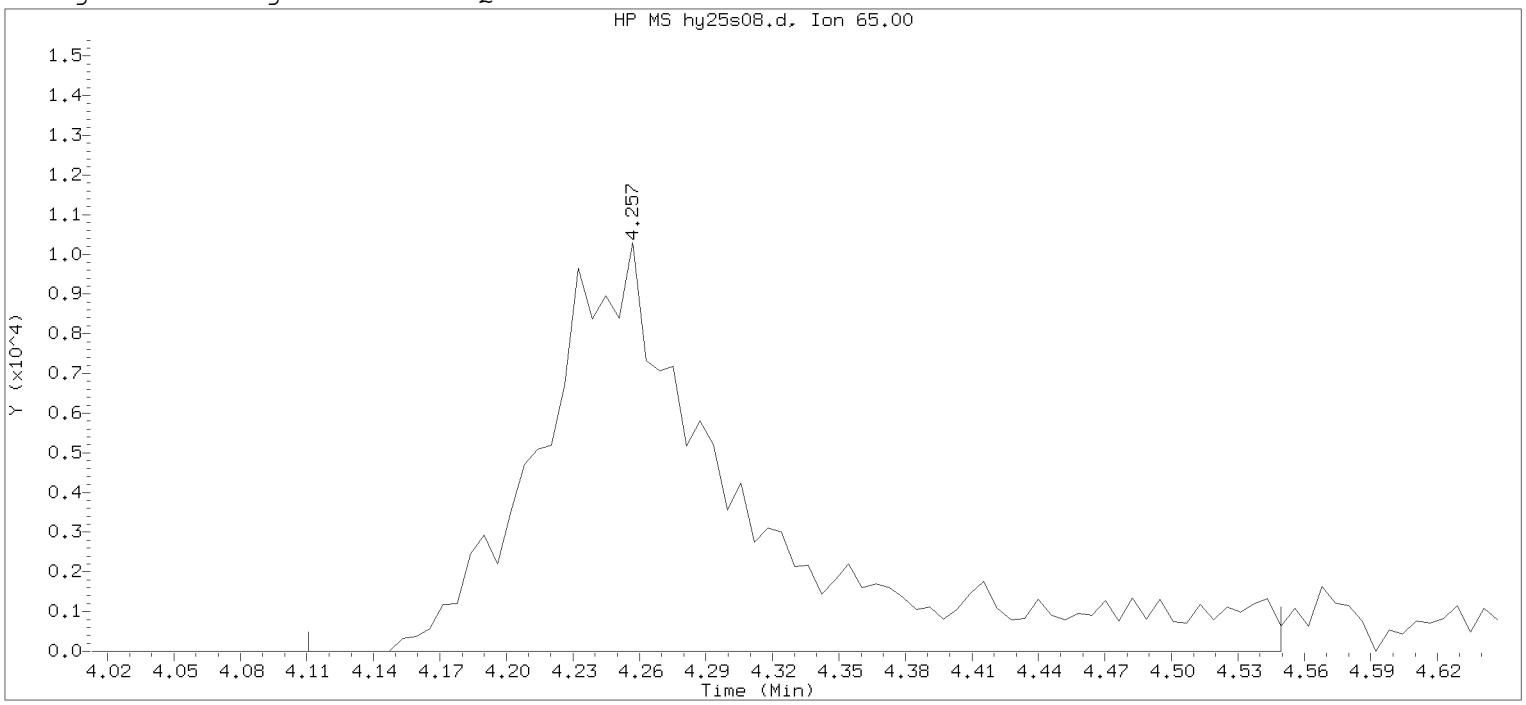
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s08.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:23 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:41 Automation

Sample Name: R8504MS1 Lab Sample ID: 8999789MS

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 438		
Retention Time (minutes)	: 4.257		
Quant Ion	: 65.00		
Area	: 66271		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 413	Integration stop scan:	485
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature used on 05/30/2017.

R8504MSD1 Lancaster Laboratories Analysis Summary for GC/MS Volatiles 8999790MSD

Data file: /chem2/HP19094.i/17may25b.b/hy25s09.d Injection date and time: **25-MAY-2017 22:43**
Data file Sample Info. Line: R8504MSD1;8999790MSD;1;3;MSD;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H1714**
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038C** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.012)	437	65	88627	(1)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2557327	(-2)	10.00	
97) Chlorobenzene-d5	11.237	(0.006)	1583	117	1684399	(-10)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	660469	(-21)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	596239	10.401	104%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	95449	10.297	103%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	2603963	10.576	106%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(-0.001)	95	652624	9.329	93%		78 - 110

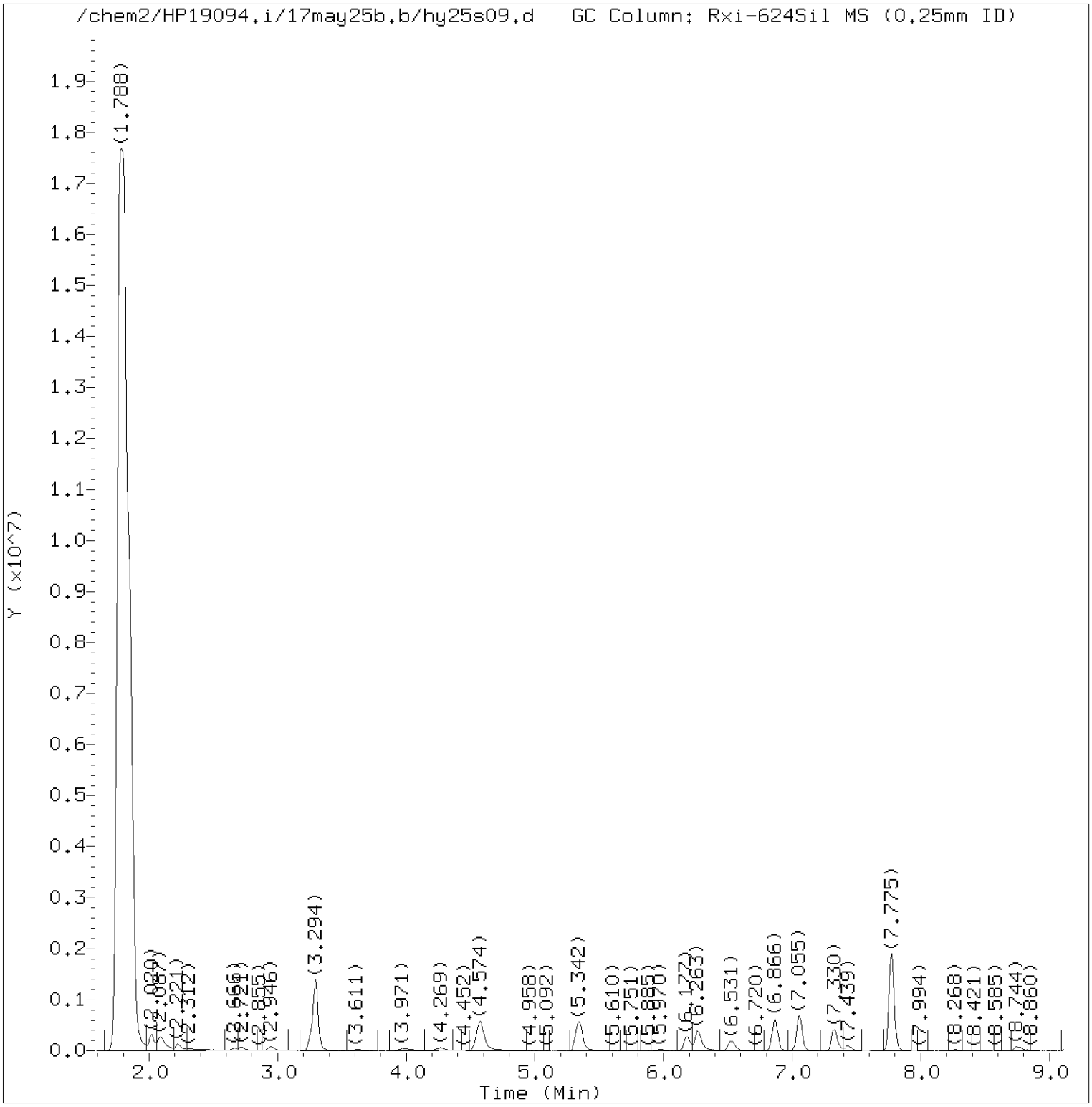
Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
4) Dimethyl ether	(2)	2.093	(-0.000)	45	608760	6.506	6.51		J	0.1	13
25) Acetonitrile	(1)	3.970	(-0.002)	41	189021M	43.185	43.18		J	32	100
36) Vinyl Acetate	(2)	5.324	(0.001)	43	1027517	12.820	12.82			3	10
142) Hexachloroethane	(4)	13.609	(-0.000)	117	283021	5.299	5.30		J	0.1	10

M = Compound was manually integrated.

Total number of targets = 4

Digitally signed by Don V. Viray on 05/30/2017 at 22:13. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

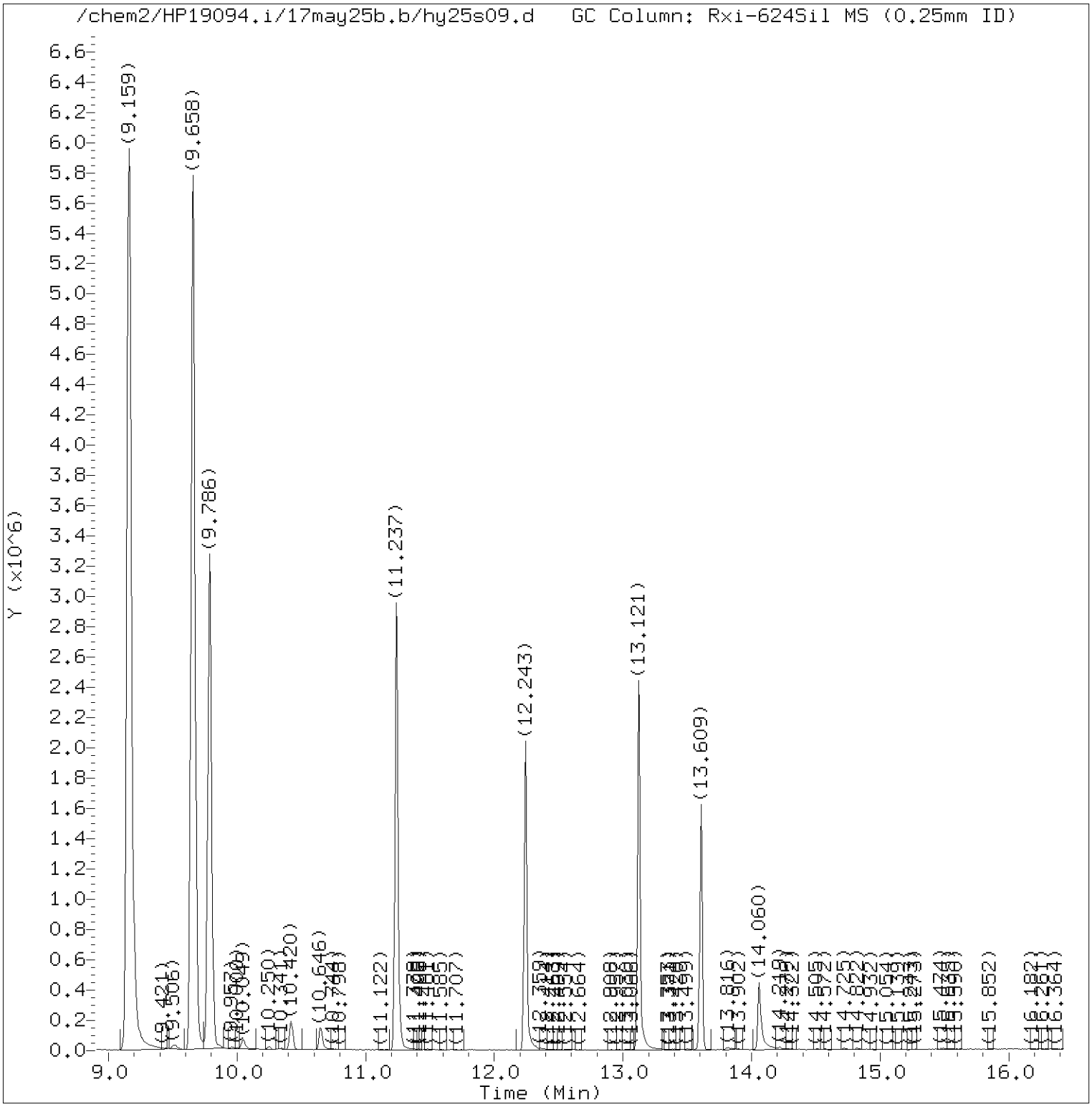
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s09.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:43 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Sample Name: R8504MSD1 Lab Sample ID: 8999790MSD

Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s09.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:43 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Sample Name: R8504MSD1 Lab Sample ID: 8999790MSD

Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s09.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:43 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

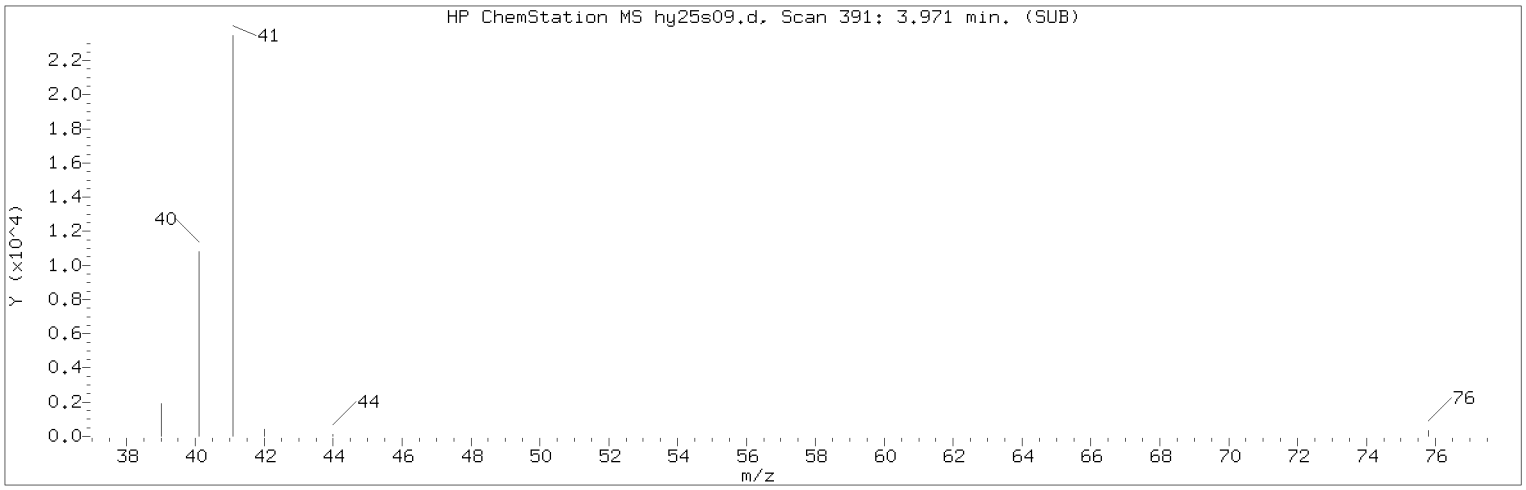
Sample Name: R8504MSD1 Lab Sample ID: 8999790MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	608760	6.506
25) Acetonitrile	(1)	3.971	41	189021M	43.185
26)*t-Butyl Alcohol-d10	(1)	4.251	65	88627	50.000
36) Vinyl Acetate	(2)	5.324	43	1027517	12.820
50)$Dibromofluoromethane	(2)	6.866	113	596239	10.401
57)$1,2-Dichloroethane-d4	(2)	7.330	102	95449	10.297
63)*Fluorobenzene	(2)	7.775	96	2557327	10.000
82)$Toluene-d8	(3)	9.786	98	2603963	10.576
97)*Chlorobenzene-d5	(3)	11.237	117	1684399	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	652624	9.329
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	660469	10.000
142) Hexachloroethane	(4)	13.609	117	283021	5.299

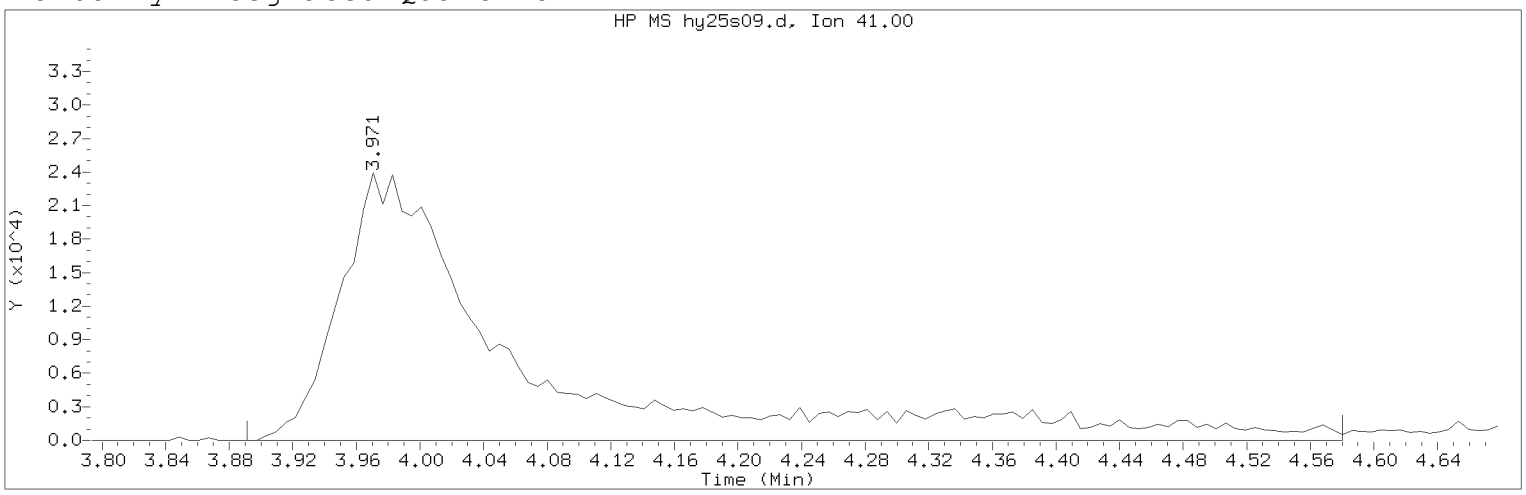
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s09.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:43 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:08 dvv10203

Sample Name: R8504MSD1 Lab Sample ID: 8999790MSD

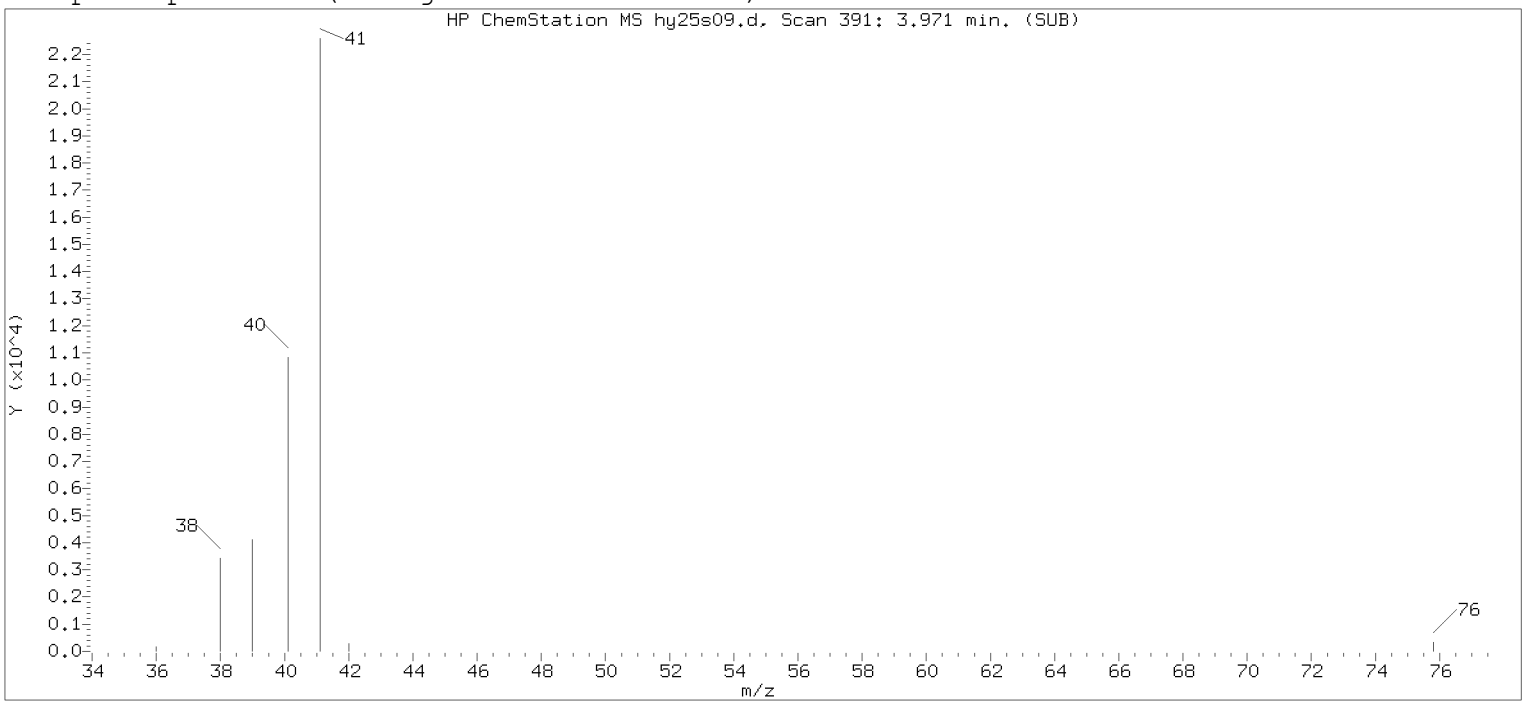
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 391
Retention Time (minutes): 3.971
Quant Ion : 41.00
Area (flag) : 189021M
On-Column Amount (ng) : 43.1845
Integration start scan : 377 Integration stop scan: 490
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

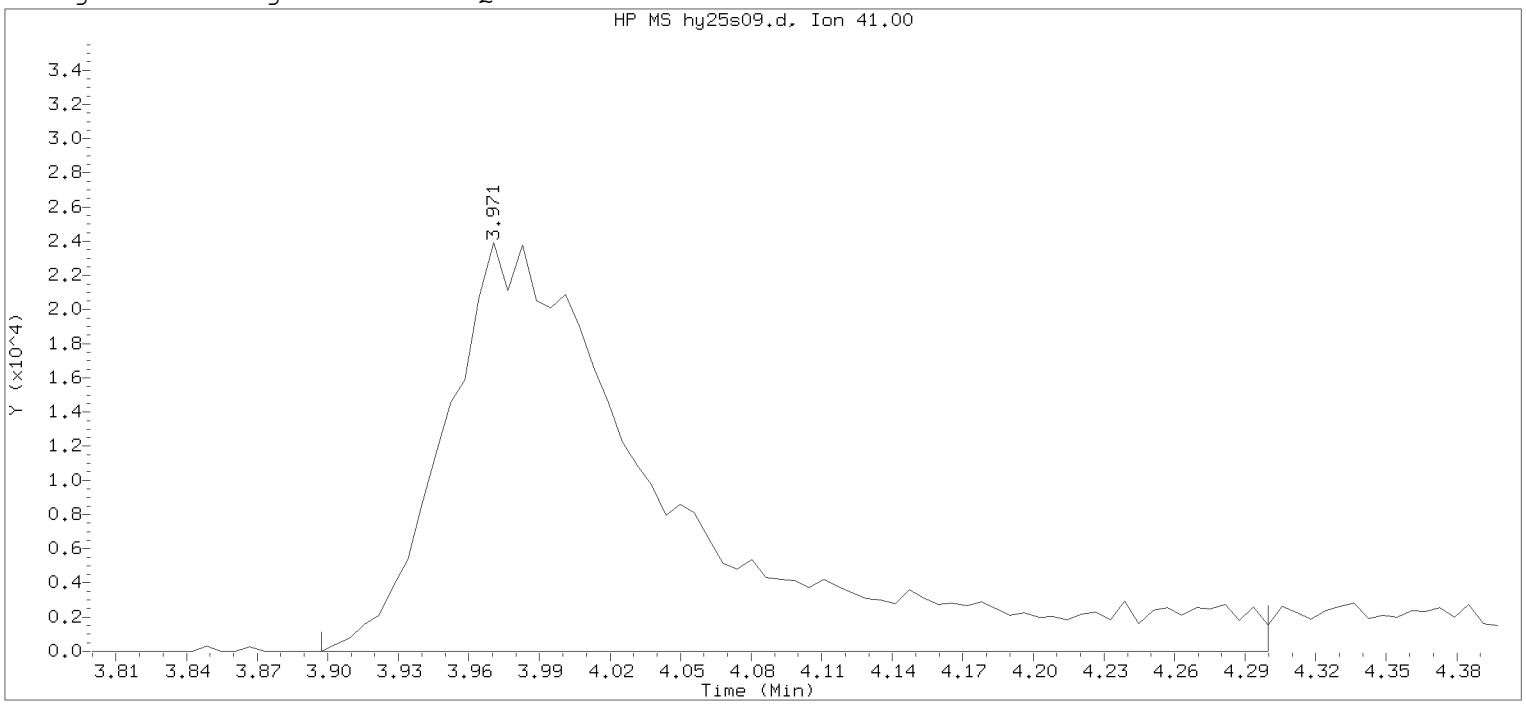
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:13.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s09.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:43 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 23:01 Automation

Sample Name: R8504MSD1 Lab Sample ID: 8999790MSD

Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 391
Retention Time (minutes): 3.971
Quant Ion : 41.00
Area : 162165
On-column Amount (ng) : 37.0489
Integration start scan : 378 Integration stop scan: 444
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:13.
Target 3.5 esignature used on 10/03/2016

R8504MS

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8999789MS

Data file: /chem2/HP19094.i/17may25b.b/hy25s06.d Injection date and time: **25-MAY-2017 21:42**
Data file Sample Info. Line: R8504MS;8999789MS;1;3;MS;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.269(-0.006)	440	65	91906M (5)	50.00	
63) Fluorobenzene	7.775(0.006)	1015	96	2598497 (-1)	10.00	
97) Chlorobenzene-d5	11.237(0.006)	1583	117	1803531 (-3)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	775593 (-8)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872(-0.001)	113	609714	10.467	105%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330(0.000)	102	97816	10.385	104%		74 - 113
82) Toluene-d8	(3)	9.787(0.000)	98	2569373	9.746	97%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(-0.001)	95	753985	10.066	101%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)	2.008(0.001)	85	590933	5.878	5.88			0.1	1
2) Chloromethane	(2)	2.154(-0.000)	50	638551	6.050	6.05			0.2	1
5) Vinyl Chloride	(2)	2.282(0.000)	62	623091	6.725	6.73			0.2	1
7) Bromomethane	(2)	2.617(0.000)	94	368085	6.325	6.33			0.5	1
8) Chloroethane	(2)	2.727(0.000)	64	400719	7.551	7.55			0.1	1
10) Trichlorofluoromethane	(2)	3.038(0.000)	101	703315	6.552	6.55			0.2	1
11) Ethyl ether	(2)	3.294(0.001)	59	1307380	30.740	30.74		E	1	13
13) Acrolein	(1)	3.458(0.001)	56	164660	23.546	23.55		J	5	25
15) 1,1-Dichloroethene	(2)	3.611(0.000)	96	369863	6.415	6.42			0.2	1
16) Freon 113	(2)	3.641(0.001)	101	402799	6.638	6.64			0.2	1
14) Acetone	(1)	3.623(0.002)	43	344442	40.674	40.67			3	10
17) Methyl Iodide	(2)	3.812(0.000)	142	638449	5.962	5.96		J	0.6	10
18) Carbon Disulfide	(2)	3.934(0.000)	76	1110639	6.866	6.87		J	0.4	10
22) Allyl Chloride	(2)	4.086(0.000)	41	697575	6.235	6.23		J	0.8	10
23) Methylene Chloride	(2)	4.269(0.000)	84	386856	6.145	6.14			0.2	1
29) Acrylonitrile	(1)	4.574(0.004)	53	295300	25.805	25.80			1	10
31) trans-1,2-Dichloroethene	(2)	4.714(-0.000)	96	404052	6.346	6.35			0.2	1
33) 1,1-Dichloroethane	(2)	5.348(0.001)	63	1246012	9.918	9.92			0.1	1
35) 2-Chloro-1,3-Butadiene	(2)	5.470(-0.000)	53	666417	6.279	6.28		J	0.5	10
38) 2-Butanone	(1)	6.123(0.000)	43	588099	34.049	34.05			1	10
42) Propionitrile	(1)	6.190(0.000)	54	155460	37.881	37.88		J	10	100
45) Methacrylonitrile	(1)	6.409(0.003)	67	565143	32.937	32.94		J	10	100
48) Tetrahydrofuran	(1)	6.531(0.003)	71	102007	23.641	23.64		J	2	25
49) Chloroform	(2)	6.659(-0.000)	83	703183	5.933	5.93			0.1	1
51) 1,1,1-Trichloroethane	(2)	6.903(-0.000)	97	602364	5.968	5.97			0.1	1
54) Carbon Tetrachloride	(2)	7.128(-0.000)	117	543315	6.412	6.41			0.2	1
56) Isobutyl Alcohol	(1)	7.196(0.002)	41	151520	152.696	152.70		J	10	200
58) Benzene	(2)	7.378(-0.000)	78	1708557	6.276	6.28			0.1	1
59) 1,2-Dichloroethane	(2)	7.427(0.000)	62	388352	5.967	5.97			0.1	1
67) Trichloroethene	(2)	8.262(-0.000)	95	434138	6.024	6.02			0.2	1

E = Compound concentration above calibration range.

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59. Target 3.5 esignature user ID: ads01731

Data file: /chem2/HP19094.i/17may25b.b/hy25s06.d Injection date and time: **25-MAY-2017 21:42**
Data file Sample Info. Line: R8504MS;8999789MS;1;3;MS;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

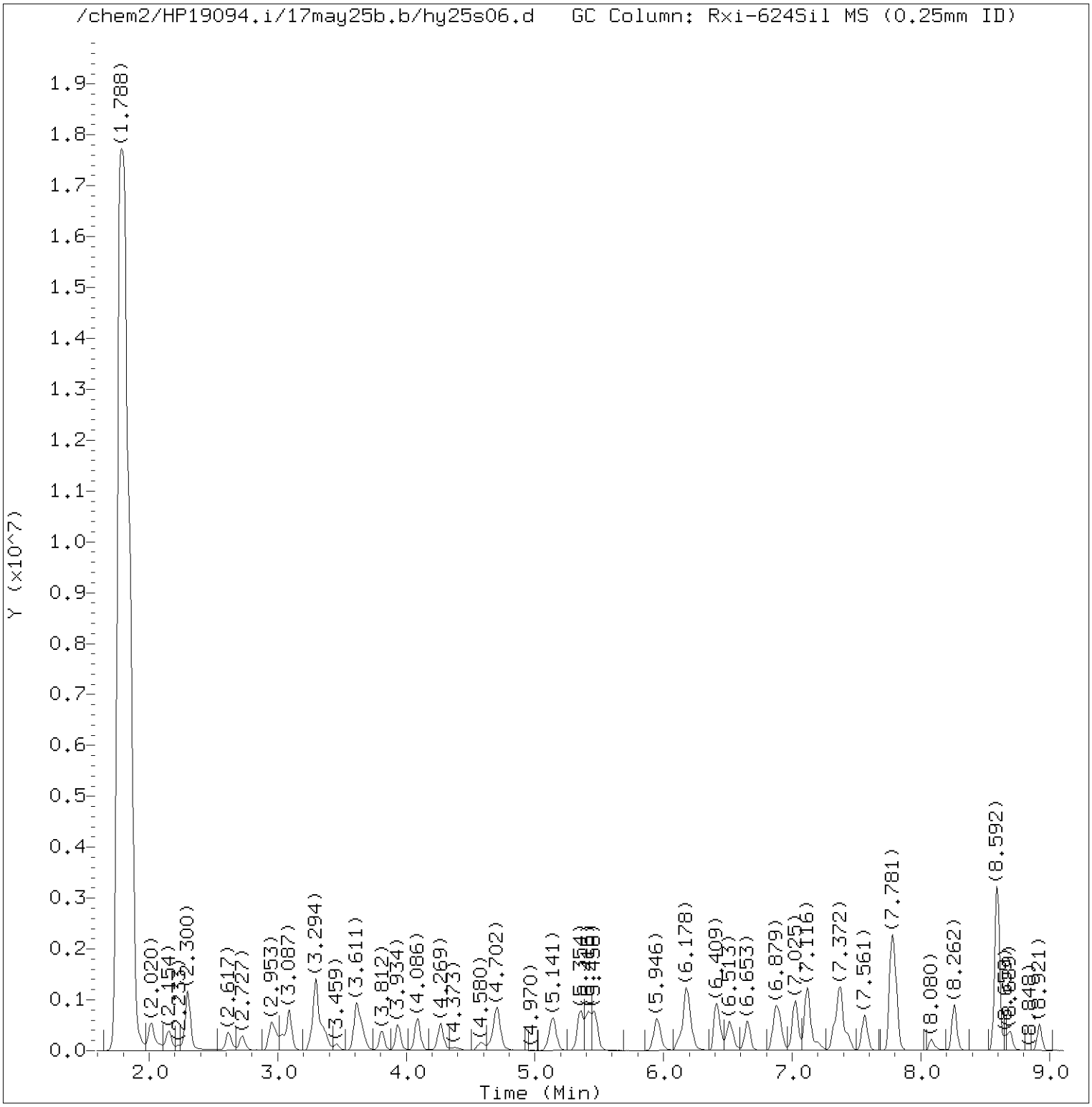
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
70) 1,2-Dichloropropane	(2)	8.586(-0.000)	63	432068	6.087	6.09			0.1	1
71) Methyl Methacrylate	(1)	8.659(0.002)	69	136595M	4.352	4.35		J	4	10
73) Dibromomethane	(2)	8.689(-0.000)	93	168176	6.146	6.15			0.1	1
72) 1,4-Dioxane	(1)	8.677(0.005)	88	31155M	173.665	173.67		J	45	200
74) Bromodichloromethane	(2)	8.921(-0.000)	83	455549	6.078	6.08			0.1	1
81) 4-Methyl-2-Pentanone	(1)	9.622(0.003)	43	966260	21.112	21.11			1	10
83) Toluene	(3)	9.866(-0.000)	92	1033071	5.930	5.93			0.1	1
84) trans-1,3-Dichloropropene	(3)	10.110(-0.001)	75	391424	5.768	5.77			0.1	1
86) Ethyl Methacrylate	(3)	10.171(-0.000)	69	289115	5.759	5.76		J	0.8	10
88) 1,1,2-Trichloroethane	(3)	10.311(-0.000)	97	237743	5.875	5.87			0.1	1
89) Tetrachloroethene	(3)	10.420(-0.000)	166	496871	6.150	6.15			0.1	1
90) 1,3-Dichloropropane	(3)	10.475(-0.000)	76	410751	5.671	5.67			0.1	1
91) 2-Hexanone	(1)	10.512(0.003)	43	648827	20.115	20.12			1	10
93) Dibromochloromethane	(3)	10.695(-0.000)	129	276938	5.775	5.77			0.1	1
95) 1,2-Dibromoethane	(3)	10.811(0.000)	107	209028	5.462	5.46			0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)	11.347(-0.000)	131	362254	5.728	5.73			0.1	1
100) Ethylbenzene	(3)	11.353(-0.000)	91	1976597	5.855	5.86			0.1	1
101) m+p-Xylene	(3)	11.469(-0.000)	106	1566837	12.207	12.21			0.1	0.5
104) o-Xylene	(3)	11.798(-0.000)	106	725884	5.888	5.89			0.1	0.5
105) Xylene (Total)	(3)		106	2292721	18.096	18.10			0.2	3
106) Styrene	(3)	11.810(-0.000)	104	1159213	6.159	6.16			0.1	1
107) Bromoform	(3)	11.969(-0.000)	173	140636	5.872	5.87			0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)	12.323(0.000)	83	275541	5.505	5.50			0.2	1
115) trans-1,4-Dichloro-2-butene	(1)	12.353(0.002)	53	223535	18.395	18.40			1	10
116) 1,2,3-Trichloropropane	(4)	12.378(0.000)	110	69227	5.528	5.53			0.3	1
126) Pentachloroethane	(4)	12.835(-0.000)	167	268760	6.032	6.03		J	0.8	10
131) 1,3-Dichlorobenzene	(4)	13.066(-0.000)	146	827424M	5.518	5.52			0.1	1
134) 1,4-Dichlorobenzene	(4)	13.140(0.000)	146	828767M	5.303	5.30			0.1	1
139) 1,2-Dichlorobenzene	(4)	13.396(0.000)	146	721425	5.416	5.42			0.1	1
143) 1,2-Dibromo-3-chloropropane	(1)	13.932(0.006)	155	28502	4.204	4.20			0.2	1
145) 1,2,4-Trichlorobenzene	(4)	14.493(0.000)	180	368863	4.295	4.29			0.1	1
146) Hexachlorobutadiene	(4)	14.572(0.000)	225	214457	5.041	5.04			0.1	1
147) Naphthalene	(4)	14.670(0.000)	128	494417	3.912	3.91			0.1	1

M = Compound was manually integrated.

Total number of targets = 63

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59. Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

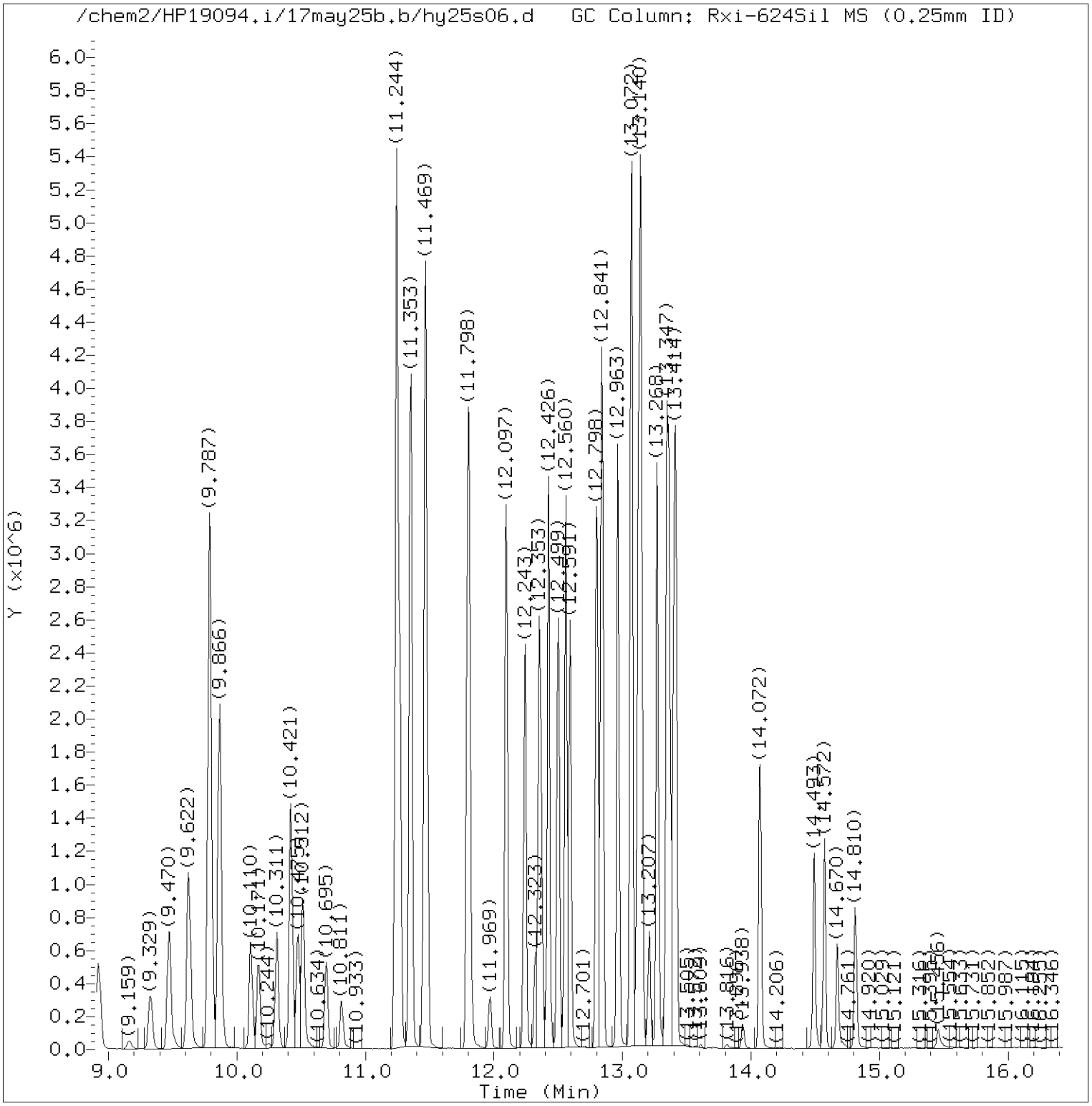
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MS Lab Sample ID: 8999789MS

Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MS Lab Sample ID: 8999789MS

Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MS Lab Sample ID: 8999789MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.008	85	590933	5.878
2) Chloromethane	(2)	2.154	50	638551	6.050
5) Vinyl Chloride	(2)	2.282	62	623091	6.725
7) Bromomethane	(2)	2.617	94	368085	6.325
8) Chloroethane	(2)	2.727	64	400719	7.551
10) Trichlorofluoromethane	(2)	3.038	101	703315	6.552
11) Ethyl ether	(2)	3.294	59	1307380	30.740
13) Acrolein	(1)	3.459	56	164660	23.546
15) 1,1-Dichloroethene	(2)	3.611	96	369863	6.415
14) Acetone	(1)	3.623	43	344442	40.674
16) Freon 113	(2)	3.641	101	402799	6.638
17) Methyl Iodide	(2)	3.812	142	638449	5.962
18) Carbon Disulfide	(2)	3.934	76	1110639	6.866
22) Allyl Chloride	(2)	4.086	41	697575	6.235
23) Methylene Chloride	(2)	4.269	84	386856	6.145
26)*t-Butyl Alcohol-d10	(1)	4.269	65	91906M	50.000
29) Acrylonitrile	(1)	4.574	53	295300	25.805
31) trans-1,2-Dichloroethene	(2)	4.714	96	404052	6.346
33) 1,1-Dichloroethane	(2)	5.348	63	1246012	9.918
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	666417	6.279
38) 2-Butanone	(1)	6.123	43	588099	34.049
42) Propionitrile	(1)	6.190	54	155460	37.881
45) Methacrylonitrile	(1)	6.409	67	565143	32.937
48) Tetrahydrofuran	(1)	6.531	71	102007	23.641
49) Chloroform	(2)	6.659	83	703183	5.933
50)$Dibromofluoromethane	(2)	6.872	113	609714	10.467
51) 1,1,1-Trichloroethane	(2)	6.903	97	602364	5.968
54) Carbon Tetrachloride	(2)	7.129	117	543315	6.412
56) Isobutyl Alcohol	(1)	7.196	41	151520	152.696
57)$1,2-Dichloroethane-d4	(2)	7.330	102	97816	10.385
58) Benzene	(2)	7.378	78	1708557	6.276
59) 1,2-Dichloroethane	(2)	7.427	62	388352	5.967
63)*Fluorobenzene	(2)	7.775	96	2598497	10.000
67) Trichloroethene	(2)	8.262	95	434138	6.024
70) 1,2-Dichloropropane	(2)	8.586	63	432068	6.087
71) Methyl Methacrylate	(1)	8.659	69	136595M	4.352
72) 1,4-Dioxane	(1)	8.677	88	31155M	173.665
73) Dibromomethane	(2)	8.689	93	168176	6.146

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

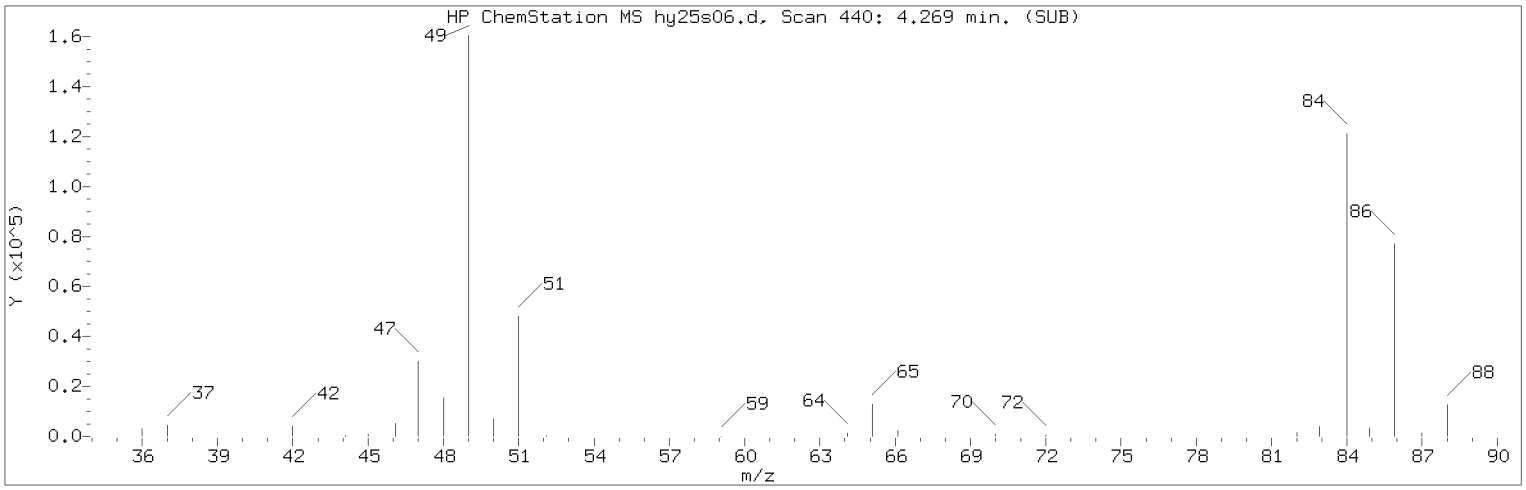
Sample Name: R8504MS Lab Sample ID: 8999789MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
74) Bromodichloromethane	(2)	8.921	83	455549	6.078
81) 4-Methyl-2-Pentanone	(1)	9.622	43	966260	21.112
82)$Toluene-d8	(3)	9.787	98	2569373	9.746
83) Toluene	(3)	9.866	92	1033071	5.930
84) trans-1,3-Dichloropropene	(3)	10.110	75	391424	5.768
86) Ethyl Methacrylate	(3)	10.171	69	289115	5.759
88) 1,1,2-Trichloroethane	(3)	10.311	97	237743	5.875
89) Tetrachloroethene	(3)	10.421	166	496871	6.150
90) 1,3-Dichloropropane	(3)	10.475	76	410751	5.671
91) 2-Hexanone	(1)	10.512	43	648827	20.115
93) Dibromochloromethane	(3)	10.695	129	276938	5.775
95) 1,2-Dibromoethane	(3)	10.811	107	209028	5.462
97)*Chlorobenzene-d5	(3)	11.237	117	1803531	10.000
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	362254	5.728
100) Ethylbenzene	(3)	11.353	91	1976597	5.855
101) m+p-Xylene	(3)	11.469	106	1566837	12.207
105) Xylene (Total)	(3)		106	2292721	18.096
104) o-Xylene	(3)	11.798	106	725884	5.888
106) Styrene	(3)	11.811	104	1159213	6.159
107) Bromoform	(3)	11.969	173	140636	5.872
111)$4-Bromofluorobenzene	(3)	12.243	95	753985	10.066
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	275541	5.505
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	223535	18.395
116) 1,2,3-Trichloropropane	(4)	12.377	110	69227	5.528
126) Pentachloroethane	(4)	12.835	167	268760	6.032
131) 1,3-Dichlorobenzene	(4)	13.066	146	827424M	5.518
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	775593	10.000
134) 1,4-Dichlorobenzene	(4)	13.140	146	828767M	5.303
139) 1,2-Dichlorobenzene	(4)	13.396	146	721425	5.416
143) 1,2-Dibromo-3-chloropropane	(1)	13.932	155	28502	4.204
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	368863	4.295
146) Hexachlorobutadiene	(4)	14.572	225	214457	5.041
147) Naphthalene	(4)	14.670	128	494417	3.912

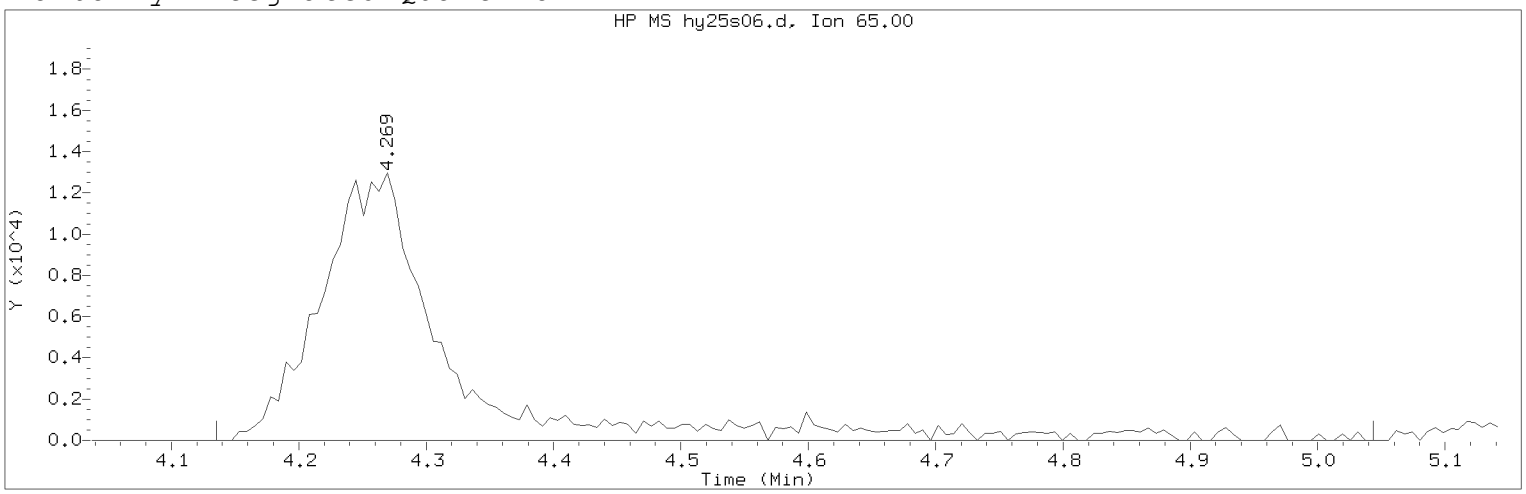
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MS Lab Sample ID: 8999789MS

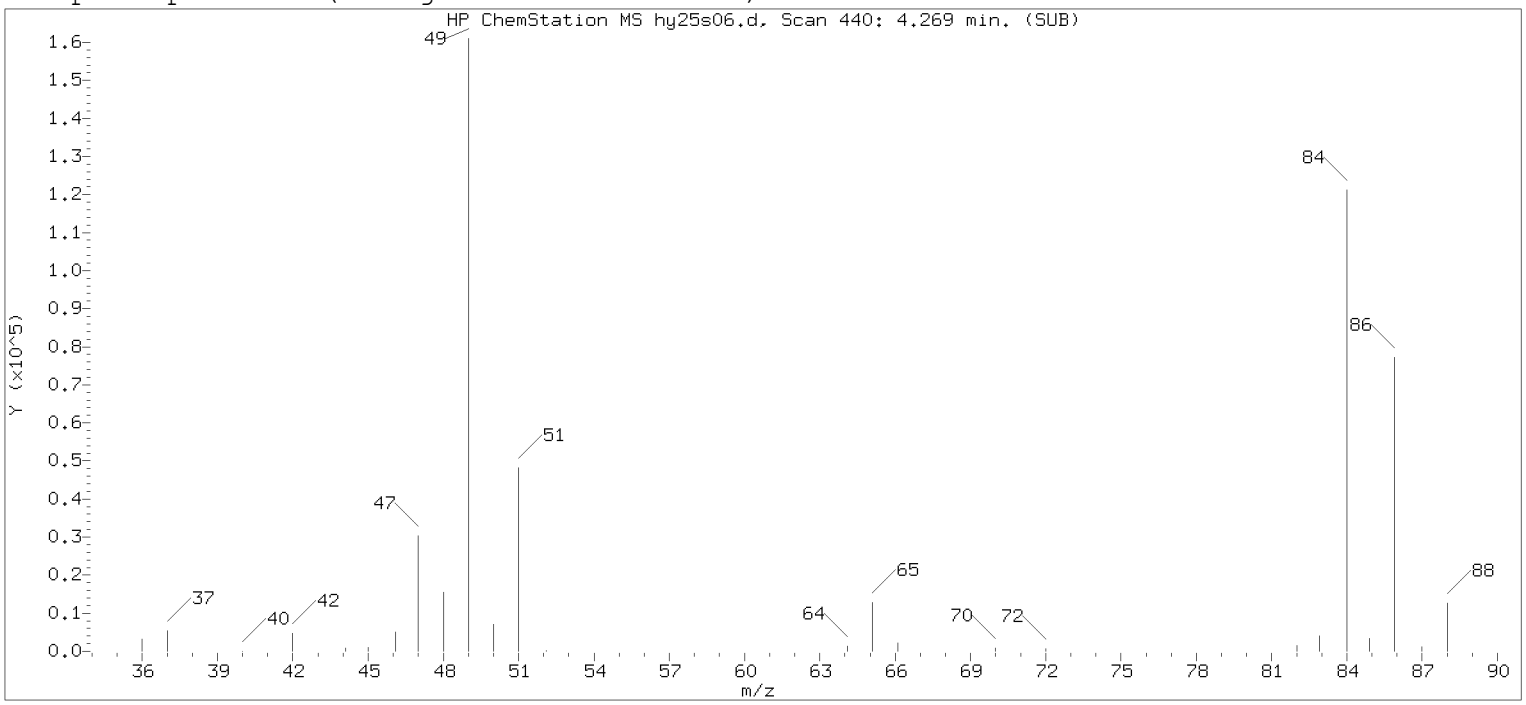
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 440
Retention Time (minutes): 4.269
Quant Ion : 65.00
Area (flag) : 91906M
On-Column Amount (ng) : 50.0000
Integration start scan : 417 Integration stop scan: 566
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

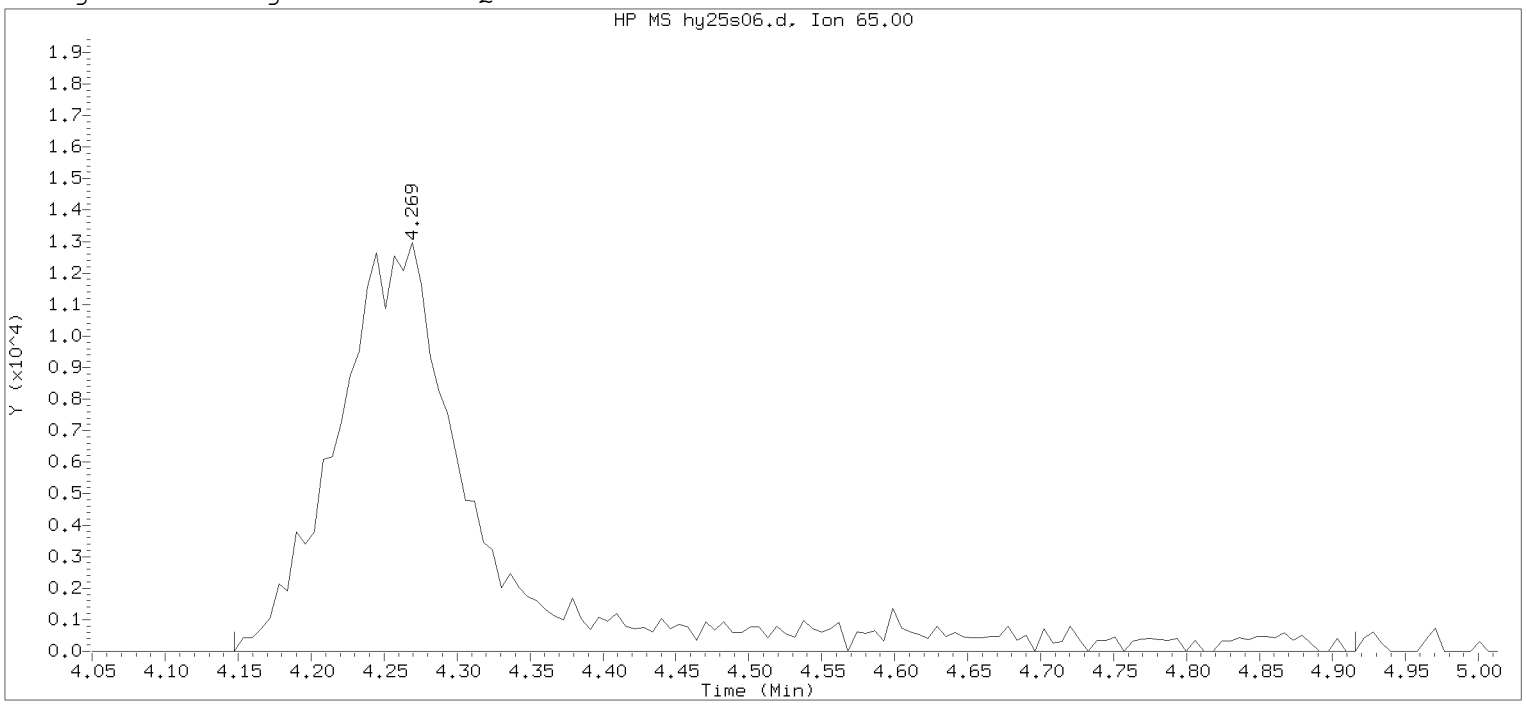
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

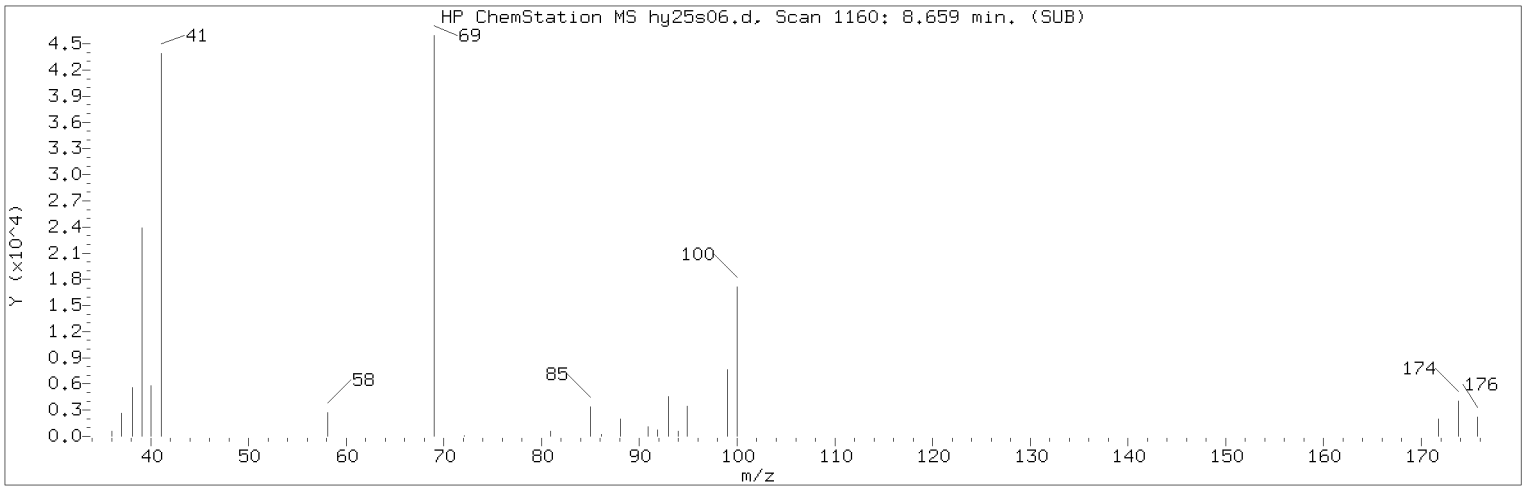
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:00 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

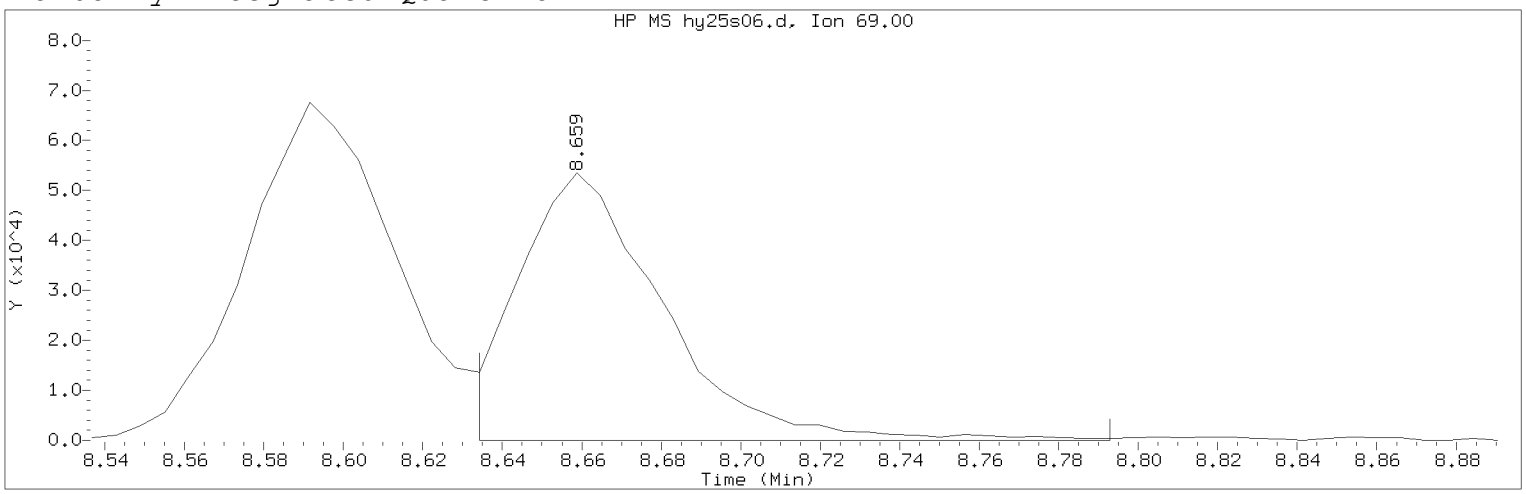
Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 440		
Retention Time (minutes)	: 4.269		
Quant Ion	: 65.00		
Area	: 90638		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 419	Integration stop scan:	545
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature used at 11:32

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MS Lab Sample ID: 8999789MS

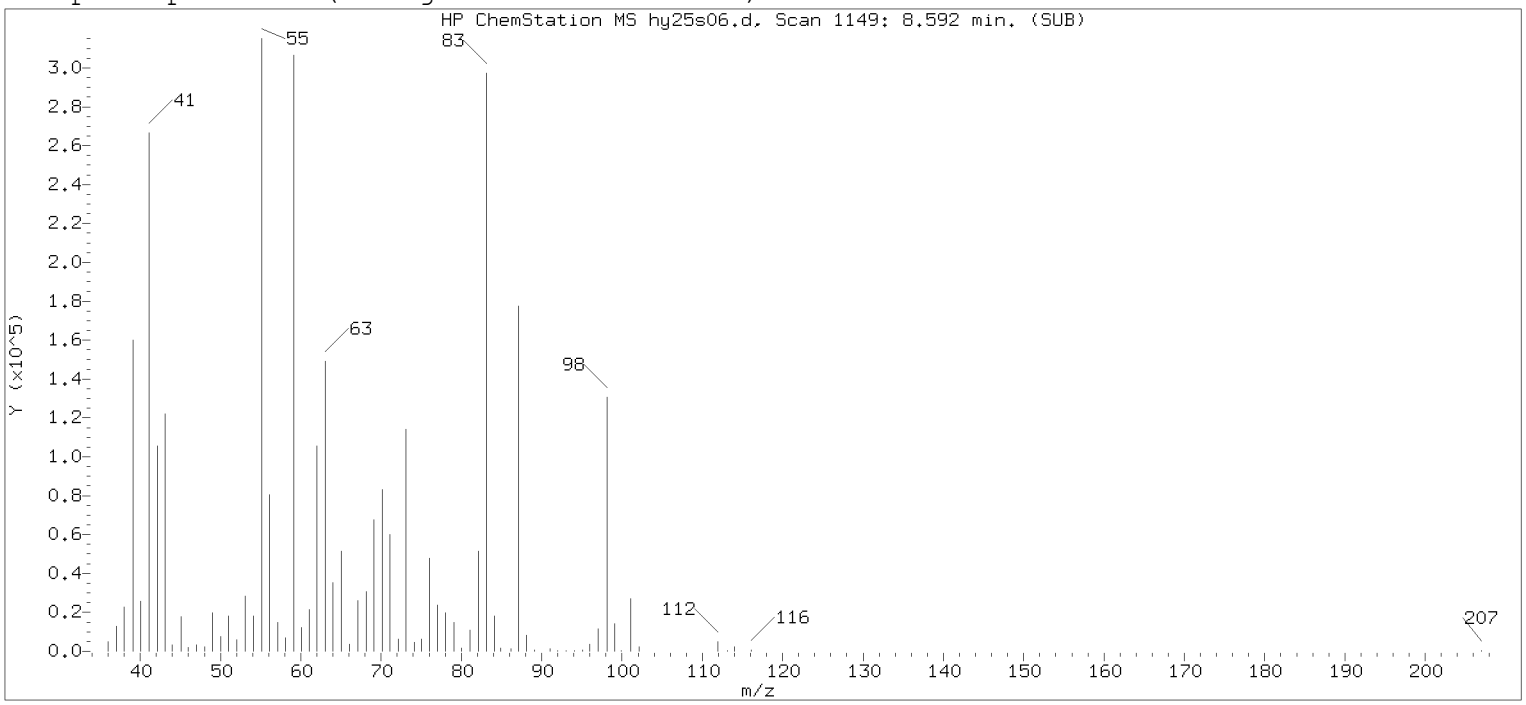
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 136595M
On-Column Amount (ng) : 4.3517
Integration start scan : 1155 Integration stop scan: 1181
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

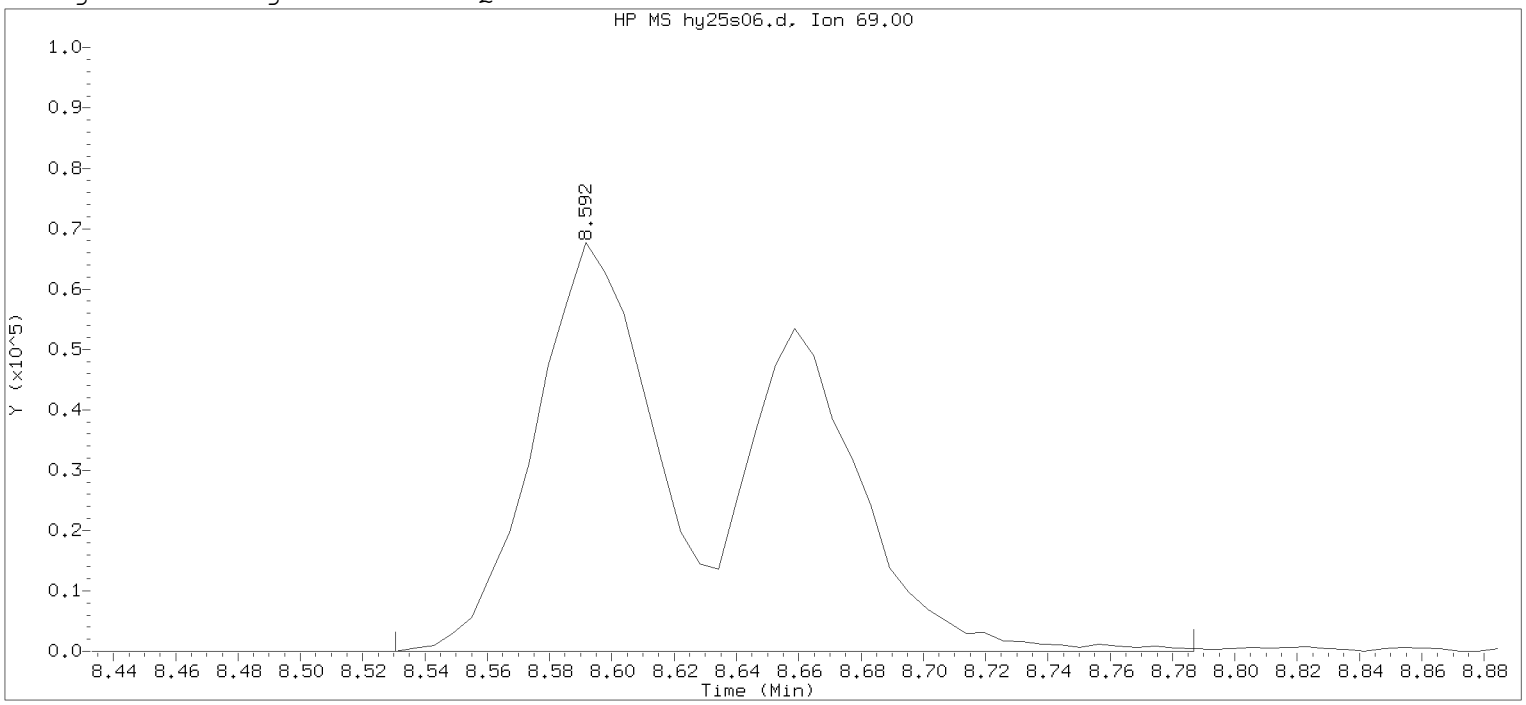
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

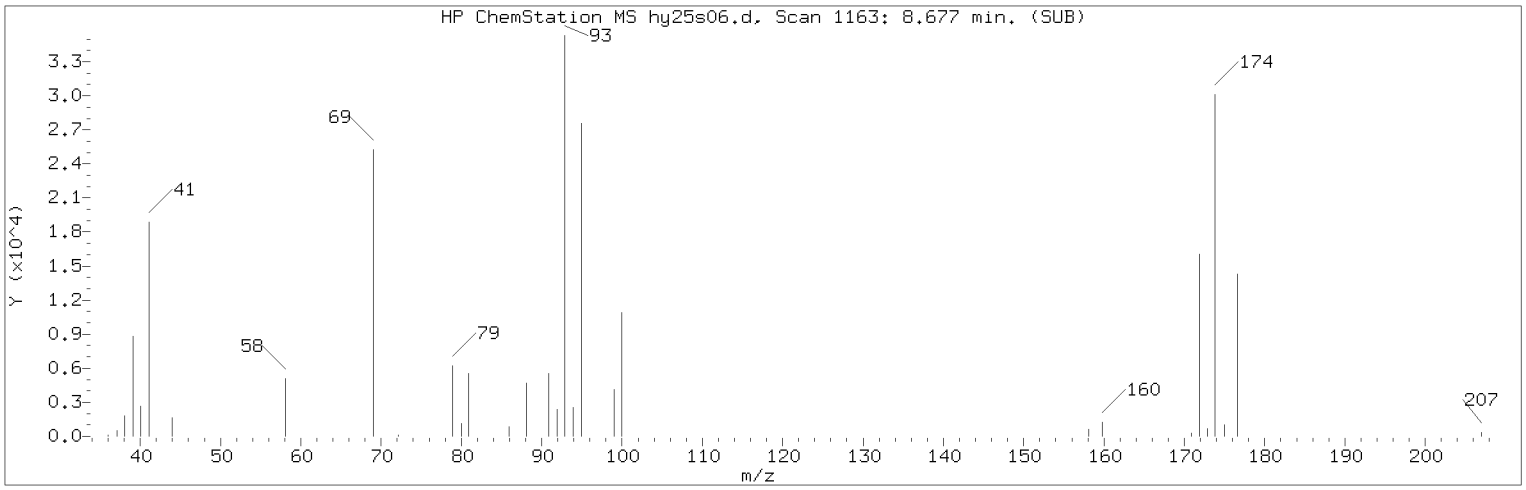
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:00 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

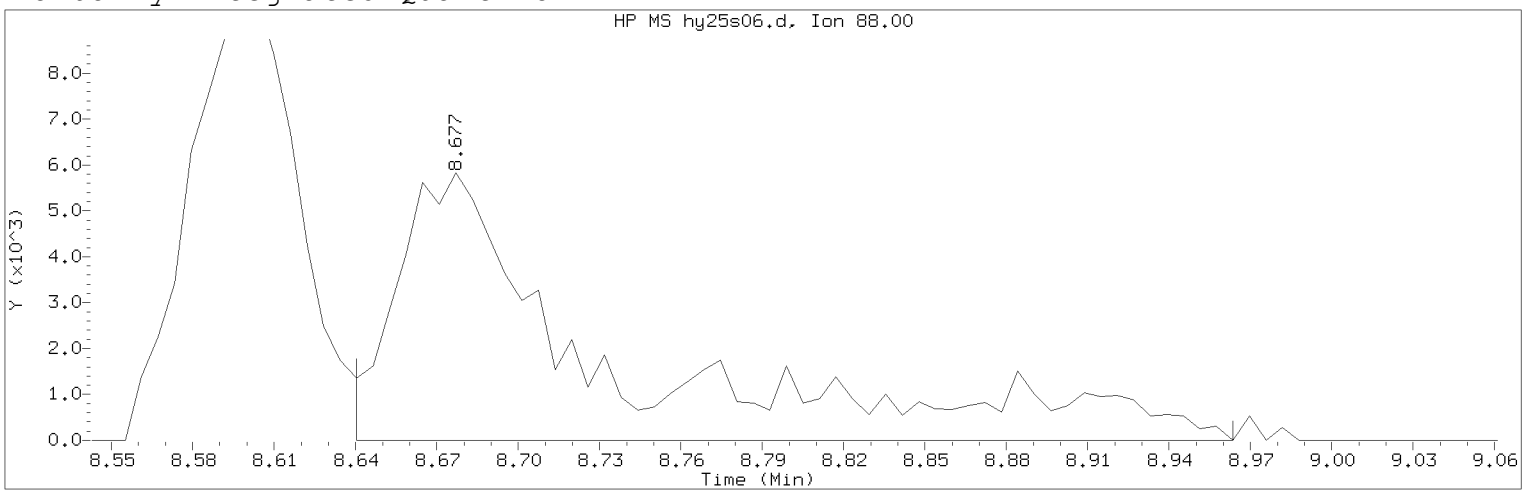
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1149
Retention Time (minutes): 8.592
Quant Ion : 69.00
Area : 310026
On-column Amount (ng) : 10.0152
Integration start scan : 1138 Integration stop scan: 1180
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature used at 11:14.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MS Lab Sample ID: 8999789MS

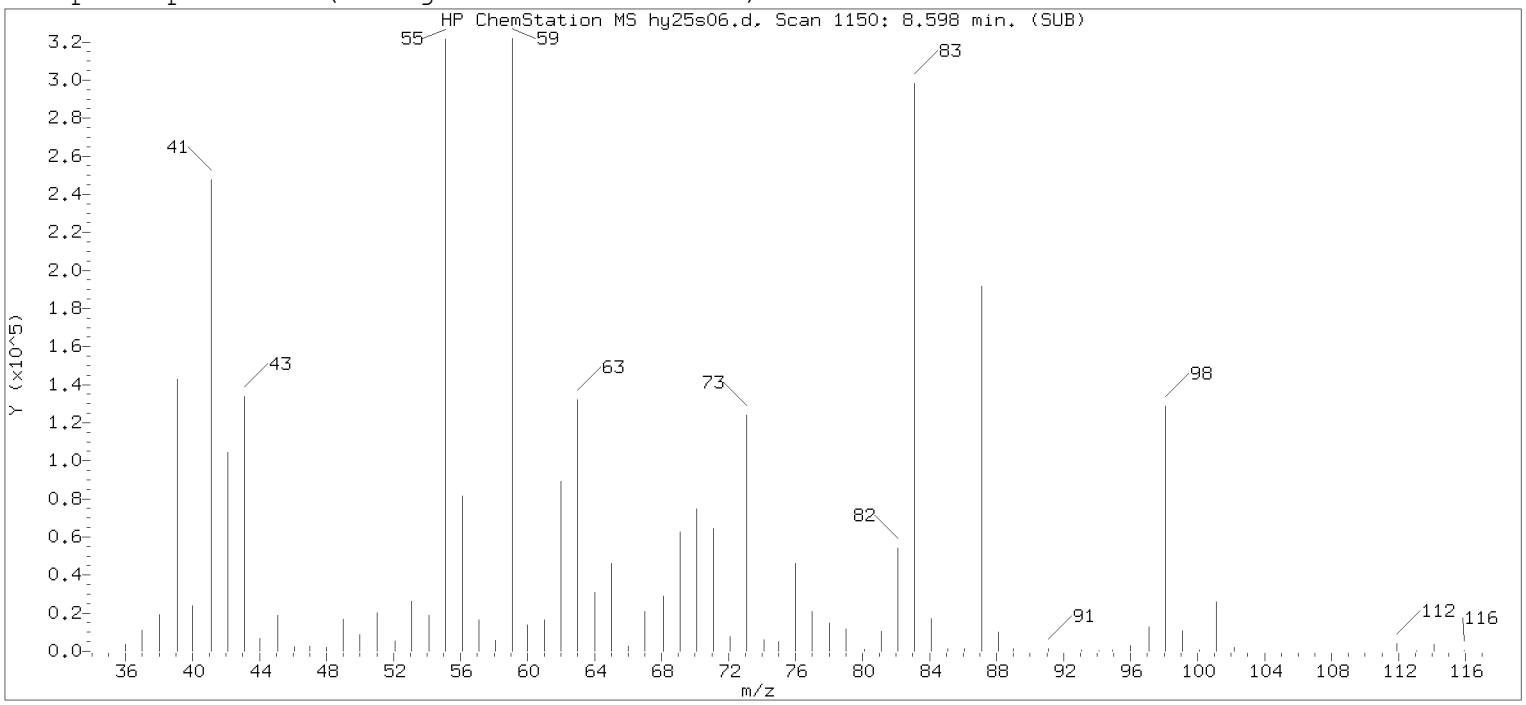
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1163
Retention Time (minutes): 8.677
Quant Ion : 88.00
Area (flag) : 31155M
On-Column Amount (ng) : 173.6655
Integration start scan : 1156 Integration stop scan: 1209
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

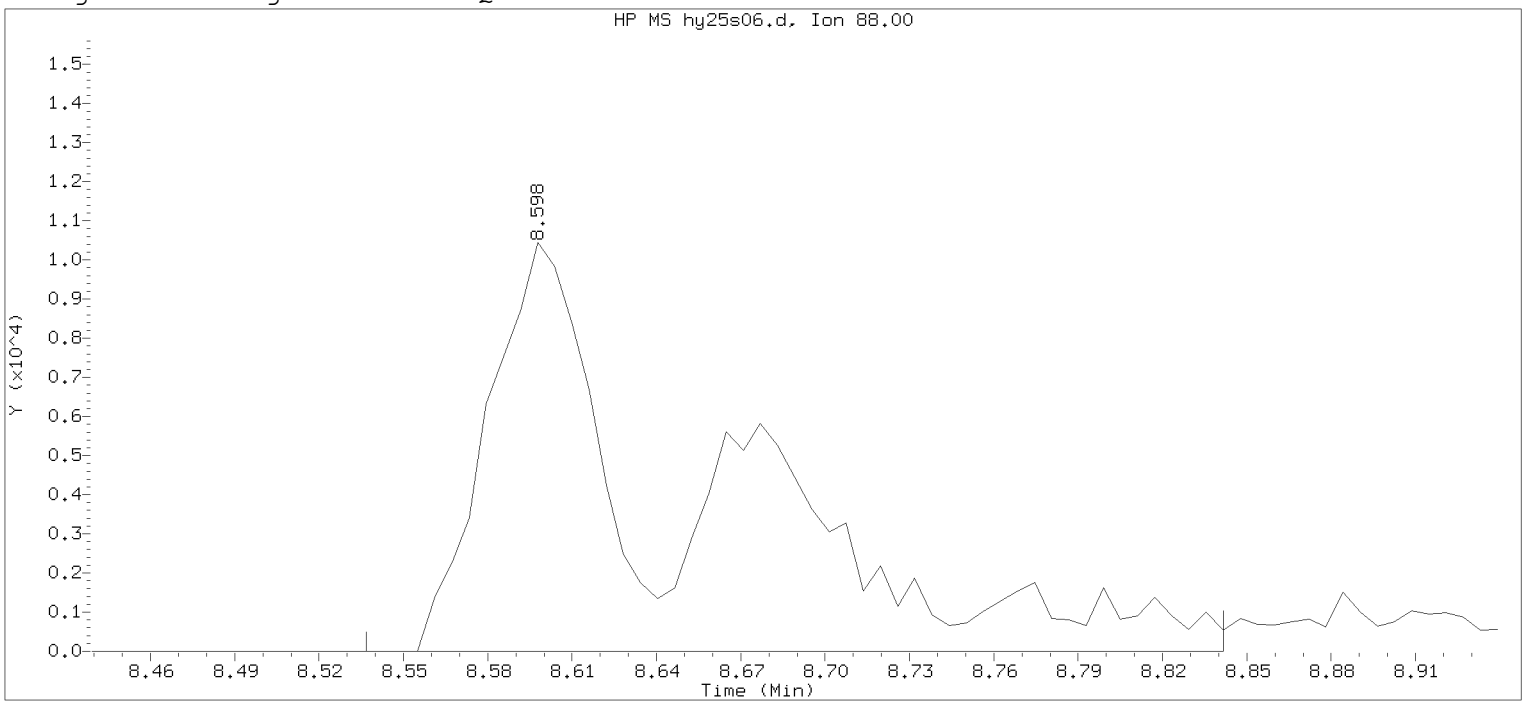
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

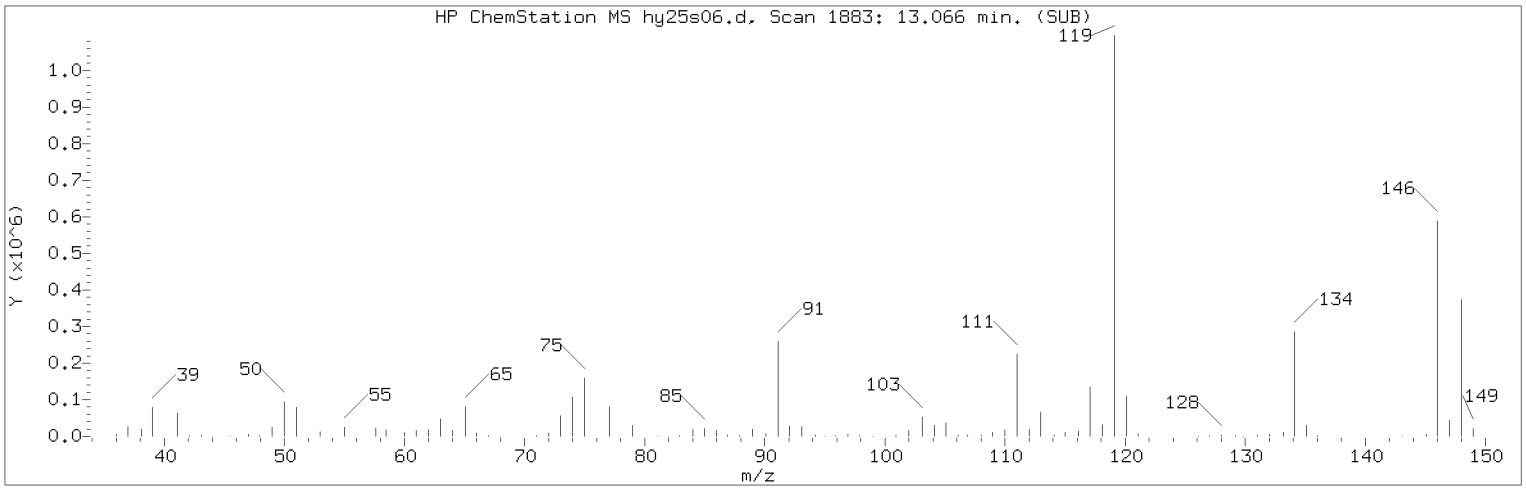
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:00 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

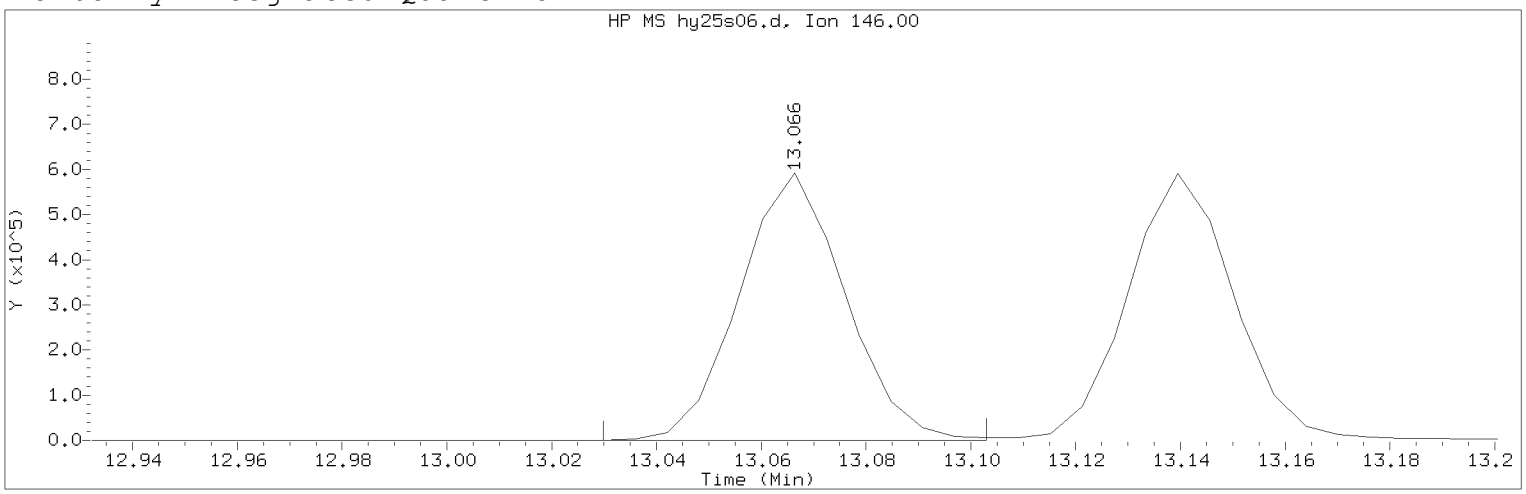
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 52691
On-column Amount (ng) : 300.1876
Integration start scan : 1139 Integration stop scan: 1189
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature used at 11:36.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MS Lab Sample ID: 8999789MS

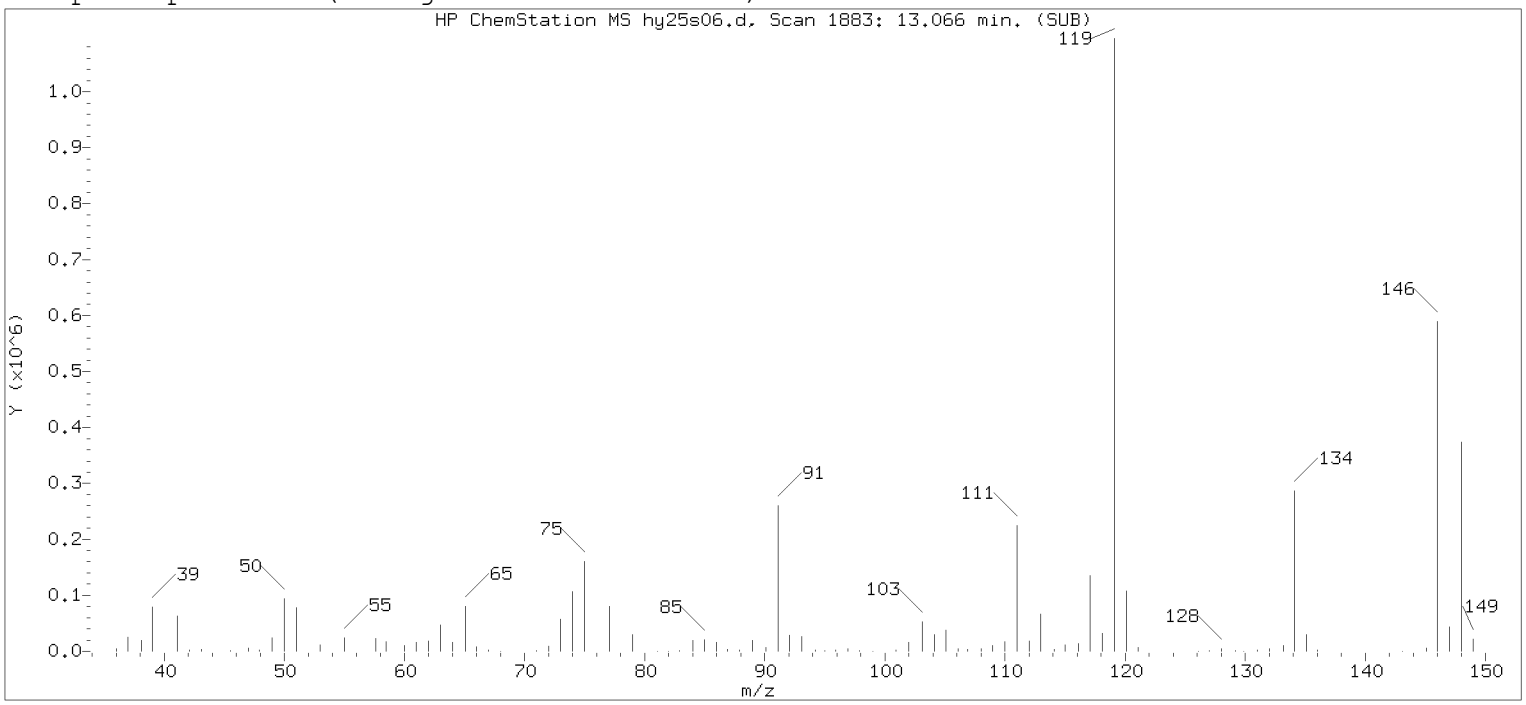
Compound Number : 131
Compound Name : 1,3-Dichlorobenzene
Scan Number : 1883
Retention Time (minutes): 13.066
Quant Ion : 146.00
Area (flag) : 827424M
On-Column Amount (ng) : 5.5176
Integration start scan : 1876 Integration stop scan: 1888
Y at integration start : 153 Y at integration end: 153

Reason for manual integration: improper integration

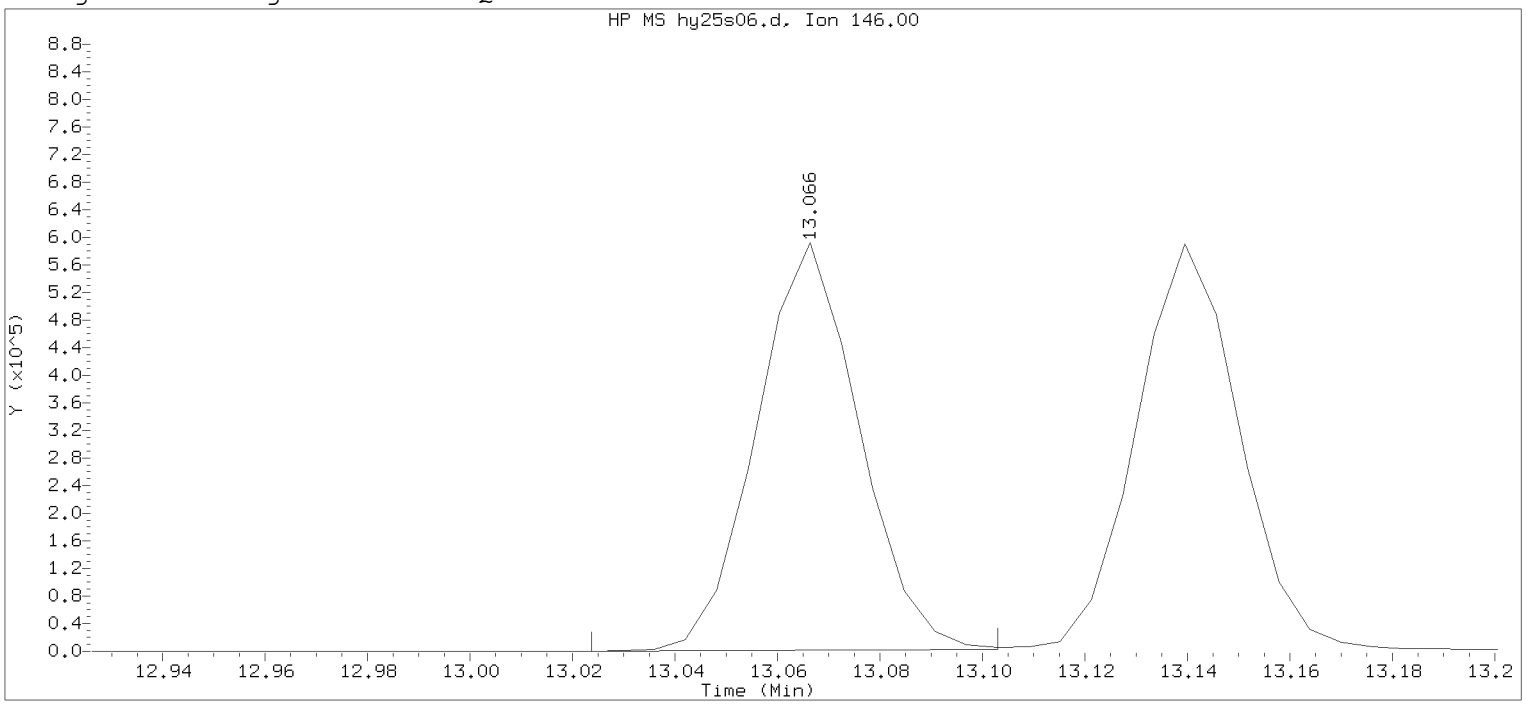
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

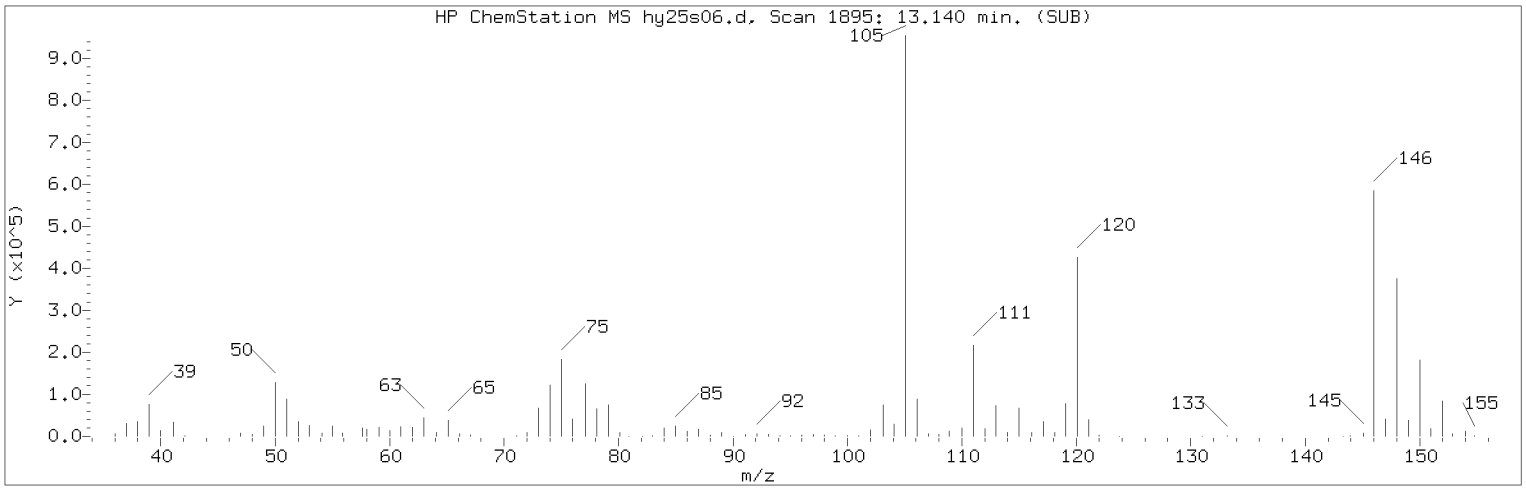
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:00 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

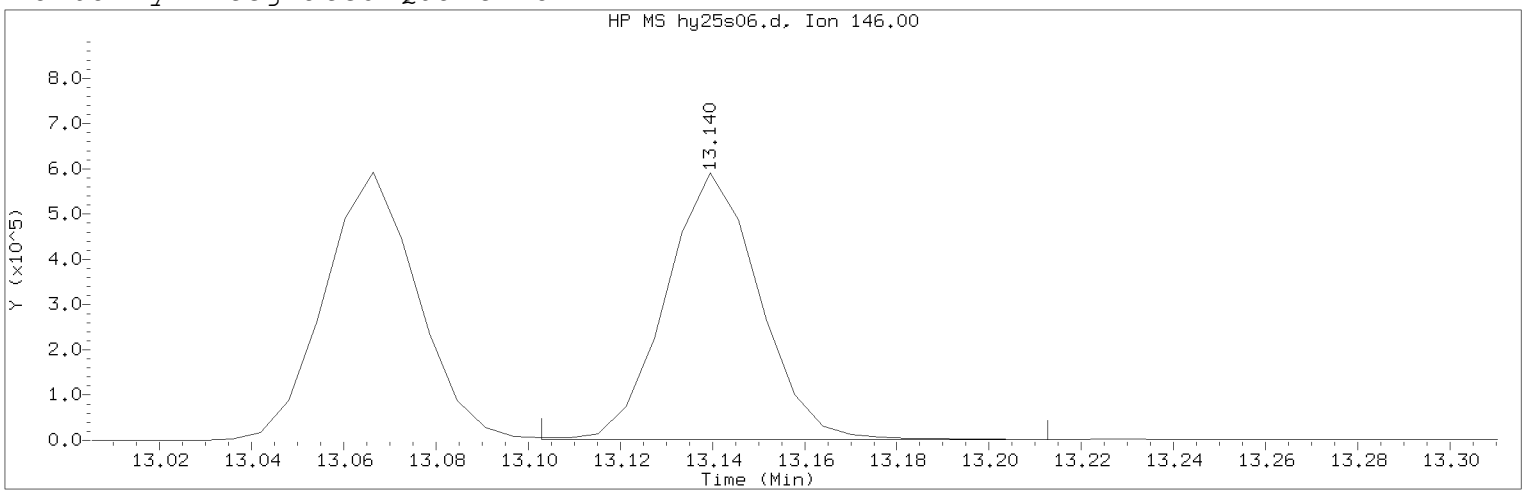
Compound Number : 131
Compound Name : 1,3-Dichlorobenzene
Scan Number : 1883
Retention Time (minutes): 13.066
Quant Ion : 146.00
Area : 820319
On-column Amount (ng) : 5.4703
Integration start scan : 1875 Integration stop scan: 1888
Y at integration start : 0 Y at integration end: 2872

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature used at 10:13:38.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MS Lab Sample ID: 8999789MS

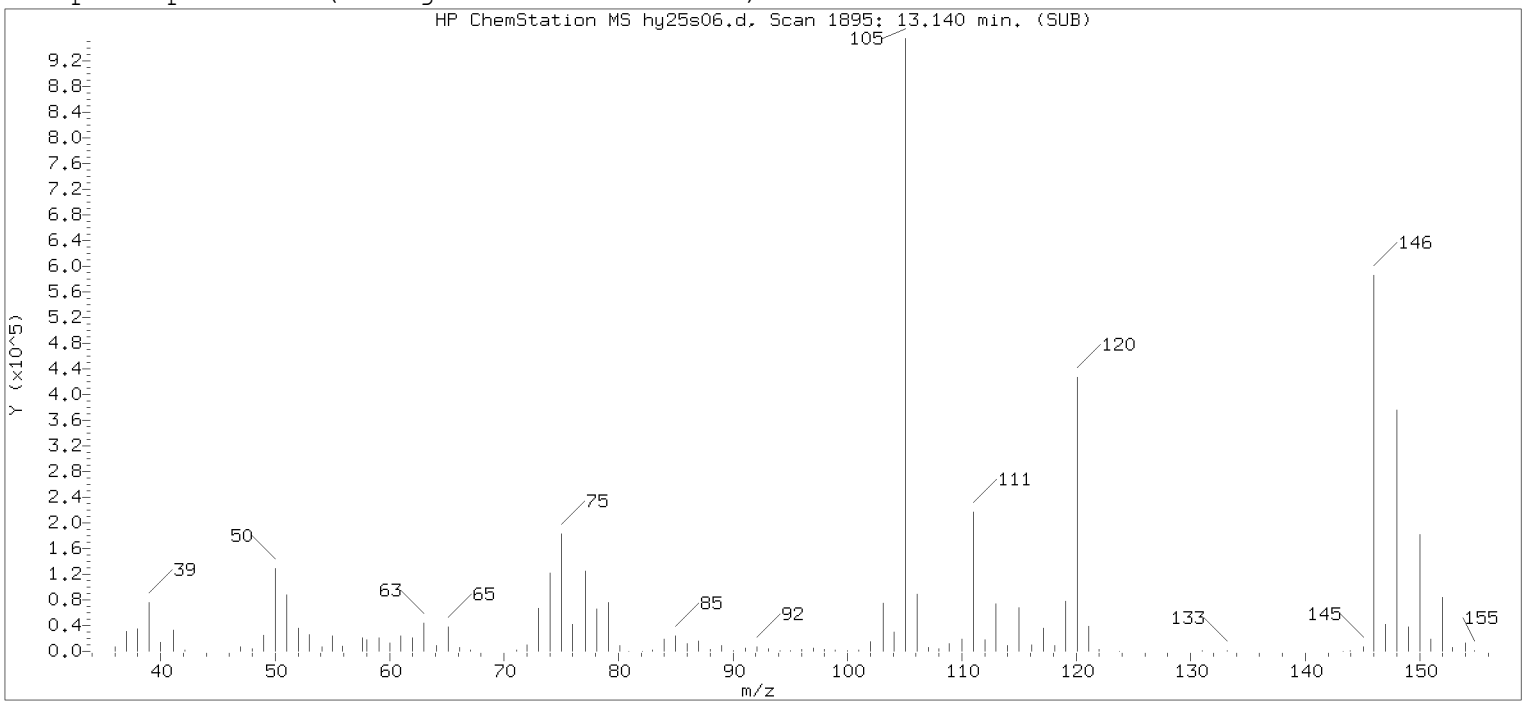
Compound Number : 134
Compound Name : 1,4-Dichlorobenzene
Scan Number : 1895
Retention Time (minutes): 13.140
Quant Ion : 146.00
Area (flag) : 828767M
On-Column Amount (ng) : 5.3031
Integration start scan : 1888 Integration stop scan: 1906
Y at integration start : 1804 Y at integration end: 1804

Reason for manual integration: improper integration

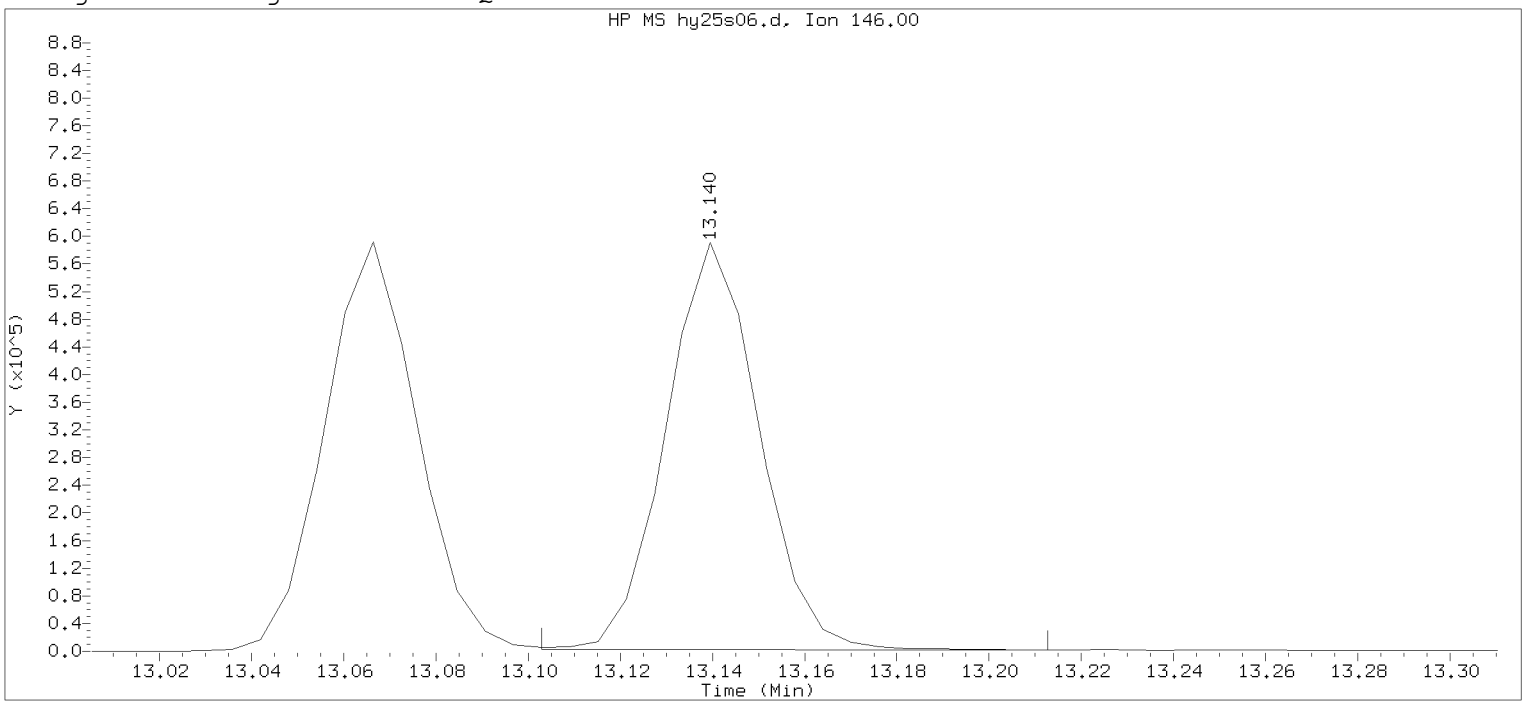
Analyst responsible for change: Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 08:59.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s06.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 21:42 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:00 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

Compound Number : 134
Compound Name : 1,4-Dichlorobenzene
Scan Number : 1895
Retention Time (minutes): 13.140
Quant Ion : 146.00
Area : 824090
On-column Amount (ng) : 5.2732
Integration start scan : 1888 Integration stop scan: 1906
Y at integration start : 2872 Y at integration end: 1944

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 08:59.
Target 3.5 esignature used at 13:10:10

R8504MSD

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

8999790MSD

Data file: /chem2/HP19094.i/17may25b.b/hy25s07.d Injection date and time: **25-MAY-2017 22:03**
Data file Sample Info. Line: R8504MSD;8999790MSD;1;3;MSD;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H17145**
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.239	(0.025)	435	65	95842	(9)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2603081	(0)	10.00	
97) Chlorobenzene-d5	11.237	(0.006)	1583	117	1791932	(-4)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	774229	(-8)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	602348	10.323	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.329	(0.000)	102	92460	9.799	98%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	2606073	9.949	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(-0.001)	95	758849	10.196	102%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.007	(0.001)	85	583131	5.790	5.79			0.1	1
2) Chloromethane	(2)	2.148	(0.000)	50	637681	6.031	6.03			0.2	1
5) Vinyl Chloride	(2)	2.288	(-0.000)	62	599706	6.462	6.46			0.2	1
7) Bromomethane	(2)	2.617	(0.000)	94	389174	6.676	6.68			0.5	1
8) Chloroethane	(2)	2.727	(0.000)	64	436684	8.214	8.21			0.1	1
10) Trichlorofluoromethane	(2)	3.032	(0.001)	101	690184	6.418	6.42			0.2	1
11) Ethyl ether	(2)	3.294	(0.001)	59	1282673	30.106	30.11		E	1	13
13) Acrolein	(1)	3.464	(-0.006)	56	168115	23.053	23.05		J	5	25
15) 1,1-Dichloroethene	(2)	3.605	(0.001)	96	368661	6.383	6.38			0.2	1
16) Freon 113	(2)	3.641	(0.001)	101	407003	6.695	6.70			0.2	1
14) Acetone	(1)	3.617	(-0.002)	43	342913M	38.831	38.83			3	10
17) Methyl Iodide	(2)	3.812	(0.000)	142	641941	5.984	5.98		J	0.6	10
18) Carbon Disulfide	(2)	3.934	(0.000)	76	1102816	6.806	6.81		J	0.4	10
22) Allyl Chloride	(2)	4.086	(0.000)	41	704291	6.284	6.28		J	0.8	10
23) Methylene Chloride	(2)	4.263	(0.001)	84	387803	6.149	6.15			0.2	1
29) Acrylonitrile	(1)	4.574	(-0.003)	53	300614	25.190	25.19			1	10
31) trans-1,2-Dichloroethene	(2)	4.708	(0.000)	96	397103	6.226	6.23			0.2	1
33) 1,1-Dichloroethane	(2)	5.348	(0.001)	63	1232677	9.795	9.80			0.1	1
35) 2-Chloro-1,3-Butadiene	(2)	5.470	(-0.000)	53	658972	6.198	6.20		J	0.5	10
38) 2-Butanone	(1)	6.122	(-0.009)	43	612280	33.993	33.99			1	10
42) Propionitrile	(1)	6.189	(-0.009)	54	173582	40.560	40.56		J	10	100
45) Methacrylonitrile	(1)	6.421	(-0.010)	67	578965	32.357	32.36		J	10	100
48) Tetrahydrofuran	(1)	6.525	(-0.005)	71	108934	24.209	24.21		J	2	25
49) Chloroform	(2)	6.653	(0.000)	83	702505	5.917	5.92			0.1	1
51) 1,1,1-Trichloroethane	(2)	6.903	(-0.000)	97	601779	5.951	5.95			0.1	1
54) Carbon Tetrachloride	(2)	7.122	(0.000)	117	536024	6.315	6.31			0.2	1
56) Isobutyl Alcohol	(1)	7.195	(-0.009)	41	153972	148.794	148.79		J	10	200
58) Benzene	(2)	7.372	(0.000)	78	1689655	6.196	6.20			0.1	1
59) 1,2-Dichloroethane	(2)	7.433	(0.000)	62	393067	6.029	6.03			0.1	1
67) Trichloroethene	(2)	8.262	(-0.000)	95	429999	5.956	5.96			0.2	1
70) 1,2-Dichloropropane	(2)	8.585	(-0.000)	63	429254	6.036	6.04			0.1	1

E = Compound concentration above calibration range. M = Compound was manually integrated.

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00. Target 3.5 esignature user ID: ads01731

Data file: /chem2/HP19094.i/17may25b.b/hy25s07.d Injection date and time: **25-MAY-2017 22:03**
Data file Sample Info. Line: R8504MSD;8999790MSD;1;3;MSD;RAE85;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H17145**
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: **038B** Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

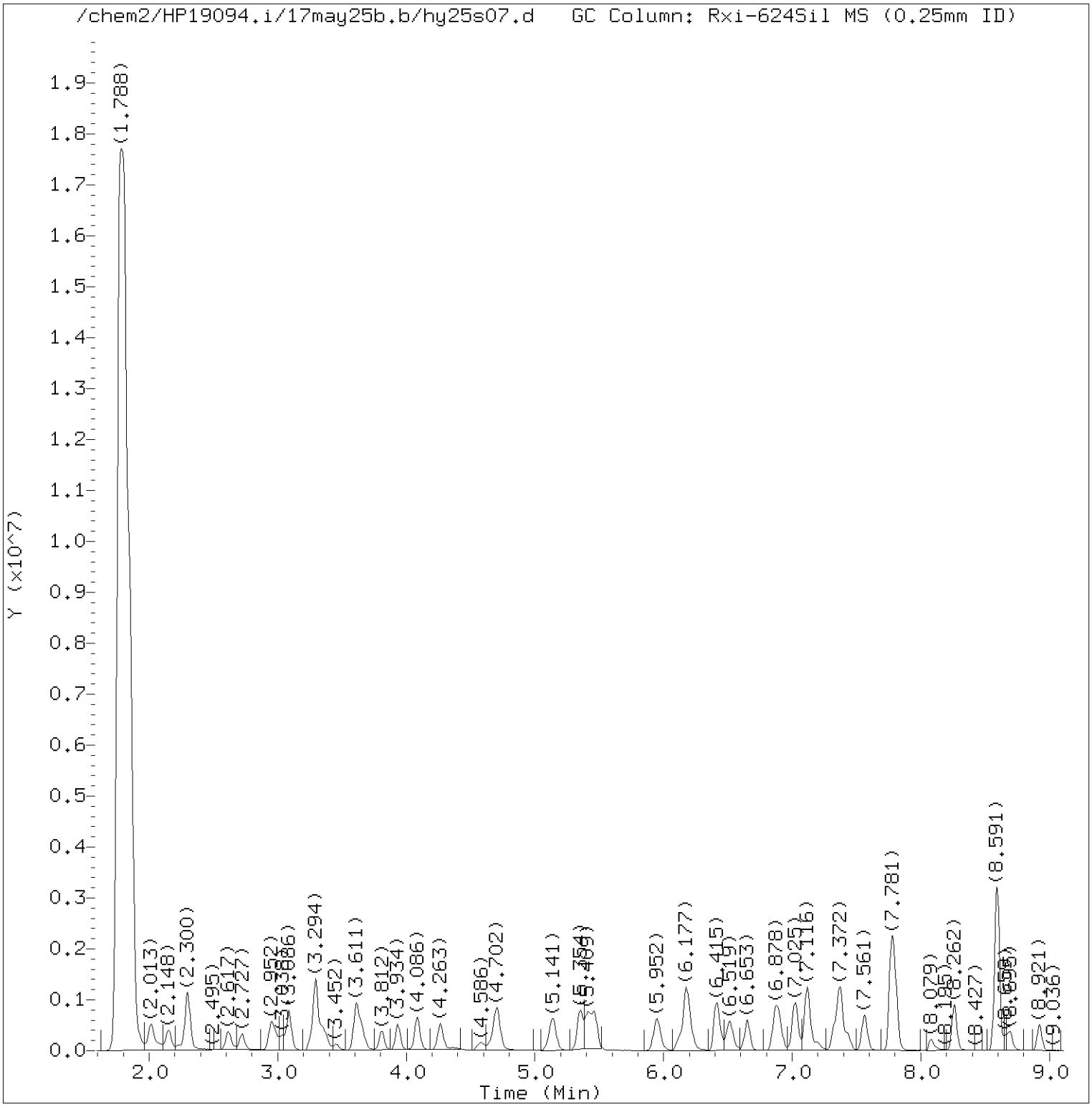
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
71) Methyl Methacrylate	(1)	8.658(-0.011)	69	147378A	4.502	4.50		J	4	10
73) Dibromomethane	(2)	8.695(-0.000)	93	165736	6.046	6.05			0.1	1
72) 1,4-Dioxane	(1)	8.677(-0.008)	88	32830M	175.521	175.52		J	45	200
74) Bromodichloromethane	(2)	8.927(-0.000)	83	453841	6.045	6.04			0.1	1
81) 4-Methyl-2-Pentanone	(1)	9.622(-0.013)	43	995803MA	20.864	20.86			1	10
83) Toluene	(3)	9.866(-0.000)	92	1026076	5.928	5.93			0.1	1
84) trans-1,3-Dichloropropene	(3)	10.103(-0.000)	75	405699	6.017	6.02			0.1	1
86) Ethyl Methacrylate	(3)	10.170(-0.000)	69	291615	5.847	5.85		J	0.8	10
88) 1,1,2-Trichloroethane	(3)	10.311(-0.000)	97	237425	5.905	5.90			0.1	1
89) Tetrachloroethene	(3)	10.420(-0.000)	166	478998	5.967	5.97			0.1	1
90) 1,3-Dichloropropane	(3)	10.475(-0.000)	76	418399	5.814	5.81			0.1	1
91) 2-Hexanone	(1)	10.512(-0.014)	43	674859A	20.063	20.06			1	10
93) Dibromochloromethane	(3)	10.695(-0.000)	129	276404	5.801	5.80			0.1	1
95) 1,2-Dibromoethane	(3)	10.810(0.000)	107	214657	5.645	5.65			0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)	11.347(-0.000)	131	362263	5.765	5.76			0.1	1
100) Ethylbenzene	(3)	11.353(-0.000)	91	1976283	5.892	5.89			0.1	1
101) m+p-Xylene	(3)	11.469(-0.000)	106	1553232	12.180	12.18			0.1	0.5
104) o-Xylene	(3)	11.798(-0.000)	106	714359	5.832	5.83			0.1	0.5
105) Xylene (Total)	(3)		106	2267591	18.012	18.01			0.2	3
106) Styrene	(3)	11.810(-0.000)	104	1143042	6.112	6.11			0.1	1
107) Bromoform	(3)	11.969(-0.000)	173	140198	5.892	5.89			0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)	12.322(0.000)	83	275171	5.507	5.51			0.2	1
115) trans-1,4-Dichloro-2-butene	(1)	12.353(-0.018)	53	223819	17.662	17.66			1	10
116) 1,2,3-Trichloropropane	(4)	12.377(0.000)	110	67509	5.400	5.40			0.3	1
126) Pentachloroethane	(4)	12.834(0.000)	167	269413	6.057	6.06		J	0.8	10
131) 1,3-Dichlorobenzene	(4)	13.066(0.000)	146	816739M	5.456	5.46			0.1	1
134) 1,4-Dichlorobenzene	(4)	13.139(-0.000)	146	824874M	5.288	5.29			0.1	1
139) 1,2-Dichlorobenzene	(4)	13.395(-0.000)	146	711375	5.350	5.35			0.1	1
143) 1,2-Dibromo-3-chloropropane	(1)	13.938(-0.018)	155	31069	4.395	4.39			0.2	1
145) 1,2,4-Trichlorobenzene	(4)	14.493(-0.000)	180	372426	4.344	4.34			0.1	1
146) Hexachlorobutadiene	(4)	14.572(-0.000)	225	207560	4.888	4.89			0.1	1
147) Naphthalene	(4)	14.670(-0.000)	128	536272	4.251	4.25			0.1	1

A = User selected an alternate peak. M = Compound was manually integrated.

Total number of targets = 63

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00. Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

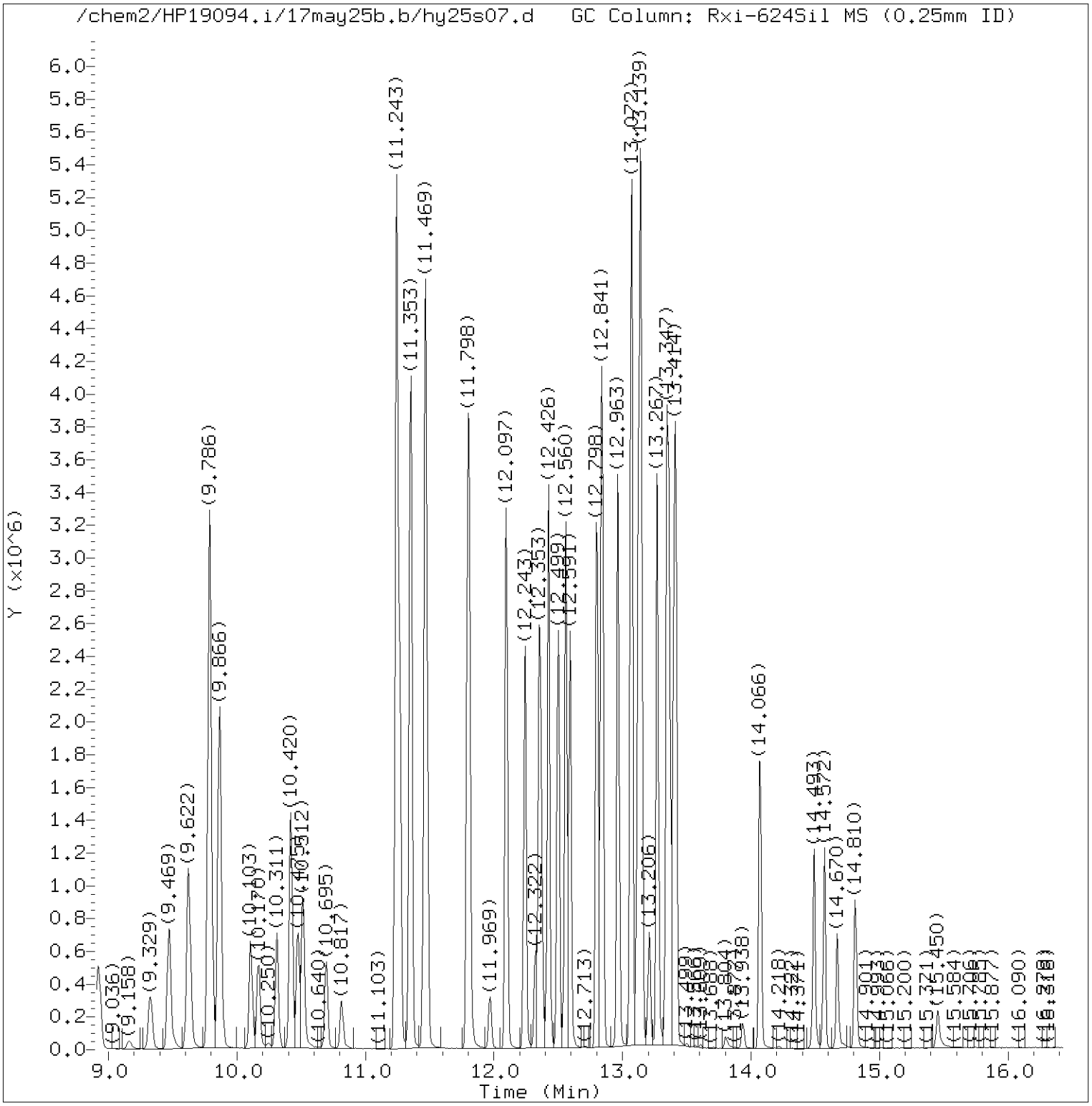
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	583131	5.790
2) Chloromethane	(2)	2.148	50	637681	6.031
5) Vinyl Chloride	(2)	2.288	62	599706	6.462
7) Bromomethane	(2)	2.617	94	389174	6.676
8) Chloroethane	(2)	2.727	64	436684	8.214
10) Trichlorofluoromethane	(2)	3.032	101	690184	6.418
11) Ethyl ether	(2)	3.294	59	1282673	30.106
13) Acrolein	(1)	3.464	56	168115	23.053
15) 1,1-Dichloroethene	(2)	3.605	96	368661	6.383
14) Acetone	(1)	3.617	43	342913M	38.831
16) Freon 113	(2)	3.641	101	407003	6.695
17) Methyl Iodide	(2)	3.812	142	641941	5.984
18) Carbon Disulfide	(2)	3.934	76	1102816	6.806
22) Allyl Chloride	(2)	4.086	41	704291	6.284
26)*t-Butyl Alcohol-d10	(1)	4.239	65	95842	50.000
23) Methylene Chloride	(2)	4.263	84	387803	6.149
29) Acrylonitrile	(1)	4.574	53	300614	25.190
31) trans-1,2-Dichloroethene	(2)	4.708	96	397103	6.226
33) 1,1-Dichloroethane	(2)	5.348	63	1232677	9.795
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	658972	6.198
38) 2-Butanone	(1)	6.122	43	612280	33.993
42) Propionitrile	(1)	6.189	54	173582	40.560
45) Methacrylonitrile	(1)	6.421	67	578965	32.357
48) Tetrahydrofuran	(1)	6.525	71	108934	24.209
49) Chloroform	(2)	6.653	83	702505	5.917
50)$Dibromofluoromethane	(2)	6.866	113	602348	10.323
51) 1,1,1-Trichloroethane	(2)	6.903	97	601779	5.951
54) Carbon Tetrachloride	(2)	7.122	117	536024	6.315
56) Isobutyl Alcohol	(1)	7.195	41	153972	148.794
57)$1,2-Dichloroethane-d4	(2)	7.329	102	92460	9.799
58) Benzene	(2)	7.372	78	1689655	6.196
59) 1,2-Dichloroethane	(2)	7.433	62	393067	6.029
63)*Fluorobenzene	(2)	7.775	96	2603081	10.000
67) Trichloroethene	(2)	8.262	95	429999	5.956
70) 1,2-Dichloropropane	(2)	8.585	63	429254	6.036
71) Methyl Methacrylate	(1)	8.659	69	147378A	4.502
72) 1,4-Dioxane	(1)	8.677	88	32830M	175.521
73) Dibromomethane	(2)	8.695	93	165736	6.046

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

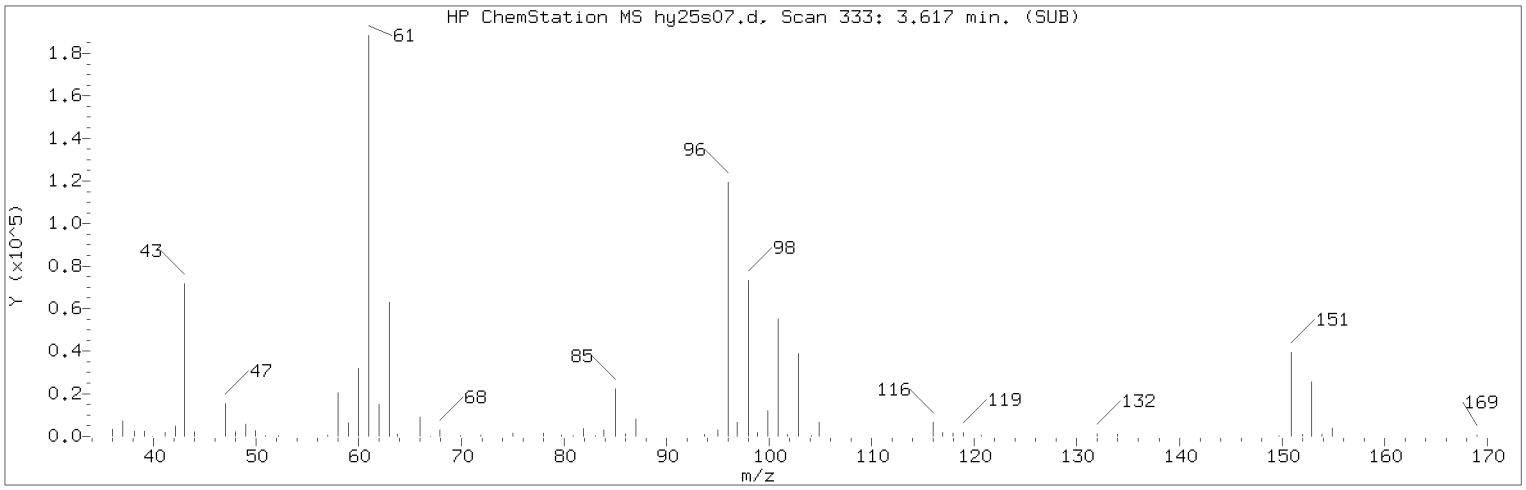
Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
74) Bromodichloromethane	(2)	8.927	83	453841	6.045
81) 4-Methyl-2-Pentanone	(1)	9.622	43	995803MA	20.864
82)$Toluene-d8	(3)	9.786	98	2606073	9.949
83) Toluene	(3)	9.866	92	1026076	5.928
84) trans-1,3-Dichloropropene	(3)	10.103	75	405699	6.017
86) Ethyl Methacrylate	(3)	10.170	69	291615	5.847
88) 1,1,2-Trichloroethane	(3)	10.311	97	237425	5.905
89) Tetrachloroethene	(3)	10.420	166	478998	5.967
90) 1,3-Dichloropropane	(3)	10.475	76	418399	5.814
91) 2-Hexanone	(1)	10.512	43	674859A	20.063
93) Dibromochloromethane	(3)	10.695	129	276404	5.801
95) 1,2-Dibromoethane	(3)	10.811	107	214657	5.645
97)*Chlorobenzene-d5	(3)	11.237	117	1791932	10.000
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	362263	5.765
100) Ethylbenzene	(3)	11.353	91	1976283	5.892
101) m+p-Xylene	(3)	11.469	106	1553232	12.180
105) Xylene (Total)	(3)		106	2267591	18.012
104) o-Xylene	(3)	11.798	106	714359	5.832
106) Styrene	(3)	11.810	104	1143042	6.112
107) Bromoform	(3)	11.969	173	140198	5.892
111)$4-Bromofluorobenzene	(3)	12.243	95	758849	10.196
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	275171	5.507
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	223819	17.662
116) 1,2,3-Trichloropropane	(4)	12.377	110	67509	5.400
126) Pentachloroethane	(4)	12.835	167	269413	6.057
131) 1,3-Dichlorobenzene	(4)	13.066	146	816739M	5.456
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	774229	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	824874M	5.288
139) 1,2-Dichlorobenzene	(4)	13.395	146	711375	5.350
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	31069	4.395
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	372426	4.344
146) Hexachlorobutadiene	(4)	14.572	225	207560	4.888
147) Naphthalene	(4)	14.670	128	536272	4.251

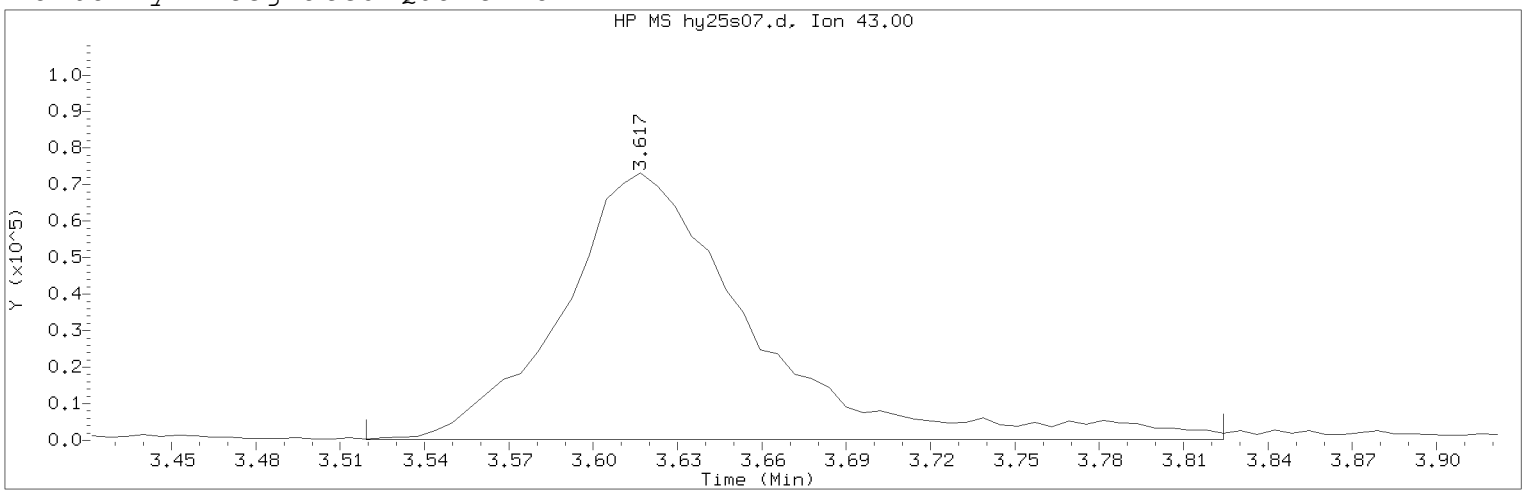
M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Angela D. Sneeringer
on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

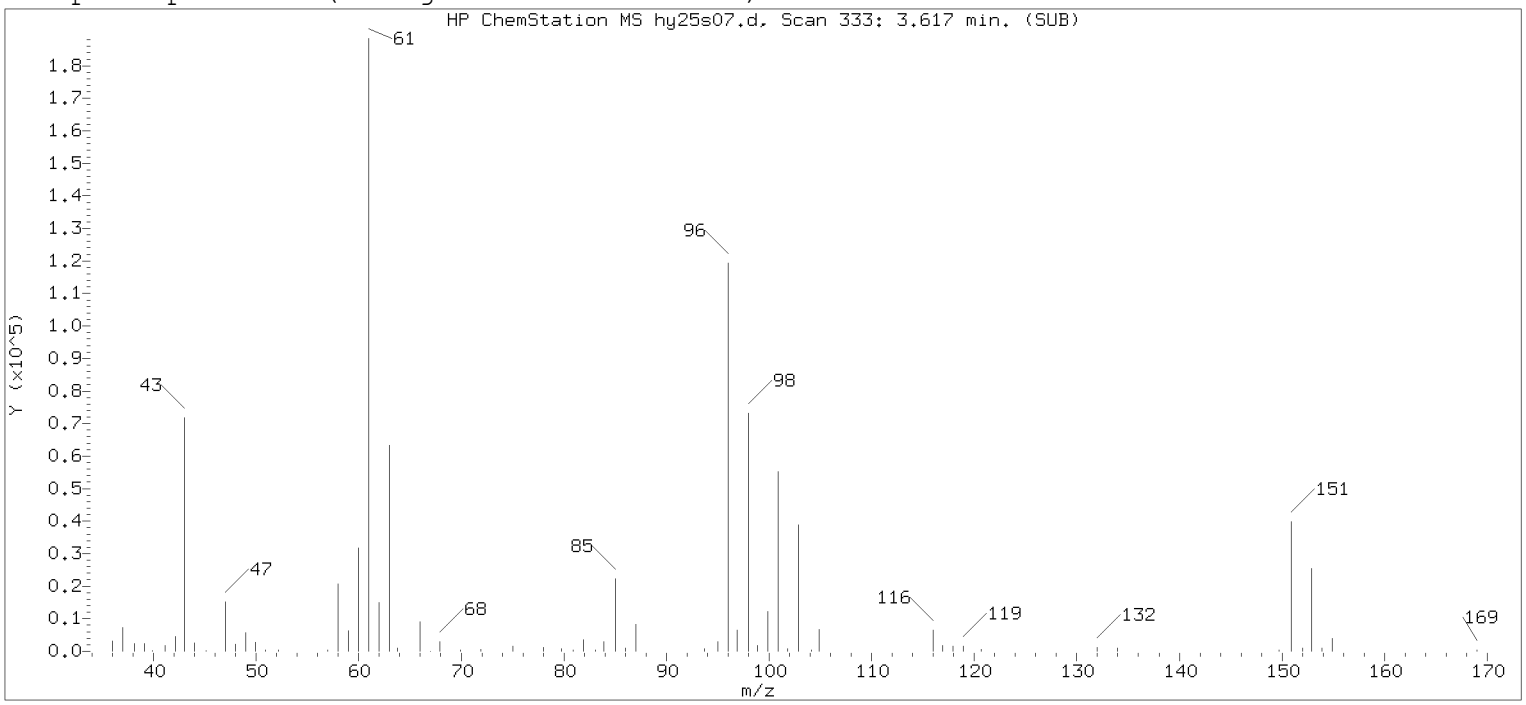
Compound Number : 14
Compound Name : Acetone
Scan Number : 333
Retention Time (minutes): 3.617
Quant Ion : 43.00
Area (flag) : 342913M
On-Column Amount (ng) : 38.8307
Integration start scan : 316 Integration stop scan: 366
Y at integration start : 253 Y at integration end: 253

Reason for manual integration: improper integration

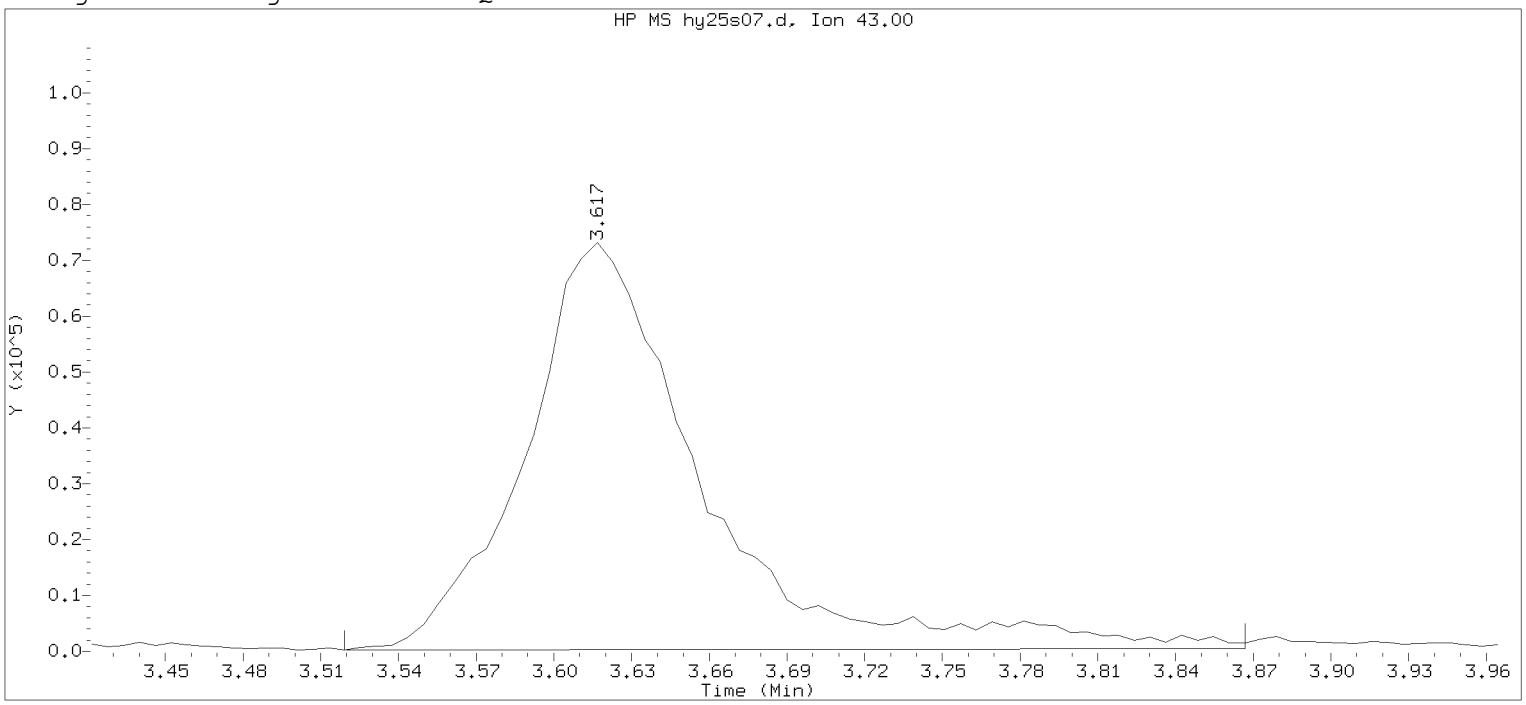
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

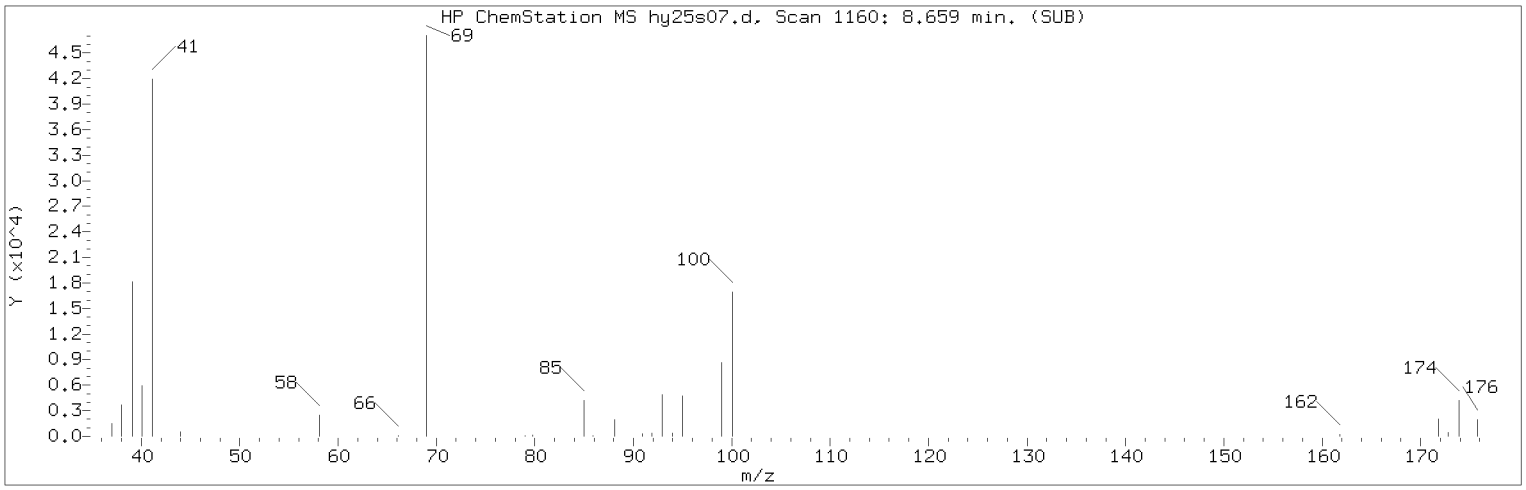
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:21 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

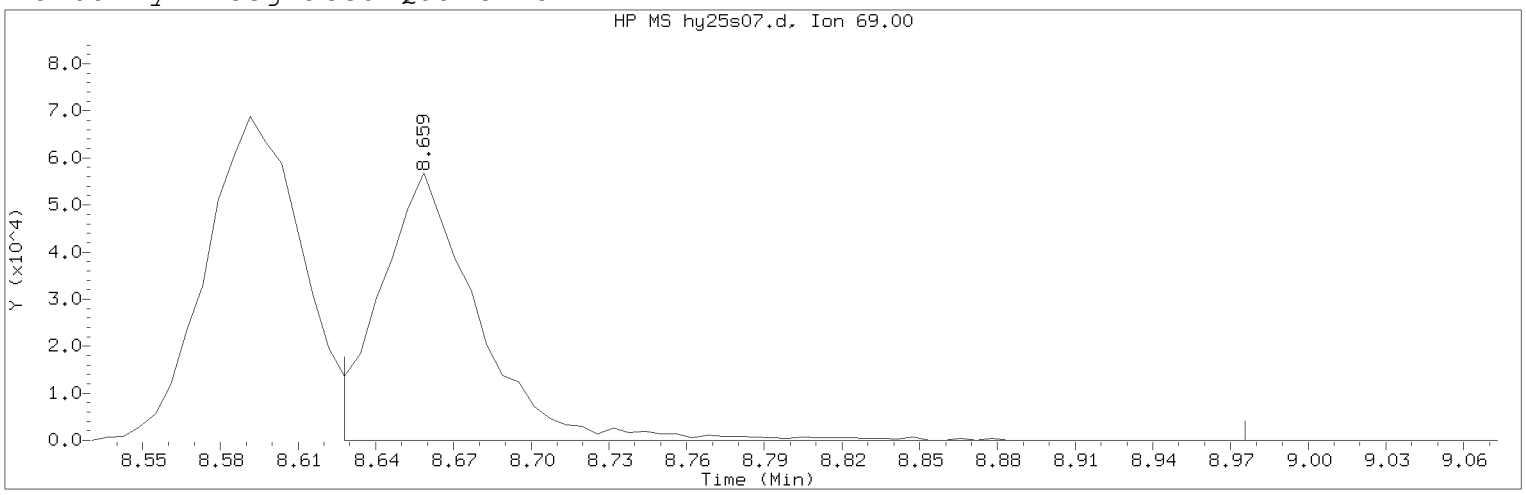
Compound Number	: 14		
Compound Name	: Acetone		
Scan Number	: 333		
Retention Time (minutes)	: 3.617		
Quant Ion	: 43.00		
Area	: 344977		
On-column Amount (ng)	: 39.0644		
Integration start scan	: 316	Integration stop scan:	373
Y at integration start	: 276	Y at integration end:	461

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature used at 11:31.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

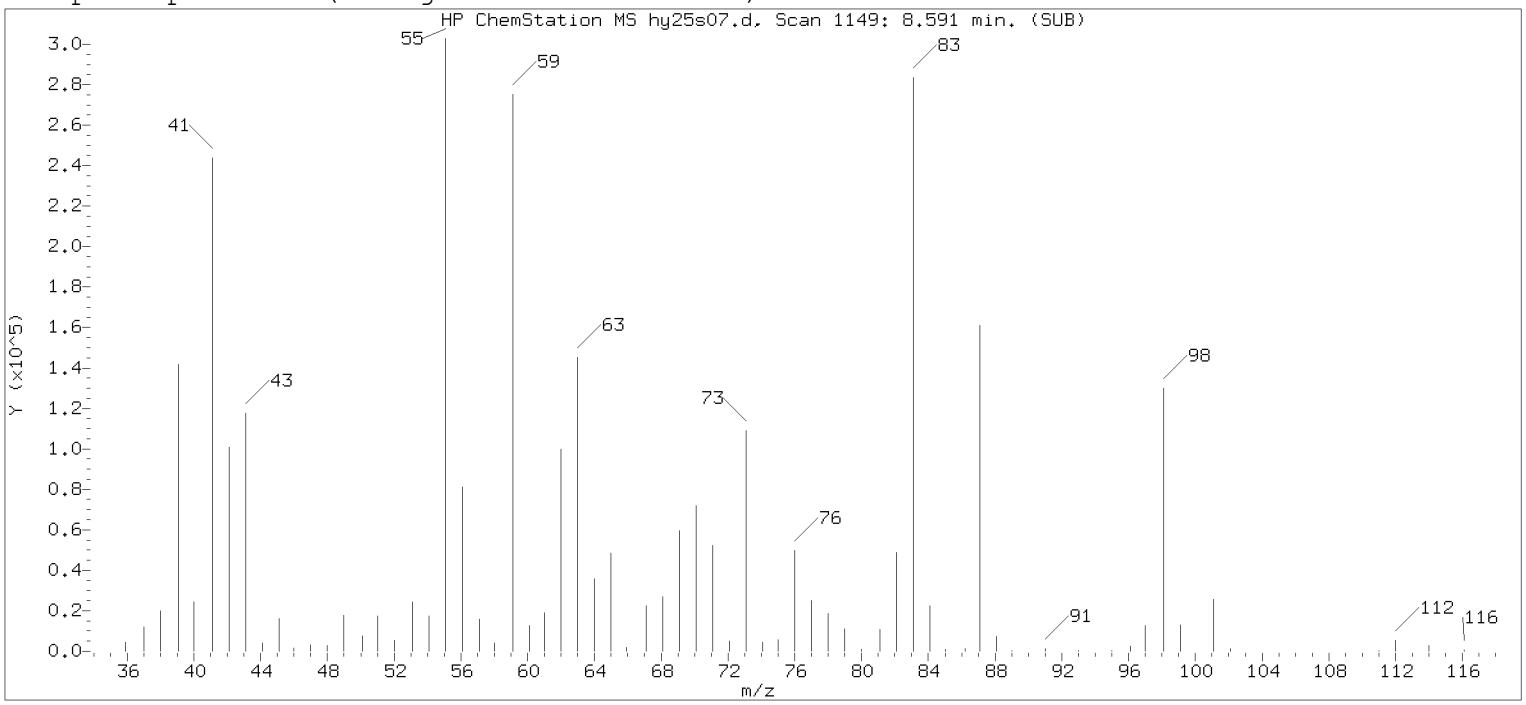
Compound Number : 71
Compound Name : Methyl Methacrylate
Scan Number : 1160
Retention Time (minutes): 8.659
Quant Ion : 69.00
Area (flag) : 147378A
On-Column Amount (ng) : 4.5025
Integration start scan : 1154 Integration stop scan: 1211
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

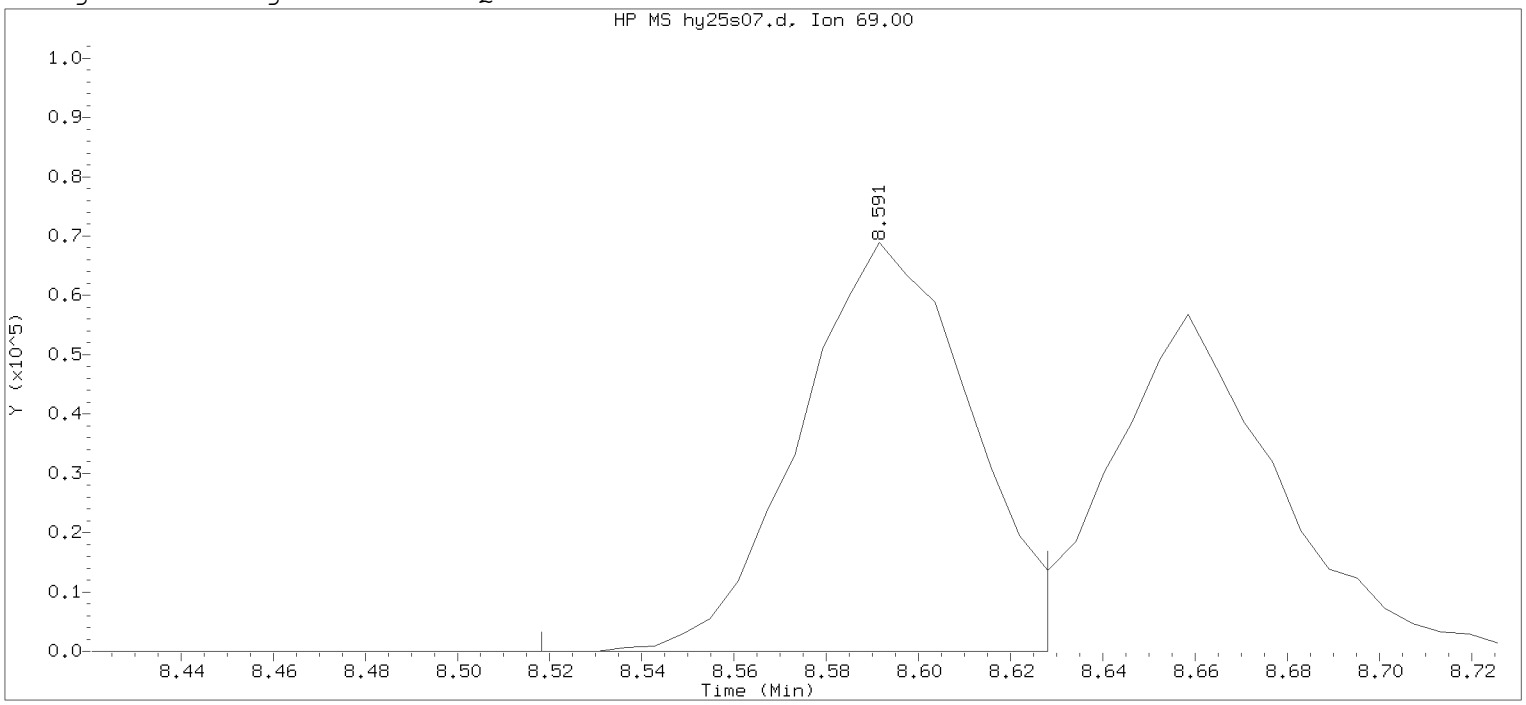
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

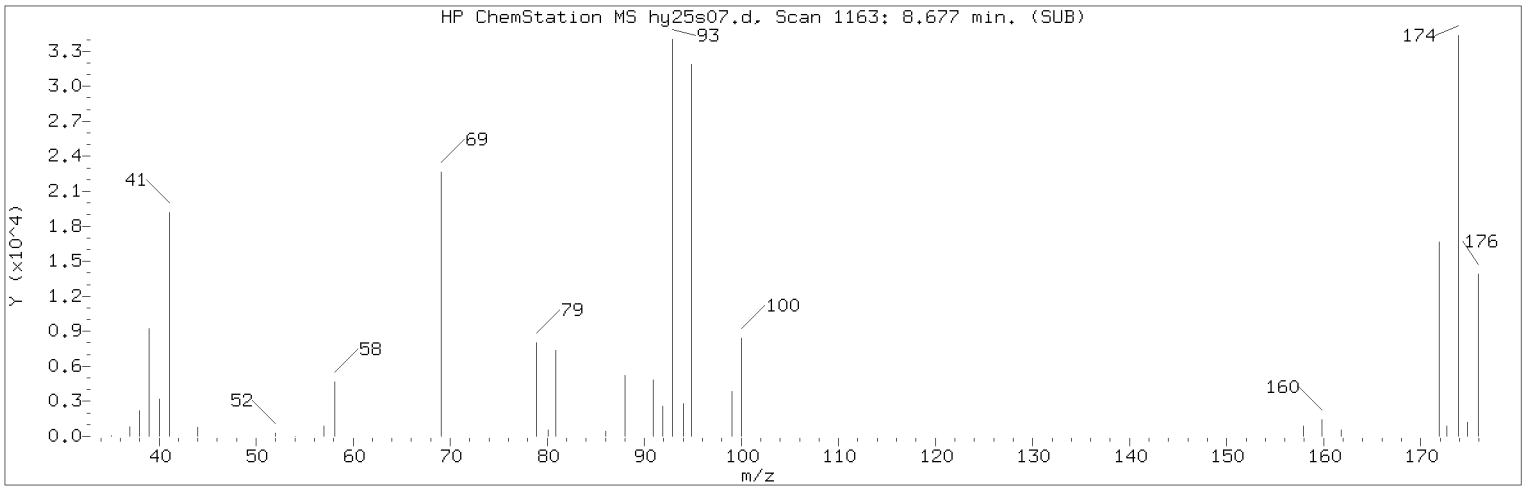
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:21 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

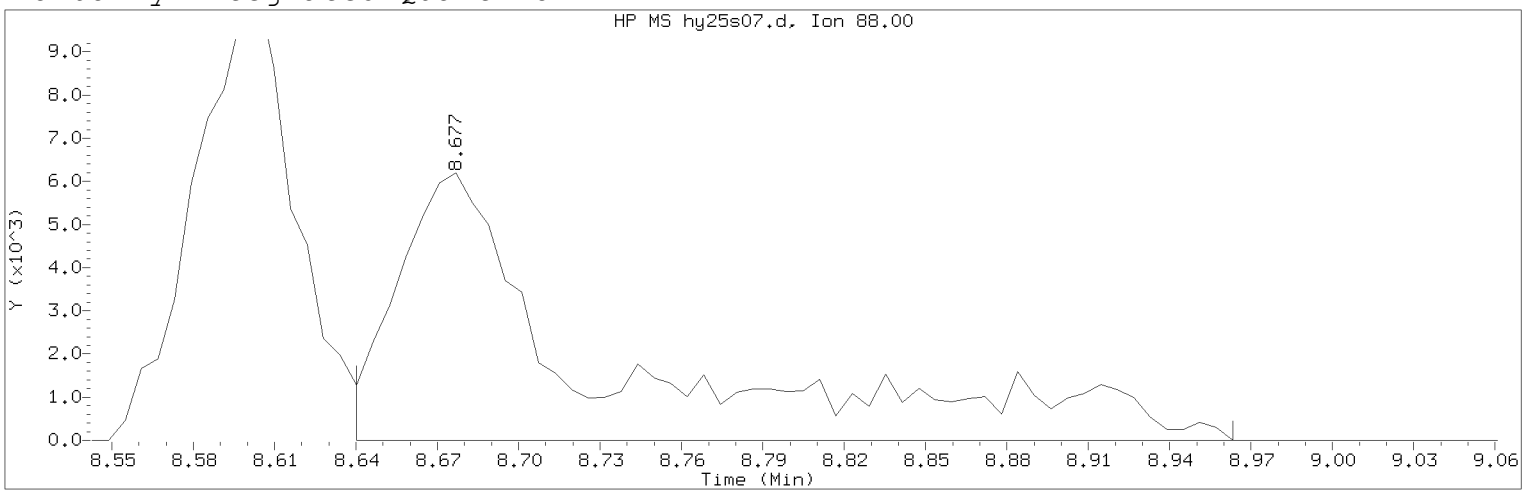
Compound Number	: 71		
Compound Name	: Methyl Methacrylate		
Scan Number	: 1149		
Retention Time (minutes)	: 8.591		
Quant Ion	: 69.00		
Area	: 176565		
On-column Amount (ng)	: 5.3941		
Integration start scan	: 1136	Integration stop scan:	1154
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature used at 11:01.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

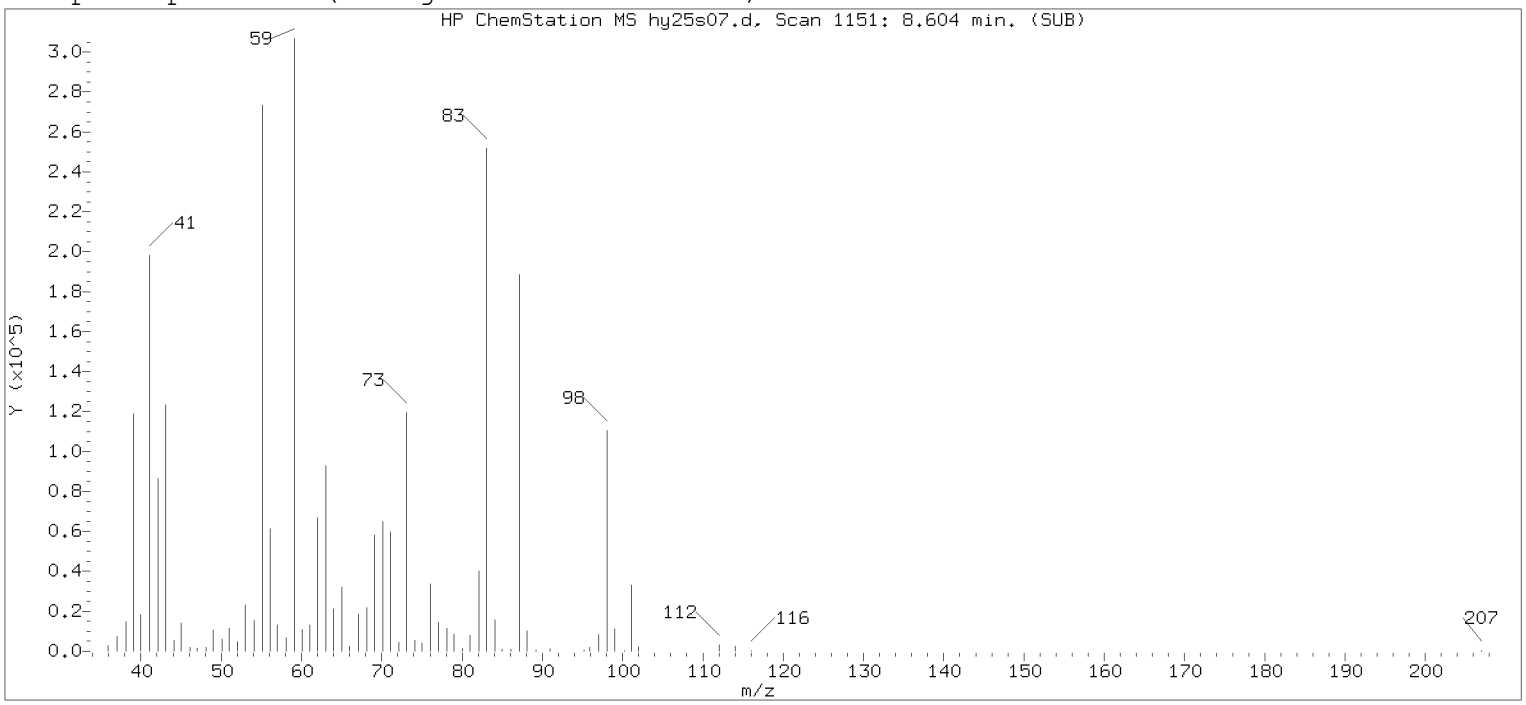
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1163
Retention Time (minutes): 8.677
Quant Ion : 88.00
Area (flag) : 32830M
On-Column Amount (ng) : 175.5212
Integration start scan : 1156 Integration stop scan: 1209
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

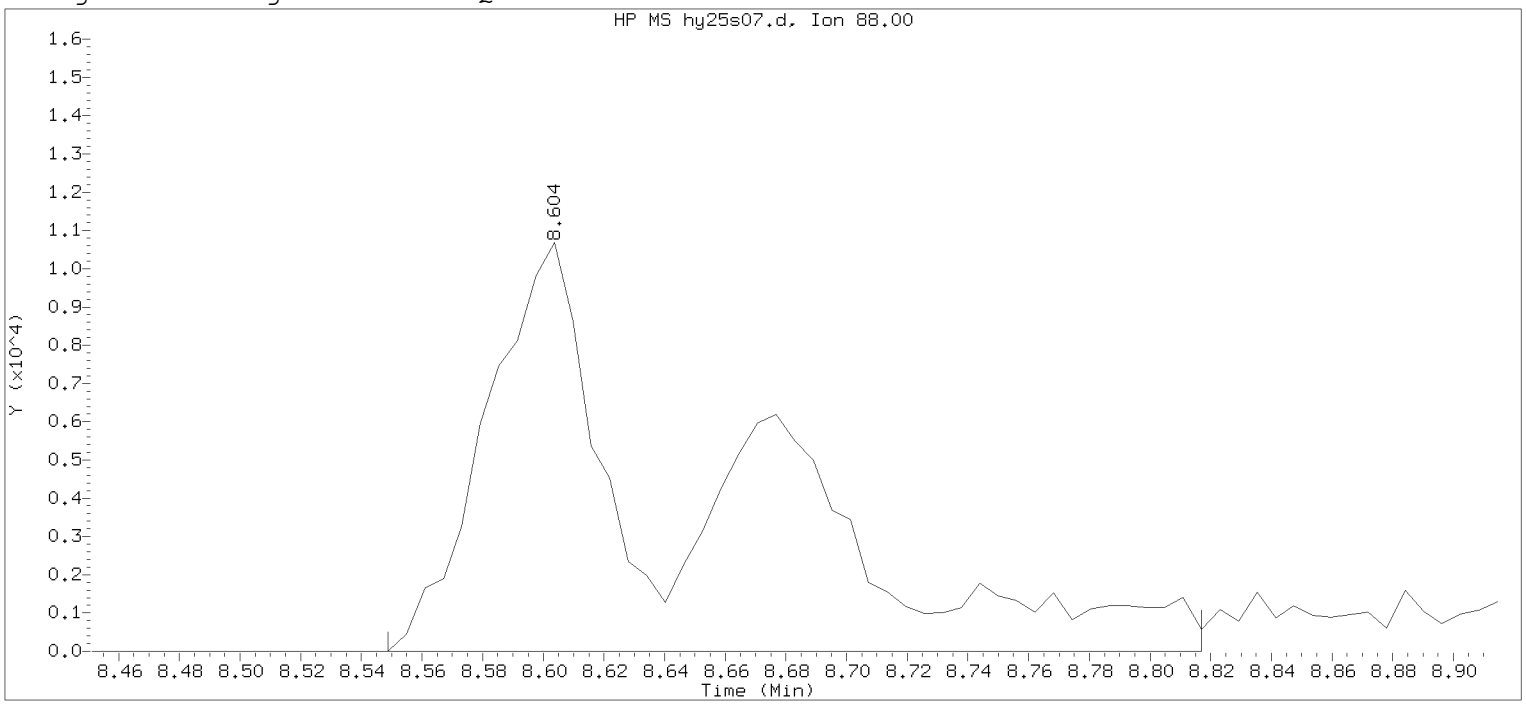
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

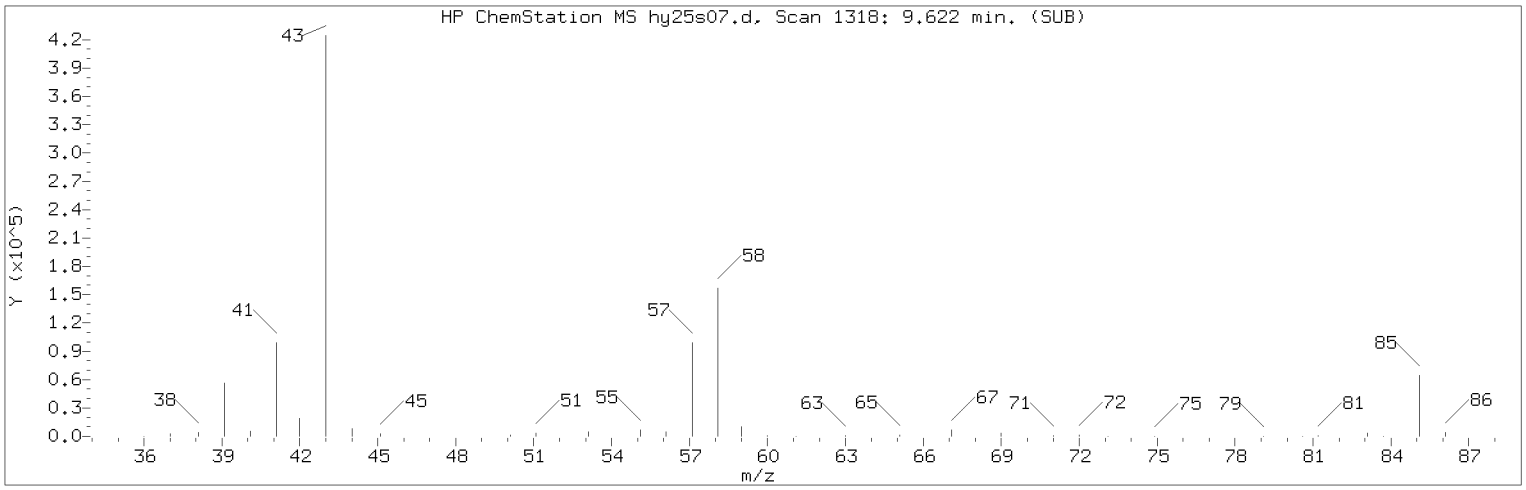
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:21 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

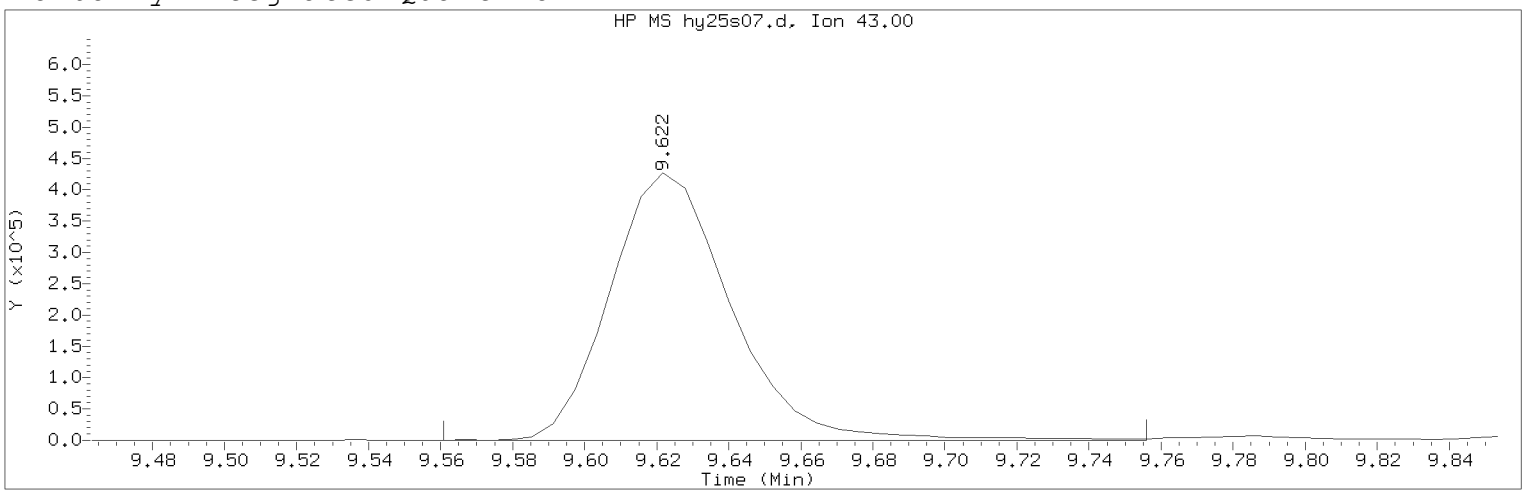
Compound Number	: 72		
Compound Name	: 1,4-Dioxane		
Scan Number	: 1151		
Retention Time (minutes)	: 8.604		
Quant Ion	: 88.00		
Area	: 51618		
On-column Amount (ng)	: 277.8623		
Integration start scan	: 1141	Integration stop scan:	1185
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature used at 11:32

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

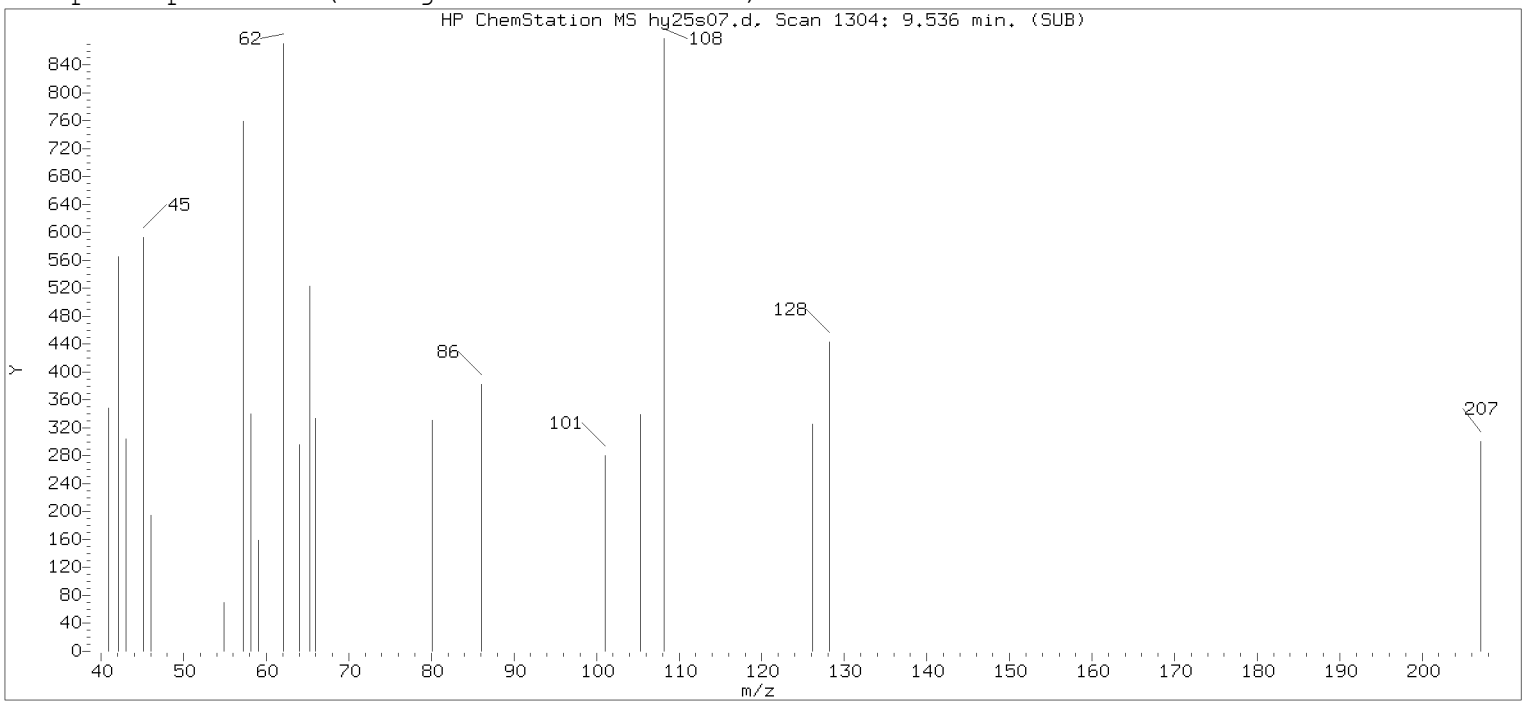
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1318
Retention Time (minutes): 9.622
Quant Ion : 43.00
Area (flag) : 995803MA
On-Column Amount (ng) : 20.8638
Integration start scan : 1307 Integration stop scan: 1339
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

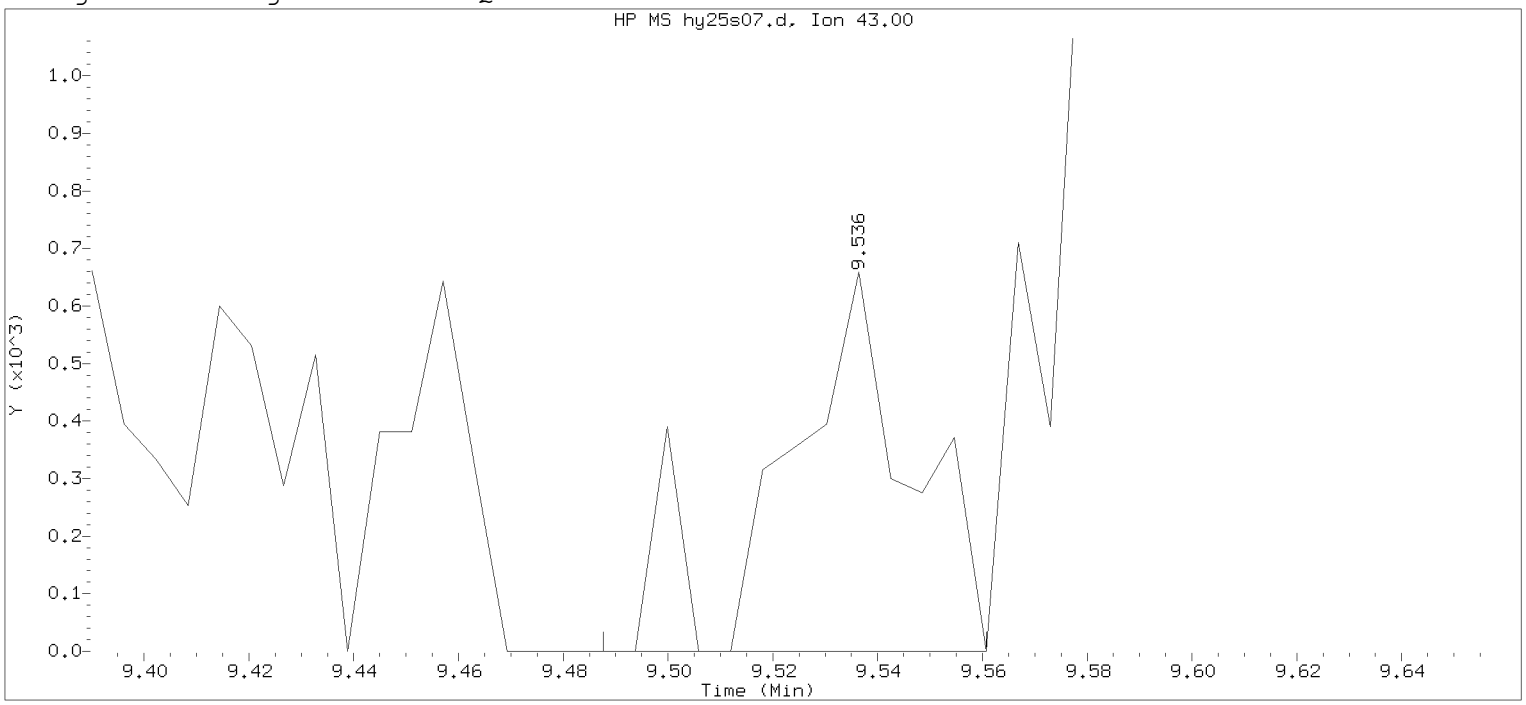
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

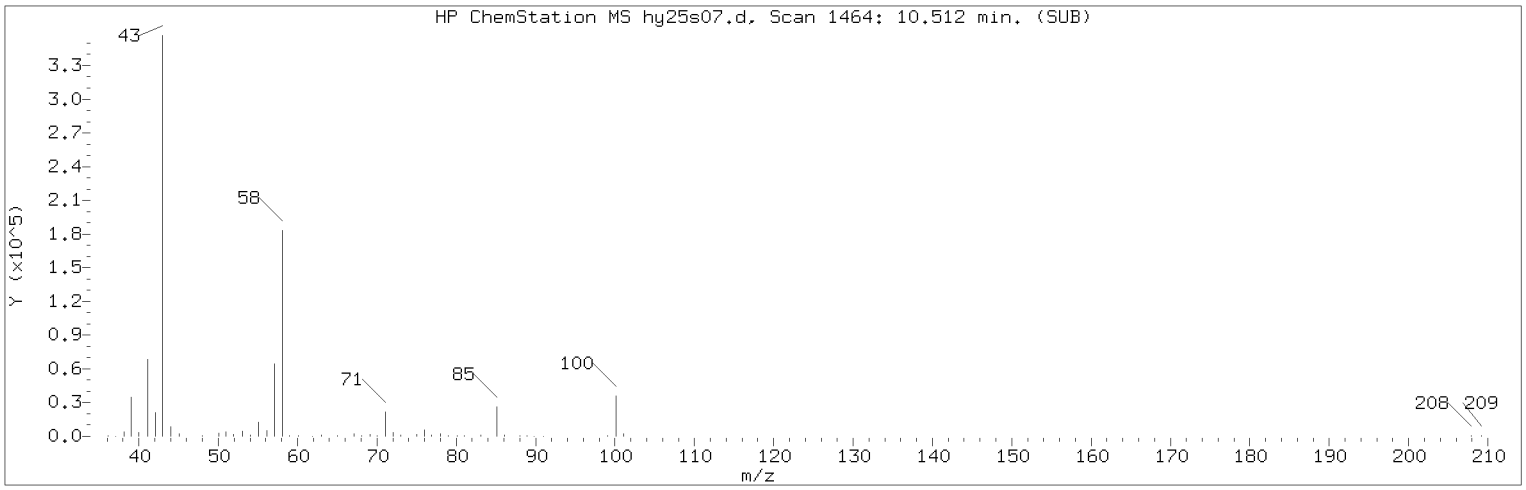
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:21 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

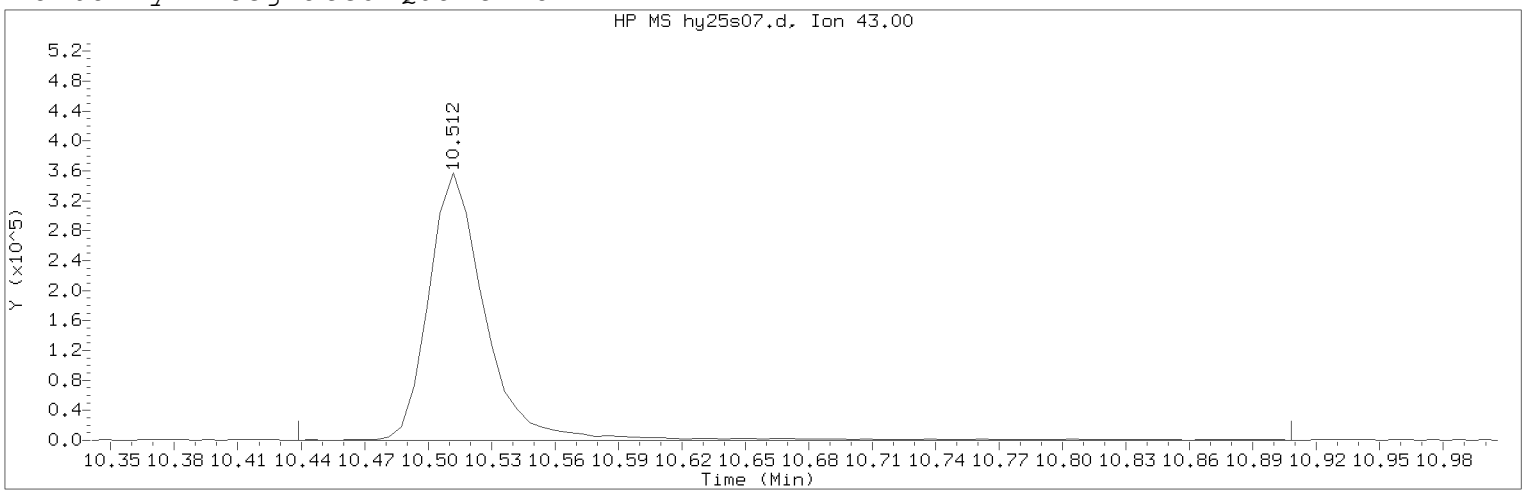
Compound Number : 81
Compound Name : 4-Methyl-2-Pentanone
Scan Number : 1304
Retention Time (minutes): 9.536
Quant Ion : 43.00
Area : 1120
On-column Amount (ng) : 0.0235
Integration start scan : 1295 Integration stop scan: 1307
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature used at 11:34.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

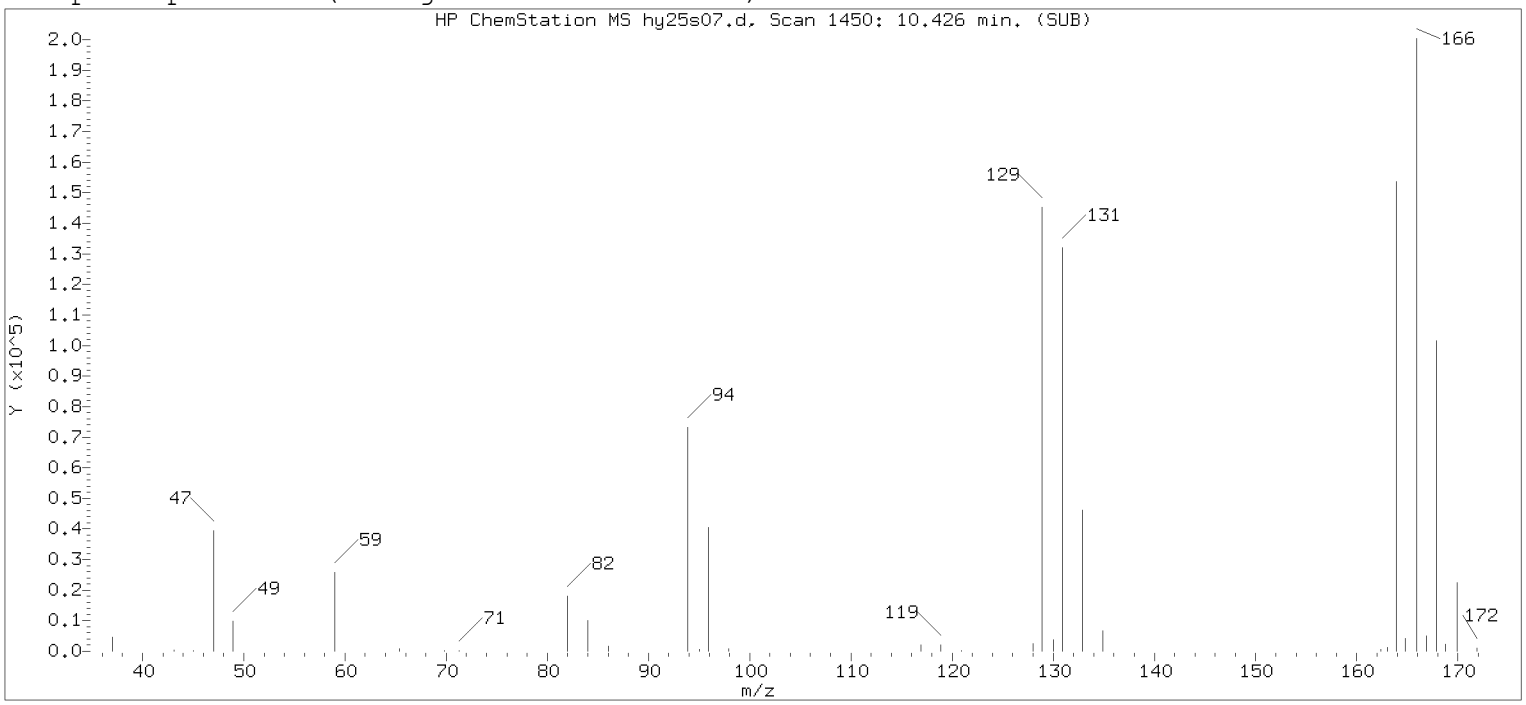
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1464
Retention Time (minutes): 10.512
Quant Ion : 43.00
Area (flag) : 674859A
On-Column Amount (ng) : 20.0628
Integration start scan : 1451 Integration stop scan: 1528
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

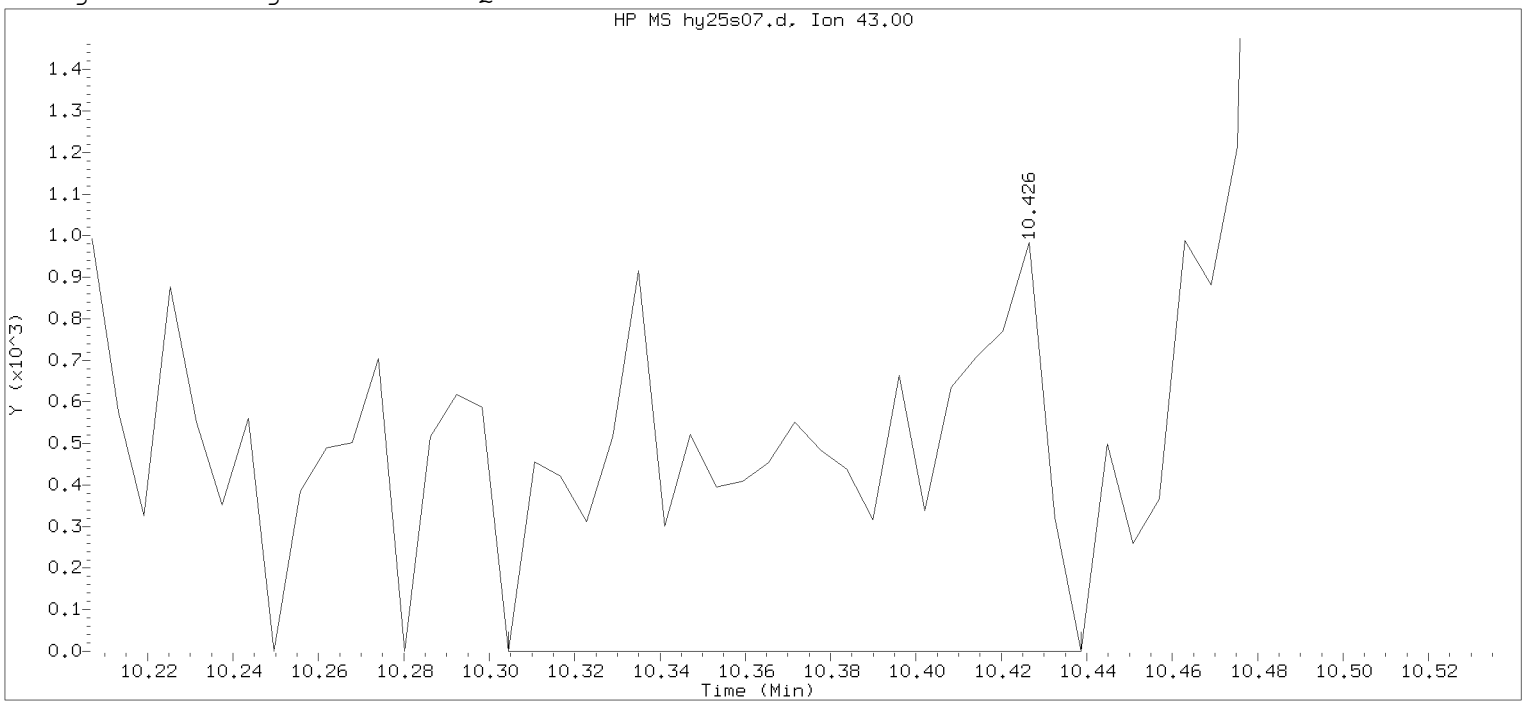
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

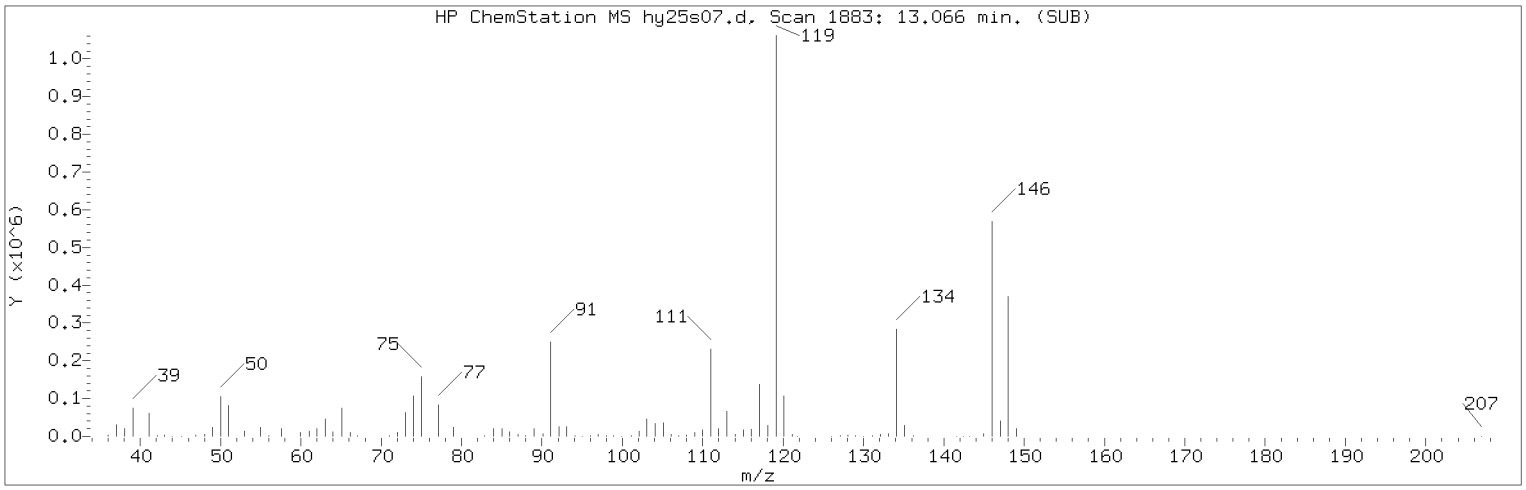
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:21 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

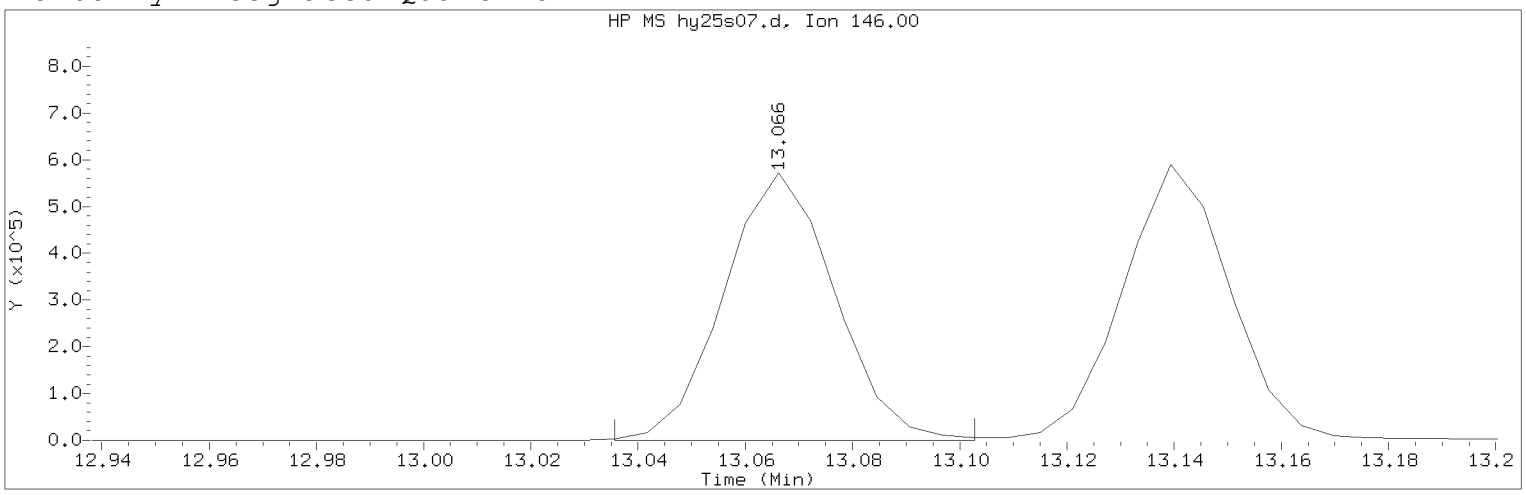
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1450
Retention Time (minutes): 10.426
Quant Ion : 43.00
Area : 3991
On-column Amount (ng) : 0.1187
Integration start scan : 1429 Integration stop scan: 1451
Y at integration start : 0 Y at integration end: 0

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature used at 0.1187

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

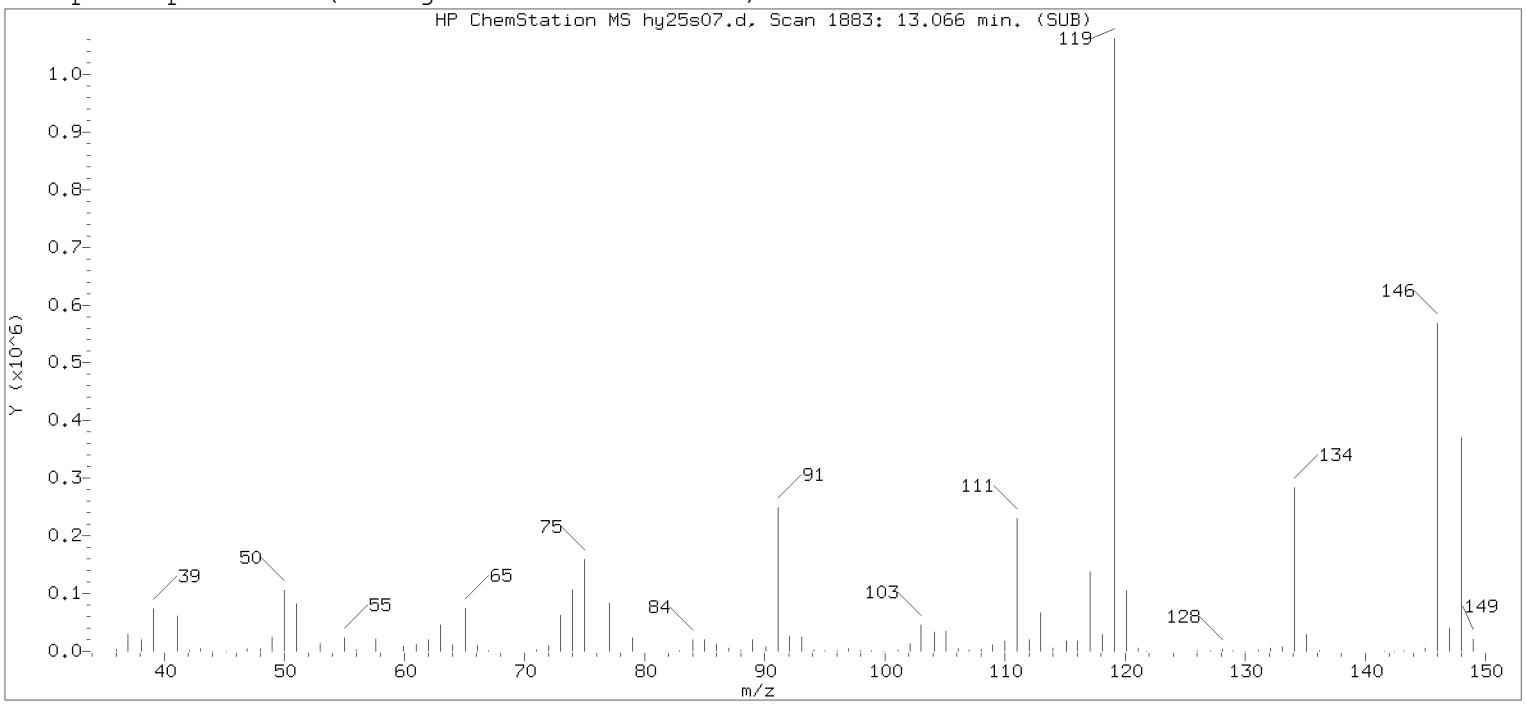
Compound Number : 131
Compound Name : 1,3-Dichlorobenzene
Scan Number : 1883
Retention Time (minutes): 13.066
Quant Ion : 146.00
Area (flag) : 816739M
On-Column Amount (ng) : 5.4560
Integration start scan : 1877 Integration stop scan: 1888
Y at integration start : 174 Y at integration end: 174

Reason for manual integration: improper integration

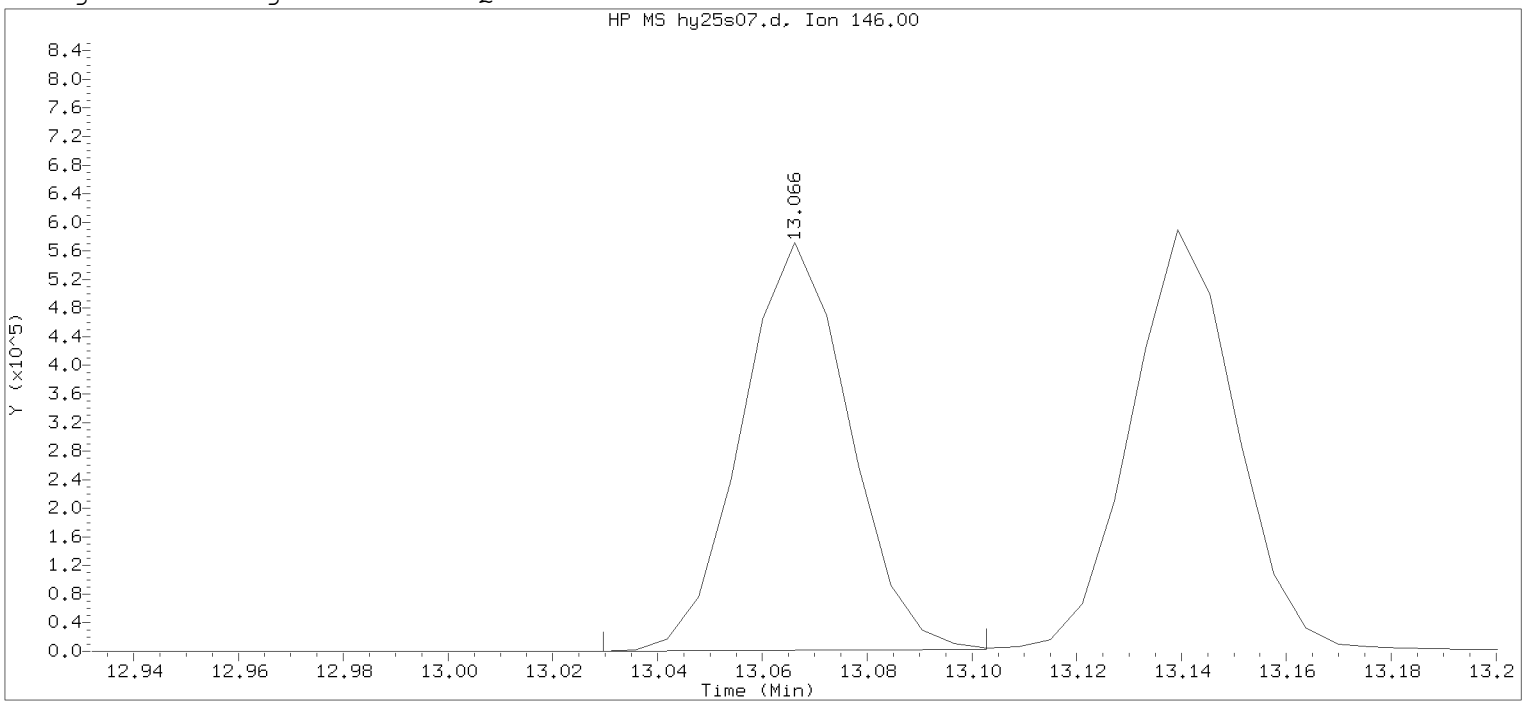
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

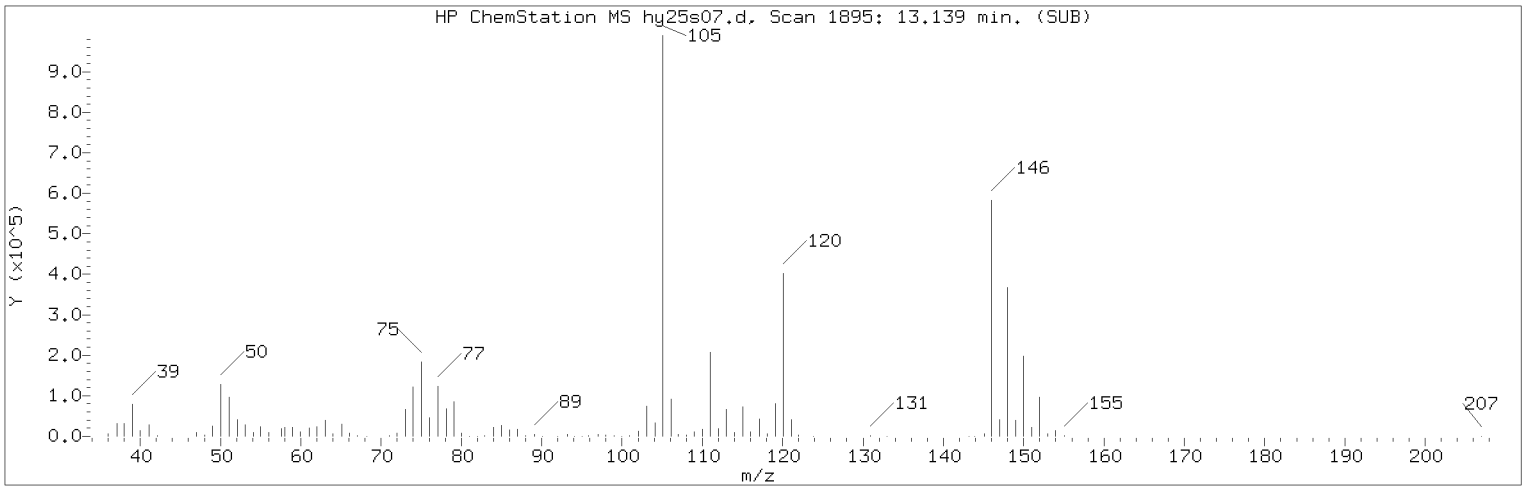
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:21 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

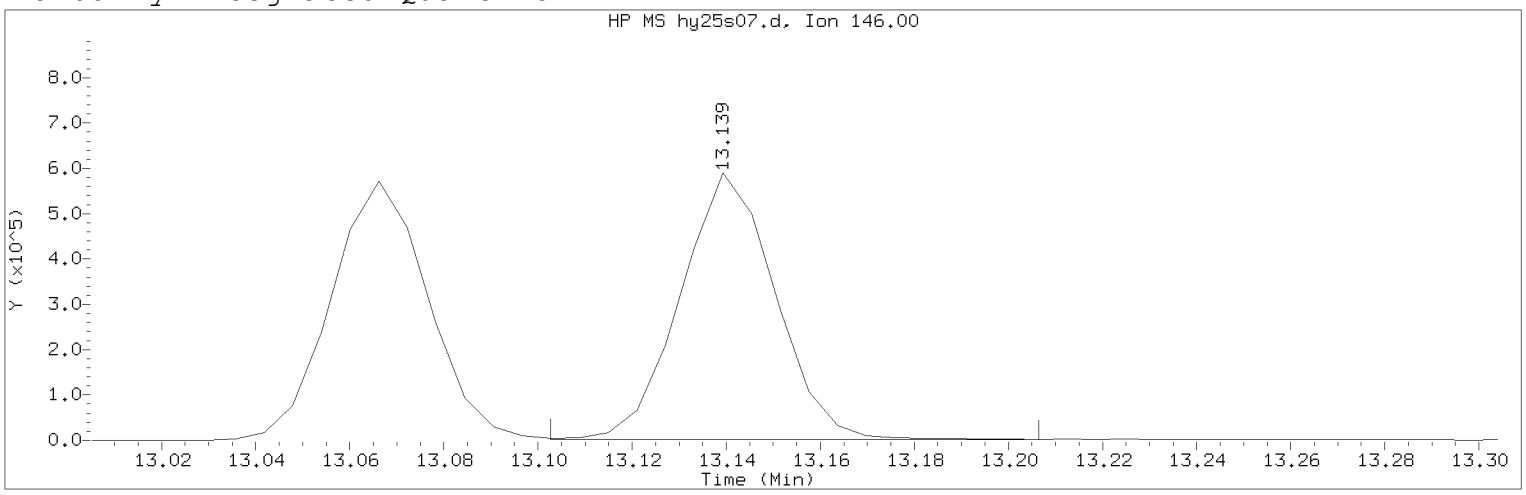
Compound Number : 131
Compound Name : 1,3-Dichlorobenzene
Scan Number : 1883
Retention Time (minutes): 13.066
Quant Ion : 146.00
Area : 810964
On-column Amount (ng) : 5.4174
Integration start scan : 1876 Integration stop scan: 1888
Y at integration start : 0 Y at integration end: 2576

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature used at 10:31.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 31-May-2017 08:53 cam01237

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

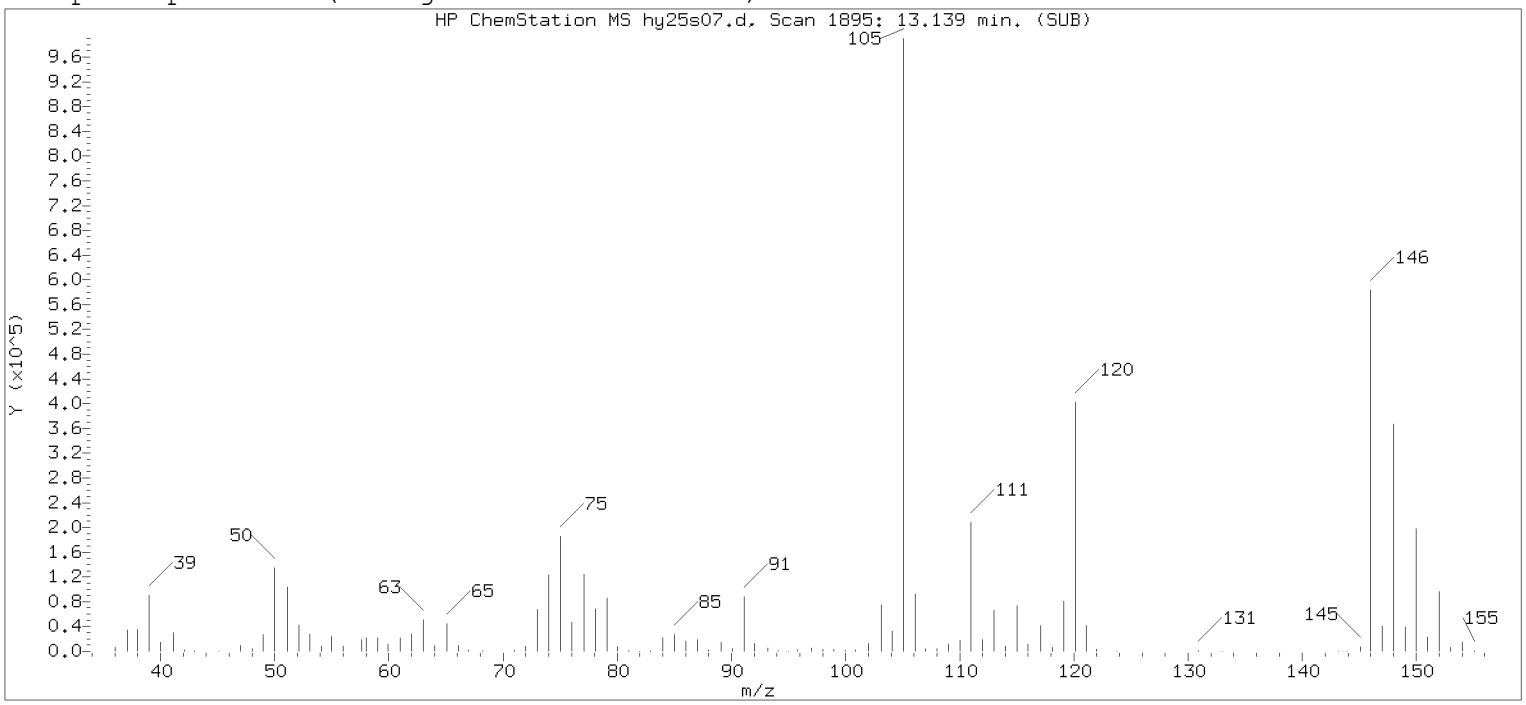
Compound Number : 134
Compound Name : 1,4-Dichlorobenzene
Scan Number : 1895
Retention Time (minutes): 13.139
Quant Ion : 146.00
Area (flag) : 824874M
On-Column Amount (ng) : 5.2875
Integration start scan : 1888 Integration stop scan: 1905
Y at integration start : 1047 Y at integration end: 1047

Reason for manual integration: improper integration

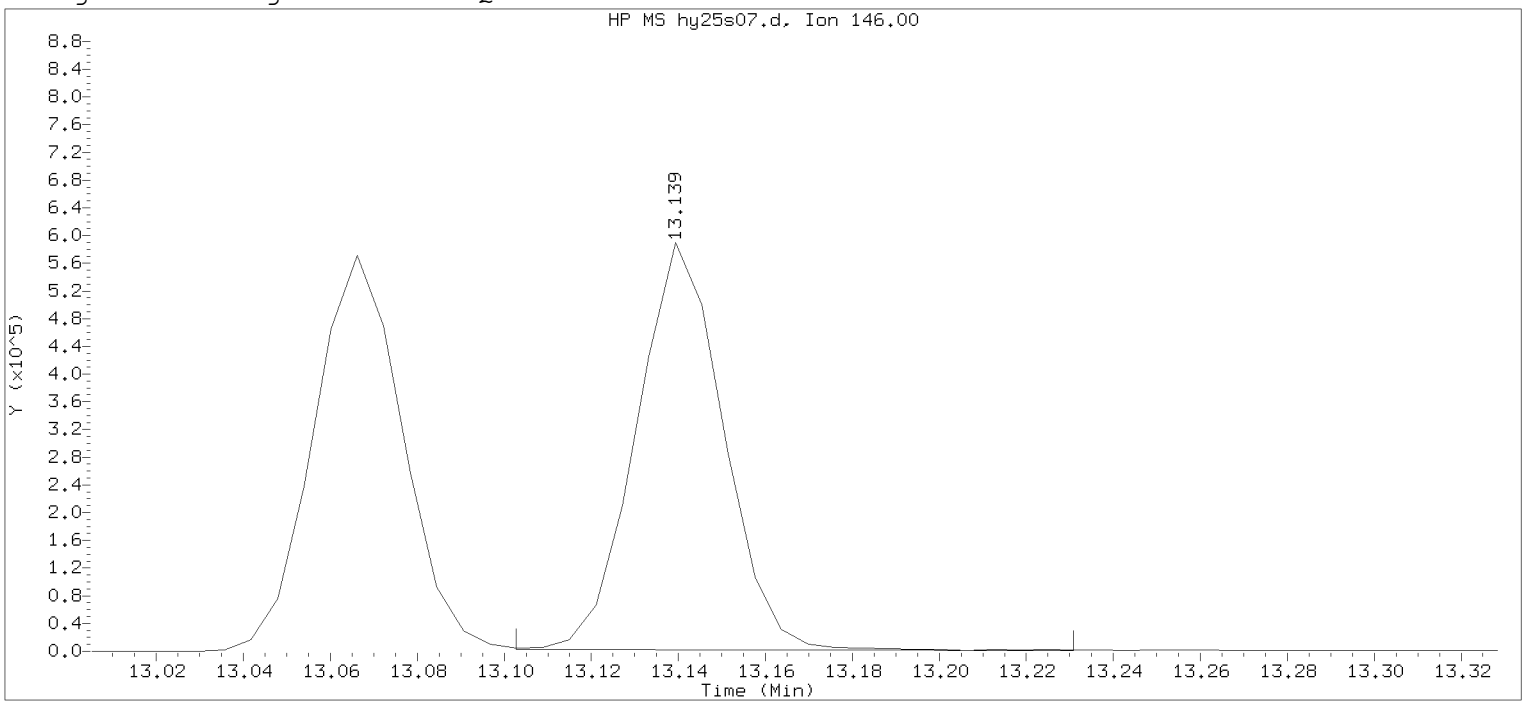
Analyst responsible for change: Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ads01731

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:06.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s07.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 22:03 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 22:21 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compound Number : 134
Compound Name : 1,4-Dichlorobenzene
Scan Number : 1895
Retention Time (minutes): 13.139
Quant Ion : 146.00
Area : 819831
On-column Amount (ng) : 5.2552
Integration start scan : 1888 Integration stop scan: 1909
Y at integration start : 2576 Y at integration end: 1076

Digitally signed by Angela D. Sneeringer on 05/31/2017 at 09:00.
Target 3.5 esignature user ID: ADS

Data file: /chem/HP09915.i/17may23a.b/ly23s01.d Injection date and time: **23-MAY-2017 09:32**
Data file Sample Info. Line: LCSL17;LCSL17;1;3;LCS;;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **8260W-D**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
29) t-Butyl alcohol-d10	3.568	(0.007)	649	65	228523	(-4)	250.00	
66) Fluorobenzene	7.047	(0.000)	1731	96	1163804	(-1)	50.00	
100) Chlorobenzene-d5	10.709	(0.000)	2870	117	880279	(-2)	50.00	
131) 1,4-Dichlorobenzene-d4	12.642	(-0.003)	3471	152	475781	(-2)	50.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
52) Dibromofluoromethane	(2)	6.140	(0.000)	113	277514	48.832	98%		80 - 116
57) 1,2-Dichloroethane-d4	(2)	6.606	(0.000)	102	70485	49.876	100%		77 - 113
83) Toluene-d8	(3)	9.137	(0.000)	98	1132148	50.371	101%		80 - 113
114) 4-Bromofluorobenzene	(3)	11.751	(0.000)	95	426657	51.071	102%		78 - 113

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
3) Dichlorodifluoromethane	(2)	1.706	(0.000)	85	104418	15.061	15.06			0.5	1
4) Chloromethane	(2)	1.812	(0.000)	50	115666	16.240	16.24			0.5	1
5) 1,3-Butadiene	(2)	1.947	(0.000)	39	223026	53.166	53.17			0.5	1
6) Vinyl Chloride	(2)	1.925	(0.001)	62	114412	16.636	16.64			0.5	1
8) Bromomethane	(2)	2.198	(0.001)	94	74074M	16.014	16.01			0.5	1
9) Chloroethane	(2)	2.298	(0.000)	64	64603	16.668	16.67			0.5	1
11) n-Pentane	(2)	2.584	(0.000)	43	132623	20.221	20.22			2	10
12) Trichlorofluoromethane	(2)	2.546	(0.001)	101	130572	16.395	16.40			0.5	1
14) Ethyl ether	(2)	2.758	(0.001)	59	74924	16.899	16.90			2	5
15) Freon 123a	(2)	2.828	(0.000)	67	101282	19.096	19.10			2	5
16) Acrolein	(1)	2.906	(-0.001)	56	219183	117.166	117.17			40	100
17) 1,1-Dichloroethene	(2)	3.018	(0.000)	96	83733	19.865	19.86			0.5	1
18) Acetone	(1)	3.034	(0.000)	58	119563	147.259	147.26			6	20
19) Freon 113	(2)	3.047	(0.002)	101	83538	19.690	19.69			2	10
21) 2-Propanol	(1)	3.172	(-0.001)	45	60650	112.683	112.68			50	100
22) Methyl Iodide	(2)	3.189	(0.000)	142	158449	19.380	19.38			0.5	1
23) Carbon Disulfide	(2)	3.285	(0.000)	76	286677	20.900	20.90			1	5
25) Allyl Chloride	(2)	3.420	(0.000)	41	141249	16.730	16.73			1	5
27) Methyl Acetate	(2)	3.394	(-0.000)	43	110338	18.035	18.04			1	5
28) Methylene Chloride	(2)	3.578	(0.000)	84	102649	18.434	18.43			2	4
30) t-Butyl alcohol	(1)	3.668	(0.000)	59	182808M	206.752	206.75			5	20
31) Acrylonitrile	(2)	3.848	(0.000)	53	289039	89.968	89.97			4	20
32) trans-1,2-Dichloroethene	(2)	3.938	(0.000)	96	97286	19.672	19.67			0.5	1
33) Methyl Tertiary Butyl Ether	(2)	3.915	(0.001)	73	303150	19.632	19.63			0.5	1
34) n-Hexane	(2)	4.320	(-0.000)	57	140837	18.578	18.58			2	5
36) 1,1-Dichloroethane	(2)	4.568	(0.000)	63	173908	18.714	18.71			0.5	1
38) di-Isopropyl ether	(2)	4.619	(-0.000)	45	334842	18.773	18.77			0.5	1
39) 2-Chloro-1,3-butadiene	(2)	4.671	(0.000)	53	147029	18.756	18.76			1	5
40) Ethyl t-butyl ether	(2)	5.172	(0.000)	59	298884	19.471	19.47			0.5	1
42) cis-1,2-Dichloroethene	(2)	5.414	(0.000)	96	110548	19.507	19.51			0.5	1
43) 1,2-Dichloroethene (Total)	(2)			96	207834	39.179	39.18			0.5	1

M = Compound was manually integrated.

Digitally signed by Kevin Kelly on 05/23/2017 at 18:16. Target 3.5 esignature user ID: kk10002

Analysis Summary for GC/MS Volatiles

Data file: /chem/HP09915.i/17may23a.b/ly23s01.d Injection date and time: **23-MAY-2017 09:32**
Data file Sample Info. Line: LCSL17;LCSL17;1;3;LCS;;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **8260W-D**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
44) 2-Butanone	(2)	5.375(0.000)	43	580624	134.976	134.98			3	10
45) 2,2-Dichloropropane	(2)	5.423(0.000)	77	120481	19.418	19.42			0.5	1
47) Propionitrile	(1)	5.462(-0.003)	54	178738	138.504	138.50			30	100
48) Methacrylonitrile	(2)	5.684(0.000)	67	460551	143.788	143.79			10	50
49) Bromochloromethane	(2)	5.761(0.000)	128	53374	17.870	17.87			1	5
50) Tetrahydrofuran	(1)	5.767(-0.002)	71	97793	85.795	85.80			4	10
51) Chloroform	(2)	5.918(0.000)	83	164297	18.548	18.55			0.5	1
53) 1,1,1-Trichloroethane	(2)	6.140(0.000)	97	138893	17.159	17.16			0.5	1
54) Cyclohexane	(2)	6.243(0.000)	56	161155	17.486	17.49			2	5
55) 1,1-Dichloropropene	(2)	6.362(0.000)	75	130117	18.061	18.06			1	5
56) Carbon Tetrachloride	(2)	6.365(-0.000)	117	103257	17.476	17.48			0.5	1
58) Isobutyl Alcohol	(1)	6.516(-0.002)	41	153847	495.573	495.57			100	250
60) Benzene	(2)	6.629(0.000)	78	400532	18.860	18.86			0.5	1
61) 1,2-Dichloroethane	(2)	6.716(0.000)	62	134265	18.687	18.69			0.5	1
65) t-Amyl methyl ether	(2)	6.832(0.000)	73	284147	18.651	18.65			0.5	1
67) n-Heptane	(2)	7.069(0.000)	43	146984	17.317	17.32			2	5
69) n-Butanol	(1)	7.426(-0.002)	56	245707	981.825	981.82			100	250
71) Trichloroethene	(2)	7.542(0.000)	95	99636	18.154	18.15			0.5	1
72) Methylcyclohexane	(2)	7.851(0.000)	83	169867	17.566	17.57			1	5
73) 1,2-Dichloropropane	(2)	7.883(-0.000)	63	106563	18.329	18.33			0.5	1
74) Dibromomethane	(2)	7.992(0.000)	93	67872	18.564	18.56			0.5	1
75) 1,4-Dioxane	(1)	7.973(-0.002)	88	40317M	516.045	516.05			70	250
76) Methyl Methacrylate	(2)	7.973(0.000)	69	91429M	18.372	18.37			1	5
78) Bromodichloromethane	(2)	8.240(-0.000)	83	115872	17.561	17.56			0.5	1
79) 2-Nitropropane	(2)	8.504(-0.000)	41	31173	16.661	16.66			2	10
80) 2-Chloroethyl Vinyl Ether	(2)	8.619(-0.000)	63	79778	17.851	17.85			2	10
81) cis-1,3-Dichloropropene	(2)	8.806(-0.000)	75	151951	17.669	17.67			0.5	1
82) 4-Methyl-2-pentanone	(2)	8.986(0.000)	43	778341	87.805	87.80			3	10
88) Toluene	(3)	9.224(0.000)	92	251227	19.234	19.23			0.5	1
89) trans-1,3-Dichloropropene	(3)	9.523(0.000)	75	132807	18.133	18.13			0.5	1
90) 1,3-Dichloropropene (total)	(3)		100	284758	35.803	35.80			1	5
91) Ethyl Methacrylate	(3)	9.597(0.000)	69	160382	19.441	19.44			1	5
92) 1,1,2-Trichloroethane	(3)	9.745(0.000)	97	98535	19.577	19.58			0.5	1
93) Tetrachloroethene	(3)	9.822(0.000)	166	106675	18.465	18.47			0.5	1
94) 1,3-Dichloropropane	(3)	9.915(0.000)	76	165758	18.980	18.98			0.5	1
96) 2-Hexanone	(3)	9.973(0.000)	43	574676	91.149	91.15			3	10
97) Dibromochloromethane	(3)	10.146(0.000)	129	89499	17.168	17.17			0.5	1
99) 1,2-Dibromoethane	(3)	10.259(0.000)	107	105430	19.134	19.13			0.5	1
101) 1-Chlorohexane	(3)	10.732(0.000)	91	135418	18.053	18.05			1	5
102) Chlorobenzene	(3)	10.738(-0.000)	112	284567	18.881	18.88			0.5	1
103) 1,1,1,2-Tetrachloroethane	(3)	10.828(-0.000)	131	89091	17.900	17.90			0.5	1
104) Ethylbenzene	(3)	10.831(0.000)	91	479793	19.043	19.04			0.5	1
106) m+p-Xylene	(3)	10.954(0.000)	106	378392	38.578	38.58			0.5	1
107) o-Xylene	(3)	11.291(-0.000)	106	182579	18.717	18.72			0.5	1
108) Xylene (Total)	(3)		106	560971	57.295	57.29			0.5	1
109) Styrene	(3)	11.310(0.000)	104	312129	19.356	19.36			1	5
110) Bromoform	(3)	11.471(-0.000)	173	59142	15.624	15.62			0.5	4
111) Isopropylbenzene	(3)	11.603(-0.000)	105	476236	19.103	19.10			1	5
112) Cyclohexanone	(1)	11.670(-0.006)	55	165796	562.572	562.57			25	100
115) Bromobenzene	(4)	11.860(0.000)	156	124406	18.293	18.29			1	5
116) 1,1,2,2-Tetrachloroethane	(4)	11.857(-0.000)	83	157455	18.645	18.64			0.5	1
117) 1,2,3-Trichloropropane	(4)	11.902(0.000)	110	45674	19.132	19.13			1	5
118) trans-1,4-Dichloro-2-butene	(4)	11.883(0.000)	53	79299	32.769	32.77		J	15	50
119) n-Propylbenzene	(4)	11.941(-0.000)	91	573169	19.073	19.07			1	5

M = Compound was manually integrated.

Digitally signed by Kevin Kelly on 05/23/2017 at 18:16. Target 3.5 esignature user ID: kk10002

Analysis Summary for GC/MS Volatiles

Data file: /chem/HP09915.i/17may23a.b/ly23s01.d Injection date and time: **23-MAY-2017 09:32**
Data file Sample Info. Line: LCSL17;LCSL17;1;3;LCS;;;;ly23b01; Instrument ID: **HP09915.i** Batch: **L171431AA**
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Blank Data file reference: **/chem/HP09915.i/17may23a.b/ly23b01.d**

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: **8260W-D**
Calibration date and time (Last Method Edit): 23-MAY-2017 09:58
Mid Level Daily Calibration Standard Reference: **/chem/HP09915.i/17may23a.b/ly23c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 5 ml Sample Volume (Vo): 5 ml

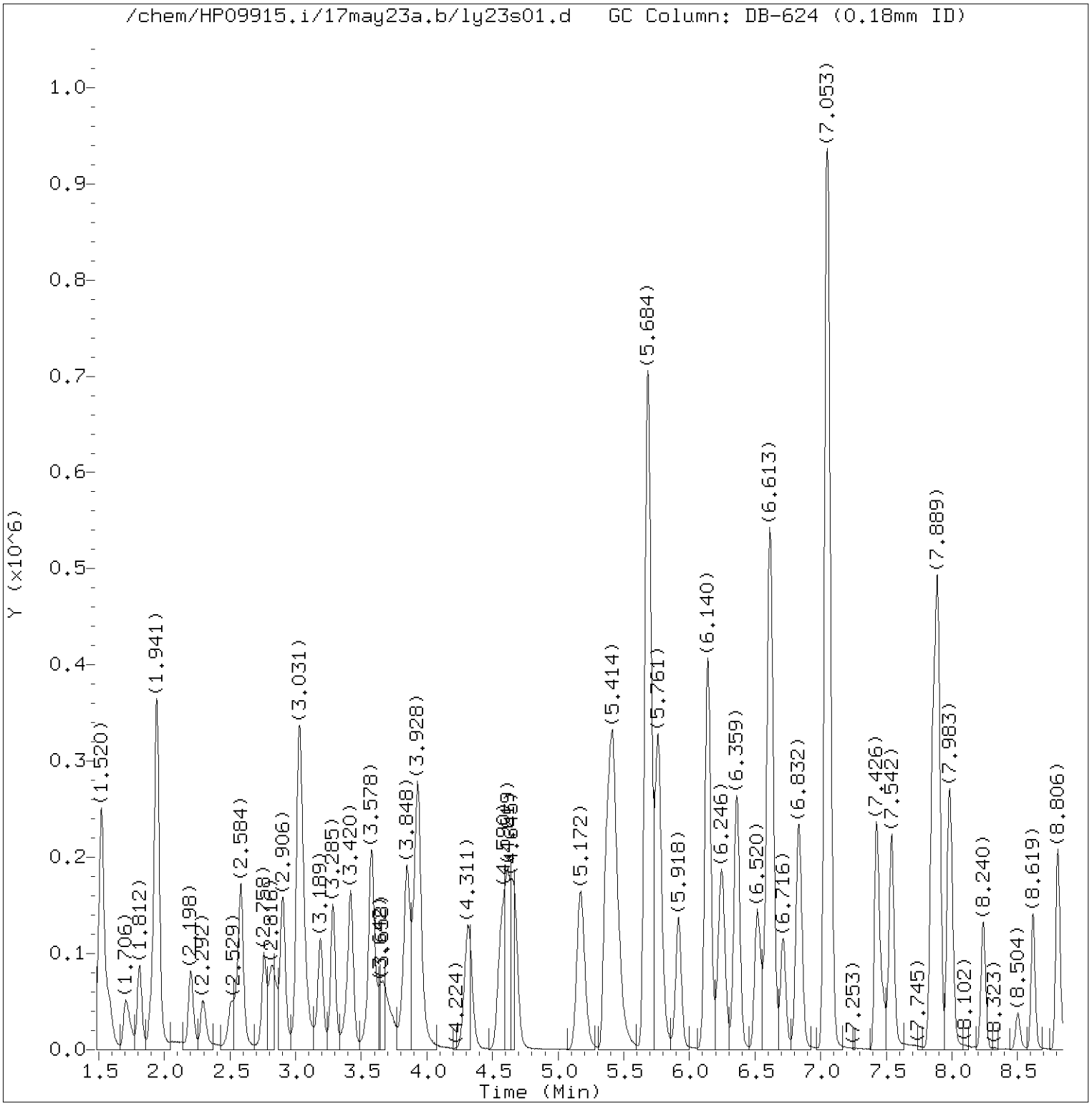
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
120) 2-Chlorotoluene	(4)	12.008(0.000)	126	116361	18.605	18.60			1	5
121) 4-Chlorotoluene	(4)	12.108(0.000)	126	120154	18.459	18.46			1	5
122) 1,3,5-Trimethylbenzene	(4)	12.079(0.000)	105	406269	18.959	18.96			1	5
124) tert-Butylbenzene	(4)	12.320(0.000)	134	85090M	18.369	18.37			1	5
125) Pentachloroethane	(4)	12.352(0.000)	167	63206	17.283	17.28			1	5
126) 1,2,4-Trimethylbenzene	(4)	12.365(0.000)	105	419864	19.021	19.02			1	5
127) sec-Butylbenzene	(4)	12.487(-0.000)	105	522949	19.131	19.13			1	5
129) 1,3-Dichlorobenzene	(4)	12.584(-0.000)	146	235753	18.208	18.21			1	5
130) p-Isopropyltoluene	(4)	12.596(0.000)	119	450997	18.686	18.69			1	5
133) 1,4-Dichlorobenzene	(4)	12.658(0.000)	146	247739	18.504	18.50			1	5
134) 1,2,3-Trimethylbenzene	(4)	12.667(0.000)	105	444026	19.200	19.20			1	5
135) Benzyl Chloride	(4)	12.735(0.000)	91	253529	18.103	18.10			1	5
136) 1,3-Diethylbenzene	(4)	12.799(0.000)	119	267366	18.542	18.54			1	5
137) 1,4-Diethylbenzene	(4)	12.873(0.000)	119	281405	18.584	18.58			1	5
138) 1,2-Dichlorobenzene	(4)	12.912(0.000)	146	234513	18.426	18.43			1	5
139) n-Butylbenzene	(4)	12.892(0.000)	92	223762	18.559	18.56			1	5
140) 1,2-Diethylbenzene	(4)	12.941(0.000)	119	227368	18.737	18.74			1	5
141) Diethylbenzene (total)	(4)		100	776139	55.863	55.86			1	5
142) 1,2-Dibromo-3-chloropropane	(4)	13.462(0.000)	75	31312	17.533	17.53			2	5
144) 1,3,5-Trichlorobenzene	(4)	13.587(0.000)	180	178757	17.324	17.32			1	5
146) 1,2,4-Trichlorobenzene	(4)	14.008(0.000)	180	172499	17.233	17.23			1	5
147) Hexachlorobutadiene	(4)	14.095(0.000)	225	72487	16.675	16.67			2	5
148) Naphthalene	(4)	14.188(0.000)	128	552786	18.301	18.30			1	5
149) 1,2,3-Trichlorobenzene	(4)	14.326(0.000)	180	171873	17.798	17.80			1	5
150) 2-Methylnaphthalene	(4)	14.912(0.000)	142	323731	16.575	16.58			2	5

M = Compound was manually integrated.

Total number of targets = 110

Digitally signed by Kevin Kelly on 05/23/2017 at 18:16. Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:33. PARALLAX ID: msl01251



Total Ion Chromatogram (TIC)

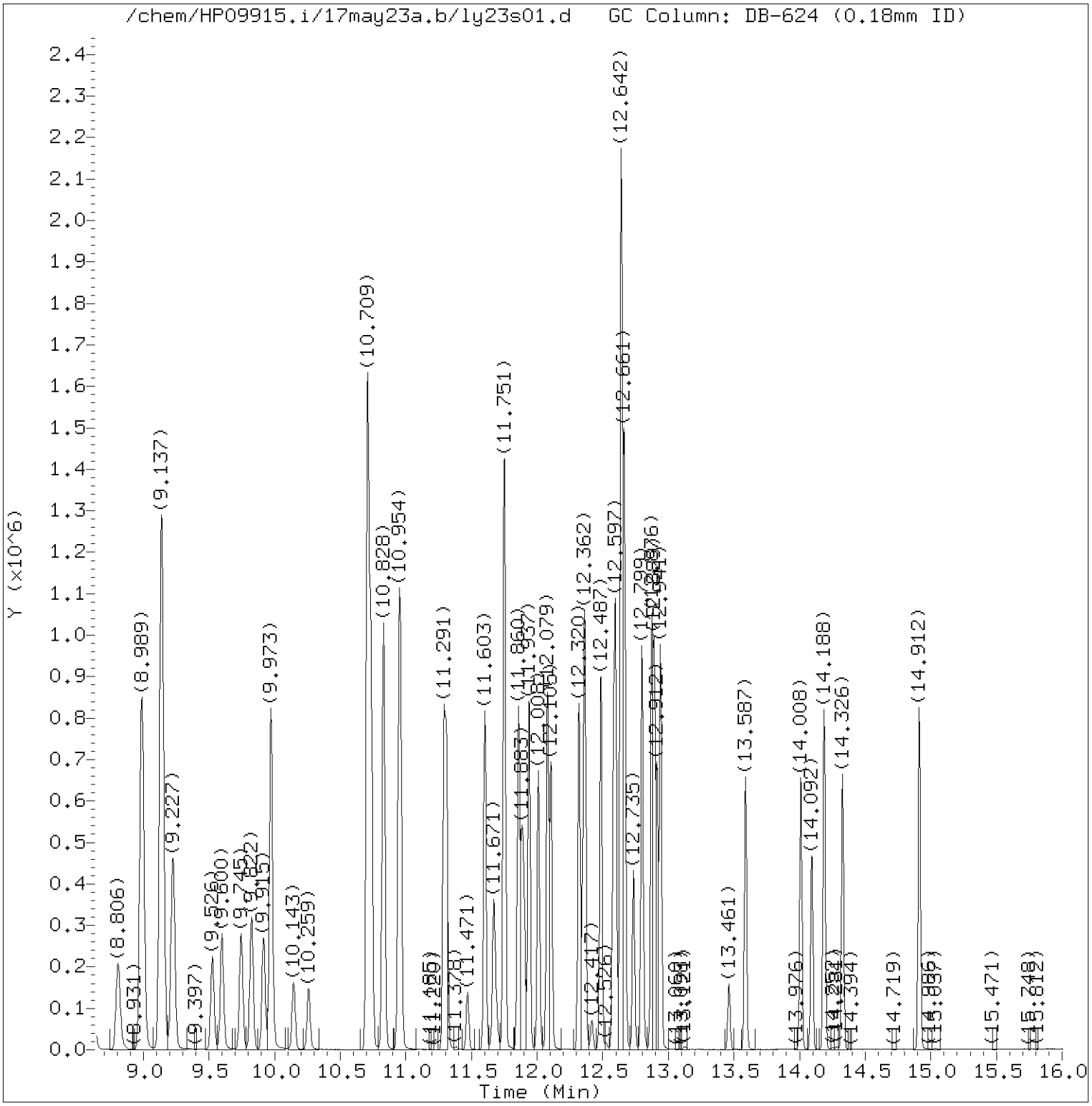
Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
3) Dichlorodifluoromethane	(2)	1.706	85	104418	15.061
4) Chloromethane	(2)	1.812	50	115666	16.240
6) Vinyl Chloride	(2)	1.925	62	114412	16.636
5) 1,3-Butadiene	(2)	1.947	39	223026	53.166
8) Bromomethane	(2)	2.198	94	74074M	16.014
9) Chloroethane	(2)	2.298	64	64603	16.668
12) Trichlorofluoromethane	(2)	2.546	101	130572	16.395
11) n-Pentane	(2)	2.584	43	132623	20.221
14) Ethyl ether	(2)	2.758	59	74924	16.899
15) Freon 123a	(2)	2.828	67	101282	19.096
16) Acrolein	(1)	2.906	56	219183	117.166
17) 1,1-Dichloroethene	(2)	3.018	96	83733	19.865
18) Acetone	(1)	3.034	58	119563	147.259
19) Freon 113	(2)	3.047	101	83538	19.690
21) 2-Propanol	(1)	3.173	45	60650	112.683
22) Methyl Iodide	(2)	3.189	142	158449	19.380
23) Carbon Disulfide	(2)	3.285	76	286677	20.900
27) Methyl Acetate	(2)	3.394	43	110338	18.035
25) Allyl Chloride	(2)	3.420	41	141249	16.730
29)*t-Butyl alcohol-d10	(1)	3.568	65	228523	250.000
28) Methylene Chloride	(2)	3.578	84	102649	18.434
30) t-Butyl alcohol	(1)	3.668	59	182808M	206.752
31) Acrylonitrile	(2)	3.848	53	289039	89.968
33) Methyl Tertiary Butyl Ether	(2)	3.915	73	303150	19.632
32) trans-1,2-Dichloroethene	(2)	3.938	96	97286	19.672
34) n-Hexane	(2)	4.320	57	140837	18.578
36) 1,1-Dichloroethane	(2)	4.568	63	173908	18.714
38) di-Isopropyl ether	(2)	4.619	45	334842	18.773
39) 2-Chloro-1,3-butadiene	(2)	4.671	53	147029	18.756
40) Ethyl t-butyl ether	(2)	5.172	59	298884	19.471
44) 2-Butanone	(2)	5.375	43	580624	134.976
42) cis-1,2-Dichloroethene	(2)	5.414	96	110548	19.507
45) 2,2-Dichloropropane	(2)	5.423	77	120481	19.418
47) Propionitrile	(1)	5.462	54	178738	138.504
48) Methacrylonitrile	(2)	5.684	67	460551	143.788
49) Bromochloromethane	(2)	5.761	128	53374	17.870
50) Tetrahydrofuran	(1)	5.767	71	97793	85.795
51) Chloroform	(2)	5.918	83	164297	18.548

M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
52)$Dibromofluoromethane	(2)	6.140	113	277514	48.832
53) 1,1,1-Trichloroethane	(2)	6.140	97	138893	17.159
43) 1,2-Dichloroethene (Total)	(2)		96	207834	39.179
54) Cyclohexane	(2)	6.243	56	161155	17.486
55) 1,1-Dichloropropene	(2)	6.362	75	130117	18.061
56) Carbon Tetrachloride	(2)	6.365	117	103257	17.476
58) Isobutyl Alcohol	(1)	6.516	41	153847	495.573
57)$1,2-Dichloroethane-d4	(2)	6.606	102	70485	49.876
60) Benzene	(2)	6.629	78	400532	18.860
61) 1,2-Dichloroethane	(2)	6.716	62	134265	18.687
65) t-Amyl methyl ether	(2)	6.832	73	284147	18.651
66)*Fluorobenzene	(2)	7.047	96	1163804	50.000
67) n-Heptane	(2)	7.069	43	146984	17.317
69) n-Butanol	(1)	7.426	56	245707	981.825
71) Trichloroethene	(2)	7.542	95	99636	18.154
72) Methylcyclohexane	(2)	7.851	83	169867	17.566
73) 1,2-Dichloropropane	(2)	7.883	63	106563	18.329
76) Methyl Methacrylate	(2)	7.973	69	91429M	18.372
75) 1,4-Dioxane	(1)	7.973	88	40317M	516.045
74) Dibromomethane	(2)	7.992	93	67872	18.564
78) Bromodichloromethane	(2)	8.240	83	115872	17.561
79) 2-Nitropropane	(2)	8.504	41	31173	16.661
80) 2-Chloroethyl Vinyl Ether	(2)	8.619	63	79778	17.851
81) cis-1,3-Dichloropropene	(2)	8.806	75	151951	17.669
82) 4-Methyl-2-pentanone	(2)	8.986	43	778341	87.805
83)$Toluene-d8	(3)	9.137	98	1132148	50.371
88) Toluene	(3)	9.224	92	251227	19.234
89) trans-1,3-Dichloropropene	(3)	9.523	75	132807	18.133
91) Ethyl Methacrylate	(3)	9.597	69	160382	19.441
92) 1,1,2-Trichloroethane	(3)	9.745	97	98535	19.577
93) Tetrachloroethene	(3)	9.822	166	106675	18.465
94) 1,3-Dichloropropane	(3)	9.915	76	165758	18.980
96) 2-Hexanone	(3)	9.973	43	574676	91.149
90) 1,3-Dichloropropene (total)	(3)		100	284758	35.803
97) Dibromochloromethane	(3)	10.147	129	89499	17.168
99) 1,2-Dibromoethane	(3)	10.259	107	105430	19.134
100)*Chlorobenzene-d5	(3)	10.709	117	880279	50.000
101) 1-Chlorohexane	(3)	10.732	91	135418	18.053

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
102) Chlorobenzene	(3)	10.738	112	284567	18.881
103) 1,1,1,2-Tetrachloroethane	(3)	10.828	131	89091	17.900
104) Ethylbenzene	(3)	10.831	91	479793	19.043
106) m+p-Xylene	(3)	10.954	106	378392	38.578
107) o-Xylene	(3)	11.291	106	182579	18.717
109) Styrene	(3)	11.310	104	312129	19.356
110) Bromoform	(3)	11.471	173	59142	15.624
111) Isopropylbenzene	(3)	11.603	105	476236	19.103
112) Cyclohexanone	(1)	11.671	55	165796	562.572
114)$4-Bromofluorobenzene	(3)	11.751	95	426657	51.071
108) Xylene (Total)	(3)		106	560971	57.295
116) 1,1,2,2-Tetrachloroethane	(4)	11.857	83	157455	18.645
115) Bromobenzene	(4)	11.860	156	124406	18.293
118) trans-1,4-Dichloro-2-butene	(4)	11.883	53	79299	32.769
117) 1,2,3-Trichloropropane	(4)	11.902	110	45674	19.132
119) n-Propylbenzene	(4)	11.941	91	573169	19.073
120) 2-Chlorotoluene	(4)	12.008	126	116361	18.605
122) 1,3,5-Trimethylbenzene	(4)	12.079	105	406269	18.959
121) 4-Chlorotoluene	(4)	12.108	126	120154	18.459
124) tert-Butylbenzene	(4)	12.320	134	85090M	18.369
125) Pentachloroethane	(4)	12.352	167	63206	17.283
126) 1,2,4-Trimethylbenzene	(4)	12.365	105	419864	19.021
127) sec-Butylbenzene	(4)	12.487	105	522949	19.131
129) 1,3-Dichlorobenzene	(4)	12.584	146	235753	18.208
130) p-Isopropyltoluene	(4)	12.597	119	450997	18.686
131)*1,4-Dichlorobenzene-d4	(4)	12.642	152	475781	50.000
133) 1,4-Dichlorobenzene	(4)	12.658	146	247739	18.504
134) 1,2,3-Trimethylbenzene	(4)	12.667	105	444026	19.200
135) Benzyl Chloride	(4)	12.735	91	253529	18.103
136) 1,3-Diethylbenzene	(4)	12.799	119	267366	18.542
137) 1,4-Diethylbenzene	(4)	12.873	119	281405	18.584
139) n-Butylbenzene	(4)	12.892	92	223762	18.559
138) 1,2-Dichlorobenzene	(4)	12.912	146	234513	18.426
140) 1,2-Diethylbenzene	(4)	12.941	119	227368	18.737
141) Diethylbenzene (total)	(4)		100	776139	55.863
142) 1,2-Dibromo-3-chloropropane	(4)	13.461	75	31312	17.533
144) 1,3,5-Trichlorobenzene	(4)	13.587	180	178757	17.324
146) 1,2,4-Trichlorobenzene	(4)	14.008	180	172499	17.233

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Quant Report

Target Revision 3.5

Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

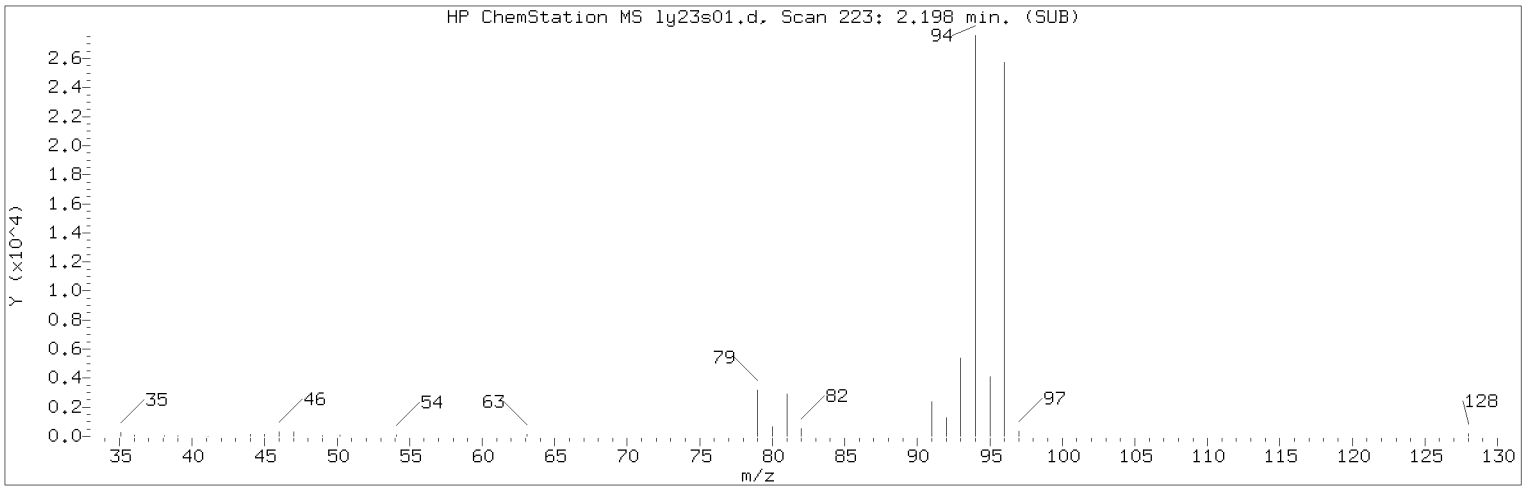
Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

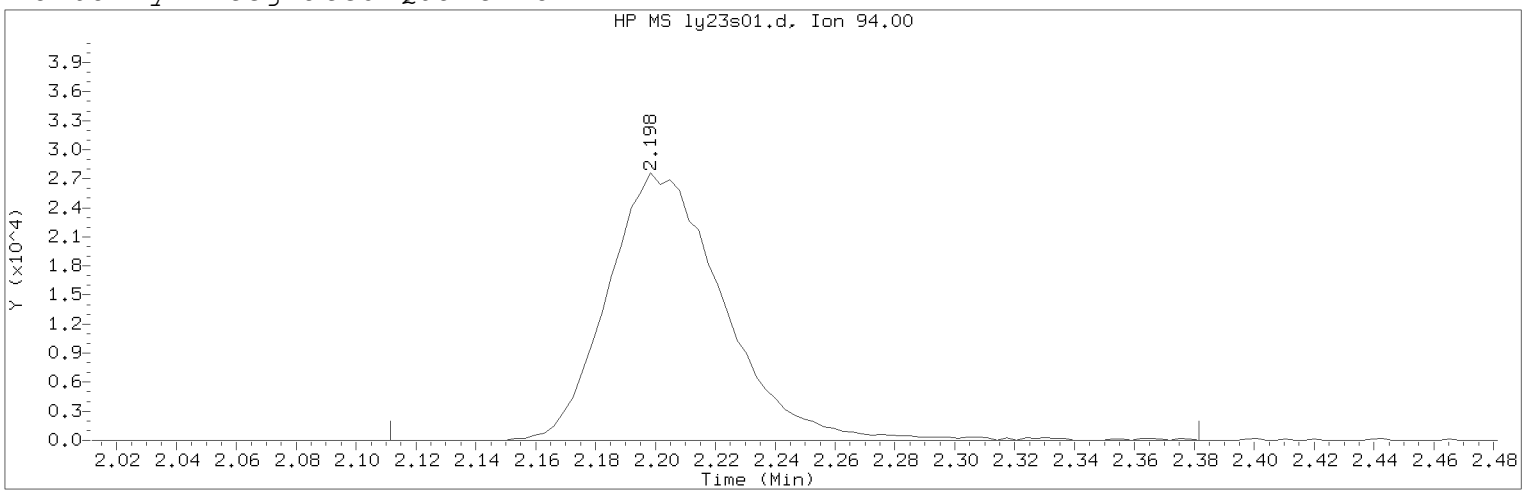
Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
147) Hexachlorobutadiene	(4)	14.095	225	72487	16.675
148) Naphthalene	(4)	14.188	128	552786	18.301
149) 1,2,3-Trichlorobenzene	(4)	14.326	180	171873	17.798
150) 2-Methylnaphthalene	(4)	14.912	142	323731	16.575

Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

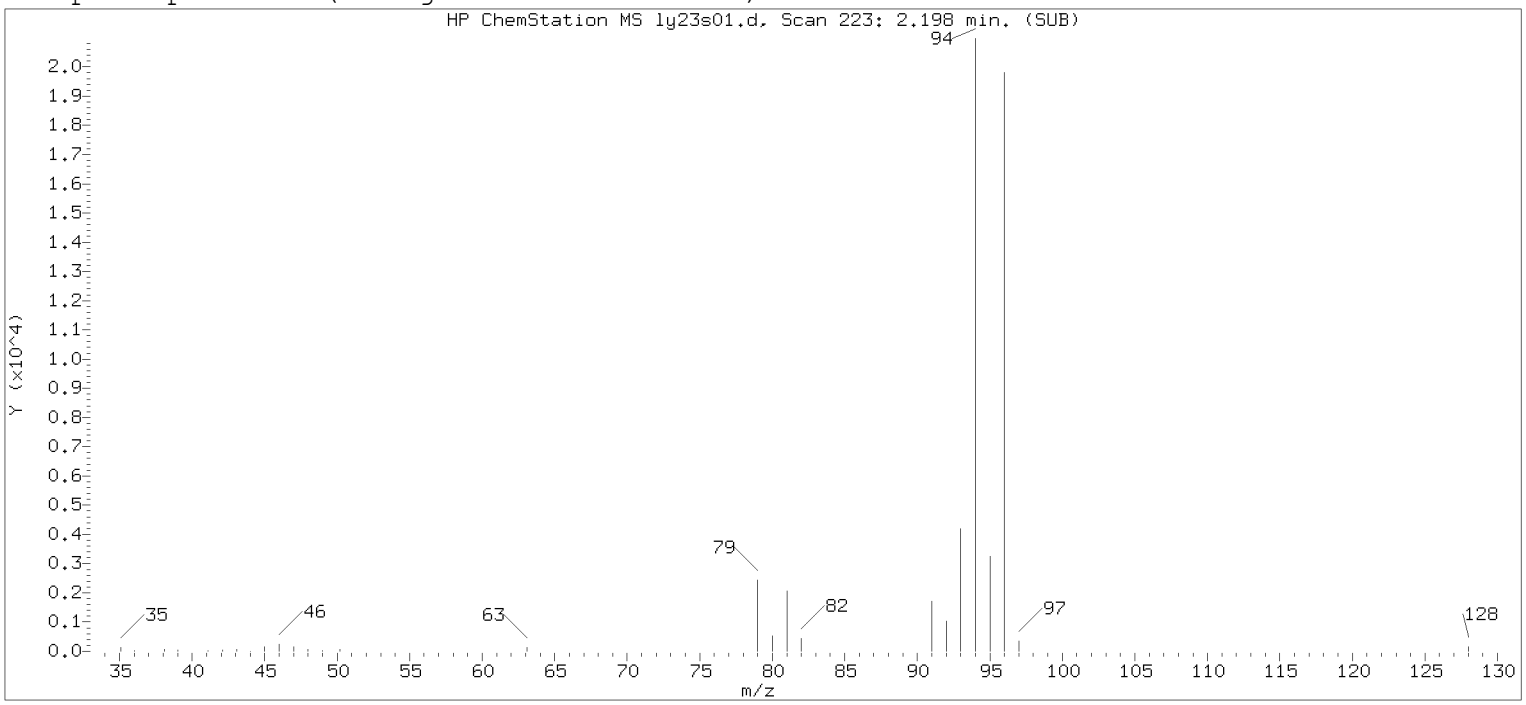
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 223
Retention Time (minutes): 2.198
Quant Ion : 94.00
Area (flag) : 74074M
On-Column Amount (ng) : 16.0136
Integration start scan : 195 Integration stop scan: 279
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

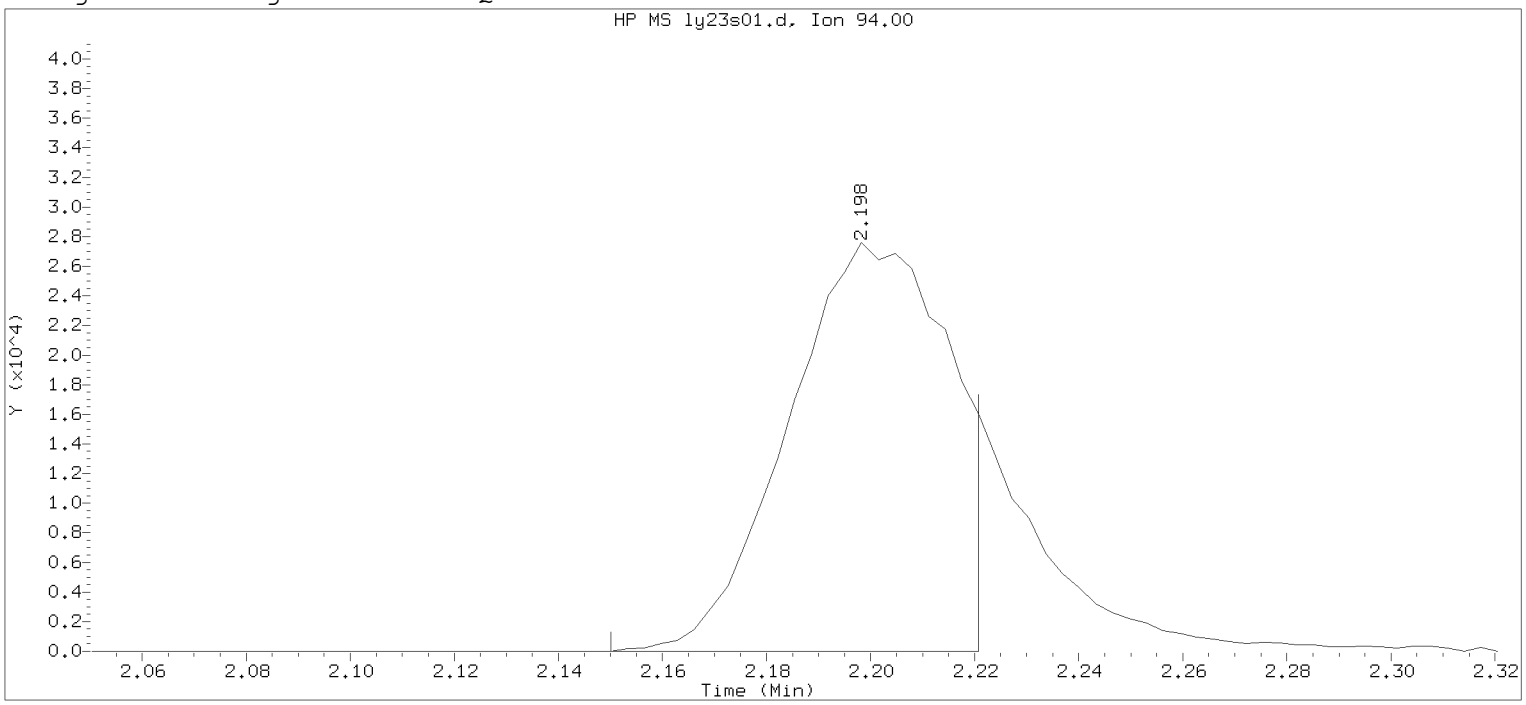
Analyst responsible for change: Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:33.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

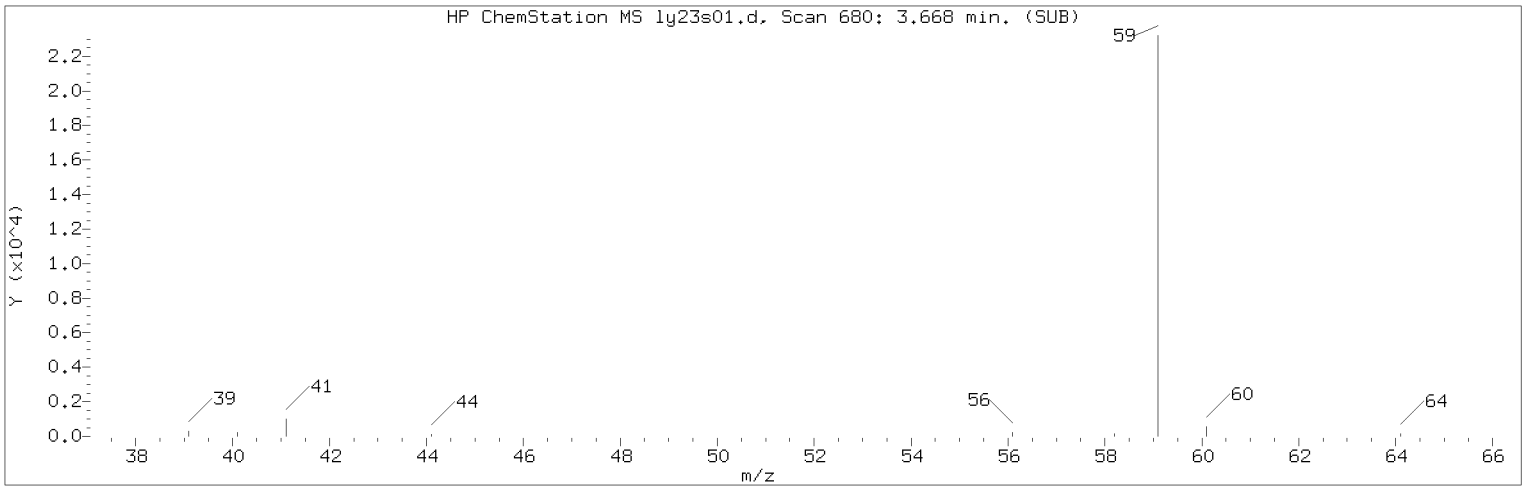
Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: all
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:50 Automation

Sample Name: LCSL17 Lab Sample ID: LCSL17

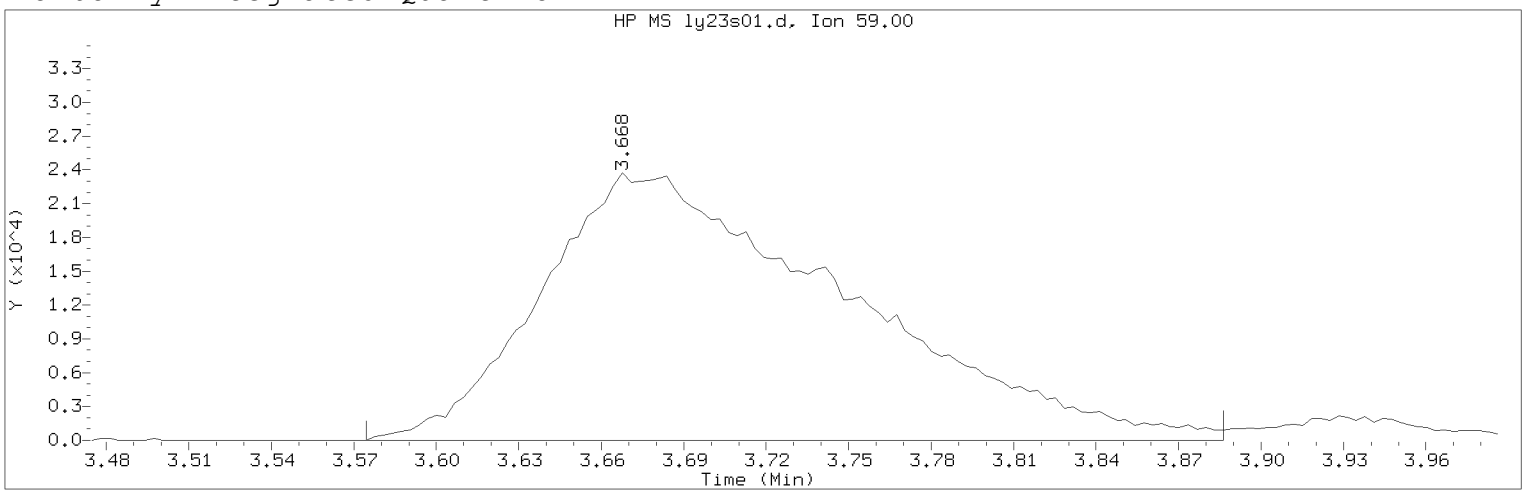
Compound Number : 8
Compound Name : Bromomethane
Scan Number : 223
Retention Time (minutes): 2.198
Quant Ion : 94.00
Area : 58796
On-column Amount (ng) : 12.7108
Integration start scan : 207 Integration stop scan: 229
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: KELLY

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

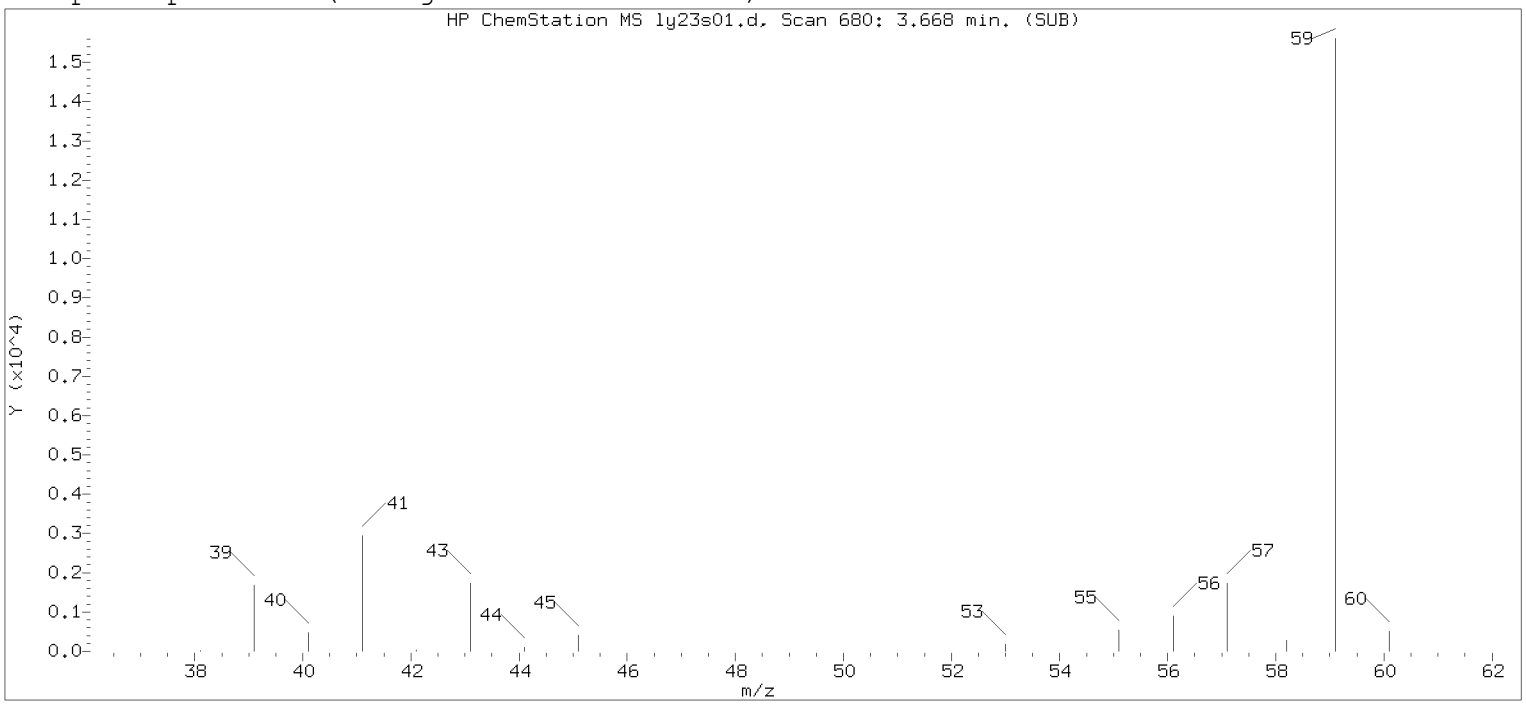
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 680
Retention Time (minutes): 3.668
Quant Ion : 59.00
Area (flag) : 182808M
On-Column Amount (ng) : 206.7518
Integration start scan : 650 Integration stop scan: 747
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

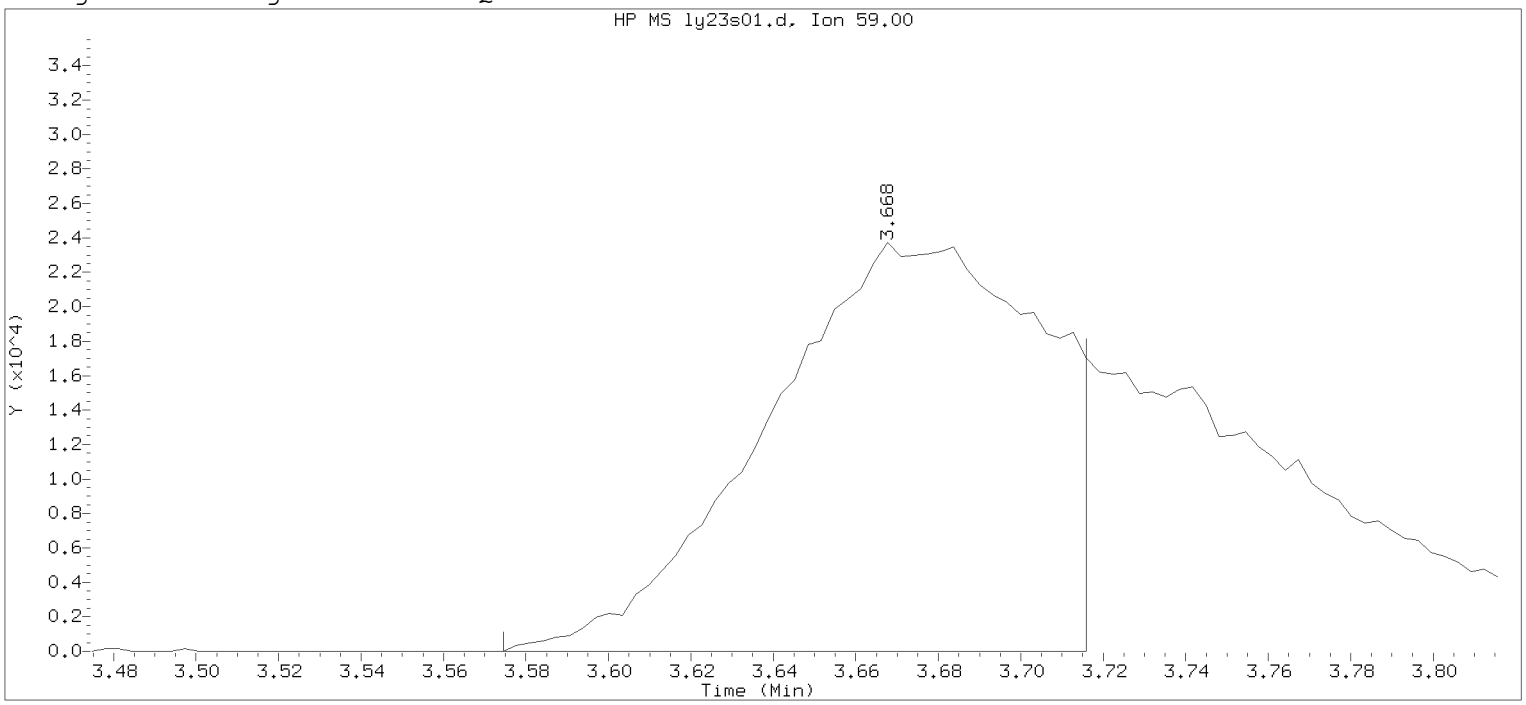
Analyst responsible for change: Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:33.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

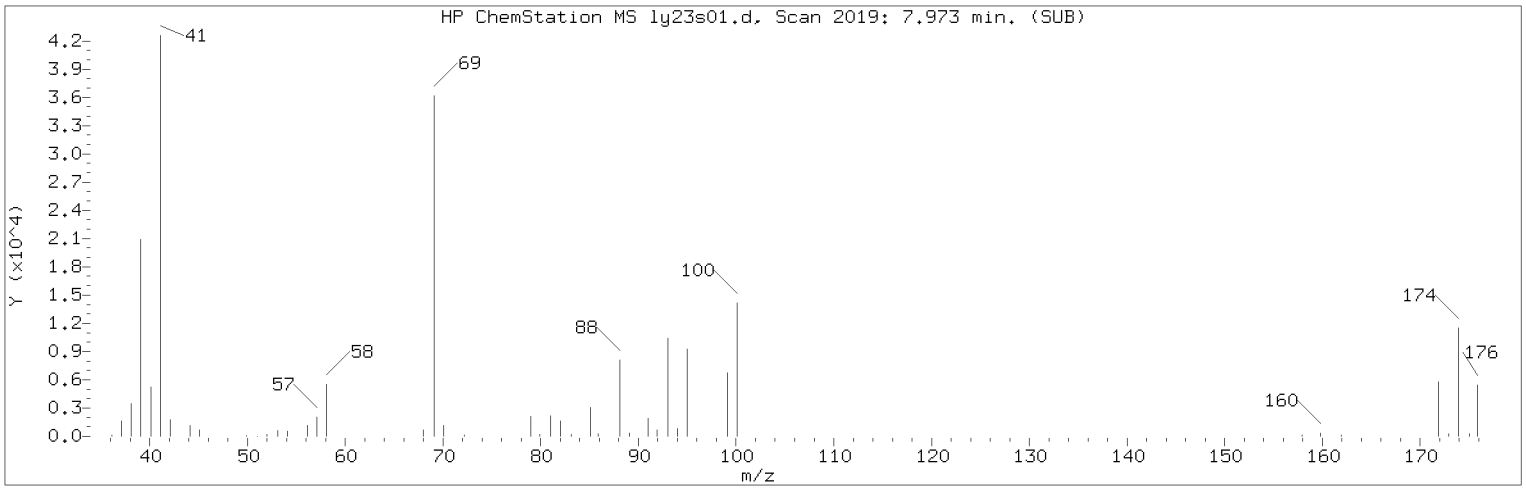
Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: all
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:50 Automation

Sample Name: LCSL17 Lab Sample ID: LCSL17

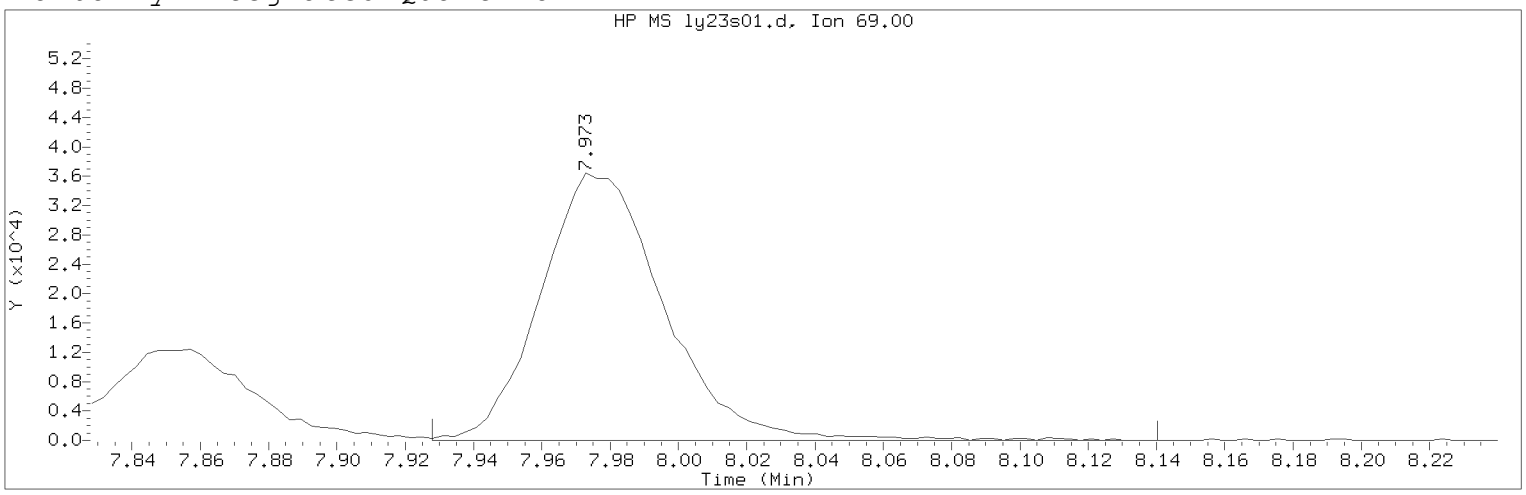
Compound Number : 30
Compound Name : t-Butyl alcohol
Scan Number : 680
Retention Time (minutes): 3.668
Quant Ion : 59.00
Area : 110651
On-column Amount (ng) : 125.1437
Integration start scan : 650 Integration stop scan: 694
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: KELLY

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

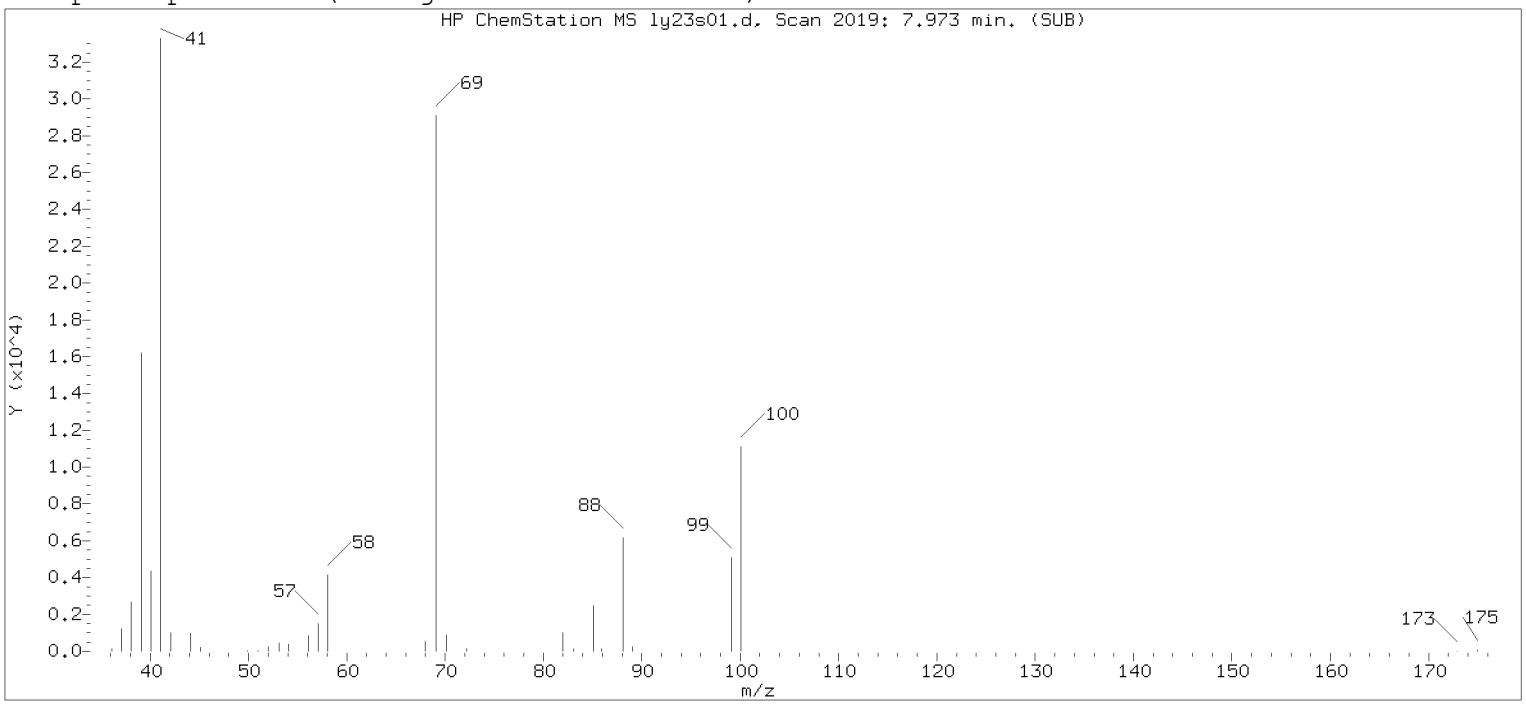
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2019
Retention Time (minutes): 7.973
Quant Ion : 69.00
Area (flag) : 91429M
On-Column Amount (ng) : 18.3725
Integration start scan : 2004 Integration stop scan: 2070
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

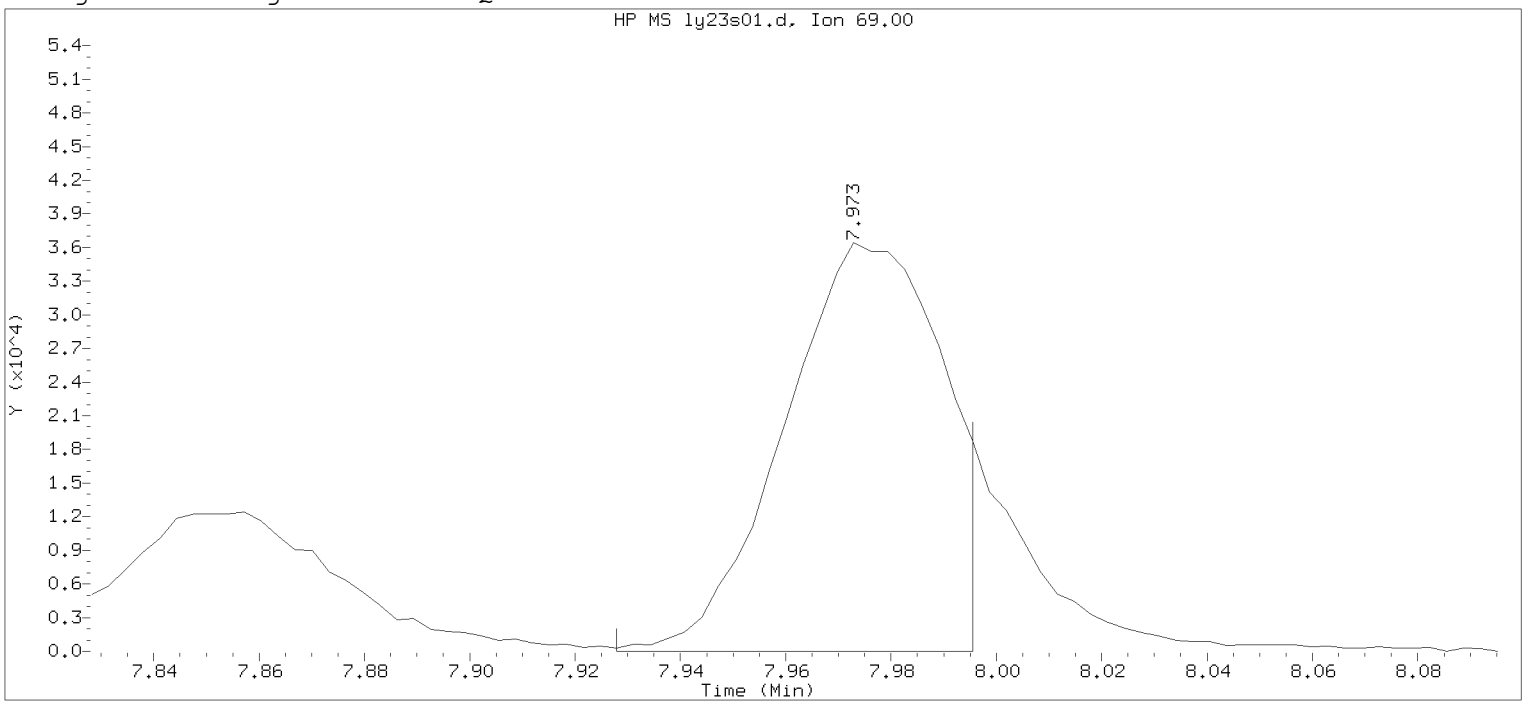
Analyst responsible for change: Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:33.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

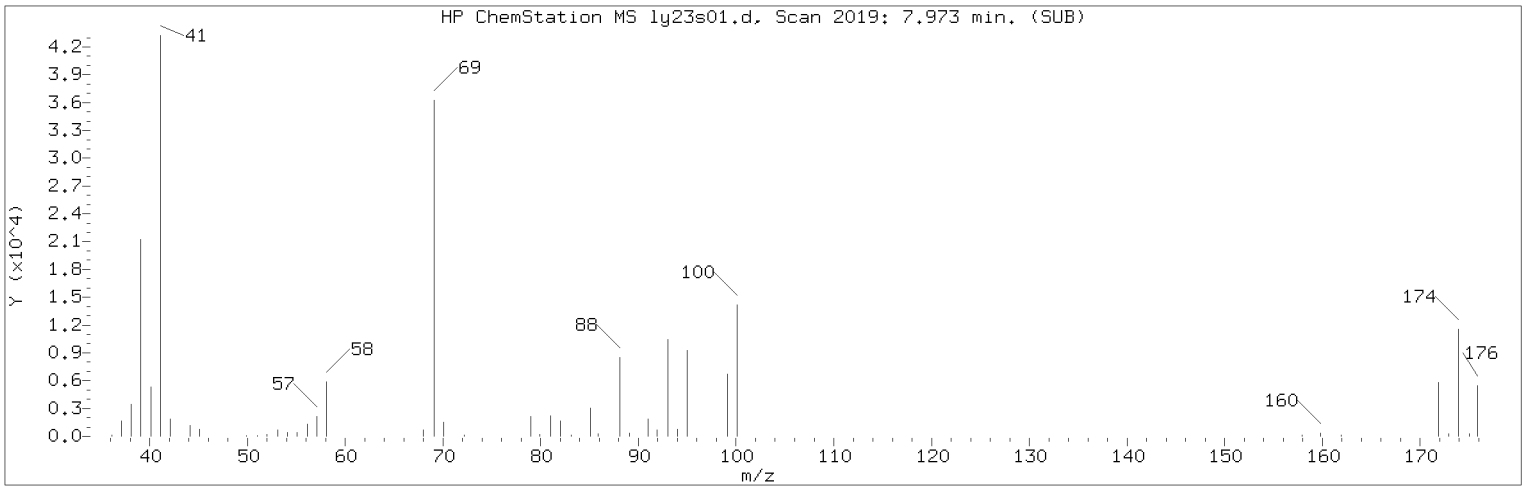
Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: all
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:50 Automation

Sample Name: LCSL17 Lab Sample ID: LCSL17

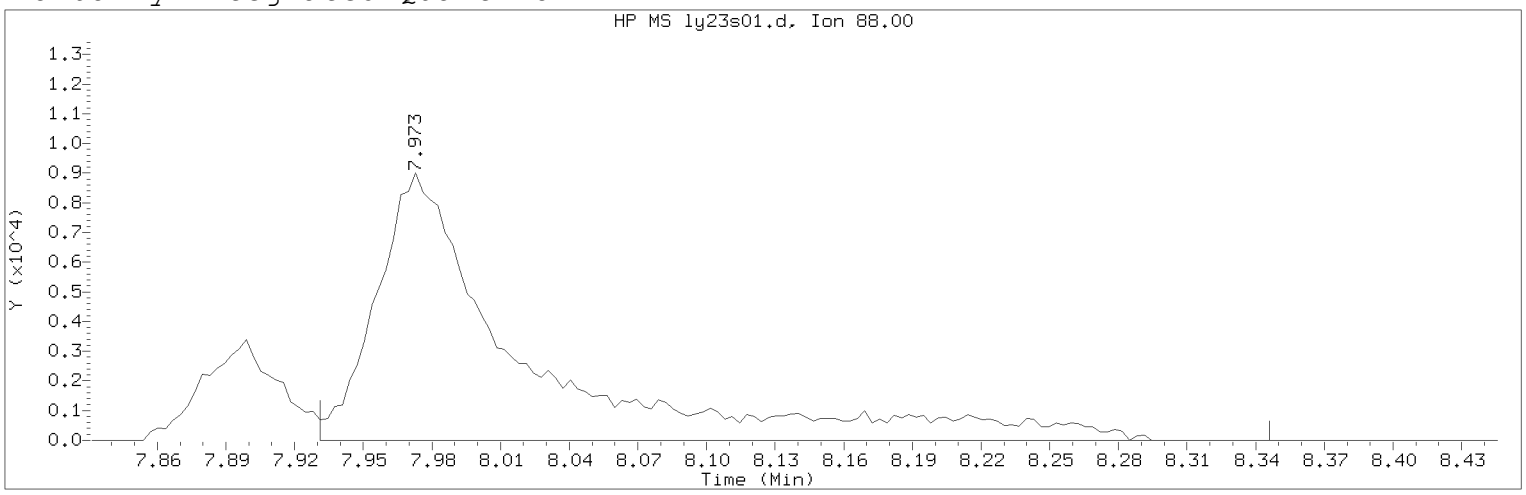
Compound Number : 76
Compound Name : Methyl Methacrylate
Scan Number : 2019
Retention Time (minutes): 7.973
Quant Ion : 69.00
Area : 75196
On-column Amount (ng) : 15.1105
Integration start scan : 2004 Integration stop scan: 2025
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: KELLY

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

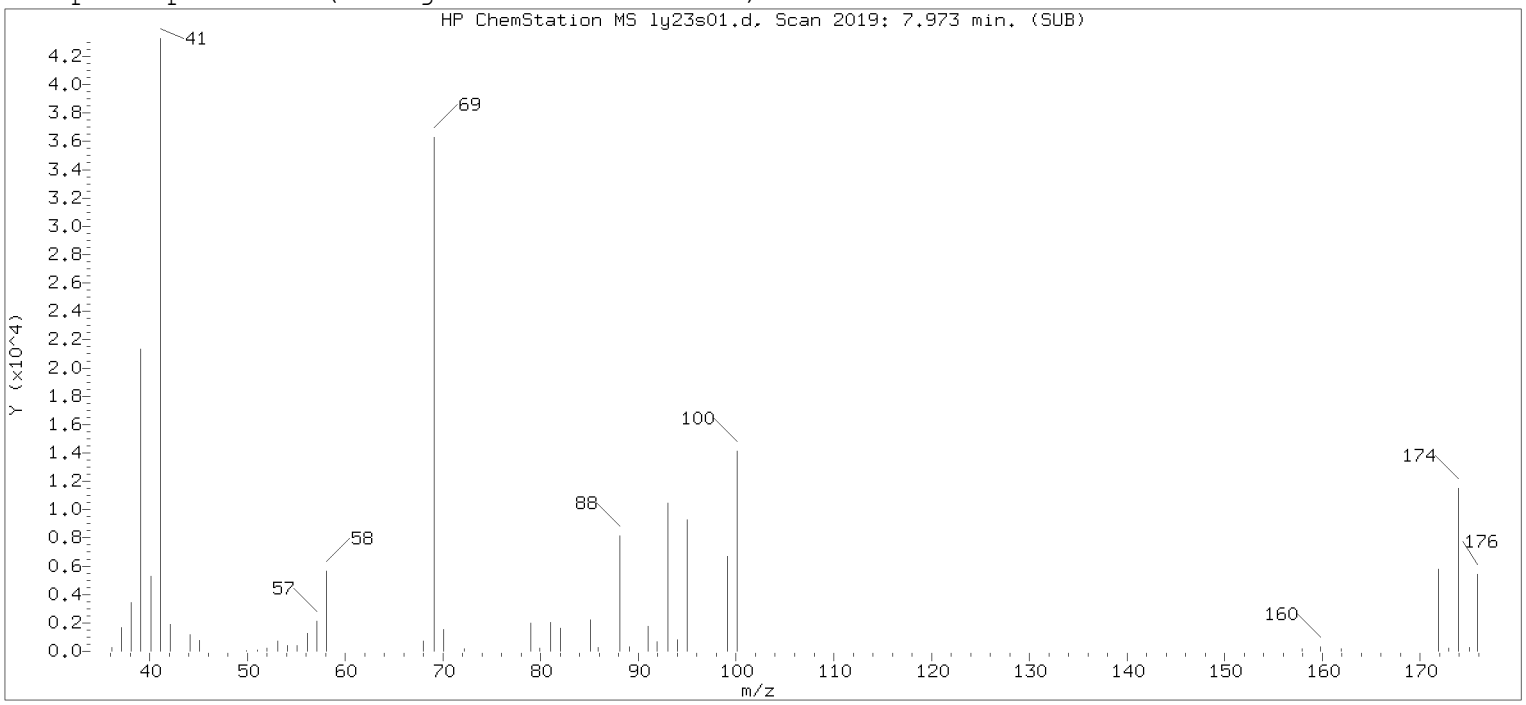
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2019
Retention Time (minutes): 7.973
Quant Ion : 88.00
Area (flag) : 40317M
On-Column Amount (ng) : 516.0454
Integration start scan : 2005 Integration stop scan: 2134
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

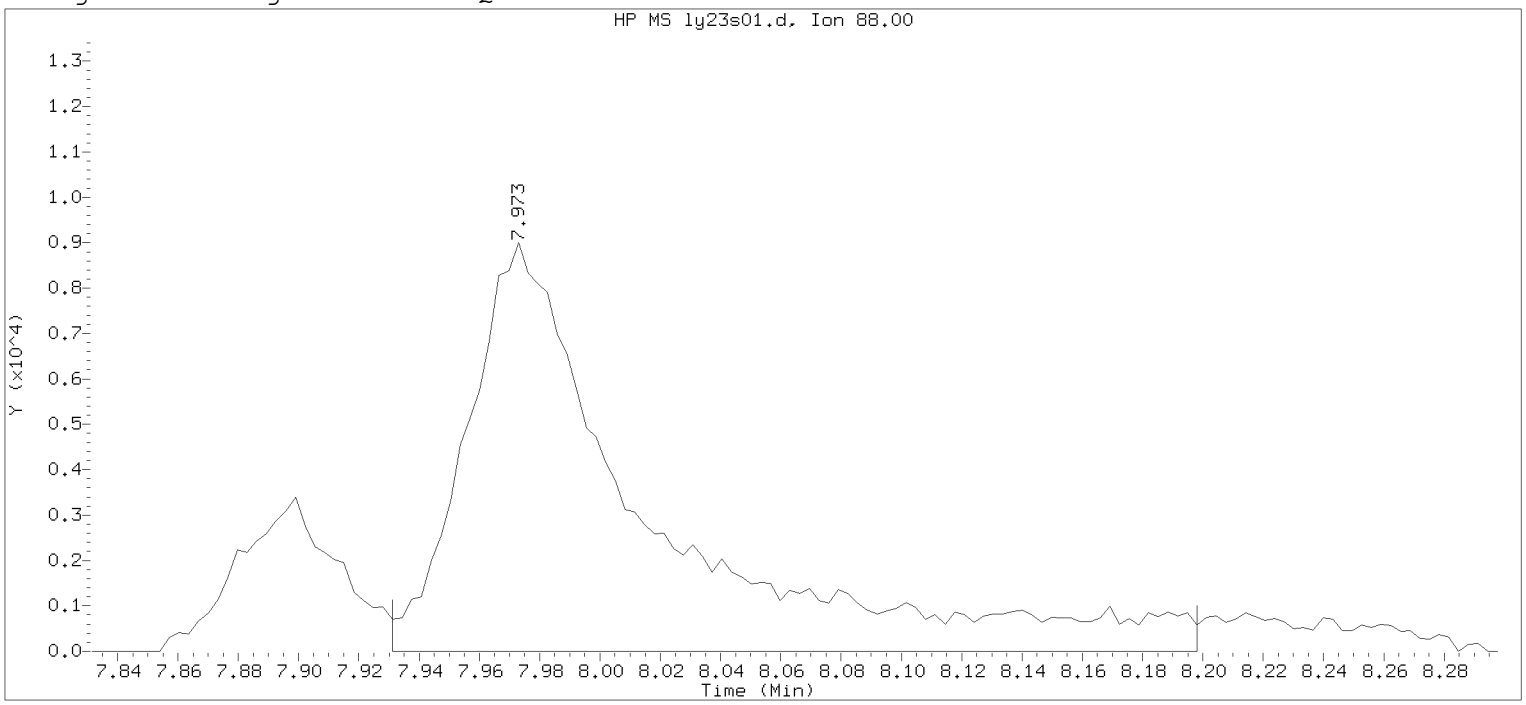
Analyst responsible for change: Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:33.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

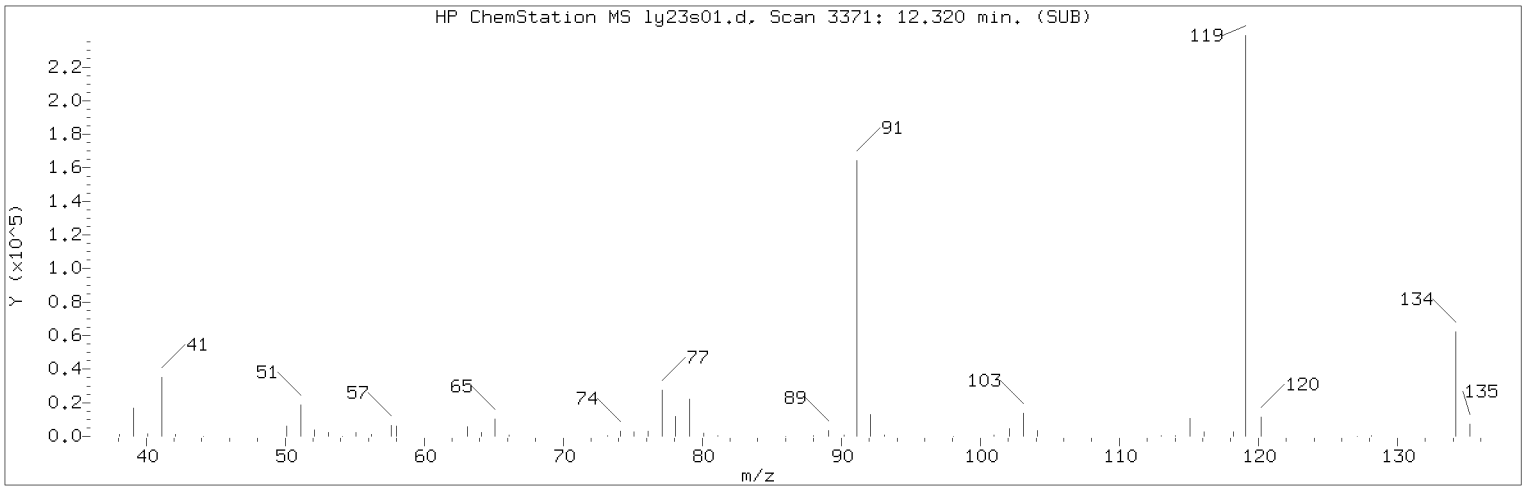
Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: all
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:50 Automation

Sample Name: LCSL17 Lab Sample ID: LCSL17

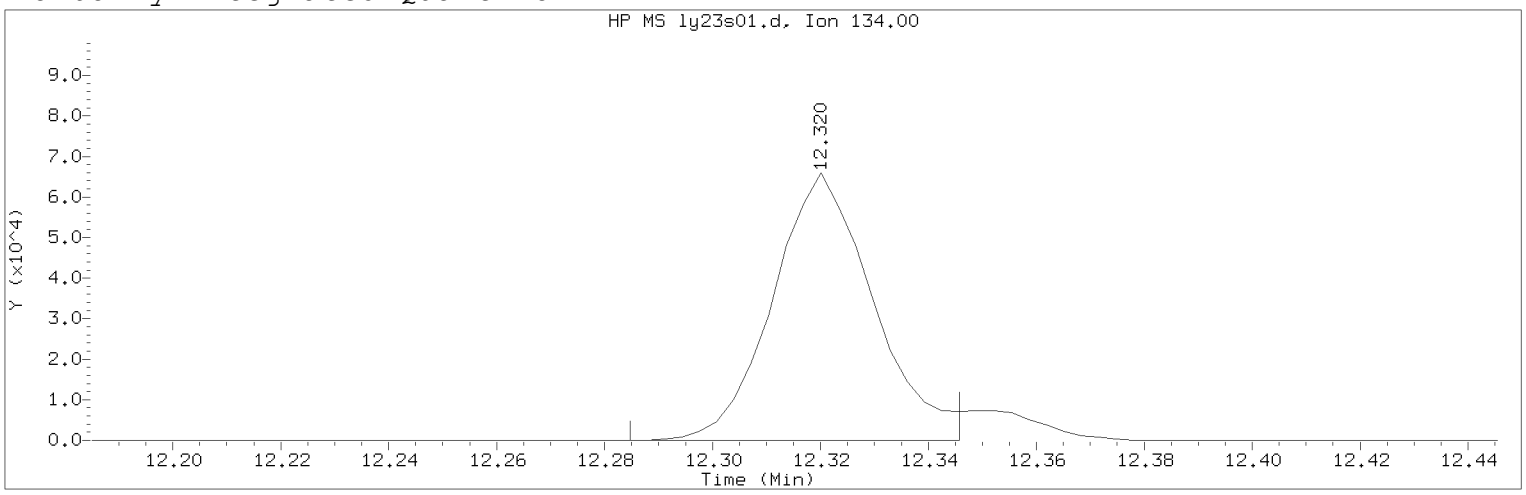
Compound Number : 75
Compound Name : 1,4-Dioxane
Scan Number : 2019
Retention Time (minutes): 7.973
Quant Ion : 88.00
Area : 37282
On-column Amount (ng) : 477.2014
Integration start scan : 2005 Integration stop scan: 2088
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 05/23/2017 at 18:16.
Target 3.5 esignature user E85 Page 101

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: 8260W-D
Calibration date and time: 23-MAY-2017 09:58
Date, time and analyst ID of latest file update: 23-May-2017 10:01 ads01731

Sample Name: LCSL17 Lab Sample ID: LCSL17

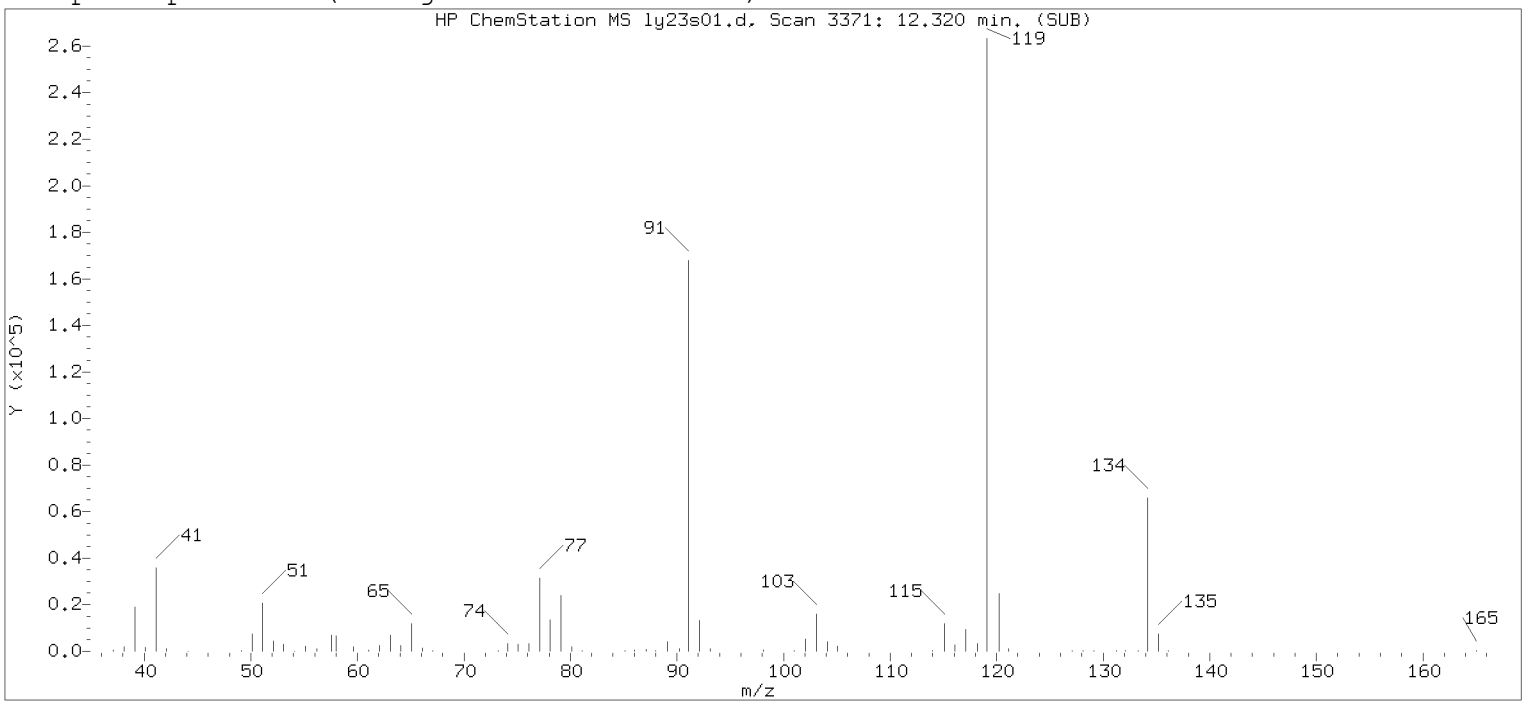
Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area (flag) : 85090M
On-Column Amount (ng) : 18.3693
Integration start scan : 3359 Integration stop scan: 3378
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

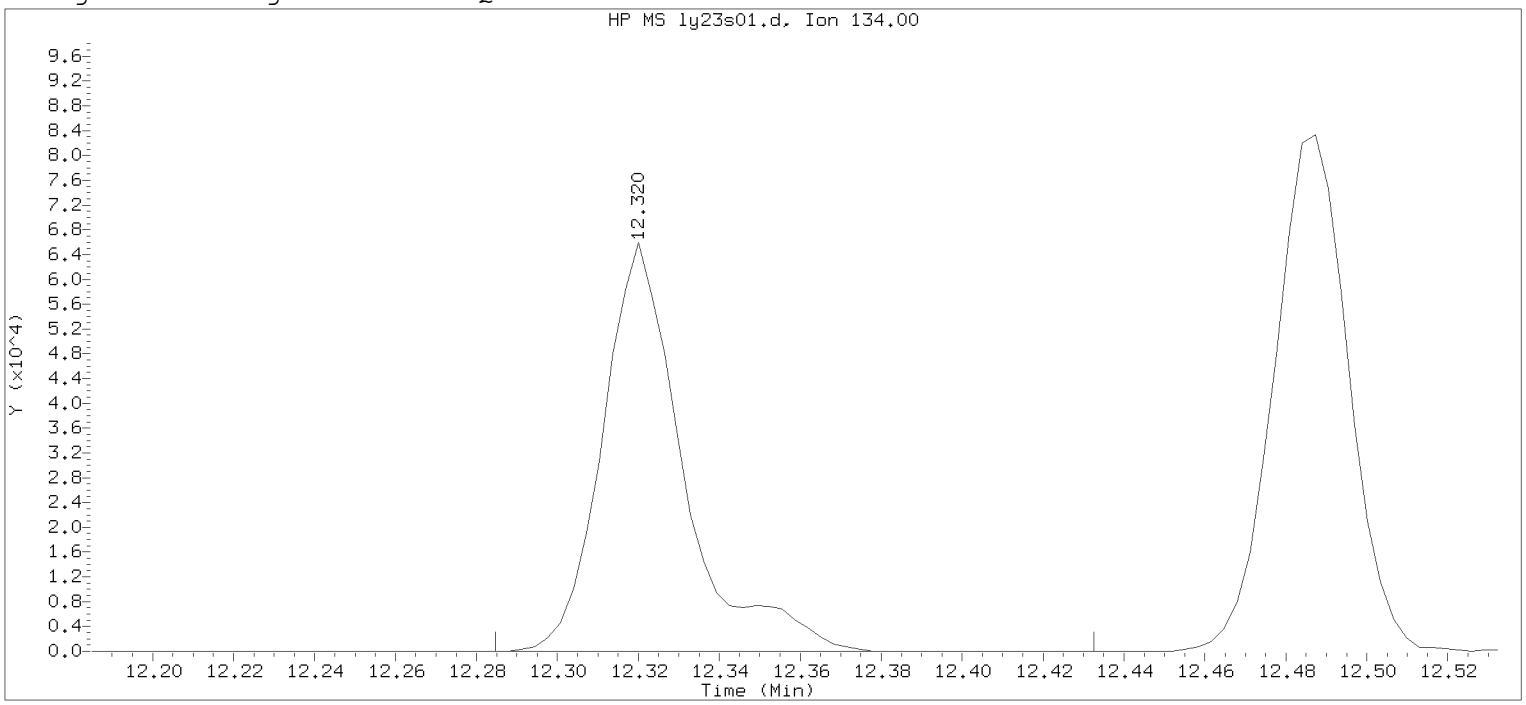
Analyst responsible for change: Digitally signed by Kevin Kelly
on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: kk10002

Secondary review performed and digitally signed by Marla S. Brewer on 05/24/2017 at 17:33.
PARALLAX ID: msl01251

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP09915.i/17may23a.b/ly23s01.d Instrument ID: HP09915.i
Injection date and time: 23-MAY-2017 09:32 Analyst ID: ADS01731

Method used: /chem/HP09915.i/17may23a.b/m8260c5.m Sublist used: all
Calibration date and time: 23-MAY-2017 09:28
Date, time and analyst ID of latest file update: 23-May-2017 09:50 Automation

Sample Name: LCSL17 Lab Sample ID: LCSL17

Compound Number : 124
Compound Name : tert-Butylbenzene
Scan Number : 3371
Retention Time (minutes): 12.320
Quant Ion : 134.00
Area : 91811
On-column Amount (ng) : 19.8204
Integration start scan : 3359 Integration stop scan: 3405
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kevin Kelly on 05/23/2017 at 18:16.
Target 3.5 esignature user ID: KELLY

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s02.d Injection date and time: **25-MAY-2017 19:27**
Data file Sample Info. Line: LCSH06;LCSH06;1;3;LCS;;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.239	(0.024)	435	65	90122	(3)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2590664	(-1)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1699337	(-9)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	644236	(-23)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	597923	10.296	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.324	(0.001)	102	94233	10.035	100%		74 - 113
82) Toluene-d8	(3)	9.786	(0.001)	98	2624006	10.563	106%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	650590	9.218	92%		78 - 110

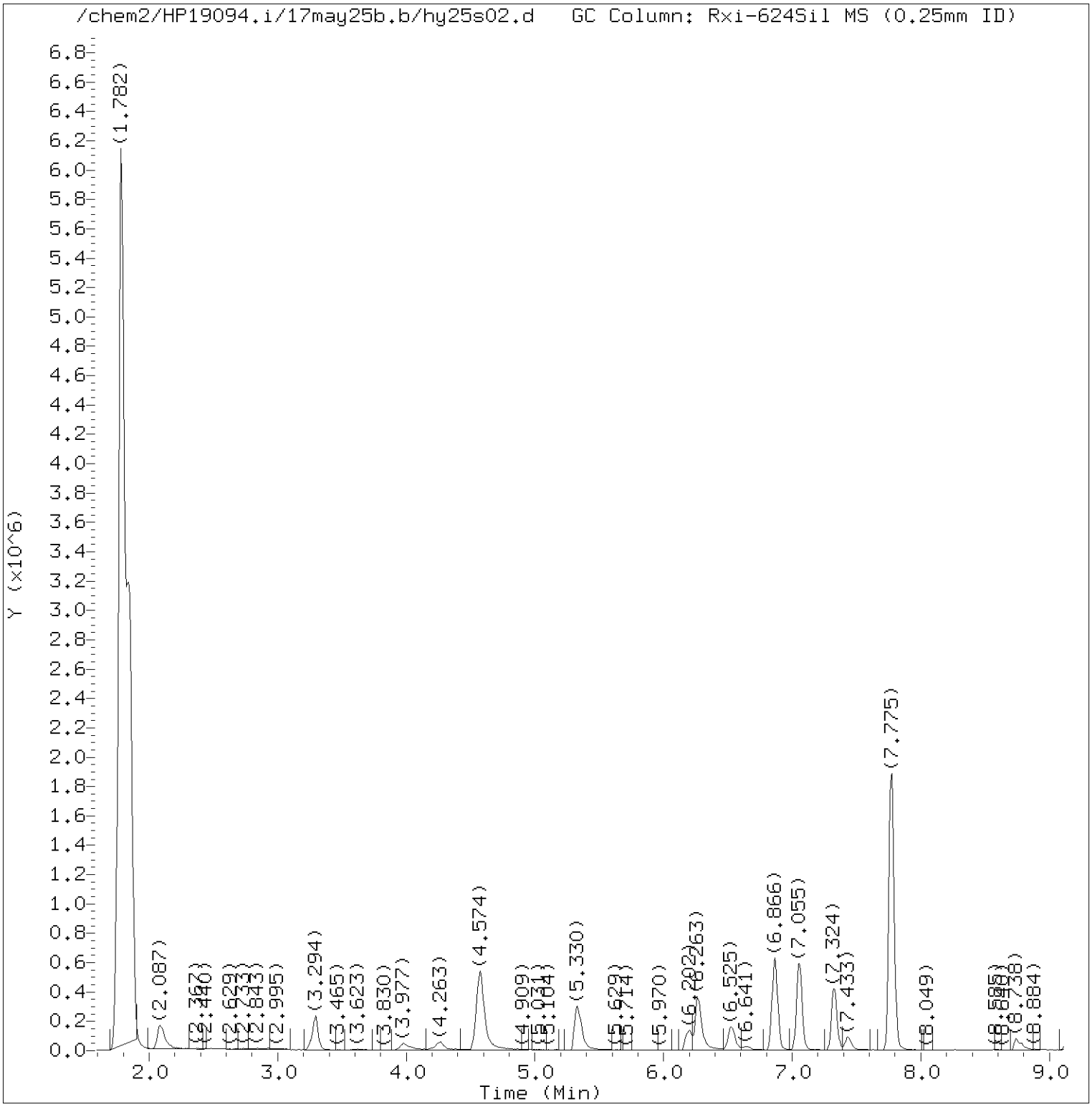
Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
4) Dimethyl ether	(2)	2.087	(0.000)	45	438517	4.626	4.63		J	0.1	13
25) Acetonitrile	(1)	3.977	(-0.006)	41	184216M	41.389	41.39		J	32	100
36) Vinyl Acetate	(2)	5.330	(0.000)	43	963704	11.942	11.94			3	10
142) Hexachloroethane	(4)	13.609	(-0.000)	117	258999	4.972	4.97		J	0.1	10

M = Compound was manually integrated.

Total number of targets = 4

Digitally signed by Don V. Viray on 05/30/2017 at 22:11. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

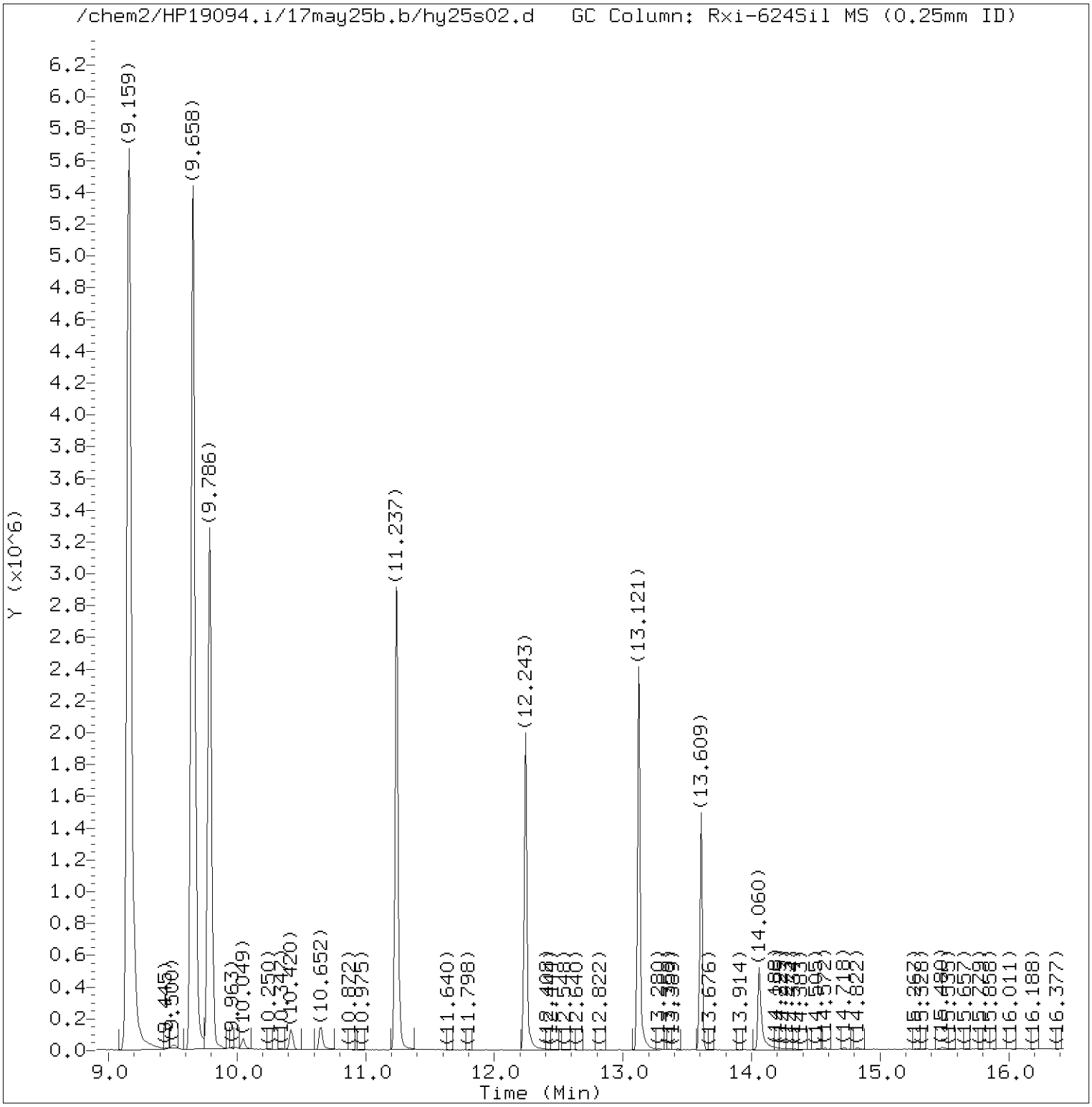
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH06 Lab Sample ID: LCSH06

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH06 Lab Sample ID: LCSH06

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

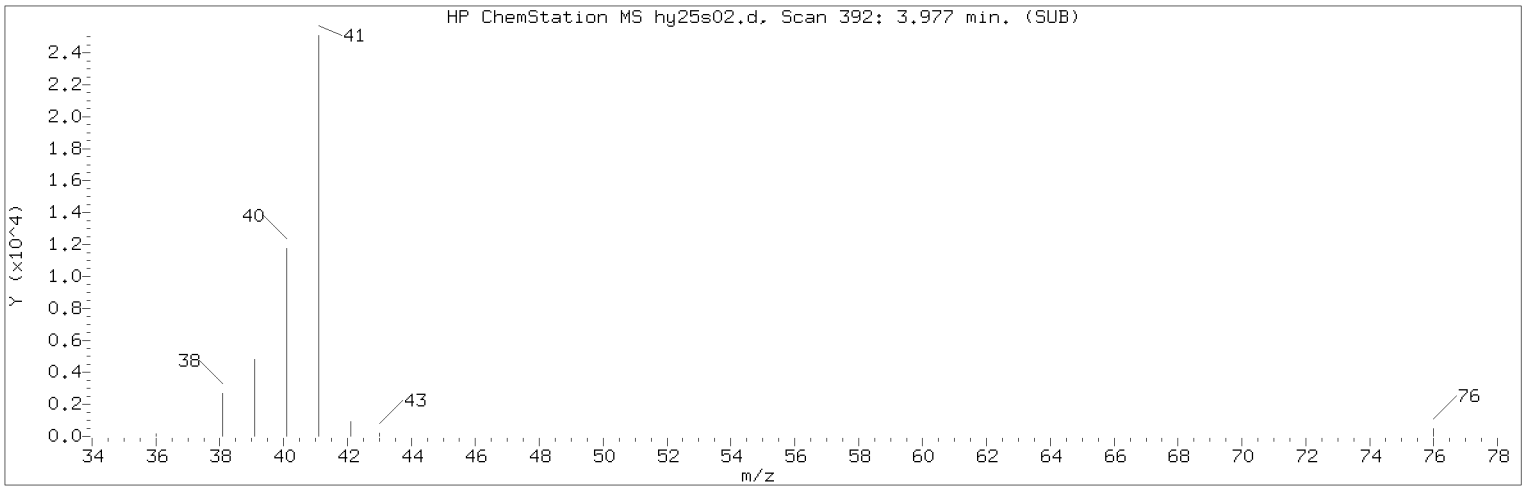
Sample Name: LCSH06 Lab Sample ID: LCSH06

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	438517	4.626
25) Acetonitrile	(1)	3.977	41	184216M	41.389
26)*t-Butyl Alcohol-d10	(1)	4.239	65	90122	50.000
36) Vinyl Acetate	(2)	5.330	43	963704	11.942
50)$Dibromofluoromethane	(2)	6.866	113	597923	10.296
57)$1,2-Dichloroethane-d4	(2)	7.324	102	94233	10.035
63)*Fluorobenzene	(2)	7.775	96	2590664	10.000
82)$Toluene-d8	(3)	9.786	98	2624006	10.563
97)*Chlorobenzene-d5	(3)	11.243	117	1699337	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	650590	9.218
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	644236	10.000
142) Hexachloroethane	(4)	13.609	117	258999	4.972

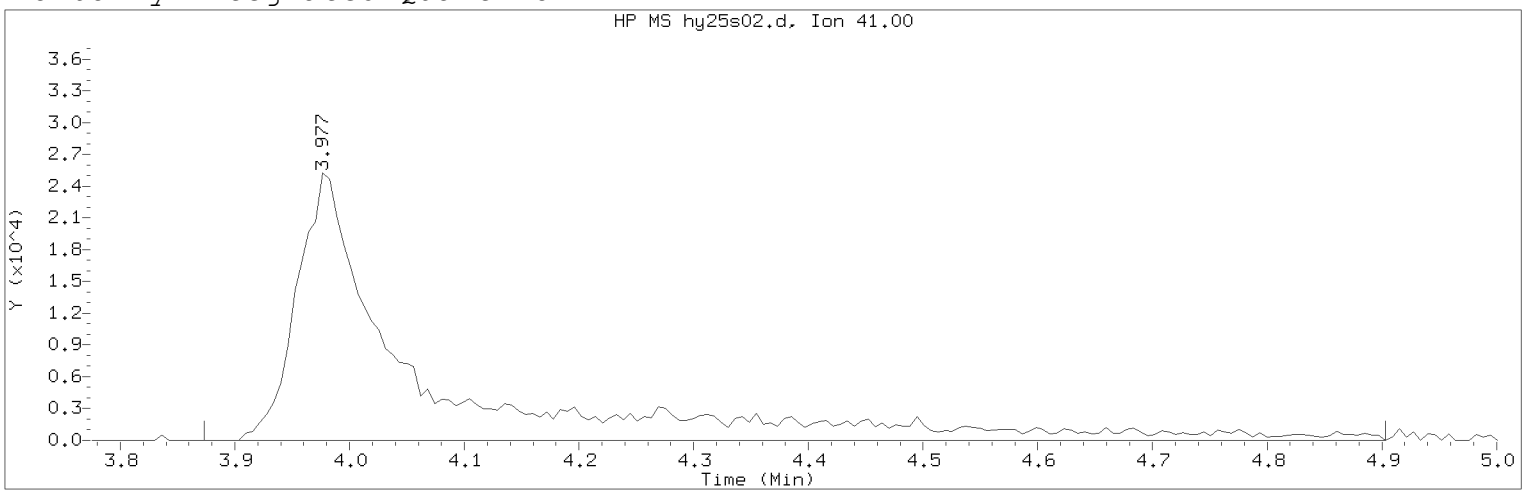
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH06 Lab Sample ID: LCSH06

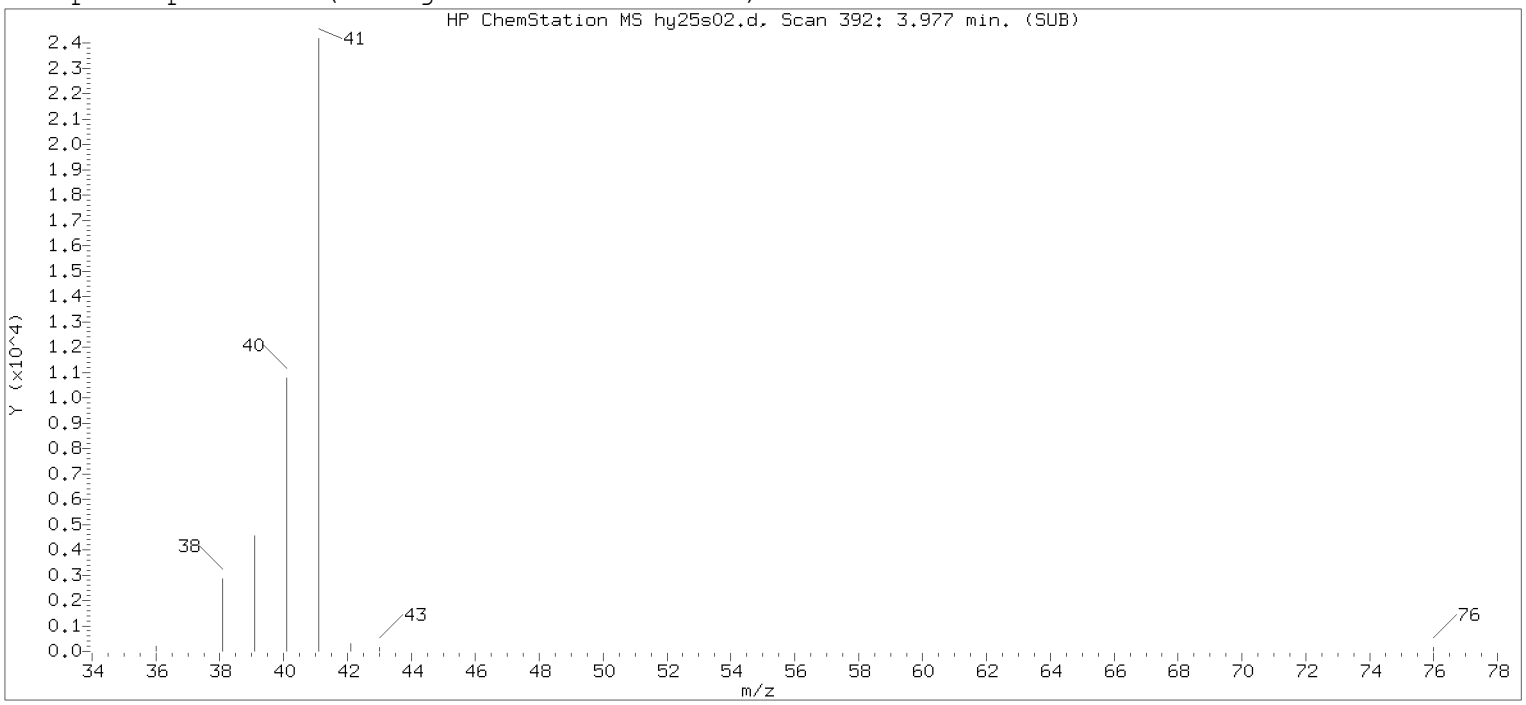
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 392
Retention Time (minutes): 3.977
Quant Ion : 41.00
Area (flag) : 184216M
On-Column Amount (ng) : 41.3886
Integration start scan : 374 Integration stop scan: 543
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

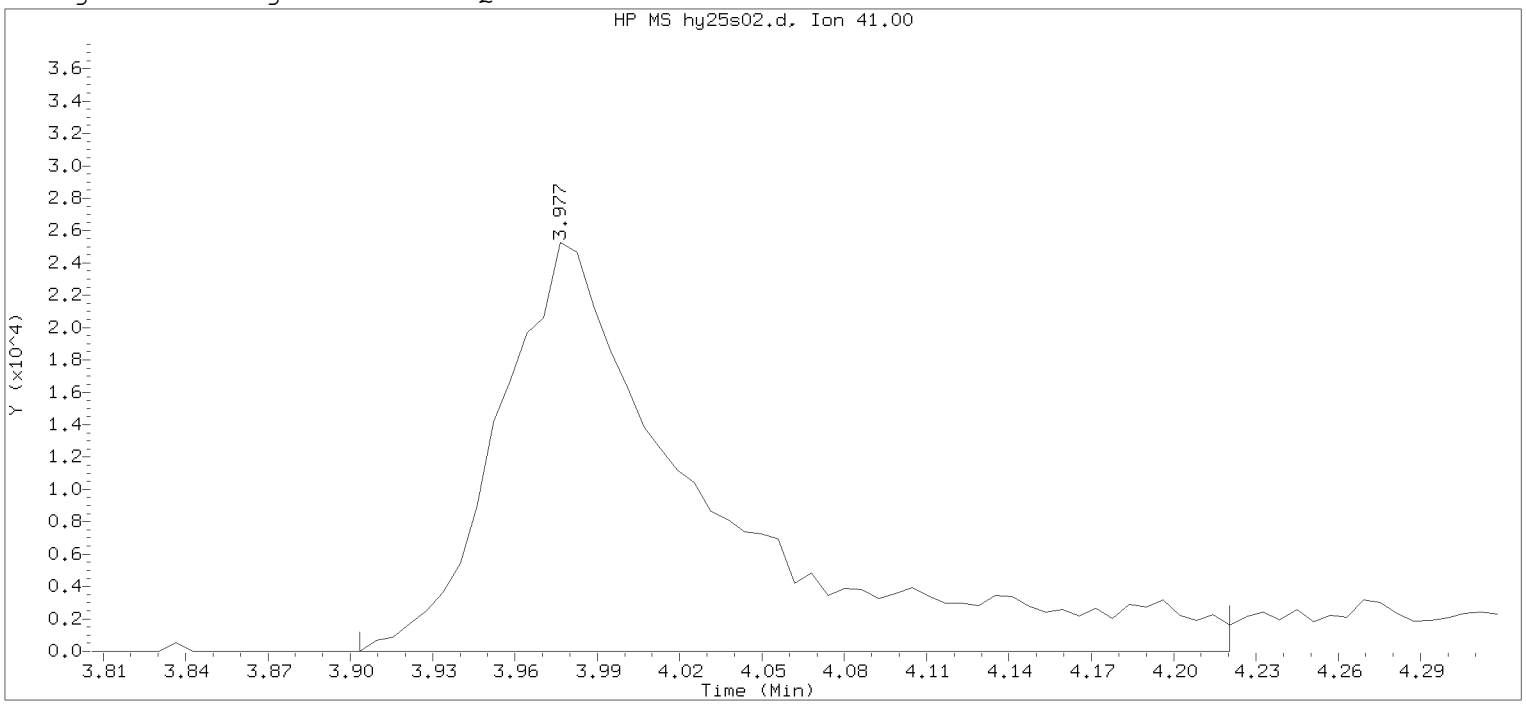
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s02.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 19:45 Automation

Sample Name: LCSH06 Lab Sample ID: LCSH06

Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 392
Retention Time (minutes): 3.977
Quant Ion : 41.00
Area : 134547
On-column Amount (ng) : 30.2291
Integration start scan : 379 Integration stop scan: 431
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:11.
Target 3.5 esignature user ID: DVV10203

Data file: /chem2/HP19094.i/17may25b.b/hy25s01.d Injection date and time: **25-MAY-2017 18:26**
Data file Sample Info. Line: LCSH05;LCSH05;1;3;LCS;;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.012)	437	65	94100M (7)	50.00	
63) Fluorobenzene	7.775(0.006)	1015	96	2632488 (1)	10.00	
97) Chlorobenzene-d5	11.237(0.006)	1583	117	1806719 (-3)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	791859 (-6)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866(0.000)	113	626485	10.616	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330(0.000)	102	100008	10.481	105%		74 - 113
82) Toluene-d8	(3)	9.786(0.000)	98	2621279	9.925	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(-0.001)	95	766172	10.211	102%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)	2.014(0.000)	85	494719	4.857	4.86			0.1	1
2) Chloromethane	(2)	2.142(0.001)	50	555342	5.194	5.19			0.2	1
5) Vinyl Chloride	(2)	2.276(0.001)	62	491386	5.235	5.24			0.2	1
7) Bromomethane	(2)	2.611(0.001)	94	339664	5.761	5.76			0.5	1
8) Chloroethane	(2)	2.715(0.002)	64	307576	5.721	5.72			0.1	1
10) Trichlorofluoromethane	(2)	3.032(0.001)	101	571835	5.258	5.26			0.2	1
11) Ethyl ether	(2)	3.294(0.001)	59	214337	4.975	4.97		J	1	13
13) Acrolein	(1)	3.452(-0.000)	56	169781	23.713	23.71		J	5	25
15) 1,1-Dichloroethene	(2)	3.611(0.000)	96	310500	5.316	5.32			0.2	1
16) Freon 113	(2)	3.641(0.001)	101	339554	5.523	5.52			0.2	1
14) Acetone	(1)	3.623(-0.001)	43	327991	37.829	37.83			3	10
17) Methyl Iodide	(2)	3.812(0.000)	142	572872	5.281	5.28		J	0.6	10
18) Carbon Disulfide	(2)	3.934(0.000)	76	947058	5.779	5.78		J	0.4	10
22) Allyl Chloride	(2)	4.086(0.000)	41	588478	5.192	5.19		J	0.8	10
23) Methylene Chloride	(2)	4.263(0.001)	84	358163	5.615	5.62			0.2	1
29) Acrylonitrile	(1)	4.580(-0.001)	53	288851	24.653	24.65			1	10
31) trans-1,2-Dichloroethene	(2)	4.708(0.000)	96	358340	5.556	5.56			0.2	1
33) 1,1-Dichloroethane	(2)	5.348(0.001)	63	698147	5.486	5.49			0.1	1
35) 2-Chloro-1,3-Butadiene	(2)	5.464(0.000)	53	575536	5.353	5.35		J	0.5	10
38) 2-Butanone	(1)	6.116(-0.004)	43	584633	33.059	33.06			1	10
42) Propionitrile	(1)	6.190(-0.005)	54	164346	39.113	39.11		J	10	100
45) Methacrylonitrile	(1)	6.415(-0.004)	67	548668	31.231	31.23		J	10	100
48) Tetrahydrofuran	(1)	6.531(-0.002)	71	93455	21.154	21.15		J	2	25
49) Chloroform	(2)	6.653(0.000)	83	633465	5.276	5.28			0.1	1
51) 1,1,1-Trichloroethane	(2)	6.903(-0.000)	97	522141	5.106	5.11			0.1	1
54) Carbon Tetrachloride	(2)	7.122(0.000)	117	460275	5.362	5.36			0.2	1
56) Isobutyl Alcohol	(1)	7.189(-0.003)	41	140457	138.246	138.25		J	10	200
58) Benzene	(2)	7.372(0.000)	78	1477349	5.357	5.36			0.1	1
59) 1,2-Dichloroethane	(2)	7.433(0.000)	62	353207	5.357	5.36			0.1	1
67) Trichloroethene	(2)	8.262(-0.000)	95	374806	5.134	5.13			0.2	1

Digitally signed by Don V. Viray on 05/30/2017 at 22:10. Target 3.5 esignature user ID: dvv10203

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s01.d Injection date and time: **25-MAY-2017 18:26**
Data file Sample Info. Line: LCSH05;LCSH05;1;3;LCS;;DAA3568;;hy25b05; Instrument ID: **HP19094.i** Batch: **H171451AA**
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b05.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 22:06
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

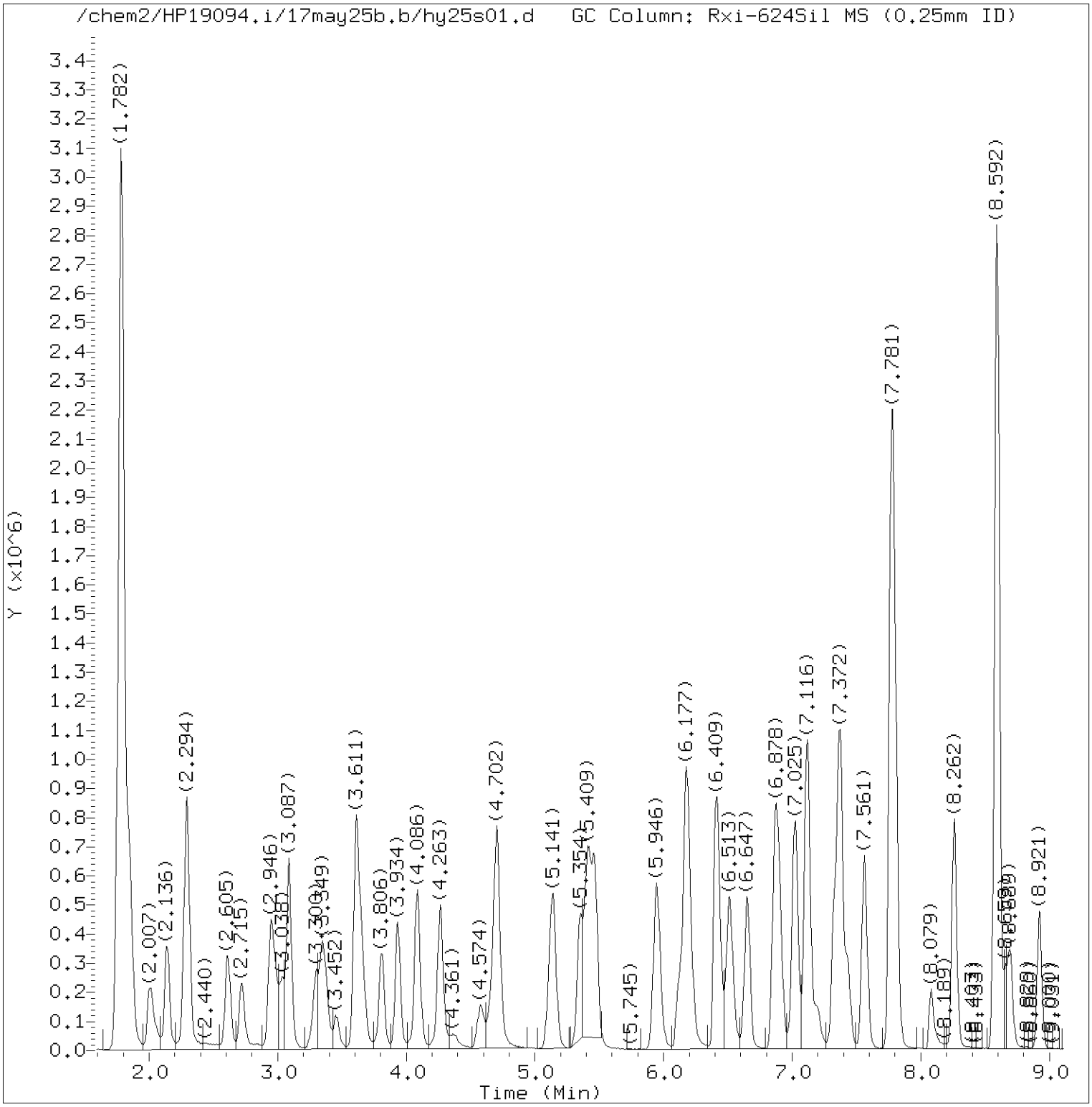
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
70) 1,2-Dichloropropane	(2)	8.585(-0.000)	63	395713	5.502	5.50			0.1	1
71) Methyl Methacrylate	(1)	8.659(-0.005)	69	135453	4.215	4.21		J	4	10
73) Dibromomethane	(2)	8.689(-0.000)	93	156007	5.627	5.63			0.1	1
72) 1,4-Dioxane	(1)	8.677(-0.002)	88	25092M	135.912	135.91		J	45	200
74) Bromodichloromethane	(2)	8.921(-0.000)	83	425461	5.603	5.60			0.1	1
81) 4-Methyl-2-Pentanone	(1)	9.622(-0.006)	43	954947	20.378	20.38			1	10
83) Toluene	(3)	9.866(-0.000)	92	922382	5.285	5.29			0.1	1
84) trans-1,3-Dichloropropene	(3)	10.103(-0.000)	75	371317	5.462	5.46			0.1	1
86) Ethyl Methacrylate	(3)	10.164(0.000)	69	272957	5.428	5.43		J	0.8	10
88) 1,1,2-Trichloroethane	(3)	10.311(-0.000)	97	226260	5.581	5.58			0.1	1
89) Tetrachloroethene	(3)	10.420(-0.000)	166	414681	5.124	5.12			0.1	1
90) 1,3-Dichloropropane	(3)	10.475(-0.000)	76	382128	5.267	5.27			0.1	1
91) 2-Hexanone	(1)	10.512(-0.007)	43	606442M	18.363	18.36			1	10
93) Dibromochloromethane	(3)	10.695(-0.000)	129	273082	5.684	5.68			0.1	1
95) 1,2-Dibromoethane	(3)	10.811(0.000)	107	202674	5.287	5.29			0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)	11.347(-0.000)	131	340922	5.381	5.38			0.1	1
100) Ethylbenzene	(3)	11.353(-0.000)	91	1764637	5.218	5.22			0.1	1
101) m+p-Xylene	(3)	11.469(-0.000)	106	1399933	10.888	10.89			0.1	0.5
104) o-Xylene	(3)	11.792(-0.000)	106	642918	5.206	5.21			0.1	0.5
105) Xylene (Total)	(3)		106	2042851	16.094	16.09			0.2	3
106) Styrene	(3)	11.810(-0.000)	104	1051268	5.575	5.58			0.1	1
107) Bromoform	(3)	11.969(-0.000)	173	139150	5.800	5.80			0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)	12.322(0.000)	83	263672	5.159	5.16			0.2	1
115) trans-1,4-Dichloro-2-butene	(1)	12.353(-0.009)	53	210578	16.925	16.93			1	10
116) 1,2,3-Trichloropropane	(4)	12.371(0.000)	110	63547	4.970	4.97			0.3	1
126) Pentachloroethane	(4)	12.835(-0.000)	167	240601	5.289	5.29		J	0.8	10
131) 1,3-Dichlorobenzene	(4)	13.066(0.000)	146	768430M	5.019	5.02			0.1	1
134) 1,4-Dichlorobenzene	(4)	13.139(-0.000)	146	753856M	4.725	4.72			0.1	1
139) 1,2-Dichlorobenzene	(4)	13.396(-0.000)	146	680234	5.002	5.00			0.1	1
143) 1,2-Dibromo-3-chloropropane	(1)	13.938(-0.009)	155	28482	4.103	4.10			0.2	1
145) 1,2,4-Trichlorobenzene	(4)	14.493(-0.000)	180	344048	3.924	3.92			0.1	1
146) Hexachlorobutadiene	(4)	14.572(-0.000)	225	184677	4.252	4.25			0.1	1
147) Naphthalene	(4)	14.670(-0.000)	128	466457	3.615	3.61			0.1	1

M = Compound was manually integrated.

Total number of targets = 63

Digitally signed by Don V. Viray on 05/30/2017 at 22:10. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05. PARALLAX ID: cam01237



Total Ion Chromatogram (TIC)

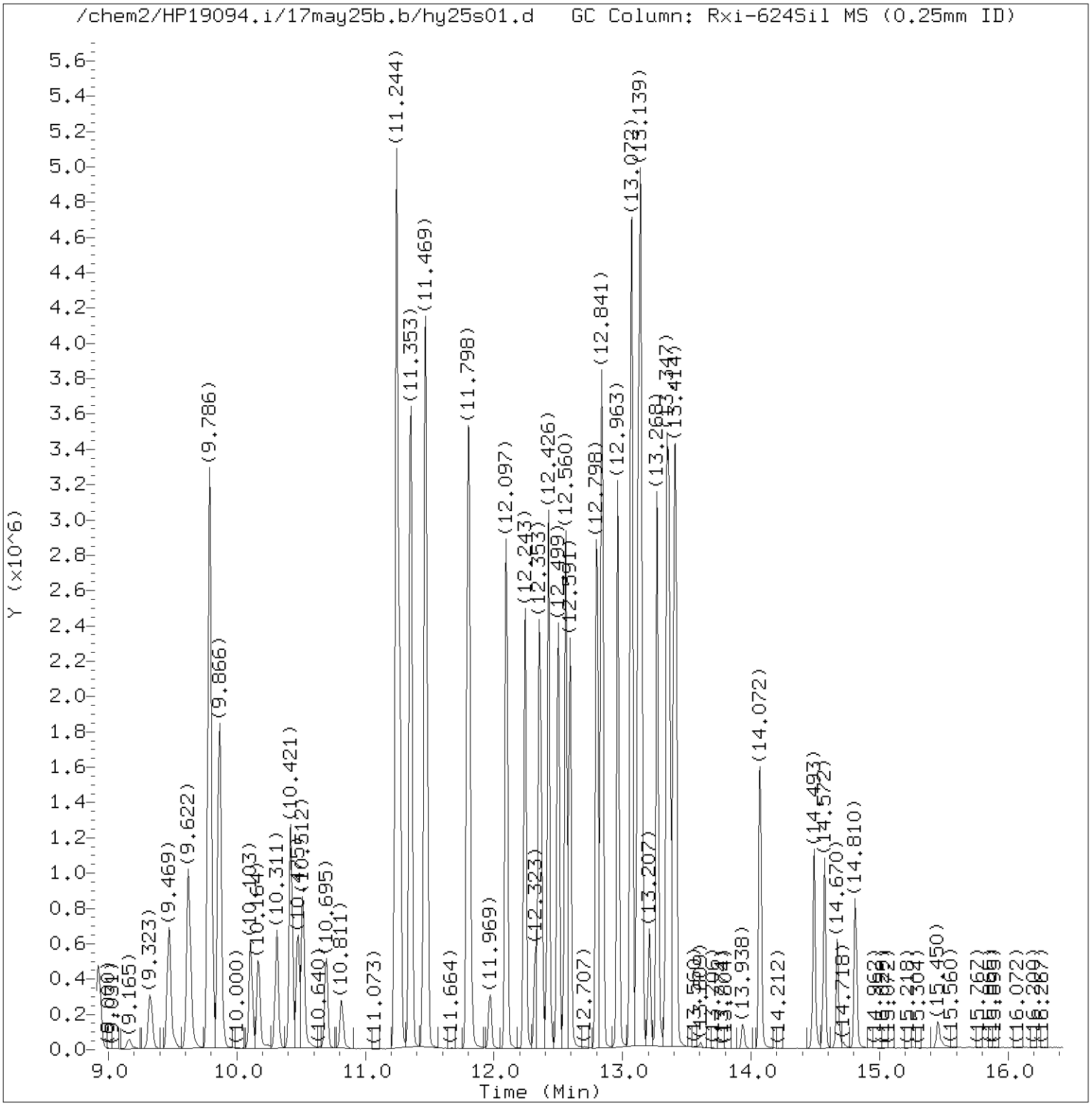
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH05 Lab Sample ID: LCSH05

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH05 Lab Sample ID: LCSH05

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH05 Lab Sample ID: LCSH05

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	494719	4.857
2) Chloromethane	(2)	2.142	50	555342	5.194
5) Vinyl Chloride	(2)	2.276	62	491386	5.235
7) Bromomethane	(2)	2.611	94	339664	5.761
8) Chloroethane	(2)	2.715	64	307576	5.721
10) Trichlorofluoromethane	(2)	3.032	101	571835	5.258
11) Ethyl ether	(2)	3.294	59	214337	4.975
13) Acrolein	(1)	3.452	56	169781	23.713
15) 1,1-Dichloroethene	(2)	3.611	96	310500	5.316
14) Acetone	(1)	3.623	43	327991	37.829
16) Freon 113	(2)	3.641	101	339554	5.523
17) Methyl Iodide	(2)	3.812	142	572872	5.281
18) Carbon Disulfide	(2)	3.934	76	947058	5.779
22) Allyl Chloride	(2)	4.086	41	588478	5.192
26)*t-Butyl Alcohol-d10	(1)	4.251	65	94100M	50.000
23) Methylene Chloride	(2)	4.263	84	358163	5.615
29) Acrylonitrile	(1)	4.580	53	288851	24.653
31) trans-1,2-Dichloroethene	(2)	4.708	96	358340	5.556
33) 1,1-Dichloroethane	(2)	5.348	63	698147	5.486
35) 2-Chloro-1,3-Butadiene	(2)	5.464	53	575536	5.353
38) 2-Butanone	(1)	6.116	43	584633	33.059
42) Propionitrile	(1)	6.190	54	164346	39.113
45) Methacrylonitrile	(1)	6.415	67	548668	31.231
48) Tetrahydrofuran	(1)	6.531	71	93455	21.154
49) Chloroform	(2)	6.653	83	633465	5.276
50)$Dibromofluoromethane	(2)	6.866	113	626485	10.616
51) 1,1,1-Trichloroethane	(2)	6.903	97	522141	5.106
54) Carbon Tetrachloride	(2)	7.122	117	460275	5.362
56) Isobutyl Alcohol	(1)	7.189	41	140457	138.246
57)$1,2-Dichloroethane-d4	(2)	7.330	102	100008	10.481
58) Benzene	(2)	7.372	78	1477349	5.357
59) 1,2-Dichloroethane	(2)	7.433	62	353207	5.357
63)*Fluorobenzene	(2)	7.775	96	2632488	10.000
67) Trichloroethene	(2)	8.262	95	374806	5.134
70) 1,2-Dichloropropane	(2)	8.585	63	395713	5.502
71) Methyl Methacrylate	(1)	8.659	69	135453	4.215
72) 1,4-Dioxane	(1)	8.677	88	25092M	135.912
73) Dibromomethane	(2)	8.689	93	156007	5.627

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

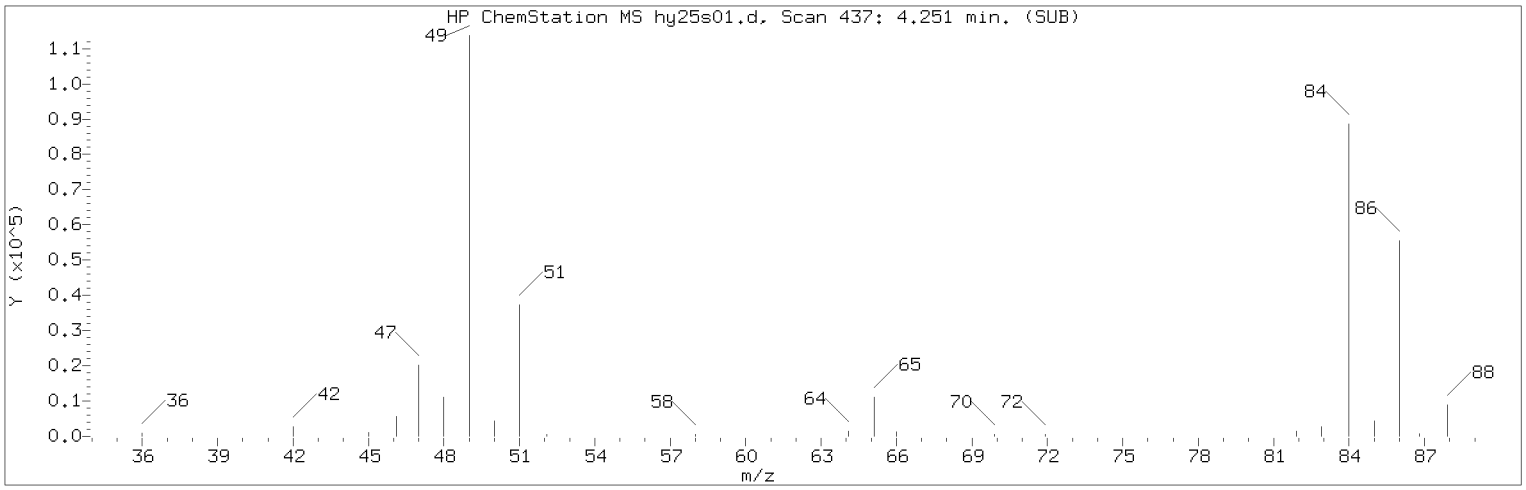
Sample Name: LCSH05 Lab Sample ID: LCSH05

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
74) Bromodichloromethane	(2)	8.921	83	425461	5.603
81) 4-Methyl-2-Pentanone	(1)	9.622	43	954947	20.378
82)$Toluene-d8	(3)	9.786	98	2621279	9.925
83) Toluene	(3)	9.866	92	922382	5.285
84) trans-1,3-Dichloropropene	(3)	10.103	75	371317	5.462
86) Ethyl Methacrylate	(3)	10.164	69	272957	5.428
88) 1,1,2-Trichloroethane	(3)	10.311	97	226260	5.581
89) Tetrachloroethene	(3)	10.421	166	414681	5.124
90) 1,3-Dichloropropane	(3)	10.475	76	382128	5.267
91) 2-Hexanone	(1)	10.512	43	606442M	18.363
93) Dibromochloromethane	(3)	10.695	129	273082	5.684
95) 1,2-Dibromoethane	(3)	10.811	107	202674	5.287
97)*Chlorobenzene-d5	(3)	11.237	117	1806719	10.000
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	340922	5.381
100) Ethylbenzene	(3)	11.353	91	1764637	5.218
101) m+p-Xylene	(3)	11.469	106	1399933	10.888
105) Xylene (Total)	(3)		106	2042851	16.094
104) o-Xylene	(3)	11.792	106	642918	5.206
106) Styrene	(3)	11.810	104	1051268	5.575
107) Bromoform	(3)	11.969	173	139150	5.800
111)$4-Bromofluorobenzene	(3)	12.243	95	766172	10.211
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	263672	5.159
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	210578	16.925
116) 1,2,3-Trichloropropane	(4)	12.371	110	63547	4.970
126) Pentachloroethane	(4)	12.835	167	240601	5.289
131) 1,3-Dichlorobenzene	(4)	13.066	146	768430M	5.019
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	791859	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	753856M	4.725
139) 1,2-Dichlorobenzene	(4)	13.396	146	680234	5.002
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	28482	4.103
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	344048	3.924
146) Hexachlorobutadiene	(4)	14.572	225	184677	4.252
147) Naphthalene	(4)	14.670	128	466457	3.615

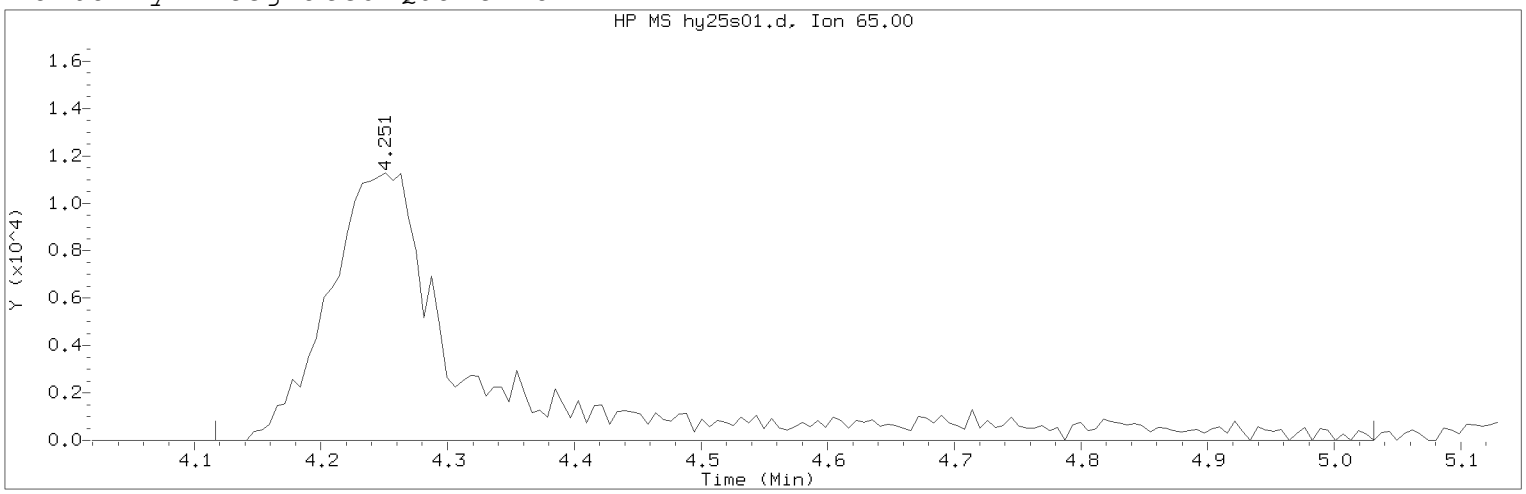
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH05 Lab Sample ID: LCSH05

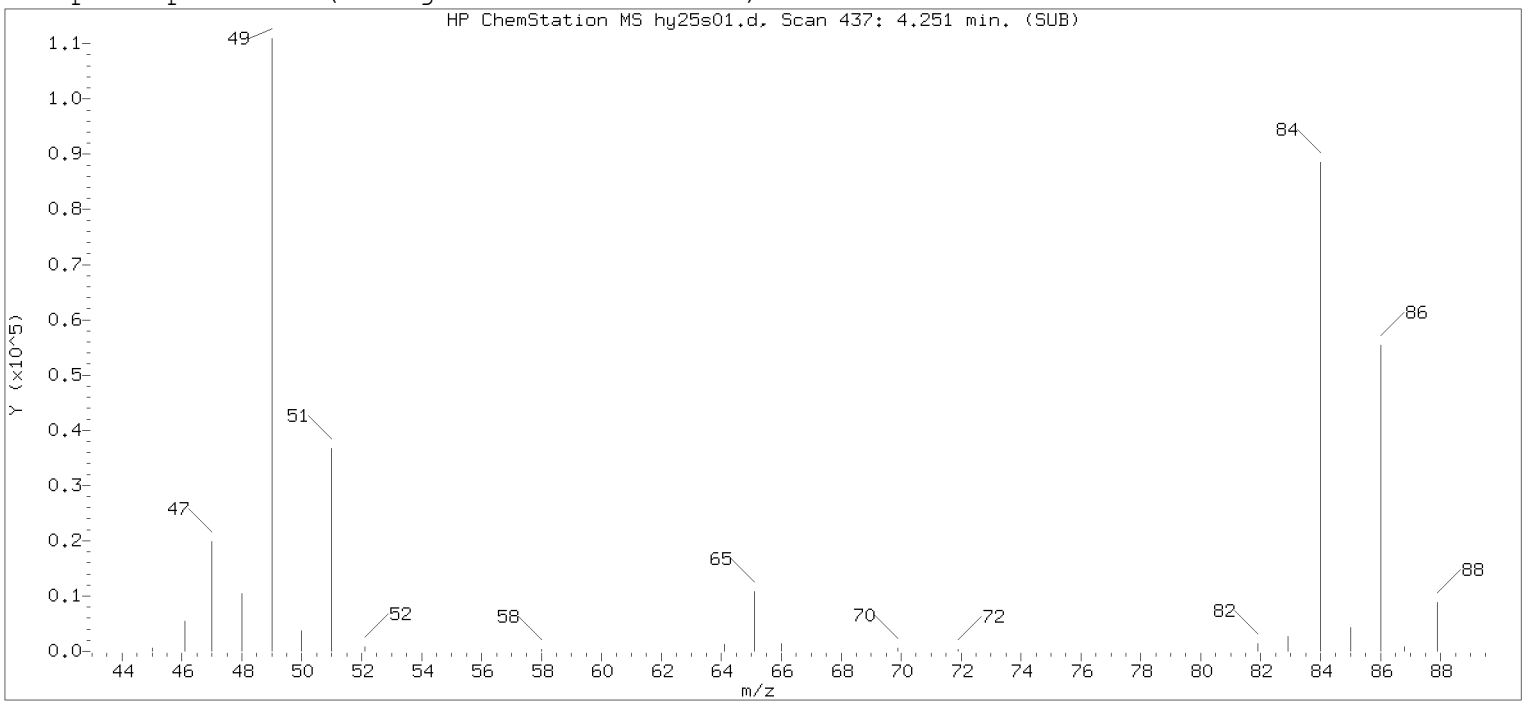
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area (flag) : 94100M
On-Column Amount (ng) : 50.0000
Integration start scan : 414 Integration stop scan: 564
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

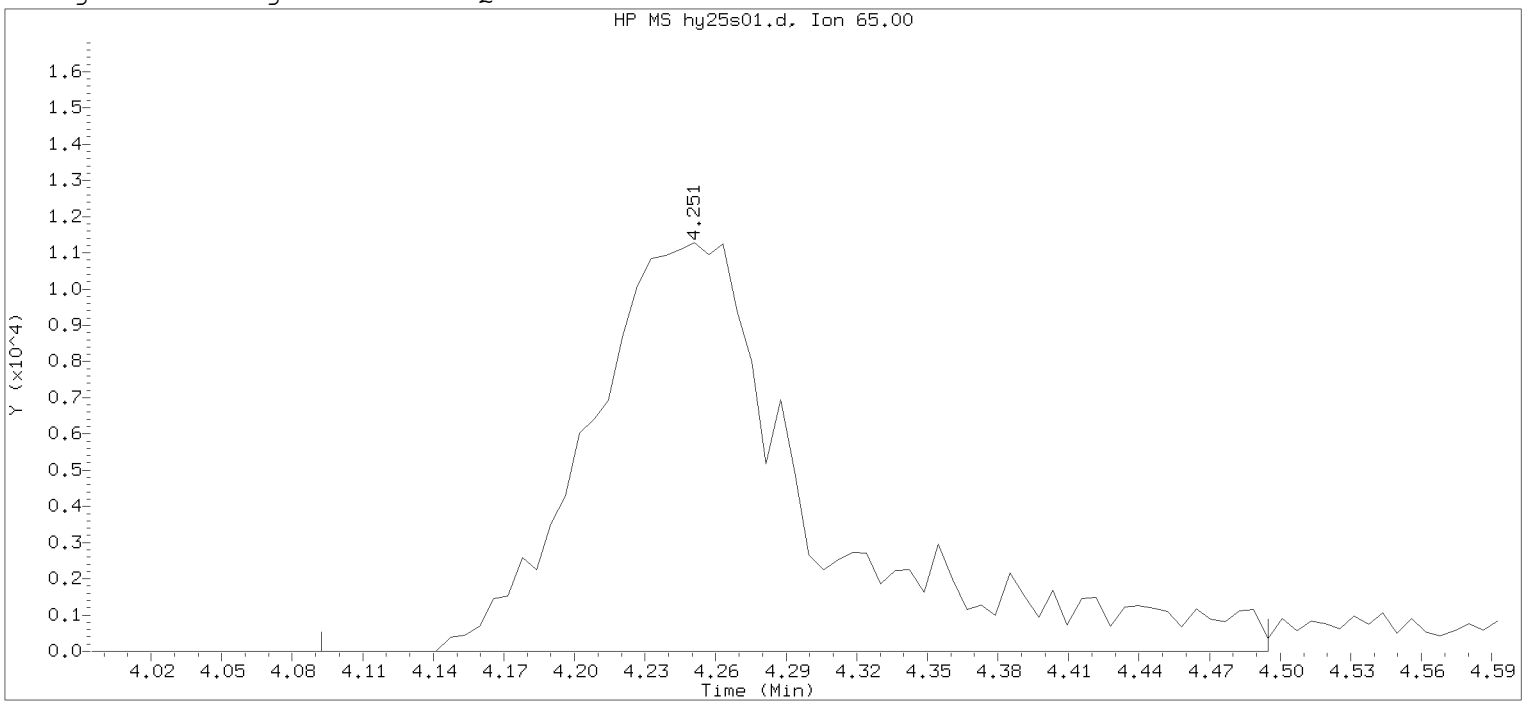
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

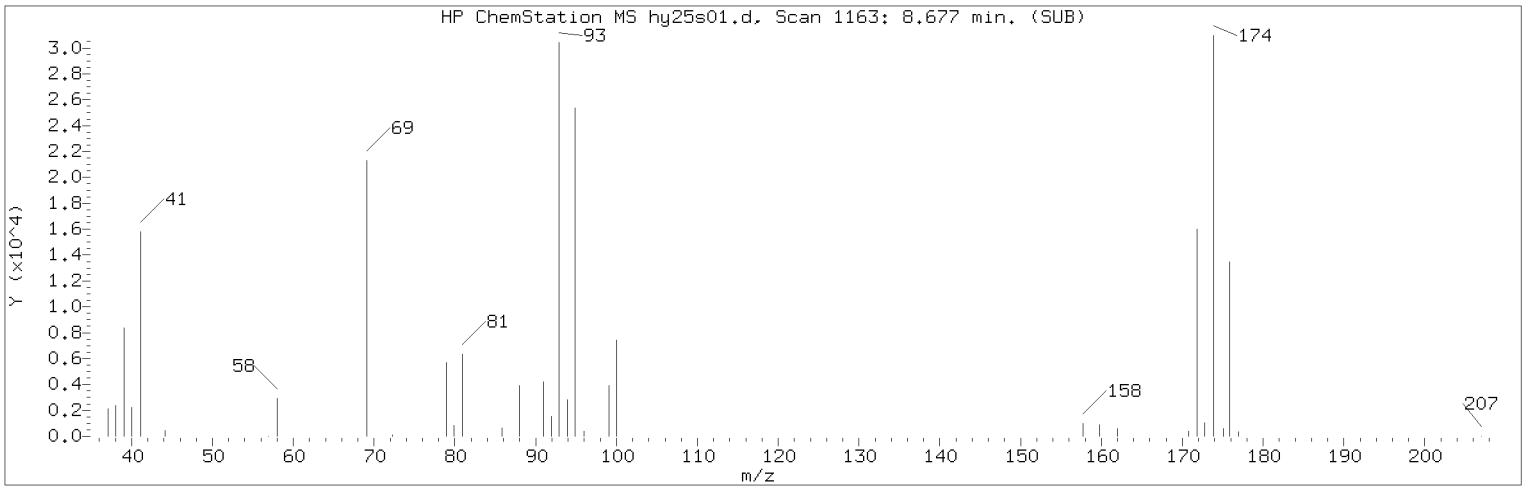
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:24
Date, time and analyst ID of latest file update: 25-May-2017 18:44 Automation

Sample Name: LCSH05 Lab Sample ID: LCSH05

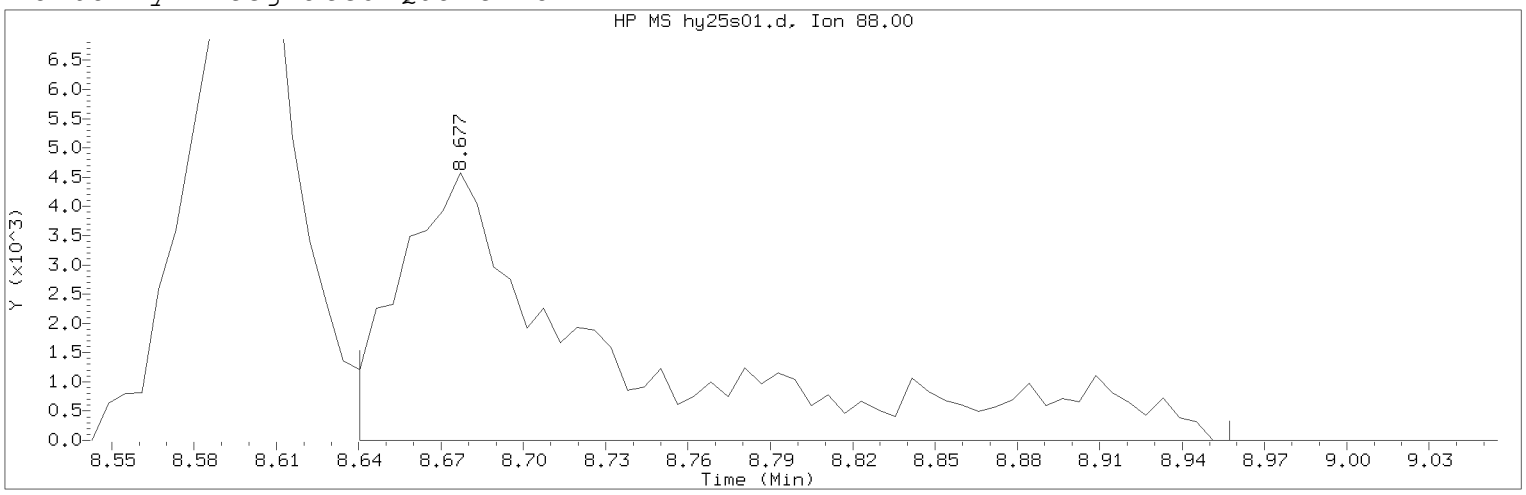
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area : 75607
On-column Amount (ng) : 50.0000
Integration start scan : 410 Integration stop scan: 476
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature user

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH05 Lab Sample ID: LCSH05

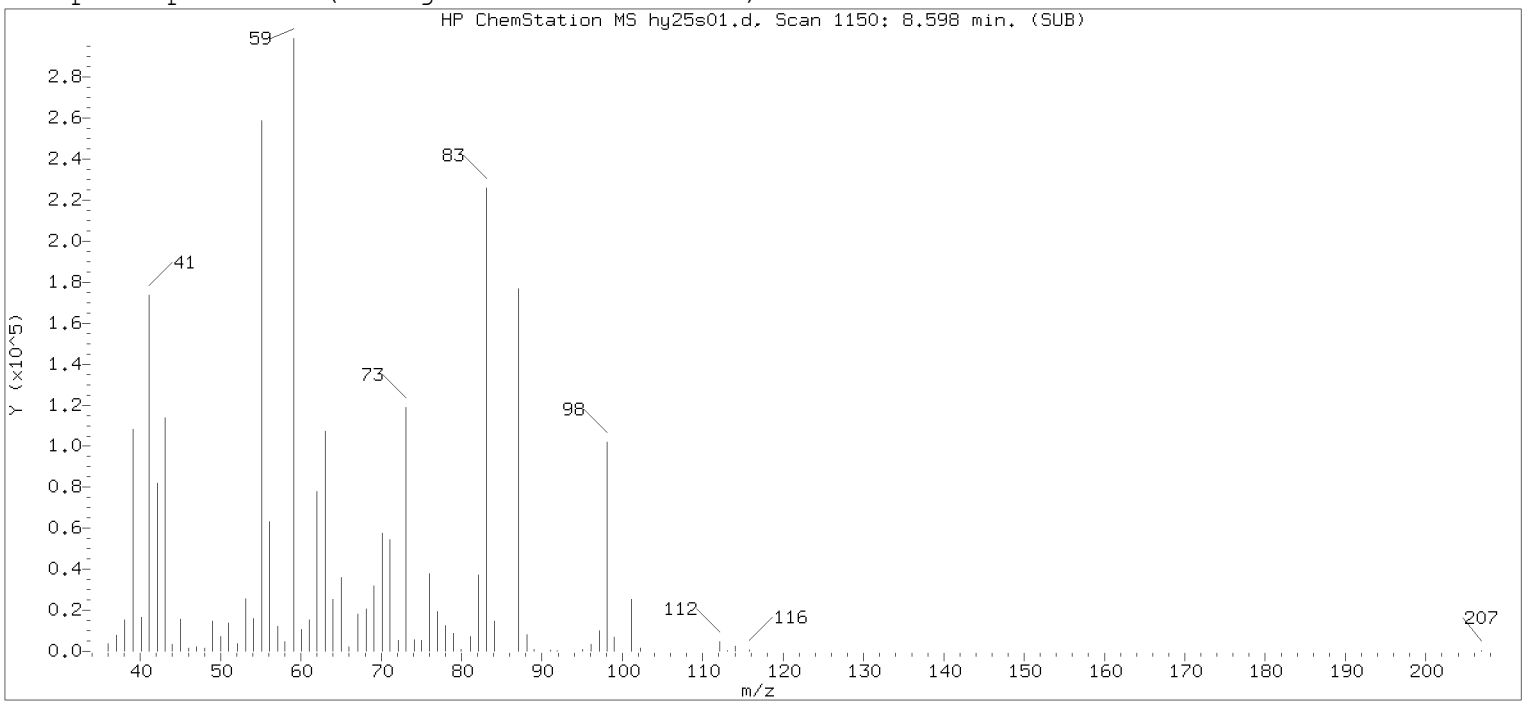
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1163
Retention Time (minutes): 8.677
Quant Ion : 88.00
Area (flag) : 25092M
On-Column Amount (ng) : 135.9121
Integration start scan : 1156 Integration stop scan: 1208
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

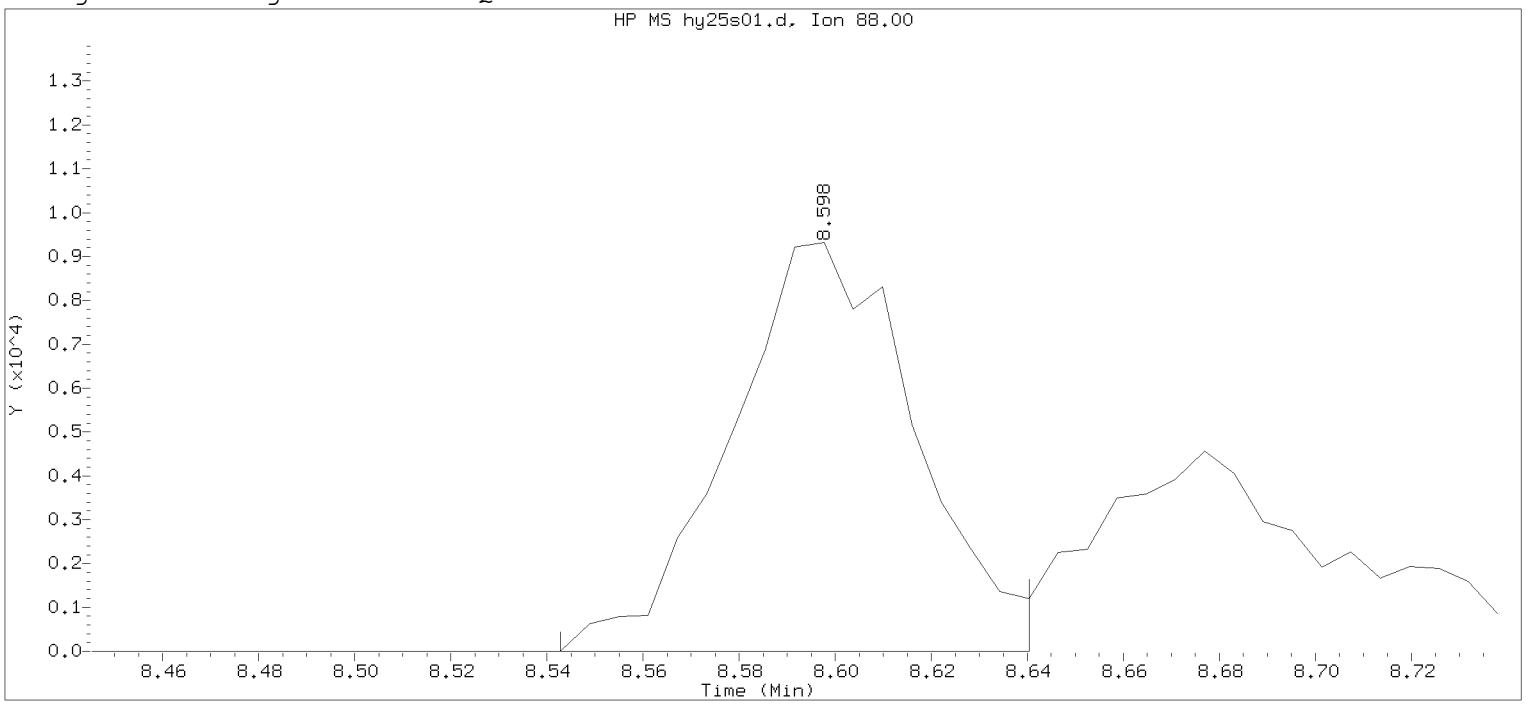
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

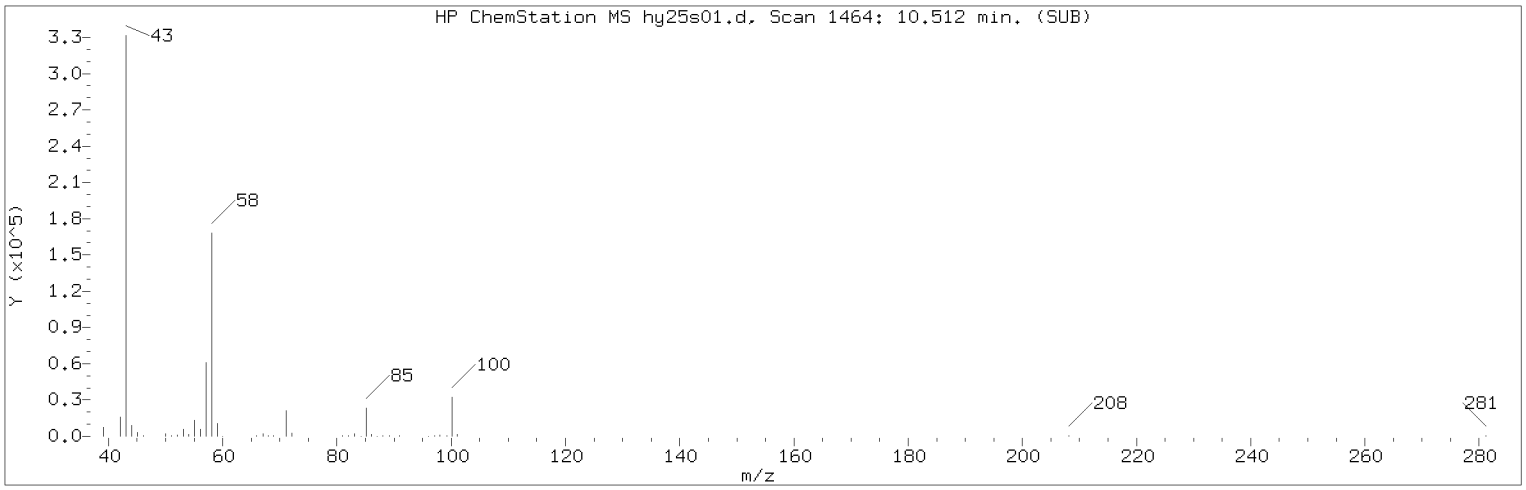
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:24
Date, time and analyst ID of latest file update: 25-May-2017 18:44 Automation

Sample Name: LCSH05 Lab Sample ID: LCSH05

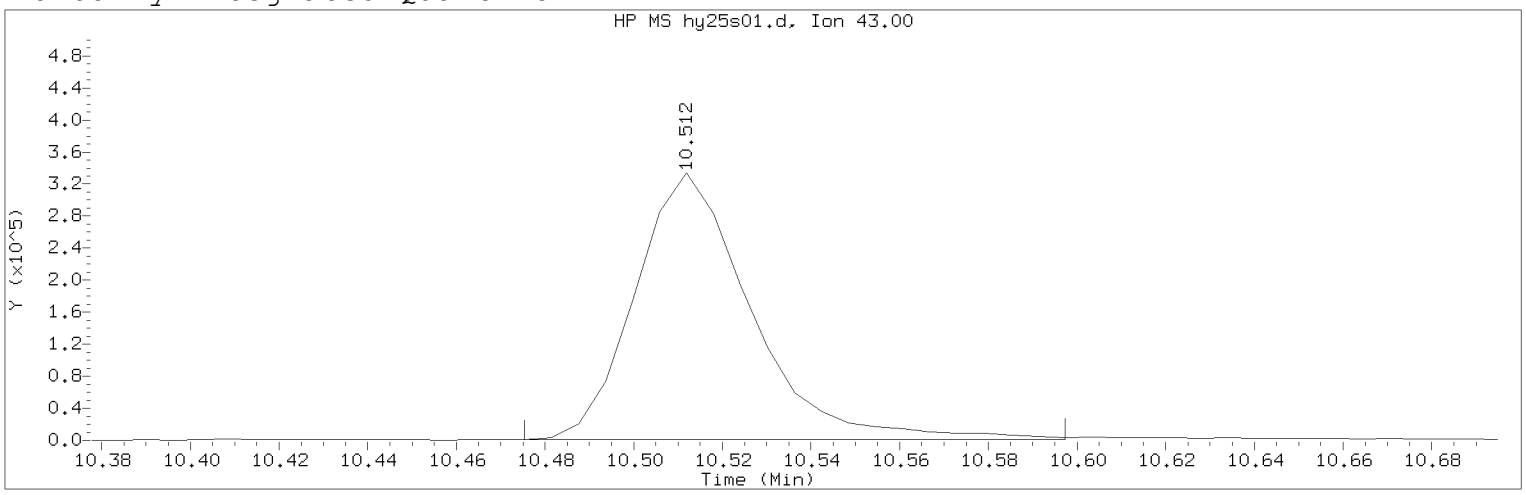
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 24895
On-column Amount (ng) : 168.5937
Integration start scan : 1140 Integration stop scan: 1156
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH05 Lab Sample ID: LCSH05

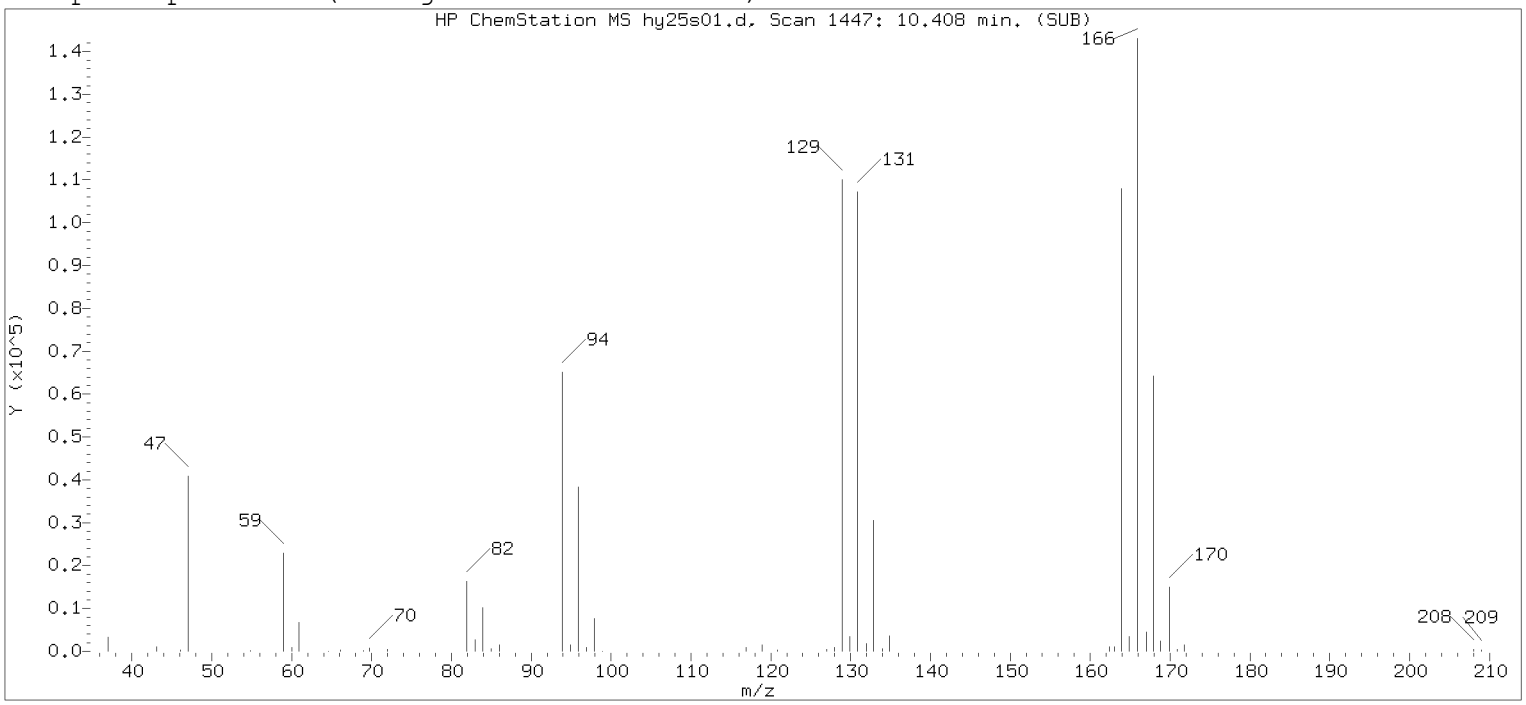
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1464
Retention Time (minutes): 10.512
Quant Ion : 43.00
Area (flag) : 606442M
On-Column Amount (ng) : 18.3626
Integration start scan : 1457 Integration stop scan: 1477
Y at integration start : 761 Y at integration end: 761

Reason for manual integration: improper integration

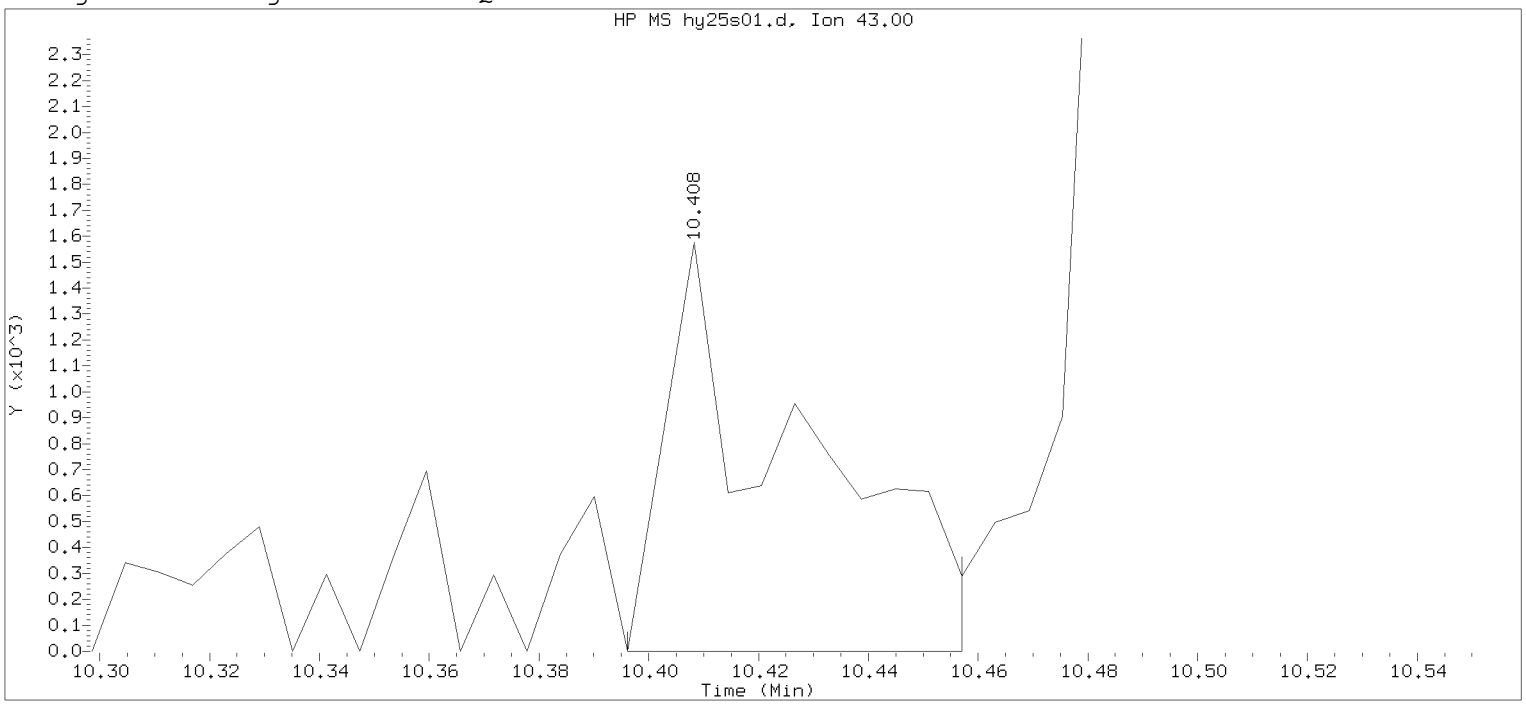
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

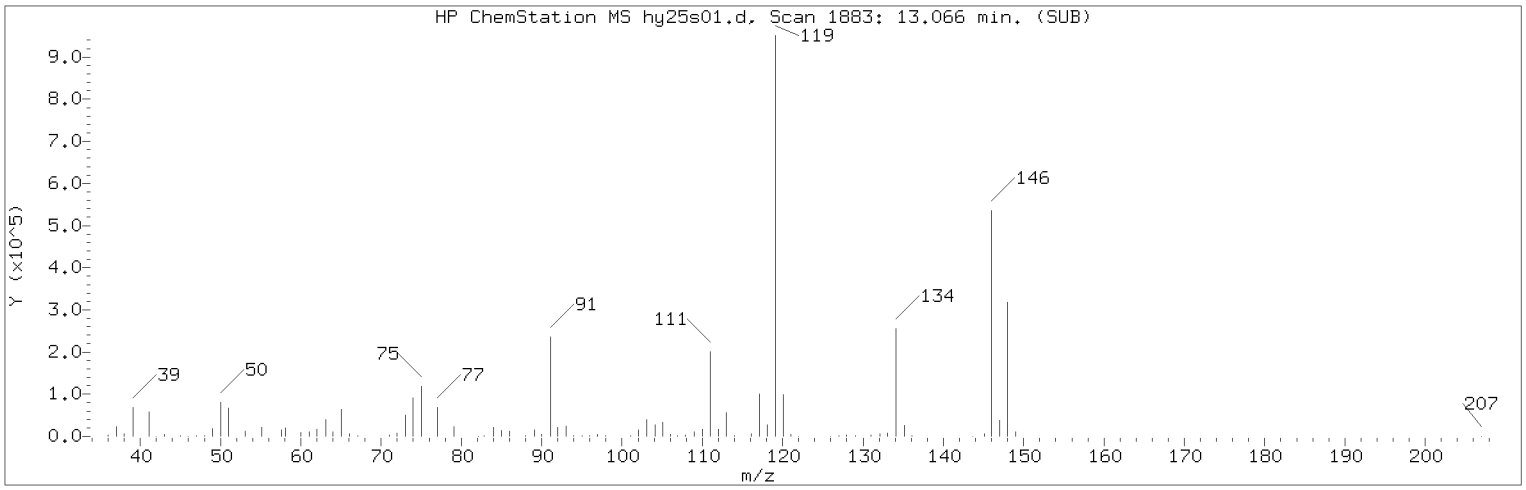
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:24
Date, time and analyst ID of latest file update: 25-May-2017 18:44 Automation

Sample Name: LCSH05 Lab Sample ID: LCSH05

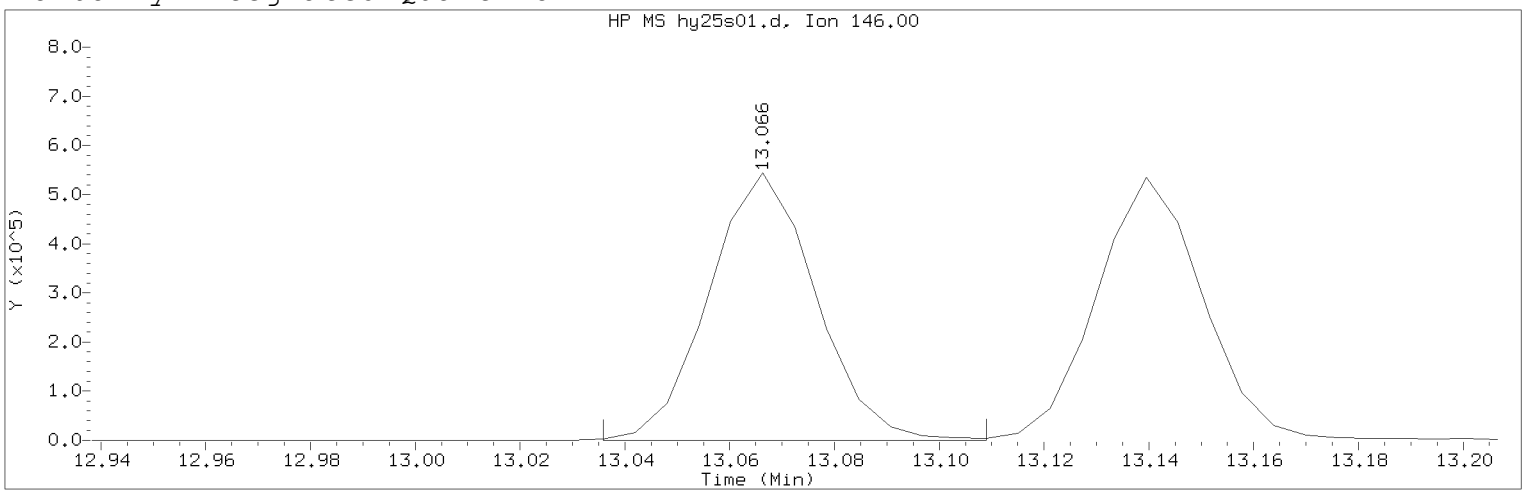
Compound Number : 91
Compound Name : 2-Hexanone
Scan Number : 1447
Retention Time (minutes): 10.408
Quant Ion : 43.00
Area : 2668
On-column Amount (ng) : 0.1006
Integration start scan : 1444 Integration stop scan: 1454
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: DVV10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH05 Lab Sample ID: LCSH05

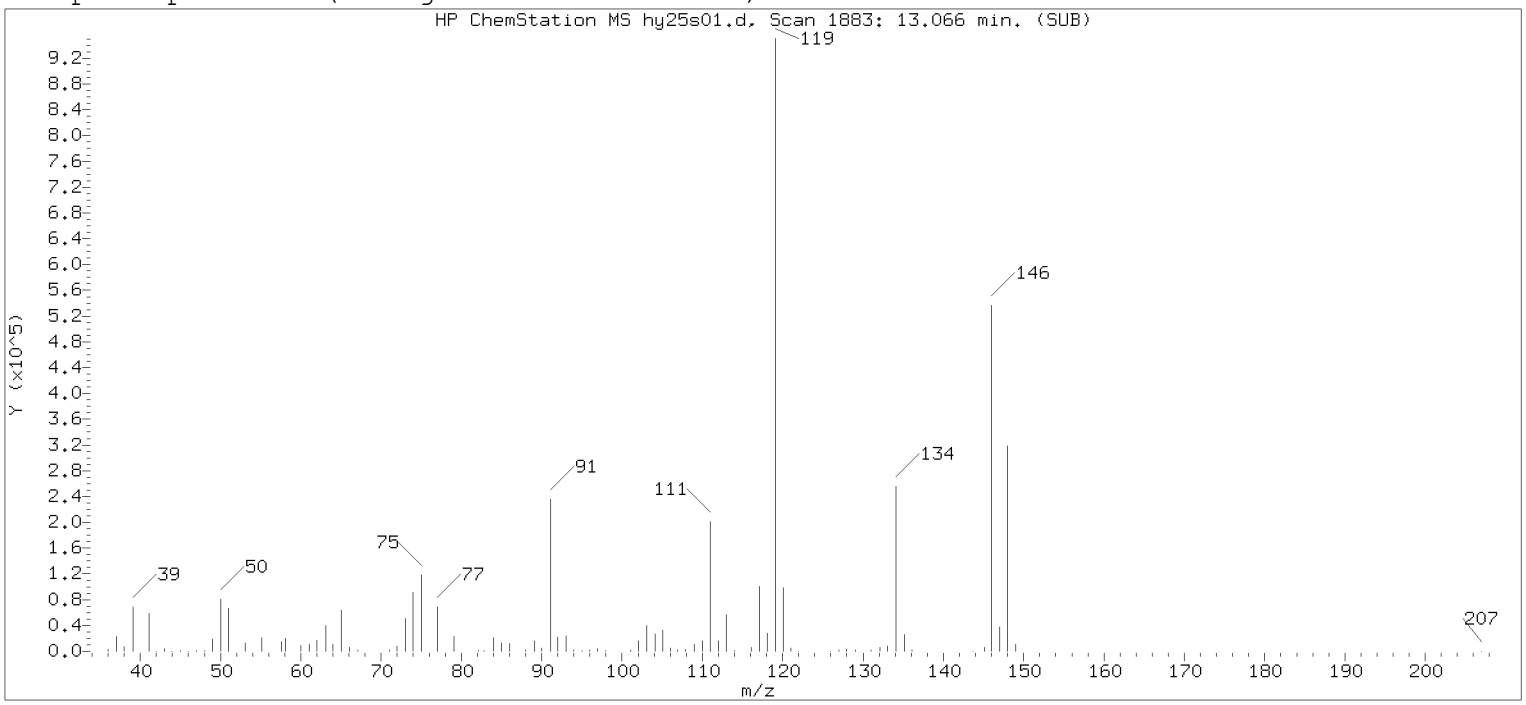
Compound Number : 131
Compound Name : 1,3-Dichlorobenzene
Scan Number : 1883
Retention Time (minutes): 13.066
Quant Ion : 146.00
Area (flag) : 768430M
On-Column Amount (ng) : 5.0190
Integration start scan : 1877 Integration stop scan: 1889
Y at integration start : 275 Y at integration end: 275

Reason for manual integration: improper integration

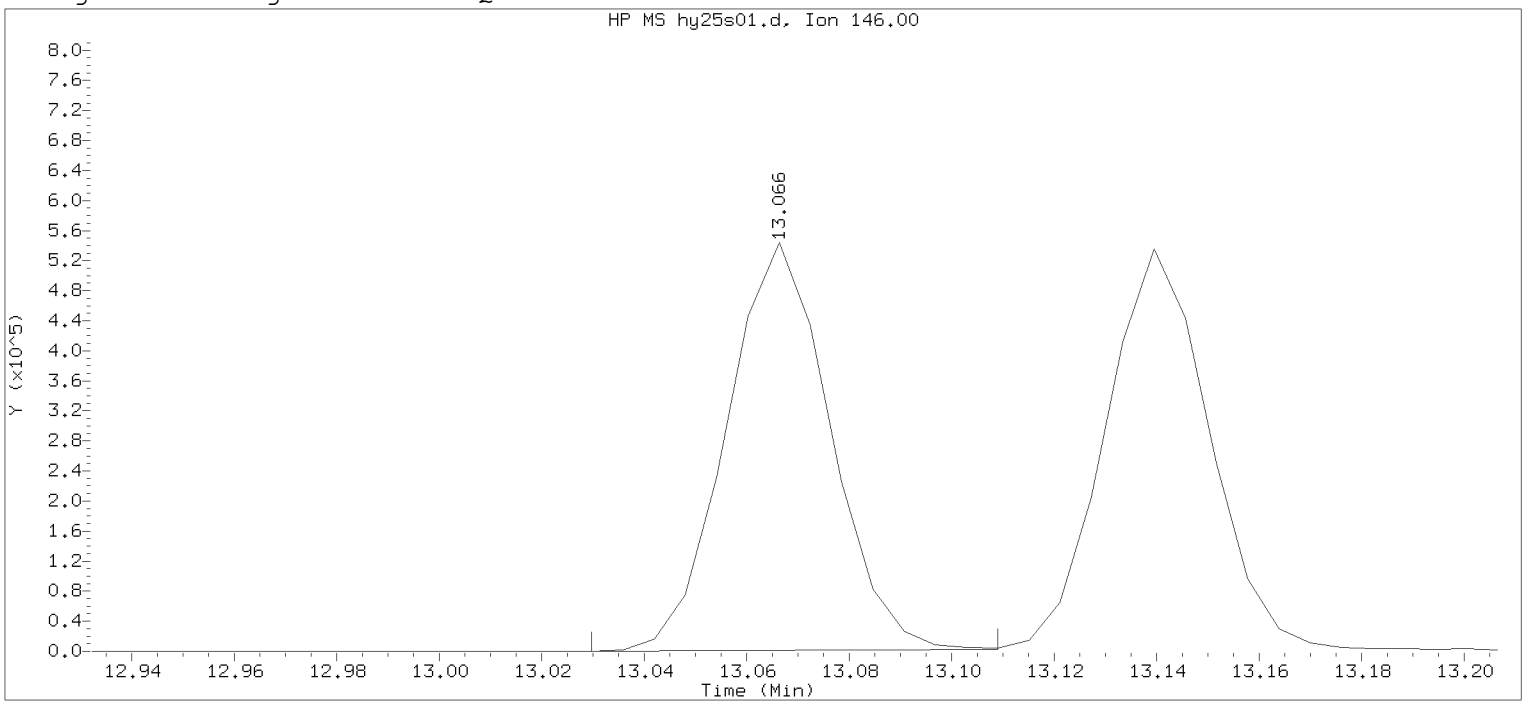
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

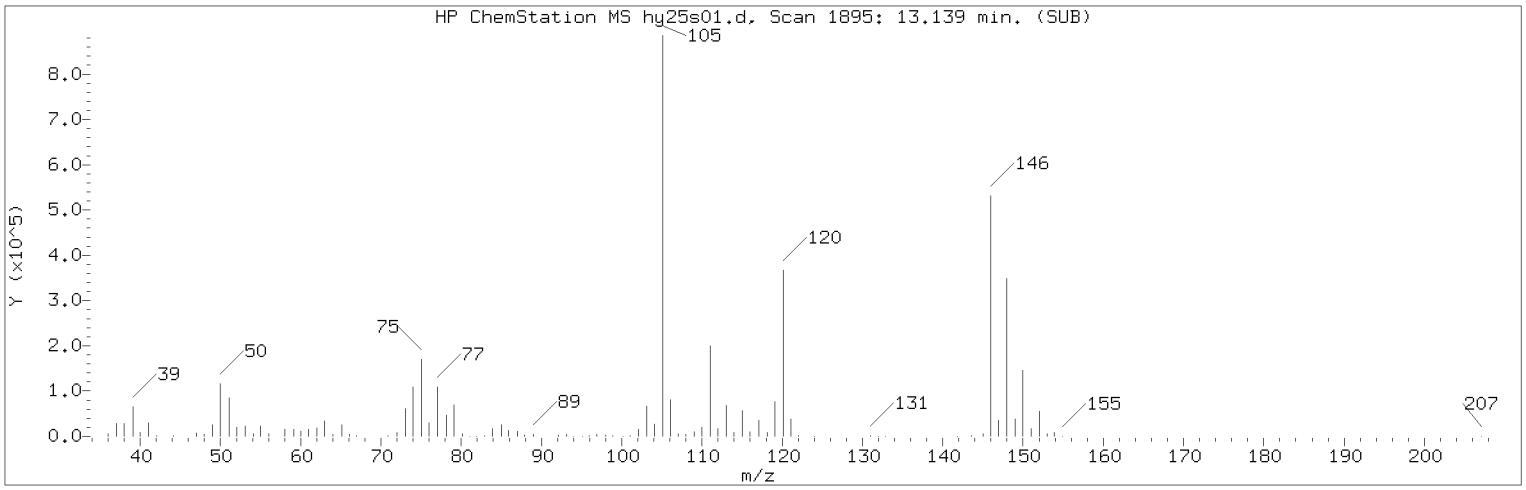
Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:24
Date, time and analyst ID of latest file update: 25-May-2017 18:44 Automation

Sample Name: LCSH05 Lab Sample ID: LCSH05

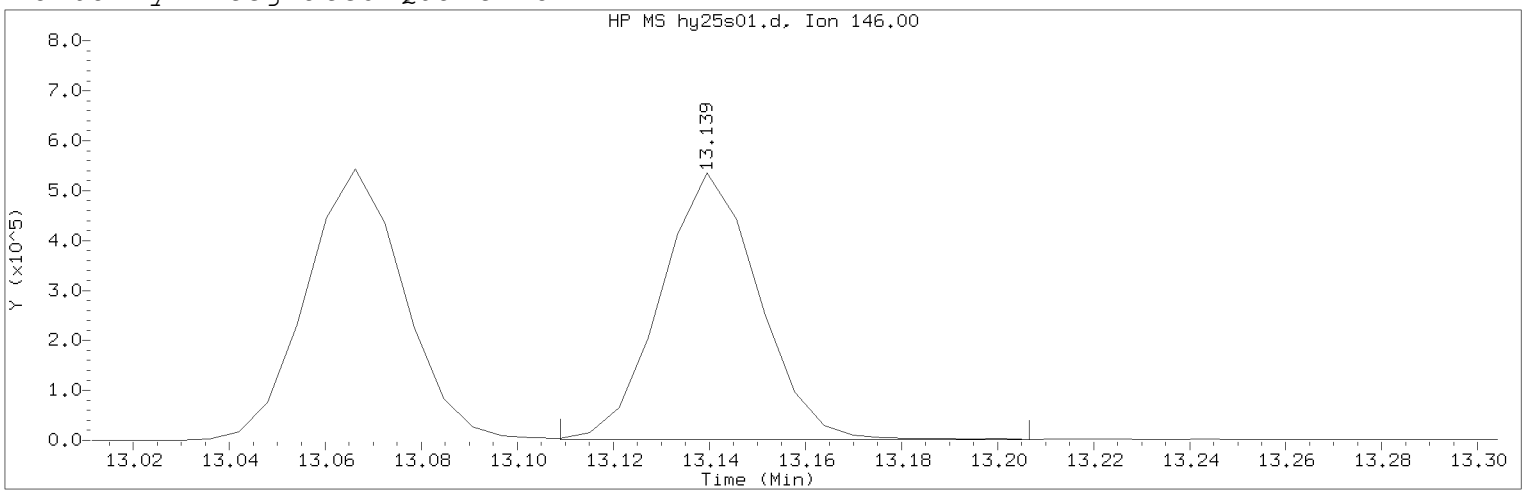
Compound Number : 131
Compound Name : 1,3-Dichlorobenzene
Scan Number : 1883
Retention Time (minutes): 13.066
Quant Ion : 146.00
Area : 763229
On-column Amount (ng) : 4.9850
Integration start scan : 1876 Integration stop scan: 1889
Y at integration start : 0 Y at integration end: 2406

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 22:06
Date, time and analyst ID of latest file update: 30-May-2017 22:07 dvv10203

Sample Name: LCSH05 Lab Sample ID: LCSH05

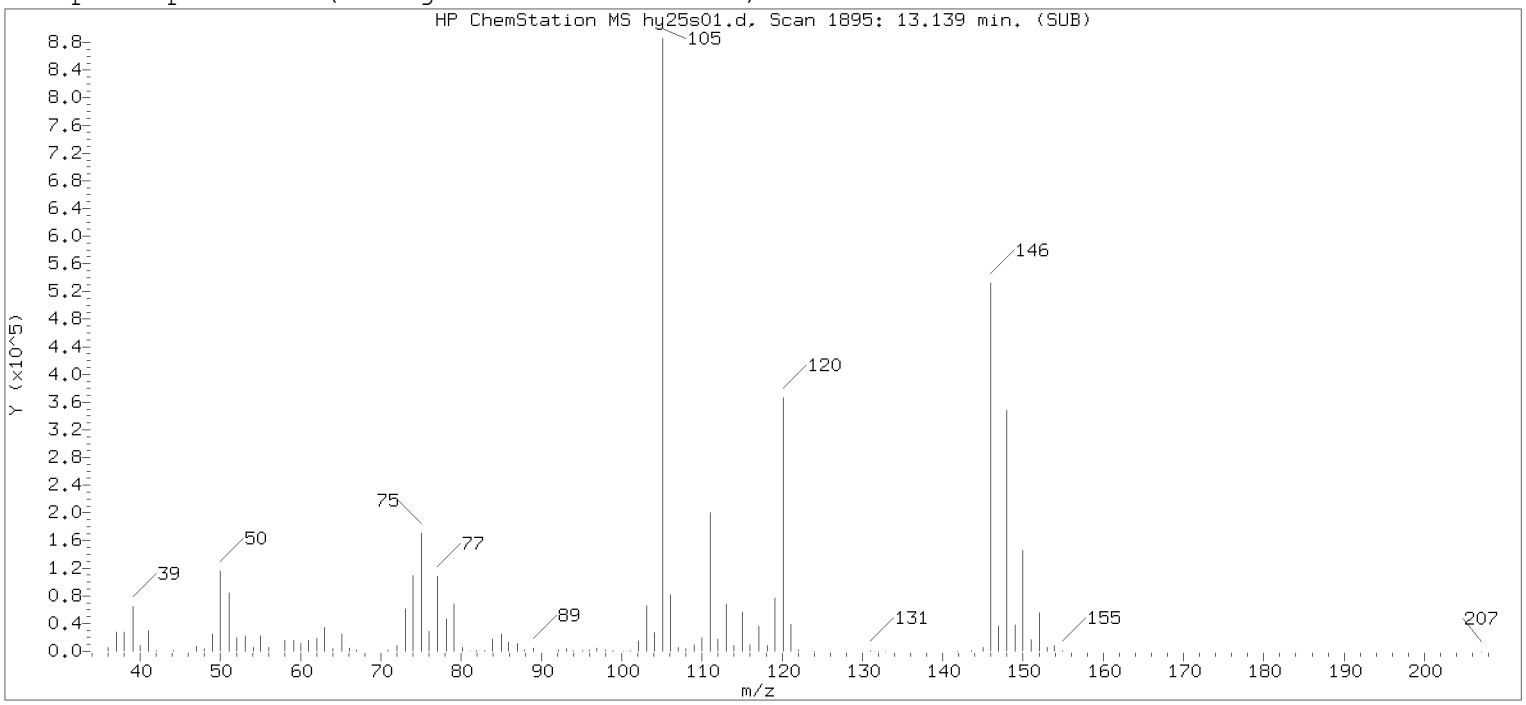
Compound Number : 134
Compound Name : 1,4-Dichlorobenzene
Scan Number : 1895
Retention Time (minutes): 13.139
Quant Ion : 146.00
Area (flag) : 753856M
On-Column Amount (ng) : 4.7247
Integration start scan : 1889 Integration stop scan: 1905
Y at integration start : 1626 Y at integration end: 1626

Reason for manual integration: improper integration

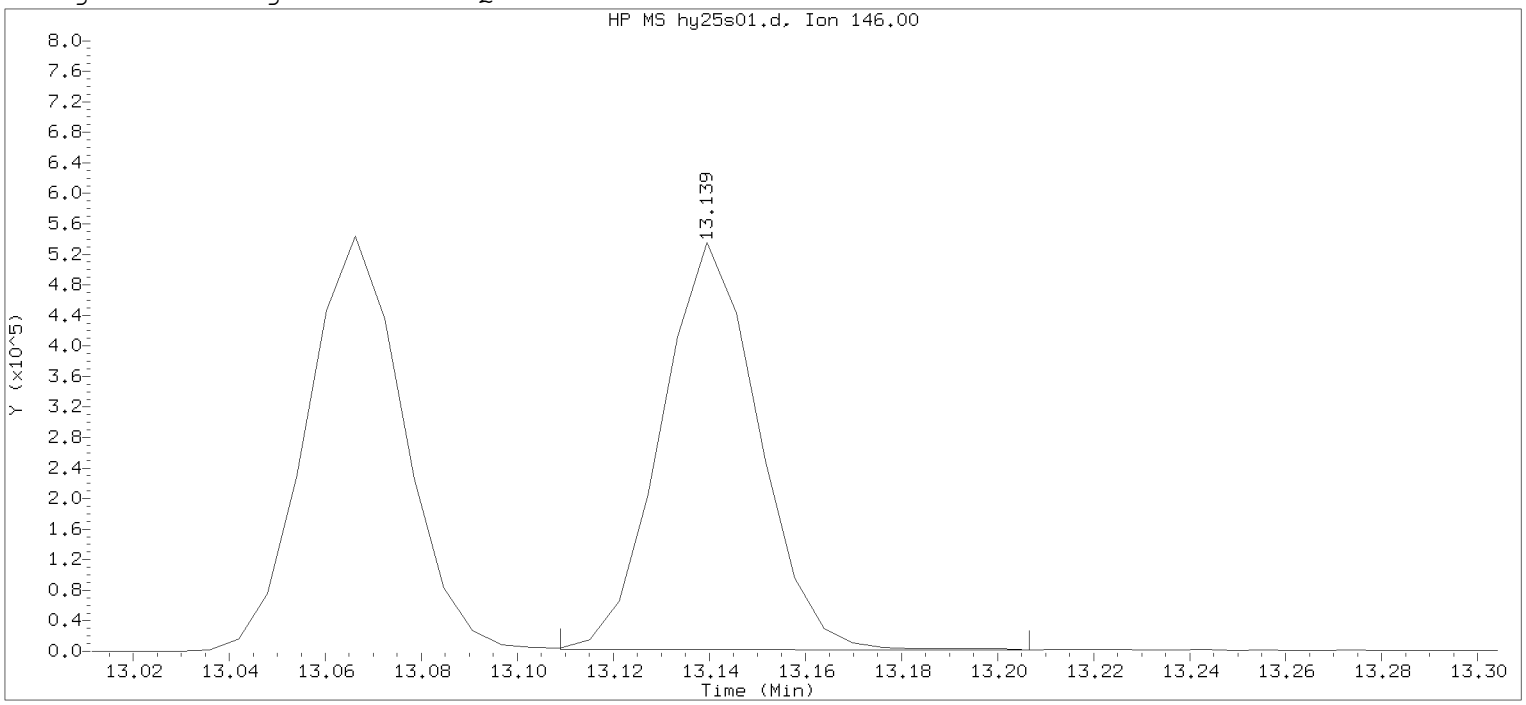
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/30/2017 at 22:10.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Chad A. Moline on 05/31/2017 at 09:05.
PARALLAX ID: cam01237

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s01.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 25-MAY-2017 18:24
Date, time and analyst ID of latest file update: 25-May-2017 18:44 Automation

Sample Name: LCSH05 Lab Sample ID: LCSH05

Compound Number : 134
Compound Name : 1,4-Dichlorobenzene
Scan Number : 1895
Retention Time (minutes): 13.139
Quant Ion : 146.00
Area : 750762
On-column Amount (ng) : 4.7053
Integration start scan : 1889 Integration stop scan: 1905
Y at integration start : 2406 Y at integration end: 1729

Digitally signed by Don V. Viray on 05/30/2017 at 22:10.
Target 3.5 esignature used.

Data file: /chem2/HP19094.i/17may25b.b/hy25s33.d Injection date and time: **25-MAY-2017 19:27**
Data file Sample Info. Line: LCSH08;LCSH08;1;3;LCS;;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469SM**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.239	(0.024)	435	65	90122	(3)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2590664	(-1)	10.00	
97) Chlorobenzene-d5	11.243	(0.000)	1584	117	1699337	(-9)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	644236	(-23)	10.00	

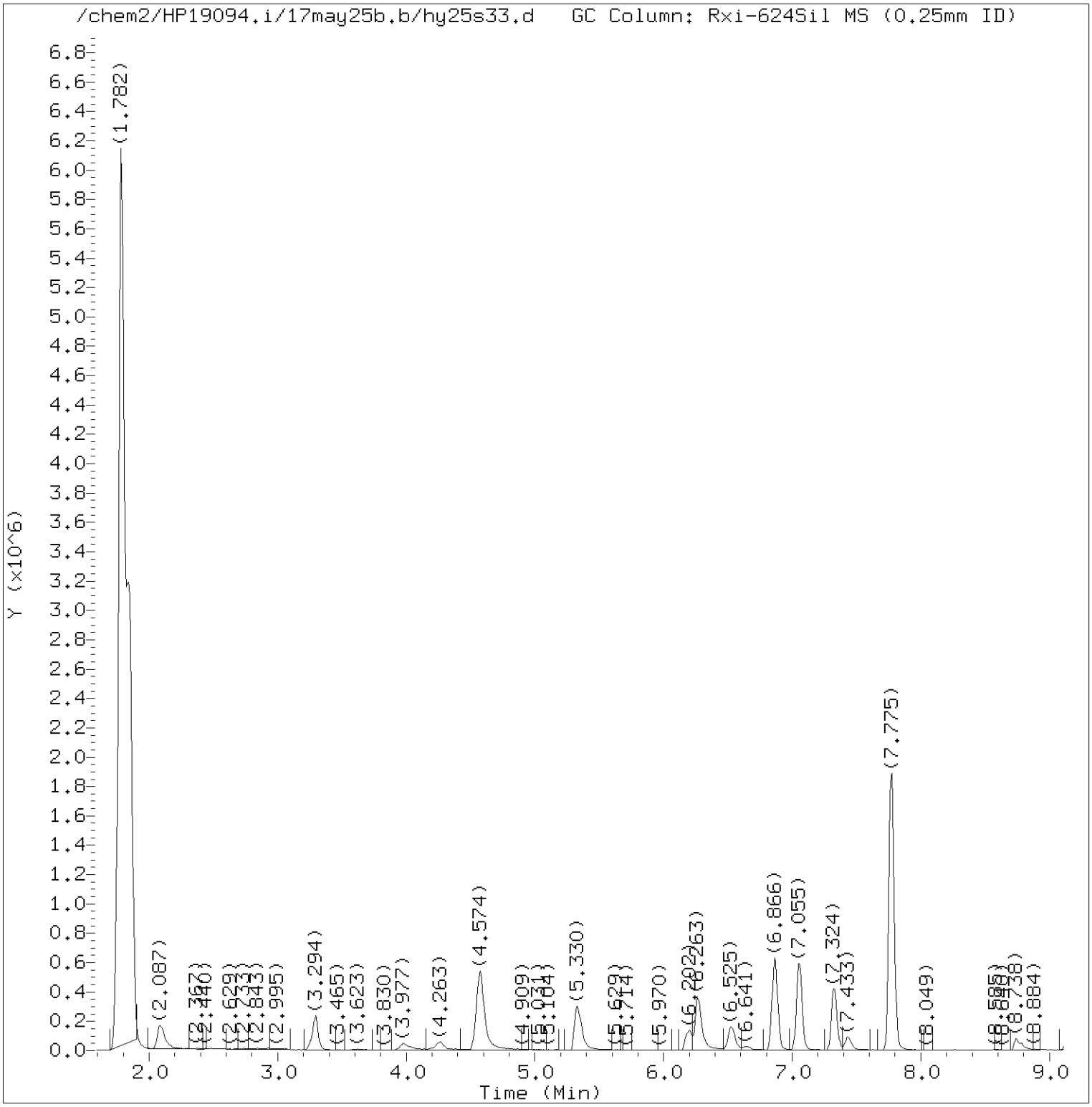
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	597923	10.296	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.324	(0.001)	102	94233	10.035	100%		74 - 113
82) Toluene-d8	(3)	9.786	(0.001)	98	2624006	10.563	106%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	650590	9.218	92%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
4) Dimethyl ether	(2)	2.087	(0.000)	45	438517	4.626	4.63		J	0.1	13

Total number of targets = 1

Digitally signed by Don V. Viray on 05/25/2017 at 20:34. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

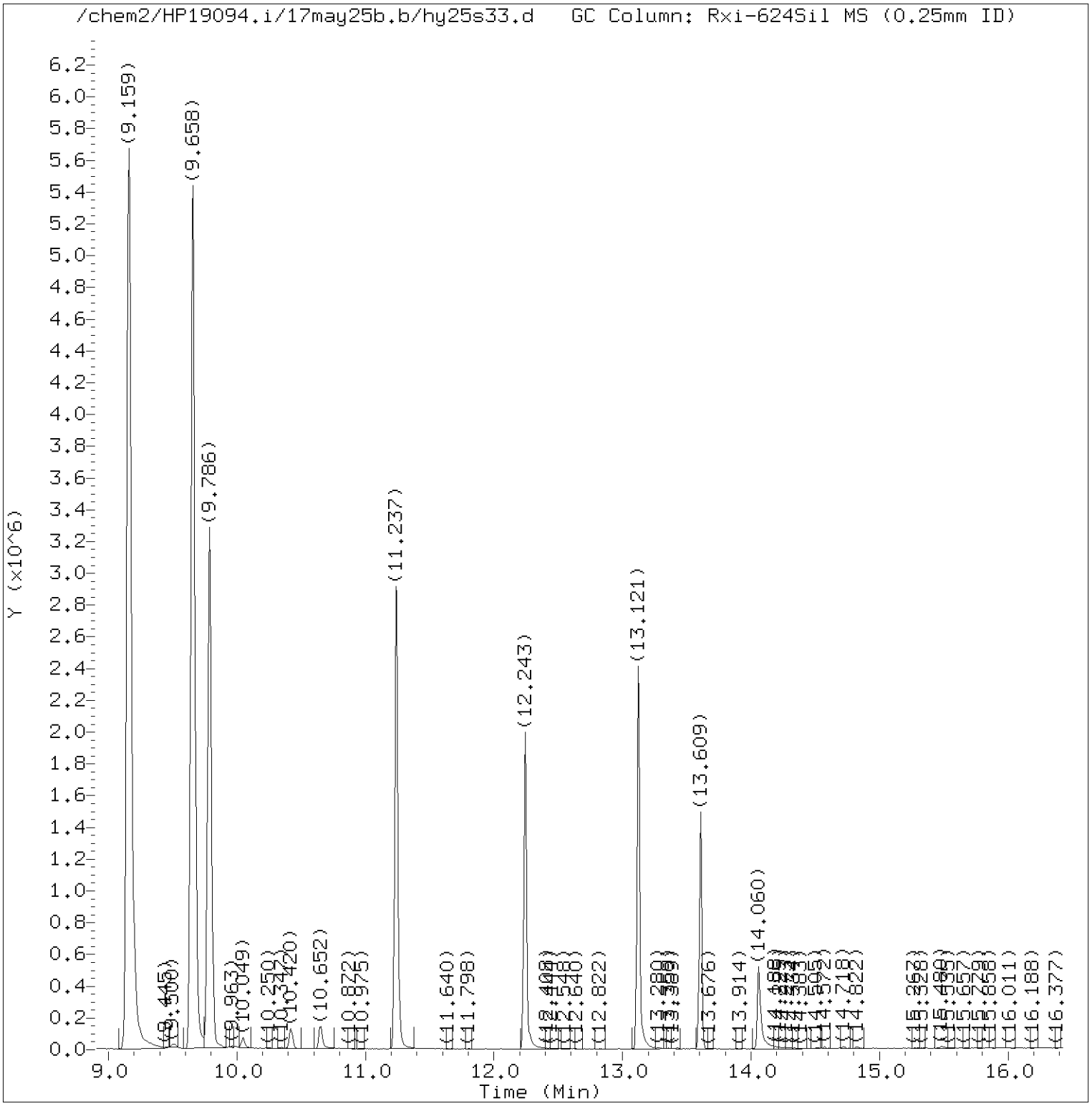
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s33.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCSH08 Lab Sample ID: LCSH08

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s33.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCSH08 Lab Sample ID: LCSH08

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s33.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:27 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCSH08 Lab Sample ID: LCSH08

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	438517	4.626
26)*t-Butyl Alcohol-d10	(1)	4.239	65	90122	50.000
50)$Dibromofluoromethane	(2)	6.866	113	597923	10.296
57)$1,2-Dichloroethane-d4	(2)	7.324	102	94233	10.035
63)*Fluorobenzene	(2)	7.775	96	2590664	10.000
82)$Toluene-d8	(3)	9.786	98	2624006	10.563
97)*Chlorobenzene-d5	(3)	11.243	117	1699337	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	650590	9.218
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	644236	10.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Data file: /chem2/HP19094.i/17may25b.b/hy25s34.d Injection date and time: **25-MAY-2017 19:47**
Data file Sample Info. Line: LCDH08;LCDH08;1;3;LCSD;;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469SM**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.012)	437	65	87207	(0)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2542798	(-3)	10.00	
97) Chlorobenzene-d5	11.237	(0.006)	1583	117	1656646	(-11)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	622977	(-26)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(-0.001)	113	585651	10.274	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.323	(0.001)	102	93591	10.154	102%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	2558064	10.563	106%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(-0.001)	95	637227	9.261	93%		78 - 110

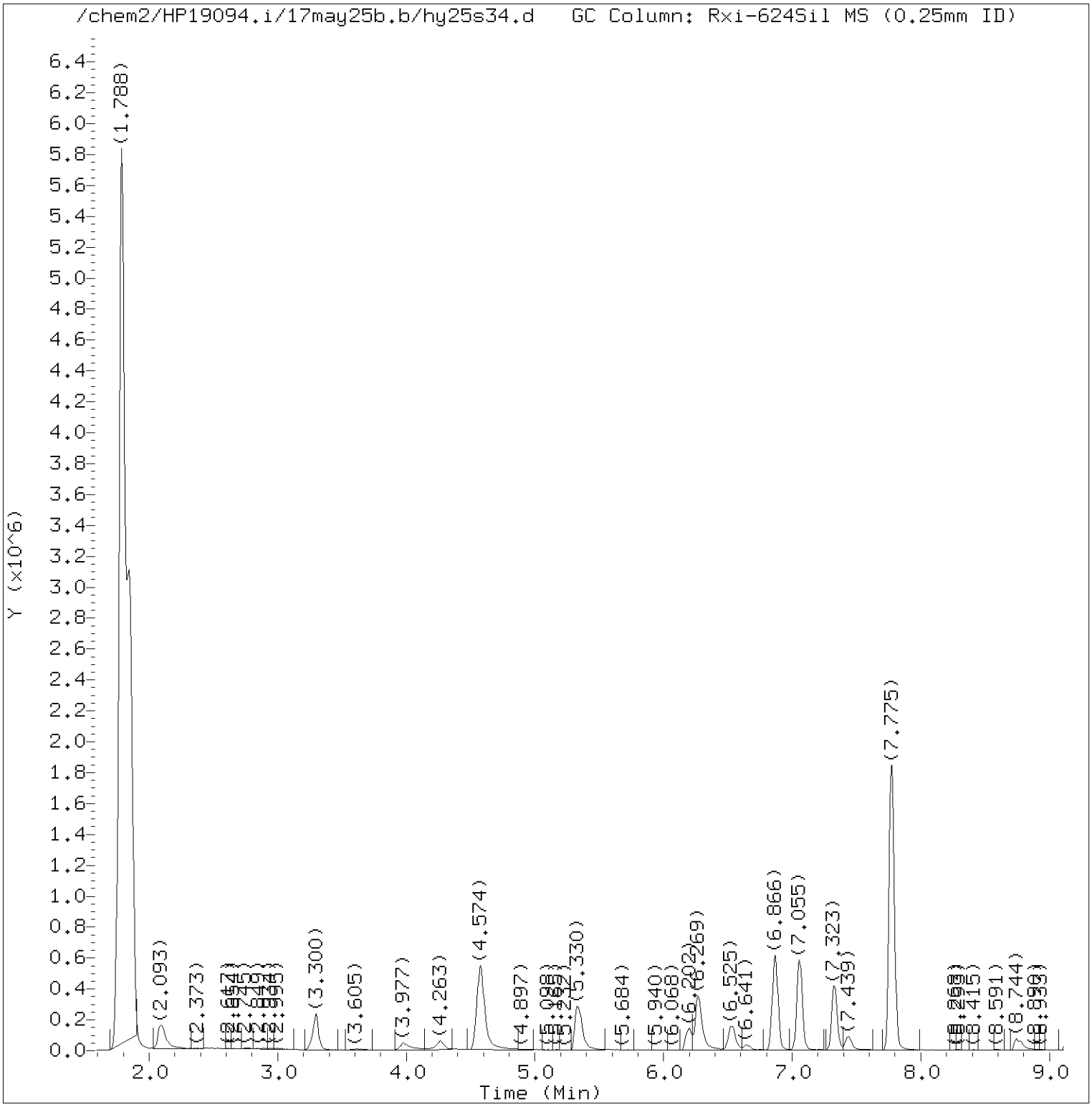
Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
4) Dimethyl ether	(2)	2.093	(-0.000)	45	435025M	4.676	4.68		J	0.1	13

M = Compound was manually integrated.

Total number of targets = 1

Digitally signed by Don V. Viray on 05/25/2017 at 20:34. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

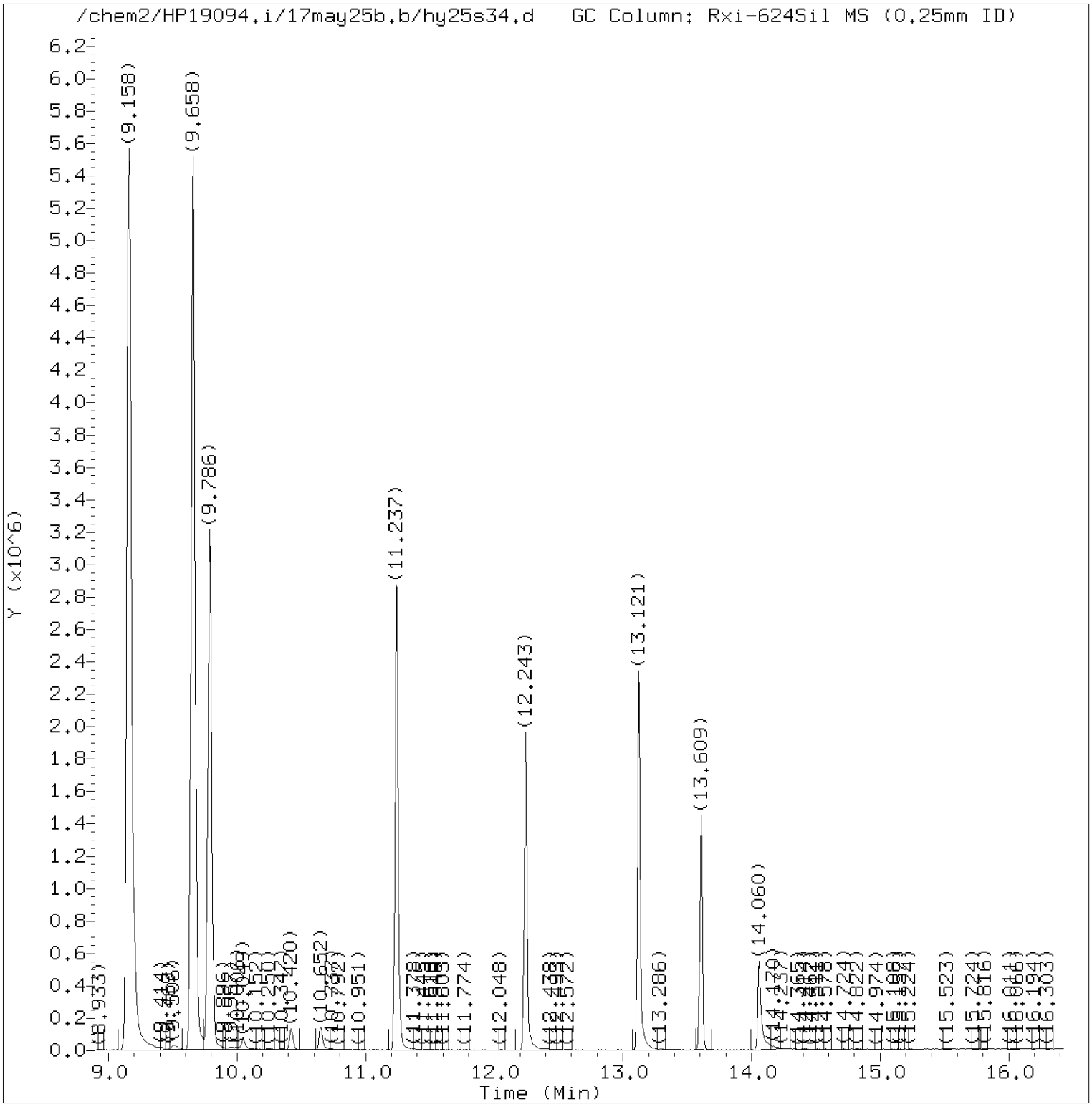
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s34.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:47 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCDH08 Lab Sample ID: LCDH08

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s34.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:47 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCDH08 Lab Sample ID: LCDH08

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s34.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:47 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

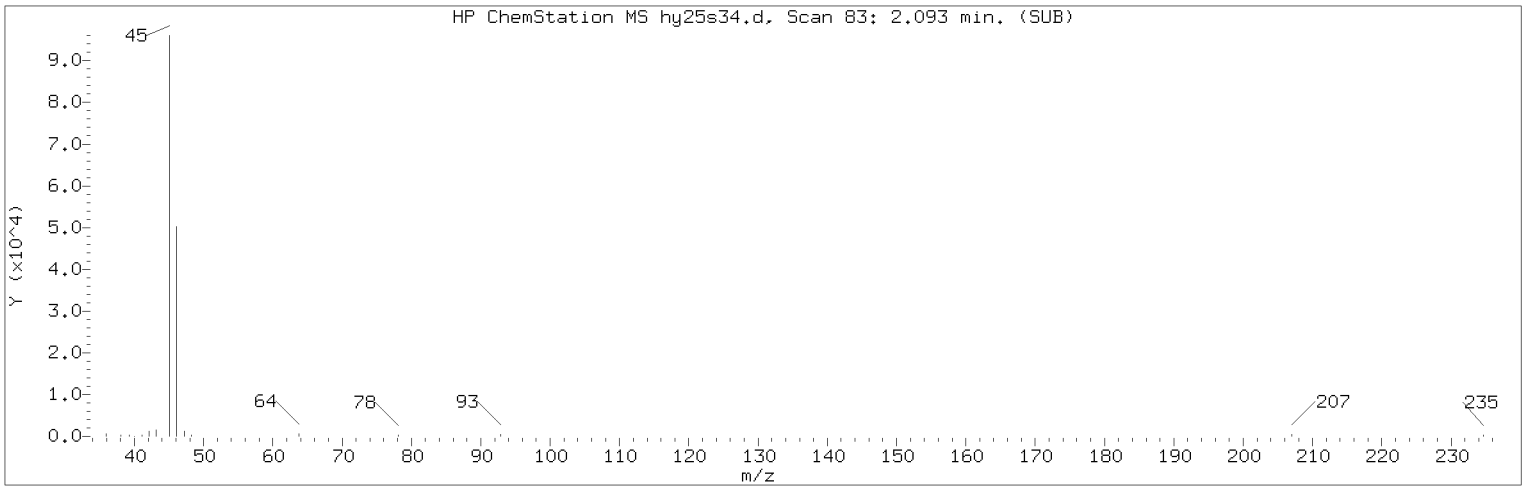
Sample Name: LCDH08 Lab Sample ID: LCDH08

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.093	45	435025M	4.676
26)*t-Butyl Alcohol-d10	(1)	4.251	65	87207	50.000
50)$Dibromofluoromethane	(2)	6.872	113	585651	10.274
57)$1,2-Dichloroethane-d4	(2)	7.323	102	93591	10.154
63)*Fluorobenzene	(2)	7.775	96	2542798	10.000
82)$Toluene-d8	(3)	9.786	98	2558064	10.563
97)*Chlorobenzene-d5	(3)	11.237	117	1656646	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	637227	9.261
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	622977	10.000

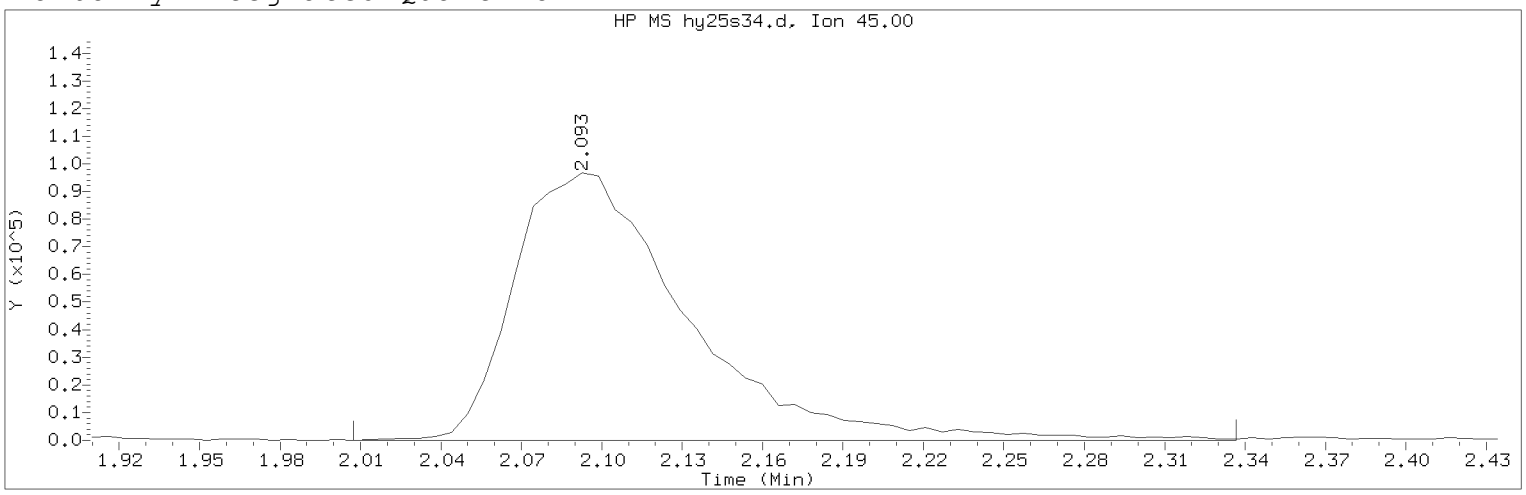
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s34.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:47 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCDH08 Lab Sample ID: LCDH08

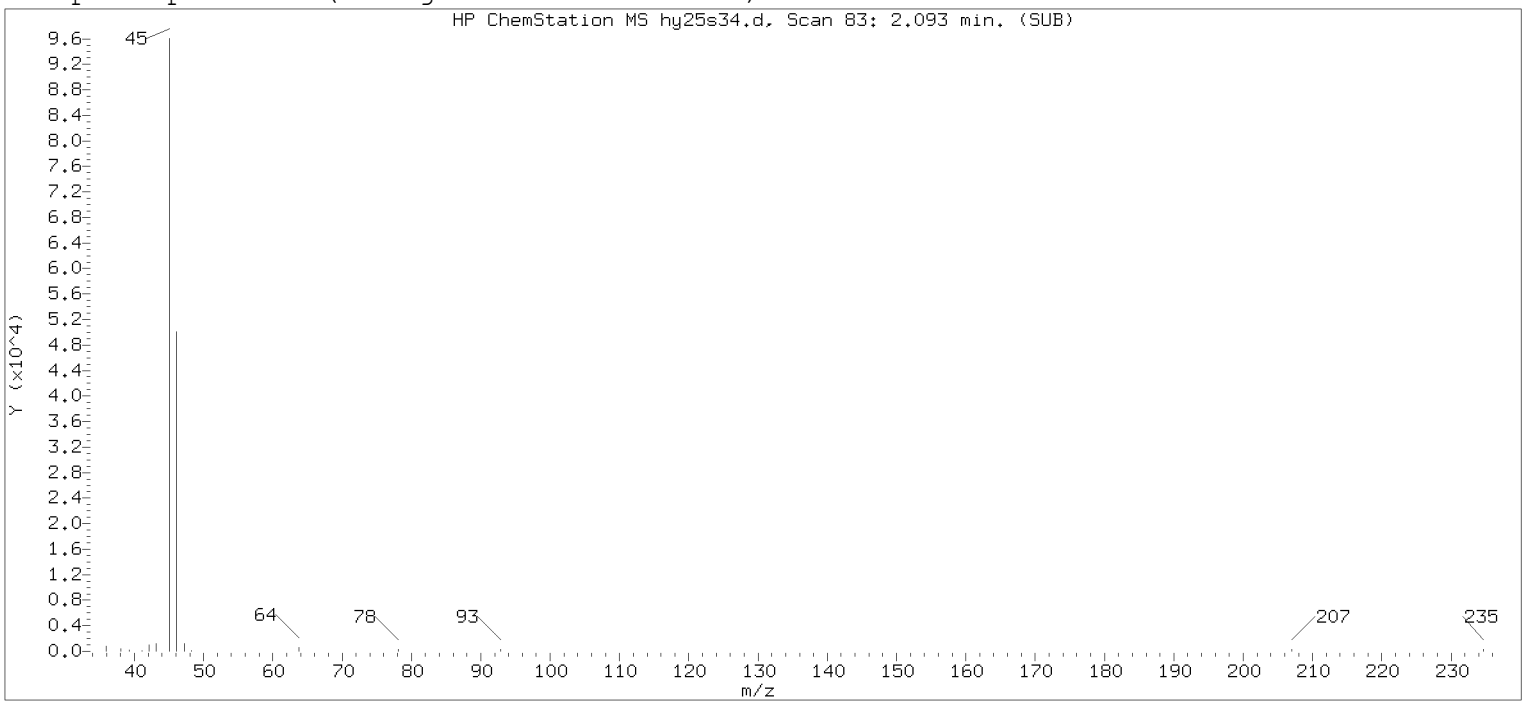
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 83
Retention Time (minutes): 2.093
Quant Ion : 45.00
Area (flag) : 435025M
On-Column Amount (ng) : 4.6756
Integration start scan : 68 Integration stop scan: 122
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

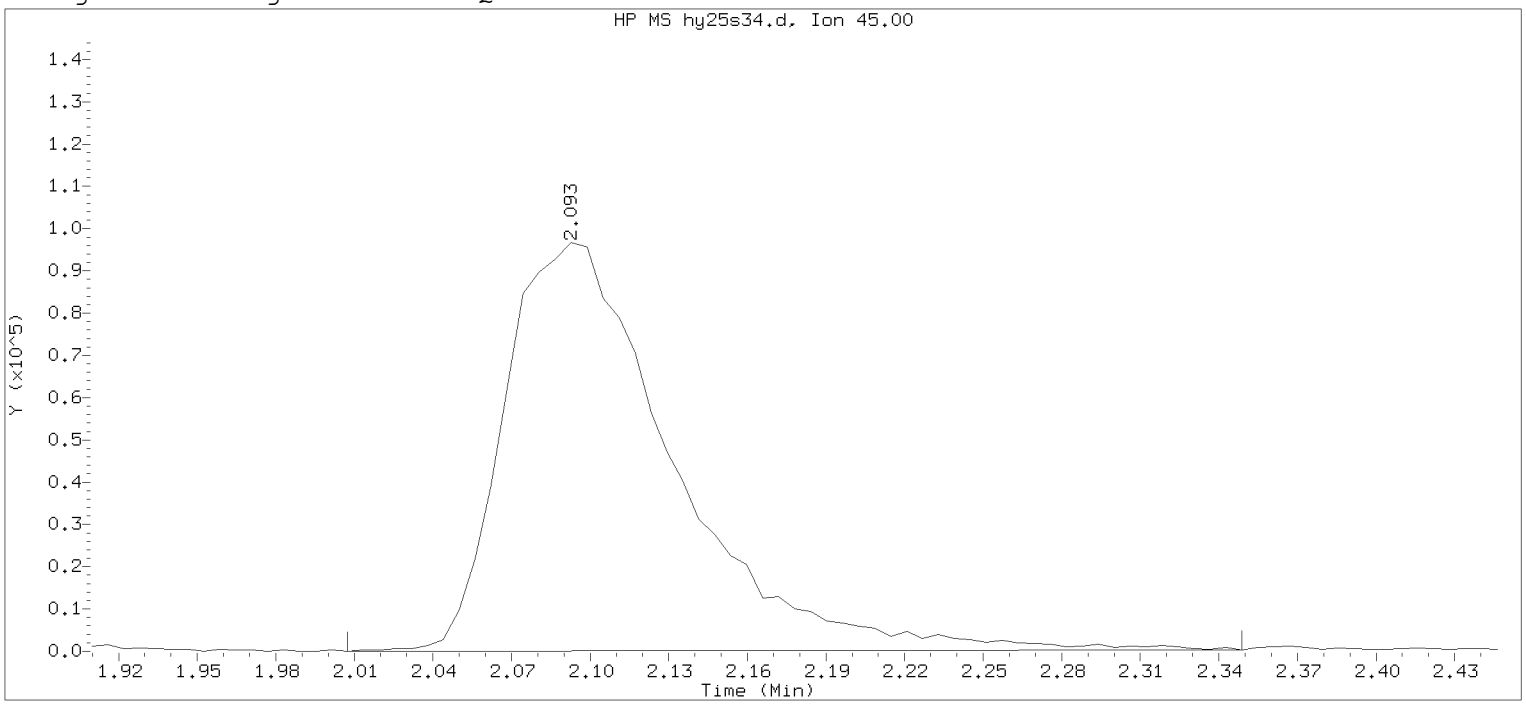
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18.
PARALLAX ID: prc00685

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s34.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 19:47 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:06 Automation

Sample Name: LCDH08 Lab Sample ID: LCDH08

Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 83
Retention Time (minutes): 2.093
Quant Ion : 45.00
Area : 431749
On-column Amount (ng) : 4.6404
Integration start scan : 68 Integration stop scan: 124
Y at integration start : 0 Y at integration end: 359

Digitally signed by Don V. Viray on 05/25/2017 at 20:34.
Target 3.5 esignature used.

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s31.d Injection date and time: **25-MAY-2017 18:26**
Data file Sample Info. Line: LCSH07;LCSH07;1;3;LCS;;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469-SM**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251(0.012)	437	65	94727M (8)	50.00	
63) Fluorobenzene	7.775(0.006)	1015	96	2632466 (1)	10.00	
97) Chlorobenzene-d5	11.237(0.006)	1583	117	1806719 (-3)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	791859 (-6)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866(0.000)	113	626485	10.616	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330(0.000)	102	100008	10.481	105%		74 - 113
82) Toluene-d8	(3)	9.786(0.000)	98	2621279	9.925	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(-0.001)	95	766172	10.211	102%		78 - 110

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)	2.014(0.000)	85	494719	4.857	4.86			0.1	1
2) Chloromethane	(2)	2.142(0.001)	50	555342	5.194	5.19			0.2	1
8) Chloroethane	(2)	2.715(0.002)	64	307576	5.721	5.72			0.1	1
10) Trichlorofluoromethane	(2)	3.032(0.001)	101	571835	5.258	5.26			0.1	1
11) Ethyl ether	(2)	3.294(0.001)	59	214337	4.975	4.97		J	0.1	13
15) 1,1-Dichloroethene	(2)	3.611(0.000)	96	310500	5.316	5.32			0.1	1
16) Freon 113	(2)	3.641(0.001)	101	339554	5.524	5.52			0.2	1
23) Methylene Chloride	(2)	4.263(0.001)	84	358163	5.616	5.62			0.2	1
33) 1,1-Dichloroethane	(2)	5.348(0.001)	63	698147	5.486	5.49			0.1	1
38) 2-Butanone	(1)	6.116(-0.004)	43	584633	32.840	32.84			1	10
48) Tetrahydrofuran	(1)	6.531(-0.002)	71	93455	21.014	21.01		J	2	25
51) 1,1,1-Trichloroethane	(2)	6.903(-0.000)	97	522141	5.106	5.11			0.1	1
54) Carbon Tetrachloride	(2)	7.122(0.000)	117	460275	5.362	5.36			0.1	1
58) Benzene	(2)	7.372(0.000)	78	1477349	5.357	5.36			0.1	1
67) Trichloroethene	(2)	8.262(-0.000)	95	374806	5.134	5.13			0.1	1
83) Toluene	(3)	9.866(-0.000)	92	922382	5.285	5.29			0.1	1
89) Tetrachloroethene	(3)	10.420(-0.000)	166	414681	5.124	5.12			0.1	1
100) Ethylbenzene	(3)	11.353(-0.000)	91	1764637	5.218	5.22			0.1	1
101) m+p-Xylene	(3)	11.469(-0.000)	106	1399933	10.888	10.89			0.1	0.5
104) o-Xylene	(3)	11.792(-0.000)	106	642918	5.206	5.21			0.1	0.5
105) Xylene (Total)	(3)		106	2042851	16.094	16.09			0.1	3

Digitally signed by Don V. Viray on 05/25/2017 at 20:34. Target 3.5 esignature user ID: dvv10203

Data file: /chem2/HP19094.i/17may25b.b/hy25s31.d Injection date and time: **25-MAY-2017 18:26**
Data file Sample Info. Line: LCSH07;LCSH07;1;3;LCS;;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469-SM**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

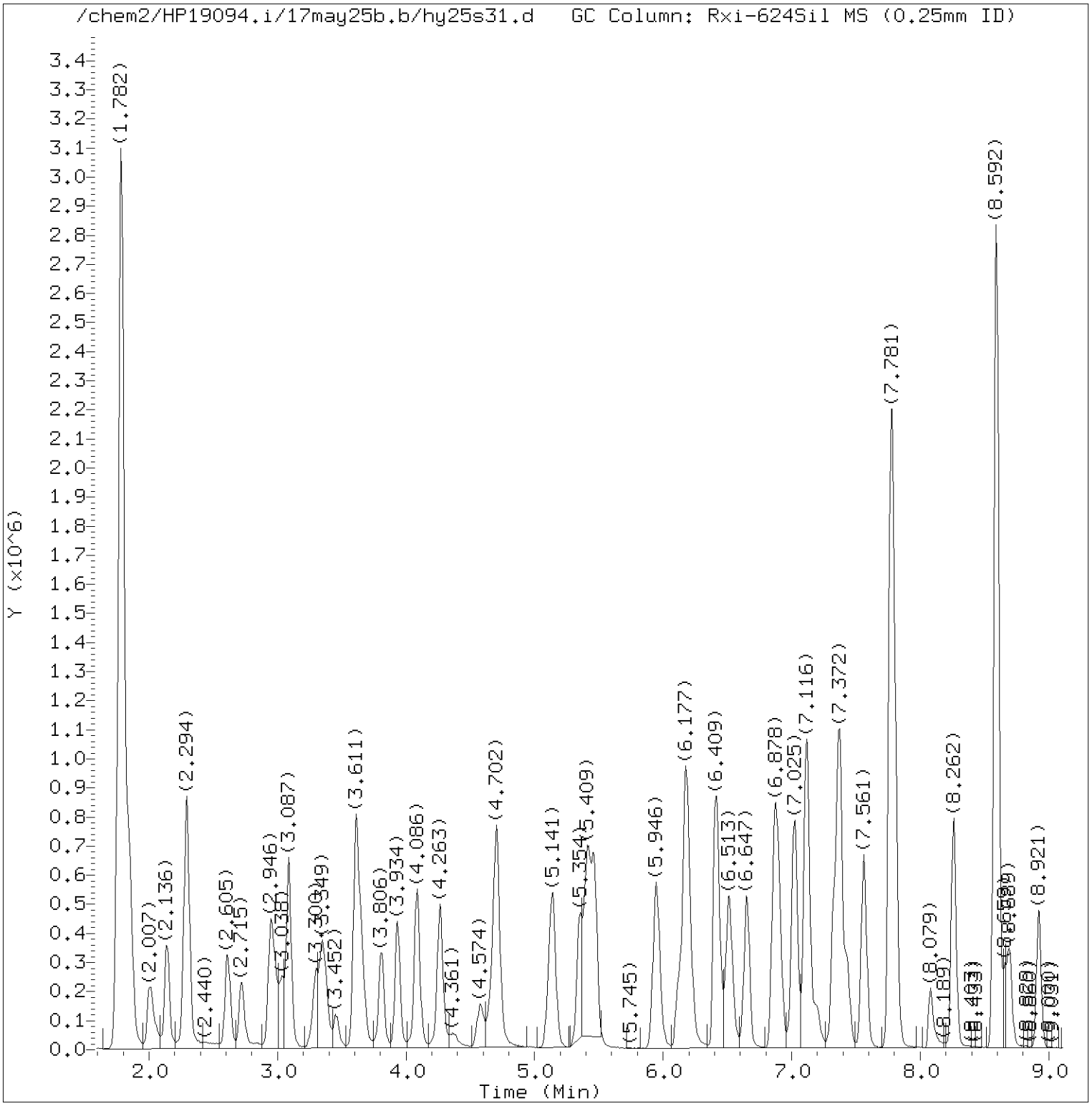
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 21

Digitally signed by Don V. Viray on 05/25/2017 at 20:34. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

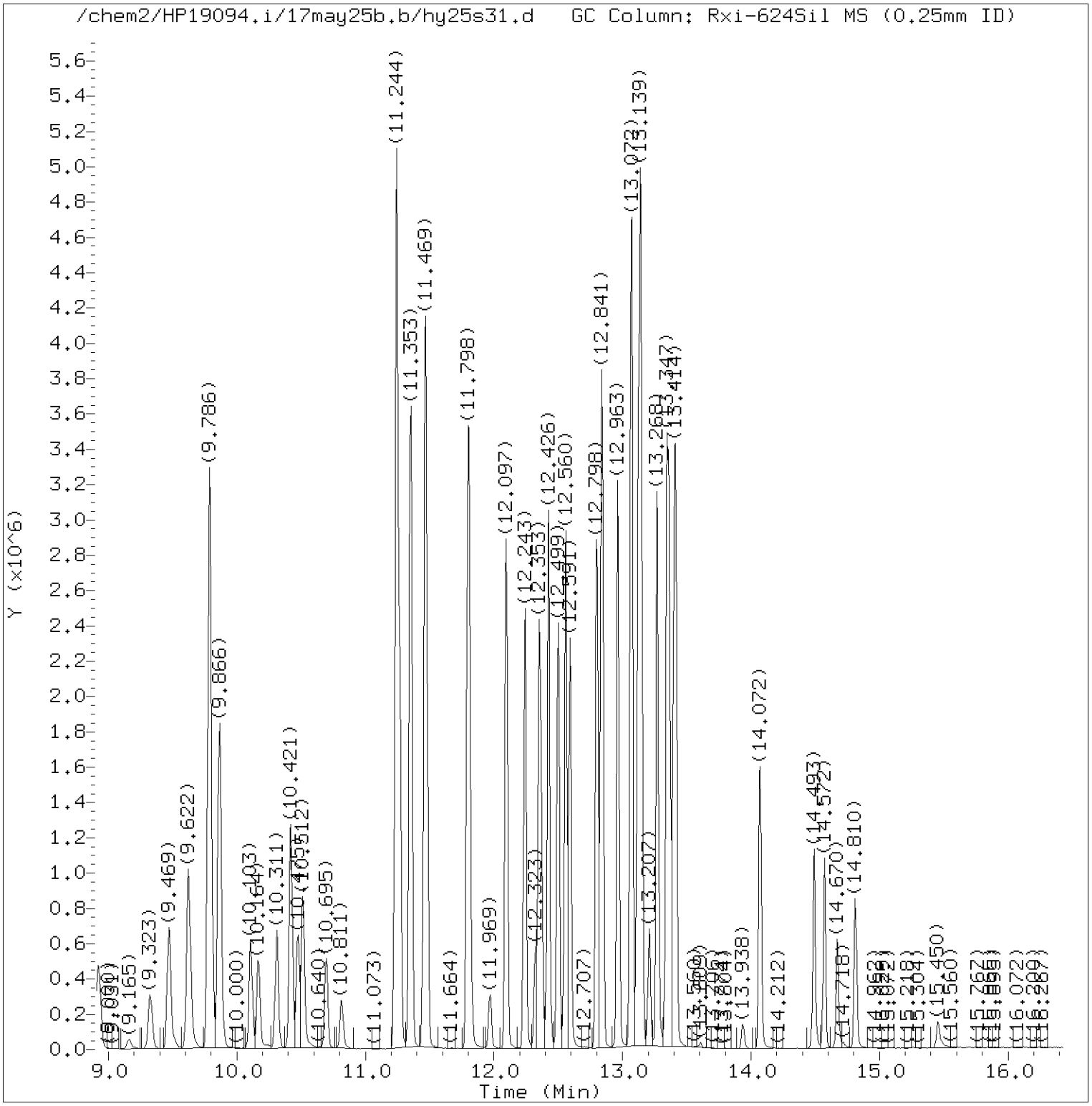
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s31.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCSH07 Lab Sample ID: LCSH07

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s31.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCSH07 Lab Sample ID: LCSH07

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s31.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

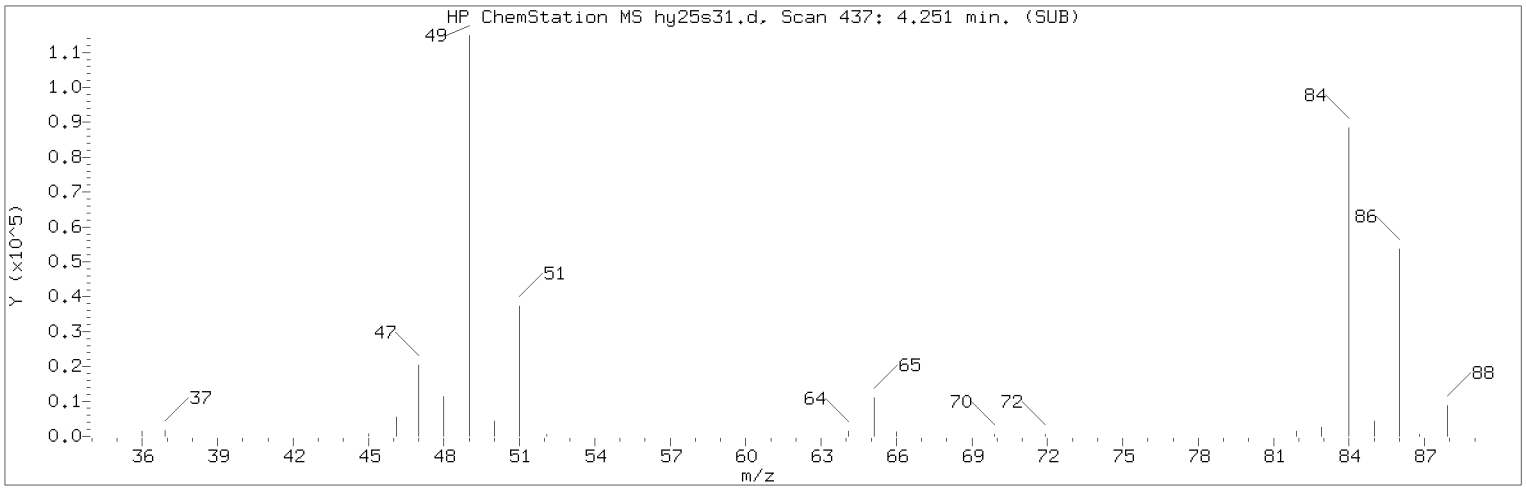
Sample Name: LCSH07 Lab Sample ID: LCSH07

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	494719	4.857
2) Chloromethane	(2)	2.142	50	555342	5.194
8) Chloroethane	(2)	2.715	64	307576	5.721
10) Trichlorofluoromethane	(2)	3.032	101	571835	5.258
11) Ethyl ether	(2)	3.294	59	214337	4.975
15) 1,1-Dichloroethene	(2)	3.611	96	310500	5.316
16) Freon 113	(2)	3.641	101	339554	5.524
26)*t-Butyl Alcohol-d10	(1)	4.251	65	94727M	50.000
23) Methylene Chloride	(2)	4.263	84	358163	5.616
33) 1,1-Dichloroethane	(2)	5.348	63	698147	5.486
38) 2-Butanone	(1)	6.116	43	584633	32.840
48) Tetrahydrofuran	(1)	6.531	71	93455	21.014
50)$Dibromofluoromethane	(2)	6.866	113	626485	10.616
51) 1,1,1-Trichloroethane	(2)	6.903	97	522141	5.106
54) Carbon Tetrachloride	(2)	7.122	117	460275	5.362
57)$1,2-Dichloroethane-d4	(2)	7.330	102	100008	10.481
58) Benzene	(2)	7.372	78	1477349	5.357
63)*Fluorobenzene	(2)	7.775	96	2632466	10.000
67) Trichloroethene	(2)	8.262	95	374806	5.134
82)$Toluene-d8	(3)	9.786	98	2621279	9.925
83) Toluene	(3)	9.866	92	922382	5.285
89) Tetrachloroethene	(3)	10.421	166	414681	5.124
97)*Chlorobenzene-d5	(3)	11.237	117	1806719	10.000
100) Ethylbenzene	(3)	11.353	91	1764637	5.218
101) m+p-Xylene	(3)	11.469	106	1399933	10.888
105) Xylene (Total)	(3)		106	2042851	16.094
104) o-Xylene	(3)	11.792	106	642918	5.206
111)$4-Bromofluorobenzene	(3)	12.243	95	766172	10.211
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	791859	10.000

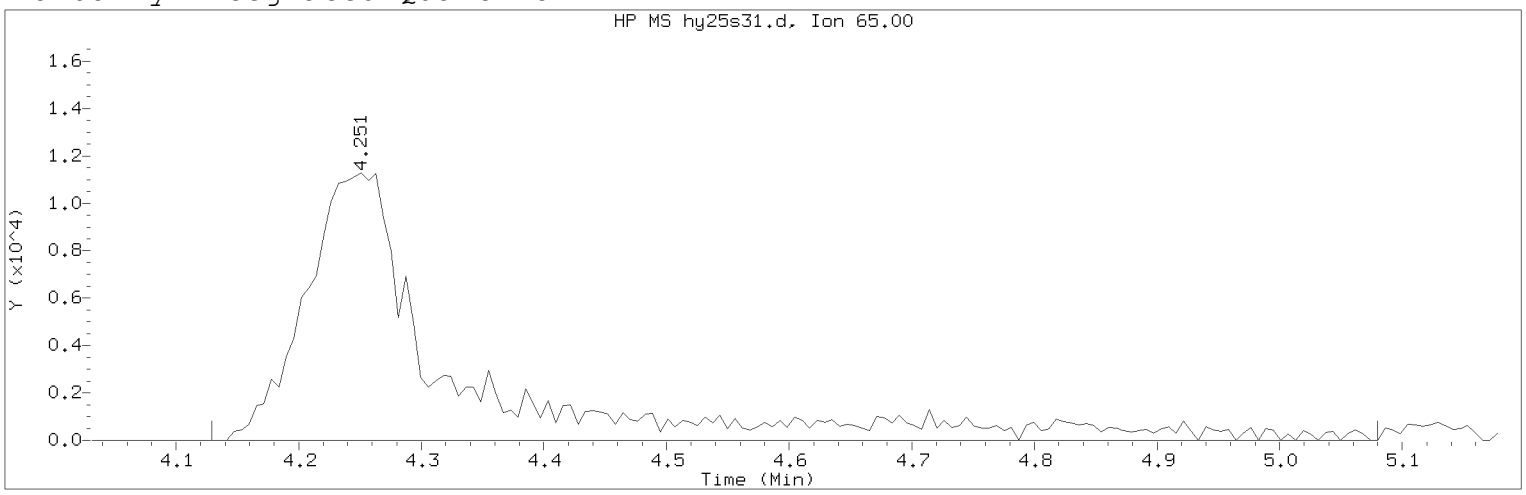
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s31.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCSH07 Lab Sample ID: LCSH07

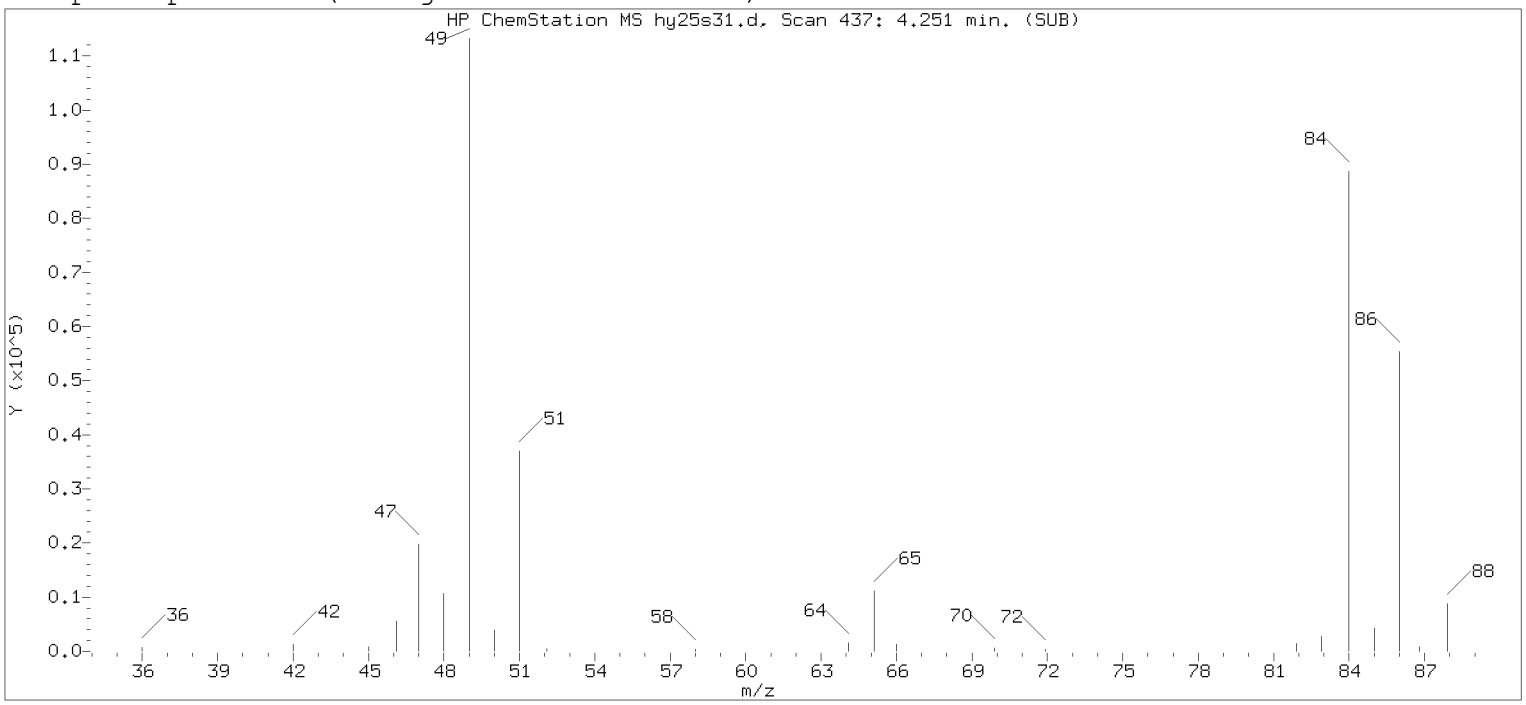
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area (flag) : 94727M
On-Column Amount (ng) : 50.0000
Integration start scan : 416 Integration stop scan: 572
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

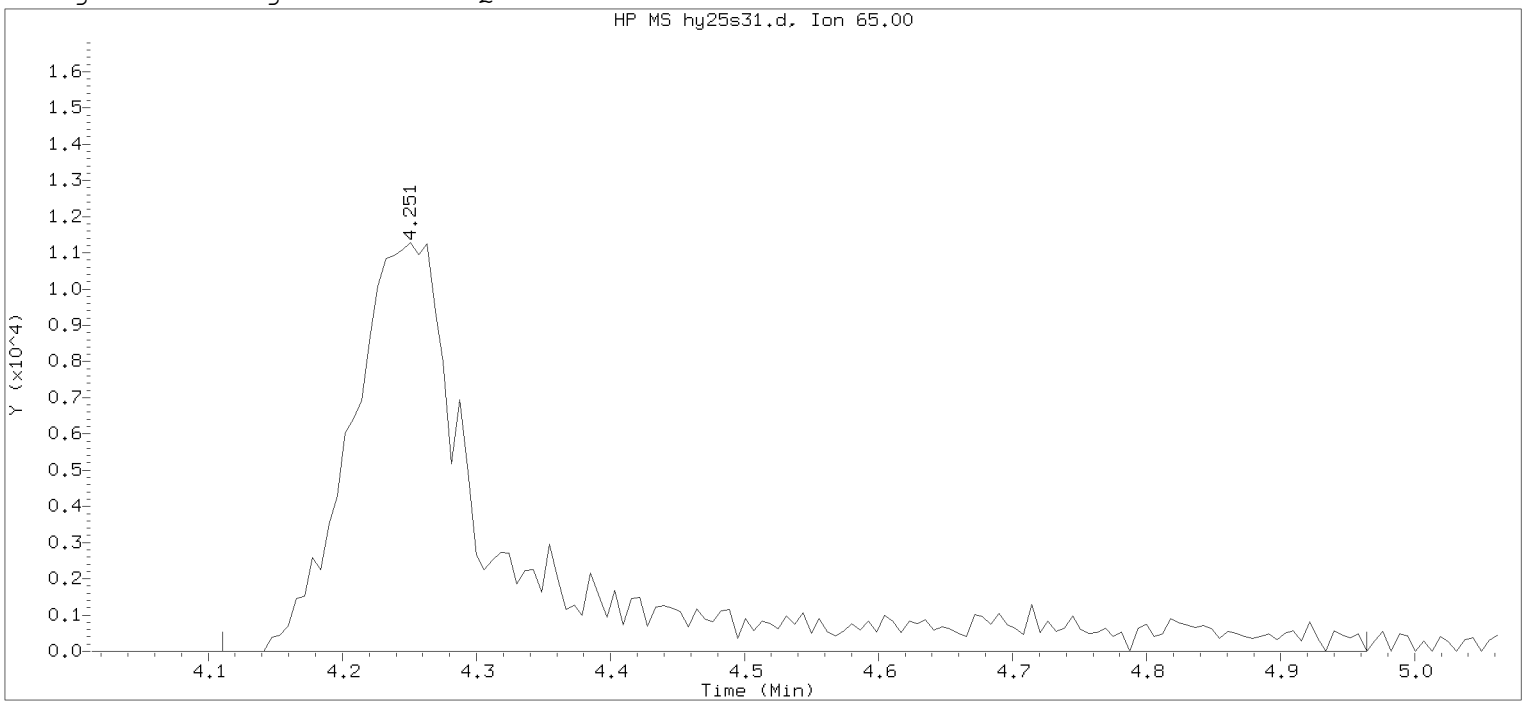
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18.
PARALLAX ID: prc00685

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s31.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:26 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 19:05 dvv10203

Sample Name: LCSH07 Lab Sample ID: LCSH07

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area : 93102
On-column Amount (ng) : 50.0000
Integration start scan : 413 Integration stop scan: 553
Y at integration start : 0 Y at integration end: 0

Digitally signed by Don V. Viray on 05/25/2017 at 20:34.
Target 3.5 esignature used.

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s32.d Injection date and time: **25-MAY-2017 18:46**
Data file Sample Info. Line: LCDH07;LCDH07;1;3;LCSD;;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469-SM**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.012)	437	65	79869M	(-9)	50.00	
63) Fluorobenzene	7.775	(0.006)	1015	96	2664533	(2)	10.00	
97) Chlorobenzene-d5	11.244	(0.000)	1584	117	1802996	(-3)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	780514	(-7)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(-0.001)	113	616541	10.322	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.330	(0.000)	102	99698	10.323	103%		74 - 113
82) Toluene-d8	(3)	9.787	(0.001)	98	2651426	10.060	101%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	765721	10.226	102%		78 - 110

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit	LOQ (in sample)
1) Dichlorodifluoromethane	(2)	2.014	(0.000)	85	490988	4.763	4.76			0.1	1
2) Chloromethane	(2)	2.154	(-0.000)	50	546502	5.049	5.05			0.2	1
8) Chloroethane	(2)	2.727	(0.000)	64	247717	4.552	4.55			0.1	1
10) Trichlorofluoromethane	(2)	3.044	(-0.000)	101	565285	5.135	5.14			0.1	1
11) Ethyl ether	(2)	3.306	(-0.000)	59	216571	4.966	4.97		J	0.1	13
15) 1,1-Dichloroethene	(2)	3.617	(-0.000)	96	308612	5.220	5.22			0.1	1
16) Freon 113	(2)	3.654	(0.000)	101	337905	5.431	5.43			0.2	1
23) Methylene Chloride	(2)	4.275	(-0.000)	84	352075	5.454	5.45			0.2	1
33) 1,1-Dichloroethane	(2)	5.360	(-0.000)	63	696169	5.404	5.40			0.1	1
38) 2-Butanone	(1)	6.129	(-0.006)	43	577276	38.459	38.46			1	10
48) Tetrahydrofuran	(1)	6.531	(-0.002)	71	93847	25.028	25.03			2	25
51) 1,1,1-Trichloroethane	(2)	6.909	(-0.001)	97	528917	5.110	5.11			0.1	1
54) Carbon Tetrachloride	(2)	7.128	(-0.000)	117	467801	5.384	5.38			0.1	1
58) Benzene	(2)	7.378	(-0.000)	78	1474041	5.280	5.28			0.1	1
67) Trichloroethene	(2)	8.268	(-0.001)	95	378042	5.116	5.12			0.1	1
83) Toluene	(3)	9.866	(0.000)	92	920058	5.283	5.28			0.1	1
89) Tetrachloroethene	(3)	10.420	(0.000)	166	415720	5.147	5.15			0.1	1
100) Ethylbenzene	(3)	11.353	(-0.000)	91	1784723	5.289	5.29			0.1	1
101) m+p-Xylene	(3)	11.469	(-0.000)	106	1383697	10.784	10.78			0.1	0.5
104) o-Xylene	(3)	11.792	(0.000)	106	647243	5.252	5.25			0.1	0.5
105) Xylene (Total)	(3)			106	2030940	16.036	16.04			0.1	3

Digitally signed by Don V. Viray on 05/25/2017 at 20:34. Target 3.5 esignature user ID: dvv10203

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may25b.b/hy25s32.d Injection date and time: **25-MAY-2017 18:46**
Data file Sample Info. Line: LCDH07;LCDH07;1;3;LCSD;;DRAPERLOQ;;hy25b10; Instrument ID: **HP19094.i** Batch: **H171452AA**
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Blank Data file reference: **/chem2/HP19094.i/17may25b.b/hy25b10.d**

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: **22469-SM**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:45
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may25b.b/hy25c05.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

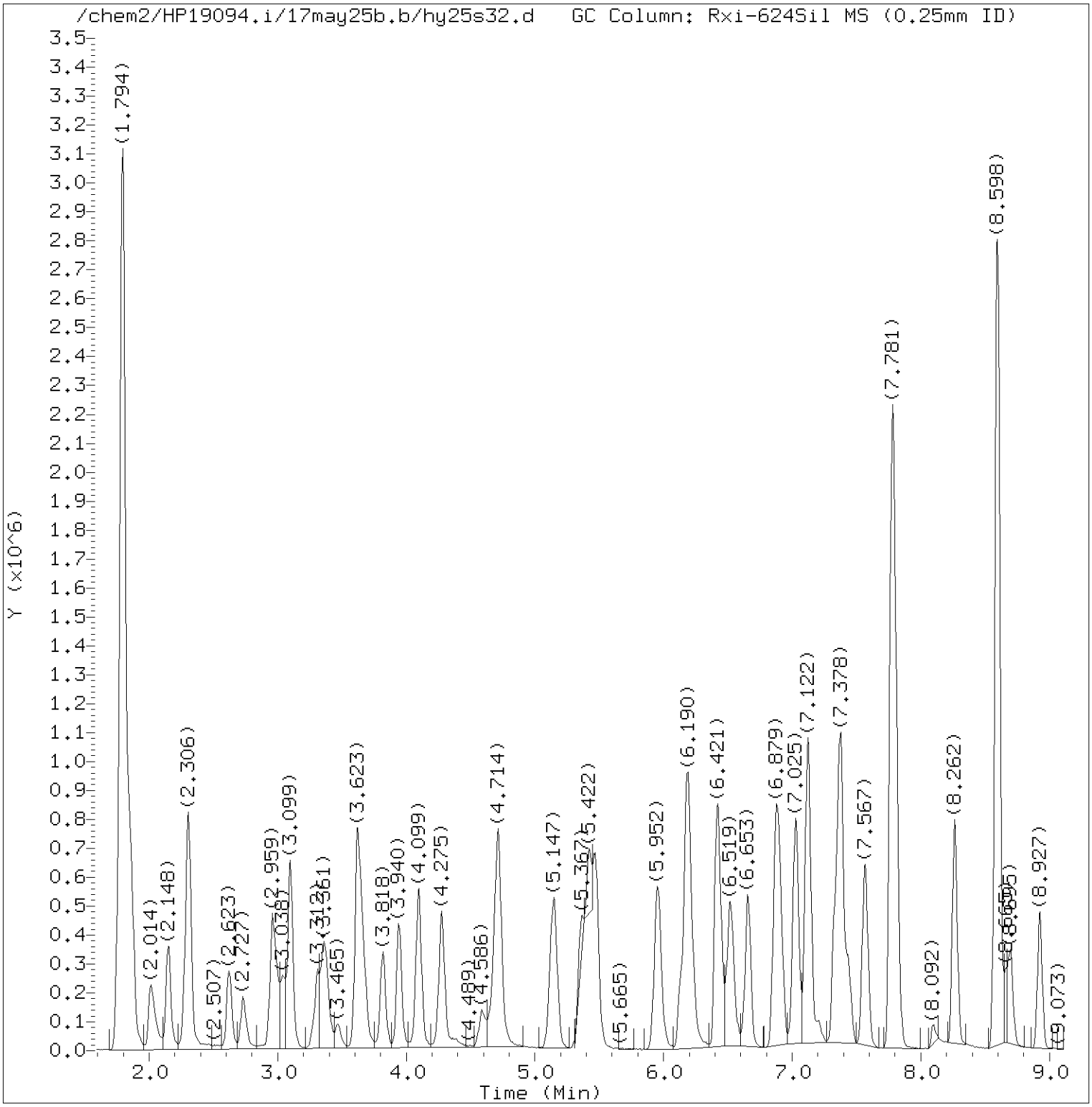
Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 21

Digitally signed by Don V. Viray on 05/25/2017 at 20:34. Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18. PARALLAX ID: prc00685



Total Ion Chromatogram (TIC)

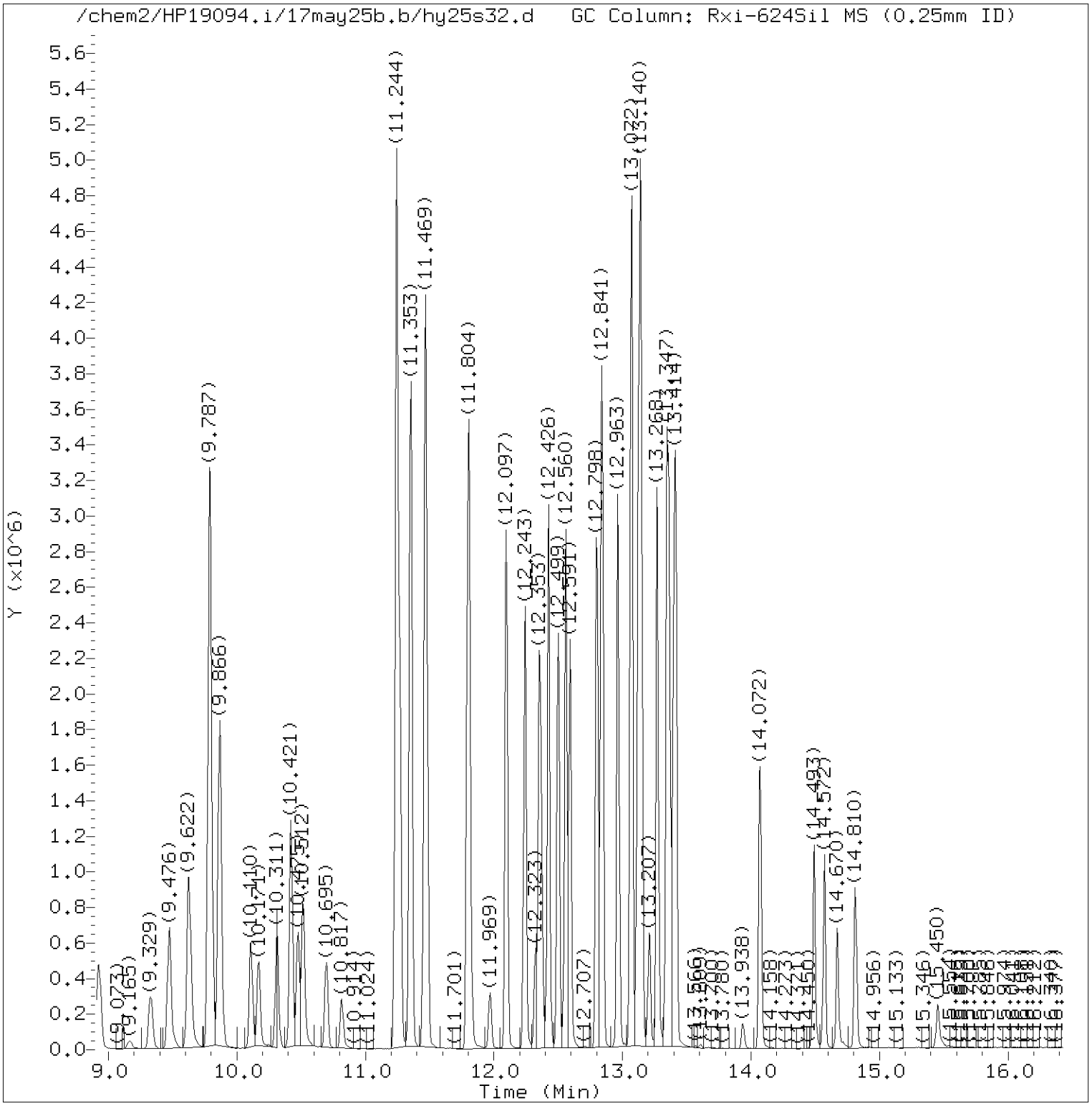
Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s32.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCDH07 Lab Sample ID: LCDH07

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s32.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCDH07 Lab Sample ID: LCDH07

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may25b.b/hy25s32.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

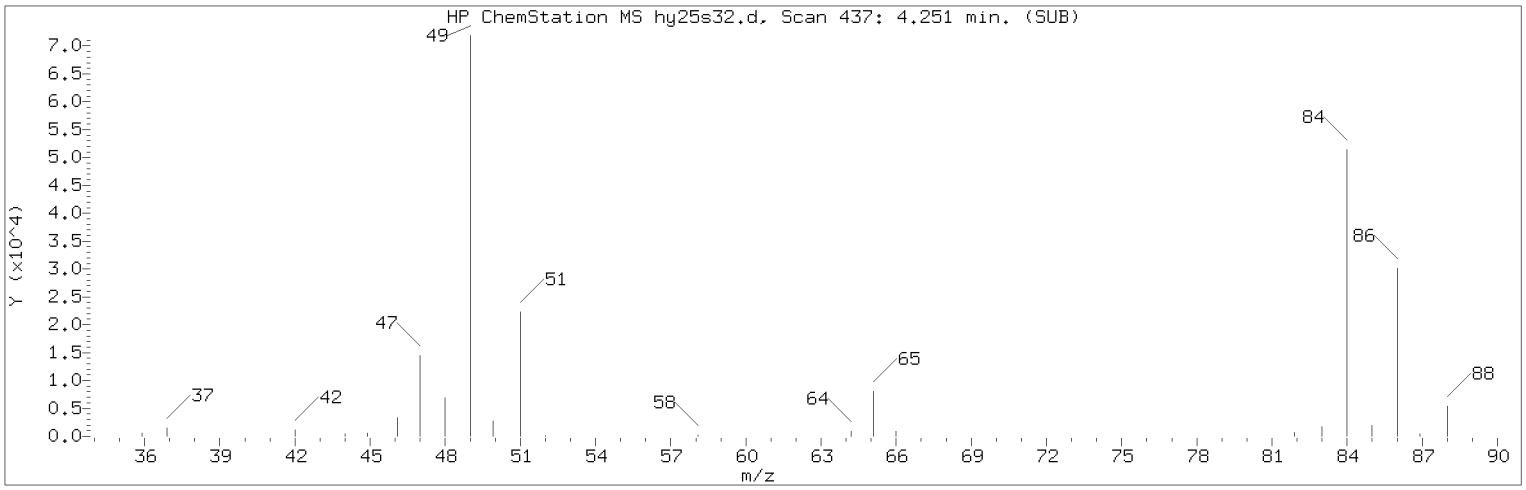
Sample Name: LCDH07 Lab Sample ID: LCDH07

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.014	85	490988	4.763
2) Chloromethane	(2)	2.154	50	546502	5.049
8) Chloroethane	(2)	2.727	64	247717	4.552
10) Trichlorofluoromethane	(2)	3.044	101	565285	5.135
11) Ethyl ether	(2)	3.306	59	216571	4.966
15) 1,1-Dichloroethene	(2)	3.617	96	308612	5.220
16) Freon 113	(2)	3.654	101	337905	5.431
26)*t-Butyl Alcohol-d10	(1)	4.251	65	79869M	50.000
23) Methylene Chloride	(2)	4.275	84	352075	5.454
33) 1,1-Dichloroethane	(2)	5.361	63	696169	5.404
38) 2-Butanone	(1)	6.129	43	577276	38.459
48) Tetrahydrofuran	(1)	6.531	71	93847	25.028
50)$Dibromofluoromethane	(2)	6.872	113	616541	10.322
51) 1,1,1-Trichloroethane	(2)	6.909	97	528917	5.110
54) Carbon Tetrachloride	(2)	7.128	117	467801	5.384
57)$1,2-Dichloroethane-d4	(2)	7.330	102	99698	10.323
58) Benzene	(2)	7.378	78	1474041	5.280
63)*Fluorobenzene	(2)	7.775	96	2664533	10.000
67) Trichloroethene	(2)	8.269	95	378042	5.116
82)$Toluene-d8	(3)	9.787	98	2651426	10.060
83) Toluene	(3)	9.866	92	920058	5.283
89) Tetrachloroethene	(3)	10.421	166	415720	5.147
97)*Chlorobenzene-d5	(3)	11.244	117	1802996	10.000
100) Ethylbenzene	(3)	11.353	91	1784723	5.289
101) m+p-Xylene	(3)	11.469	106	1383697	10.784
105) Xylene (Total)	(3)		106	2030940	16.036
104) o-Xylene	(3)	11.792	106	647243	5.252
111)$4-Bromofluorobenzene	(3)	12.243	95	765721	10.226
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	780514	10.000

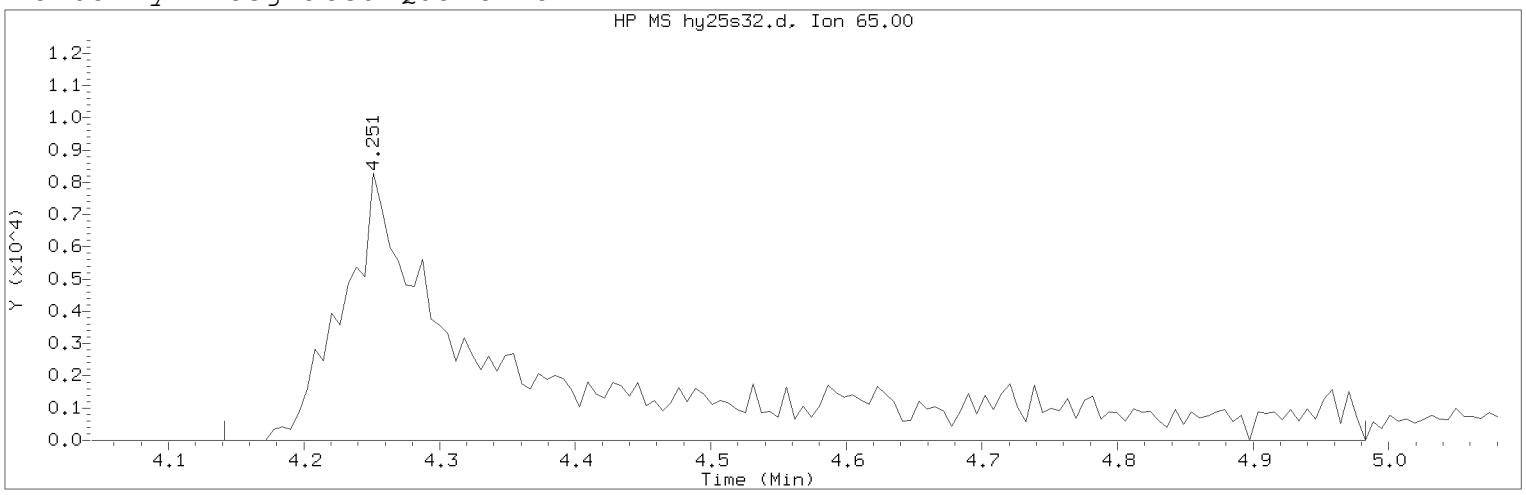
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s32.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 20:31 dvv10203

Sample Name: LCDH07 Lab Sample ID: LCDH07

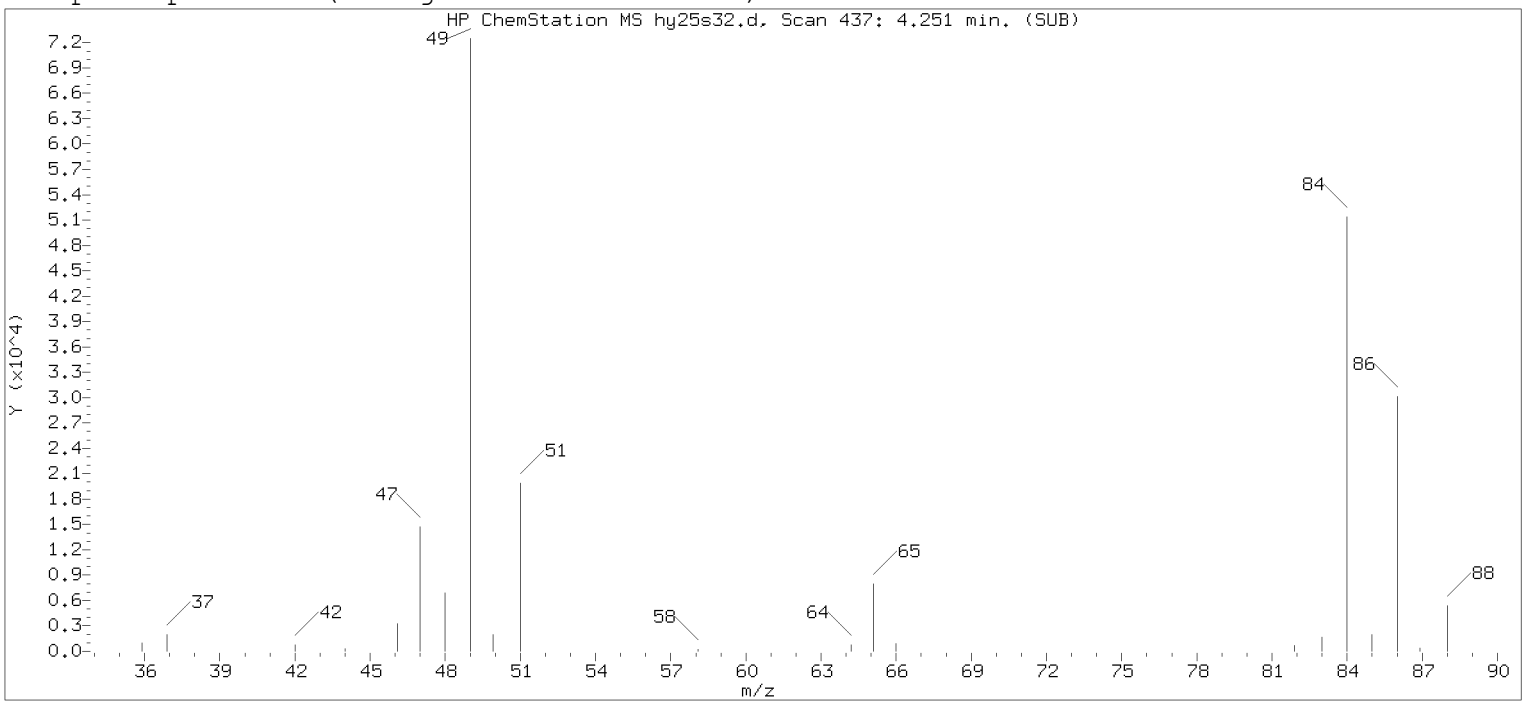
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area (flag) : 79869M
On-Column Amount (ng) : 50.0000
Integration start scan : 418 Integration stop scan: 556
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

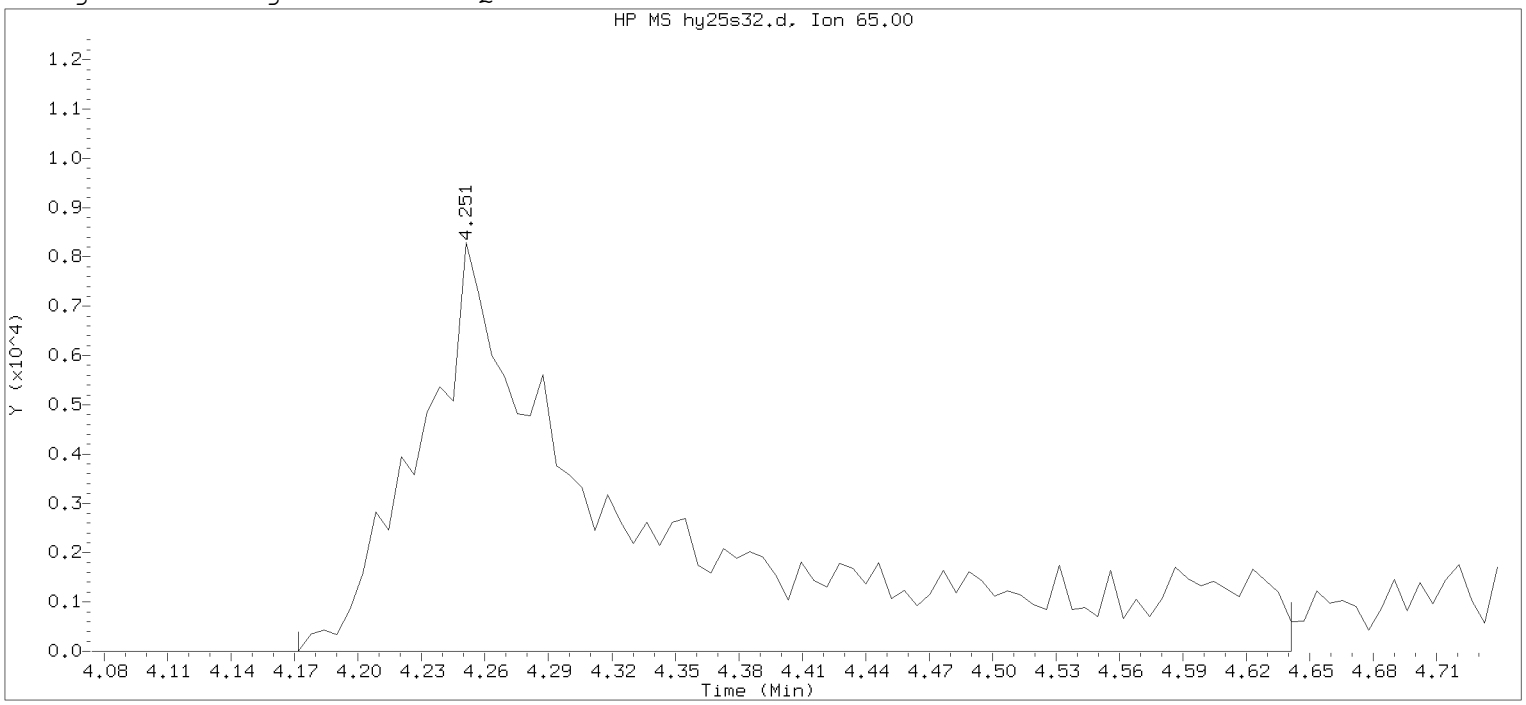
Analyst responsible for change: Digitally signed by Don V. Viray
on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: dvv10203

Secondary review performed and digitally signed by Paul R. Cormier on 05/30/2017 at 13:18.
PARALLAX ID: prc00685

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may25b.b/hy25s32.d Instrument ID: HP19094.i
Injection date and time: 25-MAY-2017 18:46 Analyst ID: DVV10203

Method used: /chem2/HP19094.i/17may25b.b/m8260c25.m Sublist used: 22469-SM
Calibration date and time: 25-MAY-2017 18:45
Date, time and analyst ID of latest file update: 25-May-2017 19:04 Automation

Sample Name: LCDH07 Lab Sample ID: LCDH07

Compound Number	: 26		
Compound Name	: t-Butyl Alcohol-d10		
Scan Number	: 437		
Retention Time (minutes)	: 4.251		
Quant Ion	: 65.00		
Area	: 61408		
On-column Amount (ng)	: 50.0000		
Integration start scan	: 423	Integration stop scan:	500
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Don V. Viray on 05/25/2017 at 20:34.
Target 3.5 esignature user ID: DVV10203

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may26a.b/hy26l03.d Injection date and time: **26-MAY-2017 10:36**
Data file Sample Info. Line: LCSH12;LCSH12;1;3;LCS;;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340SM**
Calibration date and time (Last Method Edit): 26-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(-0.006)	438	65	80614M (-11)	50.00	
63) Fluorobenzene	7.775(0.000)	1015	96	2598189 (1)	10.00	
97) Chlorobenzene-d5	11.237(0.000)	1583	117	1717835 (-4)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	670672 (-14)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866(0.000)	113	637176	10.940	109%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.323(0.000)	102	100936	10.718	107%		74 - 113
82) Toluene-d8	(3)	9.786(0.000)	98	2657550	10.583	106%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.000)	95	700370	9.817	98%		78 - 110

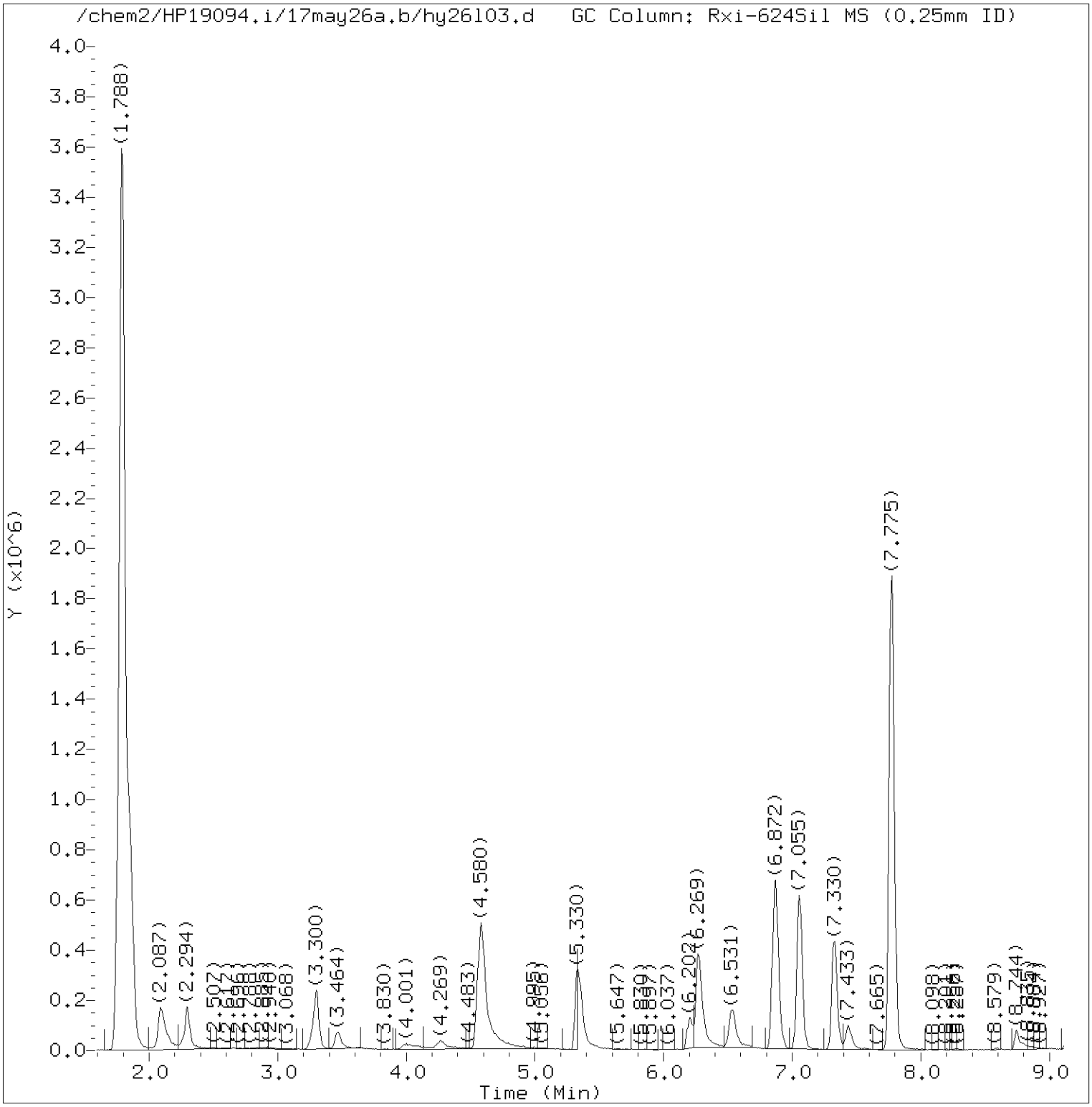
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
4) Dimethyl ether	(2)	2.087(-0.000)	45	424823M	4.469	4.47		J	0.1	13
25) Acetonitrile	(1)	4.001(-0.005)	41	174613M	43.858	43.86		J	32	100
36) Vinyl Acetate	(2)	5.336(-0.000)	43	1054156	12.936	12.94			3	10
142) Hexachloroethane	(4)	13.609(-0.000)	117	253166	4.668	4.67		J	0.1	10

M = Compound was manually integrated.

Total number of targets = 4

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:56. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

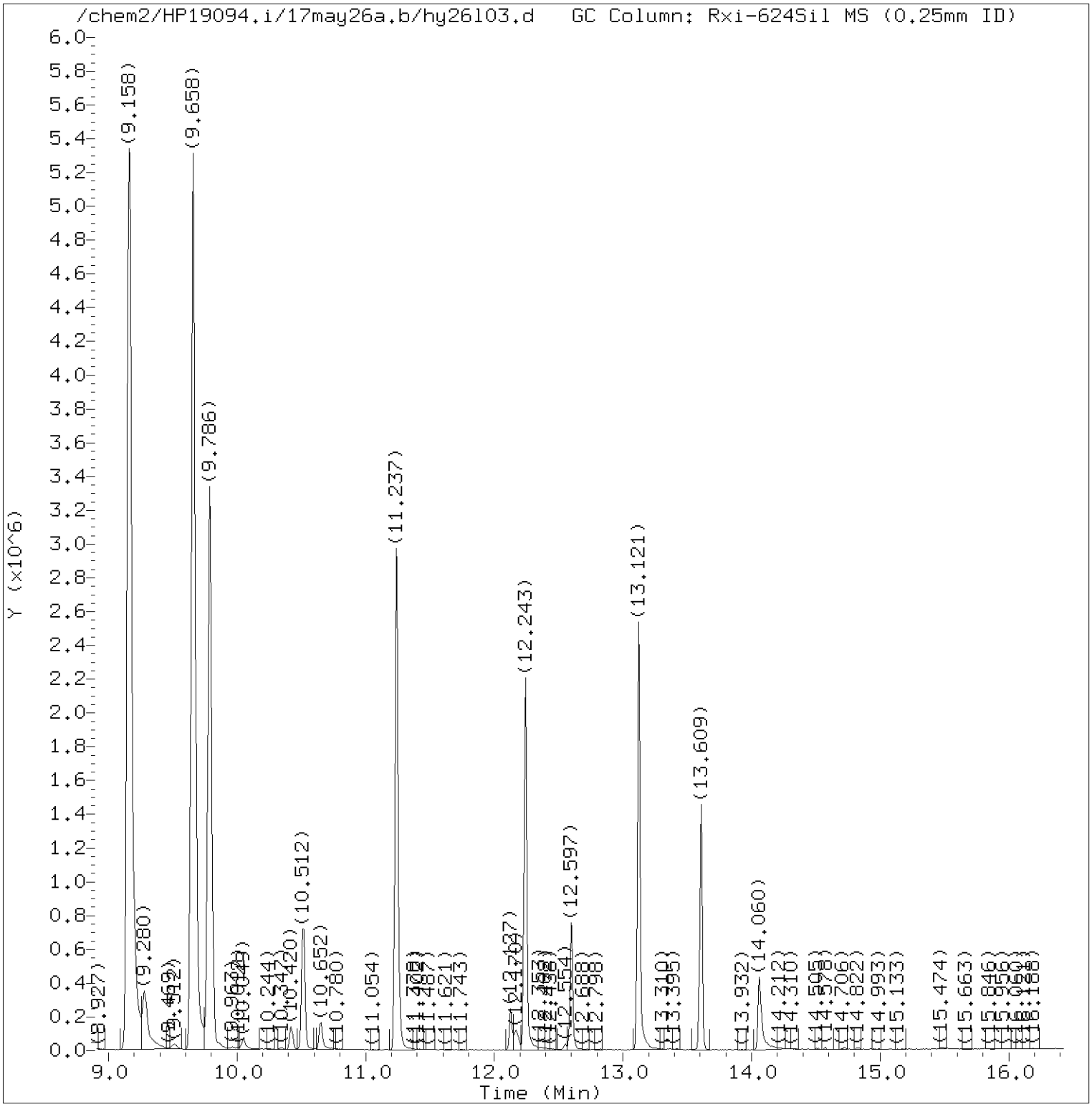
Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCSH12 Lab Sample ID: LCSH12

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 14:56.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCSH12 Lab Sample ID: LCSH12

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 14:56.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

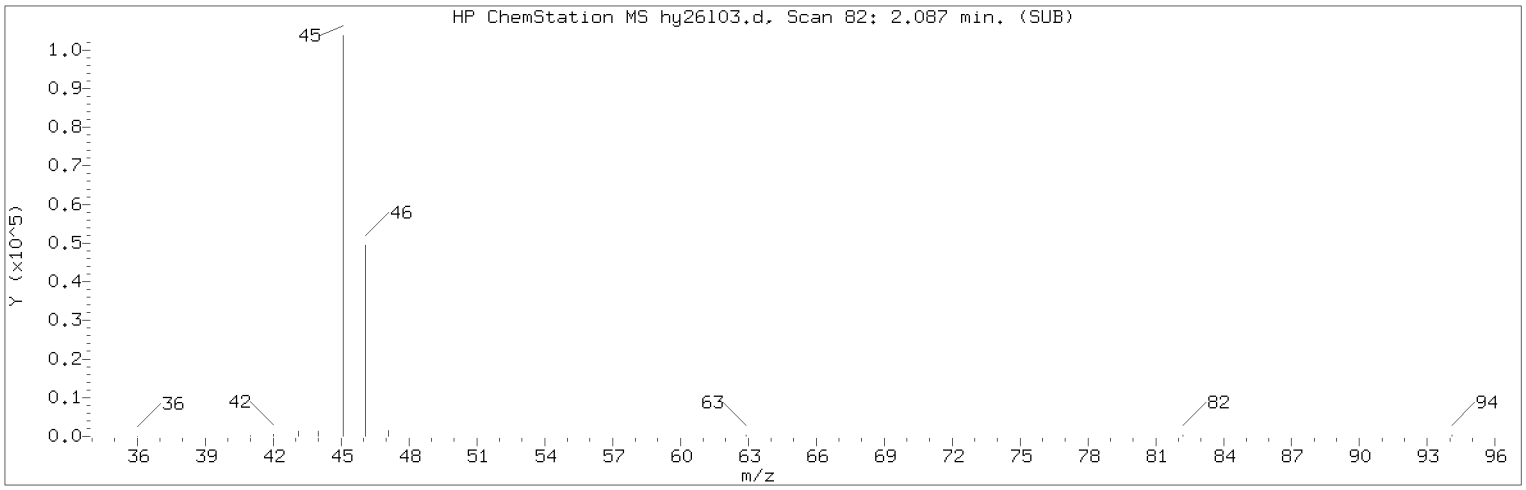
Sample Name: LCSH12 Lab Sample ID: LCSH12

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.087	45	424823M	4.469
25) Acetonitrile	(1)	4.001	41	174613M	43.858
26)*t-Butyl Alcohol-d10	(1)	4.257	65	80614M	50.000
36) Vinyl Acetate	(2)	5.336	43	1054156	12.936
50)$Dibromofluoromethane	(2)	6.866	113	637176	10.940
57)$1,2-Dichloroethane-d4	(2)	7.323	102	100936	10.718
63)*Fluorobenzene	(2)	7.775	96	2598189	10.000
82)$Toluene-d8	(3)	9.786	98	2657550	10.583
97)*Chlorobenzene-d5	(3)	11.237	117	1717835	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	700370	9.817
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	670672	10.000
142) Hexachloroethane	(4)	13.609	117	253166	4.668

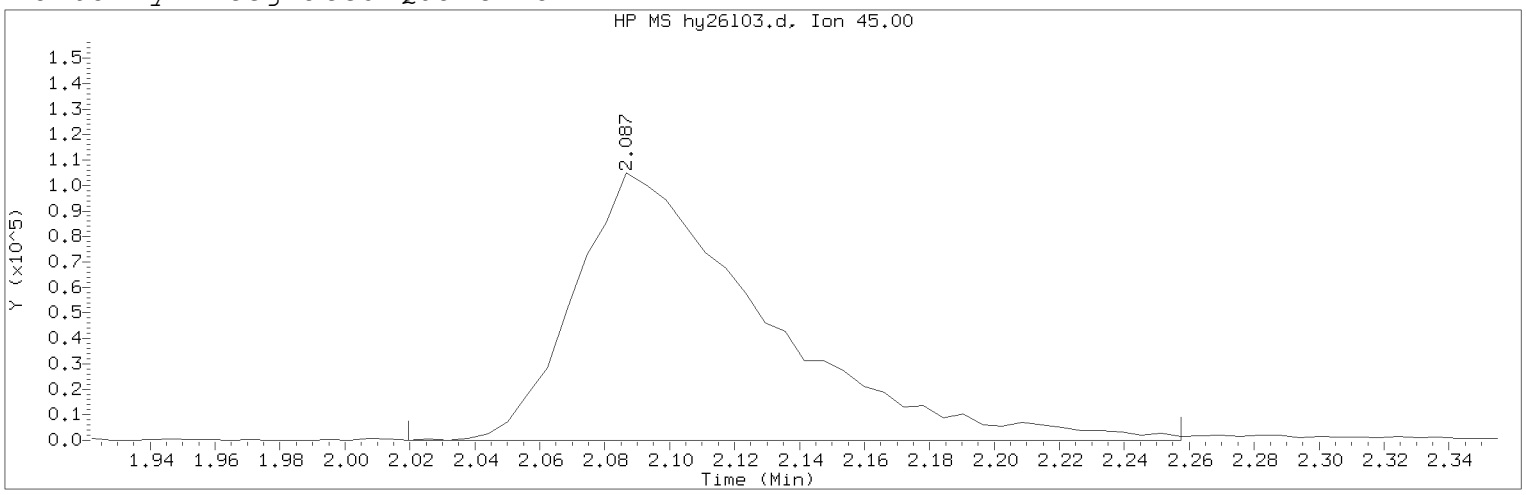
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 14:56.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCSH12 Lab Sample ID: LCSH12

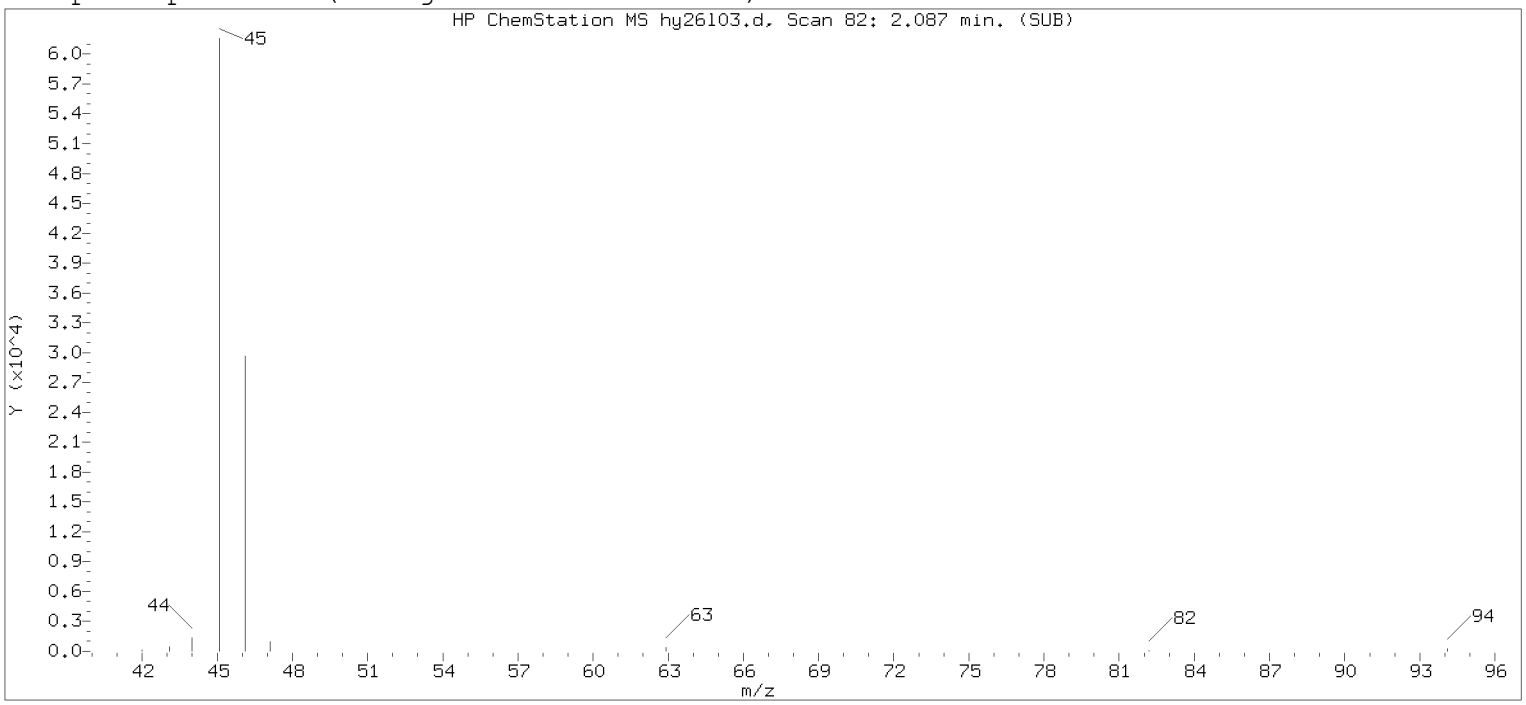
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area (flag) : 424823M
On-Column Amount (ng) : 4.4686
Integration start scan : 70 Integration stop scan: 109
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

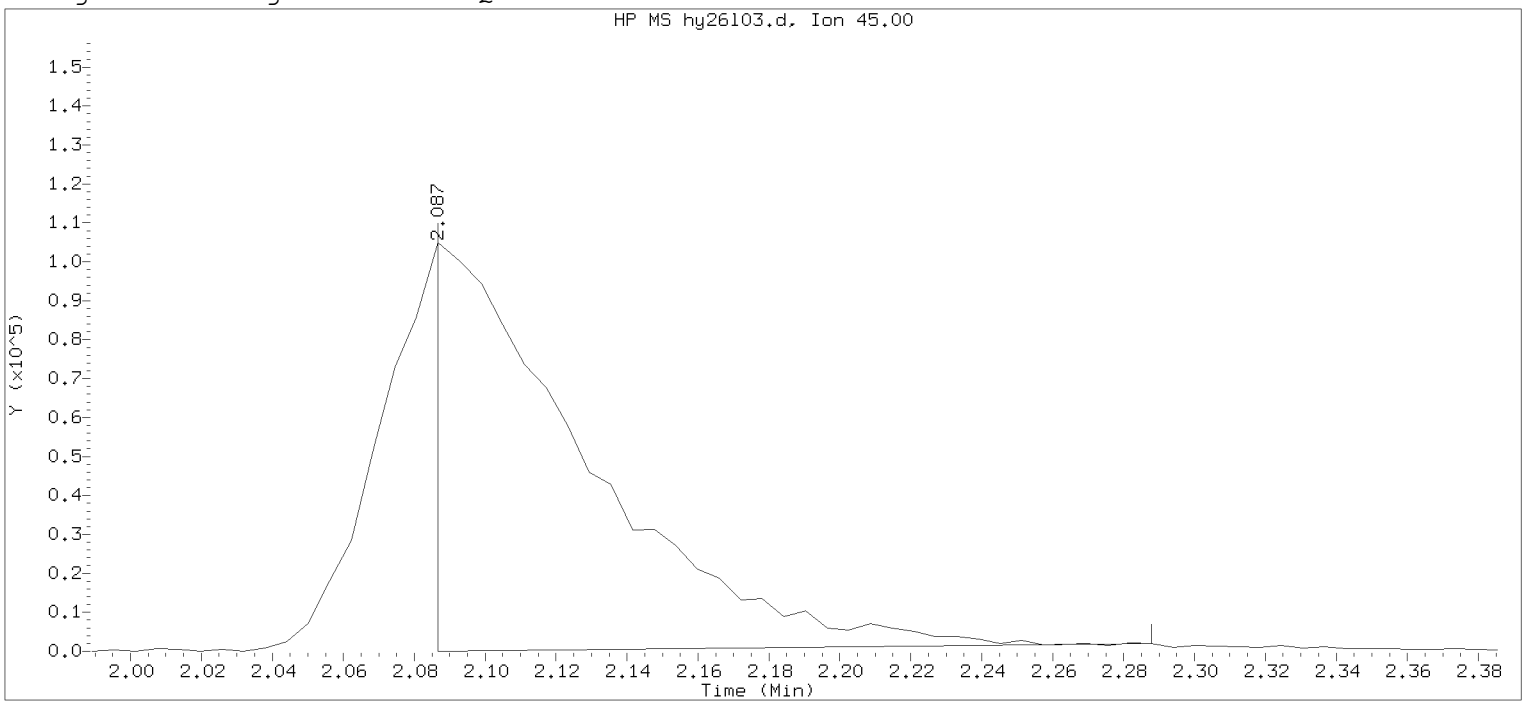
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:56.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

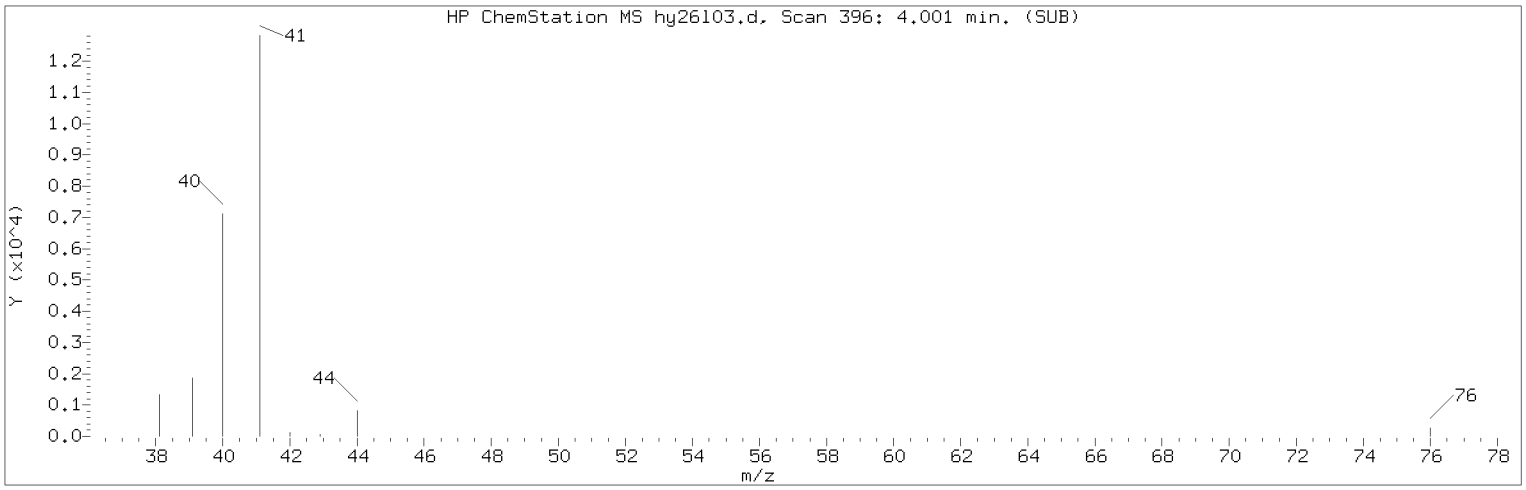
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCSH12 Lab Sample ID: LCSH12

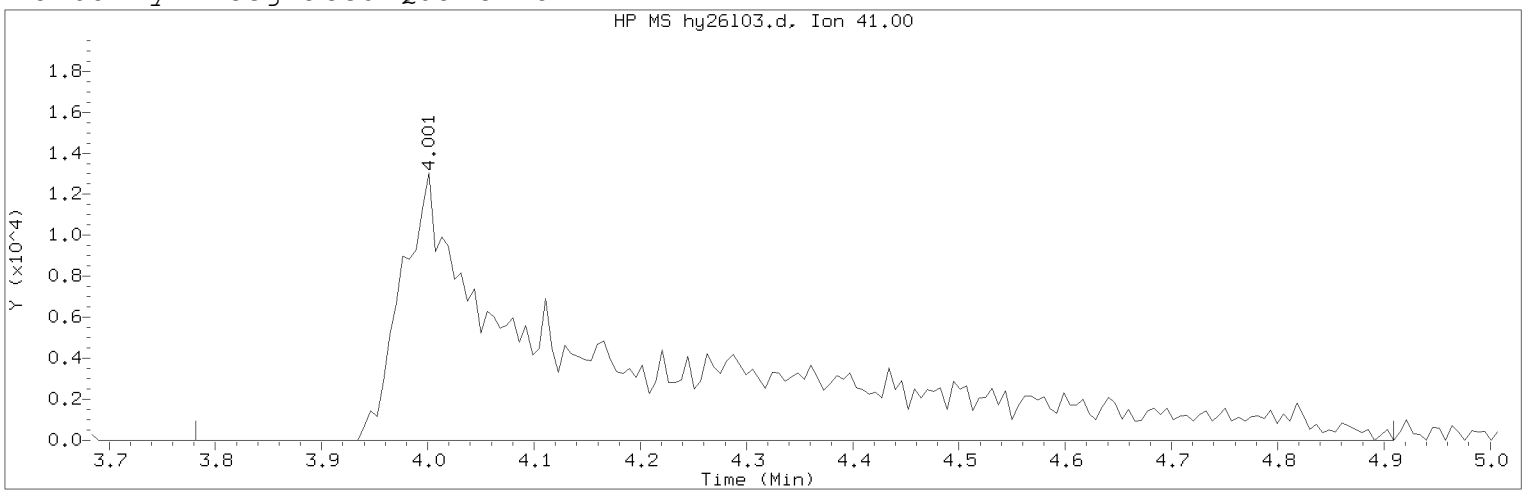
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 82
Retention Time (minutes): 2.087
Quant Ion : 45.00
Area : 298432
On-column Amount (ng) : 3.1391
Integration start scan : 81 Integration stop scan: 114
Y at integration start : 0 Y at integration end: 2024

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:56.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCSH12 Lab Sample ID: LCSH12

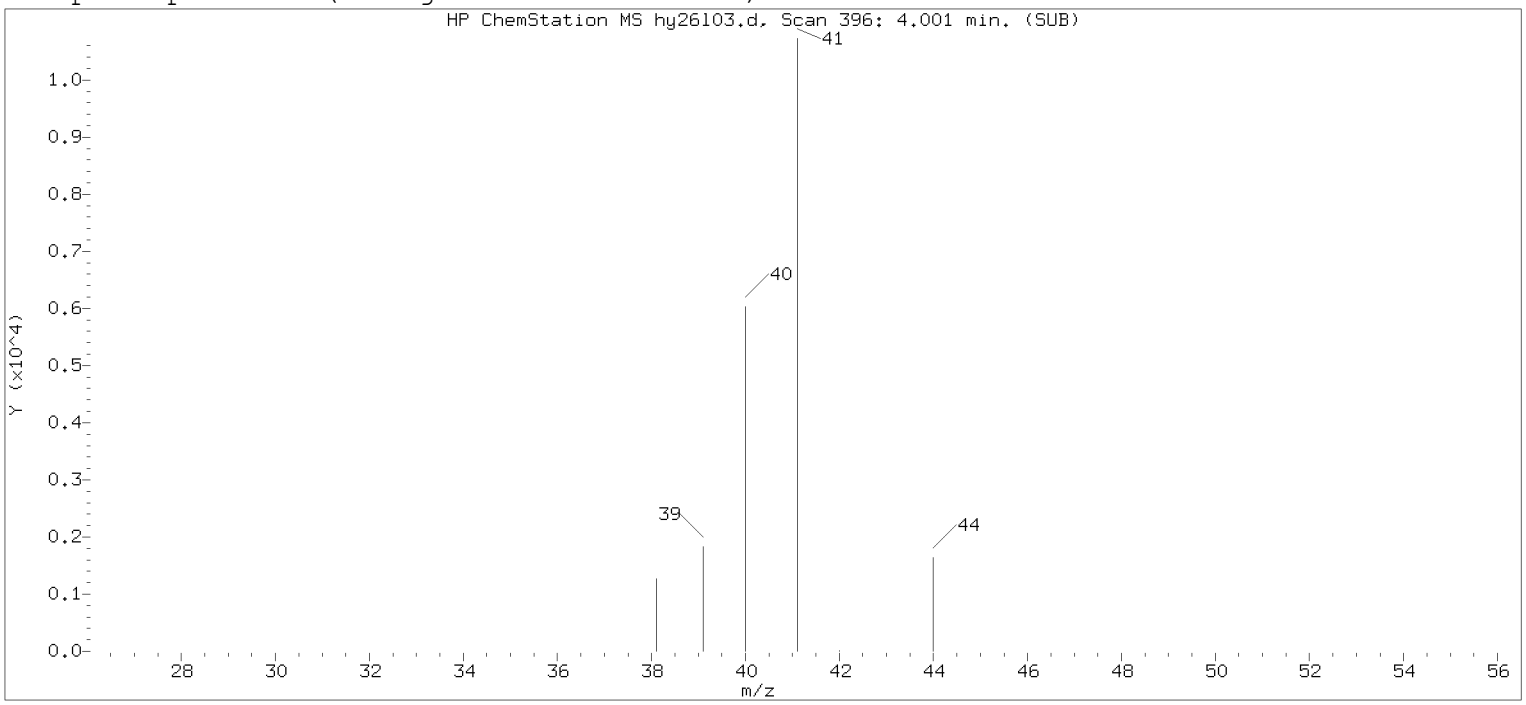
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 396
Retention Time (minutes): 4.001
Quant Ion : 41.00
Area (flag) : 174613M
On-Column Amount (ng) : 43.8582
Integration start scan : 359 Integration stop scan: 544
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

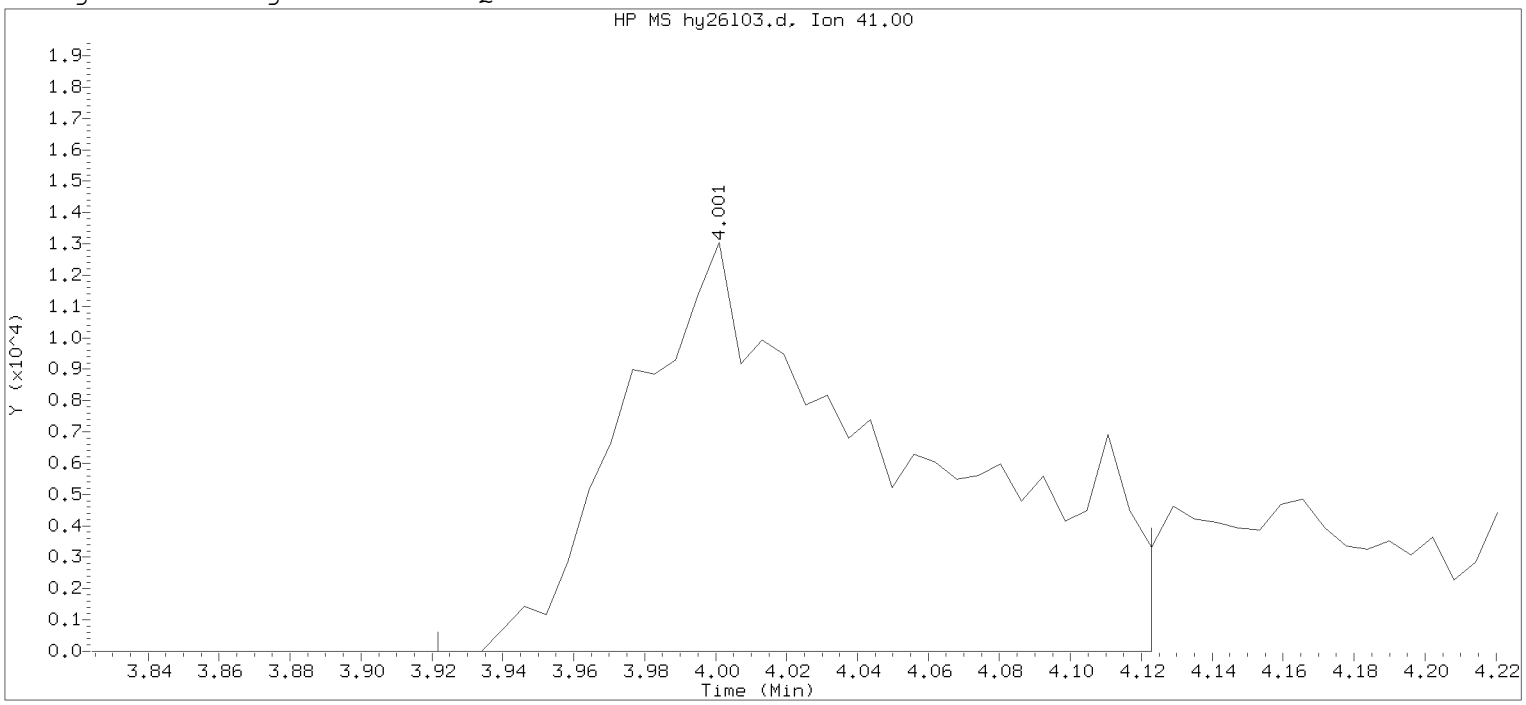
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:56.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

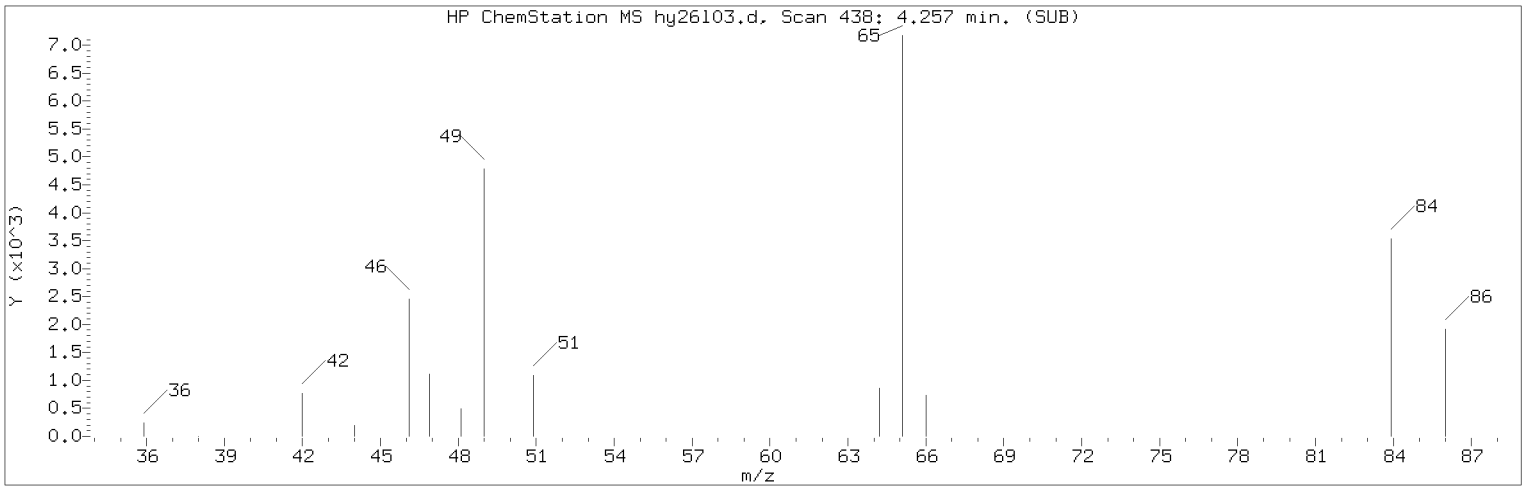
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCSH12 Lab Sample ID: LCSH12

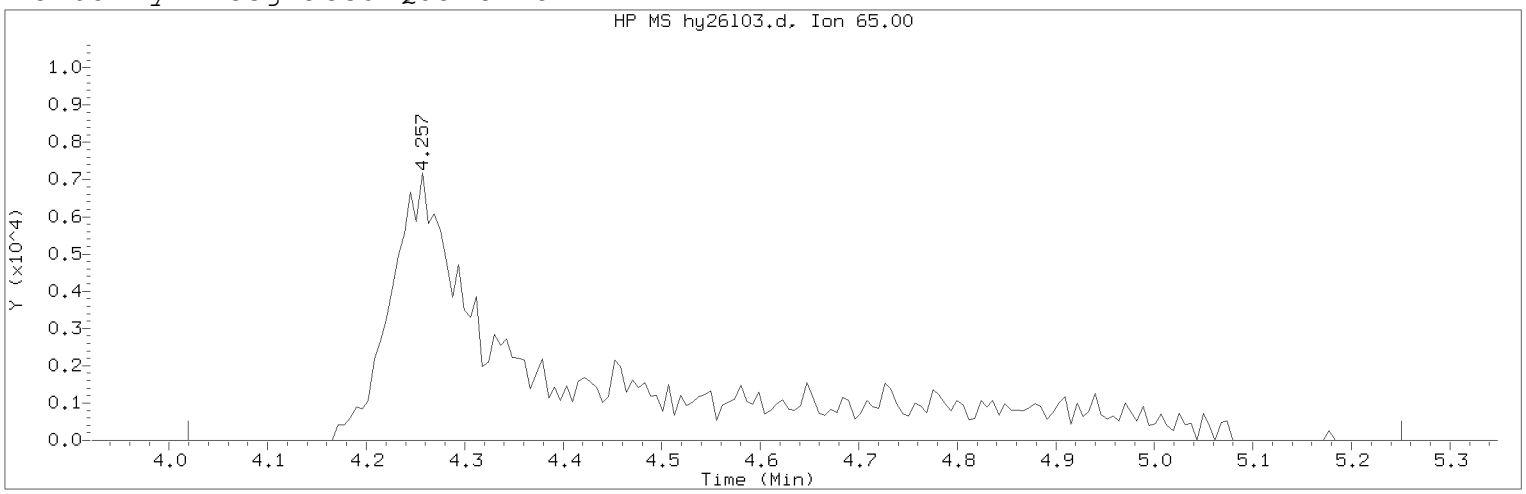
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 396
Retention Time (minutes): 4.001
Quant Ion : 41.00
Area : 71317
On-column Amount (ng) : 26.4308
Integration start scan : 382 Integration stop scan: 415
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:56.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCSH12 Lab Sample ID: LCSH12

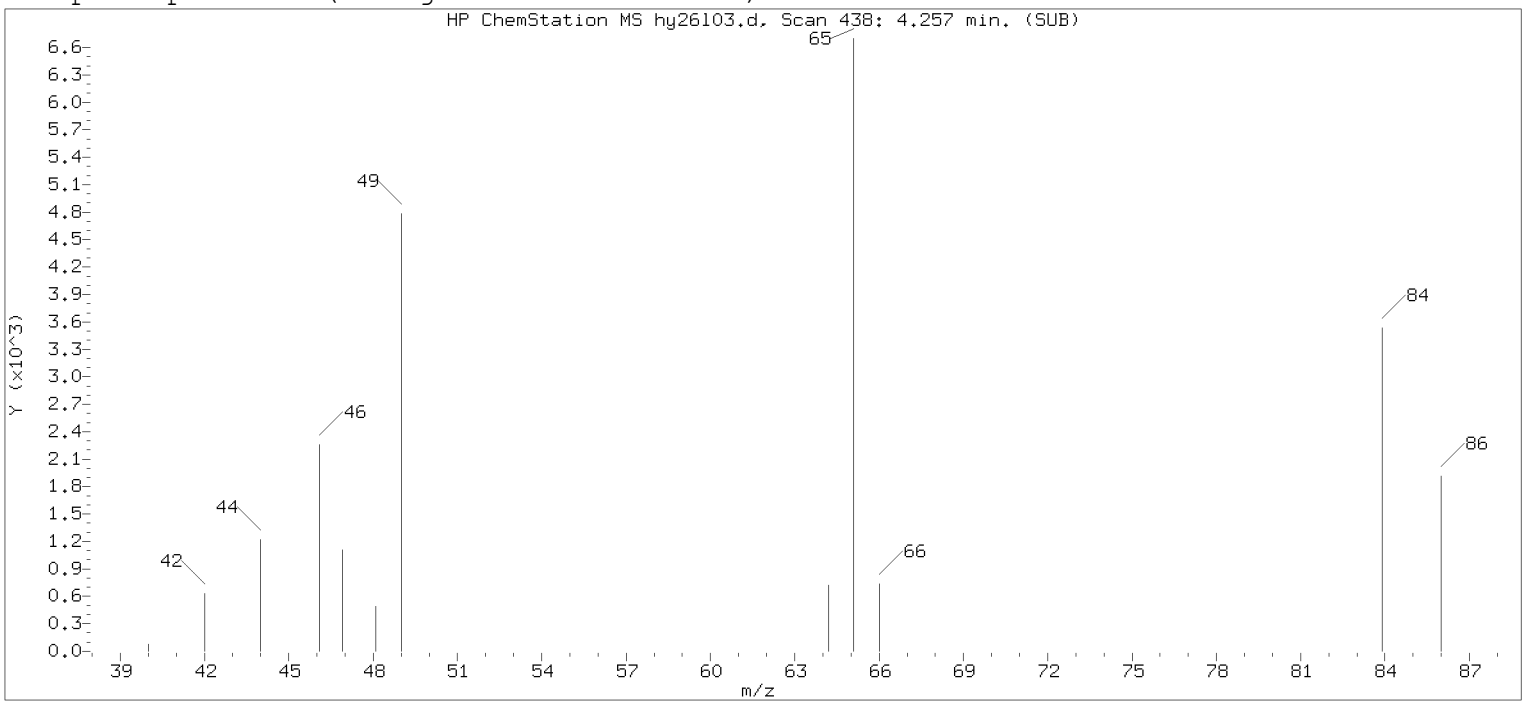
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 80614M
On-Column Amount (ng) : 50.0000
Integration start scan : 398 Integration stop scan: 600
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

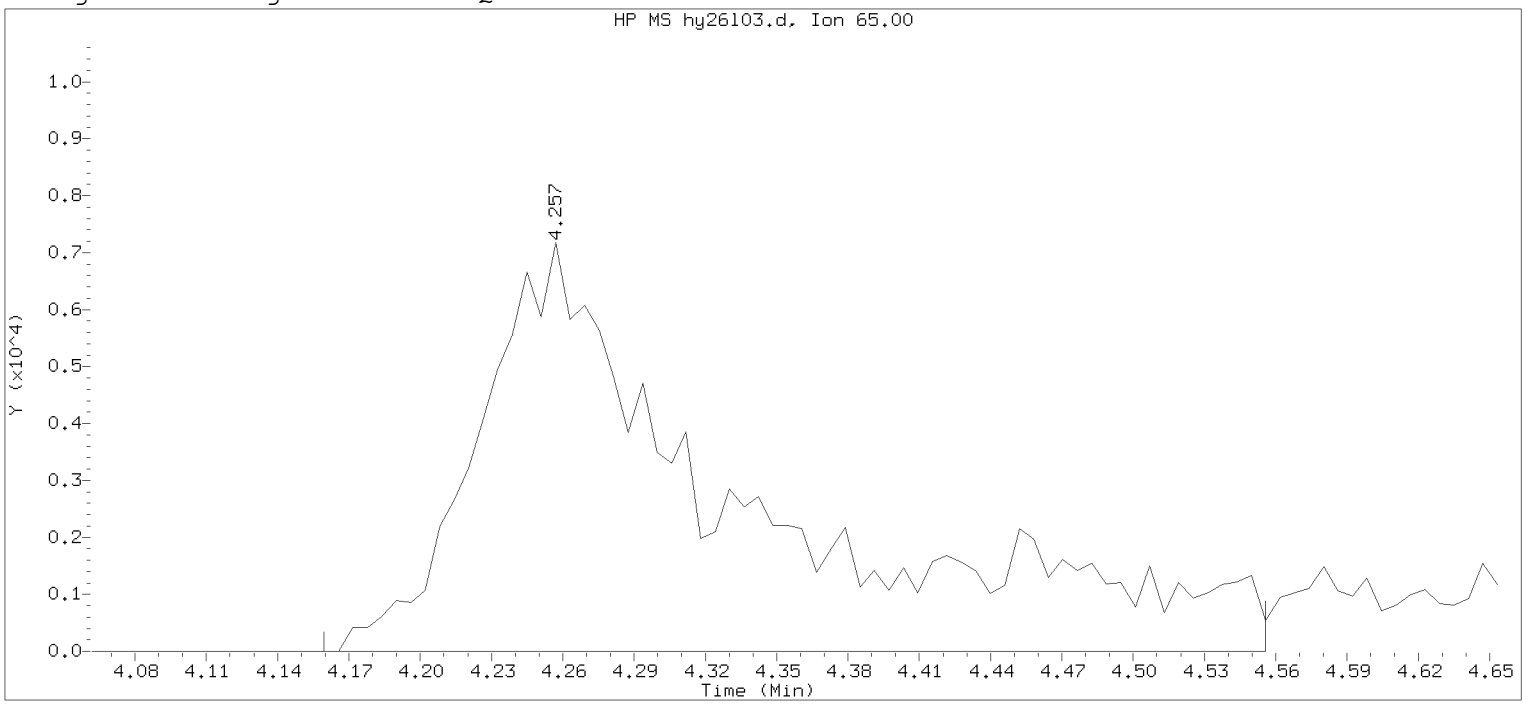
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:56.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l03.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:36 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCSH12 Lab Sample ID: LCSH12

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 54634
On-column Amount (ng) : 50.0000
Integration start scan : 421 Integration stop scan: 486
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:56.
Target 3.5 esignature used.

Lancaster Laboratories
Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may26a.b/hy26l04.d Injection date and time: **26-MAY-2017 10:56**
Data file Sample Info. Line: LCDH12;LCDH12;1;3;LCSD;;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340SM**
Calibration date and time (Last Method Edit): 26-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.251	(0.000)	437	65	94052M	(4)	50.00	
63) Fluorobenzene	7.774	(0.000)	1015	96	2547132	(-1)	10.00	
97) Chlorobenzene-d5	11.243	(-0.006)	1584	117	1690233	(-5)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	661981	(-15)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872	(-0.001)	113	581575	10.185	102%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.329	(-0.001)	102	94720	10.259	103%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	2583051	10.455	105%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.001)	95	709974	10.114	101%		78 - 110

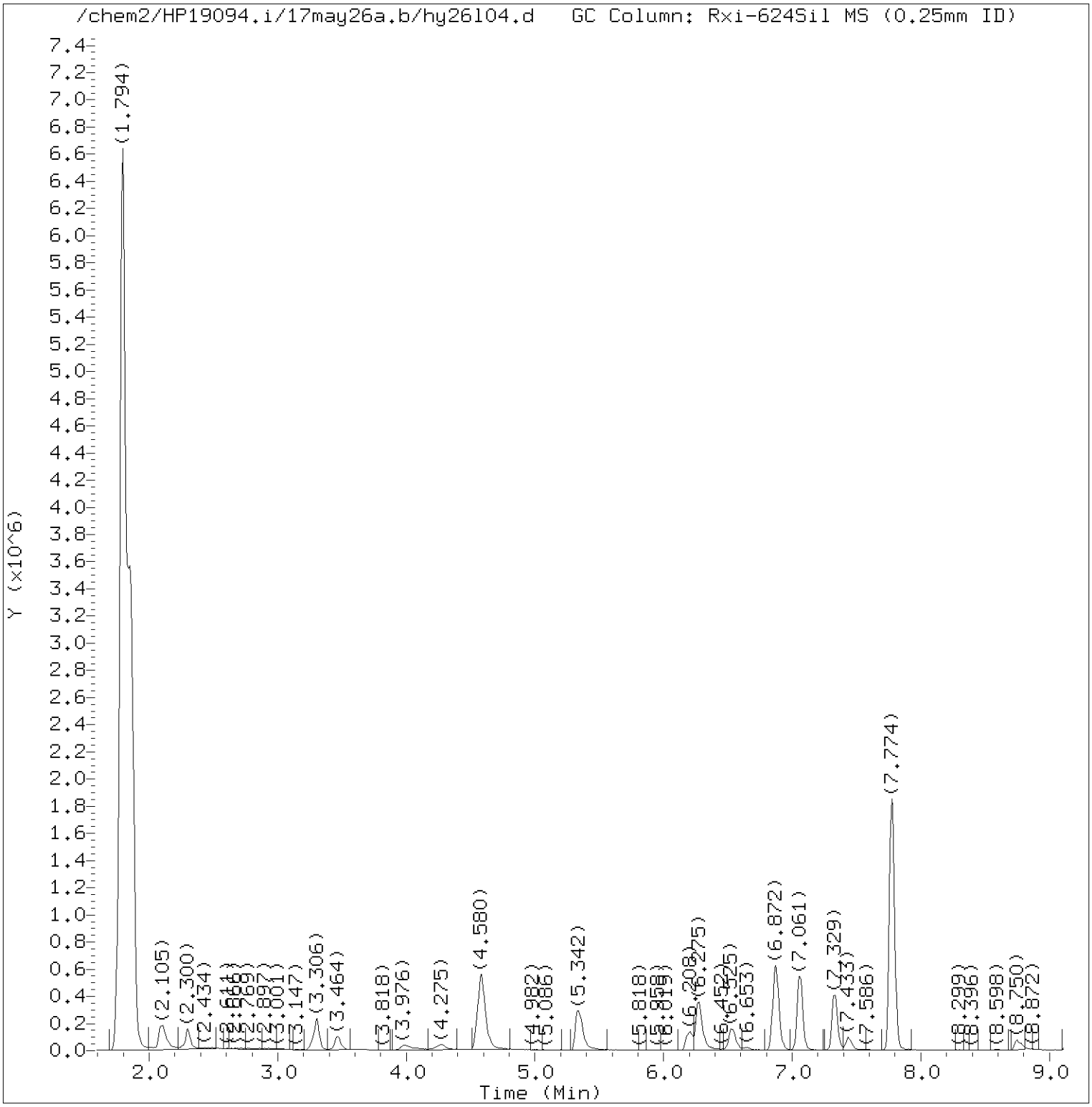
Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ (in sample)
4) Dimethyl ether	(2)	2.105	(-0.002)	45	454879M	4.881	4.88		J	0.1	13
25) Acetonitrile	(1)	3.995	(-0.005)	41	183550M	39.516	39.52		J	32	100
36) Vinyl Acetate	(2)	5.342	(-0.001)	43	969098	12.192	12.19			3	10
142) Hexachloroethane	(4)	13.609	(-0.000)	117	254490	4.754	4.75		J	0.1	10

M = Compound was manually integrated.

Total number of targets = 4

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:57. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

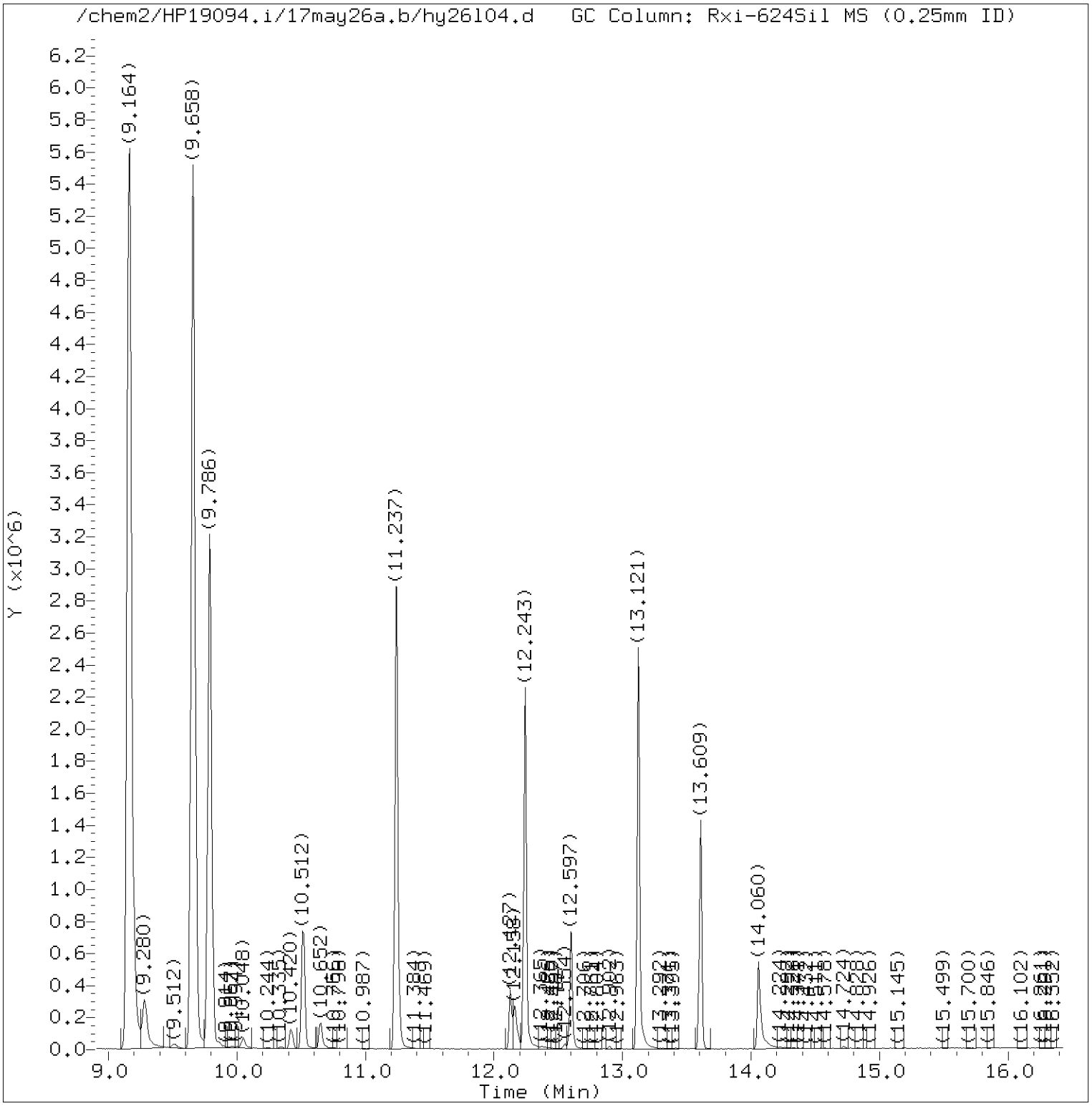
Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCDH12 Lab Sample ID: LCDH12

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCDH12 Lab Sample ID: LCDH12

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

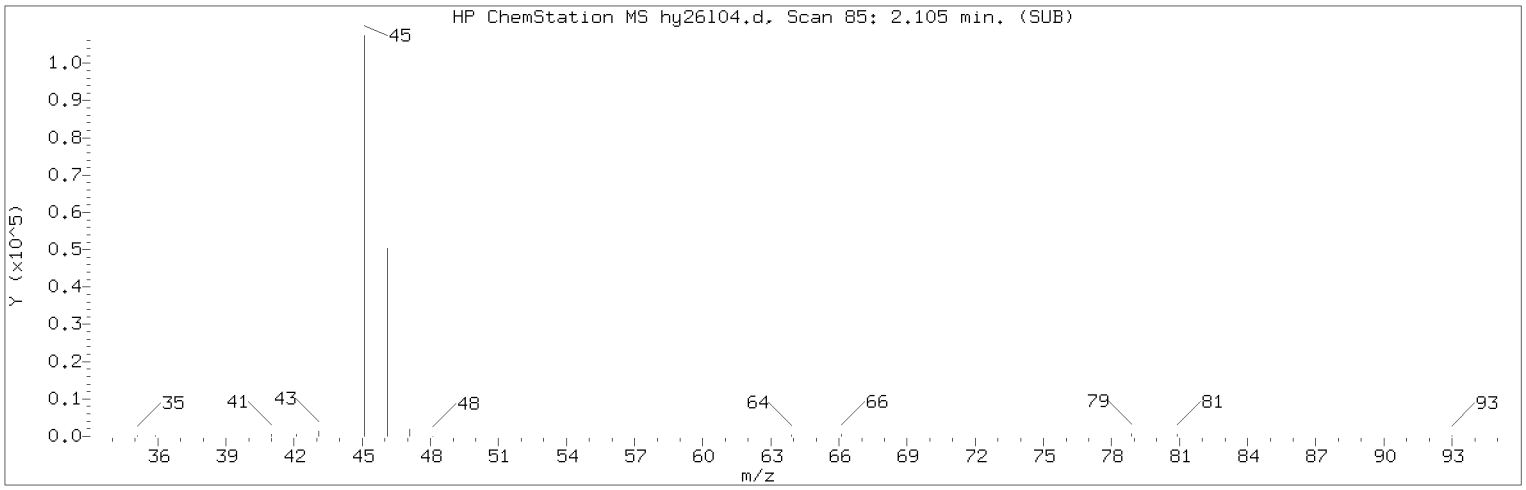
Sample Name: LCDH12 Lab Sample ID: LCDH12

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
4) Dimethyl ether	(2)	2.105	45	454879M	4.881
25) Acetonitrile	(1)	3.995	41	183550M	39.516
26)*t-Butyl Alcohol-d10	(1)	4.251	65	94052M	50.000
36) Vinyl Acetate	(2)	5.342	43	969098	12.192
50)$Dibromofluoromethane	(2)	6.872	113	581575	10.185
57)$1,2-Dichloroethane-d4	(2)	7.329	102	94720	10.259
63)*Fluorobenzene	(2)	7.774	96	2547132	10.000
82)$Toluene-d8	(3)	9.786	98	2583051	10.455
97)*Chlorobenzene-d5	(3)	11.243	117	1690233	10.000
111)$4-Bromofluorobenzene	(3)	12.243	95	709974	10.114
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	661981	10.000
142) Hexachloroethane	(4)	13.609	117	254490	4.754

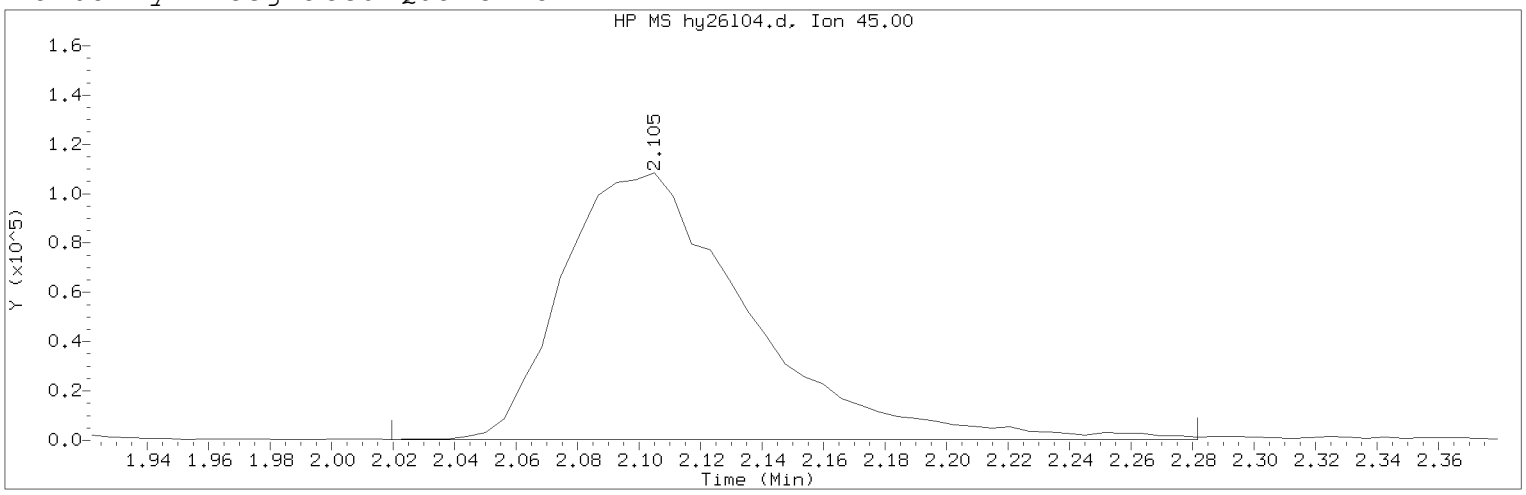
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCDH12 Lab Sample ID: LCDH12

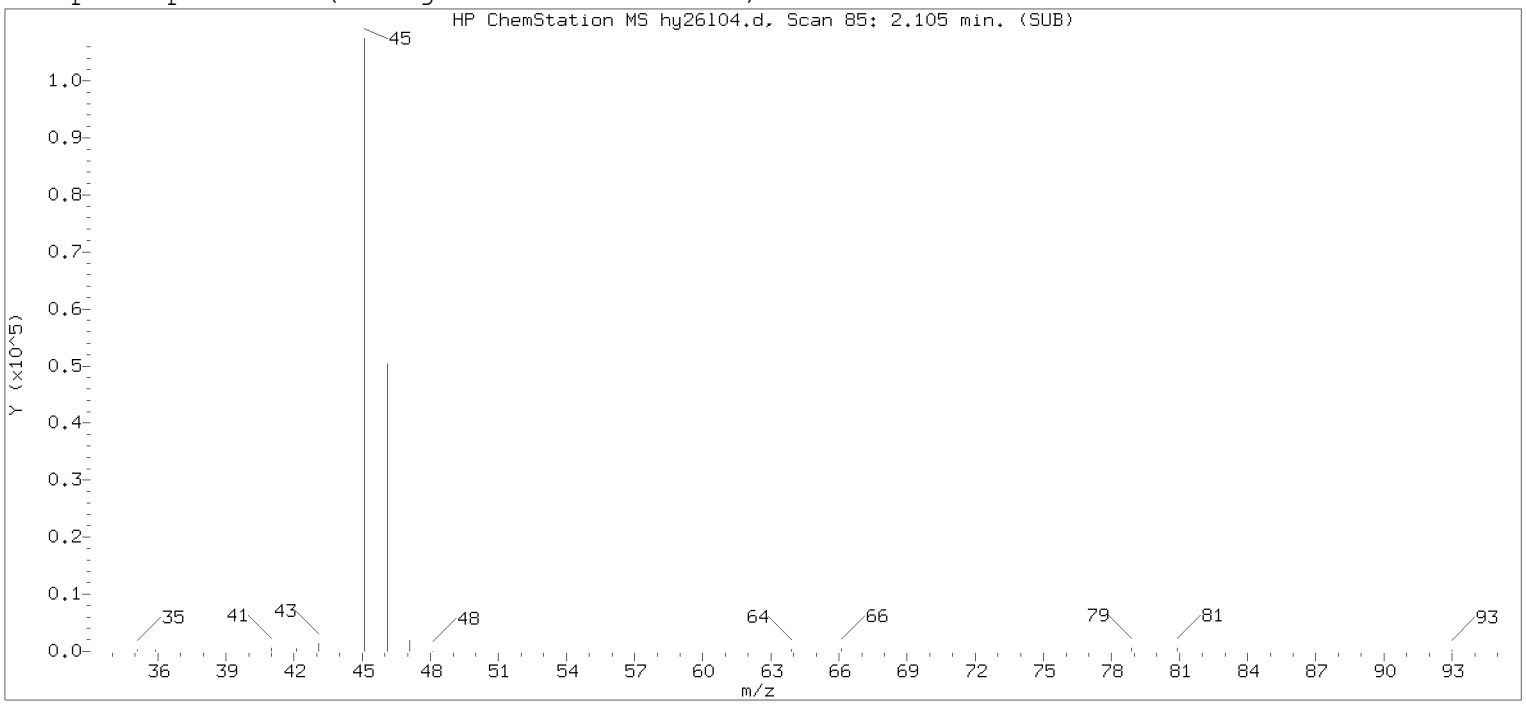
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 85
Retention Time (minutes): 2.105
Quant Ion : 45.00
Area (flag) : 454879M
On-Column Amount (ng) : 4.8806
Integration start scan : 70 Integration stop scan: 113
Y at integration start : 286 Y at integration end: 286

Reason for manual integration: improper integration

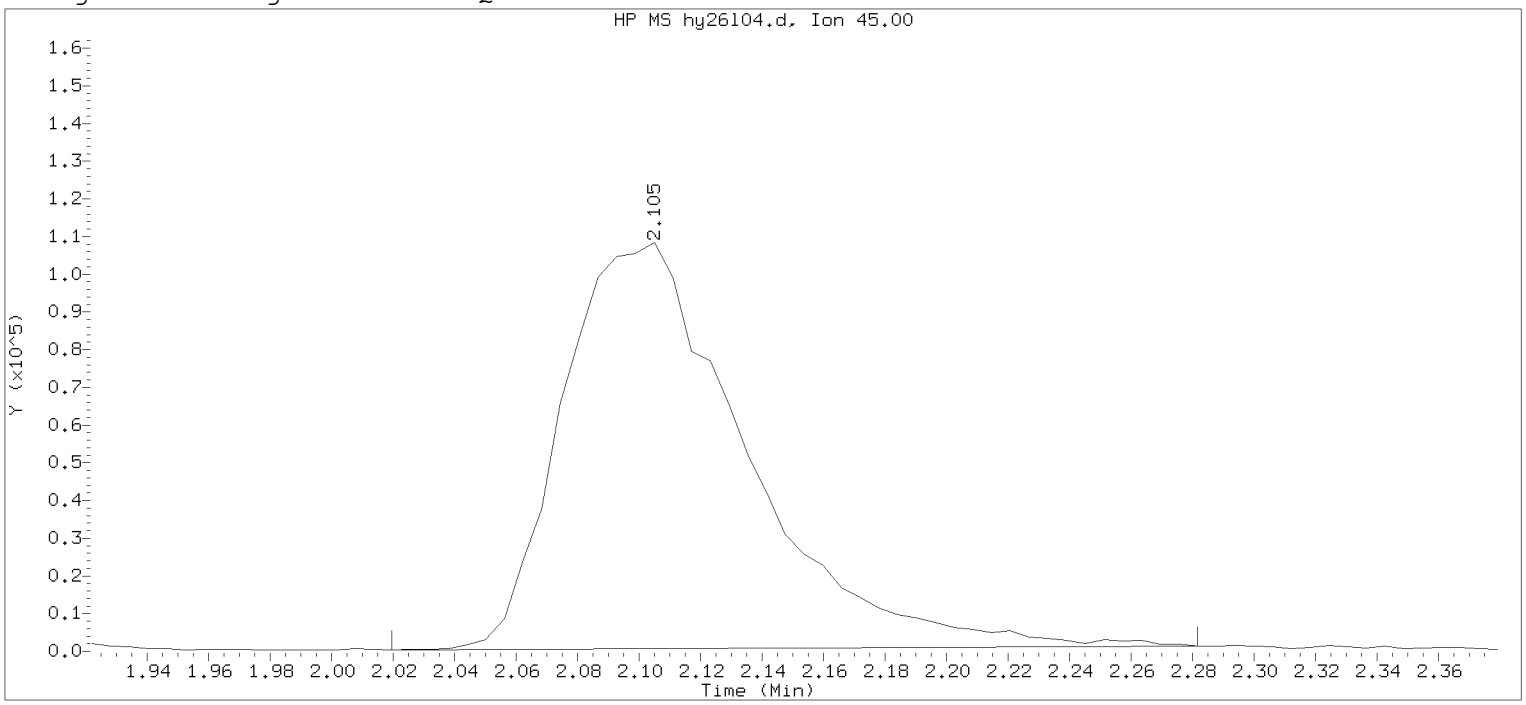
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

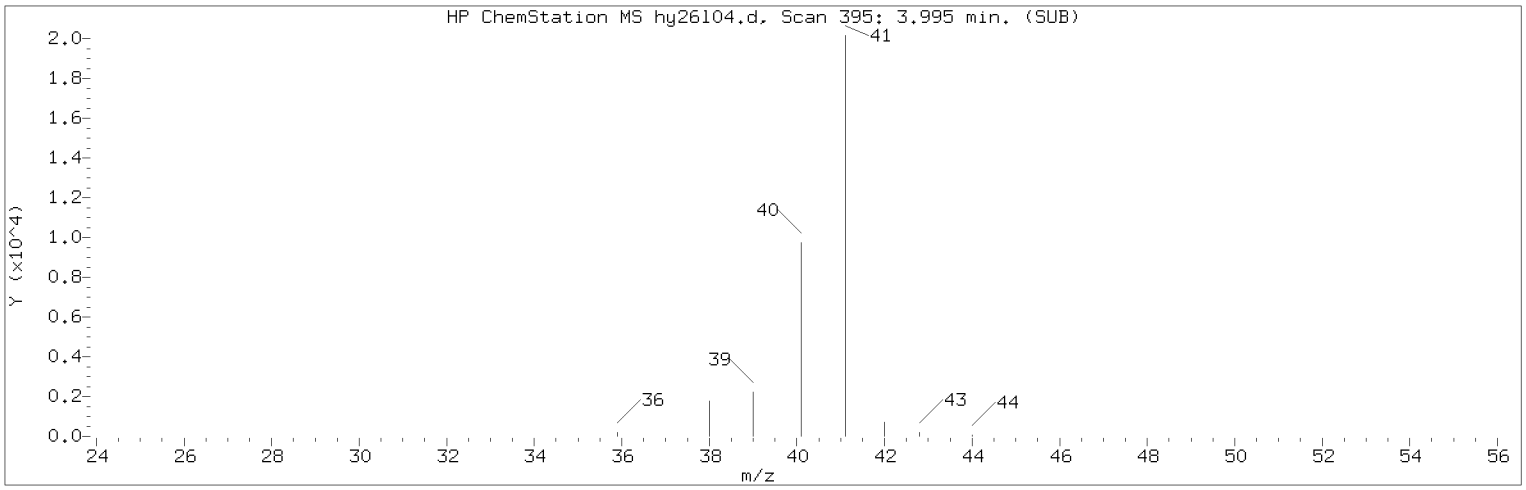
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCDH12 Lab Sample ID: LCDH12

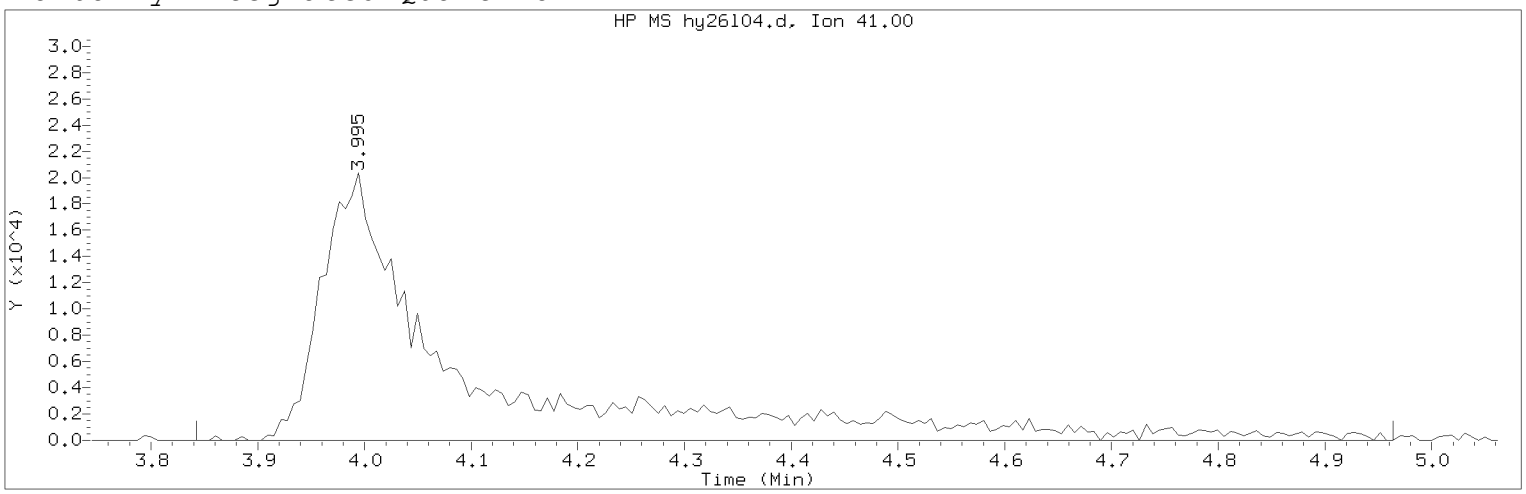
Compound Number : 4
Compound Name : Dimethyl ether
Scan Number : 85
Retention Time (minutes): 2.105
Quant Ion : 45.00
Area : 445807
On-column Amount (ng) : 4.7833
Integration start scan : 70 Integration stop scan: 113
Y at integration start : 295 Y at integration end: 1404

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCDH12 Lab Sample ID: LCDH12

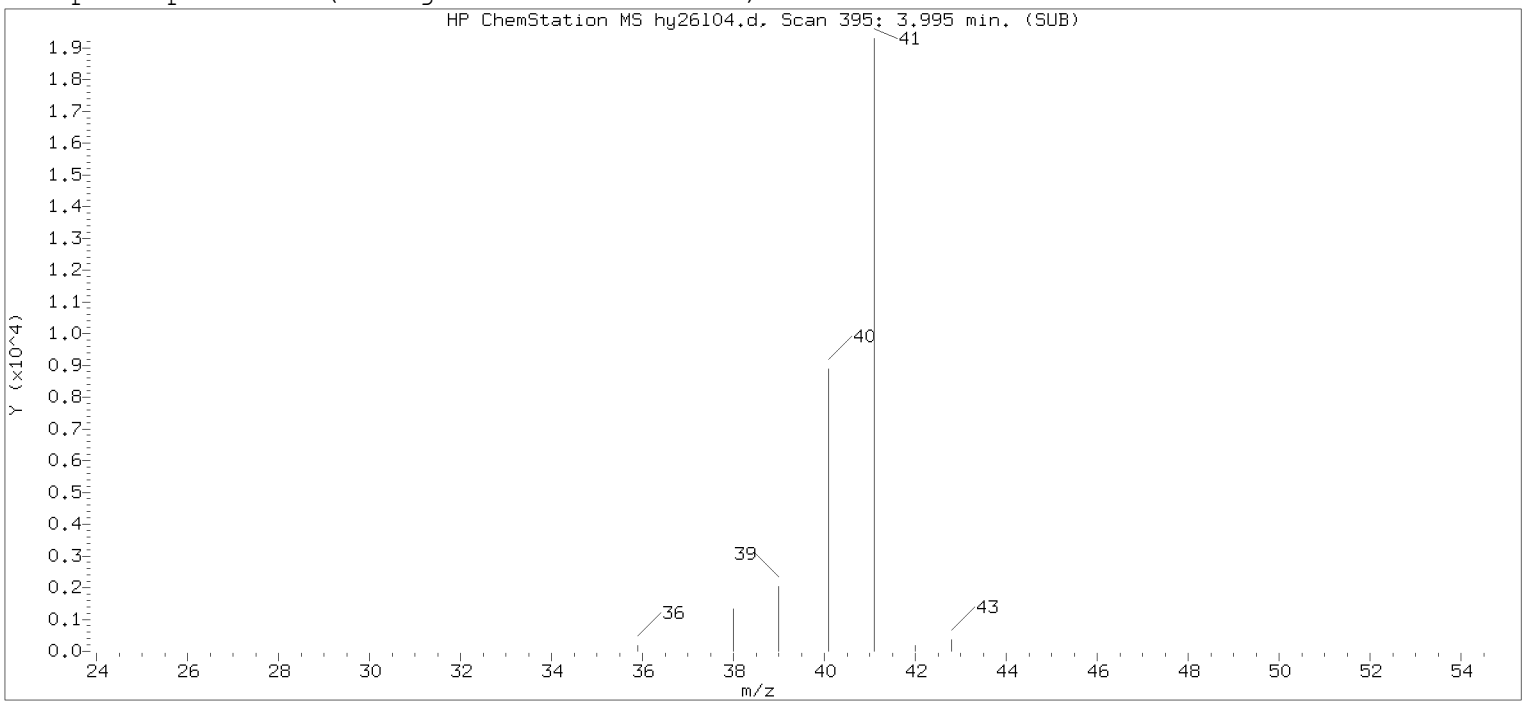
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 395
Retention Time (minutes): 3.995
Quant Ion : 41.00
Area (flag) : 183550M
On-Column Amount (ng) : 39.5158
Integration start scan : 369 Integration stop scan: 553
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

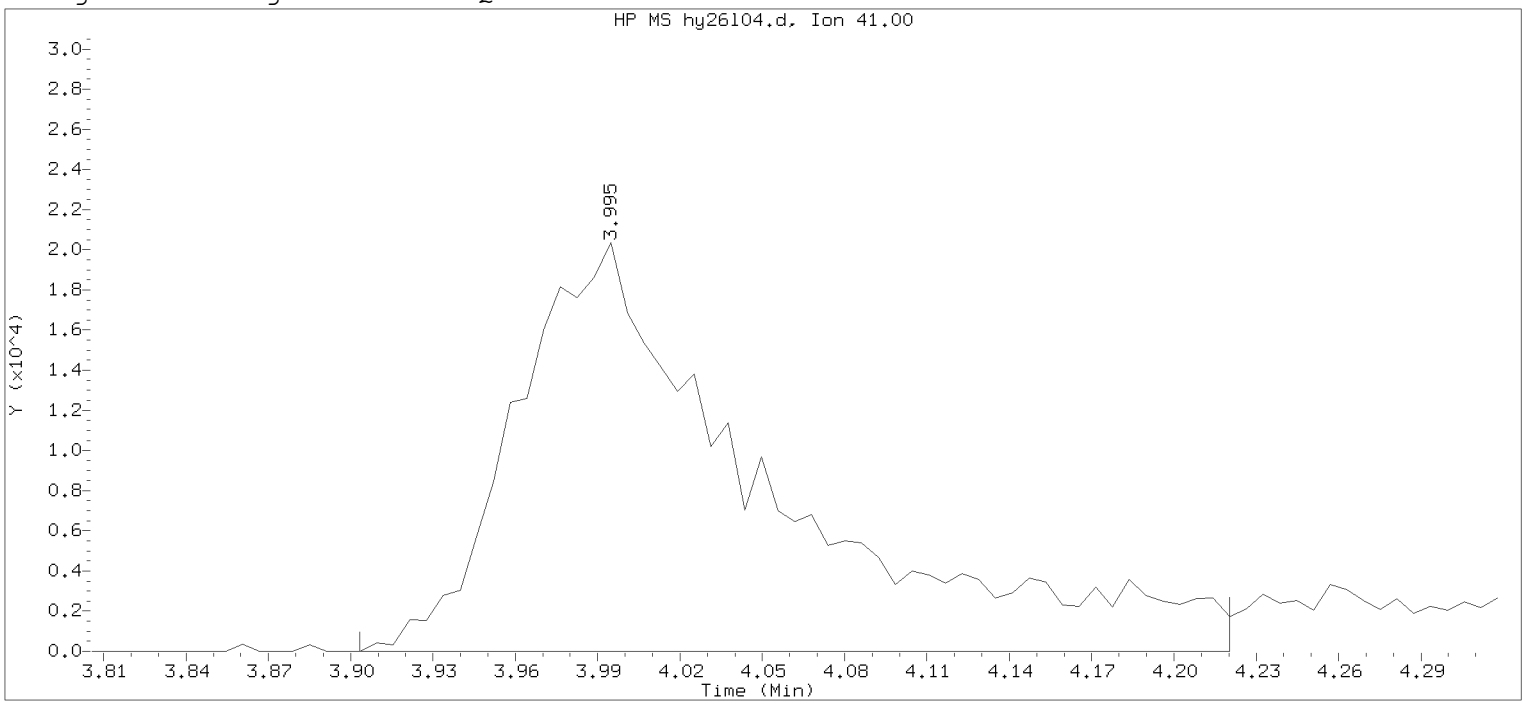
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

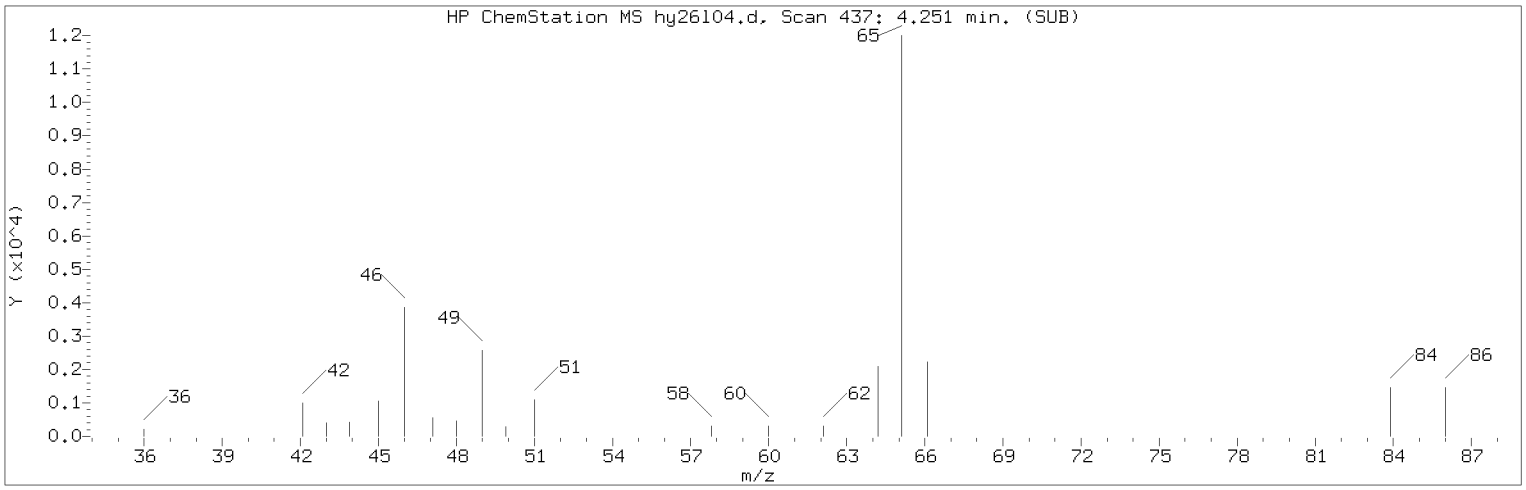
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCDH12 Lab Sample ID: LCDH12

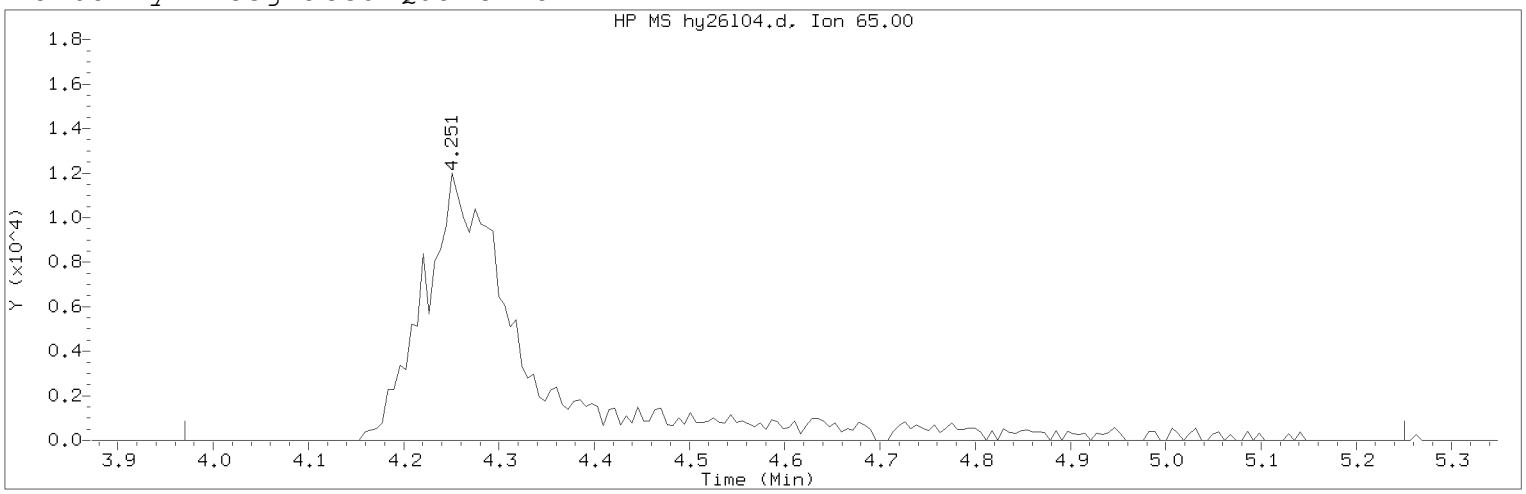
Compound Number : 25
Compound Name : Acetonitrile
Scan Number : 395
Retention Time (minutes): 3.995
Quant Ion : 41.00
Area : 129533
On-column Amount (ng) : 30.3446
Integration start scan : 379 Integration stop scan: 431
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:39
Date, time and analyst ID of latest file update: 26-May-2017 11:40 kel01973

Sample Name: LCDH12 Lab Sample ID: LCDH12

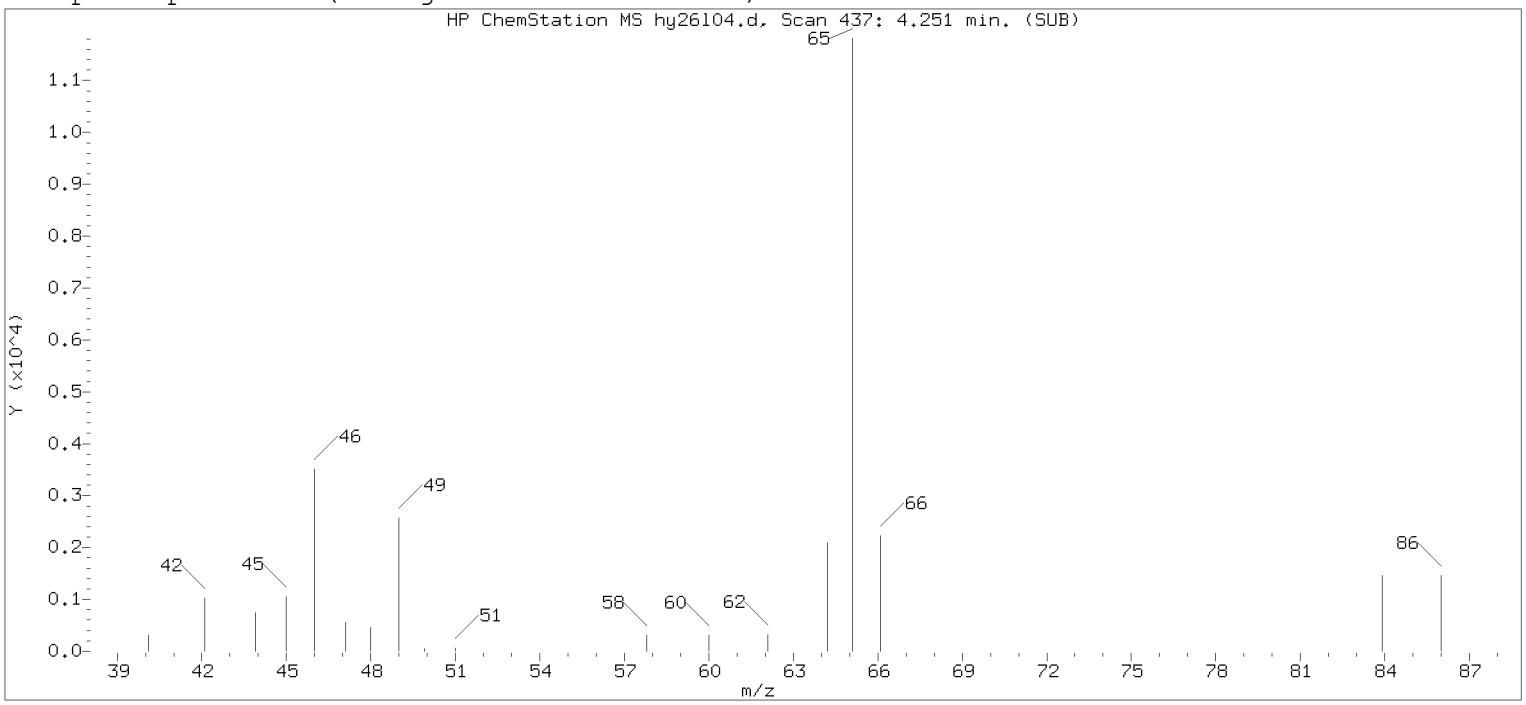
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area (flag) : 94052M
On-Column Amount (ng) : 50.0000
Integration start scan : 390 Integration stop scan: 600
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

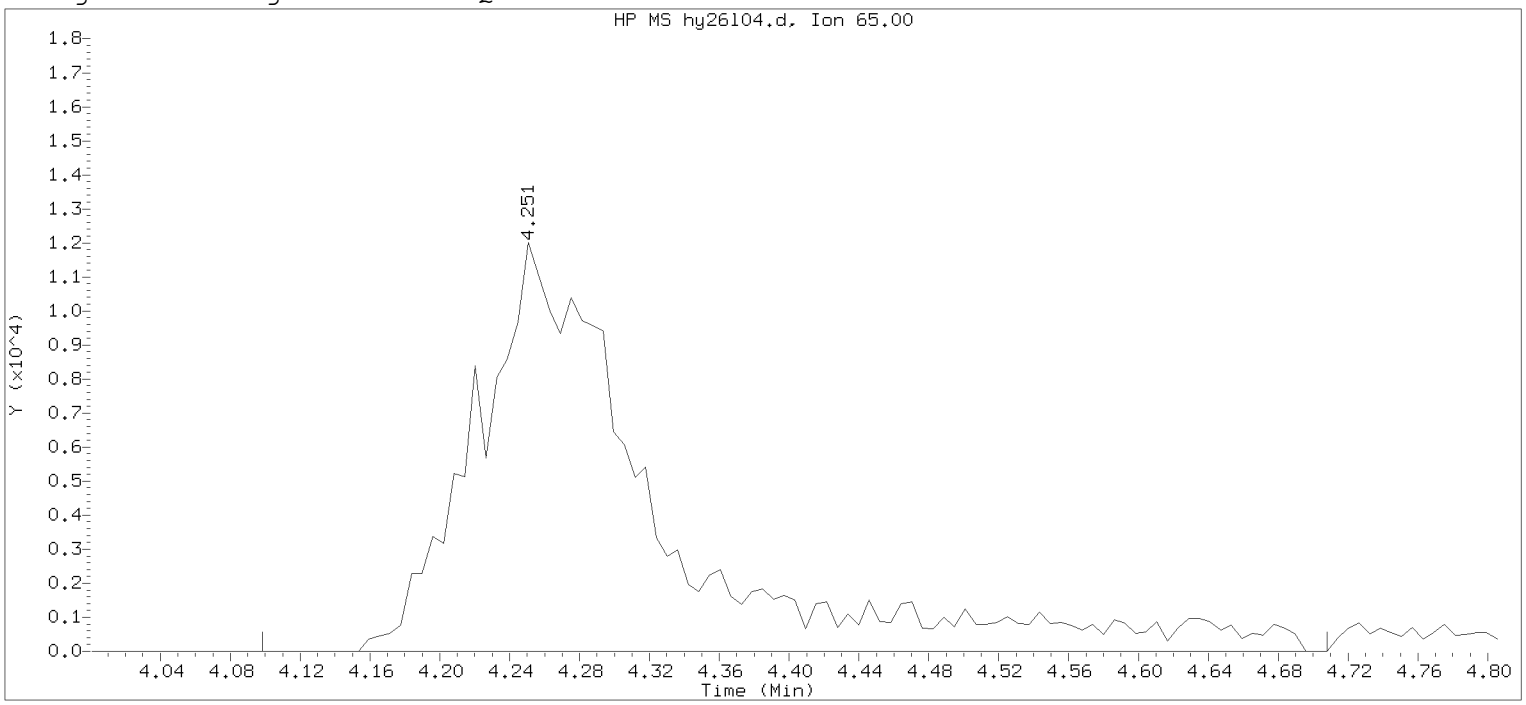
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l04.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 10:56 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCDH12 Lab Sample ID: LCDH12

Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 437
Retention Time (minutes): 4.251
Quant Ion : 65.00
Area : 86434
On-column Amount (ng) : 50.0000
Integration start scan : 411 Integration stop scan: 511
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/26/2017 at 14:57.
Target 3.5 esignature user ID: KEL01973

Data file: /chem2/HP19094.i/17may26a.b/hy26l01.d Injection date and time: **26-MAY-2017 09:35**
Data file Sample Info. Line: LCSH11;LCSH11;1;3;LCS;;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.245	(0.006)	436	65	96050	(6)	50.00	
63) Fluorobenzene	7.775	(0.000)	1015	96	2647447	(3)	10.00	
97) Chlorobenzene-d5	11.237	(0.000)	1583	117	1815229	(2)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121	(0.000)	1892	152	780366	(0)	10.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.866	(0.000)	113	627764	10.578	106%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.329	(-0.001)	102	102892M	10.722	107%		74 - 113
82) Toluene-d8	(3)	9.786	(0.000)	98	2628508	9.906	99%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243	(0.000)	95	762290	10.111	101%		78 - 110

M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)	2.007	(0.001)	85	437701	4.273	4.27			0.1	1
2) Chloromethane	(2)	2.141	(0.001)	50	540187	5.023	5.02			0.2	1
5) Vinyl Chloride	(2)	2.282	(0.000)	62	472141	5.002	5.00			0.2	1
7) Bromomethane	(2)	2.617	(0.000)	94	323803	5.461	5.46			0.5	1
8) Chloroethane	(2)	2.727	(0.000)	64	283420	5.242	5.24			0.1	1
10) Trichlorofluoromethane	(2)	3.038	(0.000)	101	517415	4.731	4.73			0.2	1
11) Ethyl ether	(2)	3.300	(0.000)	59	216683	5.001	5.00		J	1	13
13) Acrolein	(1)	3.464	(-0.002)	56	179649	24.581	24.58		J	5	25
15) 1,1-Dichloroethene	(2)	3.611	(0.000)	96	297895	5.072	5.07			0.2	1
16) Freon 113	(2)	3.653	(0.000)	101	330525	5.346	5.35			0.2	1
14) Acetone	(1)	3.623	(-0.001)	43	334532M	37.800	37.80			3	10
17) Methyl Iodide	(2)	3.812	(0.000)	142	561888	5.150	5.15		J	0.6	10
18) Carbon Disulfide	(2)	3.934	(0.000)	76	900681	5.465	5.47		J	0.4	10
22) Allyl Chloride	(2)	4.092	(0.000)	41	580406	5.092	5.09		J	0.8	10
23) Methylene Chloride	(2)	4.269	(0.000)	84	341161	5.319	5.32			0.2	1
29) Acrylonitrile	(1)	4.580	(-0.001)	53	284881	23.820	23.82			1	10
31) trans-1,2-Dichloroethene	(2)	4.708	(0.001)	96	349372	5.386	5.39			0.2	1
33) 1,1-Dichloroethane	(2)	5.354	(0.000)	63	672573	5.255	5.25			0.1	1
35) 2-Chloro-1,3-Butadiene	(2)	5.470	(0.000)	53	562991	5.206	5.21		J	0.5	10
38) 2-Butanone	(1)	6.122	(-0.003)	43	569981	31.576	31.58			1	10
42) Propionitrile	(1)	6.196	(-0.002)	54	159358	37.156	37.16		J	10	100
45) Methacrylonitrile	(1)	6.409	(-0.000)	67	552369	30.804	30.80		J	10	100
48) Tetrahydrofuran	(1)	6.525	(-0.002)	71	93821	20.806	20.81		J	2	25
49) Chloroform	(2)	6.653	(-0.000)	83	621086	5.143	5.14			0.1	1
51) 1,1,1-Trichloroethane	(2)	6.909	(-0.000)	97	531783	5.171	5.17			0.1	1
54) Carbon Tetrachloride	(2)	7.128	(-0.000)	117	454940	5.270	5.27			0.2	1
56) Isobutyl Alcohol	(1)	7.195	(-0.003)	41	147696	142.420	142.42		J	10	200
58) Benzene	(2)	7.372	(0.000)	78	1464022	5.278	5.28			0.1	1
59) 1,2-Dichloroethane	(2)	7.427	(0.000)	62	359116M	5.416	5.42			0.1	1
67) Trichloroethene	(2)	8.262	(-0.000)	95	366758	4.995	5.00			0.2	1

M = Compound was manually integrated.

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57. Target 3.5 esignature user ID: kel01973

Data file: /chem2/HP19094.i/17may26a.b/hy26l01.d Injection date and time: **26-MAY-2017 09:35**
Data file Sample Info. Line: LCSH11;LCSH11;1;3;LCS;;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

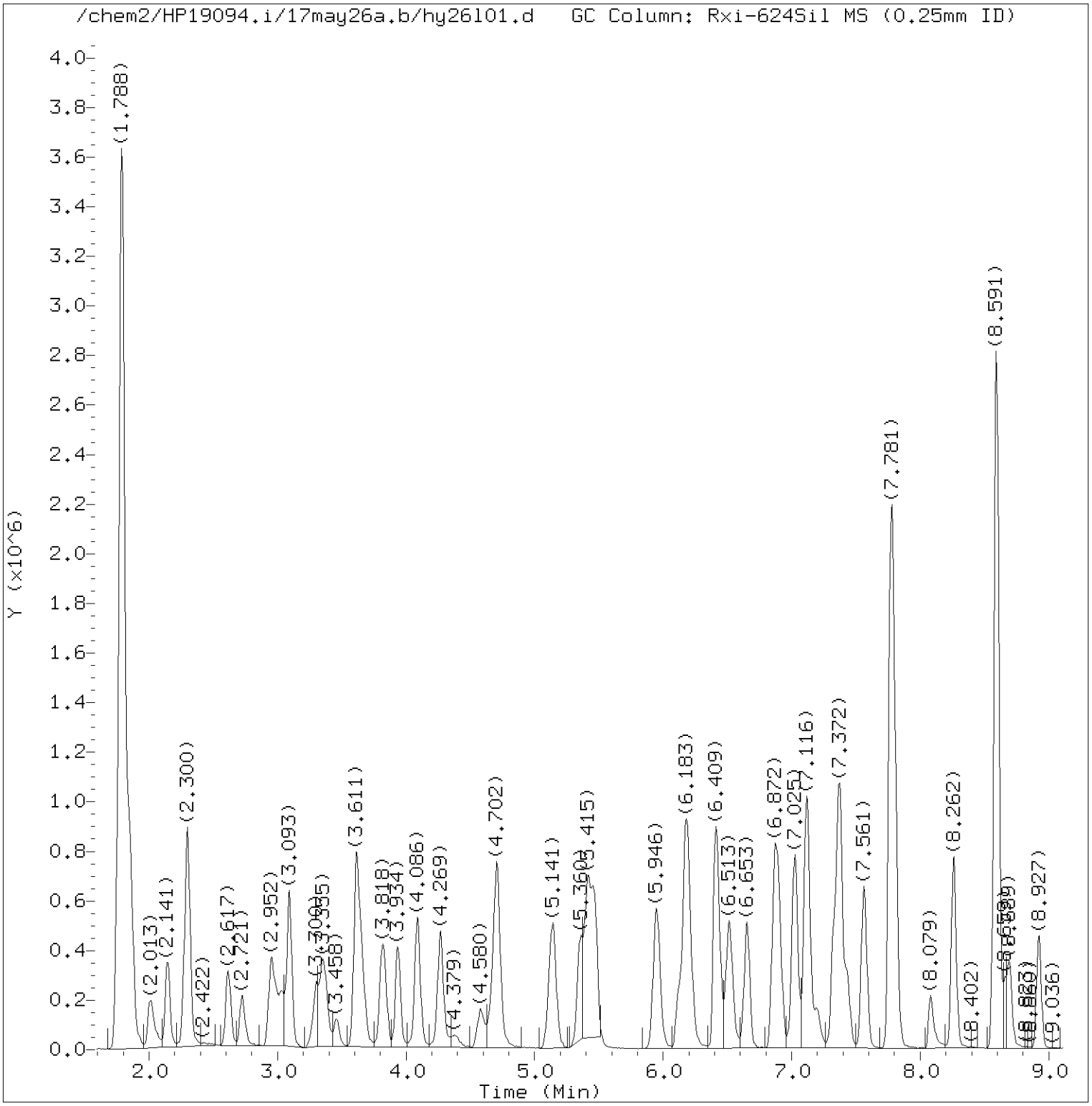
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
70) 1,2-Dichloropropane	(2)	8.585(0.000)	63	387973	5.364	5.36			0.1	1
71) Methyl Methacrylate	(1)	8.658(-0.002)	69	137585	4.194	4.19		J	4	10
73) Dibromomethane	(2)	8.695(-0.000)	93	158949	5.701	5.70			0.1	1
72) 1,4-Dioxane	(1)	8.683(-0.007)	88	28841M	153.458	153.46		J	45	200
74) Bromodichloromethane	(2)	8.927(-0.000)	83	422126	5.528	5.53			0.1	1
81) 4-Methyl-2-Pentanone	(1)	9.622(-0.003)	43	962594	20.124	20.12			1	10
83) Toluene	(3)	9.866(0.000)	92	904135	5.156	5.16			0.1	1
84) trans-1,3-Dichloropropene	(3)	10.109(-0.000)	75	368608	5.396	5.40			0.1	1
86) Ethyl Methacrylate	(3)	10.170(-0.000)	69	272381	5.391	5.39		J	0.8	10
88) 1,1,2-Trichloroethane	(3)	10.311(0.000)	97	227815	5.593	5.59			0.1	1
89) Tetrachloroethene	(3)	10.420(0.000)	166	406907	5.004	5.00			0.1	1
90) 1,3-Dichloropropane	(3)	10.475(0.000)	76	385938	5.294	5.29			0.1	1
91) 2-Hexanone	(1)	10.512(-0.003)	43	651519	19.327	19.33			1	10
93) Dibromochloromethane	(3)	10.695(0.000)	129	261731	5.423	5.42			0.1	1
95) 1,2-Dibromoethane	(3)	10.817(-0.000)	107	203475	5.283	5.28			0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)	11.347(-0.000)	131	329818	5.181	5.18			0.1	1
100) Ethylbenzene	(3)	11.353(-0.000)	91	1748383	5.146	5.15			0.1	1
101) m+p-Xylene	(3)	11.469(-0.000)	106	1376568	10.656	10.66			0.1	0.5
104) o-Xylene	(3)	11.792(-0.000)	106	639999	5.158	5.16			0.1	0.5
105) Xylene (Total)	(3)		106	2016567	15.814	15.81			0.2	3
106) Styrene	(3)	11.810(-0.000)	104	1047259	5.528	5.53			0.1	1
107) Bromoform	(3)	11.969(-0.000)	173	140071	5.811	5.81			0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)	12.322(0.000)	83	259301M	5.148	5.15			0.2	1
115) trans-1,4-Dichloro-2-butene	(1)	12.347(-0.004)	53	219835	17.310	17.31			1	10
116) 1,2,3-Trichloropropane	(4)	12.377(0.000)	110	64639	5.130	5.13			0.3	1
126) Pentachloroethane	(4)	12.834(0.000)	167	239107	5.334	5.33		J	0.8	10
131) 1,3-Dichlorobenzene	(4)	13.066(0.000)	146	750835	4.976	4.98			0.1	1
134) 1,4-Dichlorobenzene	(4)	13.139(-0.000)	146	761599	4.844	4.84			0.1	1
139) 1,2-Dichlorobenzene	(4)	13.395(-0.000)	146	662377	4.943	4.94			0.1	1
143) 1,2-Dibromo-3-chloropropane	(1)	13.938(-0.004)	155	28511	4.024	4.02			0.2	1
145) 1,2,4-Trichlorobenzene	(4)	14.493(-0.000)	180	343759	3.978	3.98			0.1	1
146) Hexachlorobutadiene	(4)	14.572(-0.000)	225	179516	4.194	4.19			0.1	1
147) Naphthalene	(4)	14.670(-0.000)	128	467598	3.677	3.68			0.1	1

M = Compound was manually integrated.

Total number of targets = 63

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 14:05. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

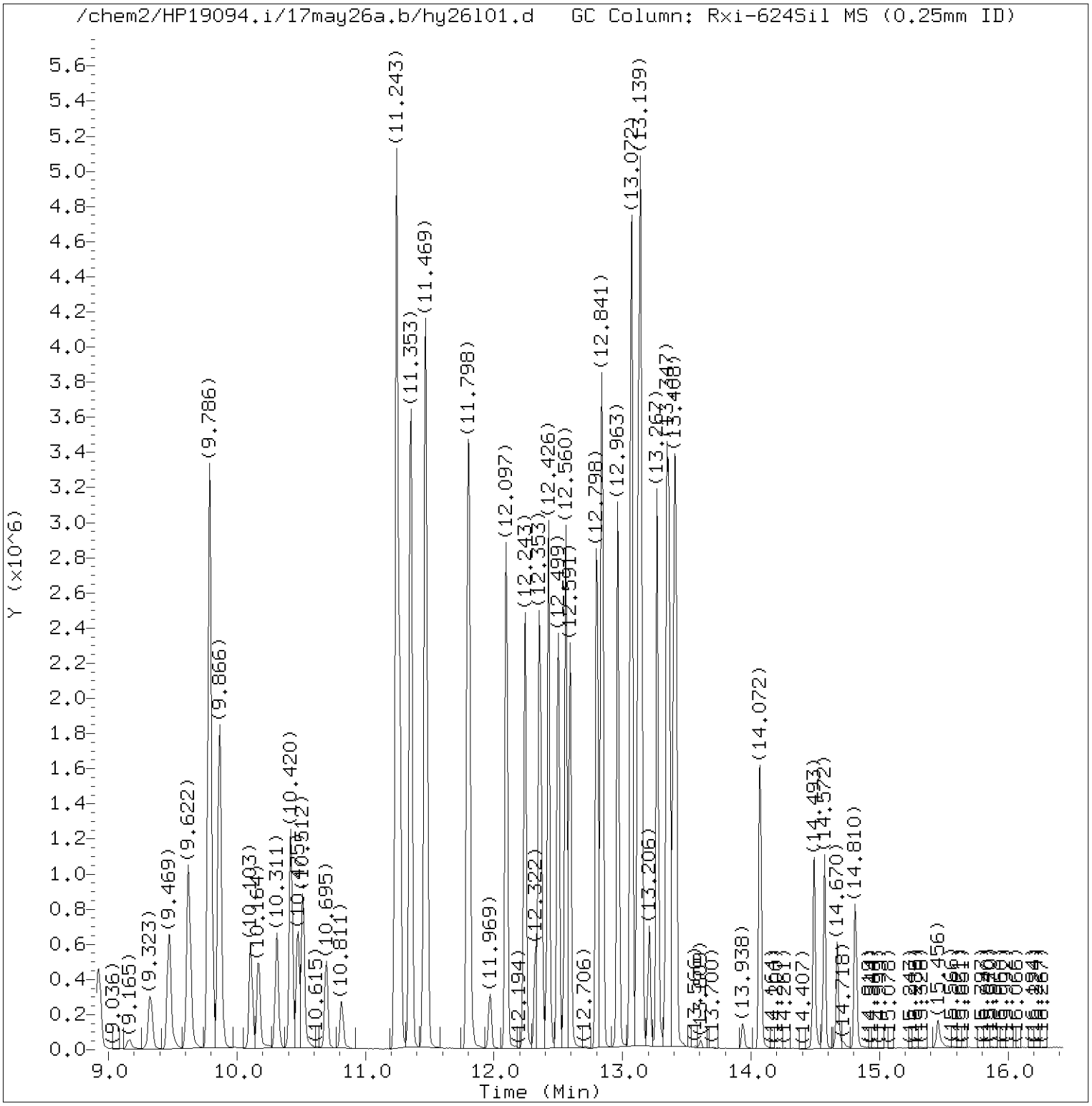
Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.007	85	437701	4.273
2) Chloromethane	(2)	2.141	50	540187	5.023
5) Vinyl Chloride	(2)	2.282	62	472141	5.002
7) Bromomethane	(2)	2.617	94	323803	5.461
8) Chloroethane	(2)	2.727	64	283420	5.242
10) Trichlorofluoromethane	(2)	3.038	101	517415	4.731
11) Ethyl ether	(2)	3.300	59	216683	5.001
13) Acrolein	(1)	3.464	56	179649	24.581
15) 1,1-Dichloroethene	(2)	3.611	96	297895	5.072
14) Acetone	(1)	3.623	43	334532M	37.800
16) Freon 113	(2)	3.653	101	330525	5.346
17) Methyl Iodide	(2)	3.812	142	561888	5.150
18) Carbon Disulfide	(2)	3.934	76	900681	5.465
22) Allyl Chloride	(2)	4.092	41	580406	5.092
26)*t-Butyl Alcohol-d10	(1)	4.245	65	96050	50.000
23) Methylene Chloride	(2)	4.269	84	341161	5.319
29) Acrylonitrile	(1)	4.580	53	284881	23.820
31) trans-1,2-Dichloroethene	(2)	4.708	96	349372	5.386
33) 1,1-Dichloroethane	(2)	5.354	63	672573	5.255
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	562991	5.206
38) 2-Butanone	(1)	6.122	43	569981	31.576
42) Propionitrile	(1)	6.196	54	159358	37.156
45) Methacrylonitrile	(1)	6.409	67	552369	30.804
48) Tetrahydrofuran	(1)	6.525	71	93821	20.806
49) Chloroform	(2)	6.653	83	621086	5.143
50)$Dibromofluoromethane	(2)	6.866	113	627764	10.578
51) 1,1,1-Trichloroethane	(2)	6.909	97	531783	5.171
54) Carbon Tetrachloride	(2)	7.128	117	454940	5.270
56) Isobutyl Alcohol	(1)	7.195	41	147696	142.420
57)$1,2-Dichloroethane-d4	(2)	7.329	102	102892M	10.722
58) Benzene	(2)	7.372	78	1464022	5.278
59) 1,2-Dichloroethane	(2)	7.427	62	359116M	5.416
63)*Fluorobenzene	(2)	7.775	96	2647447	10.000
67) Trichloroethene	(2)	8.262	95	366758	4.995
70) 1,2-Dichloropropane	(2)	8.585	63	387973	5.364
71) Methyl Methacrylate	(1)	8.659	69	137585	4.194
72) 1,4-Dioxane	(1)	8.683	88	28841M	153.458
73) Dibromomethane	(2)	8.695	93	158949	5.701

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

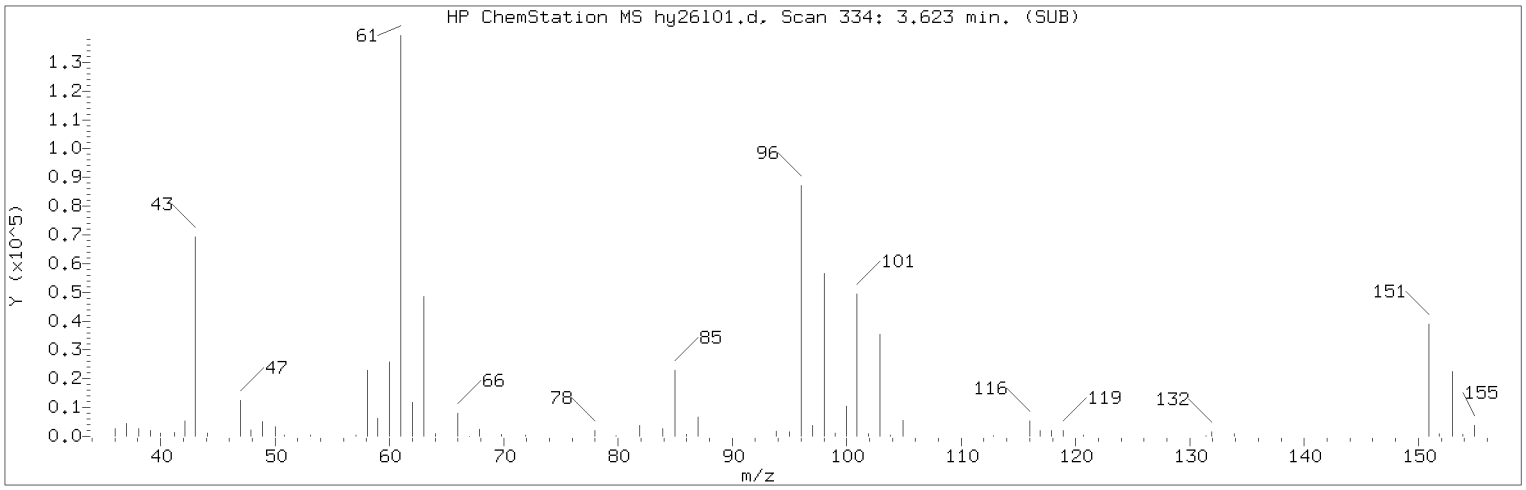
Sample Name: LCSH11 Lab Sample ID: LCSH11

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
74) Bromodichloromethane	(2)	8.927	83	422126	5.528
81) 4-Methyl-2-Pentanone	(1)	9.622	43	962594	20.124
82)$Toluene-d8	(3)	9.786	98	2628508	9.906
83) Toluene	(3)	9.866	92	904135	5.156
84) trans-1,3-Dichloropropene	(3)	10.109	75	368608	5.396
86) Ethyl Methacrylate	(3)	10.170	69	272381	5.391
88) 1,1,2-Trichloroethane	(3)	10.311	97	227815	5.593
89) Tetrachloroethene	(3)	10.420	166	406907	5.004
90) 1,3-Dichloropropane	(3)	10.475	76	385938	5.294
91) 2-Hexanone	(1)	10.512	43	651519	19.327
93) Dibromochloromethane	(3)	10.695	129	261731	5.423
95) 1,2-Dibromoethane	(3)	10.817	107	203475	5.283
97)*Chlorobenzene-d5	(3)	11.237	117	1815229	10.000
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	329818	5.181
100) Ethylbenzene	(3)	11.353	91	1748383	5.146
101) m+p-Xylene	(3)	11.469	106	1376568	10.656
105) Xylene (Total)	(3)		106	2016567	15.814
104) o-Xylene	(3)	11.792	106	639999	5.158
106) Styrene	(3)	11.810	104	1047259	5.528
107) Bromoform	(3)	11.969	173	140071	5.811
111)$4-Bromofluorobenzene	(3)	12.243	95	762290	10.111
113) 1,1,2,2-Tetrachloroethane	(4)	12.322	83	259301M	5.148
115) trans-1,4-Dichloro-2-butene	(1)	12.347	53	219835	17.310
116) 1,2,3-Trichloropropane	(4)	12.377	110	64639	5.130
126) Pentachloroethane	(4)	12.835	167	239107	5.334
131) 1,3-Dichlorobenzene	(4)	13.066	146	750835	4.976
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	780366	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	761599	4.844
139) 1,2-Dichlorobenzene	(4)	13.395	146	662377	4.943
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	28511	4.024
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	343759	3.978
146) Hexachlorobutadiene	(4)	14.572	225	179516	4.194
147) Naphthalene	(4)	14.670	128	467598	3.677

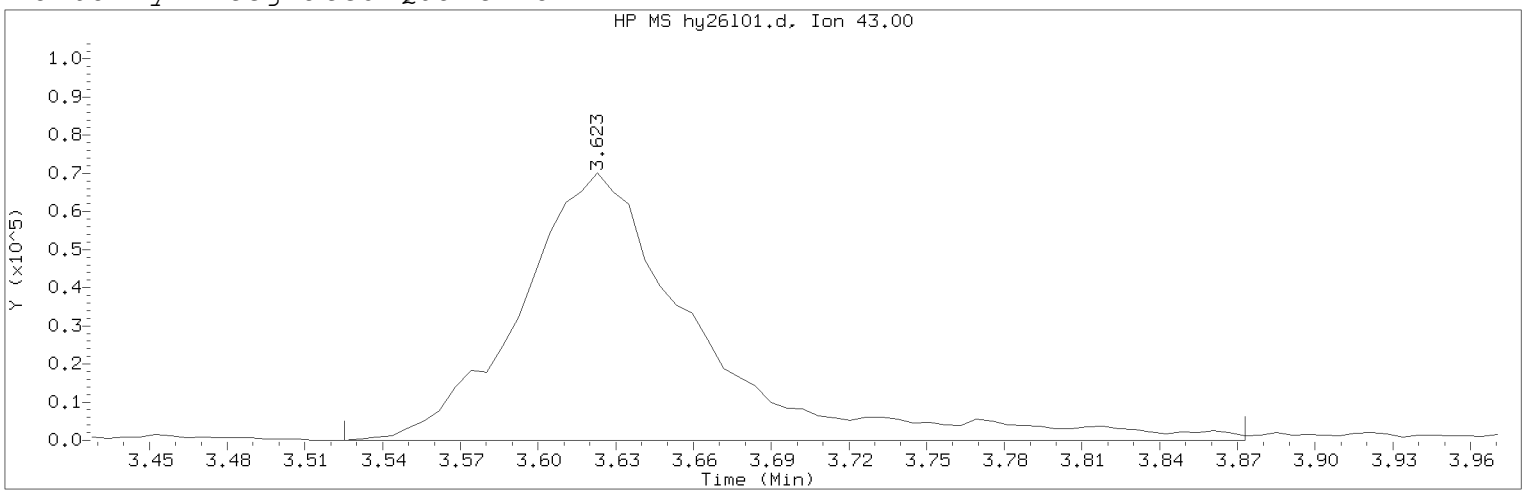
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

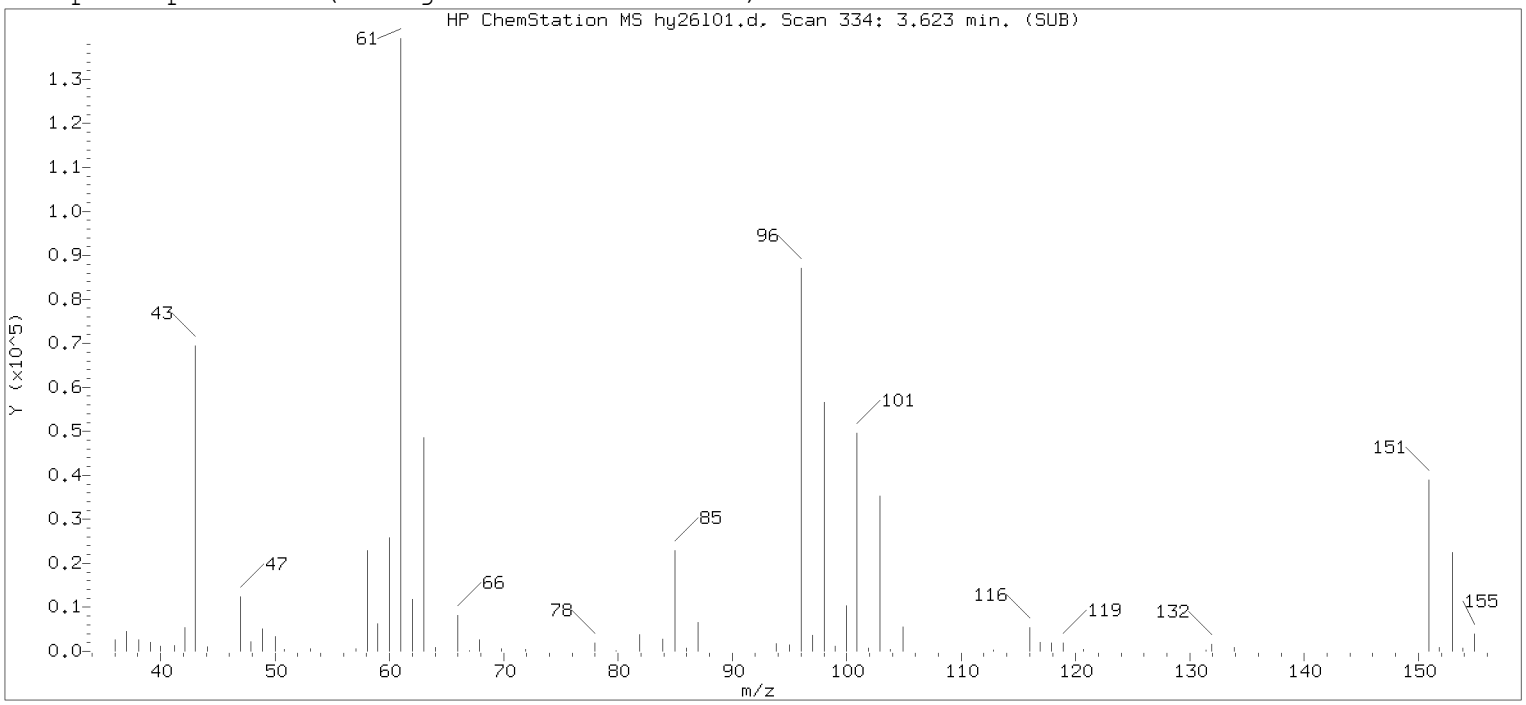
Compound Number : 14
Compound Name : Acetone
Scan Number : 334
Retention Time (minutes): 3.623
Quant Ion : 43.00
Area (flag) : 334532M
On-Column Amount (ng) : 37.7996
Integration start scan : 317 Integration stop scan: 374
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

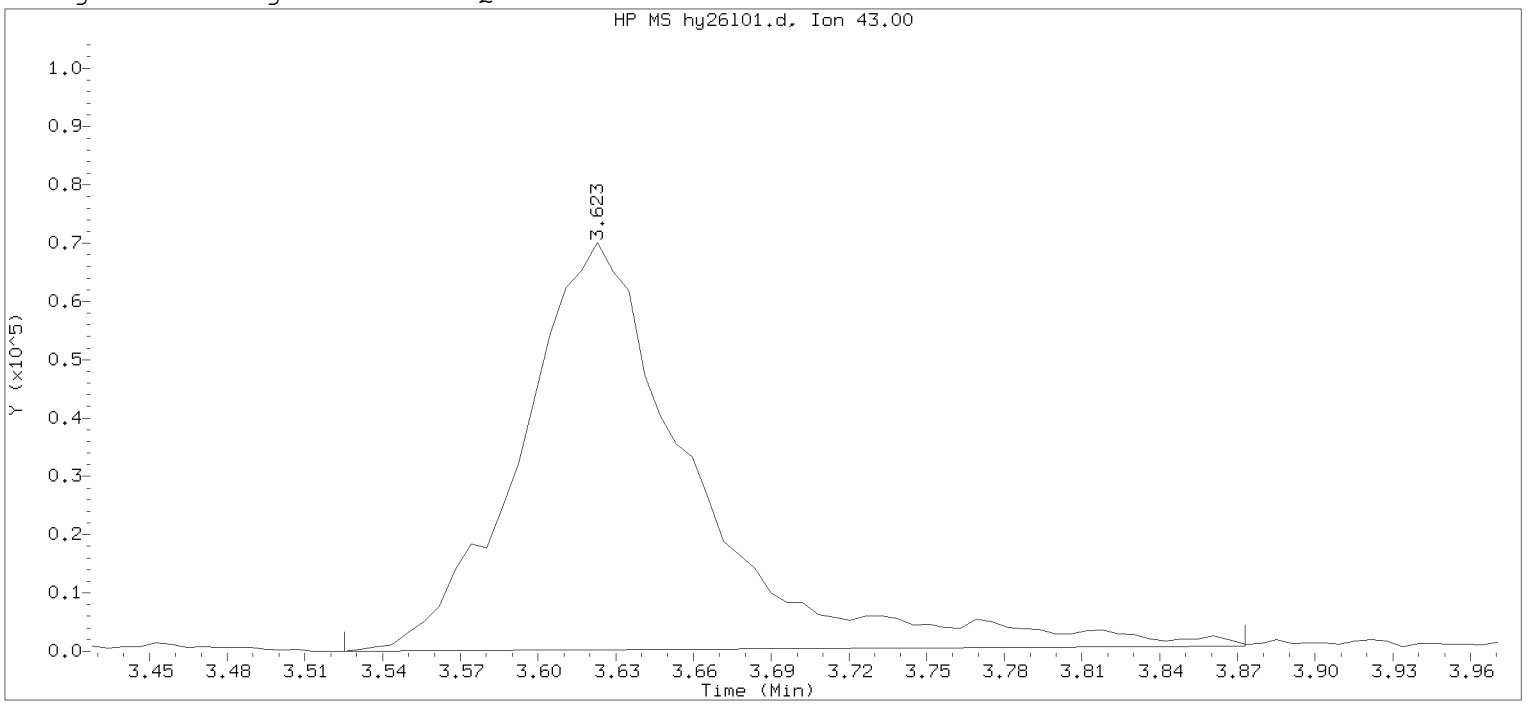
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 14:05.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

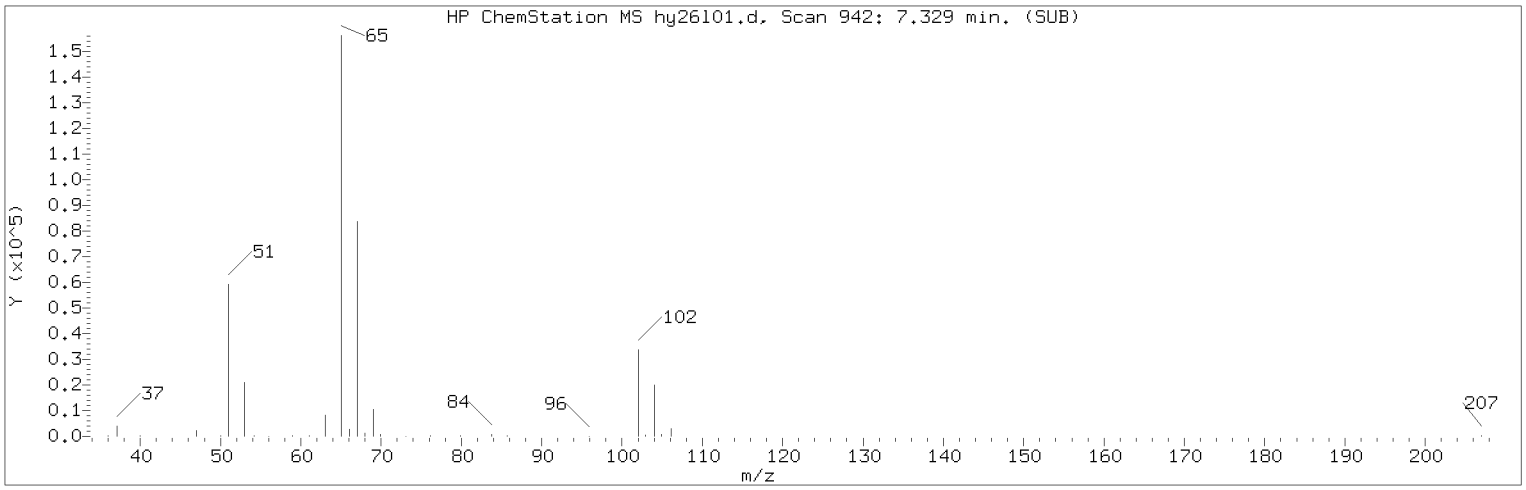
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

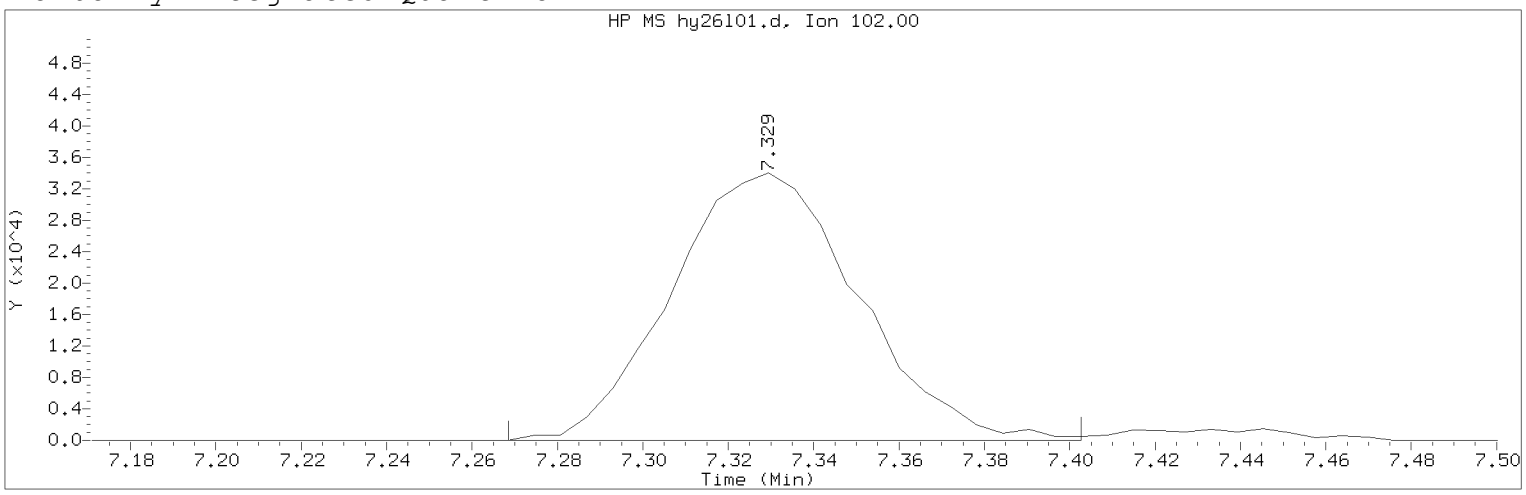
Compound Number : 14
Compound Name : Acetone
Scan Number : 334
Retention Time (minutes): 3.623
Quant Ion : 43.00
Area : 324601
On-column Amount (ng) : 36.6775
Integration start scan : 317 Integration stop scan: 374
Y at integration start : 0 Y at integration end: 931

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

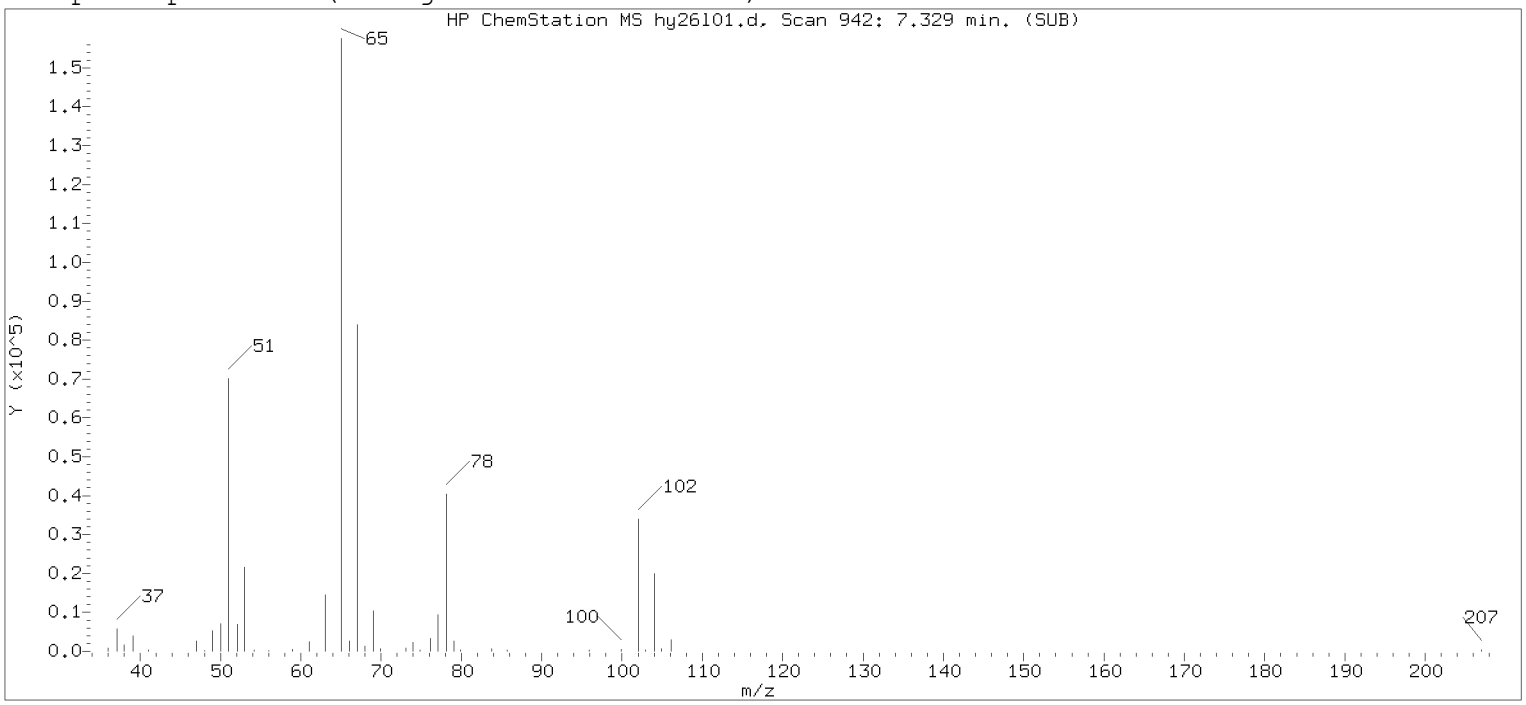
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 942
Retention Time (minutes): 7.329
Quant Ion : 102.00
Area (flag) : 102892M
On-Column Amount (ng) : 10.7221
Integration start scan : 931 Integration stop scan: 953
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

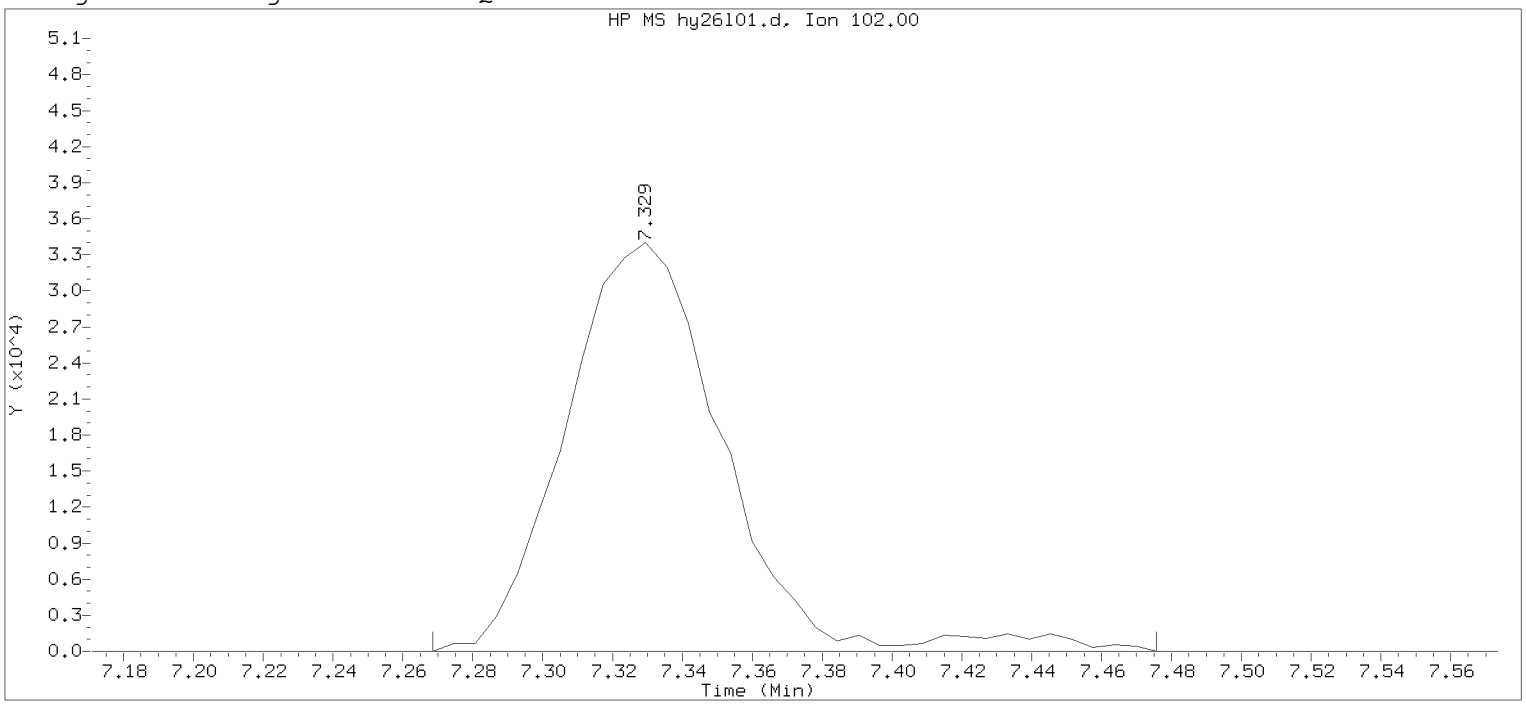
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 14:05.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

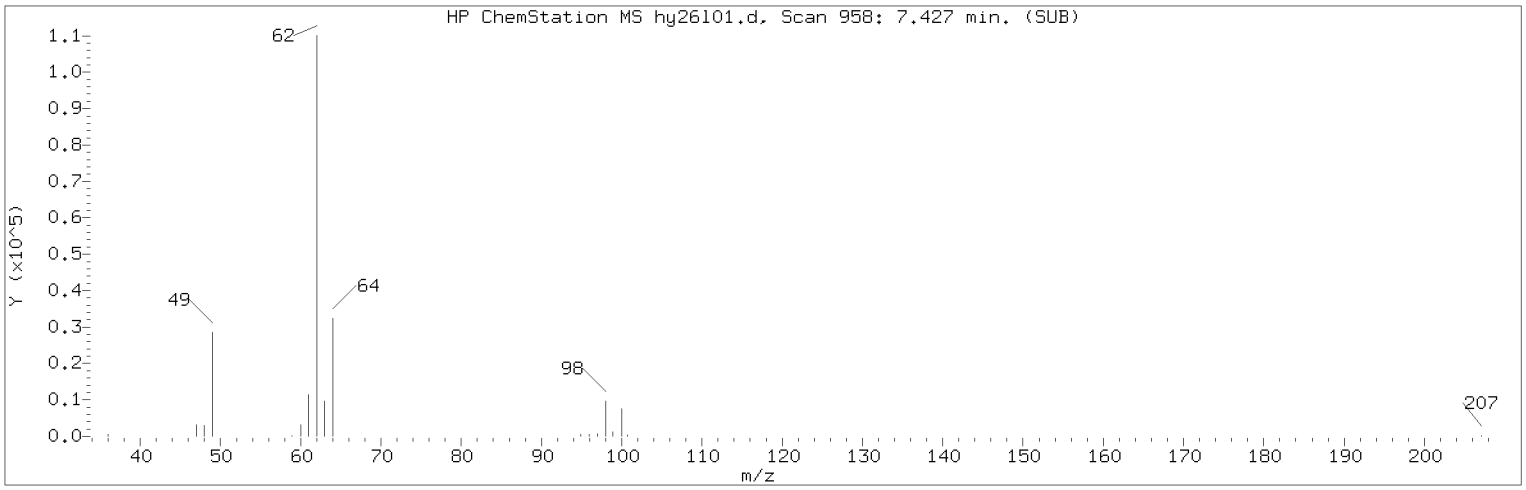
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

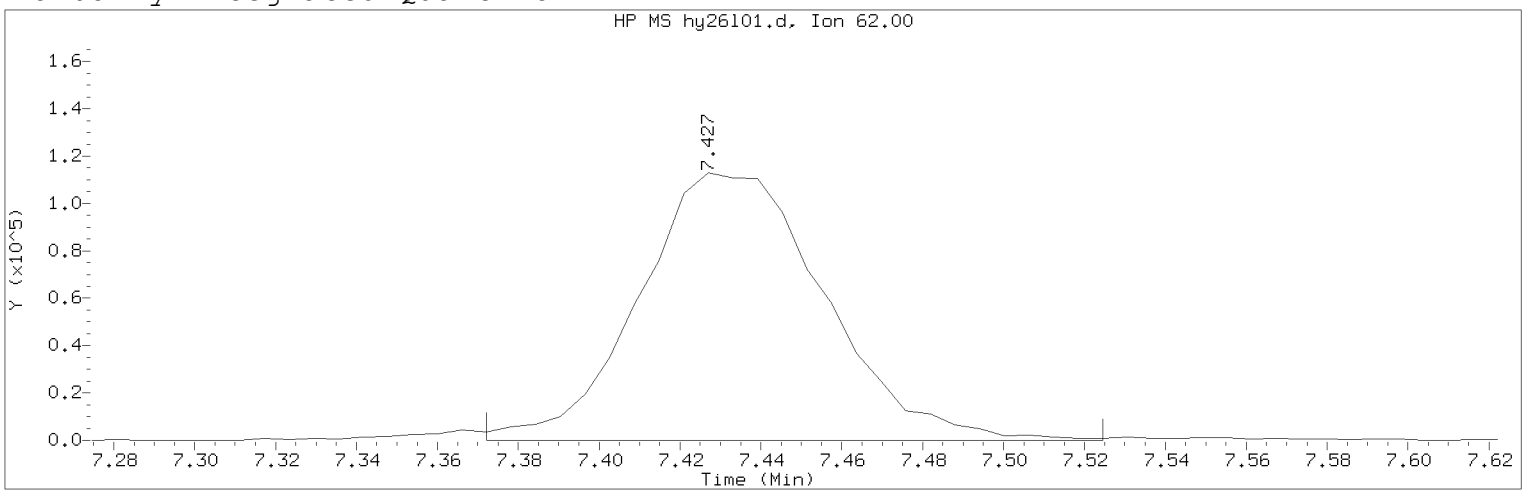
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 942
Retention Time (minutes): 7.329
Quant Ion : 102.00
Area : 106708
On-column Amount (ng) : 11.1198
Integration start scan : 931 Integration stop scan: 965
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

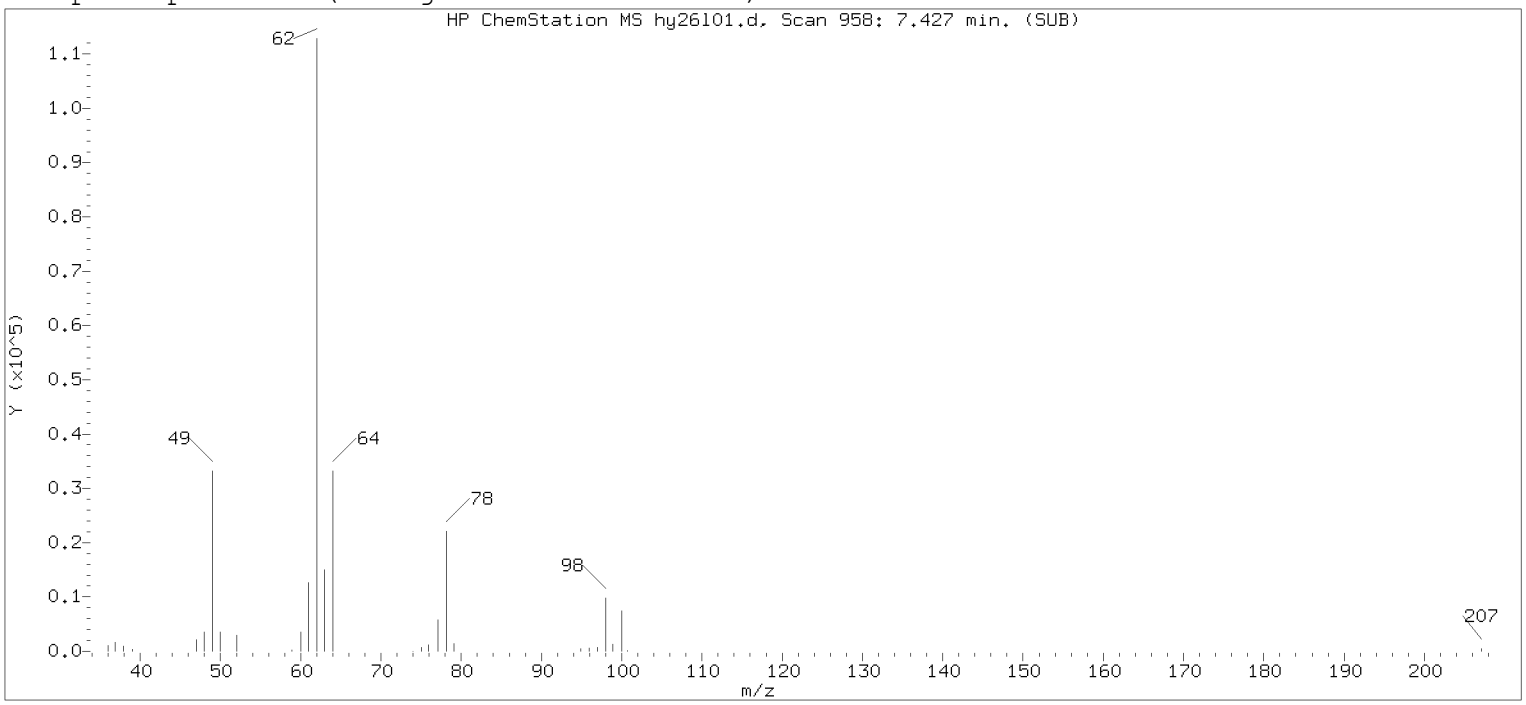
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 958
Retention Time (minutes): 7.427
Quant Ion : 62.00
Area (flag) : 359116M
On-Column Amount (ng) : 5.4161
Integration start scan : 948 Integration stop scan: 973
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

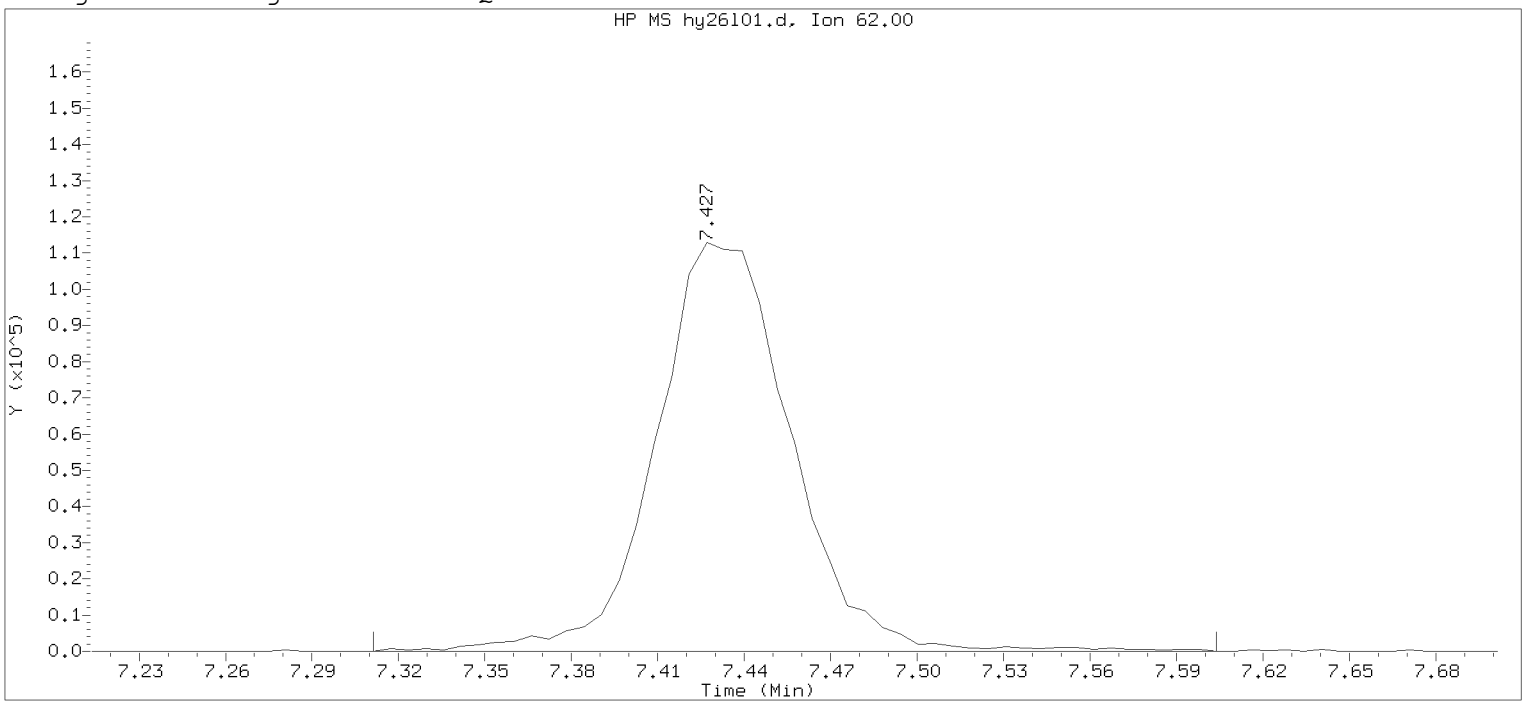
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 14:05.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

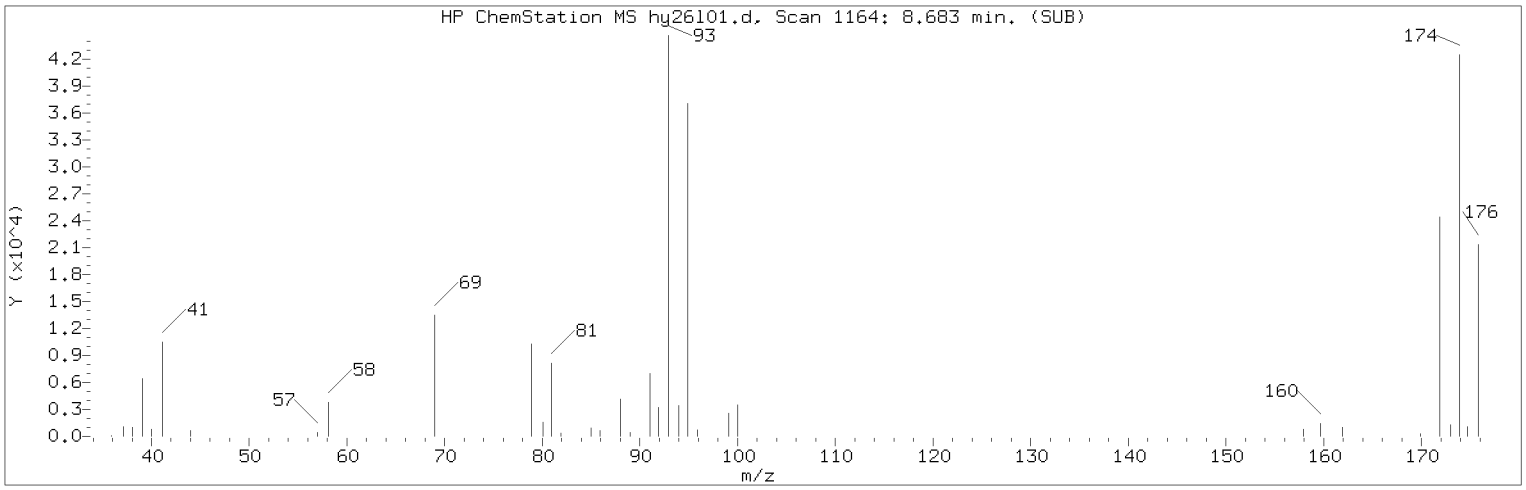
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

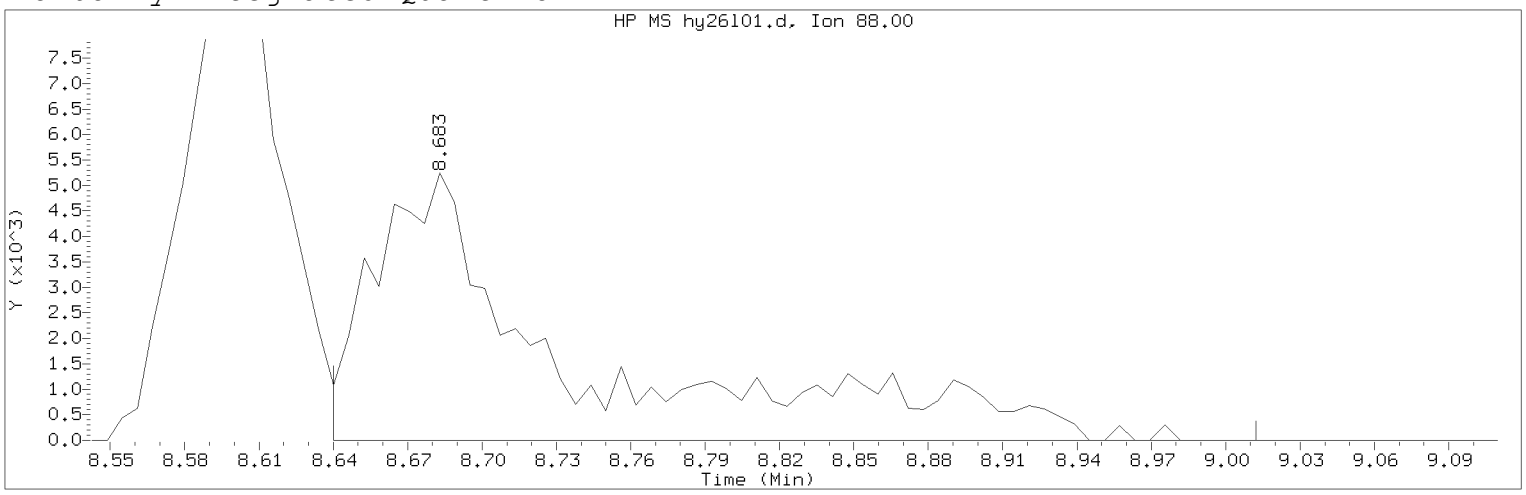
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 958
Retention Time (minutes): 7.427
Quant Ion : 62.00
Area : 367788
On-column Amount (ng) : 5.5469
Integration start scan : 938 Integration stop scan: 986
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

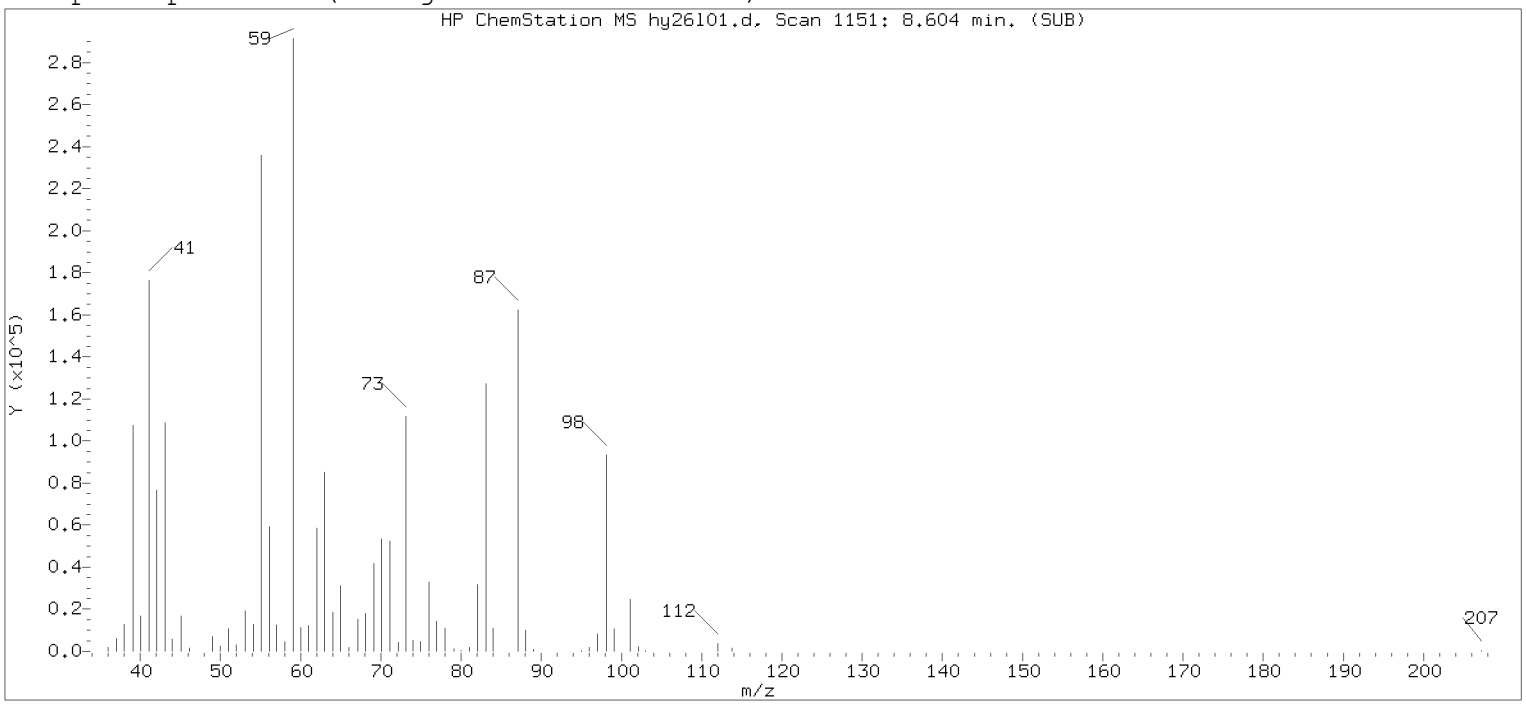
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1164
Retention Time (minutes): 8.683
Quant Ion : 88.00
Area (flag) : 28841M
On-Column Amount (ng) : 153.4576
Integration start scan : 1156 Integration stop scan: 1217
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

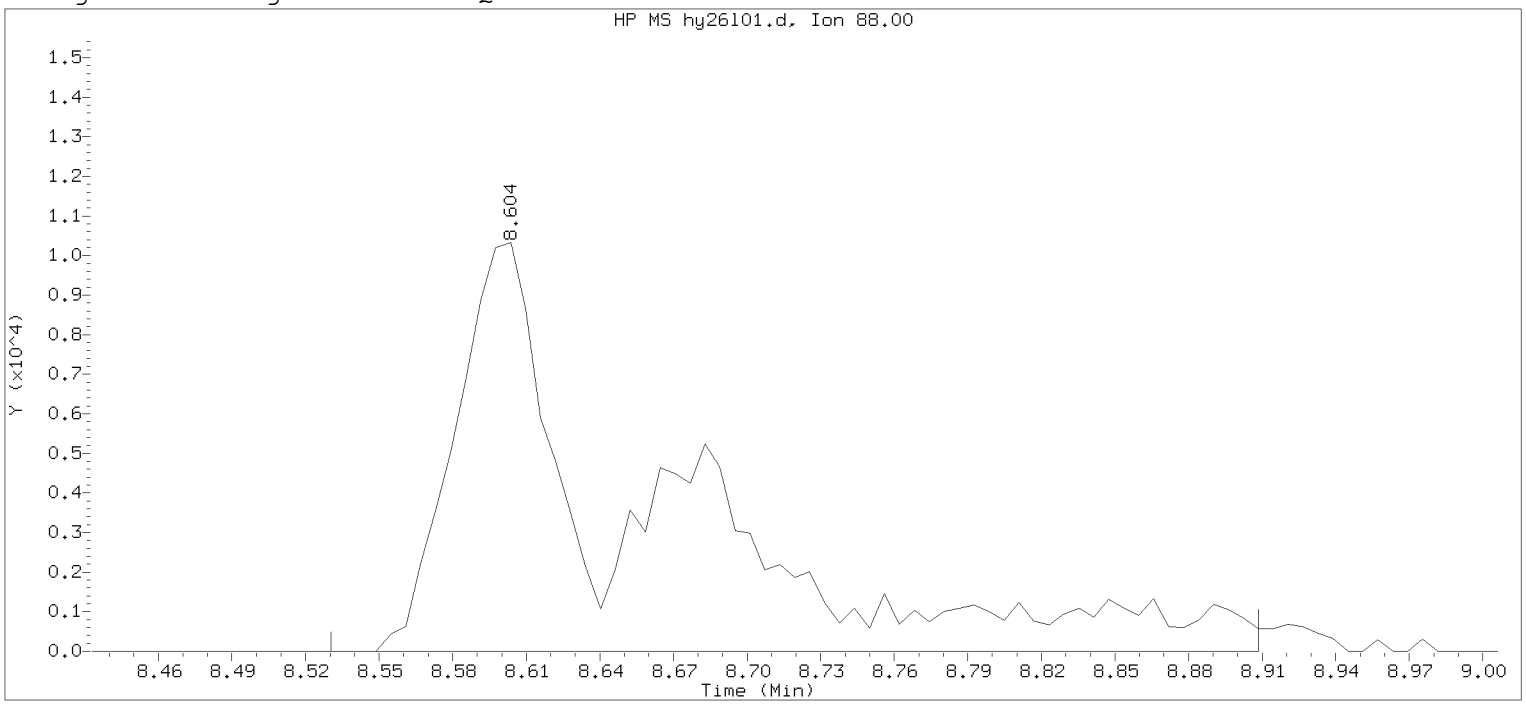
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 14:05.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

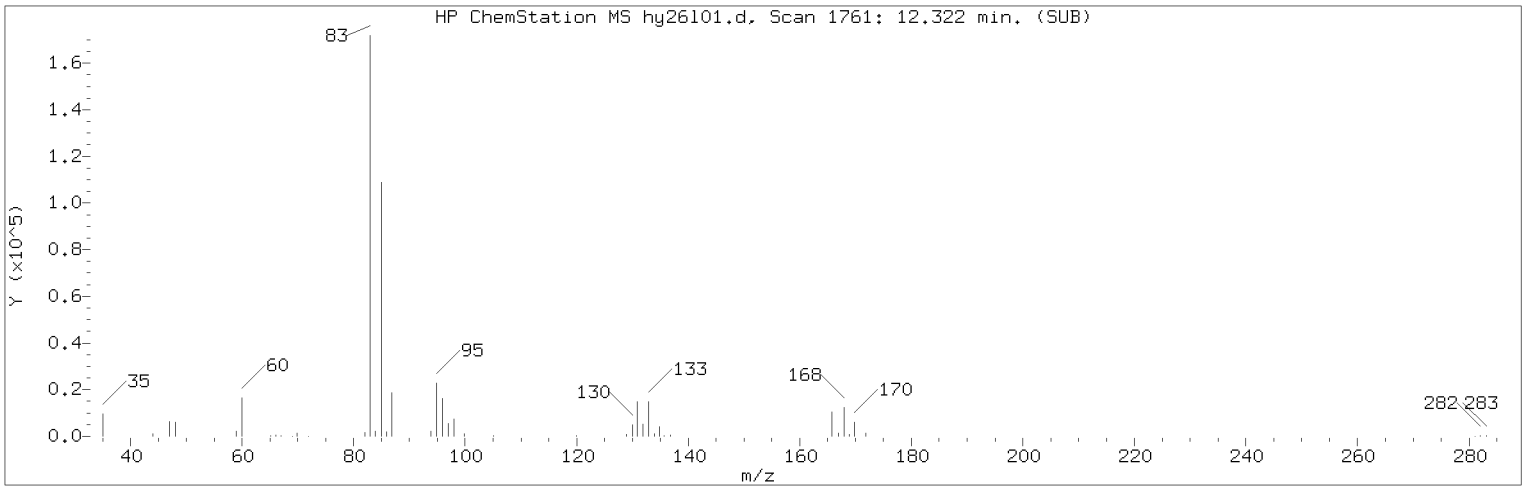
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

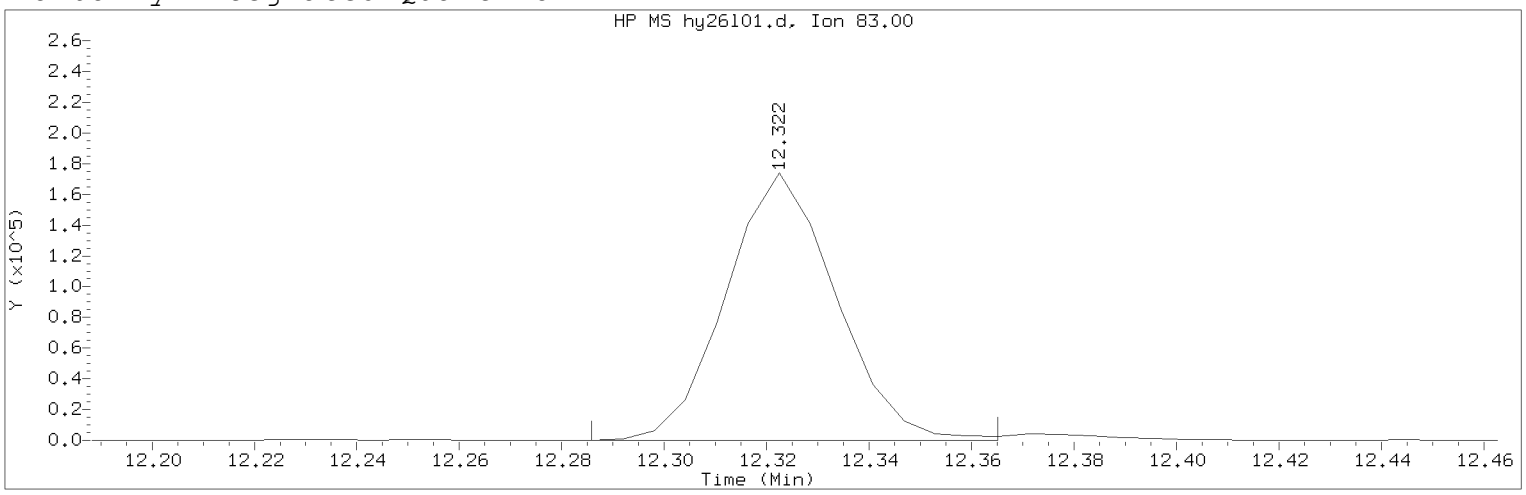
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1151
Retention Time (minutes): 8.604
Quant Ion : 88.00
Area : 54337
On-column Amount (ng) : 292.0327
Integration start scan : 1138 Integration stop scan: 1200
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:39 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

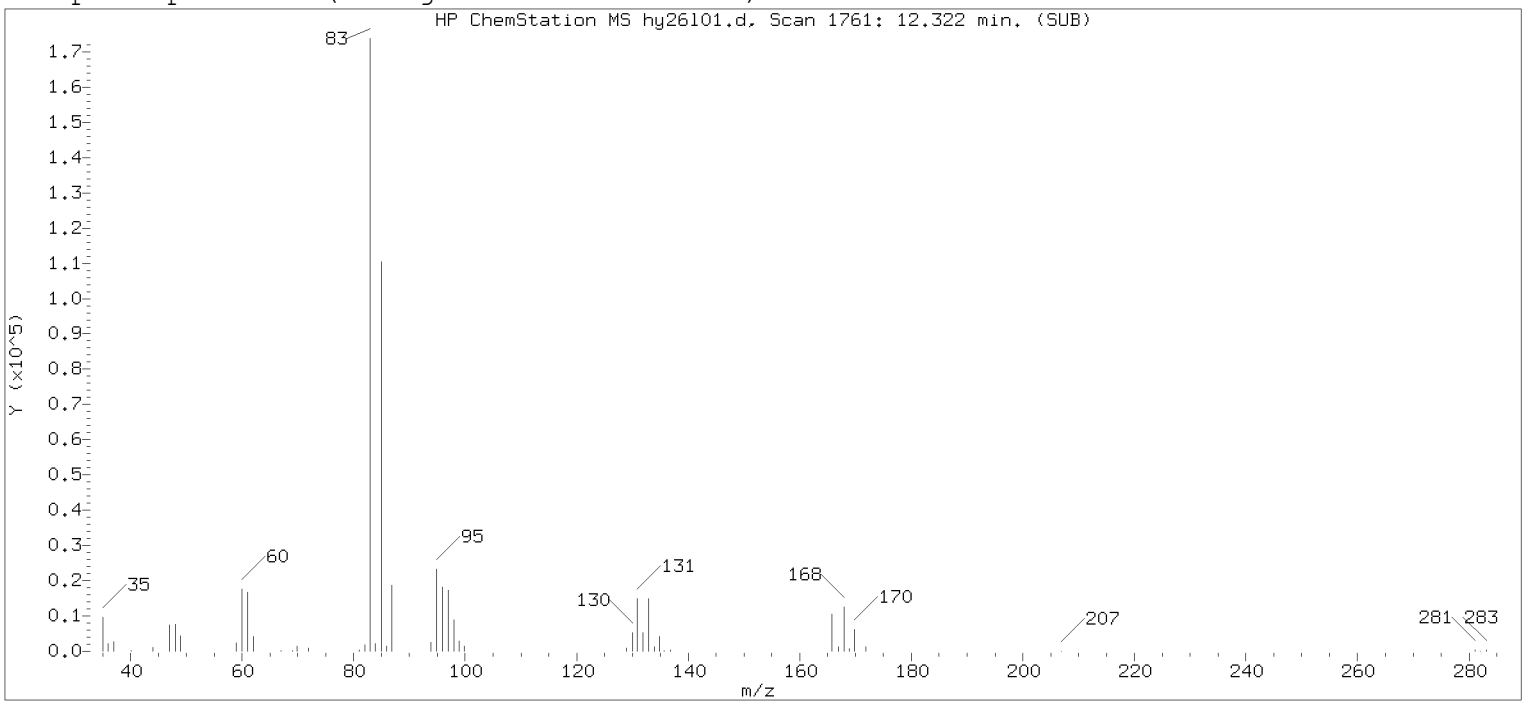
Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1761
Retention Time (minutes): 12.322
Quant Ion : 83.00
Area (flag) : 259301M
On-Column Amount (ng) : 5.1485
Integration start scan : 1754 Integration stop scan: 1767
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

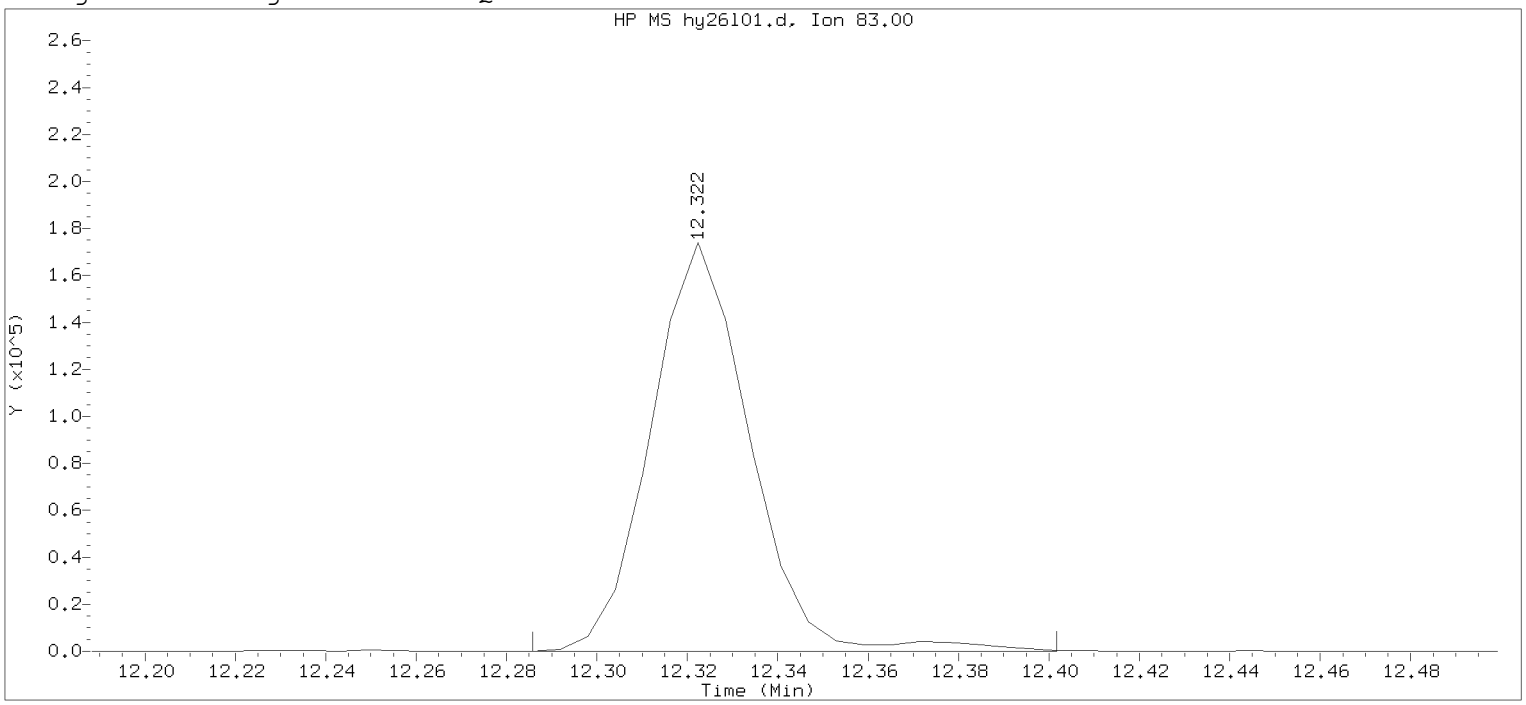
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 14:05.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l01.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:35 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCSH11 Lab Sample ID: LCSH11

Compound Number : 113
Compound Name : 1,1,2,2-Tetrachloroethane
Scan Number : 1761
Retention Time (minutes): 12.322
Quant Ion : 83.00
Area : 264147
On-column Amount (ng) : 5.2447
Integration start scan : 1754 Integration stop scan: 1773
Y at integration start : 0 Y at integration end: 75

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 13:57.
Target 3.5 esignature user ID: KEL01973

Data file: /chem2/HP19094.i/17may26a.b/hy26l02.d Injection date and time: **26-MAY-2017 09:55**
Data file Sample Info. Line: LCDH11;LCDH11;1;3;LCSD;;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area(+/- %Change)	Conc. (on-column)	QC Flag
26) t-Butyl Alcohol-d10	4.257(-0.006)	438	65	96803M (7)	50.00	
63) Fluorobenzene	7.775(0.000)	1015	96	2667694 (4)	10.00	
97) Chlorobenzene-d5	11.243(-0.006)	1584	117	1810079 (1)	10.00	
133) 1,4-Dichlorobenzene-d4	13.121(0.000)	1892	152	784621 (1)	10.00	

M = Internal Standard was manually integrated

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
50) Dibromofluoromethane	(2)	6.872(-0.001)	113	618482	10.342	103%		77 - 114
57) 1,2-Dichloroethane-d4	(2)	7.336(-0.002)	102	98099M	10.145	101%		74 - 113
82) Toluene-d8	(3)	9.786(0.000)	98	2652828	10.026	100%		77 - 110
111) 4-Bromofluorobenzene	(3)	12.243(0.001)	95	770743	10.252	103%		78 - 110

M = Surrogate Standard was manually integrated.

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
1) Dichlorodifluoromethane	(2)	2.020(-0.000)	85	425183	4.120	4.12			0.1	1
2) Chloromethane	(2)	2.154(-0.000)	50	527819	4.871	4.87			0.2	1
5) Vinyl Chloride	(2)	2.288(-0.000)	62	457963	4.815	4.81			0.2	1
7) Bromomethane	(2)	2.623(-0.000)	94	287211	4.807	4.81			0.5	1
8) Chloroethane	(2)	2.727(0.000)	64	248193	4.555	4.56			0.1	1
10) Trichlorofluoromethane	(2)	3.038(-0.000)	101	525848	4.771	4.77			0.2	1
11) Ethyl ether	(2)	3.306(-0.000)	59	216633	4.961	4.96		J	1	13
13) Acrolein	(1)	3.458(0.001)	56	183874	24.964	24.96		J	5	25
15) 1,1-Dichloroethene	(2)	3.617(-0.000)	96	295732	4.997	5.00			0.2	1
16) Freon 113	(2)	3.647(0.000)	101	322865	5.183	5.18			0.2	1
14) Acetone	(1)	3.623(0.001)	43	340909	38.221	38.22			3	10
17) Methyl Iodide	(2)	3.818(-0.000)	142	561868	5.111	5.11		J	0.6	10
18) Carbon Disulfide	(2)	3.940(-0.000)	76	895825	5.394	5.39		J	0.4	10
22) Allyl Chloride	(2)	4.098(-0.000)	41	583368	5.079	5.08		J	0.8	10
23) Methylene Chloride	(2)	4.275(-0.000)	84	342351	5.297	5.30			0.2	1
29) Acrylonitrile	(1)	4.586(0.000)	53	296065	24.563	24.56			1	10
31) trans-1,2-Dichloroethene	(2)	4.720(-0.000)	96	338866	5.185	5.18			0.2	1
33) 1,1-Dichloroethane	(2)	5.360(-0.000)	63	678906	5.264	5.26			0.1	1
35) 2-Chloro-1,3-Butadiene	(2)	5.470(-0.000)	53	552457	5.070	5.07		J	0.5	10
38) 2-Butanone	(1)	6.129(-0.000)	43	576066	31.665	31.66			1	10
42) Propionitrile	(1)	6.196(0.002)	54	173823	40.213	40.21		J	10	100
45) Methacrylonitrile	(1)	6.415(0.002)	67	549359	30.398	30.40		J	10	100
48) Tetrahydrofuran	(1)	6.525(0.002)	71	98436	21.659	21.66		J	2	25
49) Chloroform	(2)	6.659(-0.000)	83	630580	5.182	5.18			0.1	1
51) 1,1,1-Trichloroethane	(2)	6.909(-0.000)	97	509866	4.920	4.92			0.1	1
54) Carbon Tetrachloride	(2)	7.134(-0.000)	117	448094	5.151	5.15			0.2	1
56) Isobutyl Alcohol	(1)	7.202(-0.000)	41	151545	144.995	144.99		J	10	200
58) Benzene	(2)	7.378(-0.000)	78	1438947	5.149	5.15			0.1	1
59) 1,2-Dichloroethane	(2)	7.433(-0.000)	62	362046M	5.419	5.42			0.1	1

M = Compound was manually integrated.

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41. Target 3.5 esignature user ID: kel01973

Analysis Summary for GC/MS Volatiles

Data file: /chem2/HP19094.i/17may26a.b/hy26102.d Injection date and time: **26-MAY-2017 09:55**
Data file Sample Info. Line: LCDH11;LCDH11;1;3;LCSD;;DAA3568;;hy26b01; Instrument ID: **HP19094.i** Batch: **H171461AA**
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Blank Data file reference: **/chem2/HP19094.i/17may26a.b/hy26b01.d**

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: **16340-SM**
Calibration date and time (Last Method Edit): 30-MAY-2017 11:39
Mid Level Daily Calibration Standard Reference: **/chem2/HP19094.i/17may26a.b/hy26c01.d**

Bottle Code: Matrix: WATER Level: Low

On-Column Amount units: ng In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * (Vt/Vo) VOA Prep Factor: **1.00**

Volume Purged (Vt): 25 ml Sample Volume (Vo): 25 ml

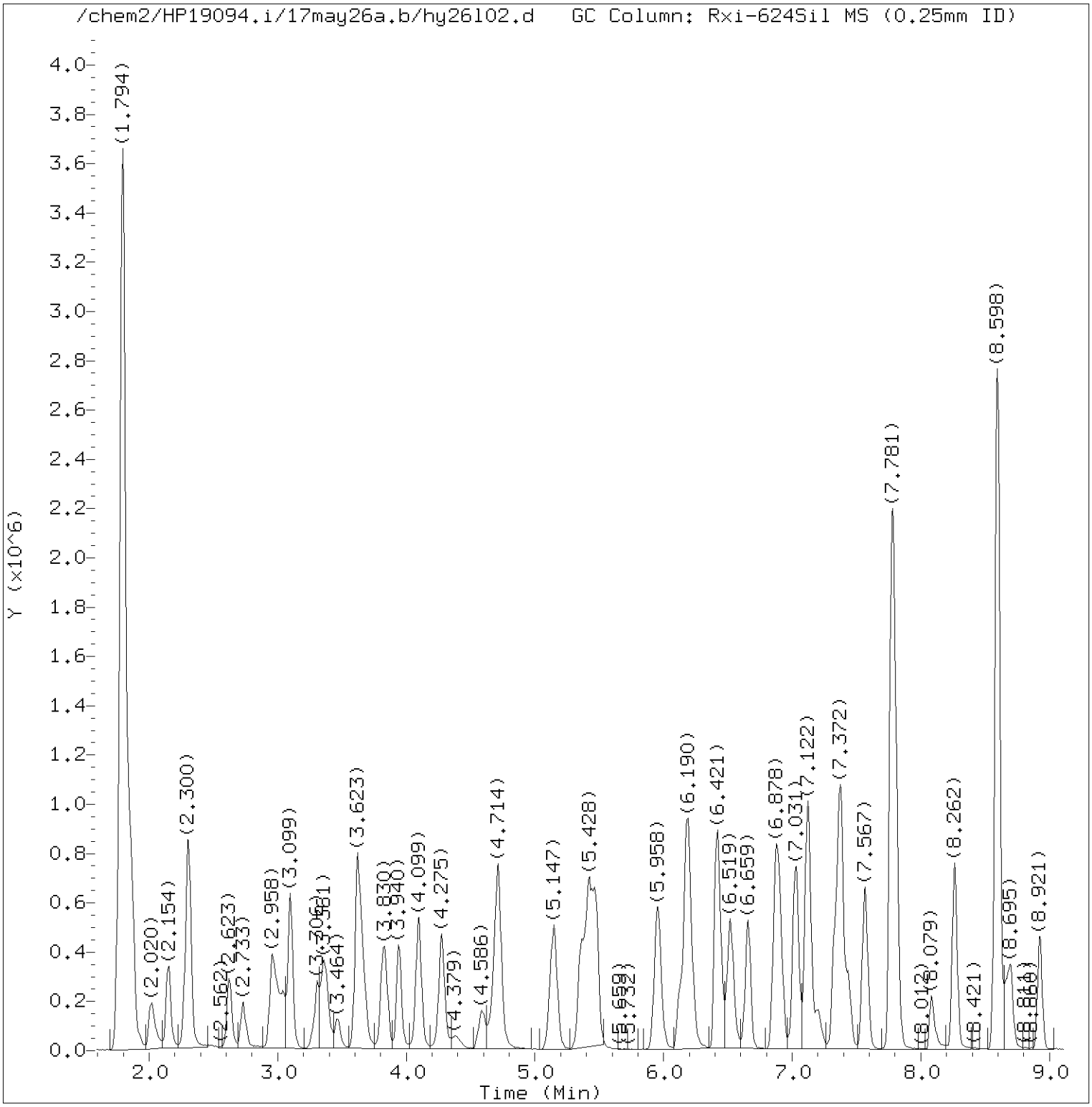
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (in sample)	LOQ
67) Trichloroethene	(2)	8.262(-0.000)	95	365791	4.944	4.94			0.2	1
70) 1,2-Dichloropropane	(2)	8.592(-0.000)	63	382765	5.252	5.25			0.1	1
71) Methyl Methacrylate	(1)	8.659(0.002)	69	130733	3.954	3.95		J	4	10
73) Dibromomethane	(2)	8.695(0.000)	93	154138	5.486	5.49			0.1	1
72) 1,4-Dioxane	(1)	8.677(0.000)	88	31456M	166.338	166.34		J	45	200
74) Bromodichloromethane	(2)	8.927(-0.000)	83	419755	5.455	5.46			0.1	1
81) 4-Methyl-2-Pentanone	(1)	9.622(0.003)	43	954143	19.793	19.79			1	10
83) Toluene	(3)	9.866(0.000)	92	901299	5.155	5.15			0.1	1
84) trans-1,3-Dichloropropene	(3)	10.110(-0.000)	75	370821	5.444	5.44			0.1	1
86) Ethyl Methacrylate	(3)	10.170(-0.000)	69	269099	5.341	5.34		J	0.8	10
88) 1,1,2-Trichloroethane	(3)	10.311(0.000)	97	227737	5.607	5.61			0.1	1
89) Tetrachloroethene	(3)	10.420(0.000)	166	401944	4.957	4.96			0.1	1
90) 1,3-Dichloropropane	(3)	10.475(0.000)	76	380285	5.232	5.23			0.1	1
91) 2-Hexanone	(1)	10.512(0.003)	43	638341	18.789	18.79			1	10
93) Dibromochloromethane	(3)	10.695(0.000)	129	266849	5.544	5.54			0.1	1
95) 1,2-Dibromoethane	(3)	10.817(-0.000)	107	204965	5.336	5.34			0.1	1
99) 1,1,1,2-Tetrachloroethane	(3)	11.347(0.000)	131	330435	5.206	5.21			0.1	1
100) Ethylbenzene	(3)	11.353(0.000)	91	1730154	5.107	5.11			0.1	1
101) m+p-Xylene	(3)	11.469(0.000)	106	1353711	10.509	10.51			0.1	0.5
104) o-Xylene	(3)	11.798(0.000)	106	642654	5.194	5.19			0.1	0.5
105) Xylene (Total)	(3)		106	1996365	15.703	15.70			0.2	3
106) Styrene	(3)	11.810(0.000)	104	1030458	5.455	5.45			0.1	1
107) Bromoform	(3)	11.969(0.000)	173	136785	5.690	5.69			0.1	1
113) 1,1,2,2-Tetrachloroethane	(4)	12.322(-0.000)	83	259783	5.130	5.13			0.2	1
115) trans-1,4-Dichloro-2-butene	(1)	12.353(0.002)	53	220644	17.239	17.24			1	10
116) 1,2,3-Trichloropropane	(4)	12.377(-0.000)	110	66952	5.284	5.28			0.3	1
126) Pentachloroethane	(4)	12.835(-0.000)	167	240093	5.327	5.33		J	0.8	10
131) 1,3-Dichlorobenzene	(4)	13.066(-0.000)	146	749368	4.940	4.94			0.1	1
134) 1,4-Dichlorobenzene	(4)	13.139(-0.000)	146	752319	4.759	4.76			0.1	1
139) 1,2-Dichlorobenzene	(4)	13.395(-0.000)	146	664407	4.931	4.93			0.1	1
143) 1,2-Dibromo-3-chloropropane	(1)	13.938(0.004)	155	28459	3.986	3.99			0.2	1
145) 1,2,4-Trichlorobenzene	(4)	14.493(-0.000)	180	351343	4.044	4.04			0.1	1
146) Hexachlorobutadiene	(4)	14.572(-0.000)	225	176525	4.102	4.10			0.1	1
147) Naphthalene	(4)	14.670(-0.000)	128	519607	4.064	4.06			0.1	1

M = Compound was manually integrated.

Total number of targets = 63

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41. Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52. PARALLAX ID: jeb12641



Total Ion Chromatogram (TIC)

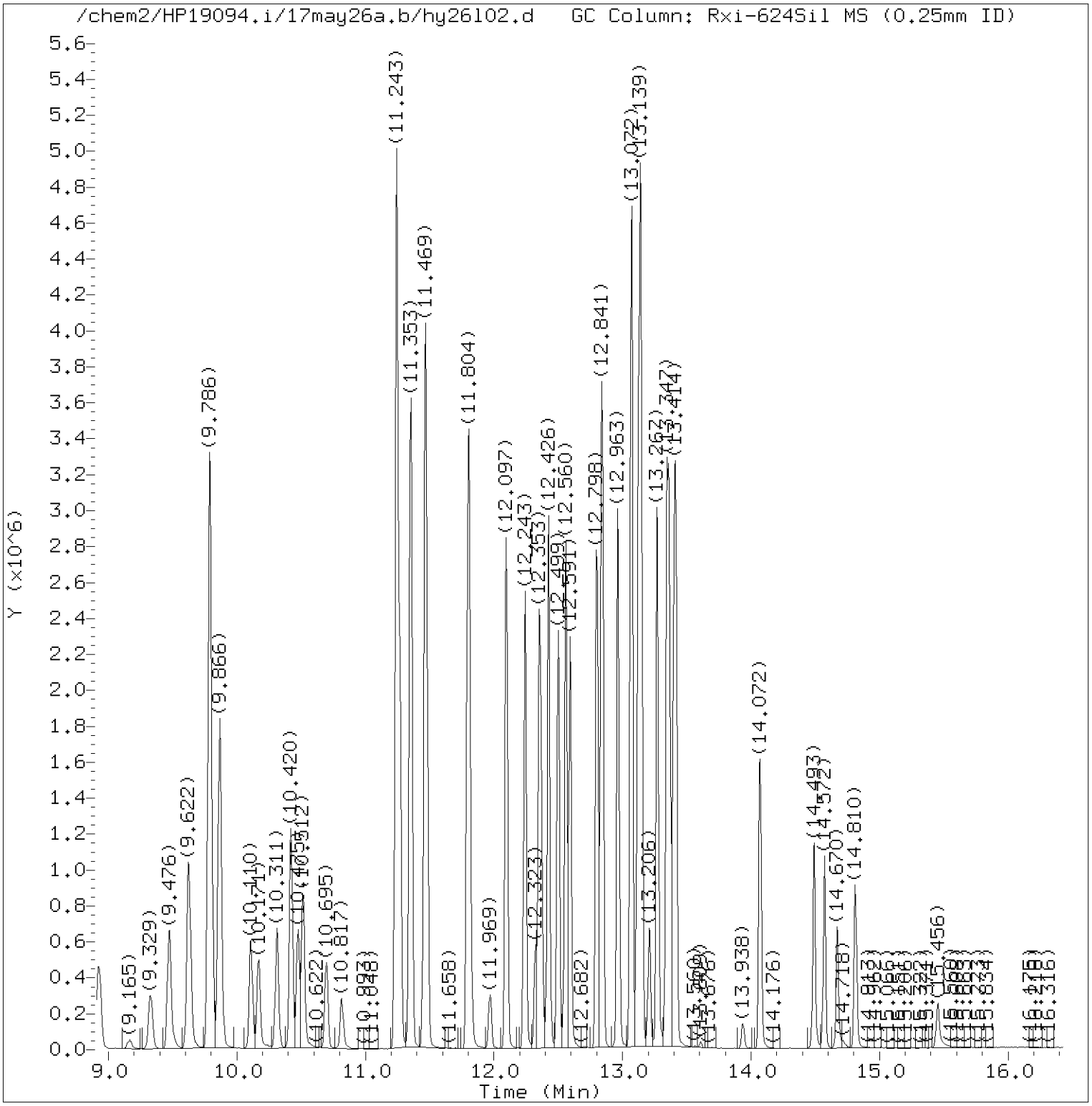
Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: kel01973



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
1) Dichlorodifluoromethane	(2)	2.020	85	425183	4.120
2) Chloromethane	(2)	2.154	50	527819	4.871
5) Vinyl Chloride	(2)	2.288	62	457963	4.815
7) Bromomethane	(2)	2.623	94	287211	4.807
8) Chloroethane	(2)	2.727	64	248193	4.555
10) Trichlorofluoromethane	(2)	3.038	101	525848	4.771
11) Ethyl ether	(2)	3.306	59	216633	4.961
13) Acrolein	(1)	3.458	56	183874	24.964
15) 1,1-Dichloroethene	(2)	3.617	96	295732	4.997
14) Acetone	(1)	3.623	43	340909	38.221
16) Freon 113	(2)	3.647	101	322865	5.183
17) Methyl Iodide	(2)	3.818	142	561868	5.111
18) Carbon Disulfide	(2)	3.940	76	895825	5.394
22) Allyl Chloride	(2)	4.099	41	583368	5.079
26)*t-Butyl Alcohol-d10	(1)	4.257	65	96803M	50.000
23) Methylene Chloride	(2)	4.275	84	342351	5.297
29) Acrylonitrile	(1)	4.586	53	296065	24.563
31) trans-1,2-Dichloroethene	(2)	4.720	96	338866	5.185
33) 1,1-Dichloroethane	(2)	5.360	63	678906	5.264
35) 2-Chloro-1,3-Butadiene	(2)	5.470	53	552457	5.070
38) 2-Butanone	(1)	6.129	43	576066	31.665
42) Propionitrile	(1)	6.196	54	173823	40.213
45) Methacrylonitrile	(1)	6.415	67	549359	30.398
48) Tetrahydrofuran	(1)	6.525	71	98436	21.659
49) Chloroform	(2)	6.659	83	630580	5.182
50)$Dibromofluoromethane	(2)	6.872	113	618482	10.342
51) 1,1,1-Trichloroethane	(2)	6.909	97	509866	4.920
54) Carbon Tetrachloride	(2)	7.135	117	448094	5.151
56) Isobutyl Alcohol	(1)	7.202	41	151545	144.995
57)$1,2-Dichloroethane-d4	(2)	7.336	102	98099M	10.145
58) Benzene	(2)	7.378	78	1438947	5.149
59) 1,2-Dichloroethane	(2)	7.433	62	362046M	5.419
63)*Fluorobenzene	(2)	7.775	96	2667694	10.000
67) Trichloroethene	(2)	8.262	95	365791	4.944
70) 1,2-Dichloropropane	(2)	8.592	63	382765	5.252
71) Methyl Methacrylate	(1)	8.659	69	130733	3.954
72) 1,4-Dioxane	(1)	8.677	88	31456M	166.338
73) Dibromomethane	(2)	8.695	93	154138	5.486

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: kel01973

Quant Report

Target Revision 3.5

Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

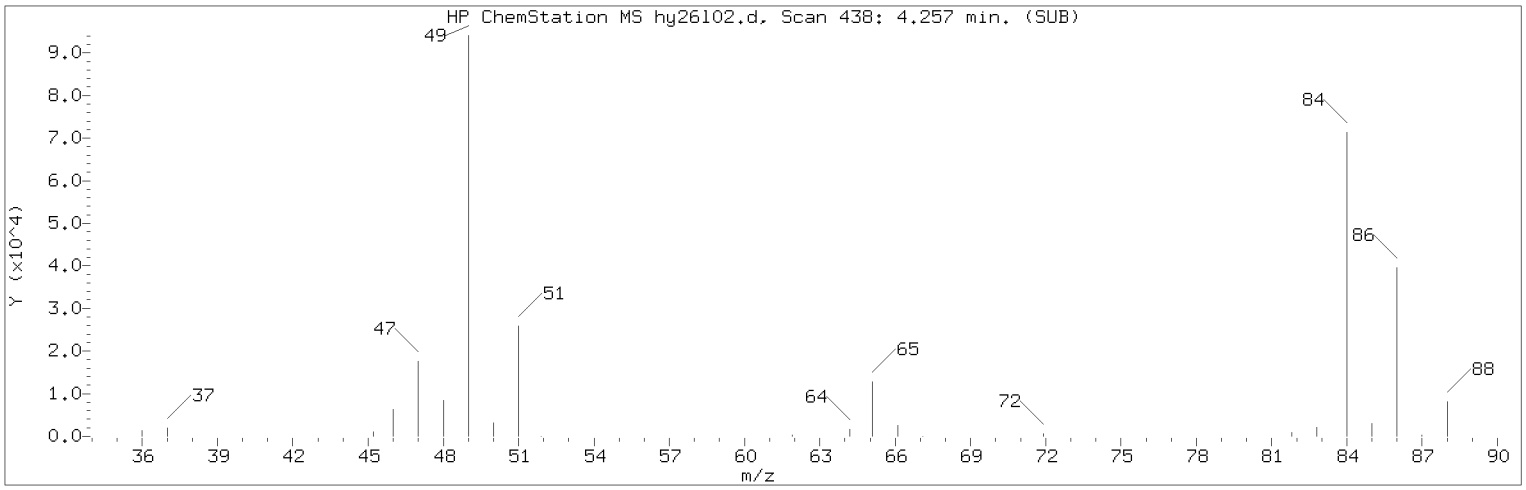
Sample Name: LCDH11 Lab Sample ID: LCDH11

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng)
74) Bromodichloromethane	(2)	8.927	83	419755	5.455
81) 4-Methyl-2-Pentanone	(1)	9.622	43	954143	19.793
82)$Toluene-d8	(3)	9.786	98	2652828	10.026
83) Toluene	(3)	9.866	92	901299	5.155
84) trans-1,3-Dichloropropene	(3)	10.110	75	370821	5.444
86) Ethyl Methacrylate	(3)	10.171	69	269099	5.341
88) 1,1,2-Trichloroethane	(3)	10.311	97	227737	5.607
89) Tetrachloroethene	(3)	10.420	166	401944	4.957
90) 1,3-Dichloropropane	(3)	10.475	76	380285	5.232
91) 2-Hexanone	(1)	10.512	43	638341	18.789
93) Dibromochloromethane	(3)	10.695	129	266849	5.544
95) 1,2-Dibromoethane	(3)	10.817	107	204965	5.336
97)*Chlorobenzene-d5	(3)	11.243	117	1810079	10.000
99) 1,1,1,2-Tetrachloroethane	(3)	11.347	131	330435	5.206
100) Ethylbenzene	(3)	11.353	91	1730154	5.107
101) m+p-Xylene	(3)	11.469	106	1353711	10.509
105) Xylene (Total)	(3)		106	1996365	15.703
104) o-Xylene	(3)	11.798	106	642654	5.194
106) Styrene	(3)	11.810	104	1030458	5.455
107) Bromoform	(3)	11.969	173	136785	5.690
111)$4-Bromofluorobenzene	(3)	12.243	95	770743	10.252
113) 1,1,2,2-Tetrachloroethane	(4)	12.323	83	259783	5.130
115) trans-1,4-Dichloro-2-butene	(1)	12.353	53	220644	17.239
116) 1,2,3-Trichloropropane	(4)	12.377	110	66952	5.284
126) Pentachloroethane	(4)	12.835	167	240093	5.327
131) 1,3-Dichlorobenzene	(4)	13.066	146	749368	4.940
133)*1,4-Dichlorobenzene-d4	(4)	13.121	152	784621	10.000
134) 1,4-Dichlorobenzene	(4)	13.139	146	752319	4.759
139) 1,2-Dichlorobenzene	(4)	13.395	146	664407	4.931
143) 1,2-Dibromo-3-chloropropane	(1)	13.938	155	28459	3.986
145) 1,2,4-Trichlorobenzene	(4)	14.493	180	351343	4.044
146) Hexachlorobutadiene	(4)	14.572	225	176525	4.102
147) Naphthalene	(4)	14.670	128	519607	4.064

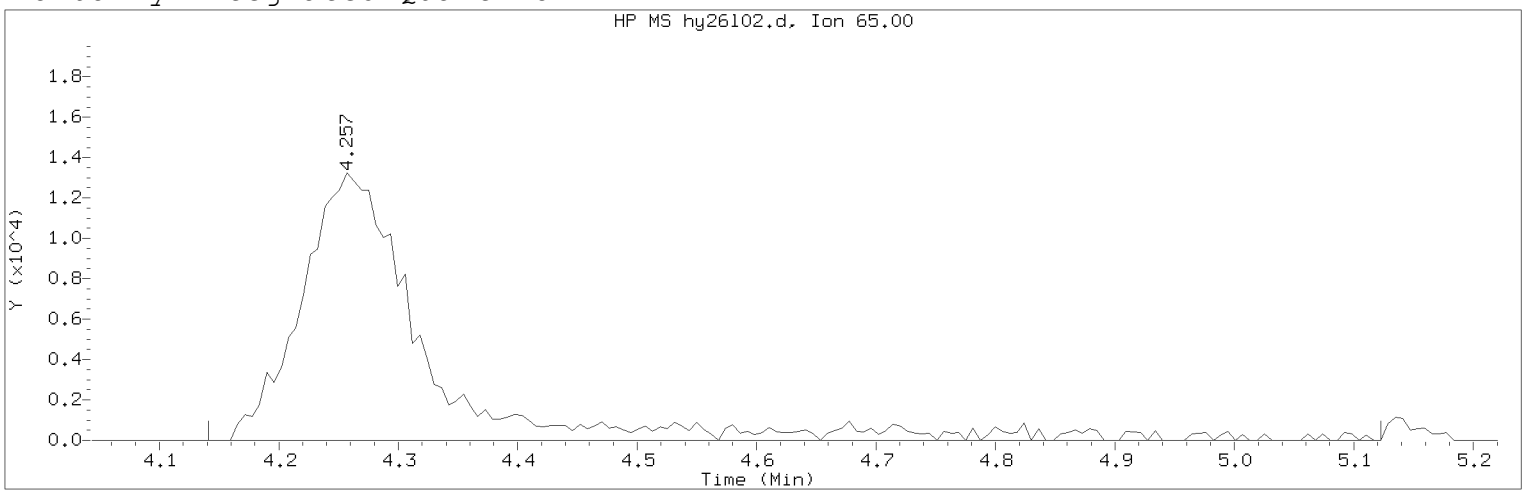
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Kerri E. Koch Legerlotz
on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: kel01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

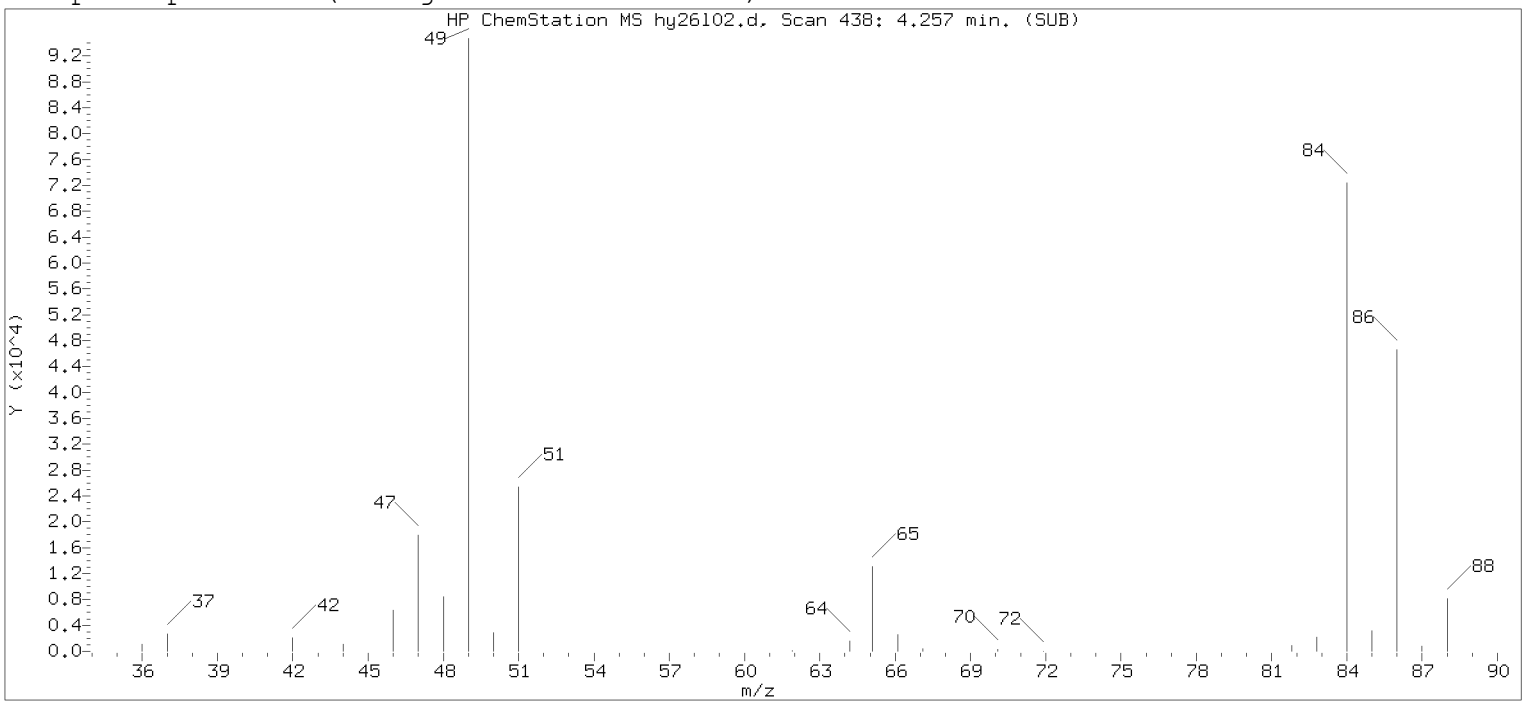
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area (flag) : 96803M
On-Column Amount (ng) : 50.0000
Integration start scan : 418 Integration stop scan: 579
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

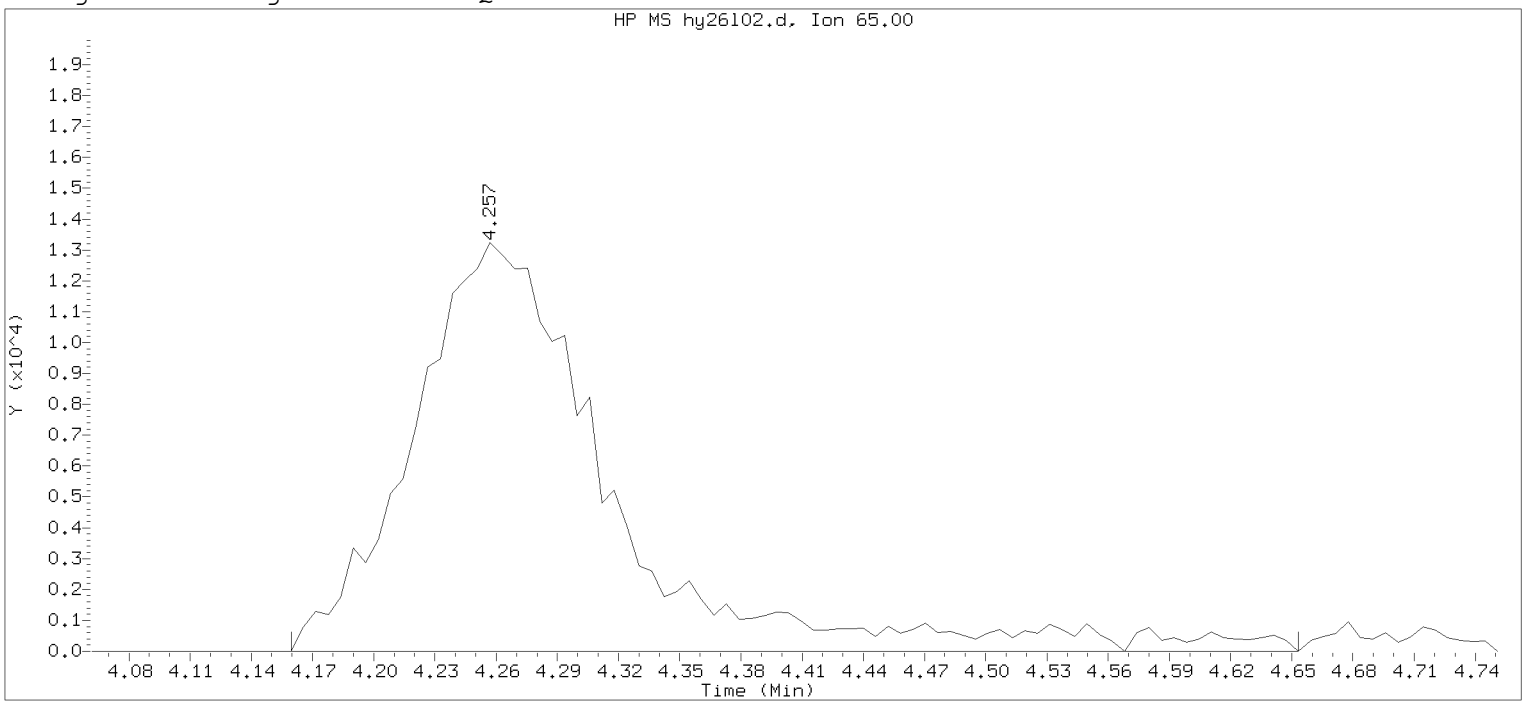
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

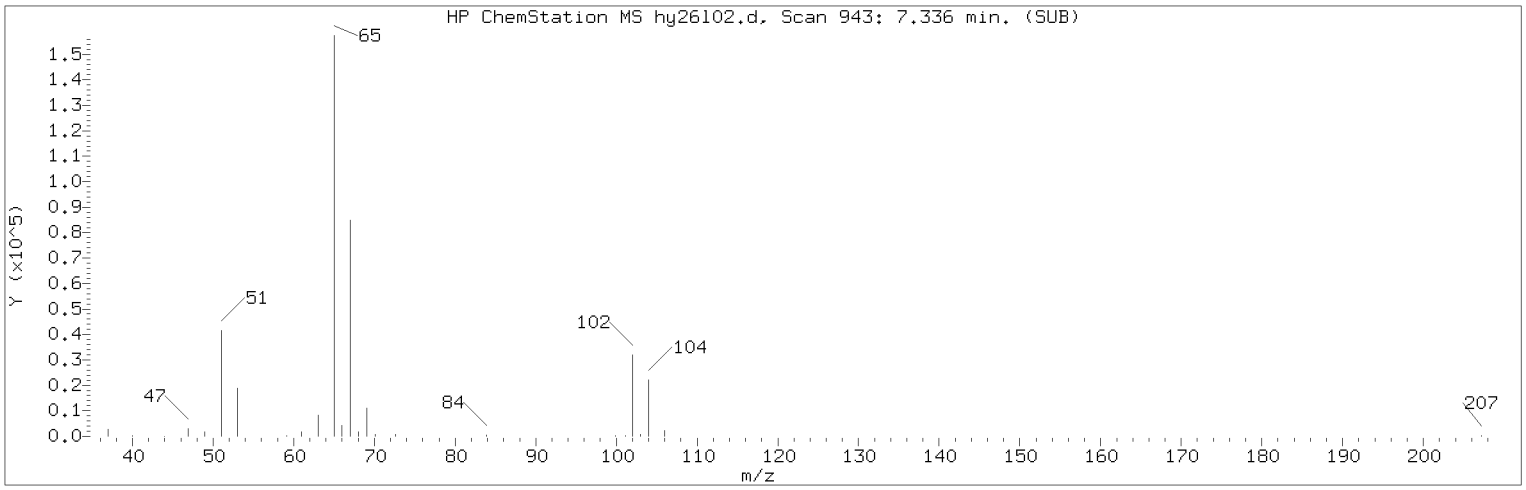
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

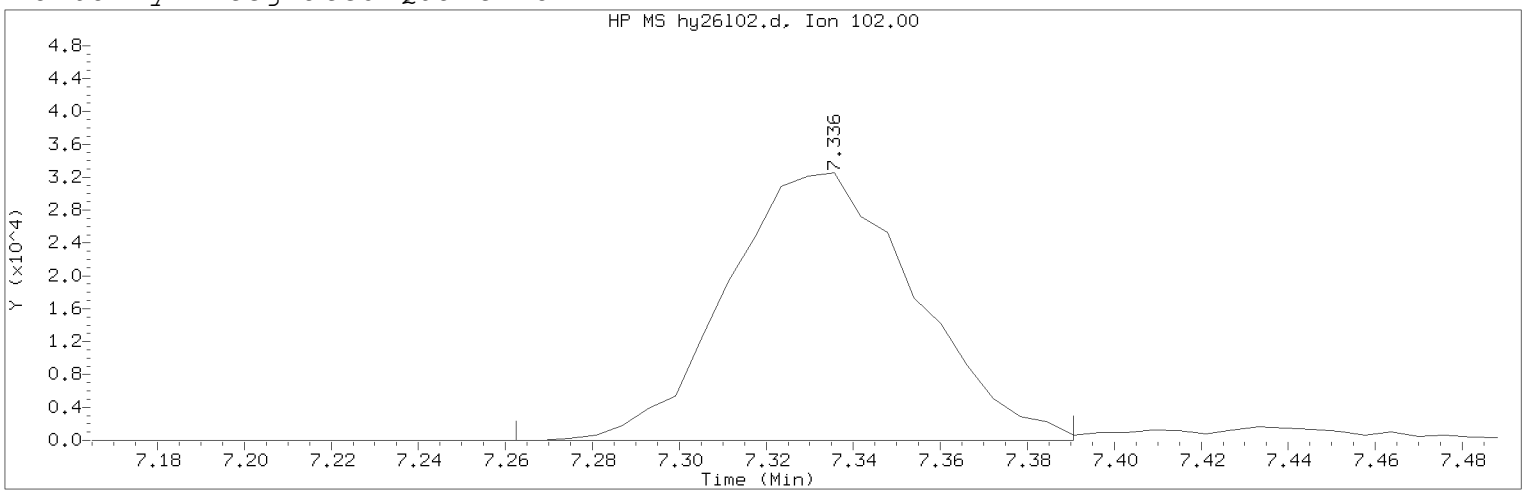
Compound Number : 26
Compound Name : t-Butyl Alcohol-d10
Scan Number : 438
Retention Time (minutes): 4.257
Quant Ion : 65.00
Area : 89114
On-column Amount (ng) : 50.0000
Integration start scan : 421 Integration stop scan: 502
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

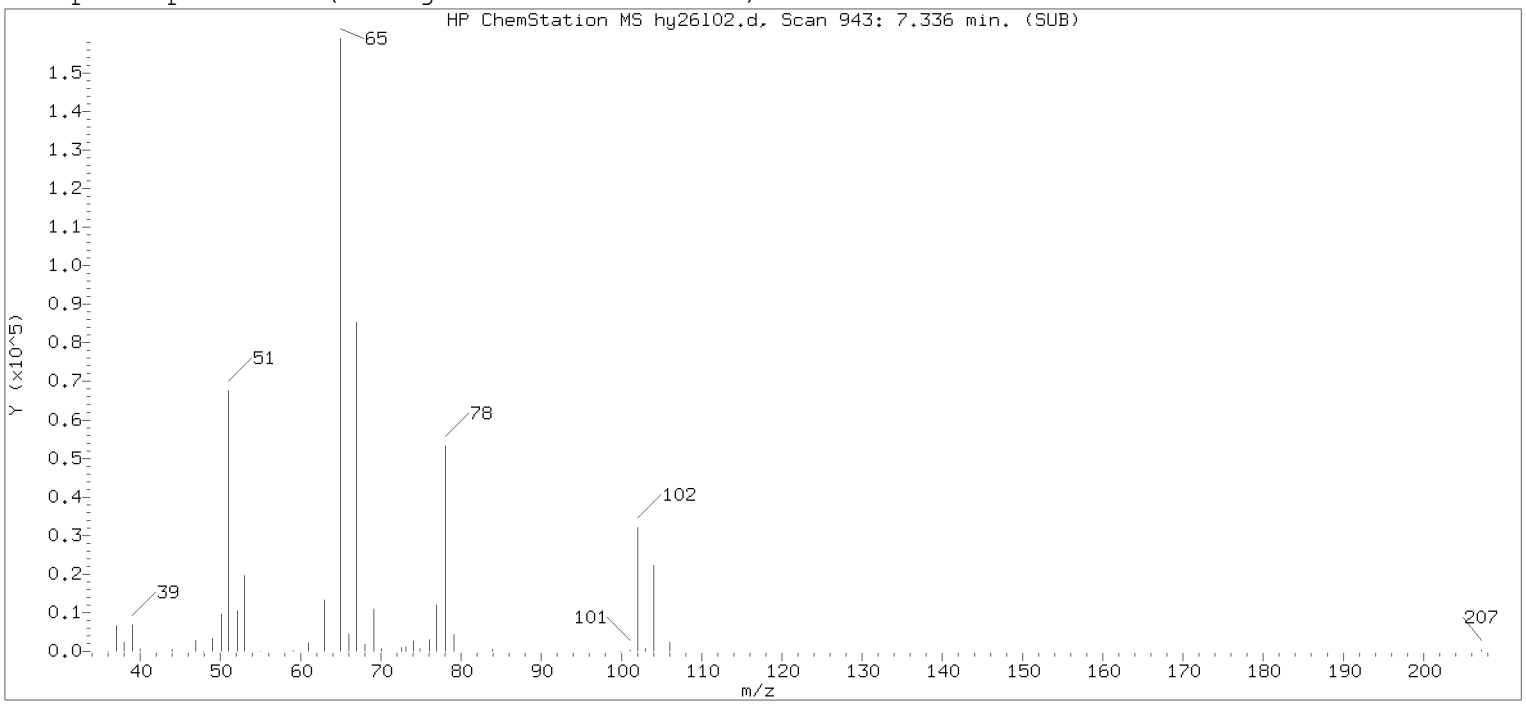
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 943
Retention Time (minutes): 7.336
Quant Ion : 102.00
Area (flag) : 98099M
On-Column Amount (ng) : 10.1450
Integration start scan : 930 Integration stop scan: 951
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

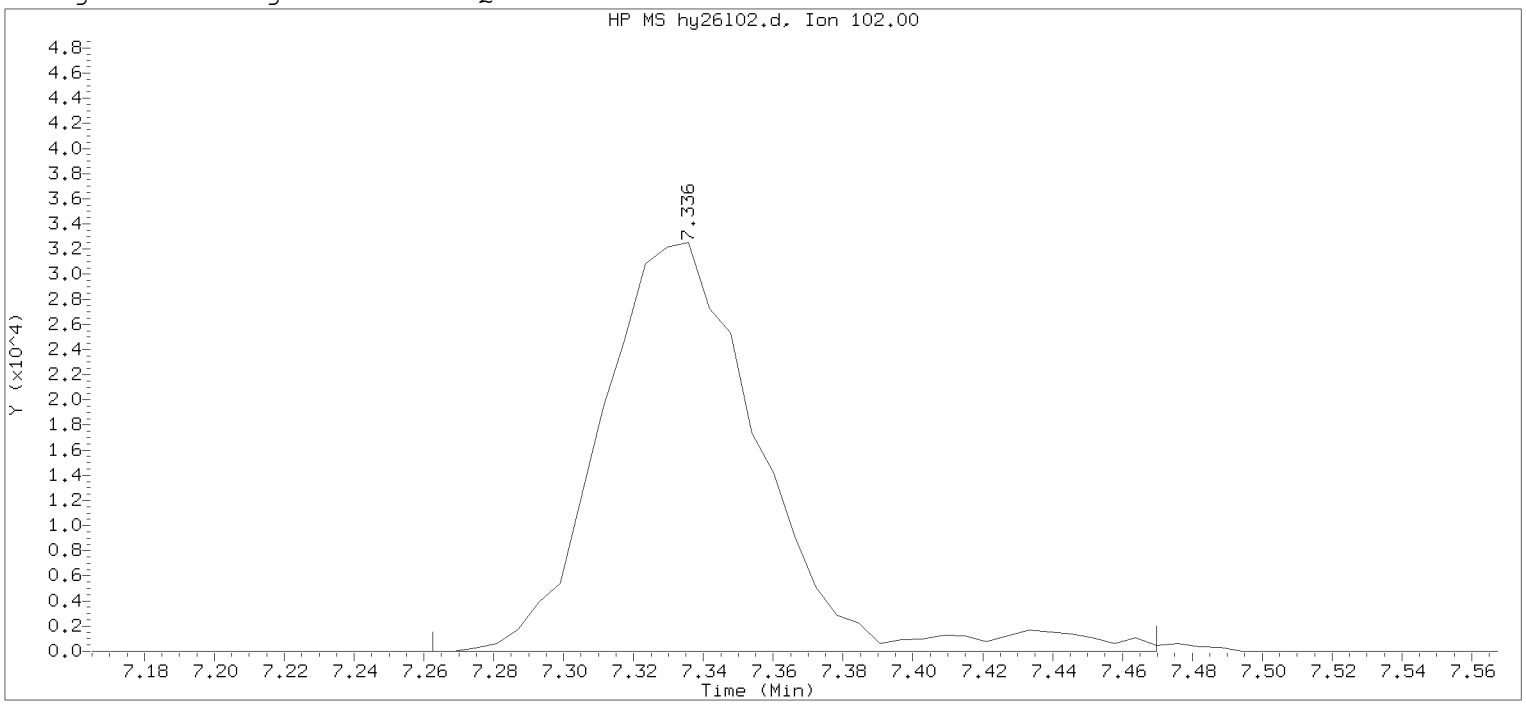
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26102.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

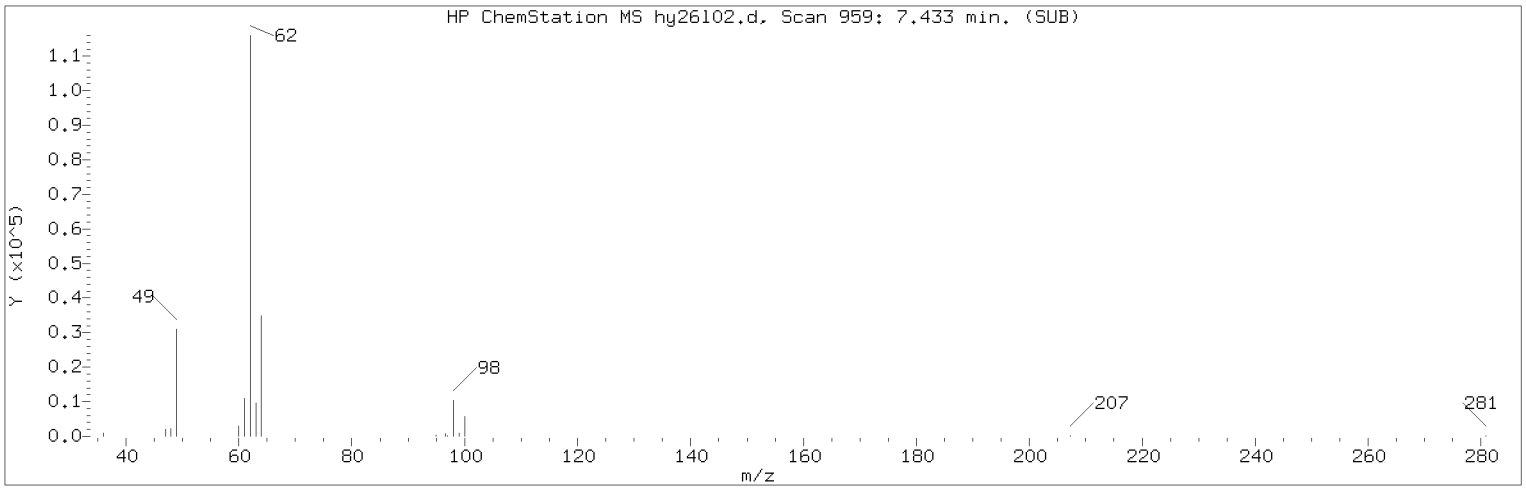
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

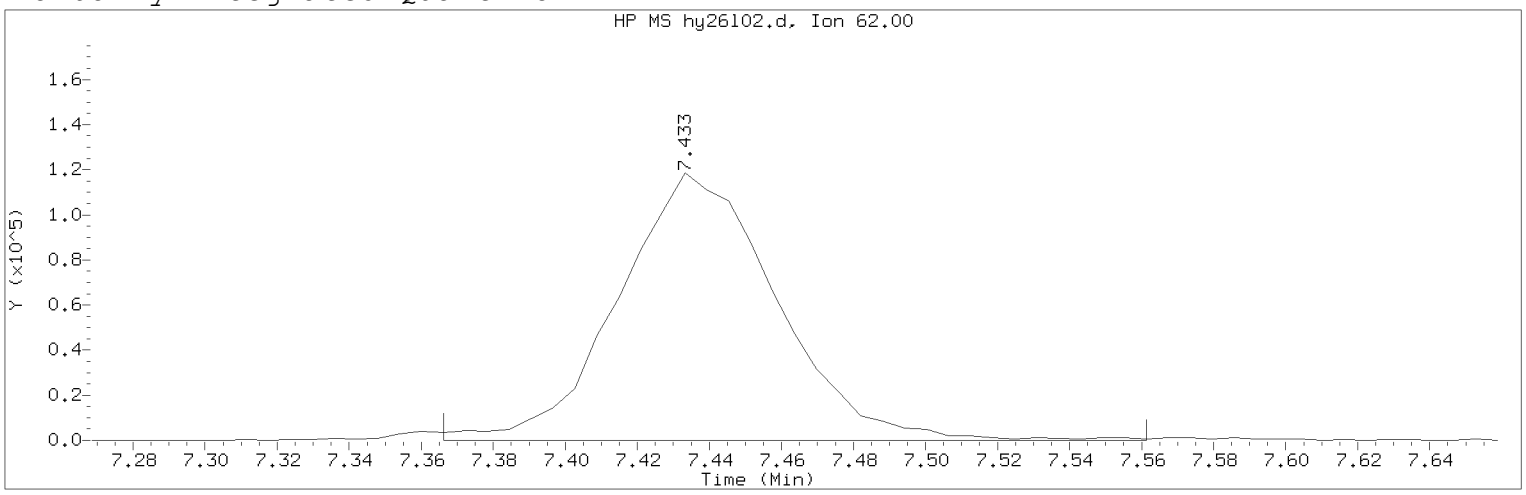
Compound Number : 57
Compound Name : 1,2-Dichloroethane-d4
Scan Number : 943
Retention Time (minutes): 7.336
Quant Ion : 102.00
Area : 103159
On-column Amount (ng) : 10.6684
Integration start scan : 930 Integration stop scan: 964
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

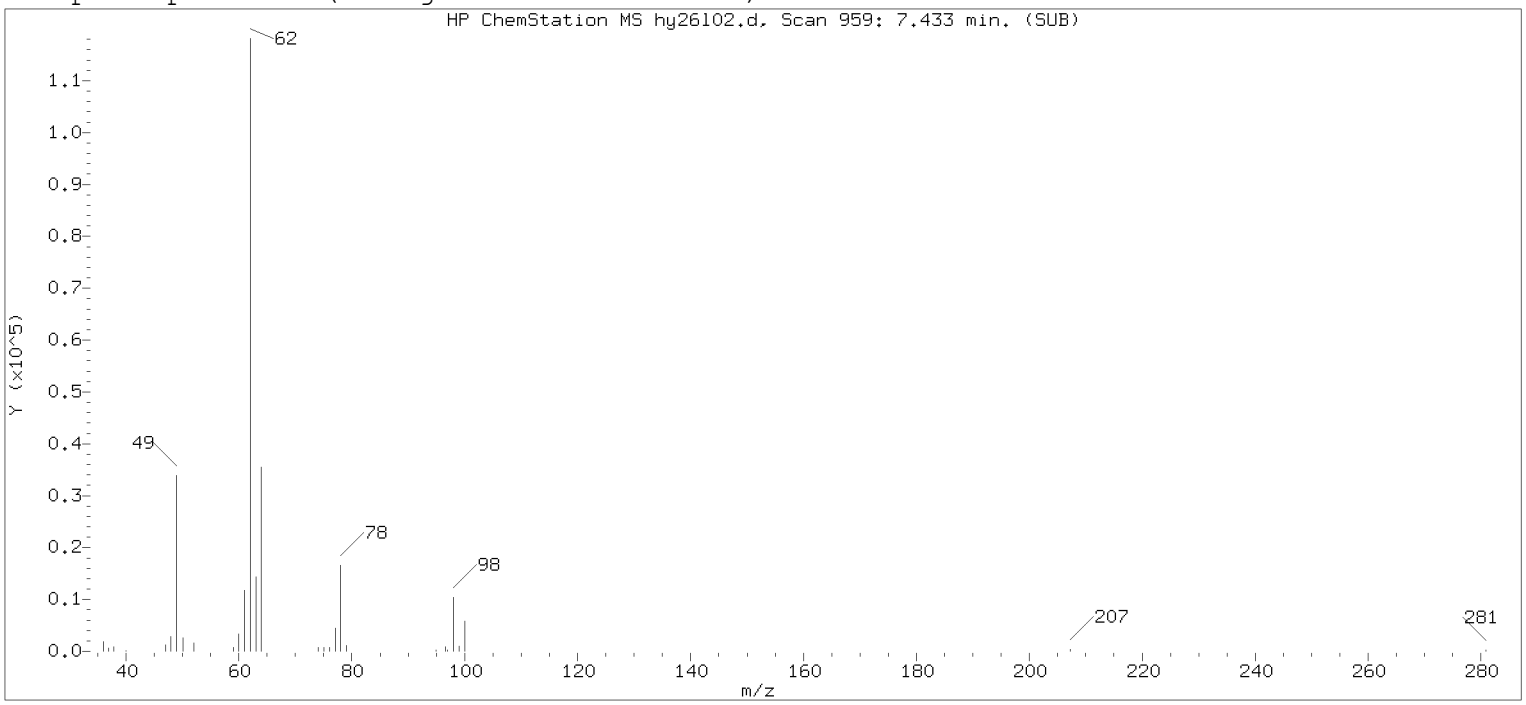
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 959
Retention Time (minutes): 7.433
Quant Ion : 62.00
Area (flag) : 362046M
On-Column Amount (ng) : 5.4188
Integration start scan : 947 Integration stop scan: 979
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

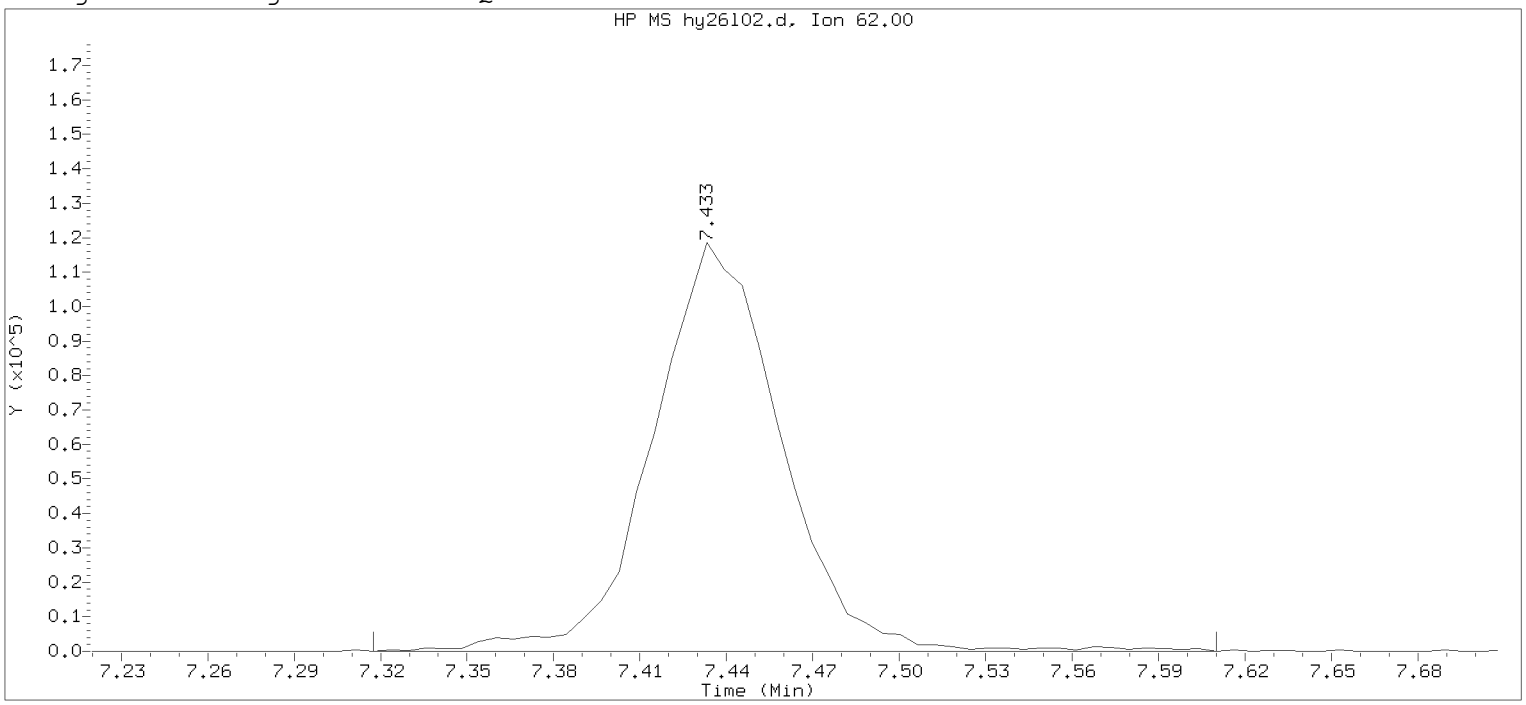
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

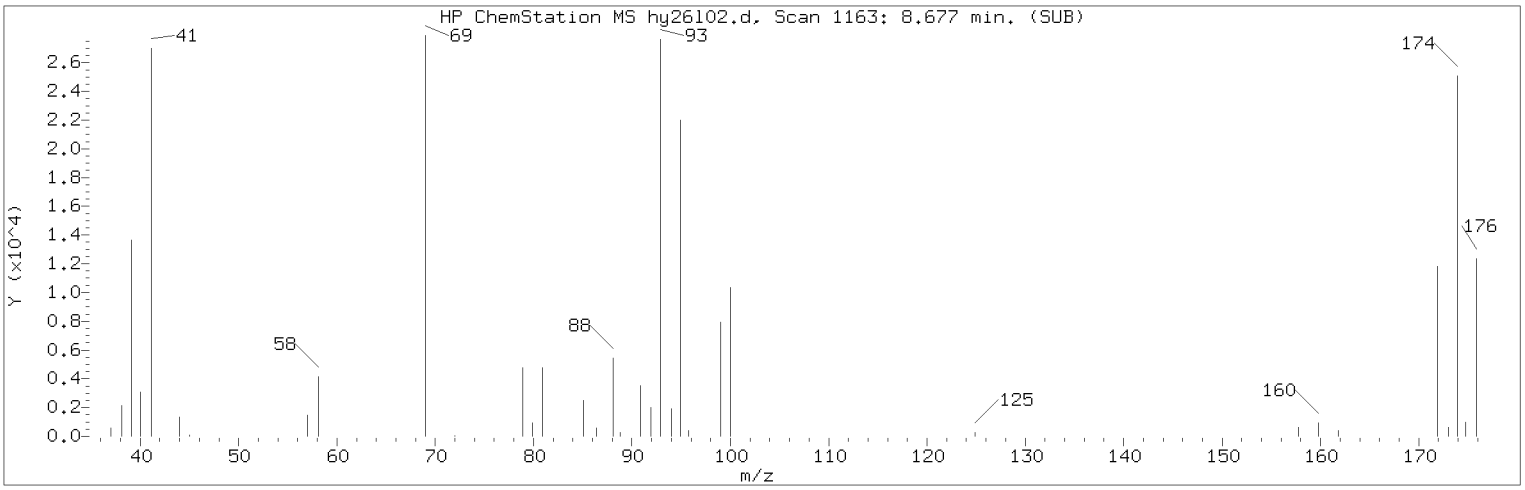
Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

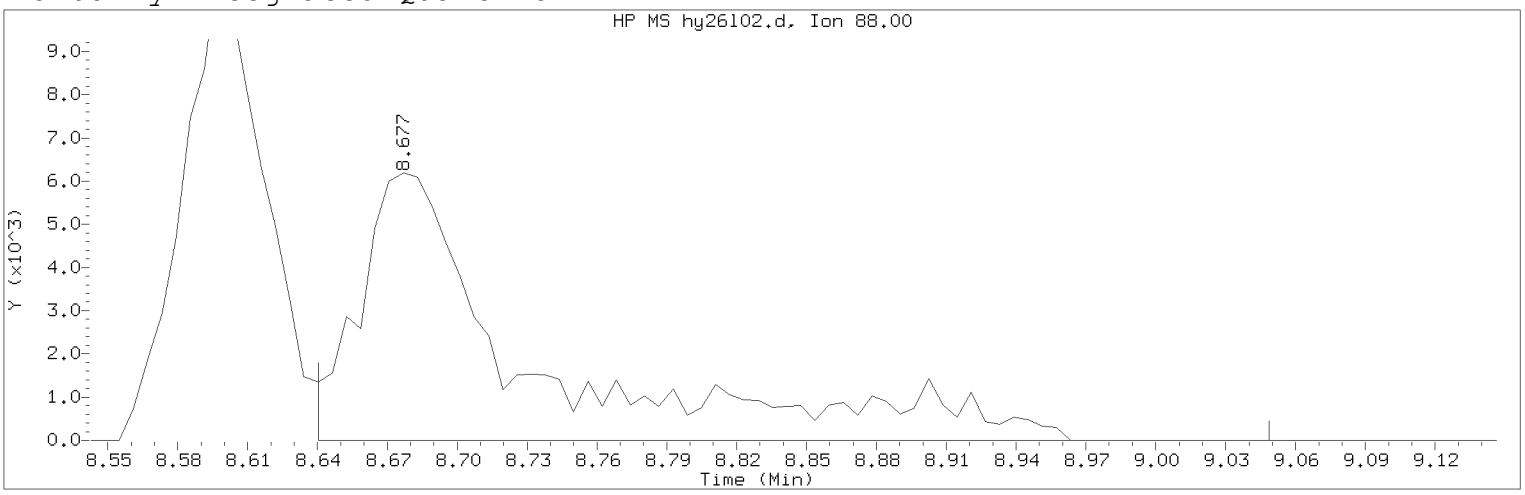
Compound Number : 59
Compound Name : 1,2-Dichloroethane
Scan Number : 959
Retention Time (minutes): 7.433
Quant Ion : 62.00
Area : 367781
On-column Amount (ng) : 5.5047
Integration start scan : 939 Integration stop scan: 987
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: KEL01973

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:40 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

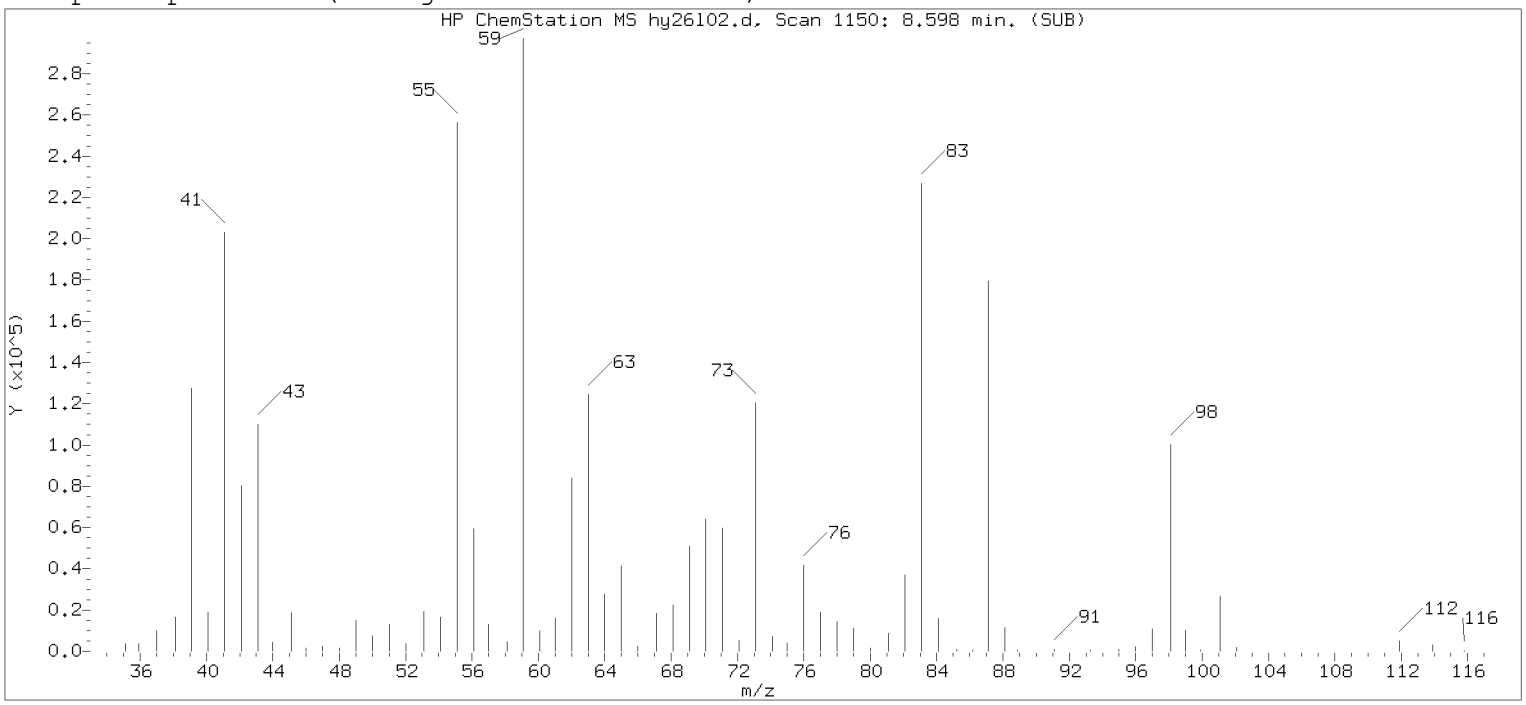
Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1163
Retention Time (minutes): 8.677
Quant Ion : 88.00
Area (flag) : 31456M
On-Column Amount (ng) : 166.3378
Integration start scan : 1156 Integration stop scan: 1223
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

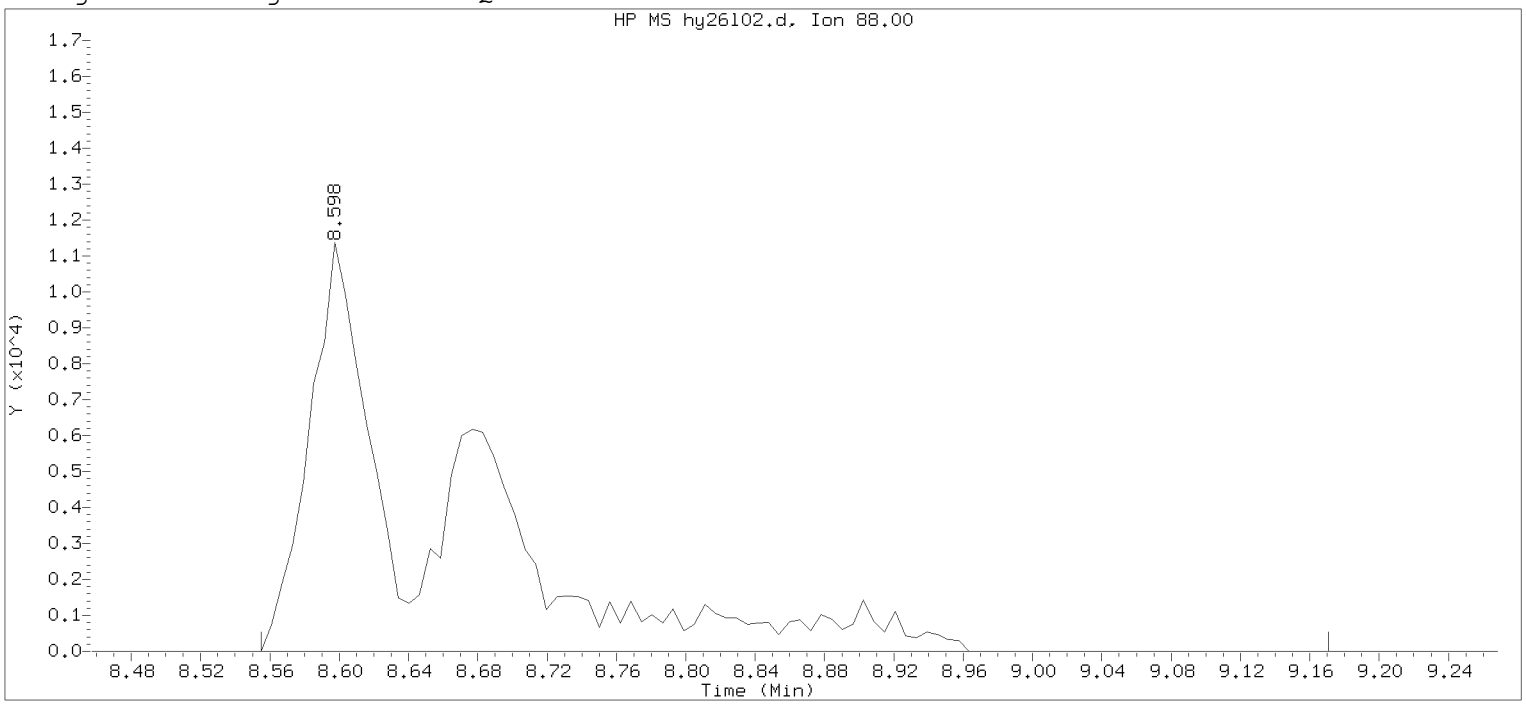
Analyst responsible for change: Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: kel01973

Secondary review performed and digitally signed by Joshua E. Berrios on 05/30/2017 at 13:52.
PARALLAX ID: jeb12641

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem2/HP19094.i/17may26a.b/hy26l02.d Instrument ID: HP19094.i
Injection date and time: 26-MAY-2017 09:55 Analyst ID: KEL01973

Method used: /chem2/HP19094.i/17may26a.b/m8260c25.m Sublist used: 16340-SM
Calibration date and time: 26-MAY-2017 11:11
Date, time and analyst ID of latest file update: 26-May-2017 11:17 kel01973

Sample Name: LCDH11 Lab Sample ID: LCDH11

Compound Number : 72
Compound Name : 1,4-Dioxane
Scan Number : 1150
Retention Time (minutes): 8.598
Quant Ion : 88.00
Area : 57649
On-column Amount (ng) : 334.4379
Integration start scan : 1142 Integration stop scan: 1243
Y at integration start : 0 Y at integration end: 0

Digitally signed by Kerri E. Koch Legerlotz on 05/30/2017 at 11:41.
Target 3.5 esignature user ID: KEL01973

Semivolatiles by GC/MS Data

Case Narrative/Conformance Summary

Semivolatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

3 SVOCs 8270D

Sample #	Client ID	Matrix Liquid	Matrix Solid	DF	Comments
8999785	16C1	X		1	
8999786	16MW8	X		1	
8999787	16MW9	X		1	
8999788	16WC1A	X		1	Unspiked
8999789	16WC1A MS	X		1	Matrix Spike
8999790	16WC1A MSD	X		1	Matrix Spike Duplicate
8999791	16WDUP	X		1	Field Duplicate Sample
8999792	16WC1B	X		1	
8999793	16-2	X		1	
8999794	16-3	X		1	
8999795	16-5	X		1	
8999796	16WC2B	X		1	
8999797	16SPRING	X		1	

See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

LCS/LCSD

Batch#: 17142WAC026 (Sample number(s): 8999786-8999792, UNSPK: 8999788)
The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: Methapyrilene

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

The recovery(ies) for the following analyte(s) in the LCS were below the acceptance window: 1,4-Naphthoquinone, a,a-Dimethylphenethylamine, Aramite, Hexachlorocyclopentadiene
The recovery(ies) for the following analyte(s) in the LCS and LCSD were below the acceptance window: 1,4-Phenylenediamine
Refer to the QC Summary forms for more information.

Batch#: 17143WAW026 (Sample number(s): 8999785, UNSPK: 8999788)
The recovery(ies) for the following analyte(s) in the LCS exceeded the acceptance window indicating a positive bias: Methapyrilene
The recovery(ies) for the following analyte(s) in the LCS were below the acceptance window: 1,4-Naphthoquinone, Parathion
The recovery(ies) for the following analyte(s) in the LCS and LCSD were below the acceptance window: 1,4-Phenylenediamine
Refer to the QC Summary forms for more information.

(Sample number(s): 8999785: Analysis: 14241)
The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. Since the recovery is high and the target analyte(s) was not detected in the sample, the data is reported.

(Sample number(s): 8999785: Analysis: 14241)
The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the TNI/DoD Standards. The following analytes are accepted based on this allowance:
Parathion
The stated QC limits for 1,4-Phenylenediamine and 1,4-Naphthoquinone are advisory only.

(Sample number(s): 8999786-8999791: Analysis: 14241)
The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

MS/MSD

Please note that US EPA Methods for organic compounds do not require action by the laboratory based on out-of-specification MS/MSD results.

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Batch#: 17142WAC026 (Sample number(s): 8999786-8999792, UNSPK: 8999788)
The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: 2,4-Dichlorophenol
The recovery(ies) for the following analyte(s) in the MSD were below the acceptance window: Pentachlorophenol
The recovery(ies) for the following analyte(s) in the MS and MSD were below the acceptance window: 2,3,4,6-Tetrachlorophenol, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,6-Dichlorophenol
The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: 1,4-Naphthoquinone, Aramite, Methapyrilene

Batch#: 17143WAW026 (Sample number(s): 8999785, UNSPK: 8999788)
The recovery(ies) for the following analyte(s) in the MS and MSD were below the acceptance window: 2,3,4,6-Tetrachlorophenol, 2,4,6-Trichlorophenol, Parathion, Pentachlorophenol
The recovery(ies) for the following analyte(s) in the MS and MSD exceeded the acceptance window indicating a positive bias: 1,4-Naphthoquinone, Aramite, Methapyrilene

Surrogate

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

Batch#: 17142WAC026 (Sample number(s): 8999786-8999792, UNSPK: 8999788)
The recovery(ies) for the following surrogate(s) were below the acceptance window: 2-Fluorophenol (8999792)

(Sample number(s): 8999792: Analysis: 14241)
The recovery for the sample surrogate(s and a target analyte(s)
in the Laboratory Control Spike(s) is outside the QC acceptance limits
as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding
time and the QC is compliant. All results are reported from the
first trial. Similar results were obtained in both trials.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

eurofins | Lancaster Laboratories Environmental

Case Narrative/Conformance Summary

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Quality Control and Calibration Summary Forms

Semivolatiles by GC/MS

eurofins | Lancaster Laboratories Environmental

Quality Control Reference List
GC/MS Semivolatiles

CLIENT: Draper Aden Associates, Inc.
SDG: RAE85

Fraction: Semivolatiles by GC/MS

Analysis	Batch Number	Sample Number	Analysis Date
3 SVOCs 8270D	17142WAW026	SBLKWW142	05/23/2017 14:02:00
		142WWLCS	05/23/2017 14:30:00
		8999793	05/24/2017 01:39:00
		8999794	05/24/2017 02:06:00
		8999795	05/24/2017 02:34:00
		8999796	05/24/2017 03:01:00
		8999797	05/24/2017 03:29:00
SVOAs 8270D MINI	17142WAC026	SBLKWC142	05/23/2017 14:02:00
		142WCLCS	05/23/2017 14:30:00
		142WCLCS1	05/23/2017 14:57:00
		142WCLCSD1	05/23/2017 15:25:00
		8999786	05/23/2017 17:43:00
		8999787	05/23/2017 18:10:00
		8999788 UNSPK	05/23/2017 15:52:00
		8999789 MS	05/23/2017 16:20:00
		8999790 MSD	05/23/2017 16:48:00
		8999791	05/23/2017 18:38:00
		8999792	05/23/2017 19:06:00
SVOAs 8270D MINI	17143WAW026	SBLKWW143	05/30/2017 10:28:00
		143WWLCS	05/30/2017 10:55:00
		143WWLCS2	05/30/2017 11:23:00
		143WWLCSD2	05/30/2017 11:50:00
		8999785	05/30/2017 13:40:00
		8999786RE	05/30/2017 14:07:00
		8999787RE	05/30/2017 14:35:00
		8999788RE UNSPK	05/30/2017 12:18:00
		8999789 MS	05/30/2017 12:45:00
		8999790 MSD	05/30/2017 13:12:00
		8999791RE	05/30/2017 15:02:00
		8999792RE	05/30/2017 15:30:00

Quality Control Summary
Method Blank
GC/MS Semivolatiles
SDG: RAE85
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

17142WAC026 / SBLKWC142 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
N-Nitrosodimethylamine	05/23/17	N.D.	ug/l	2	5
Pyridine	05/23/17	N.D.	ug/l	2	5
2-Picoline	05/23/17	N.D.	ug/l	2	5
N-Nitrosomethylethylamine	05/23/17	N.D.	ug/l	2	5
Methyl methanesulfonate	05/23/17	N.D.	ug/l	1	5
N-Nitrosodiethylamine	05/23/17	N.D.	ug/l	0.5	1
Ethyl methanesulfonate	05/23/17	N.D.	ug/l	0.5	1
Phenol	05/23/17	N.D.	ug/l	0.5	1
Aniline	05/23/17	N.D.	ug/l	0.5	1
bis(2-Chloroethyl)ether	05/23/17	N.D.	ug/l	0.5	1
2-Chlorophenol	05/23/17	N.D.	ug/l	0.5	1
o-Toluidine	05/23/17	N.D.	ug/l	0.5	1
Benzyl alcohol	05/23/17	N.D.	ug/l	10	30
2-Methylphenol	05/23/17	N.D.	ug/l	0.5	1
bis(2-Chloroisopropyl)ether	05/23/17	N.D.	ug/l	0.5	1
2,4-Dichlorophenol	05/23/17	N.D.	ug/l	0.5	1
N-Nitrosopyrrolidine	05/23/17	N.D.	ug/l	0.5	1
Acetophenone	05/23/17	N.D.	ug/l	0.5	1
4-Methylphenol	05/23/17	N.D.	ug/l	0.5	1
N-Nitroso-di-n-propylamine	05/23/17	N.D.	ug/l	0.5	1
N-Nitrosomorpholine	05/23/17	N.D.	ug/l	2	5
Hexachloroethane	05/23/17	N.D.	ug/l	1	5
Nitrobenzene	05/23/17	N.D.	ug/l	0.5	1
N-Nitrosopiperidine	05/23/17	N.D.	ug/l	0.5	1
Isophorone	05/23/17	N.D.	ug/l	0.5	1
2-Nitrophenol	05/23/17	N.D.	ug/l	0.5	1
2,4-Dimethylphenol	05/23/17	N.D.	ug/l	0.5	1
O,O,O-Triethylphosphorothioate	05/23/17	N.D.	ug/l	2	5
bis(2-Chloroethoxy)methane	05/23/17	N.D.	ug/l	0.5	1
a,a-Dimethylphenethylamine	05/23/17	N.D.	ug/l	5	50
4-Chloroaniline	05/23/17	N.D.	ug/l	2	4
2,6-Dichlorophenol	05/23/17	N.D.	ug/l	0.5	1
Hexachloropropene	05/23/17	N.D.	ug/l	2	5
N-Nitrosodi-n-butylamine	05/23/17	N.D.	ug/l	2	5
1,4-Phenylenediamine	05/23/17	N.D.	ug/l	75	300
4-Chloro-3-methylphenol	05/23/17	N.D.	ug/l	0.5	1
Safrole	05/23/17	N.D.	ug/l	2	5
2-Methylnaphthalene	05/23/17	N.D.	ug/l	0.1	0.5
Hexachlorocyclopentadiene	05/23/17	N.D.	ug/l	5	15
1,2,4,5-Tetrachlorobenzene	05/23/17	N.D.	ug/l	0.5	1
2,4,6-Trichlorophenol	05/23/17	N.D.	ug/l	0.5	1
2,4,5-Trichlorophenol	05/23/17	N.D.	ug/l	0.5	1
Isosafrole	05/23/17	N.D.	ug/l	2	5
2-Chloronaphthalene	05/23/17	N.D.	ug/l	0.4	1
2-Nitroaniline	05/23/17	N.D.	ug/l	0.5	1

Fraction: Semivolatiles by GC/MS

17142WAC026 / SBLKWC142 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
1,4-Naphthoquinone	05/23/17	N.D.	ug/l	25	60
Dimethylphthalate	05/23/17	N.D.	ug/l	2	5
1,3-Dinitrobenzene	05/23/17	N.D.	ug/l	2	5
2,6-Dinitrotoluene	05/23/17	N.D.	ug/l	0.5	1
Acenaphthylene	05/23/17	N.D.	ug/l	0.1	0.5
3-Nitroaniline	05/23/17	N.D.	ug/l	0.5	1
Acenaphthene	05/23/17	N.D.	ug/l	0.1	0.5
2,4-Dinitrophenol	05/23/17	N.D.	ug/l	10	30
4-Nitrophenol	05/23/17	N.D.	ug/l	10	30
Pentachlorobenzene	05/23/17	N.D.	ug/l	0.5	1
2,4-Dinitrotoluene	05/23/17	N.D.	ug/l	1	5
Dibenzofuran	05/23/17	N.D.	ug/l	0.5	1
1-Naphthylamine	05/23/17	N.D.	ug/l	5	15
2,3,4,6-Tetrachlorophenol	05/23/17	N.D.	ug/l	0.5	1
2-Naphthylamine	05/23/17	N.D.	ug/l	5	15
Diethylphthalate	05/23/17	N.D.	ug/l	2	5
Thionazin	05/23/17	N.D.	ug/l	2	5
Fluorene	05/23/17	N.D.	ug/l	0.1	0.5
4-Chlorophenyl-phenylether	05/23/17	N.D.	ug/l	0.5	1
5-Nitro-o-toluidine	05/23/17	N.D.	ug/l	0.5	1
4-Nitroaniline	05/23/17	N.D.	ug/l	0.5	1
4,6-Dinitro-2-methylphenol	05/23/17	N.D.	ug/l	5	15
N-Nitrosodiphenylamine	05/23/17	N.D.	ug/l	0.5	1
1,3,5-Trinitrobenzene	05/23/17	N.D.	ug/l	5	15
Phorate	05/23/17	N.D.	ug/l	0.5	1
Phenacetin	05/23/17	N.D.	ug/l	0.5	1
4-Bromophenyl-phenylether	05/23/17	N.D.	ug/l	0.5	1
Diallate trans/cis	05/23/17	N.D.	ug/l	1	5
Hexachlorobenzene	05/23/17	N.D.	ug/l	0.1	0.5
Dimethoate	05/23/17	N.D.	ug/l	3	10
Pentachlorophenol	05/23/17	N.D.	ug/l	1	5
4-Aminobiphenyl	05/23/17	N.D.	ug/l	0.5	1
Pentachloronitrobenzene	05/23/17	N.D.	ug/l	2	5
Pronamide	05/23/17	N.D.	ug/l	0.5	1
Phenanthrene	05/23/17	N.D.	ug/l	0.1	0.5
Anthracene	05/23/17	N.D.	ug/l	0.1	0.5
Disulfoton	05/23/17	N.D.	ug/l	25	50
Methyl parathion	05/23/17	N.D.	ug/l	1	5
Di-n-butylphthalate	05/23/17	N.D.	ug/l	2	5
Parathion	05/23/17	N.D.	ug/l	2	5
4-Nitroquinoline-1-oxide	05/23/17	N.D.	ug/l	20	60
Methapyrilene	05/23/17	N.D.	ug/l	15	50
Isodrin	05/23/17	N.D.	ug/l	0.5	1
Fluoranthene	05/23/17	N.D.	ug/l	0.1	0.5
Pyrene	05/23/17	N.D.	ug/l	0.1	0.5

Fraction: Semivolatiles by GC/MS

17142WAC026 / SBLKWC142 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Aramite	05/23/17	N.D.	ug/l	5	15
p-Dimethylaminoazobenzene	05/23/17	N.D.	ug/l	0.5	1
Chlorobenzilate	05/23/17	N.D.	ug/l	3	10
3,3'-Dimethylbenzidine	05/23/17	N.D.	ug/l	25	75
Butylbenzylphthalate	05/23/17	N.D.	ug/l	2	5
Famphur	05/23/17	N.D.	ug/l	25	50
Kepone	05/23/17	N.D.	ug/l	25	50
2-Acetylaminofluorene	05/23/17	N.D.	ug/l	2	5
3,3'-Dichlorobenzidine	05/23/17	N.D.	ug/l	2	5
Benzo(a)anthracene	05/23/17	N.D.	ug/l	0.1	0.5
Chrysene	05/23/17	N.D.	ug/l	0.1	0.5
bis(2-Ethylhexyl)phthalate	05/23/17	N.D.	ug/l	2	5
Di-n-octylphthalate	05/23/17	N.D.	ug/l	2	5
Benzo(b)fluoranthene	05/23/17	N.D.	ug/l	0.1	0.5
7,12-Dimethylbenz[a]anthracene	05/23/17	N.D.	ug/l	0.5	1
Benzo(k)fluoranthene	05/23/17	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	05/23/17	N.D.	ug/l	0.1	0.5
3-Methylcholanthrene	05/23/17	N.D.	ug/l	0.5	1
Indeno(1,2,3-cd)pyrene	05/23/17	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	05/23/17	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	05/23/17	N.D.	ug/l	0.1	0.5

17142WAW026 / SBLKWW142 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
2,6-Dinitrotoluene	05/23/17	N.D.	ug/l	0.5	10
2,4-Dinitrotoluene	05/23/17	N.D.	ug/l	1	10
Diethylphthalate	05/23/17	N.D.	ug/l	2	5

17143WAW026 / SBLKWW143 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
N-Nitrosodimethylamine	05/30/17	N.D.	ug/l	2	5
Pyridine	05/30/17	N.D.	ug/l	2	5
2-Picoline	05/30/17	N.D.	ug/l	2	5
N-Nitrosomethylethylamine	05/30/17	N.D.	ug/l	2	5
Methyl methanesulfonate	05/30/17	N.D.	ug/l	1	5
N-Nitrosodiethylamine	05/30/17	N.D.	ug/l	0.5	1
Ethyl methanesulfonate	05/30/17	N.D.	ug/l	0.5	1
Phenol	05/30/17	N.D.	ug/l	0.5	1
Aniline	05/30/17	N.D.	ug/l	0.5	1
bis(2-Chloroethyl)ether	05/30/17	N.D.	ug/l	0.5	1
2-Chlorophenol	05/30/17	N.D.	ug/l	0.5	1
o-Toluidine	05/30/17	N.D.	ug/l	0.5	1
Benzyl alcohol	05/30/17	N.D.	ug/l	10	30
2-Methylphenol	05/30/17	N.D.	ug/l	0.5	1
bis(2-Chloroisopropyl)ether	05/30/17	N.D.	ug/l	0.5	1

Fraction: Semivolatiles by GC/MS

17143WAW026 / SBLKWW143 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
2,4-Dichlorophenol	05/30/17	N.D.	ug/l	0.5	1
N-Nitrosopyrrolidine	05/30/17	N.D.	ug/l	0.5	1
Acetophenone	05/30/17	N.D.	ug/l	0.5	1
4-Methylphenol	05/30/17	N.D.	ug/l	0.5	1
N-Nitroso-di-n-propylamine	05/30/17	N.D.	ug/l	0.5	1
N-Nitrosomorpholine	05/30/17	N.D.	ug/l	2	5
Hexachloroethane	05/30/17	N.D.	ug/l	1	5
Nitrobenzene	05/30/17	N.D.	ug/l	0.5	1
N-Nitrosopiperidine	05/30/17	N.D.	ug/l	0.5	1
Isophorone	05/30/17	N.D.	ug/l	0.5	1
2-Nitrophenol	05/30/17	N.D.	ug/l	0.5	1
2,4-Dimethylphenol	05/30/17	N.D.	ug/l	0.5	1
O,O,O-Triethylphosphorothioate	05/30/17	N.D.	ug/l	2	5
bis(2-Chloroethoxy)methane	05/30/17	N.D.	ug/l	0.5	1
a,a-Dimethylphenethylamine	05/30/17	N.D.	ug/l	5	50
4-Chloroaniline	05/30/17	N.D.	ug/l	2	4
2,6-Dichlorophenol	05/30/17	N.D.	ug/l	0.5	1
Hexachloropropene	05/30/17	N.D.	ug/l	2	5
N-Nitrosodi-n-butylamine	05/30/17	N.D.	ug/l	2	5
1,4-Phenylenediamine	05/30/17	N.D.	ug/l	75	300
4-Chloro-3-methylphenol	05/30/17	N.D.	ug/l	0.5	1
Safrole	05/30/17	N.D.	ug/l	2	5
2-Methylnaphthalene	05/30/17	N.D.	ug/l	0.1	0.5
Hexachlorocyclopentadiene	05/30/17	N.D.	ug/l	5	15
1,2,4,5-Tetrachlorobenzene	05/30/17	N.D.	ug/l	0.5	1
2,4,6-Trichlorophenol	05/30/17	N.D.	ug/l	0.5	1
2,4,5-Trichlorophenol	05/30/17	N.D.	ug/l	0.5	1
Isosafrole	05/30/17	N.D.	ug/l	2	5
2-Chloronaphthalene	05/30/17	N.D.	ug/l	0.4	1
2-Nitroaniline	05/30/17	N.D.	ug/l	0.5	1
1,4-Naphthoquinone	05/30/17	N.D.	ug/l	25	60
Dimethylphthalate	05/30/17	N.D.	ug/l	2	5
1,3-Dinitrobenzene	05/30/17	N.D.	ug/l	2	5
2,6-Dinitrotoluene	05/30/17	N.D.	ug/l	0.5	1
Acenaphthylene	05/30/17	N.D.	ug/l	0.1	0.5
3-Nitroaniline	05/30/17	N.D.	ug/l	0.5	1
Acenaphthene	05/30/17	N.D.	ug/l	0.1	0.5
2,4-Dinitrophenol	05/30/17	N.D.	ug/l	10	30
4-Nitrophenol	05/30/17	N.D.	ug/l	10	30
Pentachlorobenzene	05/30/17	N.D.	ug/l	0.5	1
2,4-Dinitrotoluene	05/30/17	N.D.	ug/l	1	5
Dibenzofuran	05/30/17	N.D.	ug/l	0.5	1
1-Naphthylamine	05/30/17	N.D.	ug/l	5	15
2,3,4,6-Tetrachlorophenol	05/30/17	N.D.	ug/l	0.5	1
2-Naphthylamine	05/30/17	N.D.	ug/l	5	15

Fraction: Semivolatiles by GC/MS

17143WAW026 / SBLKWW143 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Diethylphthalate	05/30/17	N.D.	ug/l	2	5
Thionazin	05/30/17	N.D.	ug/l	2	5
Fluorene	05/30/17	N.D.	ug/l	0.1	0.5
4-Chlorophenyl-phenylether	05/30/17	N.D.	ug/l	0.5	1
5-Nitro-o-toluidine	05/30/17	N.D.	ug/l	0.5	1
4-Nitroaniline	05/30/17	N.D.	ug/l	0.5	1
4,6-Dinitro-2-methylphenol	05/30/17	N.D.	ug/l	5	15
N-Nitrosodiphenylamine	05/30/17	N.D.	ug/l	0.5	1
1,3,5-Trinitrobenzene	05/30/17	N.D.	ug/l	5	15
Phorate	05/30/17	N.D.	ug/l	0.5	1
Phenacetin	05/30/17	N.D.	ug/l	0.5	1
4-Bromophenyl-phenylether	05/30/17	N.D.	ug/l	0.5	1
Diallate trans/cis	05/30/17	N.D.	ug/l	1	5
Hexachlorobenzene	05/30/17	N.D.	ug/l	0.1	0.5
Dimethoate	05/30/17	N.D.	ug/l	3	10
Pentachlorophenol	05/30/17	N.D.	ug/l	1	5
4-Aminobiphenyl	05/30/17	N.D.	ug/l	0.5	1
Pentachloronitrobenzene	05/30/17	N.D.	ug/l	2	5
Pronamide	05/30/17	N.D.	ug/l	0.5	1
Phenanthrene	05/30/17	N.D.	ug/l	0.1	0.5
Anthracene	05/30/17	N.D.	ug/l	0.1	0.5
Disulfoton	05/30/17	N.D.	ug/l	25	50
Methyl parathion	05/30/17	N.D.	ug/l	1	5
Di-n-butylphthalate	05/30/17	N.D.	ug/l	2	5
Parathion	05/30/17	N.D.	ug/l	2	5
4-Nitroquinoline-1-oxide	05/30/17	N.D.	ug/l	20	60
Methapyrilene	05/30/17	N.D.	ug/l	15	50
Isodrin	05/30/17	N.D.	ug/l	0.5	1
Fluoranthene	05/30/17	N.D.	ug/l	0.1	0.5
Pyrene	05/30/17	N.D.	ug/l	0.1	0.5
Aramite	05/30/17	N.D.	ug/l	5	15
p-Dimethylaminoazobenzene	05/30/17	N.D.	ug/l	0.5	1
Chlorobenzilate	05/30/17	N.D.	ug/l	3	10
3,3'-Dimethylbenzidine	05/30/17	N.D.	ug/l	25	75
Butylbenzylphthalate	05/30/17	N.D.	ug/l	2	5
Famphur	05/30/17	N.D.	ug/l	25	50
Kepone	05/30/17	N.D.	ug/l	25	50
2-Acetylaminofluorene	05/30/17	N.D.	ug/l	2	5
3,3'-Dichlorobenzidine	05/30/17	N.D.	ug/l	2	5
Benzo(a)anthracene	05/30/17	N.D.	ug/l	0.1	0.5
Chrysene	05/30/17	N.D.	ug/l	0.1	0.5
bis(2-Ethylhexyl)phthalate	05/30/17	N.D.	ug/l	2	5
Di-n-octylphthalate	05/30/17	N.D.	ug/l	2	5
Benzo(b)fluoranthene	05/30/17	N.D.	ug/l	0.1	0.5
7,12-Dimethylbenz[a]anthracene	05/30/17	N.D.	ug/l	0.5	1

Fraction: Semivolatiles by GC/MS

17143WAW026 / SBLKWW143 Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Benzo(k)fluoranthene	05/30/17	N.D.	ug/l	0.1	0.5
Benzo(a)pyrene	05/30/17	N.D.	ug/l	0.1	0.5
3-Methylcholanthrene	05/30/17	N.D.	ug/l	0.5	1
Indeno(1,2,3-cd)pyrene	05/30/17	N.D.	ug/l	0.1	0.5
Dibenz(a,h)anthracene	05/30/17	N.D.	ug/l	0.1	0.5
Benzo(g,h,i)perylene	05/30/17	N.D.	ug/l	0.1	0.5

eurofins | Lancaster Laboratories Environmental

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: RAE85
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

17142WAC026	2,4,6-Tribromophenol		2-Fluorobiphenyl		2-Fluorophenol		Nitrobenzene-d5		Phenol-d6		Terphenyl-d14	
	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWC142	81	13 - 149	67	41 - 112	50	10 - 84	74	29 - 119	37	10 - 71	92	38 - 125
142WCLCS	84	13 - 149	74	41 - 112	57	10 - 84	79	29 - 119	45	10 - 71	84	38 - 125
142WCLCSD1	78	13 - 149	66	41 - 112	51	10 - 84	79	29 - 119	37	10 - 71	64	38 - 125
8999786	75	13 - 149	77	41 - 112	47	10 - 84	78	29 - 119	45	10 - 71	84	38 - 125
8999787	74	13 - 149	79	41 - 112	43	10 - 84	78	29 - 119	43	10 - 71	87	38 - 125
8999788 UNSPK	30	13 - 149	77	41 - 112	17	10 - 84	73	29 - 119	29	10 - 71	62	38 - 125
8999789 MS	29	13 - 149	80	41 - 112	34	10 - 84	81	29 - 119	49	10 - 71	85	38 - 125
8999790 MSD	25	13 - 149	82	41 - 112	41	10 - 84	81	29 - 119	52	10 - 71	86	38 - 125
8999791	30	13 - 149	77	41 - 112	23	10 - 84	75	29 - 119	32	10 - 71	55	38 - 125
8999792	29	13 - 149	80	41 - 112	6 *	10 - 84	77	29 - 119	13	10 - 71	84	38 - 125

17142WAW026	2-Fluorobiphenyl		Nitrobenzene-d5		Terphenyl-d14	
	Spike Added	100 ug/l	Spike Added	100 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWW142	67	41 - 112	74	29 - 119	92	38 - 125
142WWLCS	74	41 - 112	79	29 - 119	84	38 - 125
8999793	79	41 - 112	77	29 - 119	87	38 - 125
8999794	83	41 - 112	79	29 - 119	92	38 - 125
8999795	73	41 - 112	71	29 - 119	81	38 - 125
8999796	70	41 - 112	69	29 - 119	83	38 - 125
8999797	83	41 - 112	81	29 - 119	94	38 - 125

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

Quality Control Summary
Surrogates
GC/MS Semivolatiles
SDG: RAE85
Matrix: LIQUID

Fraction: Semivolatiles by GC/MS

17143WAW026	2,4,6-Tribromophenol		2-Fluorobiphenyl		2-Fluorophenol		Nitrobenzene-d5		Phenol-d6		Terphenyl-d14	
	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l	Spike Added	200 ug/l	Spike Added	100 ug/l
Sample	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
SBLKWW143	71	13 - 149	70	41 - 112	41	10 - 84	70	29 - 119	31	10 - 71	73	38 - 125
143WWLCS	83	13 - 149	82	41 - 112	57	10 - 84	79	29 - 119	47	10 - 71	79	38 - 125
143WWLCSD2	80	13 - 149	81	41 - 112	50	10 - 84	82	29 - 119	36	10 - 71	76	38 - 125
8999785	79	13 - 149	79	41 - 112	40	10 - 84	75	29 - 119	41	10 - 71	86	38 - 125
8999786RE	77	13 - 149	79	41 - 112	44	10 - 84	78	29 - 119	43	10 - 71	85	38 - 125
8999787RE	73	13 - 149	79	41 - 112	45	10 - 84	76	29 - 119	43	10 - 71	84	38 - 125
8999788RE UNSPK	53	13 - 149	76	41 - 112	28	10 - 84	75	29 - 119	35	10 - 71	74	38 - 125
8999789 MS	42	13 - 149	82	41 - 112	49	10 - 84	80	29 - 119	57	10 - 71	79	38 - 125
8999790 MSD	32	13 - 149	84	41 - 112	47	10 - 84	82	29 - 119	55	10 - 71	83	38 - 125
8999791RE	59	13 - 149	78	41 - 112	40	10 - 84	77	29 - 119	43	10 - 71	76	38 - 125
8999792RE	42	13 - 149	76	41 - 112	32	10 - 84	74	29 - 119	37	10 - 71	67	38 - 125

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8999788 MS: 8999789 MSD: 8999790 **Analyte**	Batch: **17142WAC026** (Sample number(s): 8999786-8999792)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
N-Nitrosodimethylamine	50.2	N.D.	27.35	28.02	54	56	10-90	2	30
Pyridine	50.2	N.D.	22.84	23.78	45	47	19-68	4	30
2-Picoline	50.2	N.D.	35.54	36.84	71	73	27-97	4	30
N-Nitrosomethylethylamine	50.2	N.D.	40.18	40.54	80	81	35-108	1	30
Methyl methanesulfonate	50.2	N.D.	32.97	34.09	66	68	35-102	3	30
N-Nitrosodiethylamine	50.2	N.D.	42.19	43.21	84	86	42-113	2	30
Ethyl methanesulfonate	50.2	N.D.	39.13	40.51	78	81	51-111	3	30
Phenol	50.2	N.D.	27.	28.86	54	57	16-74	7	30
Aniline	50.2	N.D.	27.81	28.53	55	57	26-83	3	30
bis(2-Chloroethyl)ether	50.2	N.D.	43.05	42.48	86	85	50-111	1	30
2-Chlorophenol	50.2	N.D.	30.9	33.92	62	68	51-106	9	30
o-Toluidine	50.2	N.D.	36.2	36.77	72	73	22-86	2	30
Benzyl alcohol	50.2	N.D.	37.28	39.02	74	78	47-113	5	30
2-Methylphenol	50.2	N.D.	37.98	39.29	76	78	50-104	3	30
bis(2-Chloroisopropyl)ether	50.2	N.D.	42.51	42.72	85	85	48-110	0	30
2,4-Dichlorophenol	50.2	N.D.	29.83	32.08	59 *	64	62-112	7	30
N-Nitrosopyrrolidine	50.2	N.D.	40.36	41.61	80	83	50-107	3	30
Acetophenone	50.2	N.D.	45.27	45.9	90	91	56-108	1	30
4-Methylphenol	50.2	N.D.	36.87	37.28	73	74	45-101	1	30
N-Nitroso-di-n-propylamine	50.2	N.D.	43.93	44.56	88	89	52-115	1	30
N-Nitrosomorpholine	50.2	N.D.	40.78	42.09	81	84	37-103	3	30
Hexachloroethane	50.2	N.D.	33.17	31.52	66	63	28-103	5	30
Nitrobenzene	50.2	N.D.	44.14	44.15	88	88	53-119	0	30
N-Nitrosopiperidine	50.2	N.D.	42.37	43.13	84	86	55-107	2	30
Isophorone	50.2	N.D.	44.84	45.04	89	90	54-117	0	30
2-Nitrophenol	50.2	N.D.	42.45	43.05	85	86	56-125	1	30
2,4-Dimethylphenol	50.2	N.D.	31.7	32.18	63	64	40-99	1	30
O,O,O-Triethylphosphorothioate	50.2	N.D.	42.09	42.31	84	84	54-111	1	30
bis(2-Chloroethoxy)methane	50.2	N.D.	44.92	45.3	89	90	53-126	1	30
a,a-Dimethylphenethylamine	50.2	N.D.	51.13	53.49	102	107	70-130	5	30
4-Chloroaniline	50.2	N.D.	36.77	36.98	73	74	41-94	1	30
2,6-Dichlorophenol	50.2	N.D.	26.51	27.95	53 *	56 *	60-114	5	30
Hexachloropropene	50.2	N.D.	23.19	21.82	46	43	10-99	6	30
N-Nitrosodi-n-butylamine	50.2	N.D.	41.35	41.17	82	82	47-110	0	30
4-Chloro-3-methylphenol	50.2	N.D.	42.44	42.53	85	85	62-119	0	30
Safrole	50.2	N.D.	41.33	41.69	82	83	57-104	1	30
2-Methylnaphthalene	50.2	N.D.	41.21	40.23	82	80	54-111	2	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8999788 MS: 8999789 MSD: 8999790 **Analyte**	Batch: **17142WAC026** (Sample number(s): 8999786-8999792)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Hexachlorocyclopentadiene	100.4	N.D.	37.11	35.55	37	35	10-81	4	30
1,2,4,5-Tetrachlorobenzene	50.2	N.D.	38.65	37.05	77	74	50-108	4	30
2,4,6-Trichlorophenol	50.2	N.D.	20.93	21.35	42 *	43 *	68-125	2	30
2,4,5-Trichlorophenol	50.2	N.D.	32.81	33.63	65 *	67 *	69-122	2	30
Isosafrole	50.2	N.D.	46.52	47.2	93	94	64-130	1	30
2-Chloronaphthalene	50.2	N.D.	44.02	43.5	88	87	56-116	1	30
2-Nitroaniline	50.2	N.D.	44.55	45.12	89	90	74-121	1	30
1,4-Naphthoquinone	100.4	N.D.	156.88	164.22	156 *	164 *	70-130	5	30
Dimethylphthalate	50.2	N.D.	43.94	43.79	88	87	10-134	0	30
1,3-Dinitrobenzene	50.2	N.D.	45.67	45.54	91	91	75-123	0	30
2,6-Dinitrotoluene	50.2	N.D.	44.46	46.41	89	92	80-120	4	30
Acenaphthylene	50.2	N.D.	42.95	42.95	86	86	63-120	0	30
3-Nitroaniline	50.2	N.D.	42.45	43.04	85	86	61-114	1	30
Acenaphthene	50.2	N.D.	44.66	44.49	89	89	64-121	0	30
2,4-Dinitrophenol	100.4	N.D.	89.9	93.05	90	93	29-139	3	30
4-Nitrophenol	50.2	N.D.	32.02	32.38	64	65	22-78	1	30
Pentachlorobenzene	50.2	N.D.	37.49	38.96	75	78	60-116	4	30
2,4-Dinitrotoluene	50.2	N.D.	46.25	46.49	92	93	76-122	1	30
Dibenzofuran	50.2	N.D.	44.16	43.69	88	87	69-115	1	30
1-Naphthylamine	100.4	N.D.	57.04	58.6	57	58	15-70	3	30
2,3,4,6-Tetrachlorophenol	50.2	N.D.	23.27	20.74	46 *	41 *	69-125	11	30
2-Naphthylamine	100.4	N.D.	45.7	48.01	46	48	10-68	5	30
Diethylphthalate	50.2	N.D.	46.42	46.97	92	94	47-122	1	30
Thionazin	50.2	N.D.	45.23	46.2	90	92	66-116	2	30
Fluorene	50.2	N.D.	43.73	43.91	87	87	67-120	0	30
4-Chlorophenyl-phenylether	50.2	N.D.	43.72	43.43	87	87	65-117	1	30
5-Nitro-o-toluidine	50.2	N.D.	41.92	42.75	84	85	46-117	2	30
4-Nitroaniline	50.2	N.D.	45.76	45.89	91	91	57-114	0	30
4,6-Dinitro-2-methylphenol	50.2	N.D.	43.73	44.22	87	88	52-129	1	30
N-Nitrosodiphenylamine	50.2	N.D.	46.15	46.14	92	92	75-116	0	30
1,3,5-Trinitrobenzene	50.2	N.D.	42.45	41.87	85	83	10-148	1	30
Phorate	50.2	N.D.	47.39	47.58	94	95	70-130	0	30
Phenacetin	50.2	N.D.	46.36	46.93	92	93	59-118	1	30
4-Bromophenyl-phenylether	50.2	N.D.	45.4	45.19	90	90	69-123	0	30
Diallate trans/cis	50.2	N.D.	46.61	46.38	93	92	65-111	0	30
Hexachlorobenzene	50.2	N.D.	42.92	42.83	85	85	67-125	0	30
Dimethoate	50.2	N.D.	30.15	30.04	60	60	10-129	0	30
Pentachlorophenol	50.2	N.D.	29.67	23.7	59	47 *	59-134	22	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8999788 MS: 8999789 MSD: 8999790 **Analyte**	Batch: **17142WAC026** (Sample number(s): 8999786-8999792)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
4-Aminobiphenyl	50.2	N.D.	44.27	45.07	88	90	26-124	2	30
Pentachloronitrobenzene	50.2	N.D.	44.51	45.52	89	91	65-121	2	30
Pronamide	50.2	N.D.	47.43	47.51	94	95	80-120	0	30
Phenanthrene	50.2	N.D.	44.89	44.68	89	89	72-117	0	30
Anthracene	50.2	N.D.	44.75	45.21	89	90	72-120	1	30
Disulfoton	100.4	N.D.	105.38	105.98	105	106	70-130	1	30
Methyl parathion	50.2	N.D.	35.25	34.76	70	69	47-120	1	30
Di-n-butylphthalate	50.2	N.D.	49.28	49.03	98	98	69-117	1	30
Parathion	50.2	N.D.	48.86	49.44	97	98	93-133	1	30
4-Nitroquinoline-1-oxide	502.01	N.D.	535.03	557.08	107	111	47-140	4	30
Methapyrilene	401.61	N.D.	569.24	577.54	142 *	144 *	58-122	1	30
Isodrin	50.2	N.D.	45.35	46.08	90	92	66-129	2	30
Fluoranthene	50.2	N.D.	47.09	46.93	94	93	74-126	0	30
Pyrene	50.2	N.D.	44.22	44.71	88	89	69-119	1	30
Aramite	50.2	N.D.	86.42	88.06	172 *	175 *	70-130	2	30
p-Dimethylaminoazobenzene	50.2	N.D.	51.43	53.32	102	106	80-120	4	30
Chlorobenzilate	50.2	N.D.	46.97	47.68	94	95	10-163	2	30
3,3'-Dimethylbenzidine	100.4	N.D.	41.44 J	44.55 J	41	44	10-55	7	30
Butylbenzylphthalate	50.2	N.D.	48.57	49.52	97	99	44-129	2	30
2-Acetylaminofluorene	50.2	N.D.	51.05	52.08	102	104	61-144	2	30
3,3'-Dichlorobenzidine	50.2	N.D.	40.54	42.53	81	85	30-108	5	30
Benzo(a)anthracene	50.2	N.D.	47.65	48.45	95	97	74-124	2	30
Chrysene	50.2	N.D.	48.65	49.07	97	98	75-129	1	30
bis(2-Ethylhexyl)phthalate	50.2	N.D.	47.46	48.09	95	96	64-126	1	30
Di-n-octylphthalate	50.2	N.D.	45.32	45.45	90	91	61-133	0	30
Benzo(b)fluoranthene	50.2	N.D.	46.88	46.59	93	93	72-124	1	30
7,12-Dimethylbenz[a]anthracene	50.2	N.D.	45.88	45.11	91	90	69-108	2	30
Benzo(k)fluoranthene	50.2	N.D.	46.8	46.32	93	92	73-121	1	30
Benzo(a)pyrene	50.2	N.D.	43.63	42.85	87	85	71-119	2	30
3-Methylcholanthrene	50.2	N.D.	47.57	47.18	95	94	78-138	1	30
Indeno(1,2,3-cd)pyrene	50.2	N.D.	45.68	44.77	91	89	63-122	2	30
Dibenz(a,h)anthracene	50.2	N.D.	45.98	45.49	92	91	65-126	1	30
Benzo(g,h,i)perylene	50.2	N.D.	44.15	43.27	88	86	61-124	2	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8999788RE MS: 8999789 MSD: 8999790 **Analyte**	Batch: **17143WAW026** (Sample number(s): 8999785-8999792)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
N-Nitrosodimethylamine	50.2	N.D.	27.65	28.64	55	57	10-90	4	30
Pyridine	50.2	N.D.	22.15	22.35	44	45	19-68	1	30
2-Picoline	50.2	N.D.	34.12	35.43	68	71	27-97	4	30
N-Nitrosomethylethylamine	50.2	N.D.	38.67	39.61	77	79	35-108	2	30
Methyl methanesulfonate	50.2	N.D.	34.69	36.08	69	72	35-102	4	30
N-Nitrosodiethylamine	50.2	N.D.	41.24	42.15	82	84	42-113	2	30
Ethyl methanesulfonate	50.2	N.D.	41.42	42.29	83	84	51-111	2	30
Phenol	50.2	N.D.	31.07	30.55	62	61	16-74	2	30
Aniline	50.2	N.D.	21.39	23.31	43	46	26-83	9	30
bis(2-Chloroethyl)ether	50.2	N.D.	41.46	42.76	83	85	50-111	3	30
2-Chlorophenol	50.2	N.D.	36.67	36.04	73	72	51-106	2	30
o-Toluidine	50.2	N.D.	20.2	21.91	40	44	22-86	8	30
Benzyl alcohol	50.2	N.D.	37.75	39.76	75	79	47-113	5	30
2-Methylphenol	50.2	N.D.	38.95	40.1	78	80	50-104	3	30
bis(2-Chloroisopropyl)ether	50.2	N.D.	42.58	44.16	85	88	48-110	4	30
2,4-Dichlorophenol	50.2	N.D.	37.86	36.68	75	73	62-112	3	30
N-Nitrosopyrrolidine	50.2	N.D.	39.33	41.3	78	82	50-107	5	30
Acetophenone	50.2	N.D.	43.86	45.93	87	91	56-108	5	30
4-Methylphenol	50.2	N.D.	36.42	37.57	73	75	45-101	3	30
N-Nitroso-di-n-propylamine	50.2	N.D.	43.	45.07	86	90	52-115	5	30
N-Nitrosomorpholine	50.2	N.D.	40.33	42.61	80	85	37-103	5	30
Hexachloroethane	50.2	N.D.	29.51	29.4	59	59	28-103	0	30
Nitrobenzene	50.2	N.D.	44.43	45.01	89	90	53-119	1	30
N-Nitrosopiperidine	50.2	N.D.	41.43	42.72	83	85	55-107	3	30
Isophorone	50.2	N.D.	44.67	46.06	89	92	54-117	3	30
2-Nitrophenol	50.2	N.D.	43.42	44.65	87	89	56-125	3	30
2,4-Dimethylphenol	50.2	N.D.	32.34	33.6	64	67	40-99	4	30
O,O,O-Triethylphosphorothioate	50.2	N.D.	42.7	43.55	85	87	54-111	2	30
bis(2-Chloroethoxy)methane	50.2	N.D.	45.59	46.91	91	93	53-126	3	30
a,a-Dimethylphenethylamine	50.2	N.D.	45.49 J	49.78 J	91	99	70-130	9	30
4-Chloroaniline	50.2	N.D.	27.17	28.72	54	57	41-94	6	30
2,6-Dichlorophenol	50.2	N.D.	33.65	33.4	67	67	60-114	1	30
Hexachloropropene	50.2	N.D.	36.57	35.55	73	71	10-99	3	30
N-Nitrosodi-n-butylamine	50.2	N.D.	40.38	42.07	80	84	47-110	4	30
4-Chloro-3-methylphenol	50.2	N.D.	43.46	44.61	87	89	62-119	3	30
Safrole	50.2	N.D.	41.64	43.16	83	86	57-104	4	30
2-Methylnaphthalene	50.2	N.D.	40.74	41.61	81	83	54-111	2	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8999788RE MS: 8999789 MSD: 8999790 **Analyte**	Batch: **17143WAW026** (Sample number(s): 8999785-8999792)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Hexachlorocyclopentadiene	100.4	N.D.	46.53	47.82	46	48	10-81	3	30
1,2,4,5-Tetrachlorobenzene	50.2	N.D.	38.78	40.4	77	80	50-108	4	30
2,4,6-Trichlorophenol	50.2	N.D.	28.28	28.16	56 *	56 *	68-125	0	30
2,4,5-Trichlorophenol	50.2	N.D.	37.26	38.86	74	77	69-122	4	30
Isosafrole	50.2	N.D.	44.35	48.41	88	96	64-130	9	30
2-Chloronaphthalene	50.2	N.D.	43.91	42.84	87	85	56-116	2	30
2-Nitroaniline	50.2	N.D.	44.45	46.33	89	92	74-121	4	30
1,4-Naphthoquinone	100.4	N.D.	313.35	298.93	312 *	298 *	70-130	5	30
Dimethylphthalate	50.2	N.D.	44.54	46.05	89	92	10-134	3	30
1,3-Dinitrobenzene	50.2	N.D.	40.34	42.48	80	85	75-123	5	30
2,6-Dinitrotoluene	50.2	N.D.	44.32	46.91	88	93	80-120	6	30
Acenaphthylene	50.2	N.D.	42.02	43.55	84	87	63-120	4	30
3-Nitroaniline	50.2	N.D.	36.06	37.2	72	74	61-114	3	30
Acenaphthene	50.2	N.D.	44.08	44.68	88	89	64-121	1	30
2,4-Dinitrophenol	100.4	N.D.	77.54	84.59	77	84	29-139	9	30
4-Nitrophenol	50.2	N.D.	29.5 J	30.88	59	62	22-78	5	30
Pentachlorobenzene	50.2	N.D.	42.52	43.58	85	87	60-116	2	30
2,4-Dinitrotoluene	50.2	N.D.	46.05	47.73	92	95	76-122	4	30
Dibenzofuran	50.2	N.D.	43.23	44.17	86	88	69-115	2	30
1-Naphthylamine	100.4	N.D.	32.05	34.14	32	34	15-70	6	30
2,3,4,6-Tetrachlorophenol	50.2	N.D.	27.78	27.11	55 *	54 *	69-125	2	30
2-Naphthylamine	100.4	N.D.	31.29	33.13	31	33	10-68	6	30
Diethylphthalate	50.2	N.D.	46.19	47.1	92	94	47-122	2	30
Thionazin	50.2	N.D.	43.5	45.25	87	90	66-116	4	30
Fluorene	50.2	N.D.	43.77	44.48	87	89	67-120	2	30
4-Chlorophenyl-phenylether	50.2	N.D.	43.43	44.47	87	89	65-117	2	30
5-Nitro-o-toluidine	50.2	N.D.	32.38	33.65	64	67	46-117	4	30
4-Nitroaniline	50.2	N.D.	42.18	42.92	84	85	57-114	2	30
4,6-Dinitro-2-methylphenol	50.2	N.D.	40.9	44.3	81	88	52-129	8	30
N-Nitrosodiphenylamine	50.2	N.D.	44.4	46.42	88	92	75-116	4	30
1,3,5-Trinitrobenzene	50.2	N.D.	39.79	40.68	79	81	10-148	2	30
Phorate	50.2	N.D.	45.98	47.39	92	94	70-130	3	30
Phenacetin	50.2	N.D.	42.44	43.23	85	86	59-118	2	30
4-Bromophenyl-phenylether	50.2	N.D.	44.58	45.66	89	91	69-123	2	30
Diallate trans/cis	50.2	N.D.	44.44	45.92	89	91	65-111	3	30
Hexachlorobenzene	50.2	N.D.	41.83	43.39	83	86	67-125	4	30
Dimethoate	50.2	N.D.	27.16	24.05	54	48	10-129	12	30
Pentachlorophenol	50.2	N.D.	26.87	26.24	54 *	52 *	59-134	2	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

UNSPK: 8999788RE MS: 8999789 MSD: 8999790 **Analyte**	Batch: **17143WAW026** (Sample number(s): 8999785-8999792)								
	Spike Added ug/l	**Unspiked Conc ug/l**	**MS Conc ug/l**	**MSD Conc ug/l**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
4-Aminobiphenyl	50.2	N.D.	30.24	31.86	60	63	26-124	5	30
Pentachloronitrobenzene	50.2	N.D.	42.59	43.1	85	86	65-121	1	30
Pronamide	50.2	N.D.	44.8	45.29	89	90	80-120	1	30
Phenanthrene	50.2	N.D.	43.33	44.73	86	89	72-117	3	30
Anthracene	50.2	N.D.	44.15	45.64	88	91	72-120	3	30
Disulfoton	100.4	N.D.	123.24	126.46	123	126	70-130	3	30
Methyl parathion	50.2	N.D.	27.82	24.85	55	50	47-120	11	30
Di-n-butylphthalate	50.2	N.D.	46.26	47.66	92	95	69-117	3	30
Parathion	50.2	N.D.	45.54	44.98	91 *	90 *	93-133	1	30
4-Nitroquinoline-1-oxide	502.01	N.D.	466.3	455.83	93	91	47-140	2	30
Methapyrilene	401.61	N.D.	510.49	517.79	127 *	129 *	58-122	1	30
Isodrin	50.2	N.D.	46.74	47.04	93	94	66-129	1	30
Fluoranthene	50.2	N.D.	44.93	45.57	90	91	74-126	1	30
Pyrene	50.2	N.D.	43.7	44.68	87	89	69-119	2	30
Aramite	50.2	N.D.	66.45	70.39	132 *	140 *	70-130	6	30
p-Dimethylaminoazobenzene	50.2	N.D.	50.17	50.73	100	101	80-120	1	30
Chlorobenzilate	50.2	N.D.	45.31	46.08	90	92	10-163	2	30
3,3'-Dimethylbenzidine	100.4	N.D.	27.84 J	29.89 J	28	30	10-55	7	30
Butylbenzylphthalate	50.2	N.D.	46.49	47.81	93	95	44-129	3	30
2-Acetylaminofluorene	50.2	N.D.	48.35	49.66	96	99	61-144	3	30
3,3'-Dichlorobenzidine	50.2	N.D.	35.33	37.08	70	74	30-108	5	30
Benzo(a)anthracene	50.2	N.D.	46.29	47.53	92	95	74-124	3	30
Chrysene	50.2	N.D.	46.39	47.7	92	95	75-129	3	30
bis(2-Ethylhexyl)phthalate	50.2	N.D.	46.65	47.66	93	95	64-126	2	30
Di-n-octylphthalate	50.2	N.D.	45.09	45.99	90	92	61-133	2	30
Benzo(b)fluoranthene	50.2	N.D.	44.71	46.15	89	92	72-124	3	30
7,12-Dimethylbenz[a]anthracene	50.2	N.D.	44.96	46.63	90	93	69-108	4	30
Benzo(k)fluoranthene	50.2	N.D.	44.16	45.48	88	91	73-121	3	30
Benzo(a)pyrene	50.2	N.D.	43.08	43.85	86	87	71-119	2	30
3-Methylcholanthrene	50.2	N.D.	46.47	47.83	93	95	78-138	3	30
Indeno(1,2,3-cd)pyrene	50.2	N.D.	47.54	47.78	95	95	63-122	0	30
Dibenz(a,h)anthracene	50.2	N.D.	48.29	48.88	96	97	65-126	1	30
Benzo(g,h,i)perylene	50.2	N.D.	47.22	47.38	94	94	61-124	0	30

Comments:
(2) The unspiked sample result is greater than four times the spike added.
* = Out of Specification

Results are being reported on an as received basis.

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 142WCLCS	Batch: **17142WAC026** (Sample number(s): 8999786-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
N-Nitrosodimethylamine	50	29.31	NA	59	NA	10-90	NA	NA
Pyridine	50	23.47	NA	47	NA	19-68	NA	NA
2-Picoline	50	36.09	NA	72	NA	27-97	NA	NA
N-Nitrosomethylethylamine	50	39.54	NA	79	NA	35-108	NA	NA
Methyl methanesulfonate	50	33.43	NA	67	NA	35-102	NA	NA
N-Nitrosodiethylamine	50	41.39	NA	83	NA	42-113	NA	NA
Ethyl methanesulfonate	50	38.74	NA	77	NA	51-111	NA	NA
Phenol	50	24.97	NA	50	NA	16-74	NA	NA
Aniline	50	27.88	NA	56	NA	26-83	NA	NA
bis(2-Chloroethyl)ether	50	41.68	NA	83	NA	50-111	NA	NA
2-Chlorophenol	50	40	NA	80	NA	51-106	NA	NA
o-Toluidine	50	33.32	NA	67	NA	22-86	NA	NA
Benzyl alcohol	50	39.29	NA	79	NA	47-113	NA	NA
2-Methylphenol	50	39.45	NA	79	NA	50-104	NA	NA
bis(2-Chloroisopropyl)ether	50	41.7	NA	83	NA	48-110	NA	NA
2,4-Dichlorophenol	50	43.52	NA	87	NA	62-112	NA	NA
N-Nitrosopyrrolidine	50	40.33	NA	81	NA	50-107	NA	NA
Acetophenone	50	45.27	NA	91	NA	56-108	NA	NA
4-Methylphenol	50	36.67	NA	73	NA	45-101	NA	NA
N-Nitroso-di-n-propylamine	50	43.74	NA	87	NA	52-115	NA	NA
N-Nitrosomorpholine	50	41.99	NA	84	NA	37-103	NA	NA
Hexachloroethane	50	28.04	NA	56	NA	28-103	NA	NA
Nitrobenzene	50	44.16	NA	88	NA	53-119	NA	NA
N-Nitrosopiperidine	50	42.28	NA	85	NA	55-107	NA	NA
Isophorone	50	44.92	NA	90	NA	54-117	NA	NA
2-Nitrophenol	50	42.6	NA	85	NA	56-125	NA	NA
2,4-Dimethylphenol	50	32.28	NA	65	NA	40-99	NA	NA
O,O,O-Triethylphosphorothioate	50	40.87	NA	82	NA	54-111	NA	NA
bis(2-Chloroethoxy)methane	50	45.2	NA	90	NA	53-126	NA	NA
a,a-Dimethylphenethylamine	50	N.D	NA	0 *	NA	70-130	NA	NA
4-Chloroaniline	50	35.51	NA	71	NA	41-94	NA	NA
2,6-Dichlorophenol	50	43.15	NA	86	NA	60-114	NA	NA
Hexachloropropene	50	18.02	NA	36	NA	10-99	NA	NA
N-Nitrosodi-n-butylamine	50	41.23	NA	82	NA	47-110	NA	NA
4-Chloro-3-methylphenol	50	43.16	NA	86	NA	62-119	NA	NA
Safrole	50	40.24	NA	80	NA	57-104	NA	NA
2-Methylnaphthalene	50	37.46	NA	75	NA	54-111	NA	NA
Hexachlorocyclopentadiene	100	5.81 J	NA	6 *	NA	10-81	NA	NA
1,2,4,5-Tetrachlorobenzene	50	33.55	NA	67	NA	50-108	NA	NA
2,4,6-Trichlorophenol	50	45.65	NA	91	NA	68-125	NA	NA
2,4,5-Trichlorophenol	50	44.4	NA	89	NA	69-122	NA	NA
Isosafrole	50	45.61	NA	91	NA	64-130	NA	NA

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 142WCLCS	Batch: **17142WAC026** (Sample number(s): 8999786-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
2-Chloronaphthalene	50	40.29	NA	81	NA	56-116	NA	NA
2-Nitroaniline	50	43.94	NA	88	NA	74-121	NA	NA
1,4-Naphthoquinone	100	N.D	NA	0 *	NA	70-130	NA	NA
Dimethylphthalate	50	29.31	NA	59	NA	10-134	NA	NA
1,3-Dinitrobenzene	50	44.19	NA	88	NA	75-123	NA	NA
2,6-Dinitrotoluene	50	44.15	NA	88	NA	80-120	NA	NA
Acenaphthylene	50	40.77	NA	82	NA	63-120	NA	NA
3-Nitroaniline	50	39.51	NA	79	NA	61-114	NA	NA
Acenaphthene	50	41.67	NA	83	NA	64-121	NA	NA
2,4-Dinitrophenol	100	82.73	NA	83	NA	29-139	NA	NA
4-Nitrophenol	50	33.18	NA	66	NA	22-78	NA	NA
Pentachlorobenzene	50	34.41	NA	69	NA	60-116	NA	NA
2,4-Dinitrotoluene	50	45.18	NA	90	NA	76-122	NA	NA
Dibenzofuran	50	41.54	NA	83	NA	69-115	NA	NA
1-Naphthylamine	100	47.6	NA	48	NA	15-70	NA	NA
2,3,4,6-Tetrachlorophenol	50	46.96	NA	94	NA	69-125	NA	NA
2-Naphthylamine	100	38.97	NA	39	NA	10-68	NA	NA
Diethylphthalate	50	39.98	NA	80	NA	47-122	NA	NA
Thionazin	50	43.14	NA	86	NA	66-116	NA	NA
Fluorene	50	41.28	NA	83	NA	67-120	NA	NA
4-Chlorophenyl-phenylether	50	39.05	NA	78	NA	65-117	NA	NA
5-Nitro-o-toluidine	50	37.66	NA	75	NA	46-117	NA	NA
4-Nitroaniline	50	43.1	NA	86	NA	57-114	NA	NA
4,6-Dinitro-2-methylphenol	50	41.37	NA	83	NA	52-129	NA	NA
N-Nitrosodiphenylamine	50	45.69	NA	91	NA	75-116	NA	NA
1,3,5-Trinitrobenzene	50	12.85 J	NA	26	NA	10-148	NA	NA
Phorate	50	43.53	NA	87	NA	70-130	NA	NA
Phenacetin	50	45.73	NA	91	NA	59-118	NA	NA
4-Bromophenyl-phenylether	50	41.52	NA	83	NA	69-123	NA	NA
Diallate trans/cis	50	44.69	NA	89	NA	65-111	NA	NA
Hexachlorobenzene	50	40.21	NA	80	NA	67-125	NA	NA
Dimethoate	50	16.71	NA	33	NA	10-129	NA	NA
Pentachlorophenol	50	48.16	NA	96	NA	59-134	NA	NA
4-Aminobiphenyl	50	37.65	NA	75	NA	26-124	NA	NA
Pentachloronitrobenzene	50	44.53	NA	89	NA	65-121	NA	NA
Pronamide	50	45.57	NA	91	NA	80-120	NA	NA
Phenanthrene	50	43.53	NA	87	NA	72-117	NA	NA
Anthracene	50	43.34	NA	87	NA	72-120	NA	NA
Disulfoton	100	99.6	NA	100	NA	70-130	NA	NA
Methyl parathion	50	40.28	NA	81	NA	47-120	NA	NA
Di-n-butylphthalate	50	45.11	NA	90	NA	69-117	NA	NA
Parathion	50	46.7	NA	93	NA	93-133	NA	NA

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 142WCLCS	Batch: **17142WAC026** (Sample number(s): 8999786-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
4-Nitroquinoline-1-oxide	500	456.65	NA	91	NA	47-140	NA	NA
Methapyrilene	400	518.37	NA	130 *	NA	58-122	NA	NA
Isodrin	50	44.31	NA	89	NA	66-129	NA	NA
Fluoranthene	50	44.63	NA	89	NA	74-126	NA	NA
Pyrene	50	44.31	NA	89	NA	69-119	NA	NA
Aramite	50	N.D	NA	0 *	NA	70-130	NA	NA
p-Dimethylaminoazobenzene	50	49.34	NA	99	NA	80-120	NA	NA
Chlorobenzilate	50	23.88	NA	48	NA	10-163	NA	NA
3,3'-Dimethylbenzidine	100	31.74 J	NA	32	NA	10-55	NA	NA
Butylbenzylphthalate	50	39.94	NA	80	NA	44-129	NA	NA
2-Acetylaminofluorene	50	47.14	NA	94	NA	61-144	NA	NA
3,3'-Dichlorobenzidine	50	38.54	NA	77	NA	30-108	NA	NA
Benzo(a)anthracene	50	46.21	NA	92	NA	74-124	NA	NA
Chrysene	50	46.76	NA	94	NA	75-129	NA	NA
bis(2-Ethylhexyl)phthalate	50	46.46	NA	93	NA	64-126	NA	NA
Di-n-octylphthalate	50	43.5	NA	87	NA	61-133	NA	NA
Benzo(b)fluoranthene	50	43.99	NA	88	NA	72-124	NA	NA
7,12-Dimethylbenz[a]anthracene	50	43.83	NA	88	NA	69-108	NA	NA
Benzo(k)fluoranthene	50	46.35	NA	93	NA	73-121	NA	NA
Benzo(a)pyrene	50	42.84	NA	86	NA	71-119	NA	NA
3-Methylcholanthrene	50	47.86	NA	96	NA	78-138	NA	NA
Indeno(1,2,3-cd)pyrene	50	46.64	NA	93	NA	63-122	NA	NA
Dibenz(a,h)anthracene	50	47.37	NA	95	NA	65-126	NA	NA
Benzo(g,h,i)perylene	50	46.14	NA	92	NA	61-124	NA	NA

LCS: 142WCLCS1 LCSD: 142WCLCSD1	Batch: **17142WAC026** (Sample number(s): 8999786-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
1,4-Phenylenediamine	1000	75.67 J	73.68 J	8 *	7 *	70-130	3	30

LCS: 142WWLCS	Batch: **17142WAW026** (Sample number(s): 8999793-8999797)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
2,6-Dinitrotoluene	50	44.15	NA	88	NA	80-120	NA	NA
2,4-Dinitrotoluene	50	45.18	NA	90	NA	76-122	NA	NA
Diethylphthalate	50	39.98	NA	80	NA	47-122	NA	NA

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 143WWLCS	Batch: **17143WAW026** (Sample number(s): 8999785-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
N-Nitrosodimethylamine	50	28.5	NA	57	NA	10-90	NA	NA
Pyridine	50	22.63	NA	45	NA	19-68	NA	NA
2-Picoline	50	35.3	NA	71	NA	27-97	NA	NA
N-Nitrosomethylethylamine	50	38.92	NA	78	NA	35-108	NA	NA
Methyl methanesulfonate	50	35.72	NA	71	NA	35-102	NA	NA
N-Nitrosodiethylamine	50	41.24	NA	82	NA	42-113	NA	NA
Ethyl methanesulfonate	50	41.85	NA	84	NA	51-111	NA	NA
Phenol	50	25.72	NA	51	NA	16-74	NA	NA
Aniline	50	22.95	NA	46	NA	26-83	NA	NA
bis(2-Chloroethyl)ether	50	42.65	NA	85	NA	50-111	NA	NA
2-Chlorophenol	50	41.1	NA	82	NA	51-106	NA	NA
o-Toluidine	50	21.88	NA	44	NA	22-86	NA	NA
Benzyl alcohol	50	38.72	NA	77	NA	47-113	NA	NA
2-Methylphenol	50	40.67	NA	81	NA	50-104	NA	NA
bis(2-Chloroisopropyl)ether	50	43.42	NA	87	NA	48-110	NA	NA
2,4-Dichlorophenol	50	43.67	NA	87	NA	62-112	NA	NA
N-Nitrosopyrrolidine	50	39.81	NA	80	NA	50-107	NA	NA
Acetophenone	50	45.34	NA	91	NA	56-108	NA	NA
4-Methylphenol	50	38.18	NA	76	NA	45-101	NA	NA
N-Nitroso-di-n-propylamine	50	43.88	NA	88	NA	52-115	NA	NA
N-Nitrosomorpholine	50	41.08	NA	82	NA	37-103	NA	NA
Hexachloroethane	50	28.4	NA	57	NA	28-103	NA	NA
Nitrobenzene	50	43.62	NA	87	NA	53-119	NA	NA
N-Nitrosopiperidine	50	41.02	NA	82	NA	55-107	NA	NA
Isophorone	50	44.46	NA	89	NA	54-117	NA	NA
2-Nitrophenol	50	43.38	NA	87	NA	56-125	NA	NA
2,4-Dimethylphenol	50	32.83	NA	66	NA	40-99	NA	NA
O,O,O-Triethylphosphorothioate	50	41.84	NA	84	NA	54-111	NA	NA
bis(2-Chloroethoxy)methane	50	45.56	NA	91	NA	53-126	NA	NA
a,a-Dimethylphenethylamine	50	47.52 J	NA	95	NA	70-130	NA	NA
4-Chloroaniline	50	28.11	NA	56	NA	41-94	NA	NA
2,6-Dichlorophenol	50	42.11	NA	84	NA	60-114	NA	NA
Hexachloropropene	50	28.13	NA	56	NA	10-99	NA	NA
N-Nitrosodi-n-butylamine	50	39.4	NA	79	NA	47-110	NA	NA
4-Chloro-3-methylphenol	50	43.75	NA	88	NA	62-119	NA	NA
Safrole	50	40.31	NA	81	NA	57-104	NA	NA
2-Methylnaphthalene	50	39.59	NA	79	NA	54-111	NA	NA
Hexachlorocyclopentadiene	100	17.67	NA	18	NA	10-81	NA	NA
1,2,4,5-Tetrachlorobenzene	50	36.44	NA	73	NA	50-108	NA	NA
2,4,6-Trichlorophenol	50	45.38	NA	91	NA	68-125	NA	NA
2,4,5-Trichlorophenol	50	44.36	NA	89	NA	69-122	NA	NA
Isosafrole	50	45.77	NA	92	NA	64-130	NA	NA

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 143WWLCS	Batch: **17143WAW026** (Sample number(s): 8999785-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
2-Chloronaphthalene	50	41.14	NA	82	NA	56-116	NA	NA
2-Nitroaniline	50	44.04	NA	88	NA	74-121	NA	NA
1,4-Naphthoquinone	100	21.27 J	NA	21 *	NA	70-130	NA	NA
Dimethylphthalate	50	42.53	NA	85	NA	10-134	NA	NA
1,3-Dinitrobenzene	50	39.82	NA	80	NA	75-123	NA	NA
2,6-Dinitrotoluene	50	44.8	NA	90	NA	80-120	NA	NA
Acenaphthylene	50	42.11	NA	84	NA	63-120	NA	NA
3-Nitroaniline	50	36.81	NA	74	NA	61-114	NA	NA
Acenaphthene	50	43.31	NA	87	NA	64-121	NA	NA
2,4-Dinitrophenol	100	68.39	NA	68	NA	29-139	NA	NA
4-Nitrophenol	50	29.22 J	NA	58	NA	22-78	NA	NA
Pentachlorobenzene	50	41.7	NA	83	NA	60-116	NA	NA
2,4-Dinitrotoluene	50	45.53	NA	91	NA	76-122	NA	NA
Dibenzofuran	50	43.08	NA	86	NA	69-115	NA	NA
1-Naphthylamine	100	33.67	NA	34	NA	15-70	NA	NA
2,3,4,6-Tetrachlorophenol	50	47.59	NA	95	NA	69-125	NA	NA
2-Naphthylamine	100	30.41	NA	30	NA	10-68	NA	NA
Diethylphthalate	50	44.83	NA	90	NA	47-122	NA	NA
Thionazin	50	42.97	NA	86	NA	66-116	NA	NA
Fluorene	50	42.97	NA	86	NA	67-120	NA	NA
4-Chlorophenyl-phenylether	50	43.3	NA	87	NA	65-117	NA	NA
5-Nitro-o-toluidine	50	31.4	NA	63	NA	46-117	NA	NA
4-Nitroaniline	50	41.4	NA	83	NA	57-114	NA	NA
4,6-Dinitro-2-methylphenol	50	41.89	NA	84	NA	52-129	NA	NA
N-Nitrosodiphenylamine	50	45.8	NA	92	NA	75-116	NA	NA
1,3,5-Trinitrobenzene	50	34.33	NA	69	NA	10-148	NA	NA
Phorate	50	45.97	NA	92	NA	70-130	NA	NA
Phenacetin	50	43.17	NA	86	NA	59-118	NA	NA
4-Bromophenyl-phenylether	50	44.55	NA	89	NA	69-123	NA	NA
Diallate trans/cis	50	44.22	NA	88	NA	65-111	NA	NA
Hexachlorobenzene	50	42.84	NA	86	NA	67-125	NA	NA
Dimethoate	50	30.37	NA	61	NA	10-129	NA	NA
Pentachlorophenol	50	45.98	NA	92	NA	59-134	NA	NA
4-Aminobiphenyl	50	29.74	NA	59	NA	26-124	NA	NA
Pentachloronitrobenzene	50	42.99	NA	86	NA	65-121	NA	NA
Pronamide	50	43.78	NA	88	NA	80-120	NA	NA
Phenanthrene	50	43.83	NA	88	NA	72-117	NA	NA
Anthracene	50	44.29	NA	89	NA	72-120	NA	NA
Disulfoton	100	121.42	NA	121	NA	70-130	NA	NA
Methyl parathion	50	32.76	NA	66	NA	47-120	NA	NA
Di-n-butylphthalate	50	46.04	NA	92	NA	69-117	NA	NA
Parathion	50	45.75	NA	91 *	NA	93-133	NA	NA

GC/MS Semivolatiles

Fraction: Semivolatiles by GC/MS

LCS: 143WWLCS	Batch: **17143WAW026** (Sample number(s): 8999785-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
4-Nitroquinoline-1-oxide	500	454.15	NA	91	NA	47-140	NA	NA
Methapyrilene	400	532.75	NA	133 *	NA	58-122	NA	NA
Isodrin	50	45.76	NA	92	NA	66-129	NA	NA
Fluoranthene	50	44.73	NA	89	NA	74-126	NA	NA
Pyrene	50	43.6	NA	87	NA	69-119	NA	NA
Aramite	50	50.6	NA	101	NA	70-130	NA	NA
p-Dimethylaminoazobenzene	50	47.93	NA	96	NA	80-120	NA	NA
Chlorobenzilate	50	42.79	NA	86	NA	10-163	NA	NA
3,3'-Dimethylbenzidine	100	29.4 J	NA	29	NA	10-55	NA	NA
Butylbenzylphthalate	50	46.01	NA	92	NA	44-129	NA	NA
2-Acetylaminofluorene	50	48.14	NA	96	NA	61-144	NA	NA
3,3'-Dichlorobenzidine	50	36.66	NA	73	NA	30-108	NA	NA
Benzo(a)anthracene	50	46.57	NA	93	NA	74-124	NA	NA
Chrysene	50	46.51	NA	93	NA	75-129	NA	NA
bis(2-Ethylhexyl)phthalate	50	46.44	NA	93	NA	64-126	NA	NA
Di-n-octylphthalate	50	44.31	NA	89	NA	61-133	NA	NA
Benzo(b)fluoranthene	50	44.61	NA	89	NA	72-124	NA	NA
7,12-Dimethylbenz[a]anthracene	50	45.03	NA	90	NA	69-108	NA	NA
Benzo(k)fluoranthene	50	44.79	NA	90	NA	73-121	NA	NA
Benzo(a)pyrene	50	43.25	NA	86	NA	71-119	NA	NA
3-Methylcholanthrene	50	46.82	NA	94	NA	78-138	NA	NA
Indeno(1,2,3-cd)pyrene	50	47.2	NA	94	NA	63-122	NA	NA
Dibenz(a,h)anthracene	50	47.94	NA	96	NA	65-126	NA	NA
Benzo(g,h,i)perylene	50	47.13	NA	94	NA	61-124	NA	NA

LCS: 143WWLCS2 LCSD: 143WWLCSD2	Batch: **17143WAW026** (Sample number(s): 8999785-8999792)							
Analyte	**Spike Added ug/l**	**LCS Conc ug/l**	**LCSD Conc ug/l**	**LCS %Rec**	**LCSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
1,4-Phenylenediamine	1000	277.7	270.23	28 *	27 *	70-130	3	30

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0160a.d DFTPP Injection Date: 05/05/17

Instrument ID: HP19760 DFTPP Injection Time: 17:51

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	44.2
68	Less than 2.0% of mass 69	0.85 (1.94)1
69	Mass 69 relative abundance	43.7
70	Less than 2.0% of mass 69	0.18 (0.42)1
127	10.0 - 80.00% of mass 198	43.7
197	Less than 2.0% of mass 198	0.98
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.49
275	10.0 - 60.0% of mass 198	21.0
365	Greater than 1.00% of mass 198	2.21
441	Present, and less than mass 443	8.17
442	Greater than 50.00% of mass 198	50.1
443	15.00 - 24.00% of mass 442	9.32 (18.6)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	RVSTD1107 - SSTD7.5	de0161.d	05/05/17	18:05
02	RVSTD1107 - SSTD.125	de0162.d	05/05/17	18:46
03	RVSTD1107 - SSTD30	de0163.d	05/05/17	19:14
04	RVSTD1107 - SSTD20	de0164.d	05/05/17	19:42
05	RVSTD1107 - SSTD12.5	de0165.d	05/05/17	20:10
06	RVSTD1107 - SSTD3.75	de0166.d	05/05/17	20:37
07	RVSTD1107 - SSTD1.25	de0167.d	05/05/17	21:05
08	RVSTD1107 - SSTD.25	de0168.d	05/05/17	21:33
09	MDLSTD1107 - SSTD0.125	de0169.d	05/05/17	22:01
10	PAHMDL1107 - SSTD0.025	de0170.d	05/05/17	22:28
11	RVICV1147 - SSTD12.5	de0171.d	05/05/17	22:56
12	RVBASICV0637 - SSTD12.5	de0172.d	05/05/17	23:24
13	BACID1087 - SSTD025	de0173.d	05/05/17	23:52

FORM V SV

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0590.d DFTPP Injection Date: 05/23/17

Instrument ID: HP19760 DFTPP Injection Time: 07:22

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	50.0
68	Less than 2.0% of mass 69	0.77 (1.59)1
69	Mass 69 relative abundance	48.4
70	Less than 2.0% of mass 69	0.2 (0.42)1
127	10.0 - 80.00% of mass 198	47.4
197	Less than 2.0% of mass 198	0.89
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.6
275	10.0 - 60.0% of mass 198	19.9
365	Greater than 1.00% of mass 198	2.13
441	Present, and less than mass 443	8.26
442	Greater than 50.00% of mass 198	52.5
443	15.00 - 24.00% of mass 442	9.9 (18.9)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	rvSTD1107 - SSTD7.5	de0591.d	05/23/17	07:36
02	rvPDA0727 - SSTD30	de0592.d	05/23/17	08:03
03	rvPDA0727 - SSTD20	de0593.d	05/23/17	08:31
04	rvPDA0727 - SSTD12.5	de0594.d	05/23/17	08:58
05	rvPDA0727 - SSTD7.5	de0595.d	05/23/17	09:26
06	rvPDA0727 - SSTD3.75	de0596.d	05/23/17	09:54
07	rvABC3566 - SSTD30	de0597.d	05/23/17	10:21
08	rvABC3566 - SSTD20	de0598.d	05/23/17	10:49
09	rvABC3566 - SSTD12.5	de0599.d	05/23/17	11:16
10	rvABC3566 - SSTD7.5	de0600.d	05/23/17	11:44
11	rvABC3566 - SSTD3.75	de0601.d	05/23/17	12:12
12	rvABC3566 - SSTD1.25	de0602.d	05/23/17	12:39
13	ABCMDL3566 - SSTD006	de0603.d	05/23/17	13:07
14	rvAAP0317 - SSTD12.5	de0604.d	05/23/17	13:34
15	SBLKWC142	de0605.d	05/23/17	14:02
16	SBLKWW142	de0605a.d	05/23/17	14:02
17	142WCLCS	de0606.d	05/23/17	14:30
18	142WWLCS	de0606a.d	05/23/17	14:30

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0590.d DFTPP Injection Date: 05/23/17

Instrument ID: HP19760 DFTPP Injection Time: 07:22

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	50.0
68	Less than 2.0% of mass 69	0.77 (1.59)1
69	Mass 69 relative abundance	48.4
70	Less than 2.0% of mass 69	0.2 (0.42)1
127	10.0 - 80.00% of mass 198	47.4
197	Less than 2.0% of mass 198	0.89
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.6
275	10.0 - 60.0% of mass 198	19.9
365	Greater than 1.00% of mass 198	2.13
441	Present, and less than mass 443	8.26
442	Greater than 50.00% of mass 198	52.5
443	15.00 - 24.00% of mass 442	9.9 (18.9)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	142WCLCS1	de0607.d	05/23/17	14:57
20	142WCLCSD1	de0608.d	05/23/17	15:25
21	8999788	de0609.d	05/23/17	15:52
22	142WWUS	de0609a.d	05/23/17	15:52
23	8999789MS	de0610.d	05/23/17	16:20
24	142WWMSMS	de0610a.d	05/23/17	16:20
25	8999790MSD	de0611.d	05/23/17	16:48
26	142WWMSDMSD	de0611a.d	05/23/17	16:48
27	8999786	de0613.d	05/23/17	17:43
28	8999787	de0614.d	05/23/17	18:10
29	8999791	de0615.d	05/23/17	18:38
30	8999792	de0616.d	05/23/17	19:06

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0620.d DFTPP Injection Date: 05/23/17

Instrument ID: HP19760 DFTPP Injection Time: 20:45

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	48.9
68	Less than 2.0% of mass 69	0.77 (1.58)1
69	Mass 69 relative abundance	48.4
70	Less than 2.0% of mass 69	0.19 (0.4)1
127	10.0 - 80.00% of mass 198	46.2
197	Less than 2.0% of mass 198	0.84
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.67
275	10.0 - 60.0% of mass 198	21.0
365	Greater than 1.00% of mass 198	2.12
441	Present, and less than mass 443	8.78
442	Greater than 50.00% of mass 198	53.9
443	15.00 - 24.00% of mass 442	10.4 (19.3)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	rvSTD1107 - SSTD7.5	de0621.d	05/23/17	21:06
02	SBLKWZ142	de0622.d	05/23/17	22:26
03	142WZLCS	de0623.d	05/23/17	22:53
04	142WZUS	de0624.d	05/23/17	23:21
05	142WZMSMS	de0625.d	05/23/17	23:48
06	142WZMSDMSD	de0626.d	05/24/17	00:16
07	8999793	de0628.d	05/24/17	01:39
08	8999794	de0629.d	05/24/17	02:06
09	8999795	de0630.d	05/24/17	02:34
10	8999796	de0631.d	05/24/17	03:01
11	8999797	de0632.d	05/24/17	03:29
12	8997579RE	de0634.d	05/24/17	04:24

FORM V SV

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0920a.d DFTPP Injection Date: 05/30/17

Instrument ID: HP19760 DFTPP Injection Time: 07:34

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	45.1
68	Less than 2.0% of mass 69	0.67 (1.49)1
69	Mass 69 relative abundance	45.2
70	Less than 2.0% of mass 69	0.15 (0.33)1
127	10.0 - 80.00% of mass 198	45.6
197	Less than 2.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.64
275	10.0 - 60.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.03
441	Present, and less than mass 443	7.87
442	Greater than 50.00% of mass 198	51.0
443	15.00 - 24.00% of mass 442	9.67 (19.0)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	rvSTD1497 - SSTD7.5	de0921.d	05/30/17	07:48
02	rvPDA0727 - SSTD125	de0922.d	05/30/17	08:27
03	rvAAP0317 - SSTD12.5	de0924.d	05/30/17	09:22
04	rvABC3566 - SSTD7.5	de0923a.d	05/30/17	09:50
05	SBLKWW143	de0925.d	05/30/17	10:28
06	SBLKWY142	de0925a.d	05/30/17	10:28
07	143WWLCS	de0926.d	05/30/17	10:55
08	142WYLCS	de0926a.d	05/30/17	10:55
09	143WWLCS2	de0927.d	05/30/17	11:23
10	143WWLCSD2	de0928.d	05/30/17	11:50
11	8999788RE	de0929.d	05/30/17	12:18
12	142WYUS	de0929a.d	05/30/17	12:18
13	8999789RE	de0930.d	05/30/17	12:45
14	142WYMSMS	de0930a.d	05/30/17	12:45
15	8999790MSDSD	de0931.d	05/30/17	13:12
16	142WYMSDMSD	de0931a.d	05/30/17	13:12
17	8999785	de0932.d	05/30/17	13:40
18	8999786RE	de0933.d	05/30/17	14:07

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID: de0920a.d DFTPP Injection Date: 05/30/17

Instrument ID: HP19760 DFTPP Injection Time: 07:34

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.00% of mass 198	45.1
68	Less than 2.0% of mass 69	0.67 (1.49)1
69	Mass 69 relative abundance	45.2
70	Less than 2.0% of mass 69	0.15 (0.33)1
127	10.0 - 80.00% of mass 198	45.6
197	Less than 2.0% of mass 198	0.0
198	Base peak, 100% relative abundance	100.0
199	5.00 to 9.00% of mass 198	6.64
275	10.0 - 60.0% of mass 198	21.6
365	Greater than 1.00% of mass 198	2.03
441	Present, and less than mass 443	7.87
442	Greater than 50.00% of mass 198	51.0
443	15.00 - 24.00% of mass 442	9.67 (19.0)2

1-Value is % mass 69 2-Value is % mass of 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
19	8999787RE	de0934.d	05/30/17	14:35
20	8999791RE	de0935.d	05/30/17	15:02
21	8999792RE	de0936.d	05/30/17	15:30
22	9008979	de0937.d	05/30/17	15:57
23	9008980	de0938.d	05/30/17	16:25
24	9004747	de0939.d	05/30/17	16:52
25	9004749	de0940.d	05/30/17	17:20
26	9013932	de0941.d	05/30/17	17:47
27	9013933	de0942.d	05/30/17	18:15
28	9013934	de0943.d	05/30/17	18:42
29	9013935	de0944.d	05/30/17	19:10

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Dioxane			0.780	0.734	0.744	0.694	0.712	0.723	0.731	4	AVG
N-Nitrosodimethylamine			1.171	1.190	1.202	1.142	1.164	1.185	1.176	2	AVG
Pyridine			2.061	1.877	1.983	1.867	1.855	1.931	1.929	4	AVG
2-Picoline			1.954	2.014	2.023	1.927	1.945	1.956	1.970	2	AVG
N-Nitrosomethylethylamine			0.811	0.862	0.866	0.838	0.834	0.833	0.841	2	AVG
Methyl methanesulfonate			0.929	0.992	0.985	0.956	0.952	0.957	0.962	2	AVG
N-Nitrosodiethylamine		0.719	0.776	0.804	0.807	0.786	0.789	0.785	0.781	4	AVG
Ethyl methanesulfonate		0.839	0.840	0.882	0.852	0.834	0.824	0.833	0.843	2	AVG
Benzaldehyde			1.491	1.447	1.614	1.515	1.425	1.230	1.454	9	AVG
Phenol		2.600	2.377	2.447	2.404	2.322	2.293	2.255	2.385	5	AVG
Aniline		3.044	2.755	2.921	2.809	2.733	2.718	2.641	2.803	5	AVG
a-methylstyrene			1.698	1.740	1.797	1.747	1.708	1.610	1.717	4	AVG
bis(2-Chloroethyl)ether		1.960	1.736	1.852	1.776	1.714	1.712	1.654	1.772	6	AVG
2-Chlorophenol		1.655	1.518	1.641	1.548	1.535	1.514	1.464	1.554	4	AVG
1,3-Dichlorobenzene		1.809	1.718	1.728	1.693	1.646	1.619	1.567	1.683	5	AVG
1,4-Dichlorobenzene		1.954	1.691	1.780	1.699	1.667	1.655	1.593	1.720	7	AVG
Benzyl alcohol			1.096	1.106	1.159	1.132	1.103	1.056	1.108	3	AVG
1,2-Dichlorobenzene		1.840	1.608	1.676	1.604	1.580	1.546	1.488	1.620	7	AVG
Indene			2.974	3.043	3.153	3.082	3.017	2.867	3.023	3	AVG
2-Methylphenol		1.597	1.482	1.609	1.552	1.518	1.489	1.447	1.528	4	AVG
2,2'-oxybis(1-Chloropropane)		3.165	2.531	2.665	2.665	2.475	2.435	2.392	2.618	10	AVG
bis(2-Chloroisopropyl)ether		3.165	2.531	2.665	2.665	2.475	2.435	2.392	2.618	10	AVG
N-Nitrosopyrrolidine		0.901	0.819	0.901	0.870	0.859	0.840	0.835	0.861	4	AVG
Acetophenone		2.053	2.311	2.227	2.397	2.450	2.347	2.302	2.298	6	AVG
4-Methylphenol		1.960	1.735	1.856	1.764	1.715	1.669	1.606	1.758	7	AVG
Total Cresols		1.778	1.608	1.733	1.658	1.616	1.579	1.527	1.643	5	AVG
N-Nitroso-di-n-propylamine		1.592	1.374	1.442	1.388	1.342	1.298	1.266	1.386	8	AVG
N-Nitrosomorpholine			1.174	1.286	1.216	1.164	1.136	1.101	1.179	5	AVG
o-Toluidine		2.922	2.651	2.854	2.728	2.636	2.590	2.473	2.693	6	AVG
Hexachloroethane			0.706	0.740	0.714	0.703	0.696	0.668	0.704	3	AVG
Nitrobenzene		0.556	0.509	0.540	0.524	0.518	0.509	0.498	0.522	4	AVG
N-Nitrosopiperidine		0.212	0.193	0.217	0.210	0.203	0.205	0.203	0.206	4	AVG
Isophorone		0.938	0.837	0.941	0.900	0.877	0.880	0.876	0.893	4	AVG
2-Nitrophenol		0.213	0.183	0.218	0.206	0.207	0.210	0.206	0.206	5	AVG
2,4-Dimethylphenol		0.471	0.422	0.474	0.441	0.437	0.436	0.430	0.444	5	AVG
O,O,O-Triethylphosphorothioat			0.204	0.224	0.210	0.210	0.208	0.203	0.210	4	AVG
bis(2-Chloroethoxy)methane		0.646	0.545	0.593	0.572	0.545	0.559	0.533	0.571	7	AVG
Benzoic acid			0.163	0.250	0.284	0.339	0.347	0.351	0.289	25	1STDEG
1,2,3,4-Tetrahydronaphthalene			0.642	0.666	0.671	0.668	0.656	0.629	0.655	3	AVG
2,4-Dichlorophenol		0.331	0.315	0.345	0.336	0.326	0.328	0.321	0.329	3	AVG
1,2,4-Trichlorobenzene		0.425	0.380	0.404	0.379	0.378	0.374	0.369	0.387	5	AVG
Naphthalene	1.370	1.275	1.154	1.235	1.144	1.140	1.136	1.102	1.194	8	AVG
4-Chloroaniline		0.523	0.457	0.508	0.479	0.480	0.476	0.466	0.484	5	AVG
2,6-Dichlorophenol		0.345	0.318	0.345	0.325	0.319	0.320	0.311	0.326	4	AVG
Hexachloropropene			0.247	0.279	0.256	0.265	0.263	0.257	0.261	4	AVG
Hexachlorobutadiene		0.234	0.226	0.246	0.223	0.226	0.225	0.220	0.229	4	AVG
Quinoline			0.713	0.789	0.742	0.731	0.724	0.706	0.734	4	AVG
Caprolactam			0.099	0.099	0.103	0.108	0.104	0.102	0.103	3	AVG
N-Nitrosodi-n-butylamine			0.336	0.355	0.344	0.339	0.412	0.409	0.366	10	AVG
4-Chloro-3-methylphenol		0.384	0.358	0.395	0.377	0.374	0.372	0.364	0.375	3	AVG
Safrole			0.289	0.314	0.299	0.301	0.295	0.290	0.298	3	AVG
2-Methylnaphthalene	0.865	0.810	0.748	0.807	0.765	0.762	0.759	0.740	0.782	5	AVG

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1-Methylnaphthalene	0.800	0.776	0.691	0.743	0.700	0.693	0.683	0.668	0.719	7	AVG
Hexachlorocyclopentadiene			0.294	0.347	0.343	0.348	0.361	0.353	0.341	7	AVG
1,2,4,5-Tetrachlorobenzene		0.801	0.703	0.740	0.695	0.689	0.695	0.686	0.715	6	AVG
cis-Isosafrole			0.538	0.582	0.554	0.562	0.567	0.560	0.561	3	AVG
2,4,6-Trichlorophenol		0.421	0.410	0.461	0.441	0.437	0.444	0.436	0.436	4	AVG
2,4,5-Trichlorophenol		0.481	0.457	0.491	0.475	0.464	0.463	0.462	0.470	3	AVG
trans-Isosafrole			0.565	0.625	0.592	0.585	0.597	0.596	0.594	3	AVG
Isosafrole			0.561	0.618	0.586	0.581	0.592	0.590	0.588	3	AVG
1,1'-Biphenyl		1.370	1.544	1.423	1.533	1.574	1.535	1.506	1.498	5	AVG
2-Chloronaphthalene		1.458	1.261	1.291	1.201	1.248	1.175	1.192	1.261	8	AVG
1-Chloronaphthalene		1.354	1.152	1.238	1.216	1.129	1.209	1.129	1.204	7	AVG
Diphenyl ether		0.985	0.878	0.907	0.849	0.862	0.857	0.839	0.883	6	AVG
2-Nitroaniline		0.407	0.363	0.422	0.387	0.393	0.383	0.387	0.392	5	AVG
1,4-Naphthoquinone			0.486	0.555	0.535	0.528	0.525	0.517	0.524	4	AVG
1,4-Dinitrobenzene			0.184	0.217	0.207	0.209	0.209	0.212	0.206	6	AVG
Dimethylphthalate			1.460	1.552	1.452	1.443	1.432	1.403	1.457	3	AVG
1,3-Dinitrobenzene			0.212	0.239	0.225	0.225	0.229	0.229	0.227	4	AVG
2,6-Dinitrotoluene		0.333	0.305	0.342	0.317	0.321	0.317	0.319	0.322	4	AVG
Acenaphthylene	1.929	1.936	1.789	1.895	1.825	1.804	1.805	1.777	1.845	3	AVG
3-Nitroaniline		0.306	0.312	0.357	0.332	0.341	0.342	0.343	0.333	5	AVG
Acenaphthene	1.413	1.478	1.299	1.379	1.311	1.315	1.288	1.259	1.343	6	AVG
2,4-Dinitrophenol				0.171	0.171	0.186	0.201	0.210	0.188	9	AVG
4-Nitrophenol				0.248	0.237	0.247	0.249	0.252	0.246	2	AVG
Pentachlorobenzene		0.626	0.563	0.602	0.564	0.575	0.561	0.551	0.578	5	AVG
2,4-Dinitrotoluene			0.399	0.448	0.432	0.435	0.446	0.441	0.433	4	AVG
2,4_2,6-Dinitrotoluenes		0.373	0.352	0.395	0.375	0.378	0.382	0.380	0.376	3	AVG
Dibenzofuran		2.084	1.801	1.940	1.780	1.781	1.745	1.705	1.834	7	AVG
1-Naphthylamine				1.333	1.281	1.295	1.297	1.298	1.301	1	AVG
2,3,4,6-Tetrachlorophenol		0.331	0.327	0.363	0.356	0.361	0.371	0.370	0.354	5	AVG
2-Naphthylamine				1.336	1.280	1.284	1.291	1.255	1.289	2	AVG
Diethylphthalate			1.358	1.455	1.418	1.418	1.417	1.417	1.414	2	AVG
Thionazin			0.277	0.291	0.283	0.282	0.280	0.273	0.281	2	AVG
Fluorene	1.651	1.571	1.415	1.518	1.423	1.407	1.397	1.388	1.471	7	AVG
4-Chlorophenyl-phenylether		0.775	0.731	0.751	0.710	0.693	0.685	0.669	0.716	5	AVG
5-Nitro-o-toluidine		0.462	0.377	0.411	0.395	0.395	0.402	0.392	0.405	7	AVG
4-Nitroaniline		0.317	0.320	0.347	0.336	0.333	0.335	0.334	0.332	3	AVG
4,6-Dinitro-2-methylphenol				0.135	0.131	0.132	0.139	0.137	0.135	3	AVG
N-Nitrosodiphenylamine (1)		0.686	0.606	0.654	0.623	0.590	0.596	0.585	0.620	6	AVG
NDPA as diphenylamine		0.686	0.606	0.654	0.623	0.590	0.596	0.585	0.620	6	AVG
1,2-Diphenylhydrazine		0.969	0.866	0.915	0.887	0.838	0.834	0.822	0.876	6	AVG
Tetraethyldithiopyrophosphate			0.138	0.150	0.147	0.140	0.142	0.139	0.143	3	AVG
1,3,5-Trinitrobenzene				0.088	0.084	0.085	0.089	0.089	0.087	3	AVG
Diallate (peak 1)			0.370	0.403	0.393	0.369	0.370	0.367	0.379	4	AVG
Phorate		0.577	0.531	0.590	0.581	0.551	0.558	0.553	0.563	4	AVG
Phenacetin		0.383	0.390	0.448	0.432	0.410	0.417	0.409	0.413	5	AVG
4-Bromophenyl-phenylether		0.229	0.212	0.227	0.211	0.206	0.204	0.200	0.213	5	AVG
Diallate (peak 2)			0.298	0.332	0.315	0.294	0.302	0.300	0.307	5	AVG
Diallate trans/cis			0.358	0.391	0.380	0.356	0.358	0.355	0.366	4	AVG
Hexachlorobenzene	0.255	0.251	0.218	0.228	0.219	0.203	0.209	0.208	0.224	9	AVG
Dimethoate			0.345	0.389	0.385	0.357	0.356	0.343	0.363	5	AVG
Atrazine			0.204	0.193	0.198	0.207	0.200	0.173	0.196	6	AVG
Pentachlorophenol			0.092	0.126	0.128	0.128	0.132	0.133	0.123	13	AVG

(1) Cannot be separated from Diphenylamine
4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/05/17 05/05/17

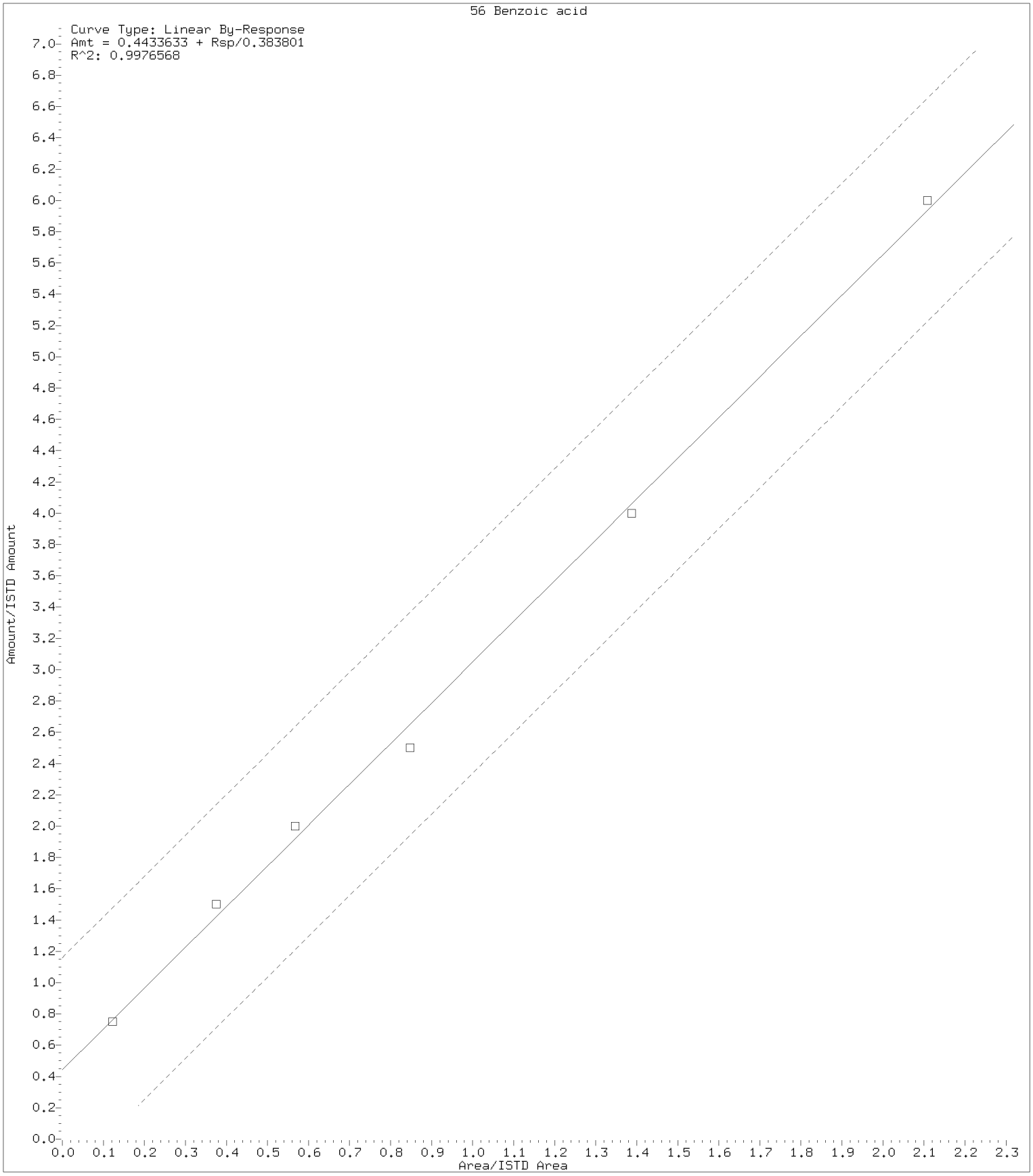
Calibration Times: 18:05 21:33

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF0.125 = de0162.d RRF0.25 = de0168.d RRF1.25 = de0167.d RRF3.75 = de0166.d
RRF7.5 = de0161.d RRF12.5 = de0165.d RRF20 = de0164.d RRF30 = de0163.d

COMPOUND	RRF0.125	RRF0.25	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
4-Aminobiphenyl		0.726	0.683	0.736	0.701	0.671	0.668	0.635	0.688	5	AVG
Pentachloronitrobenzene			0.090	0.105	0.099	0.096	0.100	0.097	0.098	5	AVG
Pronamide		0.351	0.331	0.381	0.367	0.357	0.362	0.350	0.357	4	AVG
Dinoseb			0.162	0.210	0.212	0.217	0.221	0.220	0.207	11	AVG
Phenanthrene	1.255	1.240	1.067	1.153	1.099	1.053	1.048	1.026	1.118	8	AVG
Anthracene	1.229	1.132	1.073	1.171	1.119	1.064	1.070	1.045	1.113	6	AVG
Carbazole		1.101	0.981	1.086	1.053	1.005	1.015	0.992	1.033	5	AVG
Methyl parathion			0.249	0.295	0.295	0.280	0.280	0.275	0.279	6	AVG
Di-n-butylphthalate			1.201	1.345	1.333	1.256	1.274	1.250	1.276	4	AVG
Parathion			0.156	0.187	0.187	0.177	0.181	0.180	0.178	6	AVG
4-Nitroquinoline-1-oxide				0.099	0.108	0.119	0.129	0.129	0.117	11	AVG
Octachlorostyrene			0.086	0.084	0.084	0.085	0.086	0.082	0.084	2	AVG
Isodrin		0.159	0.129	0.140	0.133	0.130	0.131	0.127	0.135	8	AVG
Fluoranthene	1.377	1.303	1.208	1.317	1.297	1.230	1.264	1.241	1.280	4	AVG
Benzidine				0.731	0.688	0.658	0.634	0.597	0.661	8	AVG
Pyrene	1.273	1.233	1.091	1.167	1.100	1.081	1.080	1.058	1.135	7	AVG
p-Dimethylaminoazobenzene		0.177	0.150	0.187	0.185	0.188	0.191	0.188	0.181	8	AVG
Chlorobenzilate			0.318	0.353	0.333	0.335	0.337	0.327	0.334	3	AVG
3,3'-Dimethylbenzidine			0.667	0.774	0.773	0.734	0.730	0.720	0.733	5	AVG
Butylbenzylphthalate			0.488	0.530	0.509	0.501	0.498	0.490	0.502	3	AVG
2-Acetylaminofluorene			0.389	0.489	0.464	0.476	0.493	0.497	0.468	9	AVG
3,3'-Dichlorobenzidine			0.378	0.434	0.417	0.410	0.414	0.408	0.410	4	AVG
4,4'-Methylenebis(2-chloroani				0.240	0.220	0.218	0.217	0.215	0.222	5	AVG
Benzo(a)anthracene	1.159	1.074	1.048	1.149	1.078	1.075	1.072	1.052	1.088	4	AVG
Chrysene	1.084	1.073	0.992	1.076	1.006	0.999	1.000	0.969	1.025	4	AVG
bis(2-Ethylhexyl)phthalate			0.705	0.786	0.763	0.745	0.760	0.754	0.752	4	AVG
6-Methylchrysene			0.683	0.746	0.738	0.725	0.749	0.737	0.730	3	AVG
Di-n-octylphthalate			1.502	1.726	1.673	1.651	1.641	1.616	1.634	5	AVG
Benzo(b)fluoranthene	1.503	1.427	1.241	1.390	1.331	1.357	1.313	1.335	1.362	6	AVG
7,12-Dimethylbenz[a]anthracen		0.496	0.501	0.594	0.560	0.578	0.572	0.571	0.553	7	AVG
Benzo(k)fluoranthene	1.422	1.363	1.248	1.363	1.296	1.280	1.288	1.219	1.310	5	AVG
Benzo(a)pyrene	1.335	1.263	1.159	1.296	1.259	1.268	1.249	1.239	1.259	4	AVG
3-Methylcholanthrene		0.537	0.513	0.595	0.564	0.588	0.567	0.556	0.560	5	AVG
Dibenz(a,h)acridine			0.831	0.966	0.938	0.927	0.897	0.878	0.906	5	AVG
Dibenz(a,j)acridine			0.797	0.976	0.917	0.930	0.871	0.841	0.889	7	AVG
Indeno(1,2,3-cd)pyrene	1.155	1.226	1.177	1.377	1.279	1.288	1.213	1.154	1.234	6	AVG
Dibenz(a,h)anthracene	0.891	0.962	0.988	1.177	1.069	1.114	1.029	0.980	1.026	9	AVG
Benzo(g,h,i)perylene	0.981	1.030	0.998	1.135	1.035	1.033	0.959	0.903	1.009	7	AVG
Total PAHs	1.227	1.180	1.062	1.154	1.069	1.070	1.028	1.005	1.099	7	AVG
2-Fluorophenol		1.605	1.529	1.585	1.581	1.523	1.522	1.515	1.551	2	AVG
Phenol-d6		2.216	2.065	2.200	2.142	2.055	2.036	2.023	2.105	4	AVG
Nitrobenzene-d5		0.565	0.501	0.540	0.516	0.506	0.502	0.497	0.518	5	AVG
2-Fluorobiphenyl		1.722	1.525	1.592	1.533	1.520	1.513	1.474	1.554	5	AVG
2,4,6-Tribromophenol		0.171	0.174	0.196	0.185	0.191	0.194	0.191	0.186	5	AVG
Terphenyl-d14		0.796	0.718	0.767	0.737	0.714	0.709	0.695	0.734	5	AVG
								Average %RSD		5	

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.



Digitally signed by Brandon H. Smith on 05/07/2017 at 21:12.
Target 3.5 esignature user ID: bhs10208

Internal Standard
Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may05b.b/de0161.d SSTD7.5
/chem/HP19760.i/17may05b.b/de0162.d SSTD0.125
/chem/HP19760.i/17may05b.b/de0163.d SSTD030
/chem/HP19760.i/17may05b.b/de0164.d SSTD020
/chem/HP19760.i/17may05b.b/de0165.d SSTD12.5
/chem/HP19760.i/17may05b.b/de0166.d SSTD3.75
/chem/HP19760.i/17may05b.b/de0167.d SSTD1.25
/chem/HP19760.i/17may05b.b/de0168.d SSTD0.25

Area Summary

File ID:

Internal Standard Name	de0161.d	de0162.d	de0163.d	de0164.d	de0165.d	de0166.d	de0167.d	de0168.d	Avg. Area	%RSD	In Spec
1,4-Dichlorobenzene-d4	195284	184070	182912	175545	177612	187395	178509	181346	182834	3	Yes
Naphthalene-d8	747503	711760	678696	659112	673993	707489	684219	693503	694534	4	Yes
Acenaphthene-d10	426791	412178	378528	372722	386093	412952	390234	392347	396481	5	Yes
Phenanthrene-d10	816291	786368	754842	740261	770671	789256	755491	745727	769863	3	Yes
Pyrene-d10	993842	934540	904399	888165	906909	943049	895421	891777	919763	4	Yes
Perylene-d12	828843	712054	769596	757991	749691	768390	720620	694492	750210	6	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

File ID:

Internal Standard Name	de0161.d	de0162.d	de0163.d	de0164.d	de0165.d	de0166.d	de0167.d	de0168.d	Avg. RT
1,4-Dichlorobenzene-d4	6.728	6.722	6.728	6.728	6.728	6.728	6.722	6.722	6.726
Naphthalene-d8	8.657	8.657	8.663	8.663	8.657	8.657	8.657	8.657	8.658
Acenaphthene-d10	11.449	11.443	11.449	11.449	11.449	11.443	11.443	11.443	11.446
Phenanthrene-d10	13.337	13.337	13.343	13.337	13.337	13.337	13.332	13.332	13.337
Pyrene-d10	15.290	15.290	15.296	15.296	15.290	15.290	15.290	15.284	15.291
Perylene-d12	19.761	19.755	19.766	19.760	19.761	19.755	19.755	19.755	19.758

Comments:_____

_____

Report generated on 05/07/2017 at 21:25

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS | LAB CODE: LANCAS | INSTRUMENT: HP19760

Method: SW-846 8270D MINI | File ID: de0171.d

ICV SAMPLE ID: RVICV1147 | BATCH: 17MAY05B026 | Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,4-Dioxane	12.50	11.22	-10	30	YES
N-Nitrosodimethylamine	12.50	12.01	-4	30	YES
Pyridine	12.50	11.81	-6	30	YES
2-Picoline	12.50	12.25	-2	30	YES
N-Nitrosomethylethylamine	12.50	11.48	-8	30	YES
Methyl methanesulfonate	12.50	12.22	-2	30	YES
N-Nitrosodiethylamine	12.50	11.86	-5	30	YES
Ethyl methanesulfonate	12.50	11.61	-7	30	YES
Phenol	12.50	12.13	-3	30	YES
Aniline	12.50	11.06	-12	30	YES
bis(2-Chloroethyl)ether	12.50	11.96	-4	30	YES
2-Chlorophenol	12.50	12.10	-3	30	YES
1,3-Dichlorobenzene	12.50	12.30	-2	30	YES
1,4-Dichlorobenzene	12.50	12.29	-2	30	YES
Benzyl alcohol	12.50	12.03	-4	30	YES
1,2-Dichlorobenzene	12.50	12.28	-2	30	YES
Indene	12.50	11.70	-6	30	YES
2-Methylphenol	12.50	12.09	-3	30	YES
2,2'-oxybis(1-Chloropropane	12.50	11.75	-6	30	YES
bis(2-Chloroisopropyl)ether	12.50	11.75	-6	30	YES
N-Nitrosopyrrolidine	12.50	11.54	-8	30	YES
Acetophenone	12.50	12.47	0	30	YES
4-Methylphenol	12.50	11.69	-7	30	YES
N-Nitroso-di-n-propylamine	12.50	11.93	-5	30	YES
N-Nitrosomorpholine	12.50	11.79	-6	30	YES
o-Toluidine	12.50	11.63	-7	30	YES
Total Cresols	25.00	23.78	-5	30	YES
Hexachloroethane	12.50	11.92	-5	30	YES
Nitrobenzene	12.50	12.53	0	30	YES
N-Nitrosopiperidine	12.50	11.84	-5	30	YES
Isophorone	12.50	12.49	0	30	YES
2-Nitrophenol	12.50	12.60	1	30	YES
2,4-Dimethylphenol	12.50	9.86	-21	30	YES
bis(2-Chloroethoxy)methane	12.50	12.97	4	30	YES
Benzoic acid	25.00	17.65	-29	30	YES
O,O,O-Triethylphosphorothio	12.50	12.24	-2	30	YES
2,4-Dichlorophenol	12.50	12.78	2	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
1,2,4-Trichlorobenzene	12.50	12.65	1	30	YES
Naphthalene	12.50	12.25	-2	30	YES
4-Chloroaniline	12.50	12.11	-3	30	YES
2,6-Dichlorophenol	12.50	11.96	-4	30	YES
Hexachloropropene	12.50	13.01	4	30	YES
Hexachlorobutadiene	12.50	12.54	0	30	YES
Quinoline	12.50	12.29	-2	30	YES
N-Nitrosodi-n-butylamine	12.50	11.14	-11	30	YES
4-Chloro-3-methylphenol	12.50	12.53	0	30	YES
Safrole	12.50	12.11	-3	30	YES
2-Methylnaphthalene	12.50	12.33	-1	30	YES
1-Methylnaphthalene	12.50	12.41	-1	30	YES
Hexachlorocyclopentadiene	25.00	24.24	-3	30	YES
1,2,4,5-Tetrachlorobenzene	12.50	12.19	-2	30	YES
cis-Isosafrole	1.50	1.53	2	30	YES
2,4,6-Trichlorophenol	12.50	12.98	4	30	YES
2,4,5-Trichlorophenol	12.50	12.60	1	30	YES
trans-Isosafrole	11.00	11.49	4	30	YES
1,1'-Biphenyl	12.50	13.29	6	30	YES
2-Chloronaphthalene	12.50	12.88	3	30	YES
Isosafrole	12.50	13.01	4	30	YES
1-Chloronaphthalene	12.50	11.65	-7	30	YES
Diphenyl ether	12.50	12.23	-2	30	YES
2-Nitroaniline	12.50	12.46	0	30	YES
1,4-Naphthoquinone	15.63	15.35	-2	30	YES
1,4-Dinitrobenzene	12.50	12.40	-1	30	YES
Dimethylphthalate	12.50	12.36	-1	30	YES
1,3-Dinitrobenzene	12.50	12.37	-1	30	YES
2,6-Dinitrotoluene	12.50	12.29	-2	30	YES
Acenaphthylene	12.50	12.31	-1	30	YES
3-Nitroaniline	12.50	12.41	-1	30	YES
Acenaphthene	12.50	12.60	1	30	YES
2,4-Dinitrophenol	25.00	26.25	5	30	YES
4-Nitrophenol	12.50	12.57	1	30	YES
Pentachlorobenzene	12.50	11.87	-5	30	YES
2,4-Dinitrotoluene	12.50	12.38	-1	30	YES
Dibenzofuran	12.50	12.29	-2	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
2,4_2,6-Dinitrotoluenes	25.00	24.68	-1	30	YES
1-Naphthylamine	25.00	22.06	-12	30	YES
2,3,4,6-Tetrachlorophenol	12.50	12.82	3	30	YES
2-Naphthylamine	25.00	21.28	-15	30	YES
Diethylphthalate	12.50	12.74	2	30	YES
Thionazin	12.50	12.42	-1	30	YES
Fluorene	12.50	12.12	-3	30	YES
4-Chlorophenyl-phenylether	12.50	12.33	-1	30	YES
5-Nitro-o-toluidine	12.50	11.93	-5	30	YES
4-Nitroaniline	12.50	12.29	-2	30	YES
4,6-Dinitro-2-methylphenol	12.50	12.16	-3	30	YES
N-Nitrosodiphenylamine	12.50	12.41	-1	30	YES
NDPA as diphenylamine	12.50	12.41	-1	30	YES
1,2-Diphenylhydrazine	12.50	12.57	1	30	YES
Tetraethyldithiopyrophospha	12.50	12.04	-4	30	YES
1,3,5-Trinitrobenzene	12.50	12.01	-4	30	YES
Diallate (peak 1)	9.38	8.65	-8	30	YES
Phorate	12.50	12.18	-3	30	YES
Phenacetin	12.50	12.28	-2	30	YES
4-Bromophenyl-phenylether	12.50	12.46	0	30	YES
Diallate (peak 2)	3.13	3.50	12	30	YES
Hexachlorobenzene	12.50	11.70	-6	30	YES
Diallate trans/cis	12.50	12.15	-3	30	YES
Dimethoate	12.50	11.96	-4	30	YES
Pentachlorophenol	12.50	14.04	12	30	YES
4-Aminobiphenyl	12.50	14.37	15	30	YES
Pentachloronitrobenzene	12.50	12.31	-2	30	YES
Pronamide	12.50	12.51	0	30	YES
Dinoseb	12.50	12.57	1	30	YES
Phenanthrene	12.50	11.94	-4	30	YES
Anthracene	12.50	12.20	-2	30	YES
Carbazole	12.50	12.53	0	30	YES
Methyl parathion	12.50	12.20	-2	30	YES
Di-n-butylphthalate	12.50	12.79	2	30	YES
Parathion	12.50	12.99	4	30	YES
4-Nitroquinoline-1-oxide	150.00	180.32	20	30	YES
Isodrin	12.50	11.97	-4	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0171.d

ICV SAMPLE ID: RVICV1147 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Fluoranthene	12.50	12.27	-2	30	YES
Benzidine	62.50	57.60	-8	30	YES
Pyrene	12.50	12.02	-4	30	YES
p-Dimethylaminoazobenzene	12.50	14.54	16	30	YES
Chlorobenzilate	12.50	13.21	6	30	YES
3,3'-Dimethylbenzidine	25.00	23.10	-8	30	YES
Butylbenzylphthalate	12.50	12.87	3	30	YES
2-Acetylaminofluorene	12.50	12.23	-2	30	YES
3,3'-Dichlorobenzidine	12.50	11.92	-5	30	YES
Benzo(a)anthracene	12.50	12.70	2	30	YES
Chrysene	12.50	12.77	2	30	YES
4,4'-Methylenebis(2-chloroa	12.50	12.44	0	30	YES
bis(2-Ethylhexyl)phthalate	12.50	12.95	4	30	YES
6-Methylchrysene	12.50	12.21	-2	30	YES
Di-n-octylphthalate	12.50	12.74	2	30	YES
Benzo(b)fluoranthene	12.50	12.35	-1	30	YES
7,12-Dimethylbenz[a]anthrac	12.50	13.20	6	30	YES
Benzo(k)fluoranthene	12.50	12.15	-3	30	YES
Benzo(a)pyrene	12.50	12.14	-3	30	YES
3-Methylcholanthrene	12.50	13.54	8	30	YES
Dibenz(a,h)acridine	12.50	12.50	0	30	YES
Dibenz(a,j)acridine	12.50	12.64	1	30	YES
Indeno(1,2,3-cd)pyrene	12.50	12.90	3	30	YES
Dibenz(a,h)anthracene	12.50	13.31	6	30	YES
Benzo(g,h,i)perylene	12.50	12.54	0	30	YES
Total PAHs	225.00	223.30	-1	30	YES

NC = Could not calculate

Comments: _____

^

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0172.d

ICV SAMPLE ID: RVBASICV0637 BATCH: 17MAY05B026 Sample Name: SSTD12.5

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzaldehyde	12.50	12.84	3	30	YES
Caprolactam	12.50	12.18	-3	30	YES
Atrazine	12.50	13.49	8	30	YES

NC = Could not calculate

Comments: _____

Lancaster Laboratories, Inc.
Semi Volatile Initial Calibration Verification

LAB NAME: LANCASTER LABS LAB CODE: LANCAS INSTRUMENT: HP19760

Method: SW-846 8270D MINI File ID: de0173.d

ICV SAMPLE ID: BACID1087 BATCH: 17MAY05B026 Sample Name: SSTD025

COMPOUND NAME	TRUE CONC.	ACTUAL CONC.	% DRIFT	%D window	INSPEC
Benzoic acid	25.00	16.20	-35	30	NO *

NC = Could not calculate

Comments: _____

_____* non-CCC, OK if greater than 20% D_____

_____

^

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/23/17 05/23/17

Calibration Times: 08:03 09:54

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF3.75 = de0596.d

RRF7.5 = de0595.d RRF12.5 = de0594.d RRF20 = de0593.d RRF30 = de0592.d

COMPOUND	RRF	RRF	RRF	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
1,4-Phenylenediamine				0.345	0.390	0.440	0.471	0.491	0.428	14	AVG

Average %RSD 7

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may23.b/de0592.d SSTD030
/chem/HP19760.i/17may23.b/de0593.d SSTD020
/chem/HP19760.i/17may23.b/de0594.d SSTD12.5
/chem/HP19760.i/17may23.b/de0595.d SSTD7.5
/chem/HP19760.i/17may23.b/de0596.d SSTD3.75

Area Summary

Internal Standard Name	de0592.d	de0593.d	de0594.d	de0595.d	de0596.d	Avg. Area	%RSD	In Spec
	File ID:							
1,4-Dichlorobenzene-d4	178225	185063	187251	189123	171638	182260	4	Yes
Naphthalene-d8	677973	697172	704042	705133	641029	685070	4	Yes
Acenaphthene-d10	378767	381381	393784	393884	348776	379318	5	Yes
Phenanthrene-d10	703648	718463	739997	725385	663335	710166	4	Yes
Pyrene-d10	827999	848555	866358	845077	779581	833514	4	Yes
Perylene-d12	620712	638562	654771	624187	576416	622930	5	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

Internal Standard Name	de0592.d	de0593.d	de0594.d	de0595.d	de0596.d	Avg. RT
	File ID:					
1,4-Dichlorobenzene-d4	6.529	6.529	6.529	6.529	6.529	6.529
Naphthalene-d8	8.464	8.464	8.464	8.458	8.464	8.463
Acenaphthene-d10	11.244	11.244	11.244	11.244	11.244	11.244
Phenanthrene-d10	13.156	13.156	13.162	13.156	13.156	13.157
Pyrene-d10	15.073	15.073	15.073	15.073	15.073	15.073
Perylene-d12	19.497	19.497	19.497	19.497	19.497	19.497

Comments:_____

_____

Report generated on 05/23/2017 at 10:45

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/23/17 05/23/17

Calibration Times: 13:34 13:34

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:

RRF12.5 = de0604.d

COMPOUND	RRF	RRF	RRF	RRF	RRF	RRF12.5	RRF	$\overline{RRF}$	% RSD	CAL. METHOD
a,a-Dimethylphenethylamine						0.865		0.865	0	AVG
Aramite (1)						0.004		0.004	0	AVG+
Aramite (2)						0.004		0.004	0	AVG+
Aramite (3)						0.318		0.318	0	AVG
Aramite (4)						0.433		0.433	0	AVG
Aramite						0.078		0.078	0	AVG
							Average %RSD		0	

+ %RSD is less than or equal to 0%; however, value rounds to 0.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/23/17 05/23/17

Calibration Times: 10:21 12:39

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID: RRF1.25 = de0602.d RRF3.75 = de0601.d

RRF7.5 = de0600.d RRF12.5 = de0599.d RRF20 = de0598.d RRF30 = de0597.d

COMPOUND	RRF	RRF	RRF1.25	RRF3.75	RRF7.5	RRF12.5	RRF20	RRF30	$\overline{RRF}$	% RSD	CAL. METHOD
Disulfoton			0.263	0.227	0.386	0.388	0.396	0.412	0.346	23	1STDEG
Methapyrilene				0.215	0.264	0.281	0.289	0.288	0.268	12	AVG
Famphur			0.154	0.190	0.226	0.212	0.190		0.194	14	AVG
Kepone			0.095	0.096	0.092	0.095	0.092	0.085	0.093	4	AVG

Average %RSD 11

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

Internal Standard
Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may23.b/de0597.d SSTD030
/chem/HP19760.i/17may23.b/de0598.d SSTD020
/chem/HP19760.i/17may23.b/de0599.d SSTD12.5
/chem/HP19760.i/17may23.b/de0600.d SSTD7.5
/chem/HP19760.i/17may23.b/de0601.d SSTD3.75
/chem/HP19760.i/17may23.b/de0602.d SSTD1.25

Area Summary

	File ID:								
Internal Standard Name	de0597.d	de0598.d	de0599.d	de0600.d	de0601.d	de0602.d	Avg. Area	%RSD	In Spec
1,4-Dichlorobenzene-d4	190281	184498	203879	225324	202823	180582	197898	8	Yes
Naphthalene-d8	708750	688386	767760	844618	770238	679859	743268	8	Yes
Acenaphthene-d10	400505	384233	439666	475854	426297	370796	416225	9	Yes
Phenanthrene-d10	750283	728941	825169	880069	797004	697597	779844	9	Yes
Pyrene-d10	886346	864377	977612	1071822	953637	825056	929808	10	Yes
Perylene-d12	670513	660562	743118	826012	734737	615001	708324	11	Yes

%RSD of internal standard area is flagged out of spec if greater than 30.

RT Summary

	File ID:						
Internal Standard Name	de0597.d	de0598.d	de0599.d	de0600.d	de0601.d	de0602.d	Avg. RT
1,4-Dichlorobenzene-d4	6.534	6.529	6.534	6.529	6.529	6.529	6.531
Naphthalene-d8	8.464	8.464	8.464	8.464	8.458	8.464	8.463
Acenaphthene-d10	11.244	11.244	11.244	11.244	11.244	11.244	11.244
Phenanthrene-d10	13.156	13.156	13.162	13.162	13.156	13.156	13.158
Pyrene-d10	15.073	15.073	15.073	15.073	15.073	15.073	15.073
Perylene-d12	19.497	19.497	19.497	19.503	19.503	19.503	19.500

Comments:_____

_____

Report generated on 05/25/2017 at 06:19

6B

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date(s): 05/30/17 05/30/17

Calibration Times: 09:22 09:22

Min $\overline{RRF}$ for SPCC(#) = 0.050 Max %RSD for CCC(*) = 30%

LAB FILE ID:

RRF12.5 = de0924.d

COMPOUND	RRF	RRF	RRF	RRF	RRF	RRF12.5	RRF	$\overline{RRF}$	% RSD	CAL. METHOD
a,a-Dimethylphenethylamine						1.021		1.021	0	AVG
Aramite (1)						0.005		0.005	0	AVG+
Aramite (2)						0.005		0.005	0	AVG+
Aramite (3)						0.452		0.452	0	AVG
Aramite (4)						0.595		0.595	0	AVG
Aramite						0.109		0.109	0	AVG
							Average %RSD		0	

+ %RSD is less than or equal to 0%; however, value rounds to 0.

4,6-Dinitro-2-methylphenol and 4-Nitrophenol are at 10 ng/ul in the 5 standard.
Benzidine Levels in the 5,15,30,50,80,120 standards are 15,45,90,150,240,360 ng/ul, respectively.
Benzoic acid and 2,4-Dinitrophenol are at 15 ng/ul, 30 ng/ul,40 ng/ul in the 5,15,30 standards.

FORM VI SV-1

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 07:36

Lab File ID: de0591.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.731	0.745	7.640	7.5	2
N-Nitrosodimethylamine	1.176	1.193	7.610	7.5	2
Pyridine	1.929	1.930	7.500	7.5	0
2-Picoline	1.970	1.979	7.540	7.5	0
N-Nitrosomethylethylamine	0.841	0.835	7.450	7.5	-1
Methyl methanesulfonate	0.962	0.834	6.500	7.5	-13
N-Nitrosodiethylamine	0.781	0.782	7.510	7.5	0
Ethyl methanesulfonate	0.843	0.681	6.050	7.5	-19
Benzaldehyde	1.454	1.483	7.650	7.5	2
Phenol	2.385	2.394	7.530	7.5	0
Aniline	2.803	2.788	7.460	7.5	-1
a-methylstyrene	1.717	1.766	7.720	7.5	3
bis(2-Chloroethyl)ether	1.772	1.780	7.530	7.5	0
2-Chlorophenol	1.554	1.523	7.350	7.5	-2
1,3-Dichlorobenzene	1.683	1.650	7.350	7.5	-2
1,4-Dichlorobenzene	1.720	1.668	7.270	7.5	-3
Benzyl alcohol	1.109	1.051	7.110	7.5	-5
1,2-Dichlorobenzene	1.620	1.585	7.330	7.5	-2
Indene	3.023	3.076	7.630	7.5	2
2-Methylphenol	1.528	1.518	7.450	7.5	-1
2,2'-oxybis(1-Chloropropane)	2.618	2.641	7.570	7.5	1
bis(2-Chloroisopropyl)ether	2.618	2.641	7.570	7.5	1
N-Nitrosopyrrolidine	0.861	0.818	7.130	7.5	-5
Acetophenone	2.298	2.335	7.620	7.5	2
4-Methylphenol	1.758	1.714	7.310	7.5	-3
Total Cresols	1.643	1.616	14.760	15.0	-2
N-Nitroso-di-n-propylamine	1.386	1.355	7.330	7.5	-2
N-Nitrosomorpholine	1.179	1.217	7.740	7.5	3
o-Toluidine	2.693	2.643	7.360	7.5	-2
Hexachloroethane	0.704	0.709	7.550	7.5	1
Nitrobenzene	0.522	0.537	7.720	7.5	3
N-Nitrosopiperidine	0.206	0.210	7.640	7.5	2
Isophorone	0.893	0.896	7.530	7.5	0
2-Nitrophenol	0.206	0.199	7.250	7.5	-3
2,4-Dimethylphenol	0.444	0.439	7.400	7.5	-1
O,O,O-Triethylphosphorothioate	0.210	0.206	7.360	7.5	-2

FORM VII SV-1

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 07:36

Lab File ID: de0591.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.571	0.569	7.480	7.5	0
Benzoic acid	0.289	0.272	9.310	10.0	-7
1,2,3,4-Tetrahydronaphthalene	0.655	0.678	7.760	7.5	3
2,4-Dichlorophenol	0.329	0.330	7.520	7.5	0
1,2,4-Trichlorobenzene	0.387	0.382	7.410	7.5	-1
Naphthalene	1.194	1.148	7.210	7.5	-4
4-Chloroaniline	0.484	0.486	7.530	7.5	0
2,6-Dichlorophenol	0.326	0.324	7.460	7.5	-1
Hexachloropropene	0.261	0.249	7.140	7.5	-5
Hexachlorobutadiene	0.229	0.222	7.280	7.5	-3
Quinoline	0.734	0.738	7.540	7.5	1
Caprolactam	0.103	0.098	7.200	7.5	-4
N-Nitrosodi-n-butylamine	0.366	0.339	6.950	7.5	-7
4-Chloro-3-methylphenol	0.375	0.370	7.410	7.5	-1
Safrole	0.298	0.295	7.420	7.5	-1
2-Methylnaphthalene	0.782	0.771	7.400	7.5	-1
1-Methylnaphthalene	0.719	0.697	7.270	7.5	-3
Hexachlorocyclopentadiene	0.341	0.323	7.110	7.5	-5
1,2,4,5-Tetrachlorobenzene	0.715	0.701	7.350	7.5	-2
cis-Isosafrole	0.561	0.541	1.230	1.3	-3
2,4,6-Trichlorophenol	0.436	0.433	7.450	7.5	-1
2,4,5-Trichlorophenol	0.470	0.470	7.500	7.5	0
trans-Isosafrole	0.594	0.590	6.190	6.2	-1
Isosafrole	0.588	0.582	7.420	7.5	-1
1,1'-Biphenyl	1.498	1.554	7.780	7.5	4
2-Chloronaphthalene	1.261	1.275	7.580	7.5	1
1-Chloronaphthalene	1.204	1.139	7.100	7.5	-5
Diphenyl ether	0.883	0.855	7.270	7.5	-3
2-Nitroaniline	0.392	0.366	7.000	7.5	-7
1,4-Naphthoquinone	0.524	0.514	7.360	7.5	-2
1,4-Dinitrobenzene	0.206	0.192	6.980	7.5	-7
Dimethylphthalate	1.457	1.440	7.410	7.5	-1
1,3-Dinitrobenzene	0.227	0.217	7.190	7.5	-4
2,6-Dinitrotoluene	0.322	0.307	7.140	7.5	-5
Acenaphthylene	1.845	1.853	7.530	7.5	0
3-Nitroaniline	0.333	0.320	7.210	7.5	-4

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 07:36

Lab File ID: de0591.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.343	1.316	7.350	7.5	-2
2,4-Dinitrophenol	0.188	0.166	8.840	10.0	-12
4-Nitrophenol	0.246	0.234	7.120	7.5	-5
Pentachlorobenzene	0.578	0.558	7.250	7.5	-3
2,4-Dinitrotoluene	0.433	0.416	7.200	7.5	-4
2,4_2,6-Dinitrotoluenes	0.376	0.361	14.330	15.0	-4
Dibenzofuran	1.834	1.793	7.330	7.5	-2
1-Naphthylamine	1.301	1.232	7.100	7.5	-5
2,3,4,6-Tetrachlorophenol	0.354	0.353	7.460	7.5	0
2-Naphthylamine	1.289	1.208	7.030	7.5	-6
Diethylphthalate	1.414	1.399	7.420	7.5	-1
Thionazin	0.281	0.266	7.090	7.5	-5
Fluorene	1.471	1.442	7.350	7.5	-2
4-Chlorophenyl-phenylether	0.716	0.712	7.460	7.5	-1
5-Nitro-o-toluidine	0.405	0.387	7.170	7.5	-4
4-Nitroaniline	0.332	0.332	7.500	7.5	0
4,6-Dinitro-2-methylphenol	0.135	0.126	6.980	7.5	-7
N-Nitrosodiphenylamine (1)	0.620	0.623	7.530	7.5	0
NDPA as diphenylamine	0.620	0.623	7.530	7.5	0
1,2-Diphenylhydrazine	0.876	0.908	7.770	7.5	4
Tetraethyldithiopyrophosphate	0.143	0.134	7.050	7.5	-6
1,3,5-Trinitrobenzene	0.087	0.077	6.640	7.5	-11
Diallate (peak 1)	0.379	0.397	6.540	6.2	5
Phorate	0.563	0.552	7.360	7.5	-2
Phenacetin	0.413	0.420	7.640	7.5	2
4-Bromophenyl-phenylether	0.213	0.210	7.400	7.5	-1
Diallate (peak 2)	0.307	0.305	1.270	1.3	-1
Diallate trans/cis	0.366	0.382	7.800	7.5	4
Hexachlorobenzene	0.224	0.216	7.220	7.5	-4
Dimethoate	0.363	0.289	5.980	7.5	-20
Atrazine	0.196	0.192	7.340	7.5	-2
Pentachlorophenol	0.123	0.128	7.770	7.5	4
4-Aminobiphenyl	0.688	0.685	7.460	7.5	-1
Pentachloronitrobenzene	0.098	0.099	7.620	7.5	2
Pronamide	0.357	0.358	7.510	7.5	0
Dinoseb	0.207	0.199	7.220	7.5	-4

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 07:36

Lab File ID: de0591.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.118	1.100	7.380	7.5	-2
Anthracene	1.113	1.110	7.480	7.5	0
Carbazole	1.033	1.053	7.650	7.5	2
Methyl parathion	0.279	0.257	6.890	7.5	-8
Di-n-butylphthalate	1.276	1.285	7.550	7.5	1
Parathion	0.178	0.170	7.180	7.5	-4
4-Nitroquinoline-1-oxide	0.117	0.082	5.280	7.5	-30
Octachlorostyrene	0.084	0.083	7.400	7.5	-1
Isodrin	0.135	0.130	7.210	7.5	-4
Fluoranthene	1.280	1.299	7.620	7.5	2
Benzidine	0.661	0.613	20.860	22.5	-7
Pyrene	1.135	1.115	7.370	7.5	-2
p-Dimethylaminoazobenzene	0.181	0.176	7.290	7.5	-3
Chlorobenzilate	0.334	0.319	7.160	7.5	-4
3,3'-Dimethylbenzidine	0.733	0.646	6.610	7.5	-12
Butylbenzylphthalate	0.502	0.488	7.280	7.5	-3
2-Acetylaminofluorene	0.468	0.410	6.570	7.5	-12
3,3'-Dichlorobenzidine	0.410	0.397	7.270	7.5	-3
4,4'-Methylenebis(2-chloroanil	0.222	0.210	7.100	7.5	-5
Benzo(a)anthracene	1.088	1.102	7.590	7.5	1
Chrysene	1.025	1.034	7.570	7.5	1
bis(2-Ethylhexyl)phthalate	0.752	0.716	7.140	7.5	-5
6-Methylchrysene	0.730	0.736	7.570	7.5	1
Di-n-octylphthalate	1.635	1.434	6.580	7.5	-12
Benzo(b)fluoranthene	1.362	1.332	7.340	7.5	-2
7,12-Dimethylbenz[a]anthracene	0.553	0.563	7.630	7.5	2
Benzo(k)fluoranthene	1.310	1.348	7.720	7.5	3
Benzo(a)pyrene	1.258	1.251	7.450	7.5	-1
3-Methylcholanthrene	0.560	0.532	7.130	7.5	-5
Dibenz(a,h)acridine	0.906	0.870	7.200	7.5	-4
Dibenz(a,j)acridine	0.889	0.868	7.320	7.5	-2
Indeno(1,2,3-cd)pyrene	1.234	1.284	7.800	7.5	4
Dibenz(a,h)anthracene	1.026	1.047	7.650	7.5	2
Benzo(g,h,i)perylene	1.010	1.050	7.800	7.5	4
Total PAHs	1.099	1.082	134.880	135.0	0
2-Fluorophenol	1.551	1.556	15.050	15.0	0

FORM VII SV-1

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 07:36

Lab File ID: de0591.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	$\overline{RRF}$	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.105	2.083	14.840	15.0	-1
Nitrobenzene-d5	0.518	0.520	15.040	15.0	0
2-Fluorobiphenyl	1.554	1.534	14.810	15.0	-1
2,4,6-Tribromophenol	0.186	0.173	13.920	15.0	-7
Terphenyl-d14	0.734	0.747	15.280	15.0	2
			Average %Drift:		3

FORM VII SV-1

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may05b.b/de0161.d **
/chem/HP19760.i/17may05b.b/de0162.d
/chem/HP19760.i/17may05b.b/de0163.d
/chem/HP19760.i/17may05b.b/de0164.d
/chem/HP19760.i/17may05b.b/de0165.d
/chem/HP19760.i/17may05b.b/de0166.d
/chem/HP19760.i/17may05b.b/de0167.d
/chem/HP19760.i/17may05b.b/de0168.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP19760.i/17may23.b/de0591.d

Area Summary

Internal Standard Name	File ID: de0591.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	196373	195284	97642	390568	Yes
Naphthalene-d8	728405	747503	373752	1495006	Yes
Acenaphthene-d10	414297	426791	213396	853582	Yes
Phenanthrene-d10	784498	816291	408146	1632582	Yes
Pyrene-d10	955194	993842	496921	1987684	Yes
Perylene-d12	795172	828843	414422	1657686	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

Internal Standard Name	File ID: de0591.d	ICAL RT	In Spec	
1,4-Dichlorobenzene-d4	6.534	6.728	No	
Naphthalene-d8	8.464	8.657	No	
Acenaphthene-d10	11.250	11.449	No	*
Phenanthrene-d10	13.161	13.337	No	
Pyrene-d10	15.079	15.290	No	
Perylene-d12	19.503	19.761	No	

A "No" indicates the retention time is greater than 10 seconds from the RT of the referenced standard.

Comments: * Column maintenance. CeB 5/23/17

Report generated on 05/23/2017 at 08:04

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 21:06

Lab File ID: de0621.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.731	0.760	7.790	7.5	4
N-Nitrosodimethylamine	1.176	1.232	7.860	7.5	5
Pyridine	1.929	1.963	7.630	7.5	2
2-Picoline	1.970	2.023	7.700	7.5	3
N-Nitrosomethylethylamine	0.841	0.859	7.670	7.5	2
Methyl methanesulfonate	0.962	0.933	7.270	7.5	-3
N-Nitrosodiethylamine	0.781	0.806	7.740	7.5	3
Ethyl methanesulfonate	0.843	0.780	6.930	7.5	-8
Benzaldehyde	1.454	1.541	7.950	7.5	6
Phenol	2.385	2.407	7.570	7.5	1
Aniline	2.803	2.803	7.500	7.5	0
a-methylstyrene	1.717	1.795	7.840	7.5	5
bis(2-Chloroethyl)ether	1.772	1.768	7.480	7.5	0
2-Chlorophenol	1.554	1.537	7.420	7.5	-1
1,3-Dichlorobenzene	1.683	1.656	7.380	7.5	-2
1,4-Dichlorobenzene	1.720	1.690	7.370	7.5	-2
Benzyl alcohol	1.109	1.082	7.320	7.5	-2
1,2-Dichlorobenzene	1.620	1.587	7.350	7.5	-2
Indene	3.023	3.096	7.680	7.5	2
2-Methylphenol	1.528	1.524	7.480	7.5	0
2,2'-oxybis(1-Chloropropane)	2.618	2.679	7.670	7.5	2
bis(2-Chloroisopropyl)ether	2.618	2.679	7.670	7.5	2
N-Nitrosopyrrolidine	0.861	0.835	7.280	7.5	-3
Acetophenone	2.298	2.367	7.720	7.5	3
4-Methylphenol	1.758	1.748	7.460	7.5	-1
Total Cresols	1.643	1.636	14.940	15.0	0
N-Nitroso-di-n-propylamine	1.386	1.363	7.380	7.5	-2
N-Nitrosomorpholine	1.179	1.238	7.870	7.5	5
o-Toluidine	2.693	2.690	7.490	7.5	0
Hexachloroethane	0.704	0.704	7.500	7.5	0
Nitrobenzene	0.522	0.530	7.610	7.5	1
N-Nitrosopiperidine	0.206	0.209	7.590	7.5	1
Isophorone	0.893	0.895	7.520	7.5	0
2-Nitrophenol	0.206	0.204	7.410	7.5	-1
2,4-Dimethylphenol	0.444	0.436	7.350	7.5	-2
O,O,O-Triethylphosphorothioate	0.210	0.199	7.110	7.5	-5

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 21:06

Lab File ID: de0621.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.571	0.567	7.450	7.5	-1
Benzoic acid	0.289	0.271	9.270	10.0	-7
1,2,3,4-Tetrahydronaphthalene	0.655	0.667	7.630	7.5	2
2,4-Dichlorophenol	0.329	0.325	7.400	7.5	-1
1,2,4-Trichlorobenzene	0.387	0.377	7.310	7.5	-3
Naphthalene	1.194	1.147	7.200	7.5	-4
4-Chloroaniline	0.484	0.473	7.330	7.5	-2
2,6-Dichlorophenol	0.326	0.316	7.260	7.5	-3
Hexachloropropene	0.261	0.244	7.010	7.5	-7
Hexachlorobutadiene	0.229	0.215	7.040	7.5	-6
Quinoline	0.734	0.734	7.490	7.5	0
Caprolactam	0.103	0.099	7.220	7.5	-4
N-Nitrosodi-n-butylamine	0.366	0.342	7.030	7.5	-6
4-Chloro-3-methylphenol	0.375	0.364	7.290	7.5	-3
Safrole	0.298	0.289	7.290	7.5	-3
2-Methylnaphthalene	0.782	0.763	7.320	7.5	-2
1-Methylnaphthalene	0.719	0.688	7.170	7.5	-4
Hexachlorocyclopentadiene	0.341	0.319	7.020	7.5	-6
1,2,4,5-Tetrachlorobenzene	0.715	0.692	7.260	7.5	-3
cis-Isosafrole	0.561	0.542	1.230	1.3	-3
2,4,6-Trichlorophenol	0.436	0.436	7.510	7.5	0
2,4,5-Trichlorophenol	0.470	0.461	7.340	7.5	-2
trans-Isosafrole	0.594	0.593	6.220	6.2	0
Isosafrole	0.588	0.585	7.450	7.5	-1
1,1'-Biphenyl	1.498	1.560	7.810	7.5	4
2-Chloronaphthalene	1.261	1.272	7.570	7.5	1
1-Chloronaphthalene	1.204	1.130	7.040	7.5	-6
Diphenyl ether	0.883	0.853	7.250	7.5	-3
2-Nitroaniline	0.392	0.380	7.280	7.5	-3
1,4-Naphthoquinone	0.524	0.518	7.410	7.5	-1
1,4-Dinitrobenzene	0.206	0.200	7.270	7.5	-3
Dimethylphthalate	1.457	1.427	7.350	7.5	-2
1,3-Dinitrobenzene	0.227	0.222	7.360	7.5	-2
2,6-Dinitrotoluene	0.322	0.311	7.230	7.5	-4
Acenaphthylene	1.845	1.819	7.400	7.5	-1
3-Nitroaniline	0.333	0.334	7.510	7.5	0

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 21:06

Lab File ID: de0621.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.343	1.306	7.300	7.5	-3
2,4-Dinitrophenol	0.188	0.167	8.910	10.0	-11
4-Nitrophenol	0.246	0.214	6.510	7.5	-13
Pentachlorobenzene	0.578	0.565	7.340	7.5	-2
2,4-Dinitrotoluene	0.433	0.425	7.350	7.5	-2
2,4_2,6-Dinitrotoluenes	0.376	0.368	14.580	15.0	-3
Dibenzofuran	1.834	1.782	7.290	7.5	-3
1-Naphthylamine	1.301	1.248	7.190	7.5	-4
2,3,4,6-Tetrachlorophenol	0.354	0.349	7.400	7.5	-1
2-Naphthylamine	1.289	1.233	7.180	7.5	-4
Diethylphthalate	1.414	1.392	7.390	7.5	-2
Thionazin	0.281	0.280	7.460	7.5	-1
Fluorene	1.471	1.448	7.380	7.5	-2
4-Chlorophenyl-phenylether	0.716	0.702	7.340	7.5	-2
5-Nitro-o-toluidine	0.405	0.392	7.260	7.5	-3
4-Nitroaniline	0.332	0.326	7.370	7.5	-2
4,6-Dinitro-2-methylphenol	0.135	0.129	7.200	7.5	-4
N-Nitrosodiphenylamine (1)	0.620	0.634	7.670	7.5	2
NDPA as diphenylamine	0.620	0.634	7.670	7.5	2
1,2-Diphenylhydrazine	0.876	0.920	7.880	7.5	5
Tetraethyldithiopyrophosphate	0.143	0.145	7.630	7.5	2
1,3,5-Trinitrobenzene	0.087	0.081	6.990	7.5	-7
Diallate (peak 1)	0.379	0.396	6.520	6.2	5
Phorate	0.563	0.584	7.780	7.5	4
Phenacetin	0.413	0.417	7.570	7.5	1
4-Bromophenyl-phenylether	0.213	0.212	7.470	7.5	0
Diallate (peak 2)	0.307	0.317	1.320	1.3	3
Diallate trans/cis	0.366	0.383	7.840	7.5	5
Hexachlorobenzene	0.224	0.213	7.120	7.5	-5
Dimethoate	0.363	0.323	6.670	7.5	-11
Atrazine	0.196	0.200	7.640	7.5	2
Pentachlorophenol	0.123	0.124	7.540	7.5	1
4-Aminobiphenyl	0.688	0.699	7.620	7.5	2
Pentachloronitrobenzene	0.098	0.098	7.510	7.5	0
Pronamide	0.357	0.358	7.530	7.5	0
Dinoseb	0.207	0.204	7.390	7.5	-1

(1) Cannot be Separated from Diphenylamine

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 21:06

Lab File ID: de0621.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.118	1.084	7.270	7.5	-3
Anthracene	1.113	1.112	7.500	7.5	0
Carbazole	1.033	1.054	7.650	7.5	2
Methyl parathion	0.279	0.274	7.370	7.5	-2
Di-n-butylphthalate	1.276	1.297	7.620	7.5	2
Parathion	0.178	0.179	7.530	7.5	0
4-Nitroquinoline-1-oxide	0.117	0.090	5.790	7.5	-23
Octachlorostyrene	0.084	0.082	7.260	7.5	-3
Isodrin	0.135	0.132	7.320	7.5	-2
Fluoranthene	1.280	1.288	7.550	7.5	1
Benzidine	0.661	0.654	22.230	22.5	-1
Pyrene	1.135	1.106	7.310	7.5	-3
p-Dimethylaminoazobenzene	0.181	0.176	7.310	7.5	-3
Chlorobenzilate	0.334	0.327	7.360	7.5	-2
3,3'-Dimethylbenzidine	0.733	0.674	6.900	7.5	-8
Butylbenzylphthalate	0.502	0.493	7.350	7.5	-2
2-Acetylaminofluorene	0.468	0.409	6.550	7.5	-13
3,3'-Dichlorobenzidine	0.410	0.391	7.150	7.5	-5
4,4'-Methylenebis(2-chloroanil	0.222	0.208	7.030	7.5	-6
Benzo(a)anthracene	1.088	1.063	7.330	7.5	-2
Chrysene	1.025	1.000	7.320	7.5	-2
bis(2-Ethylhexyl)phthalate	0.752	0.723	7.210	7.5	-4
6-Methylchrysene	0.730	0.715	7.350	7.5	-2
Di-n-octylphthalate	1.635	1.523	6.990	7.5	-7
Benzo(b)fluoranthene	1.362	1.385	7.630	7.5	2
7,12-Dimethylbenz[a]anthracene	0.553	0.569	7.720	7.5	3
Benzo(k)fluoranthene	1.310	1.331	7.620	7.5	2
Benzo(a)pyrene	1.258	1.277	7.610	7.5	1
3-Methylcholanthrene	0.560	0.541	7.250	7.5	-3
Dibenz(a,h)acridine	0.906	0.870	7.200	7.5	-4
Dibenz(a,j)acridine	0.889	0.870	7.340	7.5	-2
Indeno(1,2,3-cd)pyrene	1.234	1.262	7.670	7.5	2
Dibenz(a,h)anthracene	1.026	1.052	7.690	7.5	2
Benzo(g,h,i)perylene	1.010	1.028	7.630	7.5	2
Total PAHs	1.099	1.109	133.880	135.0	-1
2-Fluorophenol	1.551	1.585	15.330	15.0	2

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/23/17 Time: 21:06

Lab File ID: de0621.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.105	2.123	15.120	15.0	1
Nitrobenzene-d5	0.518	0.512	14.820	15.0	-1
2-Fluorobiphenyl	1.554	1.545	14.910	15.0	-1
2,4,6-Tribromophenol	0.186	0.177	14.240	15.0	-5
Terphenyl-d14	0.734	0.733	14.990	15.0	0
			Average %Drift:		3

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may05b.b/de0161.d **
/chem/HP19760.i/17may05b.b/de0162.d
/chem/HP19760.i/17may05b.b/de0163.d
/chem/HP19760.i/17may05b.b/de0164.d
/chem/HP19760.i/17may05b.b/de0165.d
/chem/HP19760.i/17may05b.b/de0166.d
/chem/HP19760.i/17may05b.b/de0167.d
/chem/HP19760.i/17may05b.b/de0168.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP19760.i/17may23a.b/de0621.d

Area Summary

Internal Standard Name	File ID: de0621.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	211786	195284	97642	390568	Yes
Naphthalene-d8	802313	747503	373752	1495006	Yes
Acenaphthene-d10	454157	426791	213396	853582	Yes
Phenanthrene-d10	857354	816291	408146	1632582	Yes
Pyrene-d10	1033767	993842	496921	1987684	Yes
Perylene-d12	825347	828843	414422	1657686	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

Internal Standard Name	File ID: de0621.d	ICAL RT	In Spec
1,4-Dichlorobenzene-d4	6.529	6.728	No
Naphthalene-d8	8.464	8.657	No
Acenaphthene-d10	11.250	11.449	No
Phenanthrene-d10	13.162	13.337	No
Pyrene-d10	15.079	15.290	No
Perylene-d12	19.503	19.761	No

A "No" indicates the retention time is greater than 10 seconds from the RT of the referenced standard.

Comments: * Column maintenance EQM10340 5/23/17

Report generated on 05/23/2017 at 21:45

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/30/17 Time: 07:48

Lab File ID: de0921.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Dioxane	0.731	0.731	7.500	7.5	0
N-Nitrosodimethylamine	1.176	1.148	7.320	7.5	-2
Pyridine	1.929	1.898	7.380	7.5	-2
2-Picoline	1.970	1.891	7.200	7.5	-4
N-Nitrosomethylethylamine	0.841	0.785	7.000	7.5	-7
Methyl methanesulfonate	0.962	0.874	6.820	7.5	-9
N-Nitrosodiethylamine	0.781	0.736	7.070	7.5	-6
Ethyl methanesulfonate	0.843	0.772	6.870	7.5	-8
Benzaldehyde	1.454	1.534	7.910	7.5	5
Phenol	2.385	2.371	7.460	7.5	-1
Aniline	2.803	2.706	7.240	7.5	-3
a-methylstyrene	1.717	1.660	7.250	7.5	-3
bis(2-Chloroethyl)ether	1.772	1.728	7.310	7.5	-2
2-Chlorophenol	1.554	1.457	7.030	7.5	-6
1,3-Dichlorobenzene	1.683	1.595	7.110	7.5	-5
1,4-Dichlorobenzene	1.720	1.596	6.960	7.5	-7
Benzyl alcohol	1.109	1.024	6.930	7.5	-8
1,2-Dichlorobenzene	1.620	1.510	6.990	7.5	-7
Indene	3.023	2.920	7.250	7.5	-3
2-Methylphenol	1.528	1.424	6.990	7.5	-7
2,2'-oxybis(1-Chloropropane)	2.618	2.618	7.500	7.5	0
bis(2-Chloroisopropyl)ether	2.618	2.618	7.500	7.5	0
N-Nitrosopyrrolidine	0.861	0.788	6.870	7.5	-8
Acetophenone	2.298	2.230	7.280	7.5	-3
4-Methylphenol	1.758	1.656	7.060	7.5	-6
Total Cresols	1.643	1.540	14.060	15.0	-6
N-Nitroso-di-n-propylamine	1.386	1.284	6.950	7.5	-7
N-Nitrosomorpholine	1.179	1.166	7.410	7.5	-1
o-Toluidine	2.693	2.574	7.170	7.5	-4
Hexachloroethane	0.704	0.667	7.100	7.5	-5
Nitrobenzene	0.522	0.511	7.340	7.5	-2
N-Nitrosopiperidine	0.206	0.194	7.060	7.5	-6
Isophorone	0.893	0.854	7.180	7.5	-4
2-Nitrophenol	0.206	0.196	7.130	7.5	-5
2,4-Dimethylphenol	0.444	0.419	7.070	7.5	-6
O,O,O-Triethylphosphorothioate	0.210	0.199	7.110	7.5	-5

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/30/17 Time: 07:48

Lab File ID: de0921.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
bis(2-Chloroethoxy)methane	0.571	0.542	7.120	7.5	-5
Benzoic acid	0.289	0.227	8.130	10.0	-19
1,2,3,4-Tetrahydronaphthalene	0.655	0.632	7.240	7.5	-4
2,4-Dichlorophenol	0.329	0.313	7.140	7.5	-5
1,2,4-Trichlorobenzene	0.387	0.363	7.030	7.5	-6
Naphthalene	1.194	1.106	6.940	7.5	-7
4-Chloroaniline	0.484	0.454	7.040	7.5	-6
2,6-Dichlorophenol	0.326	0.303	6.980	7.5	-7
Hexachloropropene	0.261	0.217	6.230	7.5	-17
Hexachlorobutadiene	0.229	0.211	6.930	7.5	-8
Quinoline	0.734	0.696	7.110	7.5	-5
Caprolactam	0.103	0.094	6.880	7.5	-8
N-Nitrosodi-n-butylamine	0.366	0.319	6.540	7.5	-13
4-Chloro-3-methylphenol	0.375	0.351	7.020	7.5	-6
Safrole	0.298	0.283	7.120	7.5	-5
2-Methylnaphthalene	0.782	0.741	7.110	7.5	-5
1-Methylnaphthalene	0.719	0.680	7.090	7.5	-6
Hexachlorocyclopentadiene	0.341	0.325	7.150	7.5	-5
1,2,4,5-Tetrachlorobenzene	0.715	0.679	7.120	7.5	-5
cis-Isosafrole	0.561	0.526	1.200	1.3	-6
2,4,6-Trichlorophenol	0.436	0.410	7.060	7.5	-6
2,4,5-Trichlorophenol	0.470	0.433	6.910	7.5	-8
trans-Isosafrole	0.594	0.503	5.270	6.2	-15
Isosafrole	0.588	0.507	6.470	7.5	-14
1,1'-Biphenyl	1.498	1.502	7.520	7.5	0
2-Chloronaphthalene	1.261	1.171	6.960	7.5	-7
1-Chloronaphthalene	1.204	1.185	7.380	7.5	-2
Diphenyl ether	0.883	0.833	7.080	7.5	-6
2-Nitroaniline	0.392	0.354	6.780	7.5	-10
1,4-Naphthoquinone	0.524	0.503	7.200	7.5	-4
1,4-Dinitrobenzene	0.206	0.190	6.920	7.5	-8
Dimethylphthalate	1.457	1.382	7.110	7.5	-5
1,3-Dinitrobenzene	0.227	0.190	6.300	7.5	-16
2,6-Dinitrotoluene	0.322	0.303	7.050	7.5	-6
Acenaphthylene	1.845	1.711	6.960	7.5	-7
3-Nitroaniline	0.333	0.311	7.010	7.5	-7

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/30/17 Time: 07:48

Lab File ID: de0921.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Acenaphthene	1.343	1.257	7.020	7.5	-6
2,4-Dinitrophenol	0.188	0.157	8.370	10.0	-16
4-Nitrophenol	0.246	0.202	6.160	7.5	-18
Pentachlorobenzene	0.578	0.543	7.050	7.5	-6
2,4-Dinitrotoluene	0.433	0.402	6.960	7.5	-7
2,4_2,6-Dinitrotoluenes	0.376	0.353	14.020	15.0	-7
Dibenzofuran	1.834	1.717	7.020	7.5	-6
1-Naphthylamine	1.301	1.255	7.240	7.5	-4
2,3,4,6-Tetrachlorophenol	0.354	0.328	6.930	7.5	-8
2-Naphthylamine	1.289	1.219	7.090	7.5	-5
Diethylphthalate	1.414	1.331	7.060	7.5	-6
Thionazin	0.281	0.269	7.170	7.5	-4
Fluorene	1.471	1.379	7.030	7.5	-6
4-Chlorophenyl-phenylether	0.716	0.689	7.210	7.5	-4
5-Nitro-o-toluidine	0.405	0.367	6.790	7.5	-9
4-Nitroaniline	0.332	0.322	7.280	7.5	-3
4,6-Dinitro-2-methylphenol	0.135	0.123	6.820	7.5	-9
N-Nitrosodiphenylamine (1)	0.620	0.606	7.330	7.5	-2
NDPA as diphenylamine	0.620	0.606	7.330	7.5	-2
1,2-Diphenylhydrazine	0.876	0.870	7.450	7.5	-1
Tetraethyldithiopyrophosphate	0.143	0.143	7.490	7.5	0
1,3,5-Trinitrobenzene	0.087	0.078	6.700	7.5	-11
Diallate (peak 1)	0.379	0.377	6.190	6.2	-1
Phorate	0.563	0.588	7.830	7.5	4
Phenacetin	0.413	0.391	7.100	7.5	-5
4-Bromophenyl-phenylether	0.213	0.208	7.340	7.5	-2
Diallate (peak 2)	0.307	0.291	1.210	1.3	-5
Diallate trans/cis	0.366	0.362	7.400	7.5	-1
Hexachlorobenzene	0.224	0.208	6.970	7.5	-7
Dimethoate	0.363	0.366	7.570	7.5	1
Atrazine	0.196	0.203	7.760	7.5	3
Pentachlorophenol	0.123	0.119	7.230	7.5	-4
4-Aminobiphenyl	0.688	0.373	4.070	7.5	-46
Pentachloronitrobenzene	0.098	0.093	7.160	7.5	-5
Pronamide	0.357	0.341	7.170	7.5	-4
Dinoseb	0.207	0.192	6.950	7.5	-7

(1) Cannot be Separated from Diphenylamine

7C cont
SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/30/17 Time: 07:48

Lab File ID: de0921.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenanthrene	1.118	1.064	7.140	7.5	-5
Anthracene	1.113	1.074	7.240	7.5	-3
Carbazole	1.033	1.001	7.270	7.5	-3
Methyl parathion	0.279	0.273	7.320	7.5	-2
Di-n-butylphthalate	1.276	1.237	7.270	7.5	-3
Parathion	0.178	0.175	7.380	7.5	-2
4-Nitroquinoline-1-oxide	0.117	0.082	5.260	7.5	-30
Octachlorostyrene	0.084	0.078	6.920	7.5	-8
Isodrin	0.135	0.129	7.120	7.5	-5
Fluoranthene	1.280	1.247	7.310	7.5	-3
Benzidine	0.661	0.691	23.490	22.5	4
Pyrene	1.135	1.052	6.950	7.5	-7
p-Dimethylaminoazobenzene	0.181	0.150	6.240	7.5	-17
Chlorobenzilate	0.334	0.307	6.910	7.5	-8
3,3'-Dimethylbenzidine	0.733	0.710	7.270	7.5	-3
Butylbenzylphthalate	0.502	0.469	6.990	7.5	-7
2-Acetylaminofluorene	0.468	0.404	6.470	7.5	-14
3,3'-Dichlorobenzidine	0.410	0.389	7.120	7.5	-5
4,4'-Methylenebis(2-chloroanil	0.222	0.198	6.700	7.5	-11
Benzo(a)anthracene	1.088	1.013	6.980	7.5	-7
Chrysene	1.025	0.965	7.060	7.5	-6
bis(2-Ethylhexyl)phthalate	0.752	0.697	6.950	7.5	-7
6-Methylchrysene	0.730	0.678	6.970	7.5	-7
Di-n-octylphthalate	1.635	1.452	6.660	7.5	-11
Benzo(b)fluoranthene	1.362	1.260	6.940	7.5	-7
7,12-Dimethylbenz[a]anthracene	0.553	0.563	7.630	7.5	2
Benzo(k)fluoranthene	1.310	1.278	7.320	7.5	-2
Benzo(a)pyrene	1.258	1.184	7.060	7.5	-6
3-Methylcholanthrene	0.560	0.459	6.150	7.5	-18
Dibenz(a,h)acridine	0.906	0.893	7.390	7.5	-1
Dibenz(a,j)acridine	0.889	0.962	8.120	7.5	8
Indeno(1,2,3-cd)pyrene	1.234	1.314	7.990	7.5	7
Dibenz(a,h)anthracene	1.026	1.073	7.840	7.5	5
Benzo(g,h,i)perylene	1.010	1.096	8.150	7.5	9
Total PAHs	1.099	1.046	130.110	135.0	-4
2-Fluorophenol	1.551	1.508	14.580	15.0	-3

7C cont

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/30/17 Time: 07:48

Lab File ID: de0921.d Init. Calib. Date(s): 05/05/17 05/05/17

Init. Calib. Times(s): 18:05 21:33

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Phenol-d6	2.105	1.914	13.630	15.0	-9
Nitrobenzene-d5	0.518	0.505	14.630	15.0	-2
2-Fluorobiphenyl	1.554	1.499	14.460	15.0	-4
2,4,6-Tribromophenol	0.186	0.174	14.060	15.0	-6
Terphenyl-d14	0.734	0.706	14.440	15.0	-4
			Average %Drift:		6

Continuing Calibration
Internal Standard Area and Retention Time Summary

Initial Calibration Standards:

/chem/HP19760.i/17may05b.b/de0161.d **
/chem/HP19760.i/17may05b.b/de0162.d
/chem/HP19760.i/17may05b.b/de0163.d
/chem/HP19760.i/17may05b.b/de0164.d
/chem/HP19760.i/17may05b.b/de0165.d
/chem/HP19760.i/17may05b.b/de0166.d
/chem/HP19760.i/17may05b.b/de0167.d
/chem/HP19760.i/17may05b.b/de0168.d

** indicates the Mid Level Calibration Standard.

Mid Level Calibration Standard is used for comparison.

Current Continuing Calibration Standard:

/chem/HP19760.i/17may30.b/de0921.d

Area Summary

File ID:

Internal Standard Name	de0921.d	ICAL Area	Low Limit	High Limit	In Spec
1,4-Dichlorobenzene-d4	160018	195284	97642	390568	Yes
Naphthalene-d8	596050	747503	373752	1495006	Yes
Acenaphthene-d10	338862	426791	213396	853582	Yes
Phenanthrene-d10	637983	816291	408146	1632582	Yes
Pyrene-d10	788702	993842	496921	1987684	Yes
Perylene-d12	647948	828843	414422	1657686	Yes

A "No" indicates the internal standard area is outside acceptable QC limits.

RT Summary

File ID:

Internal Standard Name	de0921.d	ICAL RT	In Spec	
1,4-Dichlorobenzene-d4	6.464	6.728	No	
Naphthalene-d8	8.399	8.657	No	
Acenaphthene-d10	11.191	11.449	No	*
Phenanthrene-d10	13.115	13.337	No	
Pyrene-d10	15.027	15.290	No	
Perylene-d12	19.445	19.761	No	

A "No" indicates the retention time is greater than 10 seconds from the RT of the referenced standard.

Comments: * Column maintenance. KnK 25316 5-30-17

Report generated on 05/30/2017 at 08:23

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/30/17 Time: 08:27

Lab File ID: de0922.d Init. Calib. Date(s): 05/23/17 05/23/17

Init. Calib. Times(s): 08:03 09:54

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF12	ACTUAL CONC.	TRUE CONC.	% DRIFT
1,4-Phenylenediamine	0.428	0.508	14.870	12.5	19
			Average %Drift:		19

FORM VII SV-1

page 1 of 1

7B

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: Lancaster Laboratories Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Instrument ID: HP19760 Calibration Date: 05/30/17 Time: 09:50

Lab File ID: de0923a.d Init. Calib. Date(s): 05/23/17 05/23/17

Init. Calib. Times(s): 10:21 12:39

Min RRF for SPCC(#) = 0.050 Max %Drift for CCC(*) = 20%

COMPOUND	RRF	RRF7.5	ACTUAL CONC.	TRUE CONC.	% DRIFT
Disulfoton	0.345	0.405	8.190	7.5	9
Methapyrilene	0.268	0.285	8.000	7.5	7
Famphur	0.194	0.311	11.980	7.5	60*
Kepone	0.093	0.092	39.670	40.0	-1
			Average %Drift:		19

FORM VII SV-1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0591.d Date Analyzed: 05/23/17

Instrument ID: HP19760 Time Analyzed: 07:36

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	196373	6.534	728405	8.464	414297	11.250
UPPER LIMIT	392746	7.034	1456810	8.964	828594	11.750
LOWER LIMIT	98187	6.034	364203	7.964	207149	10.750
LLI SAMPLE NO.						
01 SBLKWC142	150149	6.529	579503	8.464	317714	11.244
02 SBLKWW142	150149	6.529	579503	8.464	317714	11.244
03 142WCLCS	155919	6.534	581325	8.464	324286	11.250
04 142WWLCS	155919	6.534	581325	8.464	324286	11.250
05 142WCLCS1	152572	6.534	568810	8.458	317279	11.244
06 142WCLCSD1	157110	6.534	579054	8.458	327999	11.244
07 142WWUS	158563	6.528	598811	8.464	329281	11.244
08 8999788	158563	6.528	598811	8.464	329276	11.244
09 142WWMS	158200	6.535	592077	8.464	329025	11.250
10 8999789MS	158200	6.535	592077	8.464	329019	11.250
11 142WWMSD	151355	6.535	574833	8.464	318061	11.250
12 8999790MSD	151355	6.535	574833	8.464	318061	11.250
13 8999786	155404	6.529	603356	8.464	330587	11.244
14 8999787	162446	6.528	611317	8.458	334659	11.244
15 8999791	153950	6.529	584804	8.458	318430	11.244
16 8999792	154742	6.529	585213	8.464	324209	11.244

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0591.d Date Analyzed: 05/23/17

Instrument ID: HP19760 Time Analyzed: 07:36

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	784498	13.161	955194	15.079	795172	19.503
UPPER LIMIT	1568996	13.661	1910388	15.579	1590344	20.003
LOWER LIMIT	392249	12.661	477597	14.579	397586	19.003
LLI SAMPLE NO.						
01 SBLKWC142	598049	13.156	703096	15.073	531193	19.497
02 SBLKWW142	598049	13.156	703096	15.073	531193	19.497
03 142WCLCS	616857	13.162	727611	15.079	610827	19.503
04 142WWLCS	616847	13.162	727611	15.079	610827	19.503
05 142WCLCS1	591114	13.156	710601	15.073	530614	19.497
06 142WCLCSD1	599208	13.156	716546	15.073	530610	19.497
07 142WWUS	620186	13.156	731113	15.073	565175	19.497
08 8999788	620186	13.156	731101	15.073	562997	19.497
09 142WWMS	619519	13.162	754321	15.079	631299	19.503
10 8999789MS	619519	13.162	754308	15.079	629540	19.503
11 142WWMSD	606930	13.162	735166	15.079	620001	19.503
12 8999790MSD	606930	13.162	735166	15.079	620001	19.503
13 8999786	621994	13.156	736187	15.074	534216	19.497
14 8999787	637069	13.156	752366	15.073	525101	19.497
15 8999791	594305	13.156	705888	15.073	502629	19.497
16 8999792	611431	13.156	720203	15.074	513642	19.497

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0621.d Date Analyzed: 05/23/17

Instrument ID: HP19760 Time Analyzed: 21:06

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	211786	6.529	802313	8.464	454157	11.250
UPPER LIMIT	423572	7.029	1604626	8.964	908314	11.750
LOWER LIMIT	105893	6.029	401157	7.964	227079	10.750
LLI SAMPLE NO.						
01 SBLKWZ142	164196	6.529	621512	8.464	340442	11.244
02 142WZLCS	160734	6.534	604623	8.464	338581	11.250
03 142WZUS	158615	6.529	608785	8.458	335681	11.244
04 142WZMS	163202	6.534	598720	8.464	331441	11.250
05 142WZMSD	154709	6.534	587578	8.464	327623	11.250
06 8999793	150464	6.529	565480	8.464	313395	11.244
07 8999794	154067	6.529	580592	8.458	317089	11.244
08 8999795	155435	6.529	573834	8.458	317486	11.244
09 8999796	151671	6.529	572351	8.458	318568	11.244
10 8999797	156145	6.528	581143	8.458	318187	11.244
11 8997579RE	156004	6.529	581811	8.458	318071	11.244

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0621.d Date Analyzed: 05/23/17

Instrument ID: HP19760 Time Analyzed: 21:06

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	857354	13.162	1033767	15.079	825347	19.503
UPPER LIMIT	1714708	13.662	2067534	15.579	1650694	20.003
LOWER LIMIT	428677	12.662	516884	14.579	412674	19.003
LLI SAMPLE NO.						
01 SBLKWZ142	641756	13.162	753297	15.073	531259	19.503
02 142WZLCS	639506	13.162	773491	15.079	631803	19.503
03 142WZUS	637874	13.156	761383	15.073	536139	19.497
04 142WZMS	633829	13.162	774309	15.079	637528	19.503
05 142WZMSD	614809	13.162	743112	15.079	623261	19.503
06 8999793	596040	13.156	706575	15.073	423990	19.497
07 8999794	600197	13.156	712307	15.073	430245	19.497
08 8999795	589933	13.156	703535	15.074	395566*	19.497
09 8999796	592196	13.156	703806	15.073	384869*	19.497
10 8999797	596664	13.156	698692	15.073	429521	19.497
11 8997579RE	595089	13.156	705929	15.073	414788	19.497

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0921.d Date Analyzed: 05/30/17

Instrument ID: HP19760 Time Analyzed: 07:48

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	160018	6.464	596050	8.399	338862	11.191
UPPER LIMIT	320036	6.964	1192100	8.899	677724	11.691
LOWER LIMIT	80009	5.964	298025	7.899	169431	10.691
LLI SAMPLE NO.						
01 SBLKWW143	175001	6.464	658358	8.400	370738	11.191
02 SBLKWY142	175001	6.464	658358	8.400	370738	11.191
03 142WYLCS	163693	6.470	622358	8.400	352337	11.197
04 143WWLCS	163693	6.470	622358	8.400	352337	11.197
05 143WWLCS2	157933	6.464	591089	8.400	337585	11.192
06 143WWLCSD2	160486	6.464	599267	8.400	342033	11.191
07 142WYUS	165211	6.459	632037	8.400	355800	11.192
08 8999788RE	165211	6.459	632037	8.400	355800	11.192
09 142WYMS	165544	6.464	606605	8.400	344693	11.192
10 8999789RE	165544	6.464	606605	8.400	344693	11.192
11 142WYMSD	164448	6.470	615423	8.400	348824	11.192
12 8999790MSDSD	164448	6.470	615423	8.400	348824	11.192
13 8999785	156778	6.459	593432	8.400	331058	11.192
14 8999786RE	159968	6.465	614333	8.400	339446	11.192
15 8999787RE	159940	6.459	596340	8.400	330330	11.192
16 8999791RE	155986	6.465	589148	8.400	330200	11.192
17 8999792RE	160404	6.465	599703	8.400	339480	11.192

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0921.d Date Analyzed: 05/30/17

Instrument ID: HP19760 Time Analyzed: 07:48

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	637983	13.115	788702	15.027	647948	19.445
UPPER LIMIT	1275966	13.615	1577404	15.527	1295896	19.945
LOWER LIMIT	318992	12.615	394351	14.527	323974	18.945
LLI SAMPLE NO.						
01 SBLKWW143	706815	13.121	828111	15.027	650616	19.456
02 SBLKWY142	706815	13.121	828111	15.027	648476	19.456
03 142WYLCS	671490	13.121	806843	15.033	692069	19.457
04 143WWLCS	671490	13.121	806843	15.033	692069	19.457
05 143WWLCS2	629664	13.115	765350	15.027	611779	19.451
06 143WWLCSD2	639202	13.115	774997	15.027	612334	19.451
07 142WYUS	682936	13.115	810418	15.027	642275	19.451
08 8999788RE	682936	13.115	810418	15.027	642275	19.451
09 142WYMS	667272	13.121	796366	15.033	682667	19.457
10 8999789RE	667272	13.121	796366	15.033	682667	19.457
11 142WYMSD	673637	13.121	797547	15.033	681911	19.457
12 8999790MSDSD	673637	13.121	797547	15.033	681911	19.457
13 8999785	645556	13.115	766651	15.027	607757	19.451
14 8999786RE	649561	13.115	766775	15.027	607512	19.451
15 8999787RE	632763	13.115	753048	15.027	597978	19.451
16 8999791RE	630619	13.115	759382	15.027	602963	19.451
17 8999792RE	640636	13.115	775235	15.027	609204	19.457

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0921.d Date Analyzed: 05/30/17

Instrument ID: HP19760 Time Analyzed: 07:48

	IS1(DCB)		IS2(NPT)		IS3(ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	160018	6.464	596050	8.399	338862	11.191
UPPER LIMIT	320036	6.964	1192100	8.899	677724	11.691
LOWER LIMIT	80009	5.964	298025	7.899	169431	10.691
LLI SAMPLE NO.						
18 9008979	159315	6.465	596068	8.400	327742	11.192
19 9008980	159955	6.464	608508	8.400	339043	11.191
20 9004747	158363	6.465	593899	8.400	332618	11.192
21 9004749	164133	6.465	611557	8.400	345794	11.192
22 9013932	163087	6.464	606800	8.400	336808	11.191
23 9013933	162771	6.464	616379	8.400	343399	11.191
24 9013934	175517	6.465	651652	8.400	360971	11.192
25 9013935	162127	6.465	609465	8.405	356499	11.192

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

8C
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: LANCASTER LABS Contract:_____

Lab Code: LANCAS Case No.:_____ SAS No.:_____ SDG No.:_____

Lab File ID (Standard): de0921.d Date Analyzed: 05/30/17

Instrument ID: HP19760 Time Analyzed: 07:48

	IS4(PHN)		IS5(PYR)		IS6(PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
12 HOUR STD	637983	13.115	788702	15.027	647948	19.445
UPPER LIMIT	1275966	13.615	1577404	15.527	1295896	19.945
LOWER LIMIT	318992	12.615	394351	14.527	323974	18.945
LLI SAMPLE NO.						
18 9008979	634144	13.121	765618	15.027	607878	19.457
19 9008980	644948	13.115	771709	15.027	607626	19.451
20 9004747	632640	13.115	747812	15.027	592906	19.457
21 9004749	658695	13.115	780465	15.027	615075	19.457
22 9013932	645462	13.121	753900	15.027	594924	19.456
23 9013933	669344	13.121	779771	15.027	611483	19.456
24 9013934	703263	13.121	819332	15.027	636847	19.457
25 9013935	680130	13.121	827673	15.033	701665	19.457

IS4 (PHN) = Phenanthrene-d10
IS5 (PYR) = Pyrene-d10
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag internal standard are and RT values with an asterisk
* Values outside of QC limits.

Sample Data

Semivolatiles by GC/MS

Fraction: Semivolatiles by GC/MS

14241: SVOAs 8270D MINI Analyte Name	Default MDL	Default LOQ	Units
N-Nitrosodimethylamine	2	5	ug/l
Pyridine	2	5	ug/l
2-Picoline	2	5	ug/l
N-Nitrosomethylethylamine	2	5	ug/l
Methyl methanesulfonate	1	5	ug/l
N-Nitrosodiethylamine	0.5	1	ug/l
Ethyl methanesulfonate	0.5	1	ug/l
Phenol	0.5	1	ug/l
Aniline	0.5	1	ug/l
bis(2-Chloroethyl)ether	0.5	1	ug/l
2-Chlorophenol	0.5	1	ug/l
o-Toluidine	0.5	1	ug/l
Benzyl alcohol	10	30	ug/l
2-Methylphenol	0.5	1	ug/l
bis(2-Chloroisopropyl)ether	0.5	1	ug/l
2,4-Dichlorophenol	0.5	1	ug/l
N-Nitrosopyrrolidine	0.5	1	ug/l
Acetophenone	0.5	1	ug/l
4-Methylphenol	0.5	1	ug/l
N-Nitroso-di-n-propylamine	0.5	1	ug/l
N-Nitrosomorpholine	2	5	ug/l
Hexachloroethane	1	5	ug/l
Nitrobenzene	0.5	1	ug/l
N-Nitrosopiperidine	0.5	1	ug/l
Isophorone	0.5	1	ug/l
2-Nitrophenol	0.5	1	ug/l
2,4-Dimethylphenol	0.5	1	ug/l
O,O,O-Triethylphosphorothioate	2	5	ug/l
bis(2-Chloroethoxy)methane	0.5	1	ug/l
a,a-Dimethylphenethylamine	5	50	ug/l
4-Chloroaniline	2	4	ug/l
2,6-Dichlorophenol	0.5	1	ug/l
Hexachloropropene	2	5	ug/l
N-Nitrosodi-n-butylamine	2	5	ug/l
1,4-Phenylenediamine	75	300	ug/l
4-Chloro-3-methylphenol	0.5	1	ug/l
Safrole	2	5	ug/l
2-Methylnaphthalene	0.1	0.5	ug/l
Hexachlorocyclopentadiene	5	15	ug/l
1,2,4,5-Tetrachlorobenzene	0.5	1	ug/l
2,4,6-Trichlorophenol	0.5	1	ug/l
2,4,5-Trichlorophenol	0.5	1	ug/l
Isosafrole	2	5	ug/l
2-Chloronaphthalene	0.4	1	ug/l
2-Nitroaniline	0.5	1	ug/l
1,4-Naphthoquinone	25	60	ug/l
Dimethylphthalate	2	5	ug/l

Fraction: Semivolatiles by GC/MS

14241: SVOAs 8270D MINI Analyte Name	Default MDL	Default LOQ	Units
1,3-Dinitrobenzene	2	5	ug/l
2,6-Dinitrotoluene	0.5	1	ug/l
Acenaphthylene	0.1	0.5	ug/l
3-Nitroaniline	0.5	1	ug/l
Acenaphthene	0.1	0.5	ug/l
2,4-Dinitrophenol	10	30	ug/l
4-Nitrophenol	10	30	ug/l
Pentachlorobenzene	0.5	1	ug/l
2,4-Dinitrotoluene	1	5	ug/l
Dibenzofuran	0.5	1	ug/l
1-Naphthylamine	5	15	ug/l
2,3,4,6-Tetrachlorophenol	0.5	1	ug/l
2-Naphthylamine	5	15	ug/l
Diethylphthalate	2	5	ug/l
Thionazin	2	5	ug/l
Fluorene	0.1	0.5	ug/l
4-Chlorophenyl-phenylether	0.5	1	ug/l
5-Nitro-o-toluidine	0.5	1	ug/l
4-Nitroaniline	0.5	1	ug/l
4,6-Dinitro-2-methylphenol	5	15	ug/l
N-Nitrosodiphenylamine	0.5	1	ug/l
1,3,5-Trinitrobenzene	5	15	ug/l
Phorate	0.5	1	ug/l
Phenacetin	0.5	1	ug/l
4-Bromophenyl-phenylether	0.5	1	ug/l
Diallate trans/cis	1	5	ug/l
Hexachlorobenzene	0.1	0.5	ug/l
Dimethoate	3	10	ug/l
Pentachlorophenol	1	5	ug/l
4-Aminobiphenyl	0.5	1	ug/l
Pentachloronitrobenzene	2	5	ug/l
Pronamide	0.5	1	ug/l
Phenanthrene	0.1	0.5	ug/l
Anthracene	0.1	0.5	ug/l
Disulfoton	25	50	ug/l
Methyl parathion	1	5	ug/l
Di-n-butylphthalate	2	5	ug/l
Parathion	2	5	ug/l
4-Nitroquinoline-1-oxide	20	60	ug/l
Methapyrilene	15	50	ug/l
Isodrin	0.5	1	ug/l
Fluoranthene	0.1	0.5	ug/l
Pyrene	0.1	0.5	ug/l
Aramite	5	15	ug/l
p-Dimethylaminoazobenzene	0.5	1	ug/l
Chlorobenzilate	3	10	ug/l
3,3'-Dimethylbenzidine	25	75	ug/l

Fraction: Semivolatiles by GC/MS

14241: SVOAs 8270D MINI Analyte Name	Default MDL	Default LOQ	Units
Butylbenzylphthalate	2	5	ug/l
Famphur	25	50	ug/l
Kepone	25	50	ug/l
2-Acetylaminofluorene	2	5	ug/l
3,3'-Dichlorobenzidine	2	5	ug/l
Benzo(a)anthracene	0.1	0.5	ug/l
Chrysene	0.1	0.5	ug/l
bis(2-Ethylhexyl)phthalate	2	5	ug/l
Di-n-octylphthalate	2	5	ug/l
Benzo(b)fluoranthene	0.1	0.5	ug/l
7,12-Dimethylbenz[a]anthracene	0.5	1	ug/l
Benzo(k)fluoranthene	0.1	0.5	ug/l
Benzo(a)pyrene	0.1	0.5	ug/l
3-Methylcholanthrene	0.5	1	ug/l
Indeno(1,2,3-cd)pyrene	0.1	0.5	ug/l
Dibenz(a,h)anthracene	0.1	0.5	ug/l
Benzo(g,h,i)perylene	0.1	0.5	ug/l

R8501 Lancaster Laboratories, Inc. 8999785
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may30.b/de0932.d Injection date and time: **30-MAY-2017 13:40**
Data file Sample Info. Line: R8501;8999785;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 265 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.459	(0.006)	853	152	156778	(-2)	5.00	
65) Naphthalene-d8	8.400	(0.000)	1186	136	593432	(0)	5.00	
113) Acenaphthene-d10	11.192	(0.000)	1665	164	331058	(-2)	5.00	
153) Phenanthrene-d10	13.115	(0.000)	1995	188	645556	(1)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	766651	(-3)	5.00	
213) Perylene-d12	19.451	(-0.006)	3082	264	607757	(-6)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.570	(-0.001)	112	979256	20.132	40%		10 - 84
17) Phenol-d6	(1)	5.975	(-0.001)	99	1360176	20.603	41%		10 - 71
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1157255	18.817	75%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	2024072	19.670	79%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299	(-0.001)	330	485591	39.410	79%		13 - 149
179) Terphenyl-d14	(5)	15.353	(0.000)	244	2426447	21.568	86%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may30.b/de0932.d Injection date and time: **30-MAY-2017 13:40**
Data file Sample Info. Line: R8501;8999785;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 265 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)			Not Detected					1
67) 4-Chloroaniline	(2)			Not Detected					0.5
68) 2,6-Dichlorophenol	(2)			Not Detected					0.1
69) Hexachloropropene	(2)			Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)			Not Detected					0.5
81) 1,4-Phenylenediamine	(2)			Not Detected					19
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
82) Safrole	(2)			Not Detected					0.5
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)			Not Detected					0.1
88) cis-Isosafrole	(3)			Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
94) trans-Isosafrole	(3)			Not Detected					0.1
97) Isosafrole	(3)			Not Detected					0.5
96) 2-Chloronaphthalene	(3)			Not Detected					0.1
100) 2-Nitroaniline	(3)			Not Detected					0.1
104) 1,4-Naphthoquinone	(3)			Not Detected					6
106) Dimethylphthalate	(3)			Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
117) Pentachlorobenzene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
121) 1-Naphthylamine	(3)			Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)			Not Detected					0.1
123) 2-Naphthylamine	(3)			Not Detected					1
124) Diethylphthalate	(3)			Not Detected					0.5
125) Thionazin	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)			Not Detected					1
140) Diallate (peak 1)	(4)			Not Detected					0.06
141) Phorate	(4)			Not Detected					0.1
142) Phenacetin	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
144) Diallate (peak 2)	(4)			Not Detected					0.06
146) Diallate trans/cis	(4)			Not Detected					0.3
145) Hexachlorobenzene	(4)			Not Detected					0.03
147) Dimethoate	(4)			Not Detected					0.8
149) Pentachlorophenol	(4)			Not Detected					0.3
150) 4-Aminobiphenyl	(4)			Not Detected					0.1

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may30.b/de0932.d Injection date and time: **30-MAY-2017 13:40**
Data file Sample Info. Line: R8501;8999785;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

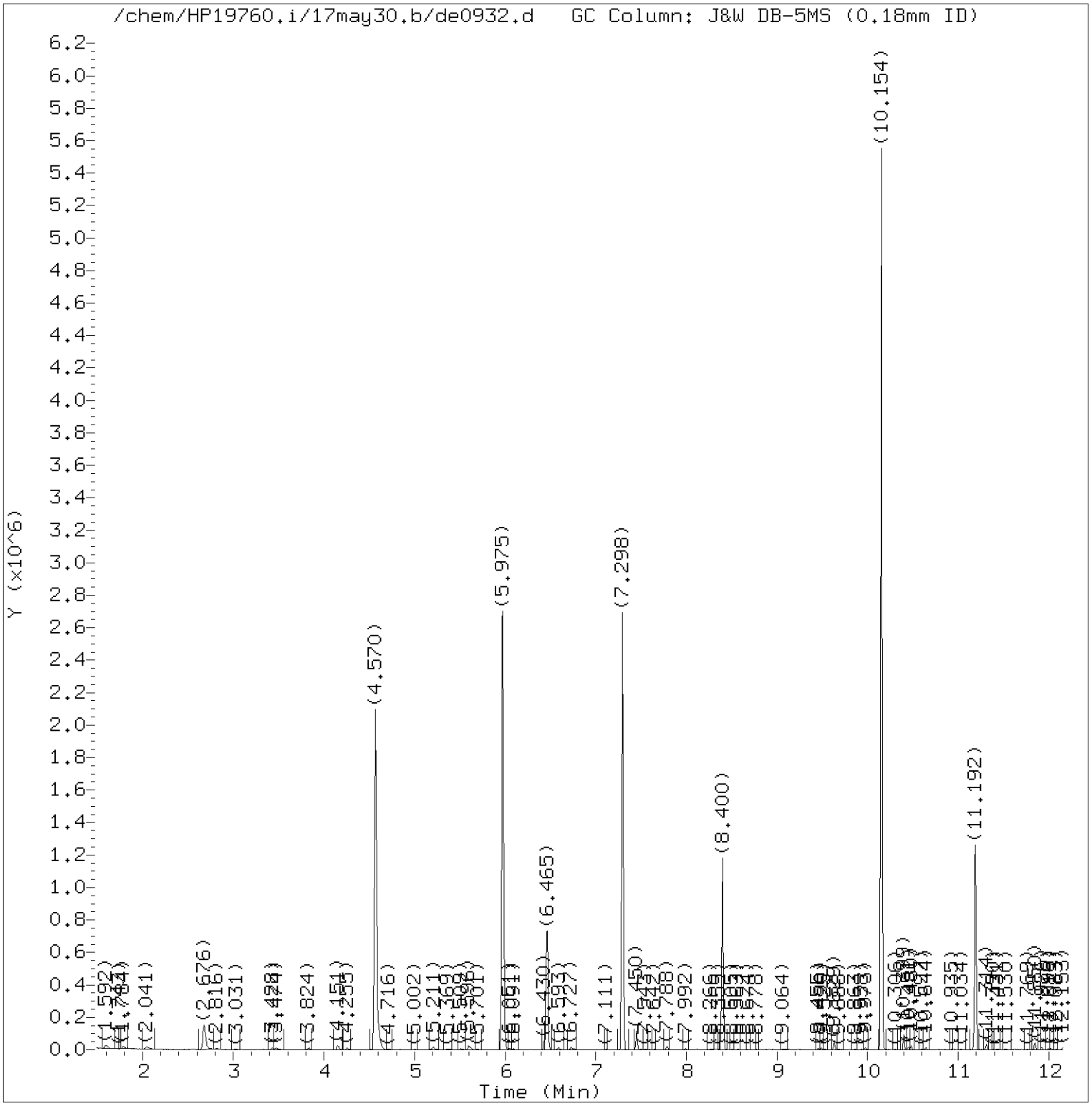
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 265 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)			Not Detected					0.5
152) Pronamide	(4)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
162) Disulfoton	(4)			Not Detected					6
164) Methyl parathion	(4)			Not Detected					0.3
165) Di-n-butylphthalate	(4)			Not Detected					0.5
167) Parathion	(4)			Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)			Not Detected					5
170) Methapyrilene	(4)			Not Detected					4
171) Isodrin	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
180) Aramite (1)	(5)			Not Detected					0.3
181) Aramite (2)	(5)			Not Detected					0.3
183) Aramite (3)	(5)			Not Detected					0.3
184) Aramite (4)	(5)			Not Detected					0.3
186) Aramite	(5)			Not Detected					1
182) p-Dimethylaminoazobenzene	(5)			Not Detected					0.1
185) Chlorobenzilate	(5)			Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)			Not Detected					6
188) Butylbenzylphthalate	(5)			Not Detected					0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)			Not Detected					6
191) 2-Acetylaminofluorene	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
215) 3-Methylcholanthrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 119

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 08:28. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

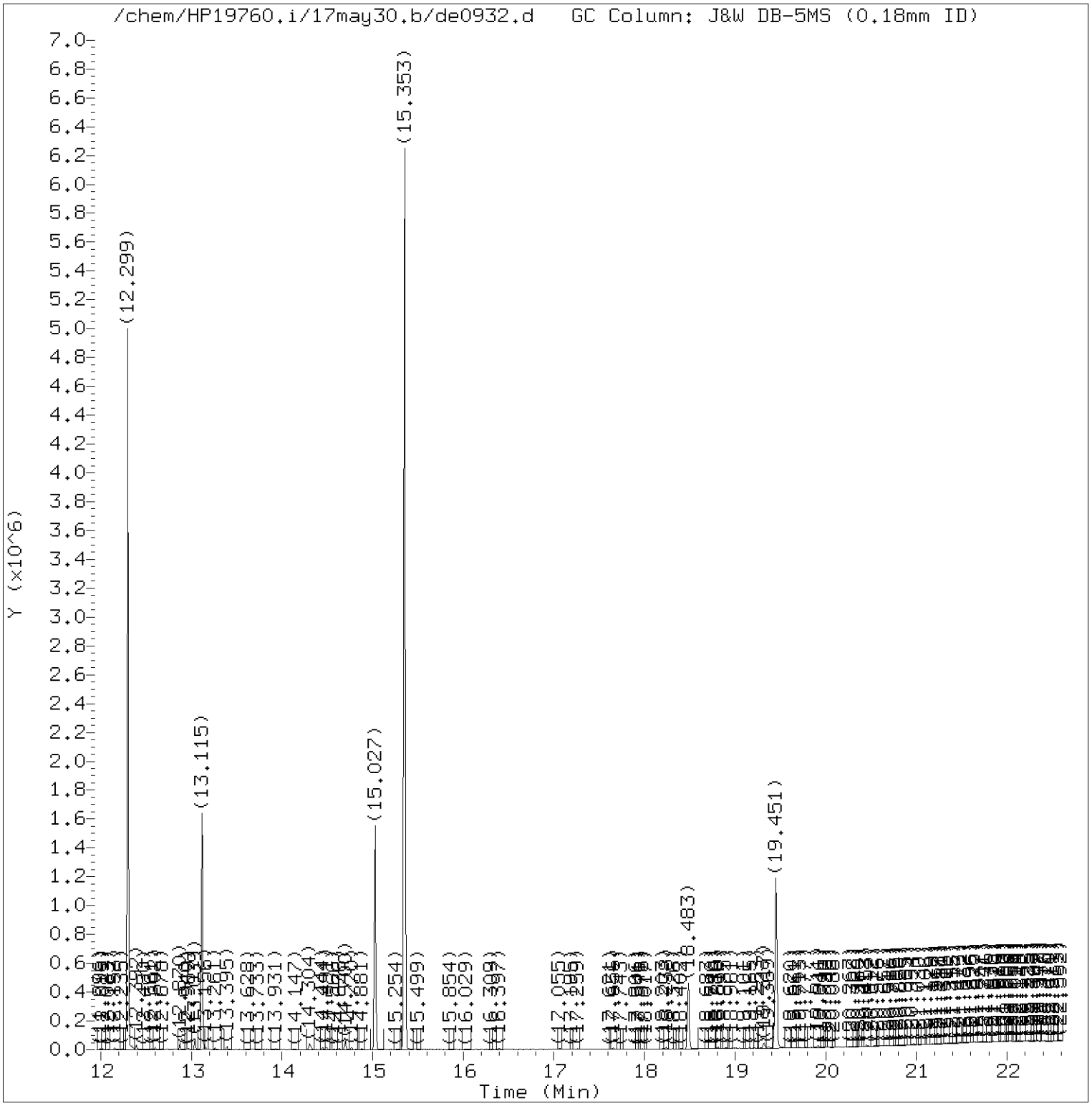
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0932.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8501 Lab Sample ID: 8999785

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0932.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8501 Lab Sample ID: 8999785

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0932.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:40 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8501 Lab Sample ID: 8999785

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.570	112	979256	20.132
17)$Phenol-d6	(1)	5.975	99	1360176	20.603
25)*1,4-Dichlorobenzene-d4	(1)	6.459	152	156778	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1157255	18.817
65)*Naphthalene-d8	(2)	8.400	136	593432	5.000
93)$2-Fluorobiphenyl	(3)	10.154	172	2024072	19.670
113)*Acenaphthene-d10	(3)	11.192	164	331058	5.000
135)$2,4,6-Tribromophenol	(3)	12.299	330	485591	39.410
153)*Phenanthrene-d10	(4)	13.115	188	645556	5.000
175)*Pyrene-d10	(5)	15.027	212	766651	5.000
179)$Terphenyl-d14	(5)	15.353	244	2426447	21.568
213)*Perylene-d12	(6)	19.451	264	607757	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991

R8502 Lancaster Laboratories, Inc. 8999786
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0613.d Injection date and time: **23-MAY-2017 17:43**
Data file Sample Info. Line: R8502;8999786;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529	(0.006)	865	152	155404	(-21)	5.00	
65) Naphthalene-d8	8.464	(0.000)	1197	136	603356	(-17)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	330587	(-20)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	621994	(-21)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	736187	(-23)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	534216	(-33)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.652	(-0.001)	112	1135463	23.550	47%		10 - 84
17) Phenol-d6	(1)	6.033	(0.000)	99	1463700	22.367	45%		10 - 71
44) Nitrobenzene-d5	(2)	7.362	(0.000)	82	1216255	19.451	78%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1990481	19.371	77%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.340	(-0.001)	330	459255	37.325	75%		13 - 149
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2271305	21.024	84%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:30. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0613.d Injection date and time: **23-MAY-2017 17:43**
Data file Sample Info. Line: R8502;8999786;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3
150) 4-Aminobiphenyl	(4)				Not Detected					0.1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:30. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0613.d Injection date and time: **23-MAY-2017 17:43**
Data file Sample Info. Line: R8502;8999786;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

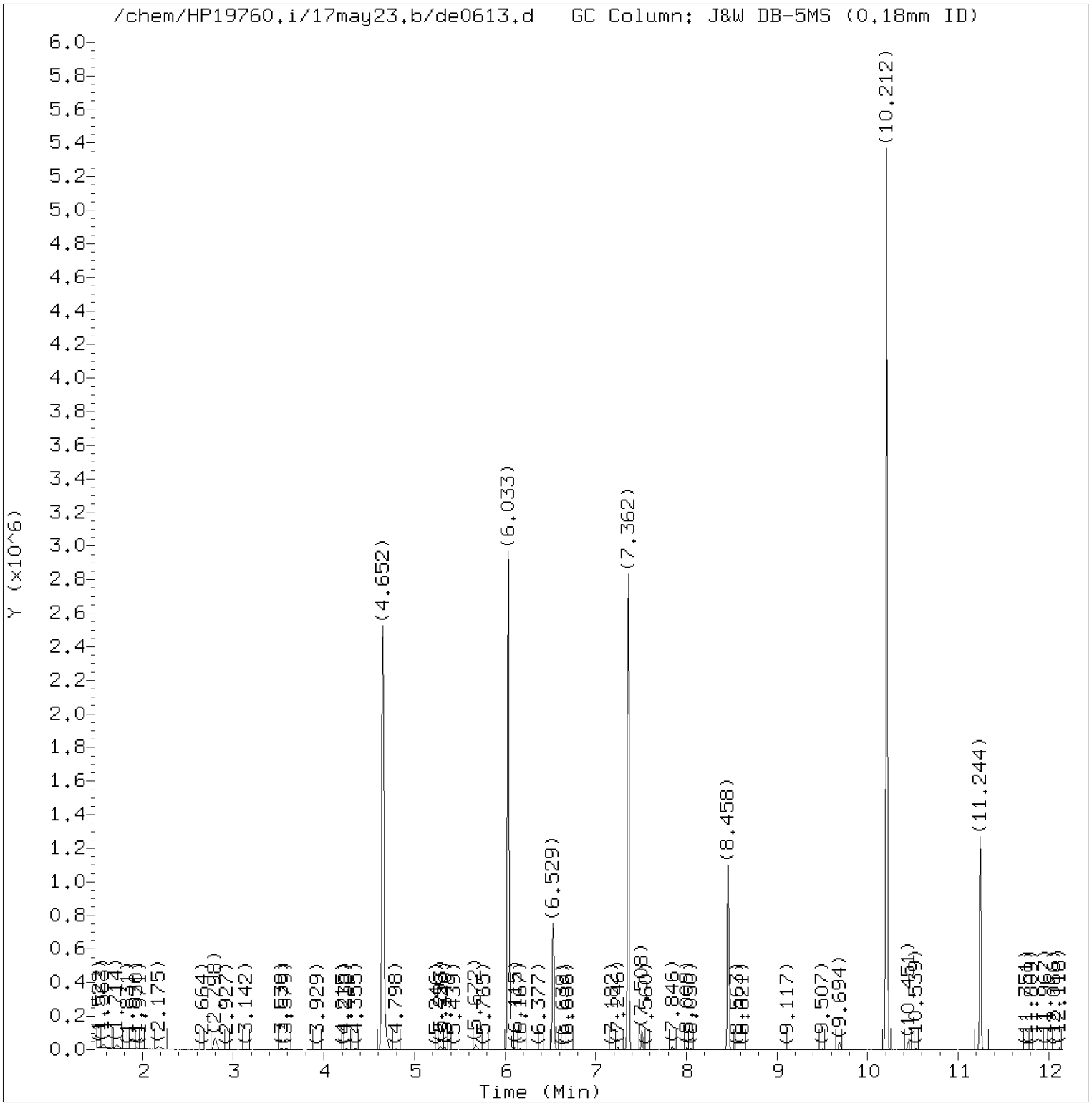
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)			Not Detected					0.5
152) Pronamide	(4)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
162) Disulfoton	(4)			Not Detected					6
164) Methyl parathion	(4)			Not Detected					0.3
165) Di-n-butylphthalate	(4)			Not Detected					0.5
167) Parathion	(4)			Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)			Not Detected					5
170) Methapyrilene	(4)			Not Detected					4
171) Isodrin	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
180) Aramite (1)	(5)			Not Detected					0.3
181) Aramite (2)	(5)			Not Detected					0.3
183) Aramite (3)	(5)			Not Detected					0.3
184) Aramite (4)	(5)			Not Detected					0.3
186) Aramite	(5)			Not Detected					1
182) p-Dimethylaminoazobenzene	(5)			Not Detected					0.1
185) Chlorobenzilate	(5)			Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)			Not Detected					6
188) Butylbenzylphthalate	(5)			Not Detected					0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)			Not Detected					6
191) 2-Acetylaminofluorene	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
215) 3-Methylcholanthrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:30. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

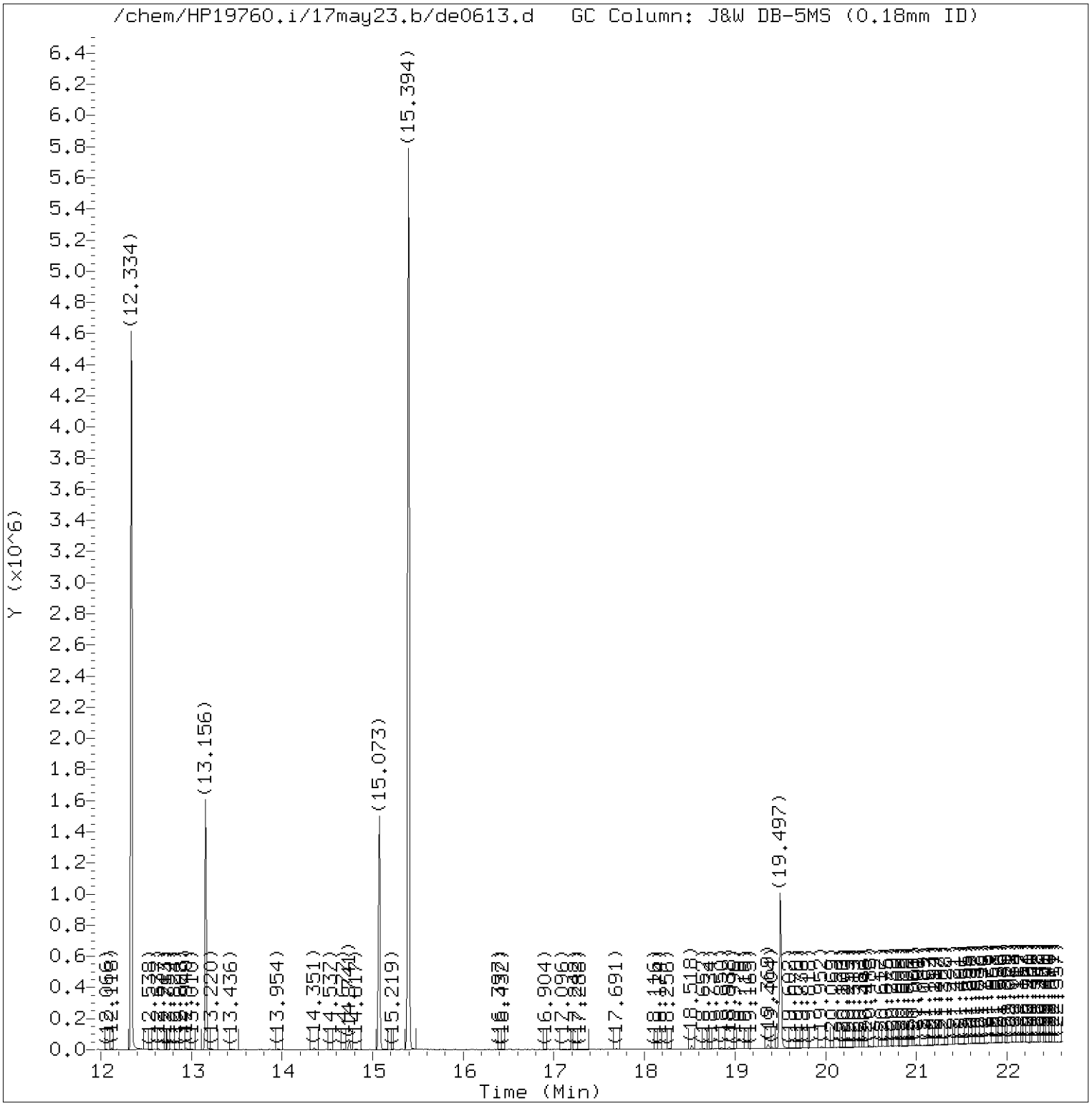
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0613.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 17:43 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8502 Lab Sample ID: 8999786

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:30.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0613.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 17:43 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8502 Lab Sample ID: 8999786

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:30.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0613.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 17:43 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8502 Lab Sample ID: 8999786

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.652	112	1135463	23.550
17)$Phenol-d6	(1)	6.033	99	1463700	22.367
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	155404	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1216255	19.451
65)*Naphthalene-d8	(2)	8.464	136	603356	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1990481	19.371
113)*Acenaphthene-d10	(3)	11.244	164	330587	5.000
135)$2,4,6-Tribromophenol	(3)	12.340	330	459255	37.325
153)*Phenanthrene-d10	(4)	13.156	188	621994	5.000
175)*Pyrene-d10	(5)	15.073	212	736187	5.000
179)$Terphenyl-d14	(5)	15.394	244	2271305	21.024
213)*Perylene-d12	(6)	19.497	264	534216	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:30.
Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0933.d Injection date and time: **30-MAY-2017 14:07**
Data file Sample Info. Line: R8502RE;8999786RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.465	(0.000)	854	152	159968	(0)	5.00	
65) Naphthalene-d8	8.400	(0.000)	1186	136	614333	(3)	5.00	
113) Acenaphthene-d10	11.192	(0.000)	1665	164	339446	(0)	5.00	
153) Phenanthrene-d10	13.115	(0.000)	1995	188	649561	(2)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	766775	(-3)	5.00	
213) Perylene-d12	19.451	(-0.006)	3082	264	607512	(-6)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.570	(0.000)	112	1093661	22.036	44%		10 - 84
17) Phenol-d6	(1)	5.975	(0.000)	99	1464802	21.745	43%		10 - 71
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1240526	19.485	78%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	2079363	19.708	79%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299	(-0.001)	330	485100	38.397	77%		13 - 149
179) Terphenyl-d14	(5)	15.353	(0.000)	244	2380032	21.152	85%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:34. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0933.d Injection date and time: **30-MAY-2017 14:07**
Data file Sample Info. Line: R8502RE;8999786RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3
150) 4-Aminobiphenyl	(4)				Not Detected					0.1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:34. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may30.b/de0933.d Injection date and time: **30-MAY-2017 14:07**
Data file Sample Info. Line: R8502RE;8999786RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

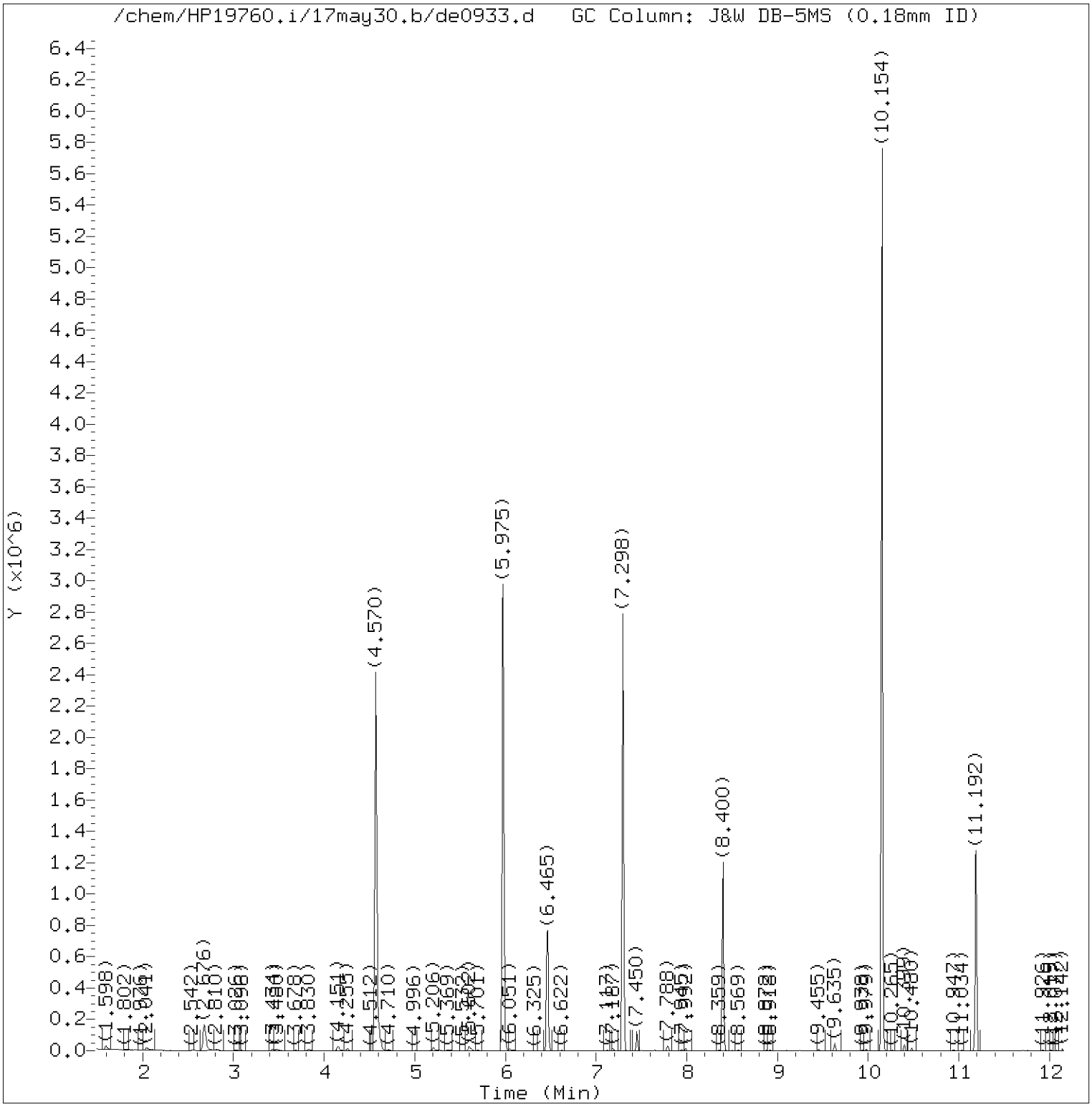
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)				Not Detected					0.5
152) Pronamide	(4)				Not Detected					0.1
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
162) Disulfoton	(4)				Not Detected					6
164) Methyl parathion	(4)				Not Detected					0.3
165) Di-n-butylphthalate	(4)				Not Detected					0.5
167) Parathion	(4)				Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)				Not Detected					5
170) Methapyrilene	(4)				Not Detected					4
171) Isodrin	(4)				Not Detected					0.1
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
180) Aramite (1)	(5)				Not Detected					0.3
181) Aramite (2)	(5)				Not Detected					0.3
183) Aramite (3)	(5)				Not Detected					0.3
184) Aramite (4)	(5)				Not Detected					0.3
186) Aramite	(5)				Not Detected					1
182) p-Dimethylaminoazobenzene	(5)				Not Detected					0.1
185) Chlorobenzilate	(5)				Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)				Not Detected					6
188) Butylbenzylphthalate	(5)				Not Detected					0.5
189) Famphur	(5)				Not Detected					6
190) Kepone	(5)				Not Detected					6
191) 2-Acetylaminofluorene	(5)				Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)				Not Detected					0.5
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.5
205) Di-n-octylphthalate	(6)				Not Detected					0.5
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)				Not Detected					0.1
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
215) 3-Methylcholanthrene	(6)				Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:34. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

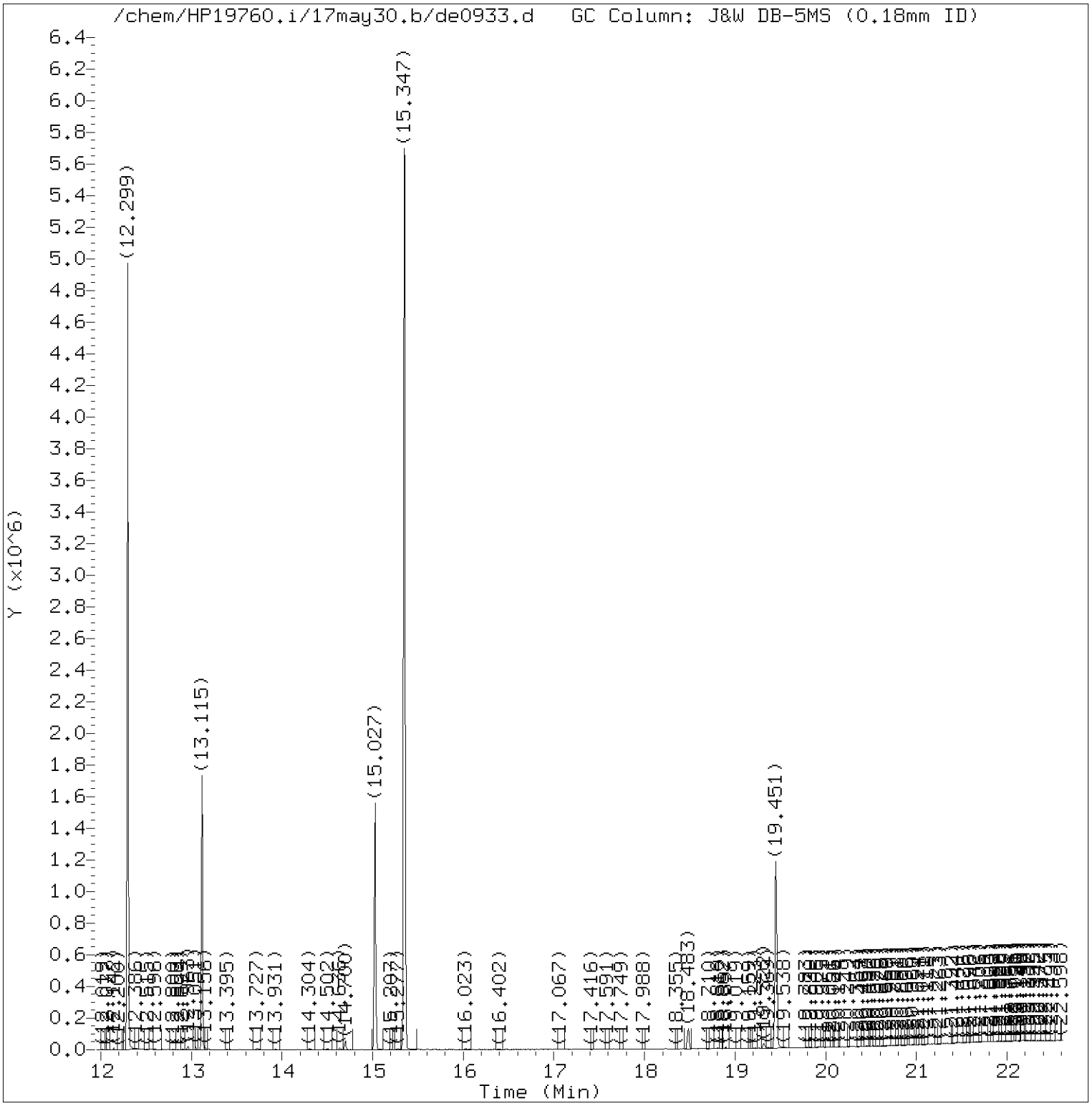
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0933.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 14:07 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8502RE Lab Sample ID: 8999786RE

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:34.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0933.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 14:07 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8502RE Lab Sample ID: 8999786RE

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:34.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0933.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 14:07 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8502RE Lab Sample ID: 8999786RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.570	112	1093661	22.036
17)$Phenol-d6	(1)	5.975	99	1464802	21.745
25)*1,4-Dichlorobenzene-d4	(1)	6.465	152	159968	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1240526	19.485
65)*Naphthalene-d8	(2)	8.400	136	614333	5.000
93)$2-Fluorobiphenyl	(3)	10.154	172	2079363	19.708
113)*Acenaphthene-d10	(3)	11.192	164	339446	5.000
135)$2,4,6-Tribromophenol	(3)	12.299	330	485100	38.397
153)*Phenanthrene-d10	(4)	13.115	188	649561	5.000
175)*Pyrene-d10	(5)	15.027	212	766775	5.000
179)$Terphenyl-d14	(5)	15.353	244	2380032	21.152
213)*Perylene-d12	(6)	19.451	264	607512	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:34.
Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0614.d
Data file Sample Info. Line: R8503;8999787;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 16-Jul-2017 21:13 whs02991

Injection date and time: **23-MAY-2017 18:10**
Instrument ID: **HP19760.i** Batch: **17142WAC**

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 251 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.528	(0.006)	865	152	162446	(-17)	5.00	
65) Naphthalene-d8	8.458	(0.006)	1196	136	611317	(-16)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	334659	(-19)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	637069	(-19)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	752366	(-21)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	525101	(-34)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.652	(-0.001)	112	1088614	21.599	43%		10 - 84
17) Phenol-d6	(1)	6.033	(0.000)	99	1480533	21.644	43%		10 - 71
44) Nitrobenzene-d5	(2)	7.362	(-0.001)	82	1235919	19.508	78%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	2051806	19.724	79%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.340	(-0.001)	330	462688	37.147	74%		13 - 149
179) Terphenyl-d14	(5)	15.400	(-0.001)	244	2392756	21.672	87%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by William H Saadeh on 07/16/2017 at 21:23. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may23.b/de0614.d Injection date and time: **23-MAY-2017 18:10**
Data file Sample Info. Line: R8503;8999787;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:13 whs02991

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 251 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)			Not Detected					1
67) 4-Chloroaniline	(2)			Not Detected					0.5
68) 2,6-Dichlorophenol	(2)			Not Detected					0.1
69) Hexachloropropene	(2)			Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)			Not Detected					0.5
81) 1,4-Phenylenediamine	(2)			Not Detected					19
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
82) Safrole	(2)			Not Detected					0.5
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)			Not Detected					0.1
88) cis-Isosafrole	(3)			Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
94) trans-Isosafrole	(3)			Not Detected					0.1
97) Isosafrole	(3)			Not Detected					0.5
96) 2-Chloronaphthalene	(3)			Not Detected					0.1
100) 2-Nitroaniline	(3)			Not Detected					0.1
104) 1,4-Naphthoquinone	(3)			Not Detected					6
106) Dimethylphthalate	(3)			Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
117) Pentachlorobenzene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
121) 1-Naphthylamine	(3)			Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)			Not Detected					0.1
123) 2-Naphthylamine	(3)			Not Detected					1
124) Diethylphthalate	(3)			Not Detected					0.5
125) Thionazin	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)			Not Detected					1
140) Diallate (peak 1)	(4)			Not Detected					0.06
141) Phorate	(4)			Not Detected					0.1
142) Phenacetin	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
144) Diallate (peak 2)	(4)			Not Detected					0.06
146) Diallate trans/cis	(4)			Not Detected					0.3
145) Hexachlorobenzene	(4)			Not Detected					0.03
147) Dimethoate	(4)			Not Detected					0.8
149) Pentachlorophenol	(4)			Not Detected					0.3
150) 4-Aminobiphenyl	(4)			Not Detected					0.1

Digitally signed by William H Saadeh on 07/16/2017 at 21:23. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may23.b/de0614.d Injection date and time: **23-MAY-2017 18:10**
Data file Sample Info. Line: R8503;8999787;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:13 whs02991

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

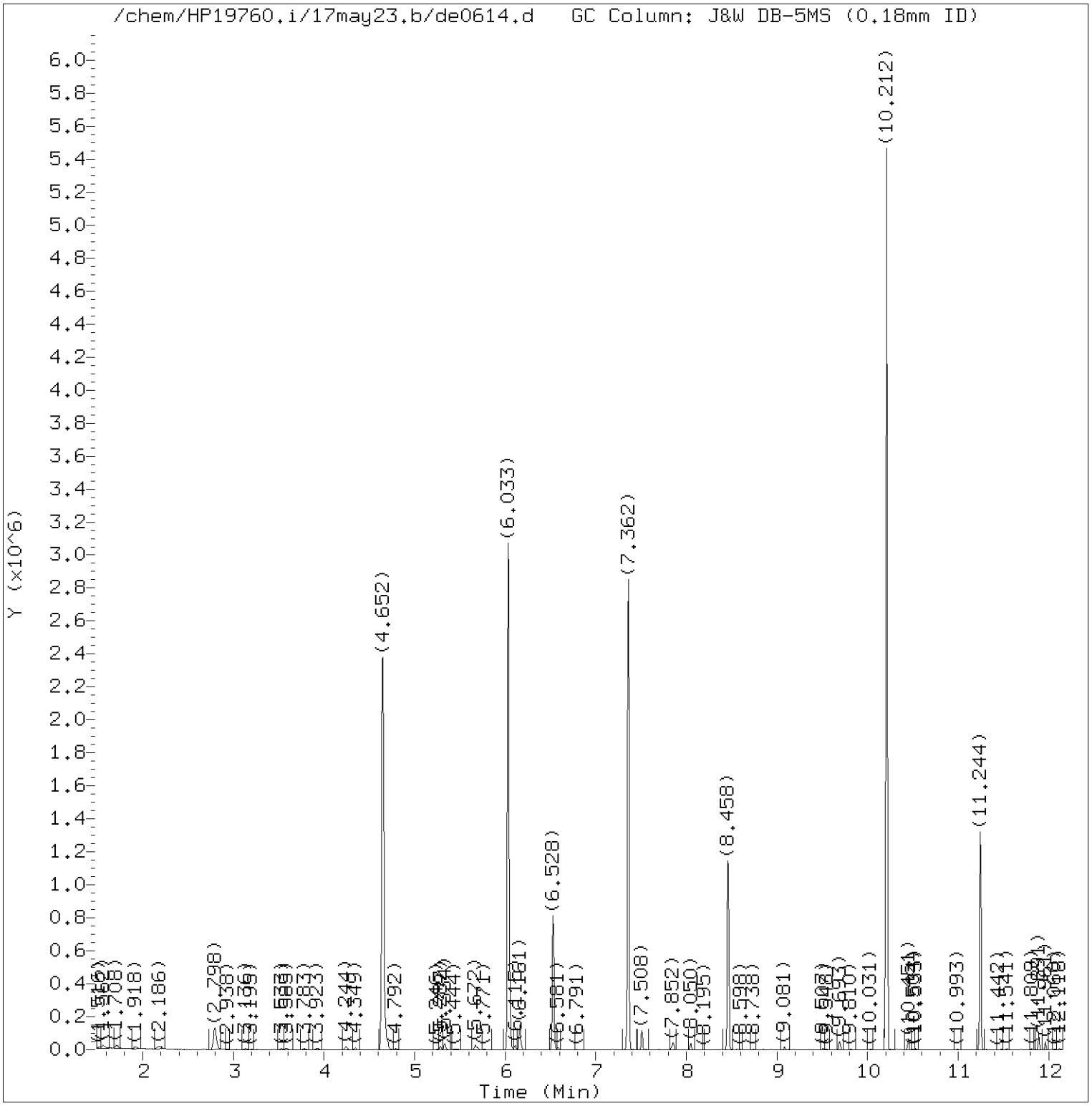
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 251 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)			Not Detected					0.5
152) Pronamide	(4)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
162) Disulfoton	(4)			Not Detected					6
164) Methyl parathion	(4)			Not Detected					0.3
165) Di-n-butylphthalate	(4)			Not Detected					0.5
167) Parathion	(4)			Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)			Not Detected					5
170) Methapyrilene	(4)			Not Detected					4
171) Isodrin	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
180) Aramite (1)	(5)			Not Detected					0.3
181) Aramite (2)	(5)			Not Detected					0.3
183) Aramite (3)	(5)			Not Detected					0.3
184) Aramite (4)	(5)			Not Detected					0.3
186) Aramite	(5)			Not Detected					1
182) p-Dimethylaminoazobenzene	(5)			Not Detected					0.1
185) Chlorobenzilate	(5)			Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)			Not Detected					6
188) Butylbenzylphthalate	(5)			Not Detected					0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)			Not Detected					6
191) 2-Acetylaminofluorene	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
215) 3-Methylcholanthrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 119

Digitally signed by William H Saadeh on 07/16/2017 at 21:23. Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 08:21. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

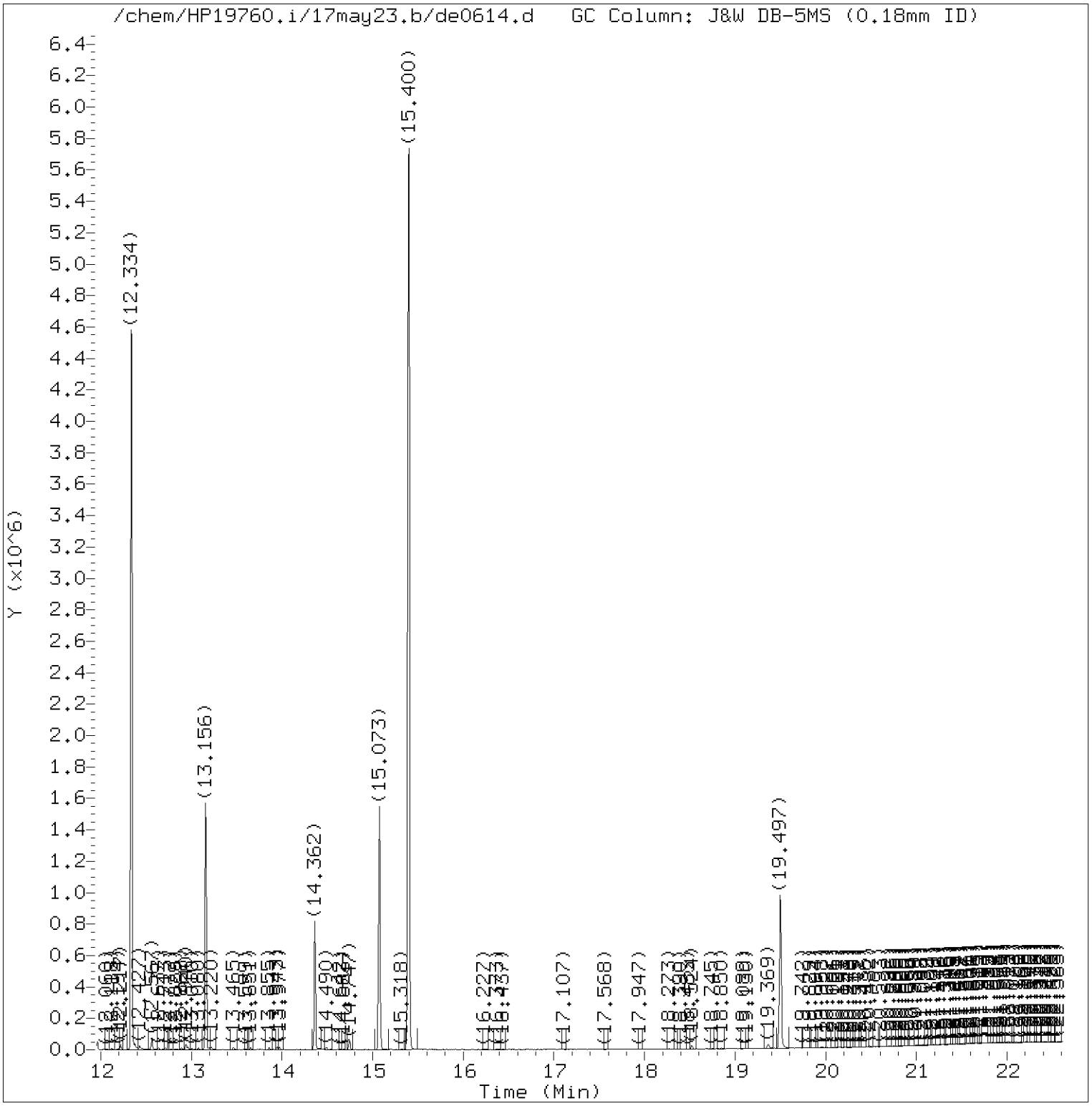
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0614.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 18:10 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 16-Jul-2017 21:13 whs02991

Sample Name: R8503 Lab Sample ID: 8999787

Digitally signed by William H Saadeh
on 07/16/2017 at 21:23.
Target 3.5 esignature user ID: whs02991



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0614.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 18:10 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 16-Jul-2017 21:13 whs02991

Sample Name: R8503 Lab Sample ID: 8999787

Digitally signed by William H Saadeh
on 07/16/2017 at 21:23.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0614.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 18:10 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 16-Jul-2017 21:13 whs02991

Sample Name: R8503 Lab Sample ID: 8999787

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.652	112	1088614	21.599
17)$Phenol-d6	(1)	6.033	99	1480533	21.644
25)*1,4-Dichlorobenzene-d4	(1)	6.528	152	162446	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1235919	19.508
65)*Naphthalene-d8	(2)	8.458	136	611317	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	2051806	19.724
113)*Acenaphthene-d10	(3)	11.244	164	334659	5.000
135)$2,4,6-Tribromophenol	(3)	12.340	330	462688	37.147
153)*Phenanthrene-d10	(4)	13.156	188	637069	5.000
175)*Pyrene-d10	(5)	15.073	212	752366	5.000
179)$Terphenyl-d14	(5)	15.400	244	2392756	21.672
213)*Perylene-d12	(6)	19.497	264	525101	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 07/16/2017 at 21:23.
Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may30.b/de0934.d Injection date and time: **30-MAY-2017 14:35**
Data file Sample Info. Line: R8503RE;8999787RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 264 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.459	(0.006)	853	152	159940	(0)	5.00	
65) Naphthalene-d8	8.400	(0.000)	1186	136	596340	(0)	5.00	
113) Acenaphthene-d10	11.191	(0.000)	1665	164	330330	(-3)	5.00	
153) Phenanthrene-d10	13.115	(0.000)	1995	188	632763	(-1)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	753048	(-5)	5.00	
213) Perylene-d12	19.451	(-0.006)	3082	264	597978	(-8)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.570	(-0.001)	112	1120279	22.576	45%		10 - 84
17) Phenol-d6	(1)	5.975	(-0.001)	99	1454197	21.592	43%		10 - 71
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1174873	19.011	76%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	2021786	19.691	79%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299	(-0.001)	330	450910	36.676	73%		13 - 149
179) Terphenyl-d14	(5)	15.353	(0.000)	244	2308249	20.888	84%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may30.b/de0934.d Injection date and time: **30-MAY-2017 14:35**
Data file Sample Info. Line: R8503RE;8999787RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 264 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3
150) 4-Aminobiphenyl	(4)				Not Detected					0.1

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may30.b/de0934.d Injection date and time: **30-MAY-2017 14:35**
Data file Sample Info. Line: R8503RE;8999787RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

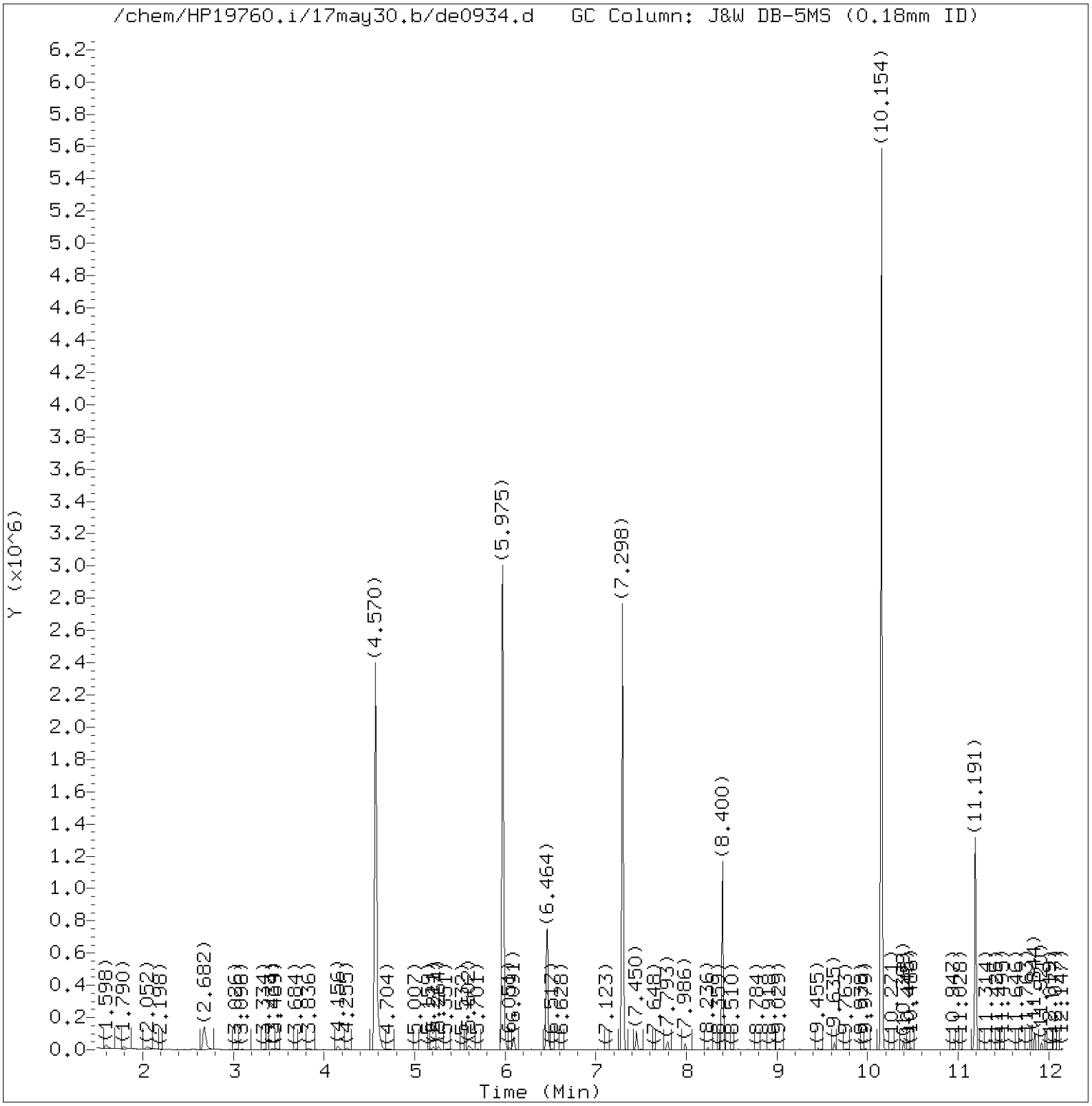
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 264 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)				Not Detected					0.5
152) Pronamide	(4)				Not Detected					0.1
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
162) Disulfoton	(4)				Not Detected					6
164) Methyl parathion	(4)				Not Detected					0.3
165) Di-n-butylphthalate	(4)				Not Detected					0.5
167) Parathion	(4)				Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)				Not Detected					5
170) Methapyrilene	(4)				Not Detected					4
171) Isodrin	(4)				Not Detected					0.1
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
180) Aramite (1)	(5)				Not Detected					0.3
181) Aramite (2)	(5)				Not Detected					0.3
183) Aramite (3)	(5)				Not Detected					0.3
184) Aramite (4)	(5)				Not Detected					0.3
186) Aramite	(5)				Not Detected					1
182) p-Dimethylaminoazobenzene	(5)				Not Detected					0.1
185) Chlorobenzilate	(5)				Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)				Not Detected					6
188) Butylbenzylphthalate	(5)				Not Detected					0.5
189) Famphur	(5)				Not Detected					6
190) Kepone	(5)				Not Detected					6
191) 2-Acetylaminofluorene	(5)				Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)				Not Detected					0.5
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.5
205) Di-n-octylphthalate	(6)				Not Detected					0.5
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)				Not Detected					0.1
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
215) 3-Methylcholanthrene	(6)				Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Total number of targets = 119

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 08:28. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

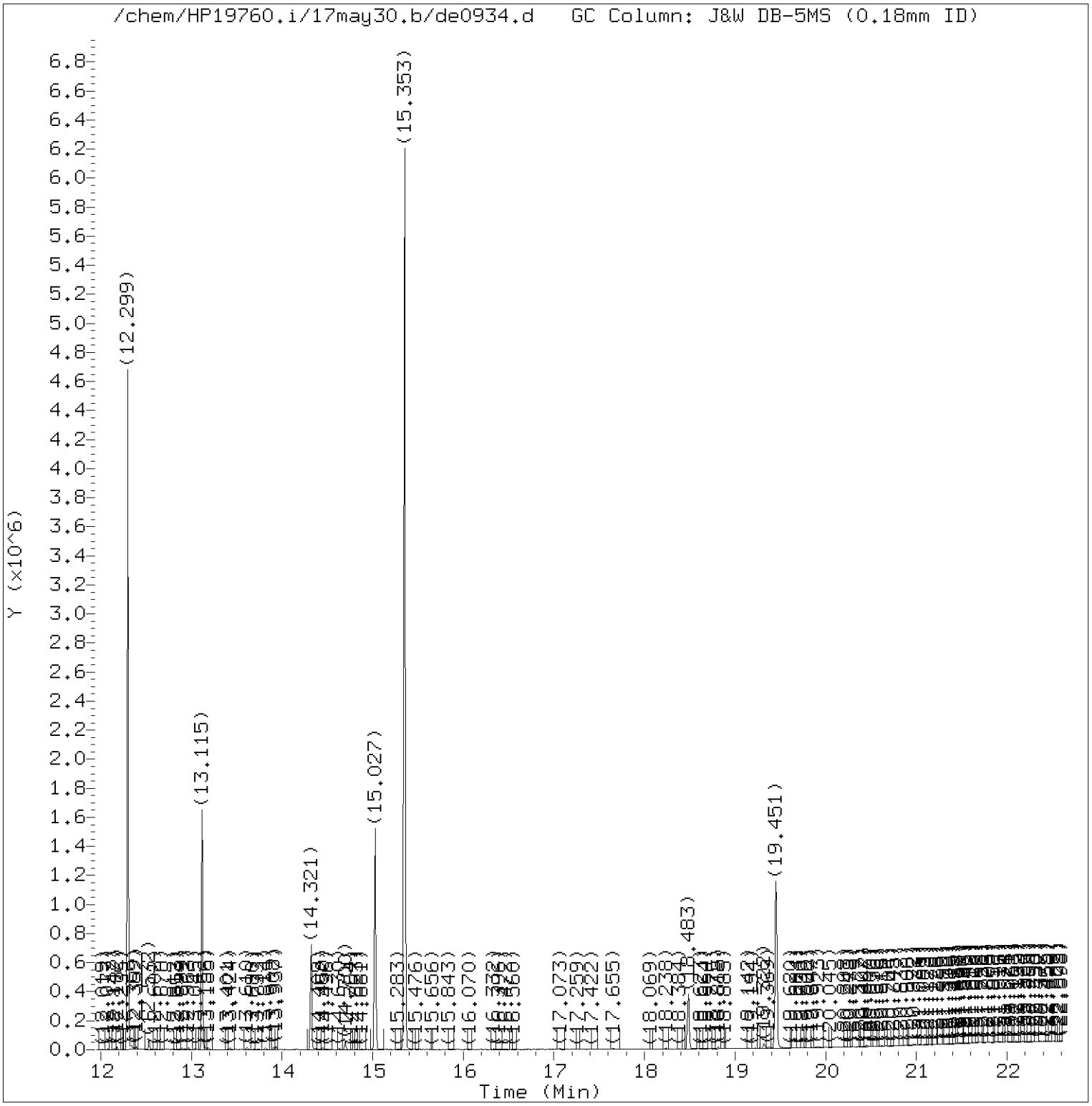
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0934.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 14:35 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8503RE Lab Sample ID: 8999787RE

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0934.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 14:35 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8503RE Lab Sample ID: 8999787RE

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0934.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 14:35 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8503RE Lab Sample ID: 8999787RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.570	112	1120279	22.576
17)$Phenol-d6	(1)	5.975	99	1454197	21.592
25)*1,4-Dichlorobenzene-d4	(1)	6.459	152	159940	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1174873	19.011
65)*Naphthalene-d8	(2)	8.400	136	596340	5.000
93)$2-Fluorobiphenyl	(3)	10.154	172	2021786	19.691
113)*Acenaphthene-d10	(3)	11.191	164	330330	5.000
135)$2,4,6-Tribromophenol	(3)	12.299	330	450910	36.676
153)*Phenanthrene-d10	(4)	13.115	188	632763	5.000
175)*Pyrene-d10	(5)	15.027	212	753048	5.000
179)$Terphenyl-d14	(5)	15.353	244	2308249	20.888
213)*Perylene-d12	(6)	19.451	264	597978	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0609.d
Data file Sample Info. Line: R8504;8999788;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Injection date and time: **23-MAY-2017 15:52**
Instrument ID: **HP19760.i** Batch: **17142WAC**

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.528	(0.006)	865	152	158563	(-19)	5.00	
65) Naphthalene-d8	8.464	(0.000)	1197	136	598811	(-18)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	329276	(-21)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	620186	(-21)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	731101	(-23)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	562997	(-29)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.652	(-0.001)	112	422411	8.586	17%		10 - 84
17) Phenol-d6	(1)	6.039	(-0.001)	99	954908	14.302	29%		10 - 71
44) Nitrobenzene-d5	(2)	7.362	(0.000)	82	1137247	18.326	73%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1963947	19.189	77%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.334	(0.000)	330	184957	15.092	30%		13 - 149
179) Terphenyl-d14	(5)	15.394	(0.000)	244	1667138	15.539	62%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0609.d Injection date and time: **23-MAY-2017 15:52**
Data file Sample Info. Line: R8504;8999788;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)			Not Detected					1
67) 4-Chloroaniline	(2)			Not Detected					0.5
68) 2,6-Dichlorophenol	(2)			Not Detected					0.1
69) Hexachloropropene	(2)			Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)			Not Detected					0.5
81) 1,4-Phenylenediamine	(2)			Not Detected					19
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
82) Safrole	(2)			Not Detected					0.5
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)			Not Detected					0.1
88) cis-Isosafrole	(3)			Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
94) trans-Isosafrole	(3)			Not Detected					0.1
97) Isosafrole	(3)			Not Detected					0.5
96) 2-Chloronaphthalene	(3)			Not Detected					0.1
100) 2-Nitroaniline	(3)			Not Detected					0.1
104) 1,4-Naphthoquinone	(3)			Not Detected					6
106) Dimethylphthalate	(3)			Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
117) Pentachlorobenzene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
121) 1-Naphthylamine	(3)			Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)			Not Detected					0.1
123) 2-Naphthylamine	(3)			Not Detected					1
124) Diethylphthalate	(3)			Not Detected					0.5
125) Thionazin	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)			Not Detected					1
140) Diallate (peak 1)	(4)			Not Detected					0.06
141) Phorate	(4)			Not Detected					0.1
142) Phenacetin	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
144) Diallate (peak 2)	(4)			Not Detected					0.06
146) Diallate trans/cis	(4)			Not Detected					0.3
145) Hexachlorobenzene	(4)			Not Detected					0.03
147) Dimethoate	(4)			Not Detected					0.8
149) Pentachlorophenol	(4)			Not Detected					0.3
150) 4-Aminobiphenyl	(4)			Not Detected					0.1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0609.d Injection date and time: **23-MAY-2017 15:52**
Data file Sample Info. Line: R8504;8999788;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

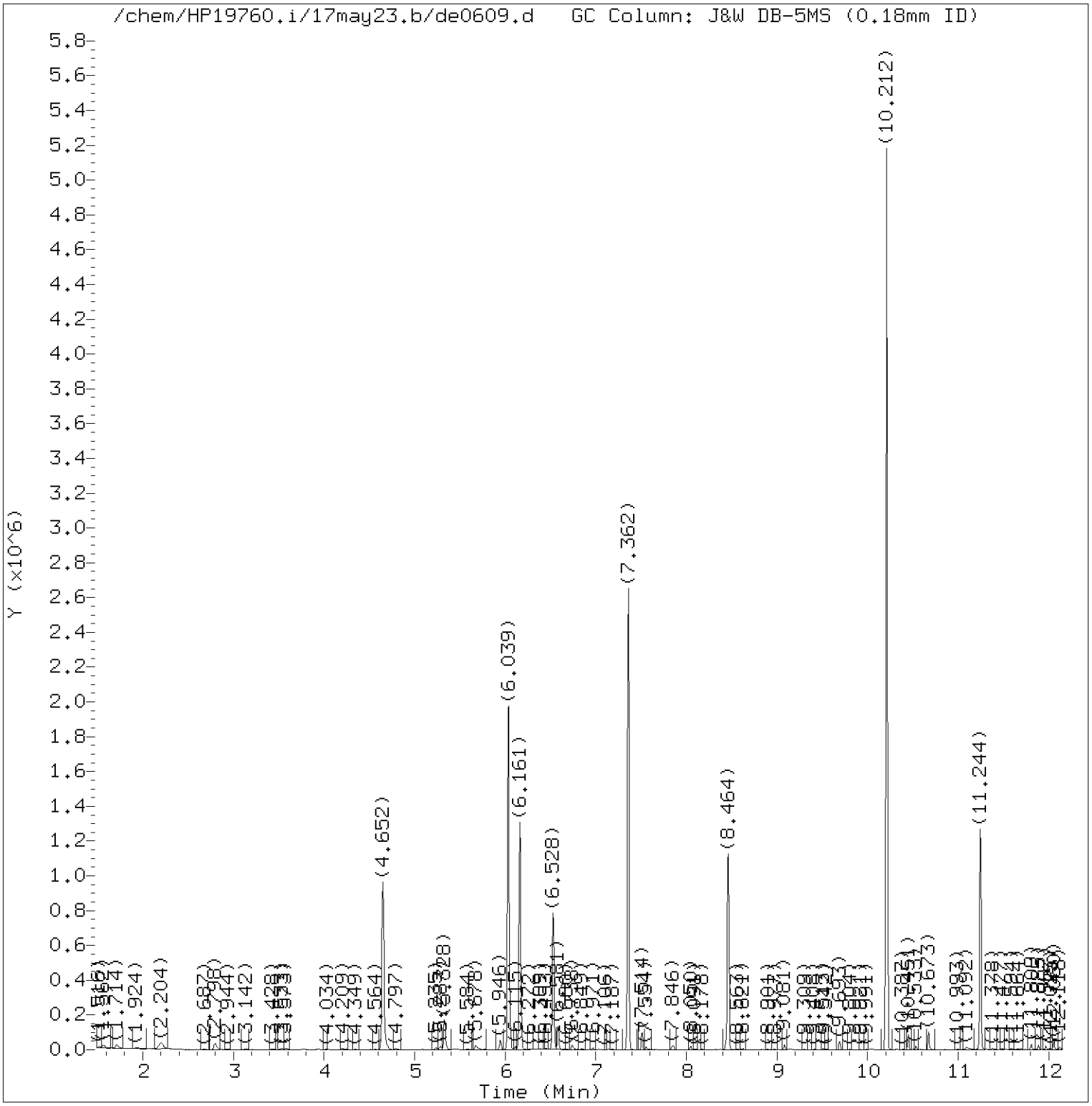
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)				Not Detected					0.5
152) Pronamide	(4)				Not Detected					0.1
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
162) Disulfoton	(4)				Not Detected					6
164) Methyl parathion	(4)				Not Detected					0.3
165) Di-n-butylphthalate	(4)				Not Detected					0.5
167) Parathion	(4)				Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)				Not Detected					5
170) Methapyrilene	(4)				Not Detected					4
171) Isodrin	(4)				Not Detected					0.1
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
180) Aramite (1)	(5)				Not Detected					0.3
181) Aramite (2)	(5)				Not Detected					0.3
183) Aramite (3)	(5)				Not Detected					0.3
184) Aramite (4)	(5)				Not Detected					0.3
186) Aramite	(5)				Not Detected					1
182) p-Dimethylaminoazobenzene	(5)				Not Detected					0.1
185) Chlorobenzilate	(5)				Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)				Not Detected					6
188) Butylbenzylphthalate	(5)				Not Detected					0.5
189) Famphur	(5)				Not Detected					6
190) Kepone	(5)				Not Detected					6
191) 2-Acetylaminofluorene	(5)				Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)				Not Detected					0.5
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.5
205) Di-n-octylphthalate	(6)				Not Detected					0.5
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)				Not Detected					0.1
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
215) 3-Methylcholanthrene	(6)				Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

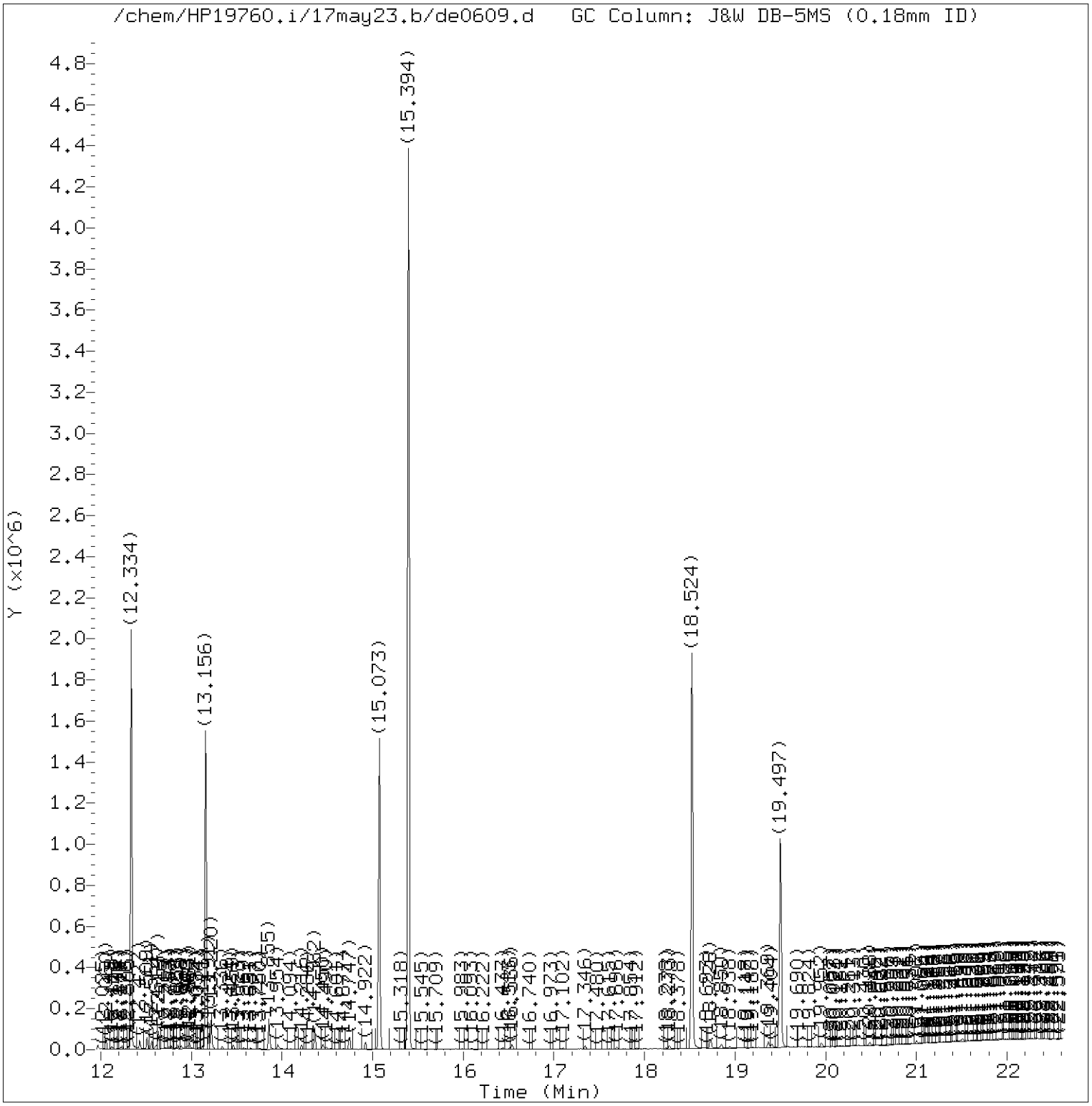
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0609.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 15:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8504 Lab Sample ID: 8999788

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0609.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 15:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8504 Lab Sample ID: 8999788

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0609.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 15:52 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8504 Lab Sample ID: 8999788

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.652	112	422411	8.586
17)$Phenol-d6	(1)	6.039	99	954908	14.302
25)*1,4-Dichlorobenzene-d4	(1)	6.528	152	158563	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1137247	18.326
65)*Naphthalene-d8	(2)	8.464	136	598811	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1963947	19.189
113)*Acenaphthene-d10	(3)	11.244	164	329276	5.000
135)$2,4,6-Tribromophenol	(3)	12.334	330	184957	15.092
153)*Phenanthrene-d10	(4)	13.156	188	620186	5.000
175)*Pyrene-d10	(5)	15.073	212	731101	5.000
179)$Terphenyl-d14	(5)	15.394	244	1667138	15.539
213)*Perylene-d12	(6)	19.497	264	562997	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may30.b/de0929.d
Data file Sample Info. Line: R8504RE;8999788RE;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Injection date and time: **30-MAY-2017 12:18**
Instrument ID: **HP19760.i** Batch: **17143WAW**

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 265 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.459	(0.006)	853	152	165211	(3)	5.00	
65) Naphthalene-d8	8.400	(0.000)	1186	136	632037	(6)	5.00	
113) Acenaphthene-d10	11.192	(0.000)	1665	164	355800	(5)	5.00	
153) Phenanthrene-d10	13.115	(0.000)	1995	188	682936	(7)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	810418	(3)	5.00	
213) Perylene-d12	19.451	(-0.006)	3082	264	642275	(-1)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.570	(-0.001)	112	721073	14.067	28%		10 - 84
17) Phenol-d6	(1)	5.975	(-0.001)	99	1213794	17.447	35%		10 - 71
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1233331	18.829	75%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	2106375	19.046	76%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299	(-0.001)	330	353653	26.706	53%		13 - 149
179) Terphenyl-d14	(5)	15.353	(0.000)	244	2204763	18.539	74%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by William H Saadeh on 07/16/2017 at 21:06. Target 3.5 esignature user ID: whs02991

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may30.b/de0929.d Injection date and time: **30-MAY-2017 12:18**
Data file Sample Info. Line: R8504RE;8999788RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 265 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3
150) 4-Aminobiphenyl	(4)				Not Detected					0.1

Digitally signed by William H Saadeh on 07/16/2017 at 21:06. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may30.b/de0929.d Injection date and time: **30-MAY-2017 12:18**
Data file Sample Info. Line: R8504RE;8999788RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

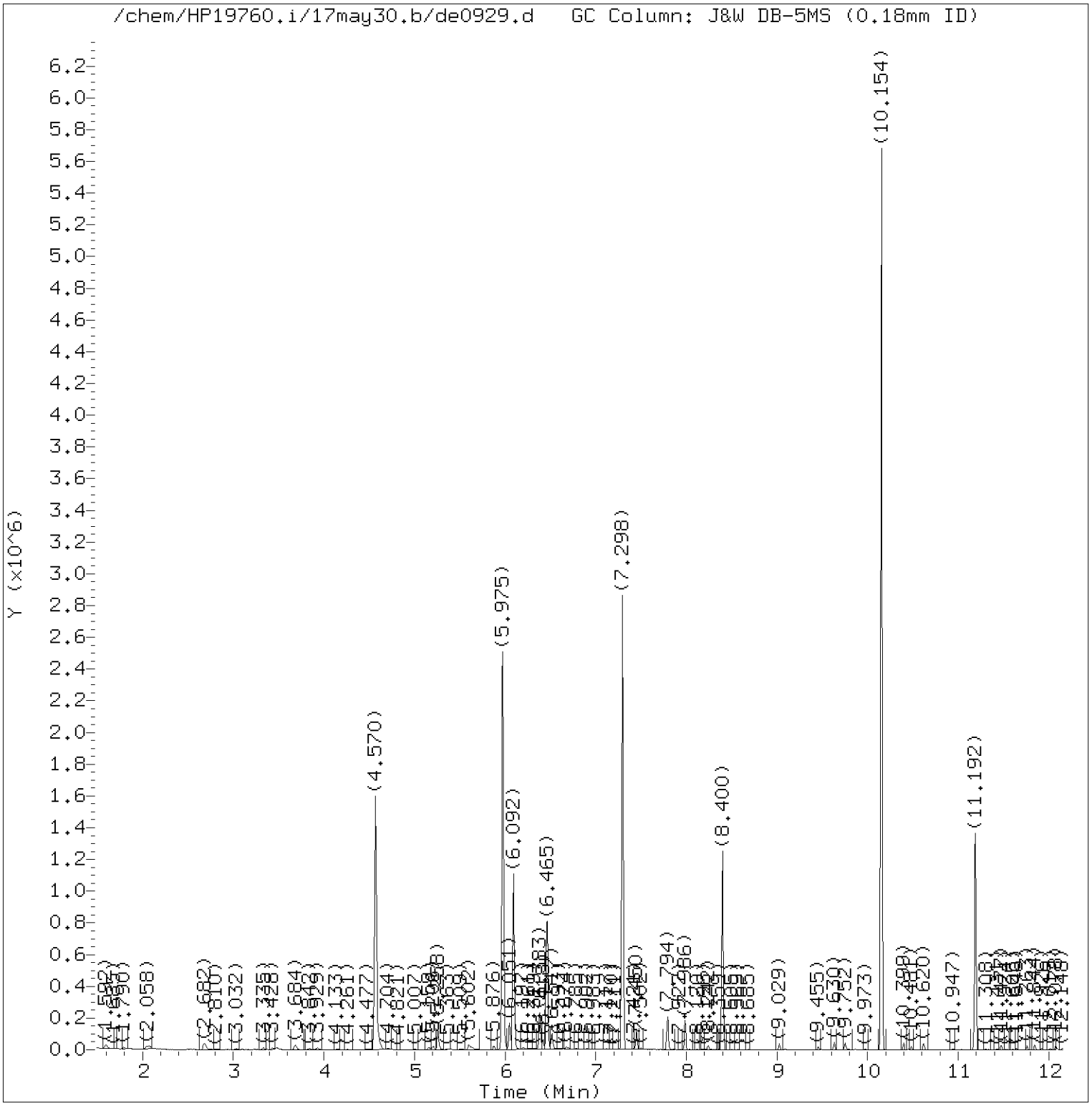
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 265 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)				Not Detected					0.5
152) Pronamide	(4)				Not Detected					0.1
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
162) Disulfoton	(4)				Not Detected					6
164) Methyl parathion	(4)				Not Detected					0.3
165) Di-n-butylphthalate	(4)				Not Detected					0.5
167) Parathion	(4)				Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)				Not Detected					5
170) Methapyrilene	(4)				Not Detected					4
171) Isodrin	(4)				Not Detected					0.1
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
180) Aramite (1)	(5)				Not Detected					0.3
181) Aramite (2)	(5)				Not Detected					0.3
183) Aramite (3)	(5)				Not Detected					0.3
184) Aramite (4)	(5)				Not Detected					0.3
186) Aramite	(5)				Not Detected					1
182) p-Dimethylaminoazobenzene	(5)				Not Detected					0.1
185) Chlorobenzilate	(5)				Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)				Not Detected					6
188) Butylbenzylphthalate	(5)				Not Detected					0.5
189) Famphur	(5)				Not Detected					6
190) Kepone	(5)				Not Detected					6
191) 2-Acetylaminofluorene	(5)				Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)				Not Detected					0.5
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.5
205) Di-n-octylphthalate	(6)				Not Detected					0.5
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)				Not Detected					0.1
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
215) 3-Methylcholanthrene	(6)				Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Total number of targets = 119

Digitally signed by William H Saadeh on 07/16/2017 at 21:06. Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 08:28. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

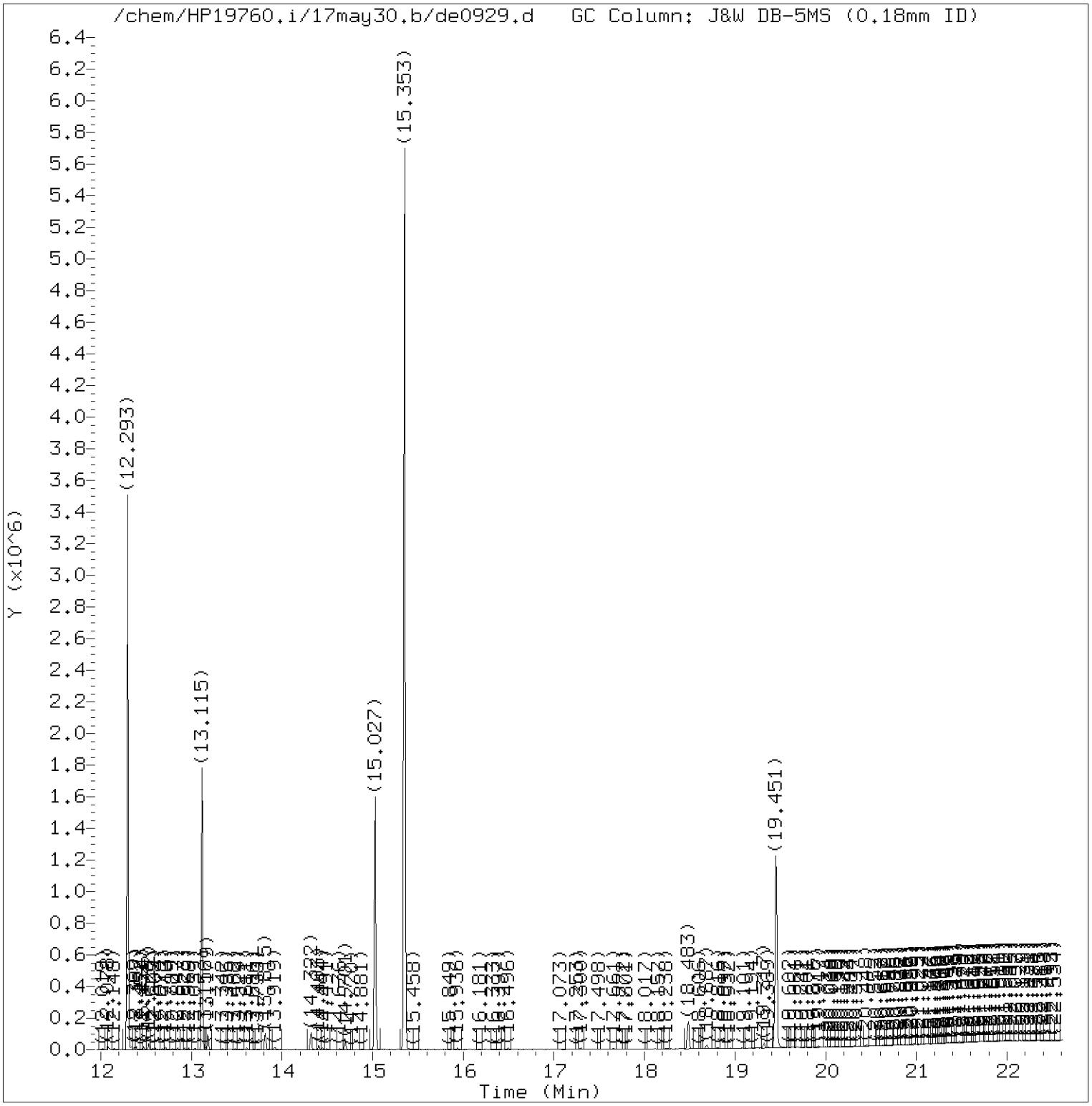
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0929.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:18 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8504RE Lab Sample ID: 8999788RE

Digitally signed by William H Saadeh
on 07/16/2017 at 21:06.
Target 3.5 esignature user ID: whs02991



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0929.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:18 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8504RE Lab Sample ID: 8999788RE

Digitally signed by William H Saadeh
on 07/16/2017 at 21:06.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0929.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:18 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:04 whs02991

Sample Name: R8504RE Lab Sample ID: 8999788RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.570	112	721073	14.067
17)$Phenol-d6	(1)	5.975	99	1213794	17.447
25)*1,4-Dichlorobenzene-d4	(1)	6.459	152	165211	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1233331	18.829
65)*Naphthalene-d8	(2)	8.400	136	632037	5.000
93)$2-Fluorobiphenyl	(3)	10.154	172	2106375	19.046
113)*Acenaphthene-d10	(3)	11.192	164	355800	5.000
135)$2,4,6-Tribromophenol	(3)	12.299	330	353653	26.706
153)*Phenanthrene-d10	(4)	13.115	188	682936	5.000
175)*Pyrene-d10	(5)	15.027	212	810418	5.000
179)$Terphenyl-d14	(5)	15.353	244	2204763	18.539
213)*Perylene-d12	(6)	19.451	264	642275	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 07/16/2017 at 21:06.
Target 3.5 esignature user ID: whs02991

R8505 Lancaster Laboratories, Inc. 8999791
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0615.d Injection date and time: **23-MAY-2017 18:38**
Data file Sample Info. Line: R8505;8999791;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529	(0.006)	865	152	153950	(-22)	5.00	
65) Naphthalene-d8	8.458	(0.006)	1196	136	584804	(-20)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	318430	(-23)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	594305	(-24)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	705888	(-26)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	502629	(-37)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.652	(-0.001)	112	559794	11.720	23%		10 - 84
17) Phenol-d6	(1)	6.033	(0.000)	99	1046455	16.142	32%		10 - 71
44) Nitrobenzene-d5	(2)	7.362	(-0.001)	82	1141412	18.833	75%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1916596	19.364	77%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.334	(0.000)	330	176719	14.911	30%		13 - 149
179) Terphenyl-d14	(5)	15.394	(0.000)	244	1434623	13.849	55%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:30. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0615.d Injection date and time: **23-MAY-2017 18:38**
Data file Sample Info. Line: R8505;8999791;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)			Not Detected					0.1
60) 2,4-Dichlorophenol	(2)			Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)			Not Detected					1
67) 4-Chloroaniline	(2)			Not Detected					0.5
68) 2,6-Dichlorophenol	(2)			Not Detected					0.1
69) Hexachloropropene	(2)			Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)			Not Detected					0.5
81) 1,4-Phenylenediamine	(2)			Not Detected					19
80) 4-Chloro-3-methylphenol	(2)			Not Detected					0.1
82) Safrole	(2)			Not Detected					0.5
83) 2-Methylnaphthalene	(2)			Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)			Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)			Not Detected					0.1
88) cis-Isosafrole	(3)			Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)			Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)			Not Detected					0.1
94) trans-Isosafrole	(3)			Not Detected					0.1
97) Isosafrole	(3)			Not Detected					0.5
96) 2-Chloronaphthalene	(3)			Not Detected					0.1
100) 2-Nitroaniline	(3)			Not Detected					0.1
104) 1,4-Naphthoquinone	(3)			Not Detected					6
106) Dimethylphthalate	(3)			Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)			Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
109) Acenaphthylene	(3)			Not Detected					0.03
112) 3-Nitroaniline	(3)			Not Detected					0.1
114) Acenaphthene	(3)			Not Detected					0.03
115) 2,4-Dinitrophenol	(3)			Not Detected					3
116) 4-Nitrophenol	(3)			Not Detected					3
117) Pentachlorobenzene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
119) Dibenzofuran	(3)			Not Detected					0.1
121) 1-Naphthylamine	(3)			Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)			Not Detected					0.1
123) 2-Naphthylamine	(3)			Not Detected					1
124) Diethylphthalate	(3)			Not Detected					0.5
125) Thionazin	(3)			Not Detected					0.5
126) Fluorene	(3)			Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)			Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)			Not Detected					0.1
129) 4-Nitroaniline	(3)			Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)			Not Detected					1
131) N-Nitrosodiphenylamine	(4)			Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)			Not Detected					1
140) Diallate (peak 1)	(4)			Not Detected					0.06
141) Phorate	(4)			Not Detected					0.1
142) Phenacetin	(4)			Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)			Not Detected					0.1
144) Diallate (peak 2)	(4)			Not Detected					0.06
146) Diallate trans/cis	(4)			Not Detected					0.3
145) Hexachlorobenzene	(4)			Not Detected					0.03
147) Dimethoate	(4)			Not Detected					0.8
149) Pentachlorophenol	(4)			Not Detected					0.3
150) 4-Aminobiphenyl	(4)			Not Detected					0.1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:30. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0615.d Injection date and time: **23-MAY-2017 18:38**
Data file Sample Info. Line: R8505;8999791;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

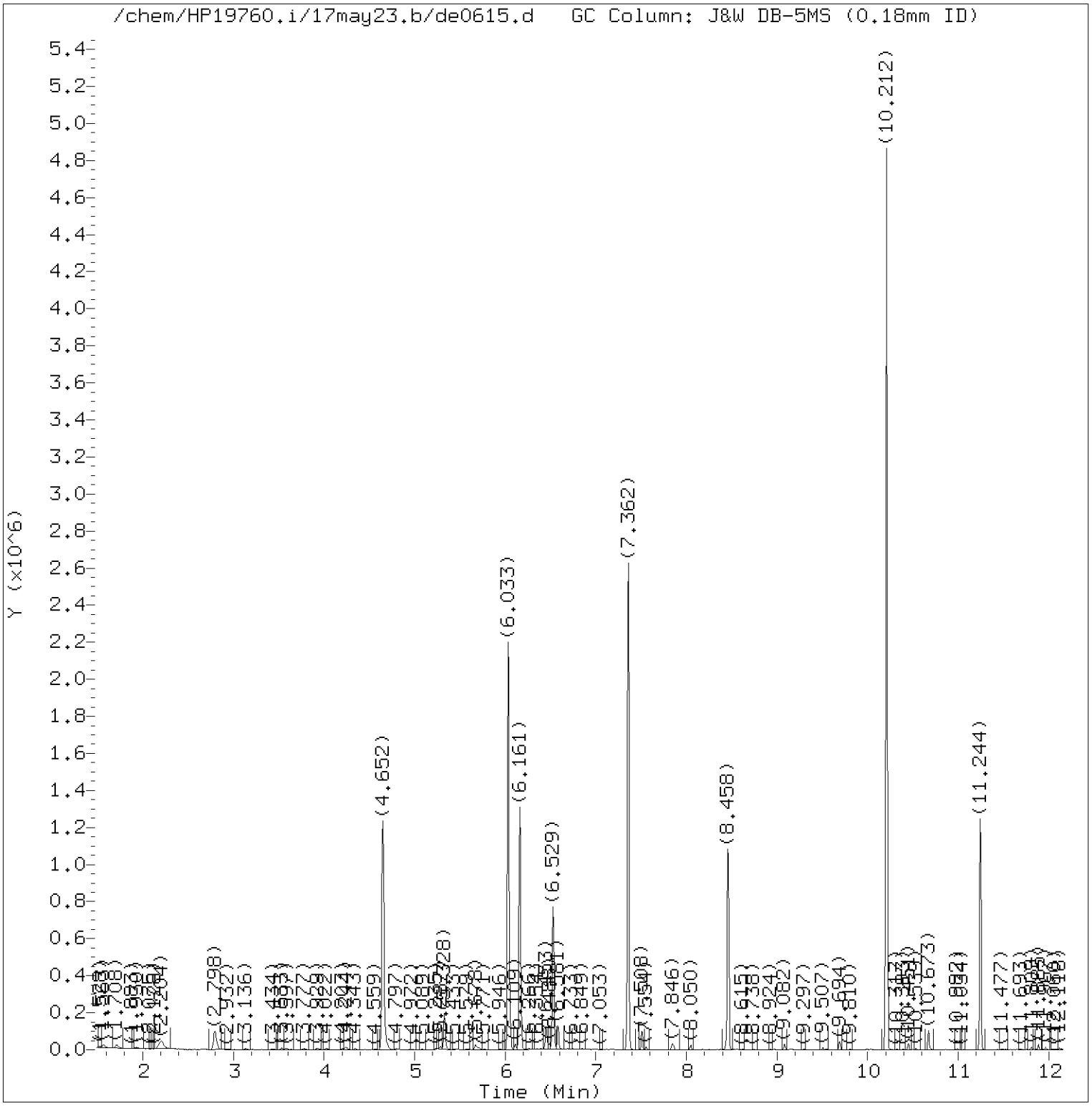
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)			Not Detected					0.5
152) Pronamide	(4)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
162) Disulfoton	(4)			Not Detected					6
164) Methyl parathion	(4)			Not Detected					0.3
165) Di-n-butylphthalate	(4)			Not Detected					0.5
167) Parathion	(4)			Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)			Not Detected					5
170) Methapyrilene	(4)			Not Detected					4
171) Isodrin	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
180) Aramite (1)	(5)			Not Detected					0.3
181) Aramite (2)	(5)			Not Detected					0.3
183) Aramite (3)	(5)			Not Detected					0.3
184) Aramite (4)	(5)			Not Detected					0.3
186) Aramite	(5)			Not Detected					1
182) p-Dimethylaminoazobenzene	(5)			Not Detected					0.1
185) Chlorobenzilate	(5)			Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)			Not Detected					6
188) Butylbenzylphthalate	(5)			Not Detected					0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)			Not Detected					6
191) 2-Acetylaminofluorene	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
215) 3-Methylcholanthrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:30. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

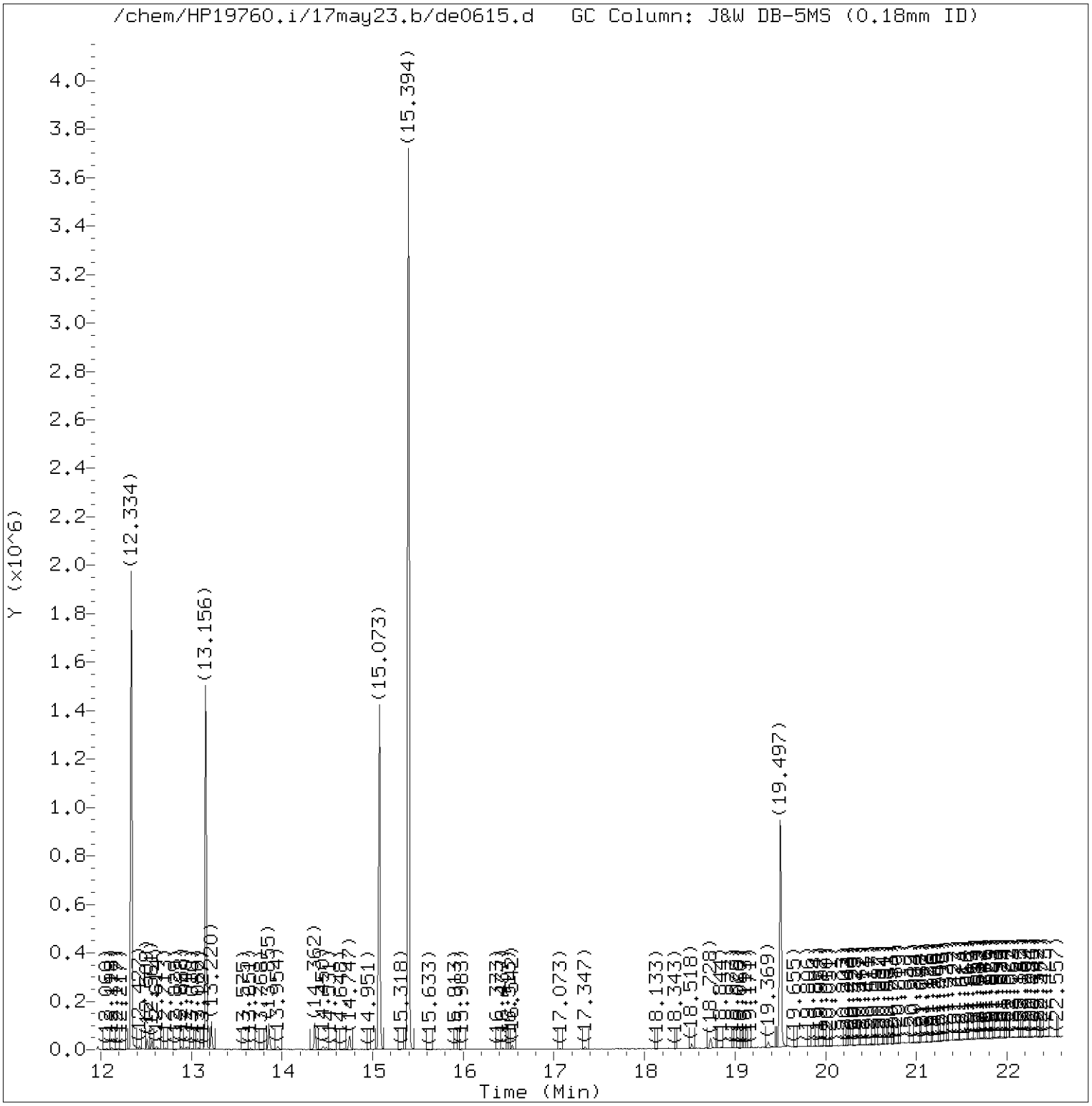
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0615.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 18:38 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8505 Lab Sample ID: 8999791

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:30.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0615.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 18:38 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8505 Lab Sample ID: 8999791

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:30.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0615.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 18:38 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:26 hbz01996

Sample Name: R8505 Lab Sample ID: 8999791

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.652	112	559794	11.720
17)$Phenol-d6	(1)	6.033	99	1046455	16.142
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	153950	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1141412	18.833
65)*Naphthalene-d8	(2)	8.458	136	584804	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1916596	19.364
113)*Acenaphthene-d10	(3)	11.244	164	318430	5.000
135)$2,4,6-Tribromophenol	(3)	12.334	330	176719	14.911
153)*Phenanthrene-d10	(4)	13.156	188	594305	5.000
175)*Pyrene-d10	(5)	15.073	212	705888	5.000
179)$Terphenyl-d14	(5)	15.394	244	1434623	13.849
213)*Perylene-d12	(6)	19.497	264	502629	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:30.
Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0935.d Injection date and time: **30-MAY-2017 15:02**
Data file Sample Info. Line: R8505RE;8999791RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:05 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.465	(0.000)	854	152	155986	(-3)	5.00	
65) Naphthalene-d8	8.400	(0.000)	1186	136	589148	(-1)	5.00	
113) Acenaphthene-d10	11.192	(0.000)	1665	164	330200	(-3)	5.00	
153) Phenanthrene-d10	13.115	(0.000)	1995	188	630619	(-1)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	759382	(-4)	5.00	
213) Perylene-d12	19.451	(-0.006)	3082	264	602963	(-7)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.570	(0.000)	112	970287	20.049	40%		10 - 84
17) Phenol-d6	(1)	5.975	(0.000)	99	1413334	21.517	43%		10 - 71
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1180434	19.334	77%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	2012268	19.606	78%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299	(-0.001)	330	363790	29.601	59%		13 - 149
179) Terphenyl-d14	(5)	15.353	(0.000)	244	2127477	19.091	76%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may30.b/de0935.d Injection date and time: **30-MAY-2017 15:02**
Data file Sample Info. Line: R8505RE;8999791RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:05 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3
150) 4-Aminobiphenyl	(4)				Not Detected					0.1

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may30.b/de0935.d Injection date and time: **30-MAY-2017 15:02**
Data file Sample Info. Line: R8505RE;8999791RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:05 whs02991

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

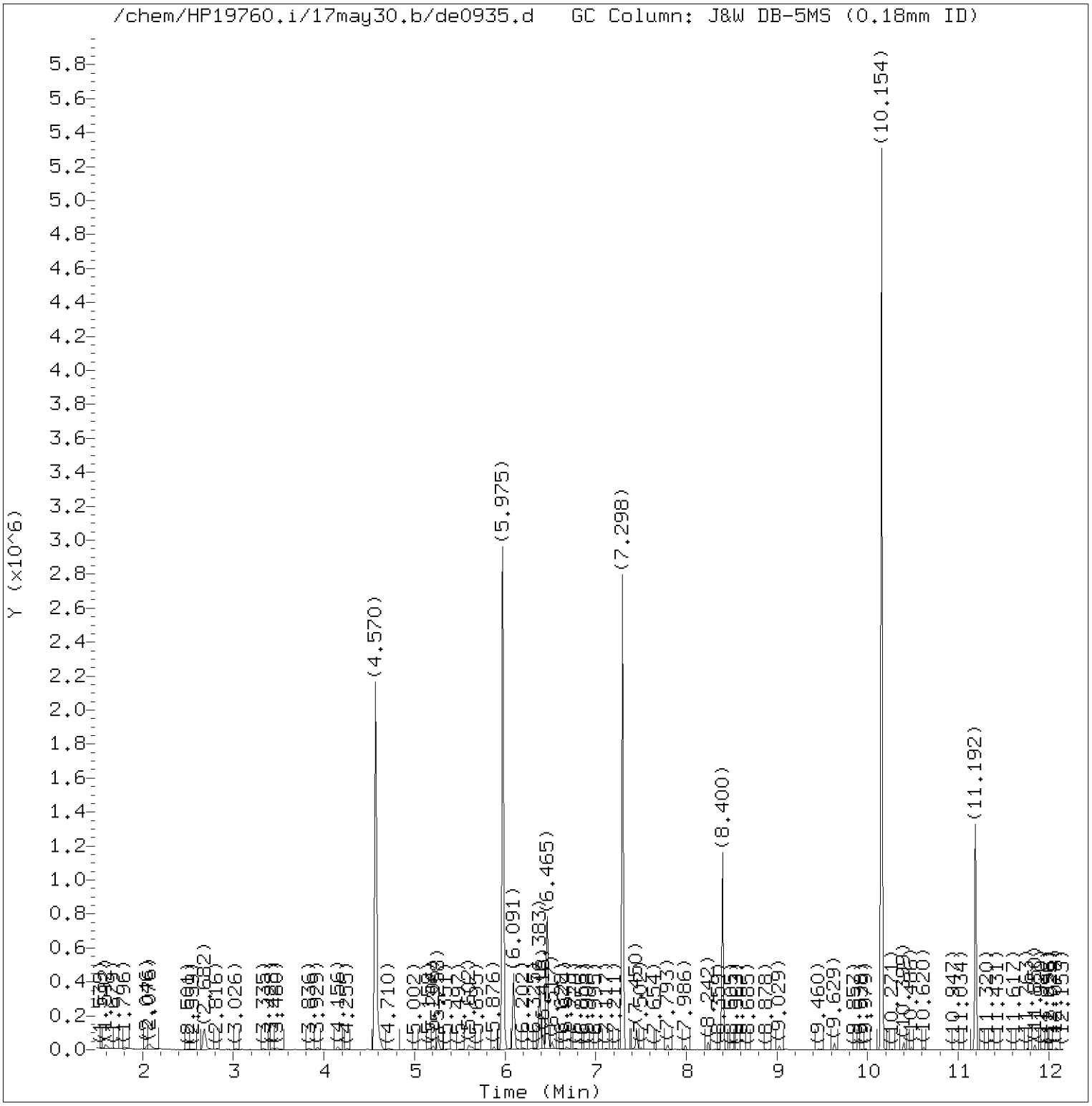
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)				Not Detected					0.5
152) Pronamide	(4)				Not Detected					0.1
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
162) Disulfoton	(4)				Not Detected					6
164) Methyl parathion	(4)				Not Detected					0.3
165) Di-n-butylphthalate	(4)				Not Detected					0.5
167) Parathion	(4)				Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)				Not Detected					5
170) Methapyrilene	(4)				Not Detected					4
171) Isodrin	(4)				Not Detected					0.1
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
180) Aramite (1)	(5)				Not Detected					0.3
181) Aramite (2)	(5)				Not Detected					0.3
183) Aramite (3)	(5)				Not Detected					0.3
184) Aramite (4)	(5)				Not Detected					0.3
186) Aramite	(5)				Not Detected					1
182) p-Dimethylaminoazobenzene	(5)				Not Detected					0.1
185) Chlorobenzilate	(5)				Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)				Not Detected					6
188) Butylbenzylphthalate	(5)				Not Detected					0.5
189) Famphur	(5)				Not Detected					6
190) Kepone	(5)				Not Detected					6
191) 2-Acetylaminofluorene	(5)				Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)				Not Detected					0.5
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.5
205) Di-n-octylphthalate	(6)				Not Detected					0.5
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)				Not Detected					0.1
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
215) 3-Methylcholanthrene	(6)				Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Total number of targets = 119

Digitally signed by William H Saadeh on 07/16/2017 at 21:08. Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 08:28. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

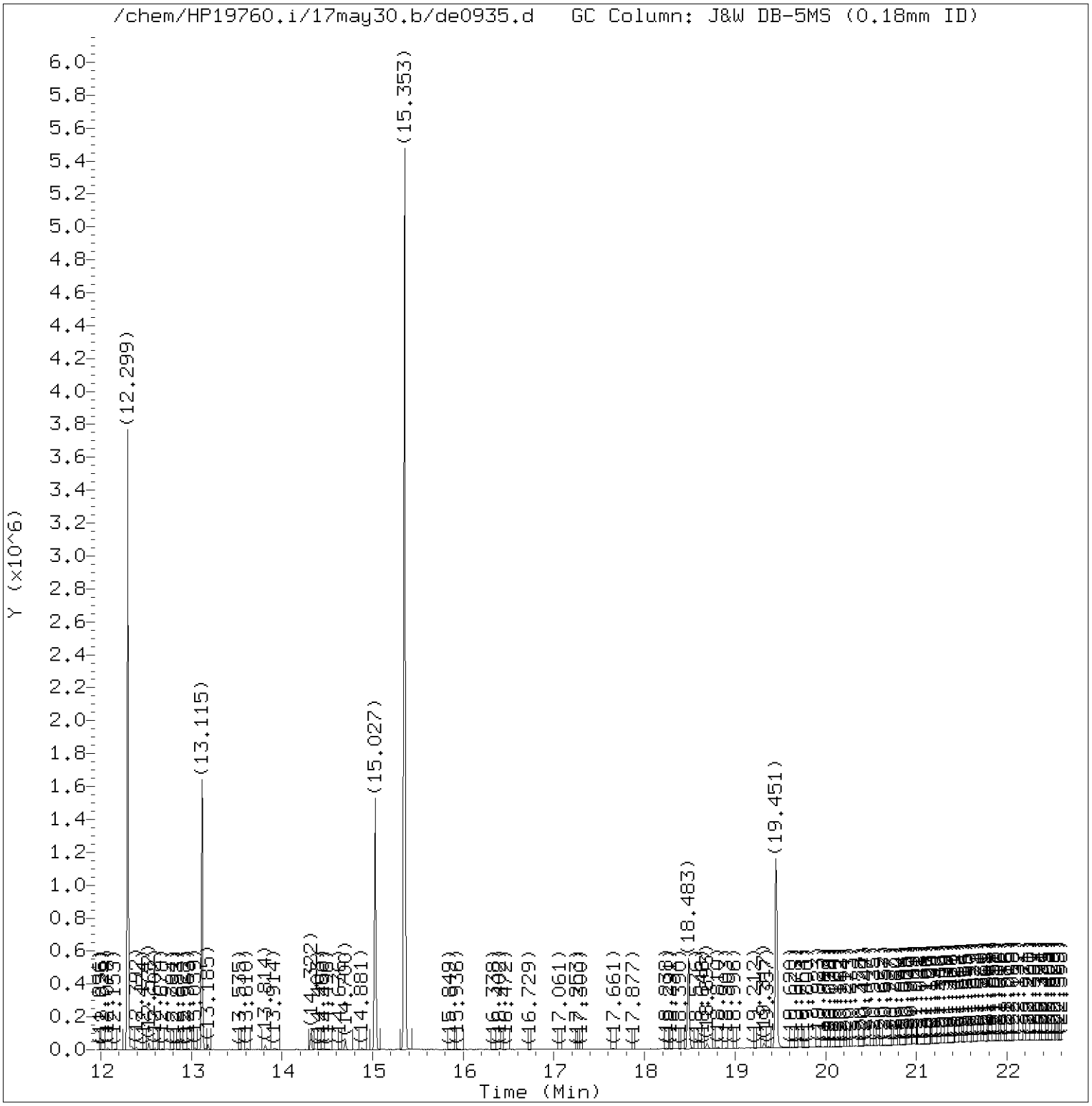
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0935.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 15:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:05 whs02991

Sample Name: R8505RE Lab Sample ID: 8999791RE

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0935.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 15:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:05 whs02991

Sample Name: R8505RE Lab Sample ID: 8999791RE

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0935.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 15:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 16-Jul-2017 21:05 whs02991

Sample Name: R8505RE Lab Sample ID: 8999791RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.570	112	970287	20.049
17)$Phenol-d6	(1)	5.975	99	1413334	21.517
25)*1,4-Dichlorobenzene-d4	(1)	6.465	152	155986	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1180434	19.334
65)*Naphthalene-d8	(2)	8.400	136	589148	5.000
93)$2-Fluorobiphenyl	(3)	10.154	172	2012268	19.606
113)*Acenaphthene-d10	(3)	11.192	164	330200	5.000
135)$2,4,6-Tribromophenol	(3)	12.299	330	363790	29.601
153)*Phenanthrene-d10	(4)	13.115	188	630619	5.000
175)*Pyrene-d10	(5)	15.027	212	759382	5.000
179)$Terphenyl-d14	(5)	15.353	244	2127477	19.091
213)*Perylene-d12	(6)	19.451	264	602963	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 07/16/2017 at 21:08.
Target 3.5 esignature user ID: whs02991

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0616.d
Data file Sample Info. Line: R8506;8999792;1;0;SAMPLE;;;
Date, time and analyst ID of latest file update: 16-Jul-2017 21:14 whs02991

Injection date and time: **23-MAY-2017 19:06**
Instrument ID: **HP19760.i** Batch: **17142WAC**

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529(0.006)	865	152	154742 (-21)	5.00	
65) Naphthalene-d8	8.464(0.000)	1197	136	585213 (-20)	5.00	
113) Acenaphthene-d10	11.244(0.006)	1674	164	324209 (-22)	5.00	
153) Phenanthrene-d10	13.156(0.006)	2002	188	611431 (-22)	5.00	
175) Pyrene-d10	15.074(0.006)	2331	212	720203 (-25)	5.00	
213) Perylene-d12	19.497(0.006)	3090	264	513642 (-35)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.652(-0.001)	112	143214	2.983	6%	*	10 - 84
17) Phenol-d6	(1)	6.039(-0.001)	99	430494	6.607	13%		10 - 71
44) Nitrobenzene-d5	(2)	7.362(0.000)	82	1172526	19.333	77%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212(0.000)	172	2012478	19.970	80%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.334(0.000)	330	172052	14.258	29%		13 - 149
179) Terphenyl-d14	(5)	15.394(0.000)	244	2210495	20.915	84%		38 - 125

*** = Surrogate Standard % recovery outside QC limits.**

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)			Not Detected					0.5
5) Pyridine	(1)			Not Detected					0.5
7) 2-Picoline	(1)			Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)			Not Detected					0.5
9) Methyl methanesulfonate	(1)			Not Detected					0.3
13) N-Nitrosodiethylamine	(1)			Not Detected					0.1
15) Ethyl methanesulfonate	(1)			Not Detected					0.1
18) Phenol	(1)			Not Detected					0.1
19) Aniline	(1)			Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)			Not Detected					0.1
23) 2-Chlorophenol	(1)			Not Detected					0.1
27) Benzyl alcohol	(1)			Not Detected					3
31) 2-Methylphenol	(1)			Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)			Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)			Not Detected					0.1
36) Acetophenone	(1)			Not Detected					0.1
37) 4-Methylphenol	(1)			Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)			Not Detected					0.1
39) N-Nitrosomorpholine	(1)			Not Detected					0.5
40) o-Toluidine	(1)			Not Detected					0.1
43) Hexachloroethane	(1)			Not Detected					0.3
45) Nitrobenzene	(2)			Not Detected					0.1
48) N-Nitrosopiperidine	(2)			Not Detected					0.1
50) Isophorone	(2)			Not Detected					0.1
51) 2-Nitrophenol	(2)			Not Detected					0.1
53) 2,4-Dimethylphenol	(2)			Not Detected					0.1

Digitally signed by William H Saadeh on 07/16/2017 at 21:23. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may23.b/de0616.d Injection date and time: **23-MAY-2017 19:06**
Data file Sample Info. Line: R8506;8999792;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:14 whs02991

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3

Digitally signed by William H Saadeh on 07/16/2017 at 21:23. Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may23.b/de0616.d Injection date and time: **23-MAY-2017 19:06**
Data file Sample Info. Line: R8506;8999792;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 16-Jul-2017 21:14 whs02991

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

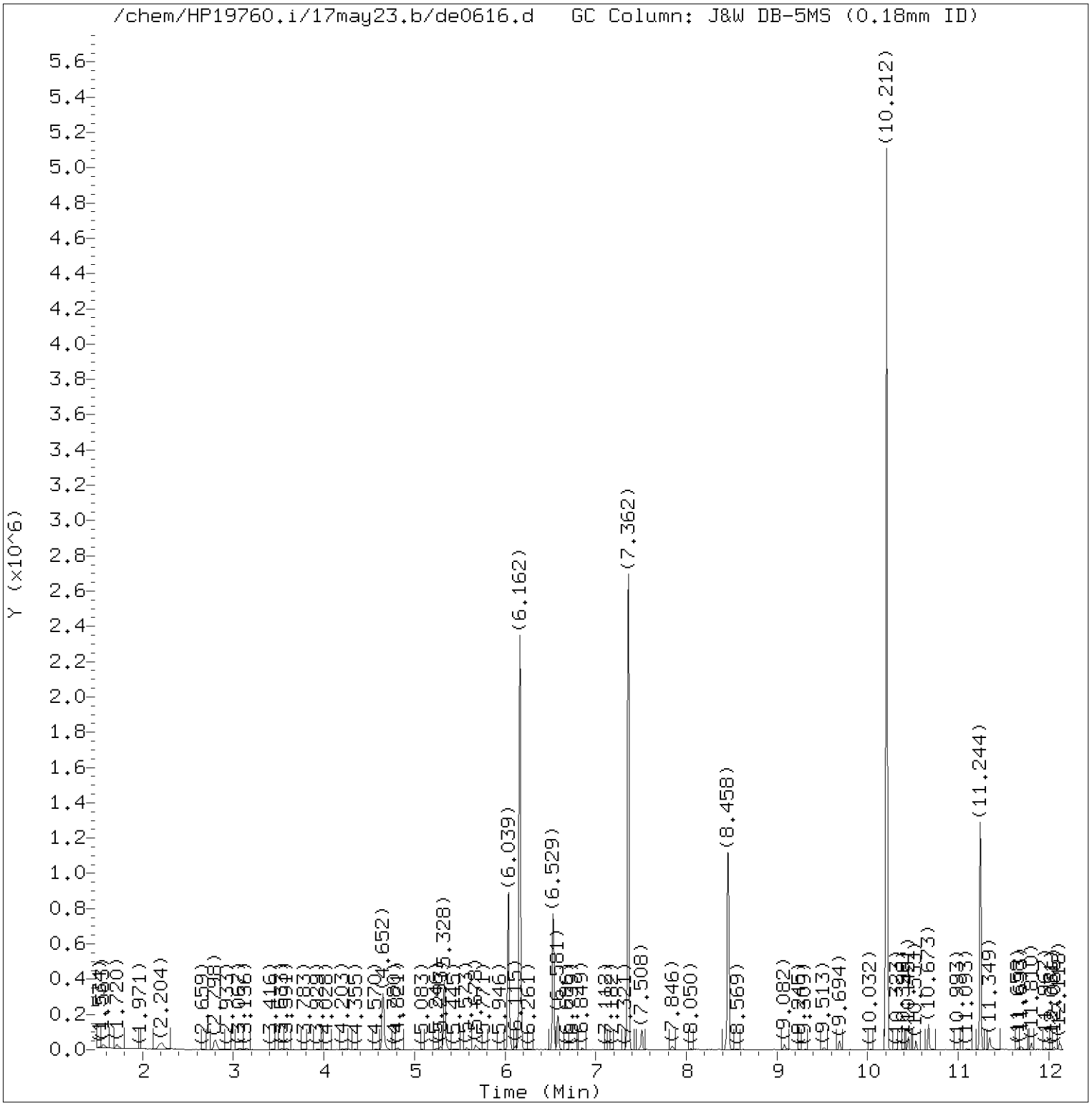
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
150) 4-Aminobiphenyl	(4)				Not Detected					0.1
151) Pentachloronitrobenzene	(4)				Not Detected					0.5
152) Pronamide	(4)				Not Detected					0.1
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
162) Disulfoton	(4)				Not Detected					6
164) Methyl parathion	(4)				Not Detected					0.3
165) Di-n-butylphthalate	(4)				Not Detected					0.5
167) Parathion	(4)				Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)				Not Detected					5
170) Methapyrilene	(4)				Not Detected					4
171) Isodrin	(4)				Not Detected					0.1
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
180) Aramite (1)	(5)				Not Detected					0.3
181) Aramite (2)	(5)				Not Detected					0.3
183) Aramite (3)	(5)				Not Detected					0.3
184) Aramite (4)	(5)				Not Detected					0.3
186) Aramite	(5)				Not Detected					1
182) p-Dimethylaminoazobenzene	(5)				Not Detected					0.1
185) Chlorobenzilate	(5)				Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)				Not Detected					6
188) Butylbenzylphthalate	(5)				Not Detected					0.5
189) Famphur	(5)				Not Detected					6
190) Kepone	(5)				Not Detected					6
191) 2-Acetylaminofluorene	(5)				Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)				Not Detected					0.5
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.5
205) Di-n-octylphthalate	(6)				Not Detected					0.5
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)				Not Detected					0.1
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
215) 3-Methylcholanthrene	(6)				Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Total number of targets = 119

Digitally signed by William H Saadeh on 07/16/2017 at 21:23. Target 3.5 esignature user ID: whs02991

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 08:21. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

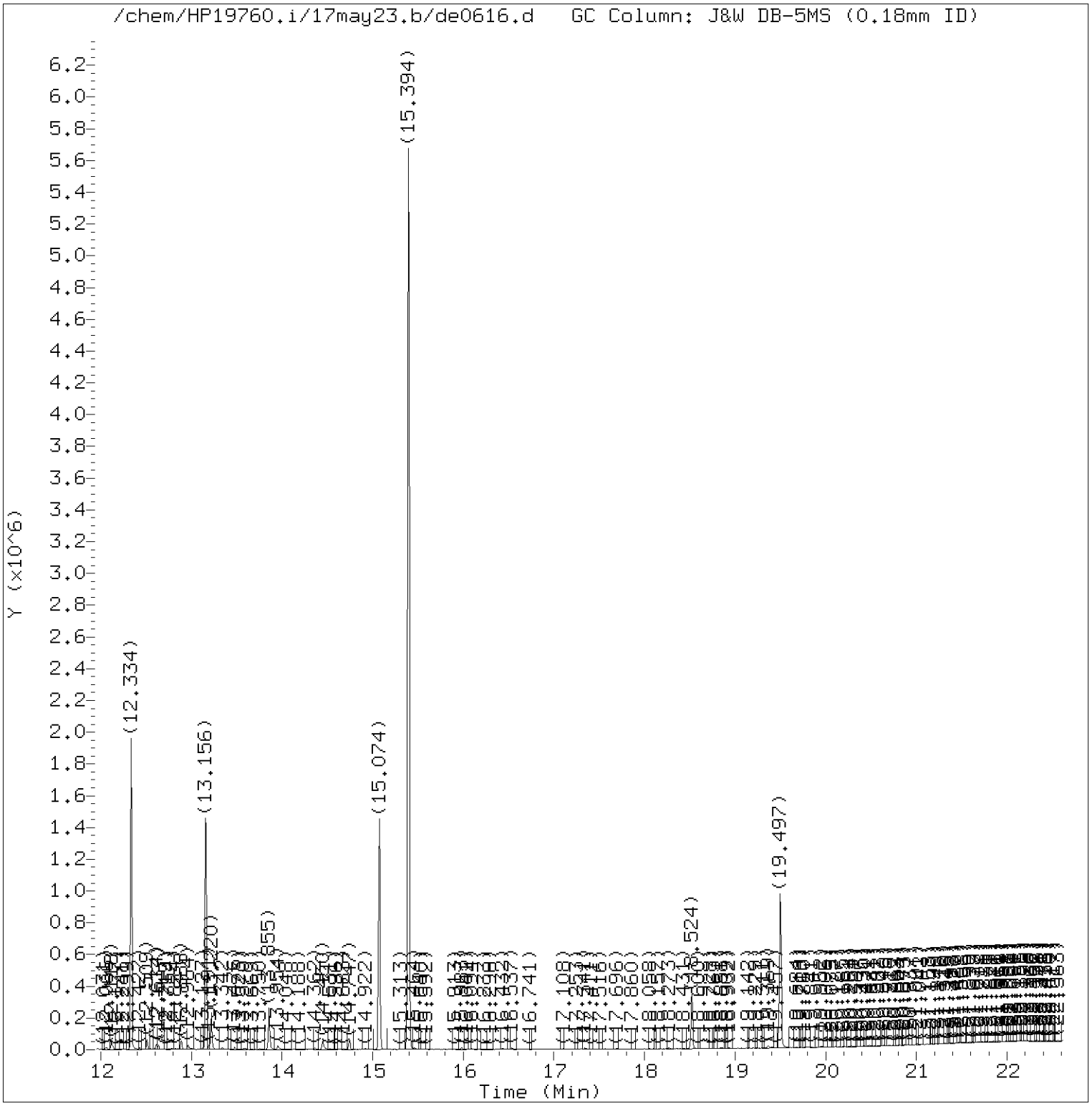
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0616.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 19:06 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 16-Jul-2017 21:14 whs02991

Sample Name: R8506 Lab Sample ID: 8999792

Digitally signed by William H Saadeh
on 07/16/2017 at 21:23.
Target 3.5 esignature user ID: whs02991



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0616.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 19:06 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 16-Jul-2017 21:14 whs02991

Sample Name: R8506 Lab Sample ID: 8999792

Digitally signed by William H Saadeh
on 07/16/2017 at 21:23.
Target 3.5 esignature user ID: whs02991

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0616.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 19:06 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 16-Jul-2017 21:14 whs02991

Sample Name: R8506 Lab Sample ID: 8999792

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.652	112	143214	2.983
17)$Phenol-d6	(1)	6.039	99	430494	6.607
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	154742	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1172526	19.333
65)*Naphthalene-d8	(2)	8.464	136	585213	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	2012478	19.970
113)*Acenaphthene-d10	(3)	11.244	164	324209	5.000
135)$2,4,6-Tribromophenol	(3)	12.334	330	172052	14.258
153)*Phenanthrene-d10	(4)	13.156	188	611431	5.000
175)*Pyrene-d10	(5)	15.074	212	720203	5.000
179)$Terphenyl-d14	(5)	15.394	244	2210495	20.915
213)*Perylene-d12	(6)	19.497	264	513642	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by William H Saadeh
on 07/16/2017 at 21:23.
Target 3.5 esignature user ID: whs02991

Data file: /chem/HP19760.i/17may30.b/de0936.d Injection date and time: **30-MAY-2017 15:30**
Data file Sample Info. Line: R8506RE;8999792RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.465	(0.000)	854	152	160404	(0)	5.00	
65) Naphthalene-d8	8.400	(0.000)	1186	136	599703	(1)	5.00	
113) Acenaphthene-d10	11.192	(0.000)	1665	164	339480	(0)	5.00	
153) Phenanthrene-d10	13.115	(0.000)	1995	188	640636	(0)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	775235	(-2)	5.00	
213) Perylene-d12	19.457	(-0.012)	3083	264	609204	(-6)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.570	(0.000)	112	800944	16.094	32%		10 - 84
17) Phenol-d6	(1)	5.975	(0.000)	99	1232982	18.254	37%		10 - 71
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1144603	18.417	74%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	1993469	18.892	76%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299	(-0.001)	330	267023	21.133	42%		13 - 149
179) Terphenyl-d14	(5)	15.353	(0.000)	244	1911655	16.804	67%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:34. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may30.b/de0936.d Injection date and time: **30-MAY-2017 15:30**
Data file Sample Info. Line: R8506RE;8999792RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3
150) 4-Aminobiphenyl	(4)				Not Detected					0.1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:34. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0936.d Injection date and time: **30-MAY-2017 15:30**
Data file Sample Info. Line: R8506RE;8999792RE;1;0;SAMPLE;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

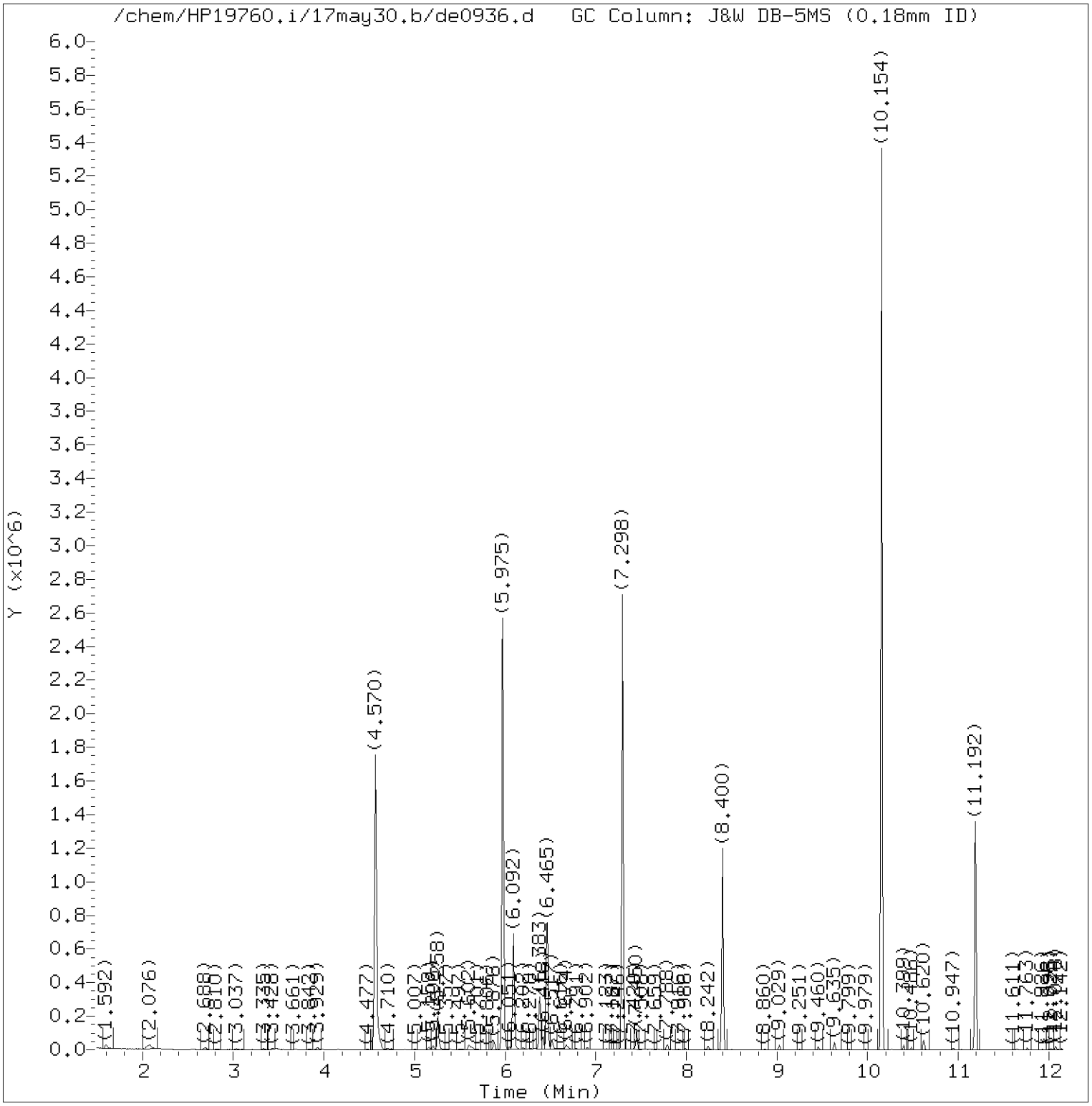
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 246 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)			Not Detected					0.5
152) Pronamide	(4)			Not Detected					0.1
155) Phenanthrene	(4)			Not Detected					0.03
157) Anthracene	(4)			Not Detected					0.03
162) Disulfoton	(4)			Not Detected					6
164) Methyl parathion	(4)			Not Detected					0.3
165) Di-n-butylphthalate	(4)			Not Detected					0.5
167) Parathion	(4)			Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)			Not Detected					5
170) Methapyrilene	(4)			Not Detected					4
171) Isodrin	(4)			Not Detected					0.1
173) Fluoranthene	(4)			Not Detected					0.03
177) Pyrene	(5)			Not Detected					0.03
180) Aramite (1)	(5)			Not Detected					0.3
181) Aramite (2)	(5)			Not Detected					0.3
183) Aramite (3)	(5)			Not Detected					0.3
184) Aramite (4)	(5)			Not Detected					0.3
186) Aramite	(5)			Not Detected					1
182) p-Dimethylaminoazobenzene	(5)			Not Detected					0.1
185) Chlorobenzilate	(5)			Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)			Not Detected					6
188) Butylbenzylphthalate	(5)			Not Detected					0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)			Not Detected					6
191) 2-Acetylaminofluorene	(5)			Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)			Not Detected					0.5
195) Benzo(a)anthracene	(5)			Not Detected					0.03
196) Chrysene	(5)			Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)			Not Detected					0.5
205) Di-n-octylphthalate	(6)			Not Detected					0.5
206) Benzo(b)fluoranthene	(6)			Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)			Not Detected					0.1
208) Benzo(k)fluoranthene	(6)			Not Detected					0.03
211) Benzo(a)pyrene	(6)			Not Detected					0.03
215) 3-Methylcholanthrene	(6)			Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)			Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)			Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)			Not Detected					0.03

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:34. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

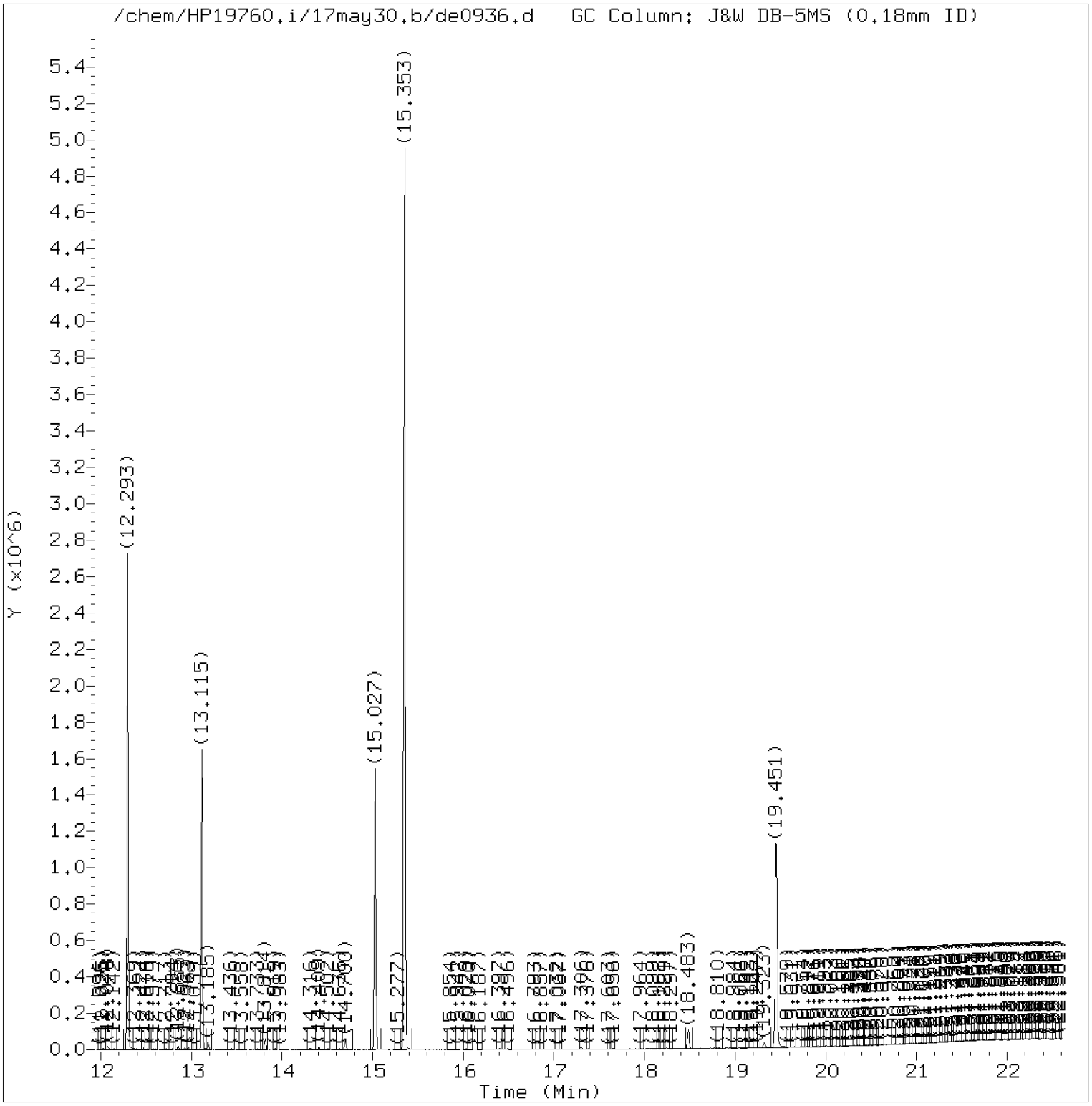
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0936.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 15:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8506RE Lab Sample ID: 8999792RE

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:34.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0936.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 15:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8506RE Lab Sample ID: 8999792RE

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:34.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0936.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 15:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8506RE Lab Sample ID: 8999792RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.570	112	800944	16.094
17)$Phenol-d6	(1)	5.975	99	1232982	18.254
25)*1,4-Dichlorobenzene-d4	(1)	6.465	152	160404	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1144603	18.417
65)*Naphthalene-d8	(2)	8.400	136	599703	5.000
93)$2-Fluorobiphenyl	(3)	10.154	172	1993469	18.892
113)*Acenaphthene-d10	(3)	11.192	164	339480	5.000
135)$2,4,6-Tribromophenol	(3)	12.299	330	267023	21.133
153)*Phenanthrene-d10	(4)	13.115	188	640636	5.000
175)*Pyrene-d10	(5)	15.027	212	775235	5.000
179)$Terphenyl-d14	(5)	15.353	244	1911655	16.804
213)*Perylene-d12	(6)	19.457	264	609204	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:34.
Target 3.5 esignature user ID: hbz01996

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23a.b/de0628.d
Injection date and time: **24-MAY-2017 01:39**
Data file Sample Info. Line: R8507;8999793;1;0;SAMPLE;;RAAPLOQ;
Instrument ID: **HP19760.i** Batch: **17142WAW**
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605a.d**

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:02
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23a.b/de0621.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529(0.000)	865	152	150464 (-29)	5.00	
65) Naphthalene-d8	8.464(0.000)	1197	136	565480 (-30)	5.00	
113) Acenaphthene-d10	11.244(0.006)	1674	164	313395 (-31)	5.00	
153) Phenanthrene-d10	13.156(0.006)	2002	188	596040 (-30)	5.00	
175) Pyrene-d10	15.073(0.006)	2331	212	706575 (-32)	5.00	
213) Perylene-d12	19.497(0.006)	3090	264	423990 (-49)	5.00	

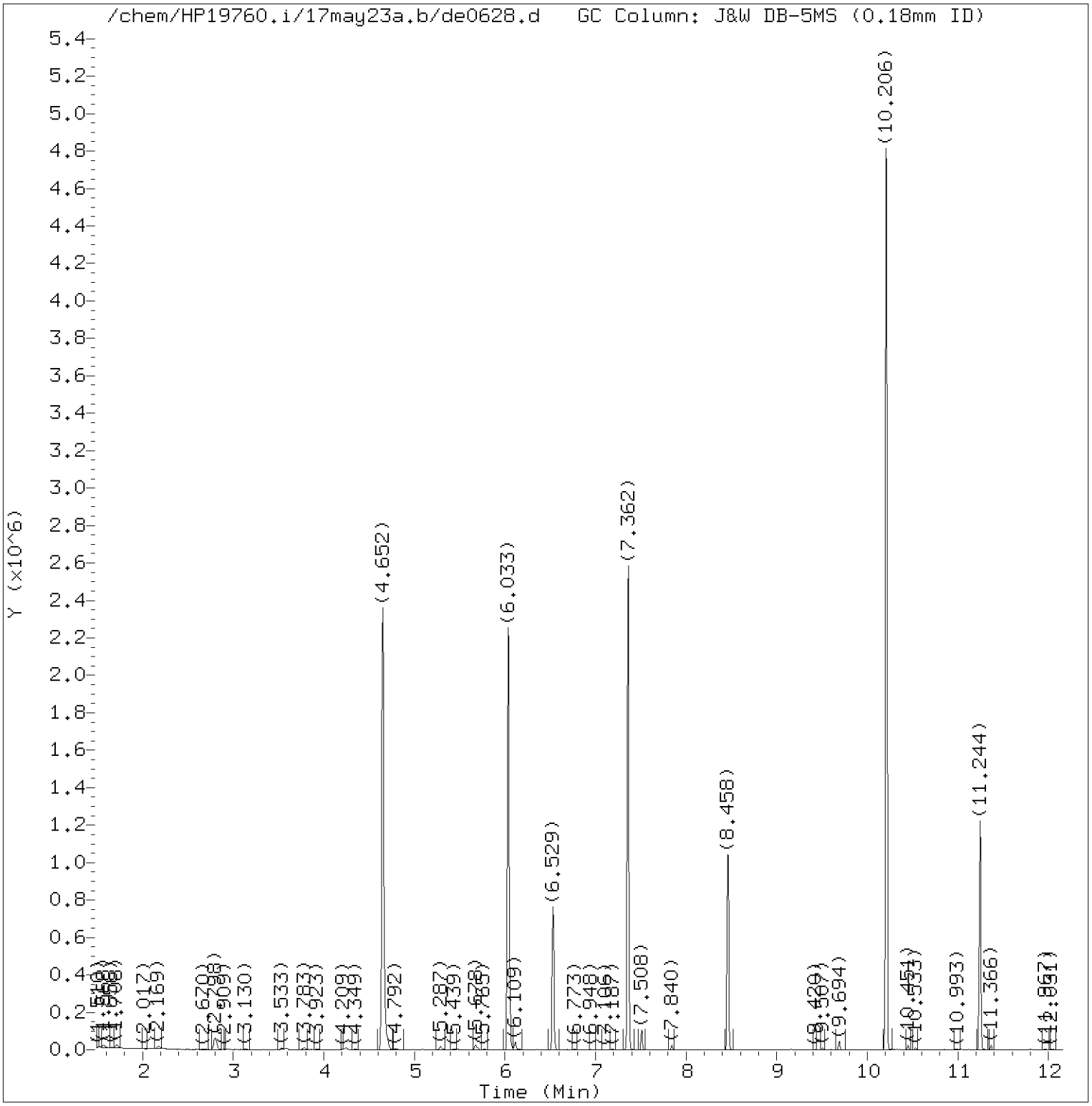
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.362(0.000)	82	1135028	19.368	77%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212(0.000)	172	1920914	19.719	79%		41 - 112
179) Terphenyl-d14	(5)	15.394(0.000)	244	2250665	21.706	87%		38 - 125

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)			Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)			Not Detected					0.3
124) Diethylphthalate	(3)			Not Detected					0.5

Total number of targets = 3

Digitally signed by Linda M. Hartenstine on 05/31/2017 at 09:19. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:35. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

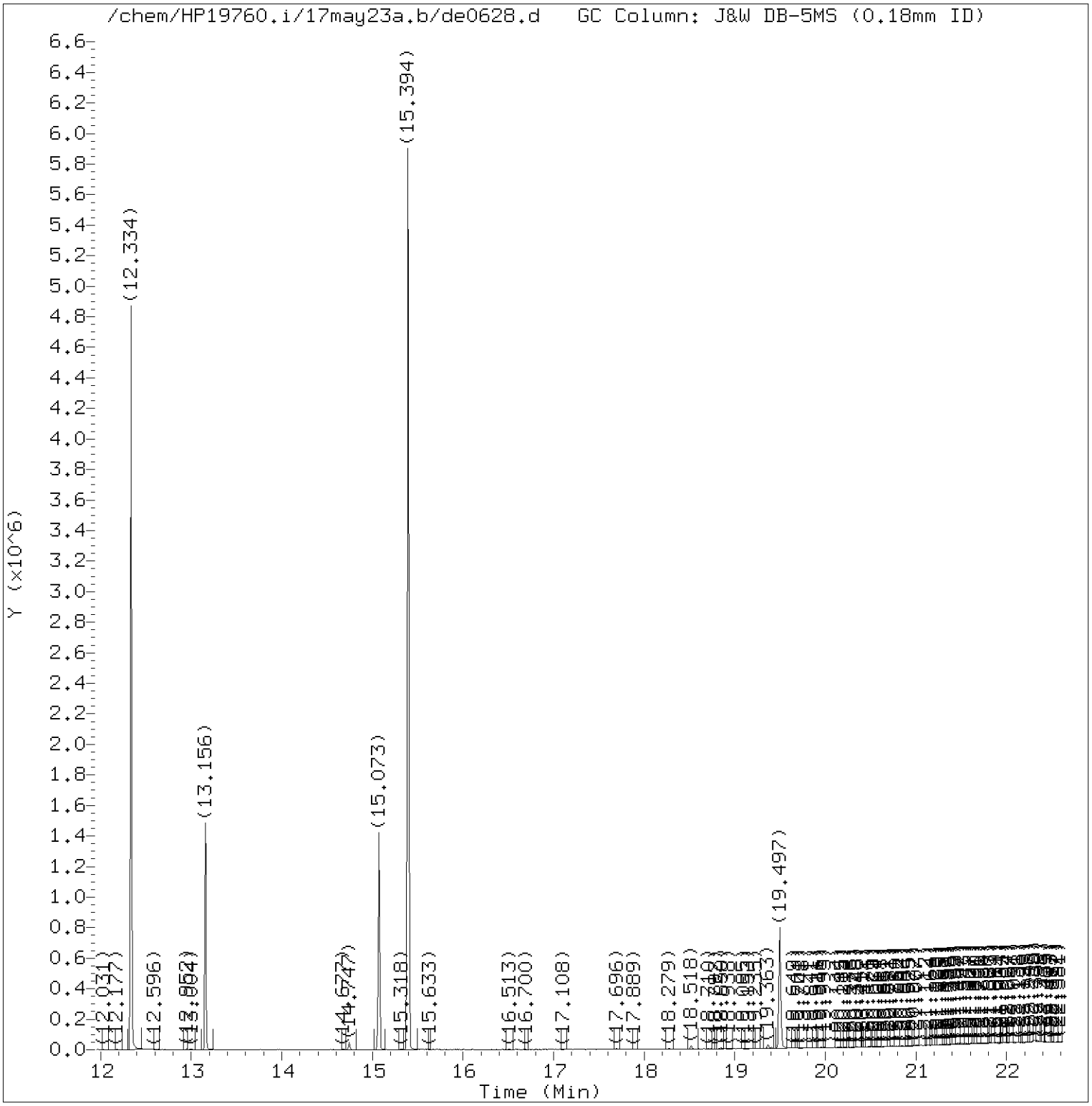
Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0628.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 01:39 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8507 Lab Sample ID: 8999793

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0628.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 01:39 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8507 Lab Sample ID: 8999793

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0628.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 01:39 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8507 Lab Sample ID: 8999793

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	150464	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1135028	19.368
65)*Naphthalene-d8	(2)	8.464	136	565480	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1920914	19.719
113)*Acenaphthene-d10	(3)	11.244	164	313395	5.000
153)*Phenanthrene-d10	(4)	13.156	188	596040	5.000
175)*Pyrene-d10	(5)	15.073	212	706575	5.000
179)$Terphenyl-d14	(5)	15.394	244	2250665	21.706
213)*Perylene-d12	(6)	19.497	264	423990	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23a.b/de0629.d
Injection date and time: **24-MAY-2017 02:06**
Data file Sample Info. Line: R8508;8999794;1;0;SAMPLE;;RAAPLOQ;
Instrument ID: **HP19760.i** Batch: **17142WAW**
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605a.d**

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:02
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23a.b/de0621.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 247 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529	(0.000)	865	152	154067	(-27)	5.00	
65) Naphthalene-d8	8.458	(0.006)	1196	136	580592	(-28)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	317089	(-30)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	600197	(-30)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	712307	(-31)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	430245	(-48)	5.00	

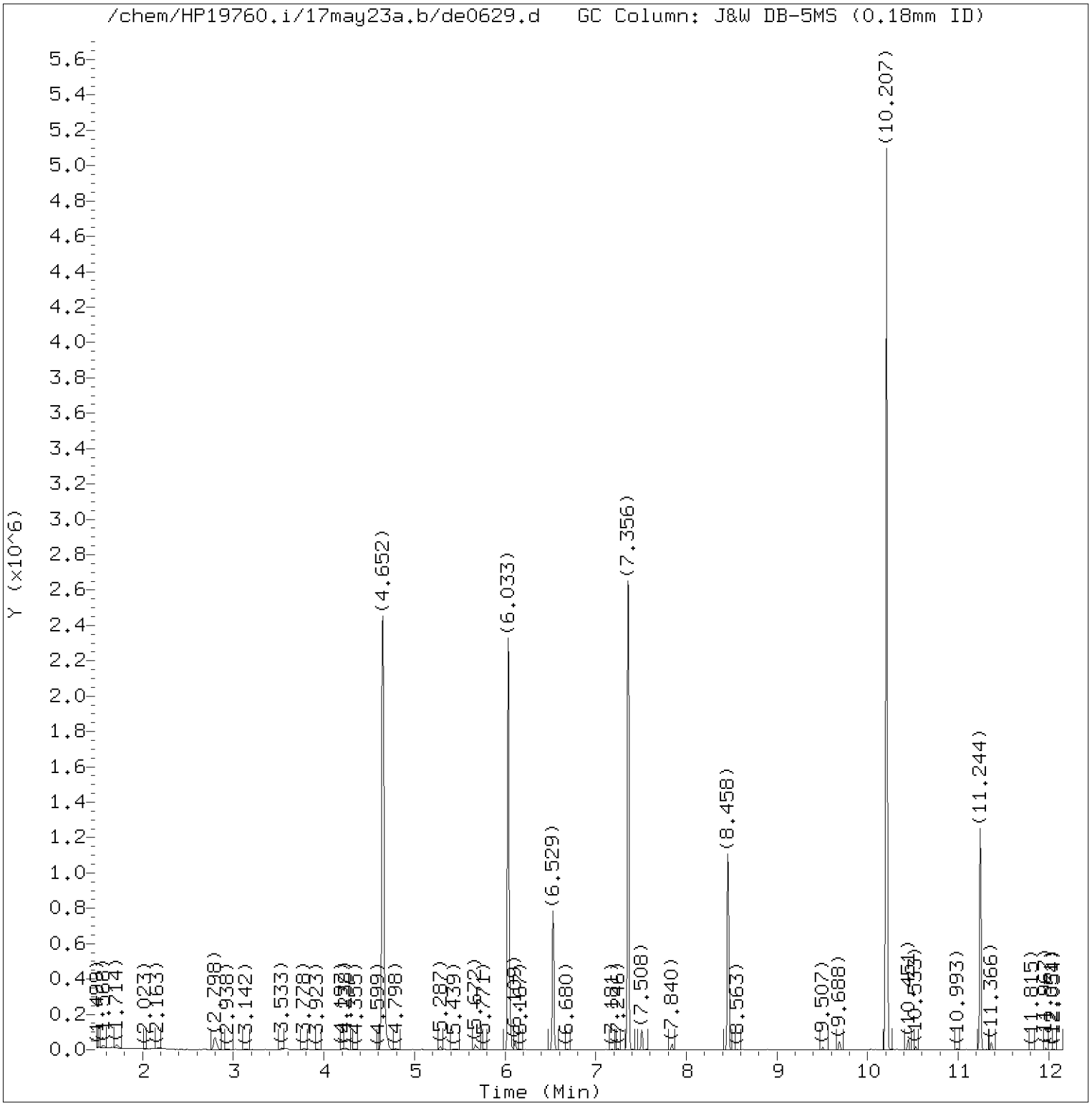
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.356	(0.000)	82	1194908	19.859	79%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	2032921	20.626	83%		41 - 112
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2406904	23.026	92%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
124) Diethylphthalate	(3)				Not Detected					0.5

Total number of targets = 3

Digitally signed by Linda M. Hartenstine on 05/31/2017 at 09:19. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:35. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

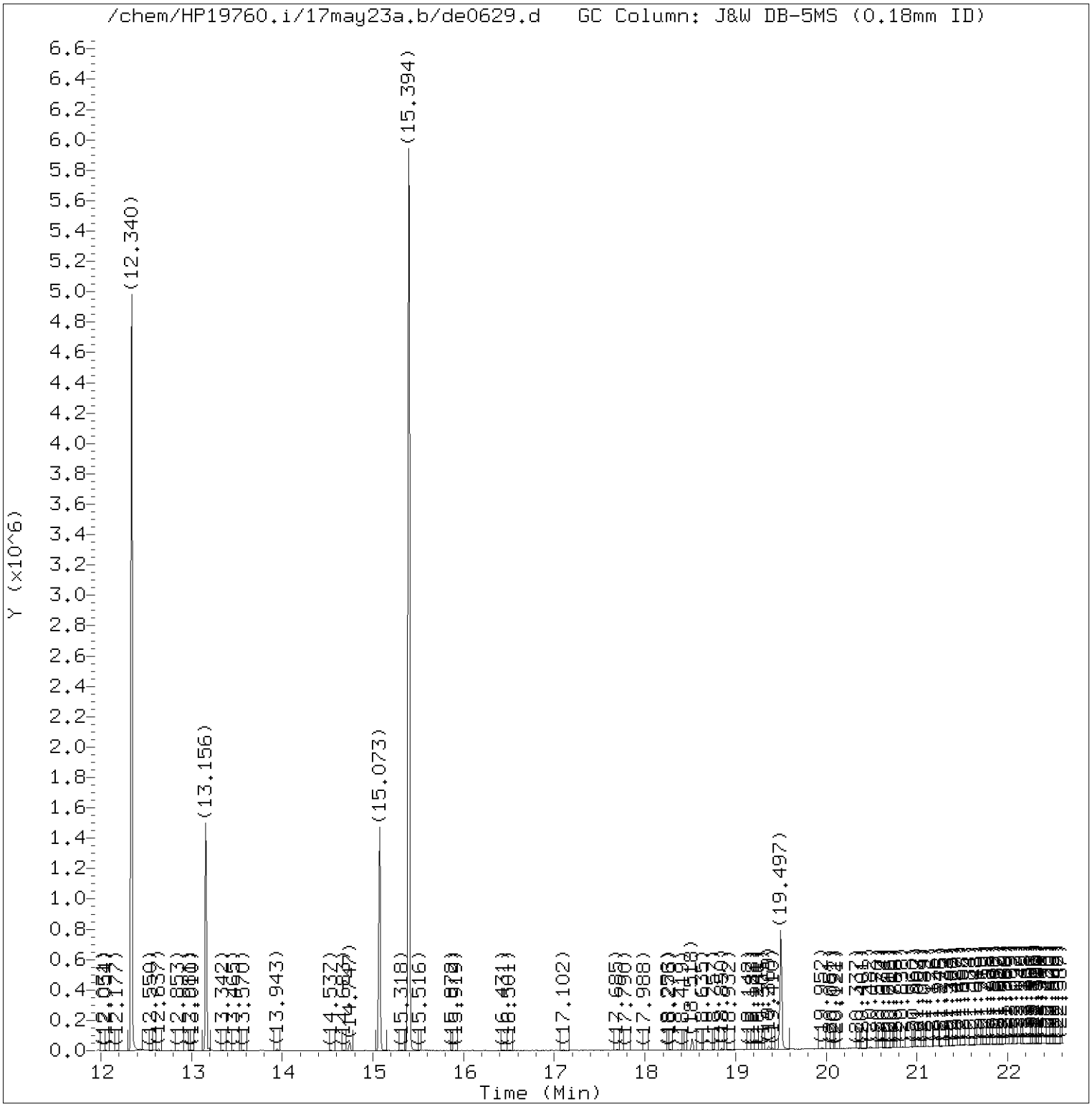
Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0629.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 02:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8508 Lab Sample ID: 8999794

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0629.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 02:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8508 Lab Sample ID: 8999794

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0629.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 02:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8508 Lab Sample ID: 8999794

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	154067	5.000
44)$Nitrobenzene-d5	(2)	7.356	82	1194908	19.859
65)*Naphthalene-d8	(2)	8.458	136	580592	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	2032921	20.626
113)*Acenaphthene-d10	(3)	11.244	164	317089	5.000
153)*Phenanthrene-d10	(4)	13.156	188	600197	5.000
175)*Pyrene-d10	(5)	15.073	212	712307	5.000
179)$Terphenyl-d14	(5)	15.394	244	2406904	23.026
213)*Perylene-d12	(6)	19.497	264	430245	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

R8509 Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles 8999795

Data file: /chem/HP19760.i/17may23a.b/de0630.d Injection date and time: **24-MAY-2017 02:34**
Data file Sample Info. Line: R8509;8999795;1;0;SAMPLE;;RAAPLOQ; Instrument ID: **HP19760.i** Batch: **17142WAW**
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605a.d**

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:02
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23a.b/de0621.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529	(0.000)	865	152	155435	(-27)	5.00	
65) Naphthalene-d8	8.458	(0.006)	1196	136	573834	(-28)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	317486	(-30)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	589933	(-31)	5.00	
175) Pyrene-d10	15.074	(0.006)	2331	212	703535	(-32)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	395566	(-52)	5.00	*

*** = Internal Standard area outside QC limits**

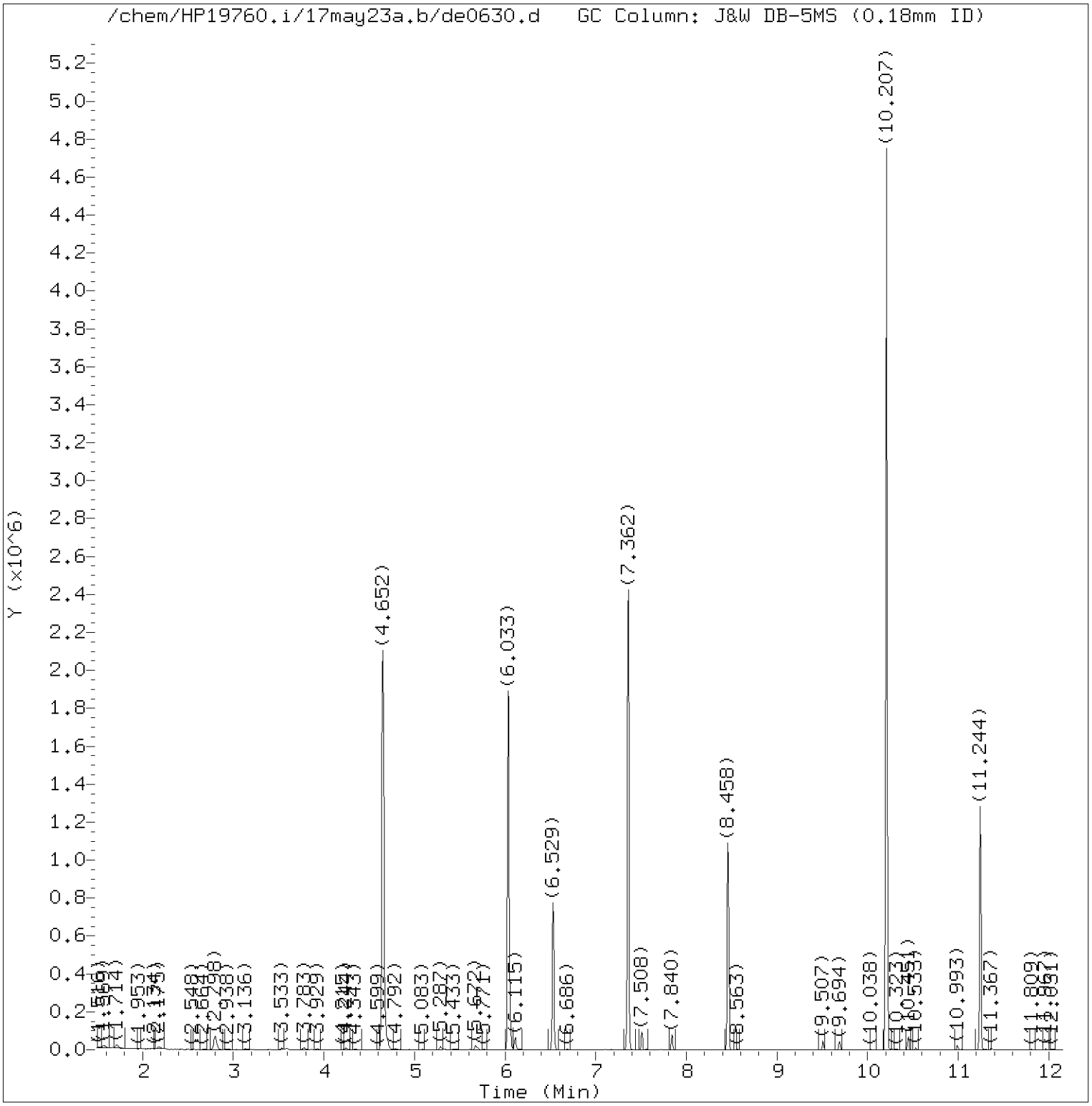
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.362	(-0.001)	82	1053988	17.723	71%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.207	(0.000)	172	1805184	18.292	73%		41 - 112
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2100110	20.342	81%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
124) Diethylphthalate	(3)				Not Detected					0.5

Total number of targets = 3

Digitally signed by Linda M. Hartenstine on 05/31/2017 at 09:19. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:35. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

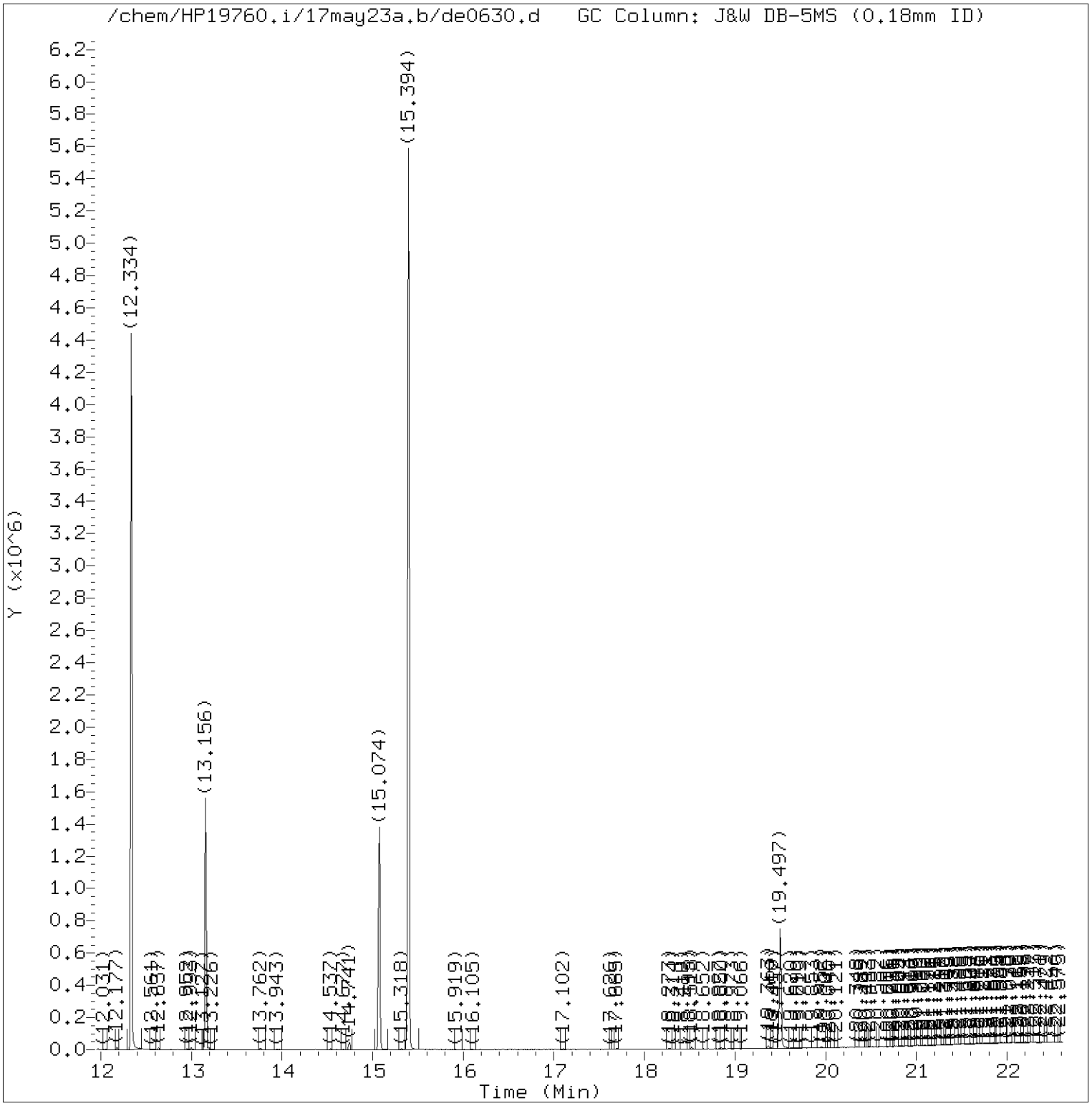
Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0630.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 02:34 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8509 Lab Sample ID: 8999795

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0630.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 02:34 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8509 Lab Sample ID: 8999795

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0630.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 02:34 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8509 Lab Sample ID: 8999795

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	155435	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1053988	17.723
65)*Naphthalene-d8	(2)	8.458	136	573834	5.000
93)$2-Fluorobiphenyl	(3)	10.207	172	1805184	18.292
113)*Acenaphthene-d10	(3)	11.244	164	317486	5.000
153)*Phenanthrene-d10	(4)	13.156	188	589933	5.000
175)*Pyrene-d10	(5)	15.074	212	703535	5.000
179)$Terphenyl-d14	(5)	15.394	244	2100110	20.342
213)*Perylene-d12	(6)	19.497	264	395566	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

R8510 Lancaster Laboratories, Inc. Analysis Summary for GC/MS Semivolatiles 8999796

Data file: /chem/HP19760.i/17may23a.b/de0631.d Injection date and time: **24-MAY-2017 03:01**
Data file Sample Info. Line: R8510;8999796;1;0;SAMPLE;;RAAPLOQ; Instrument ID: **HP19760.i** Batch: **17142WAW**
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605a.d**

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:02
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23a.b/de0621.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529	(0.000)	865	152	151671	(-28)	5.00	
65) Naphthalene-d8	8.458	(0.006)	1196	136	572351	(-29)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	318568	(-30)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	592196	(-31)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	703806	(-32)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	384869	(-53)	5.00	*

*** = Internal Standard area outside QC limits**

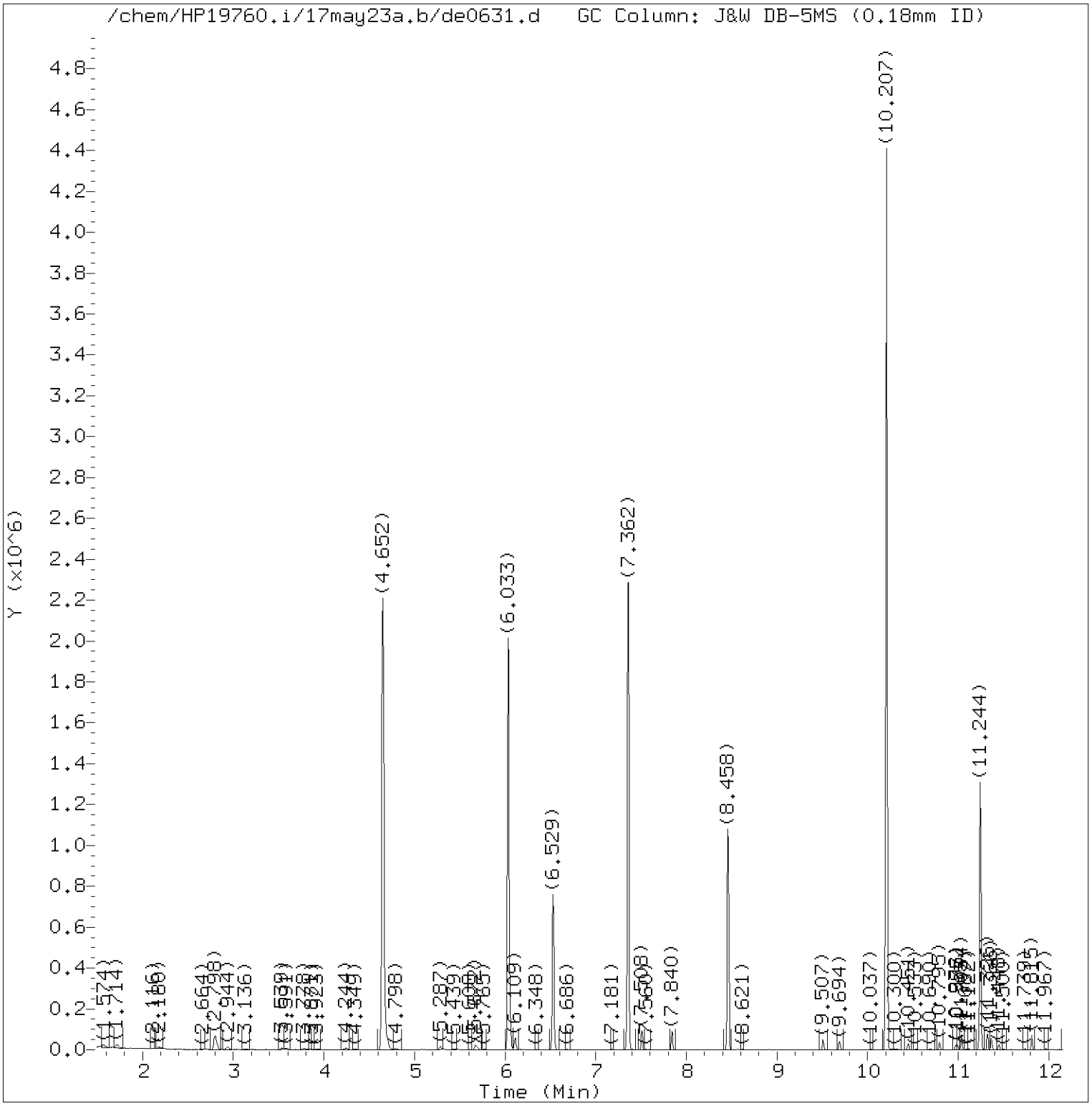
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.362	(-0.001)	82	1028263	17.336	69%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1726409	17.435	70%		41 - 112
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2152460	20.841	83%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
124) Diethylphthalate	(3)				Not Detected					0.5

Total number of targets = 3

Digitally signed by Linda M. Hartenstine on 05/31/2017 at 09:19. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:35. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

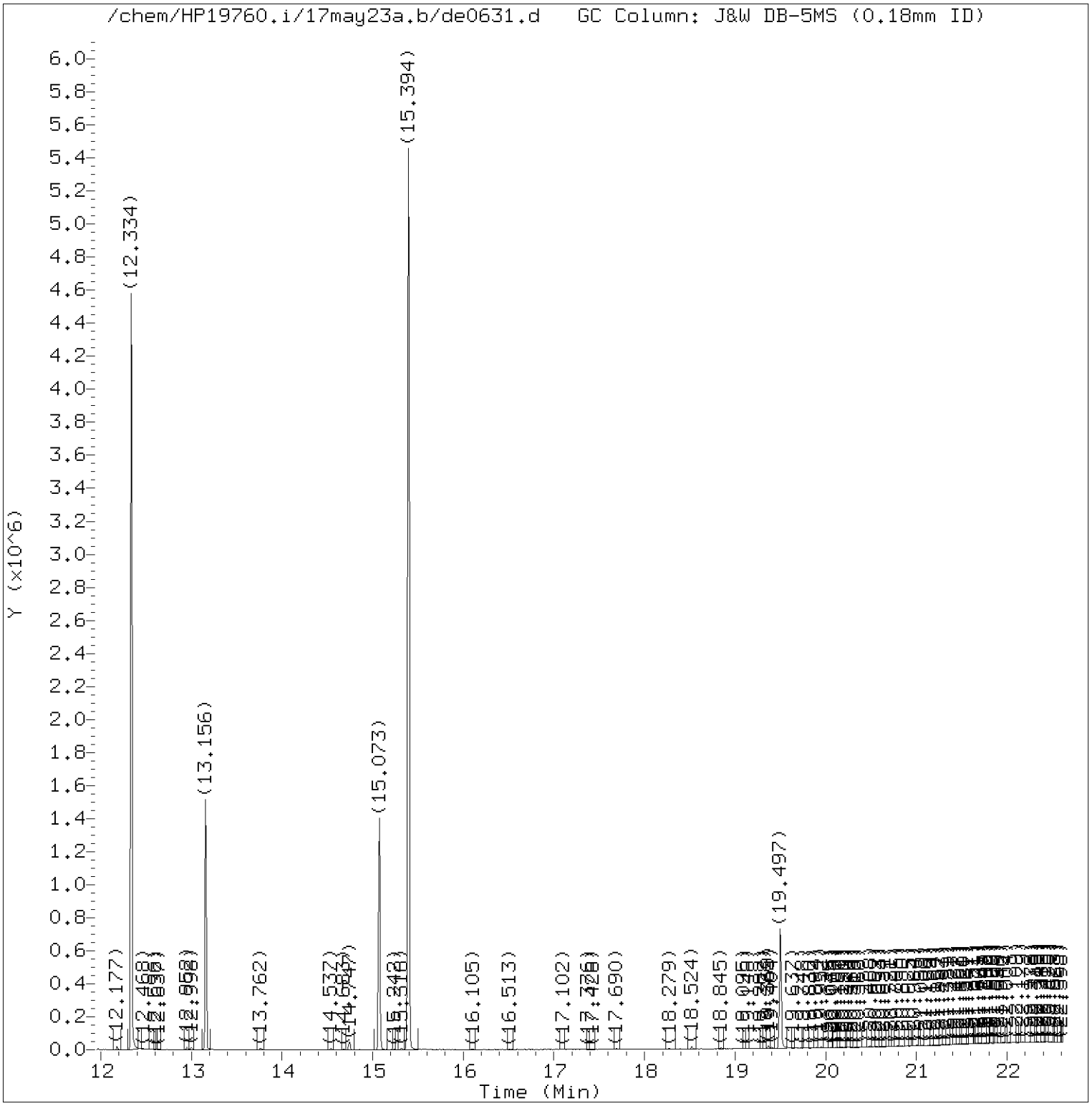
Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0631.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 03:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8510 Lab Sample ID: 8999796

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0631.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 03:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8510 Lab Sample ID: 8999796

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0631.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 03:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8510 Lab Sample ID: 8999796

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	151671	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1028263	17.336
65)*Naphthalene-d8	(2)	8.458	136	572351	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1726409	17.435
113)*Acenaphthene-d10	(3)	11.244	164	318568	5.000
153)*Phenanthrene-d10	(4)	13.156	188	592196	5.000
175)*Pyrene-d10	(5)	15.073	212	703806	5.000
179)$Terphenyl-d14	(5)	15.394	244	2152460	20.841
213)*Perylene-d12	(6)	19.497	264	384869	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23a.b/de0632.d
Injection date and time: **24-MAY-2017 03:29**
Data file Sample Info. Line: R8511;8999797;1;0;SAMPLE;;RAAPLOQ;
Instrument ID: **HP19760.i** Batch: **17142WAW**
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605a.d**

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 25-MAY-2017 18:02
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23a.b/de0621.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 248 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.528	(0.000)	865	152	156145	(-26)	5.00	
65) Naphthalene-d8	8.458	(0.006)	1196	136	581143	(-28)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	318187	(-30)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	596664	(-30)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	698692	(-32)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	429521	(-48)	5.00	

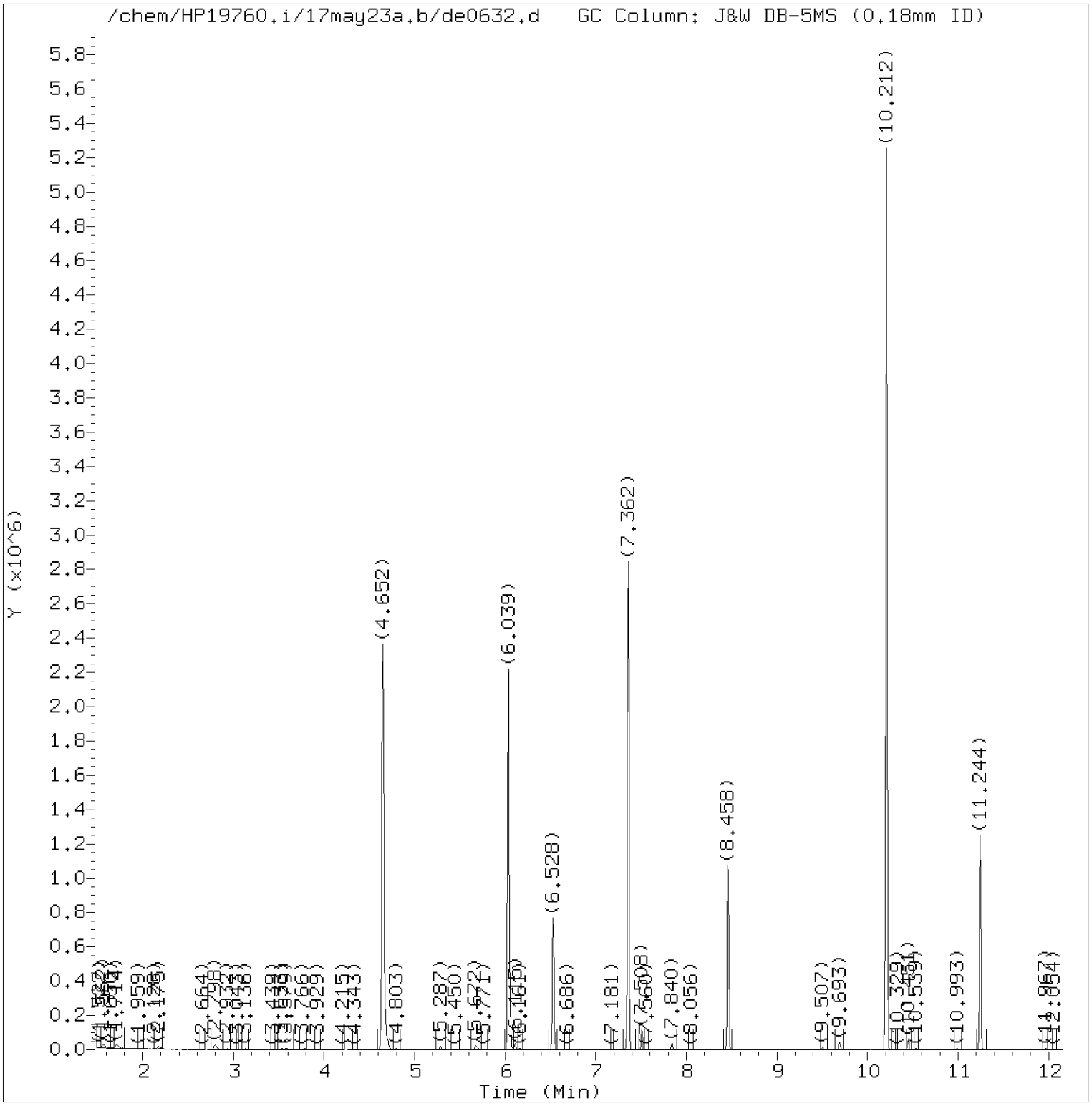
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.362	(-0.001)	82	1215318	20.179	81%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	2042021	20.647	83%		41 - 112
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2400384	23.411	94%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
124) Diethylphthalate	(3)				Not Detected					0.5

Total number of targets = 3

Digitally signed by Linda M. Hartenstine on 05/31/2017 at 09:19. Target 3.5 esignature user ID: lmh00956

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:35. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

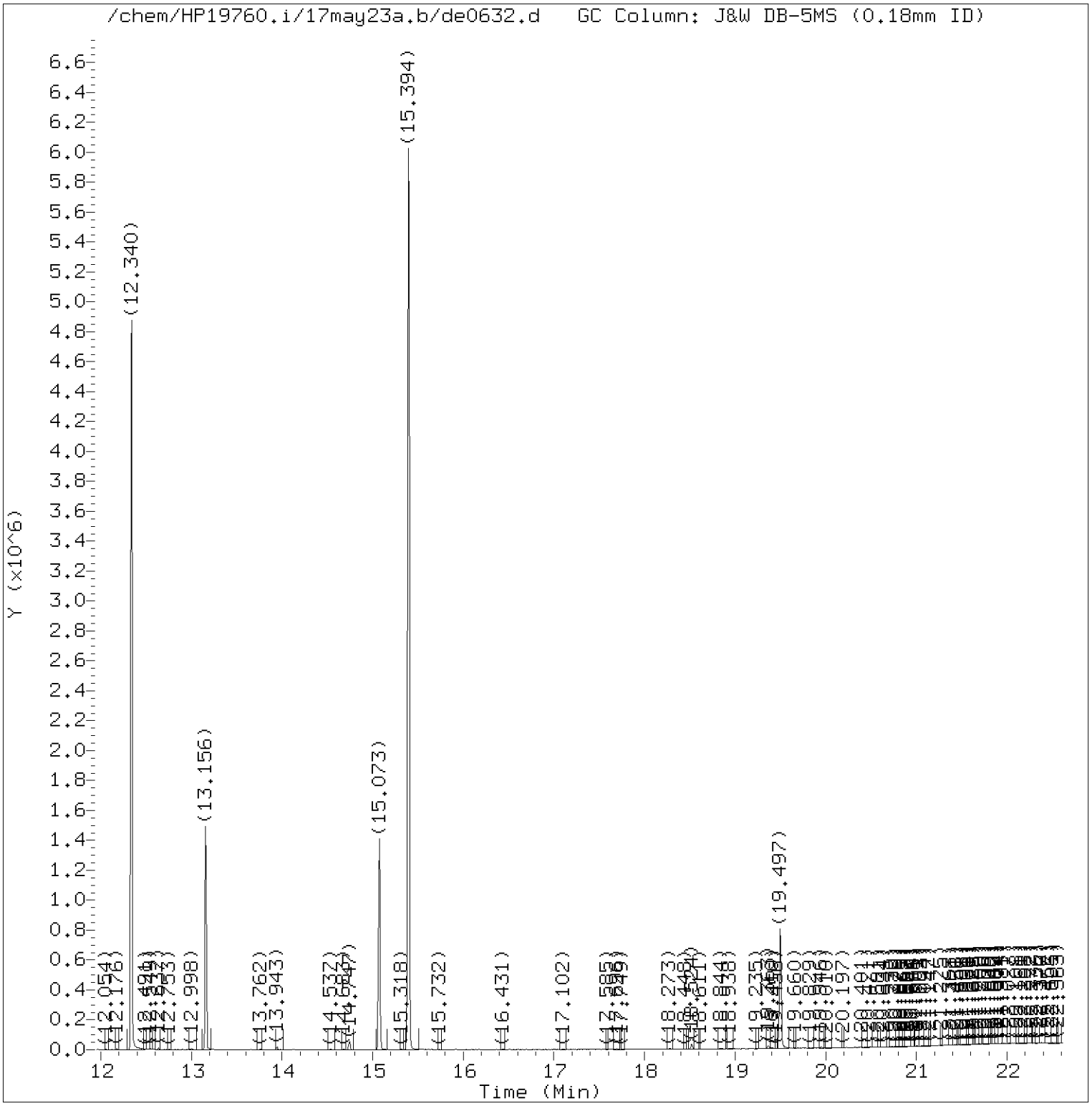
Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0632.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 03:29 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8511 Lab Sample ID: 8999797

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0632.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 03:29 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8511 Lab Sample ID: 8999797

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0632.d Instrument ID: HP19760.i
Injection date and time: 24-MAY-2017 03:29 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 25-MAY-2017 18:02
Date, time and analyst ID of latest file update: 31-May-2017 09:15 lmh00956

Sample Name: R8511 Lab Sample ID: 8999797

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.528	152	156145	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1215318	20.179
65)*Naphthalene-d8	(2)	8.458	136	581143	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	2042021	20.647
113)*Acenaphthene-d10	(3)	11.244	164	318187	5.000
153)*Phenanthrene-d10	(4)	13.156	188	596664	5.000
175)*Pyrene-d10	(5)	15.073	212	698692	5.000
179)$Terphenyl-d14	(5)	15.394	244	2400384	23.411
213)*Perylene-d12	(6)	19.497	264	429521	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Linda M. Hartenstine
on 05/31/2017 at 09:19.
Target 3.5 esignature user ID: lmh00956

Standards Data

Semivolatiles by GC/MS

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - D:\data\17may05b\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
em10340	DE0160.D	RVDFTPP0877	05/05/2017	17:31		
em10340	DE0160a.D	RVDFTPP0877	05/05/2017	17:51		
em10340	DE0161.D	RVSTD1107	05/05/2017	18:05		
em10340	DE0162.D	RVSTD1107	05/05/2017	18:46		
em10340	DE0163.D	RVSTD1107	05/05/2017	19:14		
em10340	DE0164.D	RVSTD1107	05/05/2017	19:42		
em10340	DE0165.D	RVSTD1107	05/05/2017	20:10		
em10340	DE0166.D	RVSTD1107	05/05/2017	20:37		
em10340	DE0167.D	RVSTD1107	05/05/2017	21:05		
em10340	DE0168.D	RVSTD1107	05/05/2017	21:33		
em10340	DE0169.D	MDLSTD1107	05/05/2017	22:01		
em10340	DE0170.D	PAHMDL1107	05/05/2017	22:28		
em10340	DE0171.D	RVICV1147	05/05/2017	22:56		
em10340	DE0172.D	RVBASICV0637	05/05/2017	23:24		
em10340	DE0173.D	BACID1087	05/05/2017	23:52		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - D:\data\17may23\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
ceb05247	DE0590.D	rvDFTPP1247	05/23/2017	07:22		
ceb05247	DE0591.D	rvSTD1107	05/23/2017	07:36		
ceb05247	DE0592.D	rvPDA0727	05/23/2017	08:03		
ceb05247	DE0593.D	rvPDA0727	05/23/2017	08:31		
ceb05247	DE0594.D	rvPDA0727	05/23/2017	08:58		
ceb05247	DE0595.D	rvPDA0727	05/23/2017	09:26		
ceb05247	DE0596.D	rvPDA0727	05/23/2017	09:54		
ceb05247	DE0597.D	rvABC3566	05/23/2017	10:21		
ceb05247	DE0598.D	rvABC3566	05/23/2017	10:49		
ceb05247	DE0599.D	rvABC3566	05/23/2017	11:16		
ceb05247	DE0600.D	rvABC3566	05/23/2017	11:44		
ceb05247	DE0601.D	rvABC3566	05/23/2017	12:12		
ceb05247	DE0602.D	rvABC3566	05/23/2017	12:39		
ceb05247	DE0603.D	ABCMDL3566	05/23/2017	13:07		
ceb05247	DE0604.D	rvAAP0317	05/23/2017	13:34		
ceb05247	DE0605.D	SBLKWC142	05/23/2017	14:02	17142WAC	
ceb05247	DE0606.D	142WCLCS	05/23/2017	14:30	17142WAC	
ceb05247	DE0607.D	142WCLCS1	05/23/2017	14:57	17142WAC	
ceb05247	DE0608.D	142WCLCSD1	05/23/2017	15:25	17142WAC	
ceb05247	DE0609.D	8999788	05/23/2017	15:52	17142WAC	
ceb05247	DE0610.D	8999789MS	05/23/2017	16:20	17142WAC	
ceb05247	DE0611.D	8999790MSD	05/23/2017	16:48	17142WAC	
ceb05247	DE0612.D	8999785	05/23/2017	17:15	17142WAC	
ceb05247	DE0613.D	8999786	05/23/2017	17:43	17142WAC	
ceb05247	DE0614.D	8999787	05/23/2017	18:10	17142WAC	
ceb05247	DE0615.D	8999791	05/23/2017	18:38	17142WAC	
ceb05247	DE0616.D	8999792	05/23/2017	19:06	17142WAC	

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - D:\data\17may23a\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
em10340	DE0620.D	rvDFTPP1247	05/23/2017	20:45		
em10340	DE0621.D	rvSTD1107	05/23/2017	21:06		
em10340	DE0622.D	SBLKWZ142	05/23/2017	22:26	17142WAZ	
em10340	DE0623.D	142WZLCS	05/23/2017	22:53	17142WAZ	
em10340	DE0624.D	142WZ	05/23/2017	23:21	17142WAZ	
em10340	DE0625.D	142WZ	05/23/2017	23:48	17142WAZ	
em10340	DE0626.D	142WZ	05/24/2017	00:16	17142WAZ	
em10340	DE0627.D	9002145	05/24/2017	00:44	17139WAK	
em10340	DE0638.D	rvSTD1107	05/24/2017	01:11		
em10340	DE0628.D	8999793	05/24/2017	01:39	17142WAC	
em10340	DE0629.D	8999794	05/24/2017	02:06	17142WAC	
em10340	DE0630.D	8999795	05/24/2017	02:34	17142WAC	
em10340	DE0631.D	8999796	05/24/2017	03:01	17142WAC	
em10340	DE0632.D	8999797	05/24/2017	03:29	17142WAC	
em10340	DE0633.D	8996725RE	05/24/2017	03:56	17142WAZ	
em10340	DE0634.D	8997579RE	05/24/2017	04:24	17142WAZ	
em10340	DE0635.D	8999397	05/24/2017	04:51	17142WAZ	
em10340	DE0636.D	9002699	05/24/2017	05:19	17142WAZ	
em10340	DE0637.D	9002700	05/24/2017	05:46	17142WAZ	
em10340	DE0627a.D	9002145	05/24/2017	06:23	17139WAK	
em10340	DE0638a.D	rvSTD1107	05/24/2017	06:50		

Lancaster Laboratories
Semi-Volatiles
Runlog for Agilent GC/MS System HP19760 **HP #04**

Data Directory Path is - D:\data\17may30\

OPERATOR	FILE	LLI#	DATE	TIME	BATCH	DILUTION FACTOR
knk25316	DE0920.D	DFTPP1247	05/30/2017	07:22		
knk25316	DE0920a.D	DFTPP1247	05/30/2017	07:34		
knk25316	DE0921.D	rvSTD1497	05/30/2017	07:48		
knk25316	DE0922.D	rvPDA0727	05/30/2017	08:27		
knk25316	DE0923.D	rvABC3566	05/30/2017	08:55		
knk25316	DE0924.D	rvAAP0317	05/30/2017	09:22		
knk25316	DE0923a.D	rvABC3566	05/30/2017	09:50		
ceb05247	DE0925.D	SBLKWW143	05/30/2017	10:28	17143WAW	
ceb05247	DE0926.D	143WWLCS	05/30/2017	10:55	17143WAW	
ceb05247	DE0927.D	143WWLCS	05/30/2017	11:23	17143WAW	
ceb05247	DE0928.D	143WWLCSD	05/30/2017	11:50	17143WAW	
ceb05247	DE0929.D	8999788RE	05/30/2017	12:18	17143WAW	
ceb05247	DE0930.D	8999789RE	05/30/2017	12:45	17143WAW	
ceb05247	DE0931.D	8999790RE	05/30/2017	13:12	17143WAW	
ceb05247	DE0932.D	8999785RE	05/30/2017	13:40	17143WAW	
ceb05247	DE0933.D	8999786RE	05/30/2017	14:07	17143WAW	
ceb05247	DE0934.D	8999787RE	05/30/2017	14:35	17143WAW	
ceb05247	DE0935.D	8999791RE	05/30/2017	15:02	17143WAW	
ceb05247	DE0936.D	8999792RE	05/30/2017	15:30	17143WAW	
ceb05247	DE0937.D	9008979	05/30/2017	15:57	17142WAY	
ceb05247	DE0938.D	9008980	05/30/2017	16:25	17142WAY	
ceb05247	DE0939.D	9004747RE	05/30/2017	16:52	17146WAC	
ceb05247	DE0940.D	9004749RE	05/30/2017	17:20	17146WAC	
ceb05247	DE0941.D	9013932	05/30/2017	17:47	17146WAF	
ceb05247	DE0942.D	9013933	05/30/2017	18:15	17146WAF	
ceb05247	DE0943.D	9013934	05/30/2017	18:42	17146WAF	
ceb05247	DE0944.D	9013935	05/30/2017	19:10	17146WAF	
ceb05247	DE0945.D	9013936	05/30/2017	19:37	17146WAF	
ceb05247	DE0946.D	9013940	05/30/2017	20:05	17146WAF	

Data File: /chem/HP19760.i/17may05b.b/de0160a.d

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5

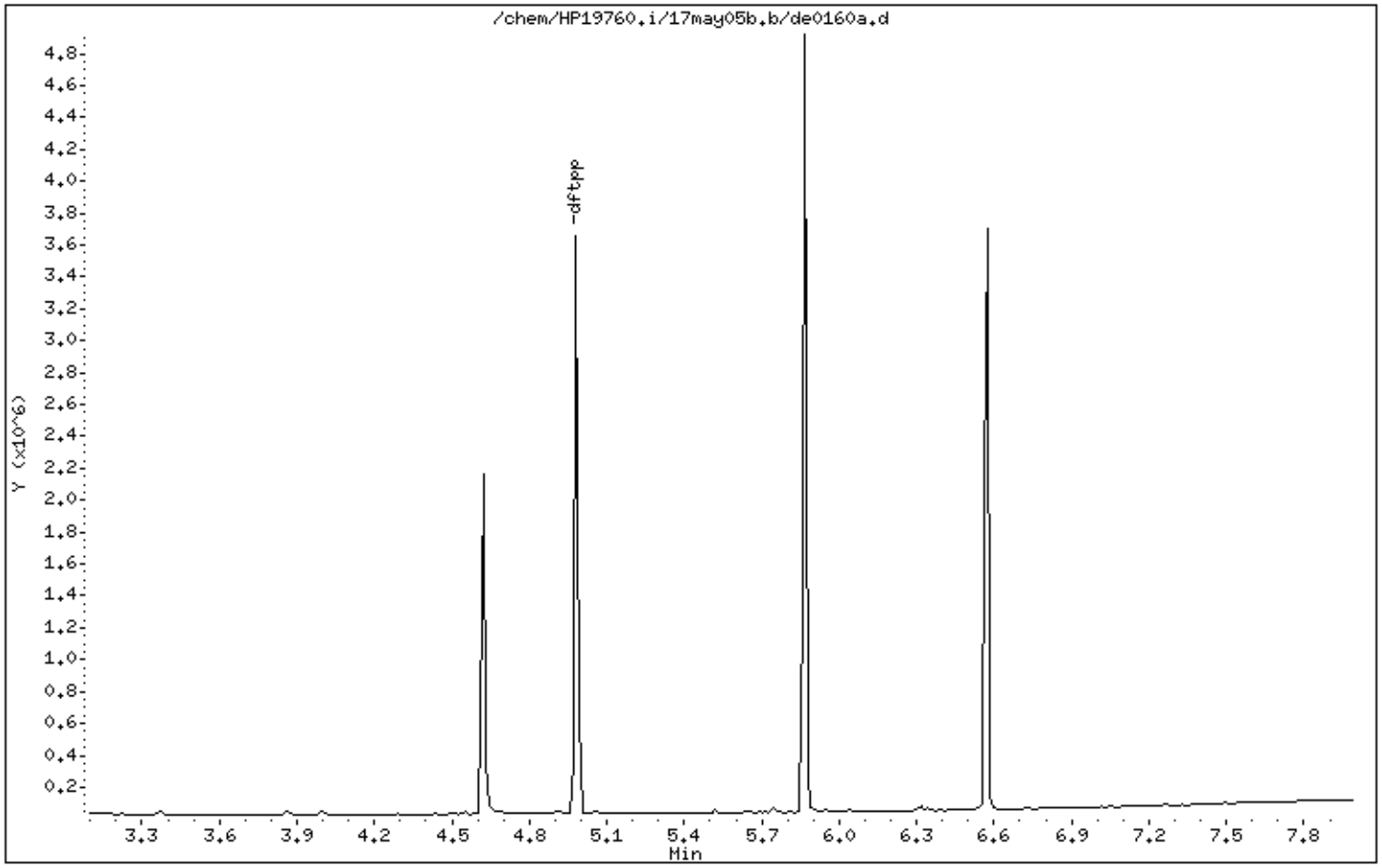
Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP19760.i/17may05b.b/de0160a.d

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5

Instrument: HP19760.i

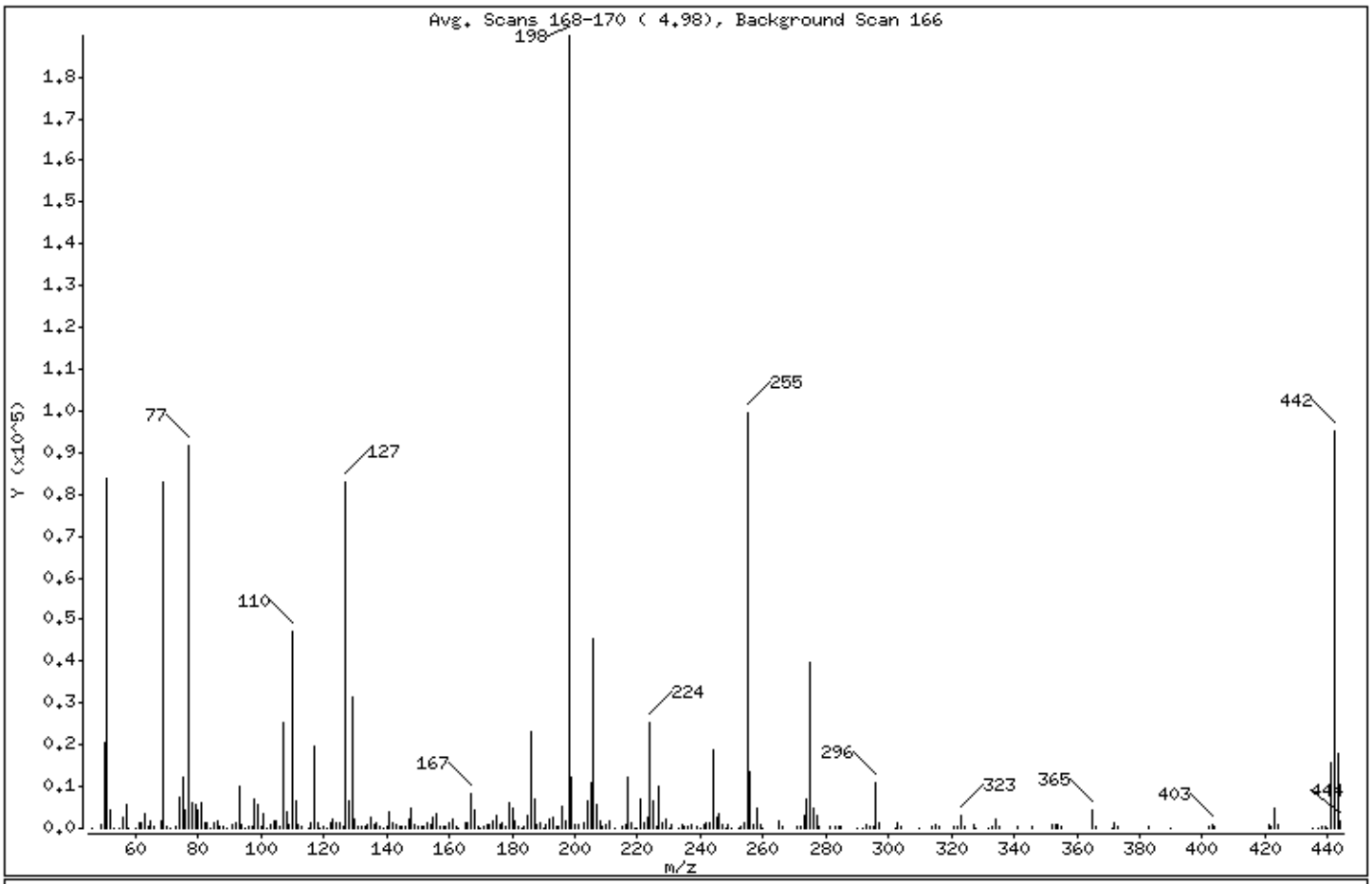
Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	44.24
68	Less than 2.00% of mass 69	0.85 (1.94)
69	Mass 69 relative abundance	43.71
70	Less than 2.00% of mass 69	0.18 (0.42)
127	10.00 - 80.00% of mass 198	43.70
197	Less than 2.00% of mass 198	0.98
199	5.00 - 9.00% of mass 198	6.49
275	10.00 - 60.00% of mass 198	21.01
365	Greater than 1.00% of mass 198	2.21
441	0.01 - 24.00% of mass 442	8.17 (16.31)
442	50.00 - 99.99% of mass 198	50.06
443	15.00 - 24.00% of mass 442	9.32 (18.61)

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS Column diameter: 0.18

Data File: de0160a.d

Spectrum: Avg. Scans 168-170 (4.98), Background Scan 166

Location of Maximum: 198.00

Number of points: 267

m/z	Y	m/z	Y	m/z	Y	m/z	Y
46.00	100	121.00	125	189.00	1482	266.00	395
49.00	759	122.00	1462	190.00	181	271.00	314
50.00	20656	123.00	2397	191.00	675	272.00	315
51.00	84016	124.00	1248	192.00	2045	273.00	2858
52.00	4370	125.00	1221	193.00	2581	274.00	7121
53.00	143	126.00	598	194.00	474	275.00	39896
55.00	127	127.00	83000	195.00	299	276.00	4779
56.00	2436	128.00	6406	196.00	5361	277.00	3184
57.00	5721	129.00	31488	197.00	1857	278.00	466
58.00	74	130.00	2238	198.00	189888	281.00	276
60.00	128	131.00	652	199.00	12328	283.00	318
61.00	1128	132.00	255	200.00	981	284.00	270
62.00	1223	133.00	297	201.00	745	285.00	641
63.00	3461	134.00	961	203.00	1408	290.00	100
64.00	616	135.00	2648	204.00	6633	292.00	137
65.00	1589	136.00	977	205.00	11076	293.00	735
66.00	275	137.00	1366	206.00	45504	294.00	271
68.00	1610	138.00	261	207.00	5595	295.00	357
69.00	83016	139.00	121	208.00	1746	296.00	10958
70.00	349	140.00	276	209.00	587	297.00	1505
71.00	161	141.00	3840	210.00	948	302.00	135
73.00	433	142.00	1295	211.00	1647	303.00	1195
74.00	7469	143.00	1062	213.00	79	304.00	305
75.00	12322	144.00	282	215.00	450	310.00	95
76.00	4517	145.00	310	216.00	957	314.00	533
77.00	91864	146.00	489	217.00	12341	315.00	1088
78.00	6207	147.00	2104	218.00	1493	316.00	520
79.00	5539	148.00	4649	219.00	129	321.00	356
80.00	4289	149.00	1076	220.00	216	322.00	228
81.00	6255	150.00	264	221.00	6794	323.00	3062
82.00	1463	151.00	559	222.00	1441	324.00	609
83.00	1191	152.00	246	223.00	2632	327.00	832
84.00	67	153.00	1481	224.00	25176	328.00	189
85.00	1217	154.00	863	225.00	6607	332.00	213
86.00	1881	155.00	2577	226.00	622	333.00	349

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Date : 05-MAY-2017 17:51

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;RVDFTPP0877;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS Column diameter: 0.18

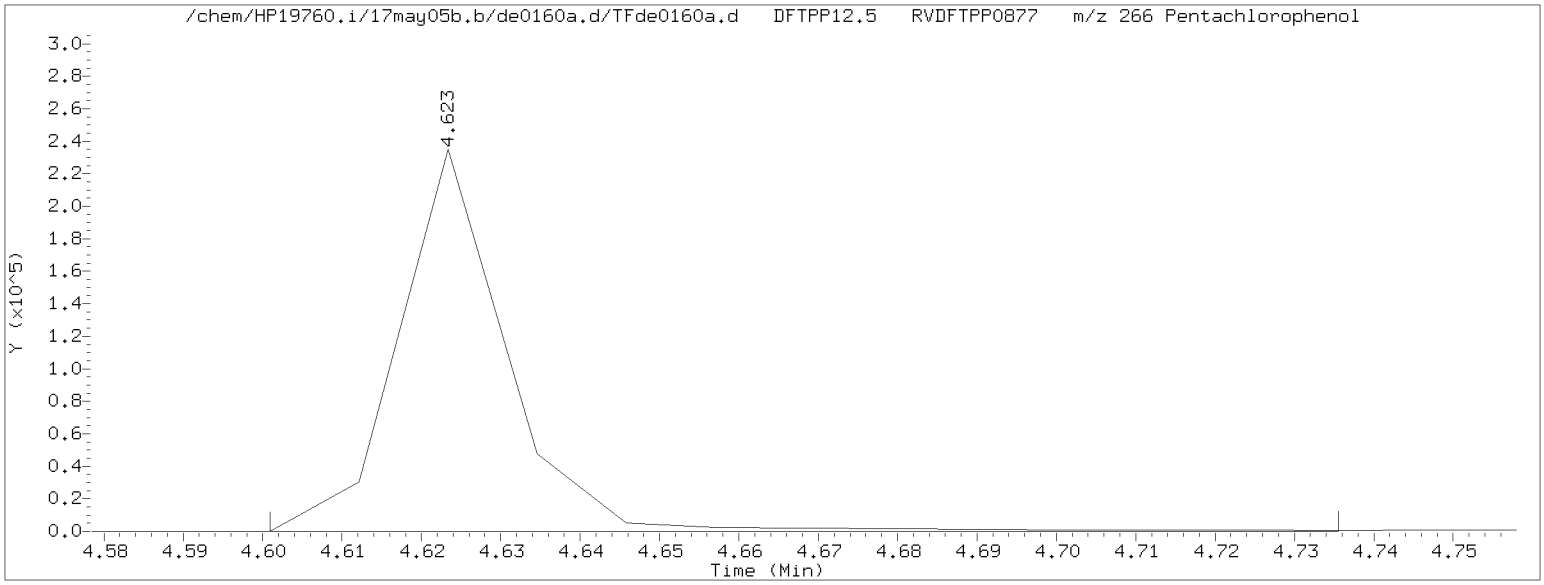
Data File: de0160a.d
Spectrum: Avg. Scans 168-170 (4.98), Background Scan 166
Location of Maximum: 198.00
Number of points: 267

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	493	156.00	3555	227.00	9953	334.00	1995
88.00	252	157.00	489	228.00	1403	335.00	550
89.00	165	158.00	486	229.00	2084	341.00	365
91.00	1077	159.00	367	230.00	211	346.00	485
92.00	1503	160.00	1242	231.00	1009	352.00	789
93.00	9874	161.00	2037	233.00	133	353.00	683
94.00	698	162.00	495	234.00	776	354.00	990
95.00	210	163.00	106	235.00	505	355.00	287
96.00	383	165.00	1299	236.00	384	365.00	4195
97.00	360	166.00	1383	237.00	698	366.00	531
98.00	7113	167.00	8508	239.00	410	371.00	165
99.00	5491	168.00	4225	240.00	208	372.00	1410
100.00	361	169.00	653	241.00	697	373.00	330
101.00	3311	170.00	188	242.00	1254	383.00	356
102.00	156	171.00	603	243.00	1415	390.00	218
103.00	961	172.00	668	244.00	18984	402.00	575
104.00	1774	173.00	916	245.00	2826	403.00	808
105.00	1745	174.00	1732	246.00	3413	404.00	282
106.00	520	175.00	3238	247.00	799	421.00	876
107.00	25424	176.00	682	248.00	147	422.00	640
108.00	3838	177.00	1475	249.00	664	423.00	4827
109.00	815	178.00	472	250.00	85	424.00	984
110.00	47048	179.00	6117	252.00	187	435.00	100
111.00	6739	180.00	4592	253.00	526	437.00	86
112.00	1061	181.00	1930	254.00	1136	438.00	522
113.00	540	182.00	341	255.00	99360	439.00	421
115.00	110	183.00	162	256.00	13378	440.00	192
116.00	1437	184.00	452	257.00	1061	441.00	15509
117.00	19624	185.00	2913	258.00	4965	442.00	95064
118.00	1332	186.00	23256	259.00	672	443.00	17688
119.00	138	187.00	6779	260.00	139	444.00	1633
120.00	278	188.00	677	265.00	1938		

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Assessment of GC Column Performance and Injection Port Inertness for

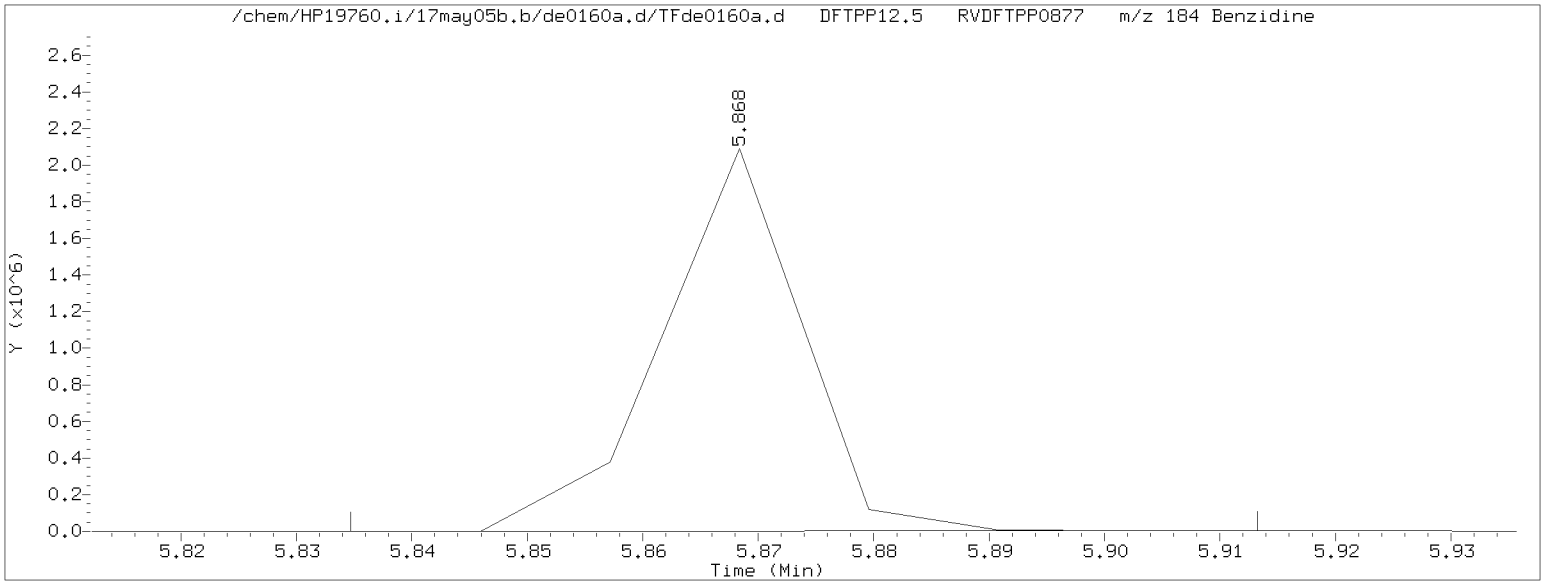
Instrument ID: HP19760.i Injection Date: 05-MAY-2017 17:51 Operator: em10340



Pentachlorophenol EICP peak height = 235200 EICP peak height at 10% = 23520 Pentachlorophenol EICP area = 221109

Pentachlorophenol EICP peak apex (min.) = 4.623
RT at 10% of front half of EICP (min.) = 4.610 'Front' peak width (min.) = 0.0137000000
RT at 10% of back half of EICP (min.) = 4.641 'Tailing' peak width (min.) = 0.0176000000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0176000000}{0.0137000000} = 1.285$$



Benzidine EICP peak height = 2087743 EICP peak height at 5% = 104387 Benzidine EICP area = 1745996

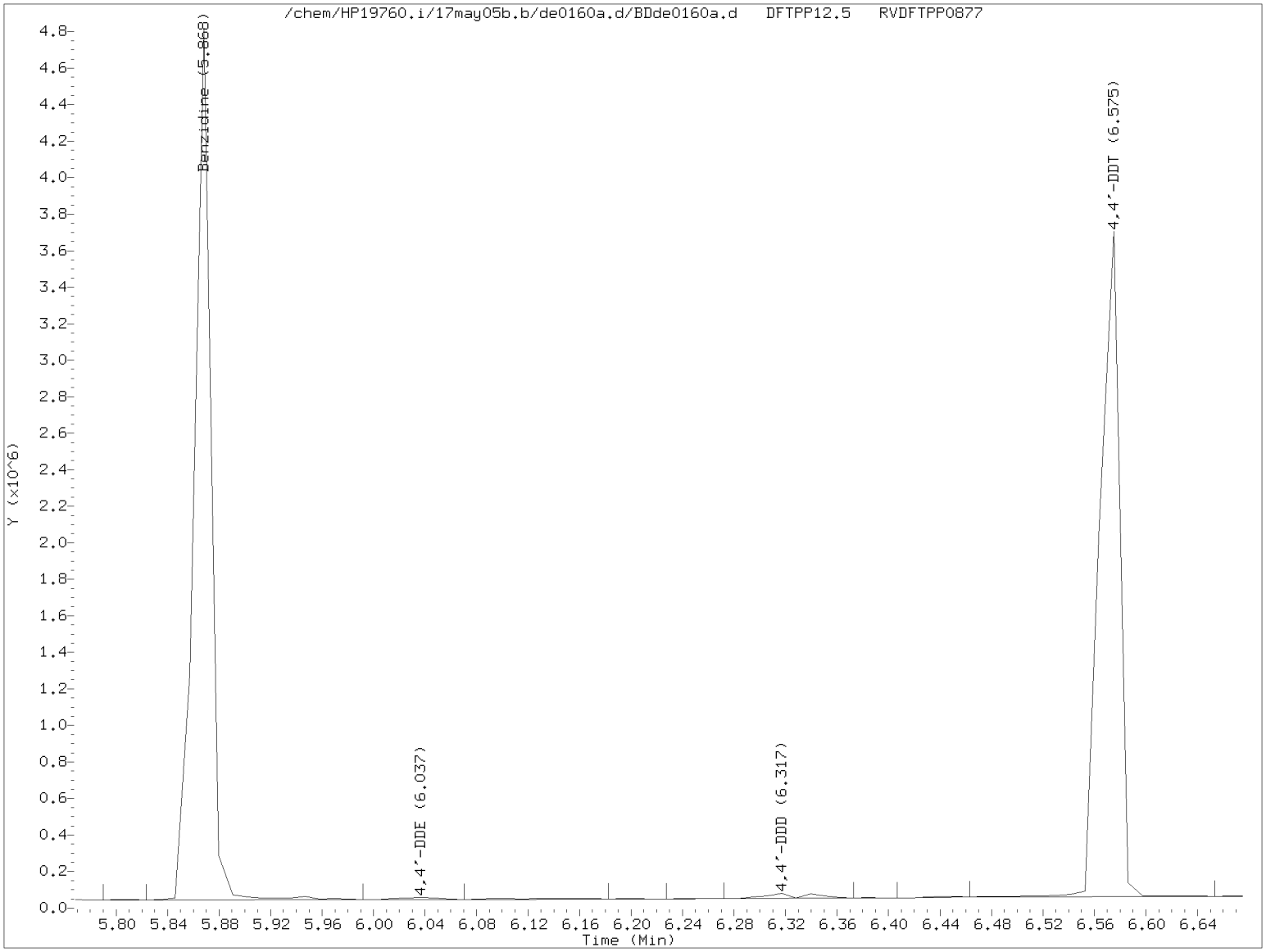
Benzidine EICP peak apex (min.) = 5.868
RT at 5% of front half of EICP (min.) = 5.849 'Front' peak width (min.) = 0.0193333333
RT at 5% of back half of EICP (min.) = 5.881 'Tailing' peak width (min.) = 0.0125666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0125666667}{0.0193333333} = 0.650$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

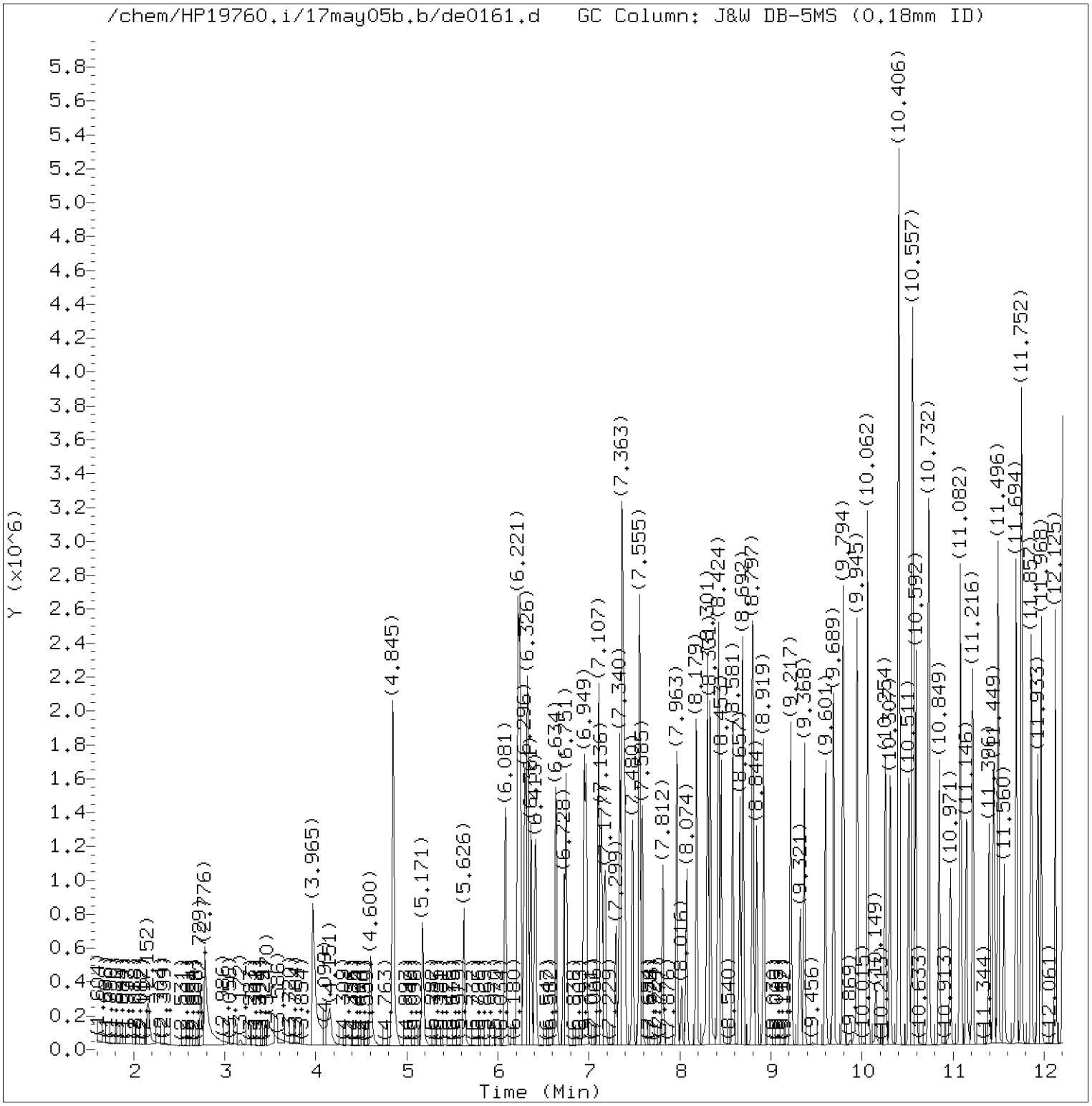
Instrument ID: HP19760.i Injection Date: 05-MAY-2017 17:51 Operator: em10340



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{26057 + 63477}{26057 + 63477 + 3924403} \times 100 = 2.2$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

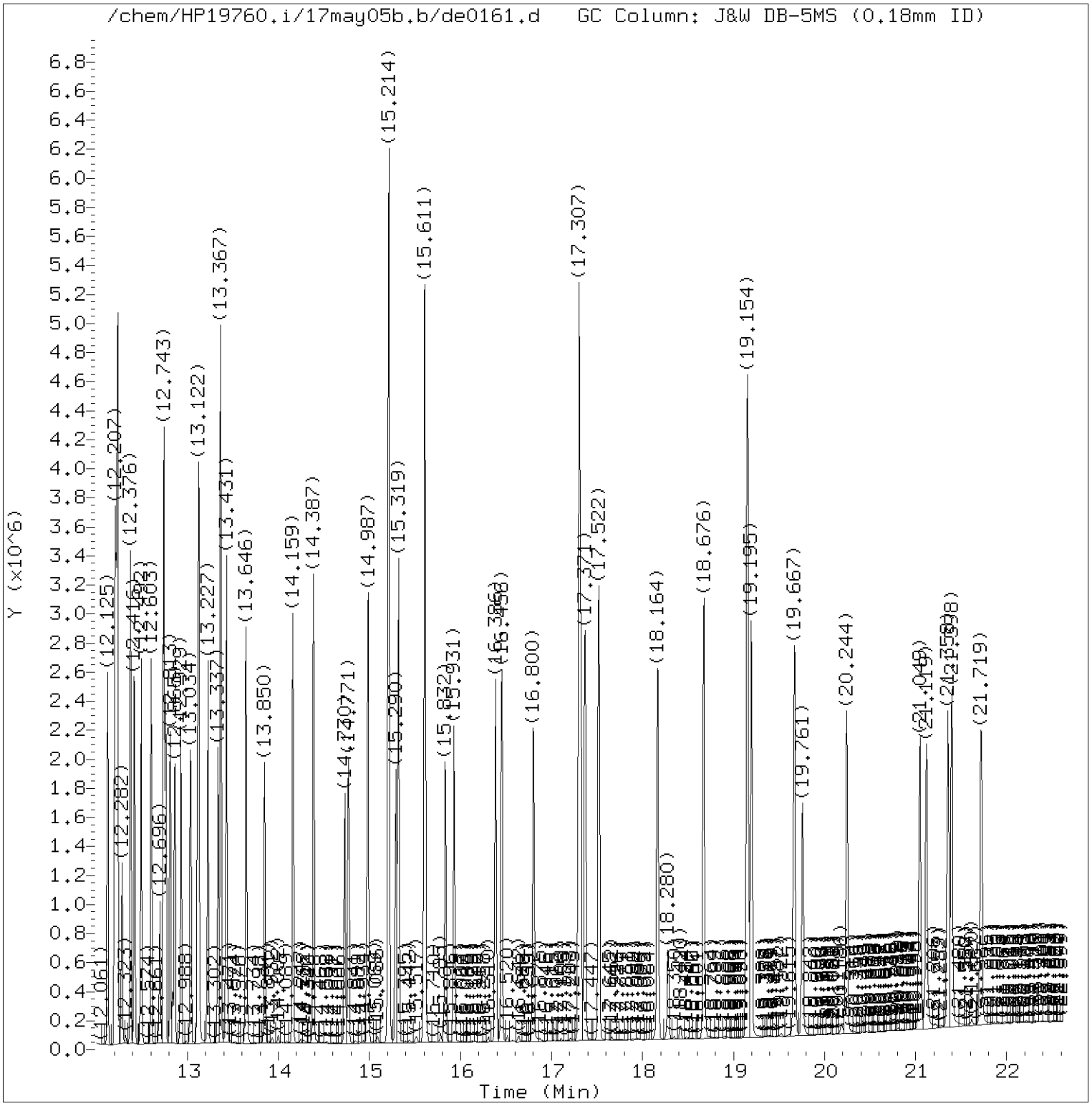
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.158	88	217886M	7.500
4) N-Nitrosodimethylamine	(1)	2.729	74	351990M	7.500
5) Pyridine	(1)	2.776	79	581008M	7.500
7) 2-Picoline	(1)	3.965	93	592704	7.500
8) N-Nitrosomethylethylamine	(1)	4.151	88	253782	7.500
9) Methyl methanesulfonate	(1)	4.600	80	288513	7.500
11)$2-Fluorophenol	(1)	4.845	112	925961	15.000
13) N-Nitrosodiethylamine	(1)	5.171	102	236312	7.500
15) Ethyl methanesulfonate	(1)	5.626	109	249489	7.500
42) Total Cresols	(1)			971287	15.000
16) Benzaldehyde	(1)	6.081	77	472734	7.500
17)$Phenol-d6	(1)	6.221	99	1255041	15.000
18) Phenol	(1)	6.238	94	704193	7.500
19) Aniline	(1)	6.244	93	822826	7.500
20) a-methylstyrene	(1)	6.326	118	526277	7.500
22) bis(2-Chloroethyl)ether	(1)	6.361	93	520371	7.500
23) 2-Chlorophenol	(1)	6.413	128	453306	7.500
24) 1,3-Dichlorobenzene	(1)	6.634	146	496006	7.500
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	195284	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	497540	7.500
27) Benzyl alcohol	(1)	6.949	108	339410	7.500
28) 1,2-Dichlorobenzene	(1)	6.967	146	469963	7.500
30) Indene	(1)	7.107	115	923559	7.500
31) 2-Methylphenol	(1)	7.136	108	454702	7.500
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	780613	7.500
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	780613	7.500
35) N-Nitrosopyrrolidine	(1)	7.299	100	254775	7.500
36) Acetophenone	(1)	7.340	105	702240	7.500
39) N-Nitrosomorpholine	(1)	7.363	56	356052	7.500
38) N-Nitroso-di-n-propylamine	(1)	7.363	70	406577	7.500
37) 4-Methylphenol	(1)	7.369	108	516585	7.500
97) Isosafrole	(3)			375078	7.500
40) o-Toluidine	(1)	7.392	106	799092	7.500
43) Hexachloroethane	(1)	7.480	117	209151	7.500
44)$Nitrobenzene-d5	(2)	7.555	82	1156104	15.000
45) Nitrobenzene	(2)	7.585	77	587009	7.500
48) N-Nitrosopiperidine	(2)	7.812	114	235961	7.500
50) Isophorone	(2)	7.963	82	1008916	7.500
120) 2,4_2,6-Dinitrotoluenes	(3)			479738	15.000
51) 2-Nitrophenol	(2)	8.074	139	230540	7.500

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	494378	7.500
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	235207	7.500
56) Benzoic acid	(2)	8.331	105	424547	10.000
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	641209	7.500
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	752900	7.500
60) 2,4-Dichlorophenol	(2)	8.453	162	376601	7.500
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	424687	7.500
65)*Naphthalene-d8	(2)	8.657	136	747503	5.000
66) Naphthalene	(2)	8.692	128	1283271	7.500
146) Diallate trans/cis	(4)			465353	7.500
67) 4-Chloroaniline	(2)	8.797	127	537120	7.500
68) 2,6-Dichlorophenol	(2)	8.803	162	364471	7.500
69) Hexachloropropene	(2)	8.844	213	286948	7.500
71) Hexachlorobutadiene	(2)	8.919	225	250390	7.500
75) Quinoline	(2)	9.217	129	832154	7.500
76) Caprolactam	(2)	9.321	113	115823	7.500
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	385201	7.500
80) 4-Chloro-3-methylphenol	(2)	9.601	107	422395	7.500
82) Safrole	(2)	9.689	162	335163	7.500
83) 2-Methylnaphthalene	(2)	9.794	142	858017	7.500
84) 1-Methylnaphthalene	(2)	9.945	142	784341	7.500
85) Hexachlorocyclopentadiene	(3)	10.062	237	219272	7.500
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	444966	7.500
88) cis-Isosafrole	(3)	10.155	162	60338	1.275
90) 2,4,6-Trichlorophenol	(3)	10.254	196	282174	7.500
92) 2,4,5-Trichlorophenol	(3)	10.307	196	304073	7.500
93)$2-Fluorobiphenyl	(3)	10.406	172	1962969	15.000
94) trans-Isosafrole	(3)	10.516	162	314740	6.225
95) 1,1'-Biphenyl	(3)	10.551	154	981544	7.500
96) 2-Chloronaphthalene	(3)	10.563	162	768784	7.500
98) 1-Chloronaphthalene	(3)	10.592	162	778615	7.500
99) Diphenyl ether	(3)	10.732	170	543313	7.500
100) 2-Nitroaniline	(3)	10.738	138	248042	7.500
104) 1,4-Naphthoquinone	(3)	10.849	158	342423	7.500
105) 1,4-Dinitrobenzene	(3)	10.971	168	132431	7.500
106) Dimethylphthalate	(3)	11.082	163	929320	7.500
107) 1,3-Dinitrobenzene	(3)	11.088	168	144357	7.500
108) 2,6-Dinitrotoluene	(3)	11.152	165	203204	7.500
109) Acenaphthylene	(3)	11.216	152	1168618	7.500
112) 3-Nitroaniline	(3)	11.396	138	212437	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	426791	5.000
114) Acenaphthene	(3)	11.496	153	839098	7.500
115) 2,4-Dinitrophenol	(3)	11.560	184	145785	10.000
117) Pentachlorobenzene	(3)	11.694	250	361369	7.500
116) 4-Nitrophenol	(3)	11.694	109	151517	7.500
119) Dibenzofuran	(3)	11.752	168	1139432	7.500
118) 2,4-Dinitrotoluene	(3)	11.758	165	276534	7.500
121) 1-Naphthylamine	(3)	11.857	143	820074	7.500
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	227826	7.500
123) 2-Naphthylamine	(3)	11.968	143	819134	7.500
124) Diethylphthalate	(3)	12.125	149	908026	7.500
126) Fluorene	(3)	12.207	166	911177	7.500
125) Thionazin	(3)	12.218	107	181337	7.500
128) 5-Nitro-o-toluidine	(3)	12.230	152	253188	7.500
129) 4-Nitroaniline	(3)	12.236	138	215302	7.500
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	454709	7.500
130) 4,6-Dinitro-2-methylphenol	(4)	12.282	198	159859	7.500
131) N-Nitrosodiphenylamine	(4)	12.376	169	762708	7.500
132) NDPA as diphenylamine	(4)	12.376	169	762708	7.500
134) 1,2-Diphenylhydrazine	(4)	12.416	77	1086178	7.500
135)$2,4,6-Tribromophenol	(3)	12.492	330	237139	15.000
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	179986	7.500
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	103032	7.500
140) Diallate (peak 1)	(4)	12.737	86	399692	6.225
141) Phorate	(4)	12.743	75	711822	7.500
142) Phenacetin	(4)	12.760	108	528458	7.500
143) 4-Bromophenyl-phenylether	(4)	12.813	248	258788	7.500
144) Diallate (peak 2)	(4)	12.836	86	65661	1.275
145) Hexachlorobenzene	(4)	12.865	284	268625	7.500
147) Dimethoate	(4)	12.929	87	471557	7.500
148) Atrazine	(4)	13.040	200	242535	7.500
149) Pentachlorophenol	(4)	13.110	266	156770	7.500
150) 4-Aminobiphenyl	(4)	13.122	169	858439	7.500
151) Pentachloronitrobenzene	(4)	13.128	237	121505	7.500
152) Pronamide	(4)	13.227	173	448991	7.500
153)*Phenanthrene-d10	(4)	13.337	188	816291	5.000
154) Dinoseb	(4)	13.367	211	259031	7.500
155) Phenanthrene	(4)	13.367	178	1345932	7.500
157) Anthracene	(4)	13.431	178	1369933	7.500
163) Carbazole	(4)	13.646	167	1289182	7.500

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

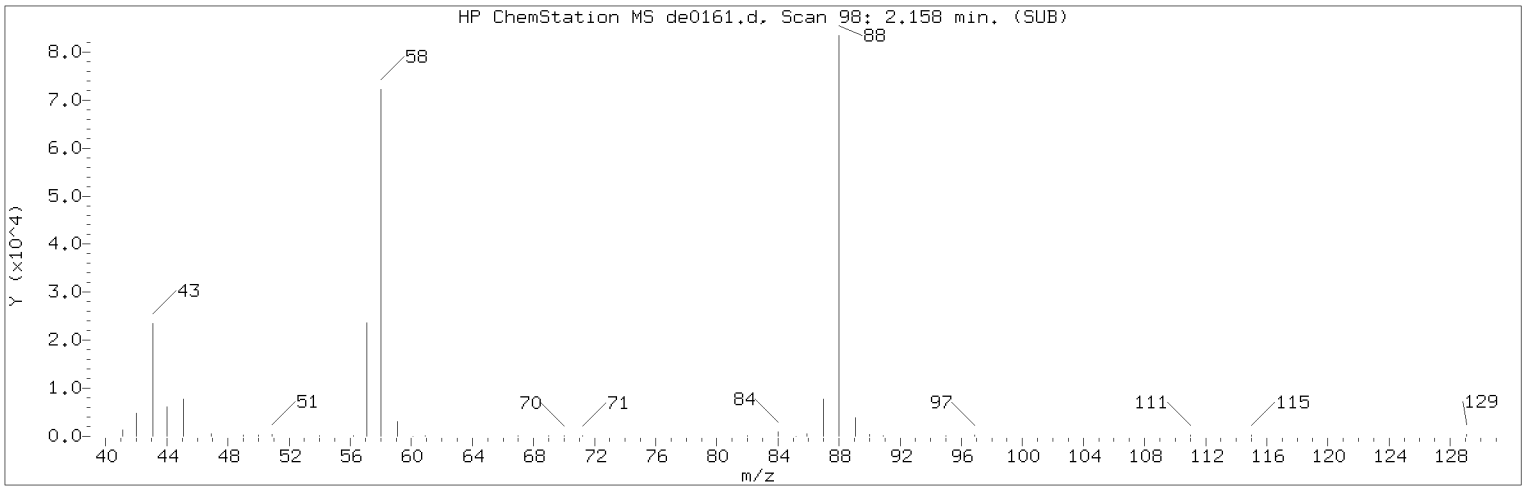
Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	361464	7.500
165) Di-n-butylphthalate	(4)	14.159	149	1632237	7.500
168) 4-Nitroquinoline-1-oxide	(4)	14.387	190	131959	7.500
167) Parathion	(4)	14.387	109	229411	7.500
169) Octachlorostyrene	(4)	14.730	308	103162	7.500
171) Isodrin	(4)	14.771	193	162581	7.500
173) Fluoranthene	(4)	14.987	202	1587811	7.500
222) Total PAHs	(6)			23931170	135.000
174) Benzidine	(5)	15.214	184	3075818	22.500
175)*Pyrene-d10	(5)	15.290	212	993842	5.000
177) Pyrene	(5)	15.319	202	1639475	7.500
179)$Terphenyl-d14	(5)	15.611	244	2197508	15.000
182) p-Dimethylaminoazobenzene	(5)	15.838	225	275422	7.500
185) Chlorobenzilate	(5)	15.931	139	496663	7.500
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	1152796	7.500
188) Butylbenzylphthalate	(5)	16.456	149	758553	7.500
191) 2-Acetylaminofluorene	(5)	16.800	181	692458	7.500
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	622168	7.500
195) Benzo(a)anthracene	(5)	17.307	228	1607390	7.500
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	328245	7.500
196) Chrysene	(5)	17.371	228	1499167	7.500
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1136783	7.500
203) 6-Methylchrysene	(5)	18.169	242	1100348	7.500
205) Di-n-octylphthalate	(6)	18.676	149	2079814	7.500
206) Benzo(b)fluoranthene	(6)	19.149	252	1654288	7.500
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	696349	7.500
208) Benzo(k)fluoranthene	(6)	19.195	252	1611697	7.500
211) Benzo(a)pyrene	(6)	19.667	252	1565551	7.500
213)*Perylene-d12	(6)	19.761	264	828843	5.000
215) 3-Methylcholanthrene	(6)	20.244	268	701224	7.500
217) Dibenz(a,h)acridine	(6)	21.049	279	1165593	7.500
218) Dibenz(a,j)acridine	(6)	21.119	279	1140517	7.500
219) Indeno(1,2,3-cd)pyrene	(6)	21.358	276	1589797	7.500
220) Dibenz(a,h)anthracene	(6)	21.398	278	1328454	7.500
221) Benzo(g,h,i)perylene	(6)	21.725	276	1287153	7.500

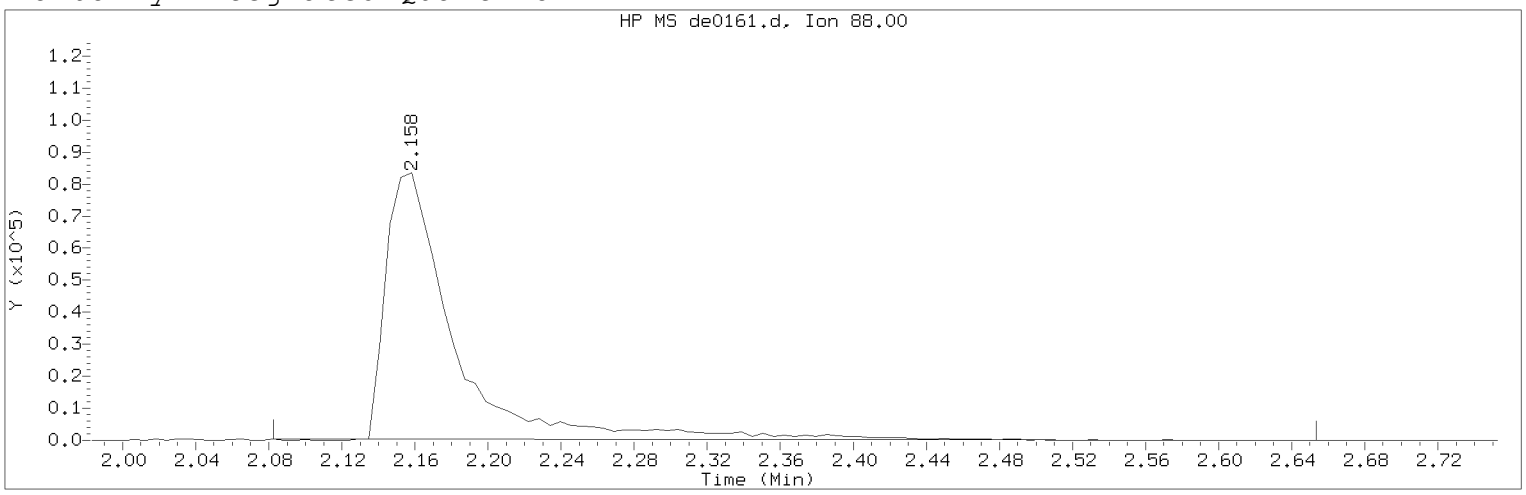
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

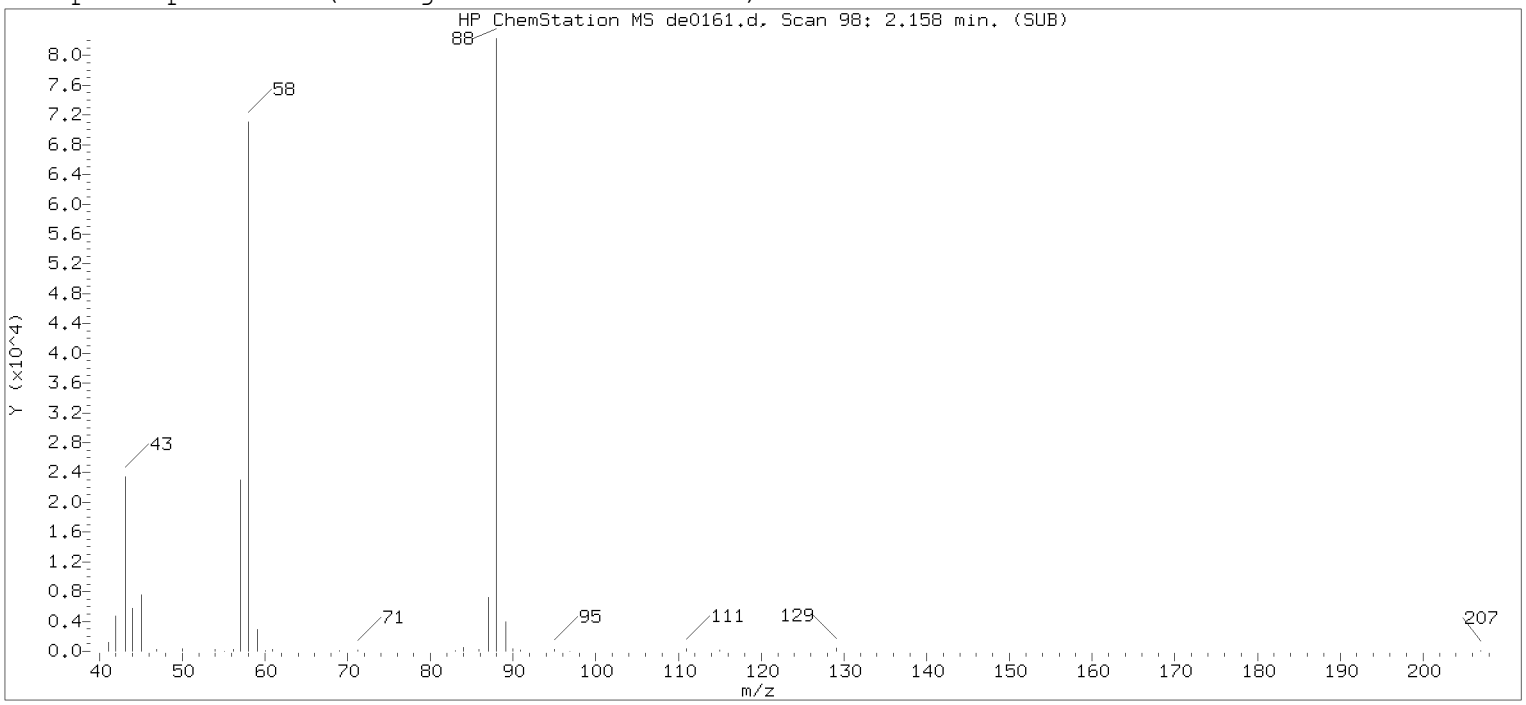
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 98
Retention Time (minutes) : 2.158
Quant Ion : 88.00
Area (flag) : 217886M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 84 Integration stop scan: 182
Y at integration start : 322 Y at integration end: 0

Reason for manual integration: improper integration

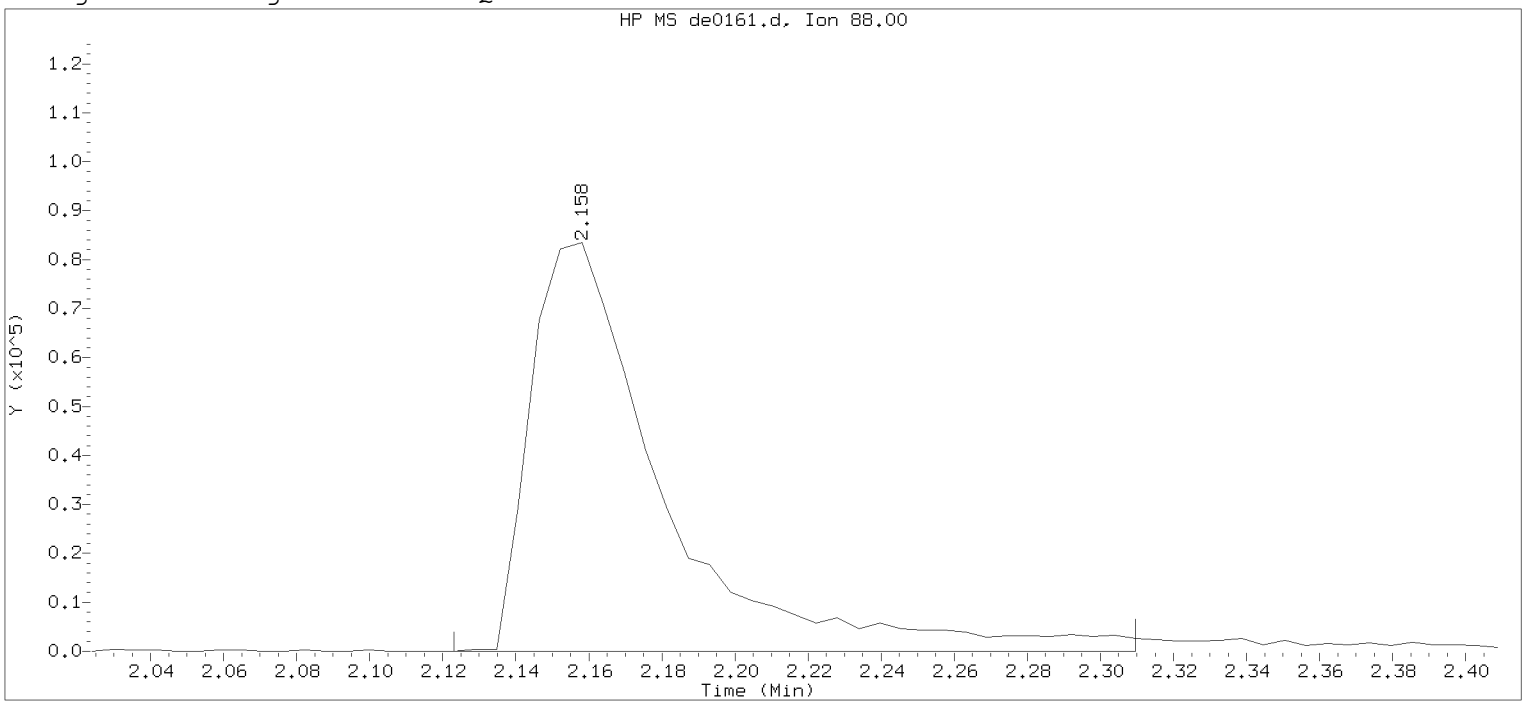
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

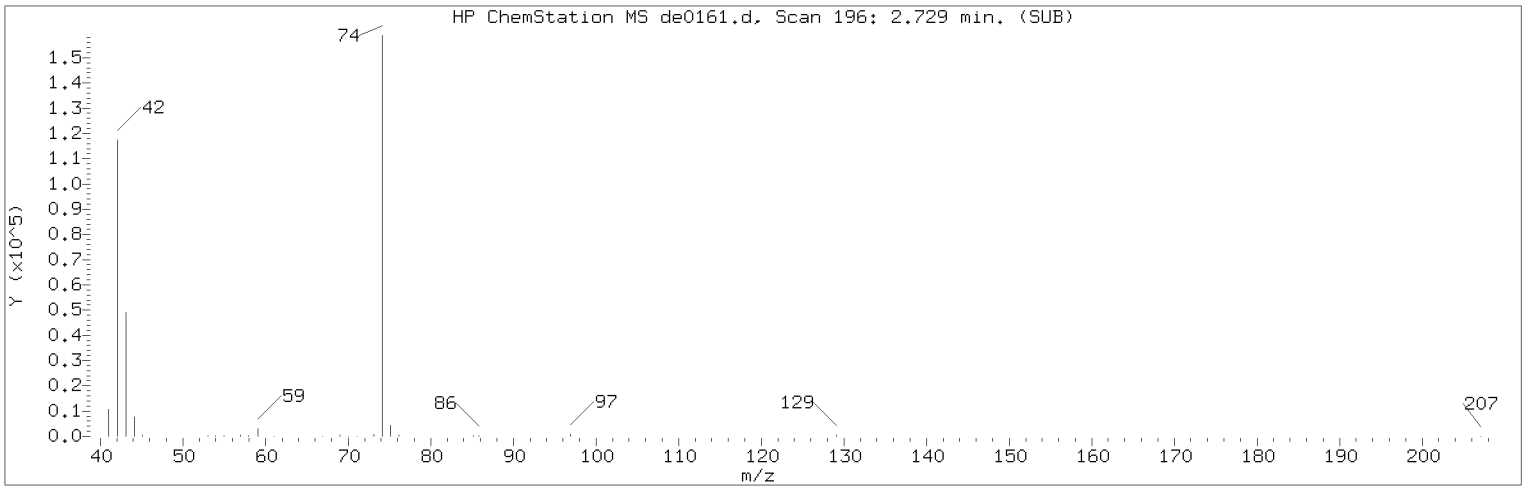
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

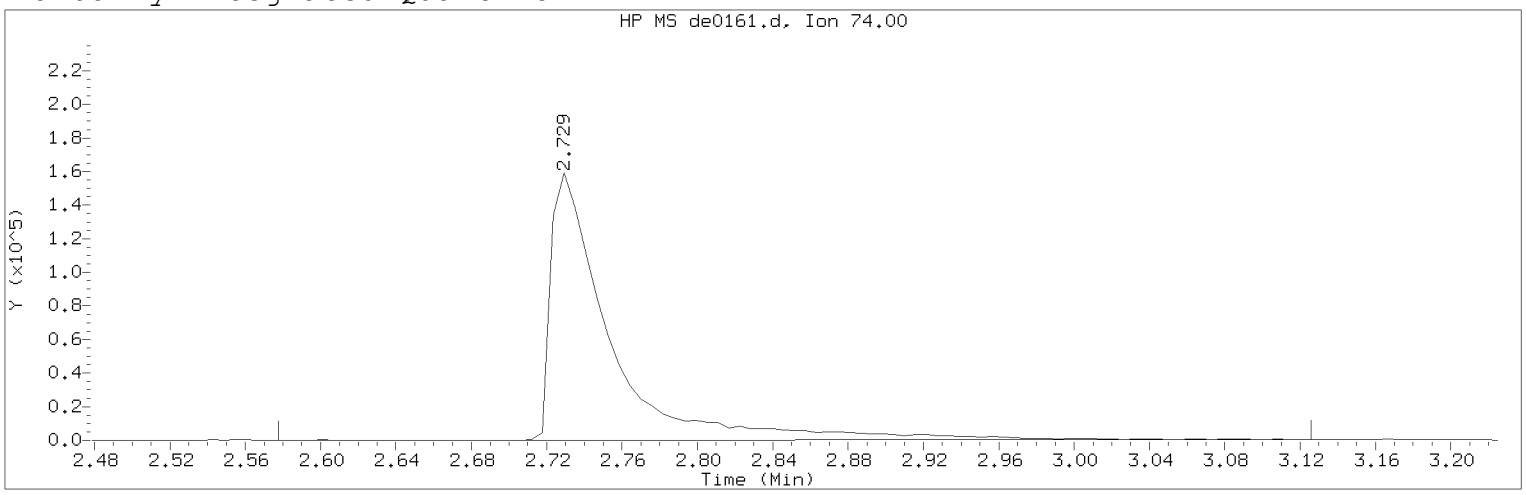
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 98
Retention Time (minutes) : 2.158
Quant Ion : 88.00
Area : 210118
On-column Amount (ng/ul) : 7.0164
Integration start scan : 91 Integration stop scan: 123
Y at integration start : 0 Y at integration end: 0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: BHSmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

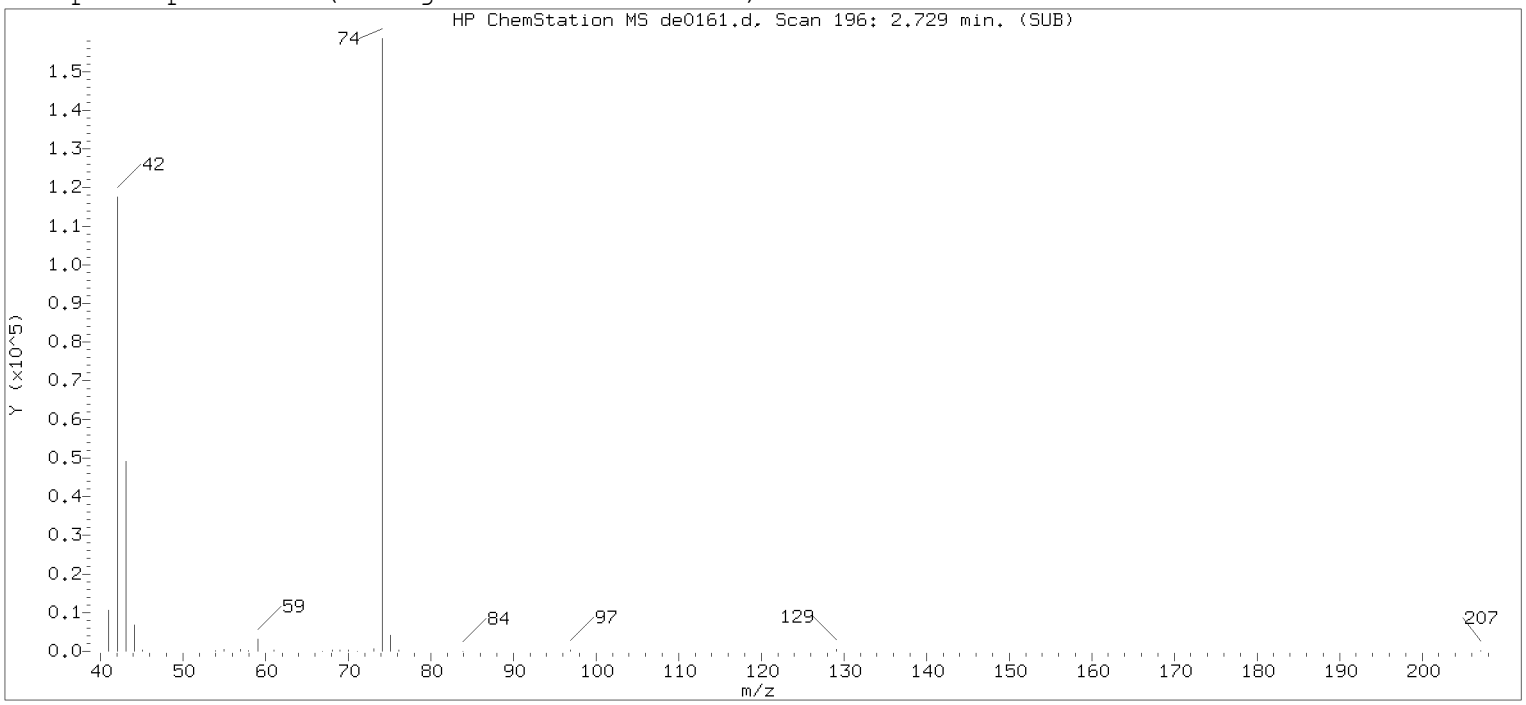
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 196
Retention Time (minutes) : 2.729
Quant Ion : 74.00
Area (flag) : 351990M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 169 Integration stop scan: 263
Y at integration start : 0 Y at integration end: 390

Reason for manual integration: improper integration

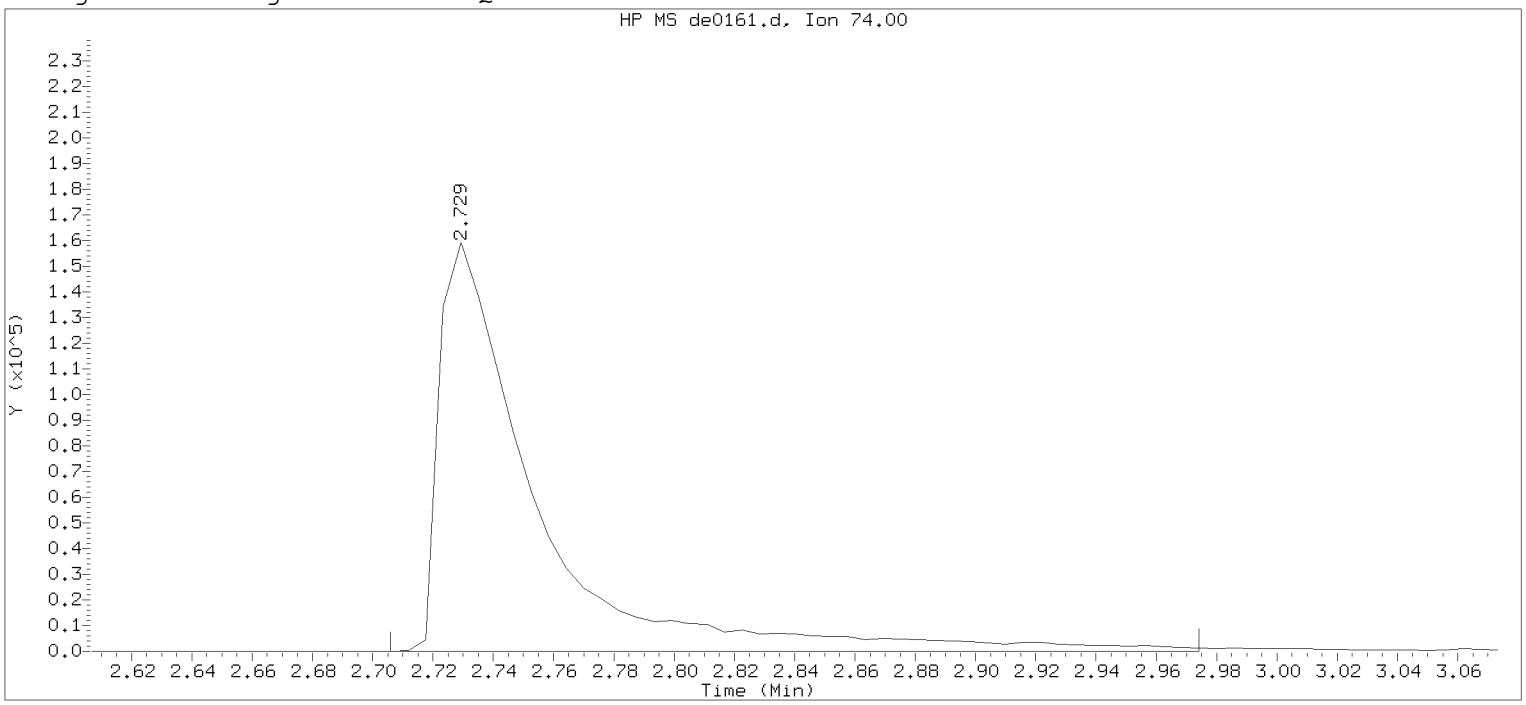
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

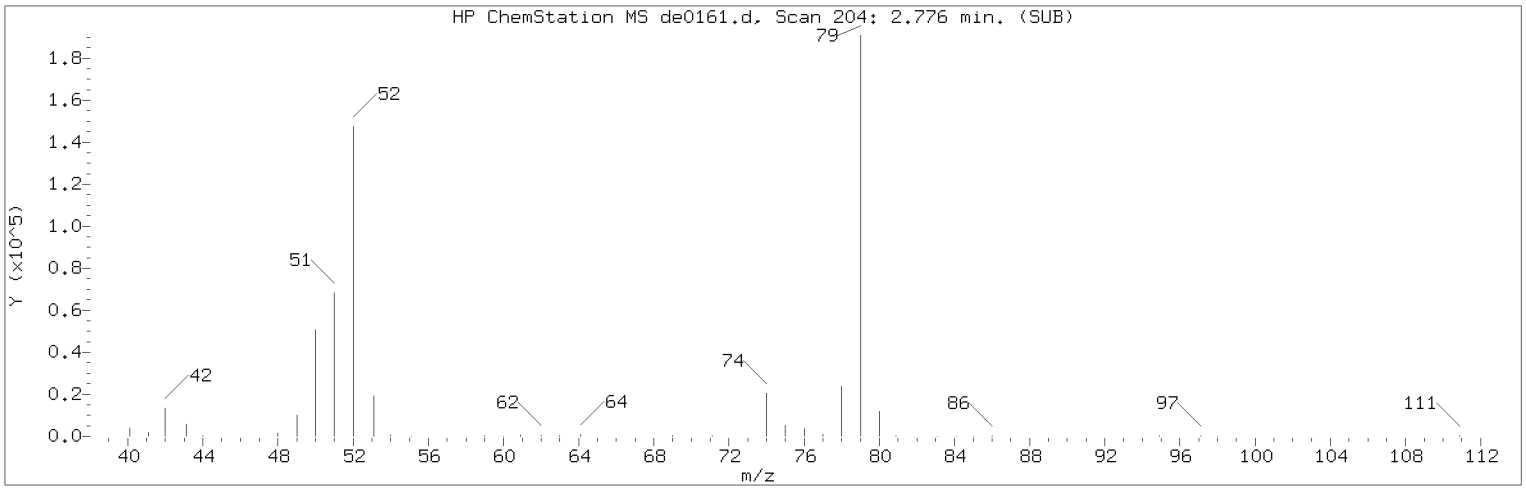
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

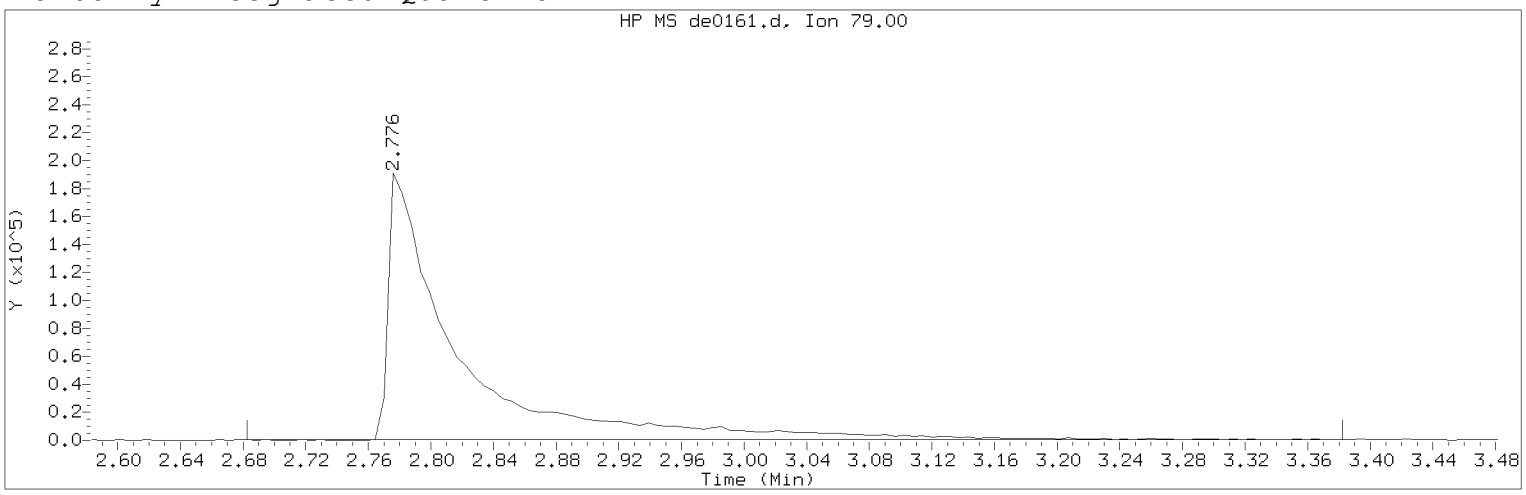
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 196		
Retention Time (minutes)	: 2.729		
Quant Ion	: 74.00		
Area	: 351950		
On-column Amount (ng/ul)	: 7.4087		
Integration start scan	: 191	Integration stop scan:	237
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: BHSMITH

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

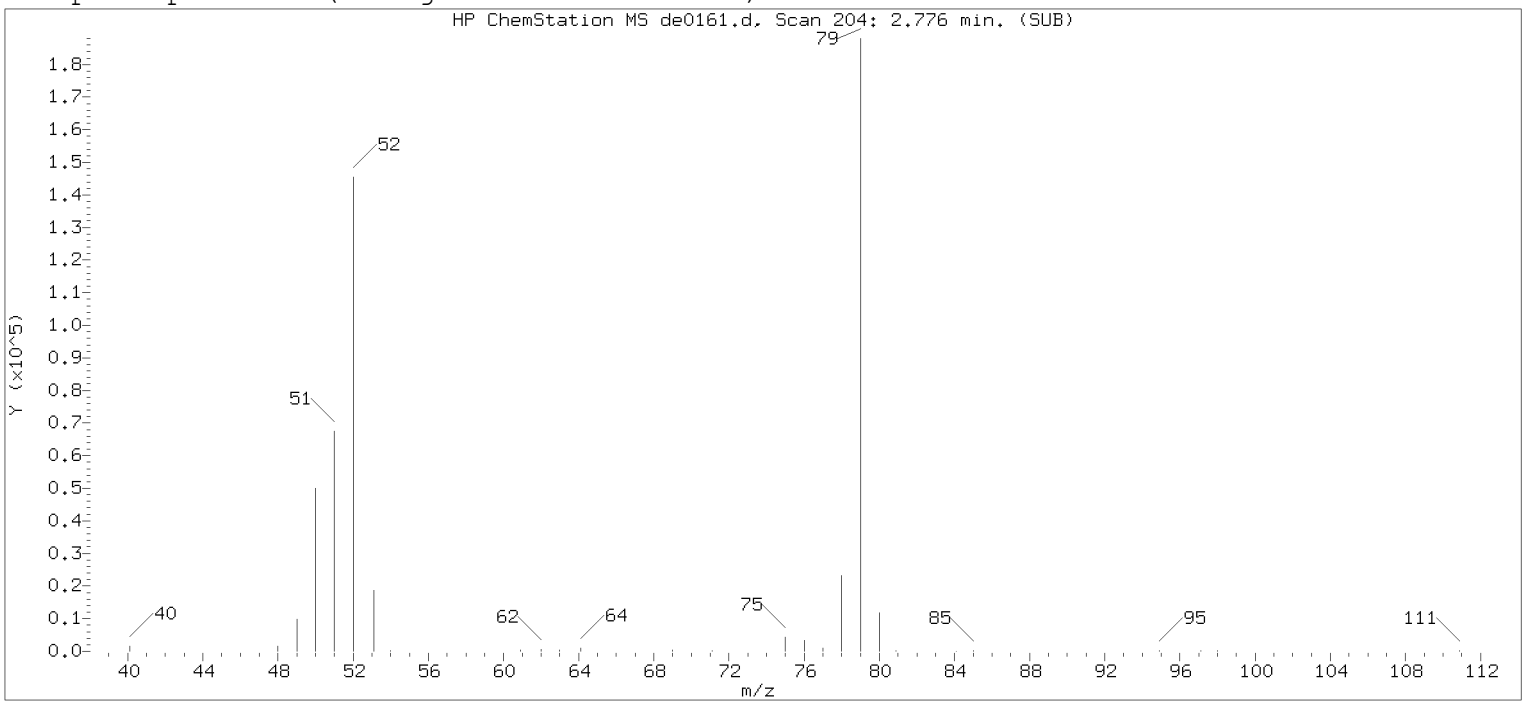
Compound Number : 5
Compound Name : Pyridine
Scan Number : 204
Retention Time (minutes) : 2.776
Quant Ion : 79.00
Area (flag) : 581008M
On-Column Amount (ng/ul) : 7.5000
Integration start scan : 187 Integration stop scan: 307
Y at integration start : 390 Y at integration end: 335

Reason for manual integration: improper integration

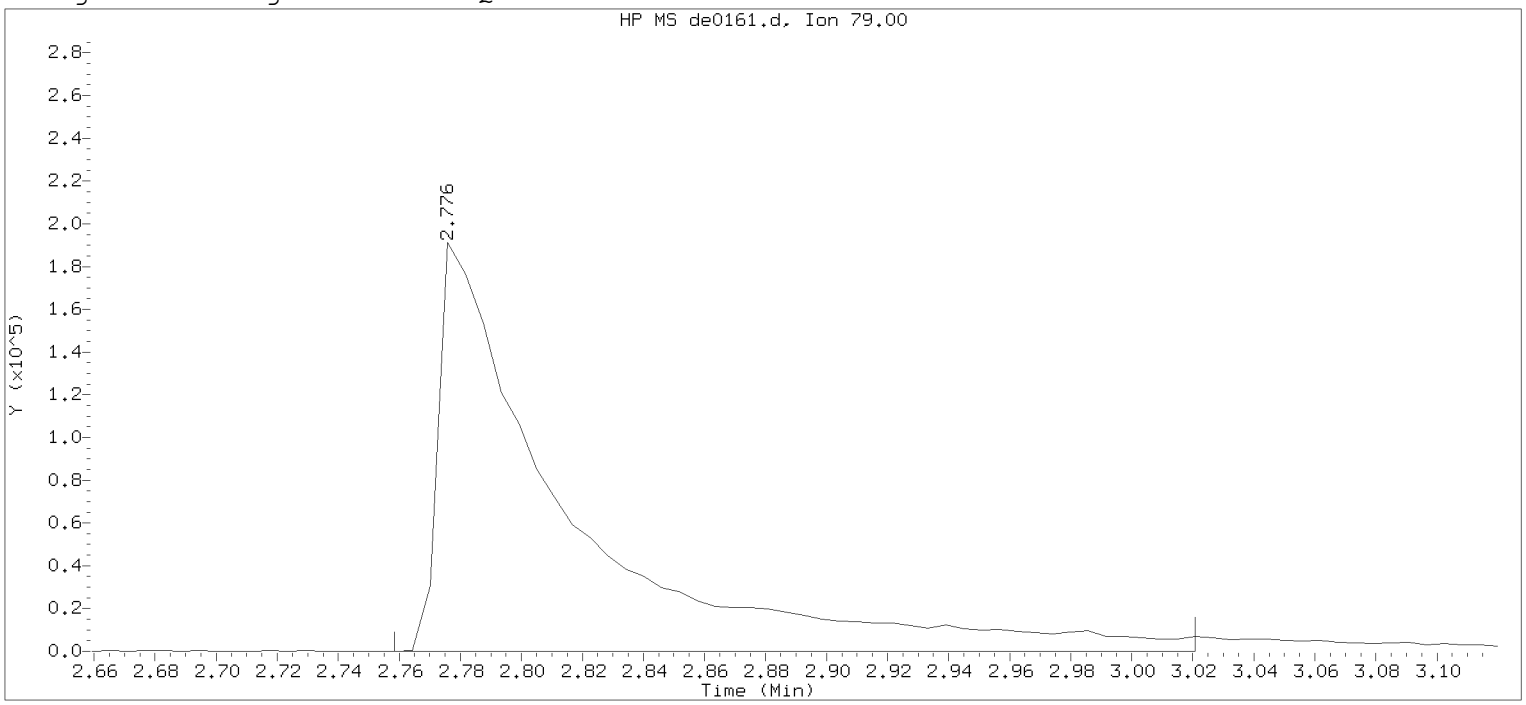
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



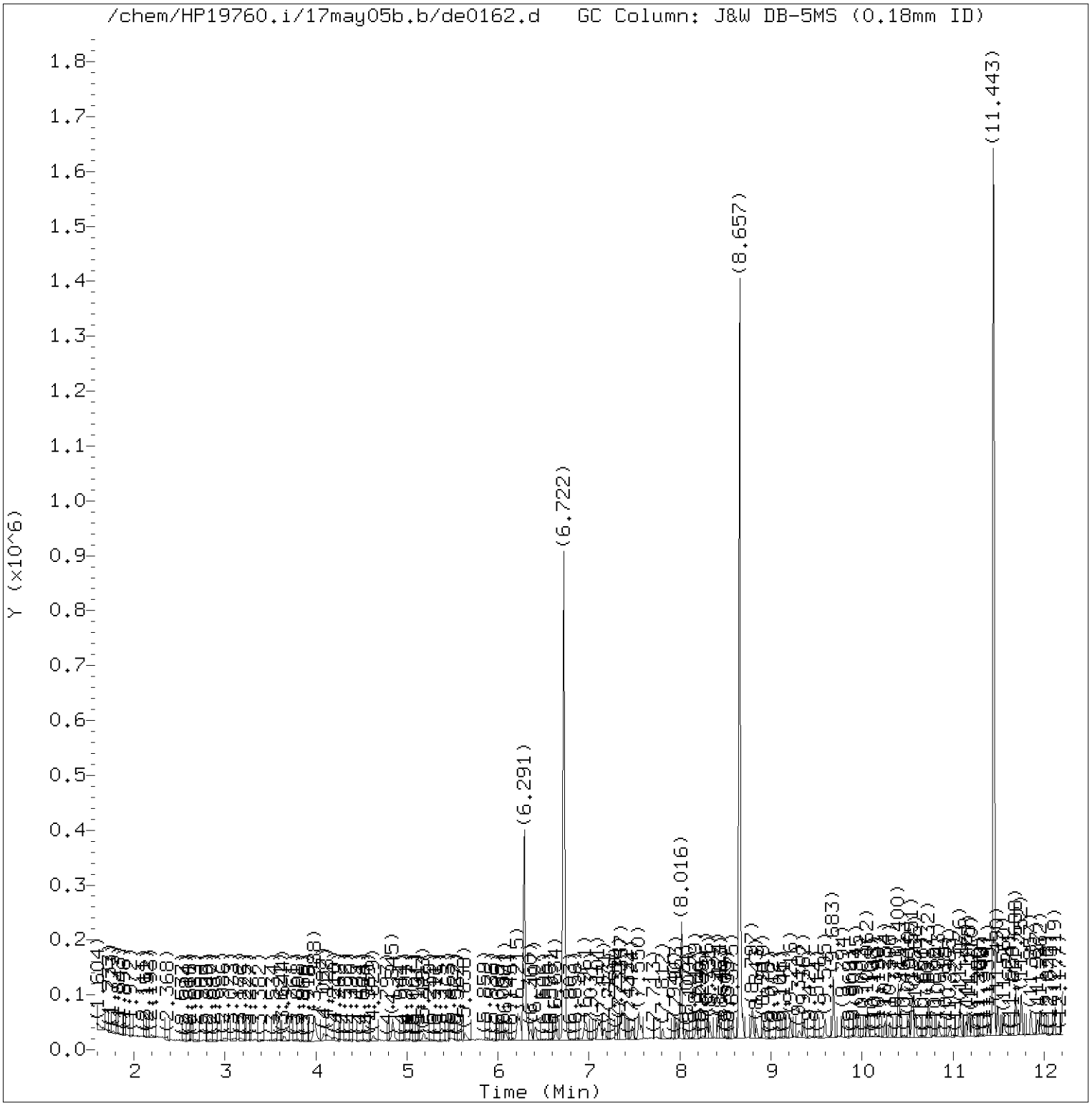
Data File: /chem/HP19760.i/17may05b.b/de0161.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 18:36
Date, time and analyst ID of latest file update: 05-May-2017 18:36 em10340

Sample Name: SSTD7.5 Lab Sample ID: RVSTD1107

Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 204		
Retention Time (minutes)	: 2.776		
Quant Ion	: 79.00		
Area	: 552604		
On-column Amount (ng/ul)	: 6.8157		
Integration start scan	: 200	Integration stop scan:	245
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: BHSmith



Total Ion Chromatogram (TIC)

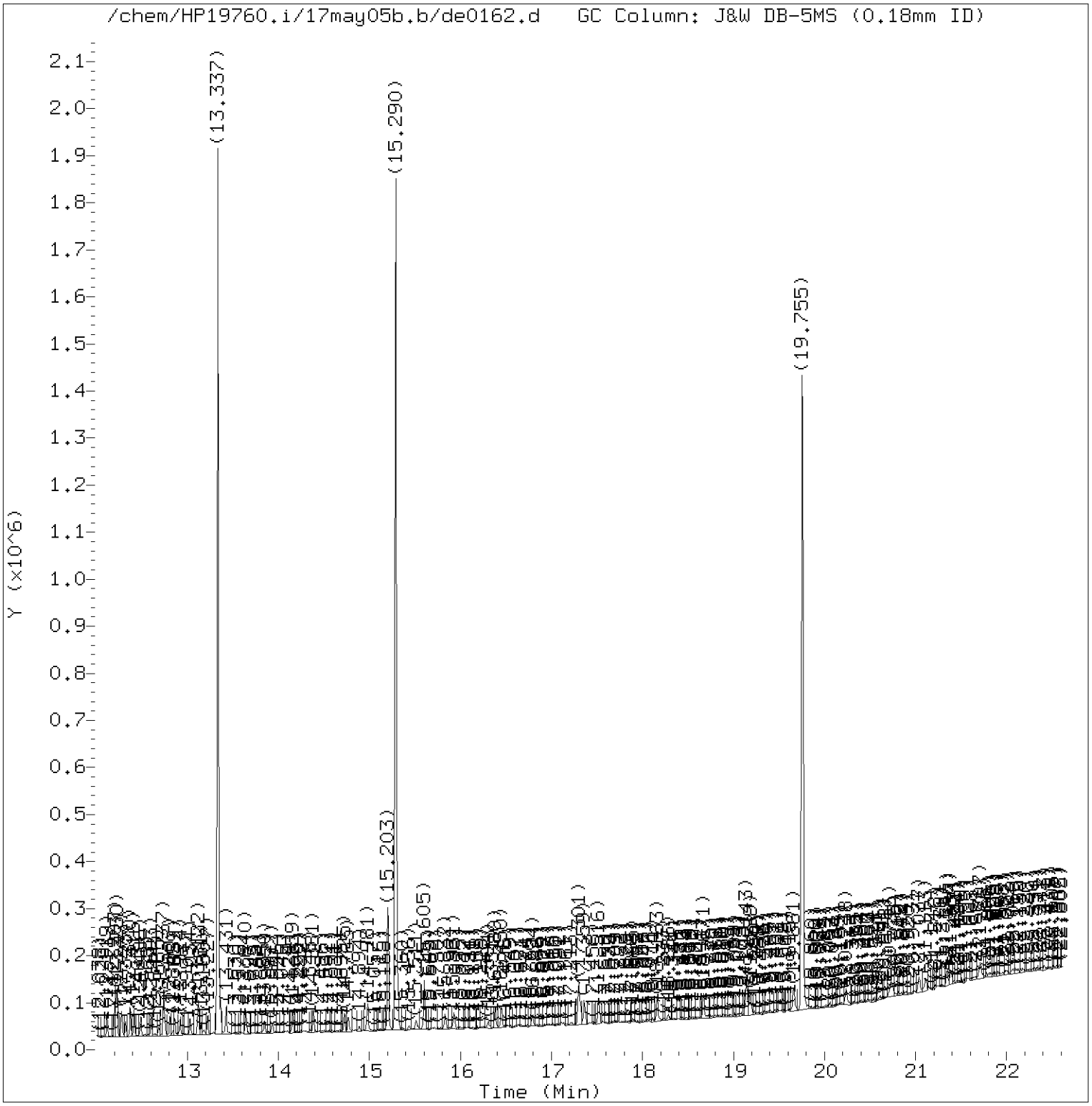
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.199	88	3016	0.110
5) Pyridine	(1)	2.648	79	1109	0.015
4) N-Nitrosodimethylamine	(1)	2.840	74	5014	0.113
7) 2-Picoline	(1)	4.081	93	8644	0.116
9) Methyl methanesulfonate	(1)	4.629	80	5186	0.143
11)$2-Fluorophenol	(1)	4.845	112	16653	0.286
13) N-Nitrosodiethylamine	(1)	5.183	102	3693	0.124
15) Ethyl methanesulfonate	(1)	5.638	109	4606	0.147
42) Total Cresols	(1)			16906	0.276
16) Benzaldehyde	(1)	6.081	77	7179	0.121
17)$Phenol-d6	(1)	6.215	99	21487	0.272
18) Phenol	(1)	6.238	94	13534	0.153
19) Aniline	(1)	6.244	93	15143	0.146
20) a-methylstyrene	(1)	6.325	118	6859	0.104
22) bis(2-Chloroethyl)ether	(1)	6.360	93	9801	0.150
23) 2-Chlorophenol	(1)	6.407	128	8295	0.146
24) 1,3-Dichlorobenzene	(1)	6.634	146	8596	0.138
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	184070	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	9962	0.159
27) Benzyl alcohol	(1)	6.943	108	4617	0.108
28) 1,2-Dichlorobenzene	(1)	6.967	146	8492	0.144
30) Indene	(1)	7.101	115	12234	0.105
31) 2-Methylphenol	(1)	7.130	108	7639	0.134
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.171	45	16087	0.164
34) bis(2-Chloroisopropyl)ether	(1)	7.171	45	16087	0.164
35) N-Nitrosopyrrolidine	(1)	7.299	100	4130	0.129
36) Acetophenone	(1)	7.334	105	10091	0.114
39) N-Nitrosomorpholine	(1)	7.340	56	7472	0.167
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	8785	0.172
37) 4-Methylphenol	(1)	7.363	108	9267	0.143
97) Isosafrole	(3)			6646	0.137
40) o-Toluidine	(1)	7.386	106	15362	0.153
43) Hexachloroethane	(1)	7.480	117	3516	0.134
44)$Nitrobenzene-d5	(2)	7.550	82	21722	0.296
45) Nitrobenzene	(2)	7.579	77	10684	0.143
48) N-Nitrosopiperidine	(2)	7.812	114	3872	0.129
50) Isophorone	(2)	7.963	82	18349	0.143
120) 2,4_2,6-Dinitrotoluenes	(3)			7378	0.242
51) 2-Nitrophenol	(2)	8.074	139	3580	0.122
53) 2,4-Dimethylphenol	(2)	8.179	107	9564	0.152

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
57)	O,O,O-Triethylphosphorothioate	(2)	8.301	198	4265	0.143
55)	bis(2-Chloroethoxy)methane	(2)	8.331	93	11473	0.141
59)	1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	9793	0.102
56)	Benzoic acid	(2)	8.424	105	1372	0.034
60)	2,4-Dichlorophenol	(2)	8.453	162	6882	0.144
62)	1,2,4-Trichlorobenzene	(2)	8.581	180	7552	0.140
65)	*Naphthalene-d8	(2)	8.657	136	711760	5.000
66)	Naphthalene	(2)	8.686	128	24380	0.136
146)	Diallate trans/cis	(4)			8949	0.150
67)	4-Chloroaniline	(2)	8.791	127	9976	0.146
68)	2,6-Dichlorophenol	(2)	8.803	162	6624	0.143
69)	Hexachloropropene	(2)	8.843	213	5061	0.139
71)	Hexachlorobutadiene	(2)	8.919	225	4291	0.135
75)	Quinoline	(2)	9.216	129	15903	0.151
76)	Caprolactam	(2)	9.304	113	1411	0.096
77)	N-Nitrosodi-n-butylamine	(2)	9.362	84	6235	0.127
80)	4-Chloro-3-methylphenol	(2)	9.595	107	7768	0.145
82)	Safrole	(2)	9.683	162	5749	0.135
83)	2-Methylnaphthalene	(2)	9.794	142	15389	0.133
84)	1-Methylnaphthalene	(2)	9.945	142	14243	0.133
85)	Hexachlorocyclopentadiene	(3)	10.062	237	3096	0.110
86)	1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	8623	0.150
88)	cis-Isosafrole	(3)	10.149	162	862	0.019
90)	2,4,6-Trichlorophenol	(3)	10.254	196	4908	0.135
92)	2,4,5-Trichlorophenol	(3)	10.306	196	4894	0.125
93)	$2-Fluorobiphenyl	(3)	10.400	172	35608	0.282
94)	trans-Isosafrole	(3)	10.510	162	5784	0.118
95)	1,1'-Biphenyl	(3)	10.551	154	14813	0.117
96)	2-Chloronaphthalene	(3)	10.557	162	14413	0.146
98)	1-Chloronaphthalene	(3)	10.586	162	13412	0.134
100)	2-Nitroaniline	(3)	10.732	138	4629	0.145
99)	Diphenyl ether	(3)	10.732	170	9668	0.138
104)	1,4-Naphthoquinone	(3)	10.843	158	5377	0.122
105)	1,4-Dinitrobenzene	(3)	10.971	168	1773	0.104
106)	Dimethylphthalate	(3)	11.076	163	17682	0.148
107)	1,3-Dinitrobenzene	(3)	11.082	168	2509	0.135
108)	2,6-Dinitrotoluene	(3)	11.146	165	3409	0.130
109)	Acenaphthylene	(3)	11.216	152	19873	0.128
112)	3-Nitroaniline	(3)	11.391	138	3523	0.129
113)	*Acenaphthene-d10	(3)	11.443	164	412178	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
114) Acenaphthene	(3)	11.490	153	14564	0.130
115) 2,4-Dinitrophenol	(3)	11.560	184	5189	0.369
116) 4-Nitrophenol	(3)	11.688	109	8199	0.420
117) Pentachlorobenzene	(3)	11.694	250	6833	0.147
118) 2,4-Dinitrotoluene	(3)	11.752	165	3969	0.111
119) Dibenzofuran	(3)	11.752	168	21528	0.147
121) 1-Naphthylamine	(3)	11.857	143	13904	0.132
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	3900	0.133
123) 2-Naphthylamine	(3)	11.962	143	14594	0.138
124) Diethylphthalate	(3)	12.119	149	16142	0.138
126) Fluorene	(3)	12.201	166	17017	0.134
125) Thionazin	(3)	12.212	107	3694	0.158
128) 5-Nitro-o-toluidine	(3)	12.224	152	4158	0.128
129) 4-Nitroaniline	(3)	12.224	138	3608	0.130
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	8376	0.143
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	6611	0.322
132) NDPA as diphenylamine	(4)	12.376	169	14731	0.150
131) N-Nitrosodiphenylamine	(4)	12.376	169	14731	0.150
134) 1,2-Diphenylhydrazine	(4)	12.416	77	20885	0.150
135)$2,4,6-Tribromophenol	(3)	12.492	330	4292	0.281
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	4070	0.176
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	1457	0.110
140) Diallate (peak 1)	(4)	12.737	86	7556	0.122
141) Phorate	(4)	12.743	75	11488	0.126
142) Phenacetin	(4)	12.749	108	8040	0.118
143) 4-Bromophenyl-phenylether	(4)	12.813	248	4576	0.138
144) Diallate (peak 2)	(4)	12.836	86	1393	0.028
145) Hexachlorobenzene	(4)	12.859	284	5015	0.134
147) Dimethoate	(4)	12.924	87	7924	0.131
148) Atrazine	(4)	13.034	200	4038	0.130
149) Pentachlorophenol	(4)	13.110	266	1279	0.064
150) 4-Aminobiphenyl	(4)	13.122	169	14503	0.132
151) Pentachloronitrobenzene	(4)	13.122	237	1900	0.122
152) Pronamide	(4)	13.227	173	7101	0.123
153)*Phenanthrene-d10	(4)	13.337	188	786368	5.000
155) Phenanthrene	(4)	13.361	178	24668	0.133
154) Dinoseb	(4)	13.366	211	2485	0.075
157) Anthracene	(4)	13.431	178	24167	0.131
163) Carbazole	(4)	13.640	167	22374	0.135
164) Methyl parathion	(4)	13.850	109	5294	0.114

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0162.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 18:46 Analyst ID: em10340

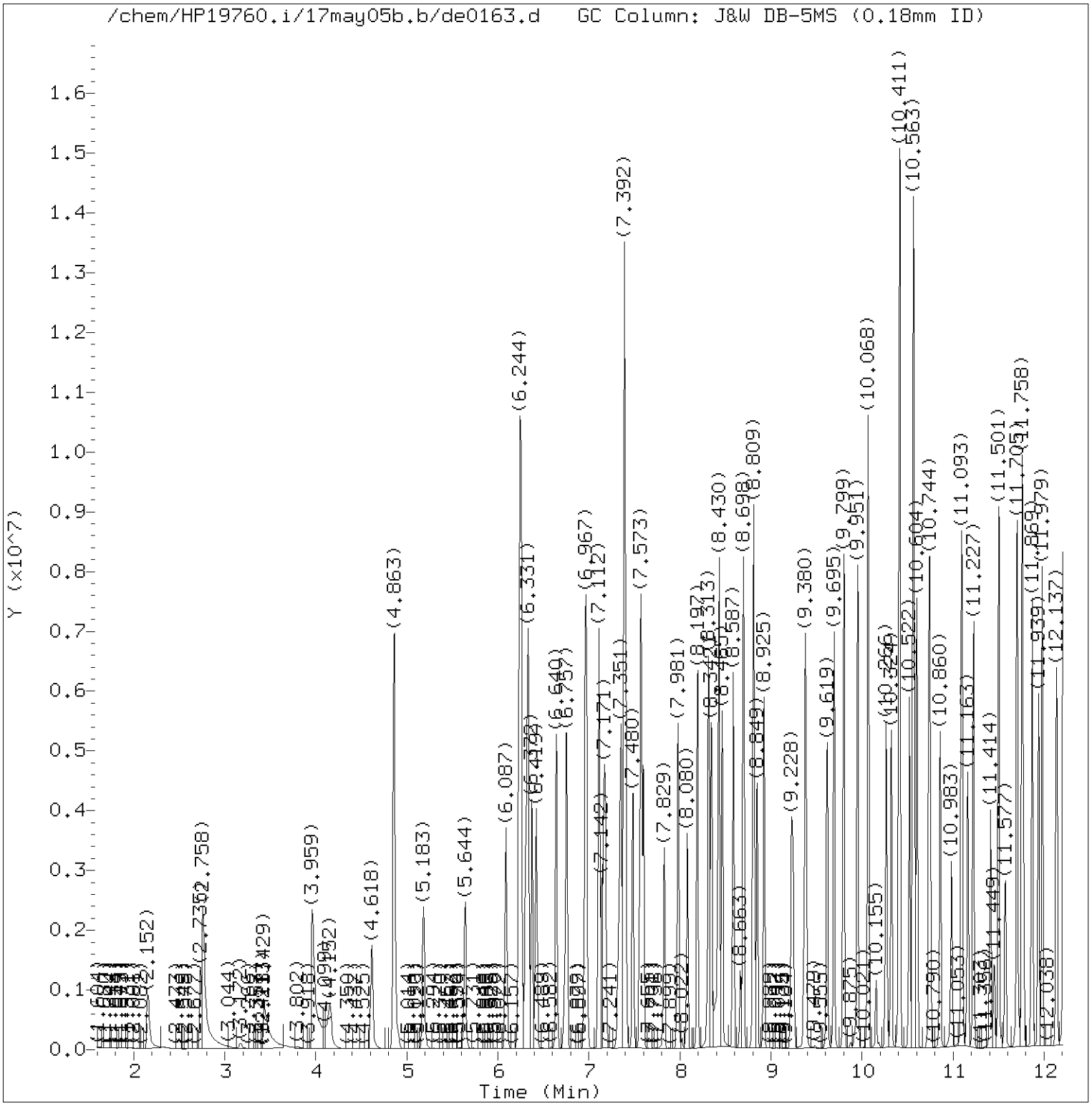
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD0.125 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
165) Di-n-butylphthalate	(4)	14.159	149	27373	0.131
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	1280	0.076
167) Parathion	(4)	14.386	109	3208	0.109
171) Isodrin	(4)	14.771	193	3146	0.151
173) Fluoranthene	(4)	14.981	202	27079	0.129
222) Total PAHs	(6)			393255	2.327
174) Benzidine	(5)	15.203	184	118035	0.918
175)*Pyrene-d10	(5)	15.290	212	934540	5.000
177) Pyrene	(5)	15.319	202	29731	0.134
179)$Terphenyl-d14	(5)	15.605	244	37368	0.271
182) p-Dimethylaminoazobenzene	(5)	15.832	225	4185	0.121
185) Chlorobenzilate	(5)	15.931	139	8327	0.134
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	17817	0.123
188) Butylbenzylphthalate	(5)	16.450	149	12752	0.134
191) 2-Acetylaminofluorene	(5)	16.794	181	7152	0.082
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	9876	0.127
195) Benzo(a)anthracene	(5)	17.301	228	27081	0.130
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	5149	0.125
196) Chrysene	(5)	17.359	228	25334	0.130
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	18747	0.132
203) 6-Methylchrysene	(5)	18.163	242	17654	0.128
205) Di-n-octylphthalate	(6)	18.671	149	30790	0.129
206) Benzo(b)fluoranthene	(6)	19.143	252	26747	0.133
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.148	256	9768	0.122
208) Benzo(k)fluoranthene	(6)	19.183	252	25321	0.131
211) Benzo(a)pyrene	(6)	19.661	252	23767	0.129
213)*Perylene-d12	(6)	19.755	264	712054	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	10033	0.125
217) Dibenz(a,h)acridine	(6)	21.037	279	15162	0.114
218) Dibenz(a,j)acridine	(6)	21.113	279	12886	0.099
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	20568	0.119
220) Dibenz(a,h)anthracene	(6)	21.387	278	15855	0.114
221) Benzo(g,h,i)perylene	(6)	21.707	276	17471	0.122

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

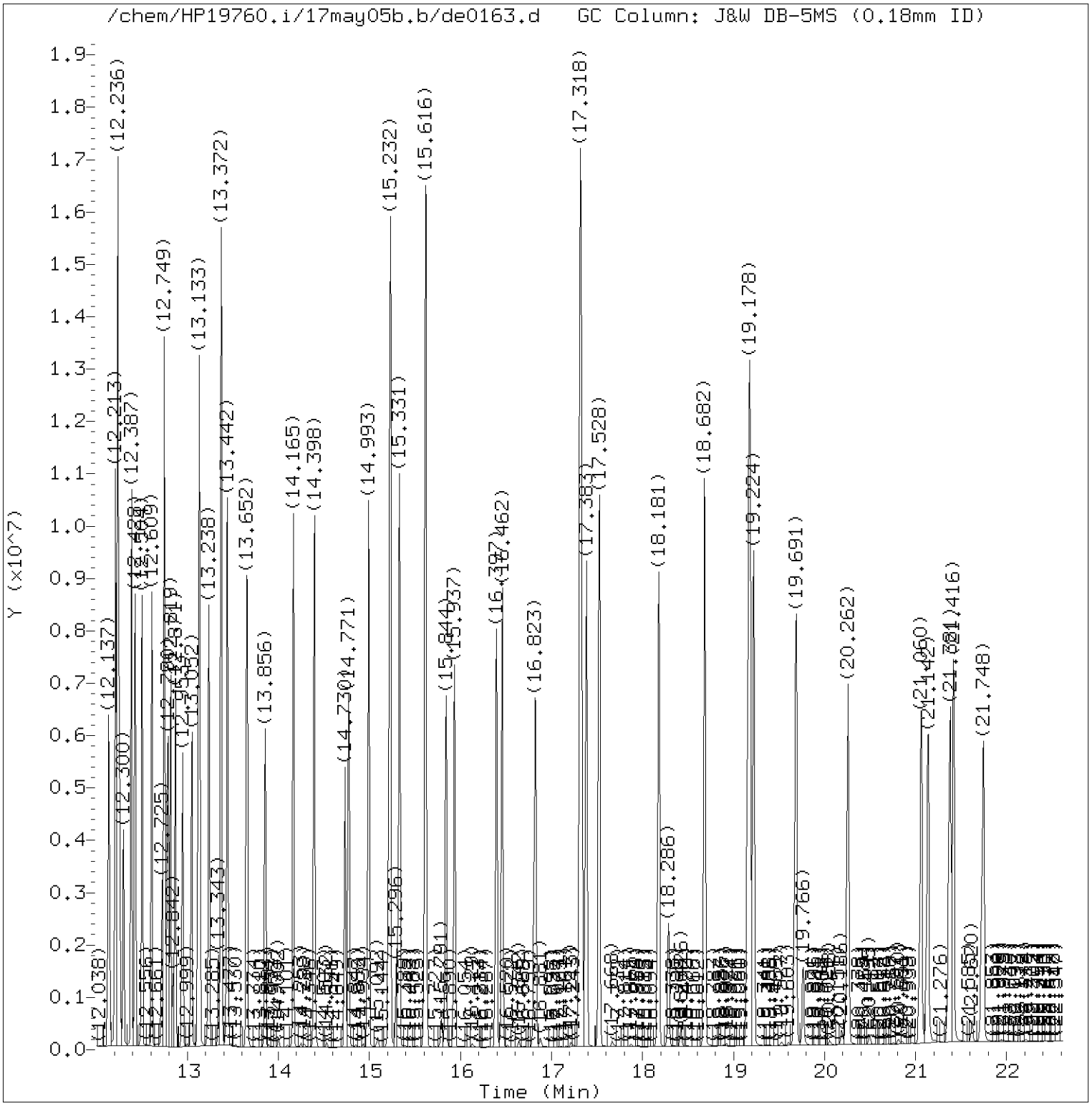
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.152	88	793528	29.575
4) N-Nitrosodimethylamine	(1)	2.735	74	1300310	29.789
5) Pyridine	(1)	2.758	79	2119756	29.602
7) 2-Picoline	(1)	3.959	93	2146665	29.492
8) N-Nitrosomethylethylamine	(1)	4.157	88	914429	29.415
9) Methyl methanesulfonate	(1)	4.618	80	1050057	29.565
11)$2-Fluorophenol	(1)	4.863	112	3325343	58.730
13) N-Nitrosodiethylamine	(1)	5.183	102	861679	29.593
15) Ethyl methanesulfonate	(1)	5.644	109	913740	29.659
42) Total Cresols	(1)			3351248	57.550
16) Benzaldehyde	(1)	6.087	77	1350005	25.952
17)$Phenol-d6	(1)	6.238	99	4441173	58.288
18) Phenol	(1)	6.256	94	2474485	29.039
19) Aniline	(1)	6.256	93	2897915	29.073
20) a-methylstyrene	(1)	6.331	118	1767463	28.361
22) bis(2-Chloroethyl)ether	(1)	6.372	93	1815386	28.930
23) 2-Chlorophenol	(1)	6.419	128	1606800	29.169
24) 1,3-Dichlorobenzene	(1)	6.640	146	1720142	28.842
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	182912	5.000
26) 1,4-Dichlorobenzene	(1)	6.757	146	1748255	29.038
27) Benzyl alcohol	(1)	6.961	108	1158468	28.603
28) 1,2-Dichlorobenzene	(1)	6.973	146	1632713	28.868
30) Indene	(1)	7.112	115	3145957	28.573
31) 2-Methylphenol	(1)	7.142	108	1588475	28.951
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.182	45	2625541	28.383
34) bis(2-Chloroisopropyl)ether	(1)	7.182	45	2625541	28.383
35) N-Nitrosopyrrolidine	(1)	7.328	100	916196	29.385
36) Acetophenone	(1)	7.351	105	2526830	29.394
97) Isosafrole	(3)			1340427	30.110
38) N-Nitroso-di-n-propylamine	(1)	7.386	70	1389462	28.622
37) 4-Methylphenol	(1)	7.386	108	1762773	28.599
39) N-Nitrosomorpholine	(1)	7.392	56	1207856	28.511
40) o-Toluidine	(1)	7.404	106	2713962	28.529
43) Hexachloroethane	(1)	7.480	117	732996	28.999
44)$Nitrobenzene-d5	(2)	7.573	82	4048771	58.909
45) Nitrobenzene	(2)	7.596	77	2029621	29.263
48) N-Nitrosopiperidine	(2)	7.829	114	824917	29.428
50) Isophorone	(2)	7.981	82	3565998	29.593
120) 2,4_2,6-Dinitrotoluenes	(3)			1726338	60.393
51) 2-Nitrophenol	(2)	8.080	139	838260	30.018

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.197	107	1752657	29.638
57) O,O,O-Triethylphosphorothioate	(2)	8.313	198	826529	29.506
55) bis(2-Chloroethoxy)methane	(2)	8.342	93	2171585	28.952
56) Benzoic acid	(2)	8.418	105	1430416	33.178
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.430	104	2561838	29.023
60) 2,4-Dichlorophenol	(2)	8.465	162	1307148	29.320
62) 1,2,4-Trichlorobenzene	(2)	8.587	180	1501782	29.600
65)*Naphthalene-d8	(2)	8.663	136	678696	5.000
66) Naphthalene	(2)	8.698	128	4488958	27.429
146) Diallate trans/cis	(4)			1608677	28.994
67) 4-Chloroaniline	(2)	8.809	127	1899663	29.602
68) 2,6-Dichlorophenol	(2)	8.814	162	1264924	29.319
69) Hexachloropropene	(2)	8.849	213	1045223	30.044
71) Hexachlorobutadiene	(2)	8.925	225	896159	29.781
75) Quinoline	(2)	9.228	129	2873587	29.244
77) N-Nitrosodi-n-butylamine	(2)	9.380	84	1664716	32.602
76) Caprolactam	(2)	9.386	113	416272A	29.843
80) 4-Chloro-3-methylphenol	(2)	9.619	107	1483044	29.493
82) Safrole	(2)	9.695	162	1180281	29.537
83) 2-Methylnaphthalene	(2)	9.799	142	3012146	28.092
84) 1-Methylnaphthalene	(2)	9.951	142	2721468	27.740
85) Hexachlorocyclopentadiene	(3)	10.068	237	802520	30.467
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.068	216	1557757	29.801
88) cis-Isosafrole	(3)	10.155	162	216382	5.128
90) 2,4,6-Trichlorophenol	(3)	10.266	196	990683	29.844
92) 2,4,5-Trichlorophenol	(3)	10.324	196	1049407	29.586
93)$2-Fluorobiphenyl	(3)	10.417	172	6695121	58.819
94) trans-Isosafrole	(3)	10.522	162	1124045	24.983
95) 1,1'-Biphenyl	(3)	10.563	154	3420269	29.731
96) 2-Chloronaphthalene	(3)	10.575	162	2707129	29.888
98) 1-Chloronaphthalene	(3)	10.604	162	2564402	28.886
99) Diphenyl ether	(3)	10.738	170	1906591	29.836
100) 2-Nitroaniline	(3)	10.750	138	878717	29.979
104) 1,4-Naphthoquinone	(3)	10.860	158	1175088	29.501
105) 1,4-Dinitrobenzene	(3)	10.983	168	481831	30.379
106) Dimethylphthalate	(3)	11.093	163	3186137	29.487
107) 1,3-Dinitrobenzene	(3)	11.099	168	519924	30.227
108) 2,6-Dinitrotoluene	(3)	11.163	165	725215	30.090
109) Acenaphthylene	(3)	11.227	152	4035958	28.916
112) 3-Nitroaniline	(3)	11.414	138	779308	30.502

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	378528	5.000
114) Acenaphthene	(3)	11.507	153	2858744	28.443
115) 2,4-Dinitrophenol	(3)	11.577	184	477651	33.111
117) Pentachlorobenzene	(3)	11.705	250	1252441	29.650
116) 4-Nitrophenol	(3)	11.705	109	571211	30.911
119) Dibenzofuran	(3)	11.758	168	3871691	29.353
118) 2,4-Dinitrotoluene	(3)	11.775	165	1001123	30.304
121) 1-Naphthylamine	(3)	11.869	143	2948314	30.200
122) 2,3,4,6-Tetrachlorophenol	(3)	11.939	232	840764	30.592
123) 2-Naphthylamine	(3)	11.979	143	2850034	29.708
124) Diethylphthalate	(3)	12.137	149	3219229	29.990
126) Fluorene	(3)	12.213	166	3152534	27.993
125) Thionazin	(3)	12.230	107	620789	29.465
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	1519861	29.107
128) 5-Nitro-o-toluidine	(3)	12.247	152	889321	29.851
129) 4-Nitroaniline	(3)	12.259	138	758229A	29.890
130) 4,6-Dinitro-2-methylphenol	(4)	12.300	198	620426	30.721
131) N-Nitrosodiphenylamine	(4)	12.387	169	2648332	29.052
132) NDPA as diphenylamine	(4)	12.387	169	2648332	29.052
134) 1,2-Diphenylhydrazine	(4)	12.428	77	3725073	28.866
135)$2,4,6-Tribromophenol	(3)	12.504	330	865838	60.863
137) Tetraethyldithiopyrophosphate	(4)	12.609	97	629982	29.172
139) 1,3,5-Trinitrobenzene	(4)	12.725	213	405195	30.919
140) Diallate (peak 1)	(4)	12.743	86	1377836	24.023
141) Phorate	(4)	12.749	75	2504892	29.252
142) Phenacetin	(4)	12.790	108	1853592	29.203
143) 4-Bromophenyl-phenylether	(4)	12.819	248	906457	29.183
144) Diallate (peak 2)	(4)	12.842	86	230841	4.970
145) Hexachlorobenzene	(4)	12.871	284	944090	27.471
147) Dimethoate	(4)	12.953	87	1554529	28.275
148) Atrazine	(4)	13.052	200	784709	27.995
149) Pentachlorophenol	(4)	13.122	266	603468	30.598
150) 4-Aminobiphenyl	(4)	13.133	169	2874879	28.511
151) Pentachloronitrobenzene	(4)	13.133	237	440096	29.685
152) Pronamide	(4)	13.238	173	1585973	29.309
153)*Phenanthrene-d10	(4)	13.343	188	754842	5.000
154) Dinoseb	(4)	13.372	211	998429	30.618
155) Phenanthrene	(4)	13.378	178	4647525	27.322
157) Anthracene	(4)	13.442	178	4733210	27.719
163) Carbazole	(4)	13.658	167	4494763	29.113

A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

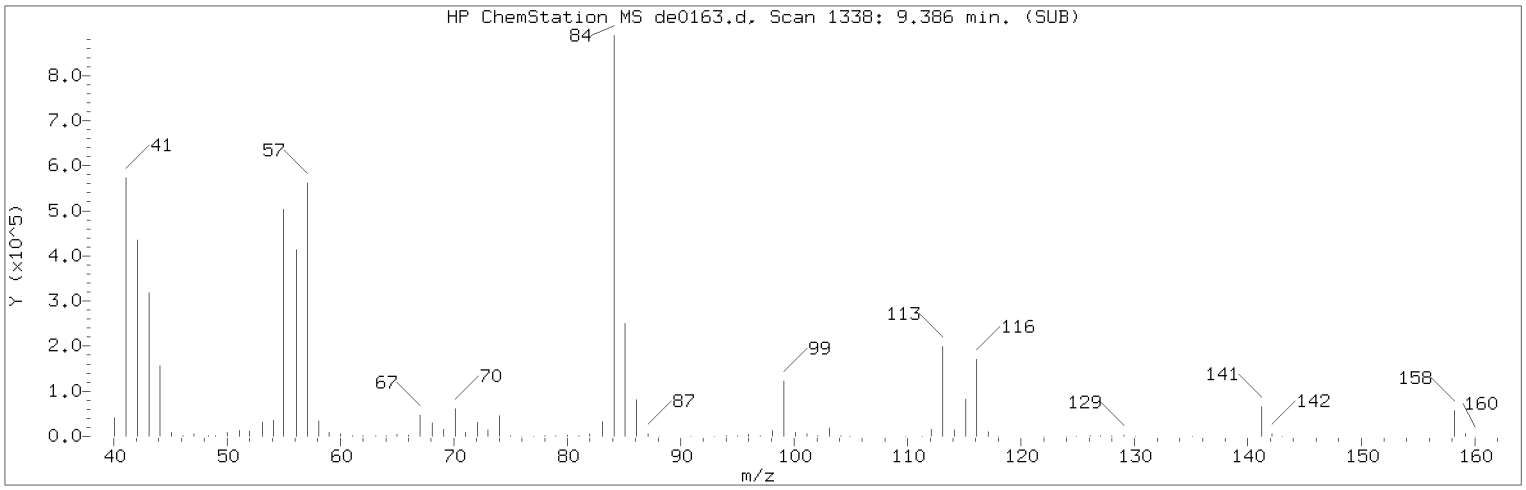
Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.856	109	1247564	28.962
165) Di-n-butylphthalate	(4)	14.165	149	5659107	29.030
167) Parathion	(4)	14.392	109	814621	29.388
168) 4-Nitroquinoline-1-oxide	(4)	14.398	190	583411	32.668
169) Octachlorostyrene	(4)	14.736	308	370103	29.542
171) Isodrin	(4)	14.771	193	575326	29.336
173) Fluoranthene	(4)	14.993	202	5620102	28.526
222) Total PAHs	(6)			83517774	509.803
174) Benzidine	(5)	15.232	184	9722532	83.660
175)*Pyrene-d10	(5)	15.296	212	904399	5.000
177) Pyrene	(5)	15.331	202	5739431	27.753
179)$Terphenyl-d14	(5)	15.616	244	7542771	58.239
182) p-Dimethylaminoazobenzene	(5)	15.844	225	1017464	30.222
185) Chlorobenzilate	(5)	15.937	139	1775254	29.727
187) 3,3'-Dimethylbenzidine	(5)	16.397	212	3909632	28.939
188) Butylbenzylphthalate	(5)	16.462	149	2656490	29.420
191) 2-Acetylaminofluorene	(5)	16.829	181	2697123	31.015
193) 3,3'-Dichlorobenzidine	(5)	17.318	252	2215528	29.671
195) Benzo(a)anthracene	(5)	17.318	228	5707574	28.780
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.336	231	1167516	29.653
196) Chrysene	(5)	17.388	228	5258873	28.512
199) bis(2-Ethylhexyl)phthalate	(5)	17.528	149	4091635	29.831
203) 6-Methylchrysene	(5)	18.181	242	3997613	29.971
205) Di-n-octylphthalate	(6)	18.682	149	7460076	29.477
206) Benzo(b)fluoranthene	(6)	19.172	252	6165889	28.830
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.178	256	2636716	30.290
208) Benzo(k)fluoranthene	(6)	19.224	252	5628527	27.860
211) Benzo(a)pyrene	(6)	19.691	252	5720405	29.087
213)*Perylene-d12	(6)	19.766	264	769596	5.000
215) 3-Methylcholanthrene	(6)	20.262	268	2566037	29.777
217) Dibenz(a,h)acridine	(6)	21.066	279	4055142	29.020
218) Dibenz(a,j)acridine	(6)	21.142	279	3883306	28.697
219) Indeno(1,2,3-cd)pyrene	(6)	21.381	276	5330830	28.953
220) Dibenz(a,h)anthracene	(6)	21.416	278	4523753	30.002
221) Benzo(g,h,i)perylene	(6)	21.748	276	4171847	27.845

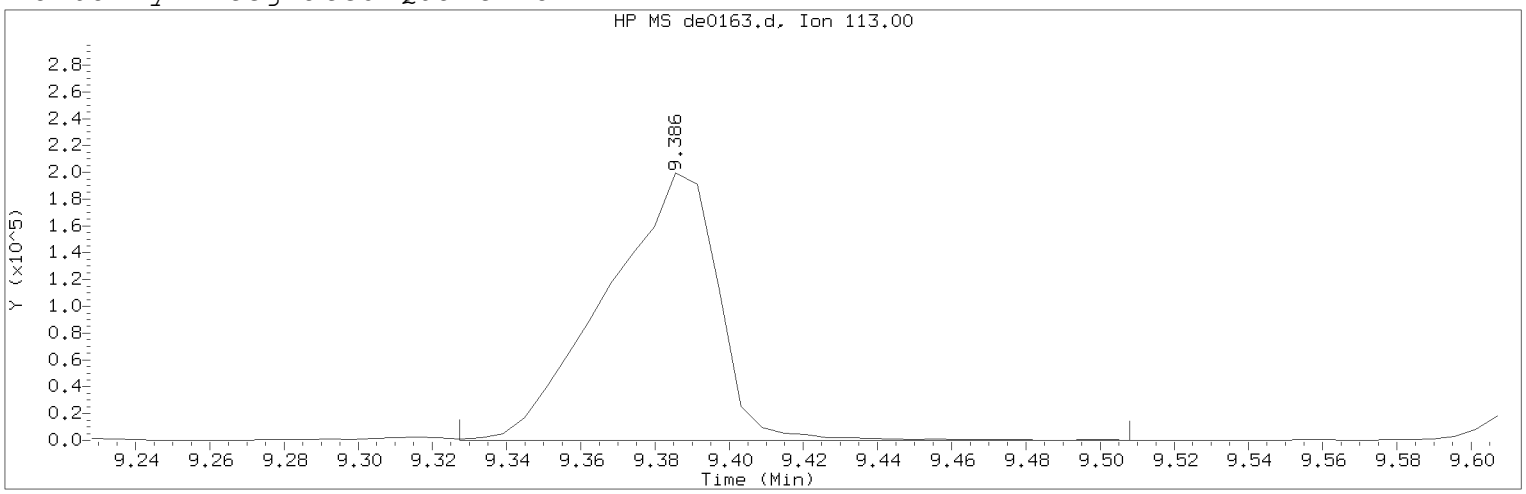
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

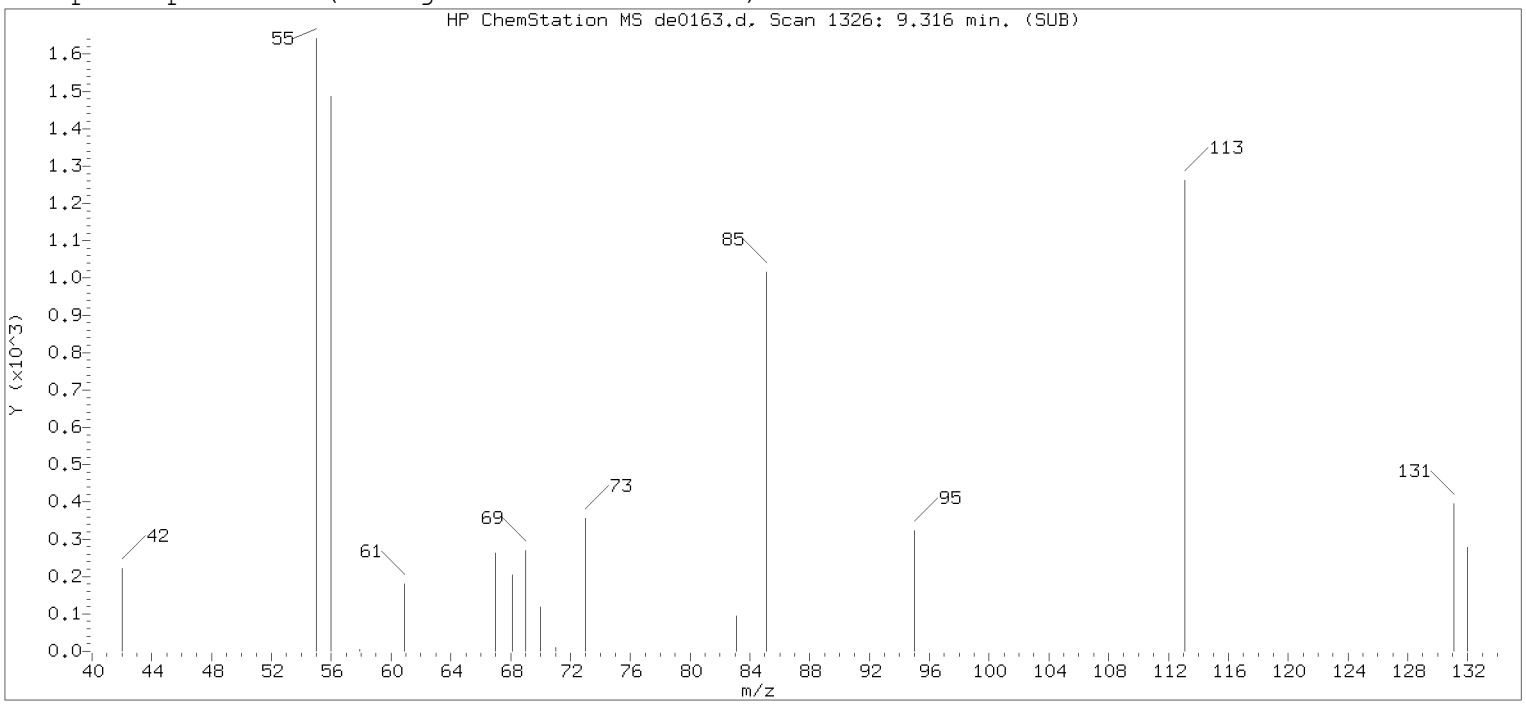
Compound Number : 76
Compound Name : Caprolactam
Scan Number : 1338
Retention Time (minutes) : 9.386
Quant Ion : 113.00
Area (flag) : 416272A
On-Column Amount (ng/ul) : 29.8432
Integration start scan : 1327 Integration stop scan: 1358
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

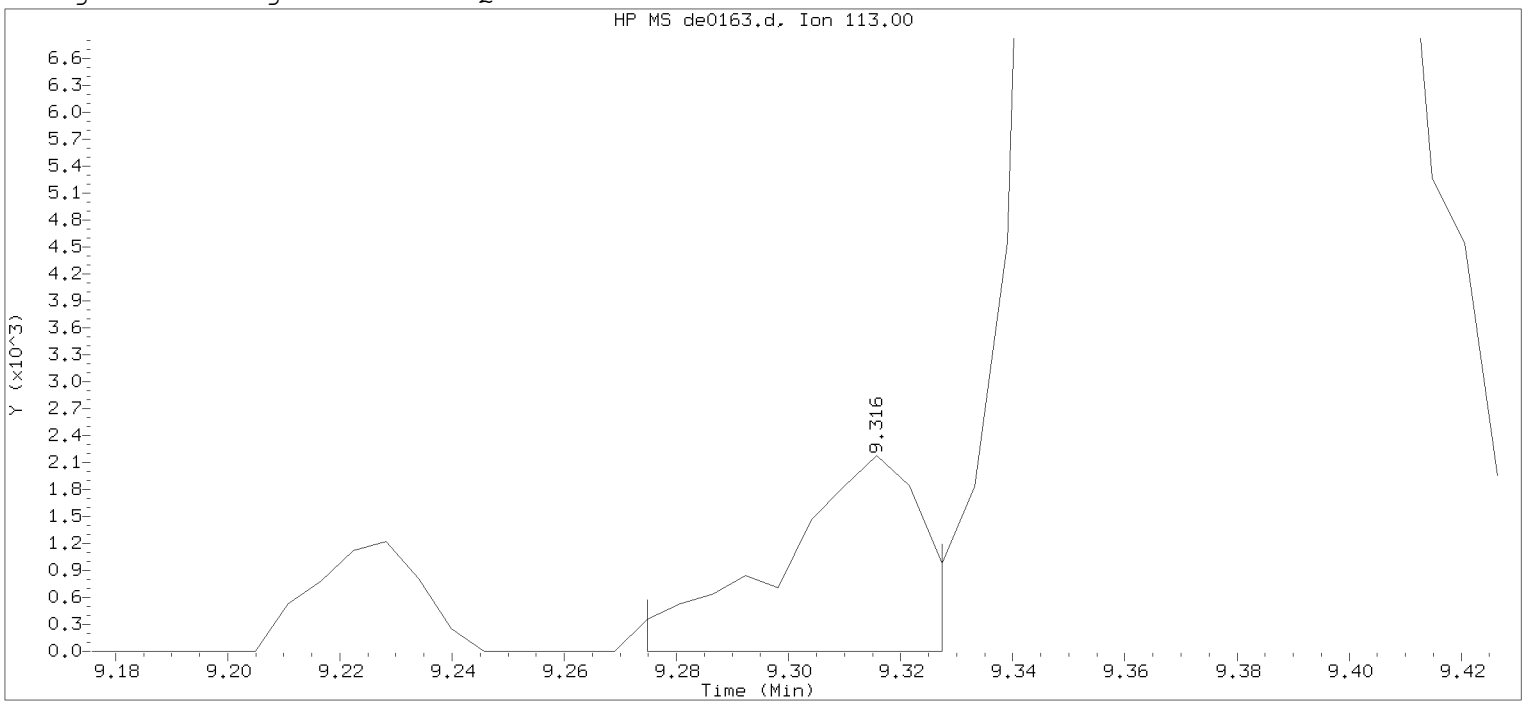
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

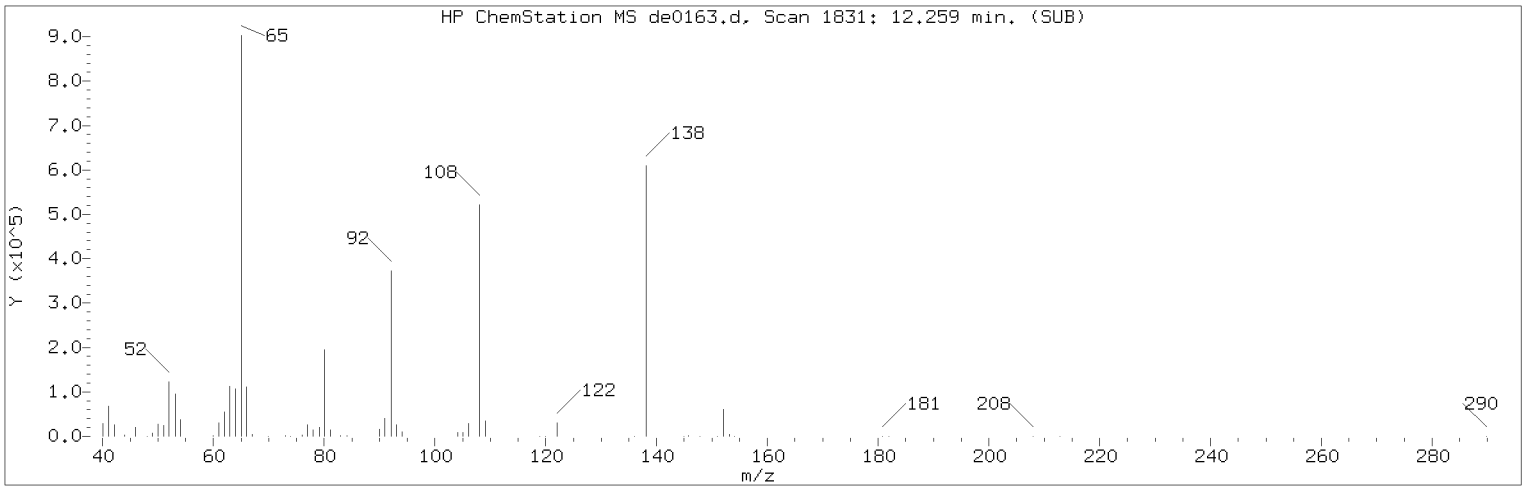
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 19:37
Date, time and analyst ID of latest file update: 05-May-2017 19:37 Automation

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

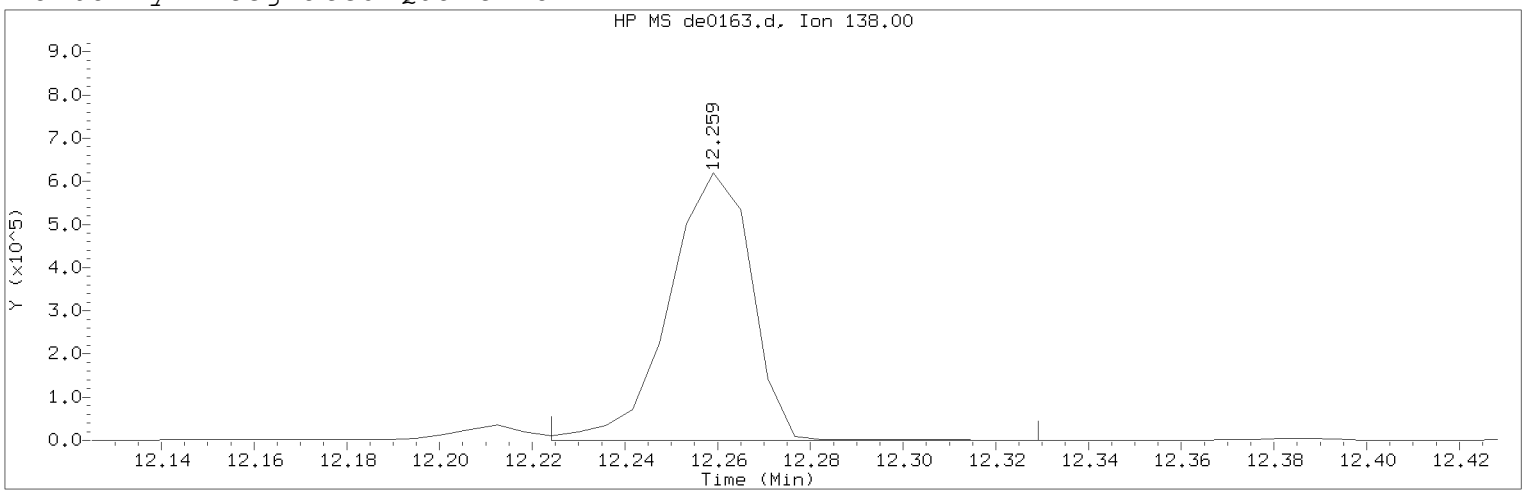
Compound Number	: 76		
Compound Name	: Caprolactam		
Scan Number	: 1326		
Retention Time (minutes)	: 9.316		
Quant Ion	: 113.00		
Area	: 3739		
On-column Amount (ng/ul)	: 0.3433		
Integration start scan	: 1318	Integration stop scan:	1327
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: BHS

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

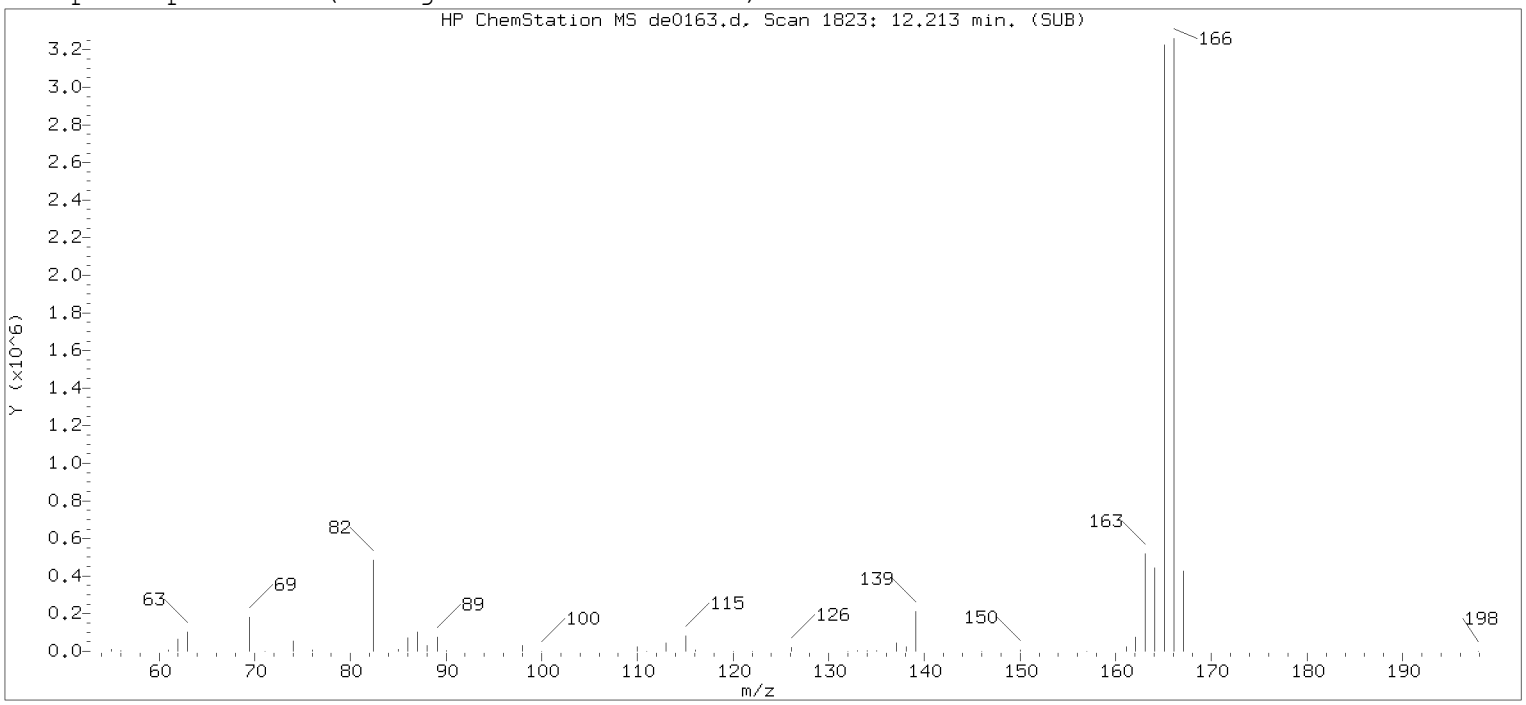
Compound Number : 129
Compound Name : 4-Nitroaniline
Scan Number : 1831
Retention Time (minutes) : 12.259
Quant Ion : 138.00
Area (flag) : 758229A
On-Column Amount (ng/ul) : 29.8898
Integration start scan : 1824 Integration stop scan: 1842
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

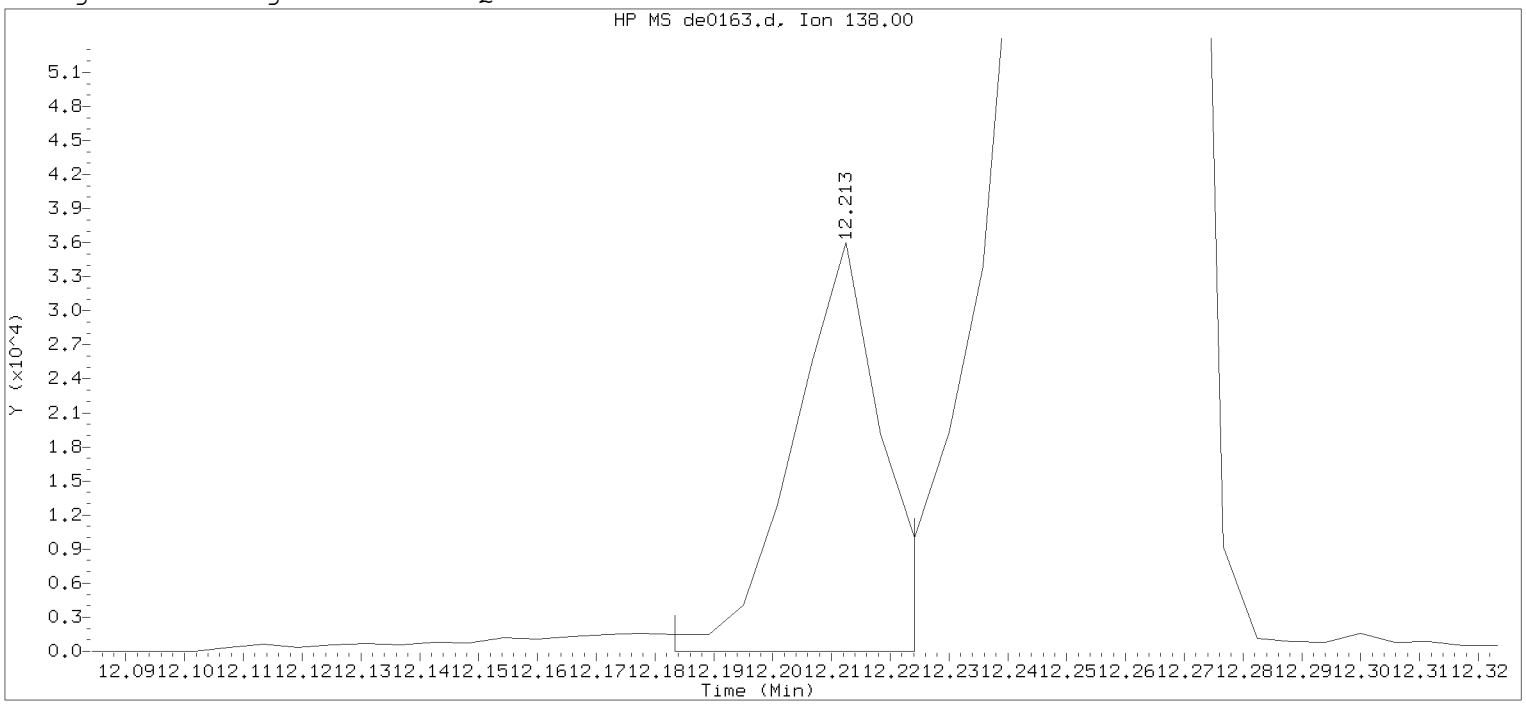
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:14.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



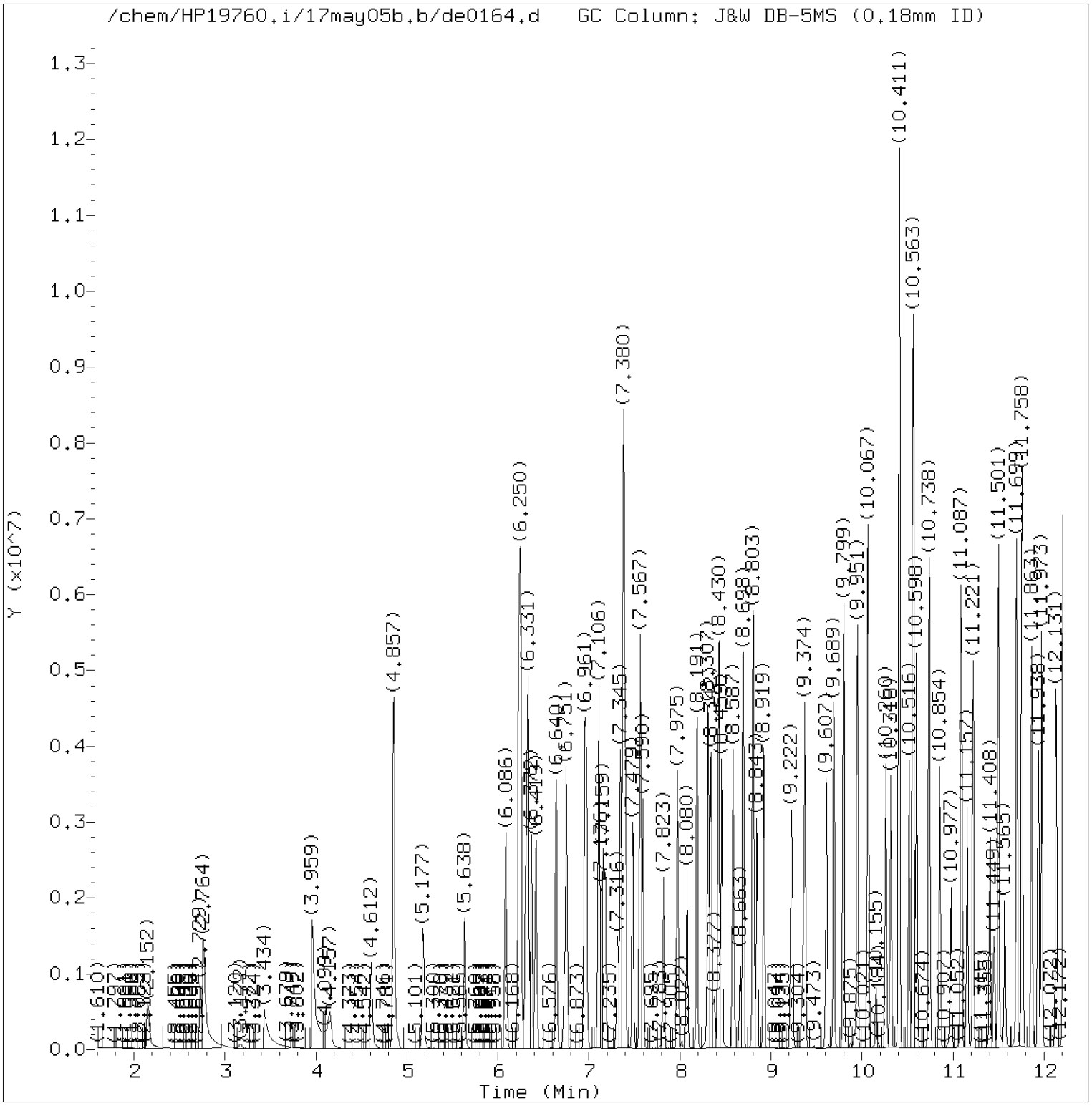
Data File: /chem/HP19760.i/17may05b.b/de0163.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:14 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 19:37
Date, time and analyst ID of latest file update: 05-May-2017 19:37 Automation

Sample Name: SSTD030 Lab Sample ID: RVSTD1107

Compound Number	: 129		
Compound Name	: 4-Nitroaniline		
Scan Number	: 1823		
Retention Time (minutes)	: 12.213		
Quant Ion	: 138.00		
Area	: 36651		
On-column Amount (ng/ul)	: 1.5999		
Integration start scan	: 1817	Integration stop scan:	1824
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:14.
Target 3.5 esignature user



Total Ion Chromatogram (TIC)

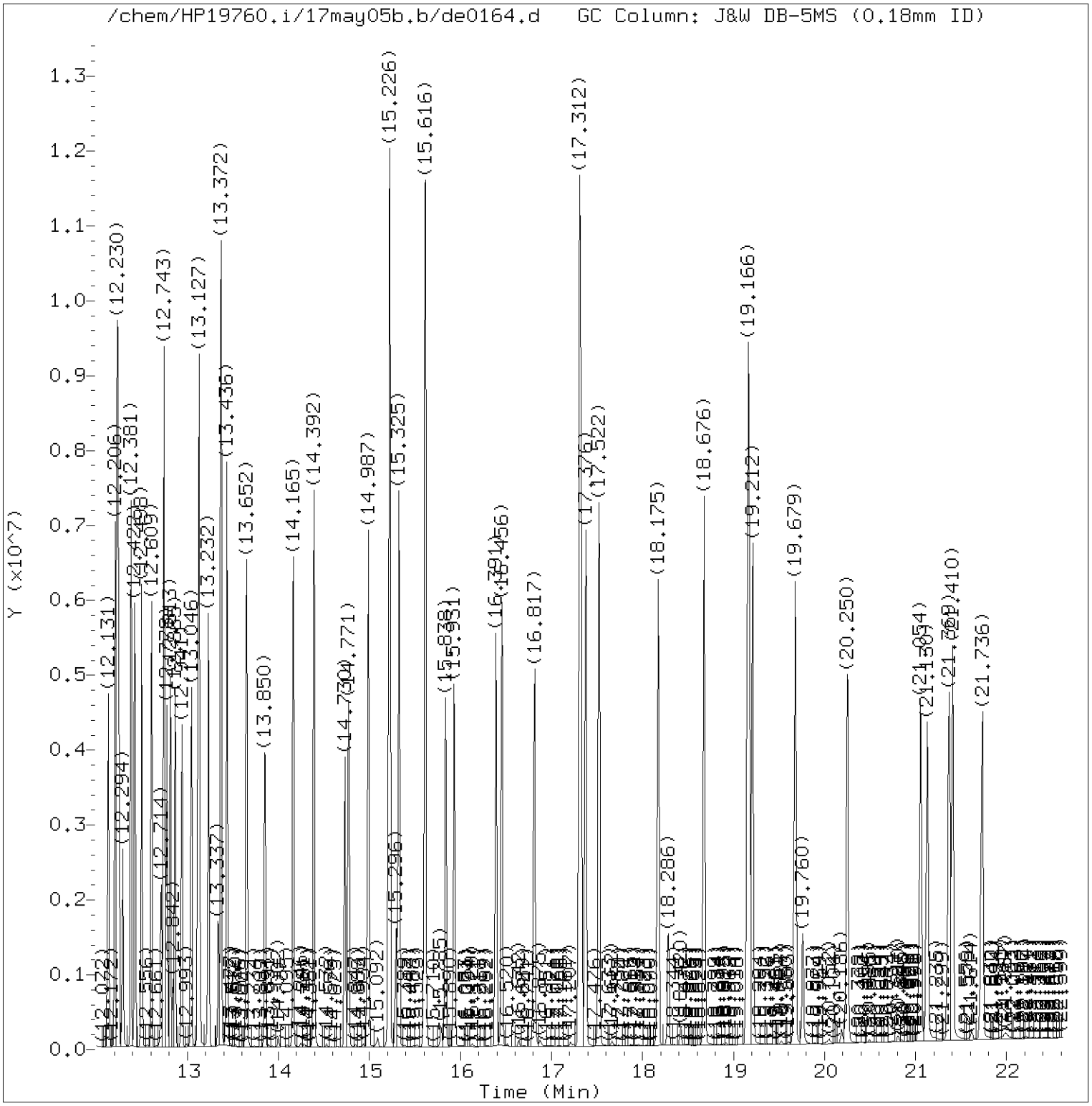
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.152	88	499773	19.602
4) N-Nitrosodimethylamine	(1)	2.729	74	817510	19.673
5) Pyridine	(1)	2.764	79	1302804	19.292
7) 2-Picoline	(1)	3.959	93	1365837	19.699
8) N-Nitrosomethylethylamine	(1)	4.157	88	585530	19.749
9) Methyl methanesulfonate	(1)	4.612	80	668225	19.734
11)$2-Fluorophenol	(1)	4.857	112	2136914	39.547
13) N-Nitrosodiethylamine	(1)	5.177	102	554185	19.887
15) Ethyl methanesulfonate	(1)	5.638	109	578353	19.705
42) Total Cresols	(1)			2217765	39.781
16) Benzaldehyde	(1)	6.086	77	1000340	20.025
17)$Phenol-d6	(1)	6.232	99	2859183	39.395
18) Phenol	(1)	6.250	94	1609755	19.788
19) Aniline	(1)	6.250	93	1908767	19.969
20) a-methylstyrene	(1)	6.331	118	1199445	20.036
22) bis(2-Chloroethyl)ether	(1)	6.372	93	1201919	19.972
23) 2-Chlorophenol	(1)	6.419	128	1063451	20.077
24) 1,3-Dichlorobenzene	(1)	6.640	146	1137023	19.909
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	175545	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	1162342	20.077
27) Benzyl alcohol	(1)	6.955	108	774216	19.945
28) 1,2-Dichlorobenzene	(1)	6.972	146	1085540	19.999
30) Indene	(1)	7.106	115	2118352	20.031
31) 2-Methylphenol	(1)	7.136	108	1045719	19.906
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	1709868	19.501
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	1709868	19.501
35) N-Nitrosopyrrolidine	(1)	7.316	100	589861	19.807
36) Acetophenone	(1)	7.345	105	1647776	19.982
38) N-Nitroso-di-n-propylamine	(1)	7.375	70	911679	19.710
37) 4-Methylphenol	(1)	7.380	108	1172046	19.875
39) N-Nitrosomorpholine	(1)	7.380	56	797868	19.748
97) Isosafrole	(3)			882831	20.094
40) o-Toluidine	(1)	7.398	106	1818375	19.944
43) Hexachloroethane	(1)	7.479	117	488646	20.095
44)$Nitrobenzene-d5	(2)	7.567	82	2649332	39.795
45) Nitrobenzene	(2)	7.590	77	1340781	19.937
48) N-Nitrosopiperidine	(2)	7.823	114	540765	19.910
50) Isophorone	(2)	7.975	82	2319208	19.878
120) 2,4_2,6-Dinitrotoluenes	(3)			1137571	40.240
51) 2-Nitrophenol	(2)	8.080	139	554742	20.301

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.191	107	1150053	20.017
57) O,O,O-Triethylphosphorothioate	(2)	8.313	198	547066	20.073
55) bis(2-Chloroethoxy)methane	(2)	8.342	93	1474892	20.165
56) Benzoic acid	(2)	8.383	105	914701	21.194
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.430	104	1730206	20.122
60) 2,4-Dichlorophenol	(2)	8.459	162	865770	19.998
62) 1,2,4-Trichlorobenzene	(2)	8.587	180	985589	20.002
65)*Naphthalene-d8	(2)	8.663	136	659112	5.000
66) Naphthalene	(2)	8.698	128	2995374	19.122
146) Diallate trans/cis	(4)			1060230	19.653
67) 4-Chloroaniline	(2)	8.803	127	1255297	20.095
68) 2,6-Dichlorophenol	(2)	8.814	162	842392	20.070
69) Hexachloropropene	(2)	8.843	213	694228	20.362
71) Hexachlorobutadiene	(2)	8.919	225	592960	20.193
75) Quinoline	(2)	9.228	129	1909982	20.010
76) Caprolactam	(2)	9.368	113	275492	20.224
77) N-Nitrosodi-n-butylamine	(2)	9.374	84	1085277	21.219
80) 4-Chloro-3-methylphenol	(2)	9.607	107	981559	20.066
82) Safrole	(2)	9.689	162	778281	20.037
83) 2-Methylnaphthalene	(2)	9.799	142	2000905	19.406
84) 1-Methylnaphthalene	(2)	9.951	142	1801261	19.168
85) Hexachlorocyclopentadiene	(3)	10.067	237	538219	20.495
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.067	216	1035685	20.081
88) cis-Isosafrole	(3)	10.155	162	143609	3.437
90) 2,4,6-Trichlorophenol	(3)	10.260	196	662522	20.179
92) 2,4,5-Trichlorophenol	(3)	10.318	196	689651	19.830
93)$2-Fluorobiphenyl	(3)	10.411	172	4511190	40.166
94) trans-Isosafrole	(3)	10.516	162	739222	16.657
95) 1,1'-Biphenyl	(3)	10.557	154	2288399	20.134
96) 2-Chloronaphthalene	(3)	10.569	162	1751895	19.761
98) 1-Chloronaphthalene	(3)	10.598	162	1803006	20.413
99) Diphenyl ether	(3)	10.738	170	1277659	20.203
100) 2-Nitroaniline	(3)	10.749	138	571458	19.866
104) 1,4-Naphthoquinone	(3)	10.854	158	782141	19.961
105) 1,4-Dinitrobenzene	(3)	10.977	168	311855	19.979
106) Dimethylphthalate	(3)	11.087	163	2135010	20.045
107) 1,3-Dinitrobenzene	(3)	11.093	168	341242	20.098
108) 2,6-Dinitrotoluene	(3)	11.157	165	473183	19.959
109) Acenaphthylene	(3)	11.221	152	2691041	19.684
112) 3-Nitroaniline	(3)	11.408	138	509287	20.162

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	372722	5.000
114) Acenaphthene	(3)	11.501	153	1920724	19.553
115) 2,4-Dinitrophenol	(3)	11.571	184	299736	20.721
117) Pentachlorobenzene	(3)	11.699	250	836912	20.081
116) 4-Nitrophenol	(3)	11.699	109	371186	20.265
119) Dibenzofuran	(3)	11.758	168	2601395	20.020
118) 2,4-Dinitrotoluene	(3)	11.764	165	664388	20.281
121) 1-Naphthylamine	(3)	11.863	143	1934215	20.080
122) 2,3,4,6-Tetrachlorophenol	(3)	11.938	232	553805	20.307
123) 2-Naphthylamine	(3)	11.973	143	1924199	20.245
124) Diethylphthalate	(3)	12.131	149	2112026	19.988
126) Fluorene	(3)	12.206	166	2083391	19.077
125) Thionazin	(3)	12.224	107	416856	20.063
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	1020699	19.901
128) 5-Nitro-o-toluidine	(3)	12.241	152	598678	20.270
129) 4-Nitroaniline	(3)	12.247	138	499400	19.996
130) 4,6-Dinitro-2-methylphenol	(4)	12.294	198	412676	20.550
131) N-Nitrosodiphenylamine	(4)	12.381	169	1764200	19.822
132) NDPA as diphenylamine	(4)	12.381	169	1764200	19.822
134) 1,2-Diphenylhydrazine	(4)	12.422	77	2469175	19.671
135)$2,4,6-Tribromophenol	(3)	12.498	330	579467	40.901
137) Tetraethyldithiopyrophosphate	(4)	12.609	97	420231	19.895
139) 1,3,5-Trinitrobenzene	(4)	12.714	213	264709	20.394
140) Diallate (peak 1)	(4)	12.743	86	908351	16.297
141) Phorate	(4)	12.749	75	1652853	19.787
142) Phenacetin	(4)	12.778	108	1233586	19.878
143) 4-Bromophenyl-phenylether	(4)	12.813	248	603769	19.880
144) Diallate (peak 2)	(4)	12.842	86	151879	3.356
145) Hexachlorobenzene	(4)	12.865	284	618079	18.728
147) Dimethoate	(4)	12.941	87	1054882	19.708
148) Atrazine	(4)	13.046	200	592789	21.017
149) Pentachlorophenol	(4)	13.116	266	390217	20.116
150) 4-Aminobiphenyl	(4)	13.127	169	1977503	19.998
151) Pentachloronitrobenzene	(4)	13.133	237	295828	20.230
152) Pronamide	(4)	13.232	173	1072440	20.139
153)*Phenanthrene-d10	(4)	13.337	188	740261	5.000
154) Dinoseb	(4)	13.366	211	655161	20.322
155) Phenanthrene	(4)	13.372	178	3103236	18.934
157) Anthracene	(4)	13.436	178	3169418	19.184
163) Carbazole	(4)	13.652	167	3005567	19.900

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0164.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 19:42 Analyst ID: em10340

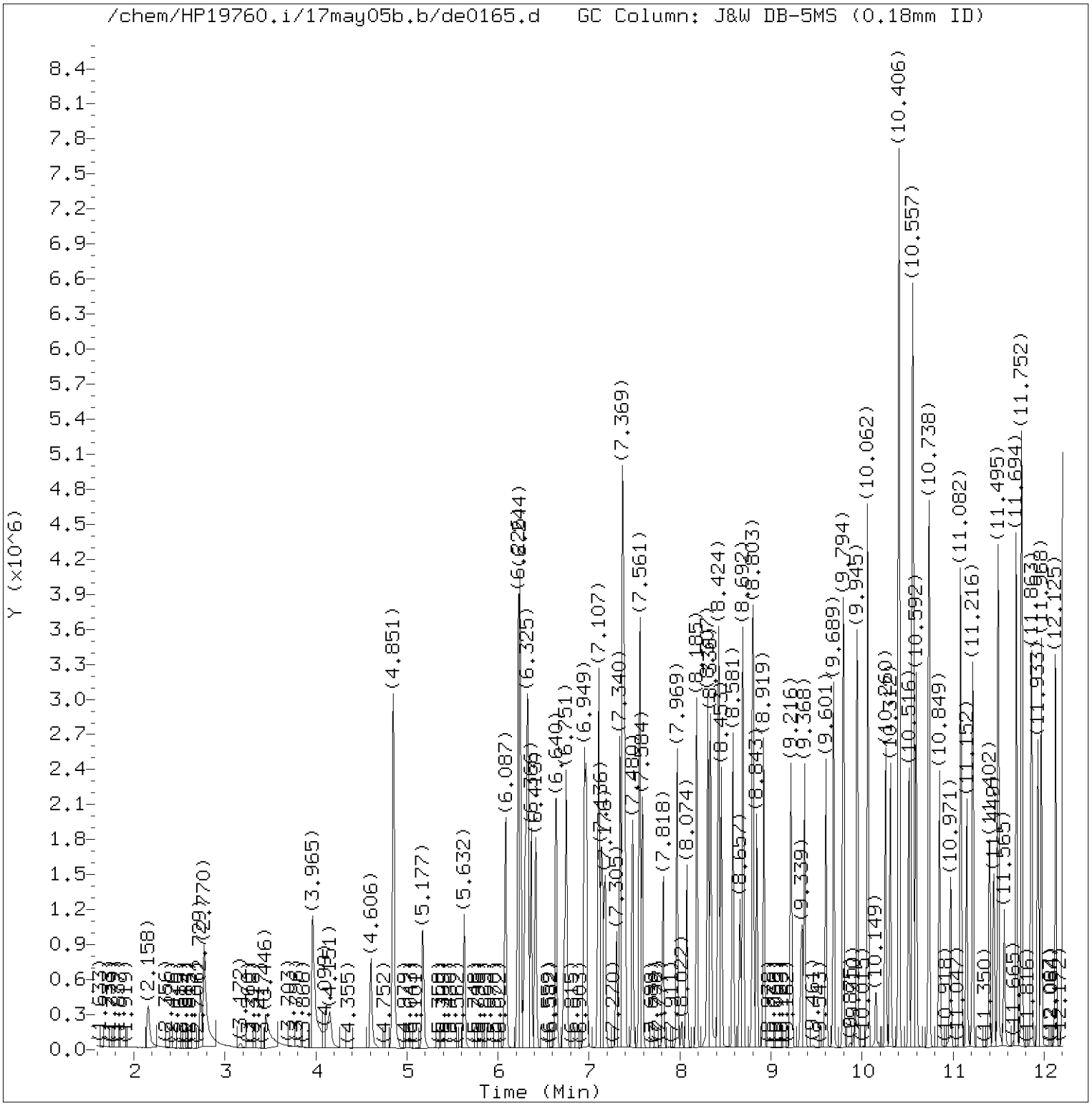
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD020 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	830481	19.771
165) Di-n-butylphthalate	(4)	14.165	149	3773284	19.824
167) Parathion	(4)	14.392	109	535446	19.797
168) 4-Nitroquinoline-1-oxide	(4)	14.398	190	381654	21.160
169) Octachlorostyrene	(4)	14.730	308	253343	20.409
171) Isodrin	(4)	14.771	193	387552	20.100
173) Fluoranthene	(4)	14.993	202	3743219	19.526
222) Total PAHs	(6)			56087122	351.469
174) Benzidine	(5)	15.226	184	6756062	59.462
175)*Pyrene-d10	(5)	15.296	212	888165	5.000
177) Pyrene	(5)	15.325	202	3835717	19.153
179)$Terphenyl-d14	(5)	15.616	244	5039015	39.745
182) p-Dimethylaminoazobenzene	(5)	15.838	225	678318	20.341
185) Chlorobenzilate	(5)	15.931	139	1195560	20.256
187) 3,3'-Dimethylbenzidine	(5)	16.391	212	2594257	19.700
188) Butylbenzylphthalate	(5)	16.456	149	1767497	19.955
191) 2-Acetylaminofluorene	(5)	16.817	181	1750977	20.333
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	1471530	20.045
195) Benzo(a)anthracene	(5)	17.312	228	3808750	19.666
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.330	231	771435	19.968
196) Chrysene	(5)	17.376	228	3553966	19.714
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	2701366	20.037
203) 6-Methylchrysene	(5)	18.175	242	2662526	20.217
205) Di-n-octylphthalate	(6)	18.676	149	4974250	19.971
206) Benzo(b)fluoranthene	(6)	19.160	252	3982166	19.167
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.172	256	1734196	20.151
208) Benzo(k)fluoranthene	(6)	19.212	252	3906199	19.722
211) Benzo(a)pyrene	(6)	19.679	252	3786204	19.658
213)*Perylene-d12	(6)	19.760	264	757991	5.000
215) 3-Methylcholanthrene	(6)	20.250	268	1720398	20.179
217) Dibenz(a,h)acridine	(6)	21.054	279	2720690	19.845
218) Dibenz(a,j)acridine	(6)	21.130	279	2642290	19.883
219) Indeno(1,2,3-cd)pyrene	(6)	21.369	276	3677724	20.210
220) Dibenz(a,h)anthracene	(6)	21.410	278	3119498	20.745
221) Benzo(g,h,i)perylene	(6)	21.736	276	2908329	19.781

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

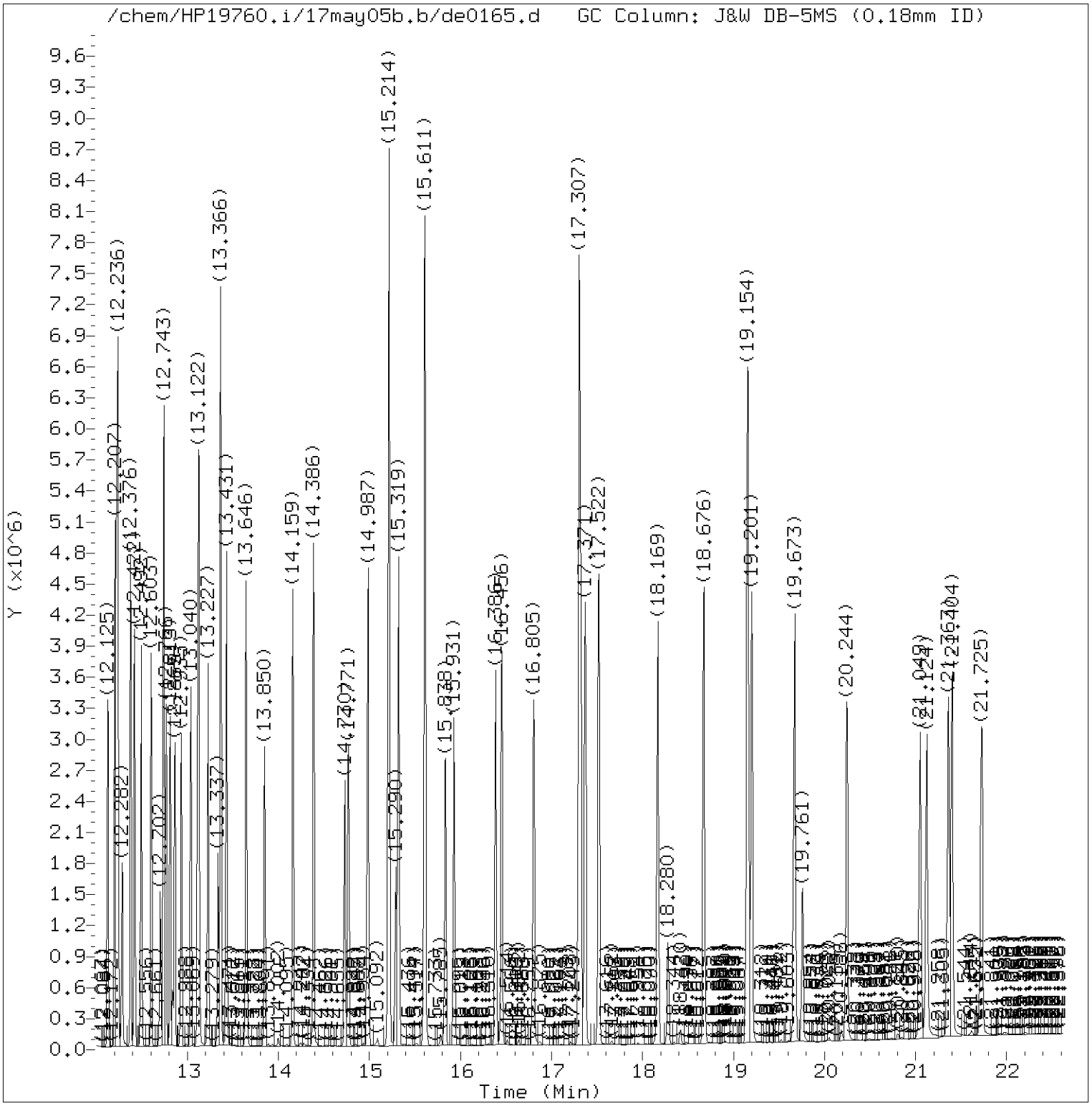
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.158	88	307952	12.073
4) N-Nitrosodimethylamine	(1)	2.729	74	506984	12.166
5) Pyridine	(1)	2.770	79	828839	12.221
7) 2-Picoline	(1)	3.965	93	855608	12.271
8) N-Nitrosomethylethylamine	(1)	4.151	88	371889	12.423
9) Methyl methanesulfonate	(1)	4.606	80	424675	12.422
11)$2-Fluorophenol	(1)	4.851	112	1352639	24.806
13) N-Nitrosodiethylamine	(1)	5.177	102	349008	12.409
15) Ethyl methanesulfonate	(1)	5.632	109	370477	12.482
42) Total Cresols	(1)			1435360	25.329
16) Benzaldehyde	(1)	6.087	77	672860	13.100
17)$Phenol-d6	(1)	6.226	99	1825281	24.893
18) Phenol	(1)	6.244	94	1031132	12.521
19) Aniline	(1)	6.250	93	1213348	12.534
20) a-methylstyrene	(1)	6.331	118	775763	12.730
22) bis(2-Chloroethyl)ether	(1)	6.366	93	761273	12.502
23) 2-Chlorophenol	(1)	6.413	128	681654	12.664
24) 1,3-Dichlorobenzene	(1)	6.640	146	730936	12.612
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	177612	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	739994	12.600
27) Benzyl alcohol	(1)	6.949	108	502563	12.721
28) 1,2-Dichlorobenzene	(1)	6.972	146	701396	12.703
30) Indene	(1)	7.107	115	1368378	12.716
31) 2-Methylphenol	(1)	7.136	108	674037	12.635
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	1099014	12.416
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	1099014	12.416
35) N-Nitrosopyrrolidine	(1)	7.305	100	381256	12.615
36) Acetophenone	(1)	7.340	105	1087707	12.898
39) N-Nitrosomorpholine	(1)	7.369	56	516679	12.604
38) N-Nitroso-di-n-propylamine	(1)	7.369	70	595823	12.673
37) 4-Methylphenol	(1)	7.375	108	761323	12.694
97) Isosafrole	(3)			560728	12.366
40) o-Toluidine	(1)	7.392	106	1170350	12.640
43) Hexachloroethane	(1)	7.480	117	311952	12.634
44)$Nitrobenzene-d5	(2)	7.561	82	1706553	25.051
45) Nitrobenzene	(2)	7.584	77	872235	12.637
48) N-Nitrosopiperidine	(2)	7.818	114	341864	12.356
50) Isophorone	(2)	7.969	82	1477928	12.416
120) 2,4_2,6-Dinitrotoluenes	(3)			730243	25.005
51) 2-Nitrophenol	(2)	8.074	139	348194	12.471

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.185	107	735577	12.515
57) O,O,O-Triethylphosphorothioate	(2)	8.307	198	354031	12.652
55) bis(2-Chloroethoxy)methane	(2)	8.336	93	918561	12.335
56) Benzoic acid	(2)	8.348	105	570932M	12.825
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	1125811	12.727
60) 2,4-Dichlorophenol	(2)	8.453	162	549097	12.427
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	636234	12.595
65)*Naphthalene-d8	(2)	8.657	136	673993	5.000
66) Naphthalene	(2)	8.692	128	1920136	12.087
146) Diallate trans/cis	(4)			686662	12.287
67) 4-Chloroaniline	(2)	8.797	127	808190	12.613
68) 2,6-Dichlorophenol	(2)	8.809	162	537688	12.521
69) Hexachloropropene	(2)	8.843	213	446839	12.736
71) Hexachlorobutadiene	(2)	8.919	225	380864	12.637
75) Quinoline	(2)	9.222	129	1231186	12.585
76) Caprolactam	(2)	9.339	113	181435	12.890
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	570519	11.267
80) 4-Chloro-3-methylphenol	(2)	9.601	107	630781	12.583
82) Safrole	(2)	9.689	162	506487	12.688
83) 2-Methylnaphthalene	(2)	9.794	142	1284353	12.244
84) 1-Methylnaphthalene	(2)	9.945	142	1167419	12.217
85) Hexachlorocyclopentadiene	(3)	10.062	237	336334	12.398
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	664729	12.457
88) cis-Isosafrole	(3)	10.155	162	92208	2.129
90) 2,4,6-Trichlorophenol	(3)	10.260	196	421951	12.430
92) 2,4,5-Trichlorophenol	(3)	10.312	196	448077	12.453
93)$2-Fluorobiphenyl	(3)	10.406	172	2933662	25.162
94) trans-Isosafrole	(3)	10.516	162	468520	10.237
95) 1,1'-Biphenyl	(3)	10.557	154	1519074	12.799
96) 2-Chloronaphthalene	(3)	10.563	162	1204654	12.957
98) 1-Chloronaphthalene	(3)	10.592	162	1089521	12.051
99) Diphenyl ether	(3)	10.732	170	831739	12.647
100) 2-Nitroaniline	(3)	10.744	138	379277	12.671
104) 1,4-Naphthoquinone	(3)	10.849	158	509349	12.537
105) 1,4-Dinitrobenzene	(3)	10.971	168	201539	12.473
106) Dimethylphthalate	(3)	11.082	163	1392653	12.591
107) 1,3-Dinitrobenzene	(3)	11.088	168	217636	12.405
108) 2,6-Dinitrotoluene	(3)	11.152	165	309979	12.591
109) Acenaphthylene	(3)	11.216	152	1741110	12.335
112) 3-Nitroaniline	(3)	11.402	138	328838	12.550

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.449	164	386093	5.000
114) Acenaphthene	(3)	11.495	153	1268989	12.477
115) 2,4-Dinitrophenol	(3)	11.565	184	179540	12.107
117) Pentachlorobenzene	(3)	11.694	250	555105	12.767
116) 4-Nitrophenol	(3)	11.694	109	238081	12.536
119) Dibenzofuran	(3)	11.752	168	1719327	12.704
118) 2,4-Dinitrotoluene	(3)	11.758	165	420264	12.413
121) 1-Naphthylamine	(3)	11.863	143	1249642	12.518
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	348714	12.383
123) 2-Naphthylamine	(3)	11.968	143	1239485	12.567
124) Diethylphthalate	(3)	12.125	149	1368929	12.505
126) Fluorene	(3)	12.207	166	1357631	12.097
125) Thionazin	(3)	12.218	107	272391	12.616
128) 5-Nitro-o-toluidine	(3)	12.236	152	381588	12.479
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	669350	12.574
129) 4-Nitroaniline	(3)	12.242	138	321300	12.439
130) 4,6-Dinitro-2-methylphenol	(4)	12.288	198	255220	12.280
131) N-Nitrosodiphenylamine	(4)	12.376	169	1136731	12.325
132) NDPA as diphenylamine	(4)	12.376	169	1136731	12.325
134) 1,2-Diphenylhydrazine	(4)	12.422	77	1614721	12.392
135)$2,4,6-Tribromophenol	(3)	12.498	330	369164	25.116
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	270087	12.336
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	164308	12.243
140) Diallate (peak 1)	(4)	12.737	86	590332	10.223
141) Phorate	(4)	12.743	75	1061155	12.275
142) Phenacetin	(4)	12.766	108	789605	12.290
143) 4-Bromophenyl-phenylether	(4)	12.813	248	397529	12.555
144) Diallate (peak 2)	(4)	12.836	86	96330	2.064
145) Hexachlorobenzene	(4)	12.865	284	391741	11.605
147) Dimethoate	(4)	12.935	87	687981	12.384
148) Atrazine	(4)	13.040	200	398144	13.278
149) Pentachlorophenol	(4)	13.116	266	247223	12.305
150) 4-Aminobiphenyl	(4)	13.122	169	1292085	12.538
151) Pentachloronitrobenzene	(4)	13.128	237	184595	12.217
152) Pronamide	(4)	13.227	173	687763	12.429
153)*Phenanthrene-d10	(4)	13.337	188	770671	5.000
154) Dinoseb	(4)	13.366	211	417594	12.456
155) Phenanthrene	(4)	13.366	178	2028174	12.004
157) Anthracene	(4)	13.431	178	2049960	12.030
163) Carbazole	(4)	13.646	167	1936836	12.363

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

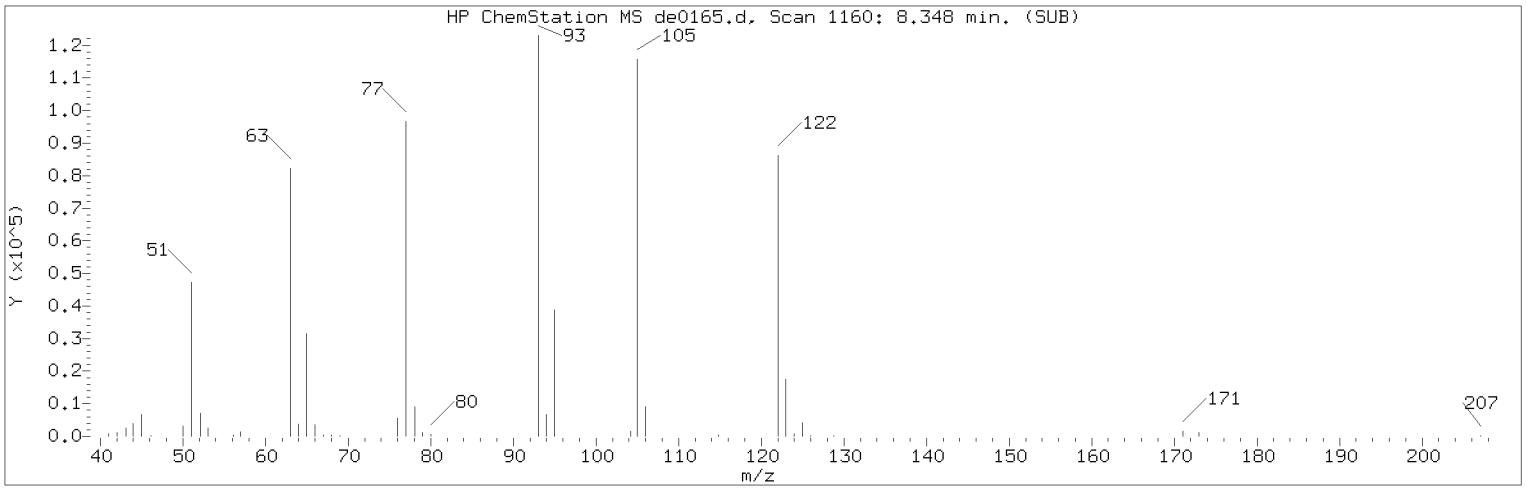
Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.850	109	539771	12.382
165) Di-n-butylphthalate	(4)	14.159	149	2419497	12.281
168) 4-Nitroquinoline-1-oxide	(4)	14.386	190	230060	12.313
167) Parathion	(4)	14.386	109	341740	12.225
169) Octachlorostyrene	(4)	14.730	308	162909	12.579
171) Isodrin	(4)	14.771	193	250111	12.470
173) Fluoranthene	(4)	14.987	202	2370401	11.997
222) Total PAHs	(6)			36099312	223.520
174) Benzidine	(5)	15.220	184	4475286	38.300
175)*Pyrene-d10	(5)	15.290	212	906909	5.000
177) Pyrene	(5)	15.319	202	2451768	12.088
179)$Terphenyl-d14	(5)	15.611	244	3236552	25.000
182) p-Dimethylaminoazobenzene	(5)	15.838	225	425681	12.501
185) Chlorobenzilate	(5)	15.931	139	760453	12.588
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	1663269	12.402
188) Butylbenzylphthalate	(5)	16.456	149	1136047	12.546
191) 2-Acetylaminofluorene	(5)	16.805	181	1079748	12.334
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	928515	12.415
195) Benzo(a)anthracene	(5)	17.312	228	2438046	12.362
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	493870	12.514
196) Chrysene	(5)	17.371	228	2265021	12.343
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1689671	12.330
203) 6-Methylchrysene	(5)	18.169	242	1642967	12.287
205) Di-n-octylphthalate	(6)	18.676	149	3093882	12.544
206) Benzo(b)fluoranthene	(6)	19.154	252	2543309	12.402
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	1083375	12.670
208) Benzo(k)fluoranthene	(6)	19.201	252	2399384	12.298
211) Benzo(a)pyrene	(6)	19.673	252	2375960	12.478
213)*Perylene-d12	(6)	19.761	264	749691	5.000
215) 3-Methylcholanthrene	(6)	20.250	268	1102111	12.923
217) Dibenz(a,h)acridine	(6)	21.049	279	1737973	12.736
218) Dibenz(a,j)acridine	(6)	21.124	279	1743045	13.063
219) Indeno(1,2,3-cd)pyrene	(6)	21.363	276	2413759	13.218
220) Dibenz(a,h)anthracene	(6)	21.404	278	2087591	13.699
221) Benzo(g,h,i)perylene	(6)	21.731	276	1936301	13.144

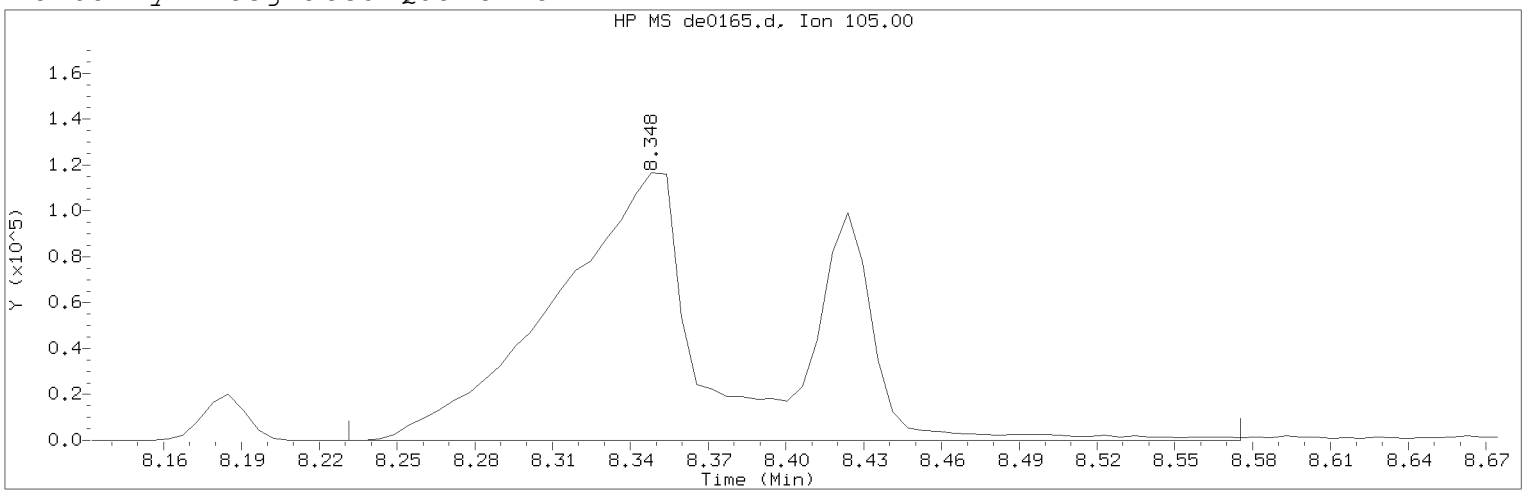
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:01
Date, time and analyst ID of latest file update: 05-May-2017 22:01 em10340

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

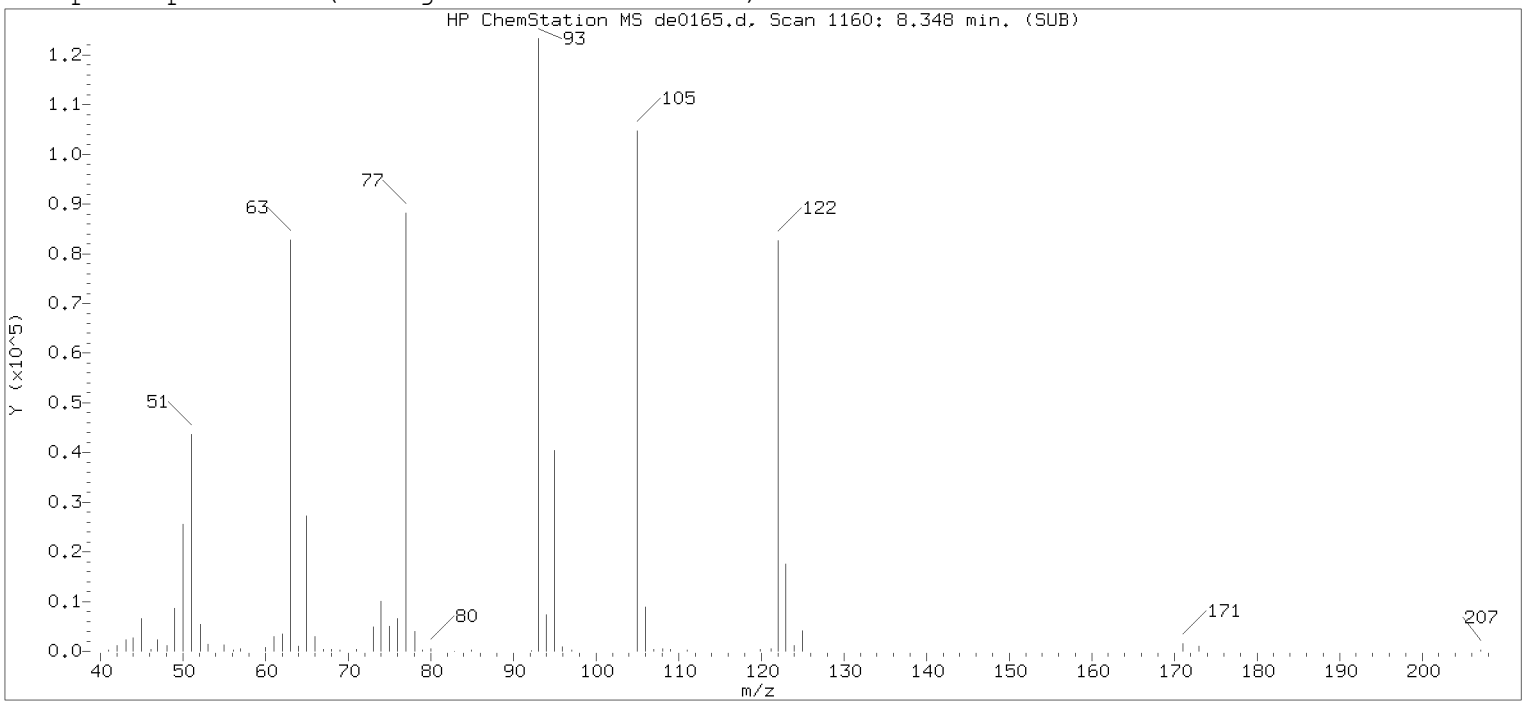
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1160
Retention Time (minutes) : 8.348
Quant Ion : 105.00
Area (flag) : 570932M
On-Column Amount (ng/ul) : 12.8247
Integration start scan : 1139 Integration stop scan: 1198
Y at integration start : -9 Y at integration end: -9

Reason for manual integration: improper integration

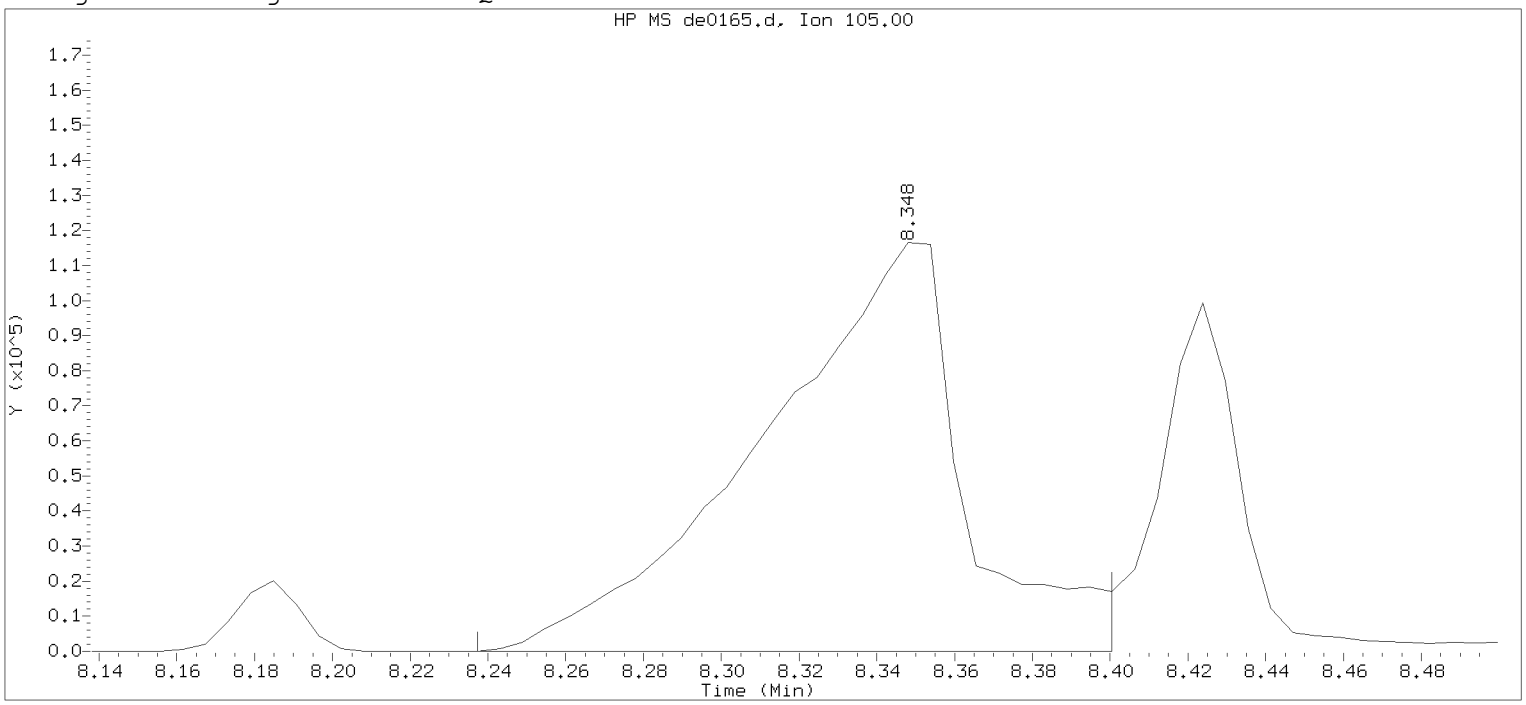
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



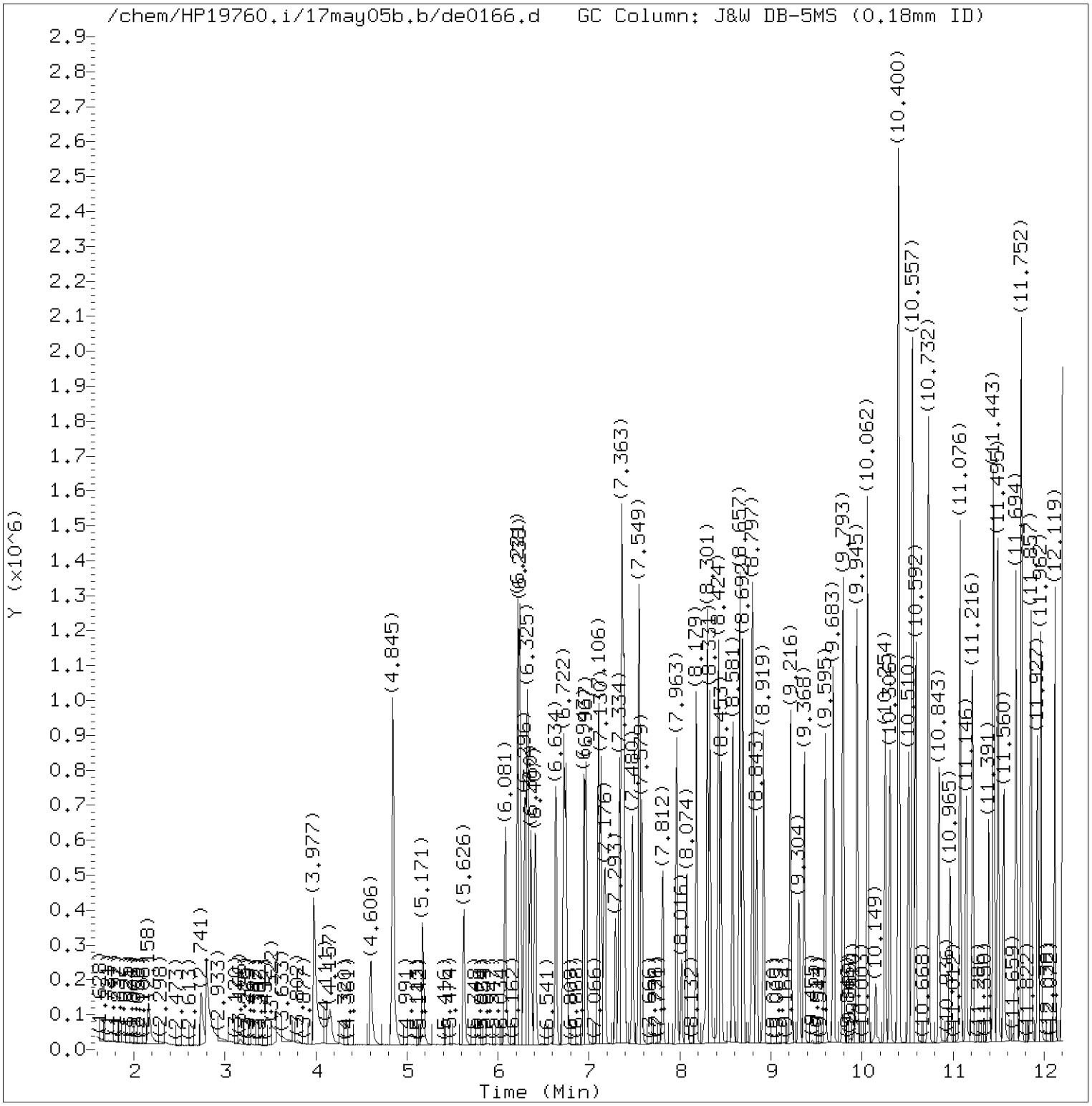
Data File: /chem/HP19760.i/17may05b.b/de0165.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:10 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 20:33
Date, time and analyst ID of latest file update: 05-May-2017 20:33 Automation

Sample Name: SSTD12.5 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1160		
Retention Time (minutes)	: 8.348		
Quant Ion	: 105.00		
Area	: 419226		
On-column Amount (ng/ul)	: 10.8202		
Integration start scan	: 1140	Integration stop scan:	1168
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature used.



Total Ion Chromatogram (TIC)

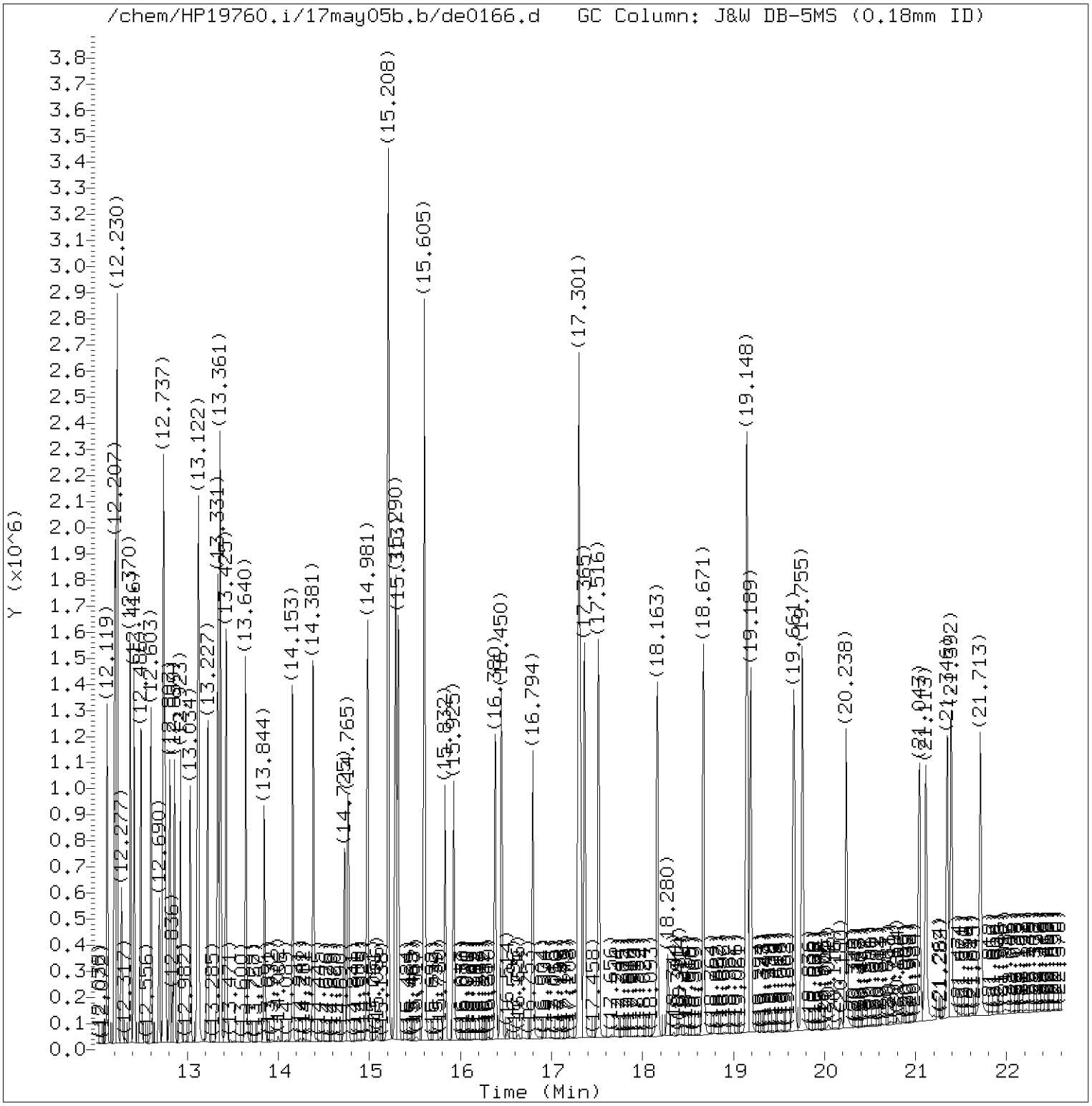
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.164	88	103223	3.818
4) N-Nitrosodimethylamine	(1)	2.741	74	167248	3.793
5) Pyridine	(1)	2.793	79	263779	3.699
7) 2-Picoline	(1)	3.977	93	282996	3.827
8) N-Nitrosomethylethylamine	(1)	4.157	88	121123	3.818
9) Methyl methanesulfonate	(1)	4.606	80	139467	3.843
11)$2-Fluorophenol	(1)	4.845	112	445453	7.693
13) N-Nitrosodiethylamine	(1)	5.171	102	112932	3.794
15) Ethyl methanesulfonate	(1)	5.626	109	123896	3.913
42) Total Cresols	(1)			487102	8.005
16) Benzaldehyde	(1)	6.081	77	203376	3.752
17)$Phenol-d6	(1)	6.215	99	618357	7.889
18) Phenol	(1)	6.238	94	343889	3.914
19) Aniline	(1)	6.244	93	410499	3.962
20) a-methylstyrene	(1)	6.325	118	244503	3.792
22) bis(2-Chloroethyl)ether	(1)	6.360	93	260353	3.988
23) 2-Chlorophenol	(1)	6.413	128	230609	3.994
24) 1,3-Dichlorobenzene	(1)	6.634	146	242876	3.925
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	187395	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	250137	3.976
27) Benzyl alcohol	(1)	6.943	108	155418	3.733
28) 1,2-Dichlorobenzene	(1)	6.967	146	235622	3.982
30) Indene	(1)	7.106	115	427718	3.764
31) 2-Methylphenol	(1)	7.130	108	226201	3.962
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.176	45	374582	3.956
34) bis(2-Chloroisopropyl)ether	(1)	7.176	45	374582	3.956
35) N-Nitrosopyrrolidine	(1)	7.293	100	126698	3.927
36) Acetophenone	(1)	7.334	105	313049	3.562
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	202641	4.013
39) N-Nitrosomorpholine	(1)	7.363	56	180694	4.085
37) 4-Methylphenol	(1)	7.369	108	260901	4.043
97) Isosafrole	(3)			191291	3.903
40) o-Toluidine	(1)	7.386	106	401103	4.029
43) Hexachloroethane	(1)	7.480	117	103987	3.941
44)$Nitrobenzene-d5	(2)	7.549	82	573385	7.909
45) Nitrobenzene	(2)	7.579	77	286339	3.910
48) N-Nitrosopiperidine	(2)	7.812	114	114914	3.914
50) Isophorone	(2)	7.963	82	499419	3.945
120) 2,4_2,6-Dinitrotoluenes	(3)			244667	7.780
51) 2-Nitrophenol	(2)	8.074	139	115526	3.902

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	251368	4.005
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	118935	3.986
56) Benzoic acid	(2)	8.325	105	265161M	5.965
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	314881	3.969
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	353285	3.794
60) 2,4-Dichlorophenol	(2)	8.453	162	183110	3.907
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	214370	3.981
65)*Naphthalene-d8	(2)	8.657	136	707489	5.000
66) Naphthalene	(2)	8.692	128	655147	3.898
146) Diallate trans/cis	(4)			231428	3.984
67) 4-Chloroaniline	(2)	8.791	127	269387	3.951
68) 2,6-Dichlorophenol	(2)	8.803	162	182892	3.992
69) Hexachloropropene	(2)	8.843	213	147974	3.961
71) Hexachlorobutadiene	(2)	8.919	225	130372	4.041
75) Quinoline	(2)	9.216	129	418695	4.007
76) Caprolactam	(2)	9.304	113	52684	3.601
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	188187	3.580
80) 4-Chloro-3-methylphenol	(2)	9.595	107	209614	3.934
82) Safrole	(2)	9.683	162	166811	3.932
83) 2-Methylnaphthalene	(2)	9.793	142	428272	3.865
84) 1-Methylnaphthalene	(2)	9.945	142	394133	3.898
85) Hexachlorocyclopentadiene	(3)	10.062	237	107322	3.709
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	229180	3.959
88) cis-Isosafrole	(3)	10.155	162	30635	0.656
90) 2,4,6-Trichlorophenol	(3)	10.254	196	142694	3.893
92) 2,4,5-Trichlorophenol	(3)	10.306	196	152140	3.911
93)$2-Fluorobiphenyl	(3)	10.400	172	986070	7.822
94) trans-Isosafrole	(3)	10.510	162	160656	3.247
95) 1,1'-Biphenyl	(3)	10.551	154	440678	3.524
96) 2-Chloronaphthalene	(3)	10.557	162	399863	3.964
98) 1-Chloronaphthalene	(3)	10.592	162	383527	3.921
100) 2-Nitroaniline	(3)	10.732	138	130752	4.012
99) Diphenyl ether	(3)	10.732	170	281042	3.944
104) 1,4-Naphthoquinone	(3)	10.848	158	171744	3.910
105) 1,4-Dinitrobenzene	(3)	10.965	168	67079	3.854
106) Dimethylphthalate	(3)	11.076	163	480627	3.996
107) 1,3-Dinitrobenzene	(3)	11.082	168	74141	3.909
108) 2,6-Dinitrotoluene	(3)	11.146	165	105947	3.966
109) Acenaphthylene	(3)	11.216	152	586768	3.863
112) 3-Nitroaniline	(3)	11.391	138	110545	3.904

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	412952	5.000
114) Acenaphthene	(3)	11.495	153	427185	3.896
115) 2,4-Dinitrophenol	(3)	11.560	184	105969	6.830
116) 4-Nitrophenol	(3)	11.688	109	76764	3.773
117) Pentachlorobenzene	(3)	11.694	250	186424	3.954
119) Dibenzofuran	(3)	11.752	168	600895	4.064
118) 2,4-Dinitrotoluene	(3)	11.752	165	138720	3.814
121) 1-Naphthylamine	(3)	11.857	143	412992	3.844
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	112537	3.739
123) 2-Naphthylamine	(3)	11.962	143	413862	3.887
124) Diethylphthalate	(3)	12.119	149	450525	3.828
126) Fluorene	(3)	12.201	166	470186	3.888
125) Thionazin	(3)	12.212	107	90268	3.876
128) 5-Nitro-o-toluidine	(3)	12.224	152	127286	3.863
129) 4-Nitroaniline	(3)	12.230	138	107417	3.860
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	232739	4.015
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	79749	3.747
132) NDPA as diphenylamine	(4)	12.376	169	387414	4.026
131) N-Nitrosodiphenylamine	(4)	12.376	169	387414	4.026
134) 1,2-Diphenylhydrazine	(4)	12.416	77	541568	3.993
135)$2,4,6-Tribromophenol	(3)	12.492	330	121575	7.686
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	88660	3.911
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	51979	3.775
140) Diallate (peak 1)	(4)	12.737	86	197970	3.298
141) Phorate	(4)	12.743	75	349373	3.905
142) Phenacetin	(4)	12.754	108	265054	3.969
143) 4-Bromophenyl-phenylether	(4)	12.807	248	134199	4.054
144) Diallate (peak 2)	(4)	12.836	86	33458	0.687
145) Hexachlorobenzene	(4)	12.859	284	134961	3.878
147) Dimethoate	(4)	12.923	87	230326	3.985
148) Atrazine	(4)	13.034	200	114541	3.734
149) Pentachlorophenol	(4)	13.110	266	74321	3.639
151) Pentachloronitrobenzene	(4)	13.122	237	62062	3.956
150) 4-Aminobiphenyl	(4)	13.122	169	435492	4.045
152) Pronamide	(4)	13.227	173	225370	3.929
153)*Phenanthrene-d10	(4)	13.337	188	789256	5.000
155) Phenanthrene	(4)	13.361	178	682566	3.911
154) Dinoseb	(4)	13.361	211	124396	3.648
157) Anthracene	(4)	13.425	178	692951	3.932
163) Carbazole	(4)	13.640	167	642945	3.953

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

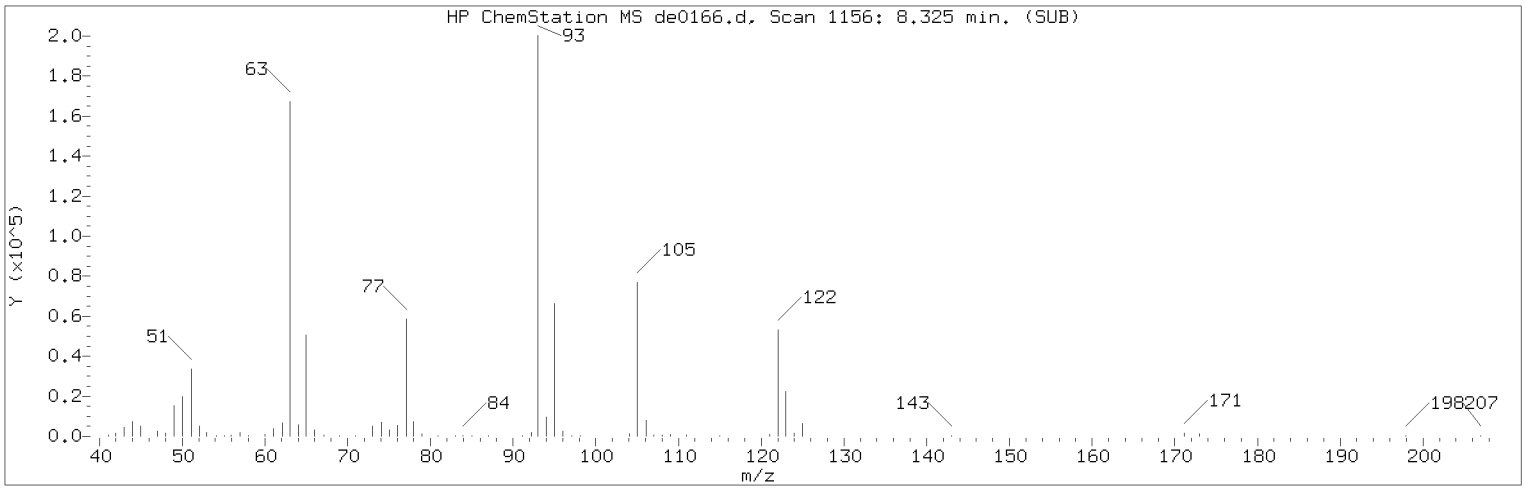
Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.844	109	174859	3.882
165) Di-n-butylphthalate	(4)	14.153	149	796038	3.905
167) Parathion	(4)	14.386	109	110691	3.843
168) 4-Nitroquinoline-1-oxide	(4)	14.386	190	58810	3.188
169) Octachlorostyrene	(4)	14.730	308	49680	3.747
171) Isodrin	(4)	14.765	193	83028	3.980
173) Fluoranthene	(4)	14.981	202	779480	3.835
222) Total PAHs	(6)			11974872	70.859
174) Benzidine	(5)	15.208	184	1550675	12.428
175)*Pyrene-d10	(5)	15.290	212	943049	5.000
177) Pyrene	(5)	15.313	202	825312	3.885
179)$Terphenyl-d14	(5)	15.605	244	1085159	7.942
182) p-Dimethylaminoazobenzene	(5)	15.832	225	132059	3.734
185) Chlorobenzilate	(5)	15.925	139	249530	3.926
187) 3,3'-Dimethylbenzidine	(5)	16.386	212	547107	3.887
188) Butylbenzylphthalate	(5)	16.450	149	375206	3.935
191) 2-Acetylaminofluorene	(5)	16.794	181	345627	3.787
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	306685	3.903
195) Benzo(a)anthracene	(5)	17.301	228	812336	3.924
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	169705	4.052
196) Chrysene	(5)	17.365	228	761010	3.946
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	556235	3.872
203) 6-Methylchrysene	(5)	18.163	242	527662	3.786
205) Di-n-octylphthalate	(6)	18.671	149	994415	3.896
206) Benzo(b)fluoranthene	(6)	19.143	252	801014	3.801
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.148	256	342188	3.873
208) Benzo(k)fluoranthene	(6)	19.189	252	785449	3.897
211) Benzo(a)pyrene	(6)	19.661	252	746886	3.814
213)*Perylene-d12	(6)	19.755	264	768390	5.000
215) 3-Methylcholanthrene	(6)	20.238	268	342799	3.886
217) Dibenz(a,h)acridine	(6)	21.043	279	556640	3.932
218) Dibenz(a,j)acridine	(6)	21.113	279	562722	4.036
219) Indeno(1,2,3-cd)pyrene	(6)	21.352	276	793622	4.150
220) Dibenz(a,h)anthracene	(6)	21.392	278	678208	4.231
221) Benzo(g,h,i)perylene	(6)	21.713	276	654347	4.224

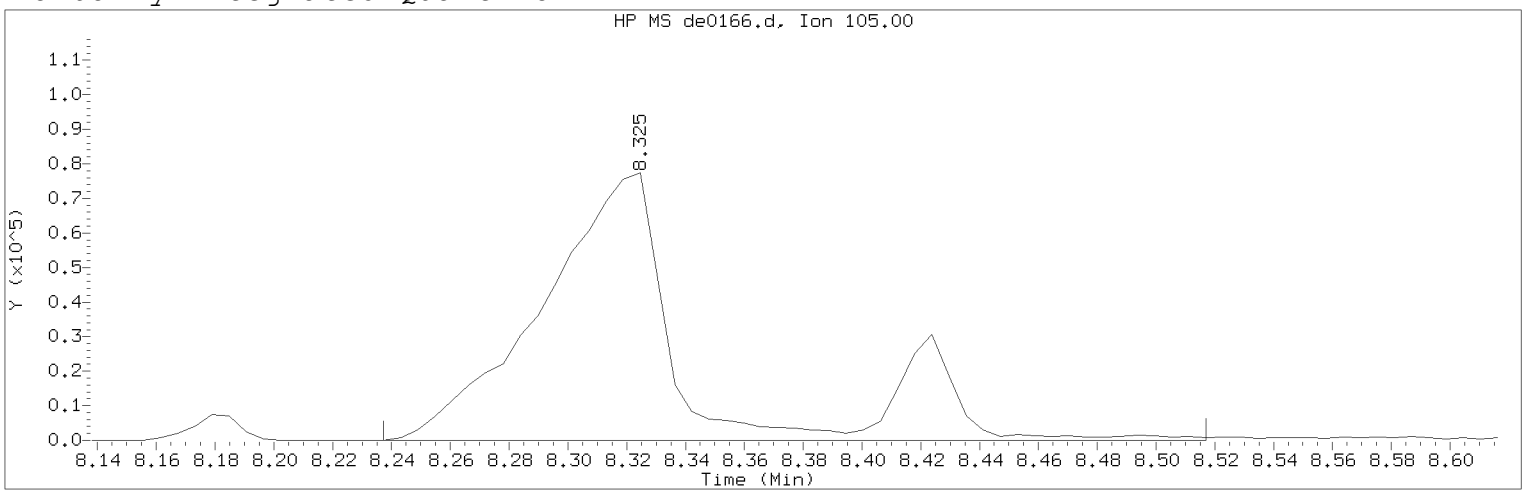
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

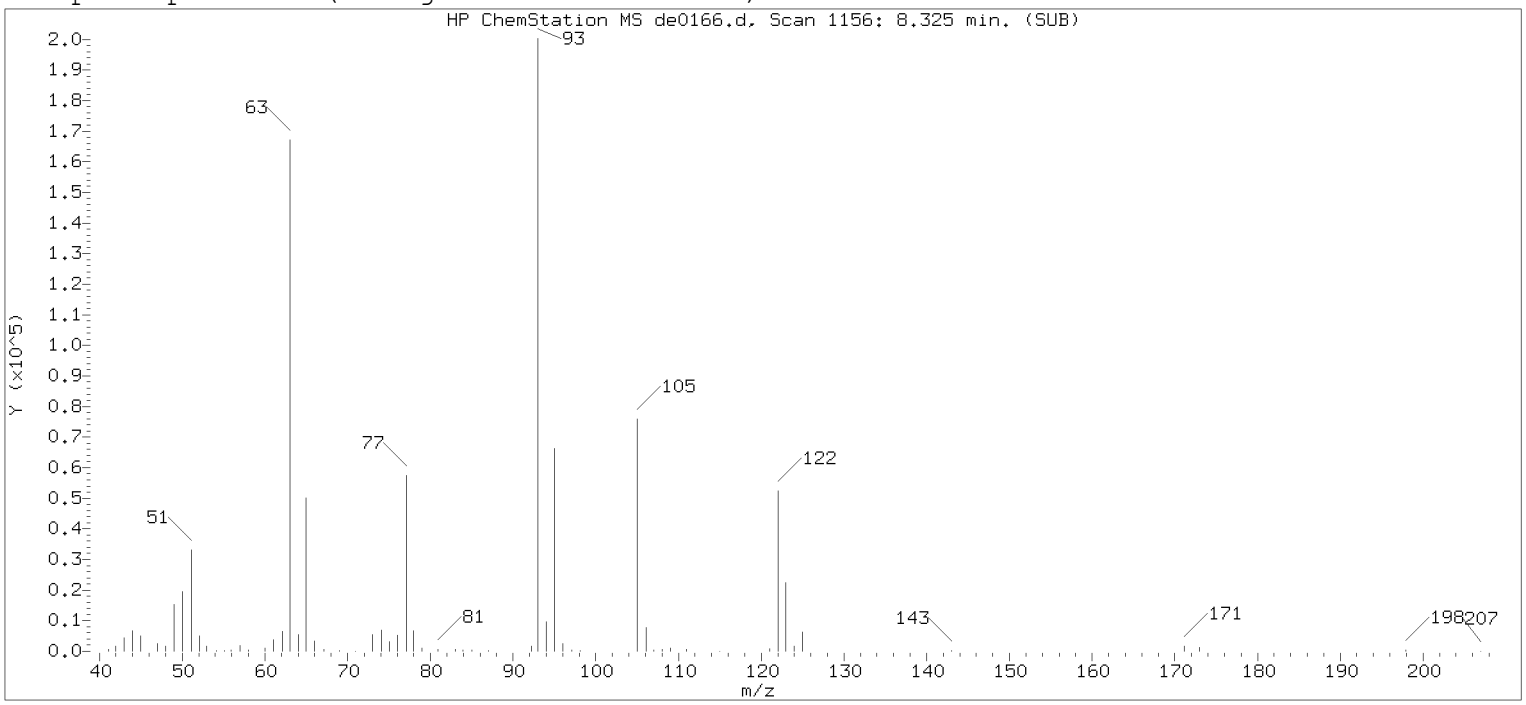
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1156
Retention Time (minutes) : 8.325
Quant Ion : 105.00
Area (flag) : 265161M
On-Column Amount (ng/ul) : 5.9647
Integration start scan : 1140 Integration stop scan: 1188
Y at integration start : 4 Y at integration end: 4

Reason for manual integration: improper integration

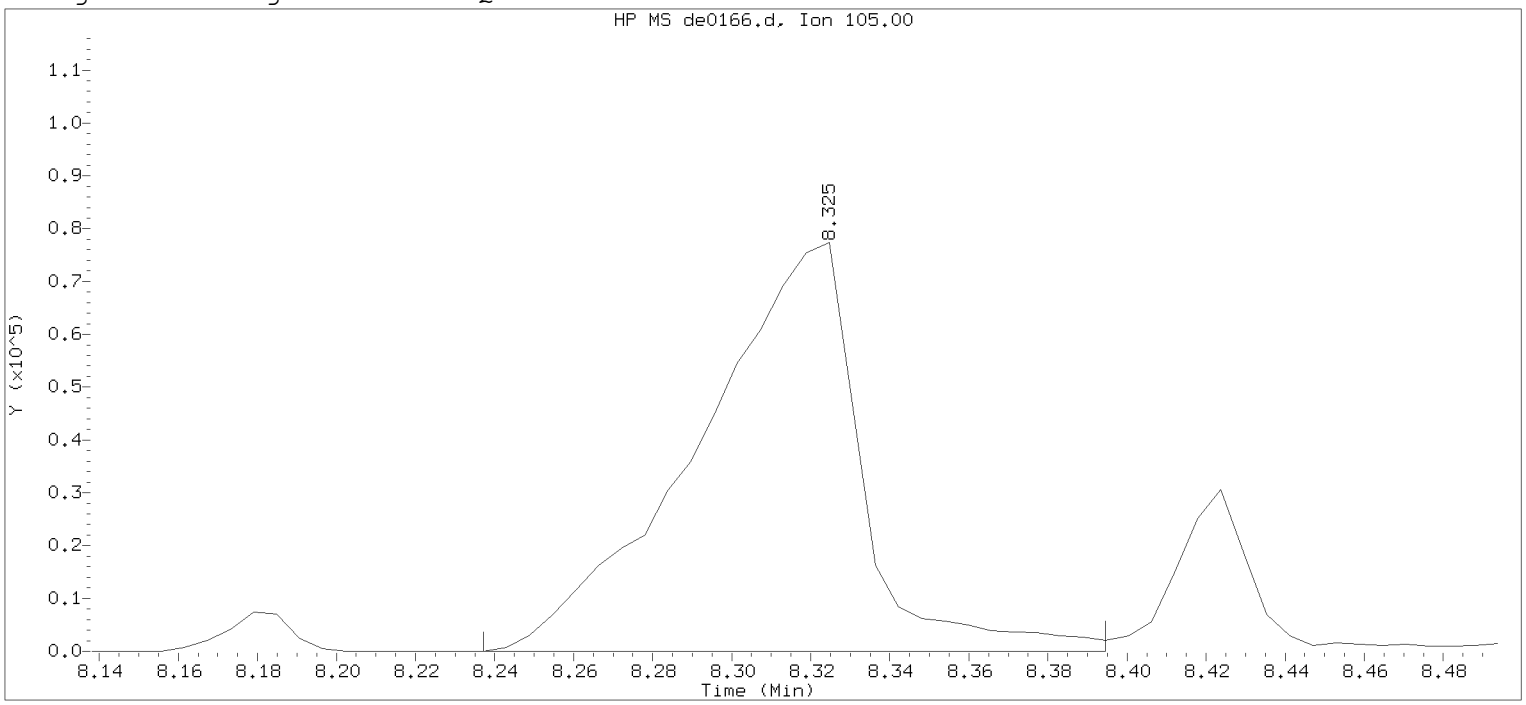
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



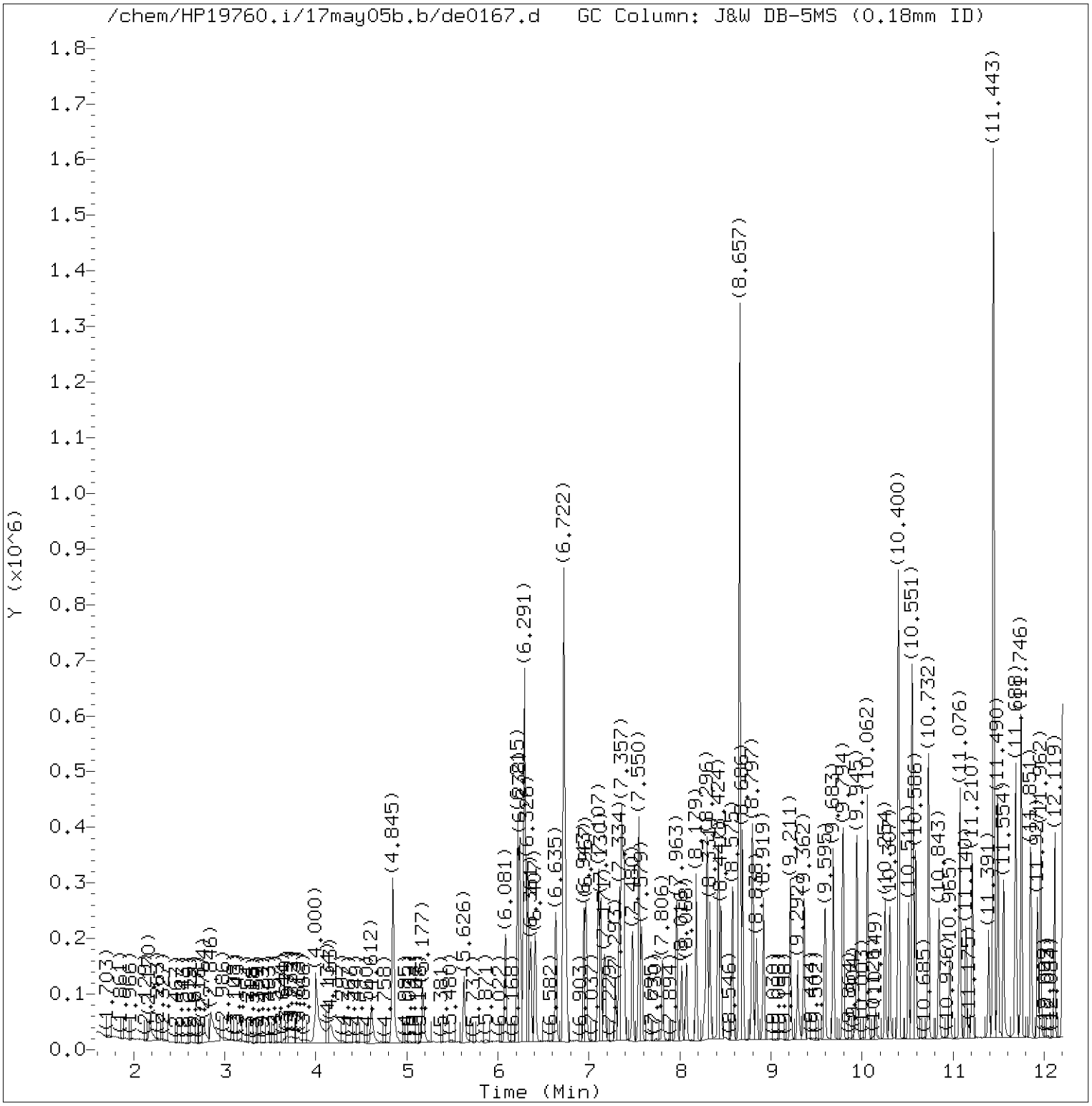
Data File: /chem/HP19760.i/17may05b.b/de0166.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 20:37 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:00
Date, time and analyst ID of latest file update: 05-May-2017 21:00 Automation

Sample Name: SSTD3.75 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1156		
Retention Time (minutes)	: 8.325		
Quant Ion	: 105.00		
Area	: 221906		
On-column Amount (ng/ul)	: 5.6582		
Integration start scan	: 1140	Integration stop scan:	1167
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature used.



Total Ion Chromatogram (TIC)

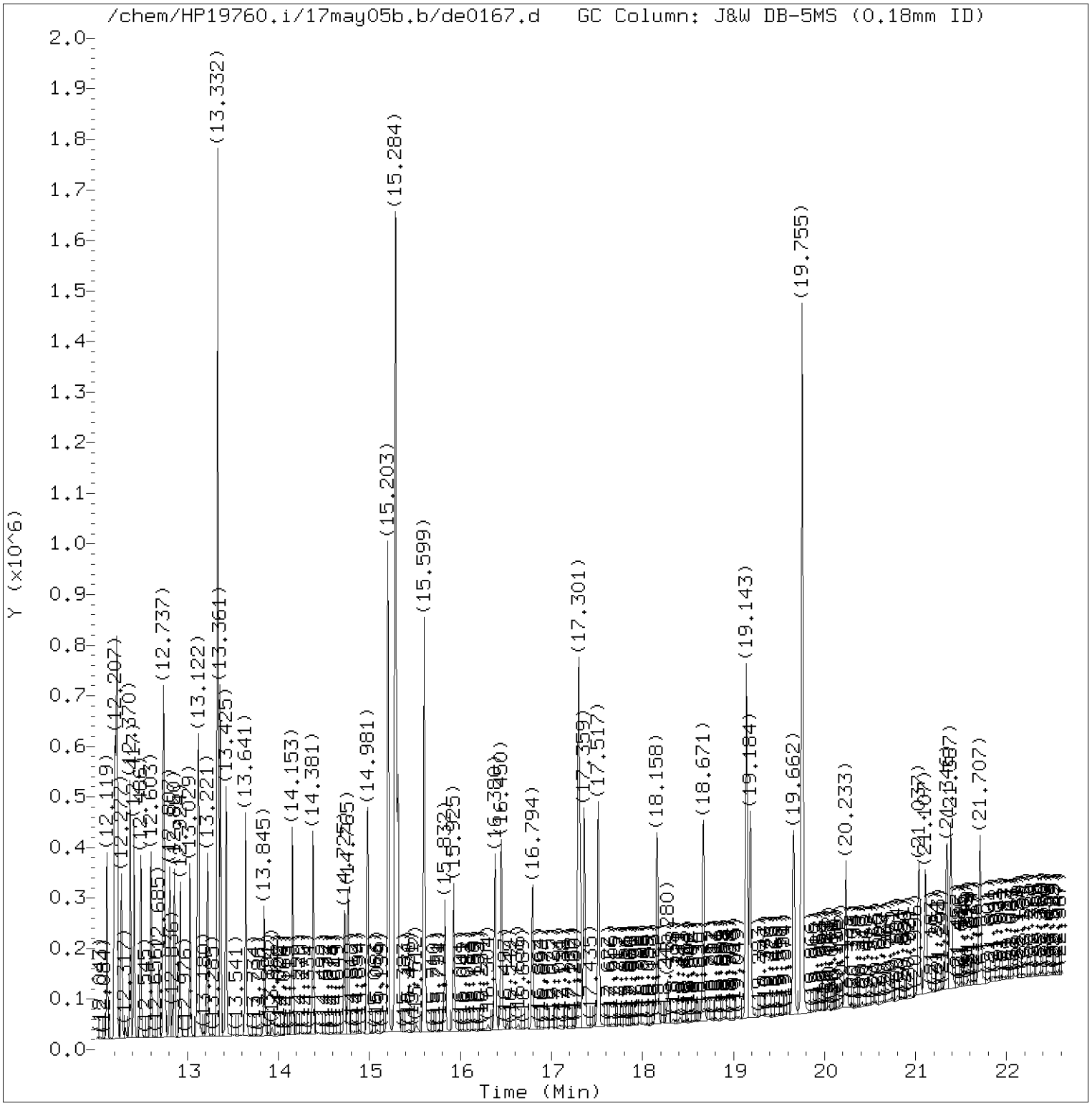
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.170	88	34814M	1.334
4) N-Nitrosodimethylamine	(1)	2.764	74	52272M	1.245
5) Pyridine	(1)	2.846	79	91972M	1.335
7) 2-Picoline	(1)	4.000	93	87204M	1.240
8) N-Nitrosomethylethylamine	(1)	4.163	88	36190	1.206
9) Methyl methanesulfonate	(1)	4.612	80	41467M	1.208
11)$2-Fluorophenol	(1)	4.845	112	136462	2.478
13) N-Nitrosodiethylamine	(1)	5.172	102	34644	1.227
15) Ethyl methanesulfonate	(1)	5.626	109	37493	1.244
42) Total Cresols	(1)			143548	2.479
16) Benzaldehyde	(1)	6.081	77	66544	1.282
17)$Phenol-d6	(1)	6.215	99	184338	2.474
18) Phenol	(1)	6.232	94	106070	1.265
19) Aniline	(1)	6.244	93	122935	1.246
20) a-methylstyrene	(1)	6.326	118	75766	1.236
22) bis(2-Chloroethyl)ether	(1)	6.361	93	77466	1.246
23) 2-Chlorophenol	(1)	6.407	128	67737	1.235
24) 1,3-Dichlorobenzene	(1)	6.635	146	76664	1.292
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	178509	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	75470	1.258
27) Benzyl alcohol	(1)	6.943	108	48928	1.236
28) 1,2-Dichlorobenzene	(1)	6.967	146	71779	1.269
30) Indene	(1)	7.107	115	132737	1.230
31) 2-Methylphenol	(1)	7.130	108	66133	1.222
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.171	45	112949	1.252
34) bis(2-Chloroisopropyl)ether	(1)	7.171	45	112949	1.252
35) N-Nitrosopyrrolidine	(1)	7.293	100	36533	1.198
36) Acetophenone	(1)	7.334	105	103121	1.235
38) N-Nitroso-di-n-propylamine	(1)	7.357	70	61337	1.271
39) N-Nitrosomorpholine	(1)	7.363	56	52406	1.245
37) 4-Methylphenol	(1)	7.369	108	77415	1.258
97) Isosafrole	(3)			54705	1.192
40) o-Toluidine	(1)	7.386	106	118323	1.248
43) Hexachloroethane	(1)	7.480	117	31506	1.253
44)$Nitrobenzene-d5	(2)	7.550	82	171240	2.452
45) Nitrobenzene	(2)	7.579	77	87105	1.233
48) N-Nitrosopiperidine	(2)	7.812	114	32947	1.174
50) Isophorone	(2)	7.963	82	143165	1.182
120) 2,4_2,6-Dinitrotoluenes	(3)			68706	2.342
51) 2-Nitrophenol	(2)	8.074	139	31381	1.119

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	72140	1.198
56) Benzoic acid	(2)	8.290	105	83803M	2.119
57) O,O,O-Triethylphosphorothioate	(2)	8.296	198	34830	1.214
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	93264	1.221
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.424	104	109821	1.224
60) 2,4-Dichlorophenol	(2)	8.447	162	53944	1.200
62) 1,2,4-Trichlorobenzene	(2)	8.575	180	64931	1.247
65)*Naphthalene-d8	(2)	8.657	136	684219	5.000
66) Naphthalene	(2)	8.686	128	197361	1.219
146) Diallate trans/cis	(4)			67557	1.220
67) 4-Chloroaniline	(2)	8.791	127	78195	1.196
68) 2,6-Dichlorophenol	(2)	8.803	162	54458	1.232
69) Hexachloropropene	(2)	8.838	213	42290	1.183
71) Hexachlorobutadiene	(2)	8.919	225	38657	1.241
75) Quinoline	(2)	9.211	129	121896	1.213
76) Caprolactam	(2)	9.292	113	16919	1.204
77) N-Nitrosodi-n-butylamine	(2)	9.362	84	57417	1.148
80) 4-Chloro-3-methylphenol	(2)	9.595	107	61170	1.197
82) Safrole	(2)	9.683	162	49402	1.212
83) 2-Methylnaphthalene	(2)	9.794	142	127925	1.202
84) 1-Methylnaphthalene	(2)	9.945	142	118247	1.215
85) Hexachlorocyclopentadiene	(3)	10.062	237	28707	1.079
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	68550	1.253
88) cis-Isosafrole	(3)	10.149	162	8926	0.204
90) 2,4,6-Trichlorophenol	(3)	10.254	196	40002	1.170
92) 2,4,5-Trichlorophenol	(3)	10.307	196	44625	1.220
93)$2-Fluorobiphenyl	(3)	10.400	172	297586	2.498
94) trans-Isosafrole	(3)	10.511	162	45779	0.988
95) 1,1'-Biphenyl	(3)	10.551	154	150655	1.271
96) 2-Chloronaphthalene	(3)	10.557	162	122994	1.283
98) 1-Chloronaphthalene	(3)	10.586	162	112409	1.222
100) 2-Nitroaniline	(3)	10.732	138	35373	1.164
99) Diphenyl ether	(3)	10.732	170	85689	1.269
104) 1,4-Naphthoquinone	(3)	10.843	158	47366	1.158
105) 1,4-Dinitrobenzene	(3)	10.965	168	17903	1.113
106) Dimethylphthalate	(3)	11.076	163	142397	1.252
107) 1,3-Dinitrobenzene	(3)	11.076	168	20676	1.169
108) 2,6-Dinitrotoluene	(3)	11.146	165	29798	1.191
109) Acenaphthylene	(3)	11.210	152	174565	1.221
112) 3-Nitroaniline	(3)	11.391	138	30455	1.155

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	390234	5.000
114) Acenaphthene	(3)	11.490	153	126726	1.227
115) 2,4-Dinitrophenol	(3)	11.554	184	40582	2.768
116) 4-Nitrophenol	(3)	11.682	109	40588	2.111
117) Pentachlorobenzene	(3)	11.694	250	54958	1.236
119) Dibenzofuran	(3)	11.746	168	175704	1.256
118) 2,4-Dinitrotoluene	(3)	11.752	165	38908	1.150
121) 1-Naphthylamine	(3)	11.857	143	120752	1.189
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	31914	1.142
123) 2-Naphthylamine	(3)	11.962	143	123721	1.230
124) Diethylphthalate	(3)	12.119	149	132482	1.201
126) Fluorene	(3)	12.201	166	138026	1.214
125) Thionazin	(3)	12.213	107	27053	1.233
128) 5-Nitro-o-toluidine	(3)	12.224	152	36766	1.192
129) 4-Nitroaniline	(3)	12.224	138	31225	1.197
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	71333	1.293
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	41471	2.036
132) NDPA as diphenylamine	(4)	12.370	169	114538	1.245
131) N-Nitrosodiphenylamine	(4)	12.370	169	114538	1.245
134) 1,2-Diphenylhydrazine	(4)	12.417	77	163637	1.259
135)$2,4,6-Tribromophenol	(3)	12.492	330	33887	2.303
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	26148	1.212
139) 1,3,5-Trinitrobenzene	(4)	12.690	213	12766	0.969
140) Diallate (peak 1)	(4)	12.737	86	57985	1.014
141) Phorate	(4)	12.737	75	100225	1.183
142) Phenacetin	(4)	12.749	108	73724	1.168
143) 4-Bromophenyl-phenylether	(4)	12.807	248	40037	1.261
144) Diallate (peak 2)	(4)	12.836	86	9572	0.206
145) Hexachlorobenzene	(4)	12.860	284	41232	1.239
147) Dimethoate	(4)	12.924	87	65206	1.190
148) Atrazine	(4)	13.029	200	38460	1.299
149) Pentachlorophenol	(4)	13.110	266	17418	0.936
151) Pentachloronitrobenzene	(4)	13.122	237	16975	1.149
150) 4-Aminobiphenyl	(4)	13.122	169	128934	1.251
152) Pronamide	(4)	13.221	173	62496	1.156
153)*Phenanthrene-d10	(4)	13.332	188	755491	5.000
155) Phenanthrene	(4)	13.361	178	201512	1.212
154) Dinoseb	(4)	13.361	211	30538	0.976
157) Anthracene	(4)	13.425	178	202591	1.208
163) Carbazole	(4)	13.641	167	185203	1.199

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

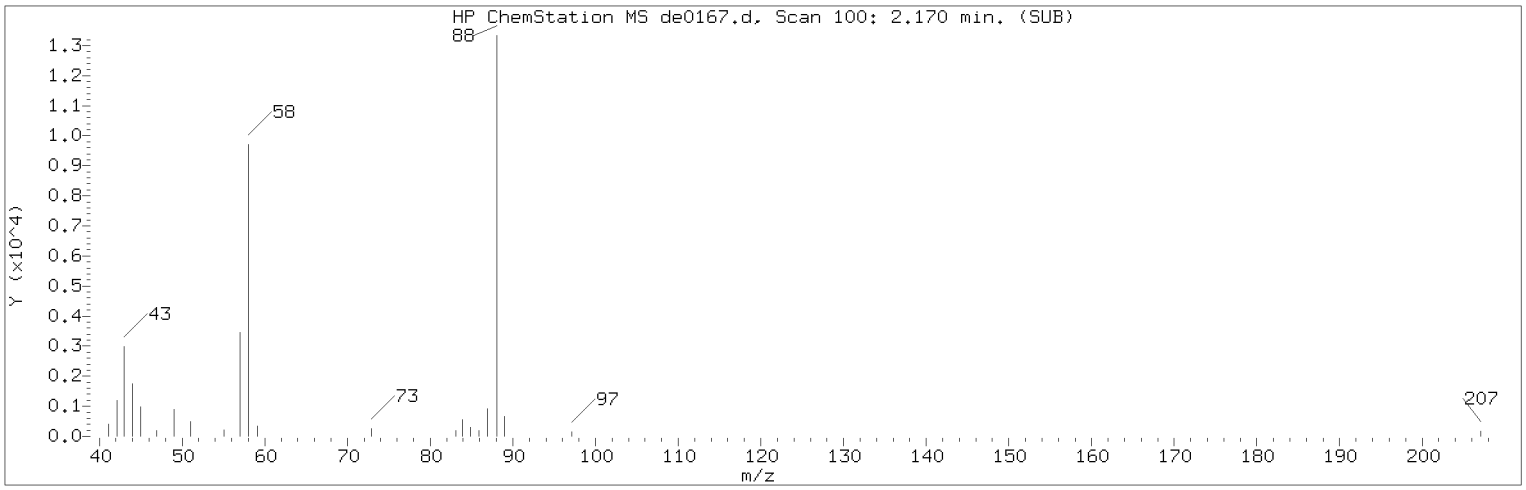
Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.845	109	47000	1.114
165) Di-n-butylphthalate	(4)	14.153	149	226753	1.176
167) Parathion	(4)	14.381	109	29483	1.096
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	12228	0.693
169) Octachlorostyrene	(4)	14.730	308	16196	1.272
171) Isodrin	(4)	14.765	193	24293	1.222
173) Fluoranthene	(4)	14.981	202	228106	1.183
222) Total PAHs	(6)			3443029	21.656
174) Benzidine	(5)	15.203	184	439208	3.707
175)*Pyrene-d10	(5)	15.290	212	895421	5.000
177) Pyrene	(5)	15.313	202	244176	1.216
179)$Terphenyl-d14	(5)	15.605	244	321670	2.483
182) p-Dimethylaminoazobenzene	(5)	15.832	225	33641	1.036
185) Chlorobenzilate	(5)	15.925	139	71213	1.191
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	149343	1.138
188) Butylbenzylphthalate	(5)	16.450	149	109150	1.213
191) 2-Acetylaminofluorene	(5)	16.794	181	86996	1.038
193) 3,3'-Dichlorobenzidine	(5)	17.295	252	84520	1.151
195) Benzo(a)anthracene	(5)	17.301	228	234613	1.201
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	45643	1.148
196) Chrysene	(5)	17.359	228	222108	1.218
199) bis(2-Ethylhexyl)phthalate	(5)	17.517	149	157772	1.171
203) 6-Methylchrysene	(5)	18.158	242	152855	1.170
205) Di-n-octylphthalate	(6)	18.671	149	270511	1.148
206) Benzo(b)fluoranthene	(6)	19.143	252	223483	1.146
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.149	256	90203	1.112
208) Benzo(k)fluoranthene	(6)	19.184	252	224847	1.198
211) Benzo(a)pyrene	(6)	19.662	252	208878	1.152
213)*Perylene-d12	(6)	19.755	264	720620	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	92496	1.138
217) Dibenz(a,h)acridine	(6)	21.037	279	149674	1.146
218) Dibenz(a,j)acridine	(6)	21.107	279	143636	1.121
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	212039	1.191
220) Dibenz(a,h)anthracene	(6)	21.387	278	178028	1.193
221) Benzo(g,h,i)perylene	(6)	21.707	276	179798	1.239

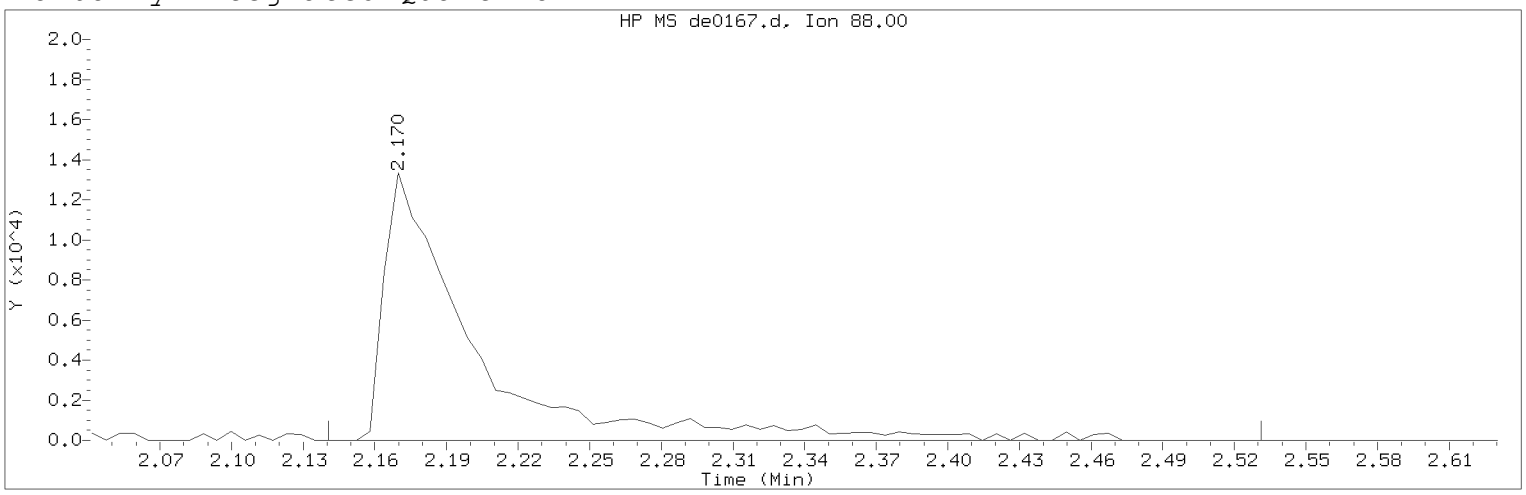
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

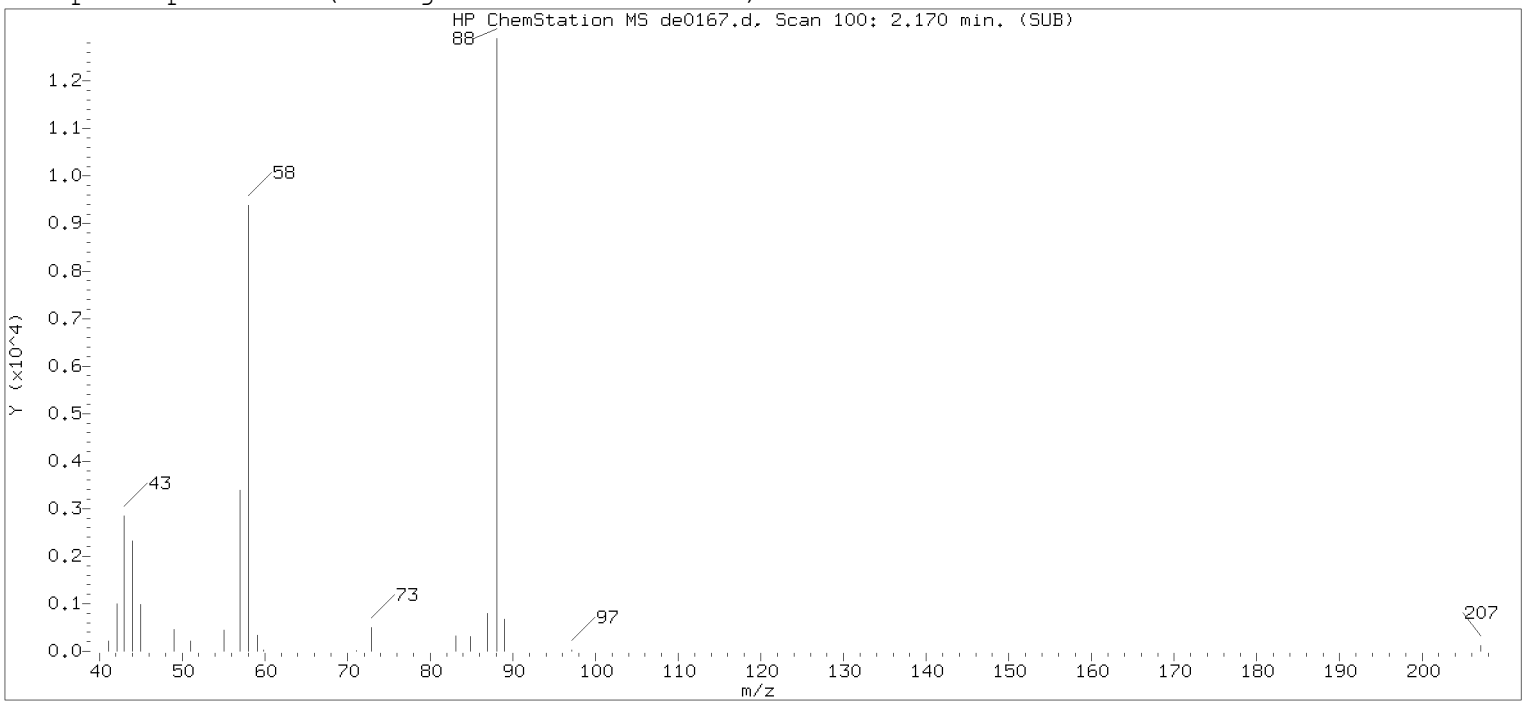
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 100
Retention Time (minutes) : 2.170
Quant Ion : 88.00
Area (flag) : 34814M
On-Column Amount (ng/ul) : 1.3338
Integration start scan : 94 Integration stop scan: 161
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

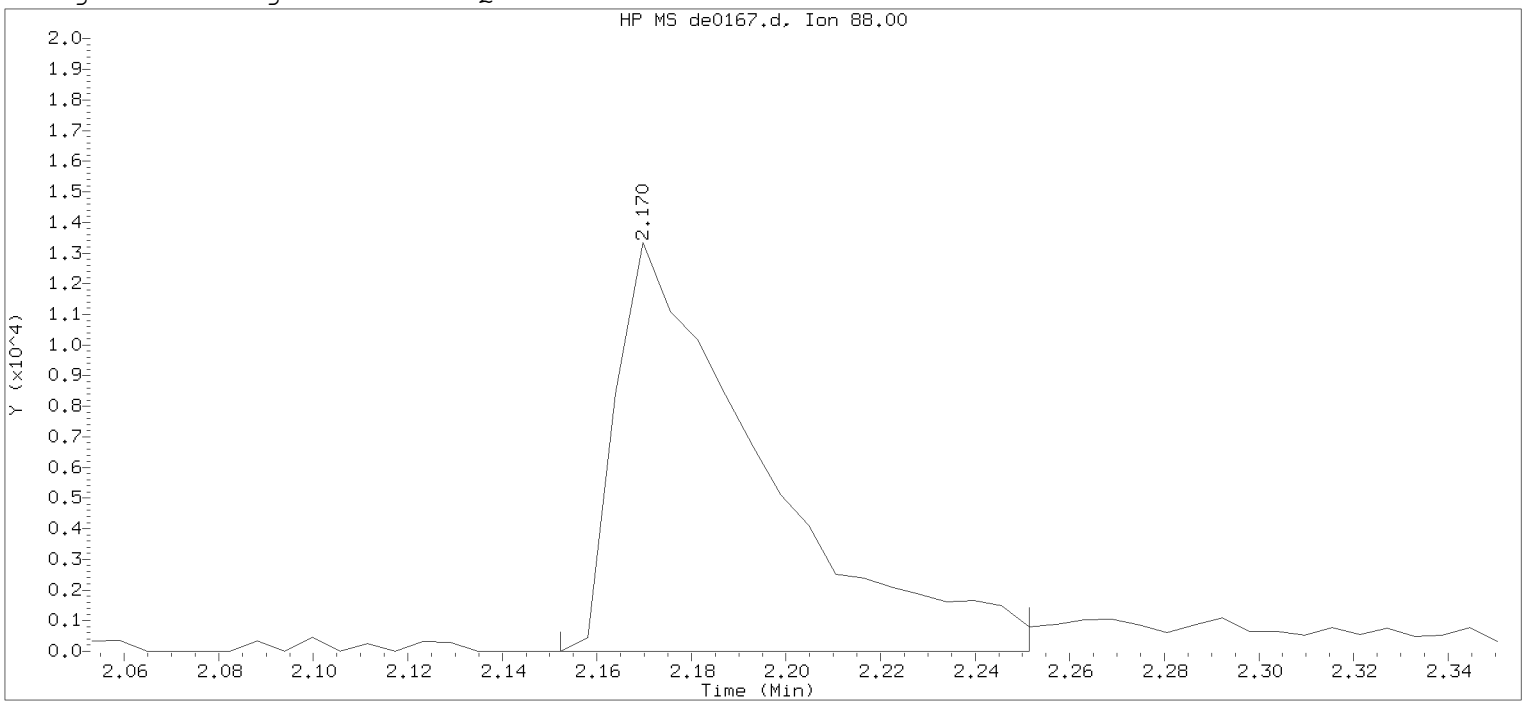
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

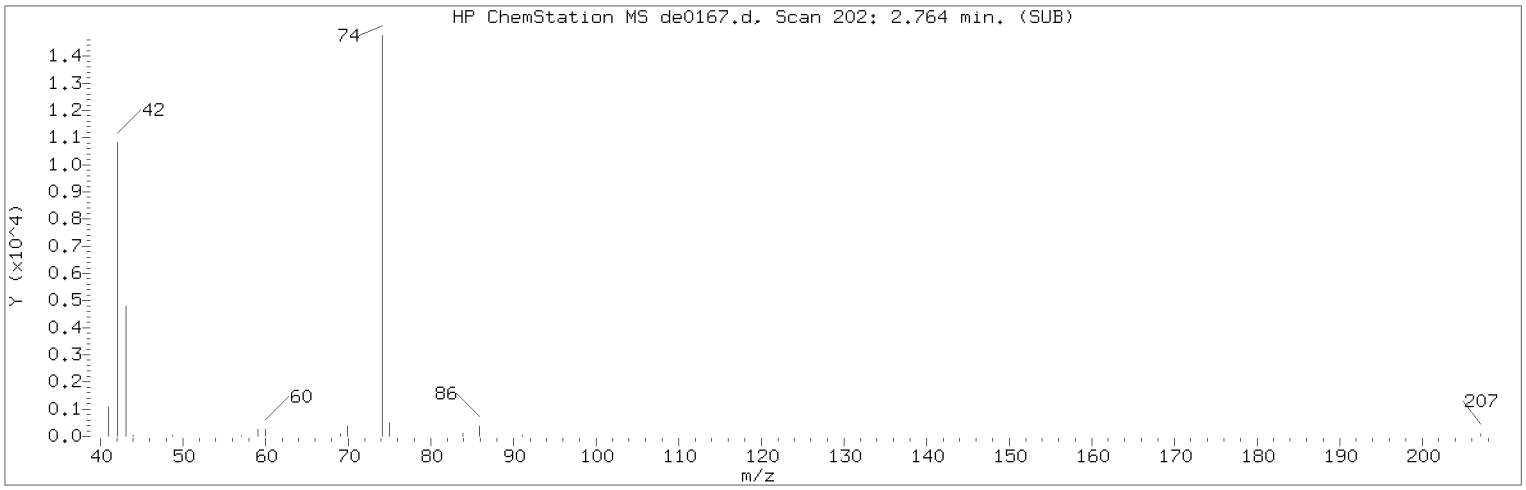
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

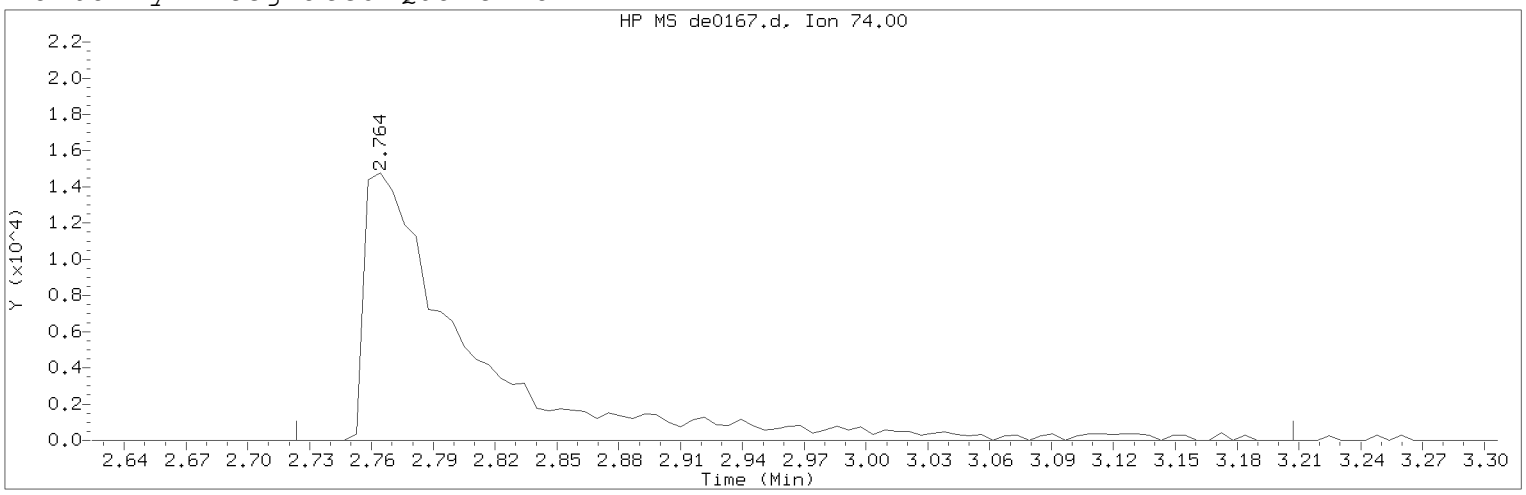
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 100		
Retention Time (minutes)	: 2.170		
Quant Ion	: 88.00		
Area	: 28566		
On-column Amount (ng/ul)	: 1.1275		
Integration start scan	: 96	Integration stop scan:	113
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

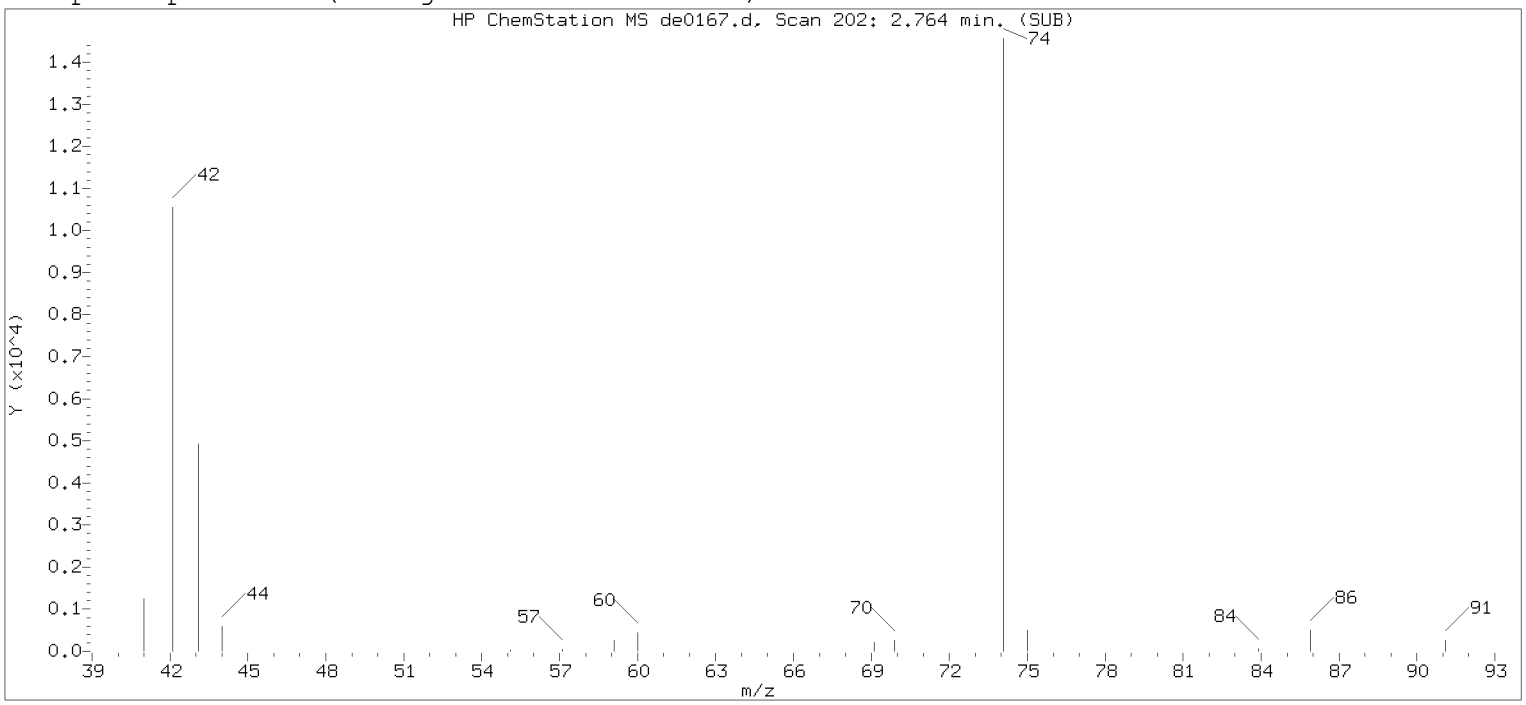
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 202
Retention Time (minutes) : 2.764
Quant Ion : 74.00
Area (flag) : 52272M
On-Column Amount (ng/ul) : 1.2454
Integration start scan : 194 Integration stop scan: 277
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

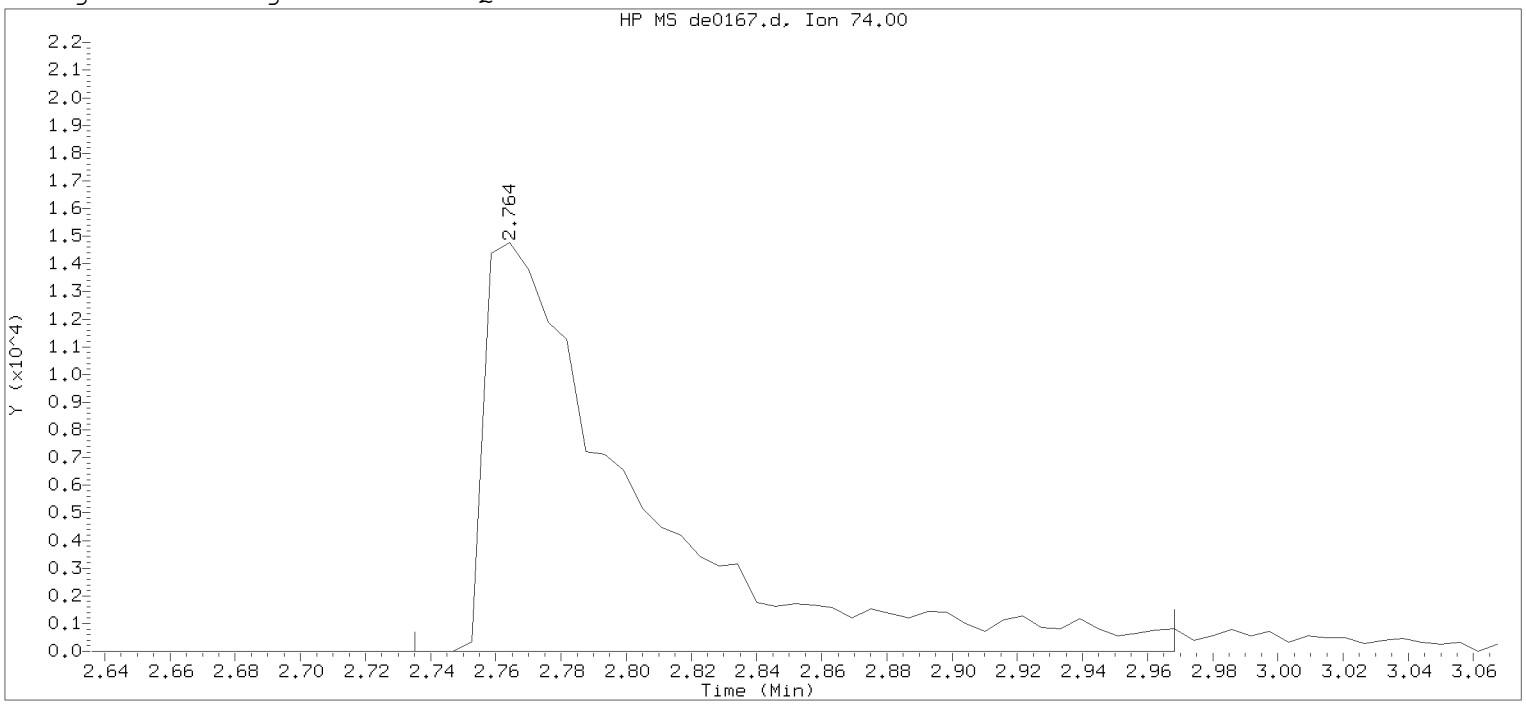
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

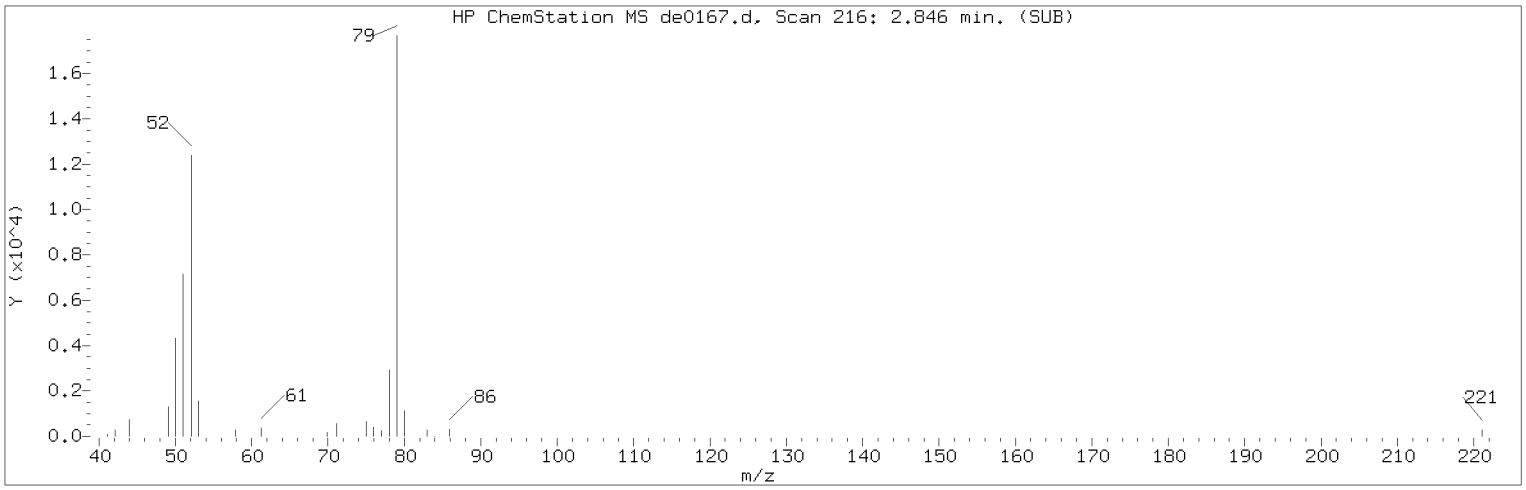
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

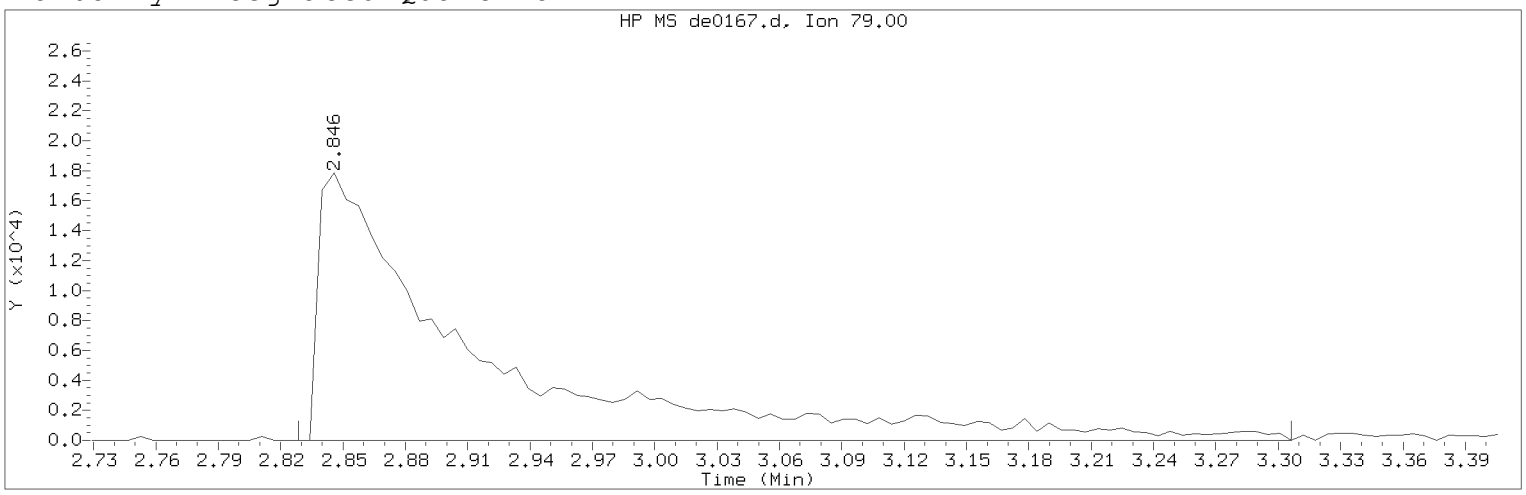
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 202		
Retention Time (minutes)	: 2.764		
Quant Ion	: 74.00		
Area	: 48070		
On-column Amount (ng/ul)	: 1.1636		
Integration start scan	: 196	Integration stop scan:	236
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSMITH

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

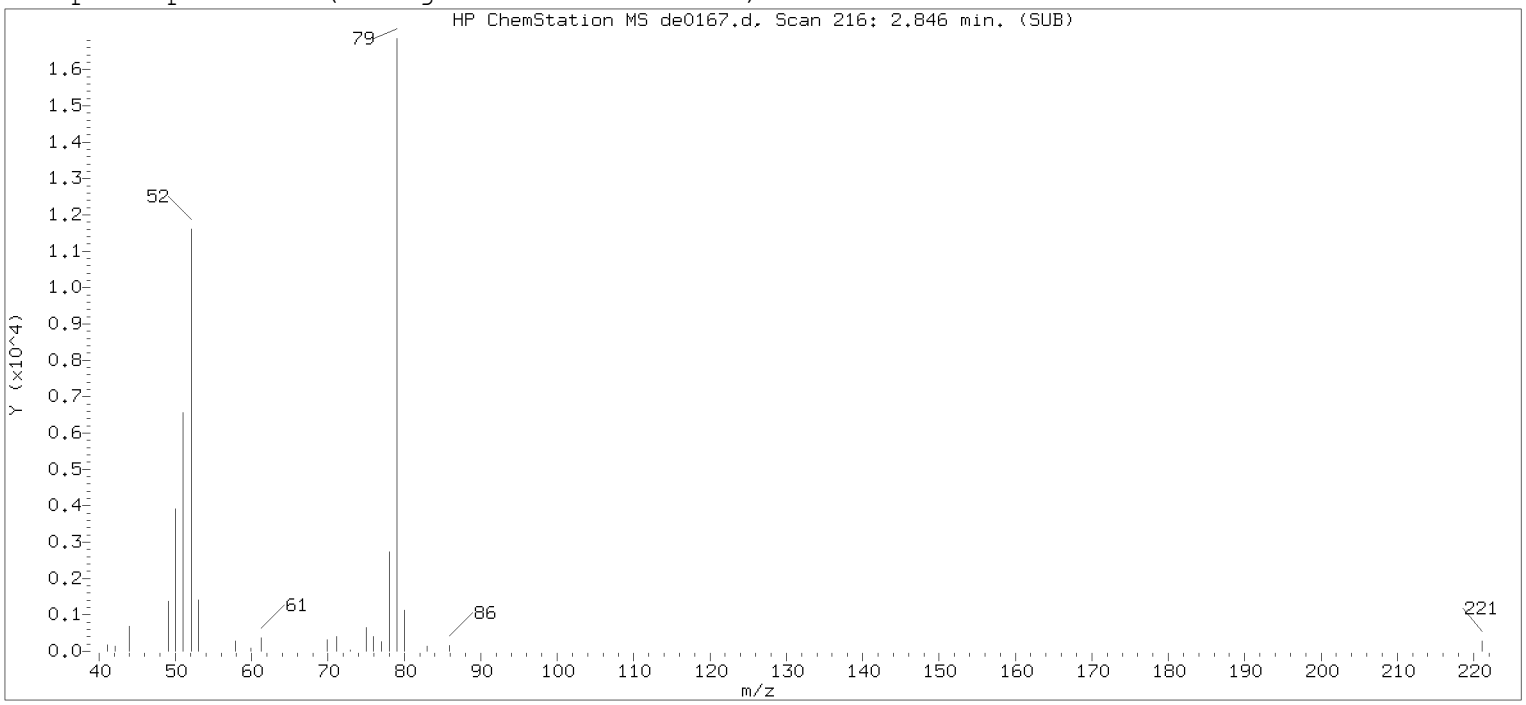
Compound Number : 5
Compound Name : Pyridine
Scan Number : 216
Retention Time (minutes) : 2.846
Quant Ion : 79.00
Area (flag) : 91972M
On-Column Amount (ng/ul) : 1.3354
Integration start scan : 212 Integration stop scan: 294
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

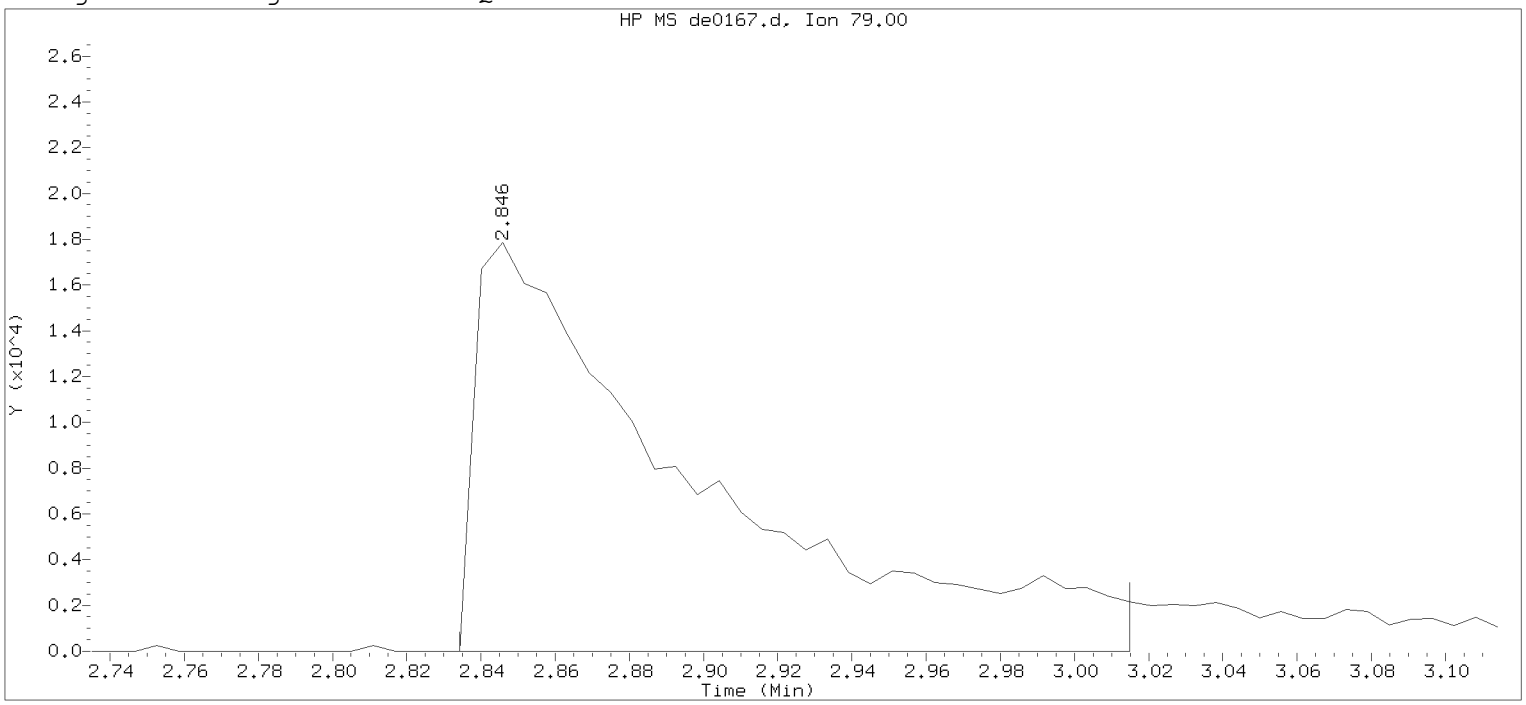
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

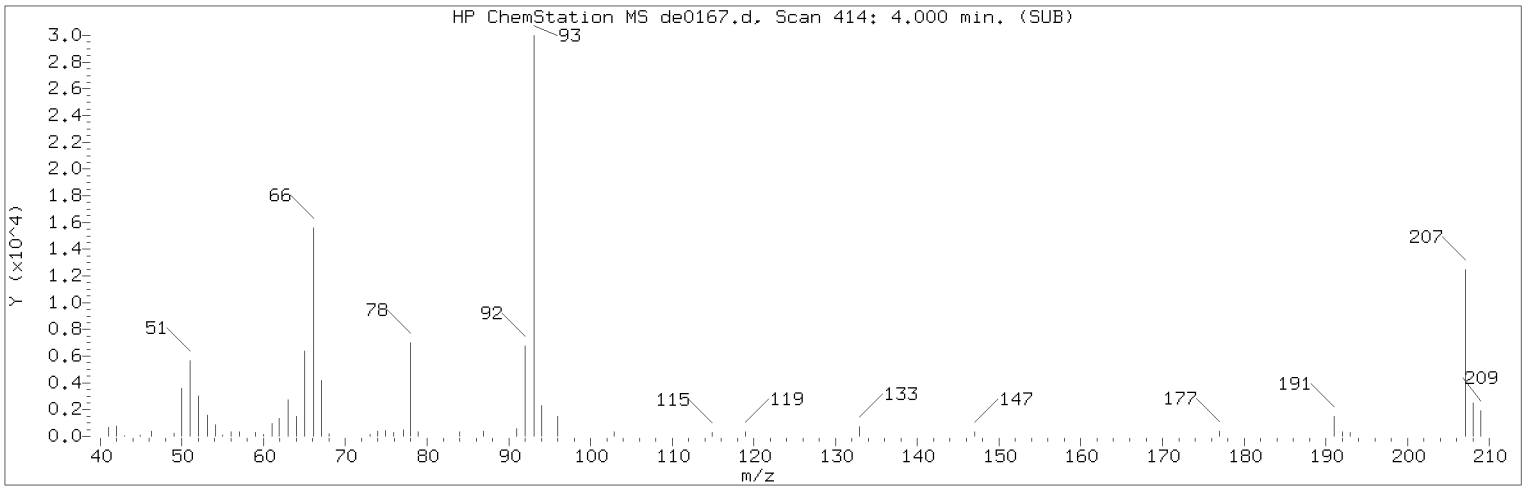
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

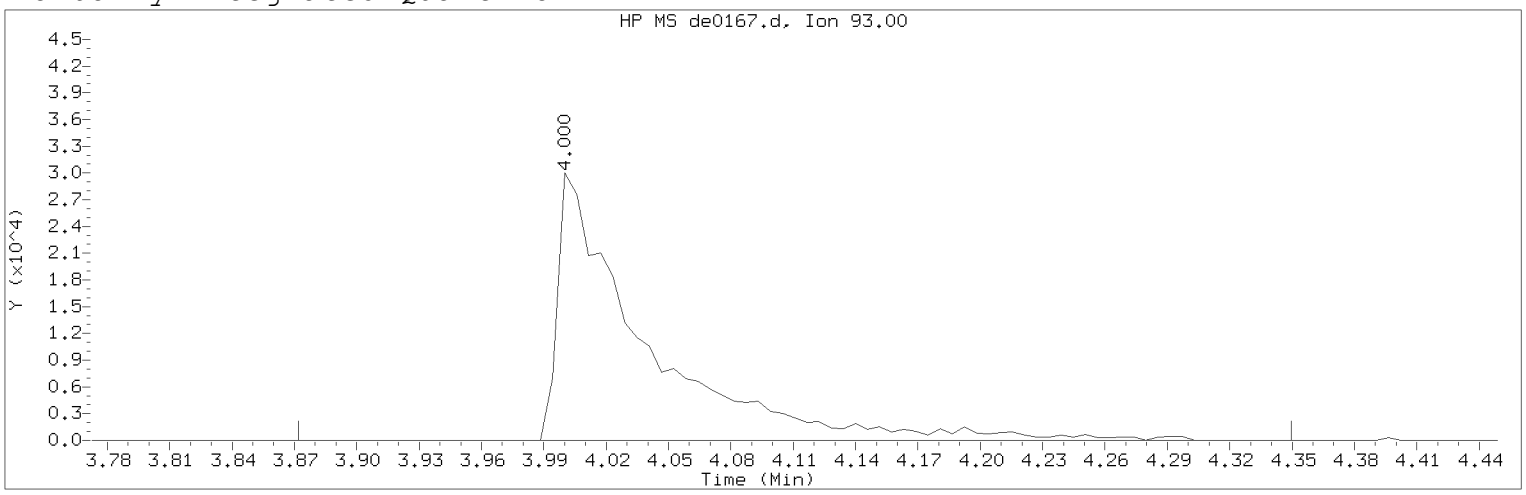
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 216		
Retention Time (minutes)	: 2.846		
Quant Ion	: 79.00		
Area	: 73200		
On-column Amount (ng/ul)	: 1.1054		
Integration start scan	: 213	Integration stop scan:	244
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

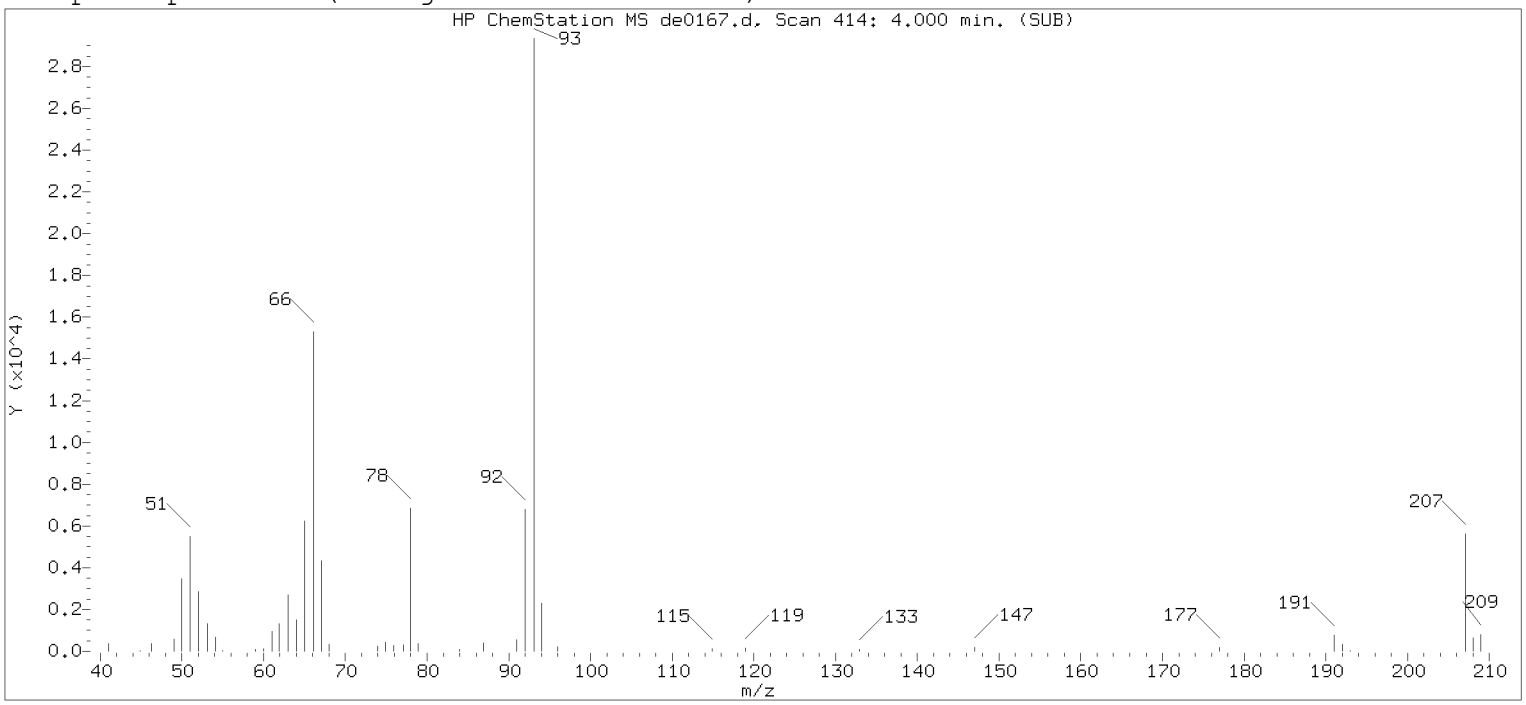
Compound Number : 7
Compound Name : 2-Picoline
Scan Number : 414
Retention Time (minutes) : 4.000
Quant Ion : 93.00
Area (flag) : 87204M
On-Column Amount (ng/ul) : 1.2400
Integration start scan : 391 Integration stop scan: 473
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

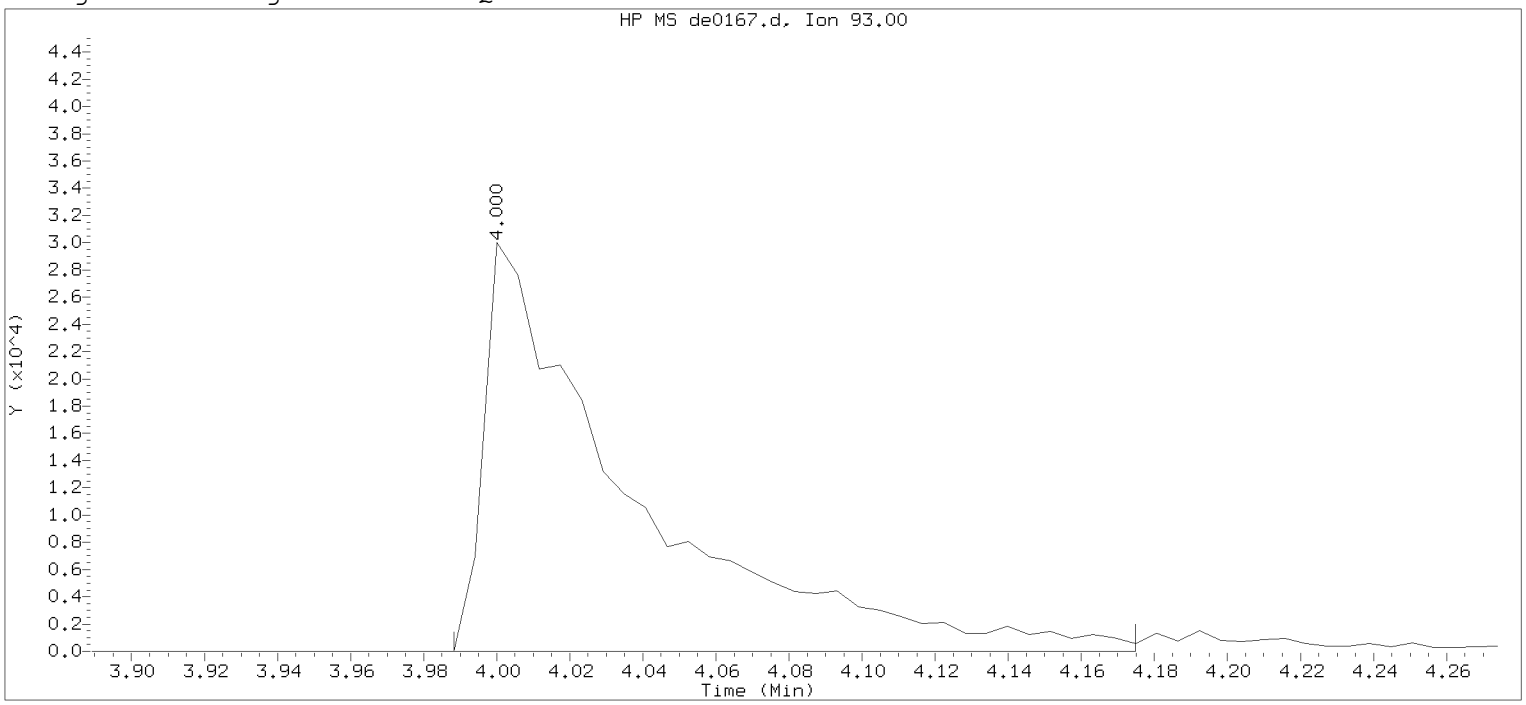
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

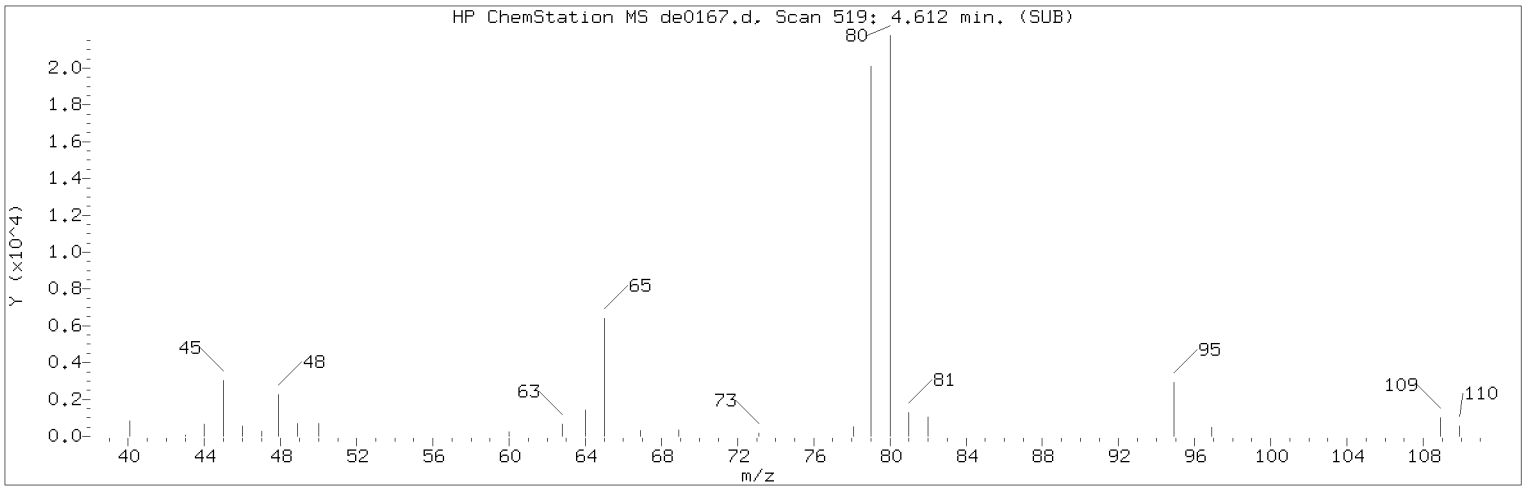
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

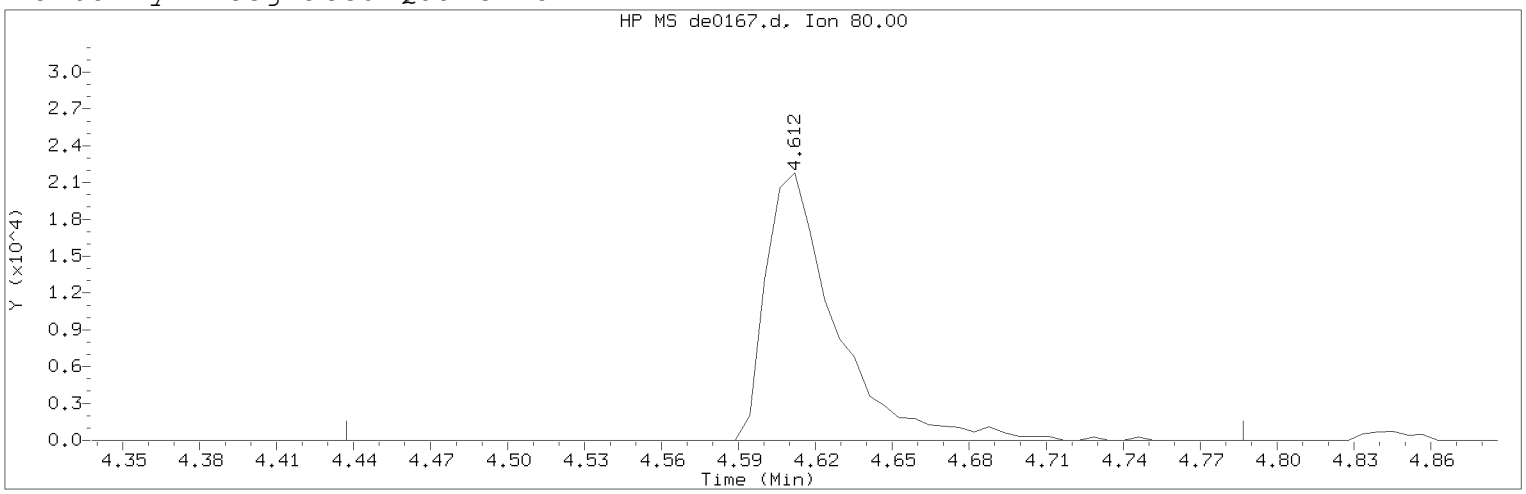
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 414		
Retention Time (minutes)	: 4.000		
Quant Ion	: 93.00		
Area	: 82801		
On-column Amount (ng/ul)	: 1.1907		
Integration start scan	: 411	Integration stop scan:	443
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

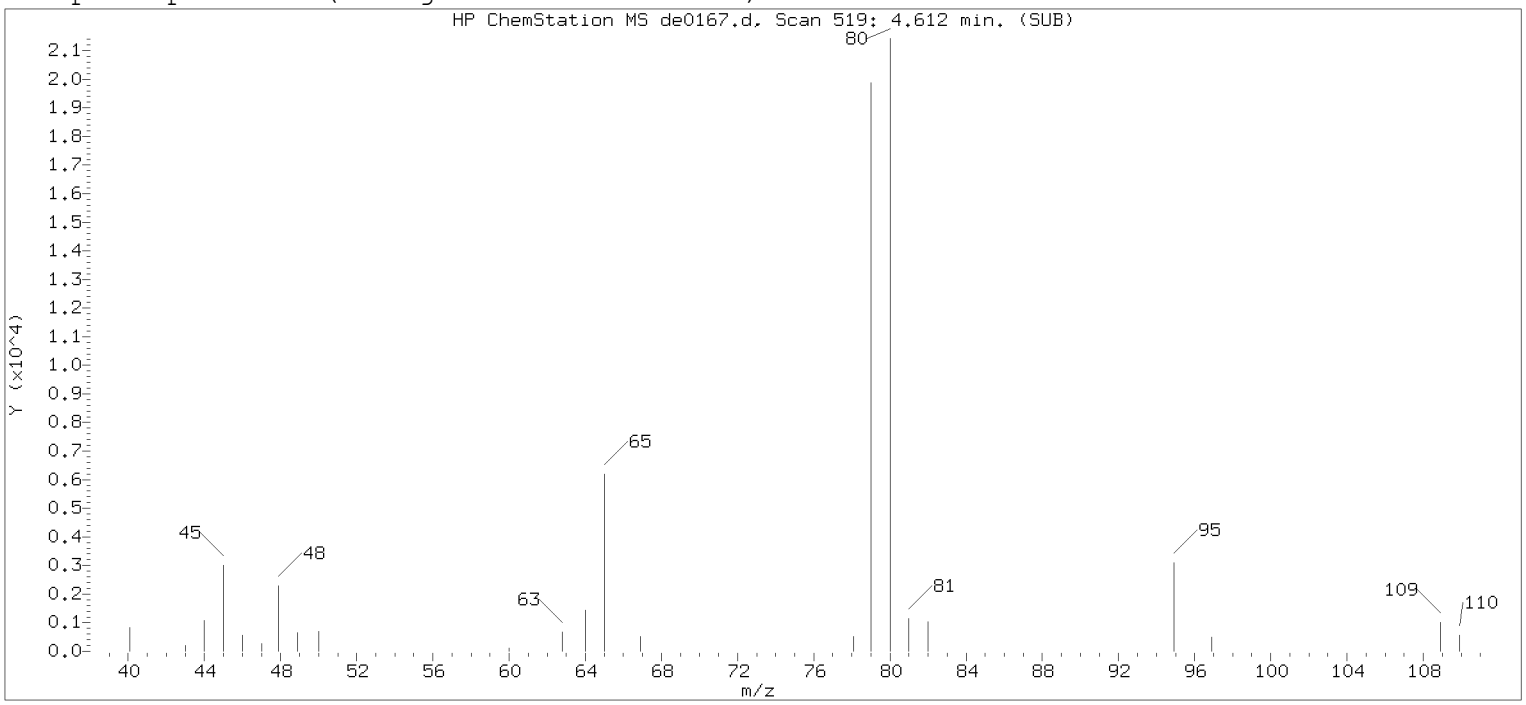
Compound Number : 9
Compound Name : Methyl methanesulfonate
Scan Number : 519
Retention Time (minutes) : 4.612
Quant Ion : 80.00
Area (flag) : 41467M
On-Column Amount (ng/ul) : 1.2075
Integration start scan : 488 Integration stop scan: 548
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

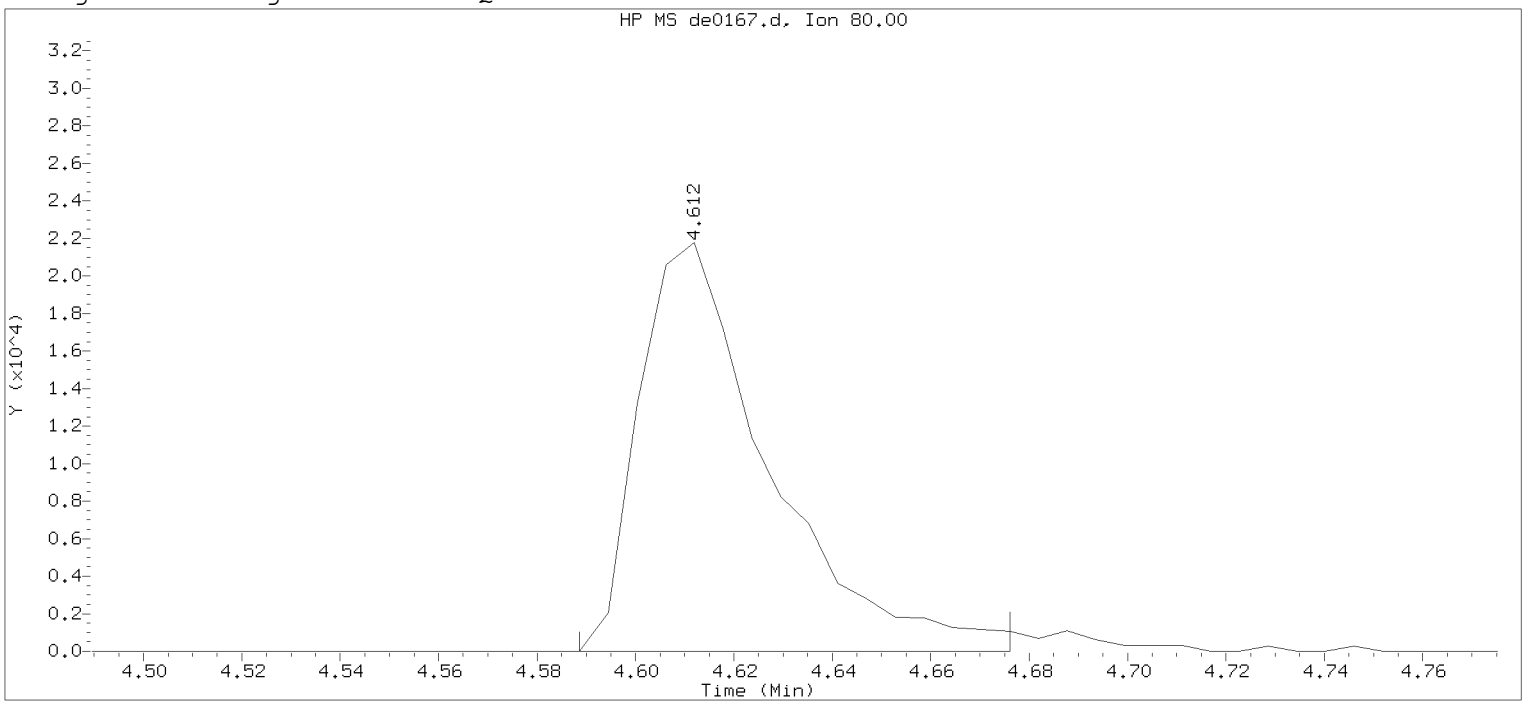
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

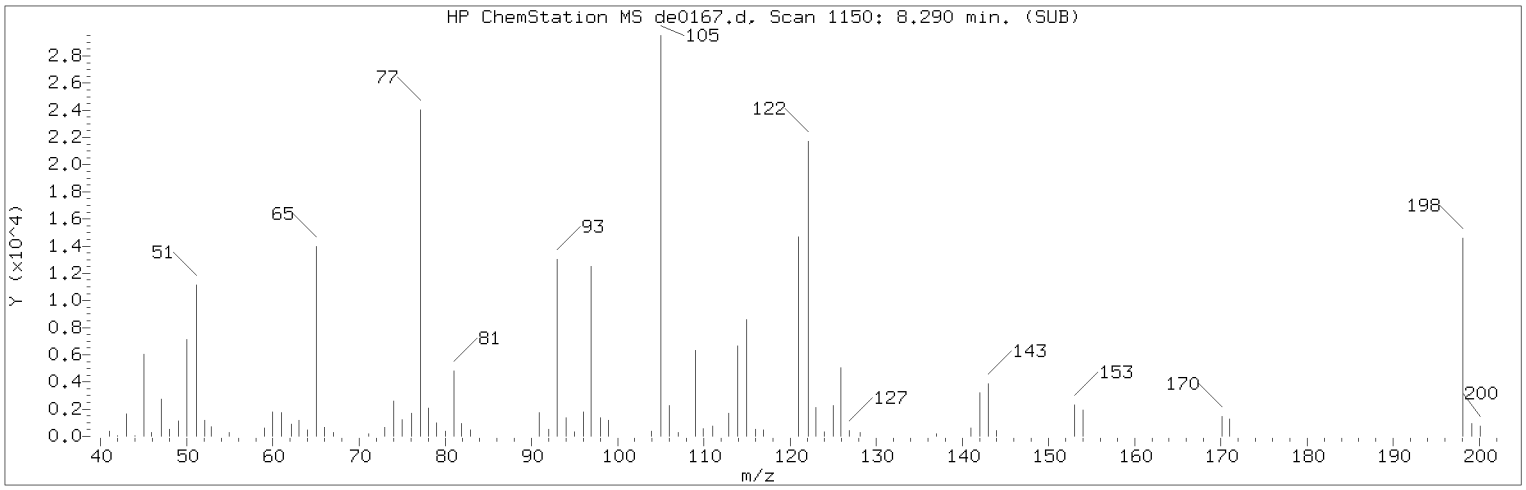
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

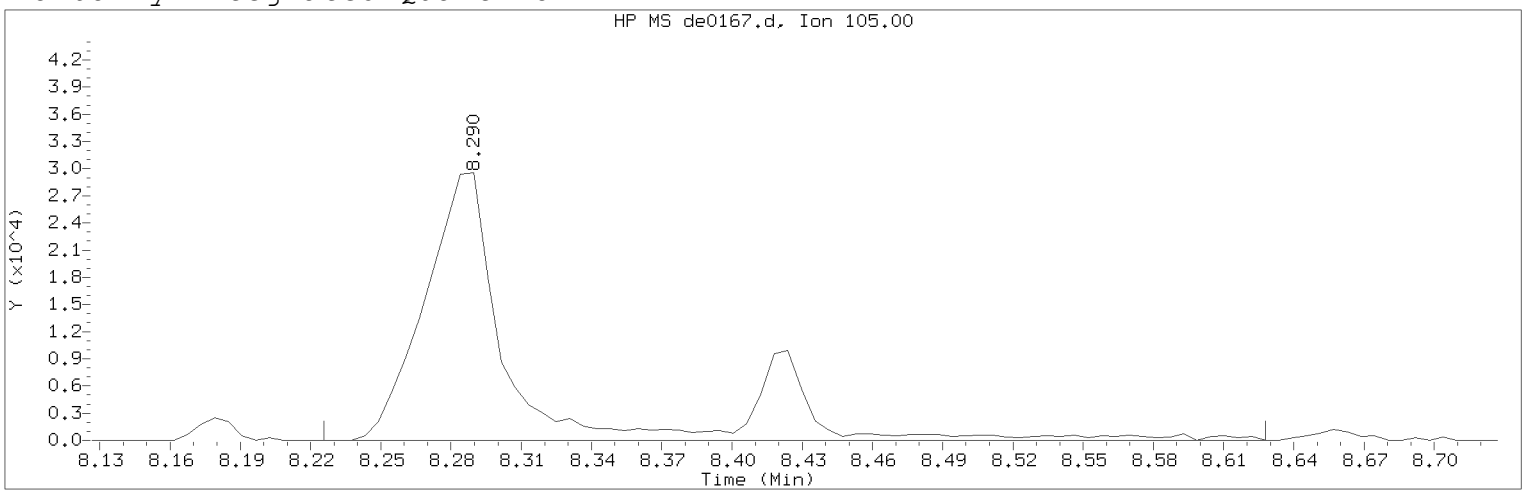
Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 519		
Retention Time (minutes)	: 4.612		
Quant Ion	: 80.00		
Area	: 39934		
On-column Amount (ng/ul)	: 1.1664		
Integration start scan	: 514	Integration stop scan:	529
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: 1361

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

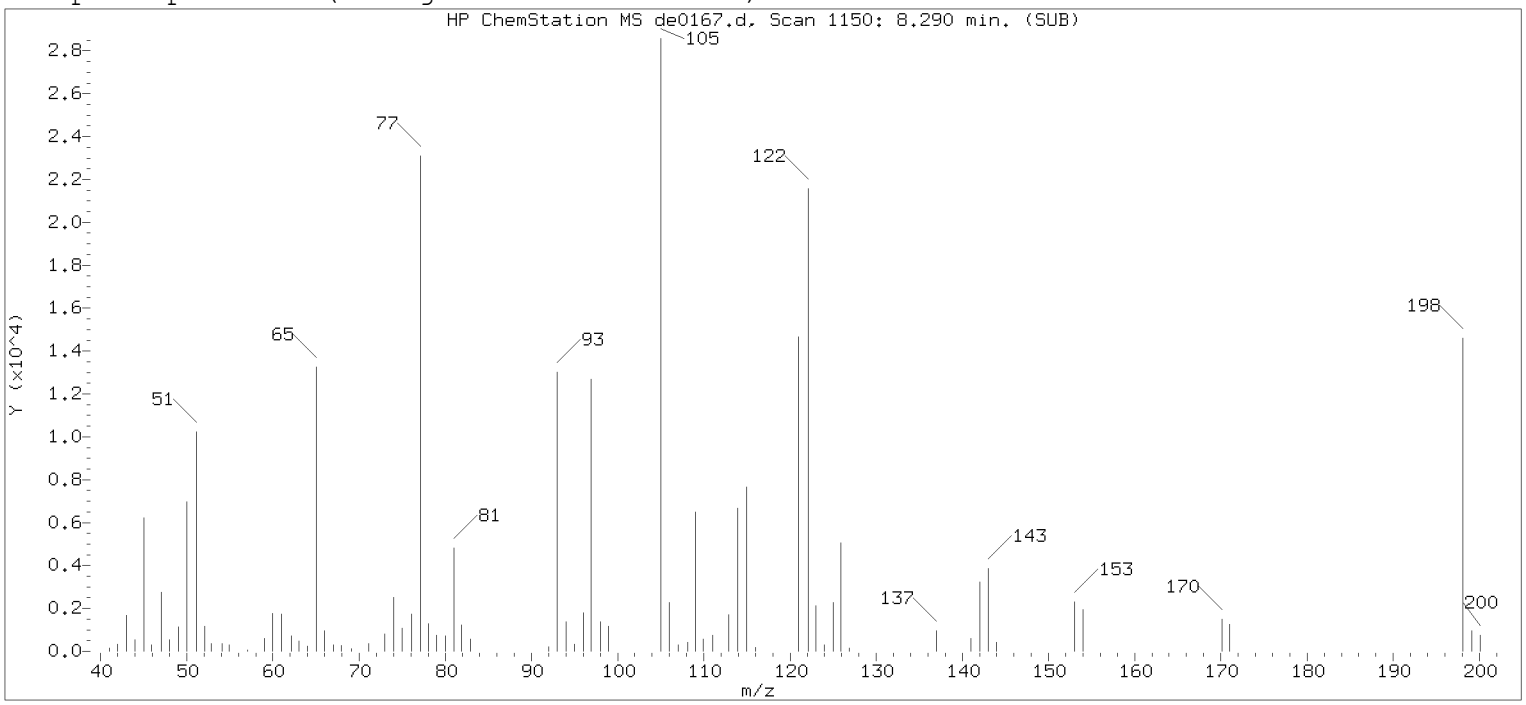
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1150
Retention Time (minutes) : 8.290
Quant Ion : 105.00
Area (flag) : 83803M
On-Column Amount (ng/ul) : 2.1188
Integration start scan : 1138 Integration stop scan: 1207
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

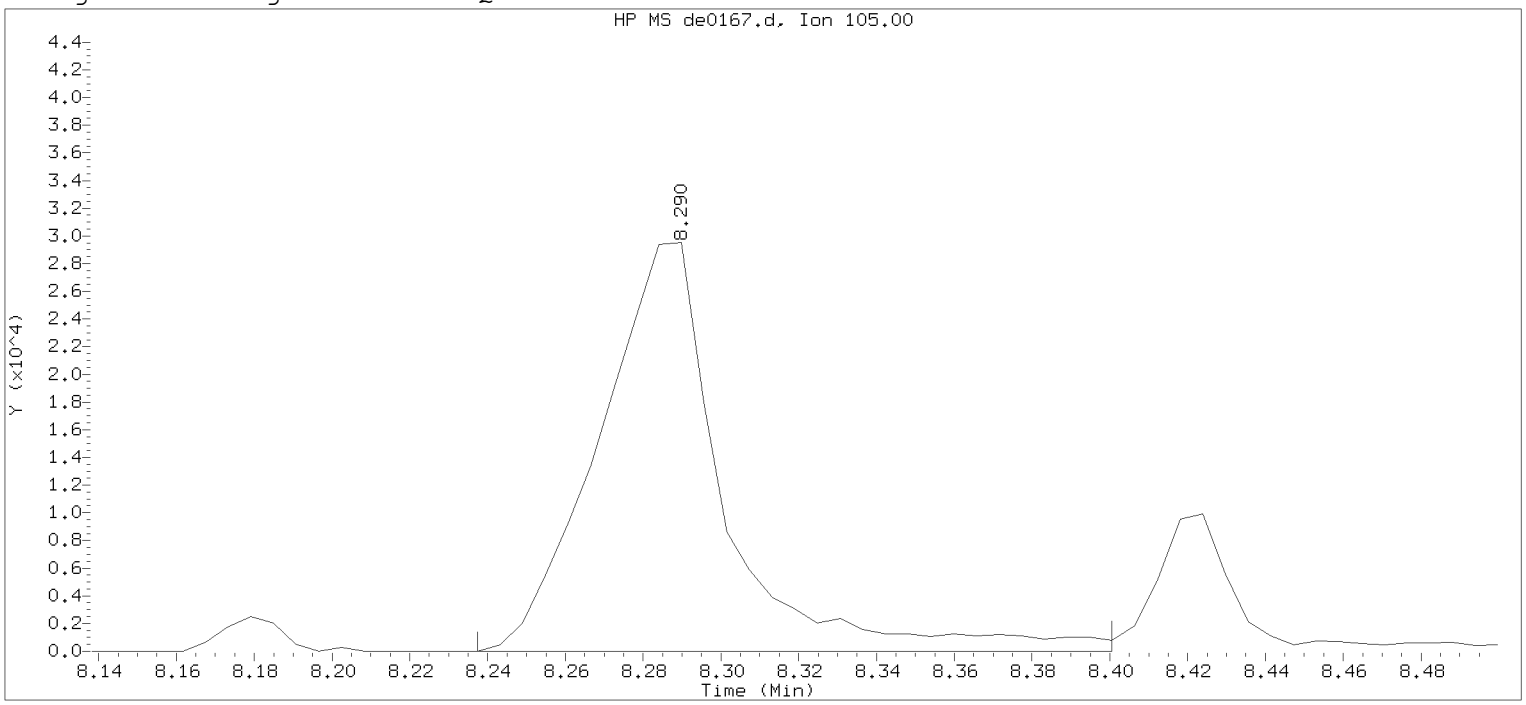
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



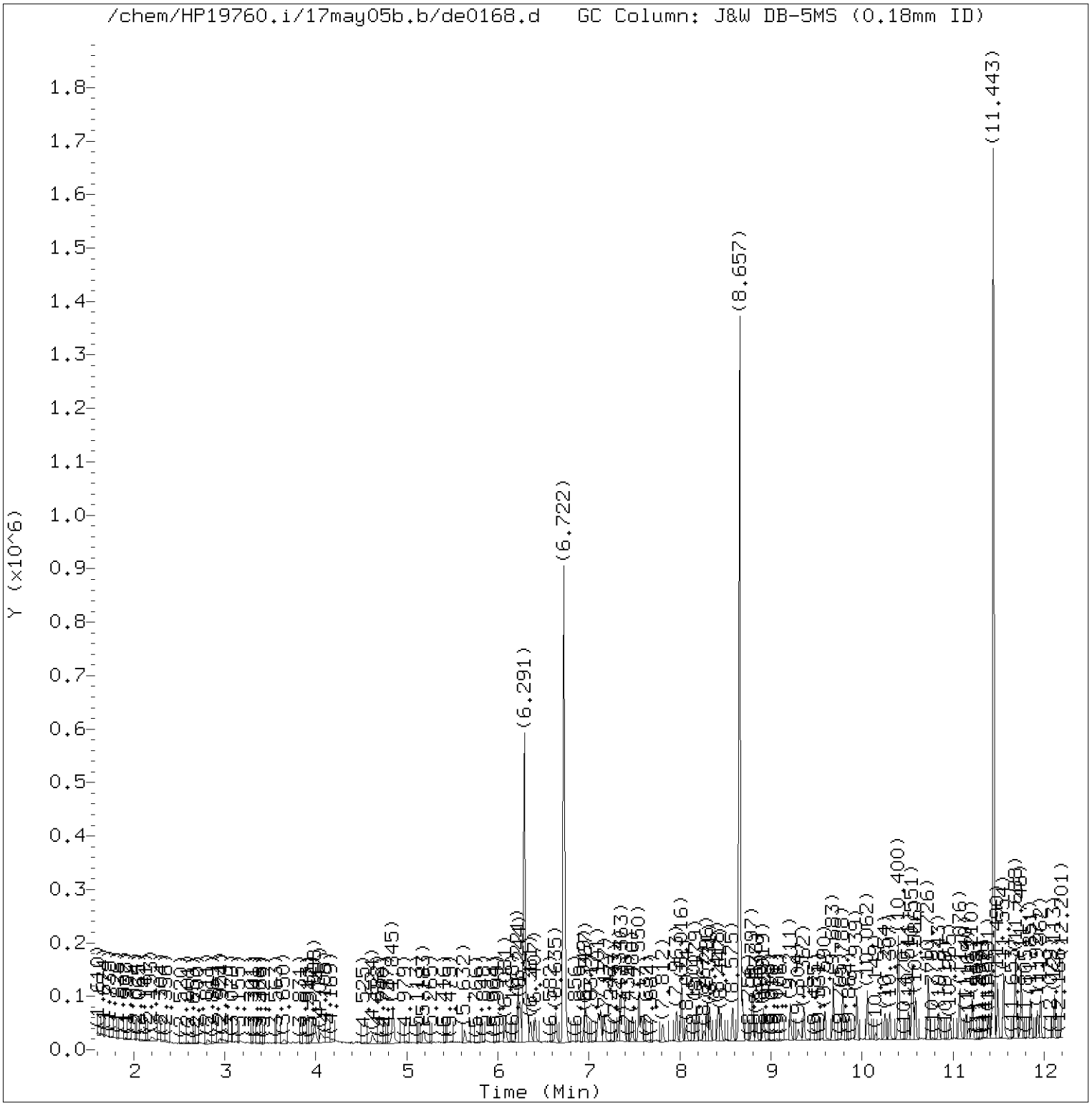
Data File: /chem/HP19760.i/17may05b.b/de0167.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:05 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:28
Date, time and analyst ID of latest file update: 05-May-2017 21:28 Automation

Sample Name: SSTD1.25 Lab Sample ID: RVSTD1107

Compound Number	: 56		
Compound Name	: Benzoic acid		
Scan Number	: 1150		
Retention Time (minutes)	: 8.290		
Quant Ion	: 105.00		
Area	: 66303		
On-column Amount (ng/ul)	: 1.8332		
Integration start scan	: 1140	Integration stop scan:	1168
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSmith



Total Ion Chromatogram (TIC)

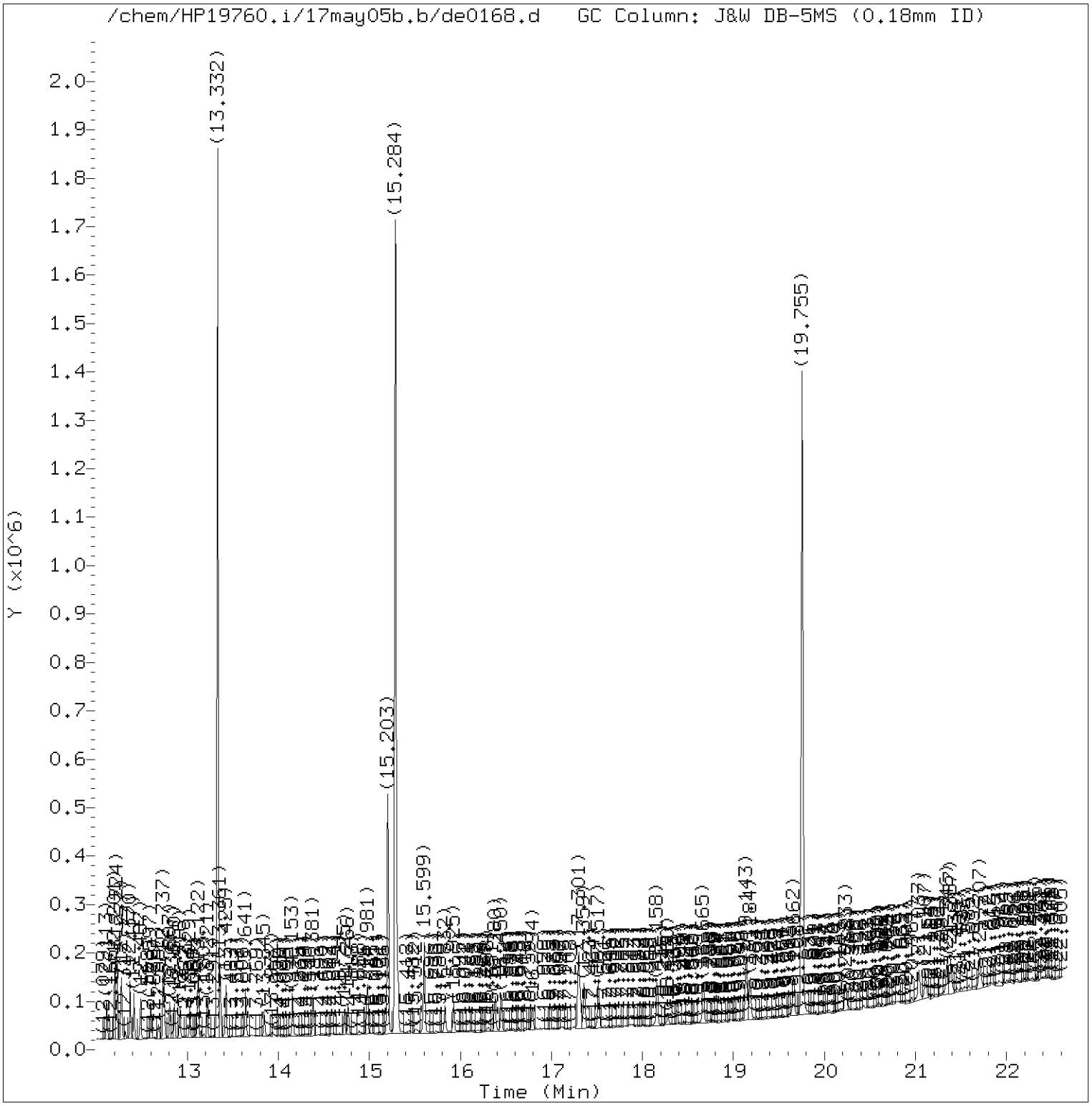
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.193	88	9149M	0.345
4) N-Nitrosodimethylamine	(1)	2.817	74	11498M	0.270
5) Pyridine	(1)	2.951	79	22304M	0.319
7) 2-Picoline	(1)	4.047	93	20774M	0.291
8) N-Nitrosomethylethylamine	(1)	4.192	88	8659M	0.284
9) Methyl methanesulfonate	(1)	4.624	80	9329M	0.267
11)$2-Fluorophenol	(1)	4.845	112	29109	0.517
13) N-Nitrosodiethylamine	(1)	5.183	102	6517	0.230
15) Ethyl methanesulfonate	(1)	5.632	109	7611	0.249
42) Total Cresols	(1)			32250	0.540
16) Benzaldehyde	(1)	6.081	77	12631	0.240
17)$Phenol-d6	(1)	6.215	99	40190	0.526
18) Phenol	(1)	6.238	94	23573	0.272
19) Aniline	(1)	6.244	93	27598	0.271
20) a-methylstyrene	(1)	6.326	118	12818	0.206
22) bis(2-Chloroethyl)ether	(1)	6.361	93	17770	0.276
23) 2-Chlorophenol	(1)	6.407	128	15010	0.266
24) 1,3-Dichlorobenzene	(1)	6.635	146	16400	0.269
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	181346	5.000
26) 1,4-Dichlorobenzene	(1)	6.745	146	17721	0.284
27) Benzyl alcohol	(1)	6.949	108	8305	0.207
28) 1,2-Dichlorobenzene	(1)	6.967	146	16682	0.284
30) Indene	(1)	7.101	115	23689	0.216
31) 2-Methylphenol	(1)	7.124	108	14478	0.261
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	28695	0.302
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	28695	0.302
35) N-Nitrosopyrrolidine	(1)	7.293	100	8166	0.262
36) Acetophenone	(1)	7.334	105	18618	0.223
38) N-Nitroso-di-n-propylamine	(1)	7.351	70	14435	0.287
39) N-Nitrosomorpholine	(1)	7.363	56	13602	0.318
37) 4-Methylphenol	(1)	7.363	108	17772	0.279
97) Isosafrole	(3)			12336	0.267
40) o-Toluidine	(1)	7.386	106	26493	0.271
43) Hexachloroethane	(1)	7.480	117	6753	0.264
44)$Nitrobenzene-d5	(2)	7.550	82	39171	0.545
45) Nitrobenzene	(2)	7.579	77	19293	0.267
48) N-Nitrosopiperidine	(2)	7.806	114	7366	0.258
50) Isophorone	(2)	7.963	82	32516	0.263
120) 2,4_2,6-Dinitrotoluenes	(3)			14618	0.496
51) 2-Nitrophenol	(2)	8.068	139	7389	0.258

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	16347	0.265
56) Benzoic acid	(2)	8.267	105	11608	0.290
57) O,O,O-Triethylphosphorothioate	(2)	8.302	198	7851	0.270
55) bis(2-Chloroethoxy)methane	(2)	8.331	93	22414	0.283
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.418	104	19785	0.218
60) 2,4-Dichlorophenol	(2)	8.453	162	11473	0.251
62) 1,2,4-Trichlorobenzene	(2)	8.575	180	14754	0.275
65)*Naphthalene-d8	(2)	8.657	136	693503	5.000
66) Naphthalene	(2)	8.686	128	44200	0.267
146) Diallate trans/cis	(4)			15190	0.277
67) 4-Chloroaniline	(2)	8.791	127	18144	0.270
68) 2,6-Dichlorophenol	(2)	8.803	162	11971	0.265
69) Hexachloropropene	(2)	8.844	213	8918	0.246
71) Hexachlorobutadiene	(2)	8.919	225	8117	0.256
75) Quinoline	(2)	9.211	129	29164	0.286
76) Caprolactam	(2)	9.304	113	2614	0.184
77) N-Nitrosodi-n-butylamine	(2)	9.362	84	12847	0.253
80) 4-Chloro-3-methylphenol	(2)	9.590	107	13312	0.256
82) Safrole	(2)	9.683	162	10801	0.261
83) 2-Methylnaphthalene	(2)	9.788	142	28099	0.259
84) 1-Methylnaphthalene	(2)	9.939	142	26915	0.270
85) Hexachlorocyclopentadiene	(3)	10.062	237	5697	0.213
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	15708	0.280
88) cis-Isosafrole	(3)	10.149	162	1953	0.044
90) 2,4,6-Trichlorophenol	(3)	10.254	196	8253	0.241
92) 2,4,5-Trichlorophenol	(3)	10.307	196	9440	0.256
93)$2-Fluorobiphenyl	(3)	10.400	172	67580	0.554
94) trans-Isosafrole	(3)	10.511	162	10383	0.223
95) 1,1'-Biphenyl	(3)	10.551	154	26872	0.229
96) 2-Chloronaphthalene	(3)	10.557	162	28598	0.289
98) 1-Chloronaphthalene	(3)	10.586	162	26567	0.281
99) Diphenyl ether	(3)	10.726	170	19330	0.279
100) 2-Nitroaniline	(3)	10.732	138	7986	0.260
104) 1,4-Naphthoquinone	(3)	10.843	158	10120	0.246
105) 1,4-Dinitrobenzene	(3)	10.965	168	3933	0.243
106) Dimethylphthalate	(3)	11.070	163	32114	0.281
107) 1,3-Dinitrobenzene	(3)	11.082	168	4039	0.227
108) 2,6-Dinitrotoluene	(3)	11.146	165	6532	0.258
109) Acenaphthylene	(3)	11.210	152	37972	0.262
112) 3-Nitroaniline	(3)	11.391	138	5994	0.229

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.443	164	392347	5.000
114) Acenaphthene	(3)	11.490	153	28998	0.275
115) 2,4-Dinitrophenol	(3)	11.554	184	15768	1.070
116) 4-Nitrophenol	(3)	11.682	109	17071	0.883
117) Pentachlorobenzene	(3)	11.694	250	12285	0.271
119) Dibenzofuran	(3)	11.746	168	40888	0.284
118) 2,4-Dinitrotoluene	(3)	11.752	165	8086	0.238
121) 1-Naphthylamine	(3)	11.851	143	25674	0.252
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	6496	0.234
123) 2-Naphthylamine	(3)	11.962	143	26526	0.262
124) Diethylphthalate	(3)	12.113	149	29250	0.264
126) Fluorene	(3)	12.201	166	30820	0.267
125) Thionazin	(3)	12.213	107	5497	0.249
128) 5-Nitro-o-toluidine	(3)	12.224	152	9069	0.285
129) 4-Nitroaniline	(3)	12.224	138	6210	0.239
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	15205	0.270
130) 4,6-Dinitro-2-methylphenol	(4)	12.277	198	15902	0.791
132) NDPA as diphenylamine	(4)	12.370	169	25587	0.277
131) N-Nitrosodiphenylamine	(4)	12.370	169	25587	0.277
134) 1,2-Diphenylhydrazine	(4)	12.417	77	36141	0.277
135)$2,4,6-Tribromophenol	(3)	12.487	330	6722	0.460
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	6007	0.282
139) 1,3,5-Trinitrobenzene	(4)	12.685	213	2363	0.182
140) Diallate (peak 1)	(4)	12.731	86	13260	0.235
141) Phorate	(4)	12.737	75	21529	0.256
142) Phenacetin	(4)	12.749	108	14290	0.232
143) 4-Bromophenyl-phenylether	(4)	12.807	248	8531	0.269
144) Diallate (peak 2)	(4)	12.836	86	1930	0.042
145) Hexachlorobenzene	(4)	12.860	284	9367	0.280
147) Dimethoate	(4)	12.918	87	13240	0.245
148) Atrazine	(4)	13.029	200	7024	0.240
149) Pentachlorophenol	(4)	13.110	266	2914	0.159
150) 4-Aminobiphenyl	(4)	13.116	169	27077	0.264
151) Pentachloronitrobenzene	(4)	13.122	237	3617	0.248
152) Pronamide	(4)	13.221	173	13087	0.246
153)*Phenanthrene-d10	(4)	13.332	188	745727	5.000
155) Phenanthrene	(4)	13.361	178	46246	0.277
154) Dinoseb	(4)	13.361	211	5050	0.164
157) Anthracene	(4)	13.425	178	42191	0.254
163) Carbazole	(4)	13.641	167	41040	0.266

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

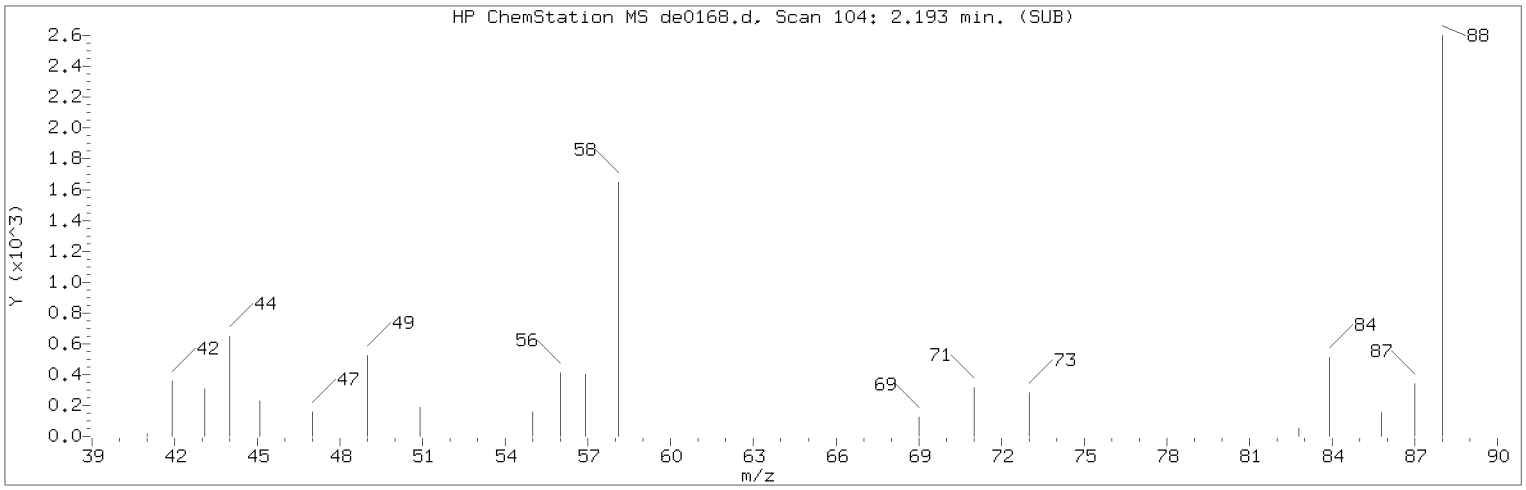
Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.845	109	9017	0.216
165) Di-n-butylphthalate	(4)	14.153	149	50157	0.263
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	2002	0.115
167) Parathion	(4)	14.387	109	5597	0.211
169) Octachlorostyrene	(4)	14.731	308	2697	0.215
171) Isodrin	(4)	14.766	193	5932	0.294
173) Fluoranthene	(4)	14.981	202	48595	0.255
222) Total PAHs	(6)			737244	4.677
174) Benzidine	(5)	15.203	184	224066	1.899
175)*Pyrene-d10	(5)	15.284	212	891777	5.000
177) Pyrene	(5)	15.313	202	54987	0.272
179)$Terphenyl-d14	(5)	15.599	244	70949	0.542
182) p-Dimethylaminoazobenzene	(5)	15.832	225	7908	0.245
185) Chlorobenzilate	(5)	15.925	139	15185	0.255
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	32076	0.245
188) Butylbenzylphthalate	(5)	16.450	149	21654	0.242
191) 2-Acetylaminofluorene	(5)	16.788	181	16695	0.200
193) 3,3'-Dichlorobenzidine	(5)	17.295	252	18571	0.254
195) Benzo(a)anthracene	(5)	17.301	228	47888	0.247
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	9355	0.236
196) Chrysene	(5)	17.359	228	47823	0.262
199) bis(2-Ethylhexyl)phthalate	(5)	17.517	149	31754	0.237
203) 6-Methylchrysene	(5)	18.158	242	33295	0.256
205) Di-n-octylphthalate	(6)	18.671	149	54481	0.240
206) Benzo(b)fluoranthene	(6)	19.137	252	49558	0.262
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.143	256	17213	0.224
208) Benzo(k)fluoranthene	(6)	19.184	252	47338	0.260
211) Benzo(a)pyrene	(6)	19.662	252	43864	0.251
213)*Perylene-d12	(6)	19.755	264	694492	5.000
215) 3-Methylcholanthrene	(6)	20.233	268	18654	0.240
217) Dibenz(a,h)acridine	(6)	21.037	279	29430	0.234
218) Dibenz(a,j)acridine	(6)	21.107	279	25993	0.211
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	42573	0.248
220) Dibenz(a,h)anthracene	(6)	21.387	278	33412	0.234
221) Benzo(g,h,i)perylene	(6)	21.707	276	35765	0.255

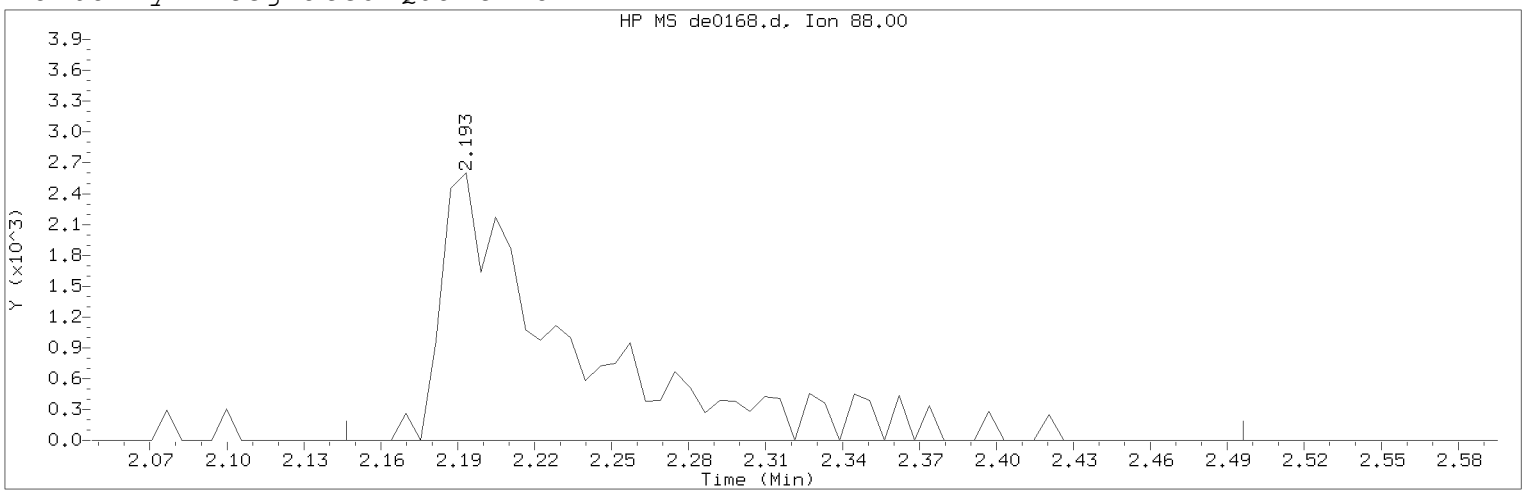
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

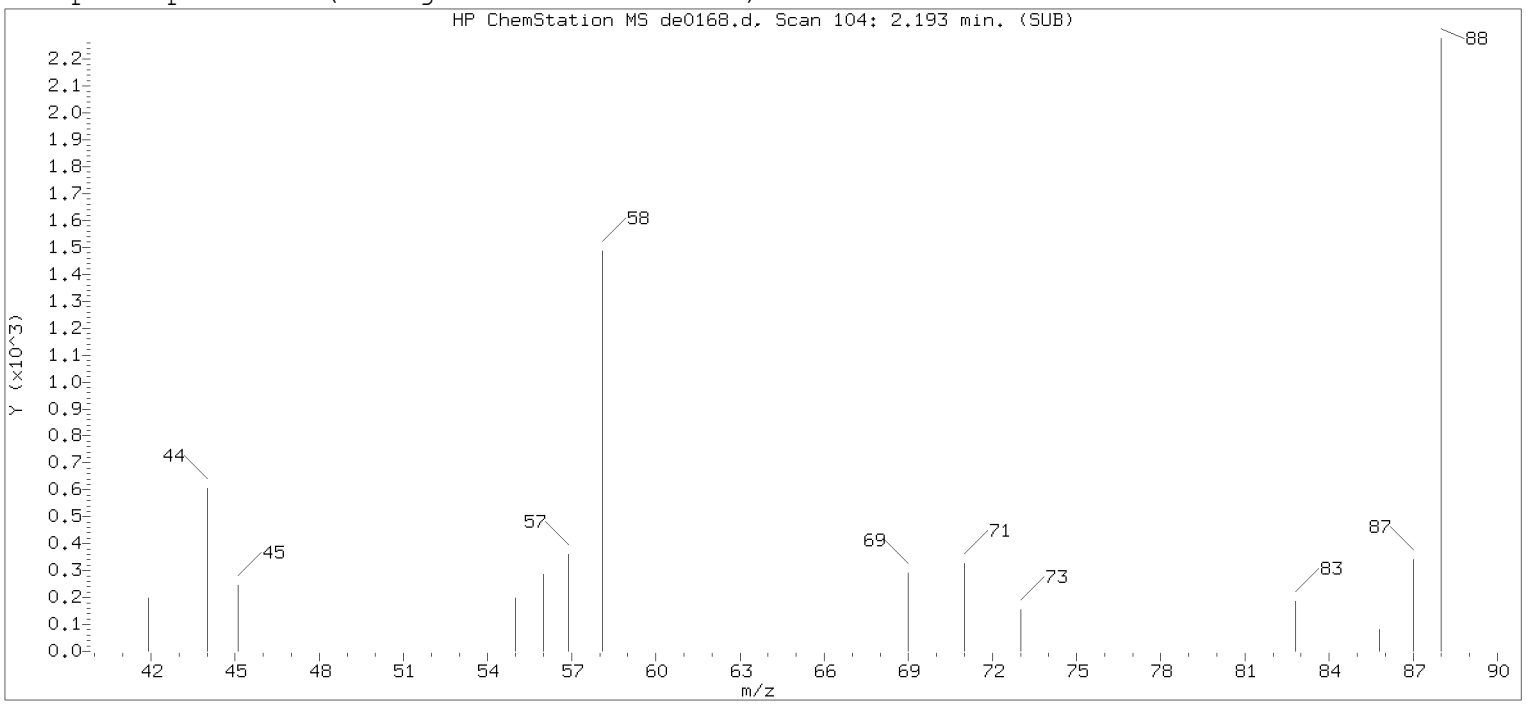
Compound Number : 1
Compound Name : 1,4-Dioxane
Scan Number : 104
Retention Time (minutes) : 2.193
Quant Ion : 88.00
Area (flag) : 9149M
On-Column Amount (ng/ul) : 0.3450
Integration start scan : 95 Integration stop scan: 155
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

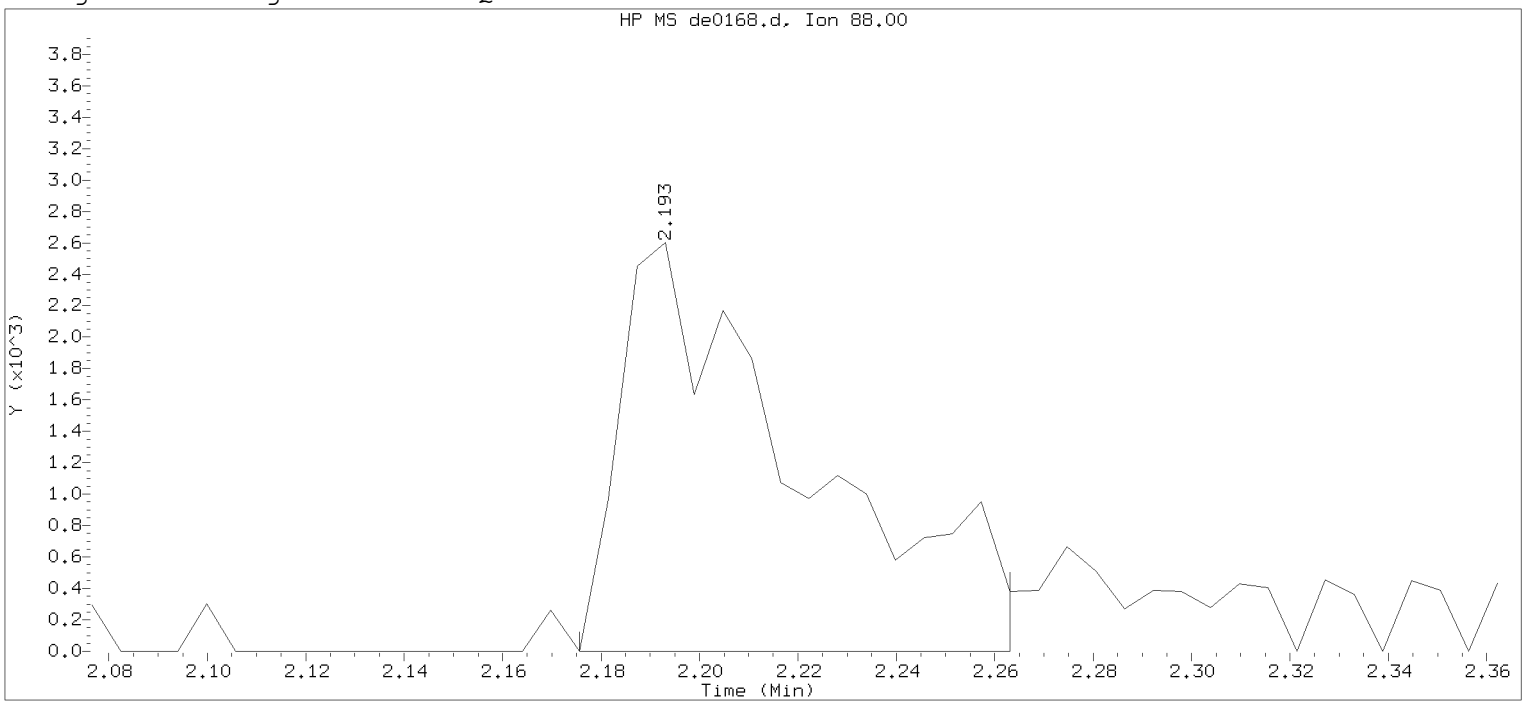
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

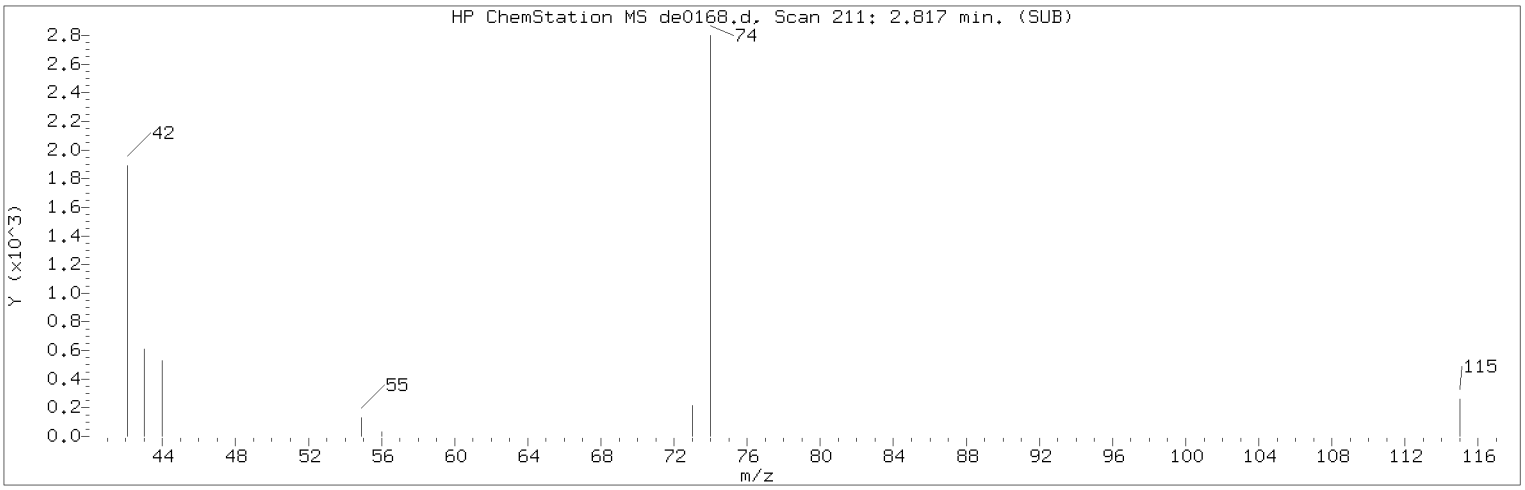
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

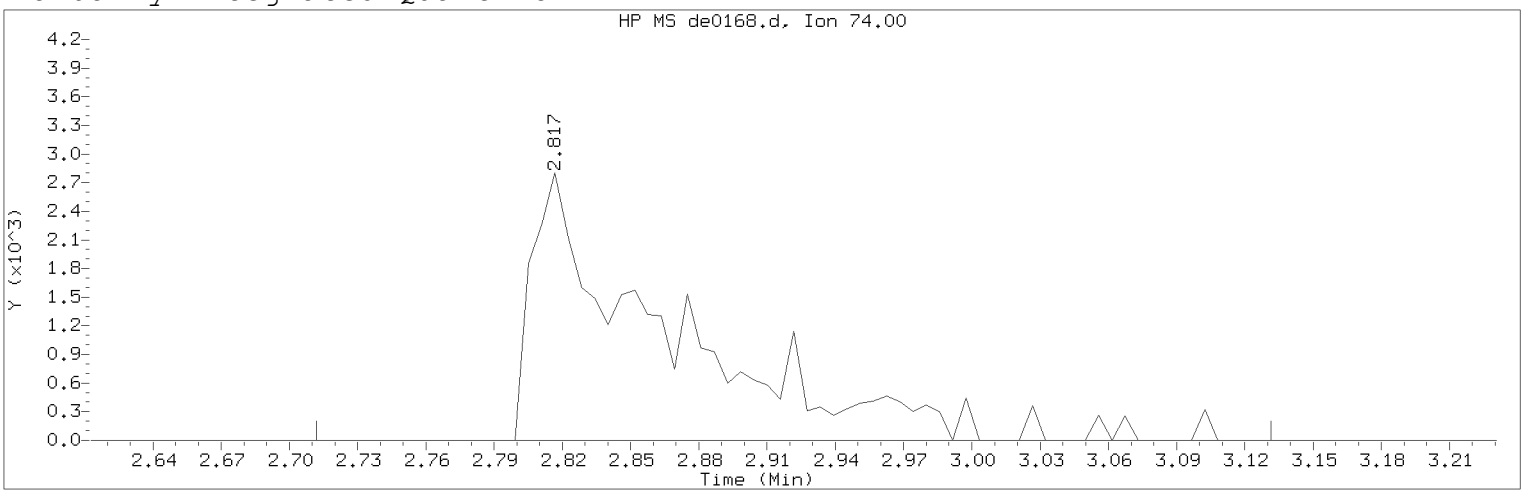
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 104		
Retention Time (minutes)	: 2.193		
Quant Ion	: 88.00		
Area	: 6659		
On-column Amount (ng/ul)	: 0.2505		
Integration start scan	: 100	Integration stop scan:	115
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSMITH

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

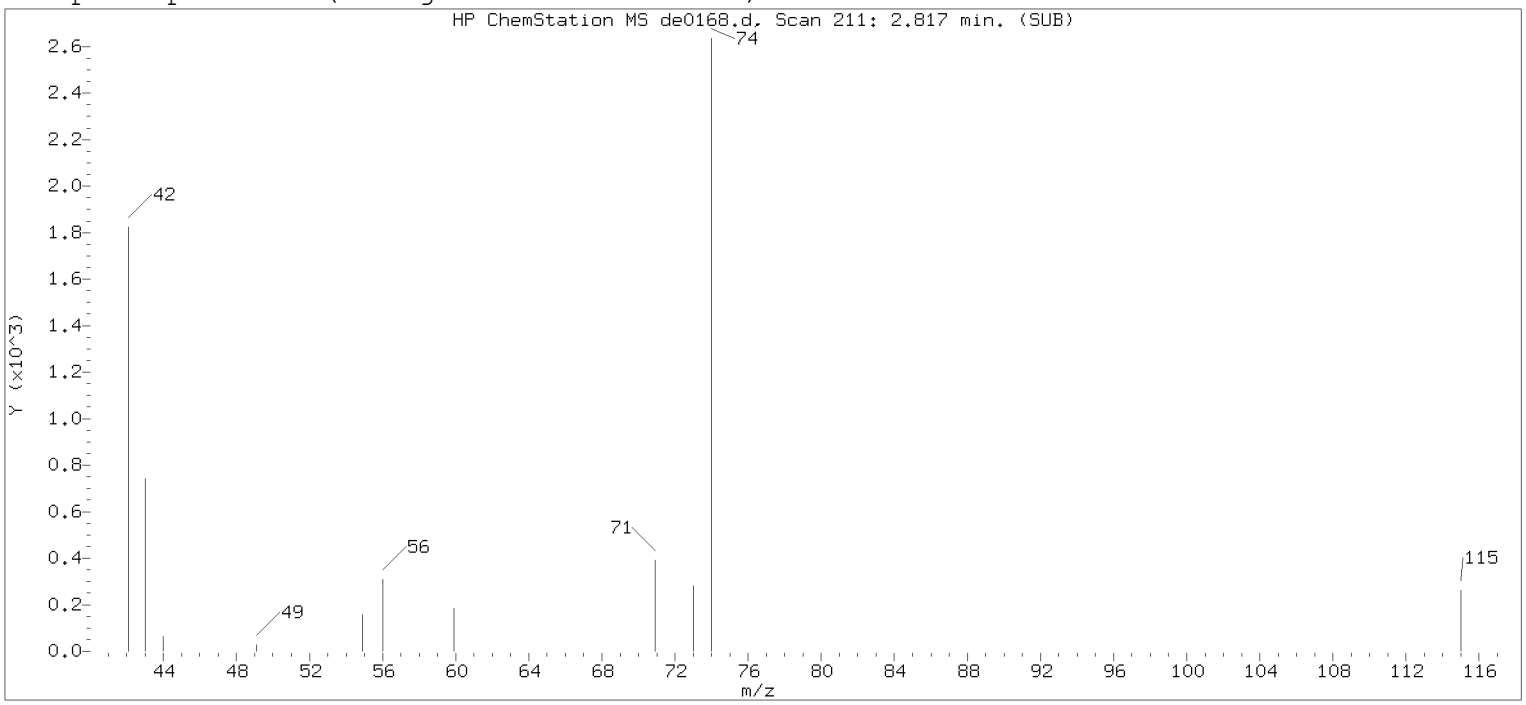
Compound Number : 4
Compound Name : N-Nitrosodimethylamine
Scan Number : 211
Retention Time (minutes) : 2.817
Quant Ion : 74.00
Area (flag) : 11498M
On-Column Amount (ng/ul) : 0.2697
Integration start scan : 192 Integration stop scan: 264
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

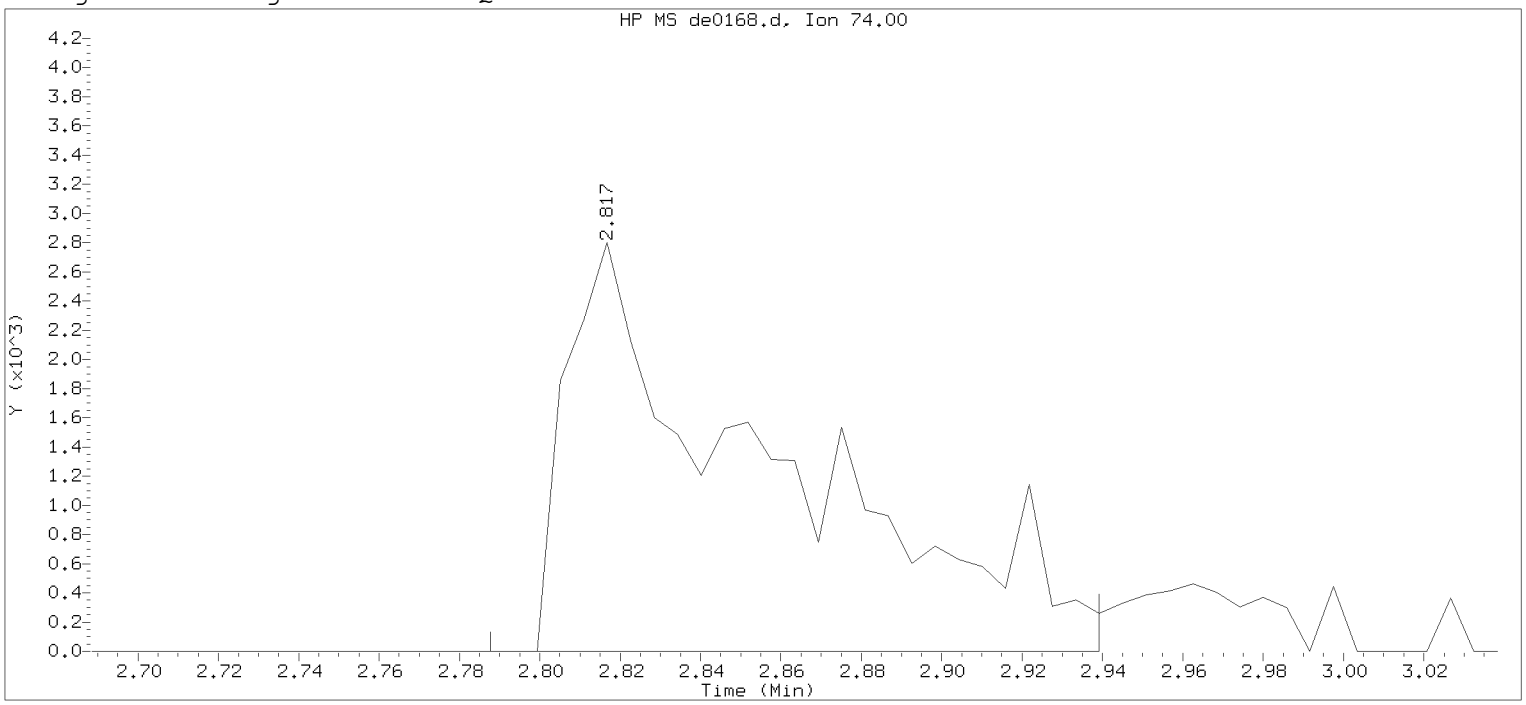
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

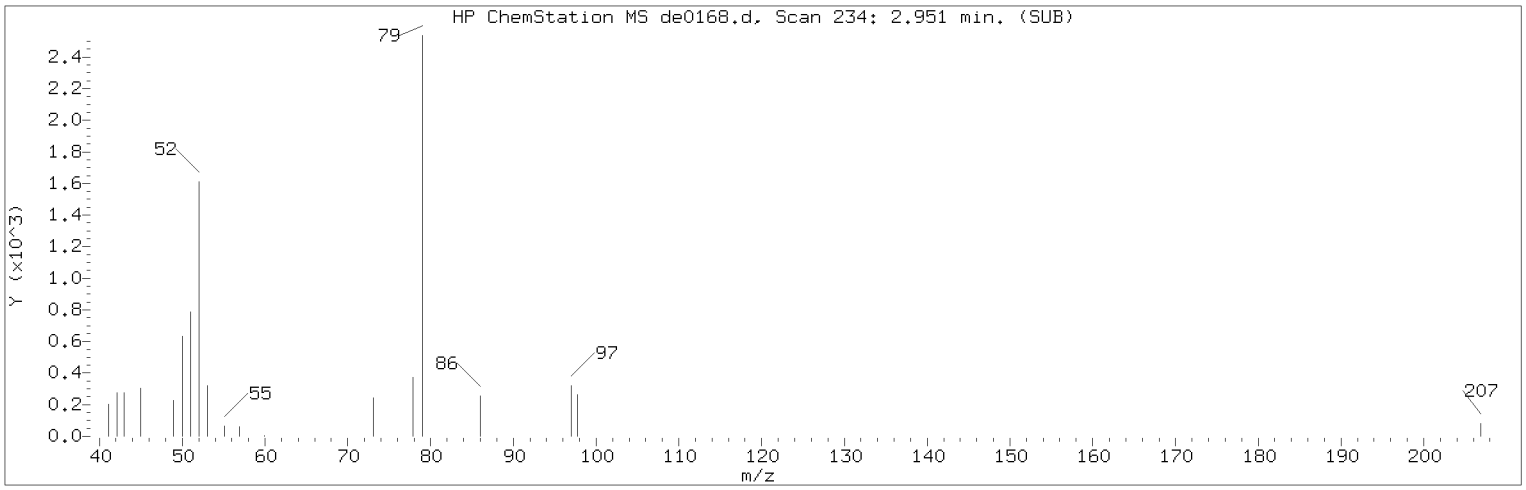
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

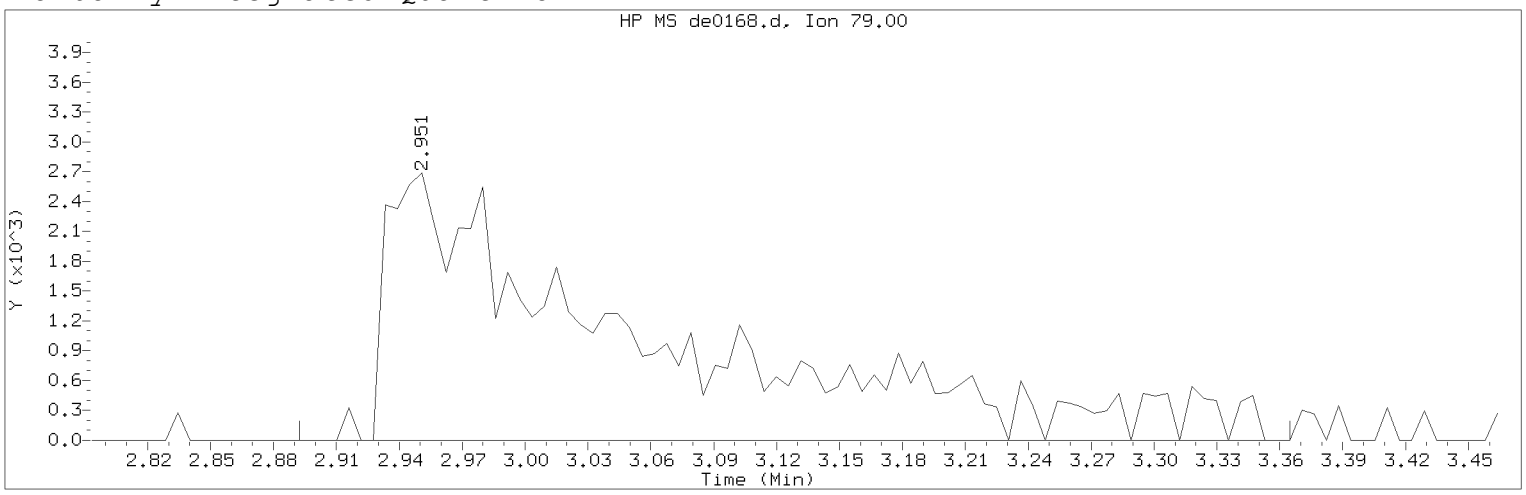
Compound Number	: 4		
Compound Name	: N-Nitrosodimethylamine		
Scan Number	: 211		
Retention Time (minutes)	: 2.817		
Quant Ion	: 74.00		
Area	: 9837		
On-column Amount (ng/ul)	: 0.2313		
Integration start scan	: 205	Integration stop scan:	231
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

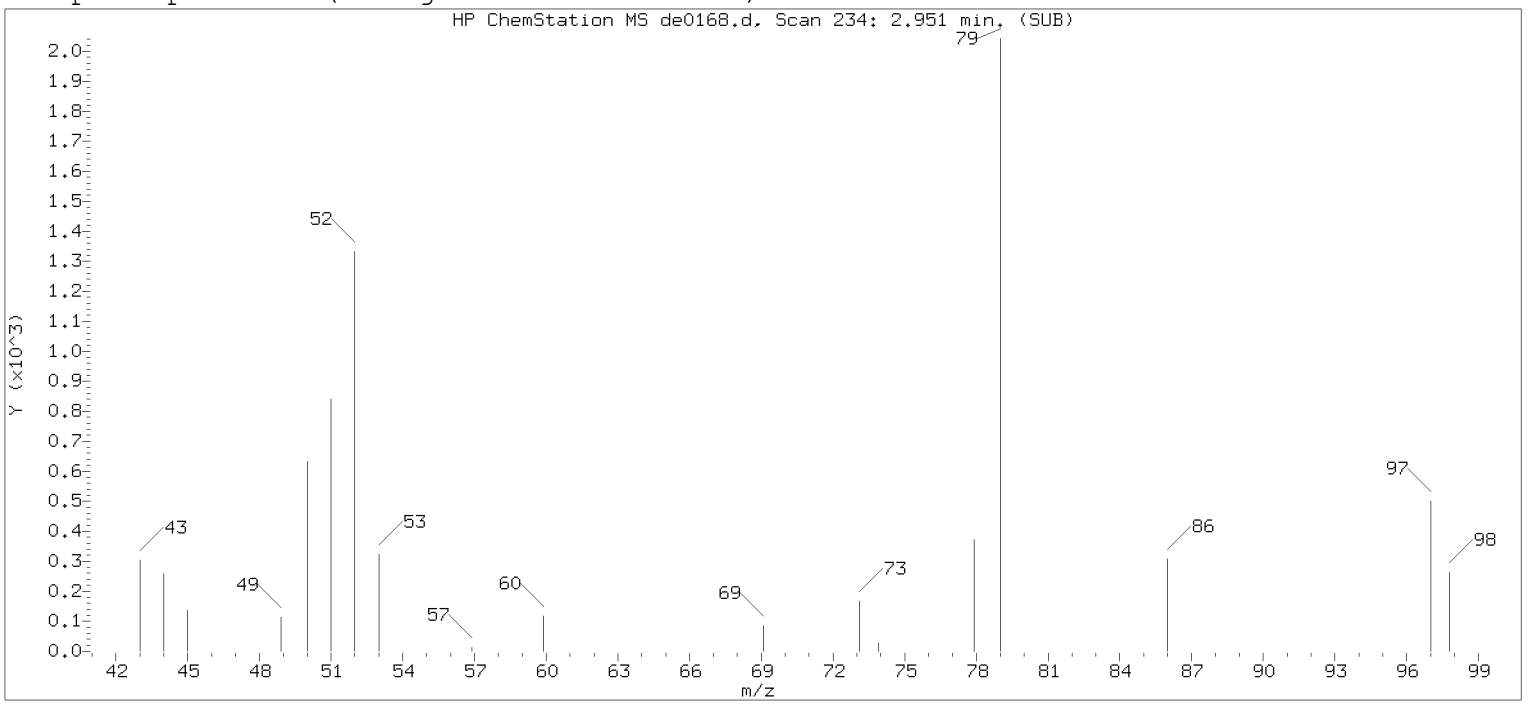
Compound Number : 5
Compound Name : Pyridine
Scan Number : 234
Retention Time (minutes) : 2.951
Quant Ion : 79.00
Area (flag) : 22304M
On-Column Amount (ng/ul) : 0.3188
Integration start scan : 223 Integration stop scan: 304
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

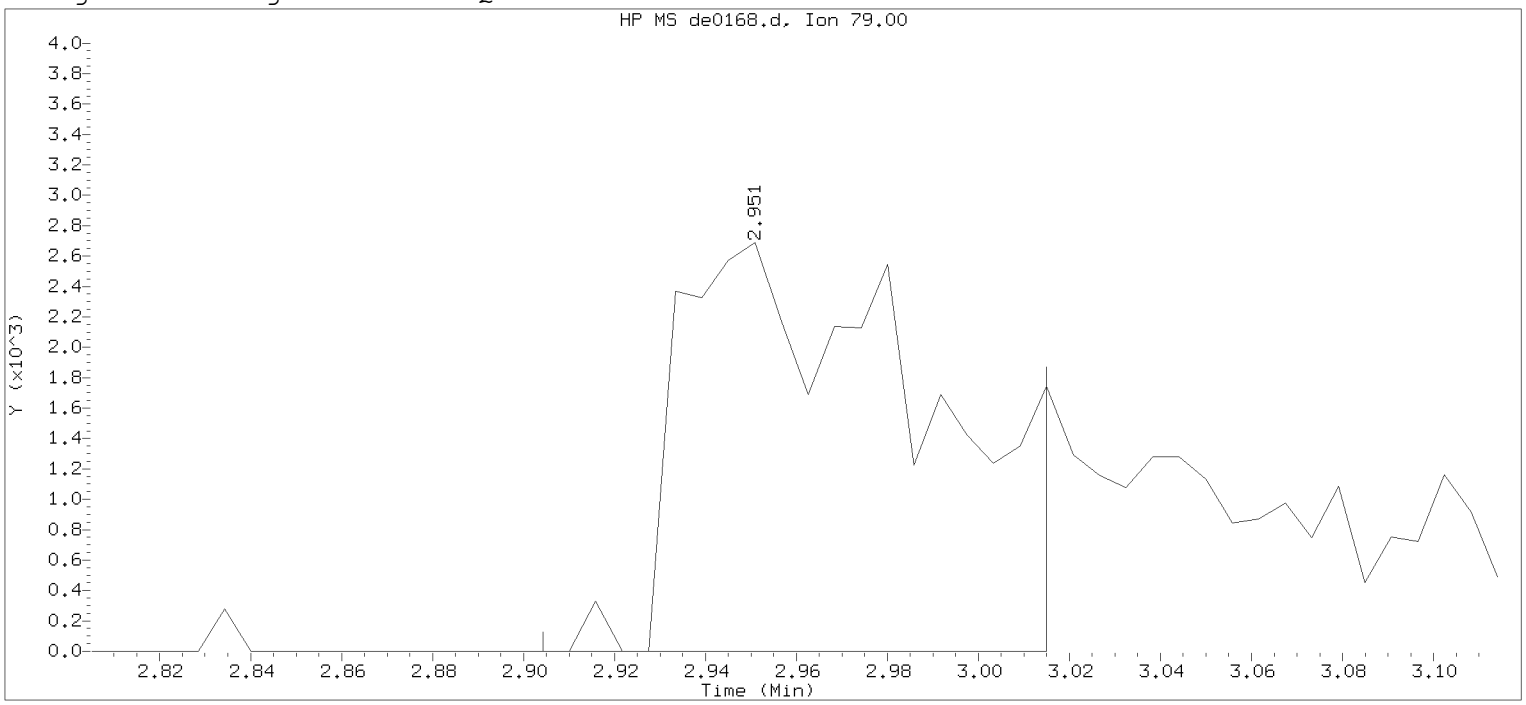
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

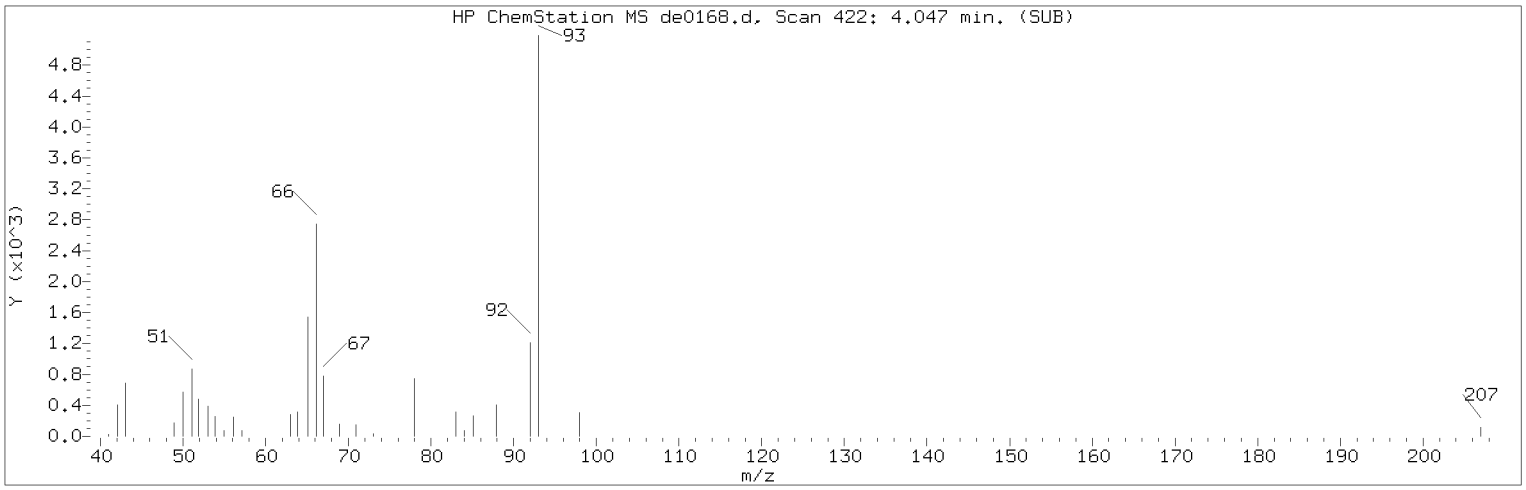
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

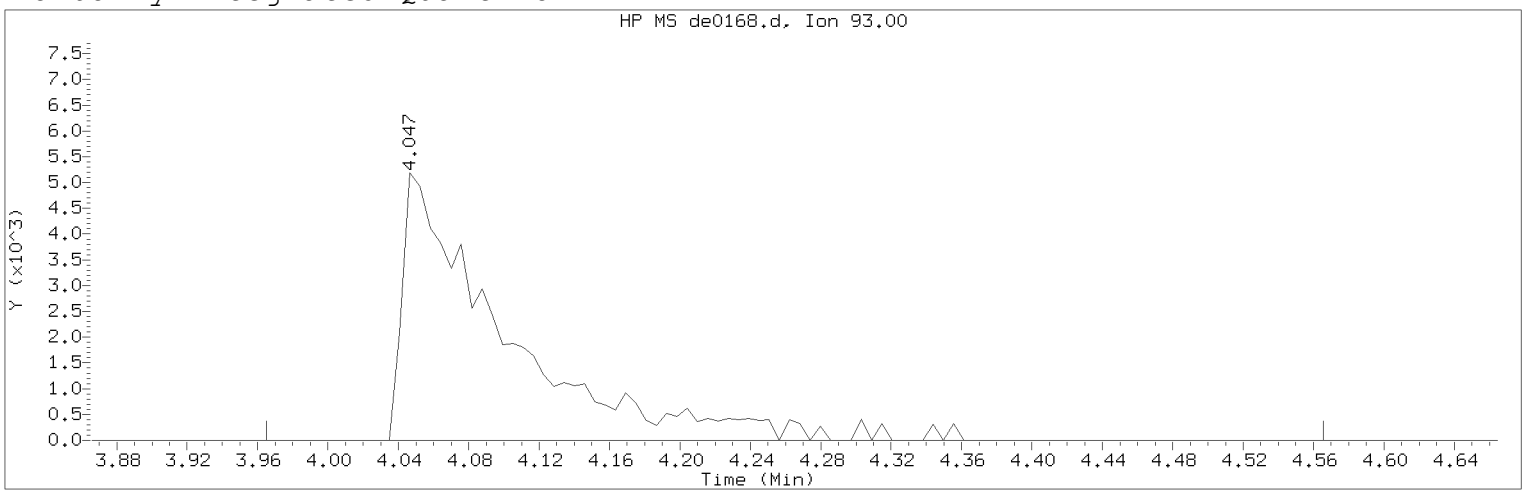
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 234		
Retention Time (minutes)	: 2.951		
Quant Ion	: 79.00		
Area	: 10053		
On-column Amount (ng/ul)	: 0.1440		
Integration start scan	: 225	Integration stop scan:	244
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSMITH

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

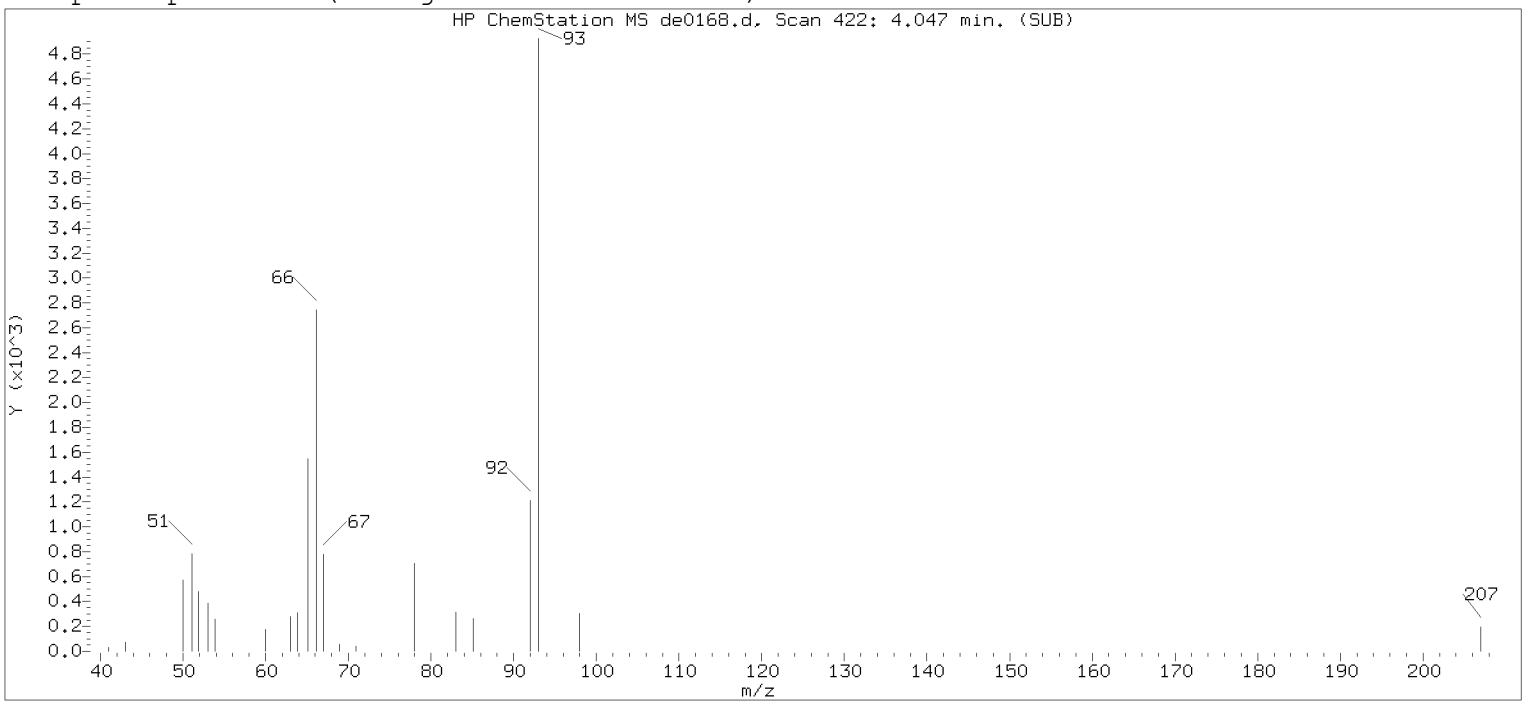
Compound Number : 7
Compound Name : 2-Picoline
Scan Number : 422
Retention Time (minutes) : 4.047
Quant Ion : 93.00
Area (flag) : 20774M
On-Column Amount (ng/ul) : 0.2908
Integration start scan : 407 Integration stop scan: 510
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

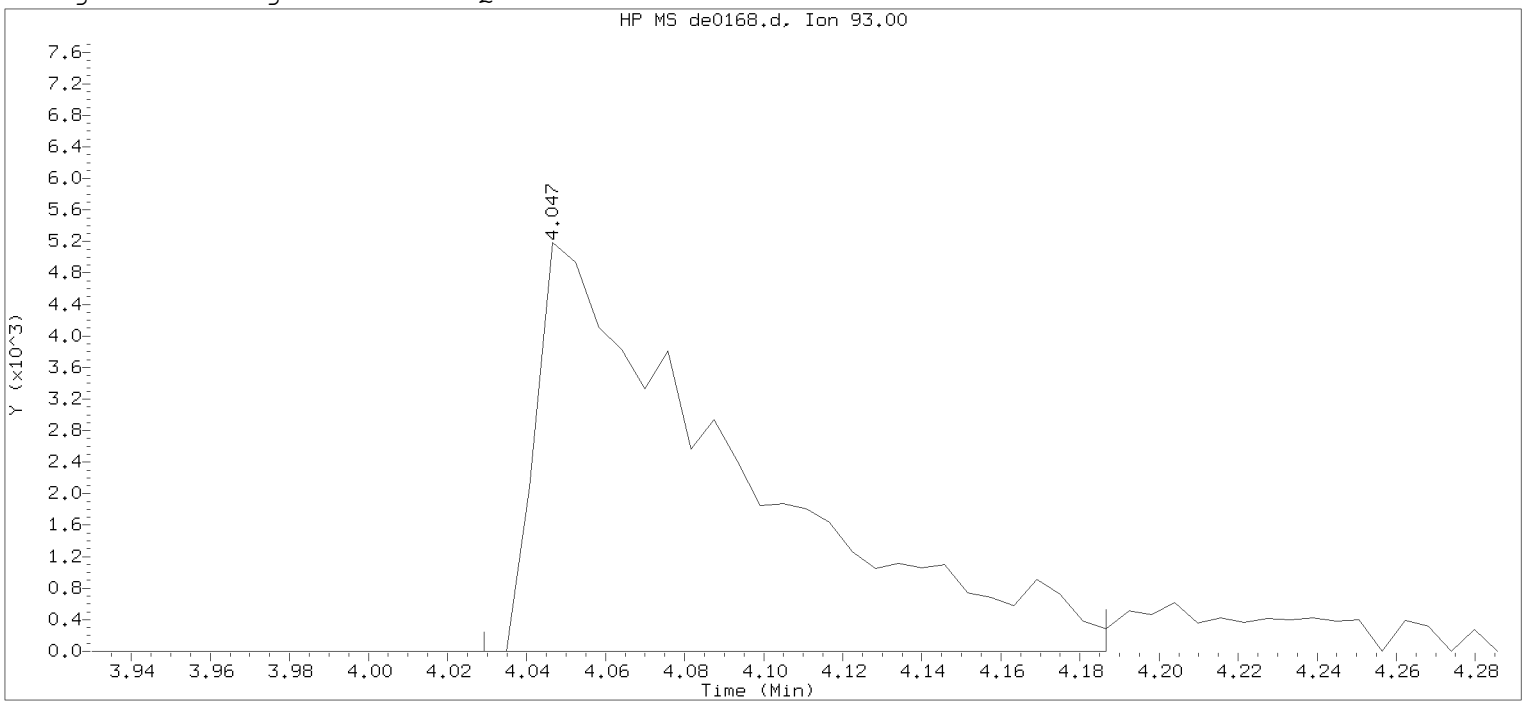
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

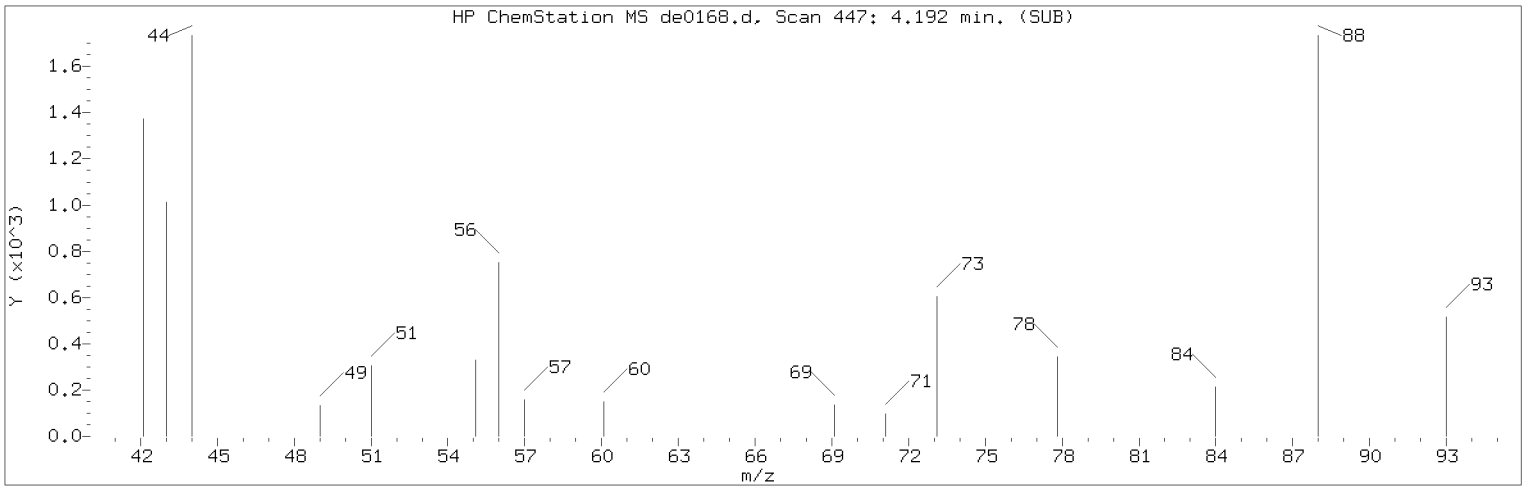
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

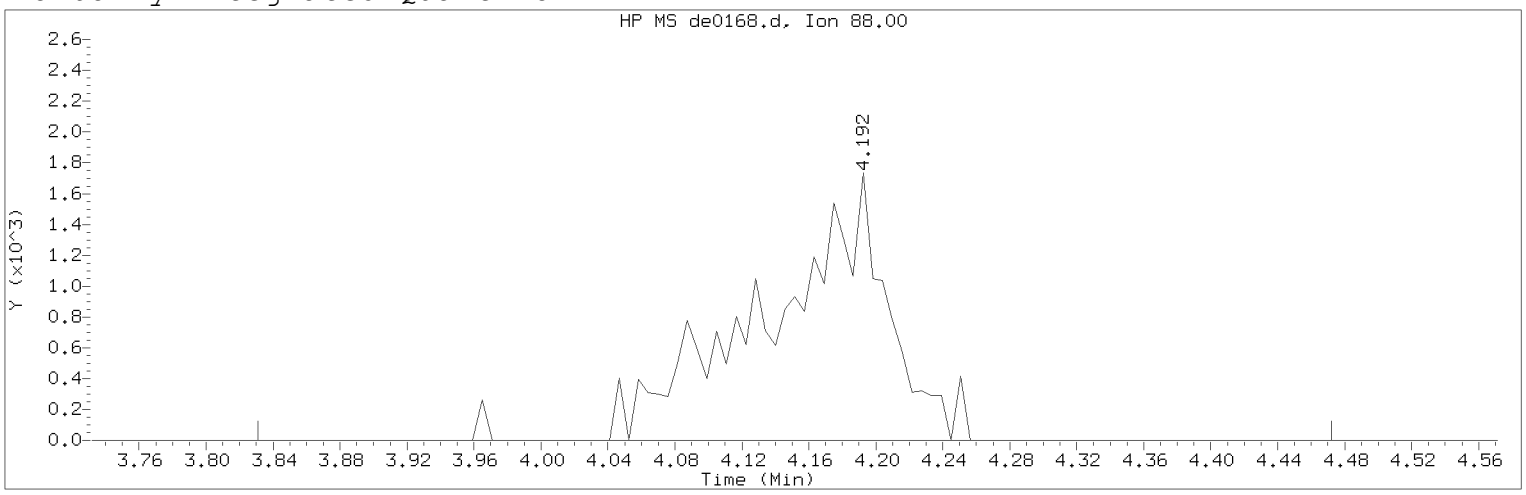
Compound Number	: 7		
Compound Name	: 2-Picoline		
Scan Number	: 422		
Retention Time (minutes)	: 4.047		
Quant Ion	: 93.00		
Area	: 18233		
On-column Amount (ng/ul)	: 0.2559		
Integration start scan	: 418	Integration stop scan:	445
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHS

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

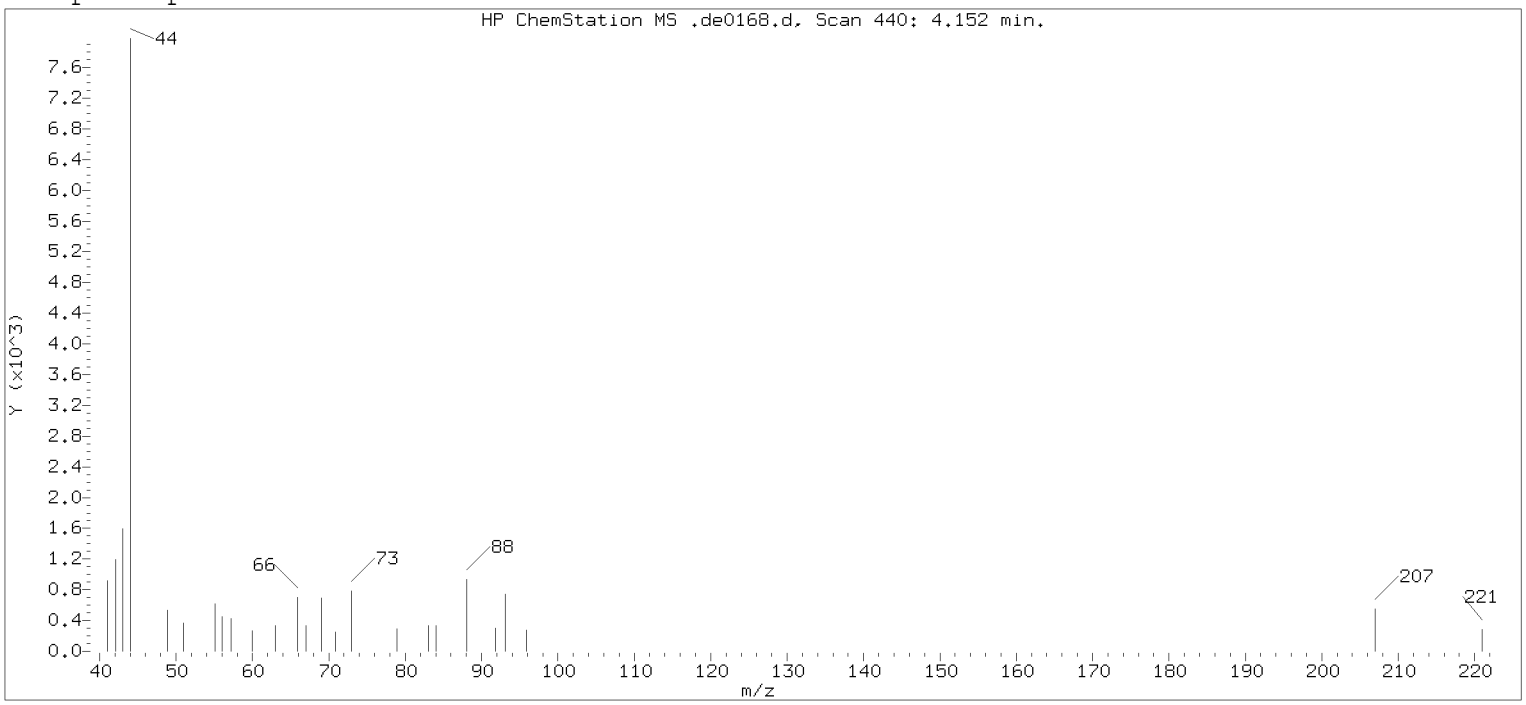
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 447
Retention Time (minutes) : 4.192
Quant Ion : 88.00
Area (flag) : 8659M
On-Column Amount (ng/ul) : 0.2840
Integration start scan : 384 Integration stop scan: 494
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

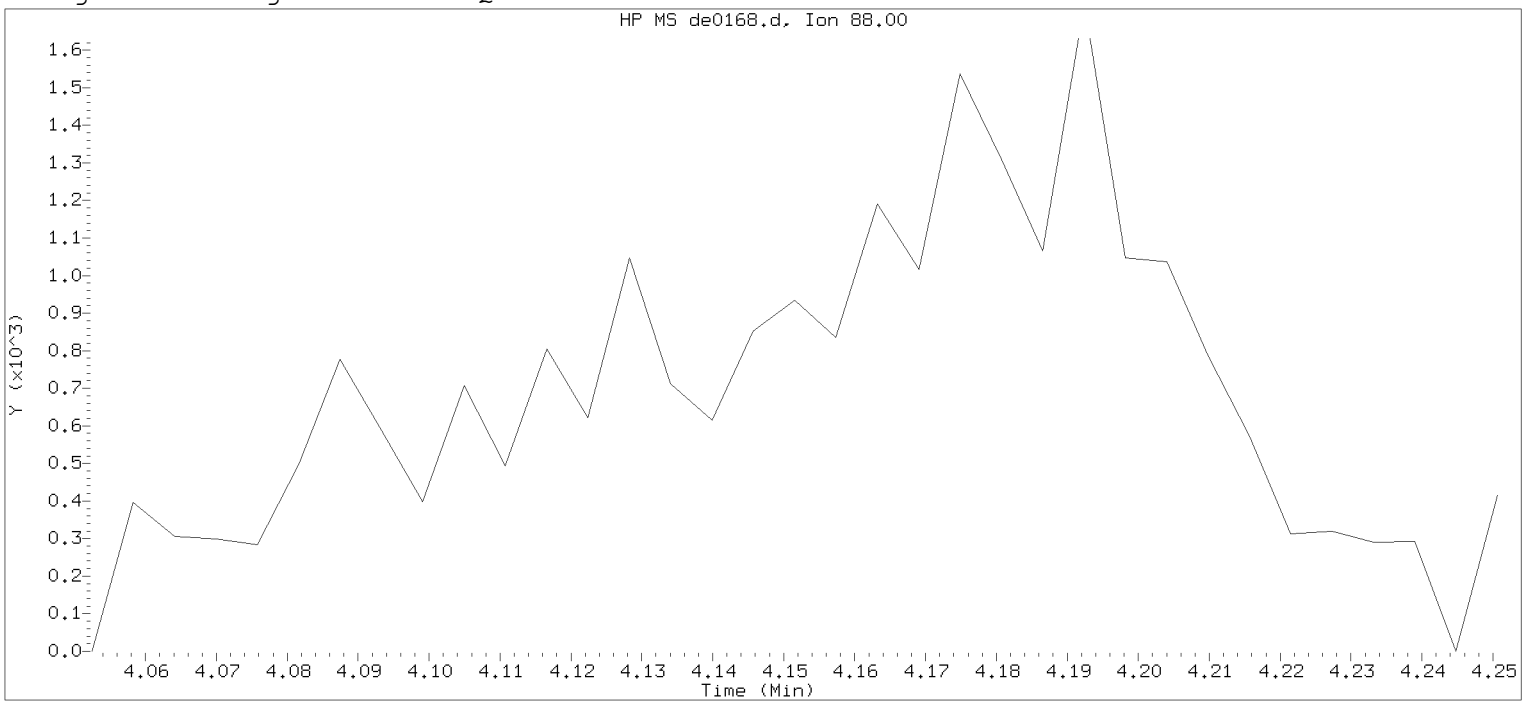
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

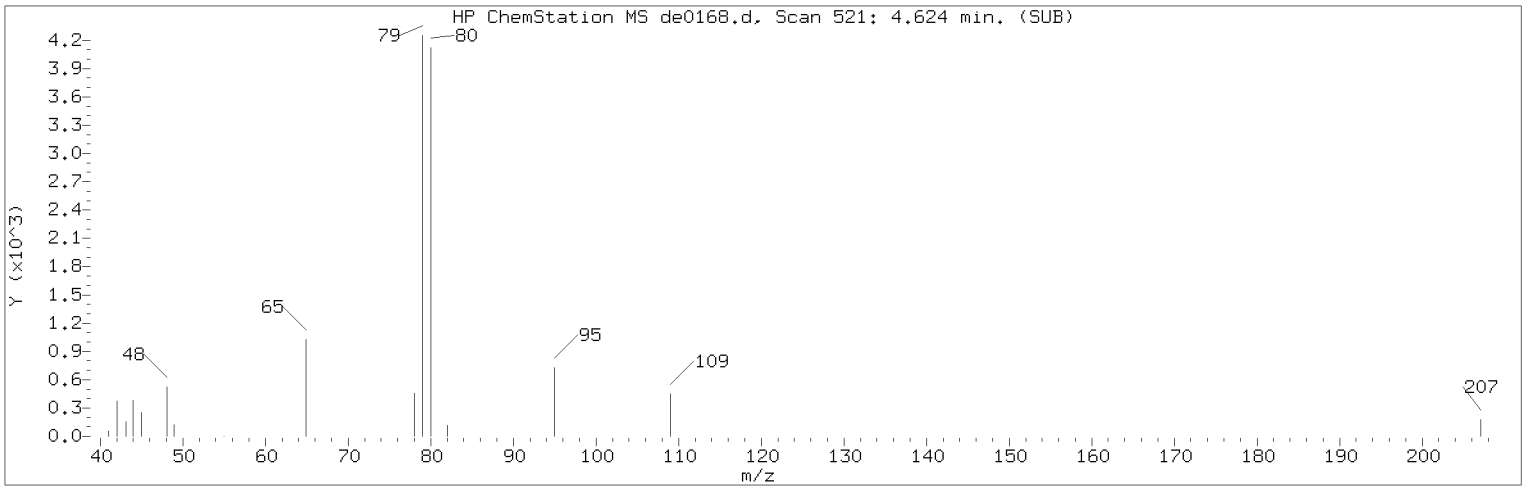
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

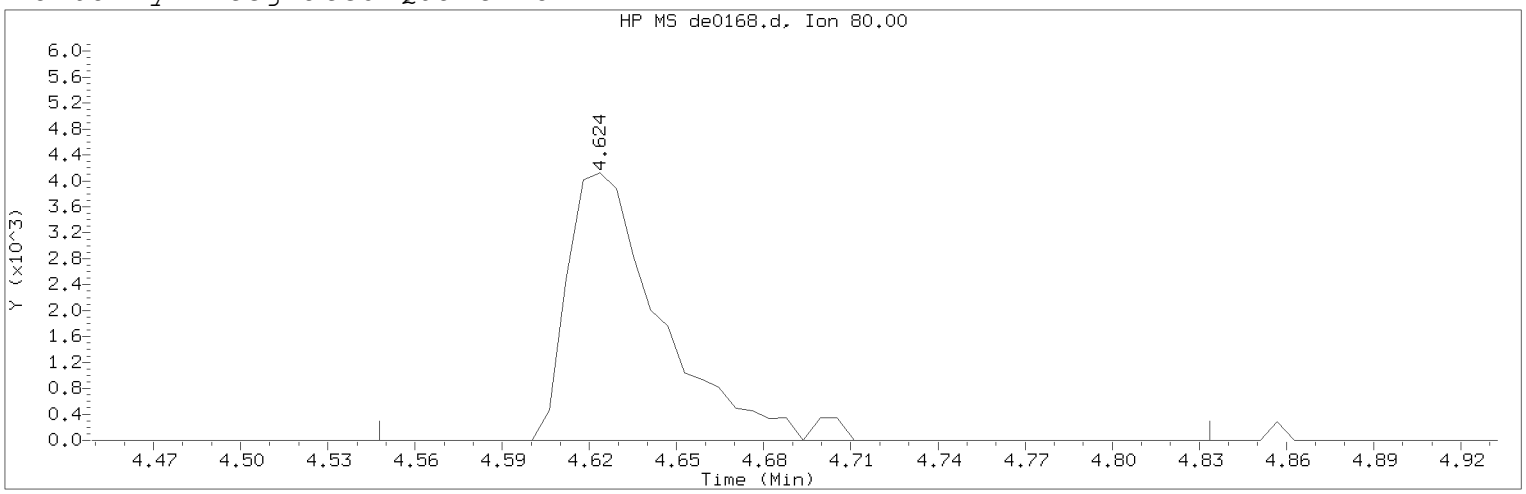
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.151
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHS

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 22:02
Date, time and analyst ID of latest file update: 05-May-2017 22:02 em10340

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

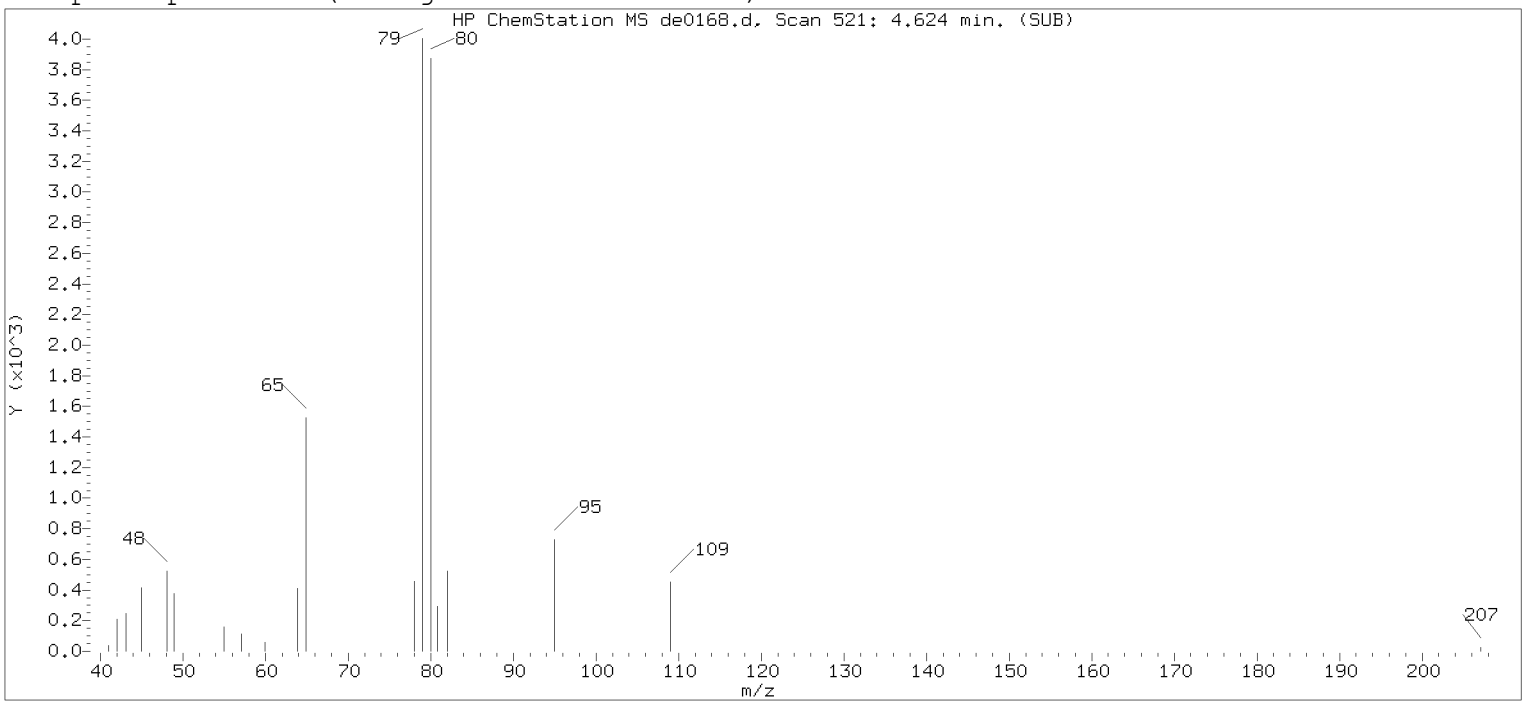
Compound Number : 9
Compound Name : Methyl methanesulfonate
Scan Number : 521
Retention Time (minutes) : 4.624
Quant Ion : 80.00
Area (flag) : 9329M
On-Column Amount (ng/ul) : 0.2674
Integration start scan : 507 Integration stop scan: 556
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

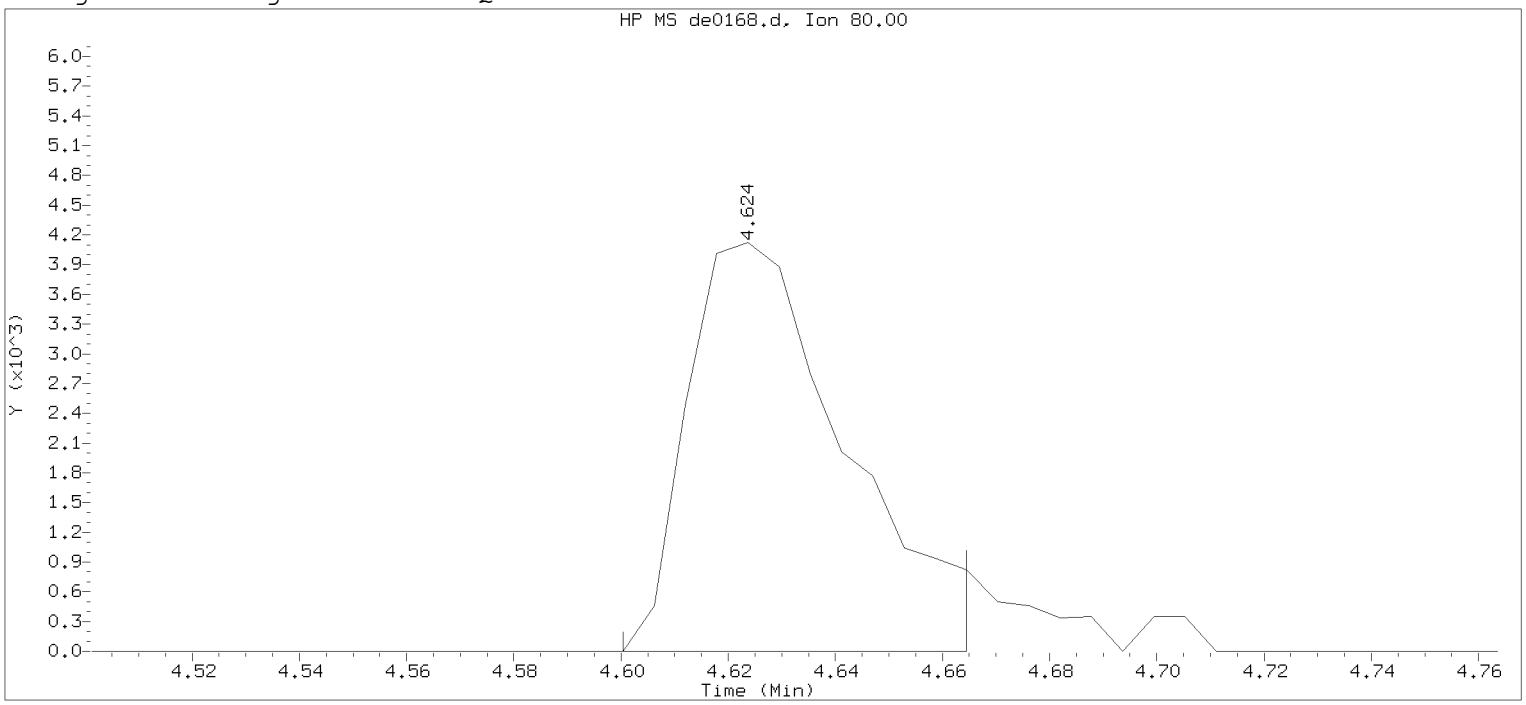
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



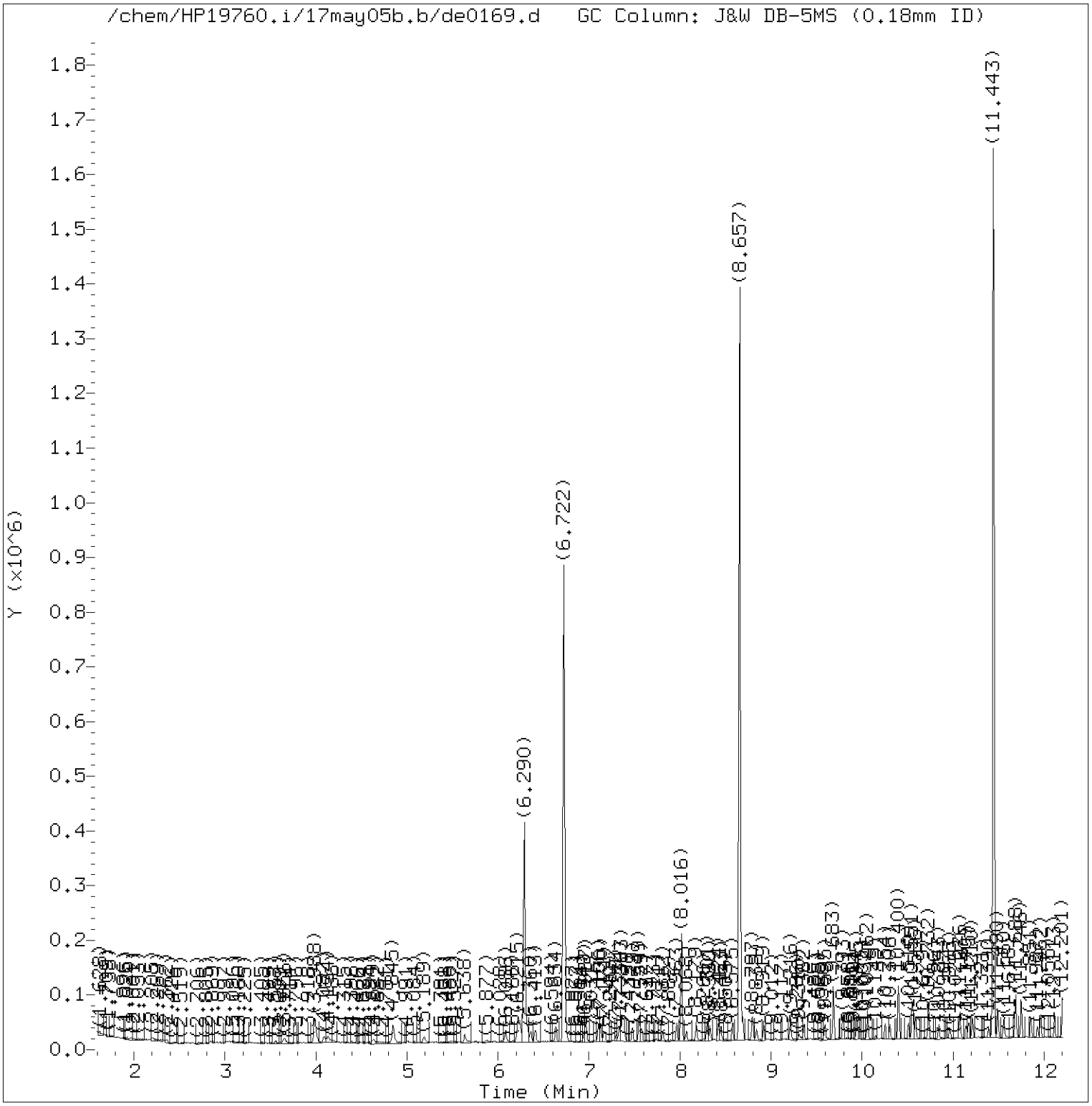
Data File: /chem/HP19760.i/17may05b.b/de0168.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 21:33 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: all1
Calibration date and time: 05-MAY-2017 21:56
Date, time and analyst ID of latest file update: 05-May-2017 21:56 Automation

Sample Name: SSTD0.25 Lab Sample ID: RVSTD1107

Compound Number	: 9		
Compound Name	: Methyl methanesulfonate		
Scan Number	: 521		
Retention Time (minutes)	: 4.624		
Quant Ion	: 80.00		
Area	: 8366		
On-column Amount (ng/ul)	: 0.2391		
Integration start scan	: 516	Integration stop scan:	527
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSMITH



Total Ion Chromatogram (TIC)

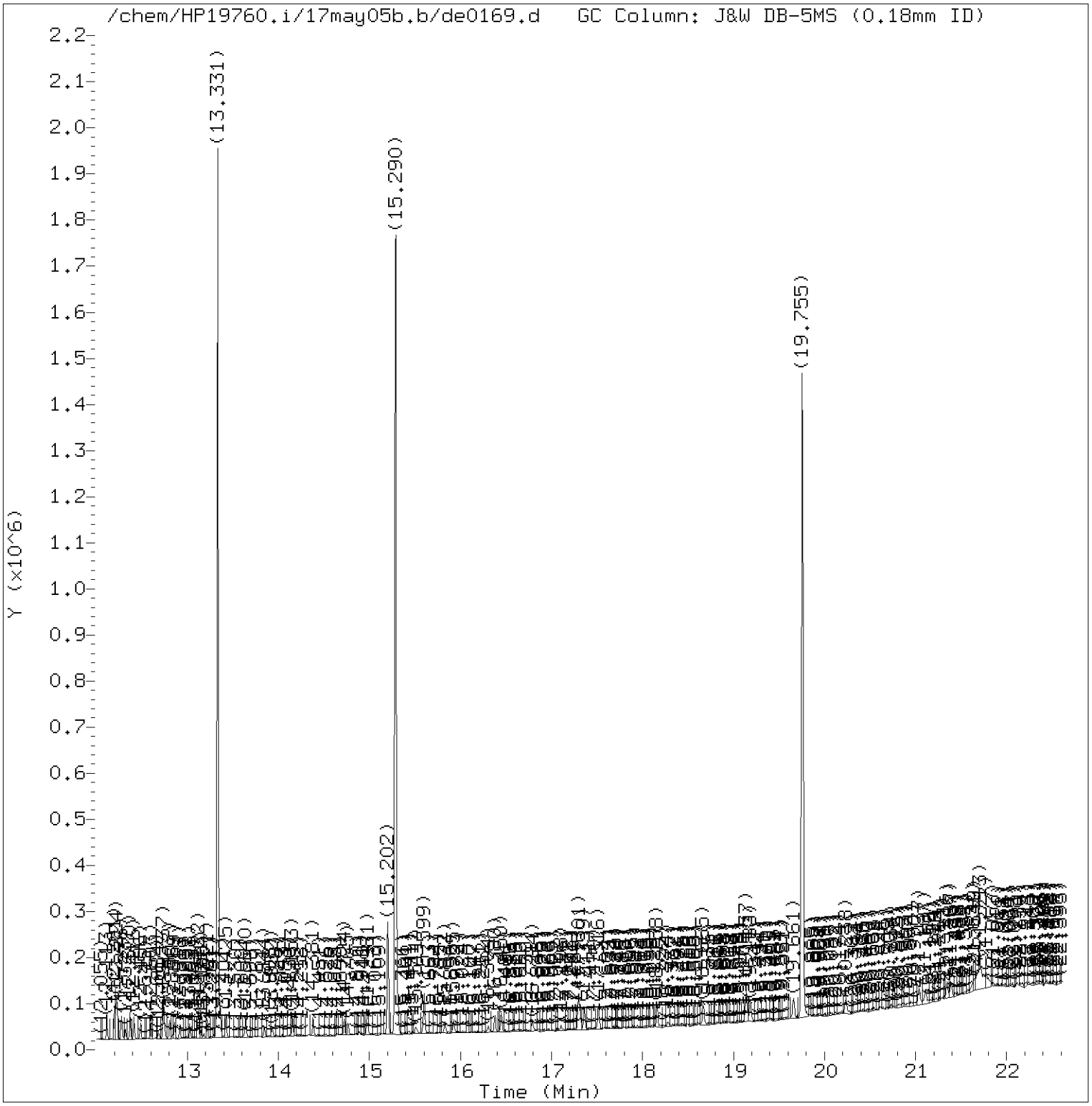
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.210	88	4144M	0.151
4) N-Nitrosodimethylamine	(1)	2.869	74	4894	0.111
5) Pyridine	(1)	3.009	79	13108M	0.181
7) 2-Picoline	(1)	4.087	93	9261	0.125
8) N-Nitrosomethylethylamine	(1)	4.204	88	3797M	0.120
9) Methyl methanesulfonate	(1)	4.629	80	3926	0.109
11)$2-Fluorophenol	(1)	4.845	112	15227	0.261
13) N-Nitrosodiethylamine	(1)	5.183	102	3805	0.130
15) Ethyl methanesulfonate	(1)	5.638	109	4358	0.138
42) Total Cresols	(1)			16162	0.261
16) Benzaldehyde	(1)	6.086	77	6440	0.118
17)$Phenol-d6	(1)	6.215	99	21222	0.268
18) Phenol	(1)	6.238	94	11906	0.133
19) Aniline	(1)	6.244	93	13804	0.131
20) a-methylstyrene	(1)	6.325	118	6707	0.104
22) bis(2-Chloroethyl)ether	(1)	6.360	93	9390	0.141
23) 2-Chlorophenol	(1)	6.413	128	7589	0.130
24) 1,3-Dichlorobenzene	(1)	6.640	146	8685	0.137
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	187845	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	8784	0.136
27) Benzyl alcohol	(1)	6.949	108	4113	0.099
28) 1,2-Dichlorobenzene	(1)	6.967	146	8149	0.134
30) Indene	(1)	7.106	115	12031	0.106
31) 2-Methylphenol	(1)	7.130	108	7163	0.125
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.159	45	14162	0.144
34) bis(2-Chloroisopropyl)ether	(1)	7.159	45	14162	0.144
35) N-Nitrosopyrrolidine	(1)	7.299	100	4081	0.126
36) Acetophenone	(1)	7.334	105	10103	0.117
38) N-Nitroso-di-n-propylamine	(1)	7.351	70	6949	0.133
39) N-Nitrosomorpholine	(1)	7.363	56	7276	0.164
37) 4-Methylphenol	(1)	7.369	108	8999	0.136
97) Isosafrole	(3)			5999	0.126
40) o-Toluidine	(1)	7.386	106	13299	0.131
43) Hexachloroethane	(1)	7.474	117	3386	0.128
44)$Nitrobenzene-d5	(2)	7.549	82	19368	0.263
45) Nitrobenzene	(2)	7.579	77	10052	0.135
48) N-Nitrosopiperidine	(2)	7.812	114	3983	0.136
50) Isophorone	(2)	7.963	82	17538	0.138
120) 2,4_2,6-Dinitrotoluenes	(3)			6765	0.222
51) 2-Nitrophenol	(2)	8.068	139	3635	0.124

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
53) 2,4-Dimethylphenol	(2)	8.179	107	7994	0.127
56) Benzoic acid	(2)	8.261	105	2246	2.258
57) O,O,O-Triethylphosphorothioate	(2)	8.301	198	3948	0.132
55) bis(2-Chloroethoxy)methane	(2)	8.330	93	10326	0.127
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.418	104	9575	0.103
60) 2,4-Dichlorophenol	(2)	8.447	162	6448	0.138
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	7928	0.144
65)*Naphthalene-d8	(2)	8.657	136	710787	5.000
146) Diallate trans/cis	(4)			7497	0.130
67) 4-Chloroaniline	(2)	8.791	127	9491	0.138
68) 2,6-Dichlorophenol	(2)	8.803	162	5712	0.123
69) Hexachloropropene	(2)	8.838	213	5009	0.135
71) Hexachlorobutadiene	(2)	8.919	225	4741	0.146
75) Quinoline	(2)	9.216	129	15782	0.151
76) Caprolactam	(2)	9.310	113	1242	0.085
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	6633	0.128
80) 4-Chloro-3-methylphenol	(2)	9.595	107	6563	0.123
82) Safrole	(2)	9.683	162	5361	0.127
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	7707	0.133
85) Hexachlorocyclopentadiene	(3)	10.062	237	3038	0.110
88) cis-Isosafrole	(3)	10.149	162	841	0.019
90) 2,4,6-Trichlorophenol	(3)	10.254	196	3984	0.113
92) 2,4,5-Trichlorophenol	(3)	10.306	196	4252	0.112
93)$2-Fluorobiphenyl	(3)	10.400	172	34812	0.277
94) trans-Isosafrole	(3)	10.510	162	5158	0.107
95) 1,1'-Biphenyl	(3)	10.551	154	15002	0.124
96) 2-Chloronaphthalene	(3)	10.557	162	13319	0.131
98) 1-Chloronaphthalene	(3)	10.586	162	12874	0.132
100) 2-Nitroaniline	(3)	10.732	138	3889	0.123
99) Diphenyl ether	(3)	10.732	170	10321	0.145
104) 1,4-Naphthoquinone	(3)	10.843	158	4667	0.110
105) 1,4-Dinitrobenzene	(3)	10.965	168	1710	0.102
106) Dimethylphthalate	(3)	11.076	163	15356	0.130
107) 1,3-Dinitrobenzene	(3)	11.082	168	2028	0.111
108) 2,6-Dinitrotoluene	(3)	11.146	165	2989	0.115
112) 3-Nitroaniline	(3)	11.390	138	3274	0.121
113)*Acenaphthene-d10	(3)	11.443	164	404578	5.000
115) 2,4-Dinitrophenol	(3)	11.560	184	5567	0.366
116) 4-Nitrophenol	(3)	11.682	109	7343	0.368
117) Pentachlorobenzene	(3)	11.694	250	5945	0.127

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
119) Dibenzofuran	(3)	11.746	168	19211	0.129
118) 2,4-Dinitrotoluene	(3)	11.752	165	3776	0.108
121) 1-Naphthylamine	(3)	11.851	143	12328	0.117
122) 2,3,4,6-Tetrachlorophenol	(3)	11.927	232	3065	0.107
123) 2-Naphthylamine	(3)	11.962	143	13630	0.131
124) Diethylphthalate	(3)	12.113	149	15855	0.139
125) Thionazin	(3)	12.212	107	2940	0.129
128) 5-Nitro-o-toluidine	(3)	12.218	152	3503	0.107
129) 4-Nitroaniline	(3)	12.224	138	2910	0.108
127) 4-Chlorophenyl-phenylether	(3)	12.230	204	8588	0.148
130) 4,6-Dinitro-2-methylphenol	(4)	12.276	198	6487	0.307
131) N-Nitrosodiphenylamine	(4)	12.370	169	12428	0.128
132) NDPA as diphenylamine	(4)	12.370	169	12428	0.128
134) 1,2-Diphenylhydrazine	(4)	12.416	77	18174	0.132
135)$2,4,6-Tribromophenol	(3)	12.486	330	3877	0.257
137) Tetraethyldithiopyrophosphate	(4)	12.597	97	3291	0.147
139) 1,3,5-Trinitrobenzene	(4)	12.684	213	1115	0.081
141) Phorate	(4)	12.737	75	11019	0.125
140) Diallate (peak 1)	(4)	12.737	86	6469	0.109
142) Phenacetin	(4)	12.749	108	7335	0.113
143) 4-Bromophenyl-phenylether	(4)	12.807	248	4925	0.147
144) Diallate (peak 2)	(4)	12.836	86	1028	0.021
147) Dimethoate	(4)	12.918	87	6542	0.115
148) Atrazine	(4)	13.028	200	3233	0.105
149) Pentachlorophenol	(4)	13.110	266	890	0.046
150) 4-Aminobiphenyl	(4)	13.122	169	13660	0.126
151) Pentachloronitrobenzene	(4)	13.122	237	2179	0.142
152) Pronamide	(4)	13.221	173	6213	0.111
153)*Phenanthrene-d10	(4)	13.331	188	784836	5.000
154) Dinoseb	(4)	13.361	211	2069	0.064
163) Carbazole	(4)	13.640	167	20710	0.128
164) Methyl parathion	(4)	13.844	109	4489	0.102
165) Di-n-butylphthalate	(4)	14.153	149	24830	0.124
168) 4-Nitroquinoline-1-oxide	(4)	14.381	190	1072	0.058
167) Parathion	(4)	14.381	109	2601	0.093
169) Octachlorostyrene	(4)	14.730	308	1376	0.104
171) Isodrin	(4)	14.771	193	3124	0.147
174) Benzidine	(5)	15.202	184	108184	0.876
175)*Pyrene-d10	(5)	15.290	212	933299	5.000
179)$Terphenyl-d14	(5)	15.605	244	36023	0.263

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

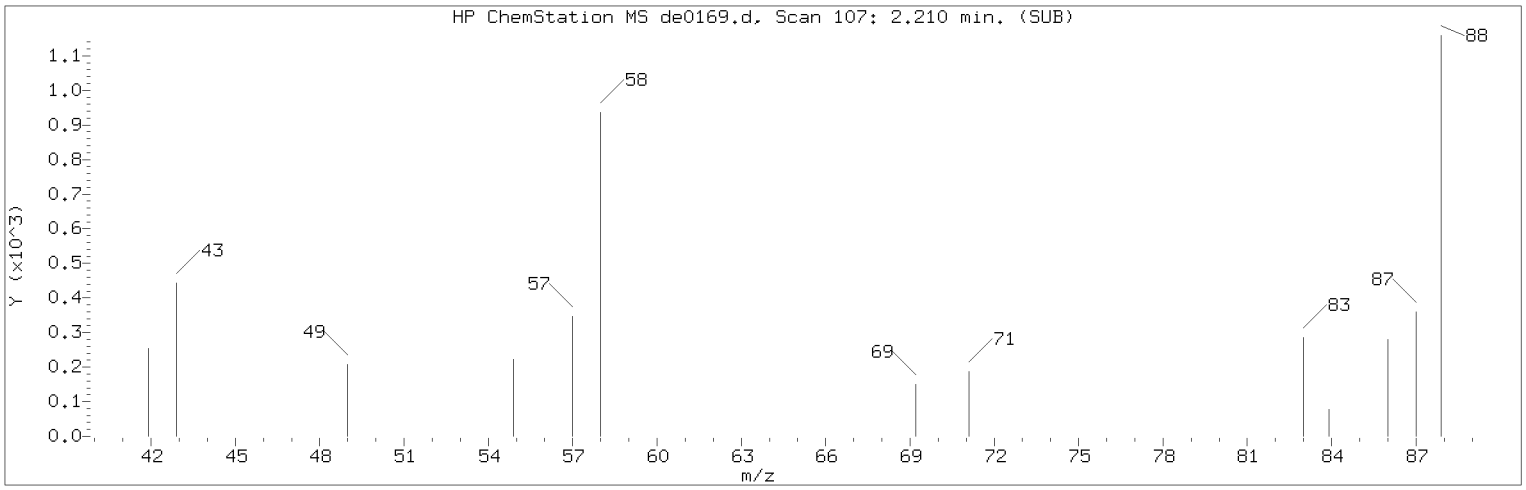
Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	15.832	225	3419	0.101
185) Chlorobenzilate	(5)	15.925	139	7473	0.120
187) 3,3'-Dimethylbenzidine	(5)	16.380	212	15708	0.115
188) Butylbenzylphthalate	(5)	16.450	149	10451	0.111
191) 2-Acetylaminofluorene	(5)	16.794	181	6717	0.077
193) 3,3'-Dichlorobenzidine	(5)	17.301	252	8768	0.115
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.318	231	4535	0.109
199) bis(2-Ethylhexyl)phthalate	(5)	17.516	149	16003	0.114
203) 6-Methylchrysene	(5)	18.158	242	16465	0.121
205) Di-n-octylphthalate	(6)	18.670	149	26218	0.110
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.143	256	8696	0.108
213)*Perylene-d12	(6)	19.755	264	730227	5.000
215) 3-Methylcholanthrene	(6)	20.238	268	9771	0.119
217) Dibenz(a,h)acridine	(6)	21.037	279	14595	0.110
218) Dibenz(a,j)acridine	(6)	21.107	279	12940	0.100

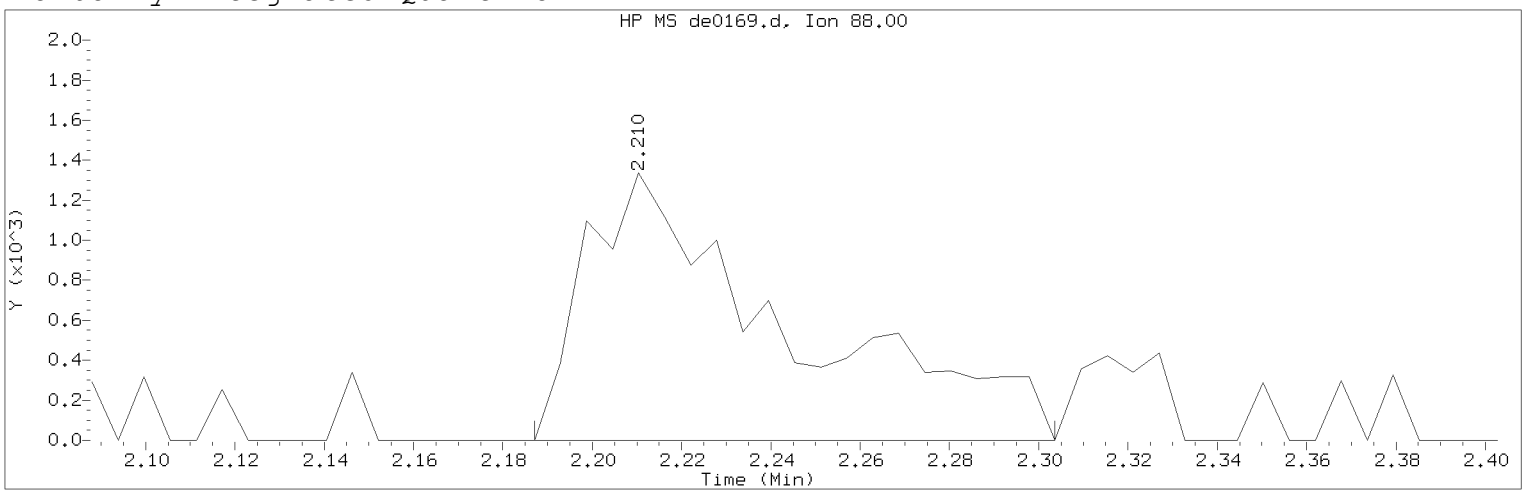
* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

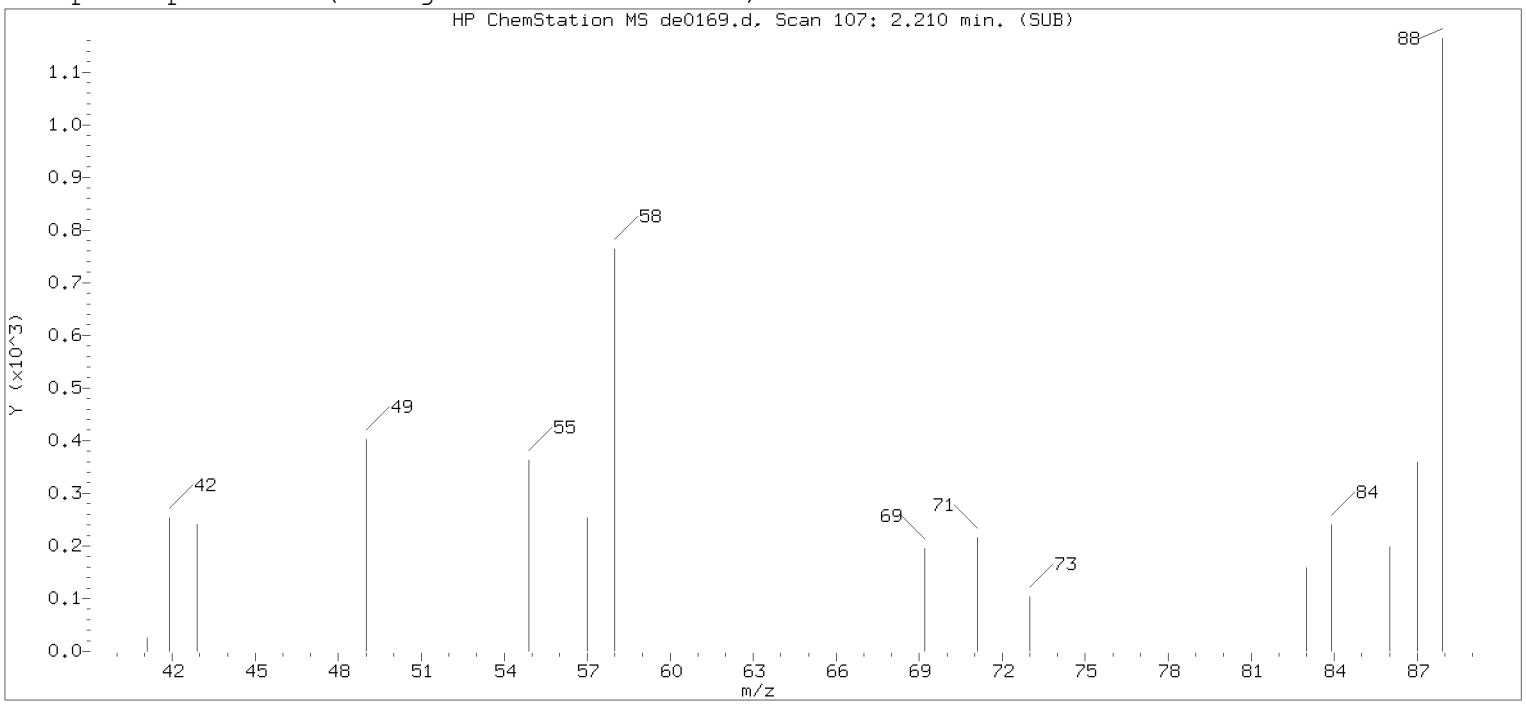
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 107		
Retention Time (minutes)	: 2.210		
Quant Ion	: 88.00		
Area (flag)	: 4144M		
On-Column Amount (ng/ul)	: 0.1509		
Integration start scan	: 102	Integration stop scan:	122
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

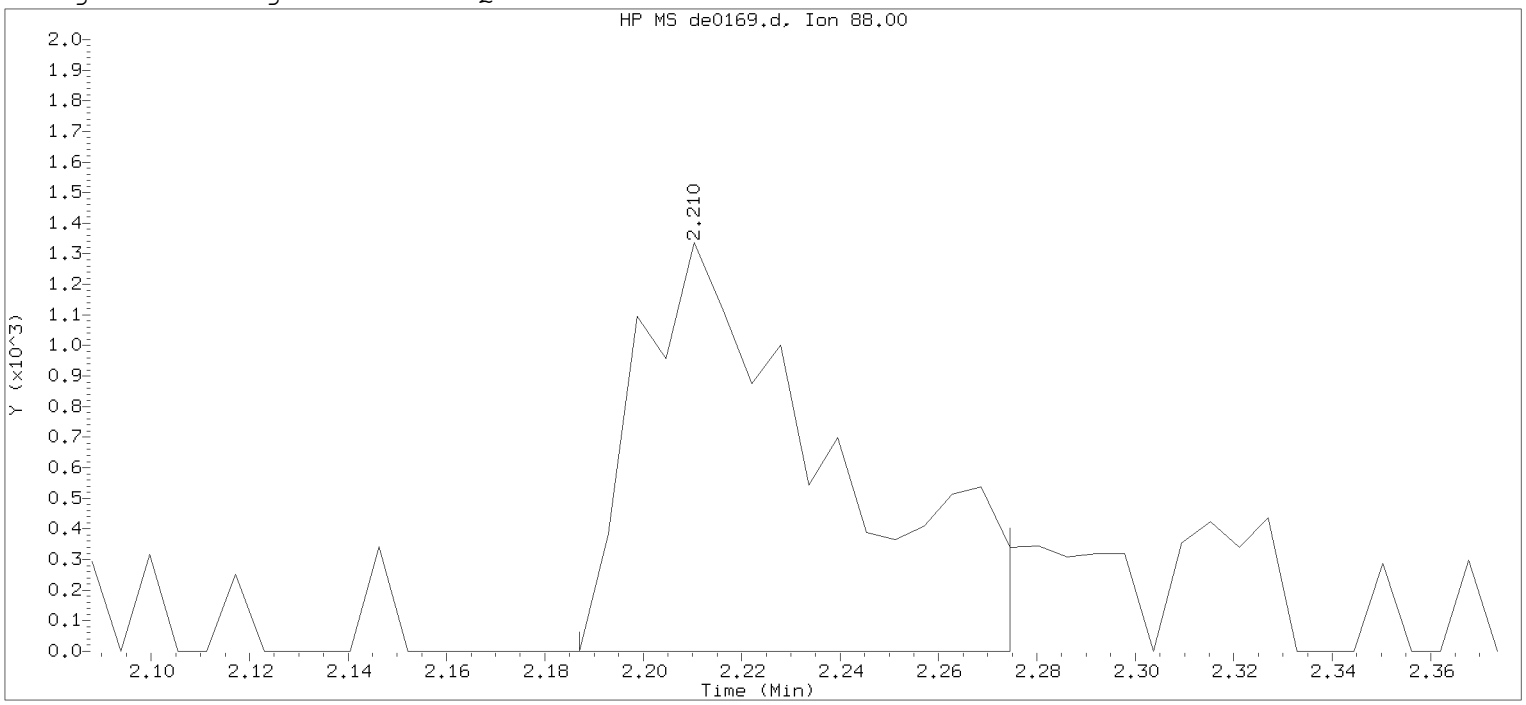
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

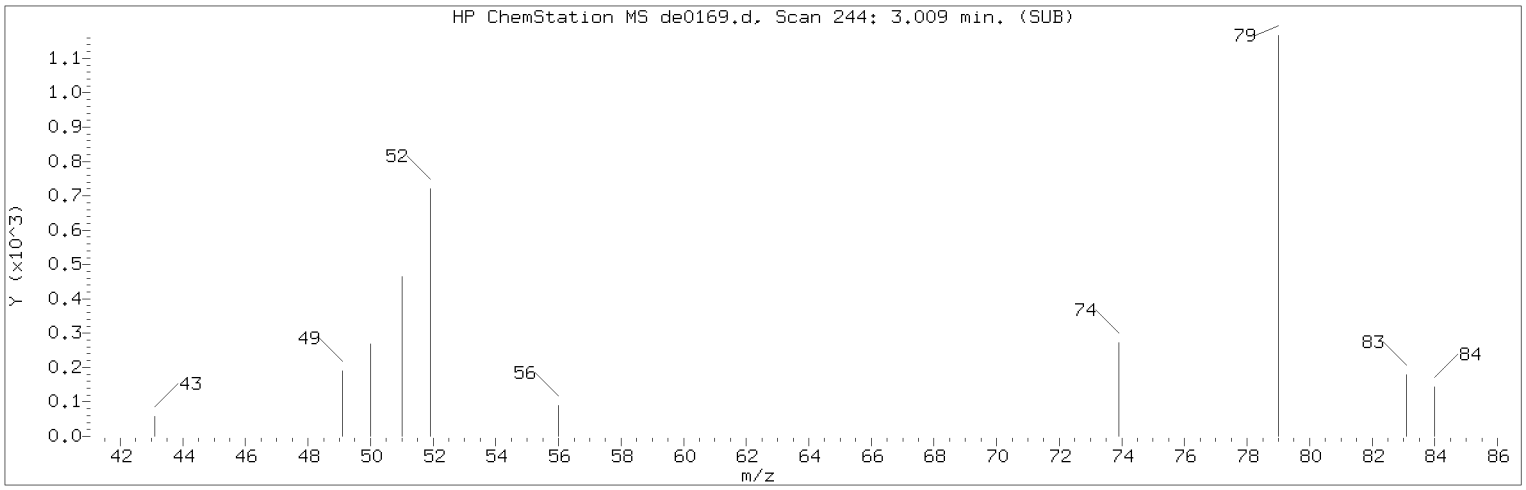
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

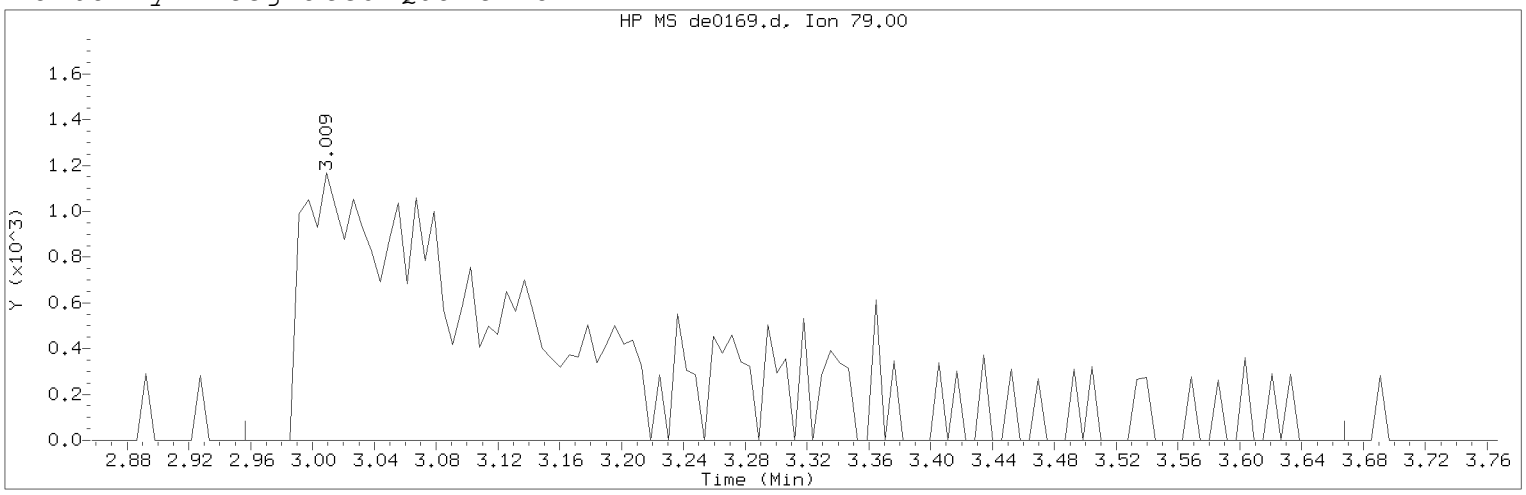
Compound Number	: 1		
Compound Name	: 1,4-Dioxane		
Scan Number	: 107		
Retention Time (minutes)	: 2.210		
Quant Ion	: 88.00		
Area	: 3633		
On-column Amount (ng/ul)	: 0.1323		
Integration start scan	: 102	Integration stop scan:	117
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

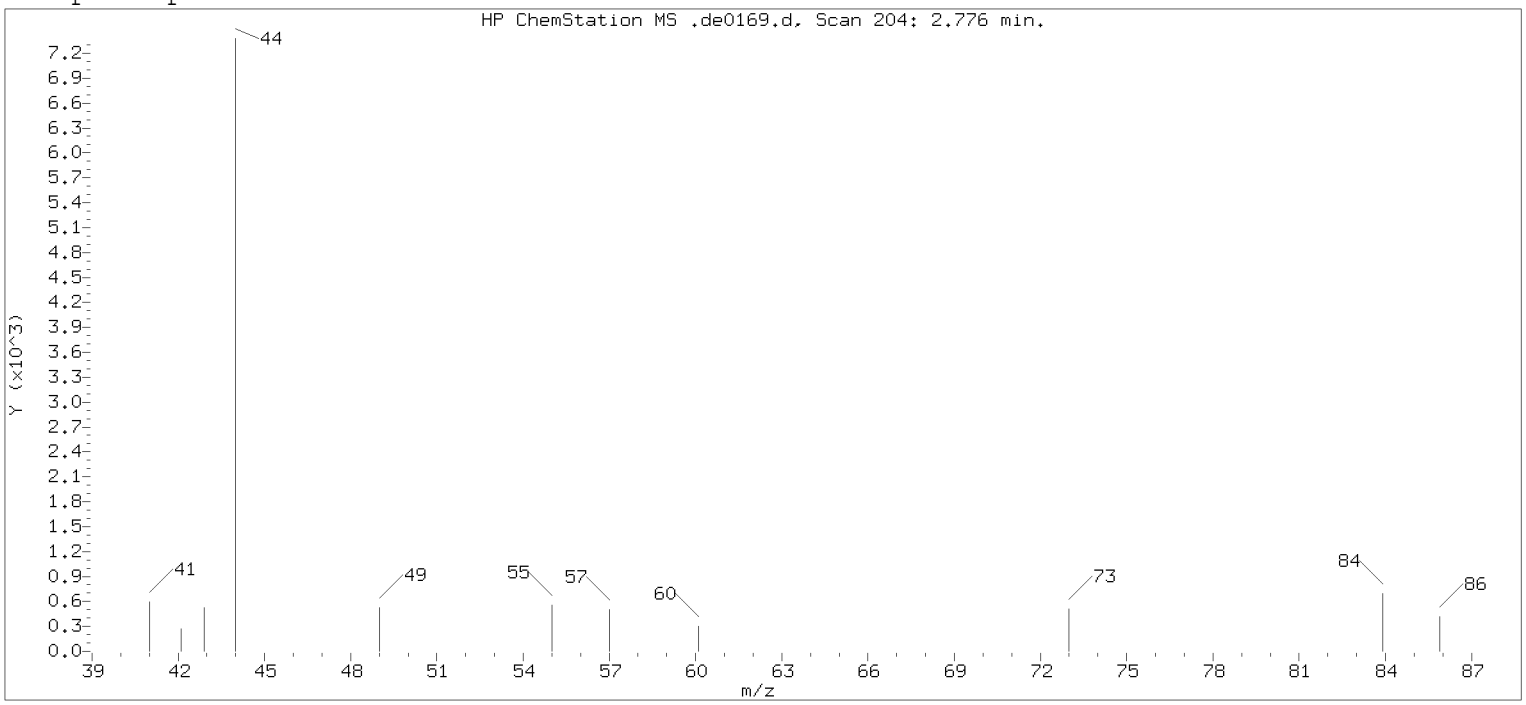
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 244		
Retention Time (minutes)	: 3.009		
Quant Ion	: 79.00		
Area (flag)	: 13108M		
On-Column Amount (ng/ul)	: 0.1809		
Integration start scan	: 234	Integration stop scan:	356
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: missed peak

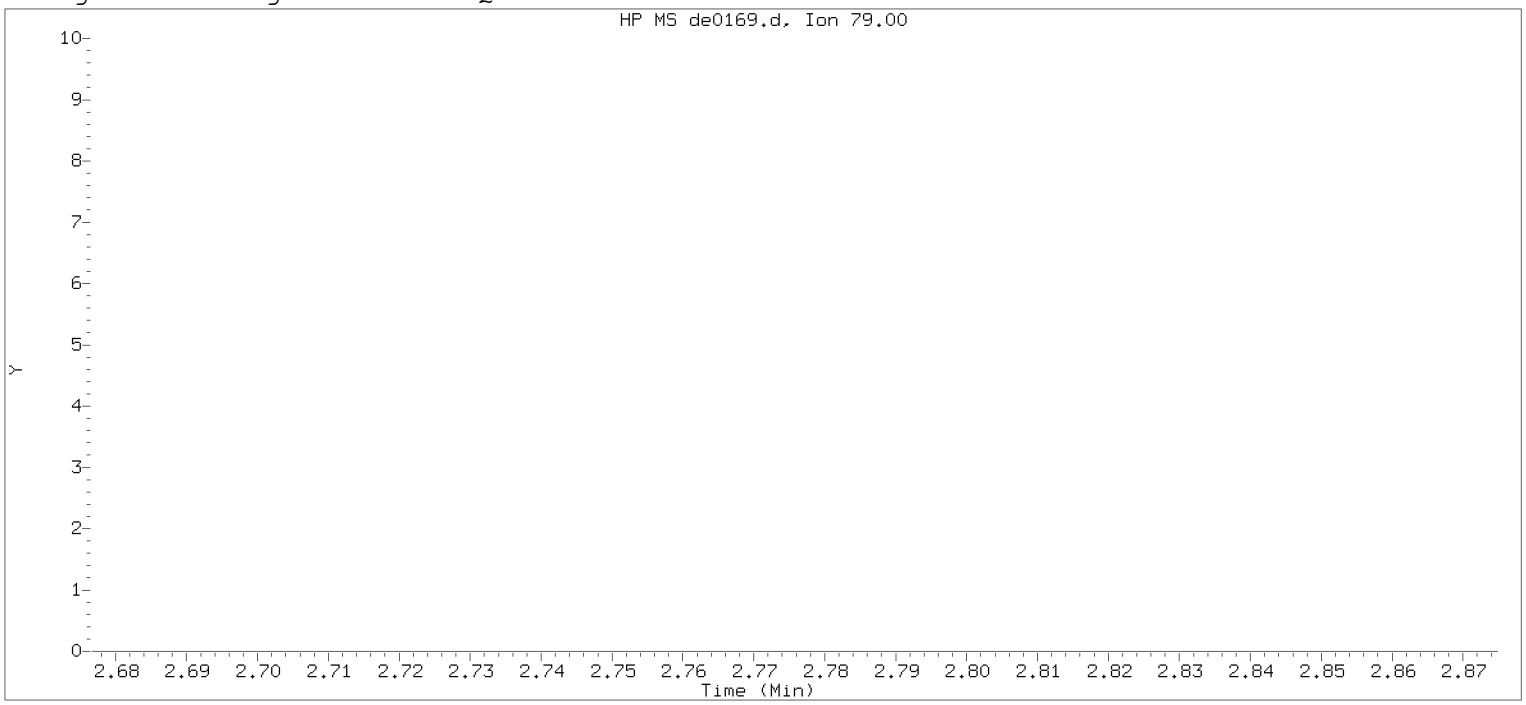
Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

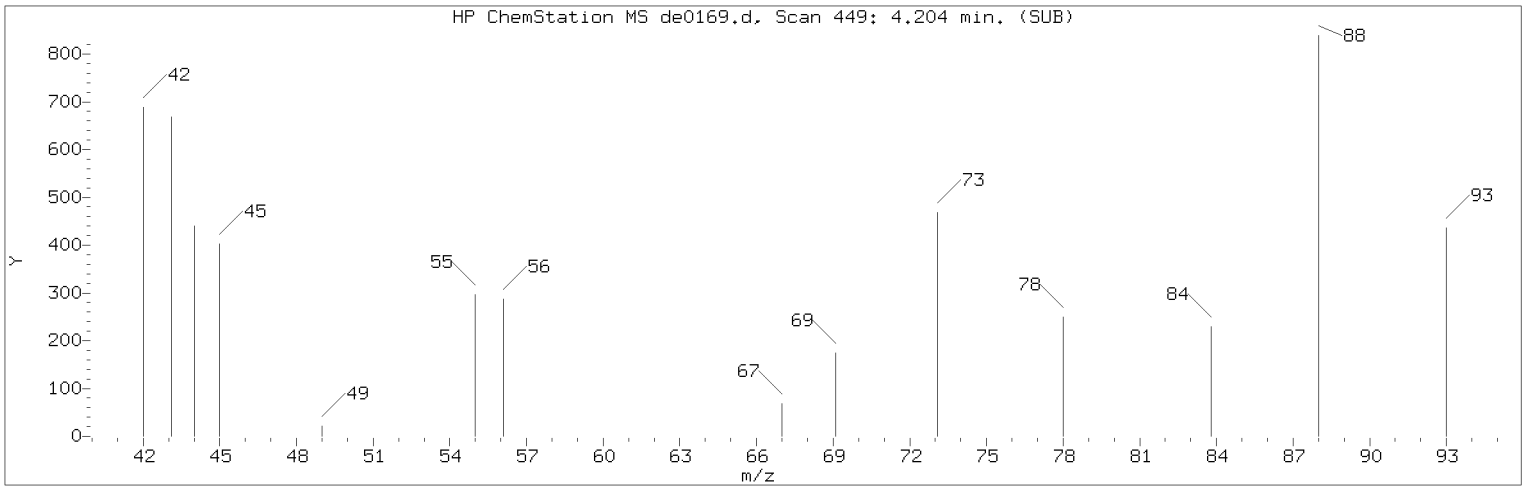
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

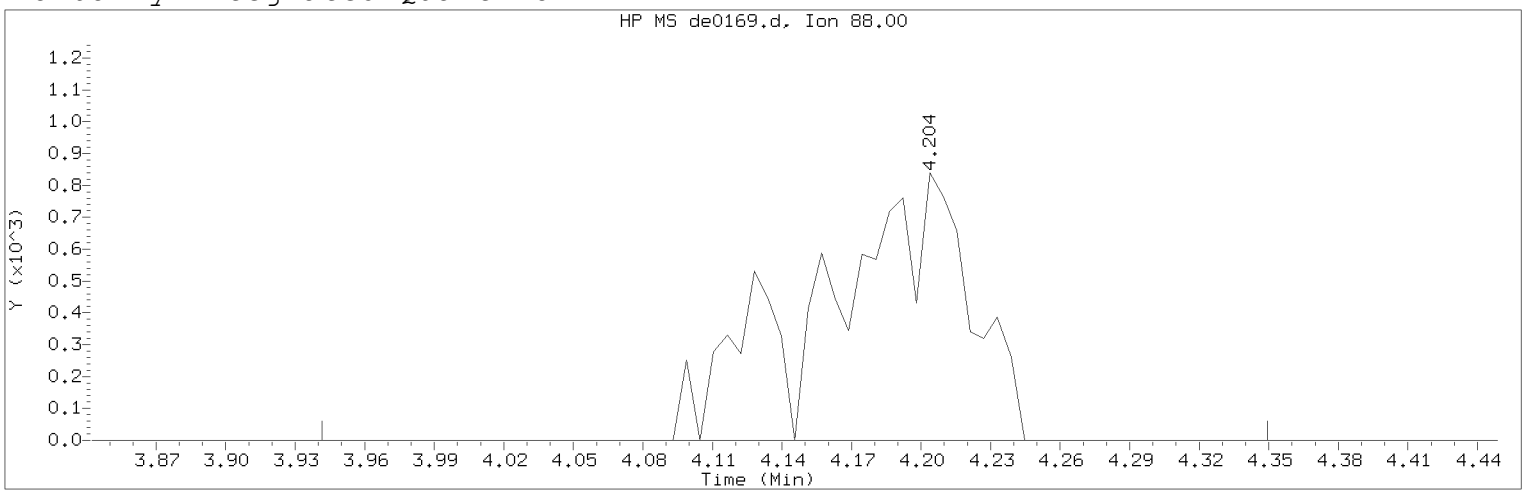
Compound Number : 5
Compound Name : Pyridine
Expected RT (minutes) : 2.776
Quant Ion : 79.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: BHSmith

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

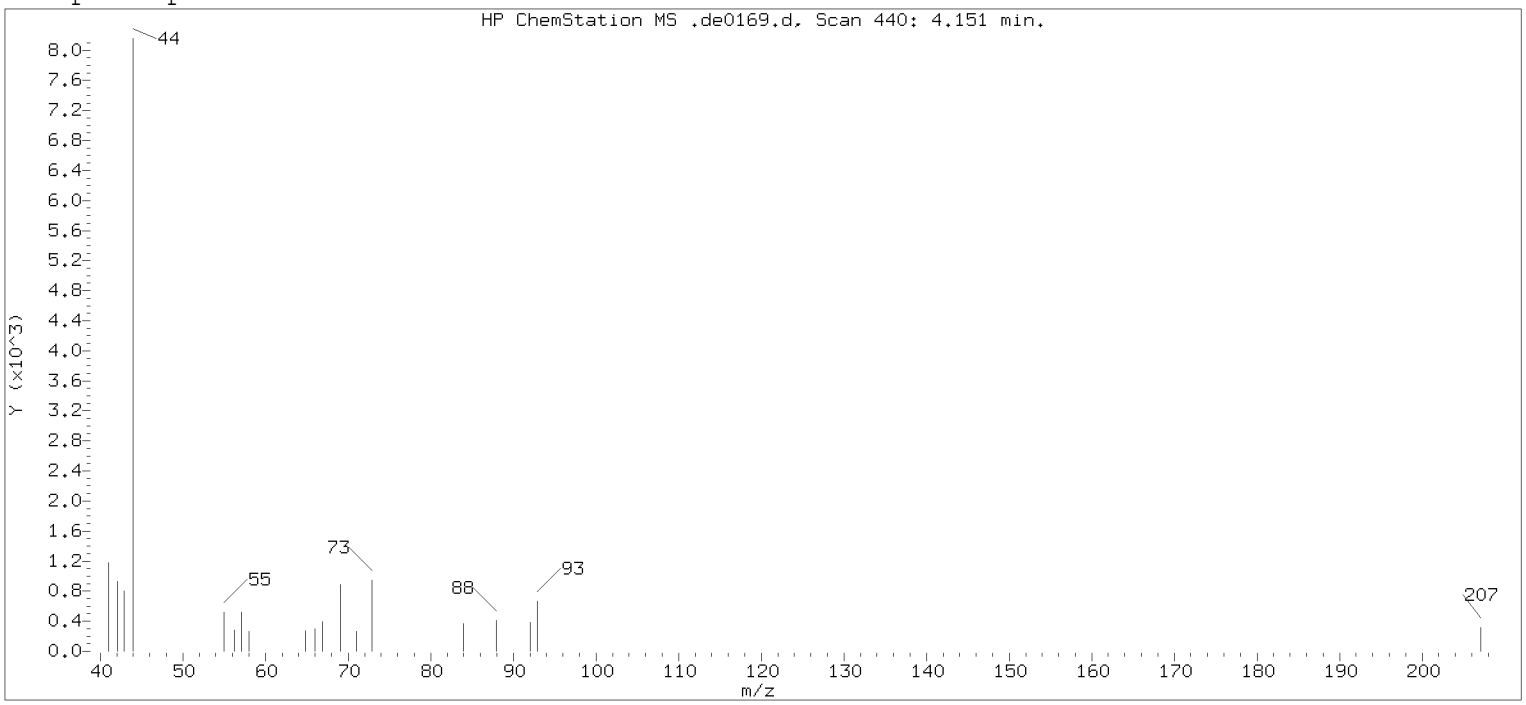
Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Scan Number : 449
Retention Time (minutes) : 4.204
Quant Ion : 88.00
Area (flag) : 3797M
On-Column Amount (ng/ul) : 0.1202
Integration start scan : 403 Integration stop scan: 473
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: missed peak

Analyst responsible for change: Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Secondary review performed and digitally signed by Matthew E. Barton on 05/09/2017 at 08:44.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion

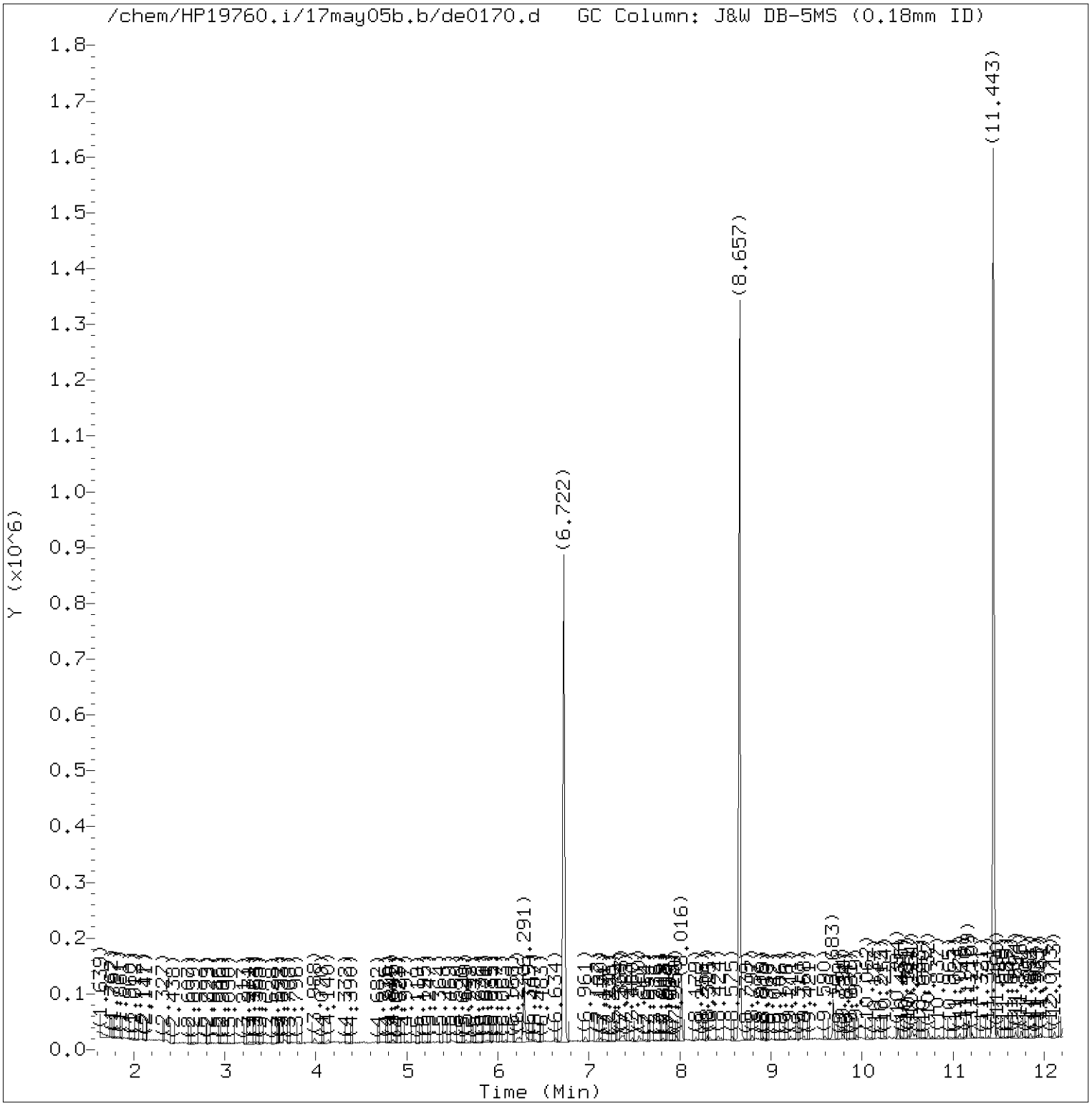
Data File: /chem/HP19760.i/17may05b.b/de0169.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:01 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: mdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 05-May-2017 22:24 Automation

Sample Name: SSTD0.125 Lab Sample ID: MDLSTD1107

Compound Number : 8
Compound Name : N-Nitrosomethylethylamine
Expected RT (minutes) : 4.151
Quant Ion : 88.00

Digitally signed by Brandon H. Smith on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: Brandon H. Smith



Total Ion Chromatogram (TIC)

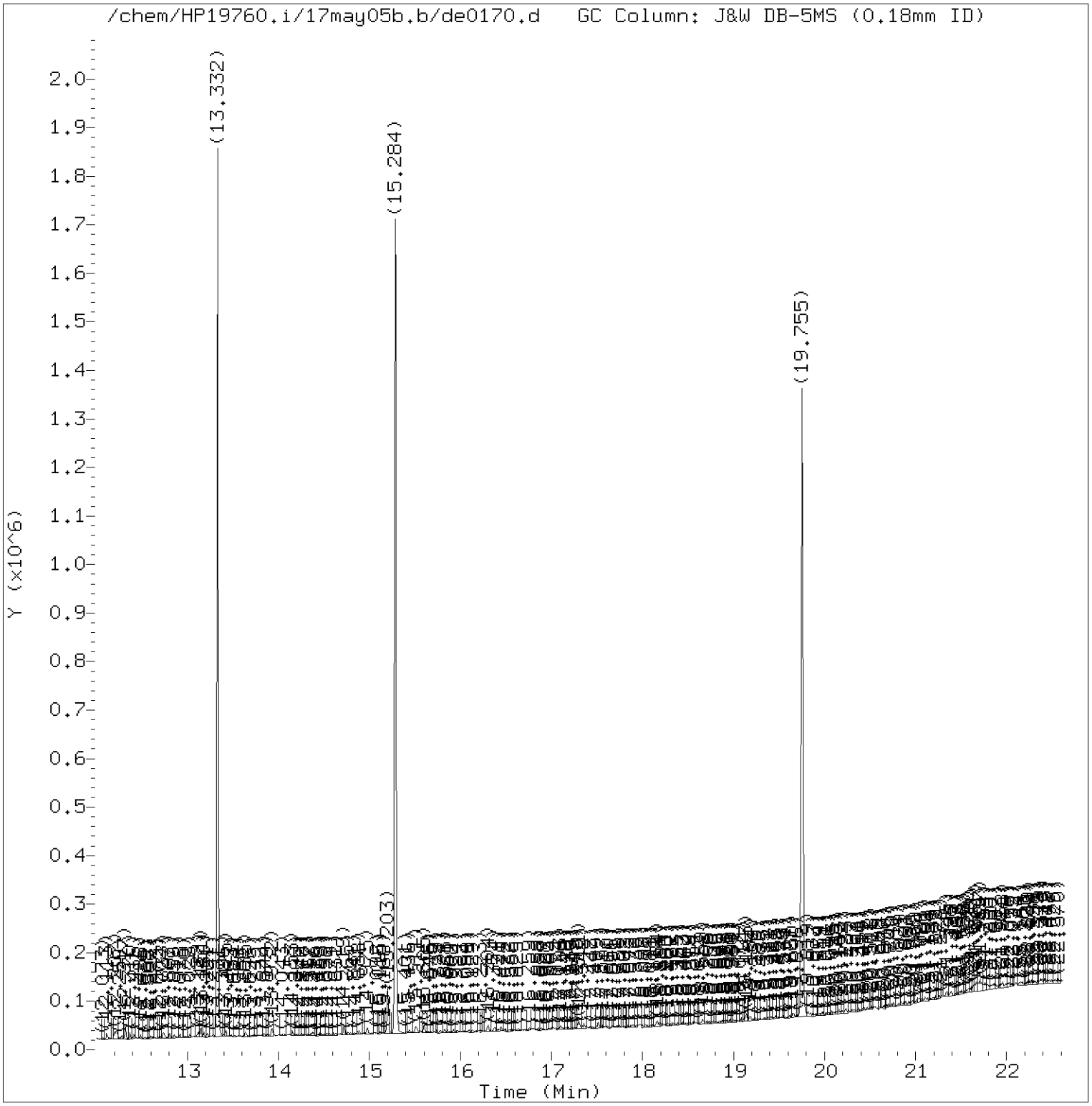
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0170.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:28 Analyst ID: em10340

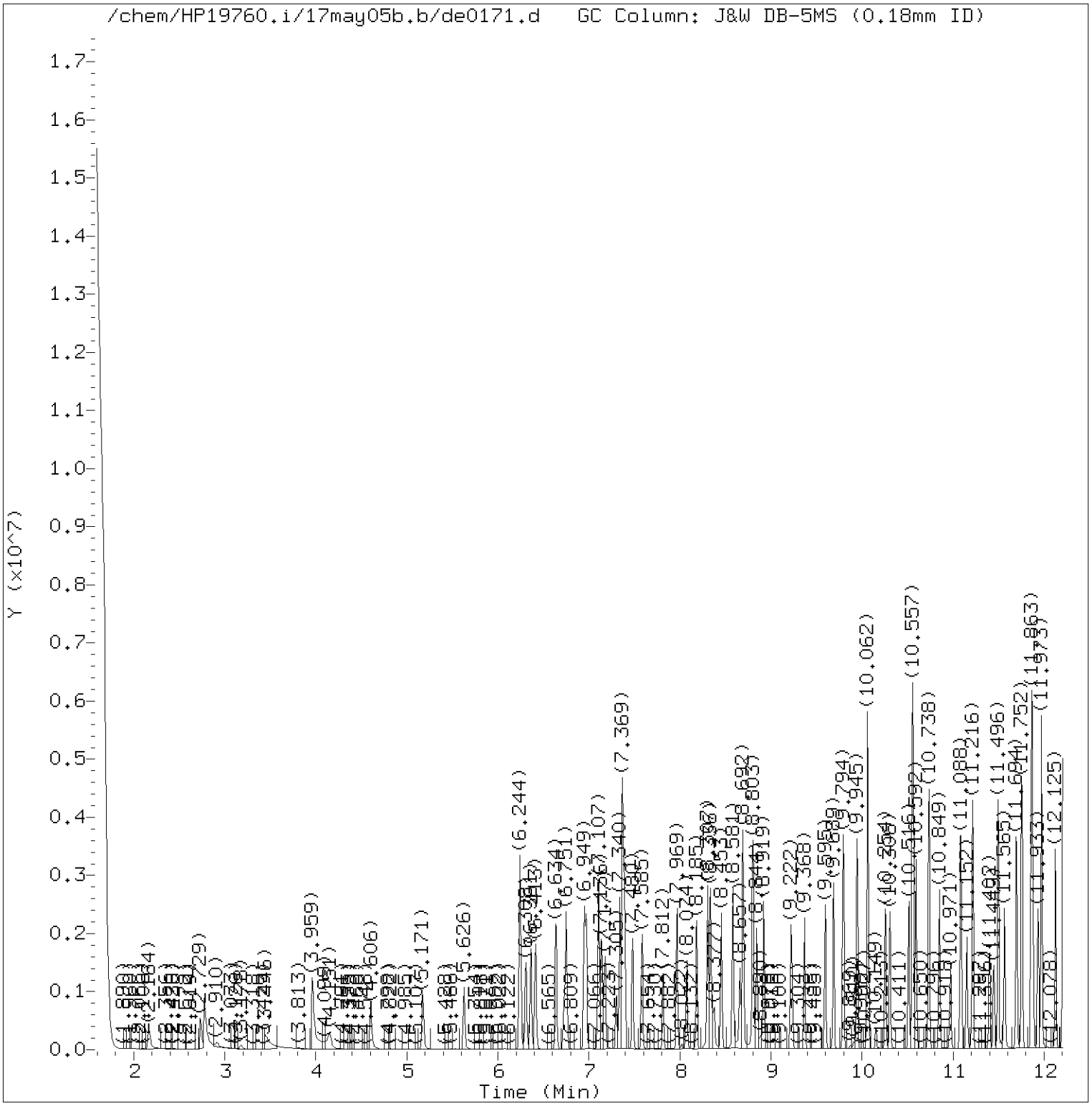
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: pahmdlall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD0.025 Lab Sample ID: PAHMDL1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	179192	5.000
44)$Nitrobenzene-d5	(2)	7.550	82	4793	0.067
65)*Naphthalene-d8	(2)	8.657	136	690119	5.000
66) Naphthalene	(2)	8.686	128	4768	0.029
83) 2-Methylnaphthalene	(2)	9.788	142	3007	0.028
84) 1-Methylnaphthalene	(2)	9.939	142	2859	0.029
93)$2-Fluorobiphenyl	(3)	10.400	172	7596	0.062
109) Acenaphthylene	(3)	11.210	152	3657	0.025
113)*Acenaphthene-d10	(3)	11.443	164	392493	5.000
114) Acenaphthene	(3)	11.490	153	3199	0.030
126) Fluorene	(3)	12.201	166	3512	0.030
145) Hexachlorobenzene	(4)	12.859	284	938	0.028
153)*Phenanthrene-d10	(4)	13.332	188	735590	5.000
155) Phenanthrene	(4)	13.361	178	4945	0.030
157) Anthracene	(4)	13.425	178	4728	0.029
173) Fluoranthene	(4)	14.981	202	4864	0.026
222) Total PAHs	(6)			77015	0.497
175)*Pyrene-d10	(5)	15.284	212	879792	5.000
177) Pyrene	(5)	15.313	202	5972	0.030
179)$Terphenyl-d14	(5)	15.605	244	7429	0.058
195) Benzo(a)anthracene	(5)	17.301	228	4919	0.026
196) Chrysene	(5)	17.359	228	4820	0.027
206) Benzo(b)fluoranthene	(6)	19.137	252	4687	0.025
208) Benzo(k)fluoranthene	(6)	19.184	252	4390	0.025
211) Benzo(a)pyrene	(6)	19.656	252	6710	0.040
213)*Perylene-d12	(6)	19.755	264	674780	5.000
219) Indeno(1,2,3-cd)pyrene	(6)	21.346	276	3506	0.021
220) Dibenz(a,h)anthracene	(6)	21.381	278	2959	0.021
221) Benzo(g,h,i)perylene	(6)	21.707	276	3513	0.026

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:15.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

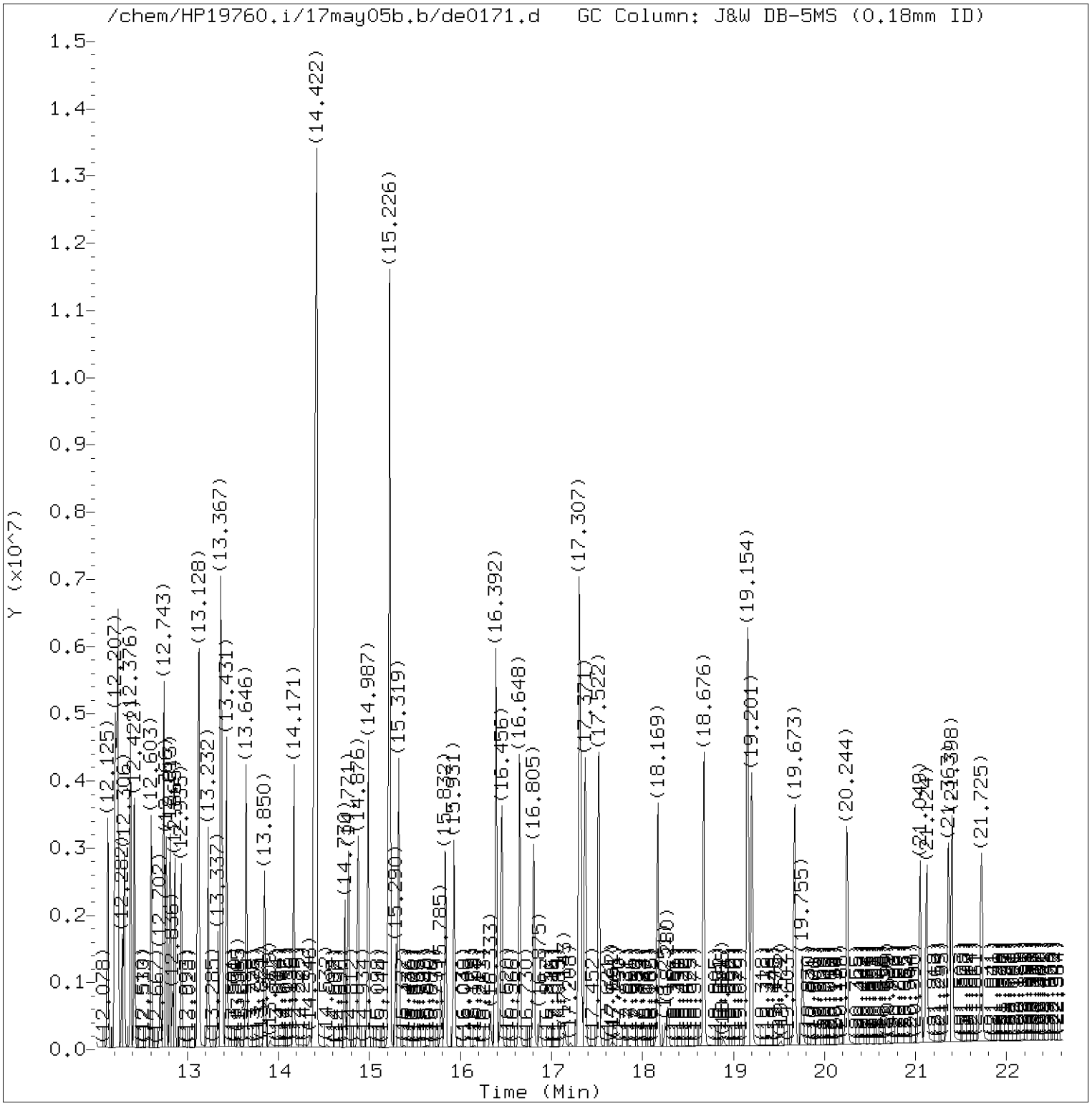
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	2.164	88	286467	11.221
4) N-Nitrosodimethylamine	(1)	2.729	74	493118	12.012
5) Pyridine	(1)	2.776	79	795551	11.810
7) 2-Picoline	(1)	3.959	93	842387	12.247
8) N-Nitrosomethylethylamine	(1)	4.157	88	336872	11.476
9) Methyl methanesulfonate	(1)	4.606	80	410504	12.222
13) N-Nitrosodiethylamine	(1)	5.177	102	323476	11.864
15) Ethyl methanesulfonate	(1)	5.632	109	341981	11.613
42) Total Cresols	(1)	5.660	100	1362544	23.780
18) Phenol	(1)	6.238	94	1010546	12.133
19) Aniline	(1)	6.244	93	1082011	11.055
22) bis(2-Chloroethyl)ether	(1)	6.361	93	740079	11.960
23) 2-Chlorophenol	(1)	6.413	128	656584	12.103
24) 1,3-Dichlorobenzene	(1)	6.634	146	722849	12.300
25)*1,4-Dichlorobenzene-d4	(1)	6.728	152	174596	5.000
26) 1,4-Dichlorobenzene	(1)	6.751	146	737871	12.287
27) Benzyl alcohol	(1)	6.949	108	465564	12.028
28) 1,2-Dichlorobenzene	(1)	6.973	146	694875	12.281
30) Indene	(1)	7.107	115	1234850	11.700
31) 2-Methylphenol	(1)	7.136	108	645147	12.092
33) 2,2'-oxybis(1-Chloropropane)	(1)	7.177	45	1074534	11.753
34) bis(2-Chloroisopropyl)ether	(1)	7.177	45	1074534	11.753
35) N-Nitrosopyrrolidine	(1)	7.305	100	346907	11.544
36) Acetophenone	(1)	7.340	105	1000576	12.468
38) N-Nitroso-di-n-propylamine	(1)	7.363	70	577447	11.931
39) N-Nitrosomorpholine	(1)	7.369	56	485592	11.792
37) 4-Methylphenol	(1)	7.375	108	717397	11.688
97) Isosafrole	(3)	7.383	162	559531	13.014
40) o-Toluidine	(1)	7.392	106	1093466	11.627
43) Hexachloroethane	(1)	7.480	117	293182	11.920
45) Nitrobenzene	(2)	7.585	77	831866	12.529
48) N-Nitrosopiperidine	(2)	7.818	114	310544	11.845
50) Isophorone	(2)	7.969	82	1418082	12.488
120) 2,4_2,6-Dinitrotoluenes	(3)	8.050	165	680188	24.675
51) 2-Nitrophenol	(2)	8.074	139	330300	12.597
53) 2,4-Dimethylphenol	(2)	8.185	107	557597	9.862
57) O,O,O-Triethylphosphorothioate	(2)	8.307	198	326490	12.239
55) bis(2-Chloroethoxy)methane	(2)	8.336	93	941319	12.966
56) Benzoic acid	(2)	8.377	105	753692	17.653
60) 2,4-Dichlorophenol	(2)	8.453	162	534920	12.784

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
62) 1,2,4-Trichlorobenzene	(2)	8.581	180	622637	12.651
65)*Naphthalene-d8	(2)	8.657	136	636078	5.000
66) Naphthalene	(2)	8.692	128	1861272	12.249
146) Diallate trans/cis	(4)	8.775	86	616612	12.147
67) 4-Chloroaniline	(2)	8.797	127	745873	12.109
68) 2,6-Dichlorophenol	(2)	8.809	162	496019	11.957
69) Hexachloropropene	(2)	8.844	213	432213	13.007
71) Hexachlorobutadiene	(2)	8.919	225	364731	12.542
75) Quinoline	(2)	9.222	129	1147470	12.287
77) N-Nitrosodi-n-butylamine	(2)	9.368	84	517937	11.140
80) 4-Chloro-3-methylphenol	(2)	9.595	107	597332	12.525
82) Safrole	(2)	9.689	162	459140	12.113
83) 2-Methylnaphthalene	(2)	9.794	142	1226550	12.329
84) 1-Methylnaphthalene	(2)	9.945	142	1135967	12.414
86) 1,2,4,5-Tetrachlorobenzene	(3)	10.062	216	636050	12.194
85) Hexachlorocyclopentadiene	(3)	10.062	237	602758	24.240
88) cis-Isosafrole	(3)	10.149	162	62420	1.527
90) 2,4,6-Trichlorophenol	(3)	10.254	196	412531	12.985
92) 2,4,5-Trichlorophenol	(3)	10.306	196	432420	12.604
94) trans-Isosafrole	(3)	10.516	162	497111	11.486
95) 1,1'-Biphenyl	(3)	10.551	154	1450958	13.285
96) 2-Chloronaphthalene	(3)	10.563	162	1184091	12.880
98) 1-Chloronaphthalene	(3)	10.592	162	1023204	11.655
99) Diphenyl ether	(3)	10.732	170	787145	12.232
100) 2-Nitroaniline	(3)	10.744	138	355977	12.461
104) 1,4-Naphthoquinone	(3)	10.849	158	586501	15.347
105) 1,4-Dinitrobenzene	(3)	10.971	168	186371	12.397
106) Dimethylphthalate	(3)	11.082	163	1313414	12.364
107) 1,3-Dinitrobenzene	(3)	11.088	168	204452	12.369
108) 2,6-Dinitrotoluene	(3)	11.152	165	288836	12.292
109) Acenaphthylene	(3)	11.216	152	1656681	12.315
112) 3-Nitroaniline	(3)	11.402	138	301465	12.411
113)*Acenaphthene-d10	(3)	11.449	164	364584	5.000
114) Acenaphthene	(3)	11.496	153	1233435	12.597
115) 2,4-Dinitrophenol	(3)	11.565	184	359554	26.250
116) 4-Nitrophenol	(3)	11.694	109	225796	12.571
117) Pentachlorobenzene	(3)	11.700	250	499800	11.865
119) Dibenzofuran	(3)	11.752	168	1643220	12.289
118) 2,4-Dinitrotoluene	(3)	11.764	165	391352	12.383
121) 1-Naphthylamine	(3)	11.863	143	2092863	22.063

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
122) 2,3,4,6-Tetrachlorophenol	(3)	11.933	232	331111	12.815
123) 2-Naphthylamine	(3)	11.973	143	2000222	21.280
124) Diethylphthalate	(3)	12.125	149	1313402	12.740
126) Fluorene	(3)	12.207	166	1300150	12.119
125) Thionazin	(3)	12.218	107	254570	12.416
128) 5-Nitro-o-toluidine	(3)	12.236	152	352342	11.935
127) 4-Chlorophenyl-phenylether	(3)	12.236	204	644065	12.328
129) 4-Nitroaniline	(3)	12.242	138	297292	12.294
130) 4,6-Dinitro-2-methylphenol	(4)	12.288	198	232418	12.155
131) N-Nitrosodiphenylamine	(4)	12.376	169	1091421	12.411
132) NDPA as diphenylamine	(4)	12.376	169	1091421	12.411
134) 1,2-Diphenylhydrazine	(4)	12.422	77	1562208	12.574
137) Tetraethyldithiopyrophosphate	(4)	12.603	97	243739	12.040
139) 1,3,5-Trinitrobenzene	(4)	12.702	213	148541	12.008
140) Diallate (peak 1)	(4)	12.737	86	464318	8.648
141) Phorate	(4)	12.743	75	972710	12.180
142) Phenacetin	(4)	12.766	108	718901	12.284
143) 4-Bromophenyl-phenylether	(4)	12.813	248	375922	12.459
144) Diallate (peak 2)	(4)	12.836	86	152294	3.498
145) Hexachlorobenzene	(4)	12.865	284	371828	11.701
147) Dimethoate	(4)	12.935	87	615207	11.961
149) Pentachlorophenol	(4)	13.116	266	245239	14.037
150) 4-Aminobiphenyl	(4)	13.128	169	1403113	14.371
151) Pentachloronitrobenzene	(4)	13.128	237	170761	12.310
152) Pronamide	(4)	13.232	173	633360	12.511
153)*Phenanthrene-d10	(4)	13.337	188	709116	5.000
154) Dinoseb	(4)	13.367	211	369067	12.573
155) Phenanthrene	(4)	13.367	178	1893347	11.945
157) Anthracene	(4)	13.431	178	1925453	12.200
163) Carbazole	(4)	13.646	167	1836834	12.534
164) Methyl parathion	(4)	13.850	109	482998	12.195
165) Di-n-butylphthalate	(4)	14.171	149	2315070	12.789
167) Parathion	(4)	14.392	109	328130	12.992
168) 4-Nitroquinoline-1-oxide	(4)	14.422	190	2988203	180.320
171) Isodrin	(4)	14.771	193	230026	11.970
173) Fluoranthene	(4)	14.987	202	2226577	12.268
222) Total PAHs	(6)	15.000	100	33857908	223.300
174) Benzidine	(5)	15.226	184	6337940	57.599
175)*Pyrene-d10	(5)	15.290	212	831669	5.000
177) Pyrene	(5)	15.319	202	2269547	12.019

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0171.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 22:56 Analyst ID: em10340

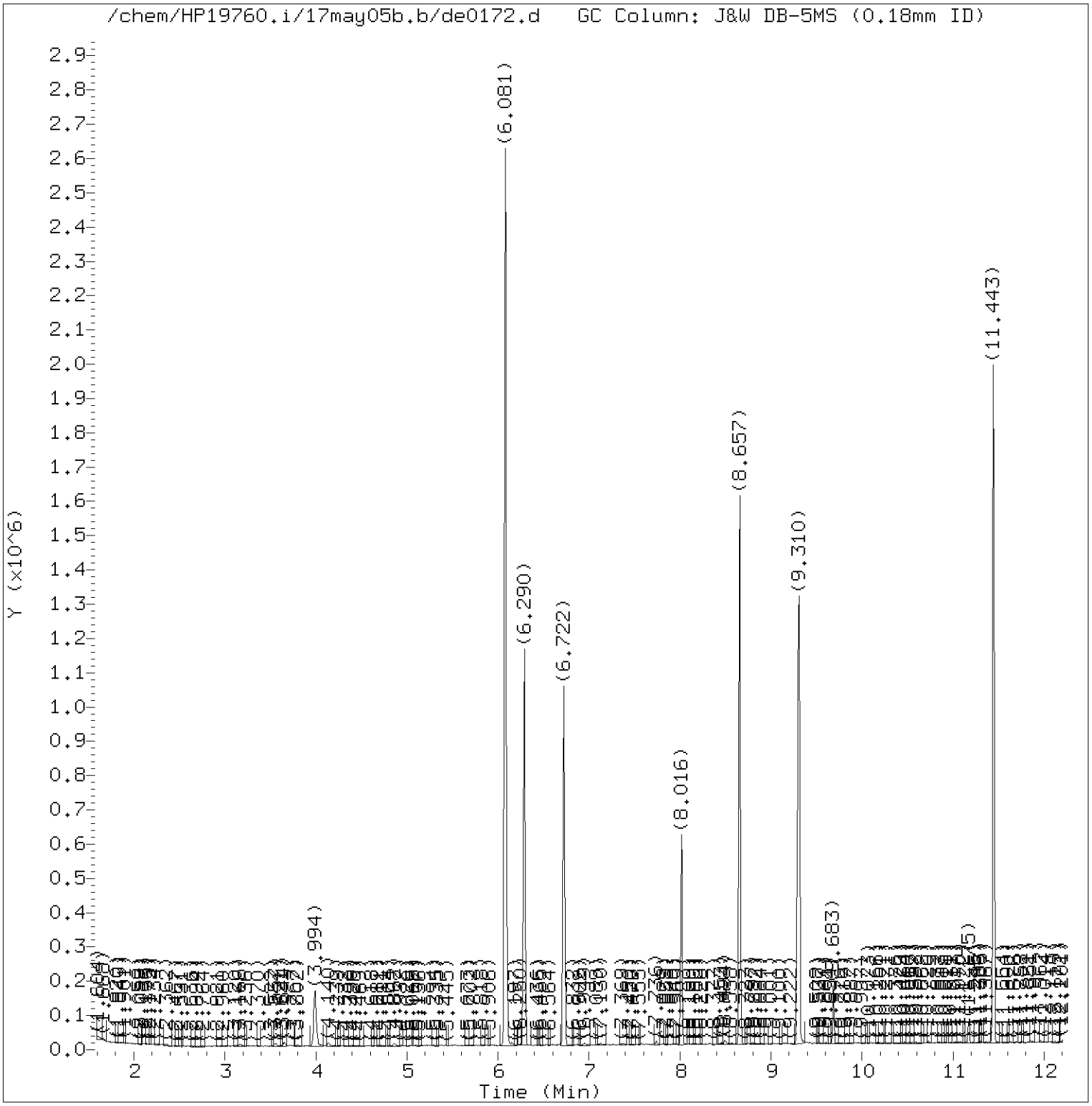
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: icvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVICV1147

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
182) p-Dimethylaminoazobenzene	(5)	15.838	225	437213	14.542
185) Chlorobenzilate	(5)	15.931	139	733328	13.205
187) 3,3'-Dimethylbenzidine	(5)	16.392	212	2816547	23.100
188) Butylbenzylphthalate	(5)	16.456	149	1076053	12.874
191) 2-Acetylaminofluorene	(5)	16.805	181	952285	12.234
193) 3,3'-Dichlorobenzidine	(5)	17.307	252	813346	11.924
195) Benzo(a)anthracene	(5)	17.307	228	2298359	12.696
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.324	231	459554	12.442
196) Chrysene	(5)	17.371	228	2176689	12.768
199) bis(2-Ethylhexyl)phthalate	(5)	17.522	149	1620720	12.953
203) 6-Methylchrysene	(5)	18.169	242	1481718	12.209
205) Di-n-octylphthalate	(6)	18.676	149	2919786	12.739
206) Benzo(b)fluoranthene	(6)	19.149	252	2358323	12.347
207) 7,12-Dimethylbenz[a]anthracene	(6)	19.160	256	1023626	13.199
208) Benzo(k)fluoranthene	(6)	19.201	252	2231840	12.149
211) Benzo(a)pyrene	(6)	19.673	252	2143043	12.143
213)*Perylene-d12	(6)	19.761	264	701134	5.000
215) 3-Methylcholanthrene	(6)	20.244	268	1063335	13.539
217) Dibenz(a,h)acridine	(6)	21.049	279	1588090	12.498
218) Dibenz(a,j)acridine	(6)	21.124	279	1575964	12.643
219) Indeno(1,2,3-cd)pyrene	(6)	21.363	276	2231087	12.897
220) Dibenz(a,h)anthracene	(6)	21.398	278	1915052	13.309
221) Benzo(g,h,i)perylene	(6)	21.725	276	1774536	12.536

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

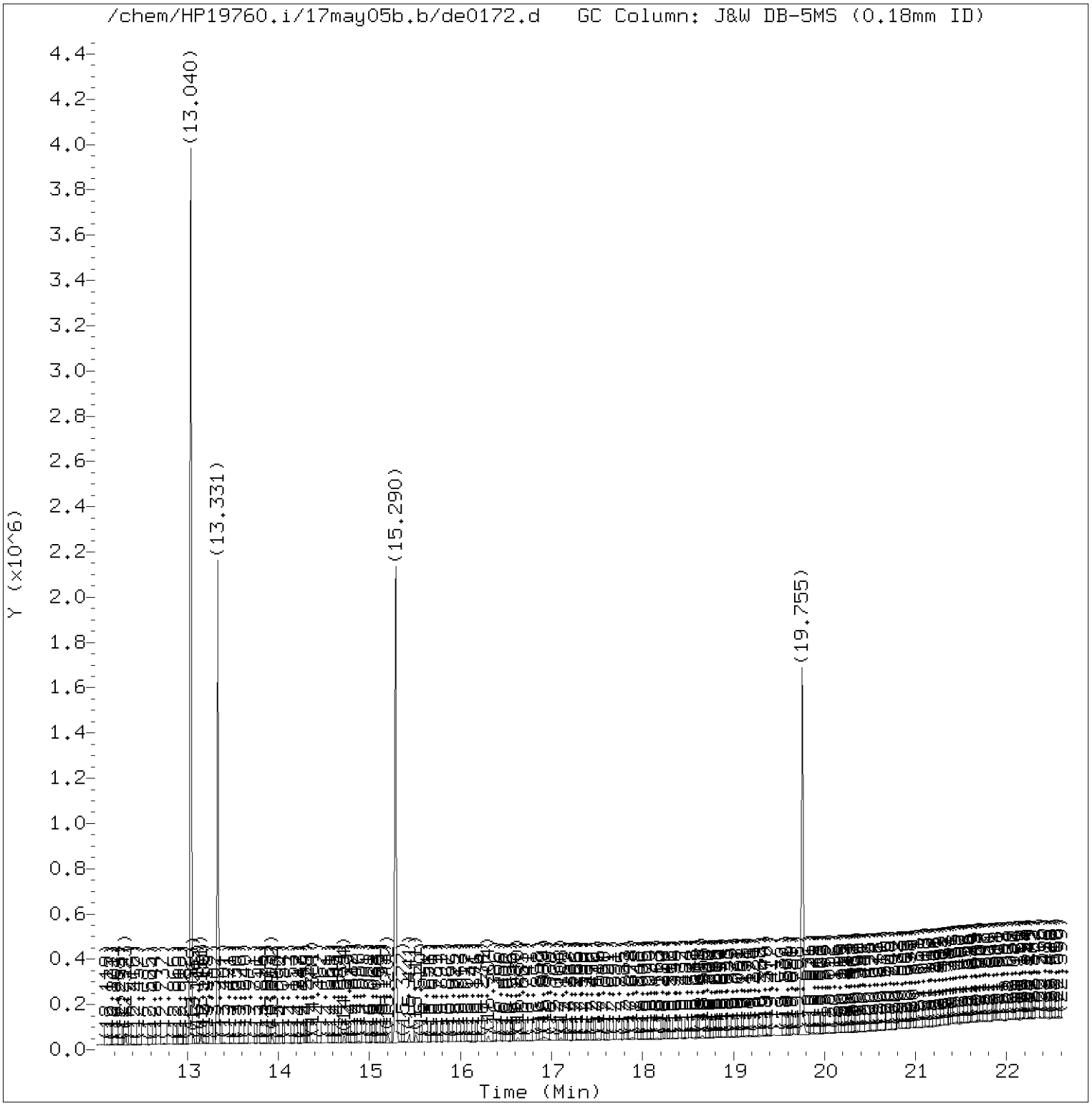
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0172.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:24 Analyst ID: em10340

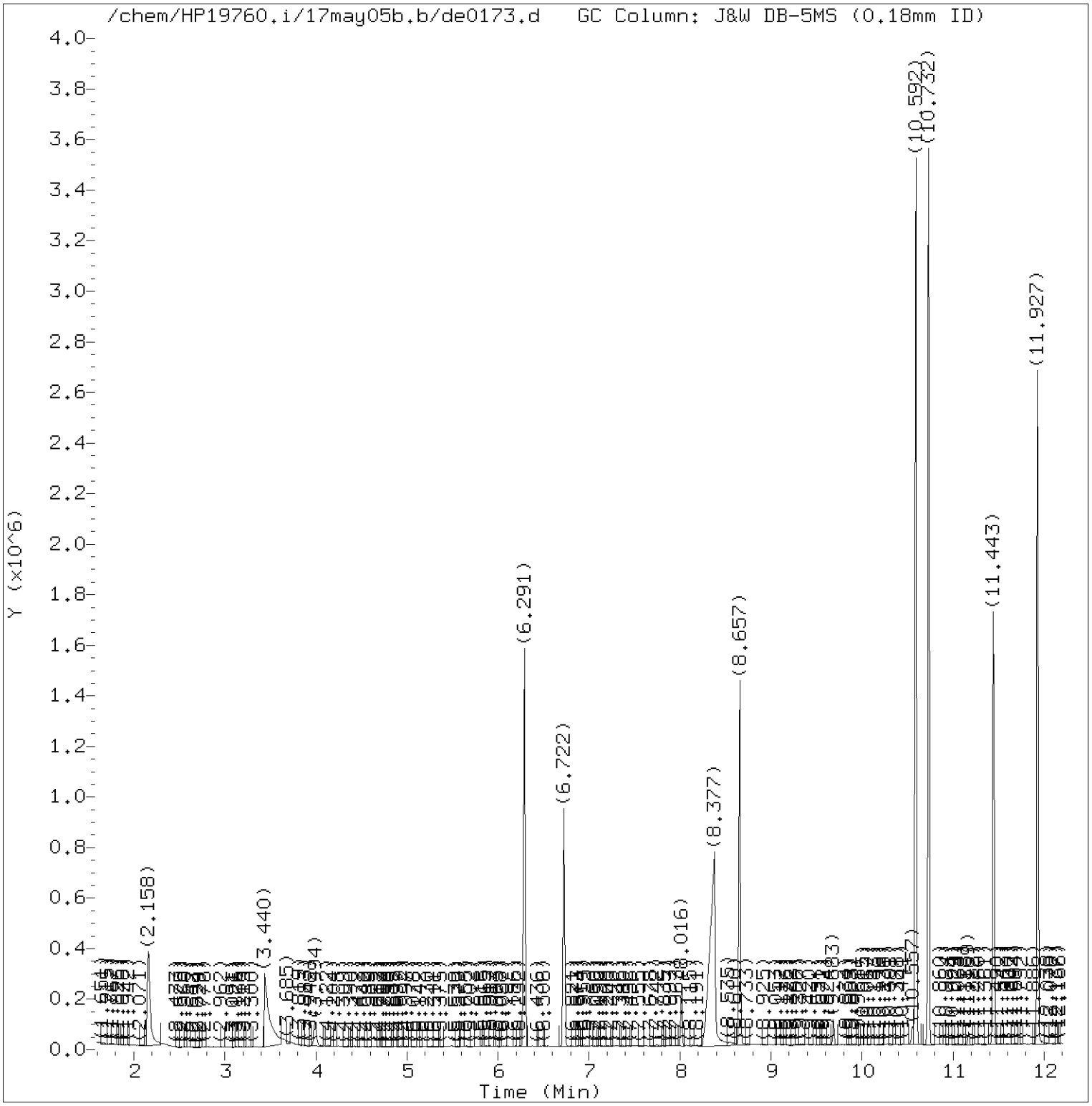
Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: basicvall1
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:13 bhs10208

Sample Name: SSTD12.5 Lab Sample ID: RVBASICV0637

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
16) Benzaldehyde	(1)	6.081	77	850488	12.837
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	227886	5.000
65)*Naphthalene-d8	(2)	8.657	136	836562	5.000
76) Caprolactam	(2)	9.310	113	209229	12.183
113)*Acenaphthene-d10	(3)	11.443	164	478137	5.000
148) Atrazine	(4)	13.040	200	488478	13.489
153)*Phenanthrene-d10	(4)	13.337	188	924312	5.000
175)*Pyrene-d10	(5)	15.290	212	1107203	5.000
213)*Perylene-d12	(6)	19.755	264	861987	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:16.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

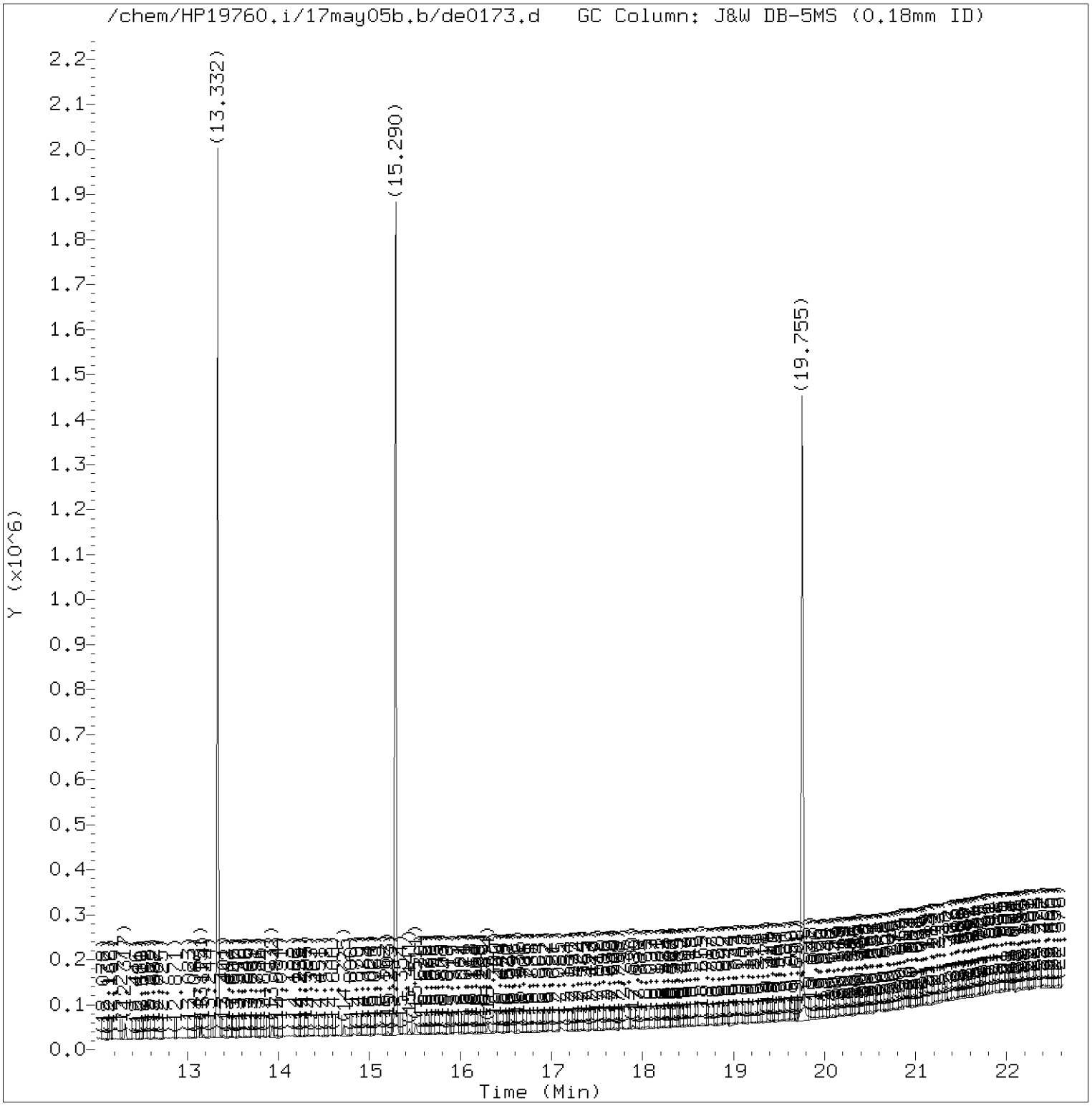
Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may05b.b/de0173.d Instrument ID: HP19760.i
Injection date and time: 05-MAY-2017 23:52 Analyst ID: em10340

Method used: /chem/HP19760.i/17may05b.b/rv8270d.m Sublist used: bacid
Calibration date and time: 05-MAY-2017 22:04
Date, time and analyst ID of latest file update: 07-May-2017 21:44 bhs10208

Sample Name: SSTD025 Lab Sample ID: BACID1087

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.722	152	195592	5.000
56) Benzoic acid	(2)	8.377	105	792981	16.203
65)*Naphthalene-d8	(2)	8.657	136	738642	5.000
113)*Acenaphthene-d10	(3)	11.443	164	419970	5.000
153)*Phenanthrene-d10	(4)	13.332	188	811786	5.000
175)*Pyrene-d10	(5)	15.290	212	959935	5.000
213)*Perylene-d12	(6)	19.755	264	736778	5.000

* = Compound is an internal standard.

Digitally signed by Brandon H. Smith
on 05/07/2017 at 21:44.
Target 3.5 esignature user ID: bhs10208

Data File: /chem/HP19760.i/17may23.b/de0590.d

Date : 23-MAY-2017 07:22

Client ID: DFTPP12.5

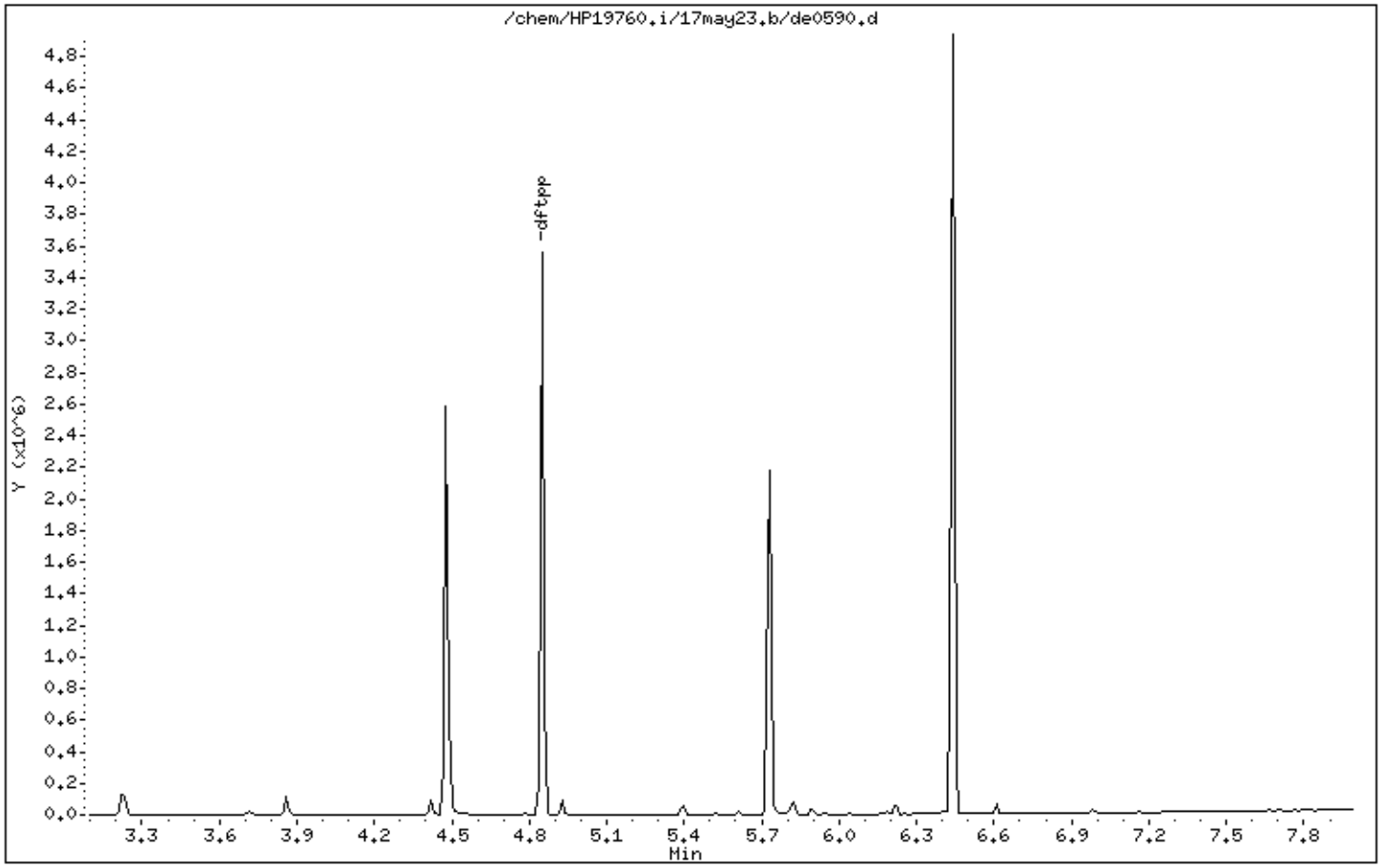
Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP19760.i/17may23.b/de0590.d

Date : 23-MAY-2017 07:22

Client ID: DFTPP12.5

Instrument: HP19760.i

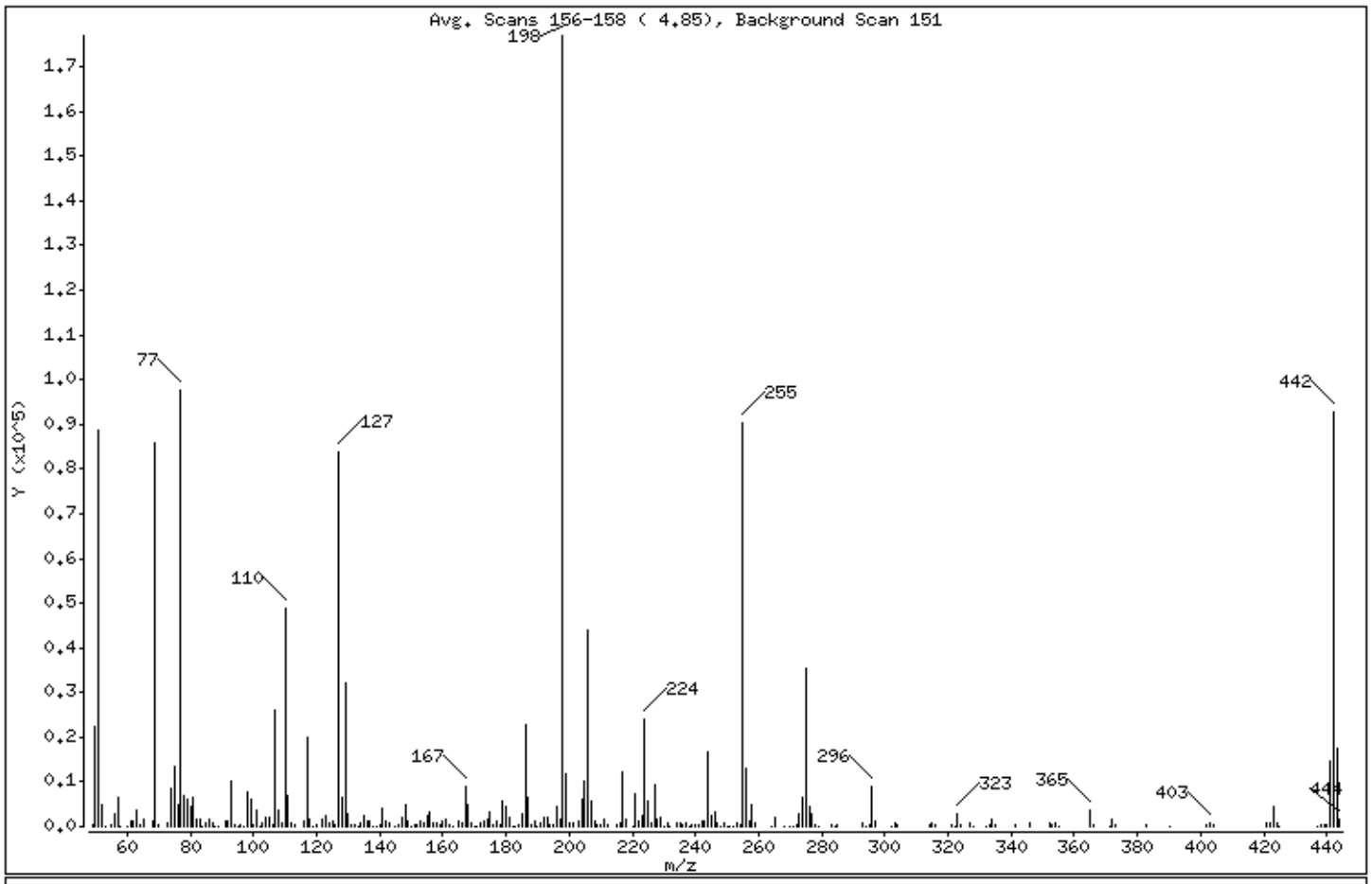
Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	49.99
68	Less than 2.00% of mass 69	0.77 (1.59)
69	Mass 69 relative abundance	48.38
70	Less than 2.00% of mass 69	0.20 (0.42)
127	10.00 - 80.00% of mass 198	47.41
197	Less than 2.00% of mass 198	0.89
199	5.00 - 9.00% of mass 198	6.60
275	10.00 - 60.00% of mass 198	19.88
365	Greater than 1.00% of mass 198	2.13
441	0.01 - 24.00% of mass 442	8.26 (15.74)
442	50.00 - 99.99% of mass 198	52.50
443	15.00 - 24.00% of mass 442	9.90 (18.85)

Digitally signed by Catherine E. Bachman on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Date : 23-MAY-2017 07:22

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

Data File: de0590.d
Spectrum: Avg. Scans 156-158 (4.85), Background Scan 151
Location of Maximum: 198.00
Number of points: 260

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	480	125.00	1026	193.00	2086	271.00	178
50.00	22520	126.00	416	194.00	416	272.00	361
51.00	88488	127.00	83920	195.00	330	273.00	2719
52.00	4751	128.00	6411	196.00	4583	274.00	6554
53.00	156	129.00	32200	197.00	1574	275.00	35200
55.00	418	130.00	2740	198.00	176960	276.00	4676
56.00	2677	131.00	471	199.00	11675	277.00	3028
57.00	6356	132.00	270	200.00	879	278.00	525
58.00	195	133.00	86	201.00	701	279.00	113
60.00	108	134.00	752	203.00	1246	283.00	394
61.00	1073	135.00	2615	204.00	5961	284.00	191
62.00	1141	136.00	1089	205.00	10354	285.00	587
63.00	3761	137.00	1318	206.00	43832	293.00	820
64.00	443	138.00	182	207.00	5655	294.00	174
65.00	1767	139.00	109	208.00	1406	295.00	308
68.00	1364	140.00	401	209.00	370	296.00	9080
69.00	85648	141.00	3876	210.00	608	297.00	1171
70.00	358	142.00	1286	211.00	1630	302.00	101
73.00	733	143.00	794	212.00	294	303.00	985
74.00	8476	145.00	163	215.00	365	304.00	290
75.00	13463	146.00	489	216.00	970	314.00	457
76.00	4697	147.00	2155	217.00	12281	315.00	900
77.00	97584	148.00	4799	218.00	1566	316.00	562
78.00	6779	149.00	1064	220.00	132	321.00	322
79.00	5996	150.00	148	221.00	7204	322.00	183
80.00	4583	151.00	504	222.00	1374	323.00	2933
81.00	6430	152.00	255	223.00	2437	324.00	586
82.00	1617	153.00	1213	224.00	23880	327.00	630
83.00	1545	154.00	805	225.00	5779	328.00	140
84.00	173	155.00	2288	226.00	711	332.00	135
85.00	873	156.00	3379	227.00	9542	333.00	253
86.00	1659	157.00	726	228.00	1511	334.00	1763
87.00	789	158.00	698	229.00	1971	335.00	450
88.00	181	159.00	567	230.00	186	341.00	354
89.00	112	160.00	1208	231.00	732	346.00	613

Digitally signed by Catherine E. Bachman on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Date : 23-MAY-2017 07:22

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: ceb05247

Column phase: DB-5MS Column diameter: 0.18

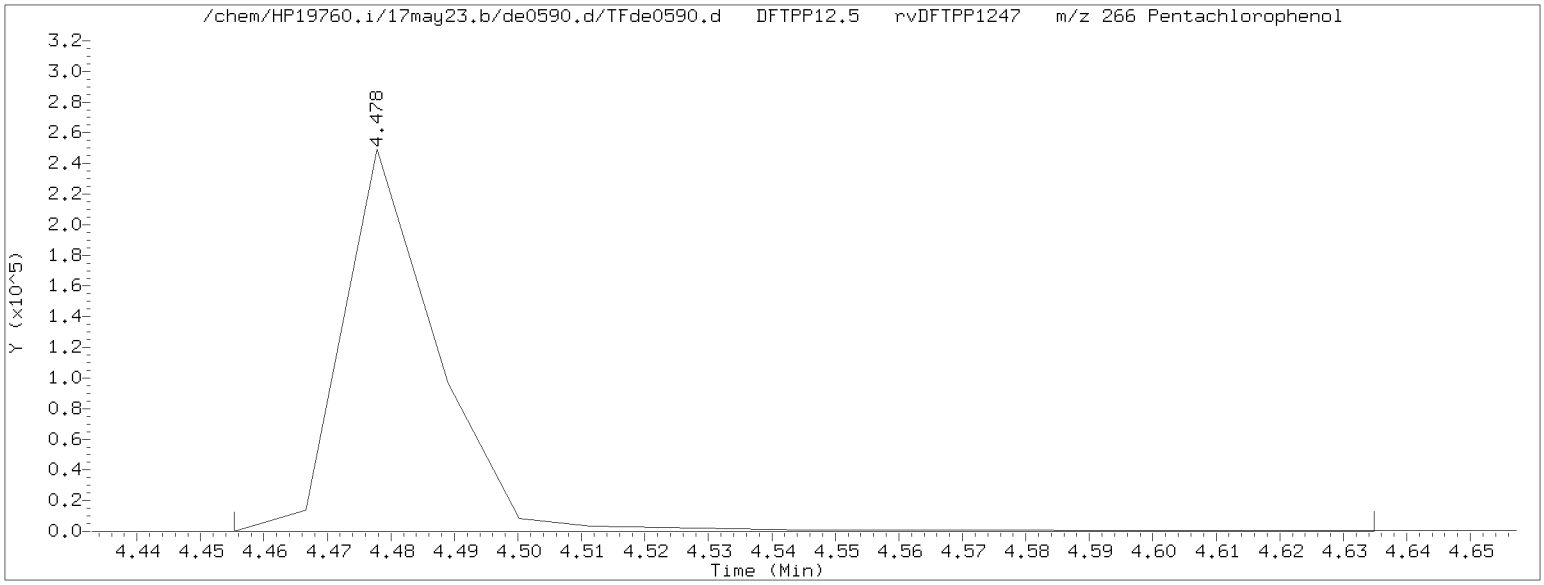
Data File: de0590.d
Spectrum: Avg. Scans 156-158 (4.85), Background Scan 151
Location of Maximum: 198.00
Number of points: 260

m/z	Y	m/z	Y	m/z	Y	m/z	Y
91.00	1192	161.00	1782	232.00	93	352.00	882
92.00	1384	162.00	402	234.00	667	353.00	593
93.00	9973	163.00	119	235.00	642	354.00	856
94.00	595	165.00	1329	236.00	357	355.00	166
95.00	171	166.00	1005	237.00	760	365.00	3778
96.00	442	167.00	8906	238.00	86	366.00	591
97.00	158	168.00	4718	239.00	387	371.00	106
98.00	7589	169.00	885	240.00	223	372.00	1605
99.00	6182	170.00	148	241.00	441	373.00	407
100.00	348	171.00	143	242.00	1169	383.00	364
101.00	3543	172.00	720	243.00	1277	390.00	201
102.00	153	173.00	1040	244.00	16752	402.00	546
103.00	853	174.00	1698	245.00	2560	403.00	785
104.00	2045	175.00	3392	246.00	3442	404.00	255
105.00	1860	176.00	585	247.00	769	421.00	715
106.00	559	177.00	1311	248.00	95	422.00	663
107.00	25928	178.00	493	249.00	665	423.00	4505
108.00	3810	179.00	5529	250.00	134	424.00	948
109.00	687	180.00	4471	251.00	106	425.00	93
110.00	49016	181.00	1843	252.00	181	437.00	184
111.00	6920	182.00	184	253.00	639	438.00	216
112.00	682	183.00	119	254.00	226	439.00	311
113.00	231	184.00	468	255.00	90440	440.00	435
116.00	1284	185.00	2849	256.00	13149	441.00	14629
117.00	20056	186.00	22768	257.00	1167	442.00	92944
118.00	1650	187.00	6633	258.00	4996	443.00	17520
119.00	165	188.00	581	259.00	740	444.00	1567
120.00	281	189.00	1178	264.00	134		
122.00	1571	190.00	147	265.00	2048		
123.00	2244	191.00	635	268.00	98		
124.00	1006	192.00	2043	270.00	96		

Digitally signed by Catherine E. Bachman on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

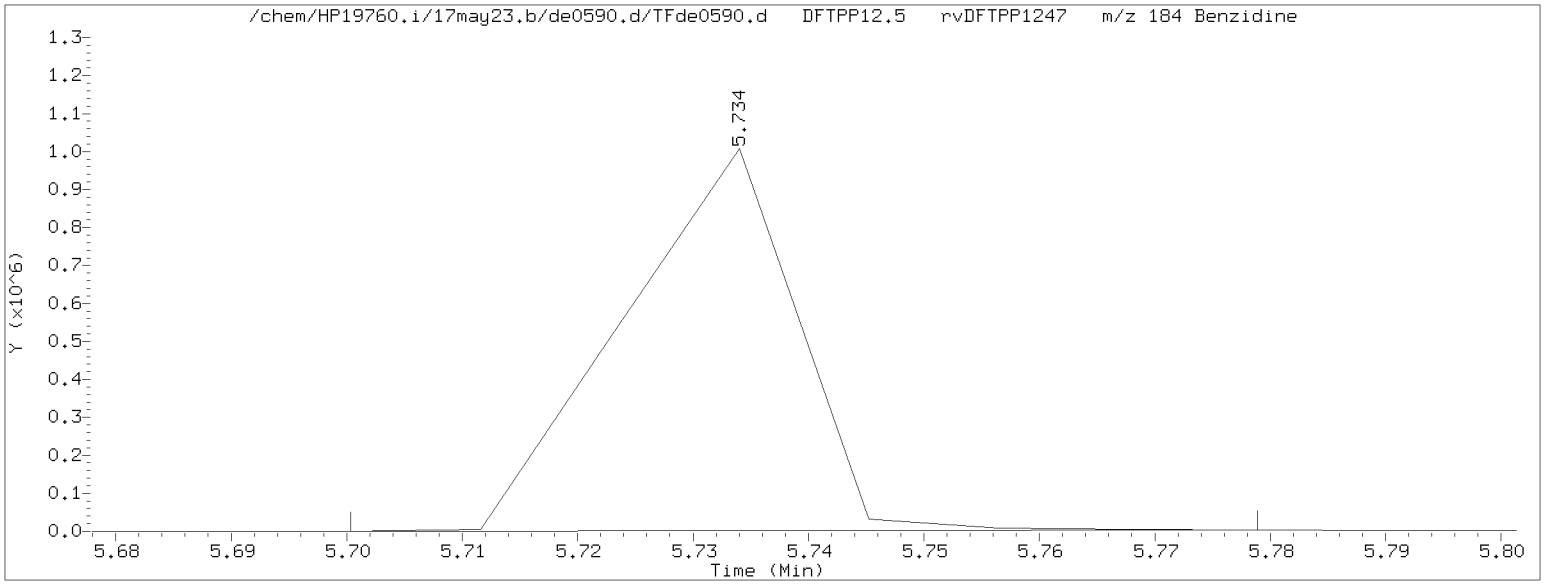
Instrument ID: HP19760.i Injection Date: 23-MAY-2017 07:22 Operator: ceb05247



Pentachlorophenol EICP peak height = 249344 EICP peak height at 10% = 24934 Pentachlorophenol EICP area = 256501

Pentachlorophenol EICP peak apex (min.) = 4.478
RT at 10% of front half of EICP (min.) = 4.467 'Front' peak width (min.) = 0.0106666667
RT at 10% of back half of EICP (min.) = 4.498 'Tailing' peak width (min.) = 0.0203000000

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0203000000}{0.0106666667} = 1.903$$



Benzidine EICP peak height = 1006636 EICP peak height at 2.5% = 25166 Benzidine EICP area = 1048753

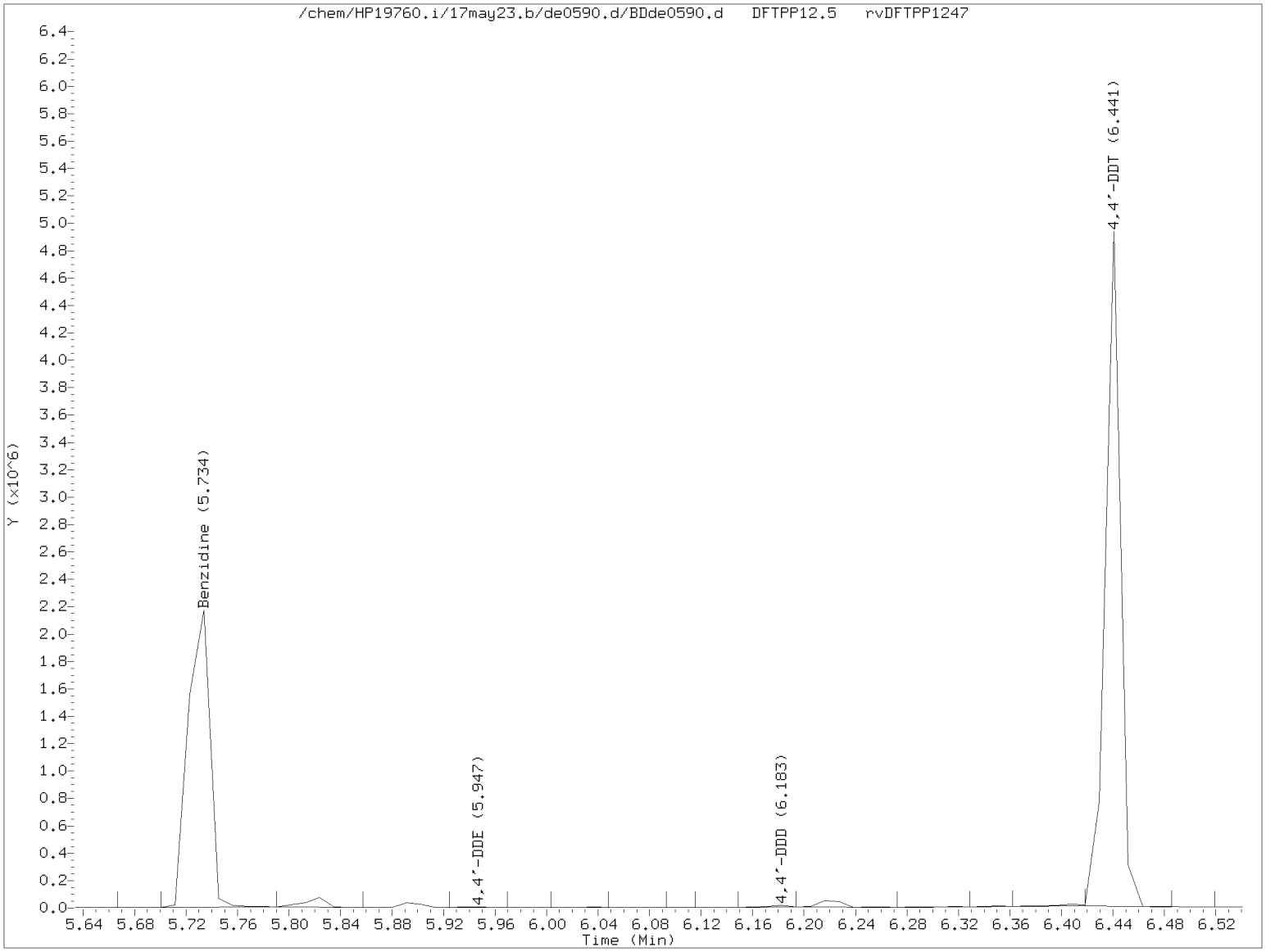
Benzidine EICP peak apex (min.) = 5.734
RT at 2.5% of front half of EICP (min.) = 5.712 'Front' peak width (min.) = 0.0219500000
RT at 2.5% of back half of EICP (min.) = 5.748 'Tailing' peak width (min.) = 0.0138333333

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0138333333}{0.0219500000} = 0.630$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/30/2017 at 10:36. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

Instrument ID: HP19760.i Injection Date: 23-MAY-2017 07:22 Operator: ceb05247

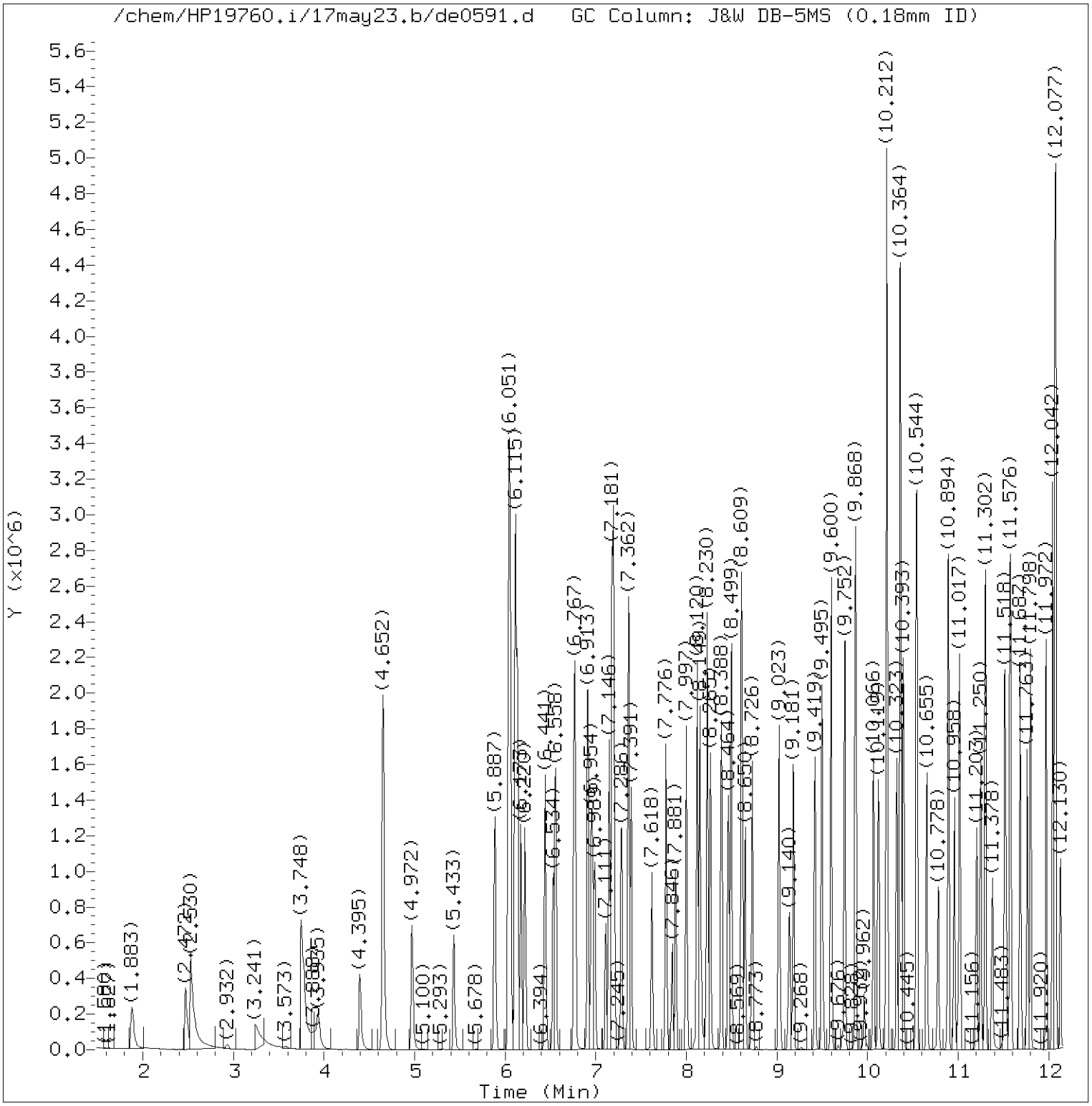


$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{4725 + 16444}{4725 + 16444 + 4038468} \times 100 = 0.5$$

printed on 05/23/2017 at 07:30

Secondary review performed and digitally signed by Matthew E. Barton on 05/30/2017 at 10:36. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

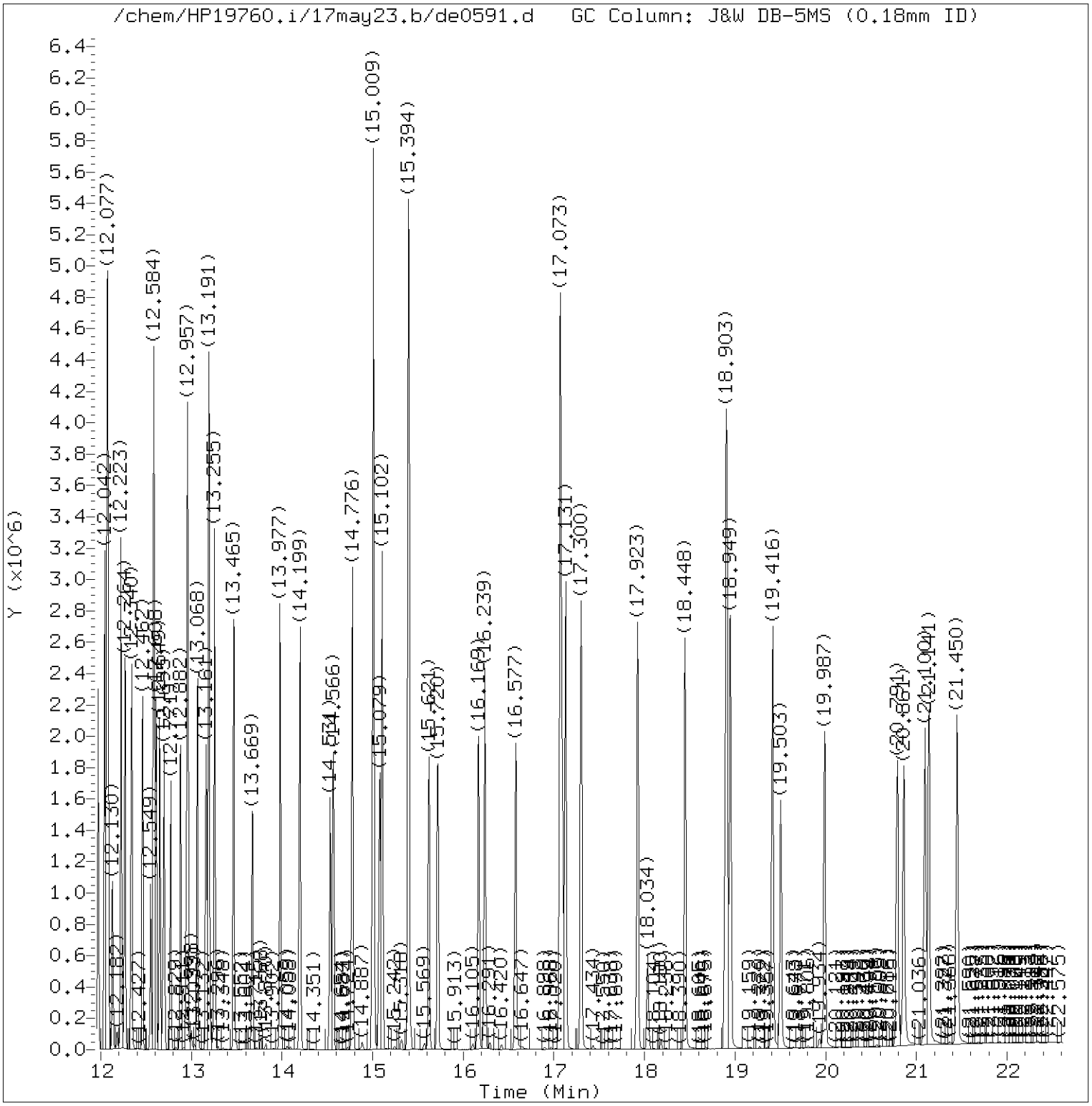
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0591.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 07:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 08:01
Date, time and analyst ID of latest file update: 23-May-2017 08:01 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0591.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 07:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 08:01
Date, time and analyst ID of latest file update: 23-May-2017 08:01 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0591.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 07:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 08:01
Date, time and analyst ID of latest file update: 23-May-2017 08:01 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.883	88	219379	7.640
4) N-Nitrosodimethylamine	(1)	2.472	74	351556	7.614
5) Pyridine	(1)	2.530	79	568358	7.502
7) 2-Picoline	(1)	3.748	93	583053	7.536
8) N-Nitrosomethylethylamine	(1)	3.935	88	245910	7.448
9) Methyl methanesulfonate	(1)	4.395	80	245558	6.500
11)$2-Fluorophenol	(1)	4.652	112	916683	15.046
13) N-Nitrosodiethylamine	(1)	4.972	102	230289	7.510
15) Ethyl methanesulfonate	(1)	5.433	109	200473	6.053
42) Total Cresols	(1)			951848	14.762
16) Benzaldehyde	(1)	5.887	77	436794	7.651
17)$Phenol-d6	(1)	6.039	99	1227049	14.839
19) Aniline	(1)	6.051	93	821174	7.460
18) Phenol	(1)	6.056	94	705259	7.528
20) a-methylstyrene	(1)	6.138	118	520270	7.717
22) bis(2-Chloroethyl)ether	(1)	6.173	93	524364	7.534
23) 2-Chlorophenol	(1)	6.220	128	448703	7.354
24) 1,3-Dichlorobenzene	(1)	6.441	146	486063	7.354
25)*1,4-Dichlorobenzene-d4	(1)	6.534	152	196373	5.000
26) 1,4-Dichlorobenzene	(1)	6.558	146	491251	7.273
27) Benzyl alcohol	(1)	6.762	108	309685	7.113
28) 1,2-Dichlorobenzene	(1)	6.773	146	466736	7.334
30) Indene	(1)	6.913	115	905986	7.632
31) 2-Methylphenol	(1)	6.954	108	447109	7.451
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.989	45	777954	7.565
34) bis(2-Chloroisopropyl)ether	(1)	6.989	45	777954	7.565
35) N-Nitrosopyrrolidine	(1)	7.111	100	240841	7.126
36) Acetophenone	(1)	7.146	105	687754	7.620
38) N-Nitroso-di-n-propylamine	(1)	7.175	70	399198	7.333
39) N-Nitrosomorpholine	(1)	7.181	56	358553	7.741
37) 4-Methylphenol	(1)	7.193	108	504739	7.311
40) o-Toluidine	(1)	7.199	106	778455	7.359
43) Hexachloroethane	(1)	7.286	117	208956	7.553
44)$Nitrobenzene-d5	(2)	7.362	82	1135638	15.044
97) Isosafrole	(3)			361560	7.420
45) Nitrobenzene	(2)	7.391	77	586839	7.718
48) N-Nitrosopiperidine	(2)	7.624	114	229466	7.643
50) Isophorone	(2)	7.776	82	979503	7.533
51) 2-Nitrophenol	(2)	7.881	139	217699	7.250
53) 2,4-Dimethylphenol	(2)	8.003	107	479130	7.400

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0591.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 07:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 08:01
Date, time and analyst ID of latest file update: 23-May-2017 08:01 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			448940	14.331
57) O,O,O-Triethylphosphorothioate	(2)	8.120	198	224816	7.360
55) bis(2-Chloroethoxy)methane	(2)	8.149	93	621507	7.476
56) Benzoic acid	(2)	8.166	105	396556M	9.309
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.230	104	740765	7.758
60) 2,4-Dichlorophenol	(2)	8.265	162	360239	7.518
62) 1,2,4-Trichlorobenzene	(2)	8.388	180	417515	7.408
65)*Naphthalene-d8	(2)	8.464	136	728405	5.000
66) Naphthalene	(2)	8.499	128	1254244	7.208
67) 4-Chloroaniline	(2)	8.603	127	531194	7.531
68) 2,6-Dichlorophenol	(2)	8.615	162	354341	7.459
69) Hexachloropropene	(2)	8.650	213	271586	7.137
71) Hexachlorobutadiene	(2)	8.726	225	242420	7.280
146) Diallate trans/cis	(4)			449254	7.803
75) Quinoline	(2)	9.023	129	806800	7.544
76) Caprolactam	(2)	9.140	113	107622	7.197
77) N-Nitrosodi-n-butylamine	(2)	9.181	84	369975	6.949
80) 4-Chloro-3-methylphenol	(2)	9.419	107	404809	7.412
82) Safrole	(2)	9.495	162	322138	7.421
83) 2-Methylnaphthalene	(2)	9.600	142	842884	7.398
84) 1-Methylnaphthalene	(2)	9.752	142	761985	7.271
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.868	216	435540	7.348
85) Hexachlorocyclopentadiene	(3)	9.868	237	200948	7.112
88) cis-Isosafrole	(3)	9.962	162	57162	1.231
90) 2,4,6-Trichlorophenol	(3)	10.066	196	268829	7.446
92) 2,4,5-Trichlorophenol	(3)	10.119	196	292317	7.498
93)$2-Fluorobiphenyl	(3)	10.212	172	1907041	14.809
94) trans-Isosafrole	(3)	10.323	162	304398	6.190
95) 1,1'-Biphenyl	(3)	10.358	154	965693	7.781
96) 2-Chloronaphthalene	(3)	10.364	162	792385	7.585
98) 1-Chloronaphthalene	(3)	10.393	162	708070	7.097
99) Diphenyl ether	(3)	10.539	170	531565	7.269
100) 2-Nitroaniline	(3)	10.544	138	227182	6.998
104) 1,4-Naphthoquinone	(3)	10.655	158	319600	7.359
105) 1,4-Dinitrobenzene	(3)	10.783	168	119281	6.982
106) Dimethylphthalate	(3)	10.888	163	894946	7.414
107) 1,3-Dinitrobenzene	(3)	10.894	168	135001	7.187
108) 2,6-Dinitrotoluene	(3)	10.958	165	190530	7.136
109) Acenaphthylene	(3)	11.017	152	1151395	7.532
112) 3-Nitroaniline	(3)	11.203	138	198898	7.206

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0591.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 07:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 08:01
Date, time and analyst ID of latest file update: 23-May-2017 08:01 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.250	164	414297	5.000
114) Acenaphthene	(3)	11.302	153	817538	7.348
115) 2,4-Dinitrophenol	(3)	11.378	184	137663	8.844
117) Pentachlorobenzene	(3)	11.512	250	346826	7.246
116) 4-Nitrophenol	(3)	11.524	109	145249	7.116
119) Dibenzofuran	(3)	11.570	168	1114357	7.334
118) 2,4-Dinitrotoluene	(3)	11.582	165	258410	7.196
121) 1-Naphthylamine	(3)	11.687	143	765380	7.100
122) 2,3,4,6-Tetrachlorophenol	(3)	11.763	232	219142	7.464
123) 2-Naphthylamine	(3)	11.798	143	750655	7.028
124) Diethylphthalate	(3)	11.972	149	869108	7.419
126) Fluorene	(3)	12.042	166	896223	7.351
125) Thionazin	(3)	12.066	107	165159	7.089
128) 5-Nitro-o-toluidine	(3)	12.072	152	240627	7.173
127) 4-Chlorophenyl-phenylether	(3)	12.077	204	442638	7.456
129) 4-Nitroaniline	(3)	12.083	138	206106	7.500
130) 4,6-Dinitro-2-methylphenol	(4)	12.130	198	147711	6.983
131) N-Nitrosodiphenylamine	(4)	12.223	169	732827	7.532
132) NDPA as diphenylamine	(4)	12.223	169	732827	7.532
134) 1,2-Diphenylhydrazine	(4)	12.264	77	1068153	7.771
135)$2,4,6-Tribromophenol	(3)	12.340	330	214619	13.918
137) Tetraethyldithiopyrophosphate	(4)	12.456	97	157961	7.053
139) 1,3,5-Trinitrobenzene	(4)	12.549	213	90877	6.641
141) Phorate	(4)	12.584	75	649906	7.356
140) Diallate (peak 1)	(4)	12.584	86	388191	6.536
142) Phenacetin	(4)	12.608	108	494695	7.640
143) 4-Bromophenyl-phenylether	(4)	12.649	248	247129	7.404
144) Diallate (peak 2)	(4)	12.678	86	61063	1.268
145) Hexachlorobenzene	(4)	12.695	284	253886	7.222
147) Dimethoate	(4)	12.771	87	340300	5.980
148) Atrazine	(4)	12.882	200	225630	7.341
149) Pentachlorophenol	(4)	12.946	266	150229	7.772
150) 4-Aminobiphenyl	(4)	12.957	169	805758	7.460
151) Pentachloronitrobenzene	(4)	12.957	237	116873	7.616
152) Pronamide	(4)	13.068	173	420778	7.513
153)*Phenanthrene-d10	(4)	13.161	188	784498	5.000
155) Phenanthrene	(4)	13.191	178	1294096	7.380
154) Dinoseb	(4)	13.196	211	234506	7.221
157) Anthracene	(4)	13.255	178	1306072	7.480
163) Carbazole	(4)	13.470	167	1239593	7.646

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0591.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 07:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 08:01
Date, time and analyst ID of latest file update: 23-May-2017 08:01 ceb05247

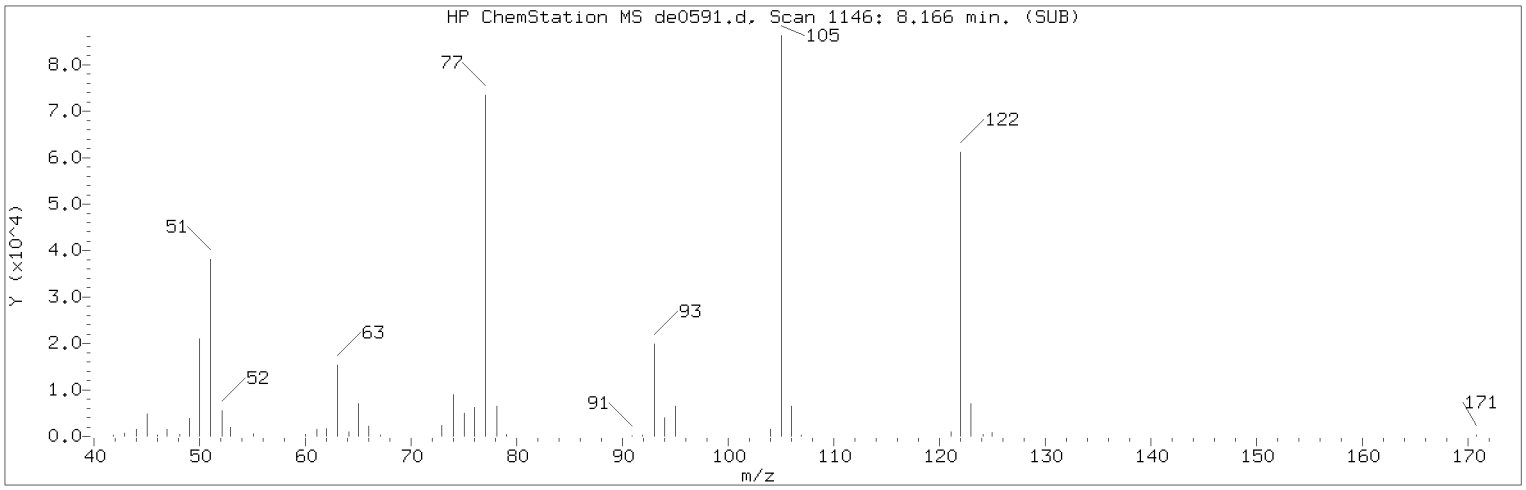
Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.669	109	301850	6.889
165) Di-n-butylphthalate	(4)	13.977	149	1511656	7.549
168) 4-Nitroquinoline-1-oxide	(4)	14.193	190	96731	5.276
167) Parathion	(4)	14.199	109	200579	7.178
169) Octachlorostyrene	(4)	14.531	308	97882	7.401
171) Isodrin	(4)	14.566	193	153360	7.214
173) Fluoranthene	(4)	14.776	202	1529050	7.616
222) Total PAHs	(6)			23232567	134.876
174) Benzidine	(5)	15.009	184	2636576	20.863
175)*Pyrene-d10	(5)	15.079	212	955194	5.000
177) Pyrene	(5)	15.102	202	1597533	7.366
179)$Terphenyl-d14	(5)	15.394	244	2141426	15.277
182) p-Dimethylaminoazobenzene	(5)	15.621	225	251899	7.295
185) Chlorobenzilate	(5)	15.714	139	456899	7.164
187) 3,3'-Dimethylbenzidine	(5)	16.169	212	925428	6.608
188) Butylbenzylphthalate	(5)	16.239	149	698563	7.277
191) 2-Acetylaminofluorene	(5)	16.577	181	587202	6.568
193) 3,3'-Dichlorobenzidine	(5)	17.073	252	569336	7.267
195) Benzo(a)anthracene	(5)	17.073	228	1578552	7.592
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.096	231	301021	7.096
196) Chrysene	(5)	17.131	228	1481700	7.568
199) bis(2-Ethylhexyl)phthalate	(5)	17.300	149	1026026	7.140
203) 6-Methylchrysene	(5)	17.923	242	1055078	7.569
205) Di-n-octylphthalate	(6)	18.448	149	1709855	6.578
206) Benzo(b)fluoranthene	(6)	18.897	252	1589235	7.337
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.909	256	671198	7.631
208) Benzo(k)fluoranthene	(6)	18.949	252	1607830	7.717
211) Benzo(a)pyrene	(6)	19.416	252	1491577	7.452
213)*Perylene-d12	(6)	19.503	264	795172	5.000
215) 3-Methylcholanthrene	(6)	19.987	268	635066	7.130
217) Dibenz(a,h)acridine	(6)	20.791	279	1037674	7.200
218) Dibenz(a,j)acridine	(6)	20.861	279	1035162	7.322
219) Indeno(1,2,3-cd)pyrene	(6)	21.100	276	1530918	7.803
220) Dibenz(a,h)anthracene	(6)	21.141	278	1248958	7.654
221) Benzo(g,h,i)perylene	(6)	21.450	276	1252777	7.803

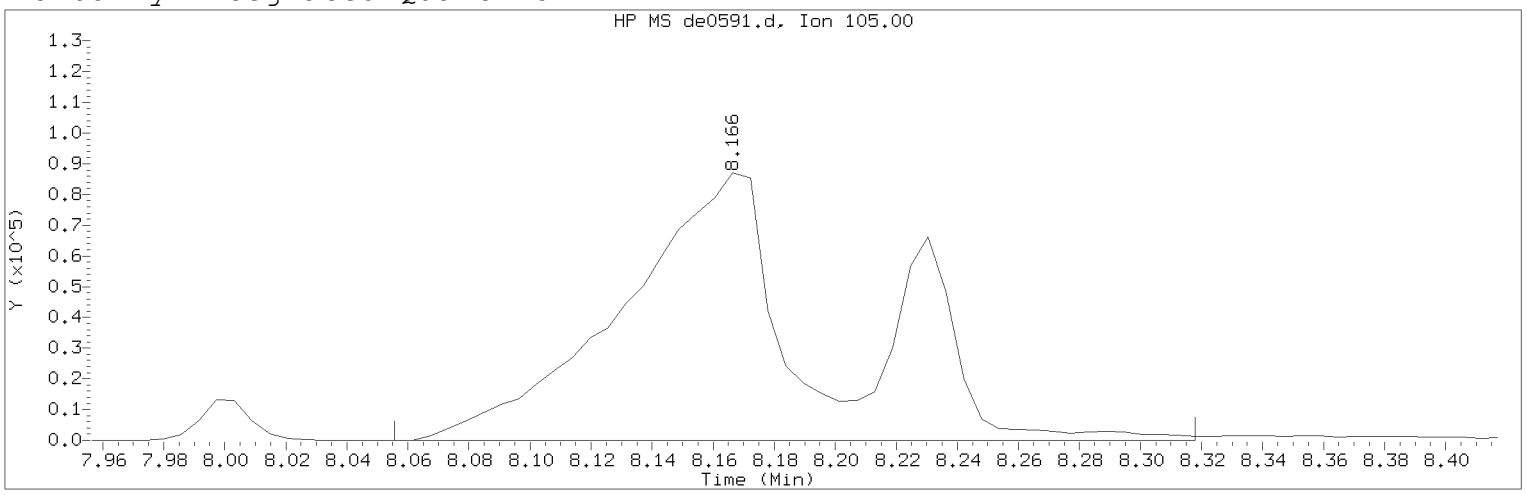
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0591.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 07:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 08:01
Date, time and analyst ID of latest file update: 23-May-2017 08:01 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

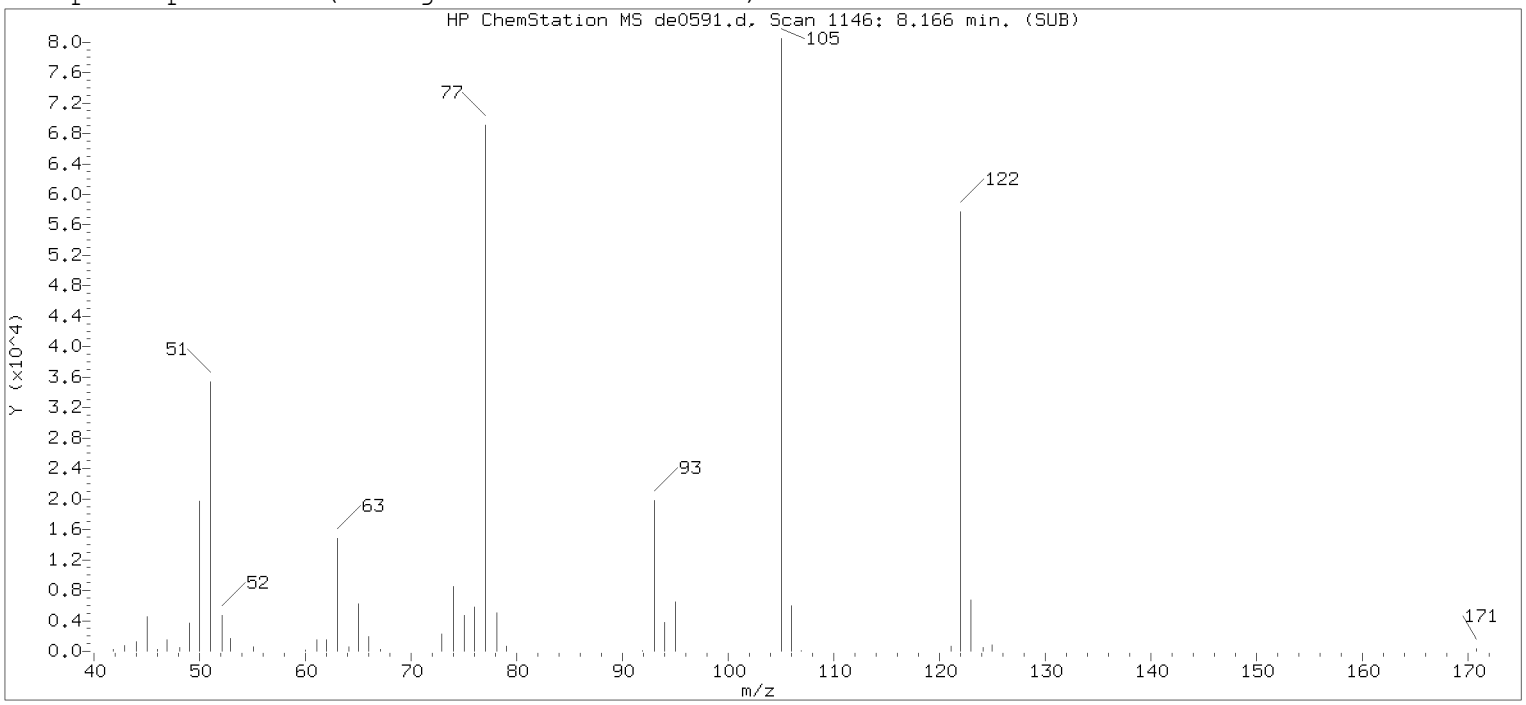
Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1146
Retention Time (minutes) : 8.166
Quant Ion : 105.00
Area (flag) : 396556M
On-Column Amount (ng/ul) : 9.3093
Integration start scan : 1126 Integration stop scan: 1171
Y at integration start : 2 Y at integration end: 2

Reason for manual integration: improper integration

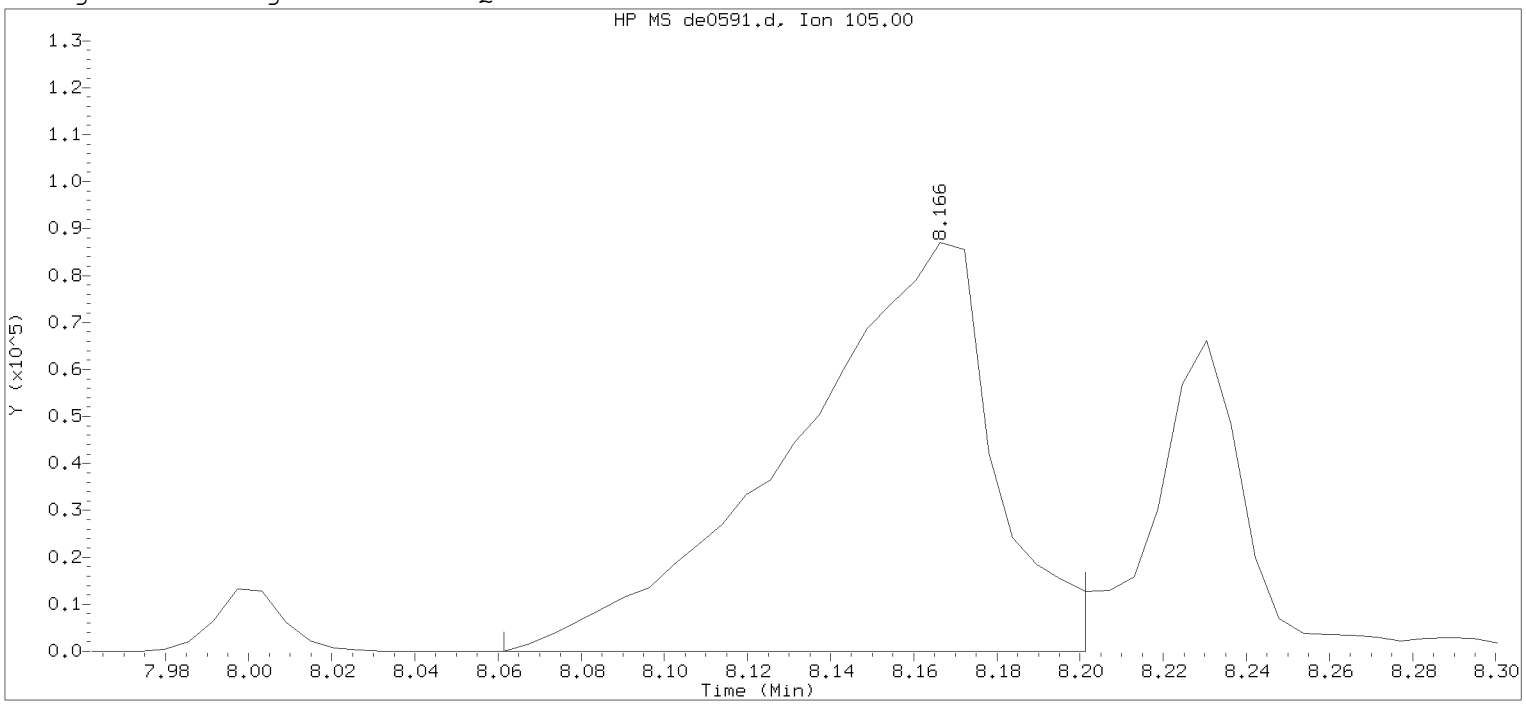
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 05/30/2017 at 11:22.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



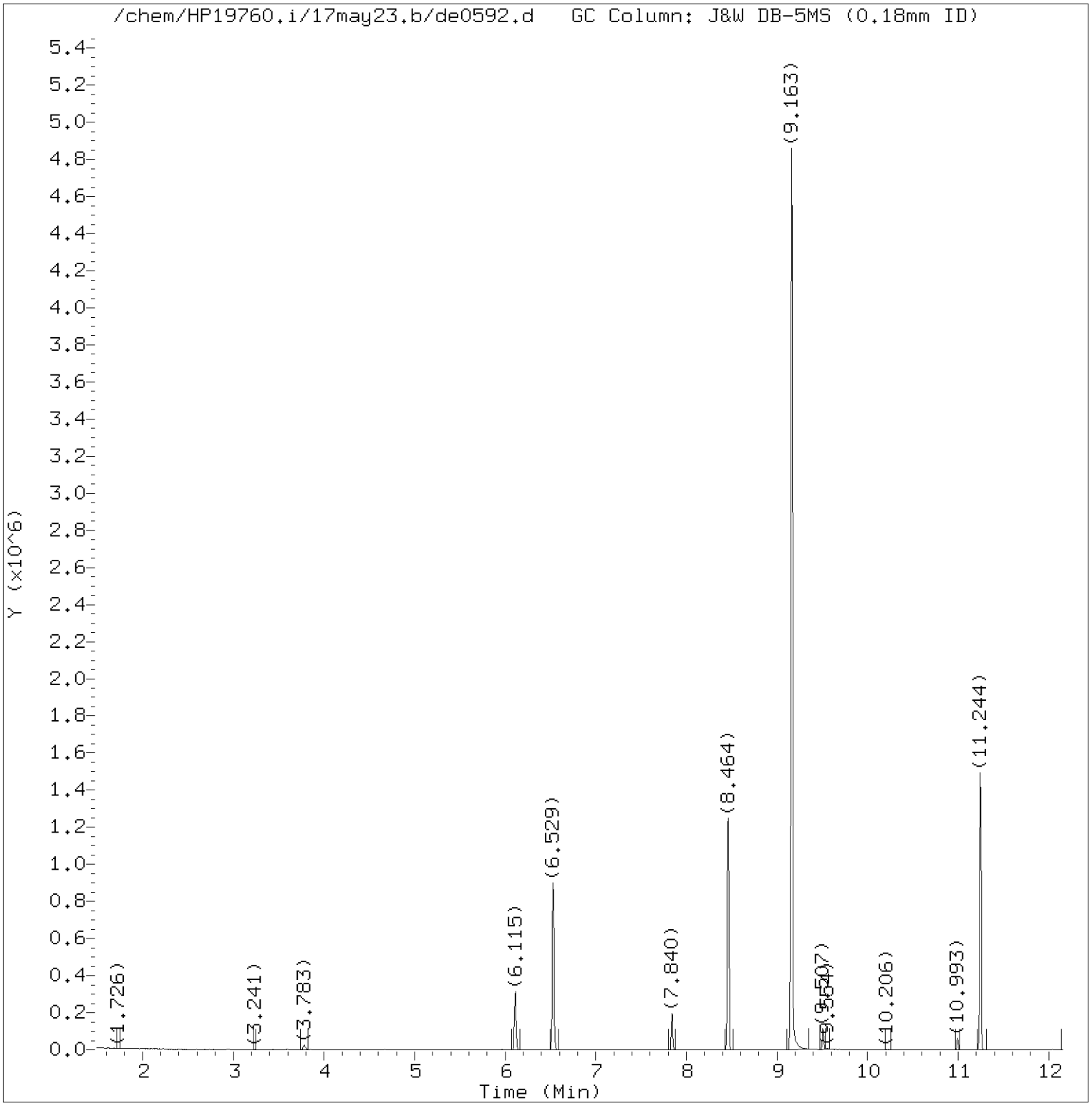
Data File: /chem/HP19760.i/17may23.b/de0591.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 07:36 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 07:59
Date, time and analyst ID of latest file update: 23-May-2017 08:00 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compound Number : 56
Compound Name : Benzoic acid
Scan Number : 1146
Retention Time (minutes) : 8.166
Quant Ion : 105.00
Area : 293475
On-column Amount (ng/ul) : 7.4656
Integration start scan : 1127 Integration stop scan: 1151
Y at integration start : 0 Y at integration end: 0

Digitally signed by Catherine E. Bachman on 05/23/2017 at 09:54.
Target 3.5 esignature user ID: CEB5 Page 1422



Total Ion Chromatogram (TIC)

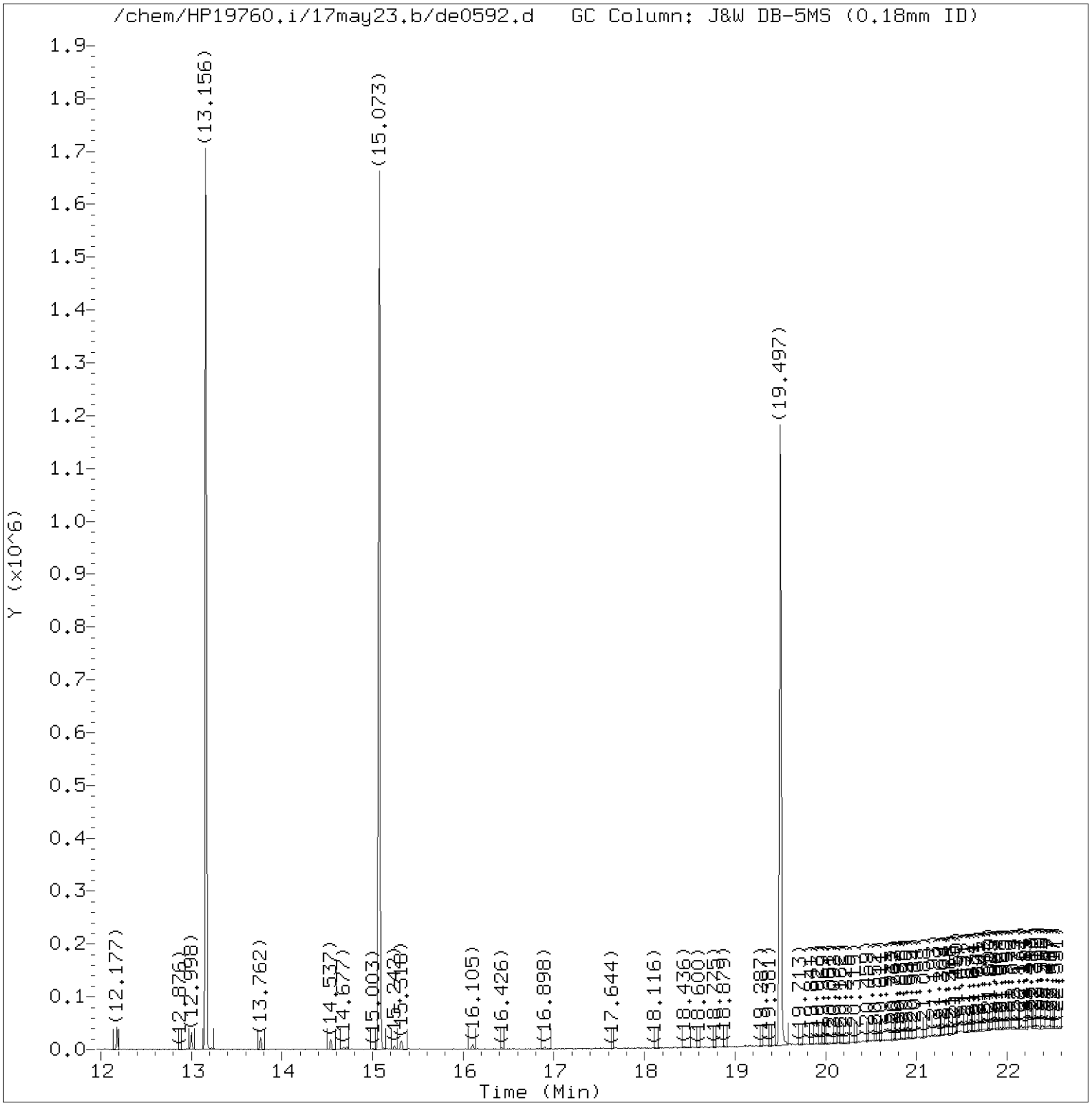
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0592.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:03 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 10:43
Date, time and analyst ID of latest file update: 23-May-2017 10:43 ceb05247

Sample Name: SSTD030 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0592.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:03 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 10:43
Date, time and analyst ID of latest file update: 23-May-2017 10:43 ceb05247

Sample Name: SSTD030 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0592.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:03 Analyst ID: ceb05247

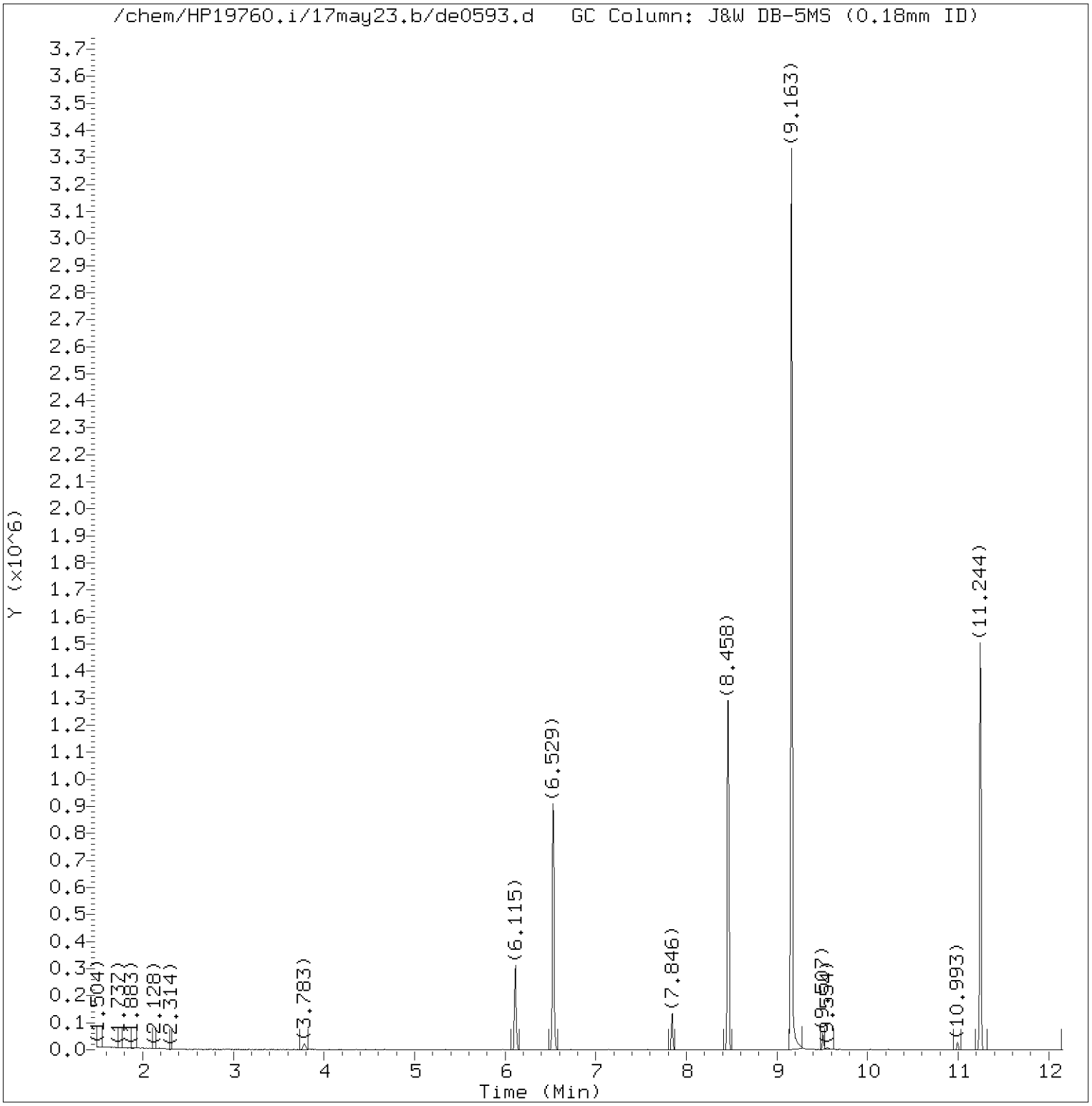
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 10:43
Date, time and analyst ID of latest file update: 23-May-2017 10:43 ceb05247

Sample Name: SSTD030 Lab Sample ID: rvPDA0727

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	178225	5.000
65)*Naphthalene-d8	(2)	8.464	136	677973	5.000
81) 1,4-Phenylenediamine	(2)	9.163	108	1997718	34.463
113)*Acenaphthene-d10	(3)	11.244	164	378767	5.000
153)*Phenanthrene-d10	(4)	13.156	188	703648	5.000
175)*Pyrene-d10	(5)	15.073	212	827999	5.000
213)*Perylene-d12	(6)	19.497	264	620712	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

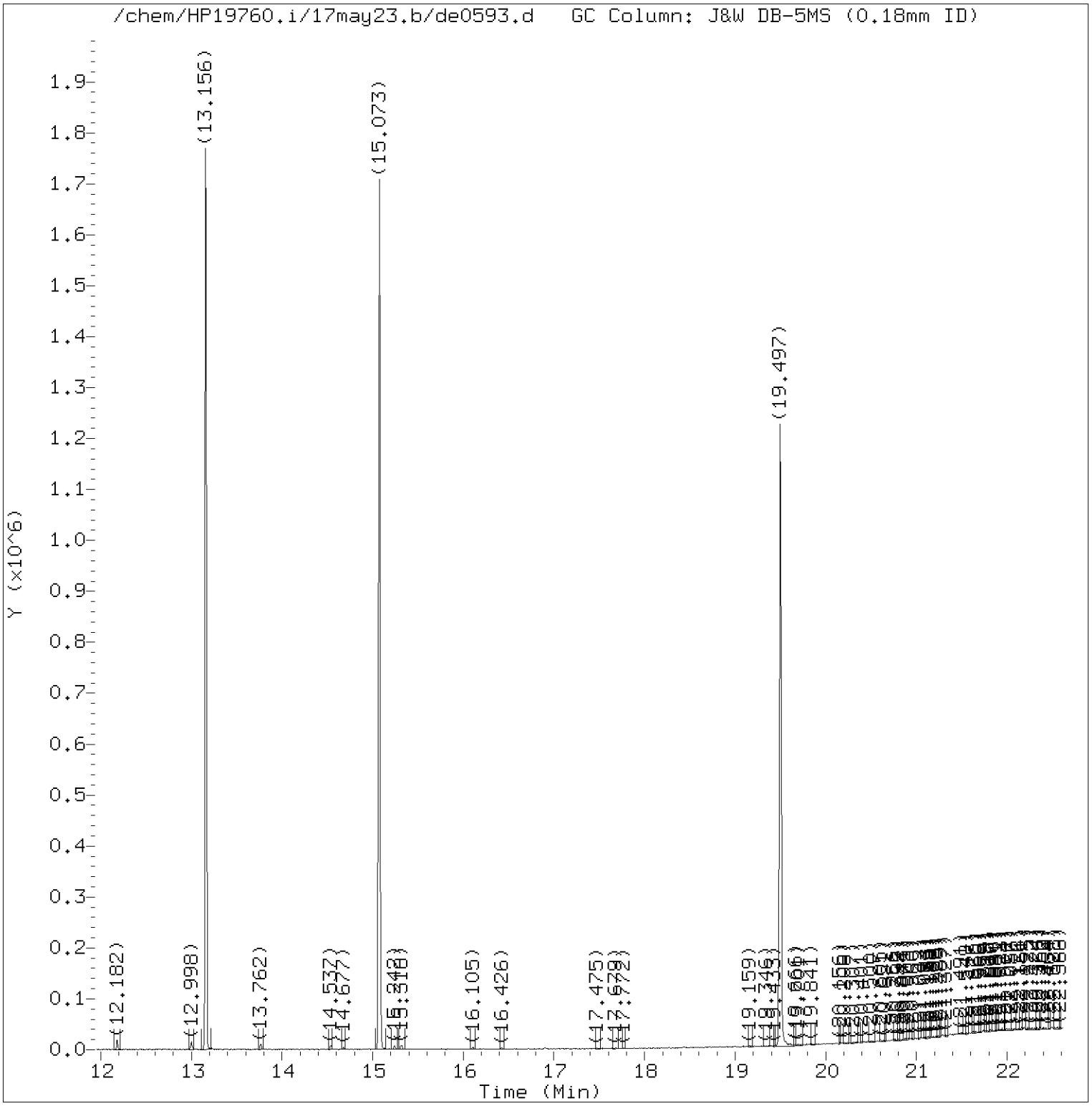
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0593.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:31 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 08:54
Date, time and analyst ID of latest file update: 23-May-2017 08:54 Automation

Sample Name: SSTD020 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0593.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:31 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 08:54
Date, time and analyst ID of latest file update: 23-May-2017 08:54 Automation

Sample Name: SSTD020 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0593.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:31 Analyst ID: ceb05247

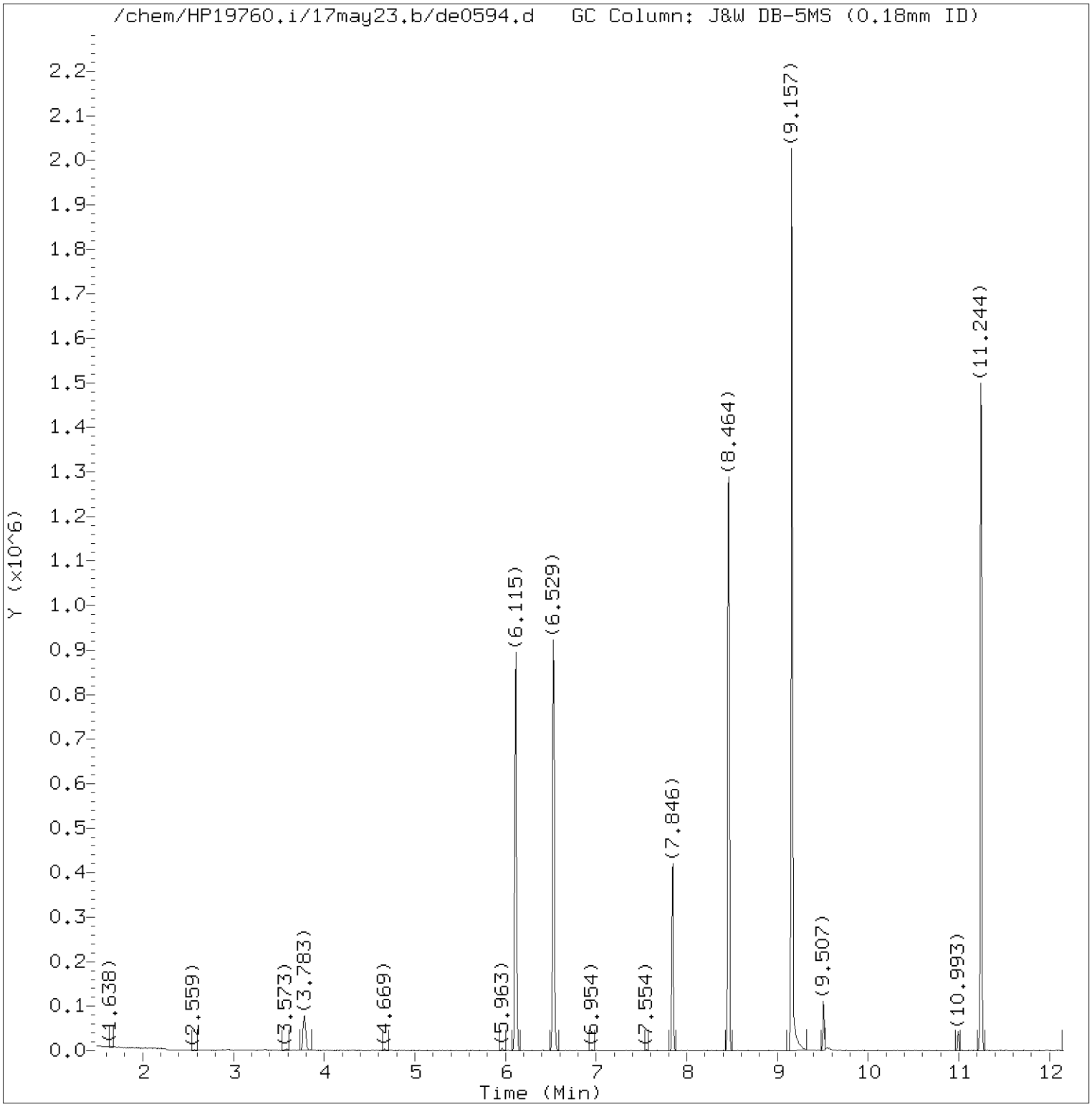
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 08:54
Date, time and analyst ID of latest file update: 23-May-2017 08:54 Automation

Sample Name: SSTD020 Lab Sample ID: rvPDA0727

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	185063	5.000
65)*Naphthalene-d8	(2)	8.464	136	697172	5.000
81) 1,4-Phenylenediamine	(2)	9.163	108	1314151	20.000
113)*Acenaphthene-d10	(3)	11.244	164	381381	5.000
153)*Phenanthrene-d10	(4)	13.156	188	718463	5.000
175)*Pyrene-d10	(5)	15.073	212	848555	5.000
213)*Perylene-d12	(6)	19.497	264	638562	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

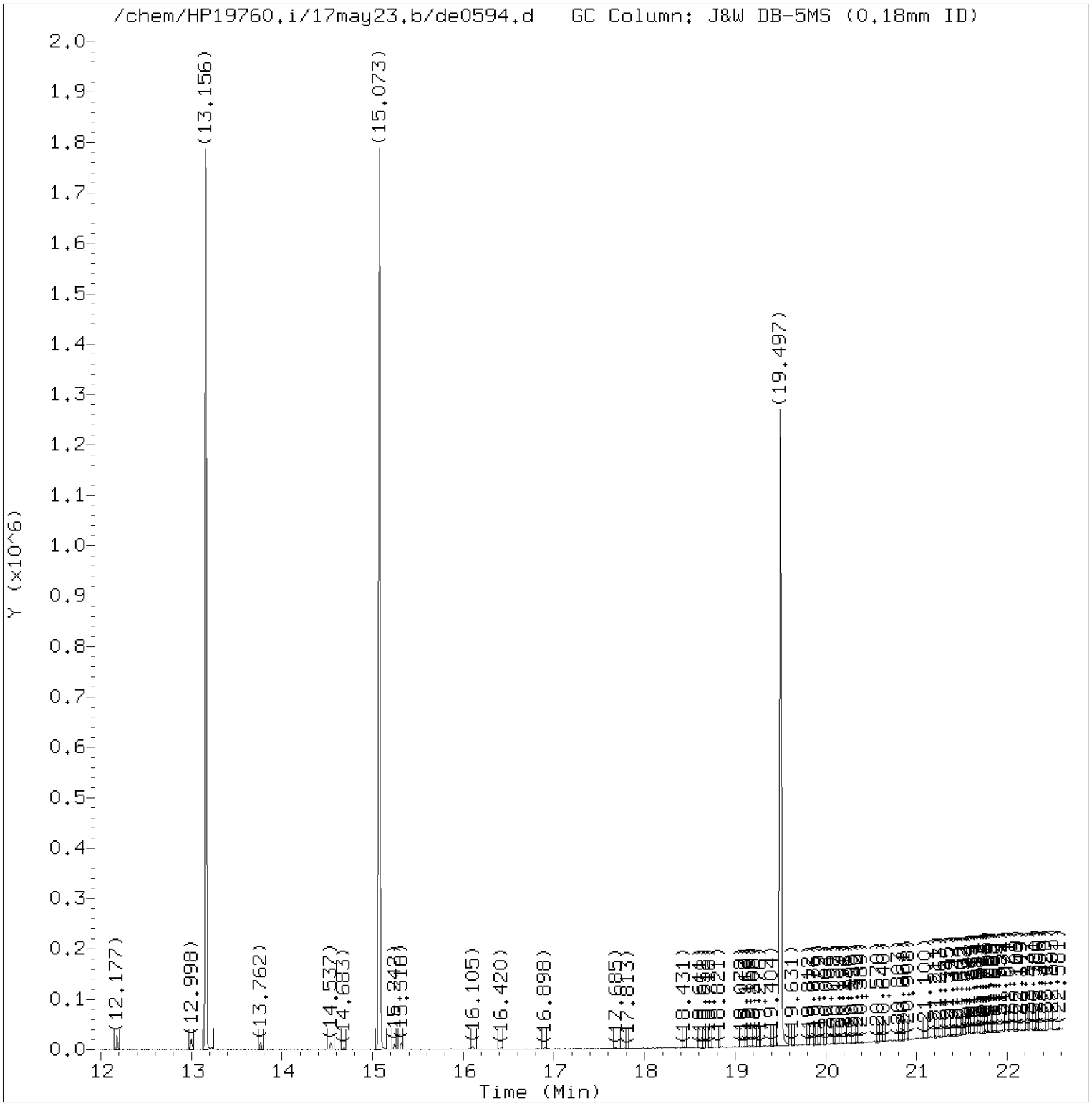
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0594.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:58 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 09:22
Date, time and analyst ID of latest file update: 23-May-2017 09:22 Automation

Sample Name: SSTD12.5 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 11:15.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0594.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:58 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 09:22
Date, time and analyst ID of latest file update: 23-May-2017 09:22 Automation

Sample Name: SSTD12.5 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 11:15.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0594.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 08:58 Analyst ID: ceb05247

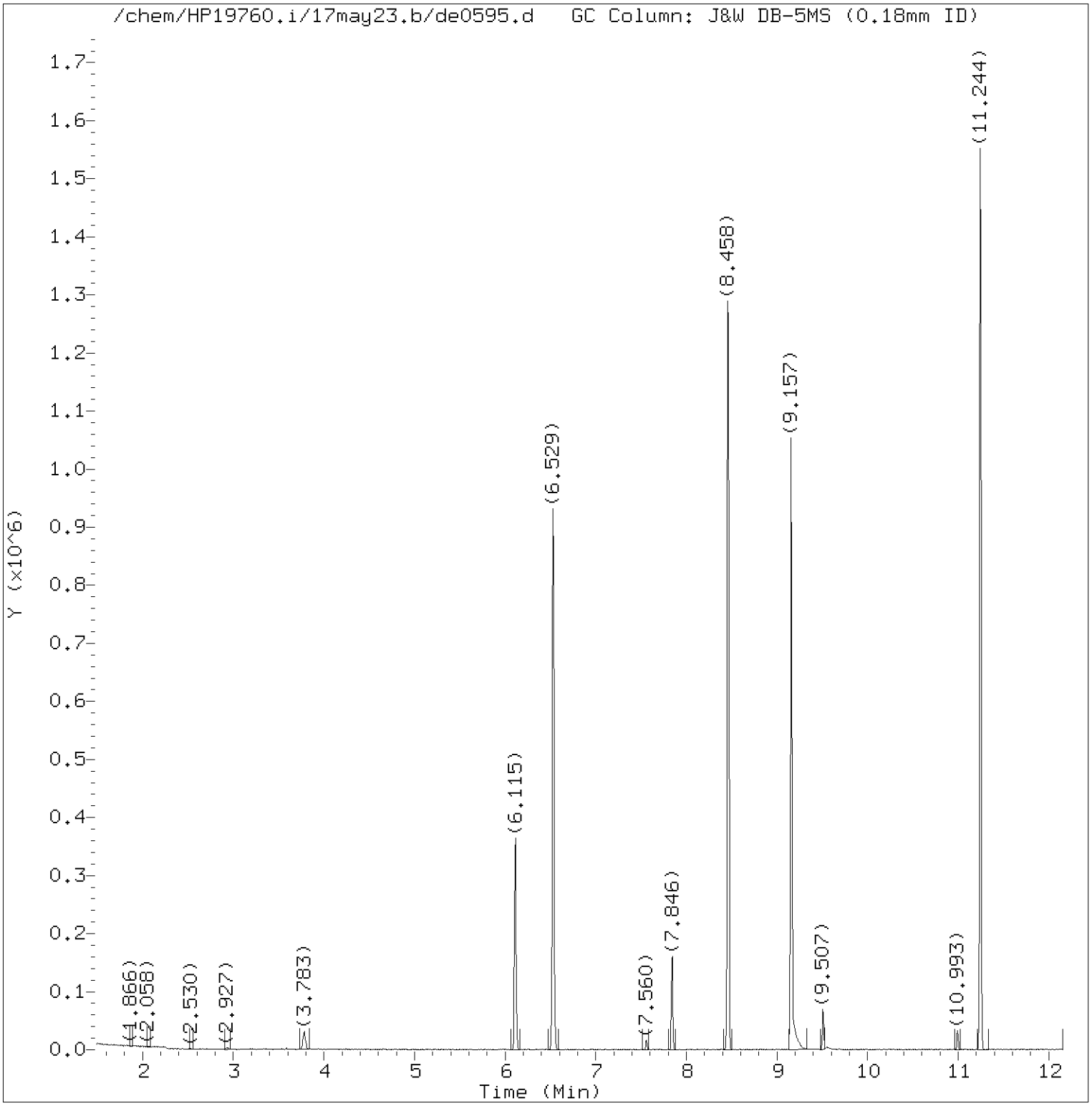
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 09:22
Date, time and analyst ID of latest file update: 23-May-2017 09:22 Automation

Sample Name: SSTD12.5 Lab Sample ID: rvPDA0727

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	187251	5.000
65)*Naphthalene-d8	(2)	8.464	136	704042	5.000
81) 1,4-Phenylenediamine	(2)	9.157	108	774765	12.074
113)*Acenaphthene-d10	(3)	11.244	164	393784	5.000
153)*Phenanthrene-d10	(4)	13.162	188	739997	5.000
175)*Pyrene-d10	(5)	15.073	212	866358	5.000
213)*Perylene-d12	(6)	19.497	264	654771	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 11:15.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

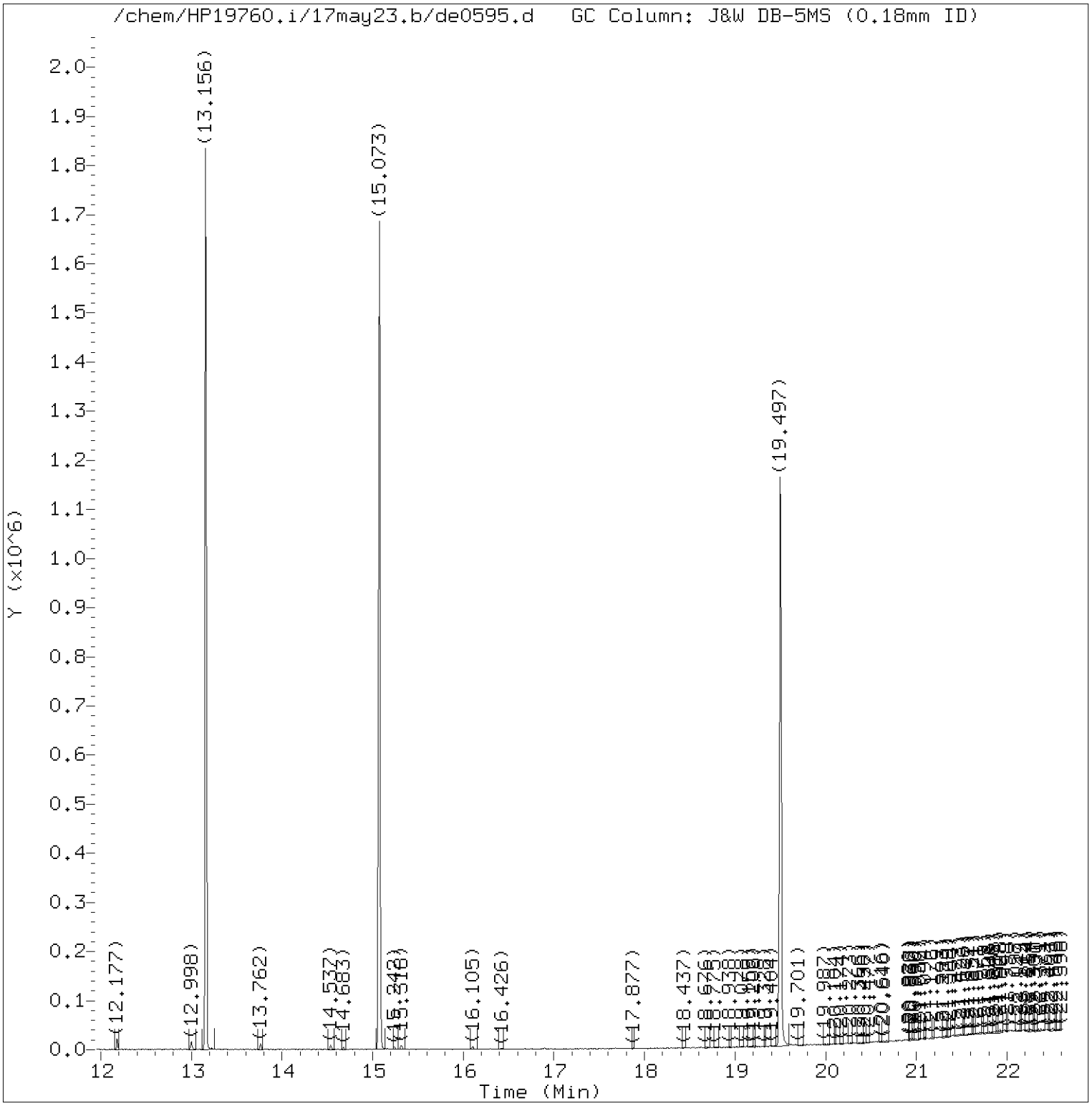
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0595.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 09:26 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 09:50
Date, time and analyst ID of latest file update: 23-May-2017 09:50 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0595.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 09:26 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 09:50
Date, time and analyst ID of latest file update: 23-May-2017 09:50 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0595.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 09:26 Analyst ID: ceb05247

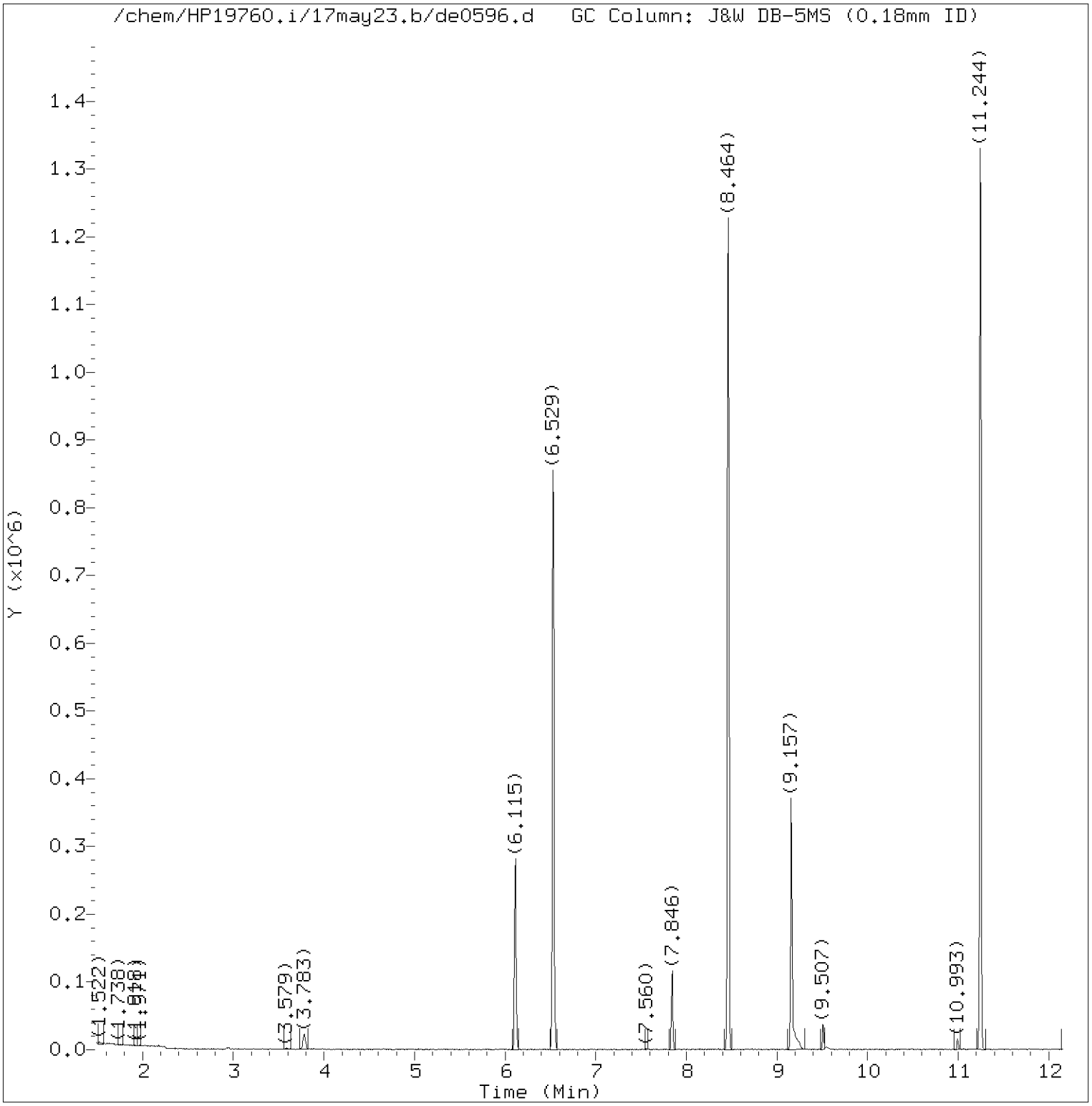
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 09:50
Date, time and analyst ID of latest file update: 23-May-2017 09:50 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvPDA0727

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	189123	5.000
65)*Naphthalene-d8	(2)	8.458	136	705133	5.000
81) 1,4-Phenylenediamine	(2)	9.157	108	412286	6.740
113)*Acenaphthene-d10	(3)	11.244	164	393884	5.000
153)*Phenanthrene-d10	(4)	13.156	188	725385	5.000
175)*Pyrene-d10	(5)	15.073	212	845077	5.000
213)*Perylene-d12	(6)	19.497	264	624187	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

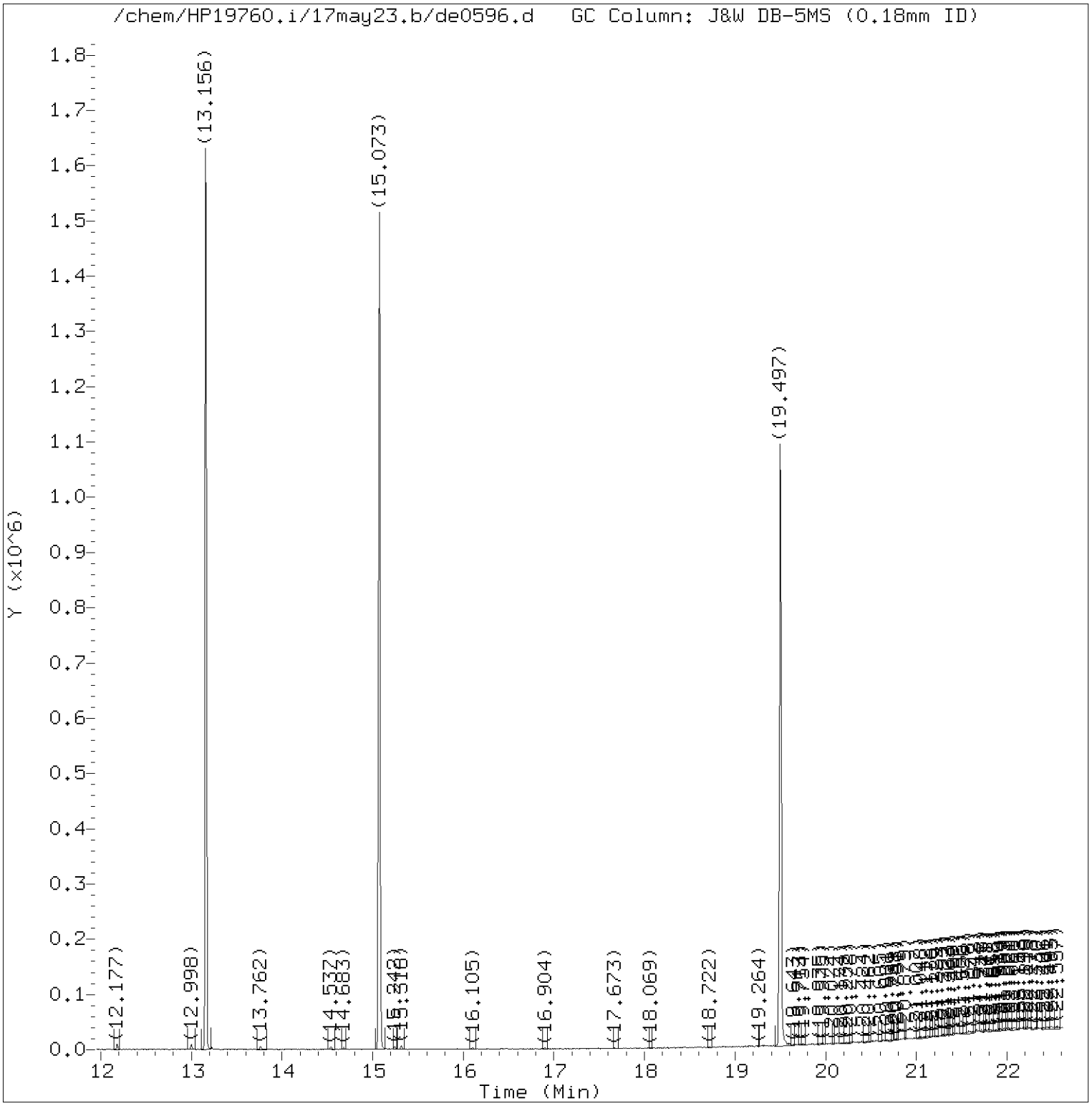
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0596.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 09:54 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 10:17
Date, time and analyst ID of latest file update: 23-May-2017 10:41 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0596.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 09:54 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 10:17
Date, time and analyst ID of latest file update: 23-May-2017 10:41 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0596.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 09:54 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 10:17
Date, time and analyst ID of latest file update: 23-May-2017 10:41 ceb05247

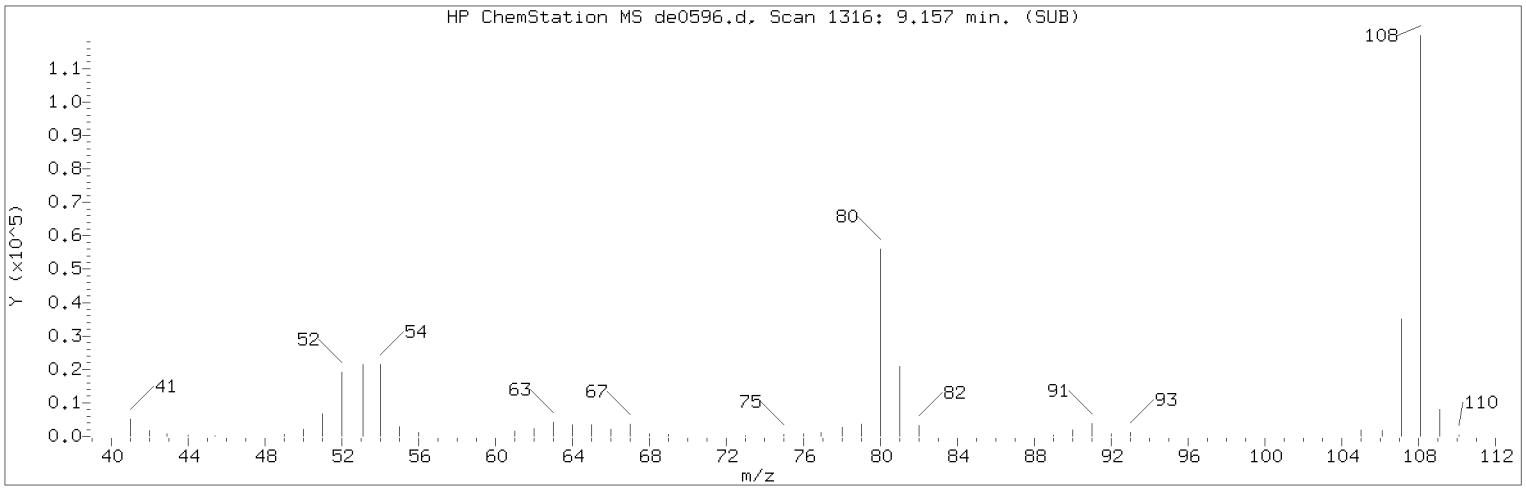
Sample Name: SSTD3.75 Lab Sample ID: rvPDA0727

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	171638	5.000
65)*Naphthalene-d8	(2)	8.464	136	641029	5.000
81) 1,4-Phenylenediamine	(2)	9.157	108	165950M	3.145
113)*Acenaphthene-d10	(3)	11.244	164	348776	5.000
153)*Phenanthrene-d10	(4)	13.156	188	663335	5.000
175)*Pyrene-d10	(5)	15.073	212	779581	5.000
213)*Perylene-d12	(6)	19.497	264	576416	5.000

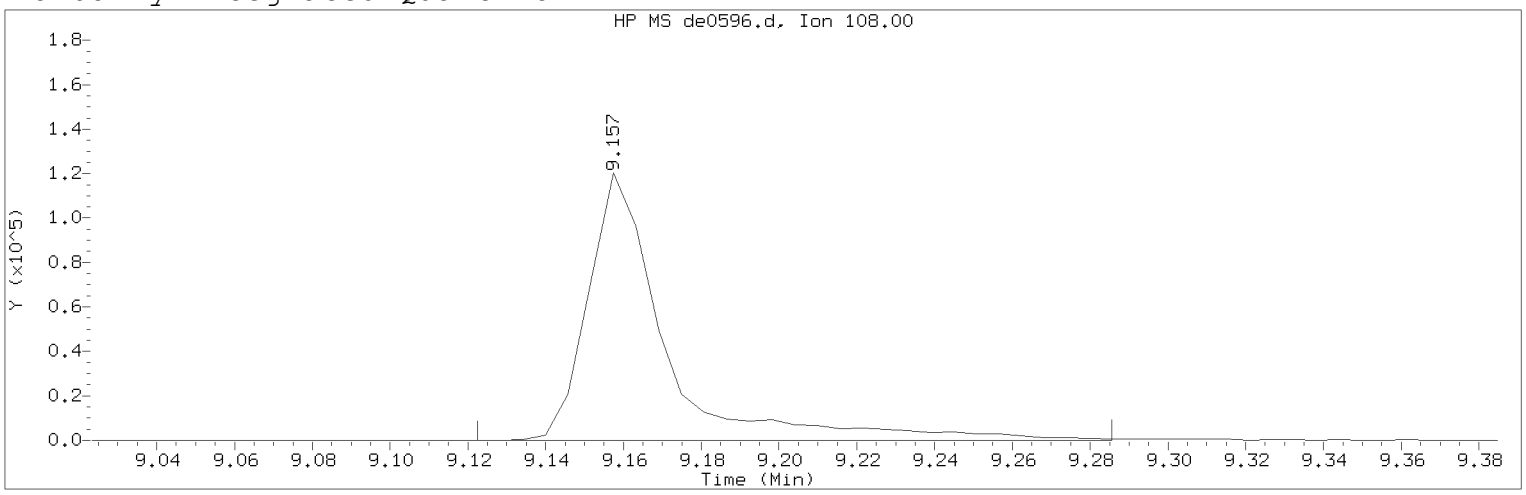
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0596.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 09:54 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 10:17
Date, time and analyst ID of latest file update: 23-May-2017 10:41 ceb05247

Sample Name: SSTD3.75 Lab Sample ID: rvPDA0727

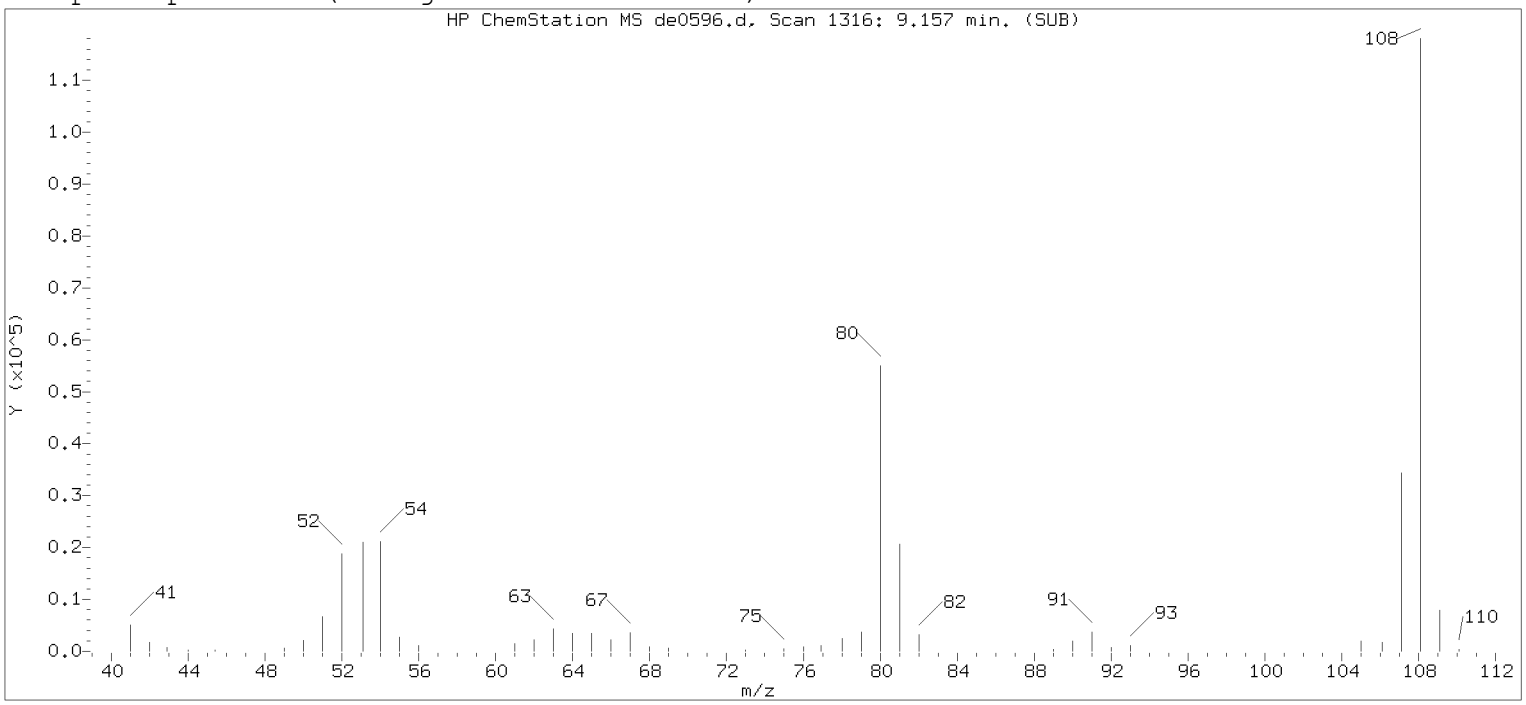
Compound Number : 81
Compound Name : 1,4-Phenylenediamine
Scan Number : 1316
Retention Time (minutes) : 9.157
Quant Ion : 108.00
Area (flag) : 165950M
On-Column Amount (ng/ul) : 3.1448
Integration start scan : 1309 Integration stop scan: 1337
Y at integration start : -3 Y at integration end: -3

Reason for manual integration: improper integration

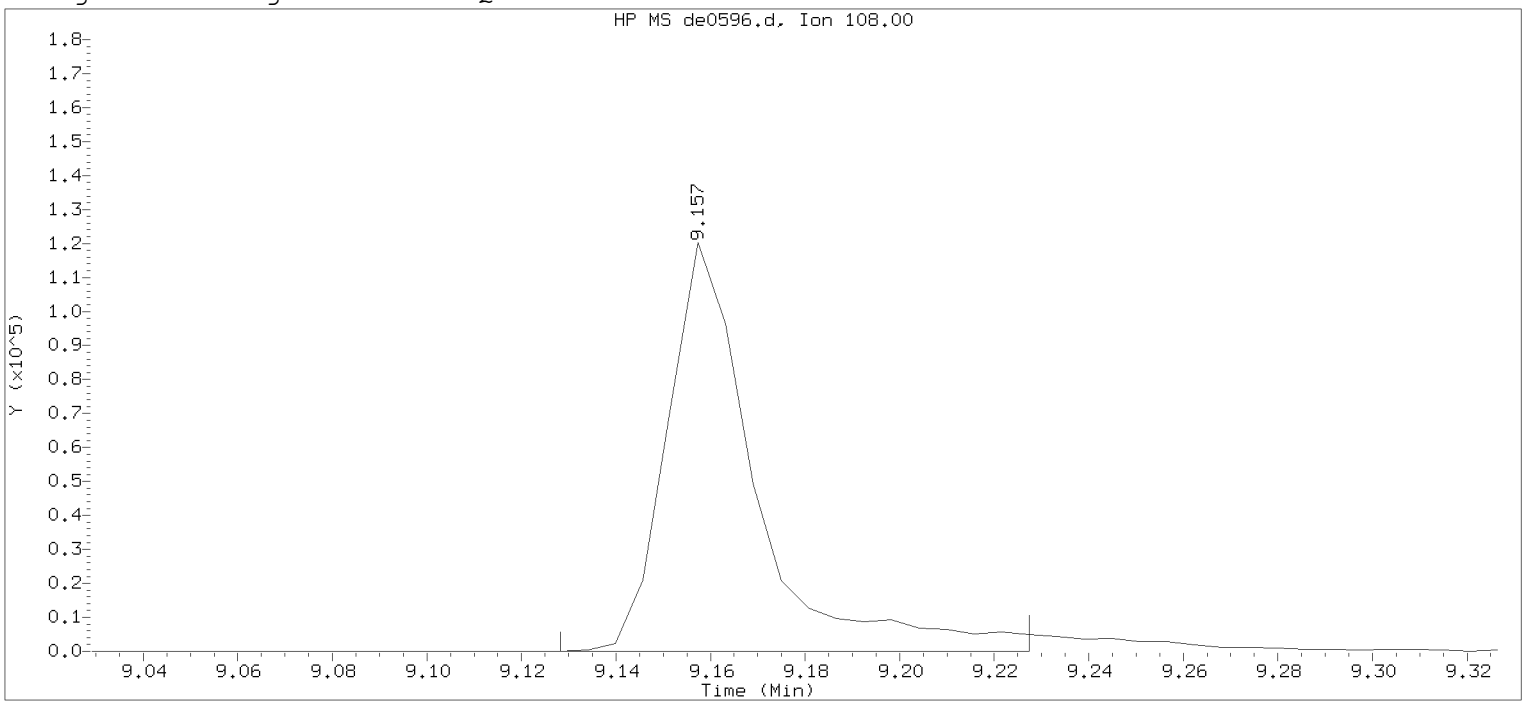
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 05/23/2017 at 10:45.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 05/30/2017 at 10:36.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



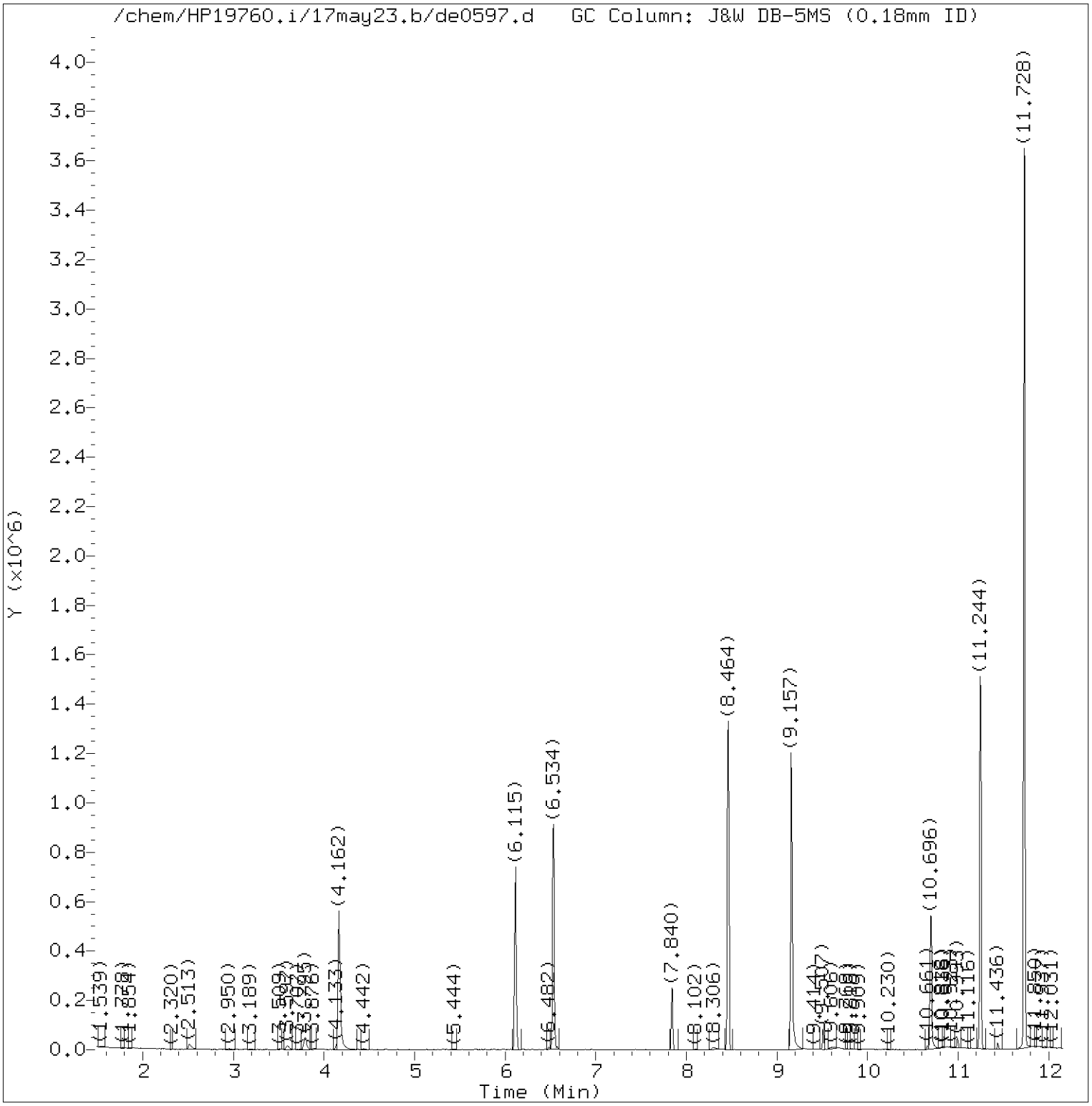
Data File: /chem/HP19760.i/17may23.b/de0596.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 09:54 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 14pda
Calibration date and time: 23-MAY-2017 10:17
Date, time and analyst ID of latest file update: 23-May-2017 10:17 Automation

Sample Name: SSTD3.75 Lab Sample ID: rvPDA0727

Compound Number	: 81		
Compound Name	: 1,4-Phenylenediamine		
Scan Number	: 1316		
Retention Time (minutes)	: 9.157		
Quant Ion	: 108.00		
Area	: 157022		
On-column Amount (ng/ul)	: 3.0096		
Integration start scan	: 1310	Integration stop scan:	1327
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 05/23/2017 at 10:45.
Target 3.5 esignature used



Total Ion Chromatogram (TIC)

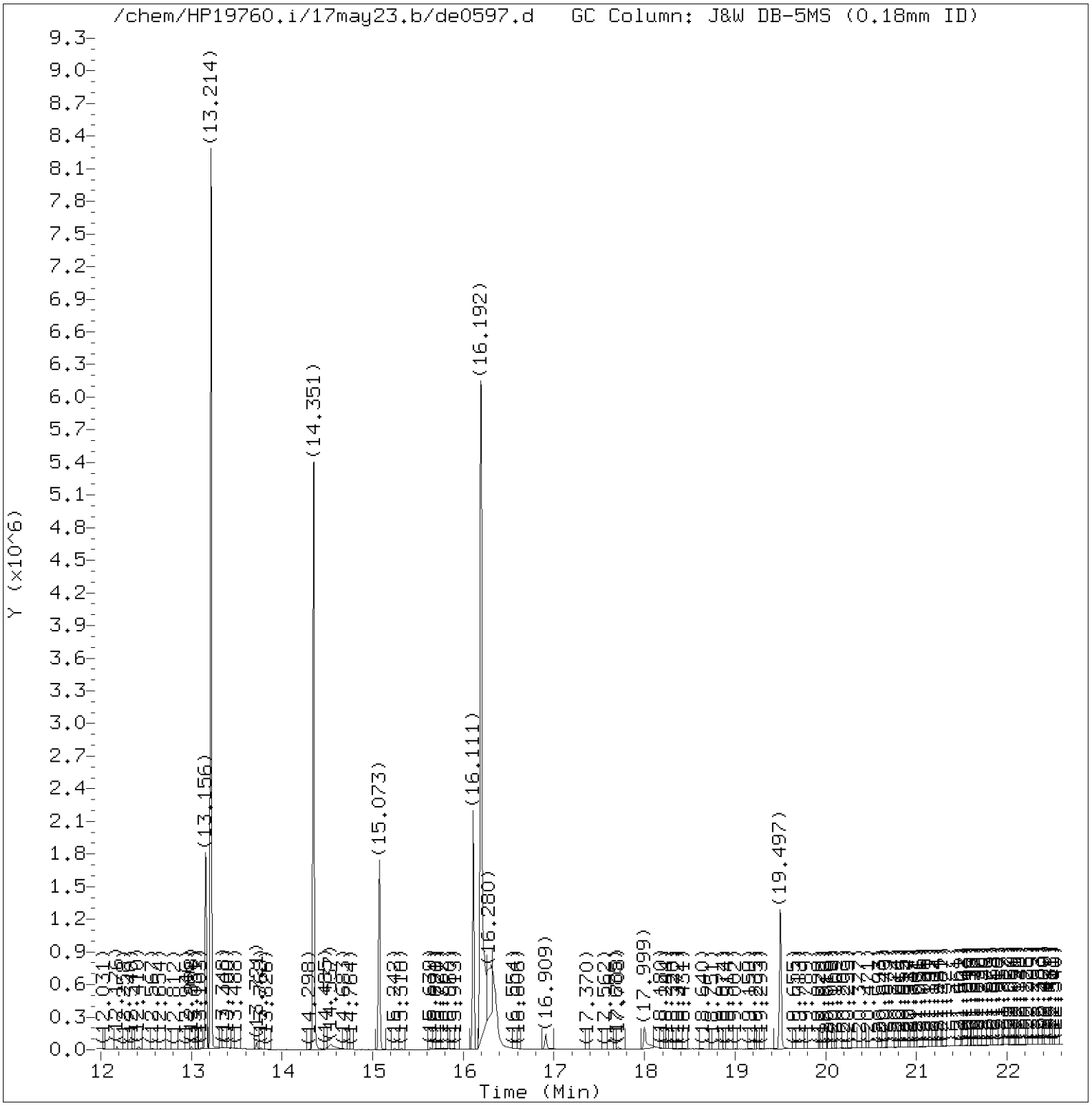
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0597.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 10:21 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 13:39
Date, time and analyst ID of latest file update: 23-May-2017 13:39 ceb05247

Sample Name: SSTD030 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0597.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 10:21 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 13:39
Date, time and analyst ID of latest file update: 23-May-2017 13:39 ceb05247

Sample Name: SSTD030 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0597.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 10:21 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 13:39
Date, time and analyst ID of latest file update: 23-May-2017 13:39 ceb05247

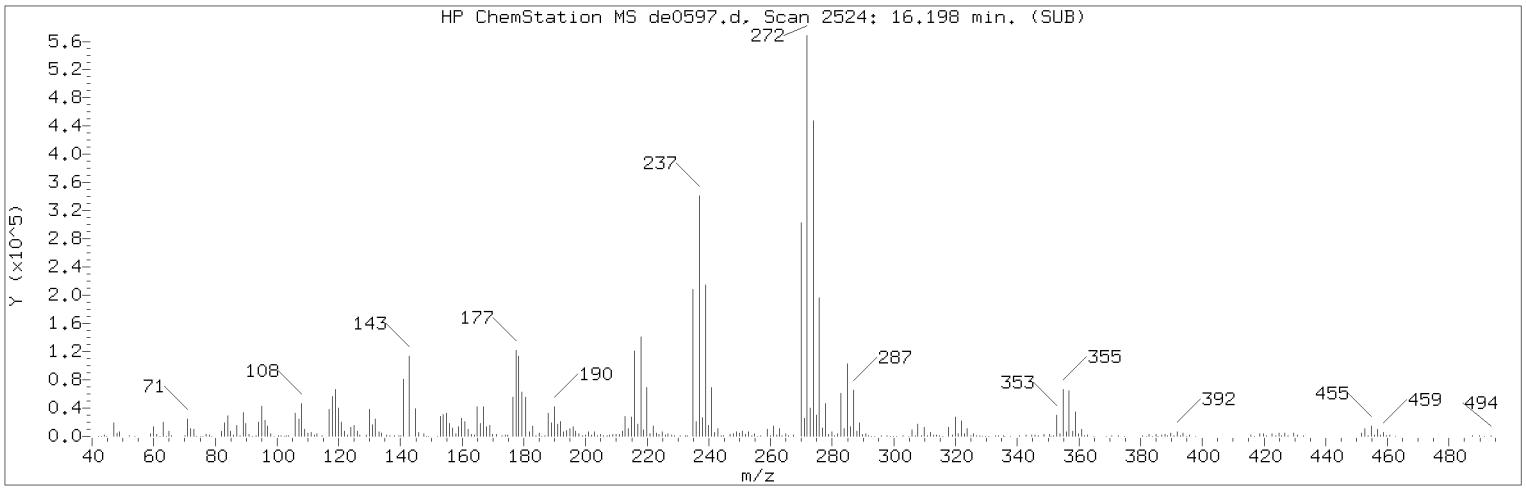
Sample Name: SSTD030 Lab Sample ID: rvABC3566

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.534	152	190281	5.000
65)*Naphthalene-d8	(2)	8.464	136	708750	5.000
113)*Acenaphthene-d10	(3)	11.244	164	400505	5.000
153)*Phenanthrene-d10	(4)	13.156	188	750283	5.000
162) Disulfoton	(4)	13.214	88	1856267	35.805
170) Methapyrilene	(4)	14.351	97	1296487	32.302
175)*Pyrene-d10	(5)	15.073	212	886346	5.000
189) Famphur	(5)	16.111	218	651103	20.132
190) Kepone	(5)	16.198	272	1503997M	91.681
213)*Perylene-d12	(6)	19.497	264	670513	5.000

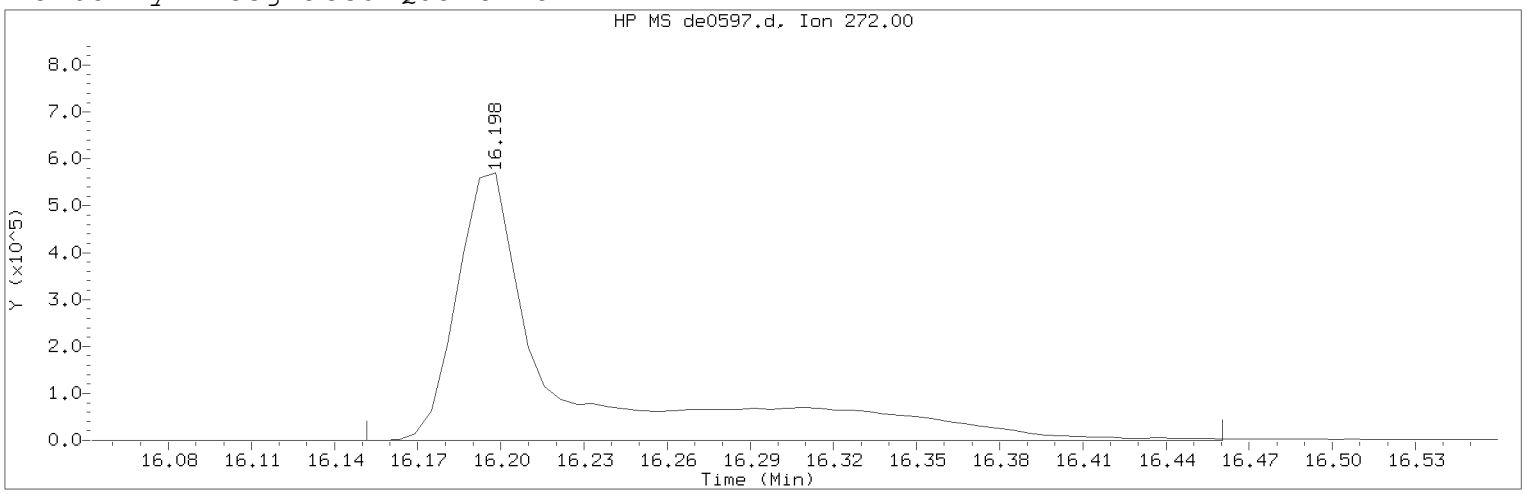
M = Compound was manually integrated.
* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0597.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 10:21 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 13:39
Date, time and analyst ID of latest file update: 23-May-2017 13:39 ceb05247

Sample Name: SSTD030 Lab Sample ID: rvABC3566

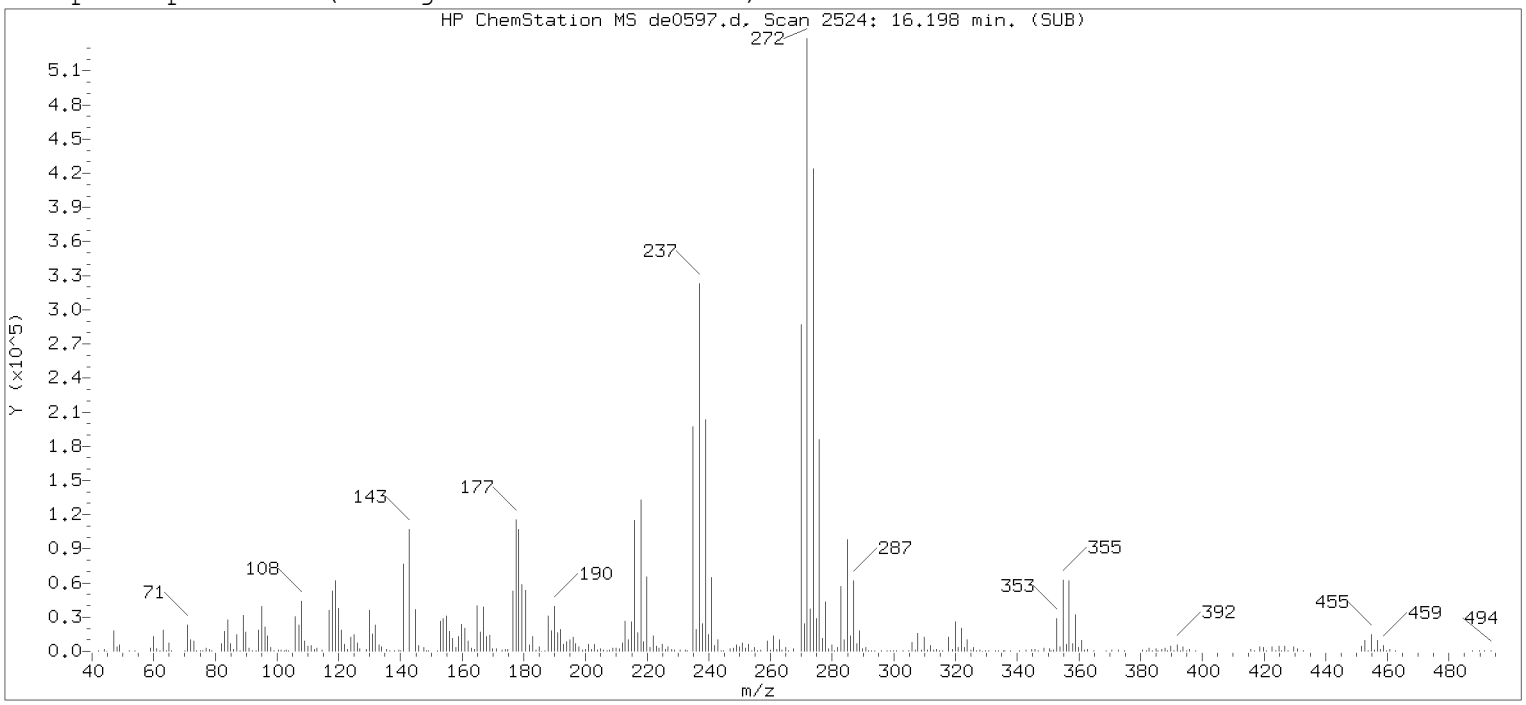
Compound Number : 190
Compound Name : Kepone
Scan Number : 2524
Retention Time (minutes) : 16.198
Quant Ion : 272.00
Area (flag) : 1503997M
On-Column Amount (ng/ul) : 91.6808
Integration start scan : 2515 Integration stop scan: 2568
Y at integration start : 11 Y at integration end: 121

Reason for manual integration: improper integration

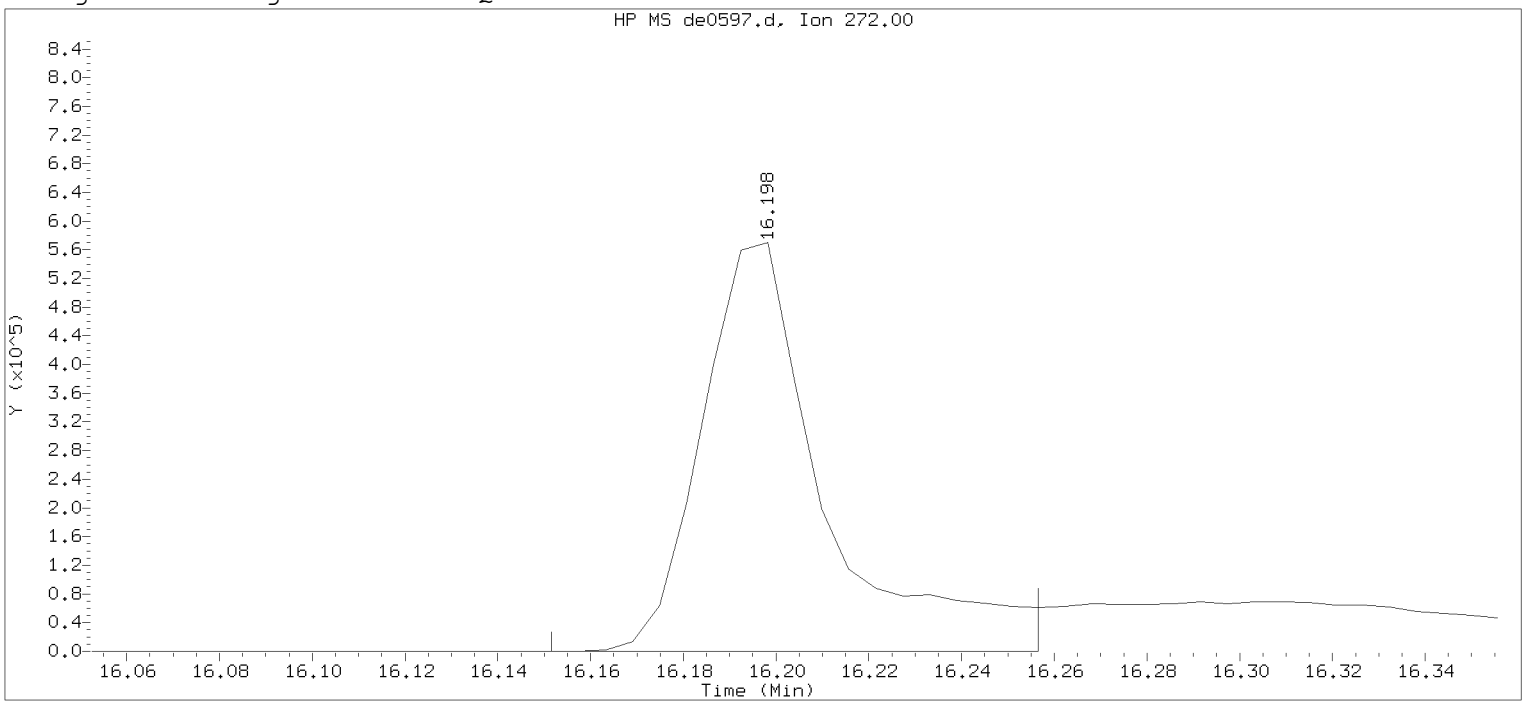
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Mark A. Ratcliff on 06/27/2017 at 16:17.
PARALLAX ID: mar00486

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



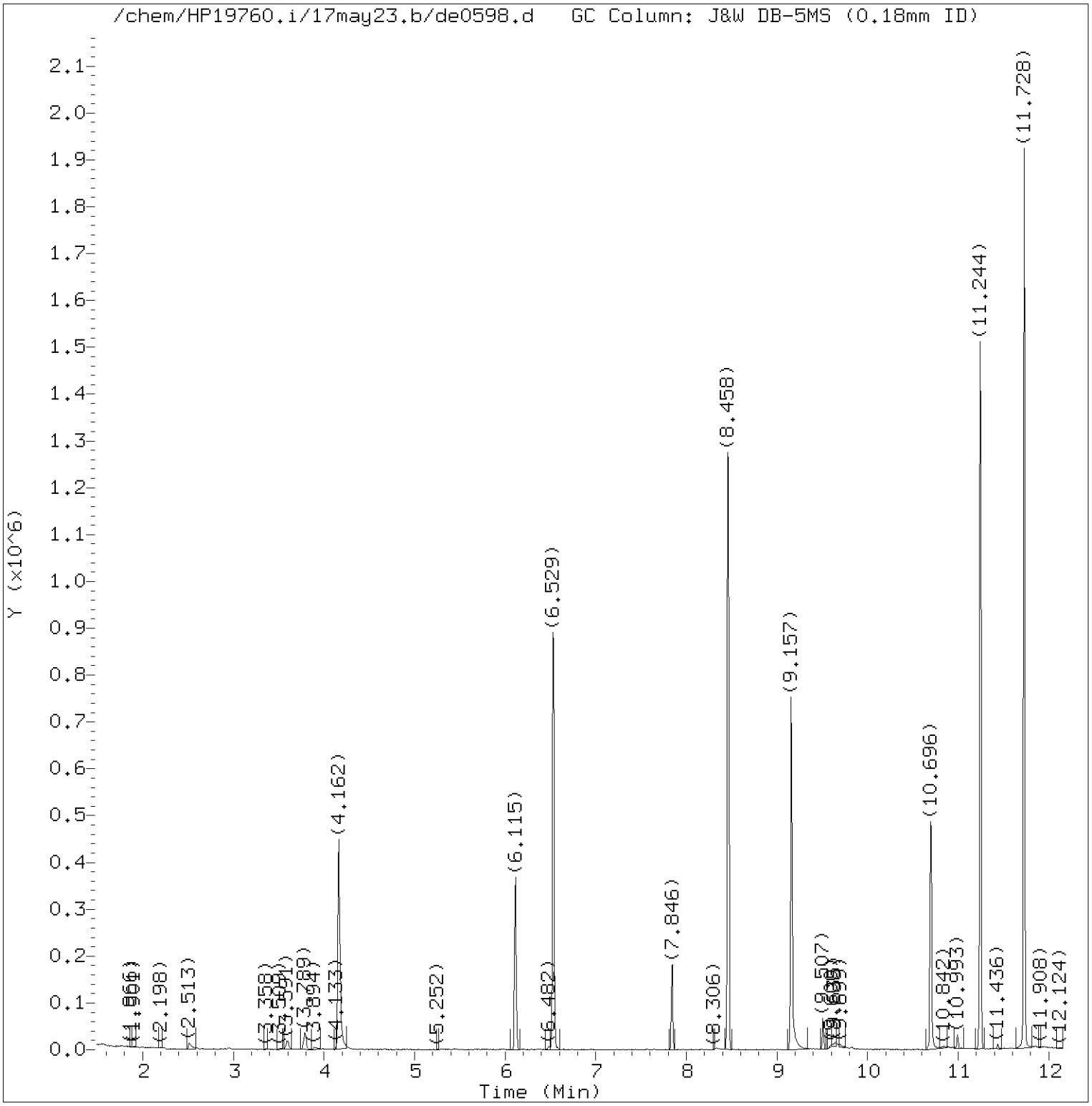
Data File: /chem/HP19760.i/17may23.b/de0597.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 10:21 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 11:55
Date, time and analyst ID of latest file update: 23-May-2017 11:55 ceb05247

Sample Name: SSTD030 Lab Sample ID: rvABC3566

Compound Number	: 190		
Compound Name	: Kepone		
Scan Number	: 2524		
Retention Time (minutes)	: 16.198		
Quant Ion	: 272.00		
Area	: 1040643		
On-column Amount (ng/ul)	: 0.0000		
Integration start scan	: 2515	Integration stop scan:	2533
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: CEB5 Page 1444 of 1713



Total Ion Chromatogram (TIC)

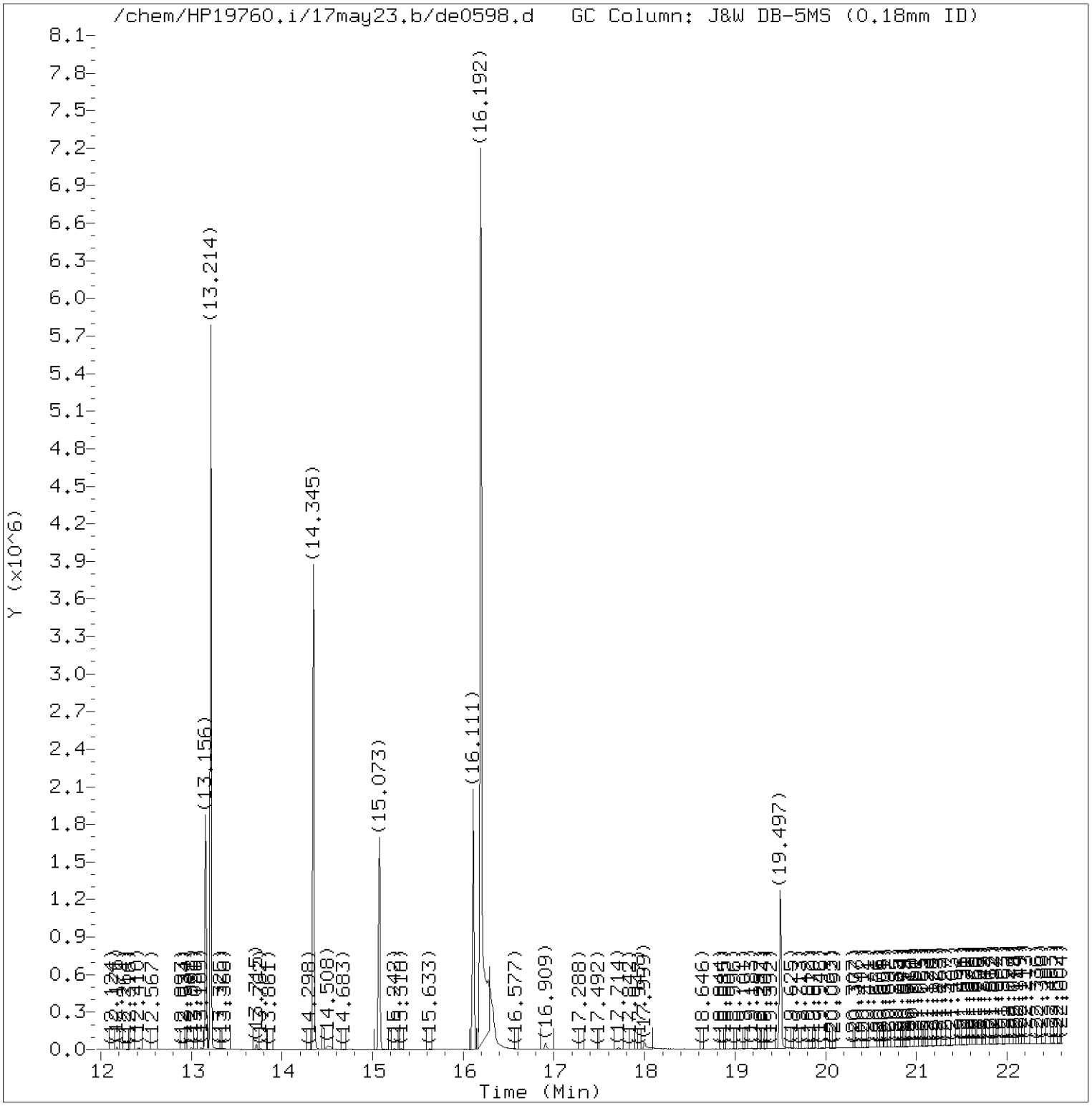
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0598.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 10:49 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 11:55
Date, time and analyst ID of latest file update: 23-May-2017 11:55 ceb05247

Sample Name: SSTD020 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0598.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 10:49 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 11:55
Date, time and analyst ID of latest file update: 23-May-2017 11:55 ceb05247

Sample Name: SSTD020 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0598.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 10:49 Analyst ID: ceb05247

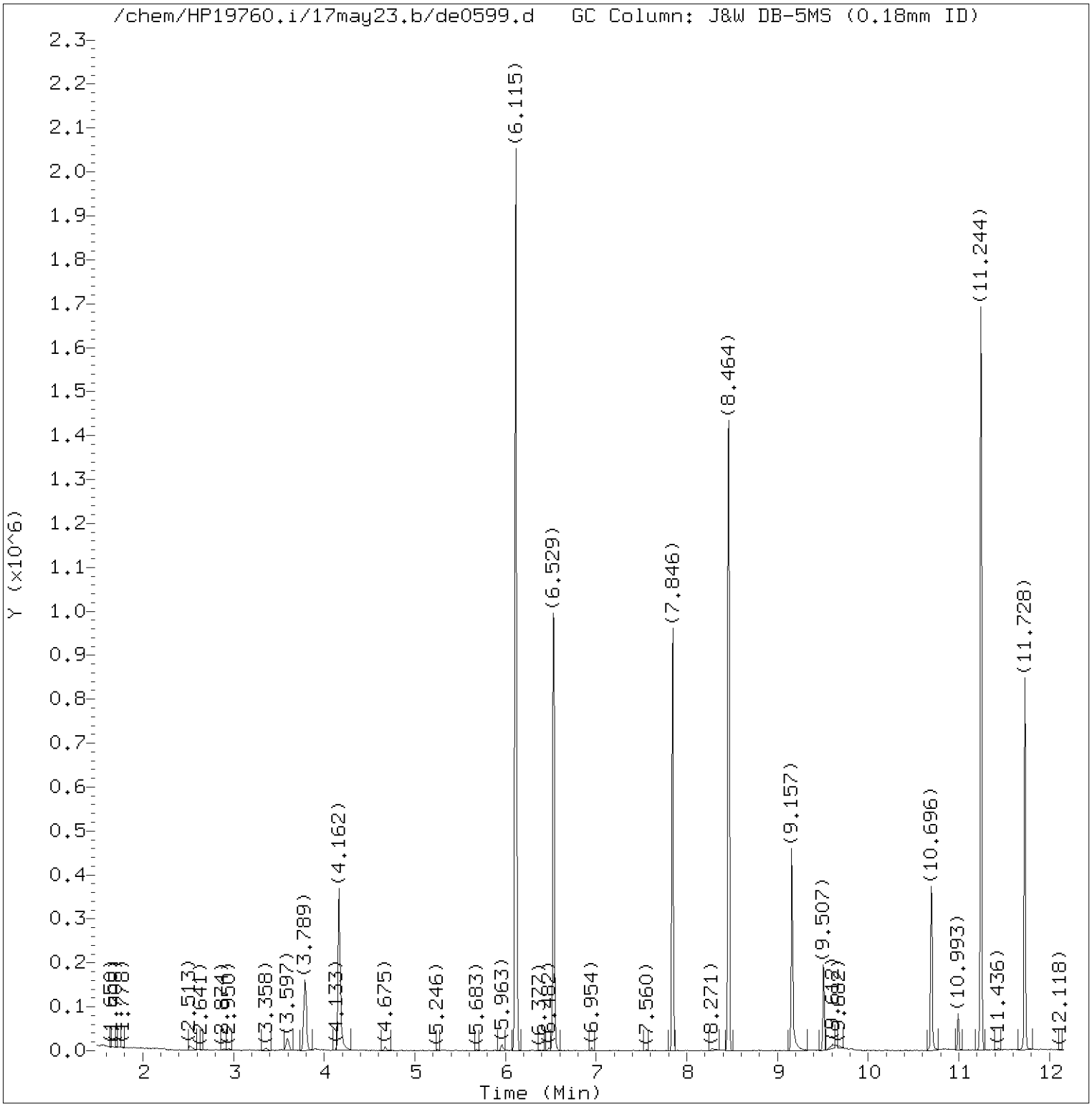
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 11:55
Date, time and analyst ID of latest file update: 23-May-2017 11:55 ceb05247

Sample Name: SSTD020 Lab Sample ID: rvABC3566

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	184498	5.000
65)*Naphthalene-d8	(2)	8.464	136	688386	5.000
113)*Acenaphthene-d10	(3)	11.244	164	384233	5.000
153)*Phenanthrene-d10	(4)	13.156	188	728941	5.000
162) Disulfoton	(4)	13.214	88	1155568	20.000
170) Methapyrilene	(4)	14.345	97	841360	38.820
175)*Pyrene-d10	(5)	15.073	212	864377	5.000
189) Famphur	(5)	16.111	218	657950	20.000
190) Kepone	(5)	16.192	272	1278890	80.000
213)*Perylene-d12	(6)	19.497	264	660562	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

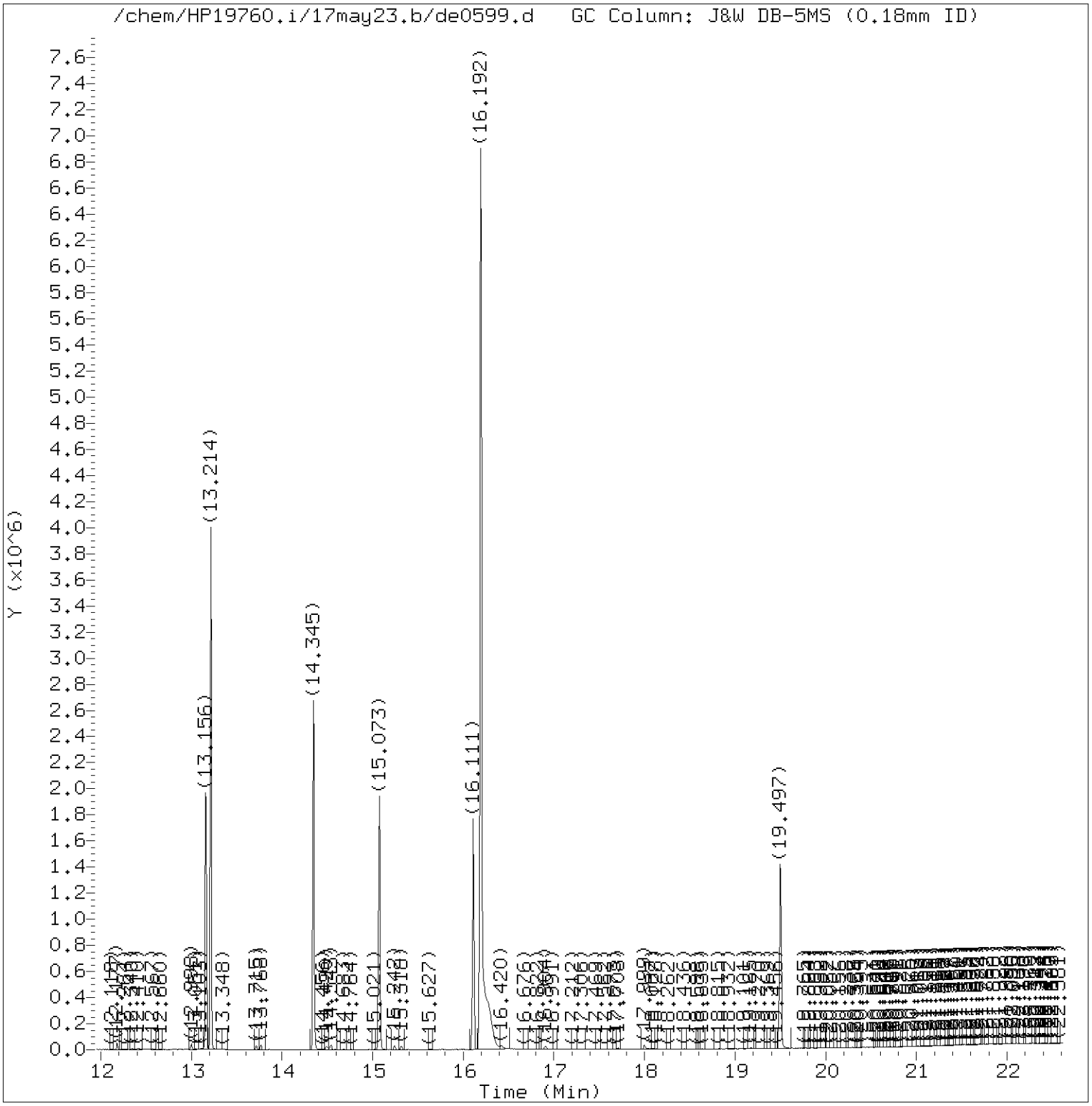
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0599.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 11:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 11:55
Date, time and analyst ID of latest file update: 23-May-2017 11:55 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0599.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 11:16 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 11:55
Date, time and analyst ID of latest file update: 23-May-2017 11:55 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0599.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 11:16 Analyst ID: ceb05247

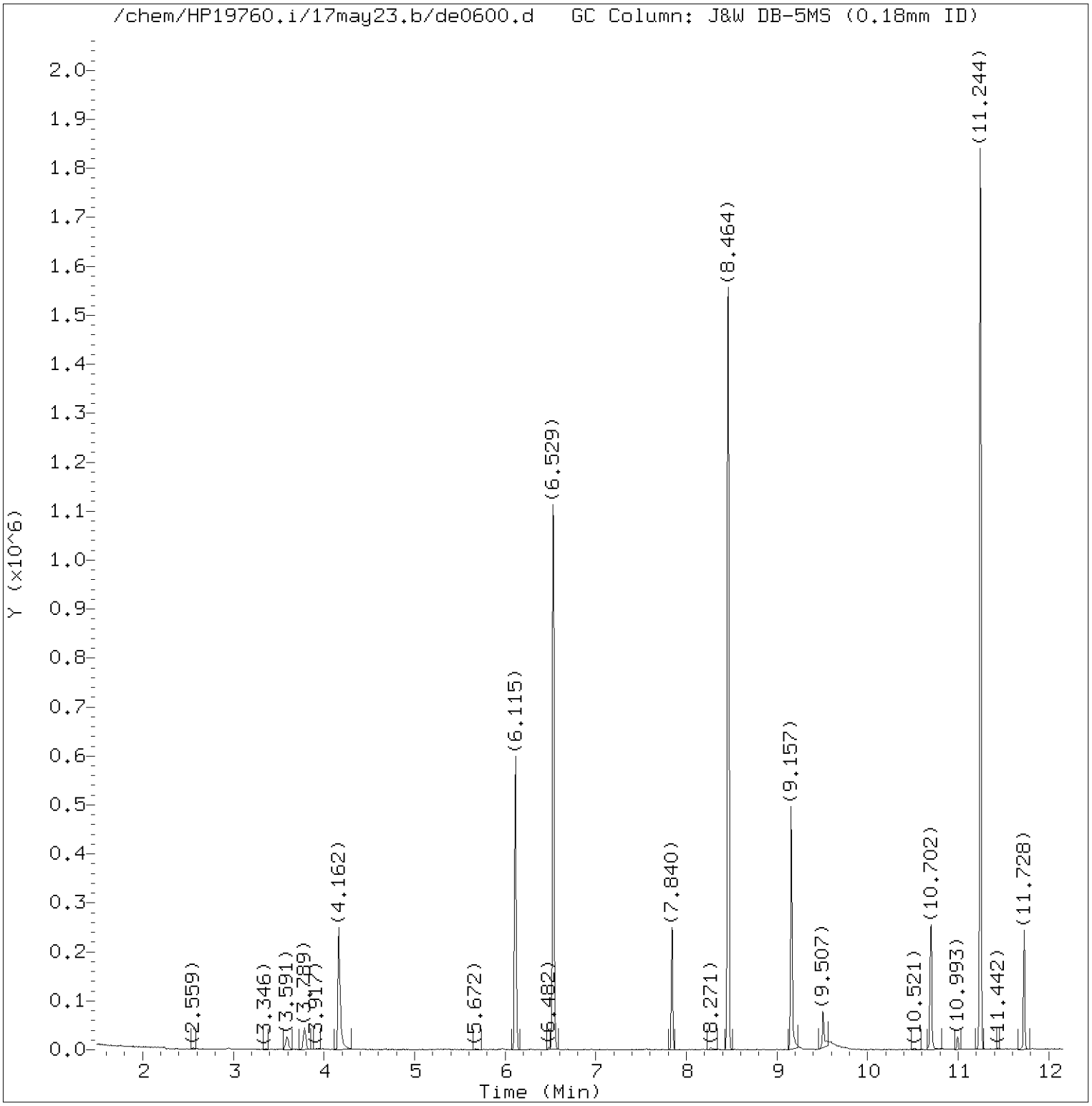
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 11:55
Date, time and analyst ID of latest file update: 23-May-2017 11:55 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: rvABC3566

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.534	152	203879	5.000
65)*Naphthalene-d8	(2)	8.464	136	767760	5.000
113)*Acenaphthene-d10	(3)	11.244	164	439666	5.000
153)*Phenanthrene-d10	(4)	13.162	188	825169	5.000
162) Disulfoton	(4)	13.214	88	800379	12.367
170) Methapyrilene	(4)	14.345	97	580511	12.343
175)*Pyrene-d10	(5)	15.073	212	977612	5.000
189) Famphur	(5)	16.111	218	518875	13.183
190) Kepone	(5)	16.192	272	1112631	60.759
213)*Perylene-d12	(6)	19.497	264	743118	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

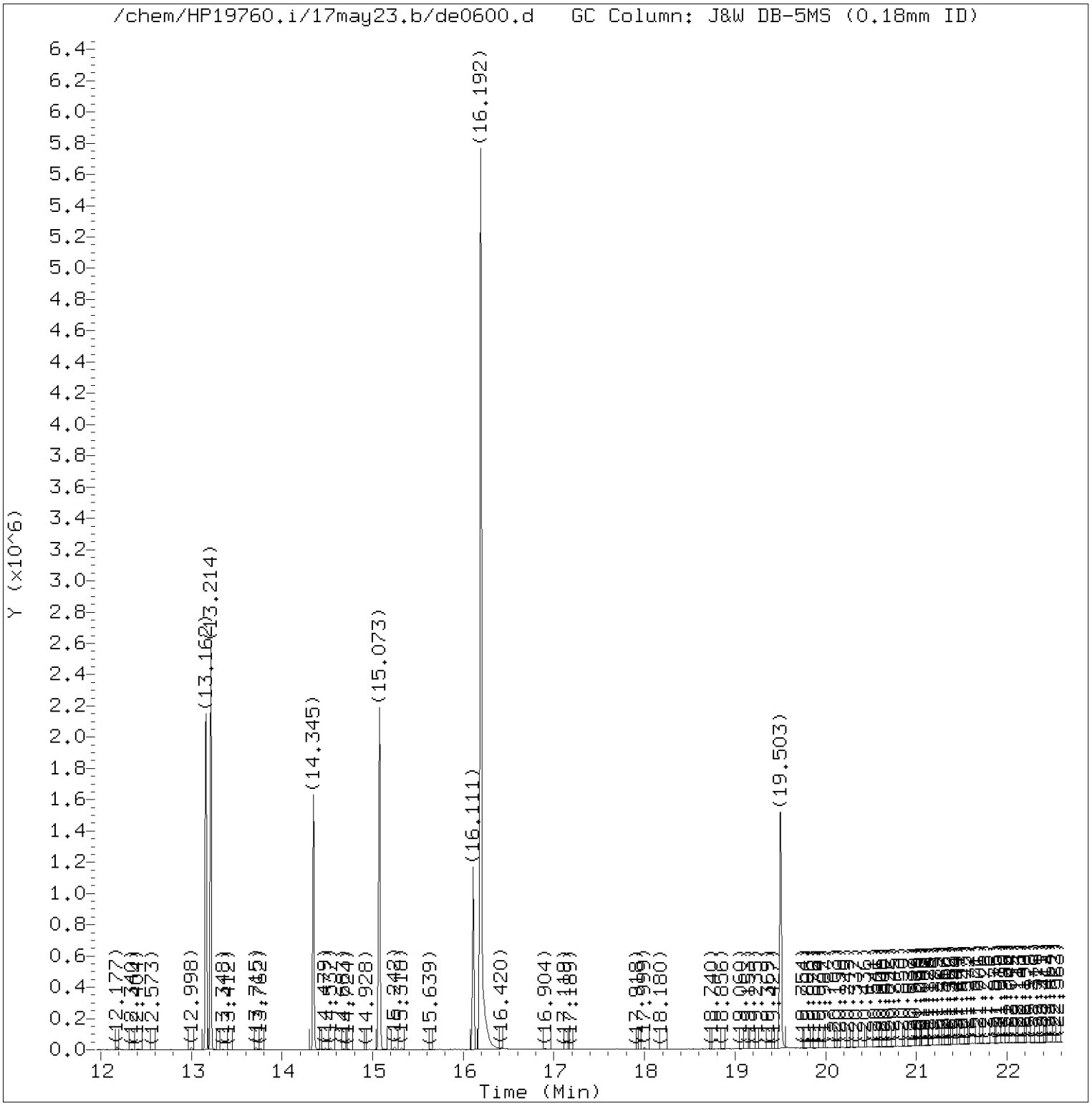
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0600.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 11:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 12:07
Date, time and analyst ID of latest file update: 23-May-2017 12:07 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0600.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 11:44 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 12:07
Date, time and analyst ID of latest file update: 23-May-2017 12:07 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0600.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 11:44 Analyst ID: ceb05247

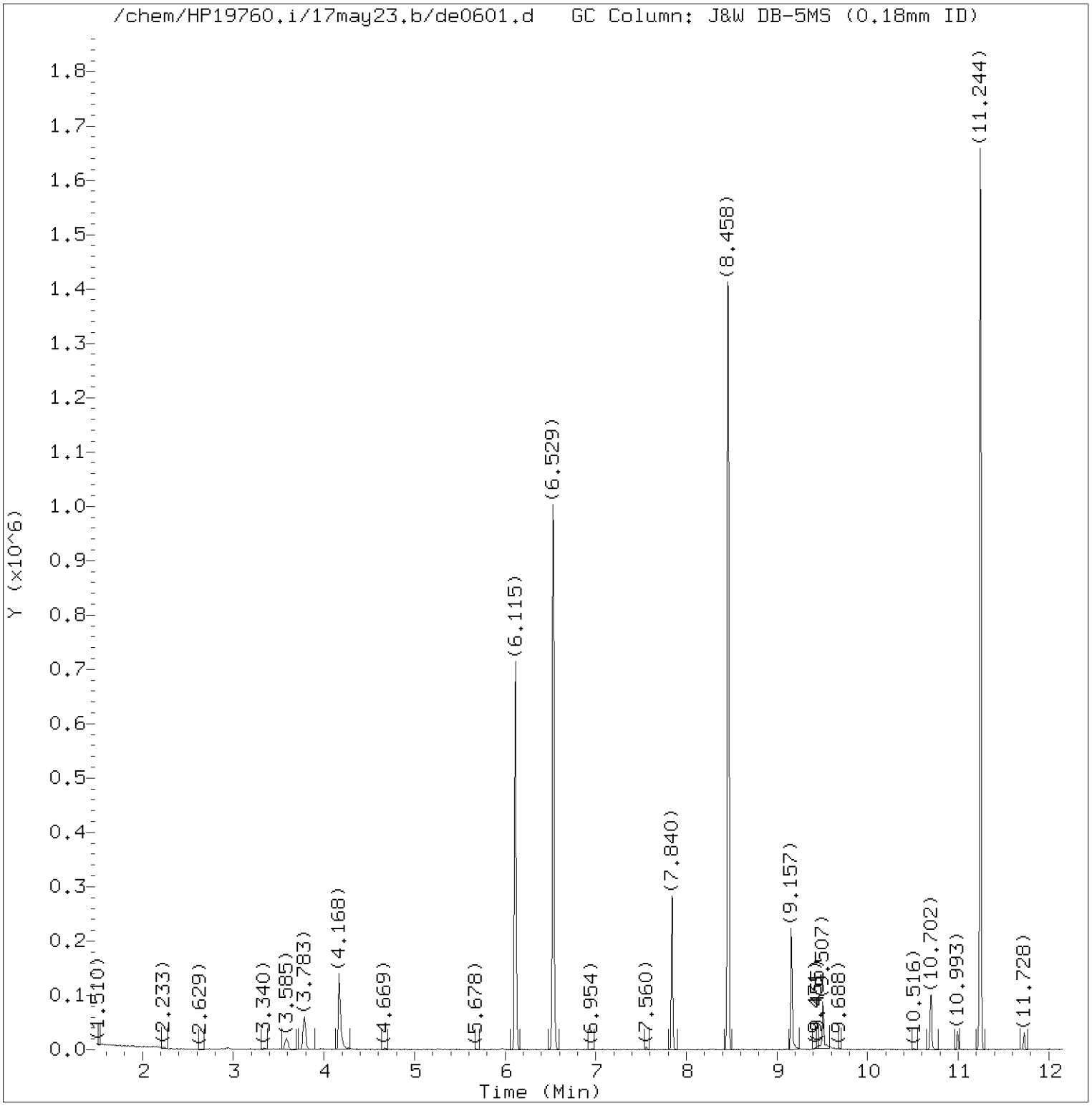
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 12:07
Date, time and analyst ID of latest file update: 23-May-2017 12:07 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvABC3566

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	225324	5.000
65)*Naphthalene-d8	(2)	8.464	136	844618	5.000
113)*Acenaphthene-d10	(3)	11.244	164	475854	5.000
153)*Phenanthrene-d10	(4)	13.162	188	880069	5.000
162) Disulfoton	(4)	13.214	88	510013	7.426
170) Methapyrilene	(4)	14.345	97	348695	7.125
175)*Pyrene-d10	(5)	15.073	212	1071822	5.000
189) Famphur	(5)	16.111	218	362951	8.084
190) Kepone	(5)	16.192	272	792045	39.632
213)*Perylene-d12	(6)	19.503	264	826012	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

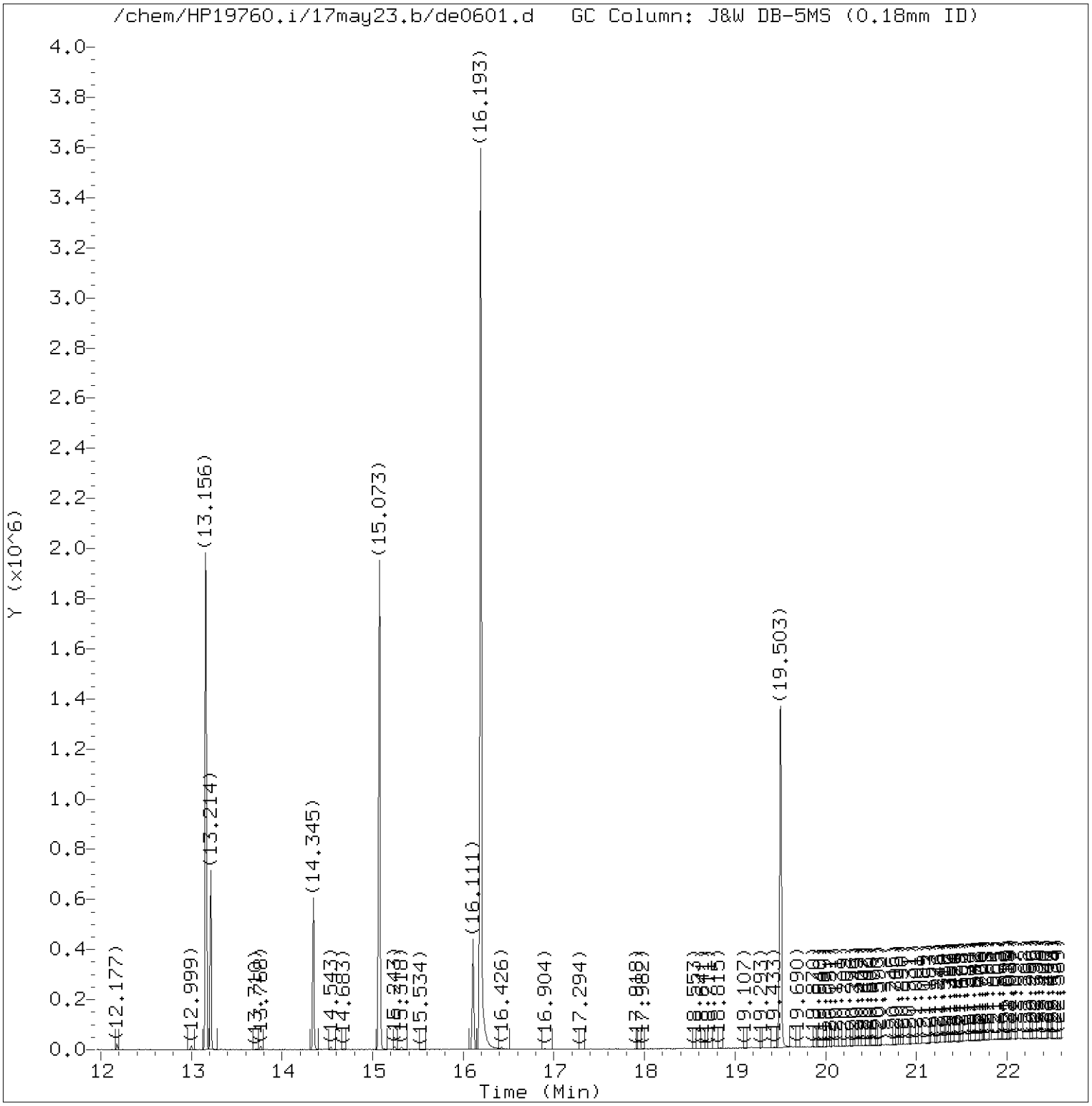
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0601.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 12:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 12:35
Date, time and analyst ID of latest file update: 23-May-2017 12:35 Automation

Sample Name: SSTD3.75 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0601.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 12:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 12:35
Date, time and analyst ID of latest file update: 23-May-2017 12:35 Automation

Sample Name: SSTD3.75 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0601.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 12:12 Analyst ID: ceb05247

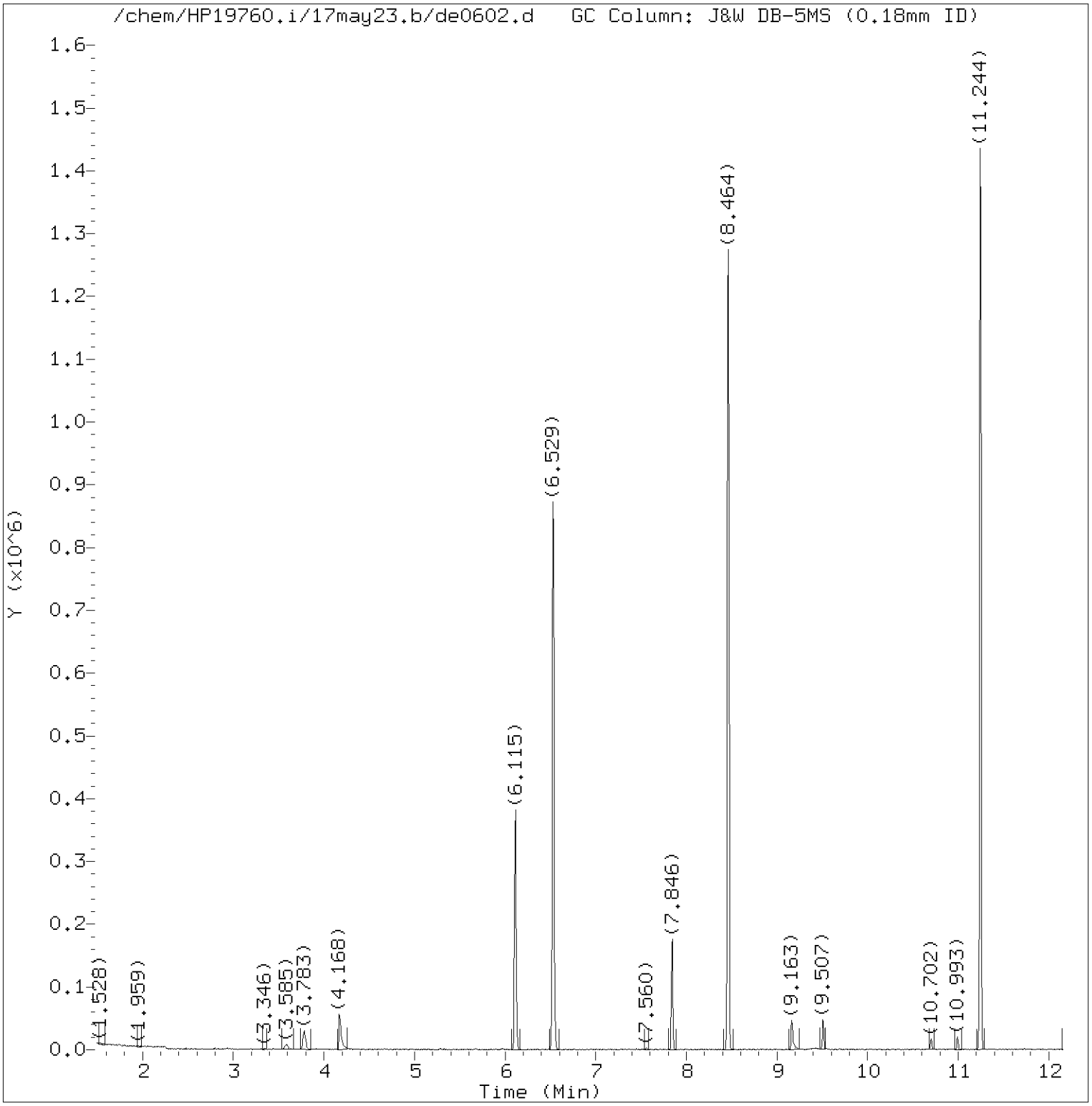
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 12:35
Date, time and analyst ID of latest file update: 23-May-2017 12:35 Automation

Sample Name: SSTD3.75 Lab Sample ID: rvABC3566

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	202823	5.000
65)*Naphthalene-d8	(2)	8.458	136	770238	5.000
113)*Acenaphthene-d10	(3)	11.244	164	426297	5.000
153)*Phenanthrene-d10	(4)	13.156	188	797004	5.000
162) Disulfoton	(4)	13.214	88	135393	2.432
170) Methapyrilene	(4)	14.345	97	128688	3.077
175)*Pyrene-d10	(5)	15.073	212	953637	5.000
189) Famphur	(5)	16.111	218	136095	3.487
190) Kepone	(5)	16.193	272	457060	25.525
213)*Perylene-d12	(6)	19.503	264	734737	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

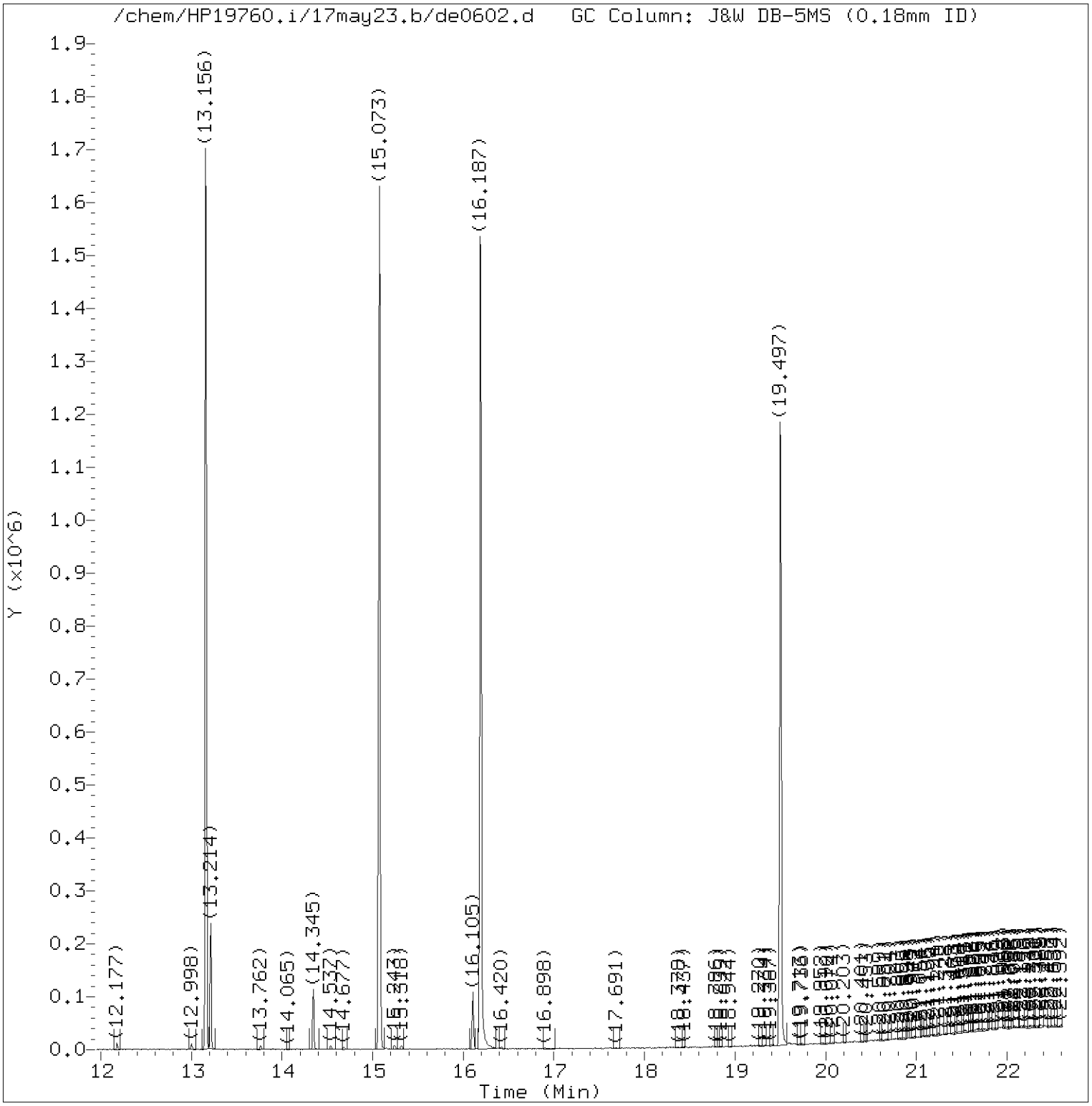
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0602.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 12:39 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 13:03
Date, time and analyst ID of latest file update: 23-May-2017 13:03 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0602.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 12:39 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 13:03
Date, time and analyst ID of latest file update: 23-May-2017 13:03 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0602.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 12:39 Analyst ID: ceb05247

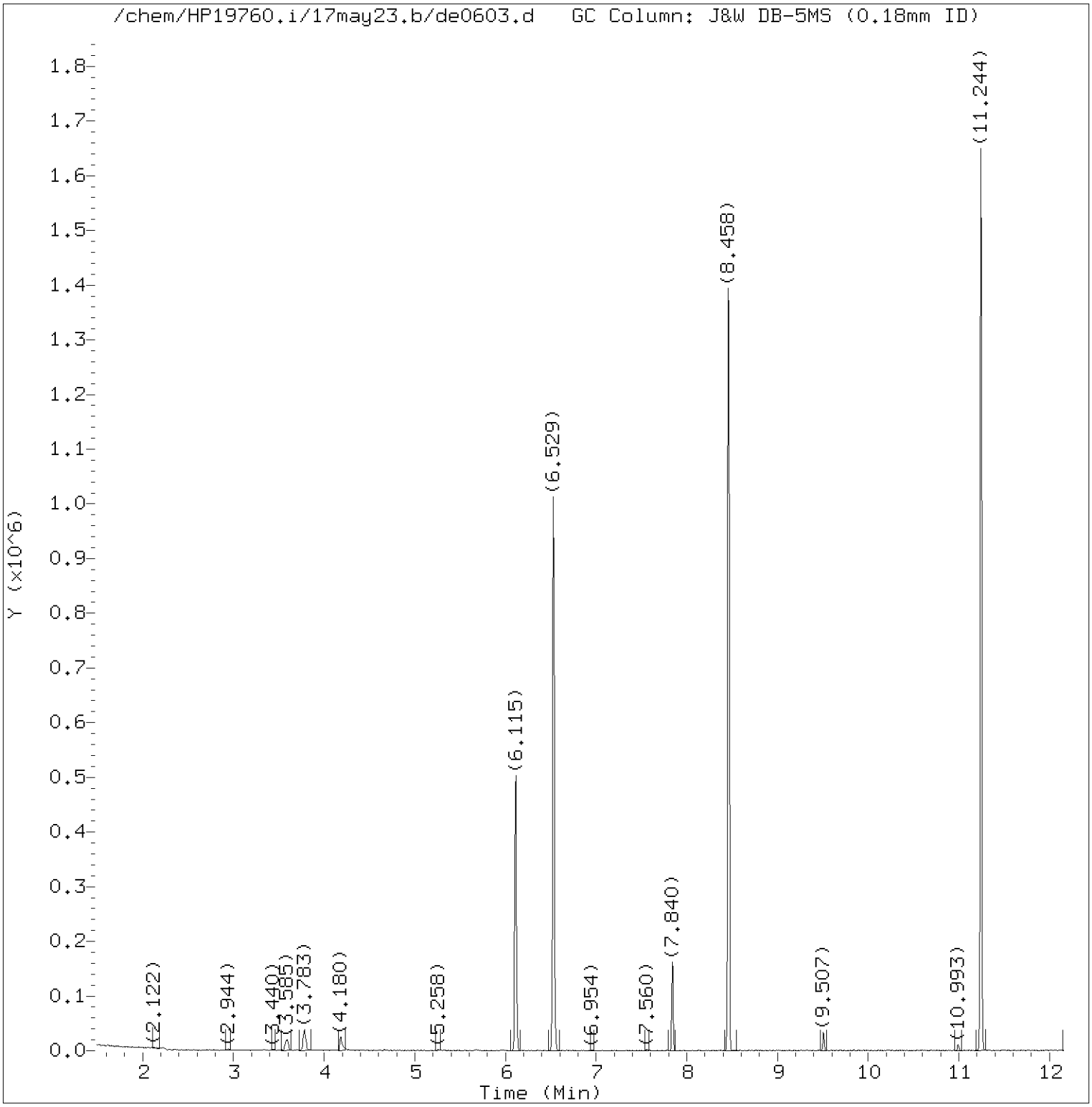
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: abc
Calibration date and time: 23-MAY-2017 13:03
Date, time and analyst ID of latest file update: 23-May-2017 13:03 Automation

Sample Name: SSTD1.25 Lab Sample ID: rvABC3566

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	180582	5.000
65)*Naphthalene-d8	(2)	8.464	136	679859	5.000
113)*Acenaphthene-d10	(3)	11.244	164	370796	5.000
153)*Phenanthrene-d10	(4)	13.156	188	697597	5.000
162) Disulfoton	(4)	13.214	88	45950	0.992
170) Methapyrilene	(4)	14.345	97	25660	0.701
175)*Pyrene-d10	(5)	15.073	212	825056	5.000
189) Famphur	(5)	16.105	218	31677	0.987
190) Kepone	(5)	16.193	272	195668	12.604
213)*Perylene-d12	(6)	19.503	264	615001	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

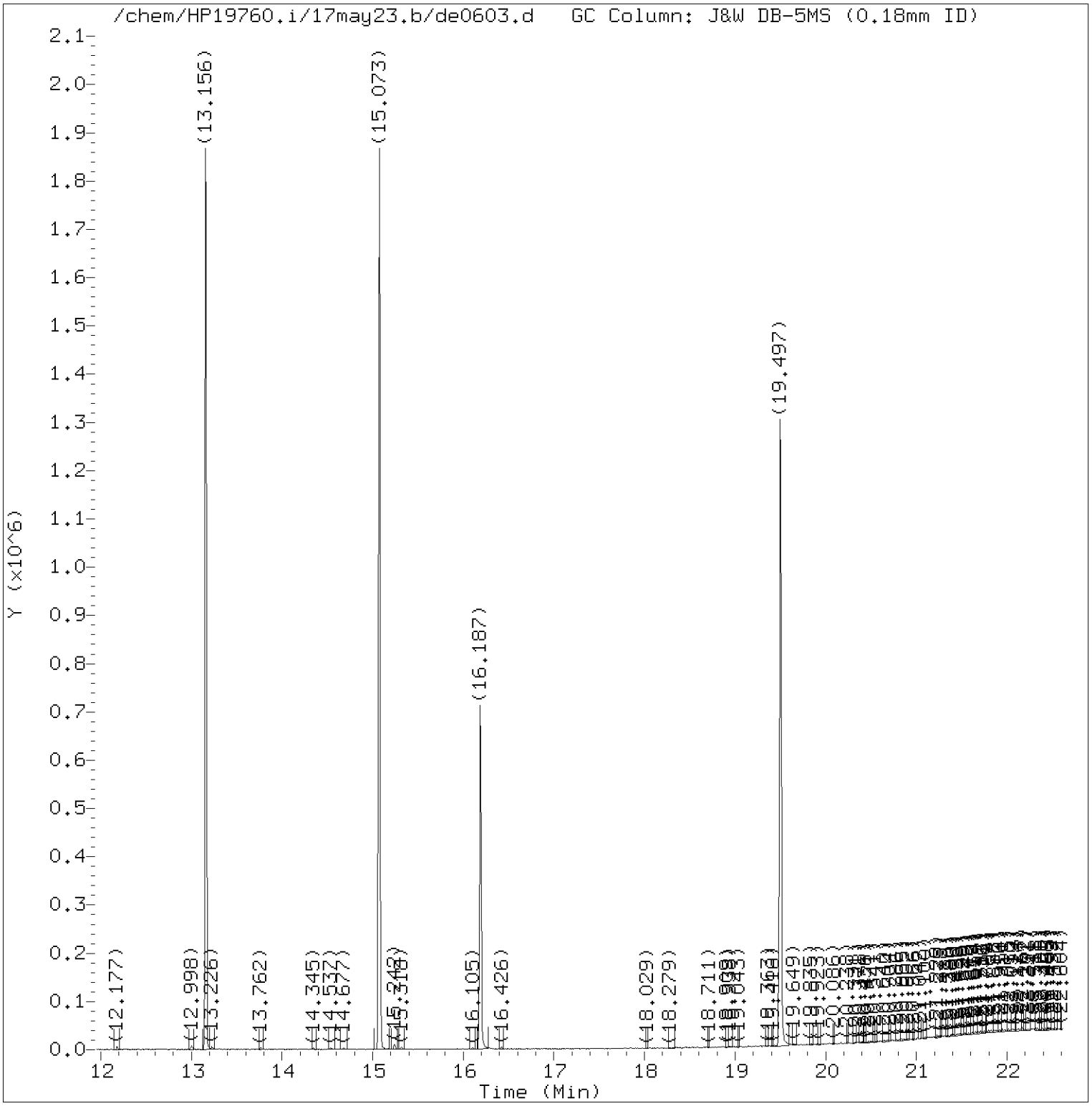
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0603.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 13:07 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: kep
Calibration date and time: 23-MAY-2017 13:21
Date, time and analyst ID of latest file update: 23-May-2017 13:30 Automation

Sample Name: SSTD006 Lab Sample ID: ABCMDL3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0603.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 13:07 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: kep
Calibration date and time: 23-MAY-2017 13:21
Date, time and analyst ID of latest file update: 23-May-2017 13:30 Automation

Sample Name: SSTD006 Lab Sample ID: ABCMDL3566

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0603.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 13:07 Analyst ID: ceb05247

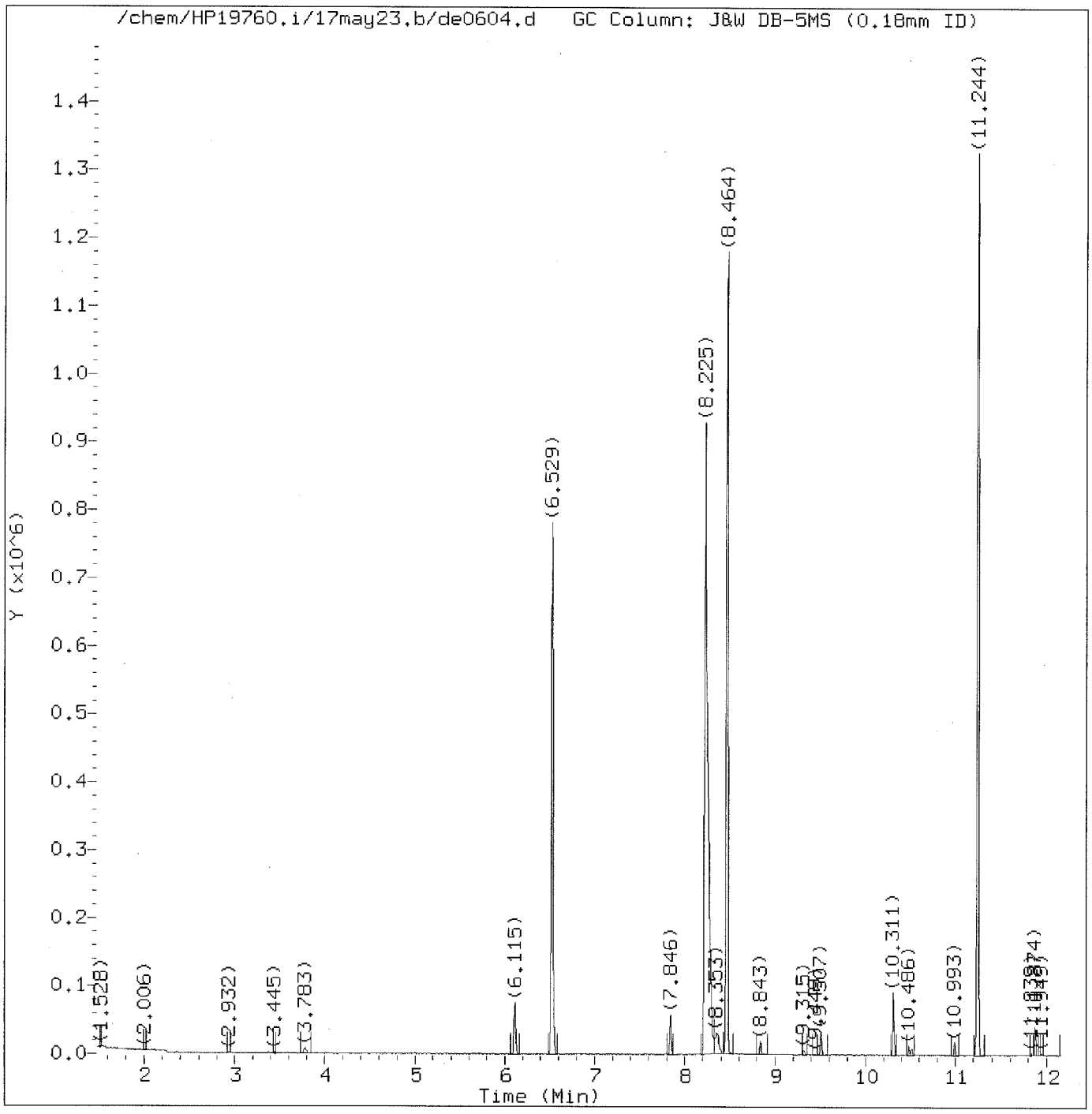
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: kep
Calibration date and time: 23-MAY-2017 13:21
Date, time and analyst ID of latest file update: 23-May-2017 13:30 Automation

Sample Name: SSTD006 Lab Sample ID: ABCMDL3566

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	204573	5.000
65)*Naphthalene-d8	(2)	8.458	136	754958	5.000
113)*Acenaphthene-d10	(3)	11.244	164	409159	5.000
153)*Phenanthrene-d10	(4)	13.156	188	769258	5.000
175)*Pyrene-d10	(5)	15.073	212	910801	5.000
190) Kepone	(5)	16.187	272	86886	5.070
213)*Perylene-d12	(6)	19.497	264	677120	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/23/2017 at 13:55.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

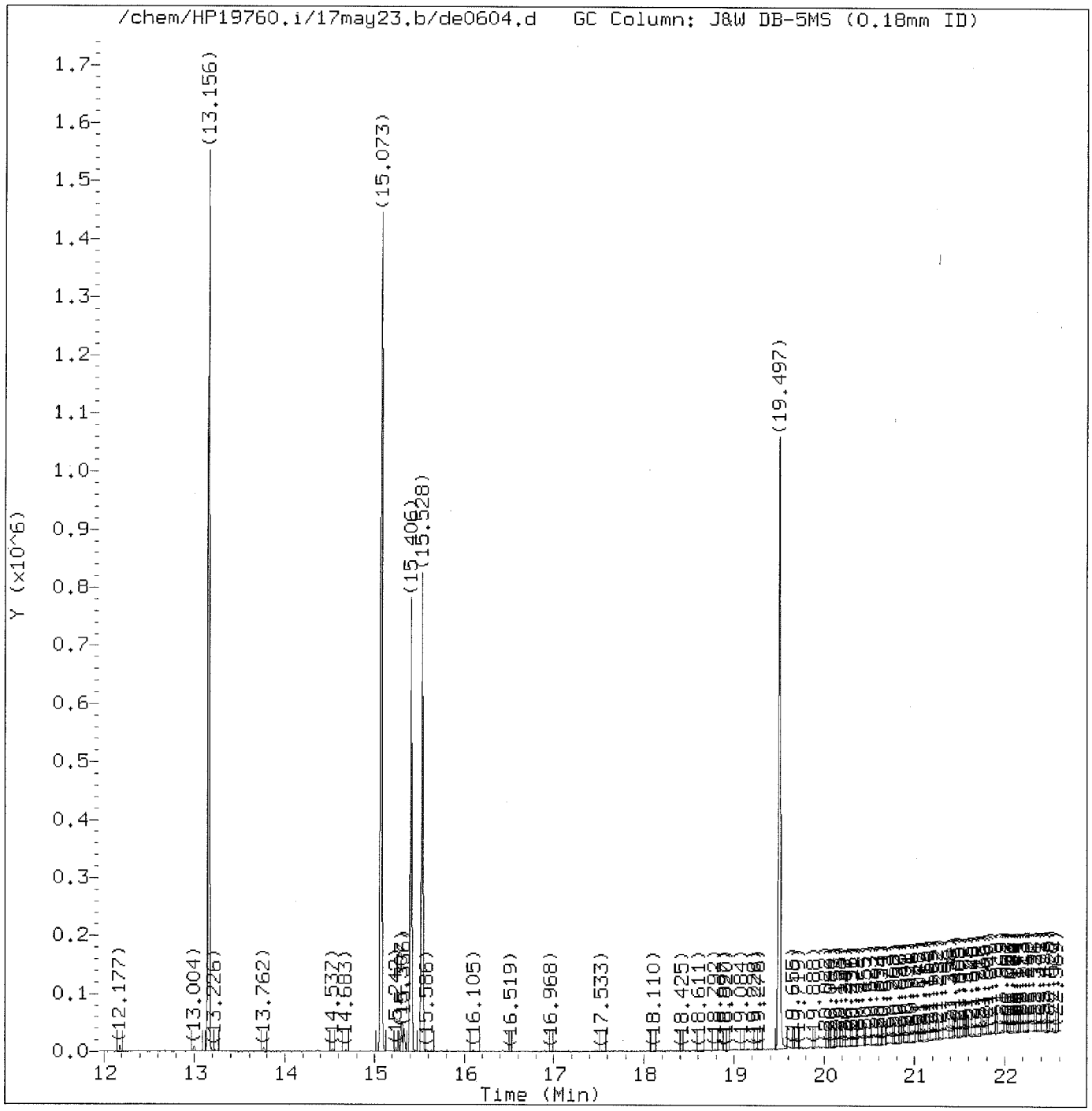
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0604.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 13:34 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: aap
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 23-May-2017 19:05 em10340

Sample Name: SSTD12.5 Lab Sample ID: rvAAP0317

Digitally signed by Edward Monborne
on 05/23/2017 at 19:06.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0604.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 13:34 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: aap
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 23-May-2017 19:05 em10340

Sample Name: SSTD12.5 Lab Sample ID: rvAAP0317

Digitally signed by Edward Monborne
on 05/23/2017 at 19:06.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0604.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 13:34 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: aap
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 23-May-2017 19:05 em10340

Sample Name: SSTD12.5 Lab Sample ID: rvAAP0317

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.534	152	164393	5.000
64) a,a-Dimethylphenethylamine	(2)	8.225	58	1339390	12.500
65)*Naphthalene-d8	(2)	8.464	136	619567	5.000
186) Aramite	(5)			144304	12.500
113)*Acenaphthene-d10	(3)	11.244	164	340019	5.000
153)*Phenanthrene-d10	(4)	13.156	188	626856	5.000
175)*Pyrene-d10	(5)	15.073	212	740173	5.000
180) Aramite (1)	(5)	15.307	185	2614	5.000
181) Aramite (2)	(5)	15.342	185	2805	5.000
183) Aramite (3)	(5)	15.411	185	58780	1.250
184) Aramite (4)	(5)	15.534	185	80105	1.250
213)*Perylene-d12	(6)	19.497	264	554937	5.000

* = Compound is an internal standard.

Digitally signed by Edward Monborne
on 05/23/2017 at 19:06.
Target 3.5 esignature user ID: em10340

Data File: /chem/HP19760.i/17may23a.b/de0620.d

Date : 23-MAY-2017 20:45

Client ID: DFTPP12.5

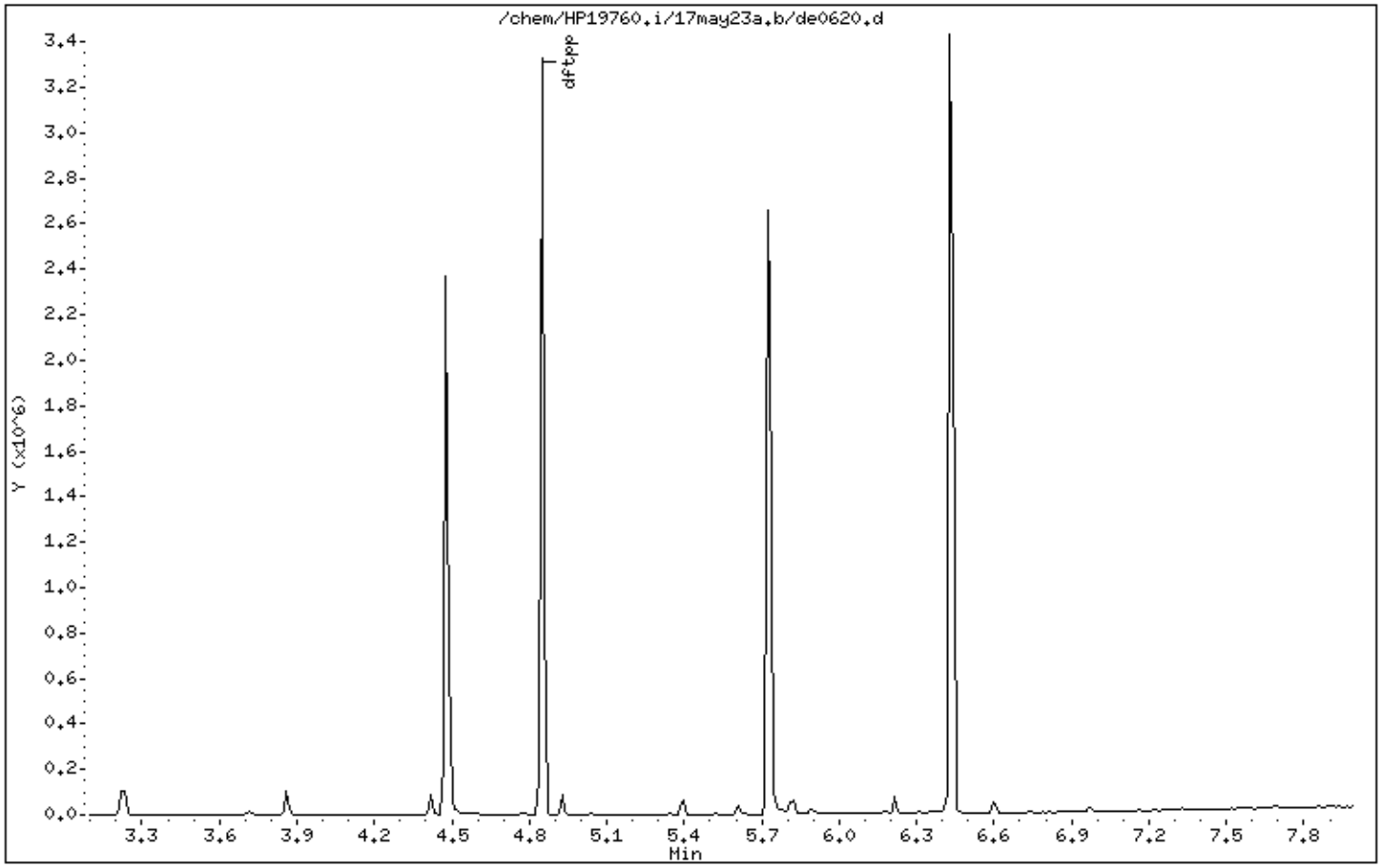
Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Edward Monborne on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Data File: /chem/HP19760.i/17may23a.b/de0620.d

Date : 23-MAY-2017 20:45

Client ID: DFTPP12.5

Instrument: HP19760.i

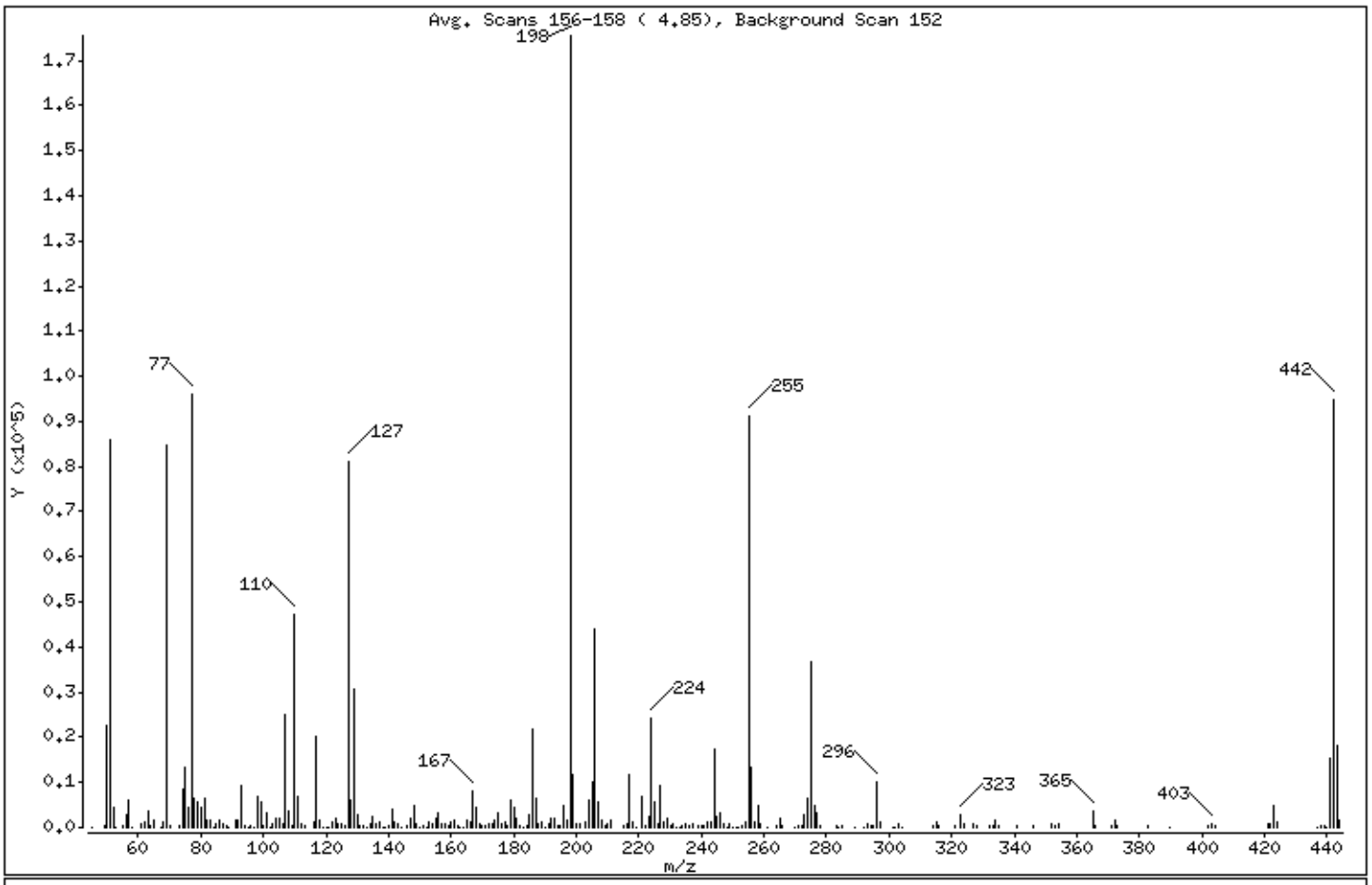
Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	48.93
68	Less than 2.00% of mass 69	0.77 (1.58)
69	Mass 69 relative abundance	48.37
70	Less than 2.00% of mass 69	0.19 (0.40)
127	10.00 - 80.00% of mass 198	46.21
197	Less than 2.00% of mass 198	0.84
199	5.00 - 9.00% of mass 198	6.67
275	10.00 - 60.00% of mass 198	21.02
365	Greater than 1.00% of mass 198	2.12
441	0.01 - 24.00% of mass 442	8.78 (16.28)
442	50.00 - 99.99% of mass 198	53.93
443	15.00 - 24.00% of mass 442	10.43 (19.34)

Digitally signed by Edward Monborne on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Date : 23-MAY-2017 20:45

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP;

Operator: em10340

Column phase: DB-5MS Column diameter: 0.18

Data File: de0620.d
Spectrum: Avg. Scans 156-158 (4.85), Background Scan 152
Location of Maximum: 198.00
Number of points: 262

m/z	Y	m/z	Y	m/z	Y	m/z	Y
45.00	132	123.00	2130	190.00	174	265.00	2147
49.00	584	124.00	1006	191.00	660	266.00	381
50.00	22536	125.00	843	192.00	1901	270.00	92
51.00	85880	126.00	359	193.00	2169	271.00	225
52.00	4460	127.00	81104	194.00	483	272.00	227
53.00	151	128.00	6218	195.00	207	273.00	2684
55.00	369	129.00	30800	196.00	5000	274.00	6313
56.00	2631	130.00	2643	197.00	1474	275.00	36888
57.00	6021	131.00	476	198.00	175488	276.00	4732
58.00	118	132.00	203	199.00	11714	277.00	3218
61.00	893	133.00	94	200.00	784	278.00	506
62.00	1127	134.00	808	201.00	670	283.00	304
63.00	3649	135.00	2466	203.00	1205	284.00	154
64.00	446	136.00	903	204.00	5983	285.00	539
65.00	1672	137.00	1317	205.00	10255	289.00	109
67.00	89	138.00	124	206.00	44016	292.00	109
68.00	1345	139.00	111	207.00	5549	293.00	683
69.00	84888	140.00	307	208.00	1413	294.00	219
70.00	338	141.00	3920	209.00	506	295.00	346
73.00	540	142.00	1308	210.00	703	296.00	10007
74.00	8587	143.00	815	211.00	1607	297.00	1362
75.00	13354	144.00	159	215.00	455	301.00	133
76.00	4373	146.00	516	216.00	808	302.00	86
77.00	95832	147.00	2047	217.00	11766	303.00	955
78.00	6495	148.00	4760	218.00	1211	304.00	124
79.00	5741	149.00	963	219.00	115	314.00	450
80.00	4526	150.00	182	221.00	7020	315.00	1057
81.00	6635	151.00	391	222.00	332	316.00	509
82.00	1530	152.00	169	223.00	2469	321.00	278
83.00	1563	153.00	1340	224.00	24168	323.00	2953
84.00	170	154.00	802	225.00	5554	324.00	716
85.00	747	155.00	2158	226.00	678	327.00	611
86.00	1595	156.00	3330	227.00	9480	328.00	340
87.00	927	157.00	637	228.00	1340	332.00	269
88.00	248	158.00	682	229.00	1937	333.00	265

Digitally signed by Edward Monborne on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Date : 23-MAY-2017 20:45

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;rvDFTPP1247;1;3;DFTPP; Operator: em10340

Column phase: DB-5MS Column diameter: 0.18

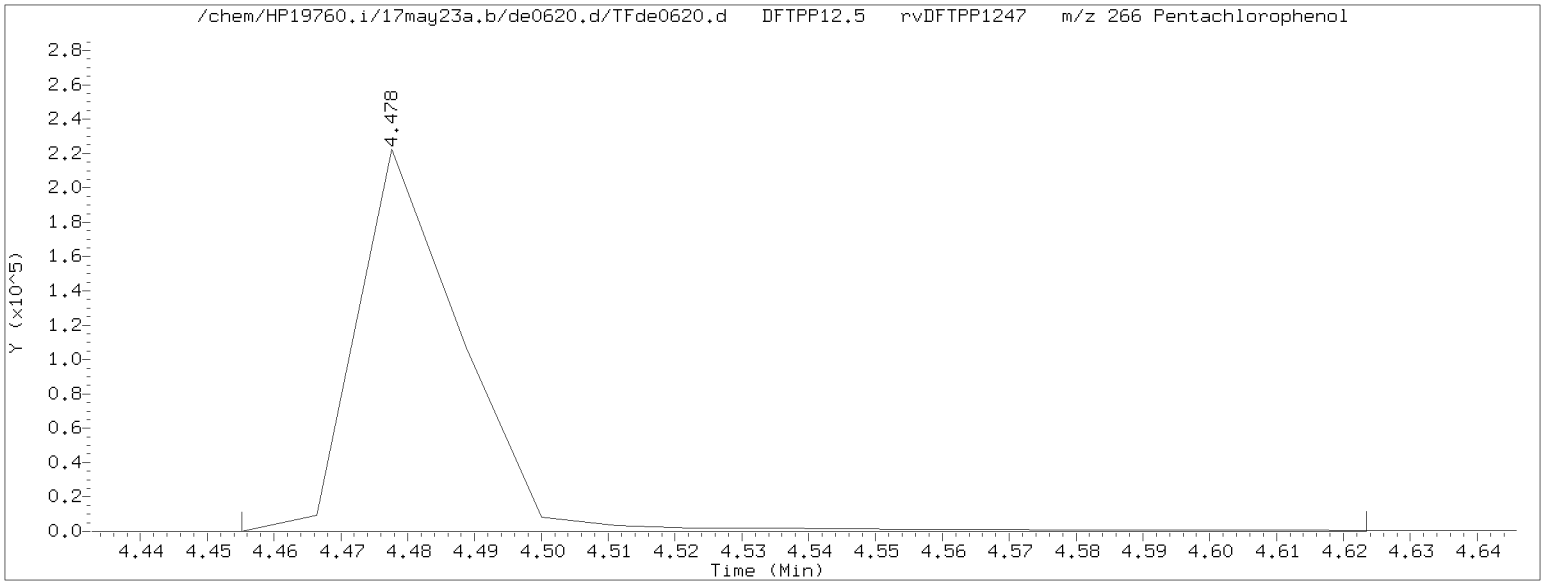
Data File: de0620.d
Spectrum: Avg. Scans 156-158 (4.85), Background Scan 152
Location of Maximum: 198.00
Number of points: 262

m/z	Y	m/z	Y	m/z	Y	m/z	Y
89.00	98	159.00	479	230.00	309	334.00	1792
91.00	1412	160.00	1356	231.00	666	335.00	502
92.00	1450	161.00	1715	232.00	93	341.00	333
93.00	9398	162.00	461	233.00	142	346.00	586
94.00	561	163.00	98	234.00	516	352.00	773
95.00	93	164.00	142	235.00	619	353.00	491
96.00	406	165.00	1450	236.00	481	354.00	927
97.00	130	166.00	1143	237.00	894	365.00	3723
98.00	6881	167.00	8049	239.00	288	366.00	457
99.00	5746	168.00	4407	240.00	373	371.00	238
100.00	403	169.00	670	241.00	494	372.00	1551
101.00	3370	170.00	239	242.00	1212	373.00	360
102.00	106	171.00	245	243.00	1301	383.00	415
103.00	833	172.00	756	244.00	17480	390.00	156
104.00	2046	173.00	750	245.00	2274	402.00	597
105.00	1965	174.00	1802	246.00	3354	403.00	715
106.00	695	175.00	3152	247.00	684	404.00	272
107.00	25152	176.00	789	248.00	122	421.00	633
108.00	3628	177.00	1404	249.00	674	422.00	668
109.00	601	178.00	376	250.00	98	423.00	4669
110.00	47280	179.00	6200	251.00	201	424.00	1080
111.00	6871	180.00	4384	252.00	152	437.00	126
112.00	642	181.00	2059	253.00	512	438.00	343
113.00	207	182.00	268	254.00	1076	439.00	262
116.00	1265	183.00	83	255.00	90992	440.00	85
117.00	20112	184.00	505	256.00	13411	441.00	15412
118.00	1563	185.00	2800	257.00	1187	442.00	94656
119.00	130	186.00	21640	258.00	4750	443.00	18296
120.00	198	187.00	6353	259.00	677	444.00	1506
121.00	92	188.00	728	261.00	92		
122.00	1306	189.00	1201	264.00	214		

Digitally signed by Edward Monborne on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Assessment of GC Column Performance and Injection Port Inertness for

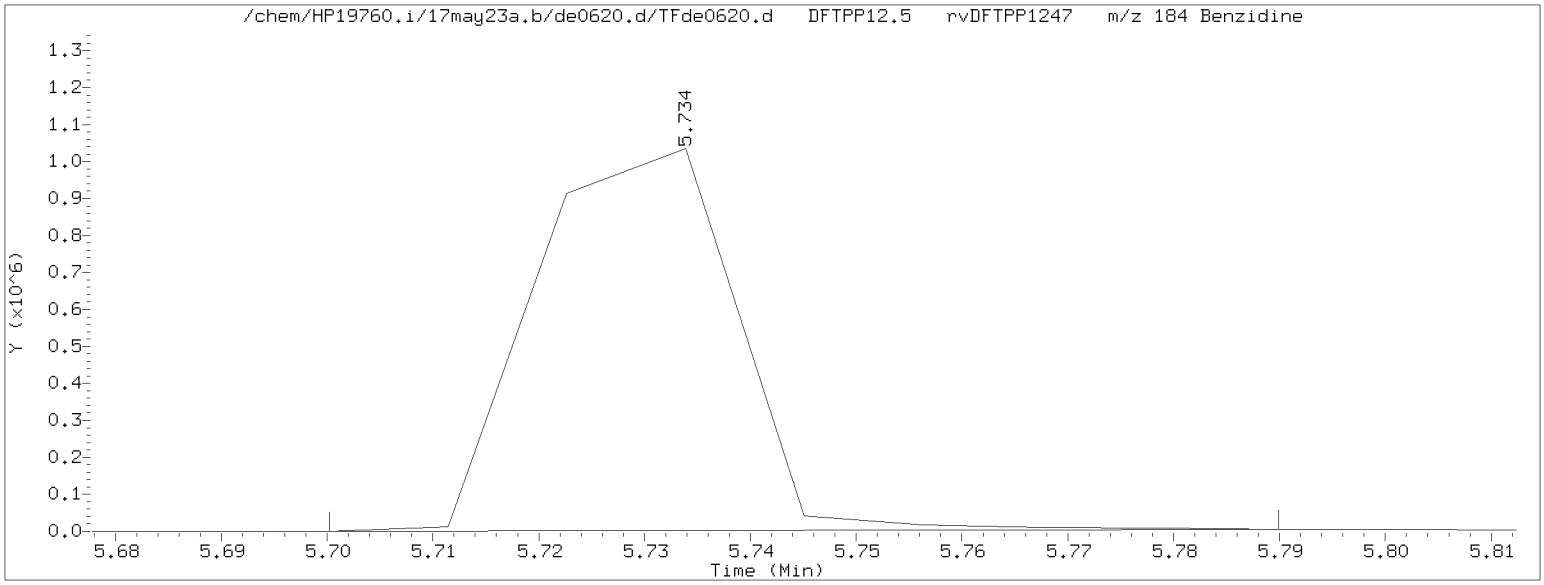
Instrument ID: HP19760.i Injection Date: 23-MAY-2017 20:45 Operator: em10340



Pentachlorophenol EICP peak height = 222592 EICP peak height at 10% = 22259 Pentachlorophenol EICP area = 242377

Pentachlorophenol EICP peak apex (min.) = 4.478
RT at 10% of front half of EICP (min.) = 4.467 'Front' peak width (min.) = 0.0105166667
RT at 10% of back half of EICP (min.) = 4.498 'Tailing' peak width (min.) = 0.0208166667

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0208166667}{0.0105166667} = 1.979$$



Benzidine EICP peak height = 1033752 EICP peak height at 2.5% = 25844 Benzidine EICP area = 1357776

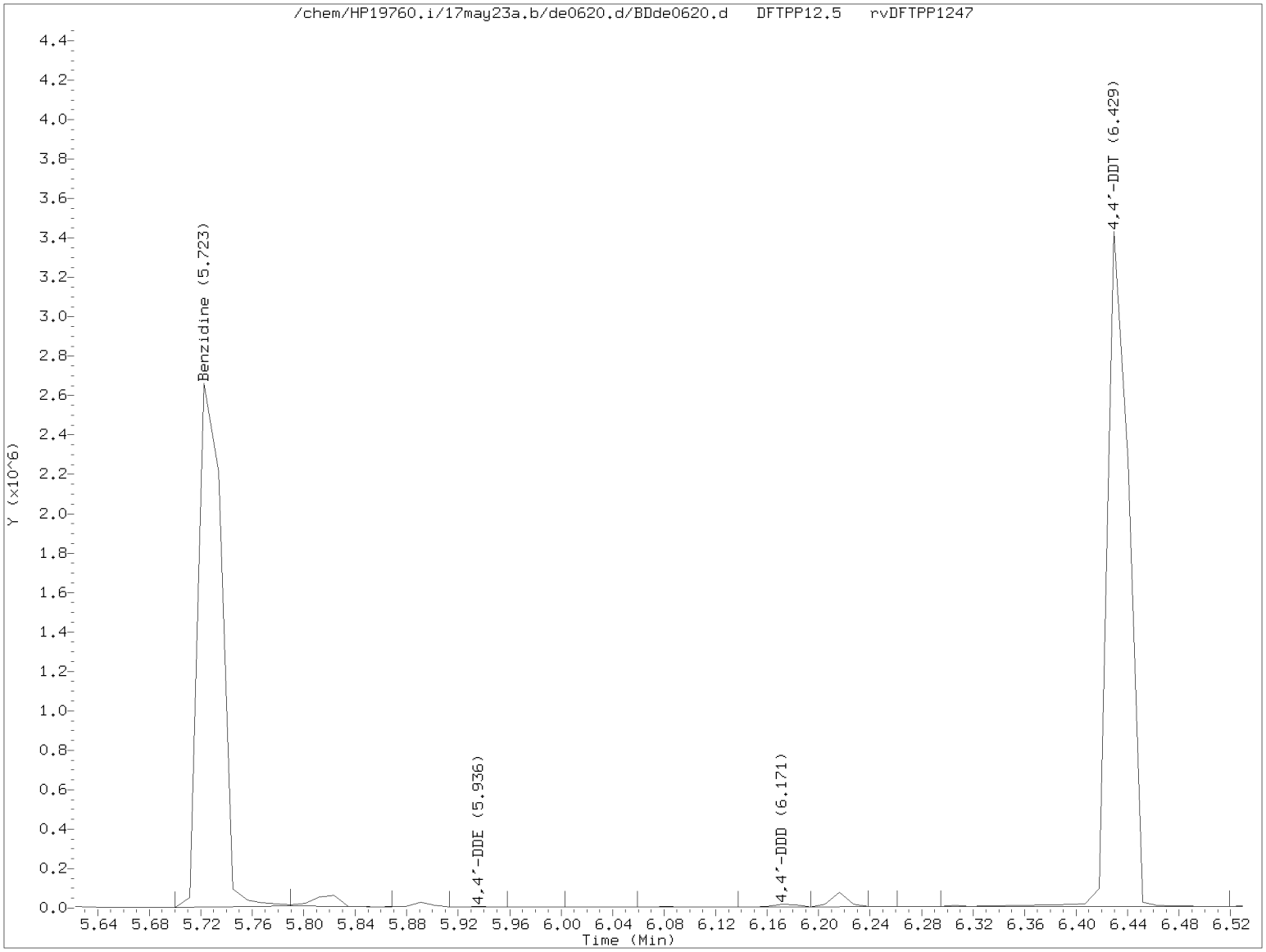
Benzidine EICP peak apex (min.) = 5.734
RT at 2.5% of front half of EICP (min.) = 5.712 'Front' peak width (min.) = 0.0222333333
RT at 2.5% of back half of EICP (min.) = 5.751 'Tailing' peak width (min.) = 0.0171666667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0171666667}{0.0222333333} = 0.772$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/29/2017 at 07:11. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

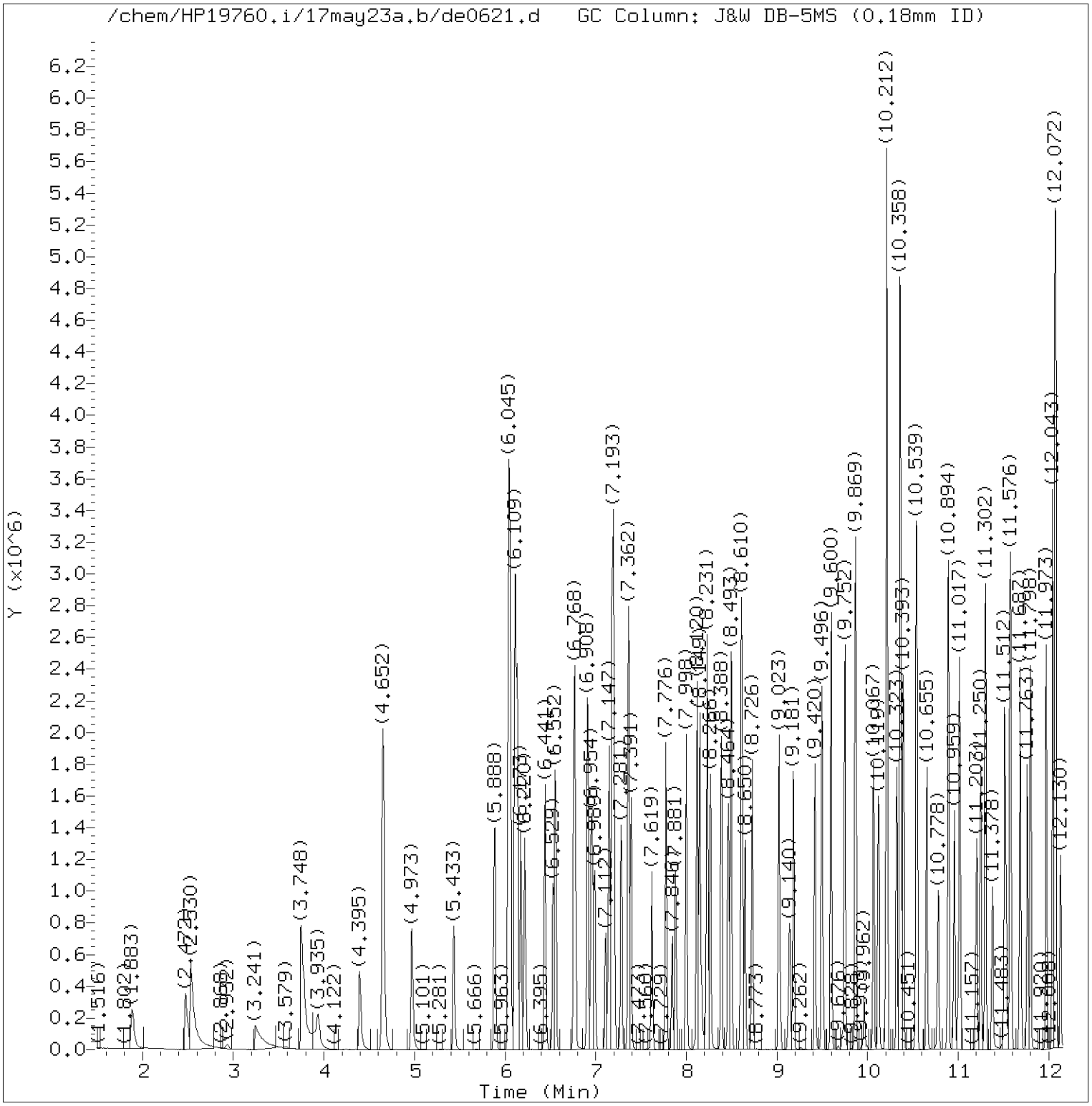
Instrument ID: HP19760.i Injection Date: 23-MAY-2017 20:45 Operator: em10340



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{2440 + 18143}{2440 + 18143 + 3946746} \times 100 = 0.5$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/29/2017 at 07:11. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

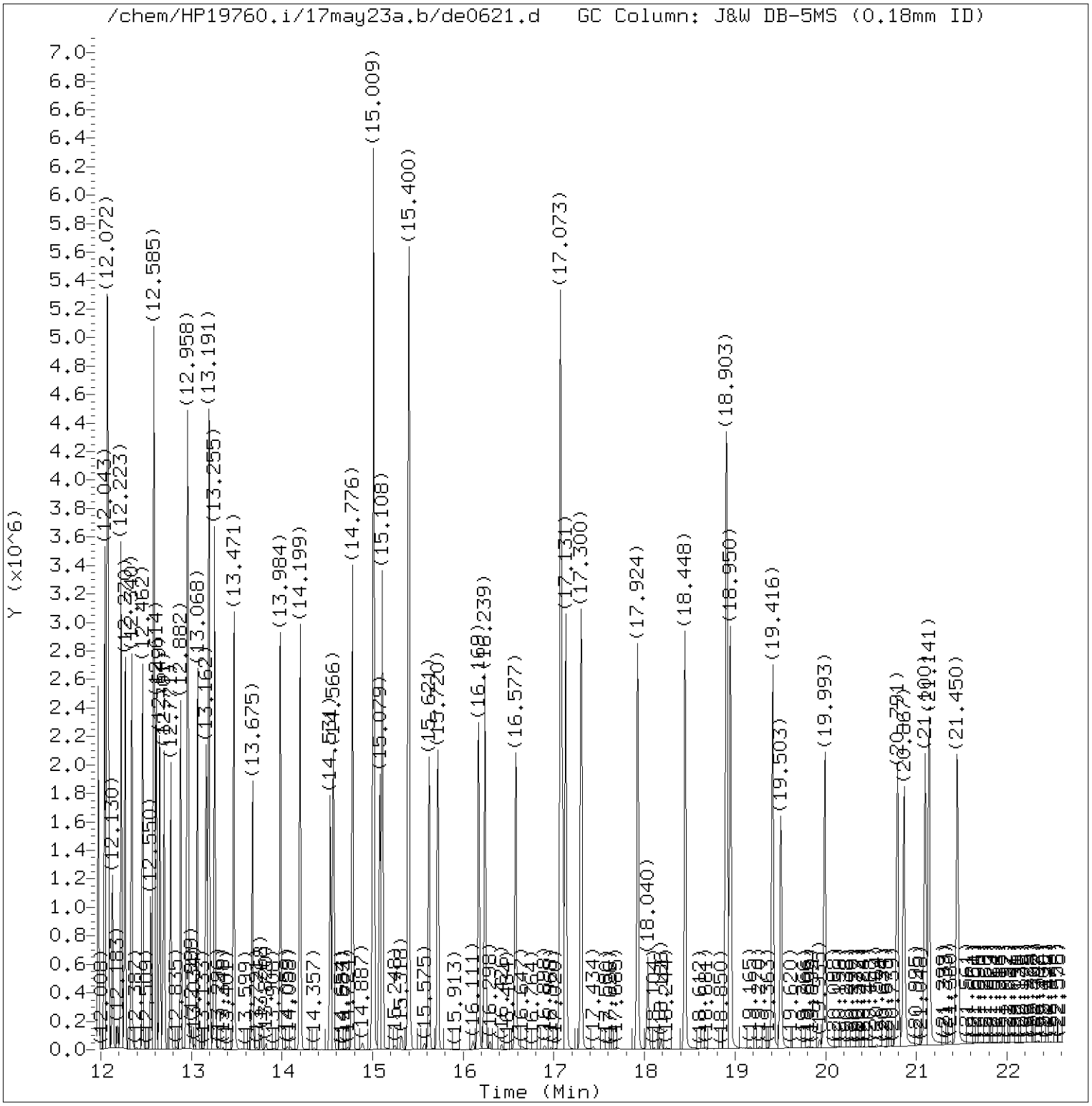
Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0621.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 21:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 21:44
Date, time and analyst ID of latest file update: 23-May-2017 21:44 em10340

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Digitally signed by Edward Monborne
on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0621.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 21:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 21:44
Date, time and analyst ID of latest file update: 23-May-2017 21:44 em10340

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Digitally signed by Edward Monborne
on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0621.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 21:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 21:44
Date, time and analyst ID of latest file update: 23-May-2017 21:44 em10340

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.889	88	241380	7.794
4) N-Nitrosodimethylamine	(1)	2.472	74	391489	7.862
5) Pyridine	(1)	2.530	79	623762	7.634
7) 2-Picoline	(1)	3.748	93	642696	7.703
8) N-Nitrosomethylethylamine	(1)	3.935	88	273033	7.668
9) Methyl methanesulfonate	(1)	4.395	80	296284	7.272
11)$2-Fluorophenol	(1)	4.652	112	1007242	15.329
13) N-Nitrosodiethylamine	(1)	4.973	102	255934	7.738
15) Ethyl methanesulfonate	(1)	5.433	109	247679	6.934
42) Total Cresols	(1)			1039408	14.939
16) Benzaldehyde	(1)	5.882	77	489605	7.952
17)$Phenol-d6	(1)	6.039	99	1348759	15.124
19) Aniline	(1)	6.051	93	890399	7.500
18) Phenol	(1)	6.057	94	764643	7.568
20) a-methylstyrene	(1)	6.132	118	570349	7.844
22) bis(2-Chloroethyl)ether	(1)	6.173	93	561695	7.483
23) 2-Chlorophenol	(1)	6.220	128	488164	7.418
24) 1,3-Dichlorobenzene	(1)	6.441	146	525996	7.379
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	211786	5.000
26) 1,4-Dichlorobenzene	(1)	6.552	146	536843	7.370
27) Benzyl alcohol	(1)	6.762	108	343753	7.321
28) 1,2-Dichlorobenzene	(1)	6.774	146	504180	7.346
30) Indene	(1)	6.908	115	983629	7.683
31) 2-Methylphenol	(1)	6.954	108	484065	7.480
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.989	45	851028	7.674
34) bis(2-Chloroisopropyl)ether	(1)	6.989	45	851028	7.674
35) N-Nitrosopyrrolidine	(1)	7.112	100	265264	7.277
36) Acetophenone	(1)	7.147	105	751864	7.724
39) N-Nitrosomorpholine	(1)	7.176	56	393303	7.874
38) N-Nitroso-di-n-propylamine	(1)	7.176	70	433149	7.378
37) 4-Methylphenol	(1)	7.193	108	555343	7.459
40) o-Toluidine	(1)	7.199	106	854407	7.489
43) Hexachloroethane	(1)	7.281	117	223737	7.499
44)$Nitrobenzene-d5	(2)	7.362	82	1232189	14.819
97) Isosafrole	(3)			398188	7.454
45) Nitrobenzene	(2)	7.391	77	637392	7.611
48) N-Nitrosopiperidine	(2)	7.619	114	250992	7.590
50) Isophorone	(2)	7.776	82	1076643	7.517
51) 2-Nitrophenol	(2)	7.881	139	245164	7.413
53) 2,4-Dimethylphenol	(2)	8.003	107	524478	7.355

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0621.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 21:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 21:44
Date, time and analyst ID of latest file update: 23-May-2017 21:44 em10340

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

	Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120)	2,4_2,6-Dinitrotoluenes	(3)			500823	14.576
57)	O,O,O-Triethylphosphorothioate	(2)	8.120	198	239279	7.112
55)	bis(2-Chloroethoxy)methane	(2)	8.149	93	682592	7.454
56)	Benzoic acid	(2)	8.172	105	434442	9.271
59)	1,2,3,4-Tetrahydronaphthalene	(2)	8.231	104	802509	7.630
60)	2,4-Dichlorophenol	(2)	8.266	162	390547	7.400
62)	1,2,4-Trichlorobenzene	(2)	8.388	180	453683	7.308
65)*	Naphthalene-d8	(2)	8.464	136	802313	5.000
66)	Naphthalene	(2)	8.493	128	1380182	7.201
67)	4-Chloroaniline	(2)	8.604	127	569289	7.327
68)	2,6-Dichlorophenol	(2)	8.615	162	379910	7.261
69)	Hexachloropropene	(2)	8.650	213	293855	7.011
71)	Hexachlorobutadiene	(2)	8.726	225	258157	7.038
146)	Diallate trans/cis	(4)			492634	7.839
75)	Quinoline	(2)	9.023	129	882887	7.495
76)	Caprolactam	(2)	9.140	113	118867	7.217
77)	N-Nitrosodi-n-butylamine	(2)	9.187	84	412123	7.027
80)	4-Chloro-3-methylphenol	(2)	9.420	107	438499	7.290
82)	Safrole	(2)	9.496	162	348379	7.287
83)	2-Methylnaphthalene	(2)	9.600	142	918515	7.320
84)	1-Methylnaphthalene	(2)	9.752	142	827969	7.173
86)	1,2,4,5-Tetrachlorobenzene	(3)	9.869	216	471544	7.257
85)	Hexachlorocyclopentadiene	(3)	9.869	237	217522	7.023
88)	cis-Isosafrole	(3)	9.962	162	62726	1.232
90)	2,4,6-Trichlorophenol	(3)	10.067	196	297179	7.509
92)	2,4,5-Trichlorophenol	(3)	10.119	196	313853	7.344
93)$	2-Fluorobiphenyl	(3)	10.212	172	2104974	14.911
94)	trans-Isosafrole	(3)	10.323	162	335462	6.223
95)	1,1'-Biphenyl	(3)	10.358	154	1062584	7.810
96)	2-Chloronaphthalene	(3)	10.364	162	866640	7.568
98)	1-Chloronaphthalene	(3)	10.393	162	769735	7.038
99)	Diphenyl ether	(3)	10.539	170	581218	7.250
100)	2-Nitroaniline	(3)	10.545	138	259197	7.284
104)	1,4-Naphthoquinone	(3)	10.655	158	352909	7.413
105)	1,4-Dinitrobenzene	(3)	10.784	168	136077	7.266
106)	Dimethylphthalate	(3)	10.894	163	972328	7.348
107)	1,3-Dinitrobenzene	(3)	10.894	168	151549	7.360
108)	2,6-Dinitrotoluene	(3)	10.959	165	211619	7.230
109)	Acenaphthylene	(3)	11.017	152	1239460	7.396
112)	3-Nitroaniline	(3)	11.203	138	227378	7.515

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0621.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 21:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 21:44
Date, time and analyst ID of latest file update: 23-May-2017 21:44 em10340

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.250	164	454157	5.000
114) Acenaphthene	(3)	11.302	153	889807	7.295
115) 2,4-Dinitrophenol	(3)	11.378	184	151989	8.908
117) Pentachlorobenzene	(3)	11.512	250	385069	7.338
116) 4-Nitrophenol	(3)	11.530	109	145701	6.512
119) Dibenzofuran	(3)	11.571	168	1213977	7.289
118) 2,4-Dinitrotoluene	(3)	11.588	165	289204	7.346
121) 1-Naphthylamine	(3)	11.687	143	850065	7.194
122) 2,3,4,6-Tetrachlorophenol	(3)	11.763	232	238077	7.397
123) 2-Naphthylamine	(3)	11.798	143	840154	7.175
124) Diethylphthalate	(3)	11.973	149	948574	7.386
126) Fluorene	(3)	12.043	166	986629	7.383
125) Thionazin	(3)	12.066	107	190455	7.457
128) 5-Nitro-o-toluidine	(3)	12.072	152	266843	7.256
127) 4-Chlorophenyl-phenylether	(3)	12.078	204	477940	7.344
129) 4-Nitroaniline	(3)	12.083	138	222080	7.372
130) 4,6-Dinitro-2-methylphenol	(4)	12.130	198	166356	7.196
131) N-Nitrosodiphenylamine	(4)	12.223	169	815766	7.672
132) NDPA as diphenylamine	(4)	12.223	169	815766	7.672
134) 1,2-Diphenylhydrazine	(4)	12.270	77	1183663	7.880
135)$2,4,6-Tribromophenol	(3)	12.340	330	240784	14.245
137) Tetraethyldithiopyrophosphate	(4)	12.462	97	186816	7.633
139) 1,3,5-Trinitrobenzene	(4)	12.556	213	104566	6.992
140) Diallate (peak 1)	(4)	12.585	86	423221	6.520
141) Phorate	(4)	12.591	75	751311	7.781
142) Phenacetin	(4)	12.614	108	535963	7.574
143) 4-Bromophenyl-phenylether	(4)	12.655	248	272578	7.472
144) Diallate (peak 2)	(4)	12.684	86	69413	1.319
145) Hexachlorobenzene	(4)	12.701	284	273534	7.119
147) Dimethoate	(4)	12.771	87	414981	6.673
148) Atrazine	(4)	12.882	200	256736	7.644
149) Pentachlorophenol	(4)	12.946	266	159231	7.538
151) Pentachloronitrobenzene	(4)	12.958	237	126022	7.514
150) 4-Aminobiphenyl	(4)	12.958	169	899576	7.621
152) Pronamide	(4)	13.068	173	460805	7.529
153)*Phenanthrene-d10	(4)	13.162	188	857354	5.000
155) Phenanthrene	(4)	13.191	178	1393784	7.273
154) Dinoseb	(4)	13.197	211	262337	7.392
157) Anthracene	(4)	13.255	178	1430293	7.496
163) Carbazole	(4)	13.471	167	1354937	7.647

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23a.b/de0621.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 21:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 21:44
Date, time and analyst ID of latest file update: 23-May-2017 21:44 em10340

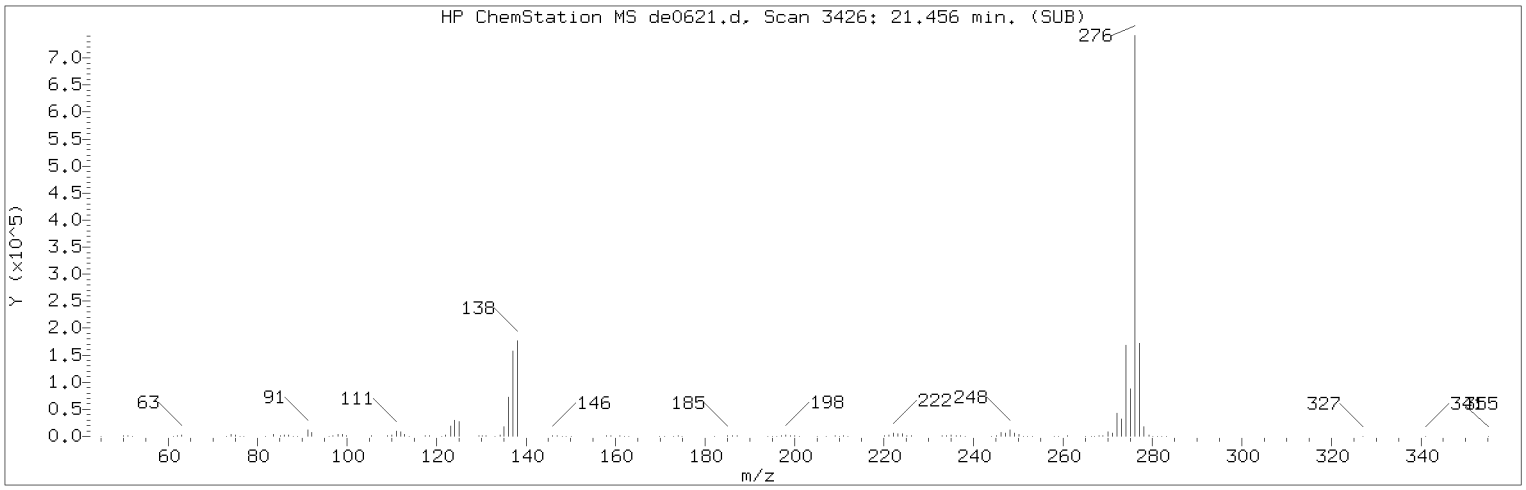
Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.675	109	352818	7.368
165) Di-n-butylphthalate	(4)	13.984	149	1667970	7.621
168) 4-Nitroquinoline-1-oxide	(4)	14.199	190	115987	5.789
167) Parathion	(4)	14.199	109	230009	7.532
169) Octachlorostyrene	(4)	14.531	308	104978	7.263
171) Isodrin	(4)	14.566	193	170160	7.324
173) Fluoranthene	(4)	14.776	202	1656047	7.547
222) Total PAHs	(6)			24716289	133.881
174) Benzidine	(5)	15.009	184	3040136	22.228
175)*Pyrene-d10	(5)	15.079	212	1033767	5.000
177) Pyrene	(5)	15.108	202	1715732	7.310
179)$Terphenyl-d14	(5)	15.400	244	2274470	14.993
182) p-Dimethylaminoazobenzene	(5)	15.621	225	273194	7.310
185) Chlorobenzilate	(5)	15.720	139	507784	7.356
187) 3,3'-Dimethylbenzidine	(5)	16.169	212	1045261	6.897
188) Butylbenzylphthalate	(5)	16.239	149	764058	7.354
191) 2-Acetylaminofluorene	(5)	16.577	181	633991	6.552
193) 3,3'-Dichlorobenzidine	(5)	17.073	252	606166	7.149
195) Benzo(a)anthracene	(5)	17.073	228	1648645	7.326
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.096	231	322583	7.026
196) Chrysene	(5)	17.131	228	1550170	7.316
199) bis(2-Ethylhexyl)phthalate	(5)	17.300	149	1121590	7.212
203) 6-Methylchrysene	(5)	17.924	242	1108572	7.349
205) Di-n-octylphthalate	(6)	18.448	149	1884954	6.986
206) Benzo(b)fluoranthene	(6)	18.897	252	1714642	7.626
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.909	256	704965	7.722
208) Benzo(k)fluoranthene	(6)	18.950	252	1647801	7.620
211) Benzo(a)pyrene	(6)	19.416	252	1580482	7.608
213)*Perylene-d12	(6)	19.503	264	825347	5.000
215) 3-Methylcholanthrene	(6)	19.993	268	670324	7.250
217) Dibenz(a,h)acridine	(6)	20.791	279	1076527	7.197
218) Dibenz(a,j)acridine	(6)	20.867	279	1077186	7.341
219) Indeno(1,2,3-cd)pyrene	(6)	21.100	276	1562241	7.671
220) Dibenz(a,h)anthracene	(6)	21.141	278	1301816	7.686
221) Benzo(g,h,i)perylene	(6)	21.456	276	1272074M	7.634

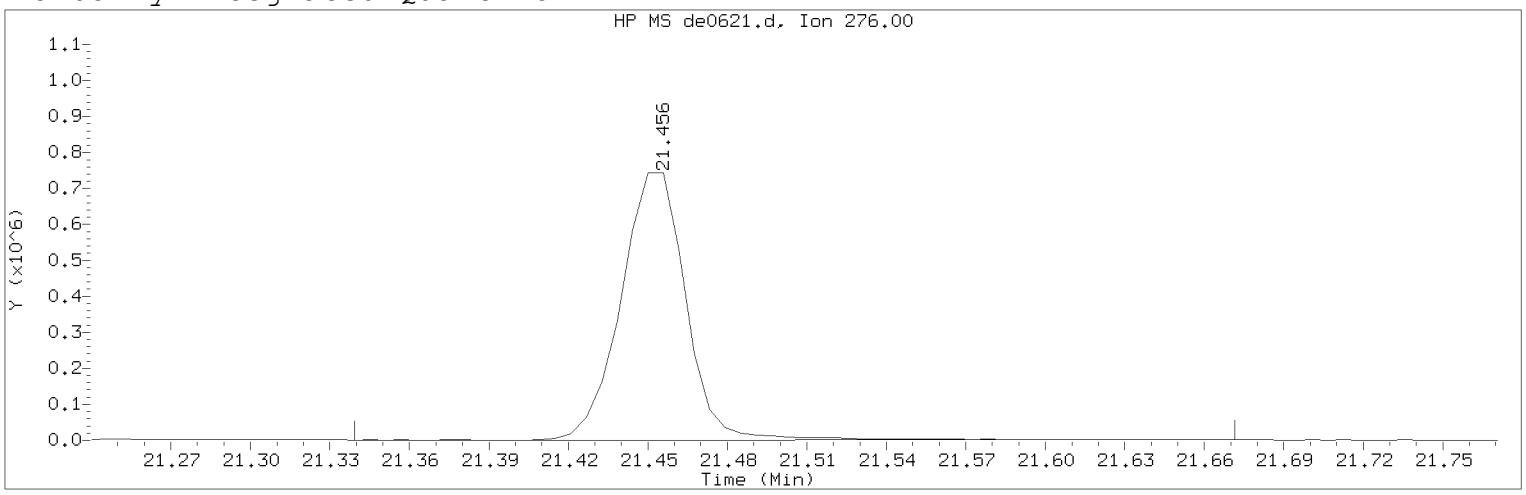
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23a.b/de0621.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 21:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 21:44
Date, time and analyst ID of latest file update: 23-May-2017 21:44 em10340

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

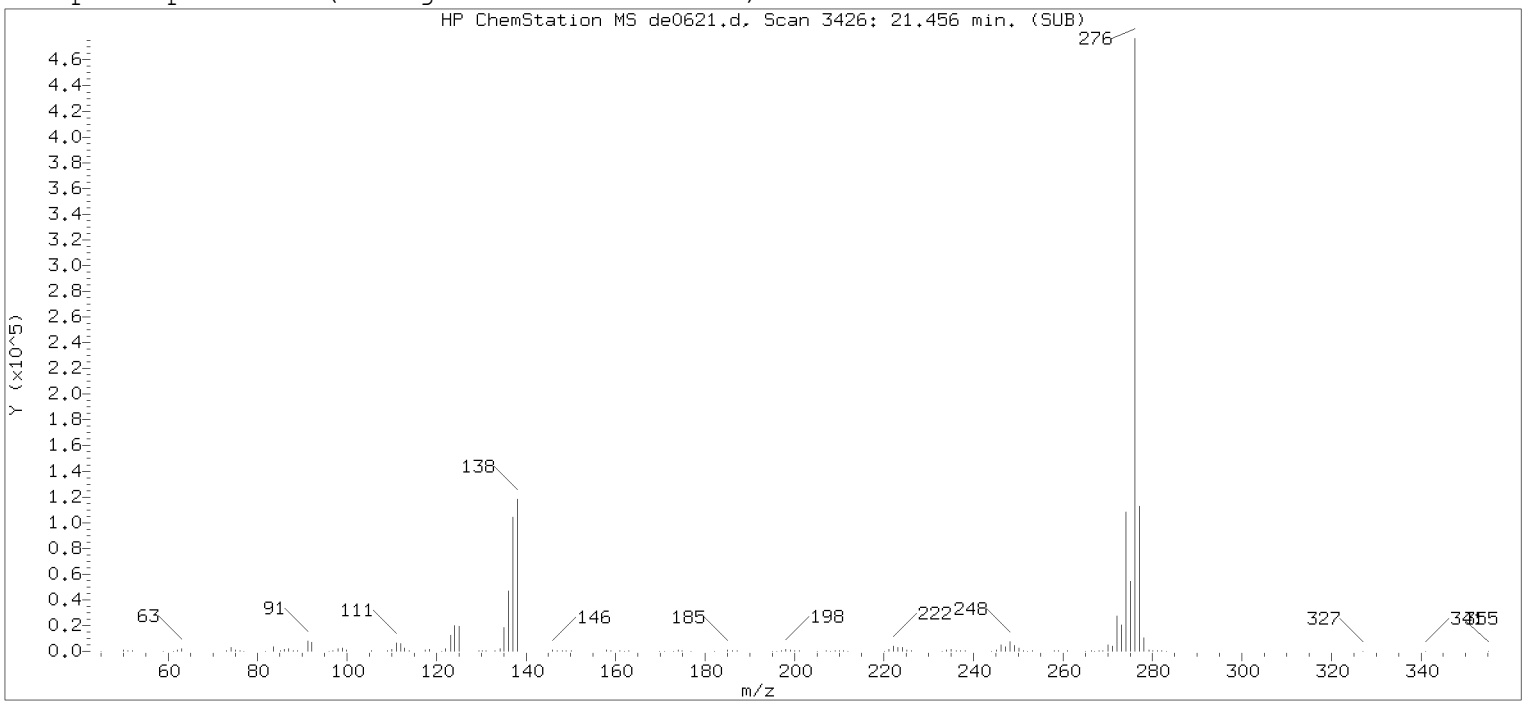
Compound Number : 221
Compound Name : Benzo(g,h,i)perylene
Scan Number : 3426
Retention Time (minutes) : 21.456
Quant Ion : 276.00
Area (flag) : 1272074M
On-Column Amount (ng/ul) : 7.6338
Integration start scan : 3405 Integration stop scan: 3462
Y at integration start : 671 Y at integration end: 1311

Reason for manual integration: improper integration

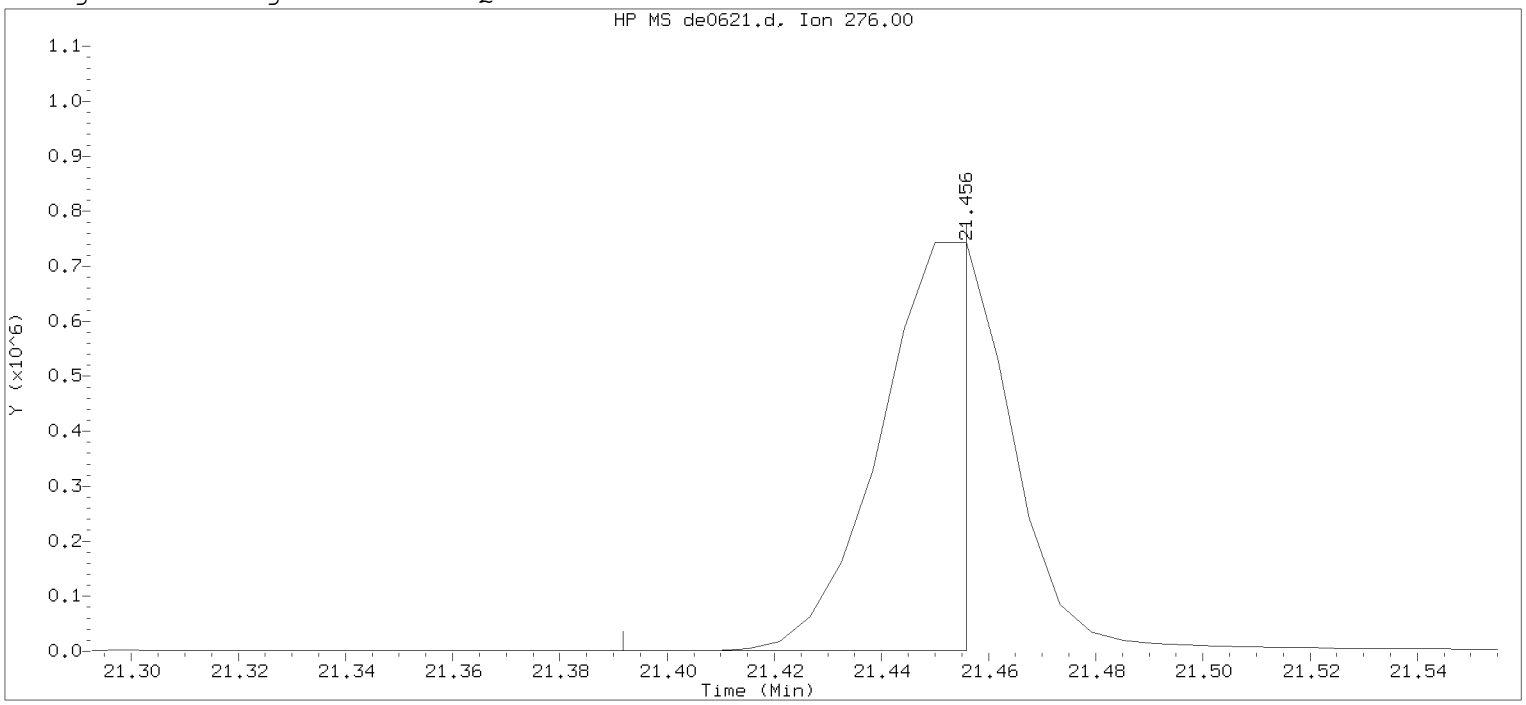
Analyst responsible for change: Digitally signed by Edward Monborne
on 05/23/2017 at 23:10.
Target 3.5 esignature user ID: em10340

Secondary review performed and digitally signed by Matthew E. Barton on 05/29/2017 at 07:11.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23a.b/de0621.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 21:06 Analyst ID: em10340

Method used: /chem/HP19760.i/17may23a.b/rv8270d.m Sublist used: all1
Calibration date and time: 23-MAY-2017 21:43
Date, time and analyst ID of latest file update: 23-May-2017 21:43 em10340

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1107

Compound Number	: 221		
Compound Name	: Benzo(g,h,i)perylene		
Scan Number	: 3426		
Retention Time (minutes)	: 21.456		
Quant Ion	: 276.00		
Area	: 795042		
On-column Amount (ng/ul)	: 4.7711		
Integration start scan	: 3414	Integration stop scan:	3425
Y at integration start	: 712	Y at integration end:	712

Digitally signed by Edward Monborne on 05/23/2017 at 23:10.
Target 3.5 esignature user: EM10340

Data File: /chem/HP19760.i/17may30.b/de0920a.d

Date : 30-MAY-2017 07:34

Client ID: DFTPP12.5

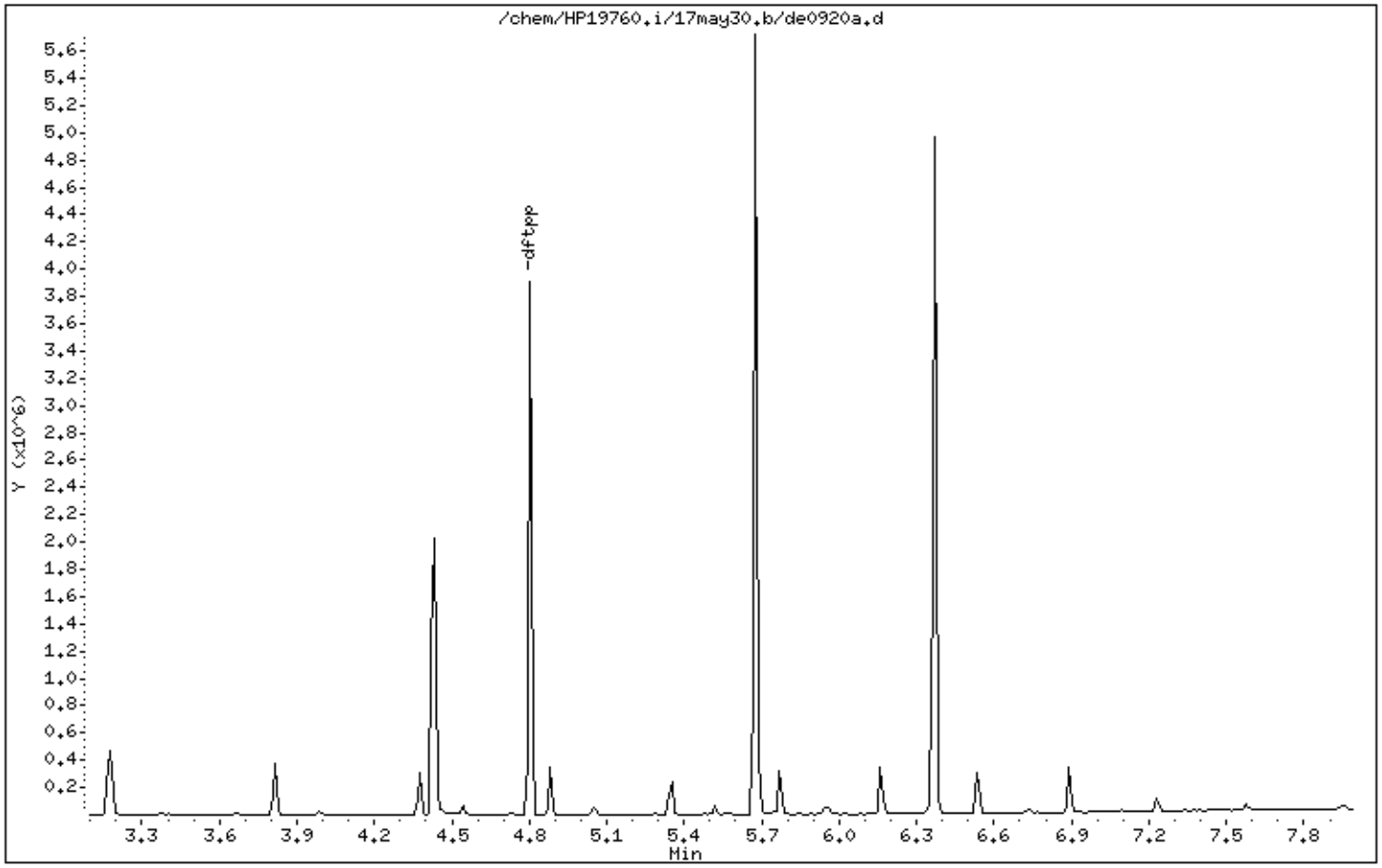
Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1247;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS

Column diameter: 0.18



Digitally signed by Catherine E. Bachman on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247

Data File: /chem/HP19760.i/17may30.b/de0920a.d

Date : 30-MAY-2017 07:34

Client ID: DFTPP12.5

Instrument: HP19760.i

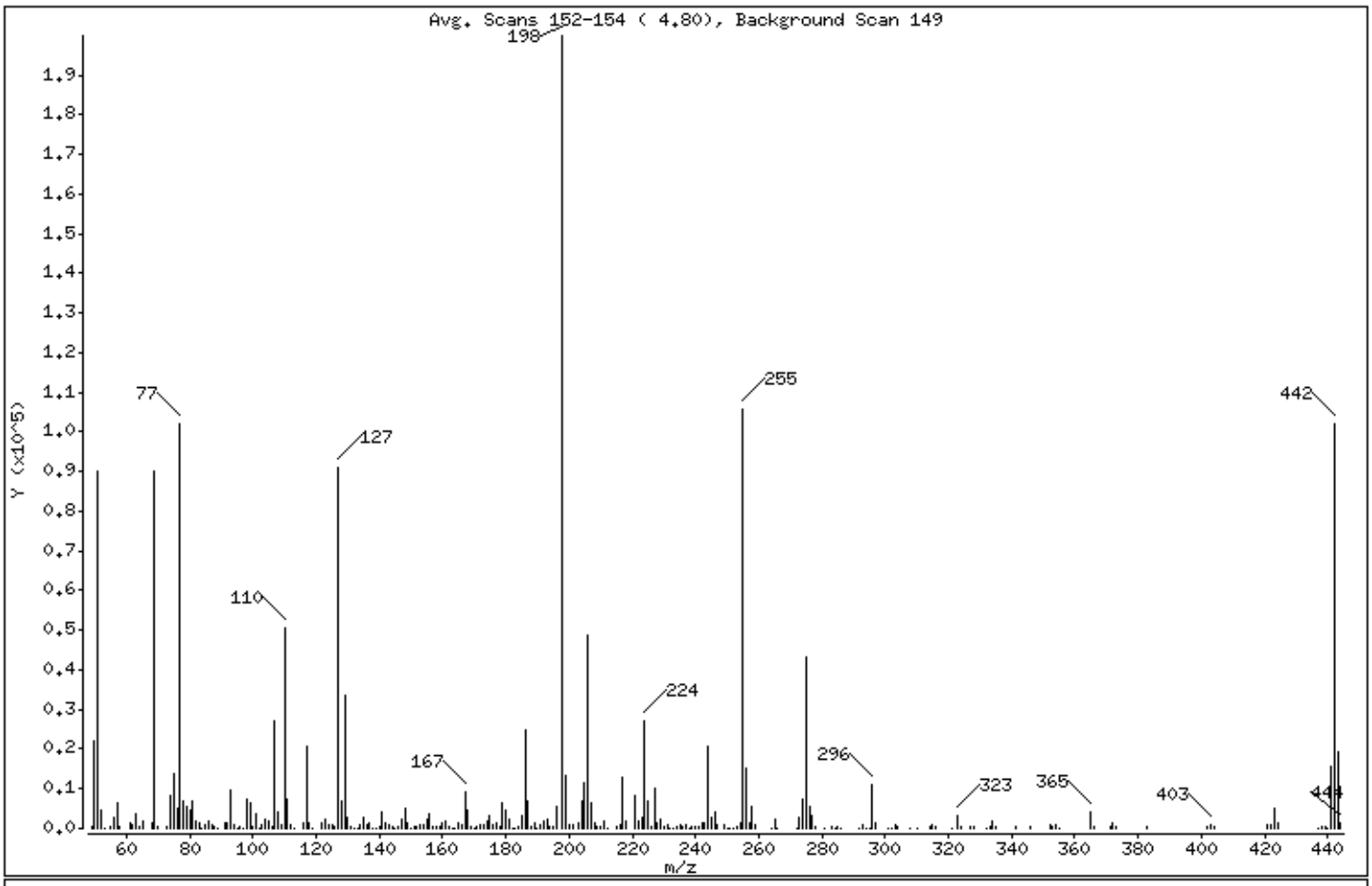
Sample Info: DFTPP12.5;DFTPP1247;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS

Column diameter: 0.18

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	45.13
68	Less than 2.00% of mass 69	0.67 (1.49)
69	Mass 69 relative abundance	45.17
70	Less than 2.00% of mass 69	0.15 (0.33)
127	10.00 - 80.00% of mass 198	45.60
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.64
275	10.00 - 60.00% of mass 198	21.61
365	Greater than 1.00% of mass 198	2.03
441	0.01 - 24.00% of mass 442	7.87 (15.44)
442	50.00 - 99.99% of mass 198	50.96
443	15.00 - 24.00% of mass 442	9.67 (18.97)

Digitally signed by Catherine E. Bachman on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247

Date : 30-MAY-2017 07:34

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1247;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS Column diameter: 0.18

Data File: de0920a.d
Spectrum: Avg. Scans 152-154 (4.80), Background Scan 149
Location of Maximum: 198.00
Number of points: 258

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	574	126.00	505	191.00	756	272.00	218
50.00	22208	127.00	91160	192.00	2057	273.00	2797
51.00	90232	128.00	6725	193.00	2450	274.00	7548
52.00	4619	129.00	33464	194.00	392	275.00	43200
53.00	166	130.00	2861	195.00	250	276.00	5518
55.00	526	131.00	392	196.00	5696	277.00	3174
56.00	2702	132.00	221	198.00	199936	278.00	668
57.00	6343	133.00	119	199.00	13275	281.00	221
58.00	251	134.00	944	200.00	730	283.00	458
61.00	1224	135.00	2643	201.00	891	284.00	145
62.00	1084	136.00	916	203.00	1181	285.00	576
63.00	3647	137.00	1417	204.00	7119	286.00	99
64.00	509	138.00	194	205.00	11588	292.00	129
65.00	1956	139.00	105	206.00	48632	293.00	890
68.00	1344	140.00	260	207.00	6636	294.00	135
69.00	90304	141.00	4088	208.00	1439	295.00	216
70.00	301	142.00	1363	209.00	511	296.00	10961
73.00	592	143.00	931	210.00	689	297.00	1414
74.00	8155	144.00	251	211.00	1772	301.00	133
75.00	13912	145.00	193	212.00	181	302.00	116
76.00	4855	146.00	644	215.00	520	303.00	1136
77.00	102080	147.00	2468	216.00	989	304.00	234
78.00	6708	148.00	5139	217.00	12685	308.00	89
79.00	5726	149.00	1225	218.00	1743	310.00	102
80.00	4731	150.00	166	221.00	8401	314.00	494
81.00	6993	151.00	412	222.00	1819	315.00	1040
82.00	1697	152.00	252	223.00	2838	316.00	633
83.00	1550	153.00	1125	224.00	27304	321.00	228
84.00	151	154.00	1091	225.00	6743	323.00	3053
85.00	1020	155.00	2386	226.00	675	324.00	663
86.00	1797	156.00	3612	227.00	10256	327.00	632
87.00	749	157.00	644	228.00	1407	328.00	378
88.00	295	158.00	680	229.00	2305	332.00	166
89.00	119	159.00	518	230.00	250	333.00	354
91.00	1477	160.00	1245	231.00	1001	334.00	1975

Digitally signed by Catherine E. Bachman on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247

Date : 30-MAY-2017 07:34

Client ID: DFTPP12.5 Instrument: HP19760.i

Sample Info: DFTPP12.5;DFTPP1247;1;3;DFTPP;

Operator: knk25316

Column phase: DB-5MS Column diameter: 0.18

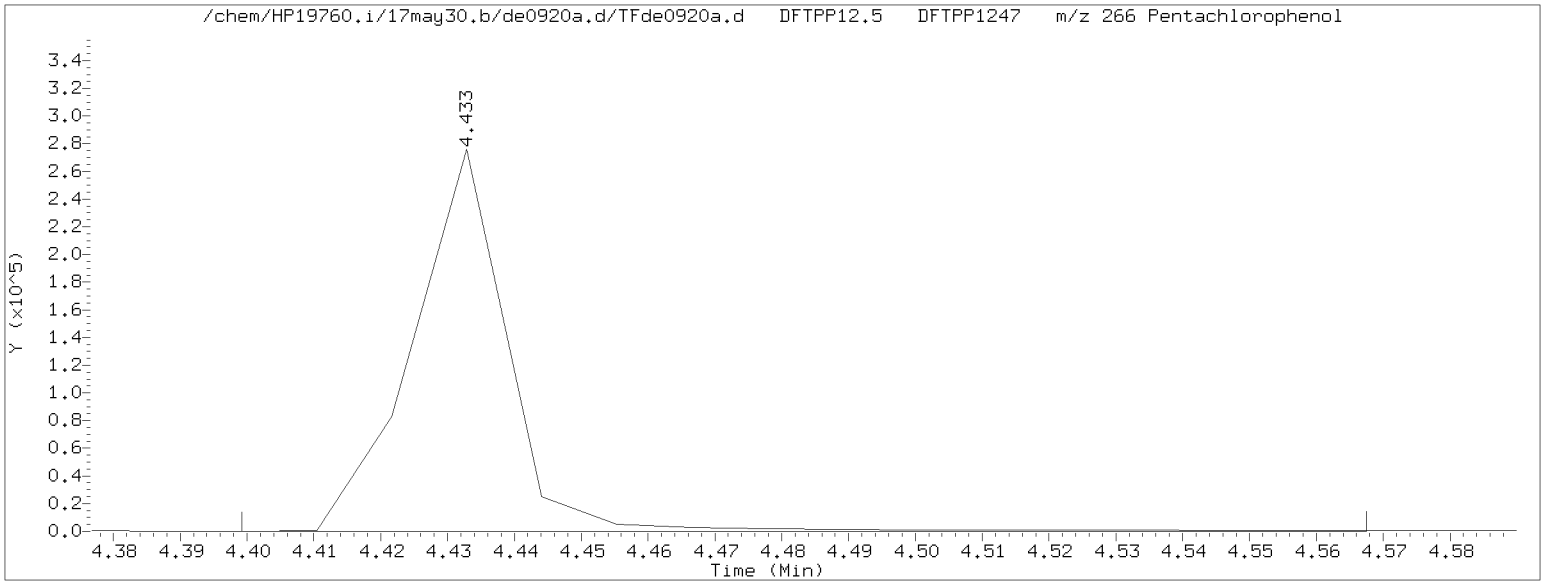
Data File: de0920a.d
Spectrum: Avg. Scans 152-154 (4.80), Background Scan 149
Location of Maximum: 198.00
Number of points: 258

m/z	Y	m/z	Y	m/z	Y	m/z	Y
92.00	1565	161.00	2044	232.00	92	335.00	506
93.00	9461	162.00	545	233.00	112	341.00	400
94.00	721	163.00	169	234.00	609	346.00	559
95.00	196	164.00	224	235.00	740	352.00	762
96.00	459	165.00	1519	236.00	556	353.00	602
97.00	154	166.00	1059	237.00	1100	354.00	926
98.00	7266	167.00	9243	238.00	93	355.00	145
99.00	6427	168.00	4691	239.00	380	365.00	4052
100.00	392	169.00	659	240.00	303	366.00	435
101.00	3619	170.00	204	241.00	664	371.00	252
102.00	96	171.00	271	242.00	1193	372.00	1542
103.00	1089	172.00	813	243.00	1181	373.00	454
104.00	2111	173.00	900	244.00	20824	383.00	335
105.00	2053	174.00	1720	245.00	2691	402.00	625
106.00	675	175.00	3290	246.00	3930	403.00	871
107.00	27104	176.00	852	247.00	738	404.00	295
108.00	4324	177.00	1377	249.00	826	421.00	837
109.00	772	178.00	373	250.00	132	422.00	715
110.00	50520	179.00	6435	251.00	158	423.00	4971
111.00	7345	180.00	4692	252.00	116	424.00	1161
112.00	822	181.00	2105	253.00	650	437.00	96
113.00	163	182.00	222	254.00	1158	438.00	295
116.00	1597	183.00	209	255.00	105664	439.00	361
117.00	20544	184.00	397	256.00	15129	440.00	204
118.00	1539	185.00	3041	257.00	1230	441.00	15730
119.00	135	186.00	24688	258.00	5320	442.00	101880
122.00	1410	187.00	7039	259.00	805	443.00	19328
123.00	2166	188.00	668	264.00	149	444.00	1440
124.00	1090	189.00	1469	265.00	2326		
125.00	932	190.00	143	266.00	116		

Digitally signed by Catherine E. Bachman on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247

Assessment of GC Column Performance and Injection Port Inertness for

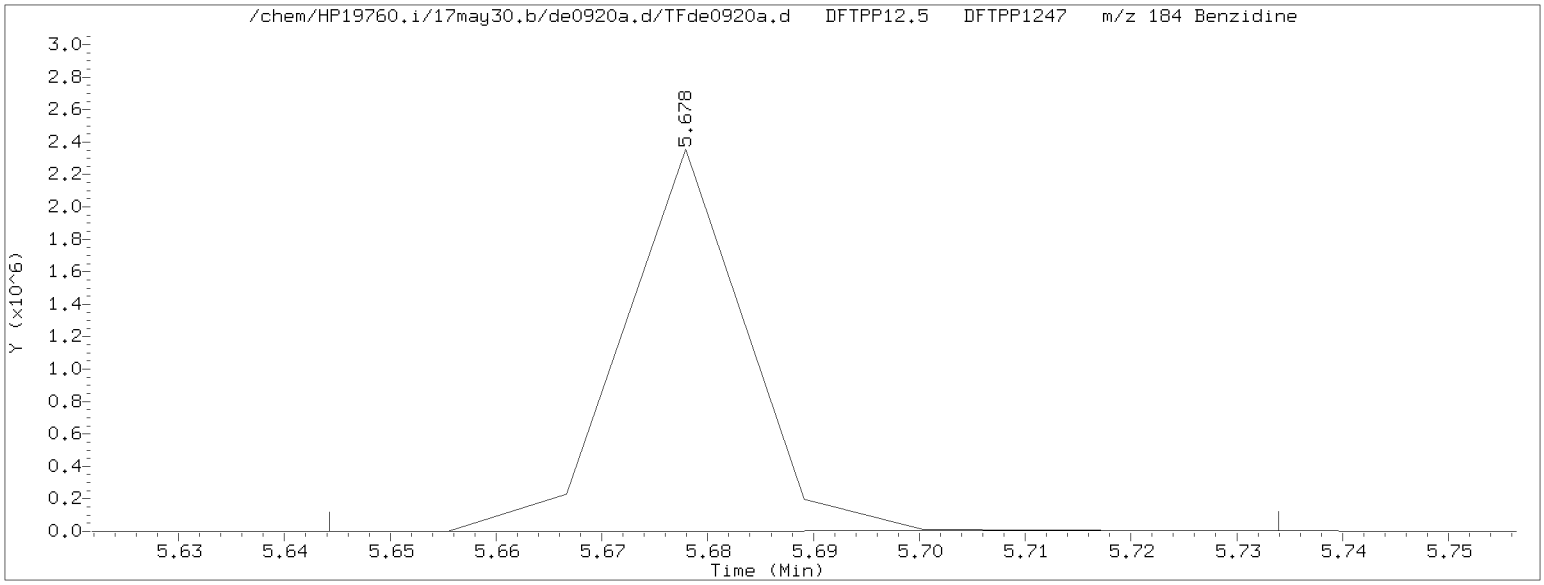
Instrument ID: HP19760.i Injection Date: 30-MAY-2017 07:34 Operator: knk25316



Pentachlorophenol EICP peak height = 276129 EICP peak height at 10% = 27613 Pentachlorophenol EICP area = 268747

Pentachlorophenol EICP peak apex (min.) = 4.433
RT at 5% of front half of EICP (min.) = 4.412 'Front' peak width (min.) = 0.0205833333
RT at 5% of back half of EICP (min.) = 4.450 'Tailing' peak width (min.) = 0.0174833333

$$\text{PCP tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0174833333}{0.0205833333} = 0.849$$



Benzidine EICP peak height = 2356695 EICP peak height at 5% = 117835 Benzidine EICP area = 1880867

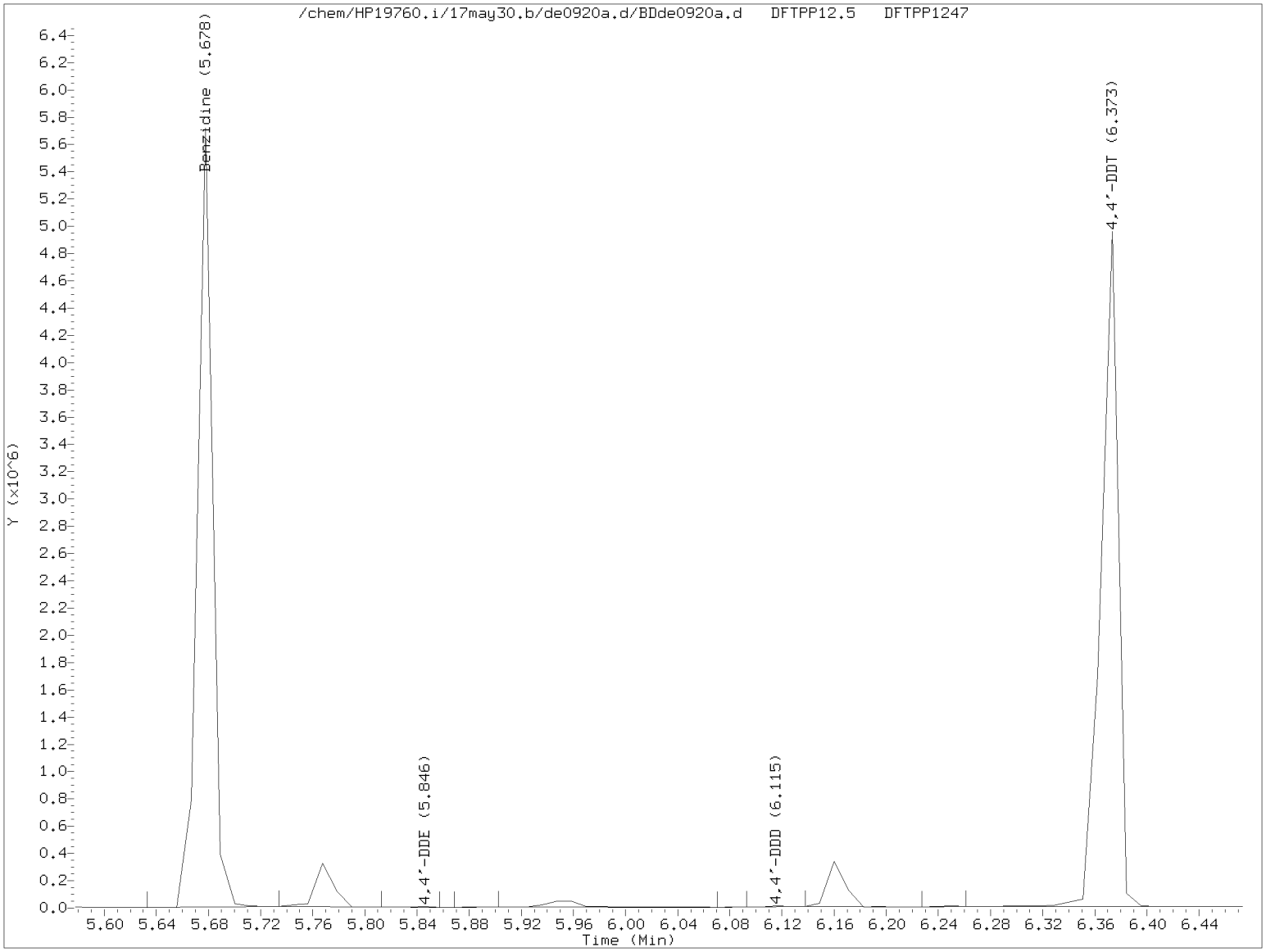
Benzidine EICP peak apex (min.) = 5.678
RT at 5% of front half of EICP (min.) = 5.661 'Front' peak width (min.) = 0.0165833333
RT at 5% of back half of EICP (min.) = 5.694 'Tailing' peak width (min.) = 0.0159166667

$$\text{Benzidine tailing factor} = \frac{\text{'Tailing' peak width (min.)}}{\text{'Front' peak width (min.)}} = \frac{0.0159166667}{0.0165833333} = 0.960$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:31. PARALLAX ID: reb00745

Assessment of GC Column Performance and Injection Port Inertness for

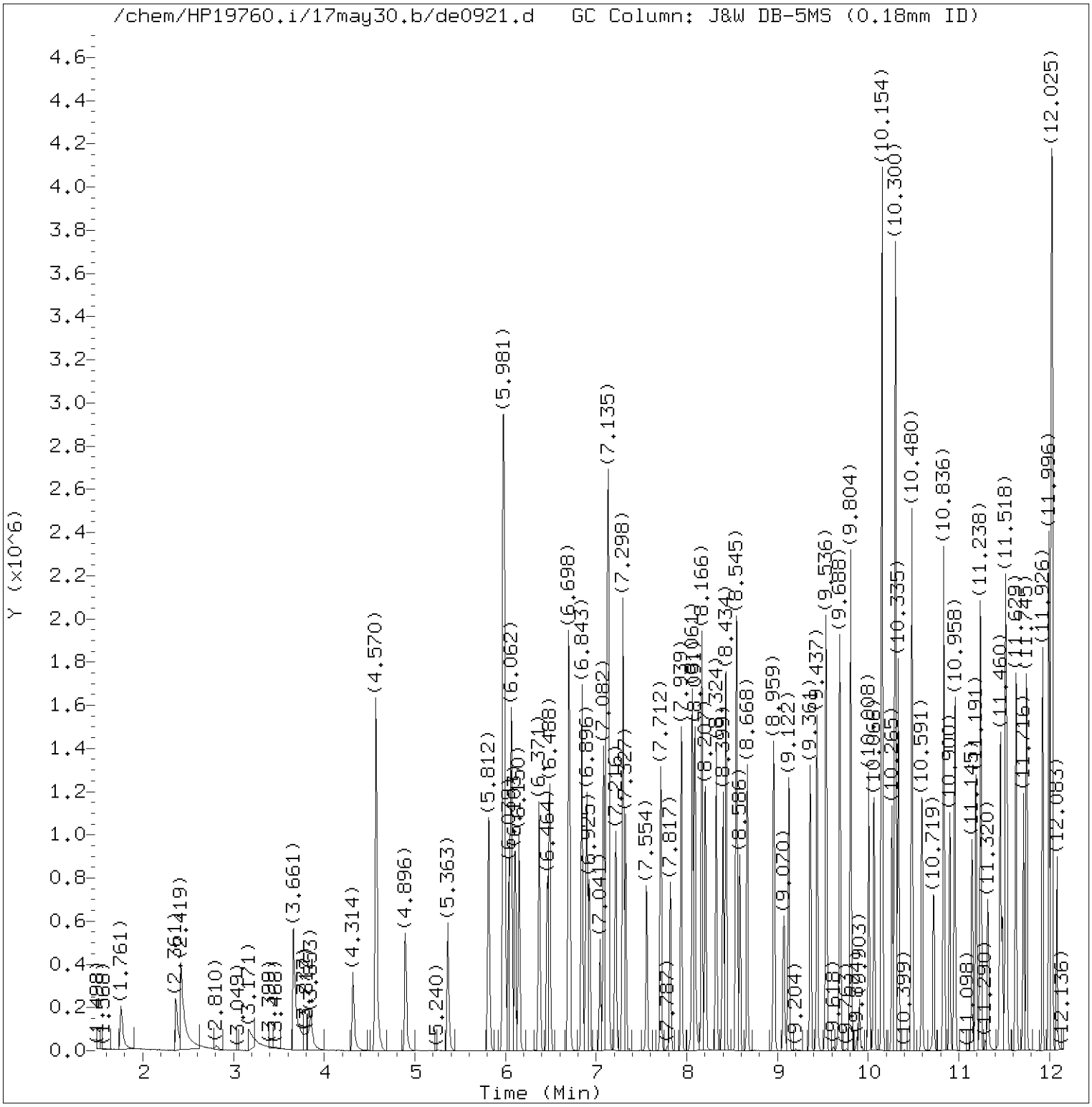
Instrument ID: HP19760.i Injection Date: 30-MAY-2017 07:34 Operator: knk25316



$$\% \text{ 4,4'-DDT breakdown} = \frac{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area}}{\text{4,4'-DDE TIC area + 4,4'-DDD TIC area + 4,4'-DDT TIC area}} \times 100$$

$$\% \text{ 4,4'-DDT breakdown} = \frac{5749 + 7918}{5749 + 7918 + 4627775} \times 100 = 0.3$$

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 09:31. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

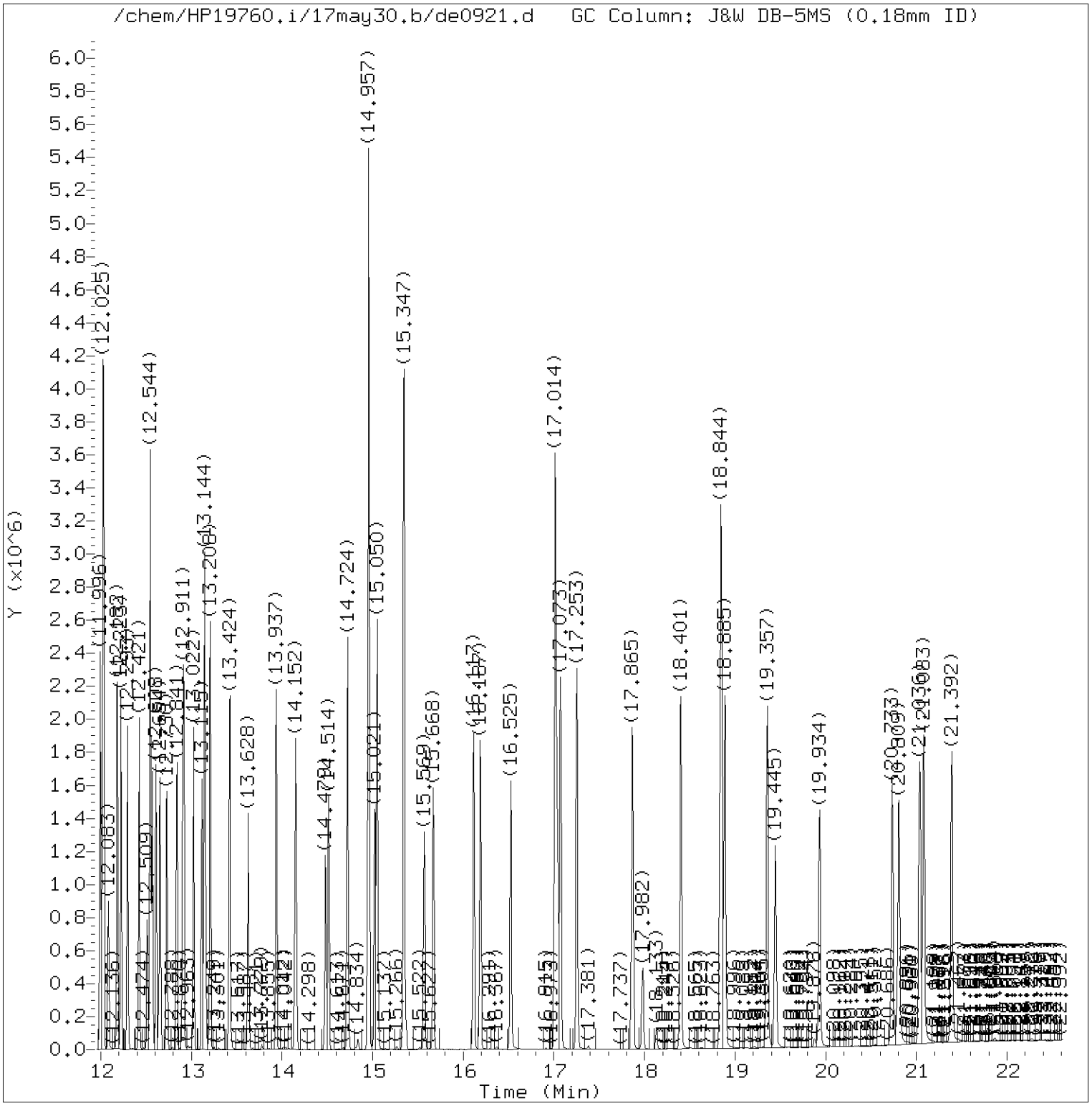
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0921.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 07:48 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all1
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 31-May-2017 12:15 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1497

Digitally signed by Catherine E. Bachman
on 05/31/2017 at 12:15.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0921.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 07:48 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all1
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 31-May-2017 12:15 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1497

Digitally signed by Catherine E. Bachman
on 05/31/2017 at 12:15.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0921.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 07:48 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all1
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 31-May-2017 12:15 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1497

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
1) 1,4-Dioxane	(1)	1.761	88	175497	7.500
4) N-Nitrosodimethylamine	(1)	2.361	74	275462	7.321
5) Pyridine	(1)	2.419	79	455649	7.380
7) 2-Picoline	(1)	3.655	93	453987	7.201
8) N-Nitrosomethylethylamine	(1)	3.853	88	188385	7.002
9) Methyl methanesulfonate	(1)	4.314	80	209876	6.818
11)$2-Fluorophenol	(1)	4.570	112	723770	14.578
13) N-Nitrosodiethylamine	(1)	4.896	102	176718	7.072
15) Ethyl methanesulfonate	(1)	5.363	109	185402	6.869
42) Total Cresols	(1)			739262	14.056
16) Benzaldehyde	(1)	5.812	77	368108	7.912
17)$Phenol-d6	(1)	5.975	99	918719	13.634
19) Aniline	(1)	5.981	93	649420	7.240
18) Phenol	(1)	5.992	94	569099	7.455
20) a-methylstyrene	(1)	6.062	118	398459	7.253
22) bis(2-Chloroethyl)ether	(1)	6.103	93	414756	7.313
23) 2-Chlorophenol	(1)	6.150	128	349649	7.032
24) 1,3-Dichlorobenzene	(1)	6.371	146	382951	7.110
25)*1,4-Dichlorobenzene-d4	(1)	6.464	152	160018	5.000
26) 1,4-Dichlorobenzene	(1)	6.488	146	383100	6.960
27) Benzyl alcohol	(1)	6.698	108	245905	6.932
28) 1,2-Dichlorobenzene	(1)	6.703	146	362367	6.988
30) Indene	(1)	6.843	115	700943	7.246
31) 2-Methylphenol	(1)	6.896	108	341842	6.991
33) 2,2'-oxybis(1-Chloropropane)	(1)	6.925	45	628460	7.500
34) bis(2-Chloroisopropyl)ether	(1)	6.925	45	628460	7.500
35) N-Nitrosopyrrolidine	(1)	7.041	100	189092	6.866
36) Acetophenone	(1)	7.082	105	535249	7.277
39) N-Nitrosomorpholine	(1)	7.111	56	279856	7.415
38) N-Nitroso-di-n-propylamine	(1)	7.111	70	308147	6.947
40) o-Toluidine	(1)	7.135	106	617908	7.169
37) 4-Methylphenol	(1)	7.135	108	397420	7.065
43) Hexachloroethane	(1)	7.216	117	160016	7.098
44)$Nitrobenzene-d5	(2)	7.298	82	903499	14.627
45) Nitrobenzene	(2)	7.327	77	456612	7.339
97) Isosafrole	(3)			257613	6.471
48) N-Nitrosopiperidine	(2)	7.560	114	173508	7.062
50) Isophorone	(2)	7.712	82	763583	7.176
51) 2-Nitrophenol	(2)	7.817	139	175227	7.132
53) 2,4-Dimethylphenol	(2)	7.939	107	374831	7.075

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/31/2017 at 12:15.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0921.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 07:48 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all1
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 31-May-2017 12:15 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1497

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
120) 2,4_2,6-Dinitrotoluenes	(3)			358550	14.015
57) O,O,O-Triethylphosphorothioate	(2)	8.061	198	177807	7.113
55) bis(2-Chloroethoxy)methane	(2)	8.091	93	484676	7.124
56) Benzoic acid	(2)	8.096	105	270331	8.125
59) 1,2,3,4-Tetrahydronaphthalene	(2)	8.166	104	565481	7.237
60) 2,4-Dichlorophenol	(2)	8.207	162	280060	7.142
62) 1,2,4-Trichlorobenzene	(2)	8.324	180	324265	7.031
65)*Naphthalene-d8	(2)	8.399	136	596050	5.000
66) Naphthalene	(2)	8.434	128	988666	6.943
67) 4-Chloroaniline	(2)	8.545	127	406173	7.037
68) 2,6-Dichlorophenol	(2)	8.551	162	271192	6.976
69) Hexachloropropene	(2)	8.586	213	193983	6.230
71) Hexachlorobutadiene	(2)	8.668	225	188787	6.928
146) Diallate trans/cis	(4)			346475	7.401
75) Quinoline	(2)	8.959	129	621841	7.106
76) Caprolactam	(2)	9.070	113	84168	6.878
77) N-Nitrosodi-n-butylamine	(2)	9.122	84	284895	6.539
80) 4-Chloro-3-methylphenol	(2)	9.361	107	313886	7.024
82) Safrole	(2)	9.437	162	252785	7.117
83) 2-Methylnaphthalene	(2)	9.536	142	662693	7.108
84) 1-Methylnaphthalene	(2)	9.688	142	607556	7.085
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.810	216	345195	7.120
85) Hexachlorocyclopentadiene	(3)	9.810	237	165309	7.153
88) cis-Isosafrole	(3)	9.903	162	45491	1.197
90) 2,4,6-Trichlorophenol	(3)	10.008	196	208334	7.055
92) 2,4,5-Trichlorophenol	(3)	10.066	196	220195	6.905
93)$2-Fluorobiphenyl	(3)	10.154	172	1523525	14.464
94) trans-Isosafrole	(3)	10.265	162	212122	5.273
95) 1,1'-Biphenyl	(3)	10.300	154	763650	7.523
96) 2-Chloronaphthalene	(3)	10.305	162	594998	6.963
98) 1-Chloronaphthalene	(3)	10.335	162	602165	7.379
99) Diphenyl ether	(3)	10.480	170	423468	7.080
100) 2-Nitroaniline	(3)	10.486	138	180090	6.783
104) 1,4-Naphthoquinone	(3)	10.597	158	255747	7.200
105) 1,4-Dinitrobenzene	(3)	10.725	168	96748	6.924
106) Dimethylphthalate	(3)	10.836	163	702317	7.113
107) 1,3-Dinitrobenzene	(3)	10.836	168	103659M	6.747
108) 2,6-Dinitrotoluene	(3)	10.900	165	154032	7.053
109) Acenaphthylene	(3)	10.958	152	869647	6.955
112) 3-Nitroaniline	(3)	11.145	138	158197	7.007

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/31/2017 at 12:15.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0921.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 07:48 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all1
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 31-May-2017 12:15 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1497

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
113)*Acenaphthene-d10	(3)	11.191	164	338862	5.000
114) Acenaphthene	(3)	11.238	153	639130	7.023
115) 2,4-Dinitrophenol	(3)	11.320	184	106555	8.370
117) Pentachlorobenzene	(3)	11.460	250	275838	7.045
116) 4-Nitrophenol	(3)	11.483	109	102855	6.161
119) Dibenzofuran	(3)	11.518	168	872856	7.024
118) 2,4-Dinitrotoluene	(3)	11.529	165	204518	6.963
121) 1-Naphthylamine	(3)	11.629	143	638097	7.237
122) 2,3,4,6-Tetrachlorophenol	(3)	11.716	232	166538	6.935
123) 2-Naphthylamine	(3)	11.745	143	619446	7.090
124) Diethylphthalate	(3)	11.926	149	676289	7.058
126) Fluorene	(3)	11.996	166	701012	7.030
125) Thionazin	(3)	12.019	107	136642	7.170
128) 5-Nitro-o-toluidine	(3)	12.025	152	186392	6.793
129) 4-Nitroaniline	(3)	12.031	138	163684	7.283
127) 4-Chlorophenyl-phenylether	(3)	12.031	204	350114	7.210
130) 4,6-Dinitro-2-methylphenol	(4)	12.083	198	117362	6.822
131) N-Nitrosodiphenylamine	(4)	12.182	169	580168	7.333
132) NDPA as diphenylamine	(4)	12.182	169	580168	7.333
134) 1,2-Diphenylhydrazine	(4)	12.223	77	832179	7.445
135)$2,4,6-Tribromophenol	(3)	12.293	330	177338	14.061
137) Tetraethyldithiopyrophosphate	(4)	12.421	97	136381	7.488
139) 1,3,5-Trinitrobenzene	(4)	12.509	213	74509	6.695
140) Diallate (peak 1)	(4)	12.544	86	299155	6.193
141) Phorate	(4)	12.549	75	562427	7.828
142) Phenacetin	(4)	12.567	108	373863	7.100
143) 4-Bromophenyl-phenylether	(4)	12.608	248	199287	7.341
144) Diallate (peak 2)	(4)	12.637	86	47320	1.208
145) Hexachlorobenzene	(4)	12.654	284	199340	6.972
147) Dimethoate	(4)	12.730	87	350498	7.574
148) Atrazine	(4)	12.841	200	193926	7.759
149) Pentachlorophenol	(4)	12.899	266	113725	7.235
150) 4-Aminobiphenyl	(4)	12.917	169	357148	4.066
151) Pentachloronitrobenzene	(4)	12.917	237	89321	7.157
152) Pronamide	(4)	13.022	173	326419	7.167
153)*Phenanthrene-d10	(4)	13.115	188	637983	5.000
155) Phenanthrene	(4)	13.144	178	1018004	7.138
154) Dinoseb	(4)	13.156	211	183472	6.947
157) Anthracene	(4)	13.208	178	1027703	7.238
163) Carbazole	(4)	13.424	167	958288	7.268

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/31/2017 at 12:15.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0921.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 07:48 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all1
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 31-May-2017 12:15 ceb05247

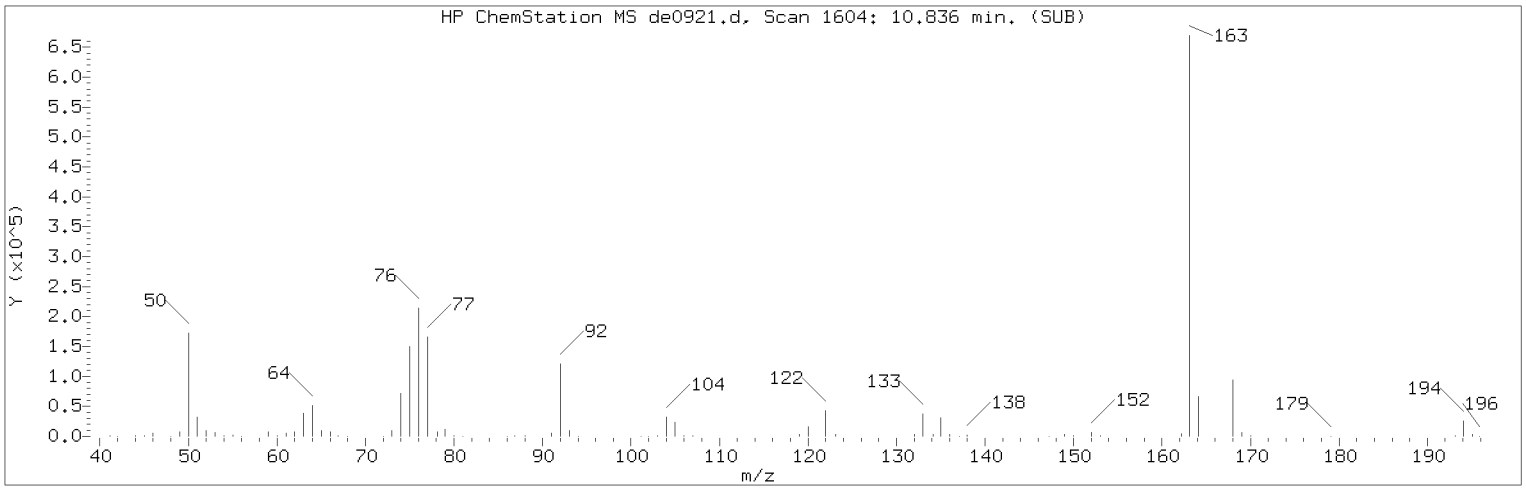
Sample Name: SSTD7.5 Lab Sample ID: rvSTD1497

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
164) Methyl parathion	(4)	13.628	109	260829	7.320
165) Di-n-butylphthalate	(4)	13.937	149	1183583	7.268
168) 4-Nitroquinoline-1-oxide	(4)	14.147	190	78477	5.264
167) Parathion	(4)	14.152	109	167655	7.378
169) Octachlorostyrene	(4)	14.479	308	74404	6.918
171) Isodrin	(4)	14.514	193	123145	7.123
173) Fluoranthene	(4)	14.724	202	1193245	7.308
174) Benzidine	(5)	14.957	184	2451056	23.489
222) Total PAHs	(6)			18296343	130.114
175)*Pyrene-d10	(5)	15.027	212	788702	5.000
177) Pyrene	(5)	15.050	202	1244245	6.948
179)$Terphenyl-d14	(5)	15.347	244	1671042	14.438
182) p-Dimethylaminoazobenzene	(5)	15.569	225	177901	6.239
185) Chlorobenzilate	(5)	15.668	139	363686	6.906
187) 3,3'-Dimethylbenzidine	(5)	16.117	212	840110	7.265
188) Butylbenzylphthalate	(5)	16.187	149	554292	6.993
191) 2-Acetylaminofluorene	(5)	16.525	181	477815	6.473
195) Benzo(a)anthracene	(5)	17.014	228	1198892	6.983
193) 3,3'-Dichlorobenzidine	(5)	17.020	252	460701	7.122
198) 4,4'-Methylenebis(2-chloroanil	(5)	17.038	231	234525	6.696
196) Chrysene	(5)	17.073	228	1142097	7.064
199) bis(2-Ethylhexyl)phthalate	(5)	17.253	149	824336	6.947
203) 6-Methylchrysene	(5)	17.865	242	802090	6.969
205) Di-n-octylphthalate	(6)	18.401	149	1411439	6.664
206) Benzo(b)fluoranthene	(6)	18.839	252	1224841	6.939
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.850	256	547034	7.633
208) Benzo(k)fluoranthene	(6)	18.885	252	1241877	7.315
211) Benzo(a)pyrene	(6)	19.357	252	1151104	7.058
213)*Perylene-d12	(6)	19.445	264	647948	5.000
215) 3-Methylcholanthrene	(6)	19.934	268	446421	6.151
217) Dibenz(a,h)acridine	(6)	20.733	279	867602	7.388
218) Dibenz(a,j)acridine	(6)	20.809	279	935043	8.117
219) Indeno(1,2,3-cd)pyrene	(6)	21.036	276	1277314	7.989
220) Dibenz(a,h)anthracene	(6)	21.083	278	1042684	7.841
221) Benzo(g,h,i)perylene	(6)	21.392	276	1065633	8.146

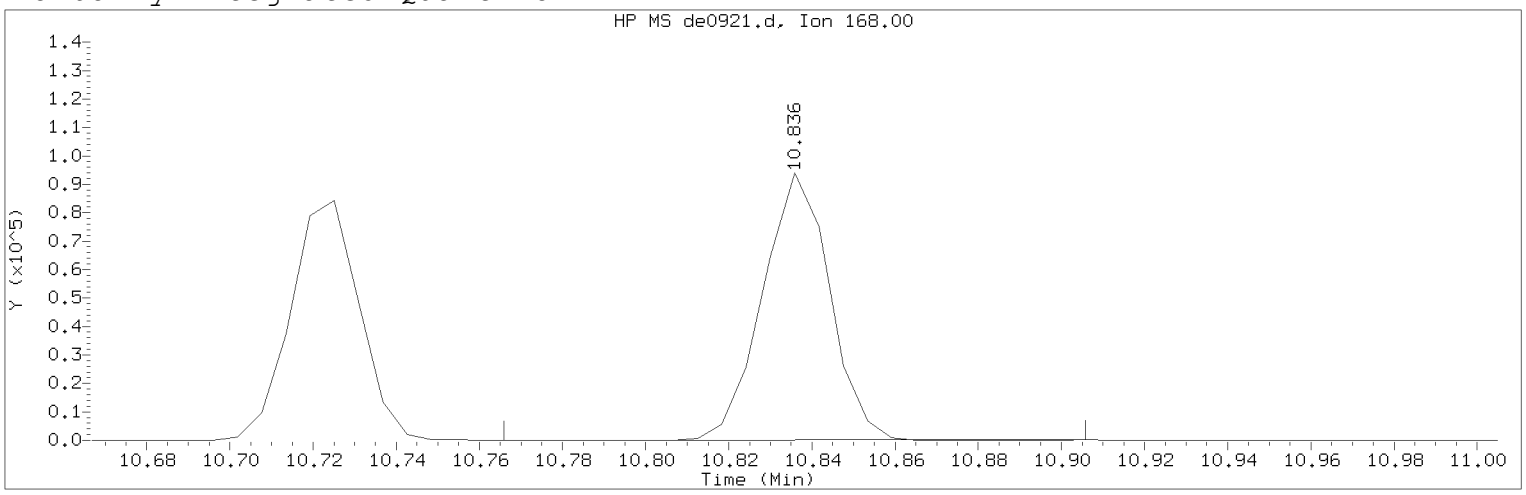
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Catherine E. Bachman
on 05/31/2017 at 12:15.
Target 3.5 esignature user ID: ceb05247

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0921.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 07:48 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all1
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 31-May-2017 12:15 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1497

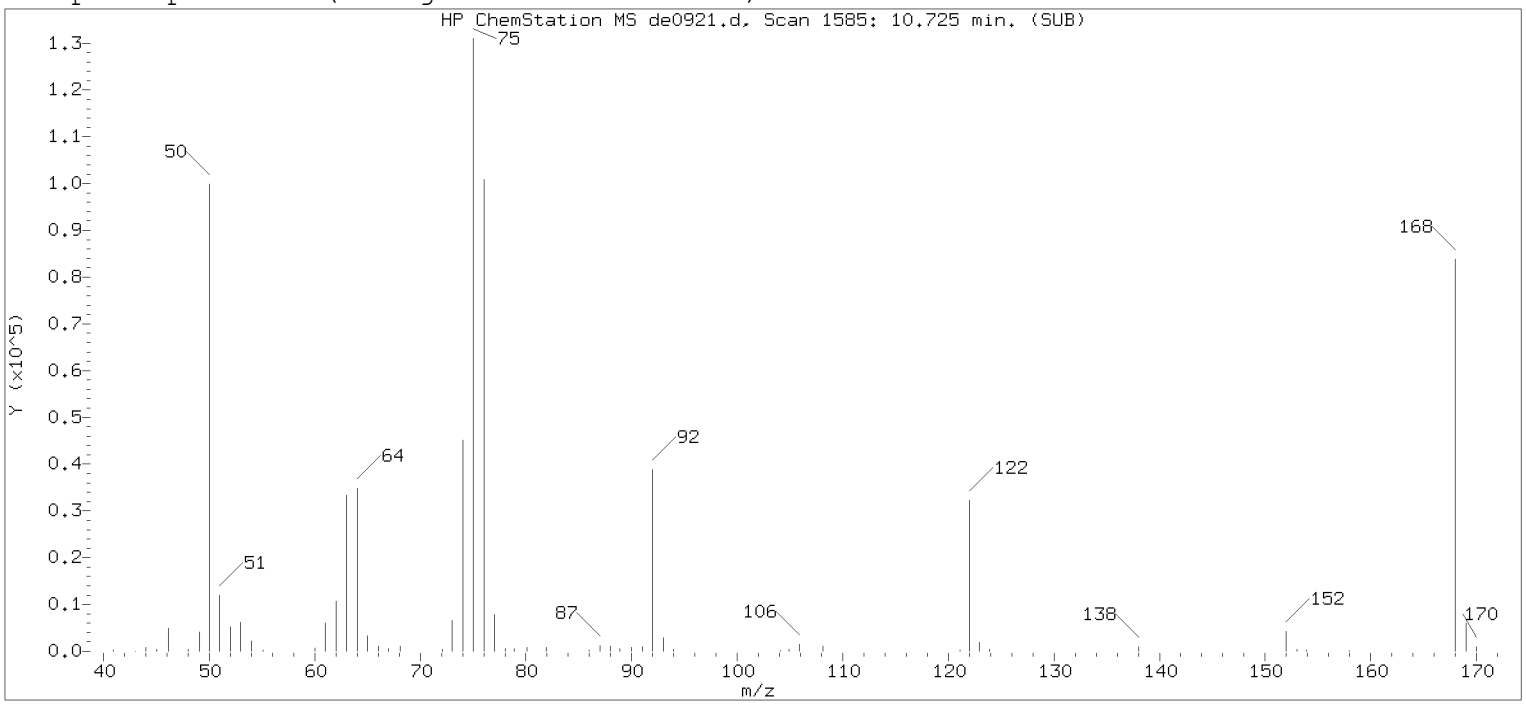
Compound Number : 107
Compound Name : 1,3-Dinitrobenzene
Scan Number : 1604
Retention Time (minutes) : 10.836
Quant Ion : 168.00
Area (flag) : 103659M
On-Column Amount (ng/ul) : 6.7474
Integration start scan : 1591 Integration stop scan: 1615
Y at integration start : 0 Y at integration end: 273

Reason for manual integration: improper integration

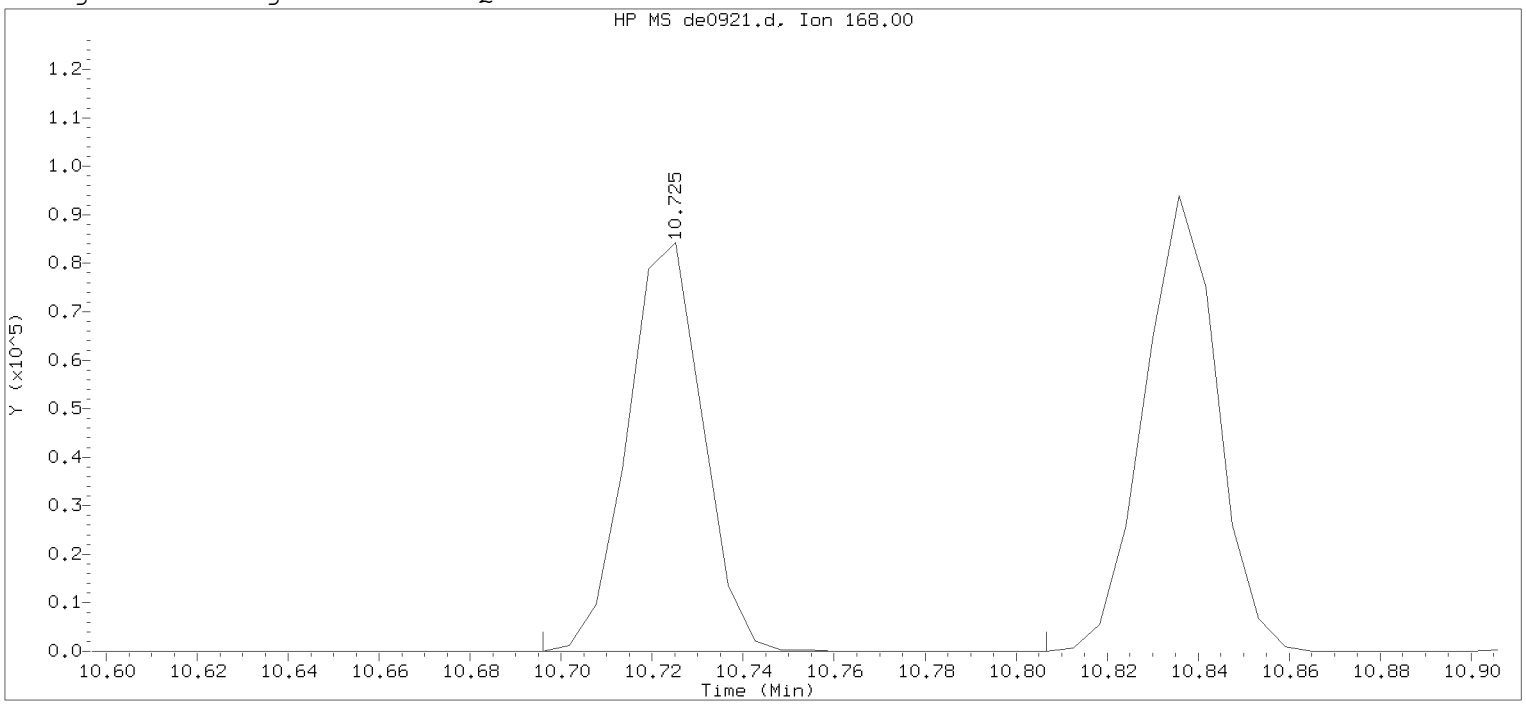
Analyst responsible for change: Digitally signed by Catherine E. Bachman on 05/31/2017 at 12:15.
Target 3.5 esignature user ID: ceb05247

Secondary review performed and digitally signed by Matthew E. Barton on 05/31/2017 at 12:21.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



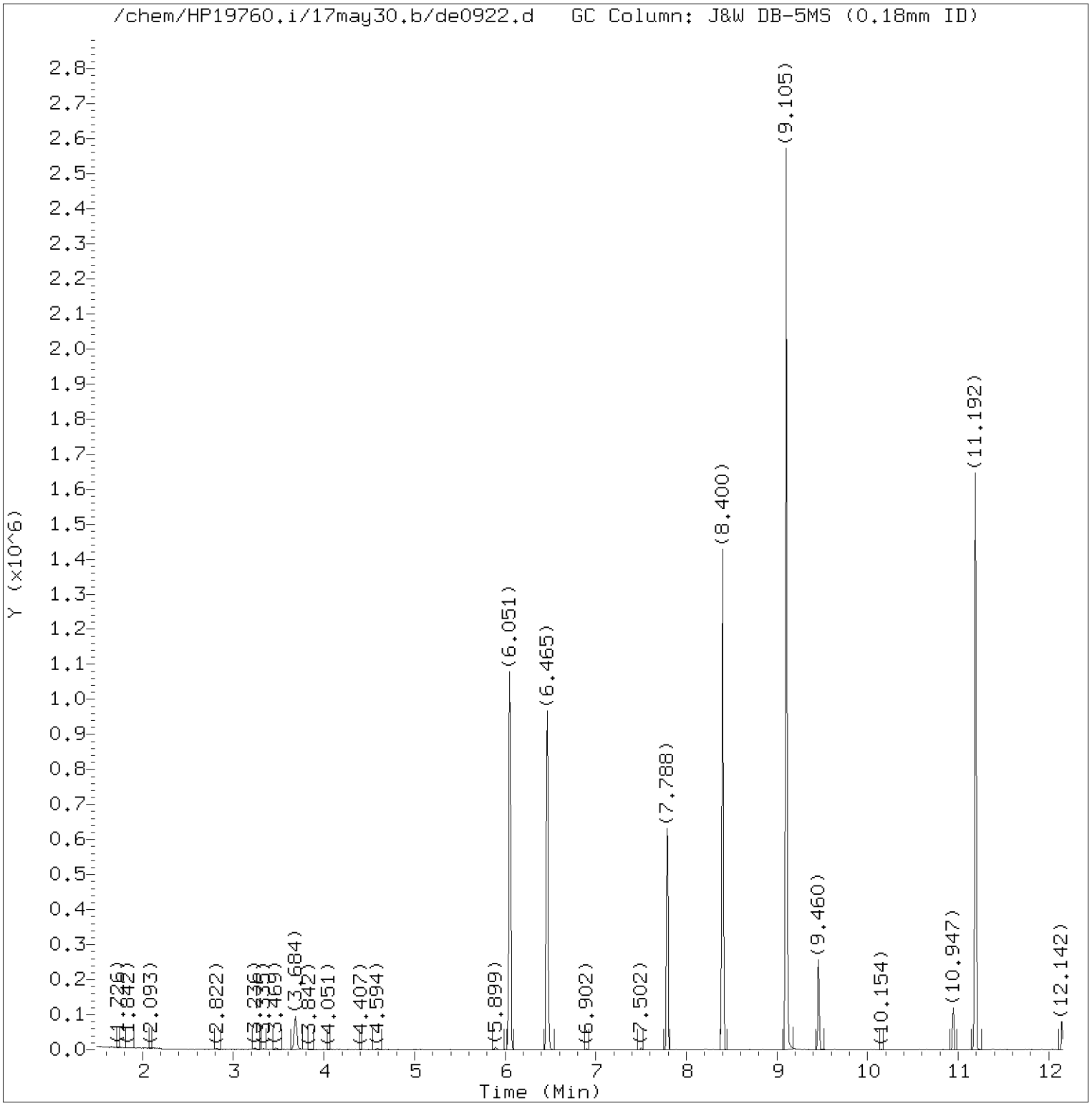
Data File: /chem/HP19760.i/17may30.b/de0921.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 07:48 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all1
Calibration date and time: 30-MAY-2017 08:12
Date, time and analyst ID of latest file update: 30-May-2017 08:12 Automation

Sample Name: SSTD7.5 Lab Sample ID: rvSTD1497

Compound Number	: 107		
Compound Name	: 1,3-Dinitrobenzene		
Scan Number	: 1585		
Retention Time (minutes)	: 10.725		
Quant Ion	: 168.00		
Area	: 96748		
On-column Amount (ng/ul)	: 6.2976		
Integration start scan	: 1579	Integration stop scan:	1598
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Catherine E. Bachman on 05/31/2017 at 12:15.
Target 3.5 esignature used



Total Ion Chromatogram (TIC)

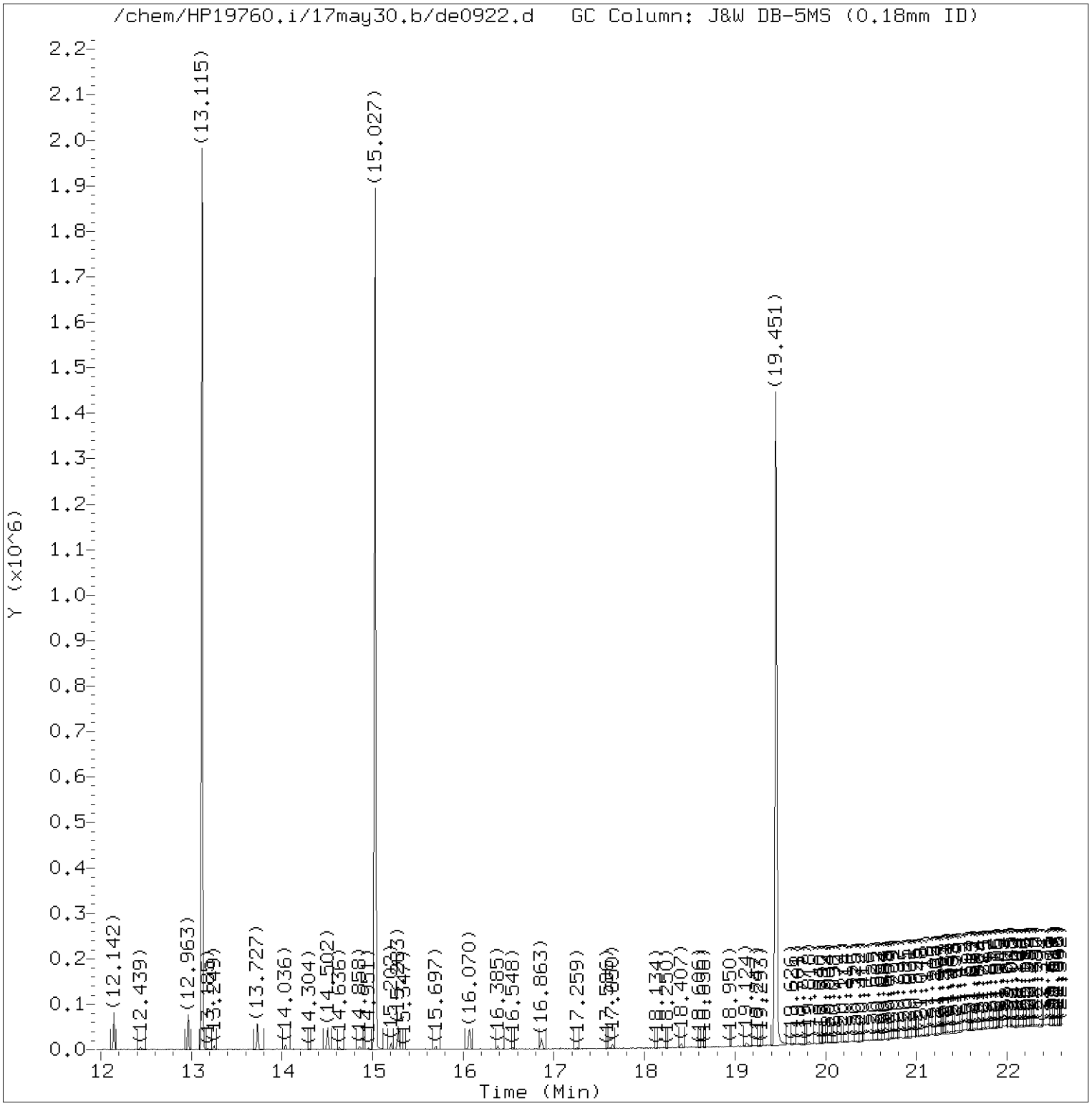
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0922.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 08:27 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: pda
Calibration date and time: 30-MAY-2017 09:17
Date, time and analyst ID of latest file update: 30-May-2017 09:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0922.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 08:27 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: pda
Calibration date and time: 30-MAY-2017 09:17
Date, time and analyst ID of latest file update: 30-May-2017 09:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: rvPDA0727

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0922.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 08:27 Analyst ID: knk25316

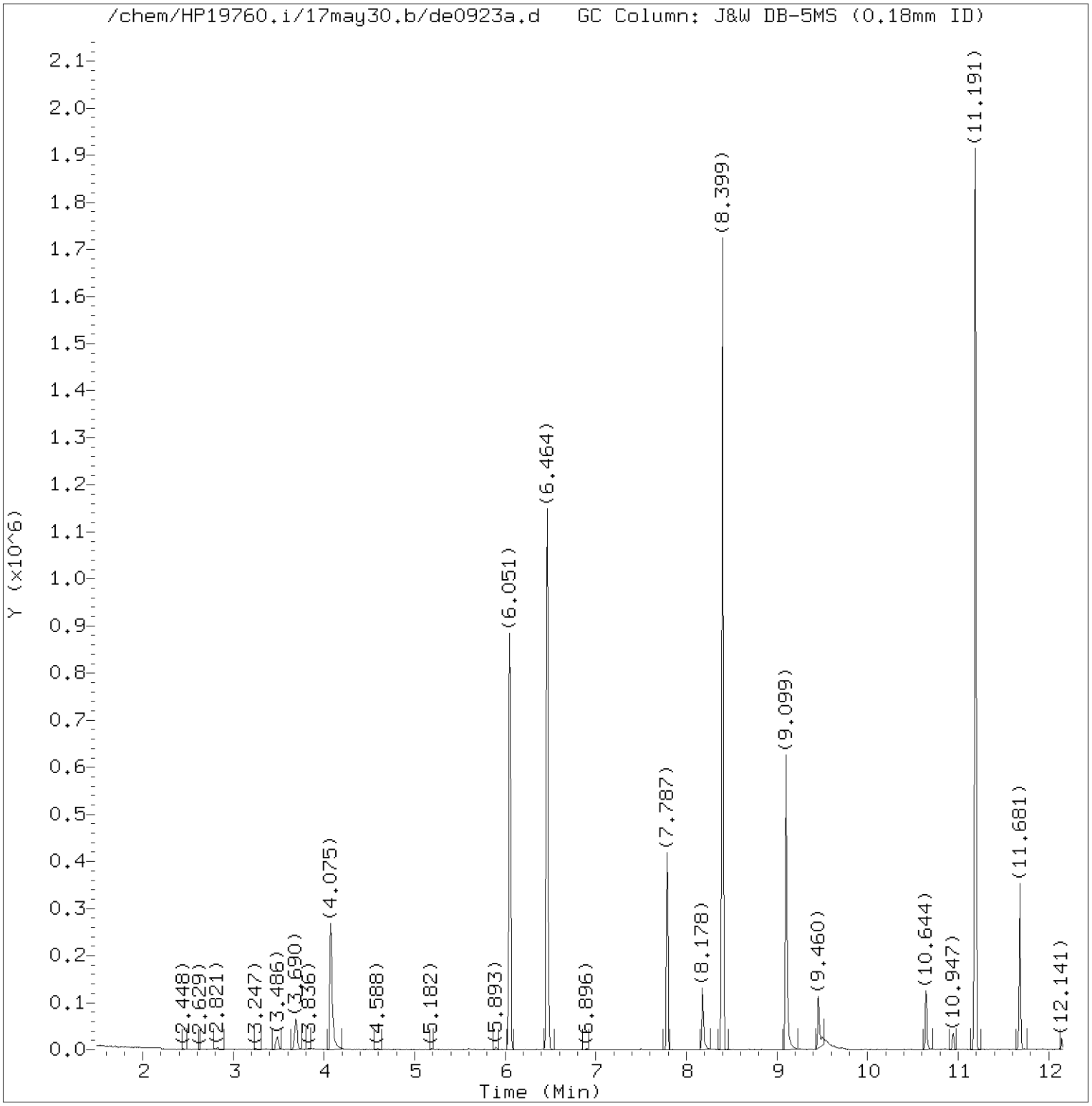
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: pda
Calibration date and time: 30-MAY-2017 09:17
Date, time and analyst ID of latest file update: 30-May-2017 09:17 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: rvPDA0727

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.465	152	193637	5.000
65)*Naphthalene-d8	(2)	8.400	136	728573	5.000
81) 1,4-Phenylenediamine	(2)	9.105	108	926174	14.868
113)*Acenaphthene-d10	(3)	11.192	164	409845	5.000
153)*Phenanthrene-d10	(4)	13.115	188	794158	5.000
175)*Pyrene-d10	(5)	15.027	212	946587	5.000
213)*Perylene-d12	(6)	19.451	264	737775	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

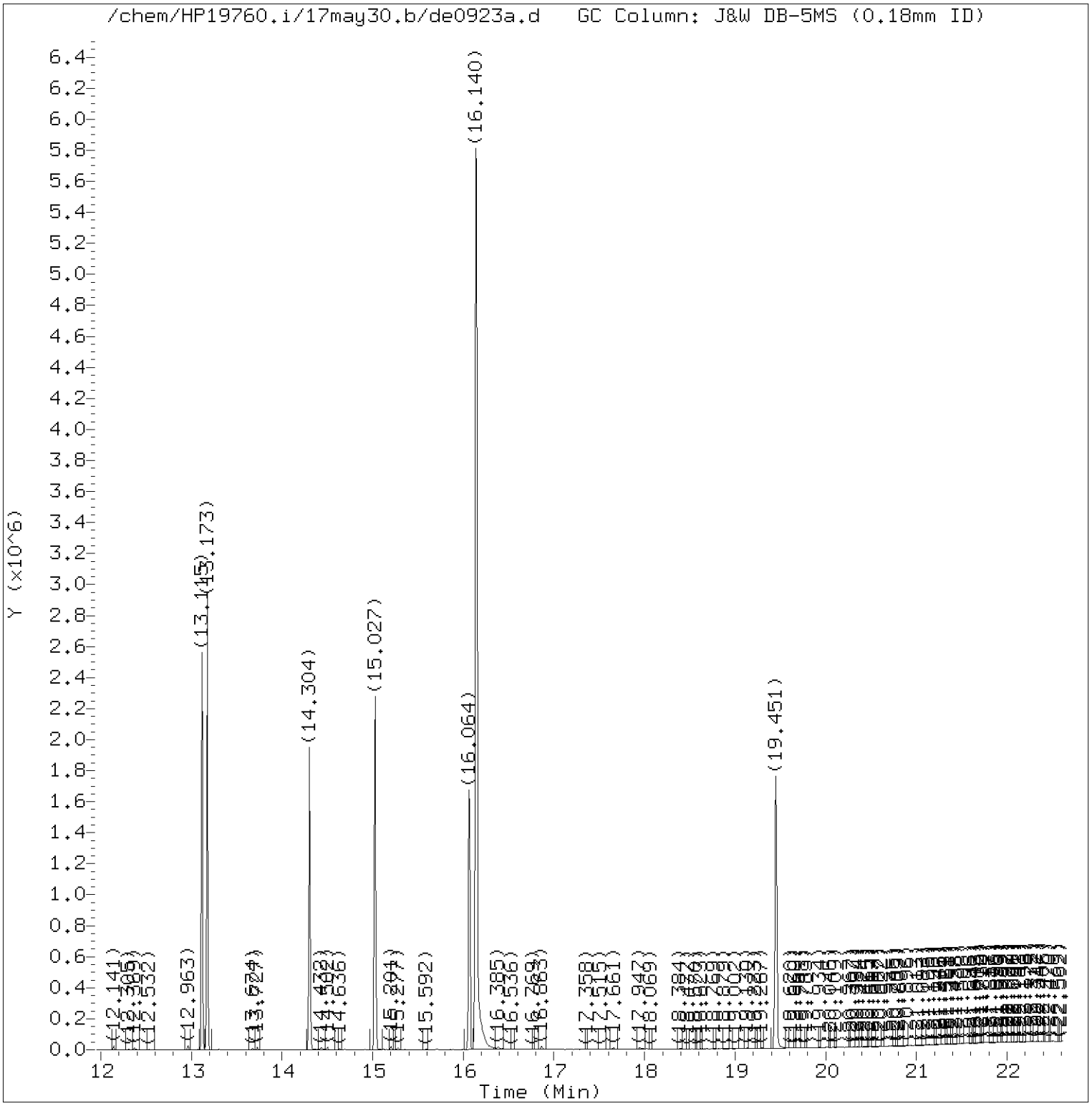
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0923a.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 09:50 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: abc
Calibration date and time: 30-MAY-2017 10:14
Date, time and analyst ID of latest file update: 30-May-2017 10:14 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0923a.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 09:50 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: abc
Calibration date and time: 30-MAY-2017 10:14
Date, time and analyst ID of latest file update: 30-May-2017 10:14 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvABC3566

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0923a.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 09:50 Analyst ID: knk25316

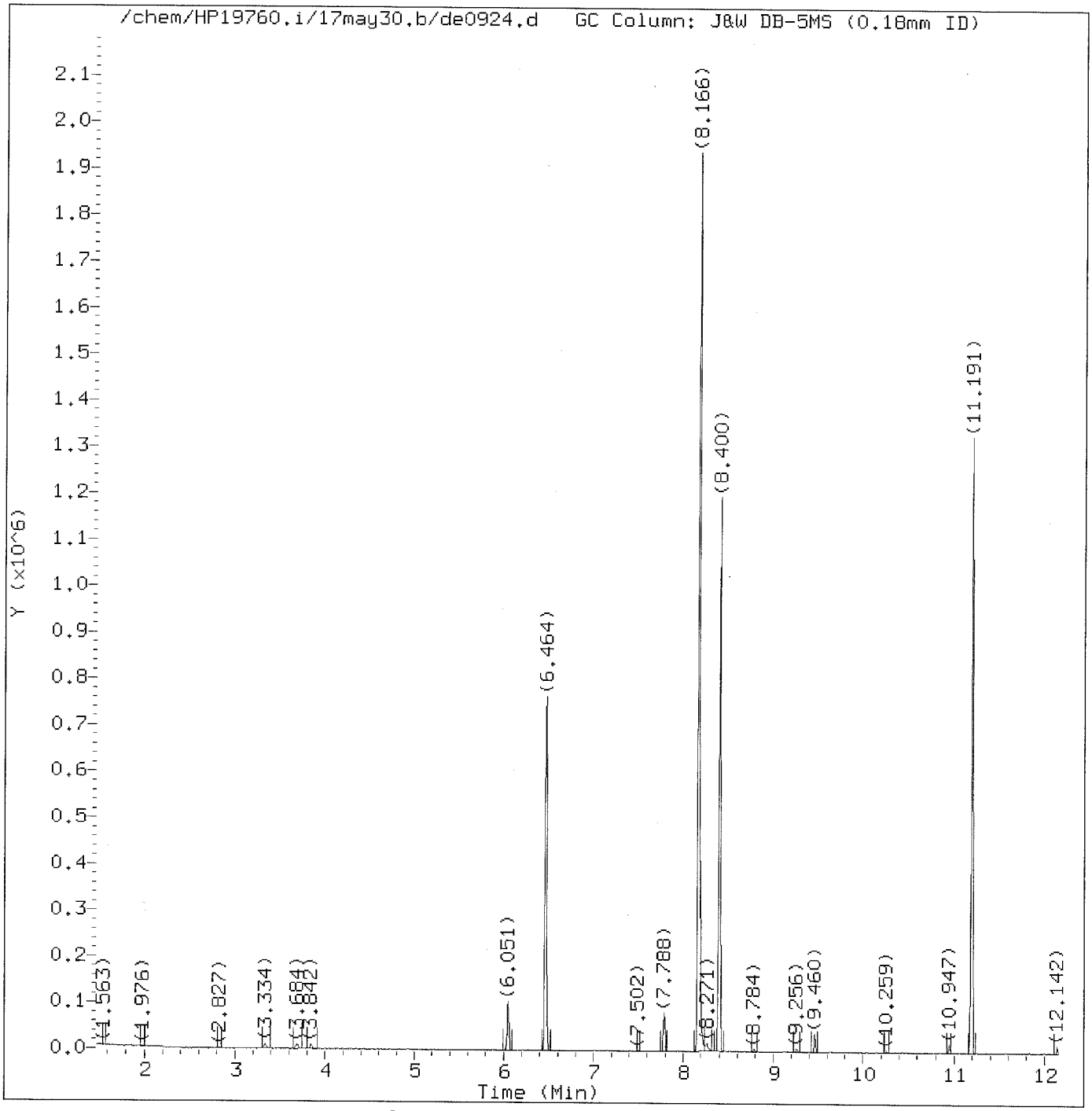
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: abc
Calibration date and time: 30-MAY-2017 10:14
Date, time and analyst ID of latest file update: 30-May-2017 10:14 ceb05247

Sample Name: SSTD7.5 Lab Sample ID: rvABC3566

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.464	152	229075	5.000
65)*Naphthalene-d8	(2)	8.399	136	872635	5.000
113)*Acenaphthene-d10	(3)	11.191	164	493533	5.000
153)*Phenanthrene-d10	(4)	13.115	188	956996	5.000
162) Disulfoton	(4)	13.173	88	581907	8.189
170) Methapyrilene	(4)	14.304	97	409471	7.998
175)*Pyrene-d10	(5)	15.027	212	1155649	5.000
189) Famphur	(5)	16.070	218	538455	11.981
190) Kepone	(5)	16.146	272	848590	39.674
213)*Perylene-d12	(6)	19.451	264	896173	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0924.d
Injection date and time: 30-MAY-2017 09:22

Instrument ID: HP19760.i
Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m
Calibration date and time: 30-MAY-2017 11:11

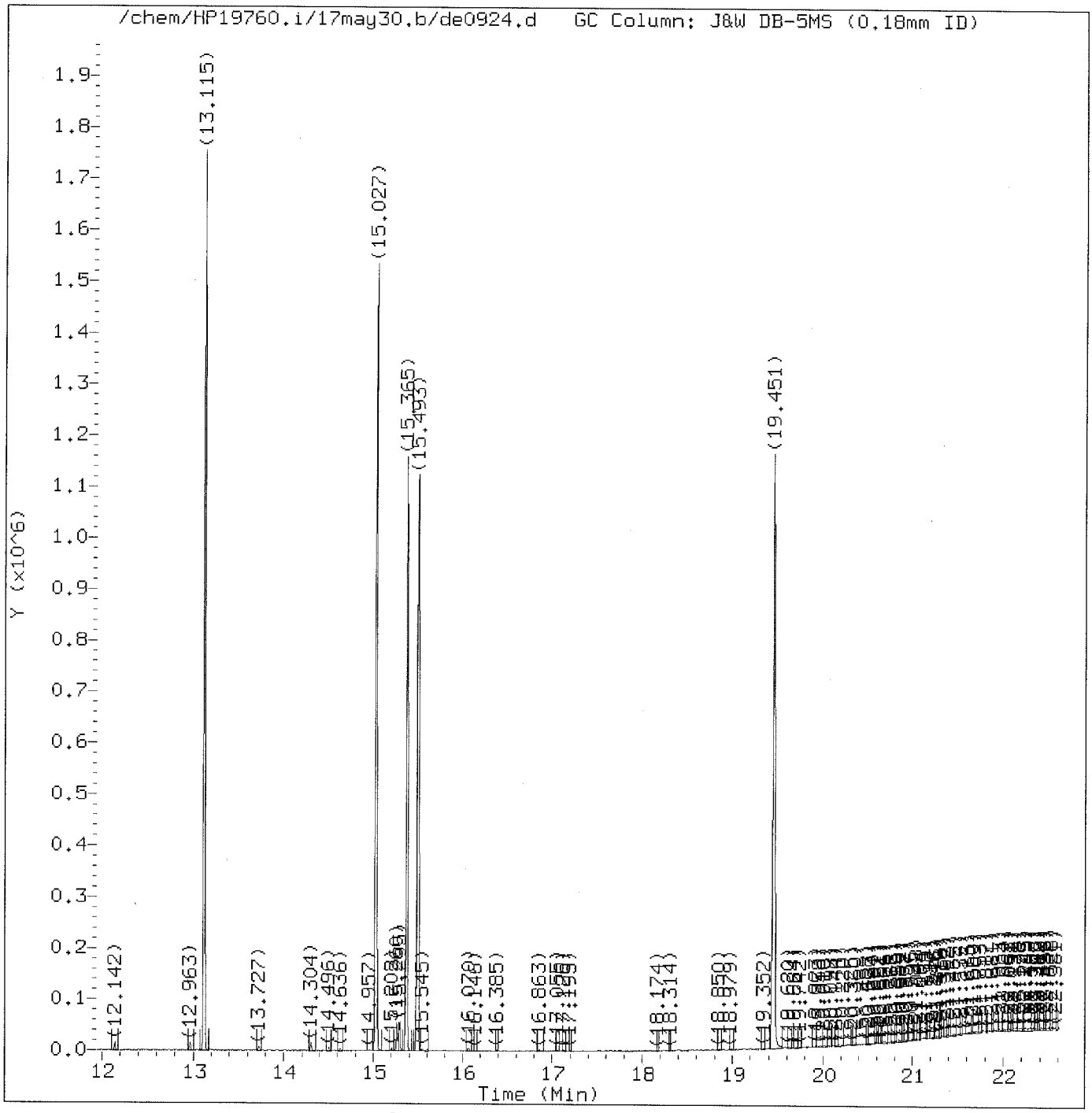
Sublist used: aap

Date, time and analyst ID of latest file update: 30-May-2017 11:11 ceb05247

Sample Name: SSTD12.5

Lab Sample ID: rvAAP0317

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0924.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 09:22 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: aap
Calibration date and time: 30-MAY-2017 11:11
Date, time and analyst ID of latest file update: 30-May-2017 11:11 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: rvAAP0317

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0924.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 09:22 Analyst ID: knk25316

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: aap
Calibration date and time: 30-MAY-2017 11:11
Date, time and analyst ID of latest file update: 30-May-2017 11:11 ceb05247

Sample Name: SSTD12.5 Lab Sample ID: rvAAP0317

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.464	152	160769	5.000
64) a,a-Dimethylphenethylamine	(2)	8.166	58	1573132	12.500
65)*Naphthalene-d8	(2)	8.400	136	616149	5.000
186) Aramite	(5)			210400	12.500
113)*Acenaphthene-d10	(3)	11.191	164	343324	5.000
153)*Phenanthrene-d10	(4)	13.115	188	652604	5.000
175)*Pyrene-d10	(5)	15.027	212	772364	5.000
180) Aramite (1)	(5)	15.260	185	4211	5.000
181) Aramite (2)	(5)	15.295	185	3994	5.000
183) Aramite (3)	(5)	15.365	185	87263	1.250
184) Aramite (4)	(5)	15.493	185	114932	1.250
213)*Perylene-d12	(6)	19.451	264	598292	5.000

* = Compound is an internal standard.

Digitally signed by Catherine E. Bachman
on 05/30/2017 at 11:13.
Target 3.5 esignature user ID: ceb05247

Raw QC Data

Semivolatiles by GC/MS

Data file: /chem/HP19760.i/17may23.b/de0605.d Injection date and time: **23-MAY-2017 14:02**
Data file Sample Info. Line: SBLKWC142;SBLKWC142;1;3;BLANK;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:20 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529	(0.006)	865	152	150149	(-24)	5.00	
65) Naphthalene-d8	8.464	(0.000)	1197	136	579503	(-20)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	317714	(-23)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	598049	(-24)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	703096	(-26)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	531193	(-33)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.652	(-0.001)	112	1166831	25.047	50%		10 - 84
17) Phenol-d6	(1)	6.033	(0.000)	99	1184686	18.737	37%		10 - 71
44) Nitrobenzene-d5	(2)	7.362	(0.000)	82	1108620	18.460	74%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1666338	16.873	67%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.340	(-0.001)	330	478078	40.429	81%		13 - 149
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2367751	22.948	92%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0605.d Injection date and time: **23-MAY-2017 14:02**
Data file Sample Info. Line: SBLKWC142;SBLKWC142;1;3;BLANK;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:20 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3
150) 4-Aminobiphenyl	(4)				Not Detected					0.1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0605.d Injection date and time: **23-MAY-2017 14:02**
Data file Sample Info. Line: SBLKWC142;SBLKWC142;1;3;BLANK;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:20 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 30-MAY-2017 18:15
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

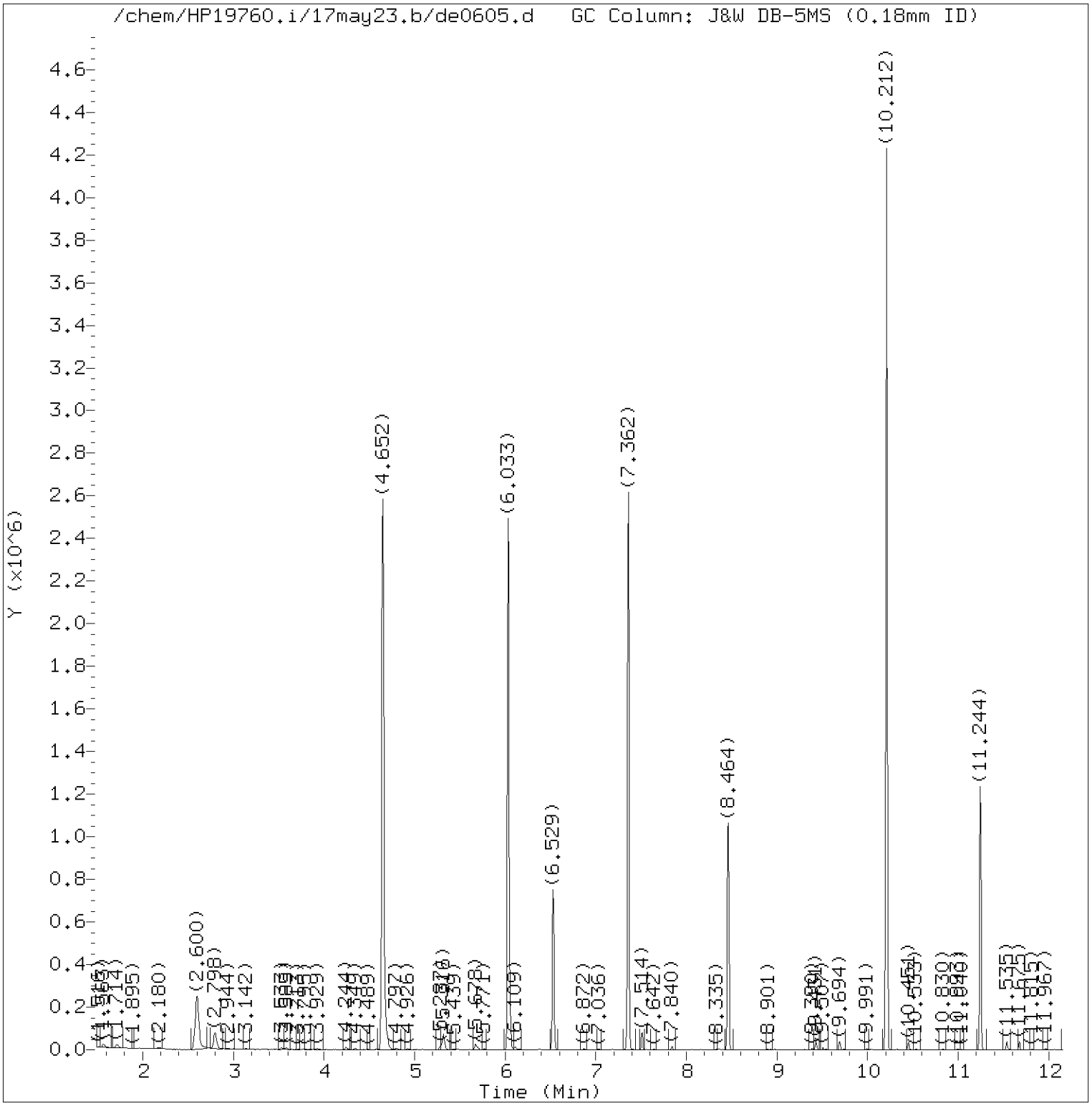
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)				Not Detected					0.5
152) Pronamide	(4)				Not Detected					0.1
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
162) Disulfoton	(4)				Not Detected					6
164) Methyl parathion	(4)				Not Detected					0.3
165) Di-n-butylphthalate	(4)				Not Detected					0.5
167) Parathion	(4)				Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)				Not Detected					5
170) Methapyrilene	(4)				Not Detected					4
171) Isodrin	(4)				Not Detected					0.1
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
180) Aramite (1)	(5)				Not Detected					0.3
181) Aramite (2)	(5)				Not Detected					0.3
183) Aramite (3)	(5)				Not Detected					0.3
184) Aramite (4)	(5)				Not Detected					0.3
186) Aramite	(5)				Not Detected					1
182) p-Dimethylaminoazobenzene	(5)				Not Detected					0.1
185) Chlorobenzilate	(5)				Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)				Not Detected					6
188) Butylbenzylphthalate	(5)				Not Detected					0.5
189) Famphur	(5)				Not Detected					6
190) Kepone	(5)				Not Detected					6
191) 2-Acetylaminofluorene	(5)				Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)				Not Detected					0.5
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.5
205) Di-n-octylphthalate	(6)				Not Detected					0.5
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)				Not Detected					0.1
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
215) 3-Methylcholanthrene	(6)				Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

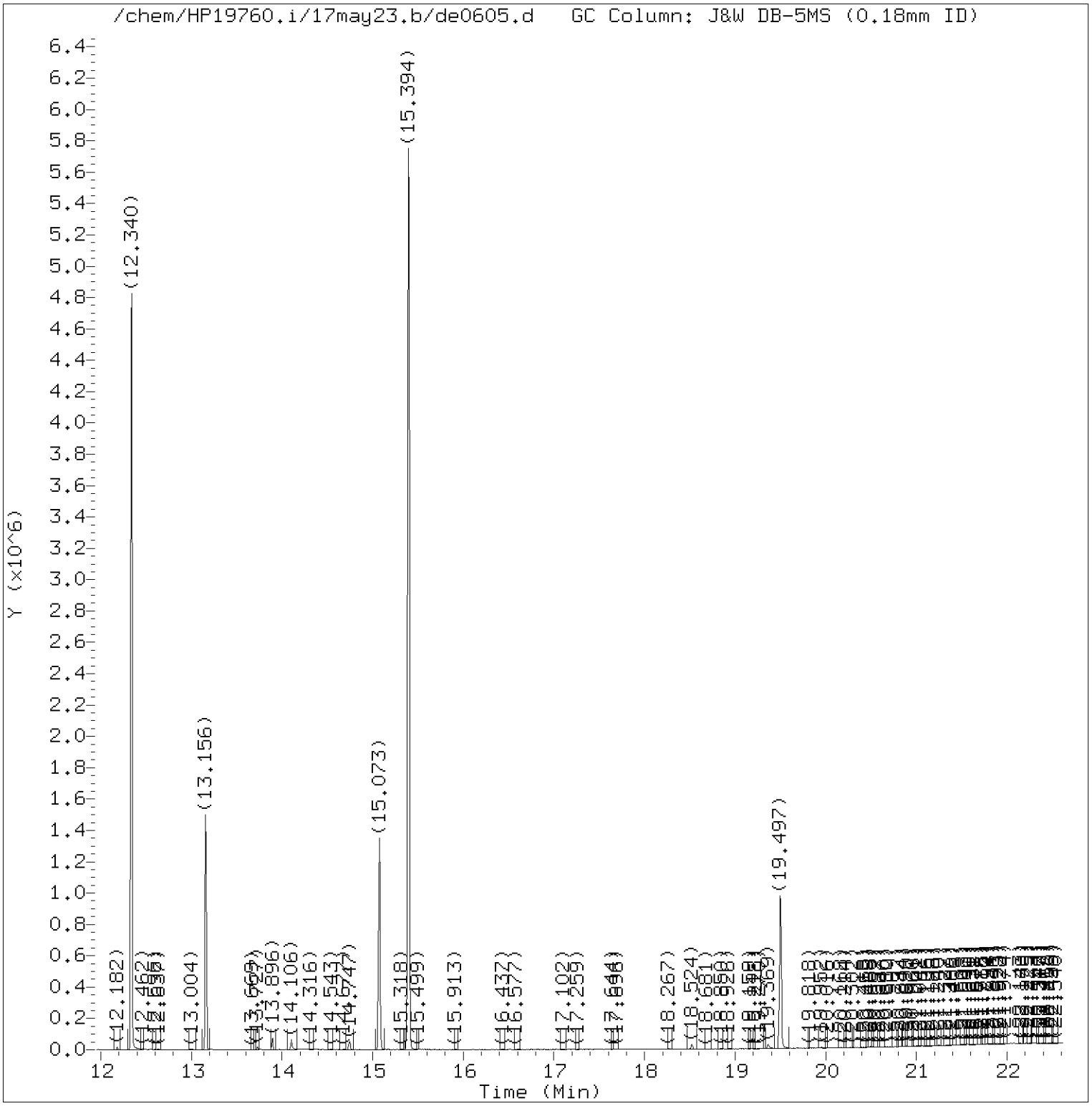
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0605.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:20 hbz01996

Sample Name: SBLKWC142 Lab Sample ID: SBLKWC142

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0605.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:20 hbz01996

Sample Name: SBLKWC142 Lab Sample ID: SBLKWC142

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0605.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 30-MAY-2017 18:15
Date, time and analyst ID of latest file update: 17-Jul-2017 11:20 hbz01996

Sample Name: SBLKWC142 Lab Sample ID: SBLKWC142

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.652	112	1166831	25.047
17)$Phenol-d6	(1)	6.033	99	1184686	18.737
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	150149	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1108620	18.460
65)*Naphthalene-d8	(2)	8.464	136	579503	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1666338	16.873
113)*Acenaphthene-d10	(3)	11.244	164	317714	5.000
135)$2,4,6-Tribromophenol	(3)	12.340	330	478078	40.429
153)*Phenanthrene-d10	(4)	13.156	188	598049	5.000
175)*Pyrene-d10	(5)	15.073	212	703096	5.000
179)$Terphenyl-d14	(5)	15.394	244	2367751	22.948
213)*Perylene-d12	(6)	19.497	264	531193	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0605a.d Injection date and time: **23-MAY-2017 14:02**
Data file Sample Info. Line: SBLKWW142;SBLKWW142;1;3;BLANK;;RAAPLOQ; Instrument ID: **HP19760.i** Batch: **17142WAW**
Date, time and analyst ID of latest file update: 26-May-2017 15:40 em10340

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605a.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 23-MAY-2017 19:05
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.529	(0.006)	865	152	150149	(-24)	5.00	
65) Naphthalene-d8	8.464	(0.000)	1197	136	579503	(-20)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	317714	(-23)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	598049	(-24)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	703096	(-26)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	531193	(-33)	5.00	

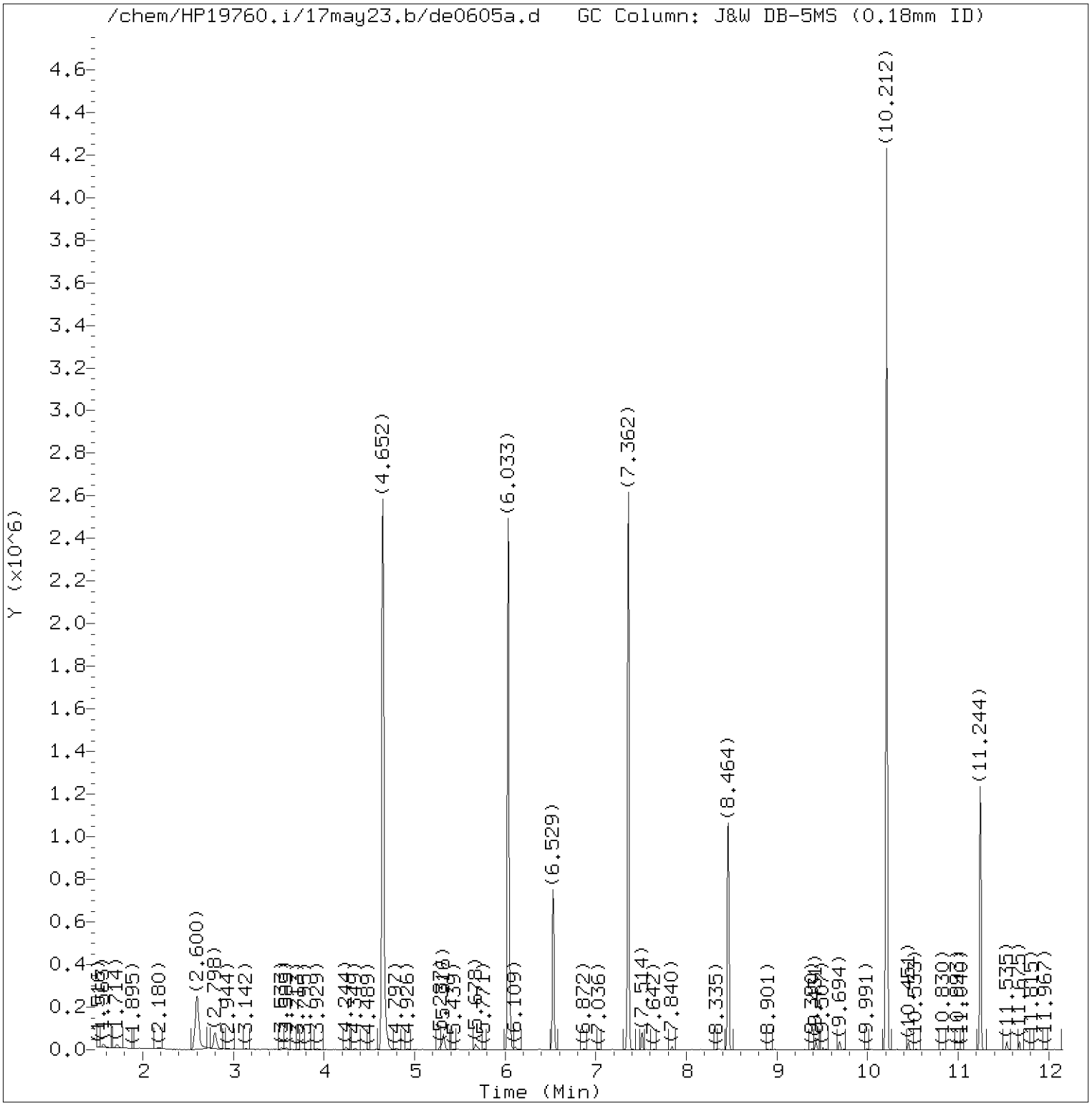
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.362	(0.000)	82	1108620	18.460	74%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1666338	16.873	67%		41 - 112
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2367751	22.948	92%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
124) Diethylphthalate	(3)				Not Detected					0.5

Total number of targets = 3

Digitally signed by Edward Monborne on 05/26/2017 at 15:49. Target 3.5 esignature user ID: em10340

Secondary review performed and digitally signed by Matthew E. Barton on 05/30/2017 at 11:22. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

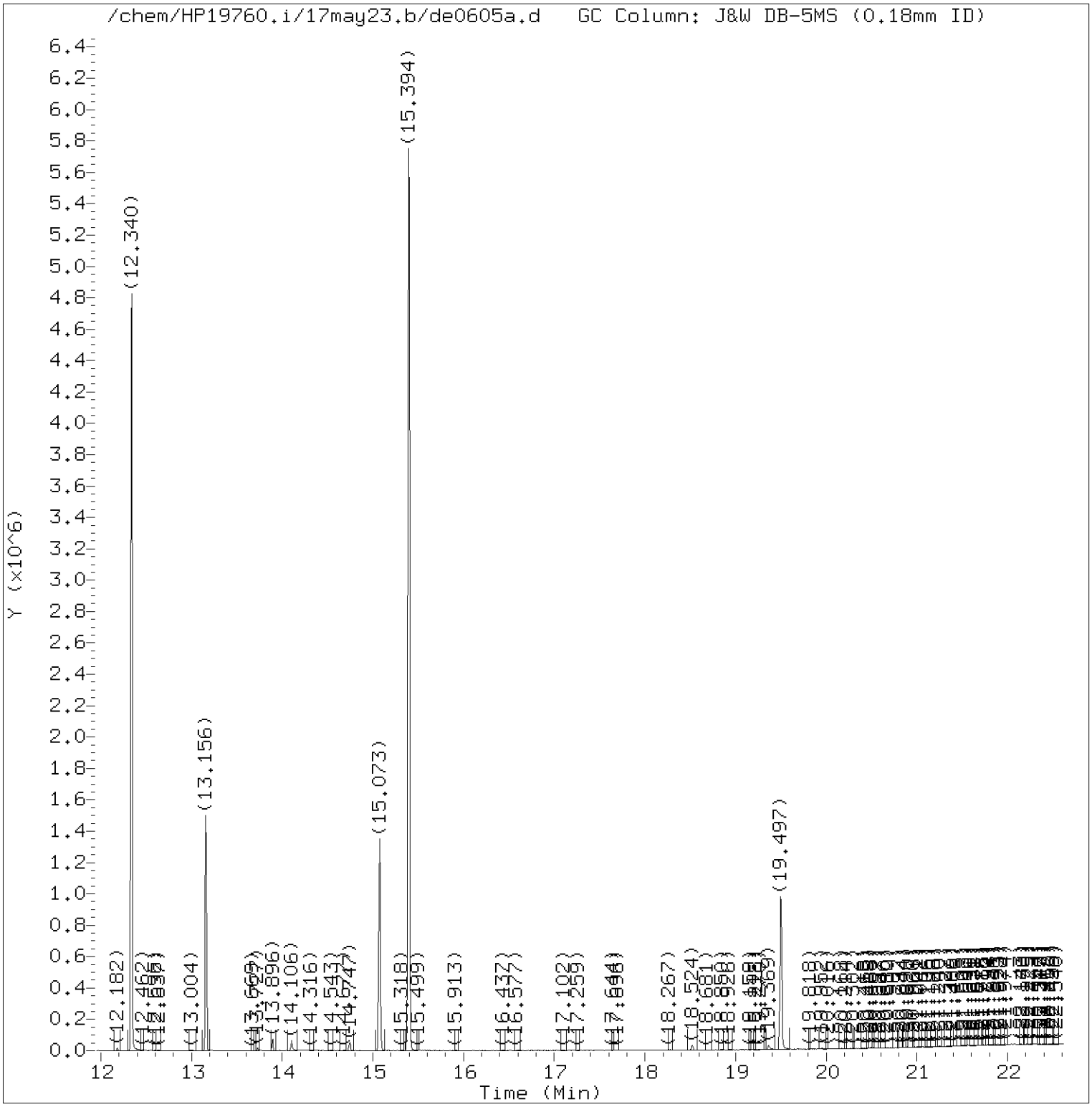
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0605a.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 26-May-2017 15:40 em10340

Sample Name: SBLKWW142 Lab Sample ID: SBLKWW142

Digitally signed by Edward Monborne
on 05/26/2017 at 15:49.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0605a.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 26-May-2017 15:40 em10340

Sample Name: SBLKWW142 Lab Sample ID: SBLKWW142

Digitally signed by Edward Monborne
on 05/26/2017 at 15:49.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0605a.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:02 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 26-May-2017 15:40 em10340

Sample Name: SBLKWW142 Lab Sample ID: SBLKWW142

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.529	152	150149	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1108620	18.460
65)*Naphthalene-d8	(2)	8.464	136	579503	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1666338	16.873
113)*Acenaphthene-d10	(3)	11.244	164	317714	5.000
153)*Phenanthrene-d10	(4)	13.156	188	598049	5.000
175)*Pyrene-d10	(5)	15.073	212	703096	5.000
179)$Terphenyl-d14	(5)	15.394	244	2367751	22.948
213)*Perylene-d12	(6)	19.497	264	531193	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 05/26/2017 at 15:49.
Target 3.5 esignature user ID: em10340

Data file: /chem/HP19760.i/17may30.b/de0925.d Injection date and time: **30-MAY-2017 10:28**
Data file Sample Info. Line: SBLKWW143;SBLKWW143;1;3;BLANK;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.464	(0.000)	854	152	175001	(9)	5.00	
65) Naphthalene-d8	8.399	(0.000)	1186	136	658358	(10)	5.00	
113) Acenaphthene-d10	11.191	(0.000)	1665	164	370738	(9)	5.00	
153) Phenanthrene-d10	13.121	(-0.006)	1996	188	706815	(11)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	828111	(5)	5.00	
213) Perylene-d12	19.456	(-0.012)	3083	264	650616	(0)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.570	(0.000)	112	1109632	20.437	41%		10 - 84
17) Phenol-d6	(1)	5.975	(0.000)	99	1127622	15.302	31%		10 - 71
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1195889	17.528	70%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	2014283	17.479	70%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299	(-0.001)	330	491934	35.651	71%		13 - 149
179) Terphenyl-d14	(5)	15.353	(0.000)	244	2230814	18.357	73%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)				Not Detected					0.5
5) Pyridine	(1)				Not Detected					0.5
7) 2-Picoline	(1)				Not Detected					0.5
8) N-Nitrosomethylethylamine	(1)				Not Detected					0.5
9) Methyl methanesulfonate	(1)				Not Detected					0.3
13) N-Nitrosodiethylamine	(1)				Not Detected					0.1
15) Ethyl methanesulfonate	(1)				Not Detected					0.1
18) Phenol	(1)				Not Detected					0.1
19) Aniline	(1)				Not Detected					0.1
22) bis(2-Chloroethyl)ether	(1)				Not Detected					0.1
23) 2-Chlorophenol	(1)				Not Detected					0.1
27) Benzyl alcohol	(1)				Not Detected					3
31) 2-Methylphenol	(1)				Not Detected					0.1
34) bis(2-Chloroisopropyl)ether	(1)				Not Detected					0.1
35) N-Nitrosopyrrolidine	(1)				Not Detected					0.1
36) Acetophenone	(1)				Not Detected					0.1
37) 4-Methylphenol	(1)				Not Detected					0.1
38) N-Nitroso-di-n-propylamine	(1)				Not Detected					0.1
39) N-Nitrosomorpholine	(1)				Not Detected					0.5
40) o-Toluidine	(1)				Not Detected					0.1
43) Hexachloroethane	(1)				Not Detected					0.3
45) Nitrobenzene	(2)				Not Detected					0.1
48) N-Nitrosopiperidine	(2)				Not Detected					0.1
50) Isophorone	(2)				Not Detected					0.1
51) 2-Nitrophenol	(2)				Not Detected					0.1
53) 2,4-Dimethylphenol	(2)				Not Detected					0.1
57) O,O,O-Triethylphosphorothioate	(2)				Not Detected					0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:31. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0925.d Injection date and time: **30-MAY-2017 10:28**
Data file Sample Info. Line: SBLKWW143;SBLKWW143;1;3;BLANK;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)				Not Detected					0.1
60) 2,4-Dichlorophenol	(2)				Not Detected					0.1
64) a,a-Dimethylphenethylamine	(2)				Not Detected					1
67) 4-Chloroaniline	(2)				Not Detected					0.5
68) 2,6-Dichlorophenol	(2)				Not Detected					0.1
69) Hexachloropropene	(2)				Not Detected					0.5
77) N-Nitrosodi-n-butylamine	(2)				Not Detected					0.5
81) 1,4-Phenylenediamine	(2)				Not Detected					19
80) 4-Chloro-3-methylphenol	(2)				Not Detected					0.1
82) Safrole	(2)				Not Detected					0.5
83) 2-Methylnaphthalene	(2)				Not Detected					0.03
85) Hexachlorocyclopentadiene	(3)				Not Detected					1
86) 1,2,4,5-Tetrachlorobenzene	(3)				Not Detected					0.1
88) cis-Isosafrole	(3)				Not Detected					0.1
90) 2,4,6-Trichlorophenol	(3)				Not Detected					0.1
92) 2,4,5-Trichlorophenol	(3)				Not Detected					0.1
94) trans-Isosafrole	(3)				Not Detected					0.1
97) Isosafrole	(3)				Not Detected					0.5
96) 2-Chloronaphthalene	(3)				Not Detected					0.1
100) 2-Nitroaniline	(3)				Not Detected					0.1
104) 1,4-Naphthoquinone	(3)				Not Detected					6
106) Dimethylphthalate	(3)				Not Detected					0.5
107) 1,3-Dinitrobenzene	(3)				Not Detected					0.5
108) 2,6-Dinitrotoluene	(3)				Not Detected					0.1
109) Acenaphthylene	(3)				Not Detected					0.03
112) 3-Nitroaniline	(3)				Not Detected					0.1
114) Acenaphthene	(3)				Not Detected					0.03
115) 2,4-Dinitrophenol	(3)				Not Detected					3
116) 4-Nitrophenol	(3)				Not Detected					3
117) Pentachlorobenzene	(3)				Not Detected					0.1
118) 2,4-Dinitrotoluene	(3)				Not Detected					0.3
119) Dibenzofuran	(3)				Not Detected					0.1
121) 1-Naphthylamine	(3)				Not Detected					1
122) 2,3,4,6-Tetrachlorophenol	(3)				Not Detected					0.1
123) 2-Naphthylamine	(3)				Not Detected					1
124) Diethylphthalate	(3)				Not Detected					0.5
125) Thionazin	(3)				Not Detected					0.5
126) Fluorene	(3)				Not Detected					0.03
127) 4-Chlorophenyl-phenylether	(3)				Not Detected					0.1
128) 5-Nitro-o-toluidine	(3)				Not Detected					0.1
129) 4-Nitroaniline	(3)				Not Detected					0.1
130) 4,6-Dinitro-2-methylphenol	(4)				Not Detected					1
131) N-Nitrosodiphenylamine	(4)				Not Detected					0.1
139) 1,3,5-Trinitrobenzene	(4)				Not Detected					1
140) Diallate (peak 1)	(4)				Not Detected					0.06
141) Phorate	(4)				Not Detected					0.1
142) Phenacetin	(4)				Not Detected					0.1
143) 4-Bromophenyl-phenylether	(4)				Not Detected					0.1
144) Diallate (peak 2)	(4)				Not Detected					0.06
146) Diallate trans/cis	(4)				Not Detected					0.3
145) Hexachlorobenzene	(4)				Not Detected					0.03
147) Dimethoate	(4)				Not Detected					0.8
149) Pentachlorophenol	(4)				Not Detected					0.3
150) 4-Aminobiphenyl	(4)				Not Detected					0.1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:31. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0925.d Injection date and time: **30-MAY-2017 10:28**
Data file Sample Info. Line: SBLKWW143;SBLKWW143;1;3;BLANK;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

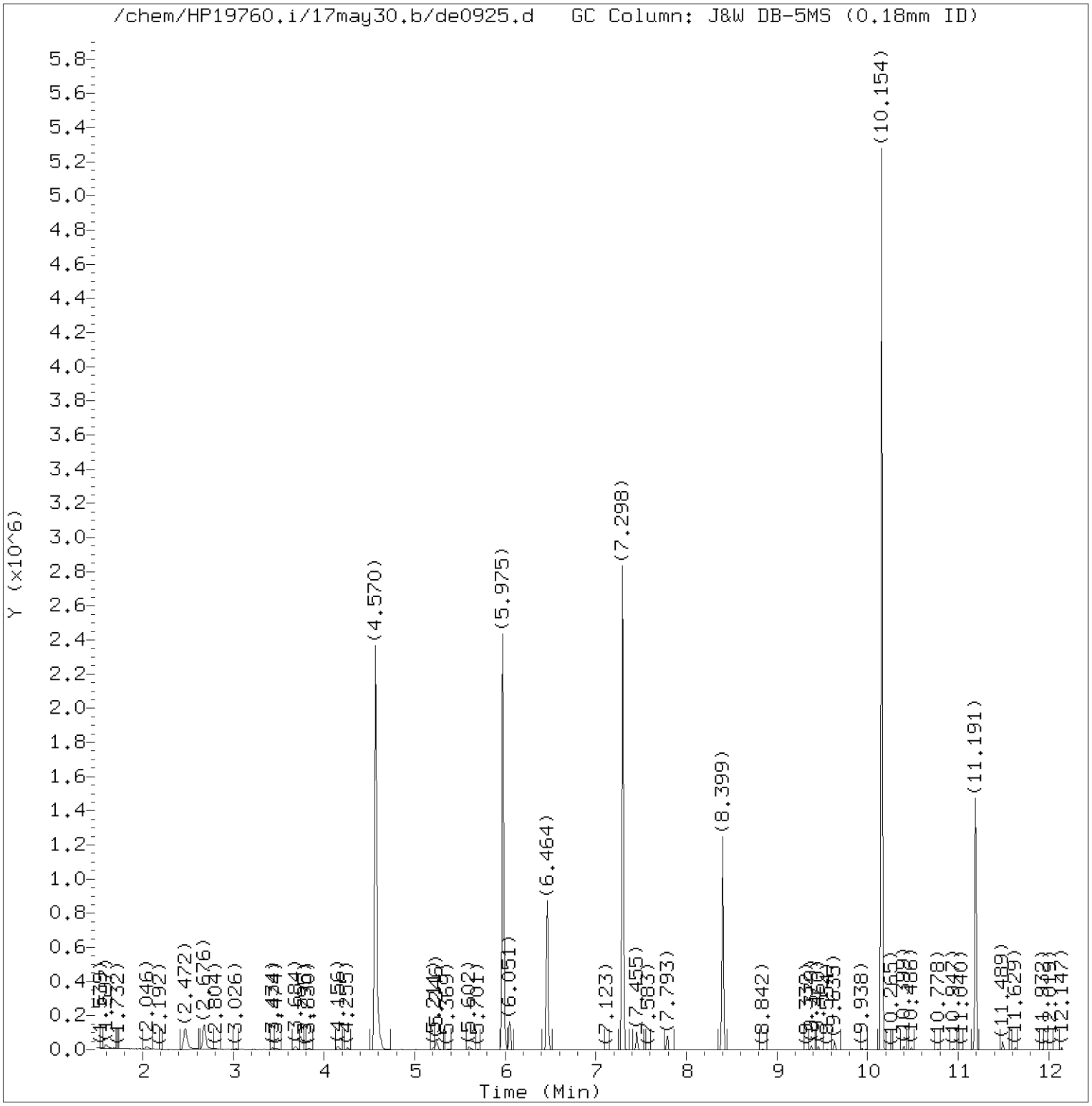
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)				Not Detected					0.5
152) Pronamide	(4)				Not Detected					0.1
155) Phenanthrene	(4)				Not Detected					0.03
157) Anthracene	(4)				Not Detected					0.03
162) Disulfoton	(4)				Not Detected					6
164) Methyl parathion	(4)				Not Detected					0.3
165) Di-n-butylphthalate	(4)				Not Detected					0.5
167) Parathion	(4)				Not Detected					0.5
168) 4-Nitroquinoline-1-oxide	(4)				Not Detected					5
170) Methapyrilene	(4)				Not Detected					4
171) Isodrin	(4)				Not Detected					0.1
173) Fluoranthene	(4)				Not Detected					0.03
177) Pyrene	(5)				Not Detected					0.03
180) Aramite (1)	(5)				Not Detected					0.3
181) Aramite (2)	(5)				Not Detected					0.3
183) Aramite (3)	(5)				Not Detected					0.3
184) Aramite (4)	(5)				Not Detected					0.3
186) Aramite	(5)				Not Detected					1
182) p-Dimethylaminoazobenzene	(5)				Not Detected					0.1
185) Chlorobenzilate	(5)				Not Detected					0.8
187) 3,3'-Dimethylbenzidine	(5)				Not Detected					6
188) Butylbenzylphthalate	(5)				Not Detected					0.5
189) Famphur	(5)				Not Detected					6
190) Kepone	(5)				Not Detected					6
191) 2-Acetylaminofluorene	(5)				Not Detected					0.5
193) 3,3'-Dichlorobenzidine	(5)				Not Detected					0.5
195) Benzo(a)anthracene	(5)				Not Detected					0.03
196) Chrysene	(5)				Not Detected					0.03
199) bis(2-Ethylhexyl)phthalate	(5)				Not Detected					0.5
205) Di-n-octylphthalate	(6)				Not Detected					0.5
206) Benzo(b)fluoranthene	(6)				Not Detected					0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)				Not Detected					0.1
208) Benzo(k)fluoranthene	(6)				Not Detected					0.03
211) Benzo(a)pyrene	(6)				Not Detected					0.03
215) 3-Methylcholanthrene	(6)				Not Detected					0.1
219) Indeno(1,2,3-cd)pyrene	(6)				Not Detected					0.03
220) Dibenz(a,h)anthracene	(6)				Not Detected					0.03
221) Benzo(g,h,i)perylene	(6)				Not Detected					0.03

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:31. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

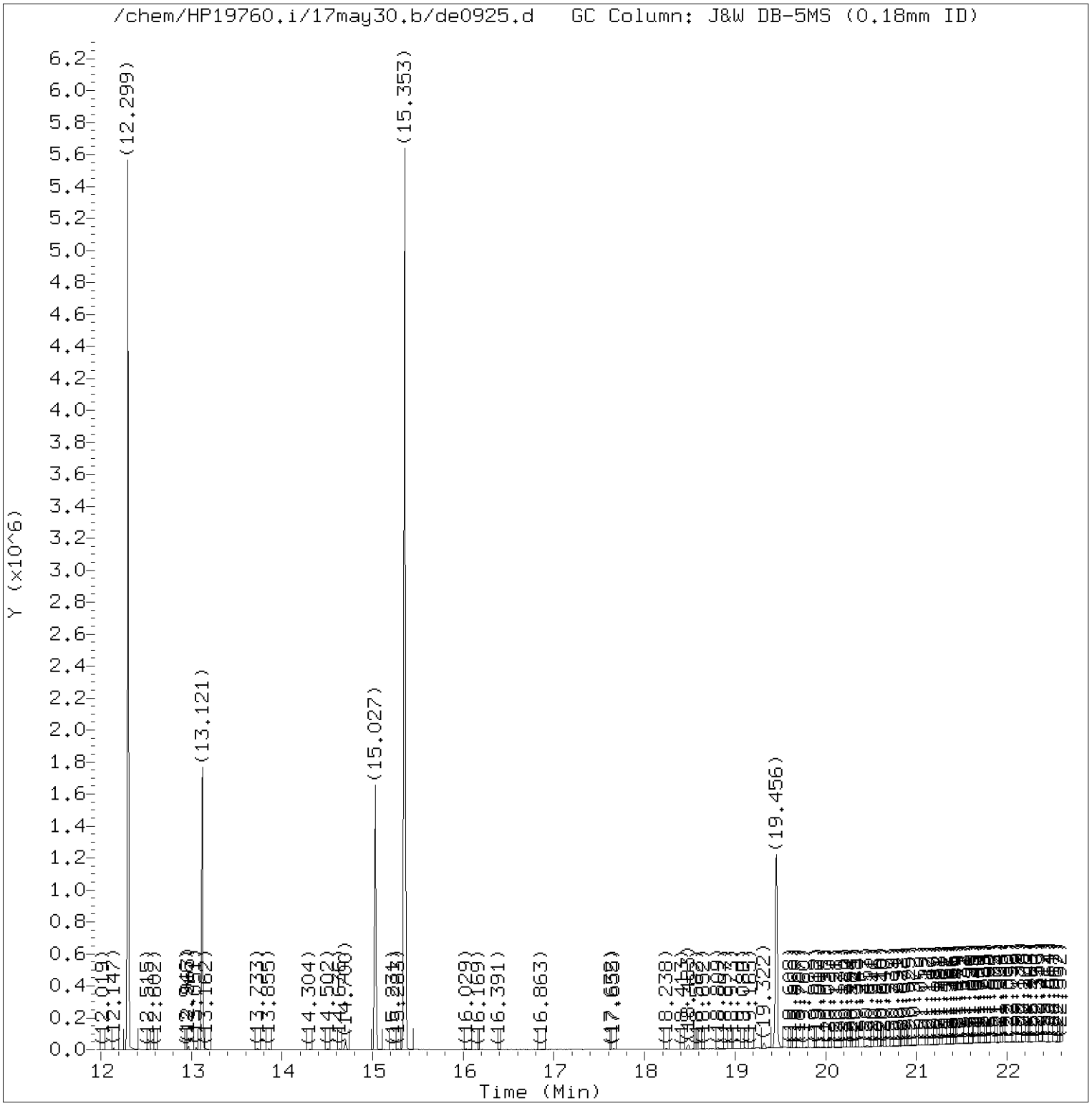
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0925.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:28 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: SBLKWW143 Lab Sample ID: SBLKWW143

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:31.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0925.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:28 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: SBLKWW143 Lab Sample ID: SBLKWW143

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:31.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0925.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:28 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: SBLKWW143 Lab Sample ID: SBLKWW143

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
11)$2-Fluorophenol	(1)	4.570	112	1109632	20.437
17)$Phenol-d6	(1)	5.975	99	1127622	15.302
25)*1,4-Dichlorobenzene-d4	(1)	6.464	152	175001	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1195889	17.528
65)*Naphthalene-d8	(2)	8.399	136	658358	5.000
93)$2-Fluorobiphenyl	(3)	10.154	172	2014283	17.479
113)*Acenaphthene-d10	(3)	11.191	164	370738	5.000
135)$2,4,6-Tribromophenol	(3)	12.299	330	491934	35.651
153)*Phenanthrene-d10	(4)	13.121	188	706815	5.000
175)*Pyrene-d10	(5)	15.027	212	828111	5.000
179)$Terphenyl-d14	(5)	15.353	244	2230814	18.357
213)*Perylene-d12	(6)	19.456	264	650616	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:31.
Target 3.5 esignature user ID: hbz01996

R8504MS

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

8999789MS

Data file: /chem/HP19760.i/17may23.b/de0610.d
Data file Sample Info. Line: R8504MS;8999789MS;1;3;MS;;;
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Injection date and time: **23-MAY-2017 16:20**
Instrument ID: **HP19760.i** Batch: **17142WAC**

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.535	(0.000)	866	152	158200	(-19)	5.00	
65) Naphthalene-d8	8.464	(0.000)	1197	136	592077	(-19)	5.00	
113) Acenaphthene-d10	11.250	(0.000)	1675	164	329019	(-21)	5.00	
153) Phenanthrene-d10	13.162	(0.000)	2003	188	619519	(-21)	5.00	
175) Pyrene-d10	15.079	(0.000)	2332	212	754308	(-21)	5.00	
213) Perylene-d12	19.503	(0.000)	3091	264	629540	(-21)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.681	(-0.004)	112	838299	17.079	34%		10 - 84
17) Phenol-d6	(1)	6.045	(-0.001)	99	1639292	24.608	49%		10 - 71
44) Nitrobenzene-d5	(2)	7.368	(-0.001)	82	1239599	20.202	81%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	2054704	20.091	80%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.340	(0.000)	330	177859	14.524	29%		13 - 149
179) Terphenyl-d14	(5)	15.400	(0.000)	244	2364265	21.359	85%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)	2.530	(-0.008)	74	253323	6.810	27.35			0.5
5) Pyridine	(1)	2.606	(-0.011)	79	347133	5.687	22.84			0.5
7) 2-Picoline	(1)	3.778	(-0.004)	93	551609	8.850	35.54			0.5
8) N-Nitrosomethylethylamine	(1)	3.958	(-0.003)	88	266108	10.005	40.18			0.5
9) Methyl methanesulfonate	(1)	4.413	(-0.002)	80	249829	8.209	32.97			0.3
13) N-Nitrosodiethylamine	(1)	4.984	(-0.001)	102	259542	10.506	42.19			0.1
15) Ethyl methanesulfonate	(1)	5.439	(-0.000)	109	260008	9.744	39.13			0.1
18) Phenol	(1)	6.062	(-0.000)	94	507449	6.724	27.00			0.1
19) Aniline	(1)	6.056	(-0.000)	93	614005	6.924	27.81			0.1
22) bis(2-Chloroethyl)ether	(1)	6.179	(-0.000)	93	601094A	10.720	43.05			0.1
23) 2-Chlorophenol	(1)	6.226	(-0.000)	128	378272	7.695	30.90			0.1
27) Benzyl alcohol	(1)	6.762	(0.000)	108	325525M	9.282	37.28			3
31) 2-Methylphenol	(1)	6.960	(-0.000)	108	457142	9.457	37.98			0.1
34) bis(2-Chloroisopropyl)ether	(1)	6.989	(0.000)	45	876941	10.586	42.51			0.1
35) N-Nitrosopyrrolidine	(1)	7.112	(0.000)	100	273667	10.051	40.36			0.1
36) Acetophenone	(1)	7.152	(-0.000)	105	819683	11.273	45.27			0.1
37) 4-Methylphenol	(1)	7.199	(-0.000)	108	510594	9.181	36.87			0.1
38) N-Nitroso-di-n-propylamine	(1)	7.182	(-0.000)	70	479686	10.938	43.93			0.1
39) N-Nitrosomorpholine	(1)	7.182	(0.000)	56	378924	10.155	40.78			0.5
40) o-Toluidine	(1)	7.199	(0.000)	106	768113	9.014	36.20			0.1
43) Hexachloroethane	(1)	7.286	(0.000)	117	184053	8.259	33.17			0.3
45) Nitrobenzene	(2)	7.391	(-0.000)	77	679324	10.992	44.14			0.1
48) N-Nitrosopiperidine	(2)	7.624	(-0.000)	114	257486	10.551	42.37			0.1
50) Isophorone	(2)	7.776	(-0.000)	82	1180250	11.166	44.84			0.1
51) 2-Nitrophenol	(2)	7.887	(-0.000)	139	257989	10.570	42.45			0.1
53) 2,4-Dimethylphenol	(2)	8.003	(-0.000)	107	415418	7.894	31.70			0.1
57) O,O,O-Triethylphosphorothioate	(2)	8.120	(-0.000)	198	260235	10.481	42.09			0.5

A = User selected an alternate peak. M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0610.d Injection date and time: **23-MAY-2017 16:20**
Data file Sample Info. Line: R8504MS;8999789MS;1;3;MS;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)	8.149(-0.000)	93	755782	11.184	44.92			0.1
60) 2,4-Dichlorophenol	(2)	8.271(-0.000)	162	289256	7.426	29.83			0.1
64) a,a-Dimethylphenethylamine	(2)	8.318(-0.011)	58	1303569	12.731	51.13		E	1
67) 4-Chloroaniline	(2)	8.610(-0.000)	127	524980	9.156	36.77			0.5
68) 2,6-Dichlorophenol	(2)	8.615(0.000)	162	254912	6.602	26.51			0.1
69) Hexachloropropene	(2)	8.650(0.000)	213	178564	5.773	23.19			0.5
77) N-Nitrosodi-n-butylamine	(2)	9.181(0.000)	84	445577	10.295	41.35			0.5
81) 1,4-Phenylenediamine	(2)			Not Detected					19
80) 4-Chloro-3-methylphenol	(2)	9.420(0.000)	107	469096	10.567	42.44			0.1
82) Safrole	(2)	9.495(0.000)	162	363112	10.292	41.33			0.5
83) 2-Methylnaphthalene	(2)	9.600(0.000)	142	950285	10.262	41.21			0.03
85) Hexachlorocyclopentadiene	(3)	9.868(-0.000)	237	207354	9.240	37.11			1
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.868(-0.000)	216	453016	9.623	38.65			0.1
88) cis-Isosafrole	(3)	9.962(-0.000)	162	50147	1.359	5.46			0.1
90) 2,4,6-Trichlorophenol	(3)	10.067(-0.000)	196	149423	5.212	20.93			0.1
92) 2,4,5-Trichlorophenol	(3)	10.119(-0.000)	196	252964	8.170	32.81			0.1
94) trans-Isosafrole	(3)	10.323(-0.000)	162	399336	10.225	41.06			0.1
97) Isosafrole	(3)			449483	11.584	46.52			0.5
96) 2-Chloronaphthalene	(3)	10.364(-0.000)	162	909273	10.960	44.02			0.1
100) 2-Nitroaniline	(3)	10.550(-0.000)	138	285963	11.092	44.55			0.1
104) 1,4-Naphthoquinone	(3)	10.661(-0.000)	158	1347233	39.064	156.88		E	6
106) Dimethylphthalate	(3)	10.894(-0.000)	163	1048754	10.940	43.94			0.5
107) 1,3-Dinitrobenzene	(3)	10.894(-0.000)	168	169646	11.373	45.67			0.5
108) 2,6-Dinitrotoluene	(3)	10.964(-0.000)	165	234727	11.069	44.46			0.1
109) Acenaphthylene	(3)	11.017(0.000)	152	1298475	10.696	42.95			0.03
112) 3-Nitroaniline	(3)	11.203(0.000)	138	231732	10.571	42.45			0.1
114) Acenaphthene	(3)	11.302(0.000)	153	982509	11.119	44.66			0.03
115) 2,4-Dinitrophenol	(3)	11.477(-0.008)	184	276714M	22.386	89.90			3
116) 4-Nitrophenol	(3)	11.553(-0.002)	109	129242M	7.973	32.02			3
117) Pentachlorobenzene	(3)	11.512(0.000)	250	354905	9.336	37.49			0.1
118) 2,4-Dinitrotoluene	(3)	11.588(-0.000)	165	328457	11.517	46.25			0.3
119) Dibenzofuran	(3)	11.570(0.000)	168	1326880	10.996	44.16			0.1
121) 1-Naphthylamine	(3)	11.687(0.000)	143	1215809	14.202	57.04			1
122) 2,3,4,6-Tetrachlorophenol	(3)	11.763(0.000)	232	135126	5.795	23.27			0.1
123) 2-Naphthylamine	(3)	11.798(0.000)	143	965246	11.379	45.70			1
124) Diethylphthalate	(3)	11.973(0.000)	149	1075414	11.559	46.42			0.5
125) Thionazin	(3)	12.066(0.000)	107	208401	11.263	45.23			0.5
126) Fluorene	(3)	12.042(0.000)	166	1054168	10.888	43.73			0.03
127) 4-Chlorophenyl-phenylether	(3)	12.078(0.000)	204	513204	10.885	43.72			0.1
128) 5-Nitro-o-toluidine	(3)	12.078(-0.000)	152	278083	10.438	41.92			0.1
129) 4-Nitroaniline	(3)	12.083(0.000)	138	248654	11.394	45.76			0.1
130) 4,6-Dinitro-2-methylphenol	(4)	12.159(-0.002)	198	181896M	10.889	43.73			1
131) N-Nitrosodiphenylamine	(4)	12.223(-0.000)	169	882911	11.492	46.15			0.1
139) 1,3,5-Trinitrobenzene	(4)	12.550(-0.000)	213	114233	10.570	42.45			1
140) Diallate (peak 1)	(4)	12.585(-0.000)	86	389057	8.294	33.31			0.06
141) Phorate	(4)	12.585(-0.000)	75	823235	11.799	47.39			0.1
142) Phenacetin	(4)	12.614(-0.000)	108	590186	11.543	46.36			0.1
143) 4-Bromophenyl-phenylether	(4)	12.649(-0.000)	248	298007	11.305	45.40			0.1
144) Diallate (peak 2)	(4)	12.678(-0.000)	86	125916	3.311	13.30			0.06
146) Diallate trans/cis	(4)			514973	11.605	46.61			0.3
145) Hexachlorobenzene	(4)	12.695(-0.000)	284	296693	10.687	42.92			0.03
147) Dimethoate	(4)	12.771(-0.000)	87	337385	7.508	30.15			0.8
149) Pentachlorophenol	(4)	12.958(-0.000)	266	112751	7.387	29.67			0.3
150) 4-Aminobiphenyl	(4)	12.958(-0.000)	169	940155	11.022	44.27			0.1

E = Compound concentration above calibration range. M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0610.d Injection date and time: **23-MAY-2017 16:20**
Data file Sample Info. Line: R8504MS;8999789MS;1;3;MS;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)	12.958(-0.000)	237	134301	11.082	44.51			0.5
152) Pronamide	(4)	13.068(-0.000)	173	522306	11.810	47.43			0.1
155) Phenanthrene	(4)	13.191(0.000)	178	1547775	11.177	44.89			0.03
157) Anthracene	(4)	13.255(0.000)	178	1536279	11.142	44.75			0.03
162) Disulfoton	(4)	13.214(0.000)	88	1326242	26.239	105.38			6
164) Methyl parathion	(4)	13.669(0.000)	109	303689	8.777	35.25			0.3
165) Di-n-butylphthalate	(4)	13.989(-0.000)	149	1940512	12.271	49.28			0.5
167) Parathion	(4)	14.205(-0.000)	109	268474	12.167	48.86			0.5
168) 4-Nitroquinoline-1-oxide	(4)	14.222(-0.002)	190	1928775	133.223	535.03		E	5
170) Methapyrilene	(4)	14.356(-0.000)	97	4697522	141.742	569.24		E	4
171) Isodrin	(4)	14.566(0.000)	193	189563	11.291	45.35			0.1
173) Fluoranthene	(4)	14.782(-0.000)	202	1859300	11.726	47.09			0.03
177) Pyrene	(5)	15.108(-0.000)	202	1885722	11.011	44.22			0.03
180) Aramite (1)	(5)	15.307(0.000)	185	5080A	9.535	38.29		E	0.3
181) Aramite (2)	(5)	15.342(0.000)	185	4777A	8.356	33.56		E	0.3
183) Aramite (3)	(5)	15.412(0.000)	185	95495A	1.993	8.00		E	0.3
184) Aramite (4)	(5)	15.534(0.000)	185	106854M	1.636	6.57		E	0.3
186) Aramite	(5)			212206	21.519	86.42		E	1
182) p-Dimethylaminoazobenzene	(5)	15.621(0.000)	225	349231	12.807	51.43			0.1
185) Chlorobenzilate	(5)	15.720(-0.000)	139	589036	11.695	46.97			0.8
187) 3,3'-Dimethylbenzidine	(5)	16.169(0.000)	212	1141204	10.319	41.44		J	6
188) Butylbenzylphthalate	(5)	16.239(0.000)	149	916874	12.095	48.57			0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)			Not Detected					6
191) 2-Acetylaminofluorene	(5)	16.583(-0.000)	181	897449	12.712	51.05			0.5
193) 3,3'-Dichlorobenzidine	(5)	17.073(0.000)	252	624544	10.095	40.54			0.5
195) Benzo(a)anthracene	(5)	17.073(0.000)	228	1948127	11.865	47.65			0.03
196) Chrysene	(5)	17.131(0.000)	228	1872923	12.113	48.65			0.03
199) bis(2-Ethylhexyl)phthalate	(5)	17.300(0.000)	149	1341042	11.817	47.46			0.5
205) Di-n-octylphthalate	(6)	18.448(-0.000)	149	2322442	11.285	45.32			0.5
206) Benzo(b)fluoranthene	(6)	18.903(-0.000)	252	2001868	11.673	46.88			0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.909(-0.000)	256	795433	11.423	45.88			0.1
208) Benzo(k)fluoranthene	(6)	18.950(-0.000)	252	1922138	11.653	46.80			0.03
211) Benzo(a)pyrene	(6)	19.416(0.000)	252	1721431	10.864	43.63			0.03
215) 3-Methylcholanthrene	(6)	19.993(-0.000)	268	835386	11.846	47.57			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	21.100(0.000)	276	1766746	11.374	45.68			0.03
220) Dibenz(a,h)anthracene	(6)	21.141(0.000)	278	1479070	11.448	45.98			0.03
221) Benzo(g,h,i)perylene	(6)	21.450(0.000)	276	1397379	10.994	44.15			0.03

E = Compound concentration above calibration range. A = User selected an alternate peak. M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0610.d Injection date and time: **23-MAY-2017 16:20**
Data file Sample Info. Line: R8504MS;8999789MS;1;3;MS;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

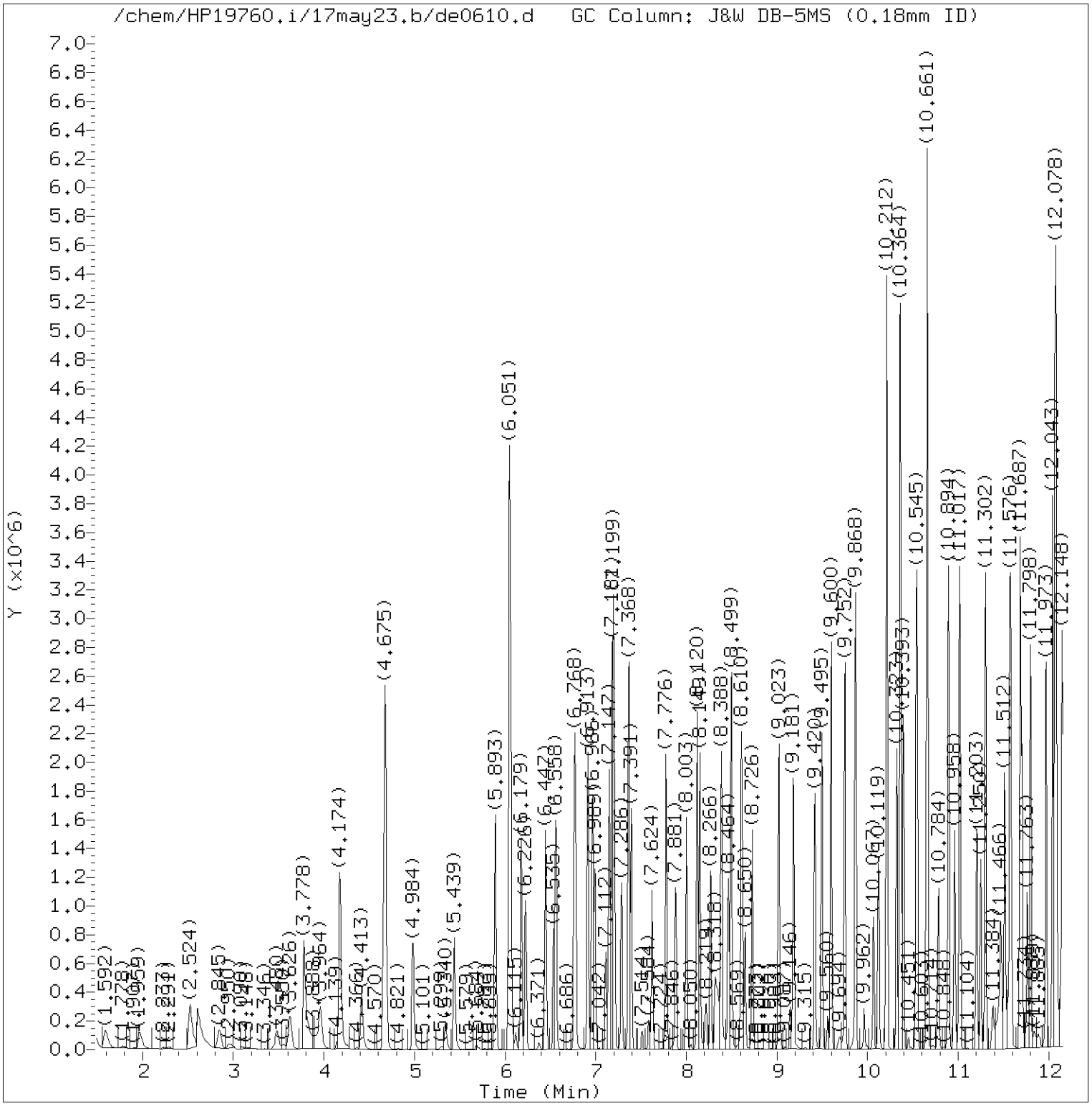
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

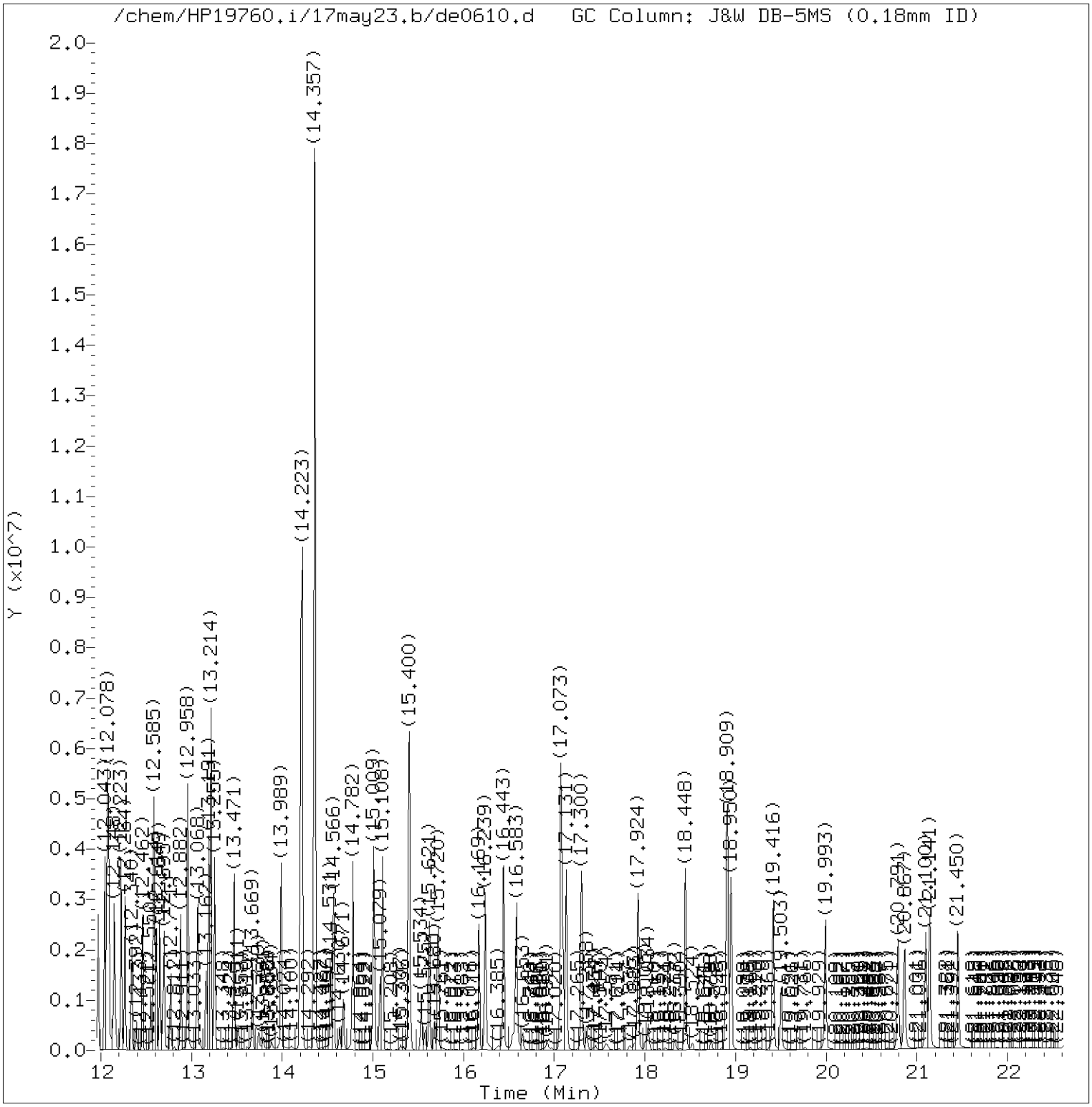
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	2.530	74	253323	6.810
5) Pyridine	(1)	2.606	79	347133	5.687
7) 2-Picoline	(1)	3.778	93	551609	8.850
8) N-Nitrosomethylethylamine	(1)	3.958	88	266108	10.005
9) Methyl methanesulfonate	(1)	4.413	80	249829	8.209
11)$2-Fluorophenol	(1)	4.681	112	838299	17.079
13) N-Nitrosodiethylamine	(1)	4.984	102	259542	10.506
15) Ethyl methanesulfonate	(1)	5.439	109	260008	9.744
17)$Phenol-d6	(1)	6.045	99	1639292	24.608
19) Aniline	(1)	6.057	93	614005	6.924
18) Phenol	(1)	6.062	94	507449	6.724
22) bis(2-Chloroethyl)ether	(1)	6.179	93	601094A	10.720
23) 2-Chlorophenol	(1)	6.226	128	378272	7.695
25)*1,4-Dichlorobenzene-d4	(1)	6.535	152	158200	5.000
27) Benzyl alcohol	(1)	6.762	108	325525M	9.282
31) 2-Methylphenol	(1)	6.960	108	457142	9.457
34) bis(2-Chloroisopropyl)ether	(1)	6.989	45	876941	10.586
35) N-Nitrosopyrrolidine	(1)	7.112	100	273667	10.051
36) Acetophenone	(1)	7.152	105	819683	11.273
38) N-Nitroso-di-n-propylamine	(1)	7.181	70	479686	10.938
39) N-Nitrosomorpholine	(1)	7.181	56	378924	10.155
37) 4-Methylphenol	(1)	7.199	108	510594	9.181
40) o-Toluidine	(1)	7.199	106	768113	9.014
43) Hexachloroethane	(1)	7.286	117	184053	8.259
44)$Nitrobenzene-d5	(2)	7.368	82	1239599	20.202
97) Isosafrole	(3)			449483	11.584
45) Nitrobenzene	(2)	7.391	77	679324	10.992
48) N-Nitrosopiperidine	(2)	7.624	114	257486	10.551
50) Isophorone	(2)	7.776	82	1180250	11.166
51) 2-Nitrophenol	(2)	7.887	139	257989	10.570
53) 2,4-Dimethylphenol	(2)	8.003	107	415418	7.894
57) O,O,O-Triethylphosphorothioate	(2)	8.120	198	260235	10.481
55) bis(2-Chloroethoxy)methane	(2)	8.149	93	755782	11.184
60) 2,4-Dichlorophenol	(2)	8.271	162	289256	7.426
64) a,a-Dimethylphenethylamine	(2)	8.318	58	1303569	12.731
65)*Naphthalene-d8	(2)	8.464	136	592077	5.000
67) 4-Chloroaniline	(2)	8.610	127	524980	9.156
68) 2,6-Dichlorophenol	(2)	8.615	162	254912	6.602
69) Hexachloropropene	(2)	8.650	213	178564	5.773
146) Diallate trans/cis	(4)			514973	11.605

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
77) N-Nitrosodi-n-butylamine	(2)	9.181	84	445577	10.295
80) 4-Chloro-3-methylphenol	(2)	9.420	107	469096	10.567
82) Safrole	(2)	9.495	162	363112	10.292
83) 2-Methylnaphthalene	(2)	9.600	142	950285	10.262
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.868	216	453016	9.623
85) Hexachlorocyclopentadiene	(3)	9.868	237	207354	9.240
88) cis-Isosafrole	(3)	9.962	162	50147	1.359
90) 2,4,6-Trichlorophenol	(3)	10.067	196	149423	5.212
92) 2,4,5-Trichlorophenol	(3)	10.119	196	252964	8.170
93)$2-Fluorobiphenyl	(3)	10.212	172	2054704	20.091
94) trans-Isosafrole	(3)	10.323	162	399336	10.225
96) 2-Chloronaphthalene	(3)	10.364	162	909273	10.960
186) Aramite	(5)			212206	21.519
100) 2-Nitroaniline	(3)	10.550	138	285963	11.092
104) 1,4-Naphthoquinone	(3)	10.661	158	1347233	39.064
106) Dimethylphthalate	(3)	10.894	163	1048754	10.940
107) 1,3-Dinitrobenzene	(3)	10.894	168	169646	11.373
108) 2,6-Dinitrotoluene	(3)	10.964	165	234727	11.069
109) Acenaphthylene	(3)	11.017	152	1298475	10.696
112) 3-Nitroaniline	(3)	11.203	138	231732	10.571
113)*Acenaphthene-d10	(3)	11.250	164	329019	5.000
114) Acenaphthene	(3)	11.302	153	982509	11.119
115) 2,4-Dinitrophenol	(3)	11.477	184	276714M	22.386
117) Pentachlorobenzene	(3)	11.512	250	354905	9.336
116) 4-Nitrophenol	(3)	11.553	109	129242M	7.973
119) Dibenzofuran	(3)	11.570	168	1326880	10.996
118) 2,4-Dinitrotoluene	(3)	11.588	165	328457	11.517
121) 1-Naphthylamine	(3)	11.687	143	1215809	14.202
122) 2,3,4,6-Tetrachlorophenol	(3)	11.763	232	135126	5.795
123) 2-Naphthylamine	(3)	11.798	143	965246	11.379
124) Diethylphthalate	(3)	11.973	149	1075414	11.559
126) Fluorene	(3)	12.043	166	1054168	10.888
125) Thionazin	(3)	12.066	107	208401	11.263
128) 5-Nitro-o-toluidine	(3)	12.078	152	278083	10.438
127) 4-Chlorophenyl-phenylether	(3)	12.078	204	513204	10.885
129) 4-Nitroaniline	(3)	12.083	138	248654	11.394
130) 4,6-Dinitro-2-methylphenol	(4)	12.159	198	181896M	10.889
131) N-Nitrosodiphenylamine	(4)	12.223	169	882911	11.492
135)$2,4,6-Tribromophenol	(3)	12.340	330	177859	14.524
139) 1,3,5-Trinitrobenzene	(4)	12.550	213	114233	10.570

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Diallate (peak 1)	(4)	12.585	86	389057	8.294
141) Phorate	(4)	12.585	75	823235	11.799
142) Phenacetin	(4)	12.614	108	590186	11.543
143) 4-Bromophenyl-phenylether	(4)	12.649	248	298007	11.305
144) Diallate (peak 2)	(4)	12.678	86	125916	3.311
145) Hexachlorobenzene	(4)	12.695	284	296693	10.687
147) Dimethoate	(4)	12.771	87	337385	7.508
150) 4-Aminobiphenyl	(4)	12.958	169	940155	11.022
149) Pentachlorophenol	(4)	12.958	266	112751	7.387
151) Pentachloronitrobenzene	(4)	12.958	237	134301	11.082
152) Pronamide	(4)	13.068	173	522306	11.810
153)*Phenanthrene-d10	(4)	13.162	188	619519	5.000
155) Phenanthrene	(4)	13.191	178	1547775	11.177
162) Disulfoton	(4)	13.214	88	1326242	26.239
157) Anthracene	(4)	13.255	178	1536279	11.142
164) Methyl parathion	(4)	13.669	109	303689	8.777
165) Di-n-butylphthalate	(4)	13.989	149	1940512	12.271
167) Parathion	(4)	14.205	109	268474	12.167
168) 4-Nitroquinoline-1-oxide	(4)	14.223	190	1928775	133.223
170) Methapyrilene	(4)	14.357	97	4697522	141.742
171) Isodrin	(4)	14.566	193	189563	11.291
173) Fluoranthene	(4)	14.782	202	1859300	11.726
175)*Pyrene-d10	(5)	15.079	212	754308	5.000
177) Pyrene	(5)	15.108	202	1885722	11.011
180) Aramite (1)	(5)	15.307	185	5080A	9.535
181) Aramite (2)	(5)	15.342	185	4777A	8.356
179)$Terphenyl-d14	(5)	15.400	244	2364265	21.359
183) Aramite (3)	(5)	15.412	185	95495A	1.993
184) Aramite (4)	(5)	15.534	185	106854M	1.636
182) p-Dimethylaminoazobenzene	(5)	15.621	225	349231	12.807
185) Chlorobenzilate	(5)	15.720	139	589036	11.695
187) 3,3'-Dimethylbenzidine	(5)	16.169	212	1141204	10.319
188) Butylbenzylphthalate	(5)	16.239	149	916874	12.095
191) 2-Acetylaminofluorene	(5)	16.583	181	897449	12.712
195) Benzo(a)anthracene	(5)	17.073	228	1948127	11.865
193) 3,3'-Dichlorobenzidine	(5)	17.073	252	624544	10.095
196) Chrysene	(5)	17.131	228	1872923	12.113
199) bis(2-Ethylhexyl)phthalate	(5)	17.300	149	1341042	11.817
205) Di-n-octylphthalate	(6)	18.448	149	2322442	11.285
206) Benzo(b)fluoranthene	(6)	18.903	252	2001868	11.673

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

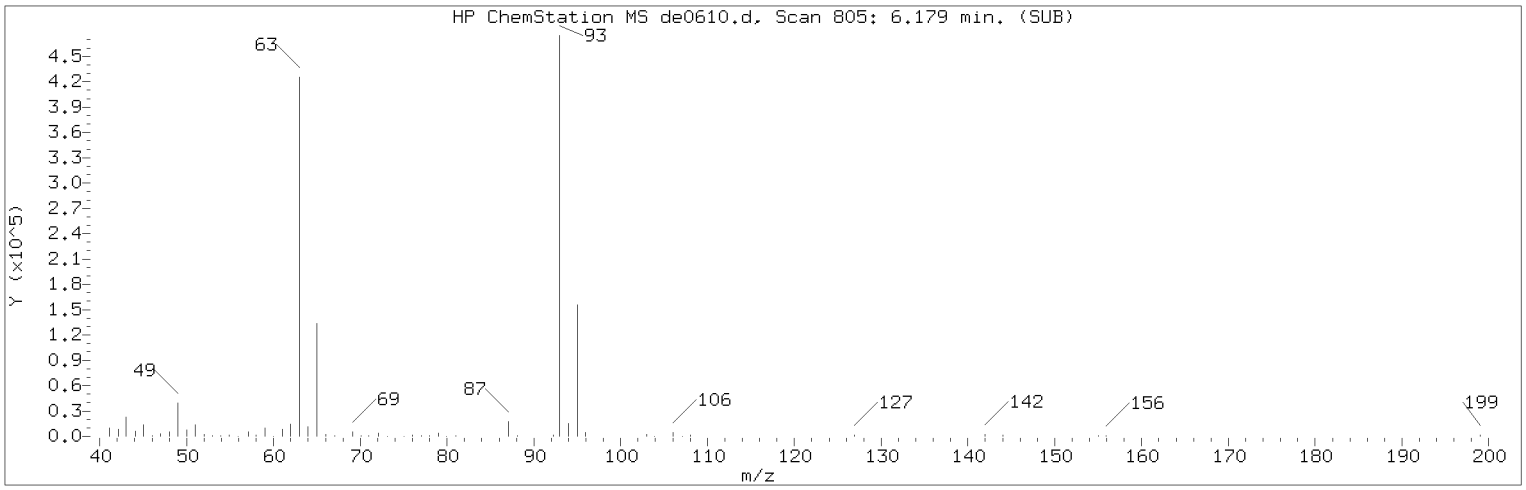
Sample Name: R8504MS Lab Sample ID: 8999789MS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.909	256	795433	11.423
208) Benzo(k)fluoranthene	(6)	18.950	252	1922138	11.653
211) Benzo(a)pyrene	(6)	19.416	252	1721431	10.864
213)*Perylene-d12	(6)	19.503	264	629540	5.000
215) 3-Methylcholanthrene	(6)	19.993	268	835386	11.846
219) Indeno(1,2,3-cd)pyrene	(6)	21.100	276	1766746	11.374
220) Dibenz(a,h)anthracene	(6)	21.141	278	1479070	11.448
221) Benzo(g,h,i)perylene	(6)	21.450	276	1397379	10.994

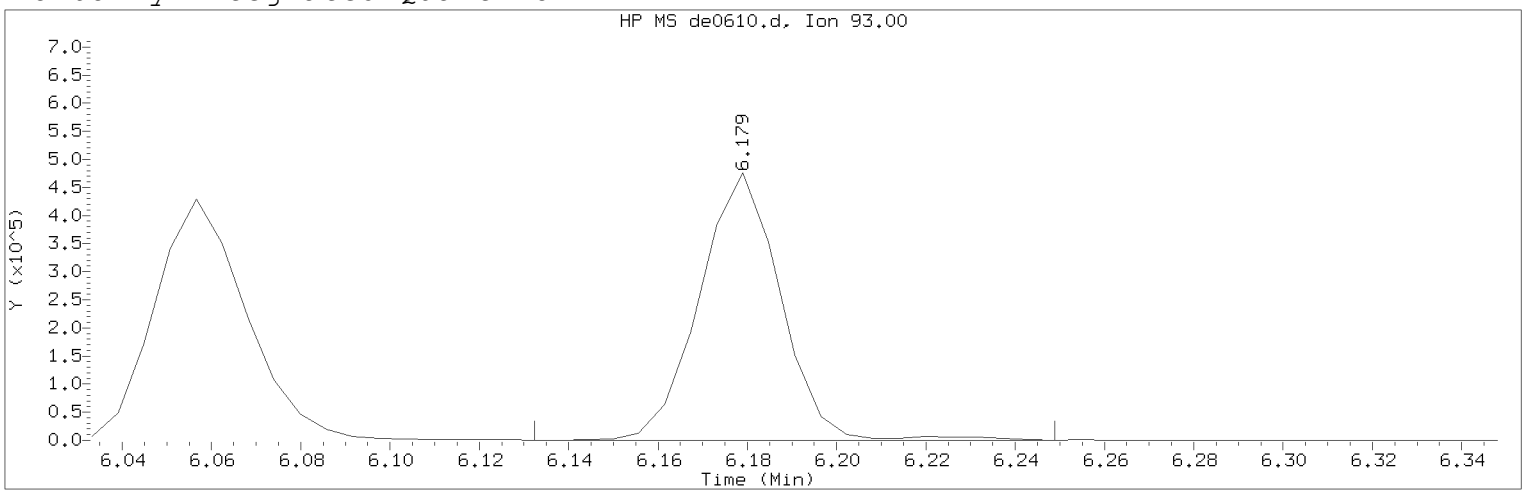
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

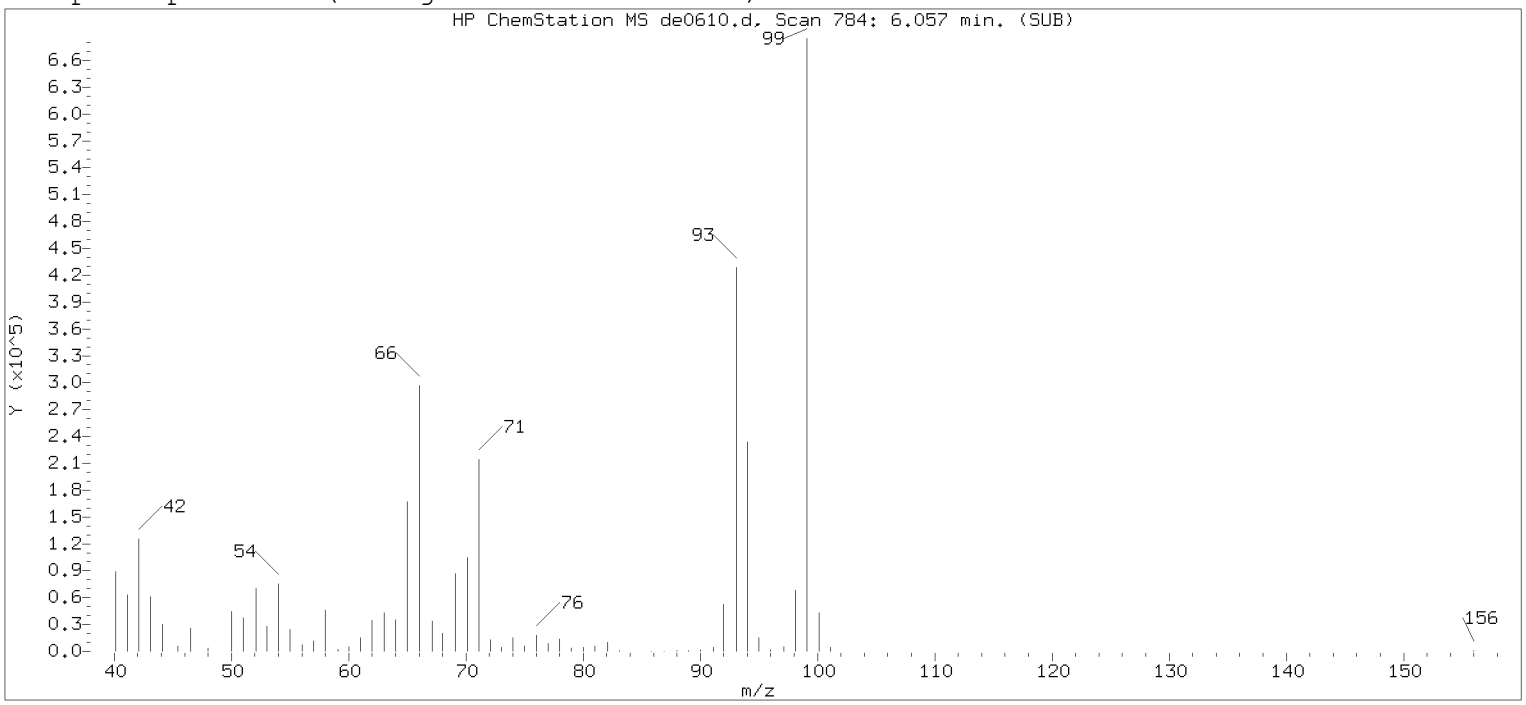
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 805
Retention Time (minutes) : 6.179
Quant Ion : 93.00
Area (flag) : 601094A
On-Column Amount (ng/ul) : 10.7204
Integration start scan : 796 Integration stop scan: 816
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

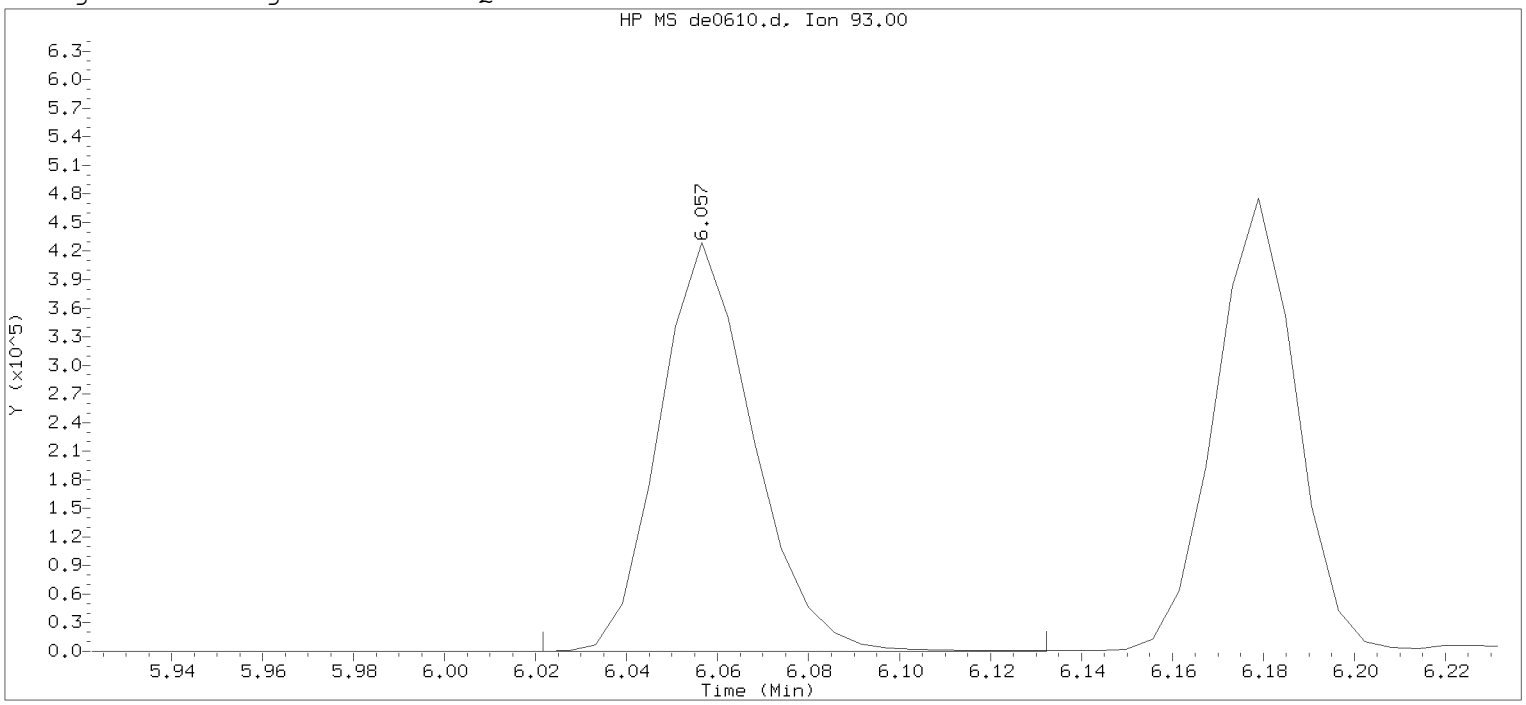
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

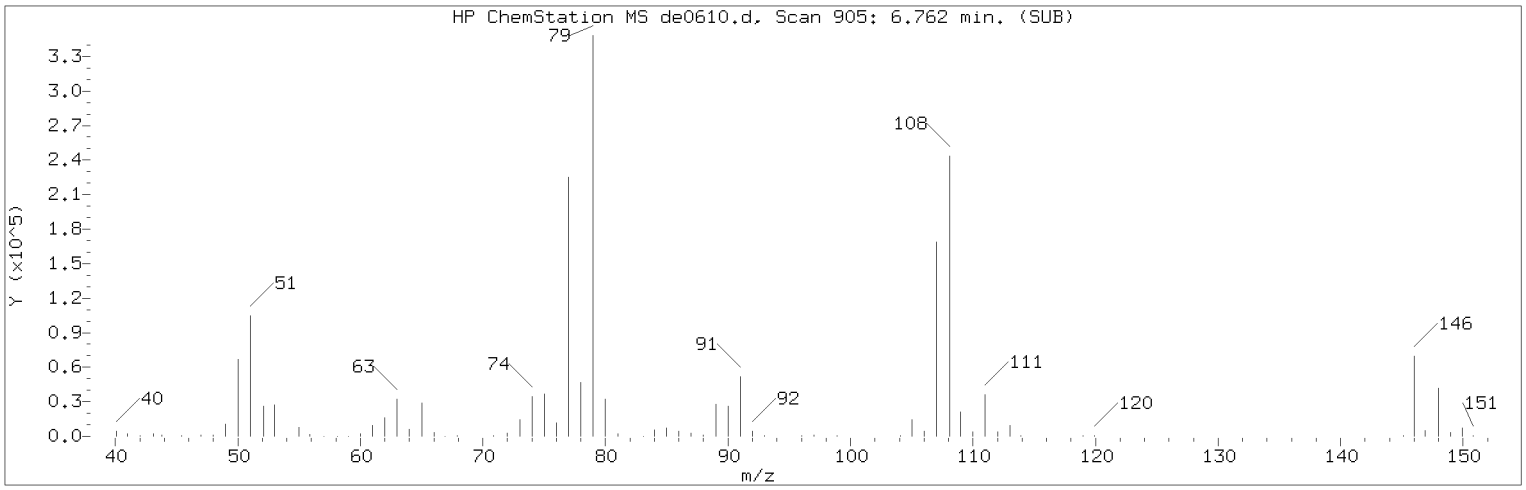
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

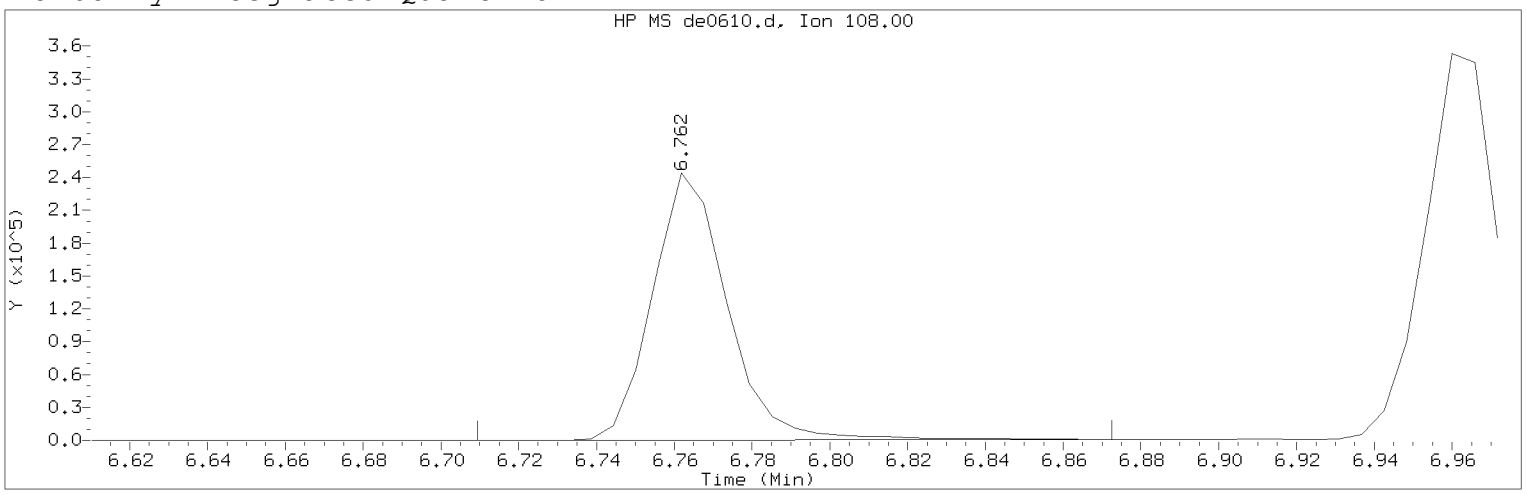
Compound Number	: 22		
Compound Name	: bis(2-Chloroethyl)ether		
Scan Number	: 784		
Retention Time (minutes)	: 6.057		
Quant Ion	: 93.00		
Area	: 614005		
On-column Amount (ng/ul)	: 10.9507		
Integration start scan	: 777	Integration stop scan:	796
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

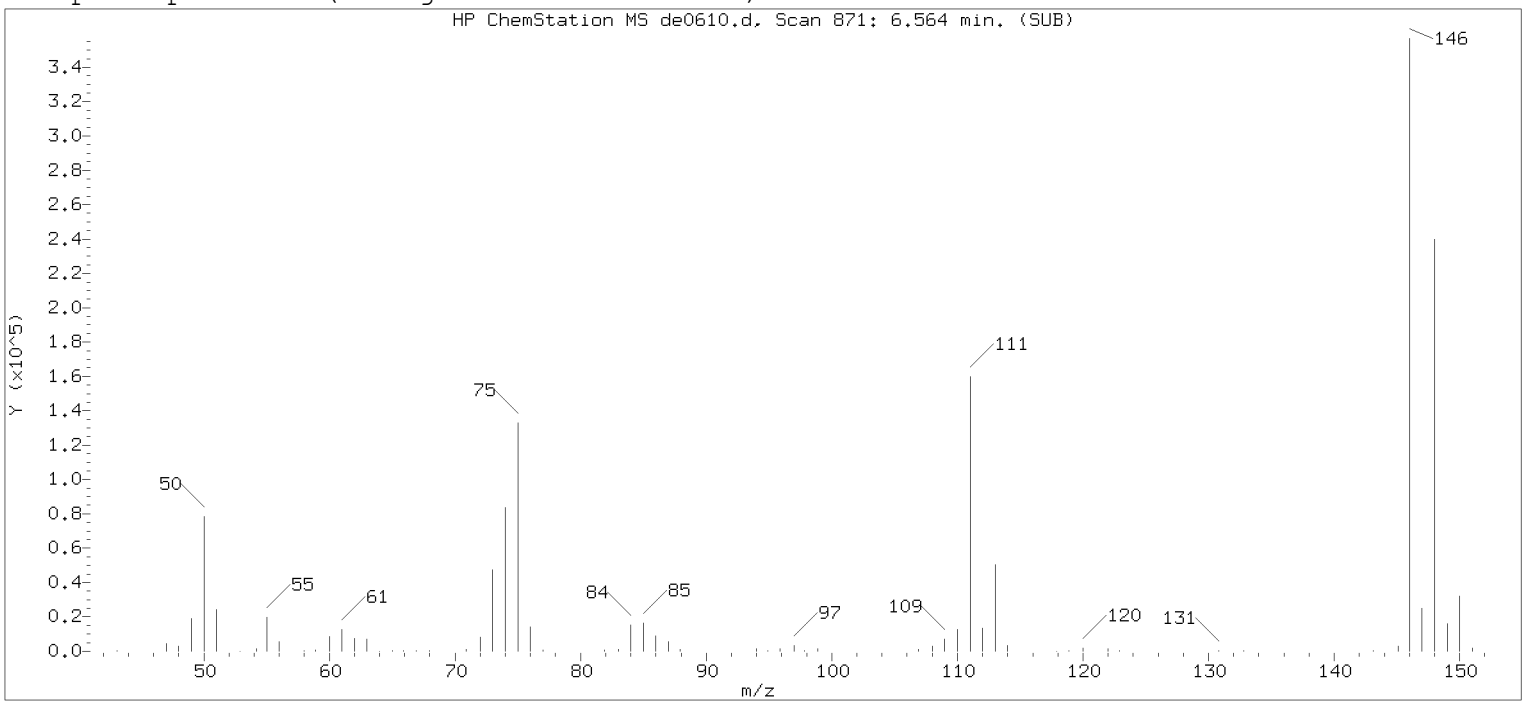
Compound Number : 27
Compound Name : Benzyl alcohol
Scan Number : 905
Retention Time (minutes) : 6.762
Quant Ion : 108.00
Area (flag) : 325525M
On-Column Amount (ng/ul) : 9.2816
Integration start scan : 895 Integration stop scan: 923
Y at integration start : 0 Y at integration end: 878

Reason for manual integration: improper integration

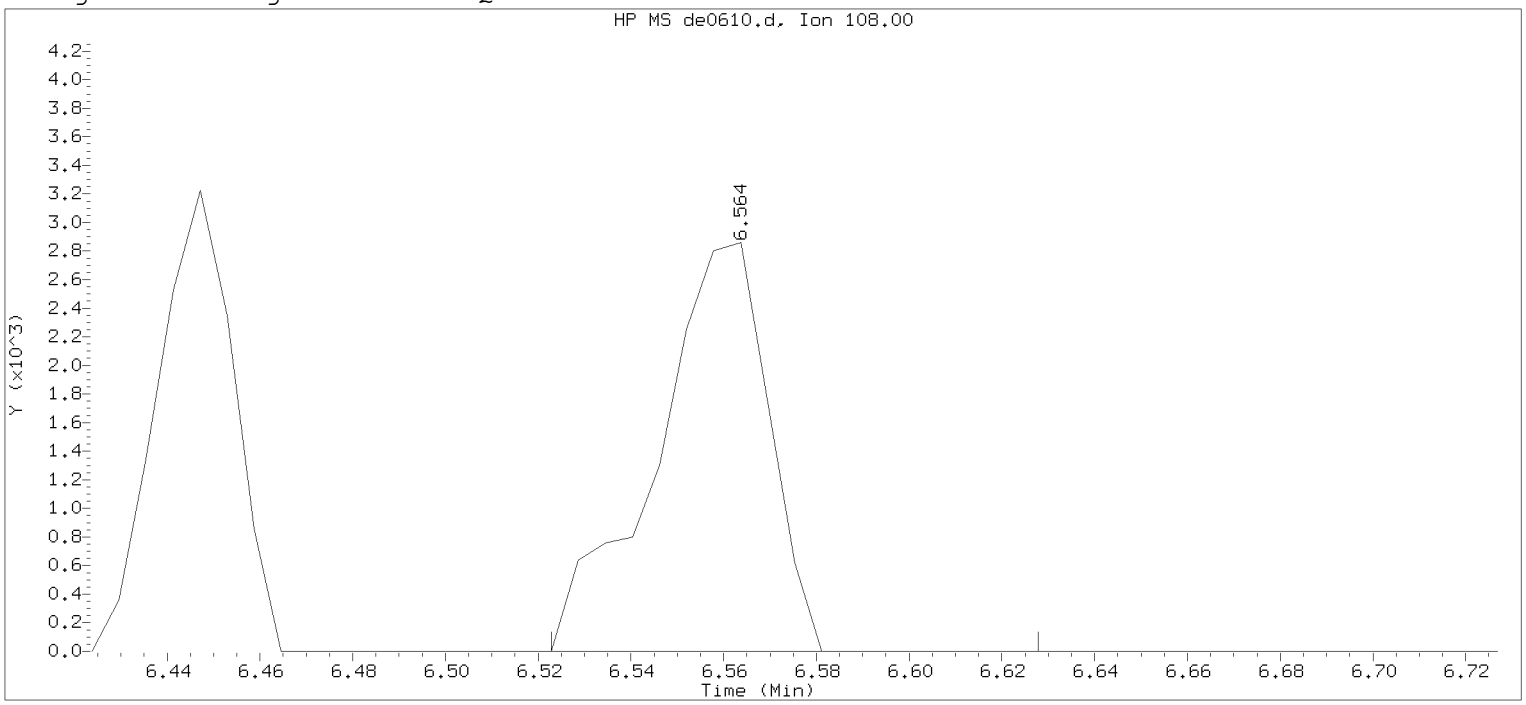
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

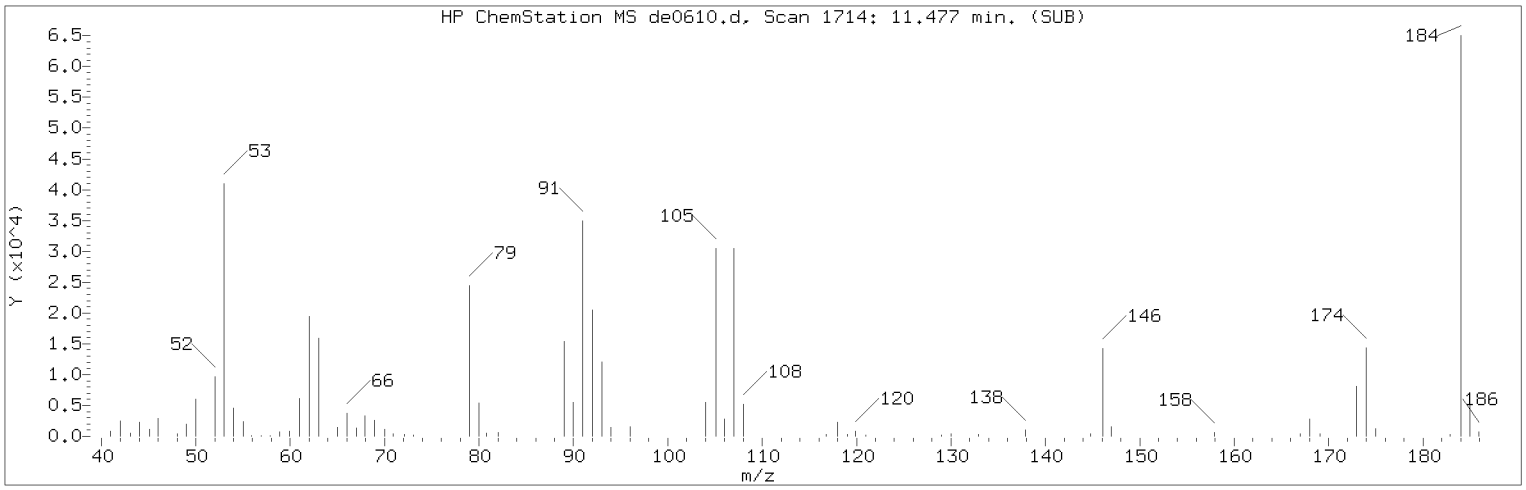
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

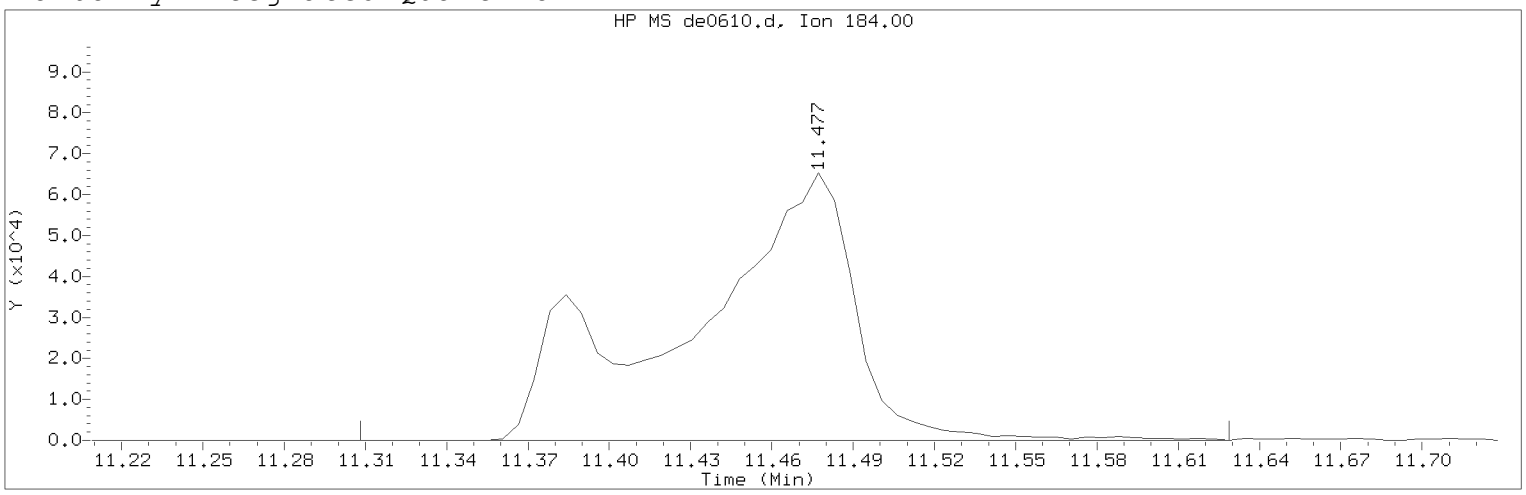
Compound Number	: 27		
Compound Name	: Benzyl alcohol		
Scan Number	: 871		
Retention Time (minutes)	: 6.564		
Quant Ion	: 108.00		
Area	: 4817		
On-column Amount (ng/ul)	: 0.1374		
Integration start scan	: 863	Integration stop scan:	881
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

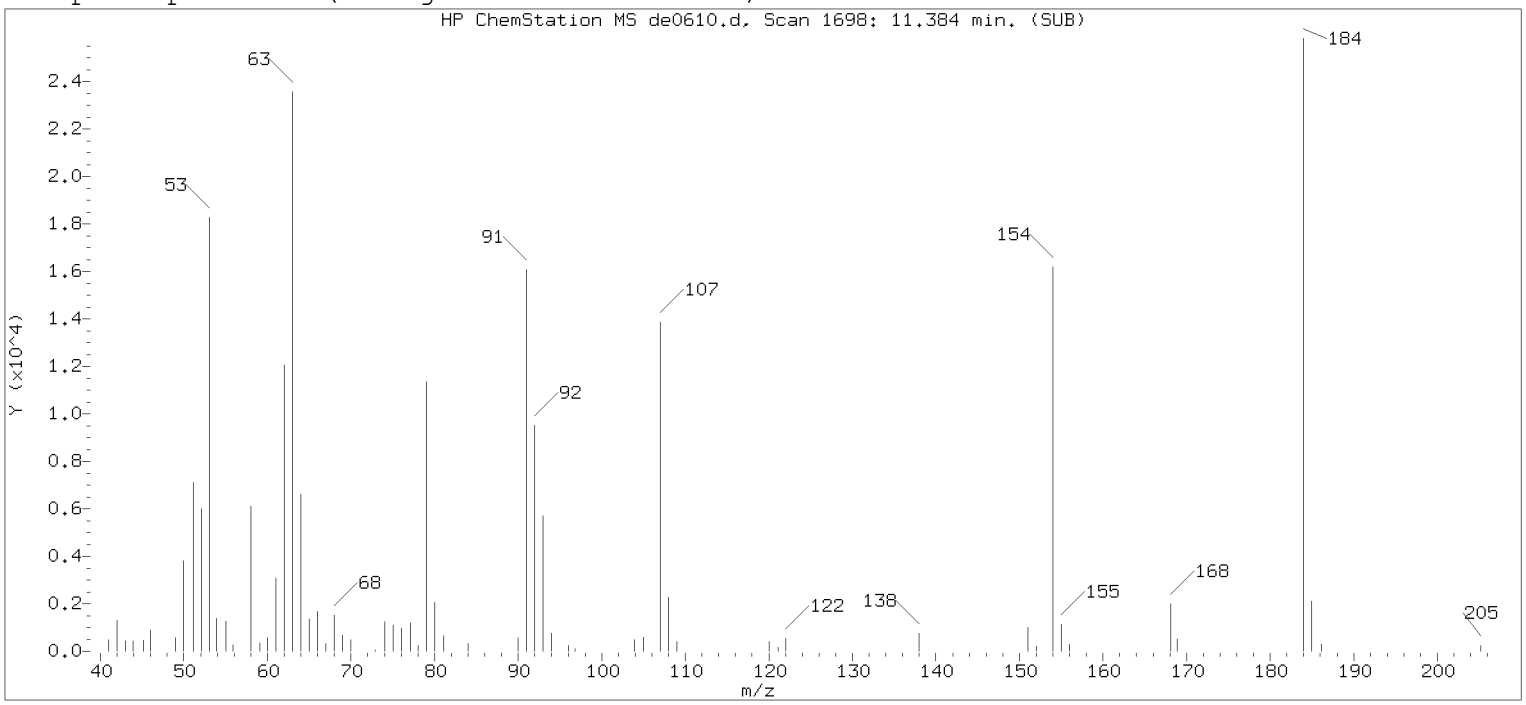
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1714
Retention Time (minutes) : 11.477
Quant Ion : 184.00
Area (flag) : 276714M
On-Column Amount (ng/ul) : 22.3861
Integration start scan : 1684 Integration stop scan: 1739
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

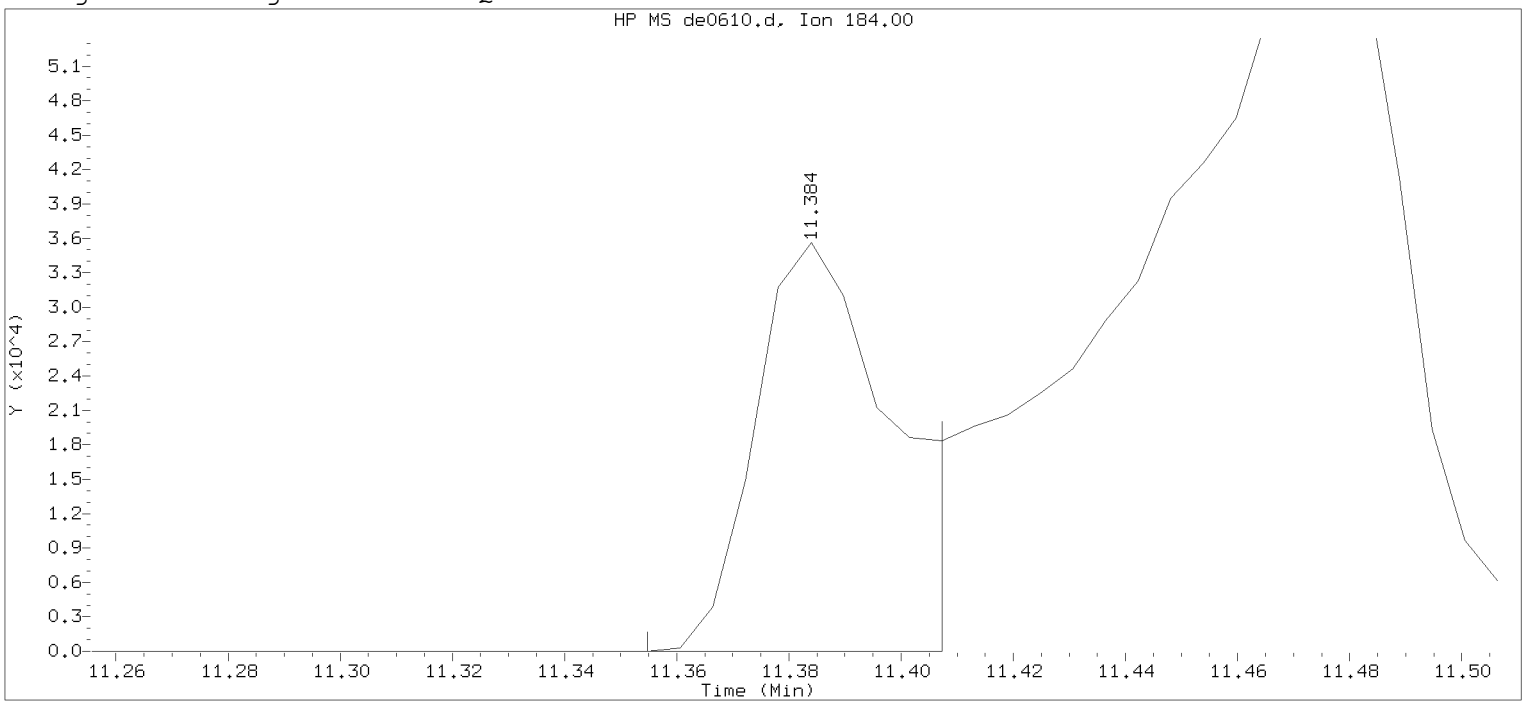
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

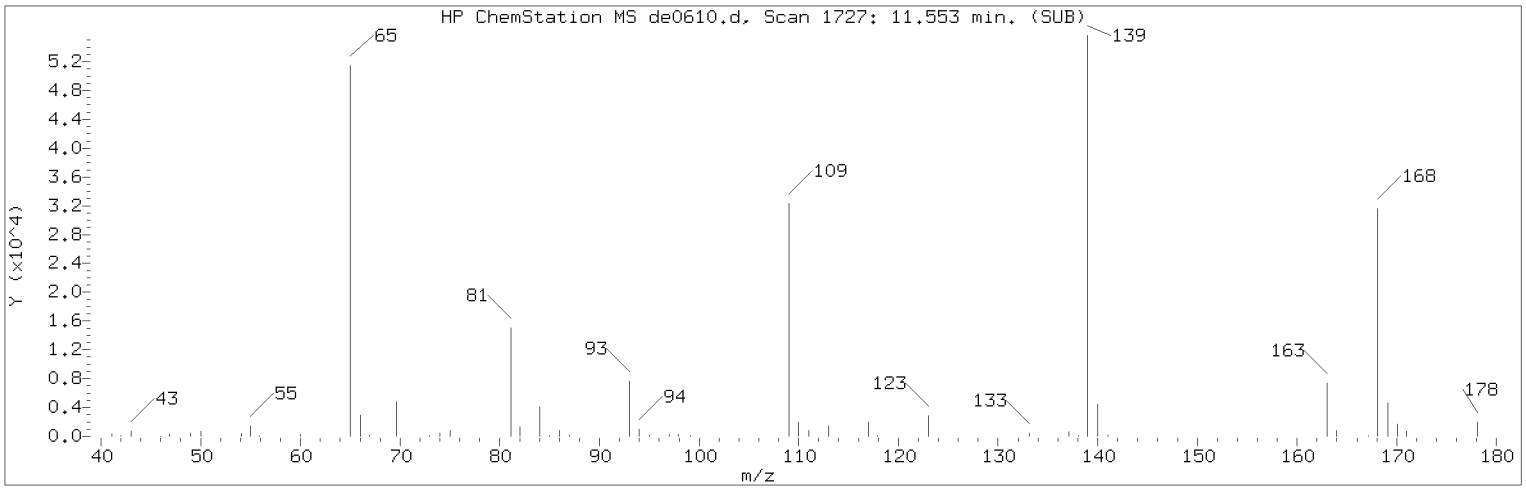
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

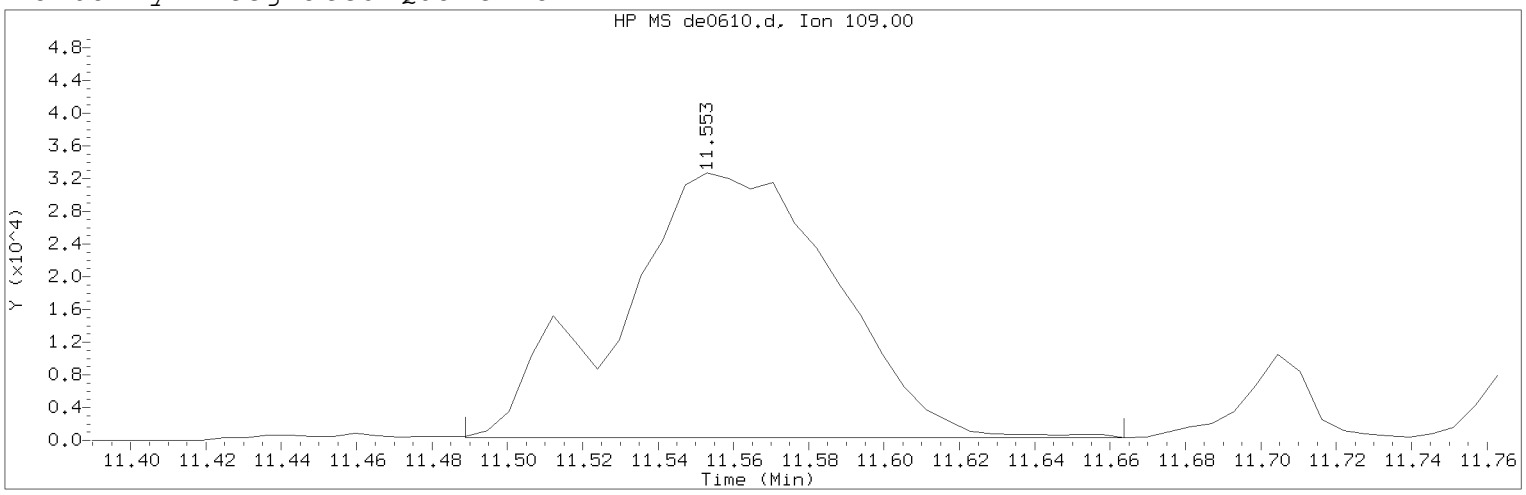
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1698
Retention Time (minutes) : 11.384
Quant Ion : 184.00
Area : 58232
On-column Amount (ng/ul) : 4.7110
Integration start scan : 1692 Integration stop scan: 1701
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

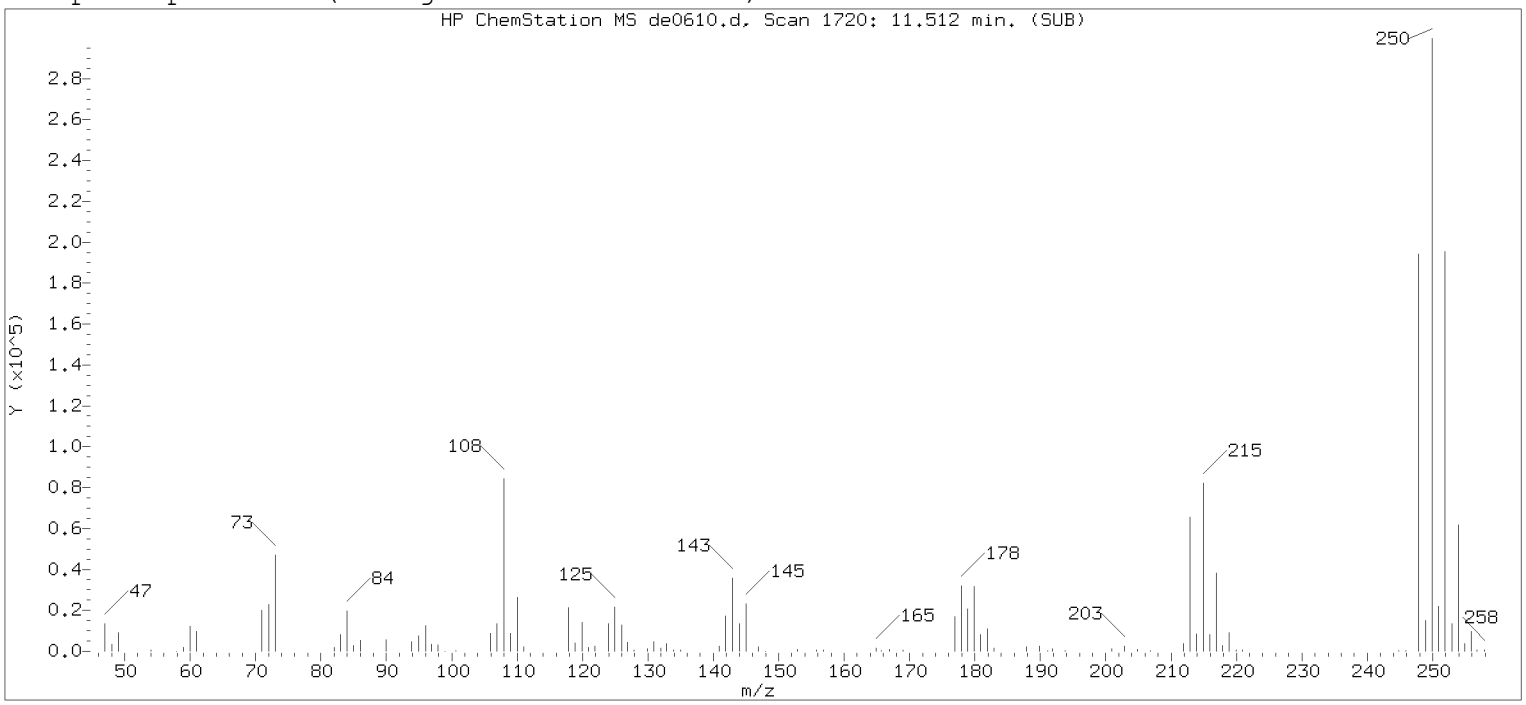
Compound Number : 116
Compound Name : 4-Nitrophenol
Scan Number : 1727
Retention Time (minutes) : 11.553
Quant Ion : 109.00
Area (flag) : 129242M
On-Column Amount (ng/ul) : 7.9732
Integration start scan : 1715 Integration stop scan: 1745
Y at integration start : 331 Y at integration end: 331

Reason for manual integration: improper integration

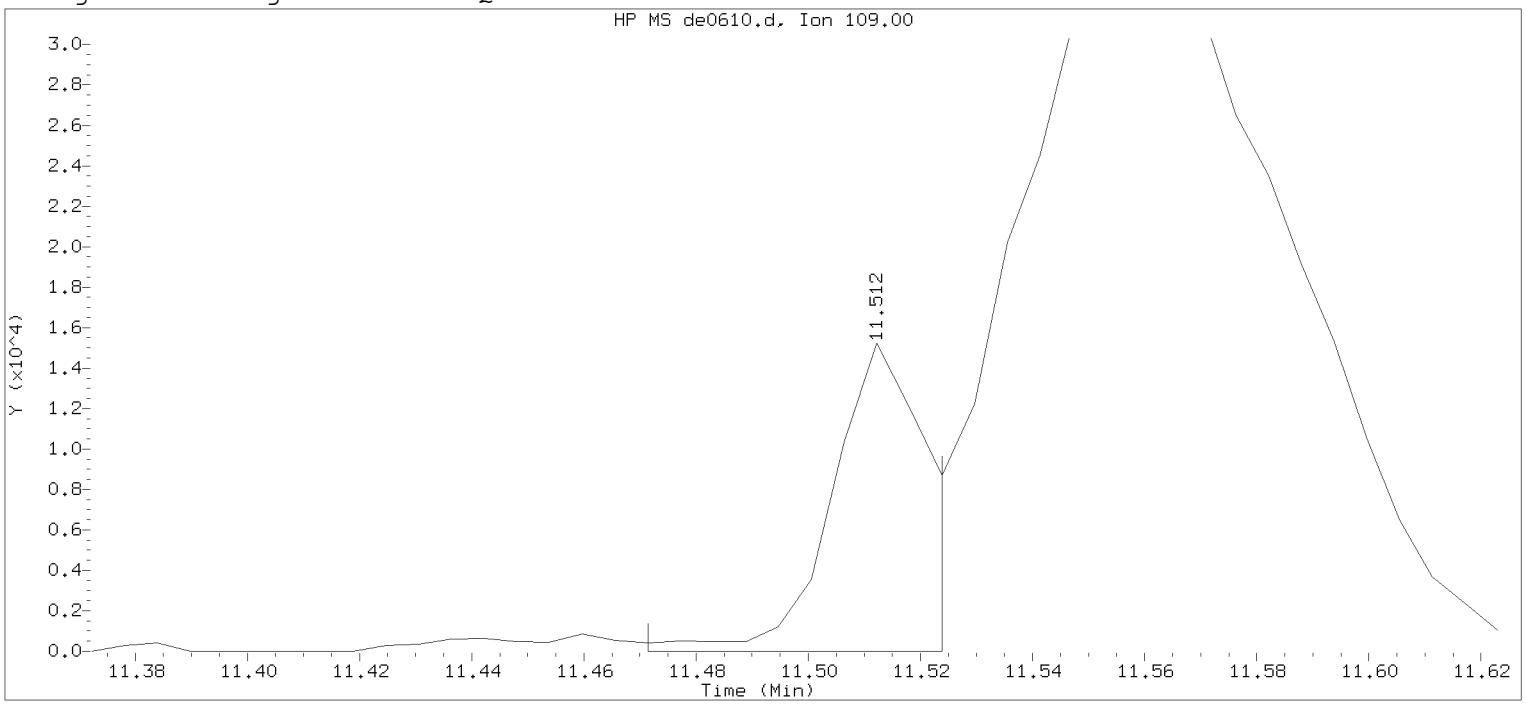
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

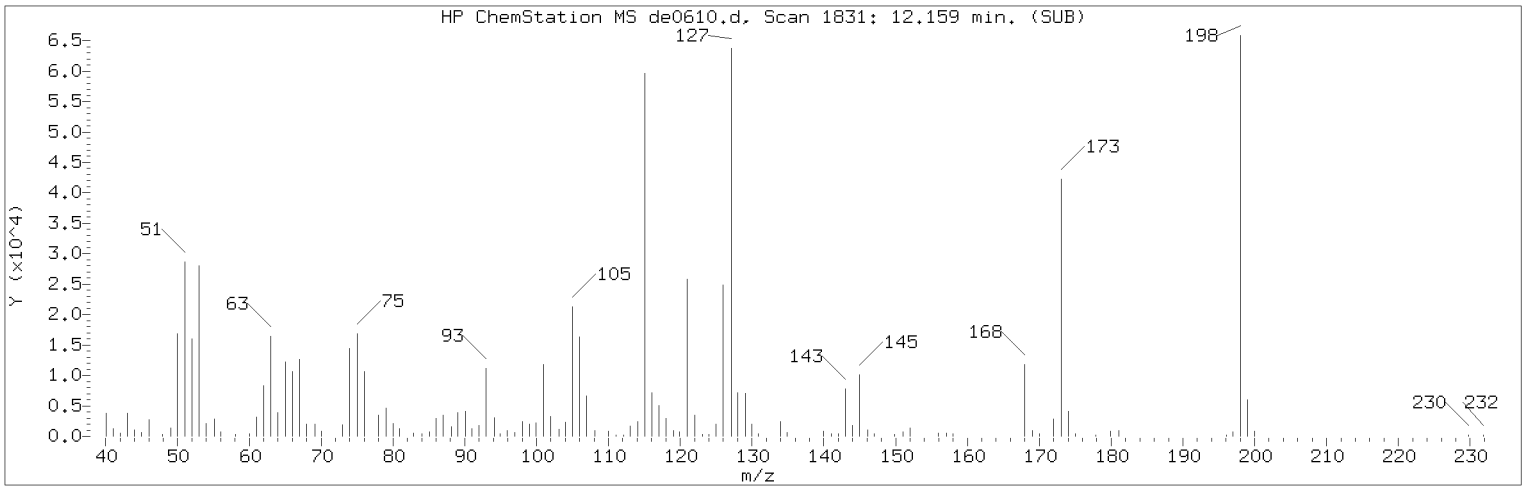
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

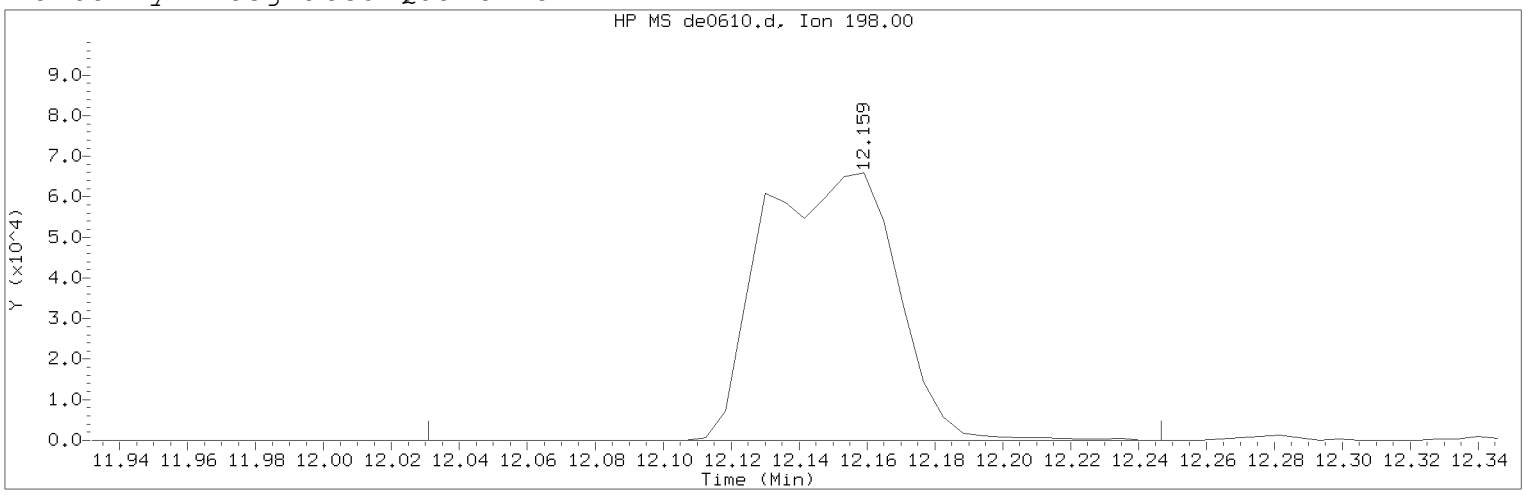
Compound Number	: 116		
Compound Name	: 4-Nitrophenol		
Scan Number	: 1720		
Retention Time (minutes)	: 11.512		
Quant Ion	: 109.00		
Area	: 16923		
On-column Amount (ng/ul)	: 1.0441		
Integration start scan	: 1712	Integration stop scan:	1721
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

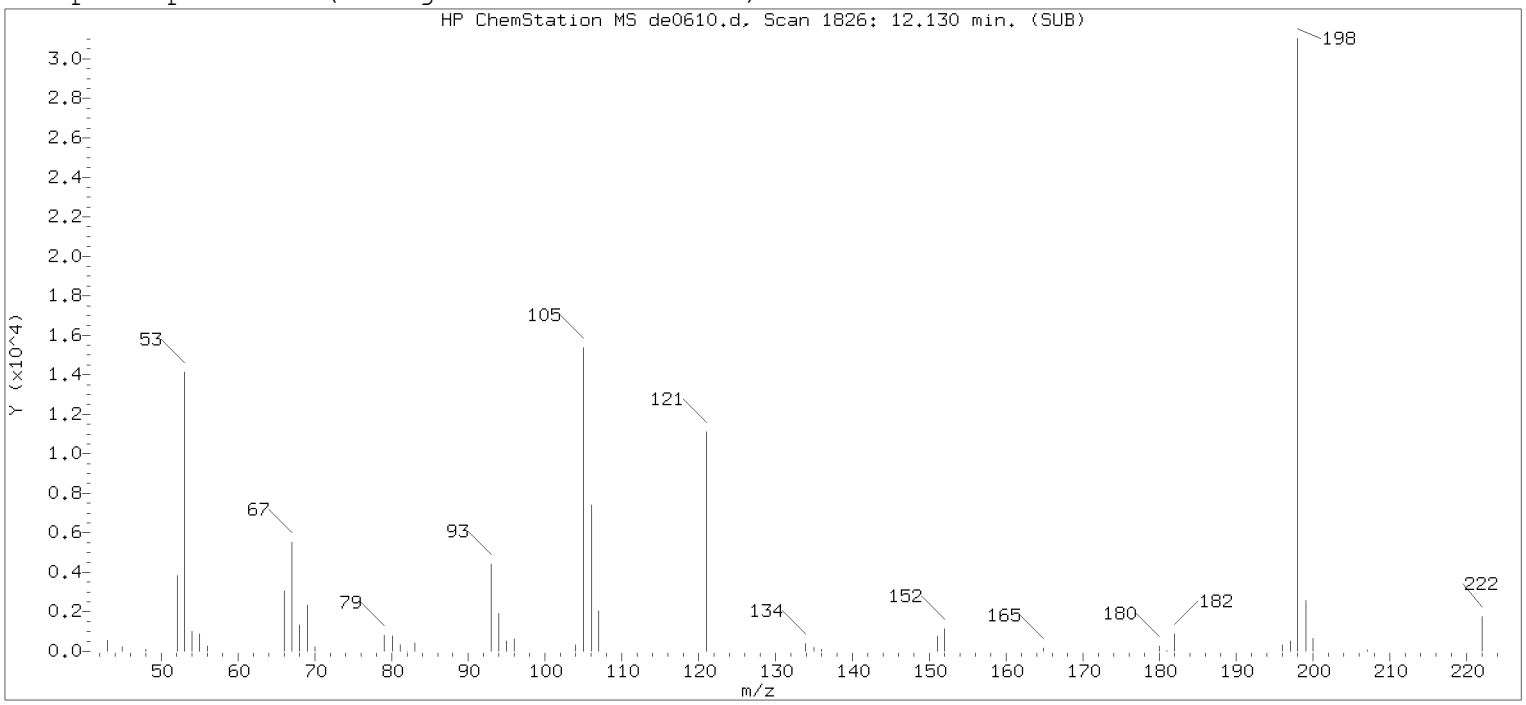
Compound Number : 130
Compound Name : 4,6-Dinitro-2-methylphenol
Scan Number : 1831
Retention Time (minutes) : 12.159
Quant Ion : 198.00
Area (flag) : 181896M
On-Column Amount (ng/ul) : 10.8888
Integration start scan : 1808 Integration stop scan: 1845
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

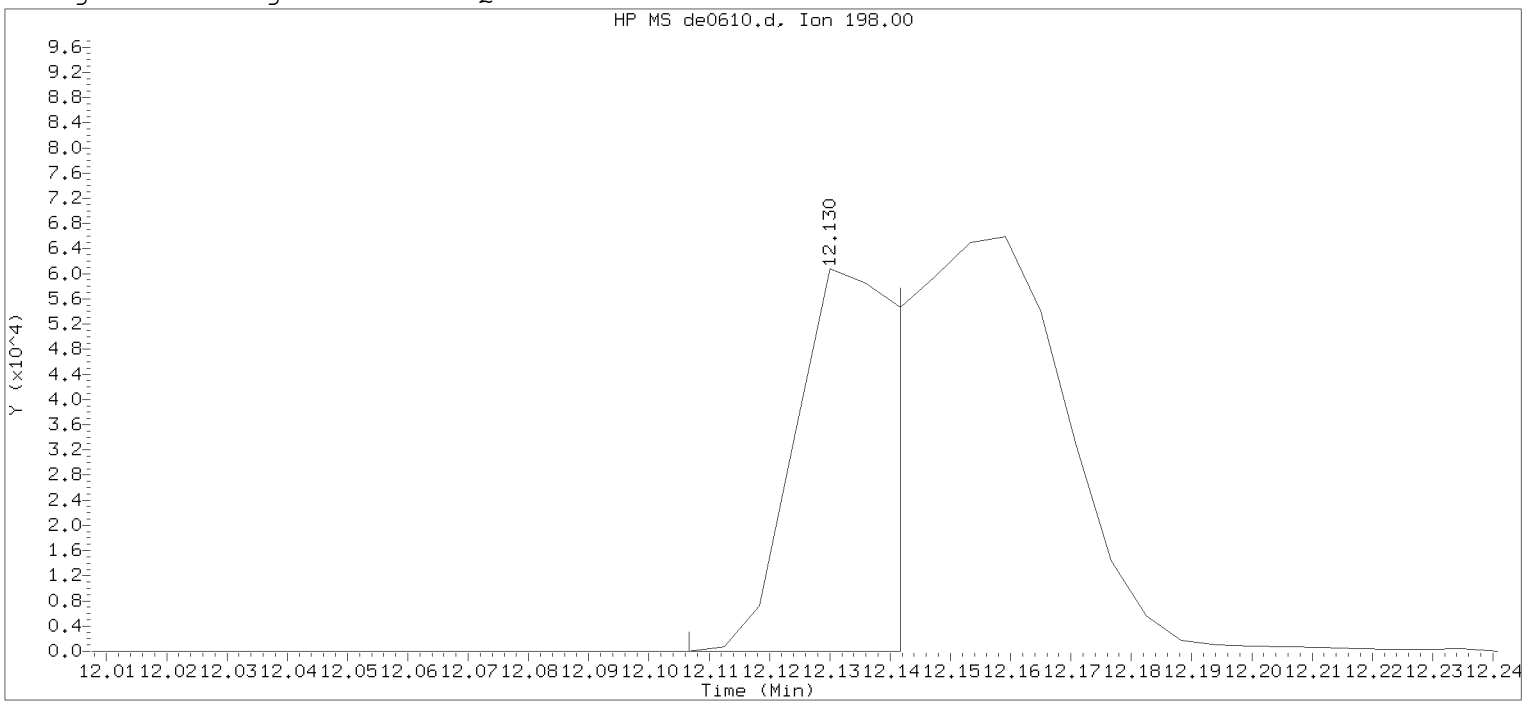
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

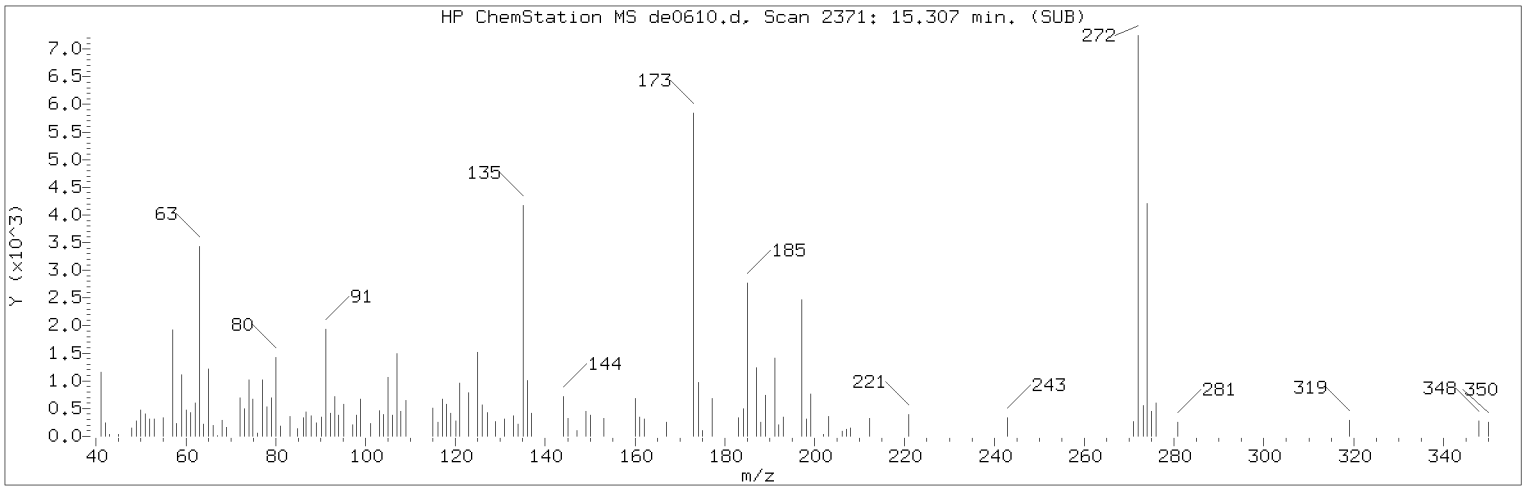
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

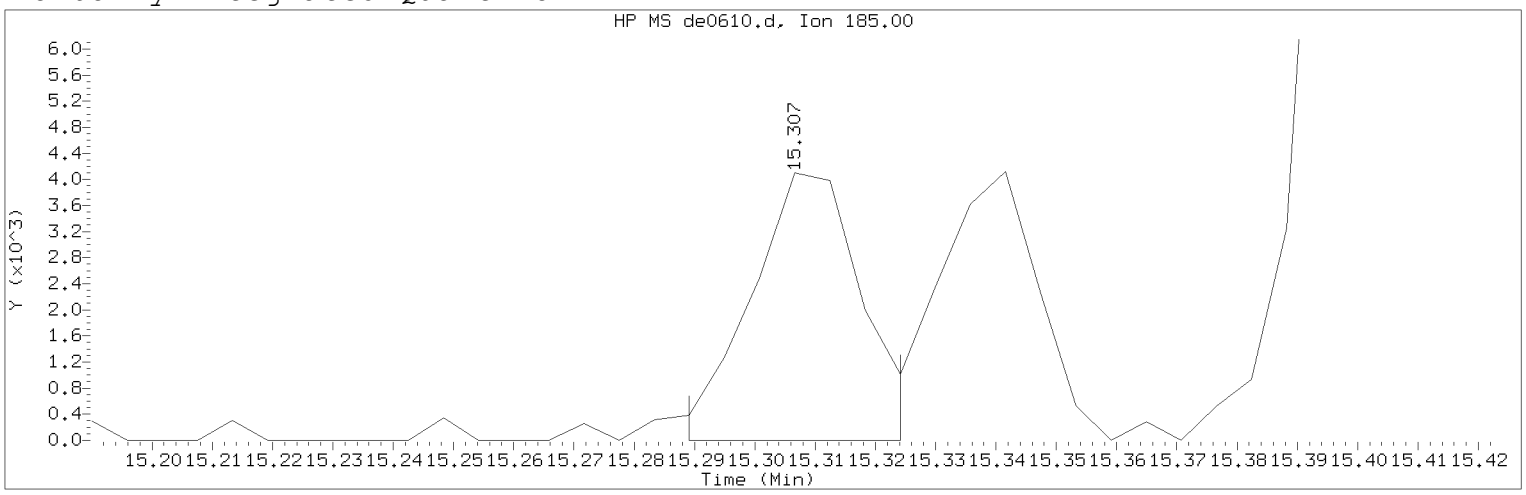
Compound Number : 130
Compound Name : 4,6-Dinitro-2-methylphenol
Scan Number : 1826
Retention Time (minutes) : 12.130
Quant Ion : 198.00
Area : 66086
On-column Amount (ng/ul) : 3.9561
Integration start scan : 1821 Integration stop scan: 1827
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

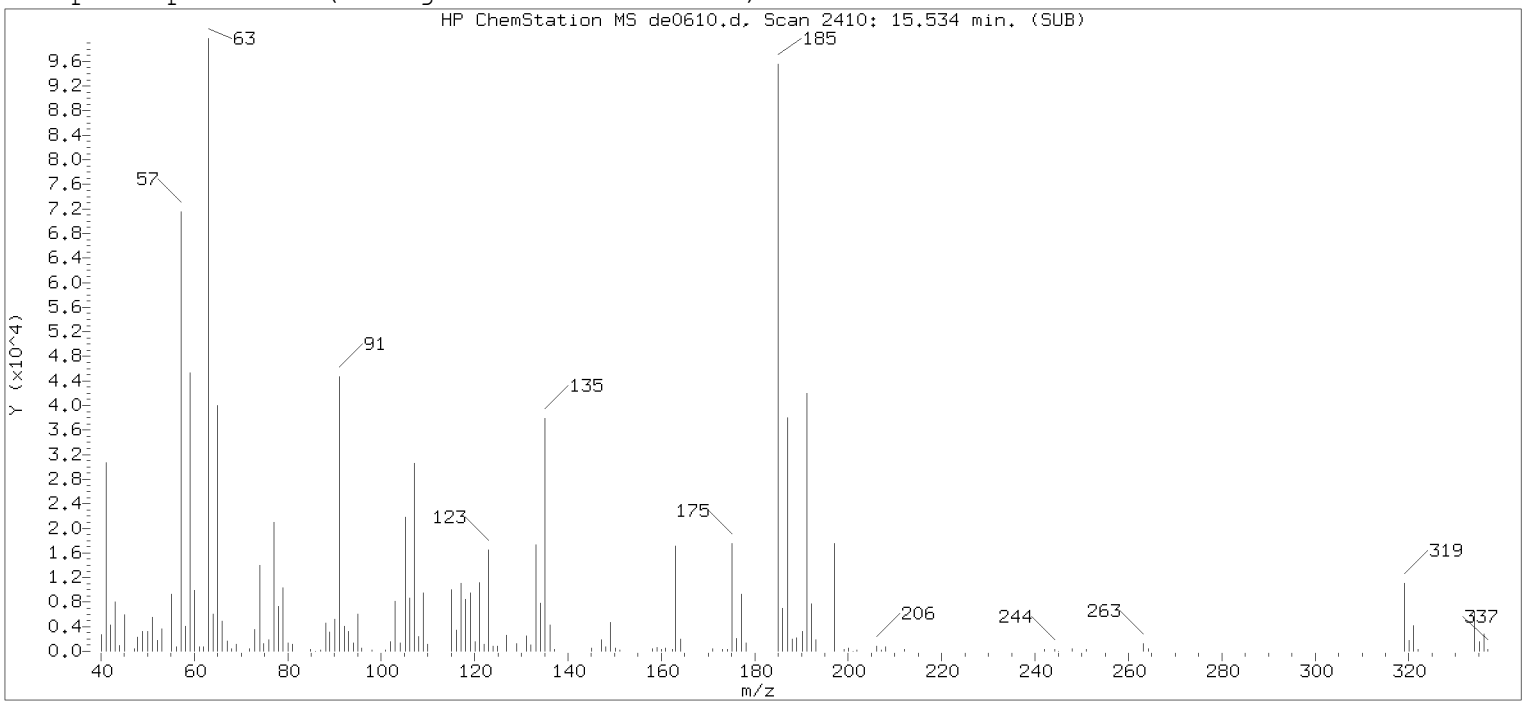
Compound Number	: 180		
Compound Name	: Aramite (1)		
Scan Number	: 2371		
Retention Time (minutes)	: 15.307		
Quant Ion	: 185.00		
Area (flag)	: 5080A		
On-Column Amount (ng/ul)	: 9.5348		
Integration start scan	: 2367	Integration stop scan:	2373
Y at integration start	: 0	Y at integration end:	0

Reason for manual integration: improper integration

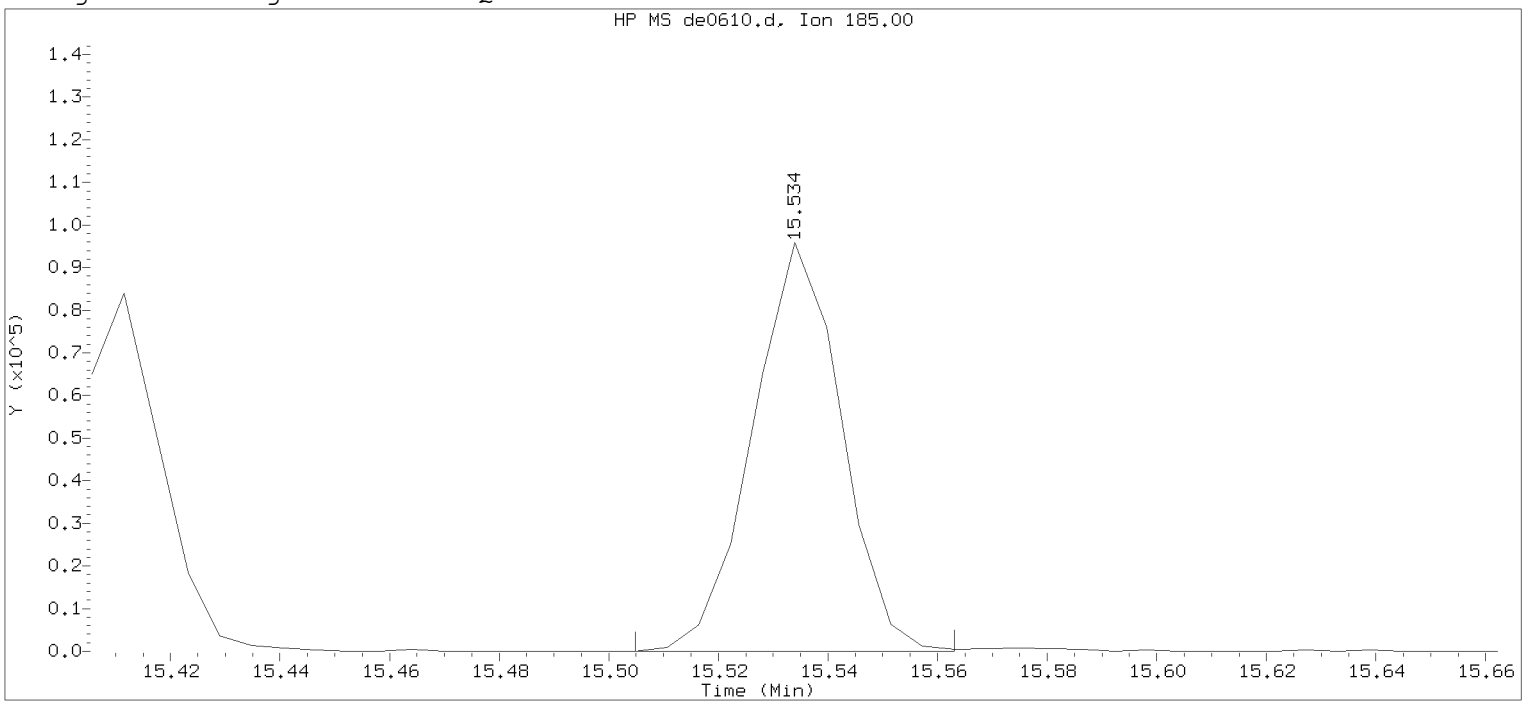
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

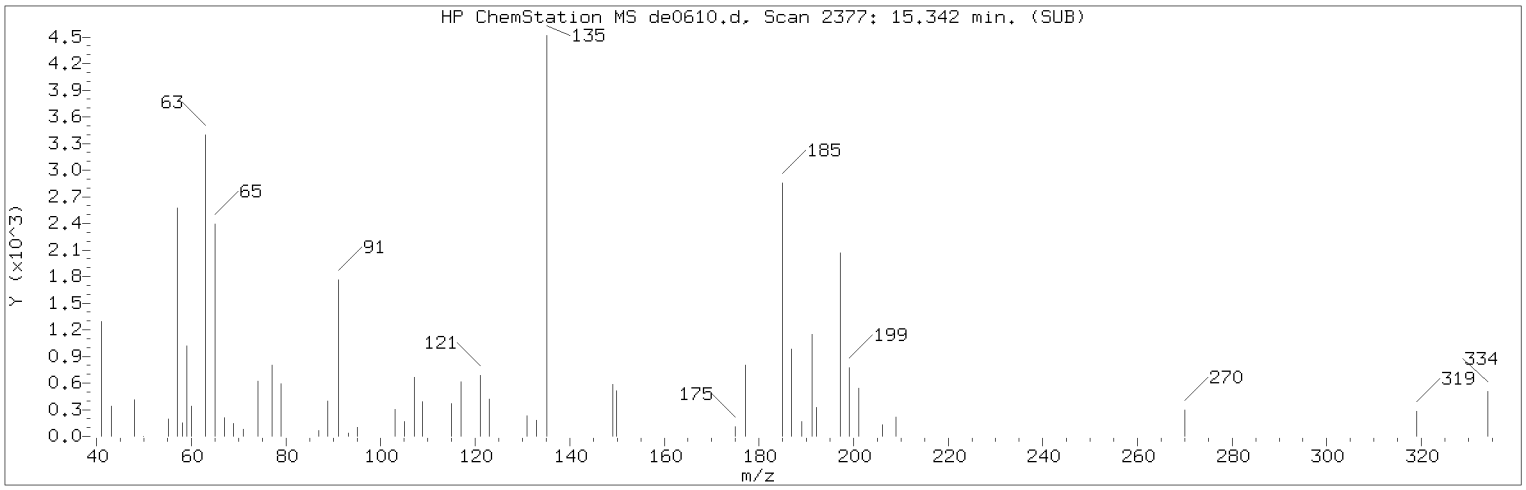
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

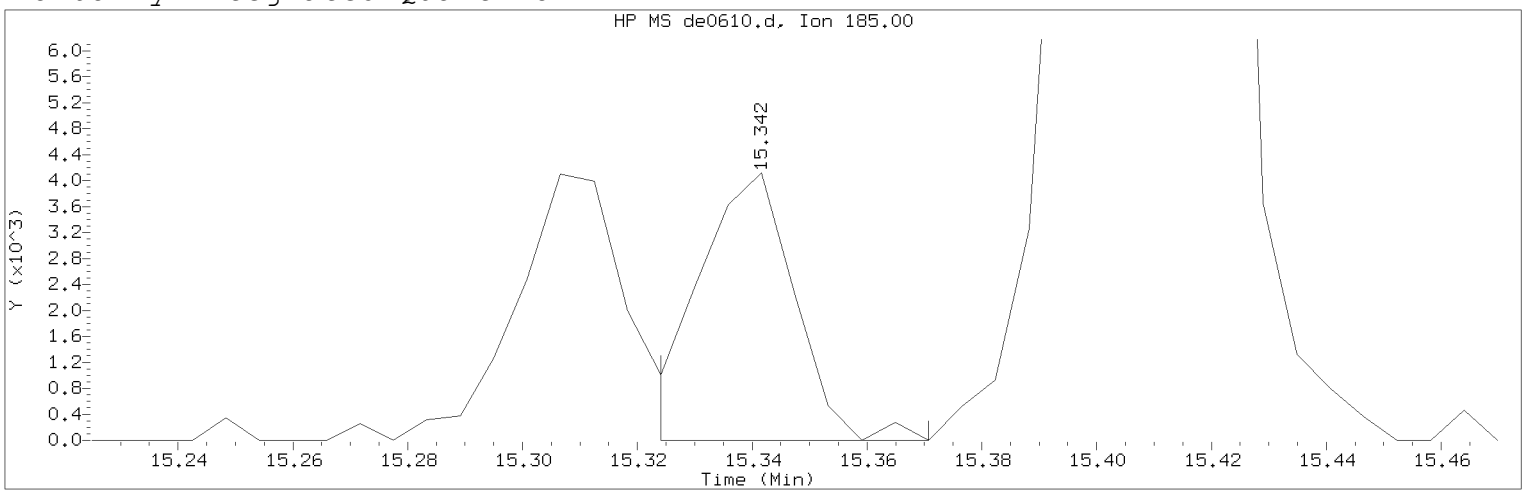
Compound Number	: 180		
Compound Name	: Aramite (1)		
Scan Number	: 2410		
Retention Time (minutes)	: 15.534		
Quant Ion	: 185.00		
Area	: 107249		
On-column Amount (ng/ul)	: 0.0000		
Integration start scan	: 2404	Integration stop scan:	2414
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

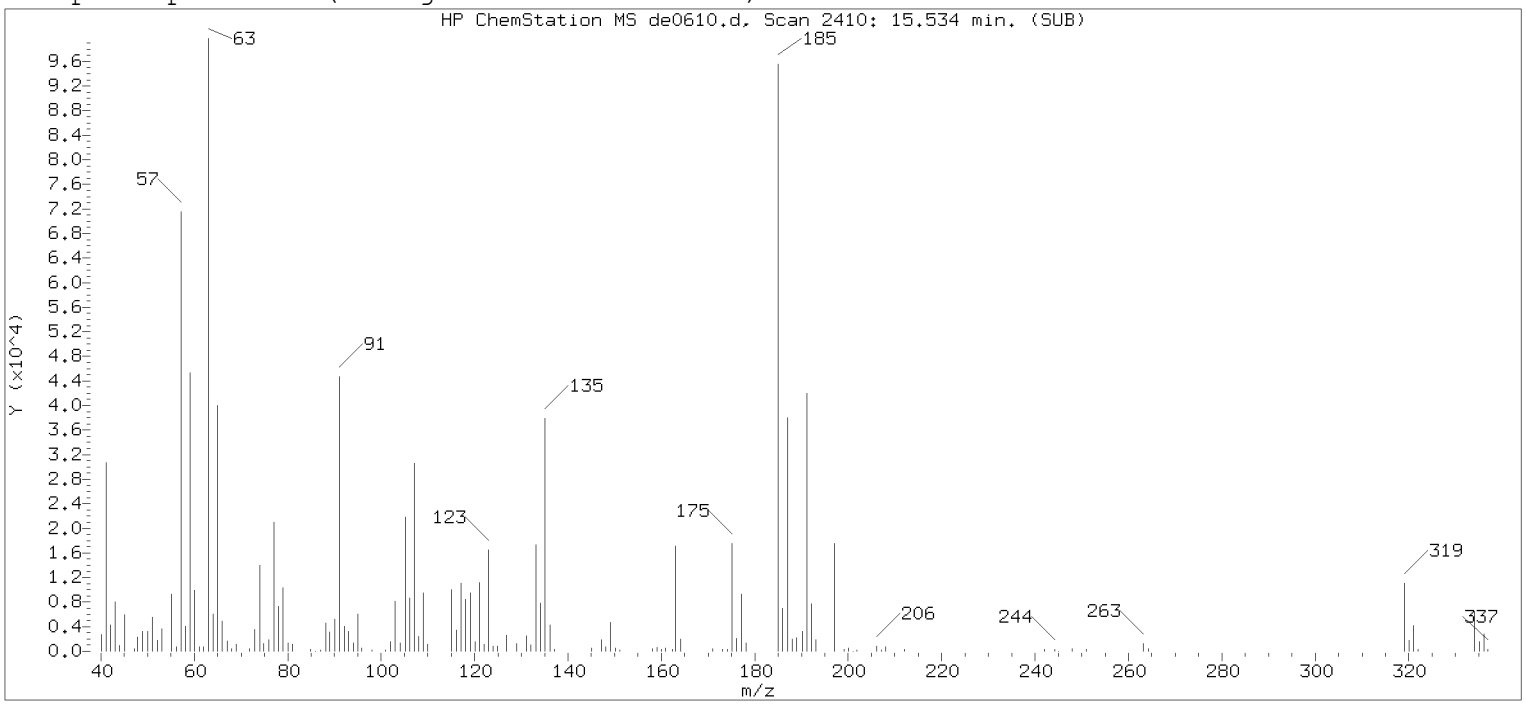
Compound Number : 181
Compound Name : Aramite (2)
Scan Number : 2377
Retention Time (minutes) : 15.342
Quant Ion : 185.00
Area (flag) : 4777A
On-Column Amount (ng/ul) : 8.3556
Integration start scan : 2373 Integration stop scan: 2381
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

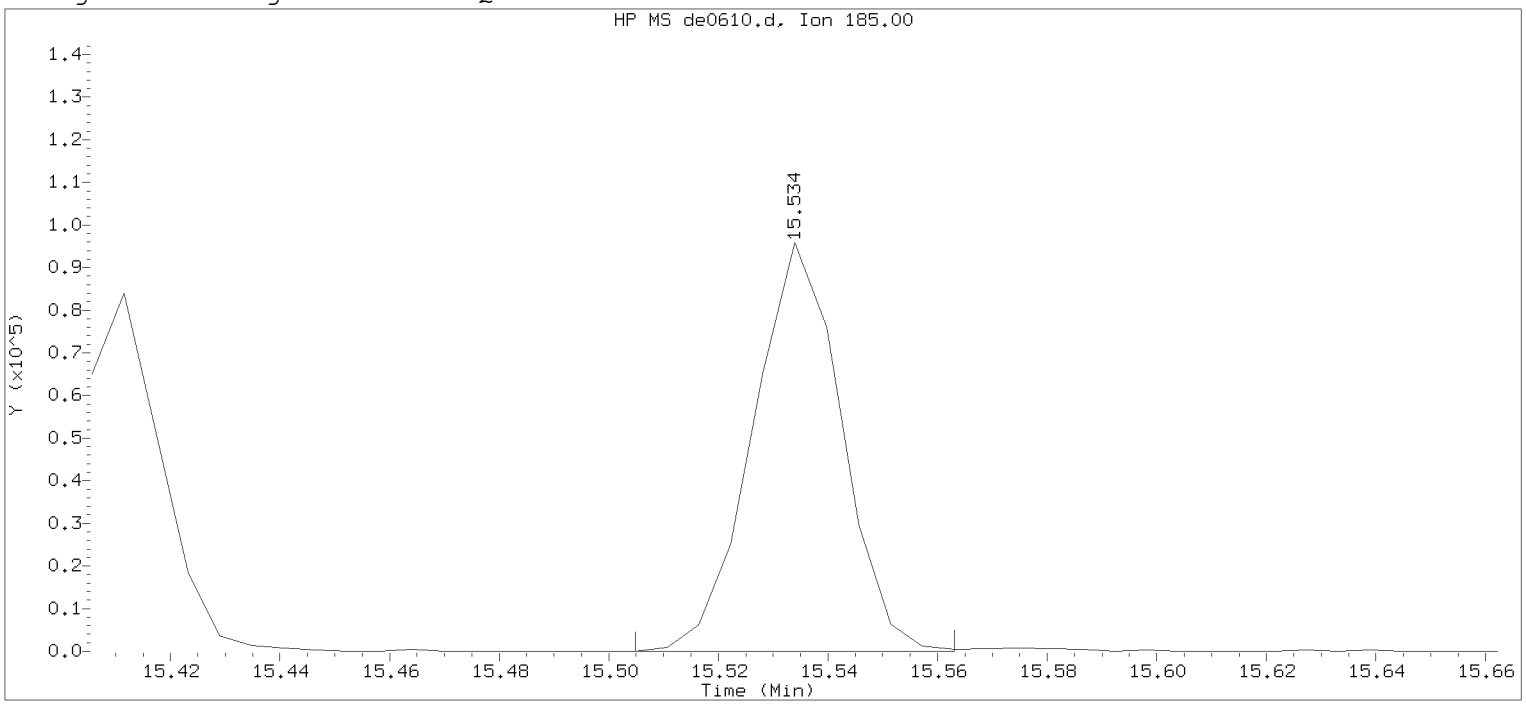
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

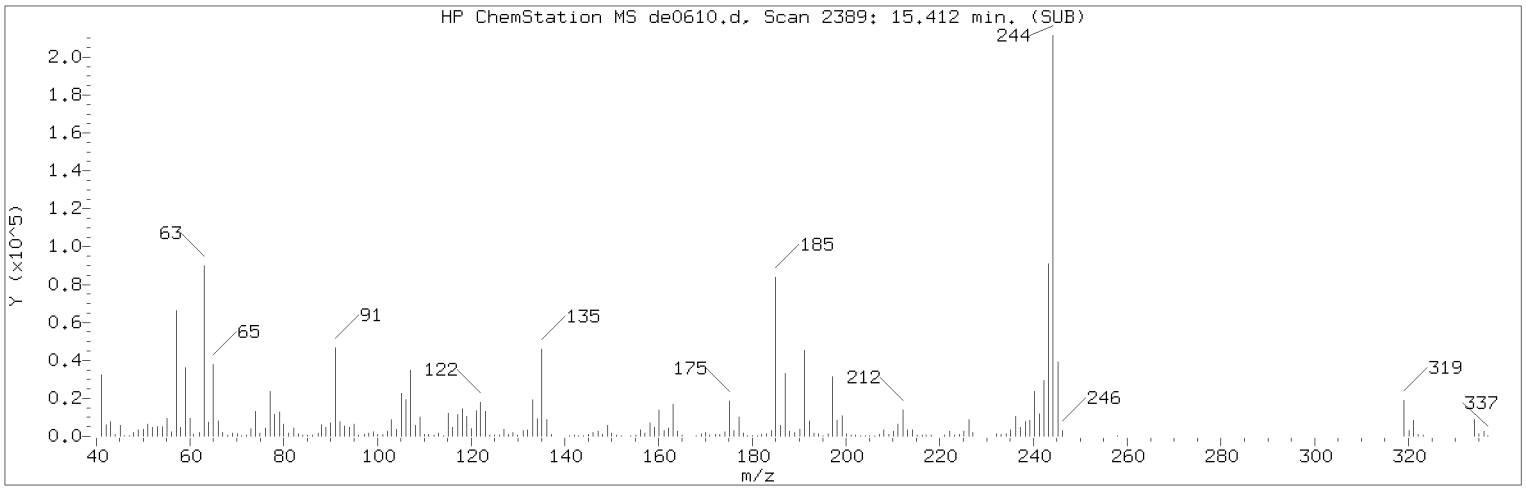
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

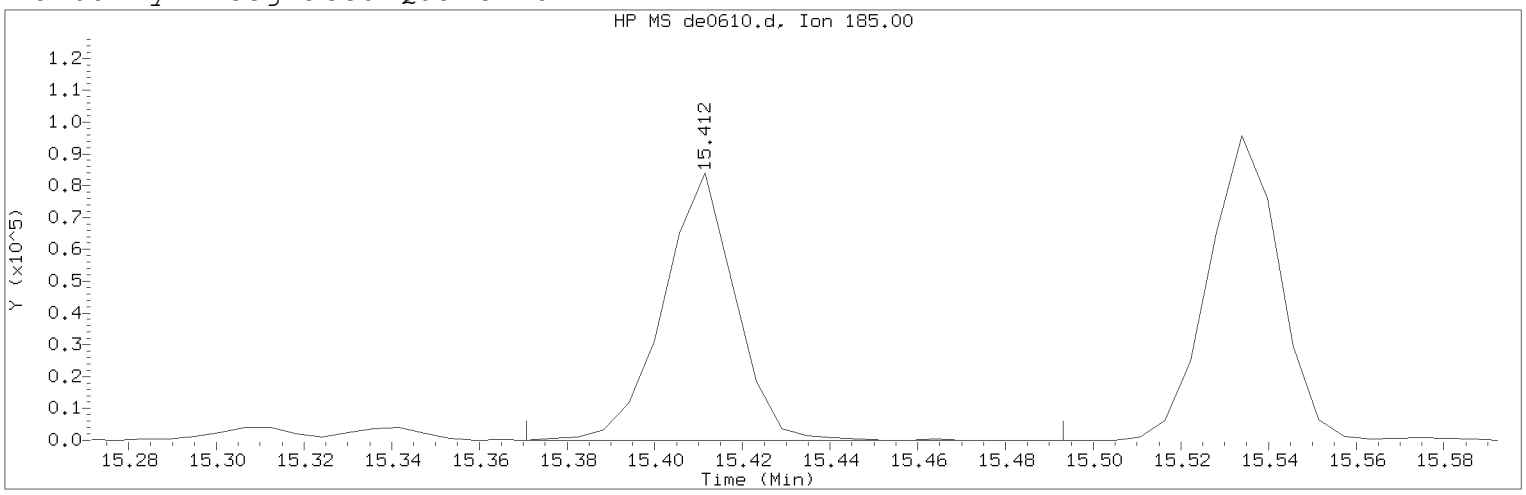
Compound Number : 181
Compound Name : Aramite (2)
Scan Number : 2410
Retention Time (minutes) : 15.534
Quant Ion : 185.00
Area : 107249
On-column Amount (ng/ul) : 0.0000
Integration start scan : 2404 Integration stop scan: 2414
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

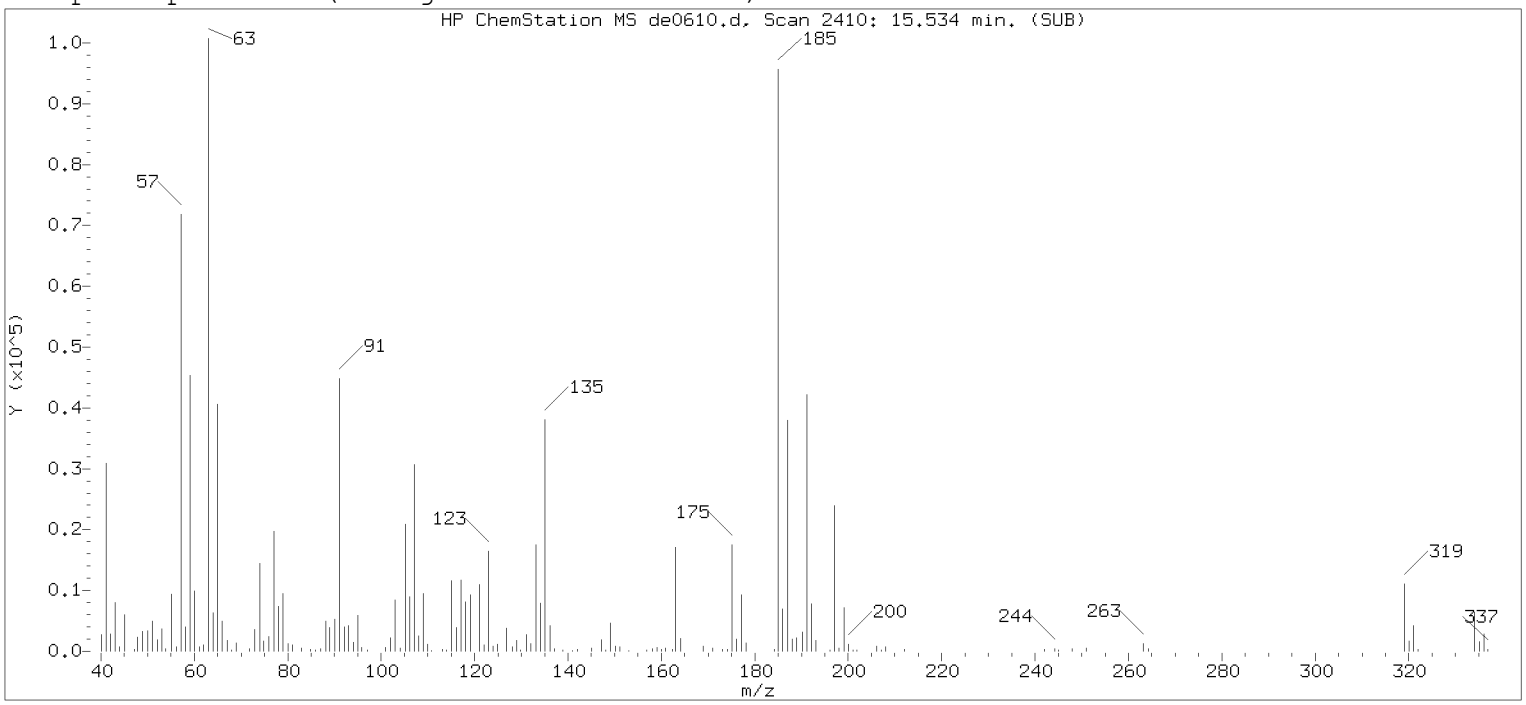
Compound Number : 183
Compound Name : Aramite (3)
Scan Number : 2389
Retention Time (minutes) : 15.412
Quant Ion : 185.00
Area (flag) : 95495A
On-Column Amount (ng/ul) : 1.9927
Integration start scan : 2381 Integration stop scan: 2402
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

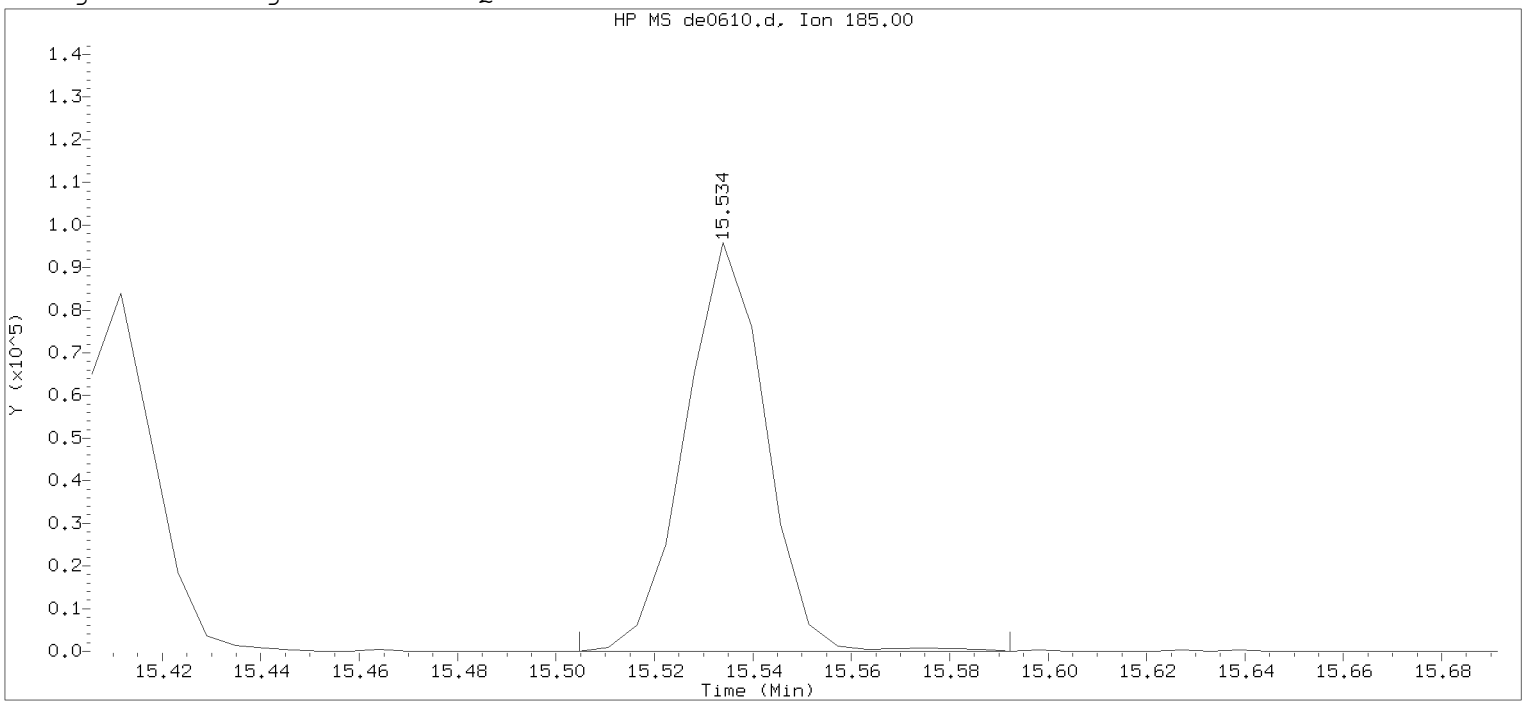
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

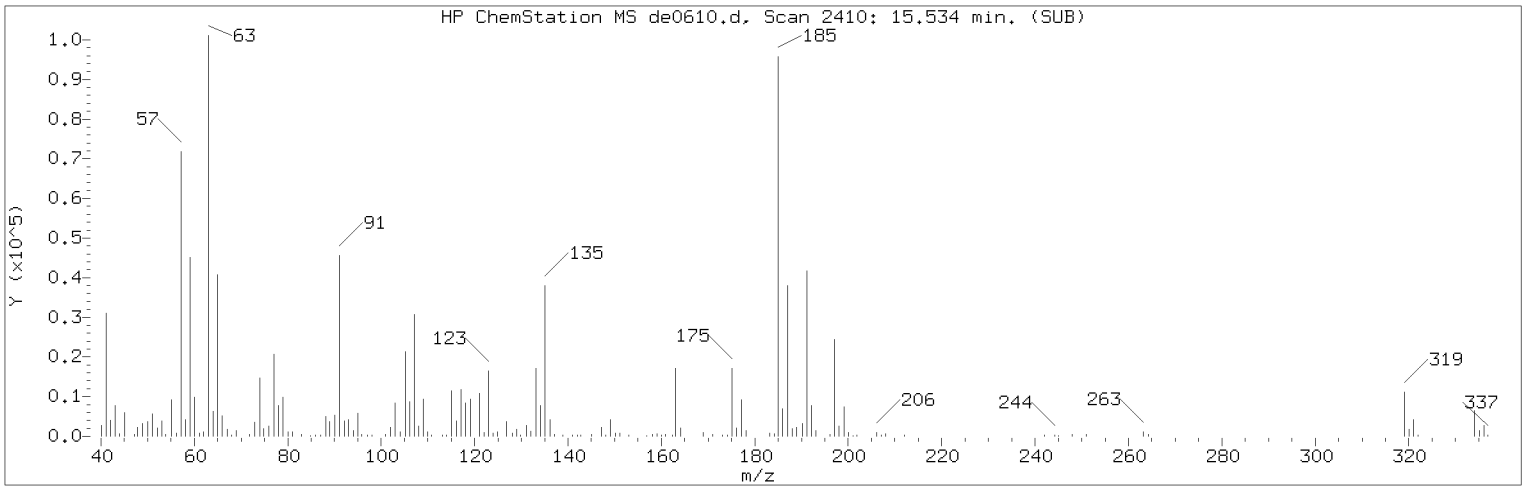
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

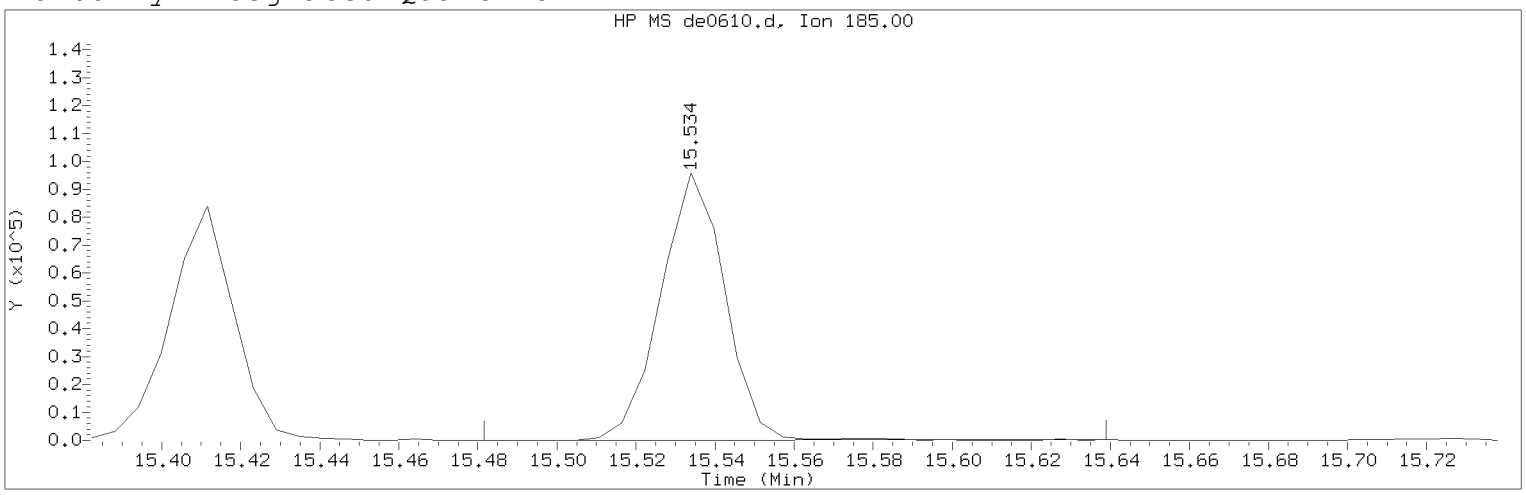
Compound Number	: 183		
Compound Name	: Aramite (3)		
Scan Number	: 2410		
Retention Time (minutes)	: 15.534		
Quant Ion	: 185.00		
Area	: 108152		
On-column Amount (ng/ul)	: 0.0000		
Integration start scan	: 2404	Integration stop scan:	2419
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MS Lab Sample ID: 8999789MS

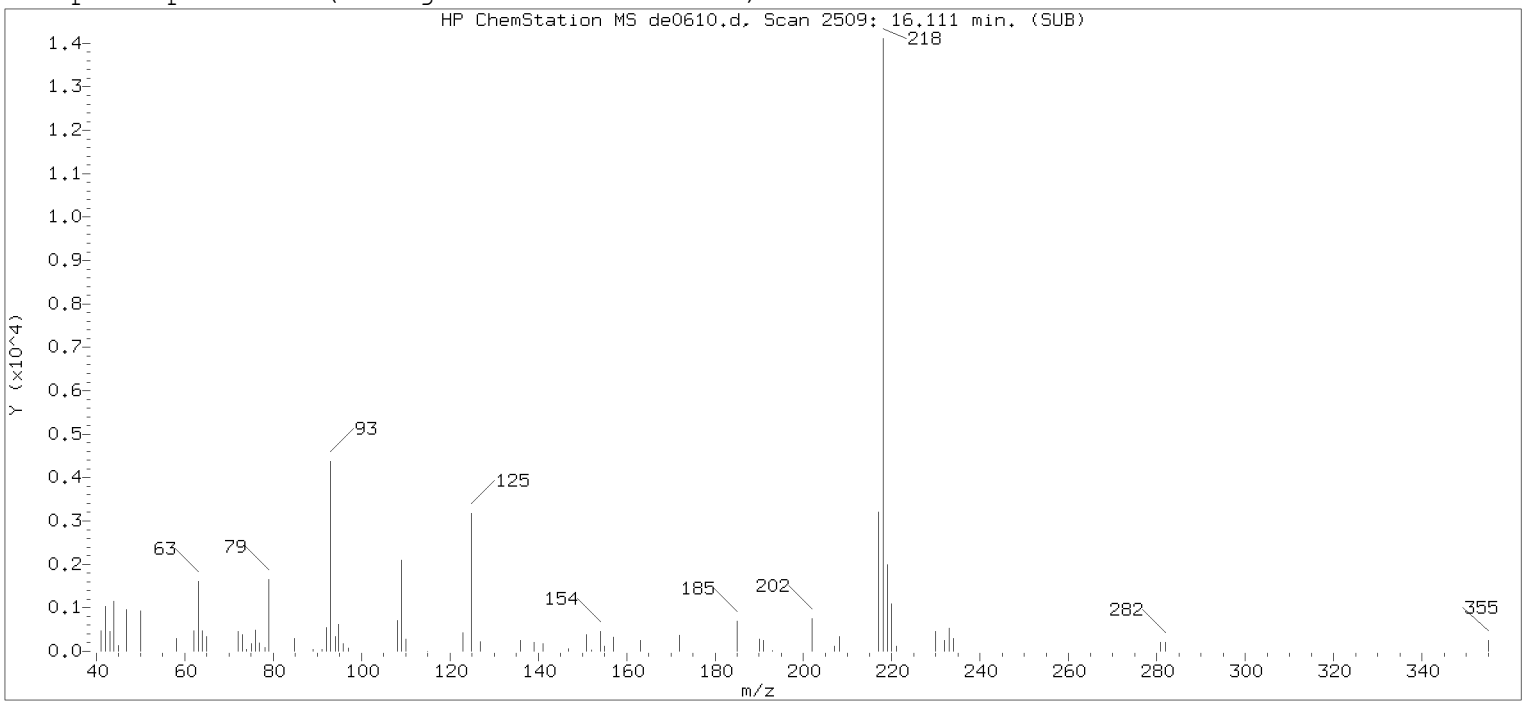
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2410
Retention Time (minutes) : 15.534
Quant Ion : 185.00
Area (flag) : 106854M
On-Column Amount (ng/ul) : 1.6362
Integration start scan : 2400 Integration stop scan: 2427
Y at integration start : 0 Y at integration end: 333

Reason for manual integration: improper integration

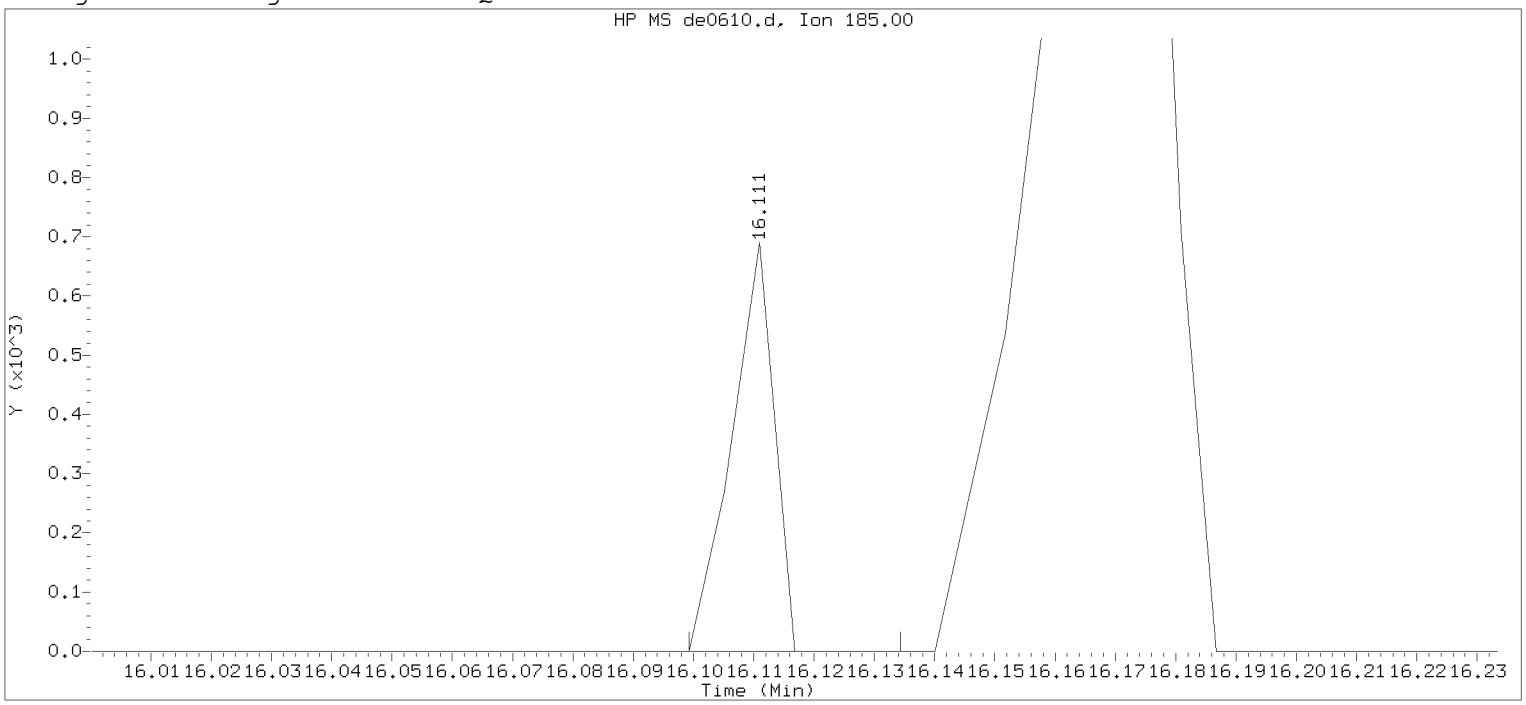
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0610.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:20 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 16:25
Date, time and analyst ID of latest file update: 23-May-2017 16:43 Automation

Sample Name: R8504MS Lab Sample ID: 8999789MS

Compound Number	: 184		
Compound Name	: Aramite (4)		
Scan Number	: 2509		
Retention Time (minutes)	: 16.111		
Quant Ion	: 185.00		
Area	: 335		
On-column Amount (ng/ul)	: 0.0000		
Integration start scan	: 2506	Integration stop scan:	2512
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: HZIEGLER

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0611.d
Injection date and time: **23-MAY-2017 16:48**
Data file Sample Info. Line: R8504MSD;8999790MSD;1;3;MSD;;;
Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.535	(0.000)	866	152	151355	(-23)	5.00	
65) Naphthalene-d8	8.464	(0.000)	1197	136	574833	(-21)	5.00	
113) Acenaphthene-d10	11.250	(0.000)	1675	164	318061	(-23)	5.00	
153) Phenanthrene-d10	13.162	(0.000)	2003	188	606930	(-23)	5.00	
175) Pyrene-d10	15.079	(0.000)	2332	212	735166	(-23)	5.00	
213) Perylene-d12	19.503	(0.000)	3091	264	620001	(-22)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.681	(-0.004)	112	965757	20.566	41%		10 - 84
17) Phenol-d6	(1)	6.051	(-0.002)	99	1666757	26.152	52%		10 - 71
44) Nitrobenzene-d5	(2)	7.368	(-0.001)	82	1200211	20.147	81%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	2020619	20.438	82%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.340	(0.000)	330	145117	12.259	25%		13 - 149
179) Terphenyl-d14	(5)	15.400	(0.000)	244	2325510	21.556	86%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)	2.530	(-0.008)	74	248253	6.976	28.02			0.5
5) Pyridine	(1)	2.624	(-0.014)	79	345822	5.922	23.78			0.5
7) 2-Picoline	(1)	3.778	(-0.004)	93	547010	9.174	36.84			0.5
8) N-Nitrosomethylethylamine	(1)	3.958	(-0.003)	88	256851	10.094	40.54			0.5
9) Methyl methanesulfonate	(1)	4.413	(-0.002)	80	247174	8.489	34.09			0.3
13) N-Nitrosodiethylamine	(1)	4.984	(-0.001)	102	254318	10.760	43.21			0.1
15) Ethyl methanesulfonate	(1)	5.439	(-0.000)	109	257521	10.088	40.51			0.1
18) Phenol	(1)	6.068	(-0.001)	94	518879	7.186	28.86			0.1
19) Aniline	(1)	6.057	(-0.000)	93	602739	7.104	28.53			0.1
22) bis(2-Chloroethyl)ether	(1)	6.179	(-0.000)	93	567472	10.579	42.48			0.1
23) 2-Chlorophenol	(1)	6.226	(-0.000)	128	397260	8.447	33.92			0.1
27) Benzyl alcohol	(1)	6.762	(0.000)	108	326043	9.717	39.02			3
31) 2-Methylphenol	(1)	6.960	(-0.000)	108	452474	9.783	39.29			0.1
34) bis(2-Chloroisopropyl)ether	(1)	6.989	(0.000)	45	843095	10.637	42.72			0.1
35) N-Nitrosopyrrolidine	(1)	7.112	(0.000)	100	269896	10.361	41.61			0.1
36) Acetophenone	(1)	7.146	(0.000)	105	795064	11.428	45.90			0.1
37) 4-Methylphenol	(1)	7.199	(-0.000)	108	493886	9.282	37.28			0.1
38) N-Nitroso-di-n-propylamine	(1)	7.182	(-0.000)	70	465552	11.096	44.56			0.1
39) N-Nitrosomorpholine	(1)	7.182	(0.000)	56	374143	10.480	42.09			0.5
40) o-Toluidine	(1)	7.199	(0.000)	106	746412	9.155	36.77			0.1
43) Hexachloroethane	(1)	7.286	(0.000)	117	167326	7.848	31.52			0.3
45) Nitrobenzene	(2)	7.391	(-0.000)	77	659598	10.993	44.15			0.1
48) N-Nitrosopiperidine	(2)	7.624	(-0.000)	114	254479	10.741	43.13			0.1
50) Isophorone	(2)	7.776	(-0.000)	82	1150900	11.215	45.04			0.1
51) 2-Nitrophenol	(2)	7.881	(-0.000)	139	254028	10.720	43.05			0.1
53) 2,4-Dimethylphenol	(2)	8.003	(-0.000)	107	409371	8.012	32.18			0.1
57) O,O,O-Triethylphosphorothioate	(2)	8.120	(0.000)	198	253981	10.536	42.31			0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:29. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0611.d Injection date and time: **23-MAY-2017 16:48**
Data file Sample Info. Line: R8504MSD;8999790MSD;1;3;MSD;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)	8.149(-0.000)	93	740031	11.279	45.30			0.1
60) 2,4-Dichlorophenol	(2)	8.272(-0.000)	162	302066	7.988	32.08			0.1
64) a,a-Dimethylphenethylamine	(2)	8.312(-0.010)	58	1324063	13.319	53.49		E	1
67) 4-Chloroaniline	(2)	8.604(0.000)	127	512575	9.208	36.98			0.5
68) 2,6-Dichlorophenol	(2)	8.615(0.000)	162	260898	6.959	27.95			0.1
69) Hexachloropropene	(2)	8.650(0.000)	213	163161	5.433	21.82			0.5
77) N-Nitrosodi-n-butylamine	(2)	9.181(0.000)	84	430744	10.251	41.17			0.5
81) 1,4-Phenylenediamine	(2)			Not Detected					19
80) 4-Chloro-3-methylphenol	(2)	9.420(0.000)	107	456440	10.591	42.53			0.1
82) Safrole	(2)	9.496(0.000)	162	355617	10.382	41.69			0.5
83) 2-Methylnaphthalene	(2)	9.600(0.000)	142	900596	10.017	40.23			0.03
85) Hexachlorocyclopentadiene	(3)	9.868(-0.000)	237	192034	8.852	35.55			1
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.868(-0.000)	216	419773	9.224	37.05			0.1
88) cis-Isosafrole	(3)	9.962(-0.000)	162	49525	1.389	5.58			0.1
90) 2,4,6-Trichlorophenol	(3)	10.067(-0.000)	196	147327	5.316	21.35			0.1
92) 2,4,5-Trichlorophenol	(3)	10.119(-0.000)	196	250629	8.374	33.63			0.1
94) trans-Isosafrole	(3)	10.323(-0.000)	162	391252	10.363	41.62			0.1
97) Isosafrole	(3)			440777	11.752	47.20			0.5
96) 2-Chloronaphthalene	(3)	10.364(-0.000)	162	868701	10.831	43.50			0.1
100) 2-Nitroaniline	(3)	10.550(-0.000)	138	279995	11.235	45.12			0.1
104) 1,4-Naphthoquinone	(3)	10.661(-0.000)	158	1363290	40.891	164.22		E	6
106) Dimethylphthalate	(3)	10.894(-0.000)	163	1010478	10.904	43.79			0.5
107) 1,3-Dinitrobenzene	(3)	10.894(-0.000)	168	163495	11.338	45.54			0.5
108) 2,6-Dinitrotoluene	(3)	10.958(-0.000)	165	236893	11.556	46.41			0.1
109) Acenaphthylene	(3)	11.017(0.000)	152	1255063	10.694	42.95			0.03
112) 3-Nitroaniline	(3)	11.203(0.000)	138	227109	10.717	43.04			0.1
114) Acenaphthene	(3)	11.302(0.000)	153	946330	11.079	44.49			0.03
115) 2,4-Dinitrophenol	(3)	11.477(-0.008)	184	276873M	23.171	93.05			3
116) 4-Nitrophenol	(3)	11.565(-0.003)	109	126348M	8.063	32.38			3
117) Pentachlorobenzene	(3)	11.512(0.000)	250	356474	9.700	38.96			0.1
118) 2,4-Dinitrotoluene	(3)	11.588(-0.000)	165	319128	11.575	46.49			0.3
119) Dibenzofuran	(3)	11.570(0.000)	168	1268902	10.878	43.69			0.1
121) 1-Naphthylamine	(3)	11.687(0.000)	143	1207488	14.591	58.60			1
122) 2,3,4,6-Tetrachlorophenol	(3)	11.769(-0.000)	232	116422	5.165	20.74			0.1
123) 2-Naphthylamine	(3)	11.798(0.000)	143	980205	11.953	48.01			1
124) Diethylphthalate	(3)	11.973(0.000)	149	1051941	11.696	46.97			0.5
125) Thionazin	(3)	12.066(0.000)	107	205779	11.504	46.20			0.5
126) Fluorene	(3)	12.043(0.000)	166	1023439	10.935	43.91			0.03
127) 4-Chlorophenyl-phenylether	(3)	12.078(0.000)	204	492900	10.815	43.43			0.1
128) 5-Nitro-o-toluidine	(3)	12.072(0.000)	152	274160	10.645	42.75			0.1
129) 4-Nitroaniline	(3)	12.083(0.000)	138	241073	11.427	45.89			0.1
130) 4,6-Dinitro-2-methylphenol	(4)	12.153(-0.001)	198	180212	11.012	44.22			1
131) N-Nitrosodiphenylamine	(4)	12.223(-0.000)	169	864778	11.489	46.14			0.1
139) 1,3,5-Trinitrobenzene	(4)	12.550(-0.000)	213	110391	10.427	41.87			1
140) Diallate (peak 1)	(4)	12.585(-0.000)	86	378282	8.232	33.06			0.06
141) Phorate	(4)	12.585(-0.000)	75	809851	11.848	47.58			0.1
142) Phenacetin	(4)	12.614(-0.000)	108	585326	11.685	46.93			0.1
143) 4-Bromophenyl-phenylether	(4)	12.649(-0.000)	248	290564	11.252	45.19			0.1
144) Diallate (peak 2)	(4)	12.678(-0.000)	86	123619	3.318	13.32			0.06
146) Diallate trans/cis	(4)			501901	11.550	46.38			0.3
145) Hexachlorobenzene	(4)	12.695(-0.000)	284	290043	10.664	42.83			0.03
147) Dimethoate	(4)	12.771(-0.000)	87	329295	7.480	30.04			0.8
149) Pentachlorophenol	(4)	12.964(-0.001)	266	88265	5.903	23.70			0.3
150) 4-Aminobiphenyl	(4)	12.958(-0.000)	169	937870	11.223	45.07			0.1

E = Compound concentration above calibration range. M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:29. Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0611.d Injection date and time: **23-MAY-2017 16:48**
Data file Sample Info. Line: R8504MSD;8999790MSD;1;3;MSD;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

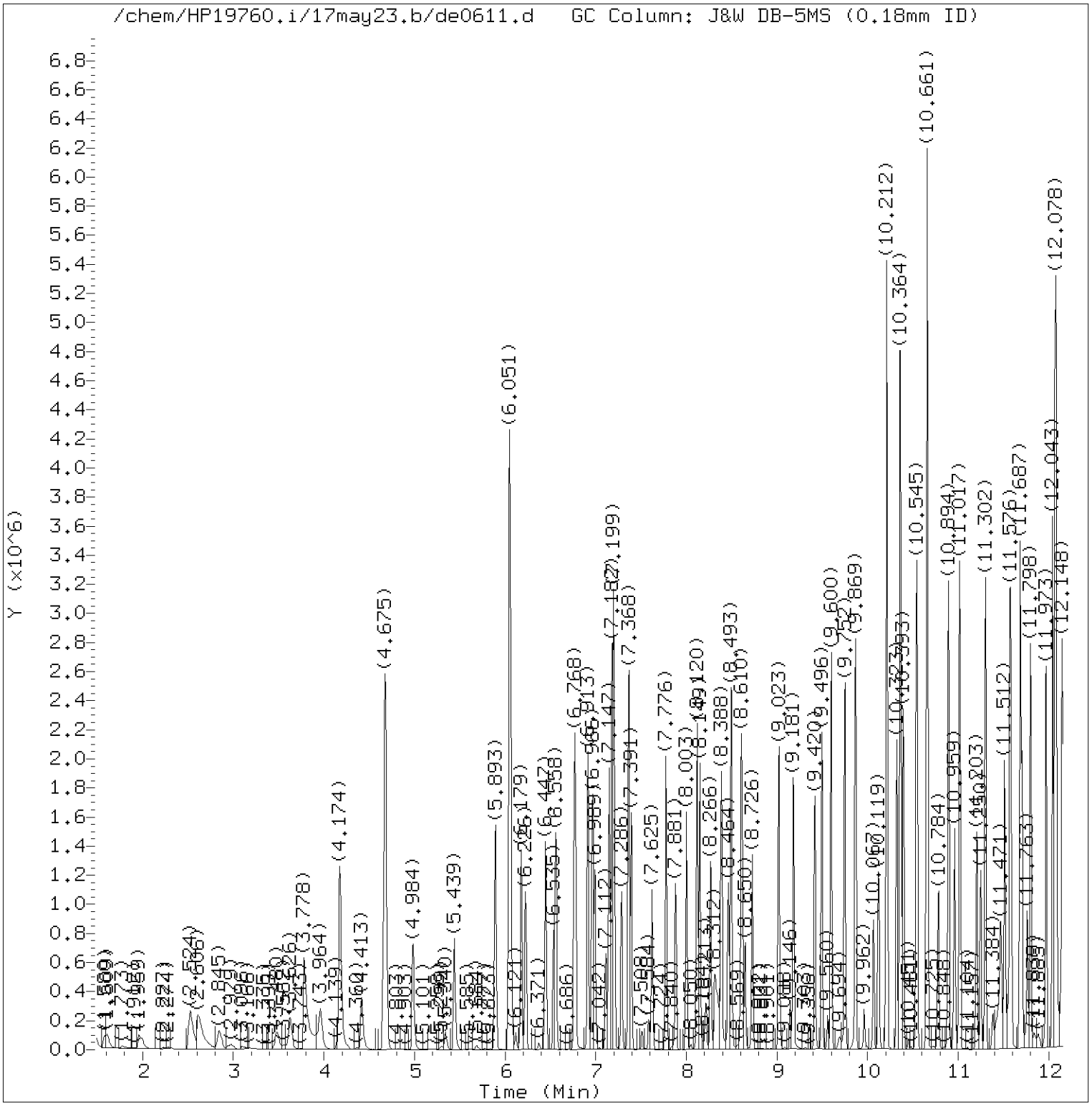
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)	12.958(-0.000)	237	134554	11.333	45.52			0.5
152) Pronamide	(4)	13.068(-0.000)	173	512537	11.829	47.51			0.1
155) Phenanthrene	(4)	13.191(0.000)	178	1509209	11.124	44.68			0.03
157) Anthracene	(4)	13.255(0.000)	178	1520606	11.257	45.21			0.03
162) Disulfoton	(4)	13.214(0.000)	88	1306962	26.388	105.98			6
164) Methyl parathion	(4)	13.669(0.000)	109	293388	8.655	34.76			0.3
165) Di-n-butylphthalate	(4)	13.989(-0.000)	149	1891525	12.209	49.03			0.5
167) Parathion	(4)	14.205(-0.000)	109	266124	12.311	49.44			0.5
168) 4-Nitroquinoline-1-oxide	(4)	14.222(-0.002)	190	1967470	138.714	557.08		E	5
170) Methapyrilene	(4)	14.357(-0.000)	97	4669108	143.807	577.54		E	4
171) Isodrin	(4)	14.566(0.000)	193	188734	11.475	46.08			0.1
173) Fluoranthene	(4)	14.782(-0.000)	202	1815167	11.686	46.93			0.03
177) Pyrene	(5)	15.108(-0.000)	202	1858264	11.133	44.71			0.03
180) Aramite (1)	(5)	15.307(0.000)	185	4884	9.406	37.77		E	0.3
181) Aramite (2)	(5)	15.342(0.000)	185	4862	8.726	35.04		E	0.3
183) Aramite (3)	(5)	15.412(0.000)	185	97465	2.087	8.38		E	0.3
184) Aramite (4)	(5)	15.534(0.000)	185	108764M	1.709	6.86		E	0.3
186) Aramite	(5)			215975	21.927	88.06		E	1
182) p-Dimethylaminoazobenzene	(5)	15.621(0.000)	225	352849	13.276	53.32			0.1
185) Chlorobenzilate	(5)	15.720(-0.000)	139	582778	11.872	47.68			0.8
187) 3,3'-Dimethylbenzidine	(5)	16.169(0.000)	212	1195631	11.093	44.55		J	6
188) Butylbenzylphthalate	(5)	16.239(0.000)	149	910996	12.330	49.52			0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)			Not Detected					6
191) 2-Acetylaminofluorene	(5)	16.583(-0.000)	181	892329	12.968	52.08			0.5
193) 3,3'-Dichlorobenzidine	(5)	17.073(0.000)	252	638570	10.590	42.53			0.5
195) Benzo(a)anthracene	(5)	17.073(0.000)	228	1930745	12.065	48.45			0.03
196) Chrysene	(5)	17.131(0.000)	228	1841141	12.218	49.07			0.03
199) bis(2-Ethylhexyl)phthalate	(5)	17.300(0.000)	149	1324421	11.974	48.09			0.5
205) Di-n-octylphthalate	(6)	18.448(-0.000)	149	2293697	11.317	45.45			0.5
206) Benzo(b)fluoranthene	(6)	18.903(-0.000)	252	1959261	11.600	46.59			0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.909(-0.000)	256	770219	11.231	45.11			0.1
208) Benzo(k)fluoranthene	(6)	18.950(-0.000)	252	1873661	11.534	46.32			0.03
211) Benzo(a)pyrene	(6)	19.416(0.000)	252	1664941	10.669	42.85			0.03
215) 3-Methylcholanthrene	(6)	19.993(-0.000)	268	815877	11.747	47.18			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	21.100(0.000)	276	1705512	11.149	44.77			0.03
220) Dibenz(a,h)anthracene	(6)	21.141(0.000)	278	1441173	11.327	45.49			0.03
221) Benzo(g,h,i)perylene	(6)	21.450(0.000)	276	1348821	10.775	43.27			0.03

E = Compound concentration above calibration range. M = Compound was manually integrated.

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:29. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

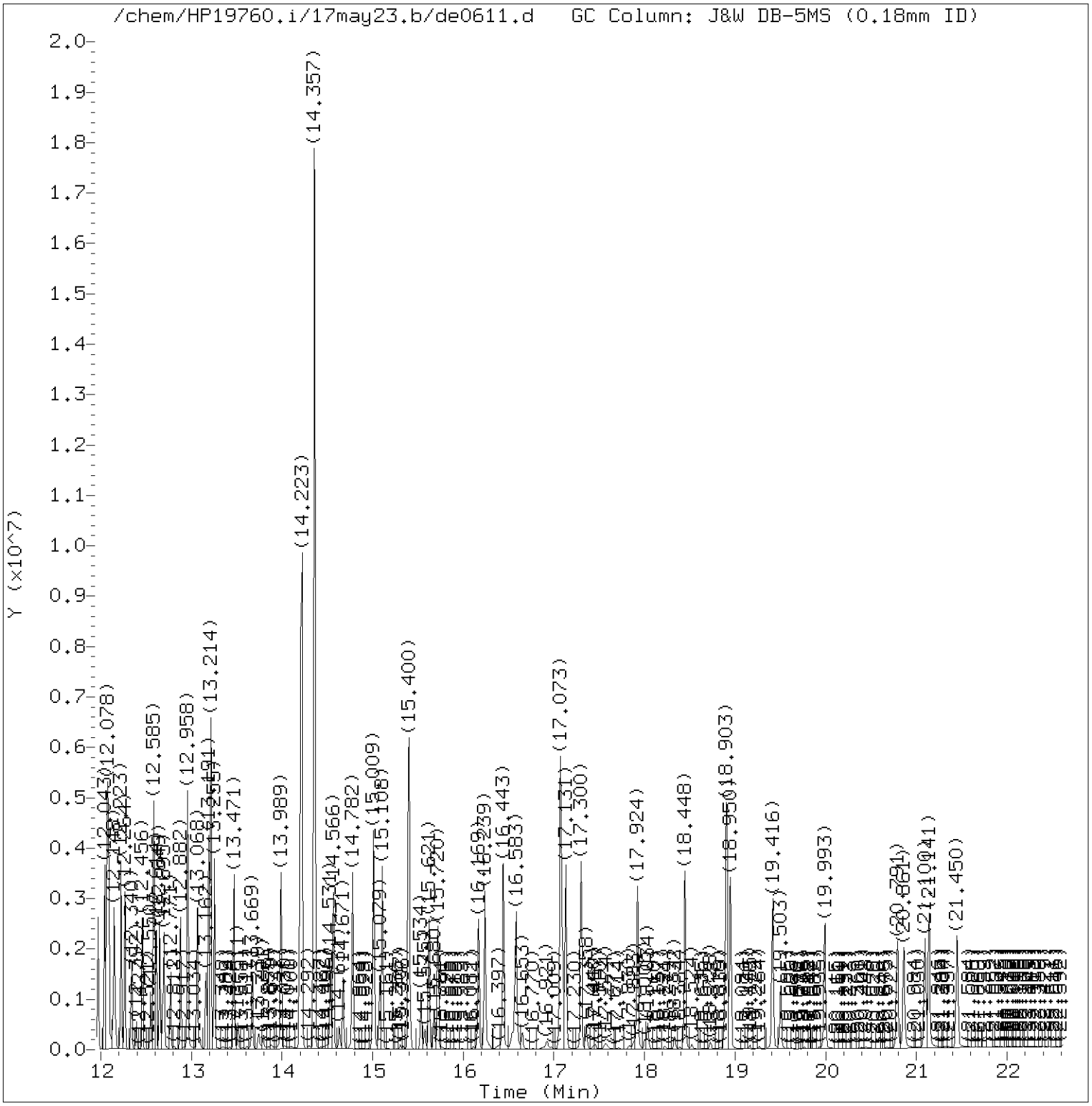
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	2.530	74	248253	6.976
5) Pyridine	(1)	2.624	79	345822	5.922
7) 2-Picoline	(1)	3.778	93	547010	9.174
8) N-Nitrosomethylethylamine	(1)	3.958	88	256851	10.094
9) Methyl methanesulfonate	(1)	4.413	80	247174	8.489
11)$2-Fluorophenol	(1)	4.681	112	965757	20.566
13) N-Nitrosodiethylamine	(1)	4.984	102	254318	10.760
15) Ethyl methanesulfonate	(1)	5.439	109	257521	10.088
17)$Phenol-d6	(1)	6.051	99	1666757	26.152
19) Aniline	(1)	6.057	93	602739	7.104
18) Phenol	(1)	6.068	94	518879	7.186
22) bis(2-Chloroethyl)ether	(1)	6.179	93	567472	10.579
23) 2-Chlorophenol	(1)	6.226	128	397260	8.447
25)*1,4-Dichlorobenzene-d4	(1)	6.535	152	151355	5.000
27) Benzyl alcohol	(1)	6.762	108	326043	9.717
31) 2-Methylphenol	(1)	6.960	108	452474	9.783
34) bis(2-Chloroisopropyl)ether	(1)	6.989	45	843095	10.637
35) N-Nitrosopyrrolidine	(1)	7.112	100	269896	10.361
36) Acetophenone	(1)	7.147	105	795064	11.428
38) N-Nitroso-di-n-propylamine	(1)	7.182	70	465552	11.096
39) N-Nitrosomorpholine	(1)	7.182	56	374143	10.480
37) 4-Methylphenol	(1)	7.199	108	493886	9.282
40) o-Toluidine	(1)	7.199	106	746412	9.155
43) Hexachloroethane	(1)	7.286	117	167326	7.848
44)$Nitrobenzene-d5	(2)	7.368	82	1200211	20.147
97) Isosafrole	(3)			440777	11.752
45) Nitrobenzene	(2)	7.391	77	659598	10.993
48) N-Nitrosopiperidine	(2)	7.625	114	254479	10.741
50) Isophorone	(2)	7.776	82	1150900	11.215
51) 2-Nitrophenol	(2)	7.881	139	254028	10.720
53) 2,4-Dimethylphenol	(2)	8.003	107	409371	8.012
57) O,O,O-Triethylphosphorothioate	(2)	8.120	198	253981	10.536
55) bis(2-Chloroethoxy)methane	(2)	8.149	93	740031	11.279
60) 2,4-Dichlorophenol	(2)	8.271	162	302066	7.988
64) a,a-Dimethylphenethylamine	(2)	8.312	58	1324063	13.319
65)*Naphthalene-d8	(2)	8.464	136	574833	5.000
67) 4-Chloroaniline	(2)	8.604	127	512575	9.208
68) 2,6-Dichlorophenol	(2)	8.615	162	260898	6.959
69) Hexachloropropene	(2)	8.650	213	163161	5.433
146) Diallate trans/cis	(4)			501901	11.550

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
77) N-Nitrosodi-n-butylamine	(2)	9.181	84	430744	10.251
80) 4-Chloro-3-methylphenol	(2)	9.420	107	456440	10.591
82) Safrole	(2)	9.496	162	355617	10.382
83) 2-Methylnaphthalene	(2)	9.600	142	900596	10.017
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.869	216	419773	9.224
85) Hexachlorocyclopentadiene	(3)	9.869	237	192034	8.852
88) cis-Isosafrole	(3)	9.962	162	49525	1.389
90) 2,4,6-Trichlorophenol	(3)	10.067	196	147327	5.316
92) 2,4,5-Trichlorophenol	(3)	10.119	196	250629	8.374
93)$2-Fluorobiphenyl	(3)	10.212	172	2020619	20.438
94) trans-Isosafrole	(3)	10.323	162	391252	10.363
96) 2-Chloronaphthalene	(3)	10.364	162	868701	10.831
186) Aramite	(5)			215975	21.927
100) 2-Nitroaniline	(3)	10.550	138	279995	11.235
104) 1,4-Naphthoquinone	(3)	10.661	158	1363290	40.891
106) Dimethylphthalate	(3)	10.894	163	1010478	10.904
107) 1,3-Dinitrobenzene	(3)	10.894	168	163495	11.338
108) 2,6-Dinitrotoluene	(3)	10.959	165	236893	11.556
109) Acenaphthylene	(3)	11.017	152	1255063	10.694
112) 3-Nitroaniline	(3)	11.203	138	227109	10.717
113)*Acenaphthene-d10	(3)	11.250	164	318061	5.000
114) Acenaphthene	(3)	11.302	153	946330	11.079
115) 2,4-Dinitrophenol	(3)	11.477	184	276873M	23.171
117) Pentachlorobenzene	(3)	11.512	250	356474	9.700
116) 4-Nitrophenol	(3)	11.565	109	126348M	8.063
119) Dibenzofuran	(3)	11.571	168	1268902	10.878
118) 2,4-Dinitrotoluene	(3)	11.588	165	319128	11.575
121) 1-Naphthylamine	(3)	11.687	143	1207488	14.591
122) 2,3,4,6-Tetrachlorophenol	(3)	11.769	232	116422	5.165
123) 2-Naphthylamine	(3)	11.798	143	980205	11.953
124) Diethylphthalate	(3)	11.973	149	1051941	11.696
126) Fluorene	(3)	12.043	166	1023439	10.935
125) Thionazin	(3)	12.066	107	205779	11.504
128) 5-Nitro-o-toluidine	(3)	12.072	152	274160	10.645
127) 4-Chlorophenyl-phenylether	(3)	12.078	204	492900	10.815
129) 4-Nitroaniline	(3)	12.083	138	241073	11.427
130) 4,6-Dinitro-2-methylphenol	(4)	12.153	198	180212	11.012
131) N-Nitrosodiphenylamine	(4)	12.223	169	864778	11.489
135)$2,4,6-Tribromophenol	(3)	12.340	330	145117	12.259
139) 1,3,5-Trinitrobenzene	(4)	12.550	213	110391	10.427

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Diallate (peak 1)	(4)	12.585	86	378282	8.232
141) Phorate	(4)	12.585	75	809851	11.848
142) Phenacetin	(4)	12.614	108	585326	11.685
143) 4-Bromophenyl-phenylether	(4)	12.649	248	290564	11.252
144) Diallate (peak 2)	(4)	12.678	86	123619	3.318
145) Hexachlorobenzene	(4)	12.695	284	290043	10.664
147) Dimethoate	(4)	12.771	87	329295	7.480
151) Pentachloronitrobenzene	(4)	12.958	237	134554	11.333
150) 4-Aminobiphenyl	(4)	12.958	169	937870	11.223
149) Pentachlorophenol	(4)	12.964	266	88265	5.903
152) Pronamide	(4)	13.068	173	512537	11.829
153)*Phenanthrene-d10	(4)	13.162	188	606930	5.000
155) Phenanthrene	(4)	13.191	178	1509209	11.124
162) Disulfoton	(4)	13.214	88	1306962	26.388
157) Anthracene	(4)	13.255	178	1520606	11.257
164) Methyl parathion	(4)	13.669	109	293388	8.655
165) Di-n-butylphthalate	(4)	13.989	149	1891525	12.209
167) Parathion	(4)	14.205	109	266124	12.311
168) 4-Nitroquinoline-1-oxide	(4)	14.223	190	1967470	138.714
170) Methapyrilene	(4)	14.357	97	4669108	143.807
171) Isodrin	(4)	14.566	193	188734	11.475
173) Fluoranthene	(4)	14.782	202	1815167	11.686
175)*Pyrene-d10	(5)	15.079	212	735166	5.000
177) Pyrene	(5)	15.108	202	1858264	11.133
180) Aramite (1)	(5)	15.307	185	4884	9.406
181) Aramite (2)	(5)	15.342	185	4862	8.726
179)$Terphenyl-d14	(5)	15.400	244	2325510	21.556
183) Aramite (3)	(5)	15.412	185	97465	2.087
184) Aramite (4)	(5)	15.534	185	108764M	1.709
182) p-Dimethylaminoazobenzene	(5)	15.621	225	352849	13.276
185) Chlorobenzilate	(5)	15.720	139	582778	11.872
187) 3,3'-Dimethylbenzidine	(5)	16.169	212	1195631	11.093
188) Butylbenzylphthalate	(5)	16.239	149	910996	12.330
191) 2-Acetylaminofluorene	(5)	16.583	181	892329	12.968
195) Benzo(a)anthracene	(5)	17.073	228	1930745	12.065
193) 3,3'-Dichlorobenzidine	(5)	17.073	252	638570	10.590
196) Chrysene	(5)	17.131	228	1841141	12.218
199) bis(2-Ethylhexyl)phthalate	(5)	17.300	149	1324421	11.974
205) Di-n-octylphthalate	(6)	18.448	149	2293697	11.317
206) Benzo(b)fluoranthene	(6)	18.903	252	1959261	11.600

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

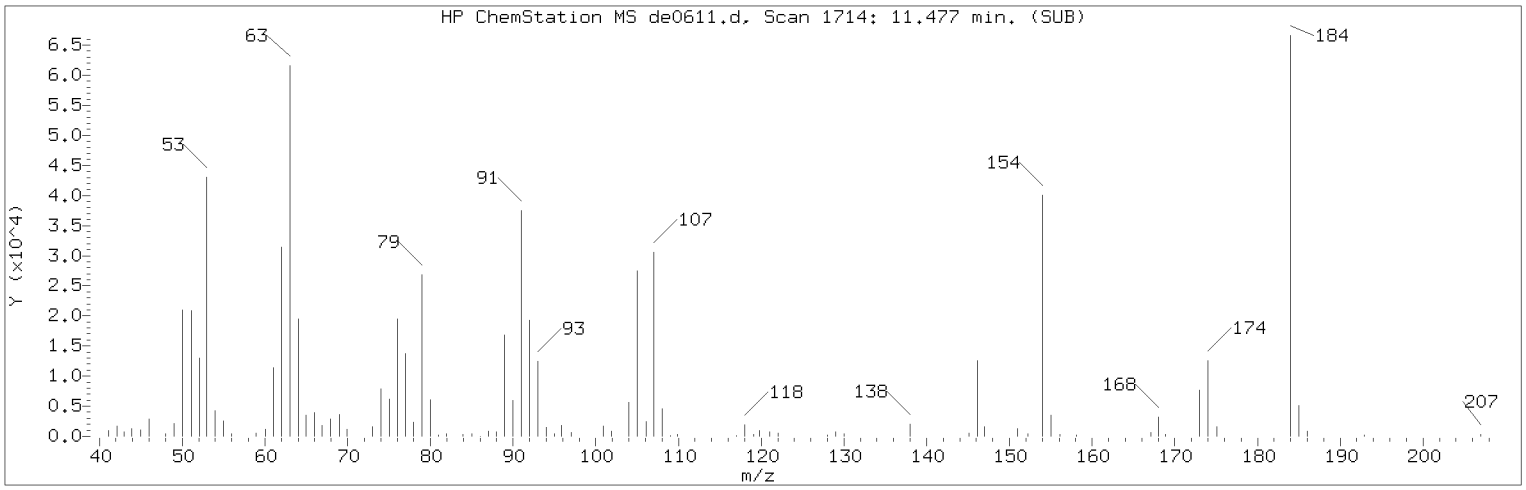
Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.909	256	770219	11.231
208) Benzo(k)fluoranthene	(6)	18.950	252	1873661	11.534
211) Benzo(a)pyrene	(6)	19.416	252	1664941	10.669
213)*Perylene-d12	(6)	19.503	264	620001	5.000
215) 3-Methylcholanthrene	(6)	19.993	268	815877	11.747
219) Indeno(1,2,3-cd)pyrene	(6)	21.100	276	1705512	11.149
220) Dibenz(a,h)anthracene	(6)	21.141	278	1441173	11.327
221) Benzo(g,h,i)perylene	(6)	21.450	276	1348821	10.775

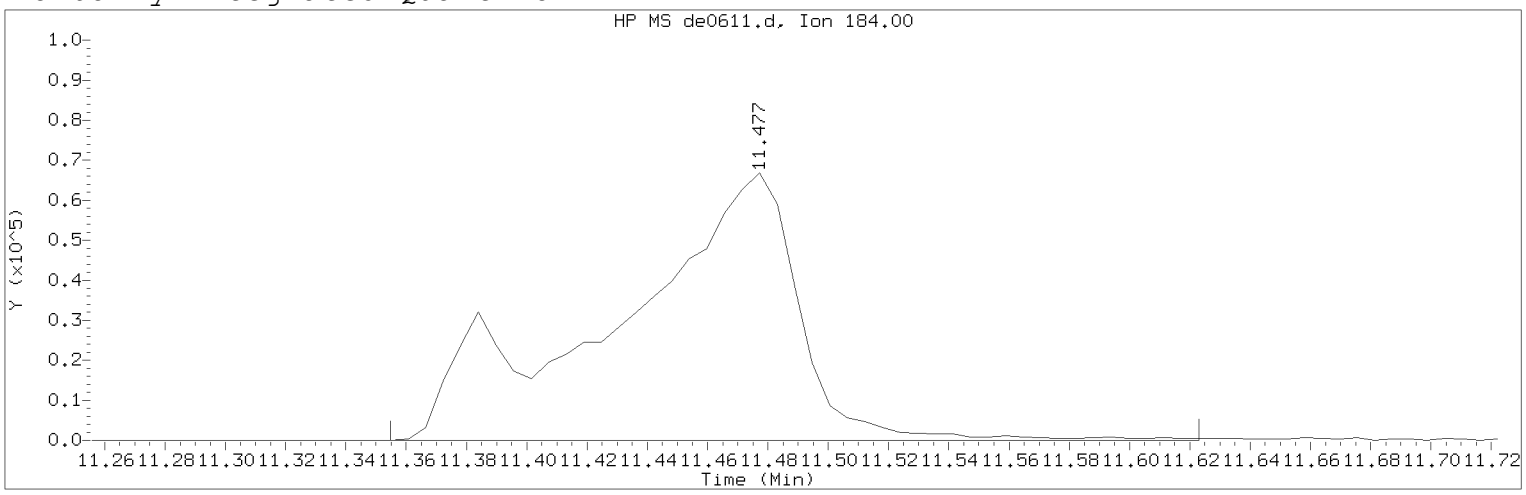
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

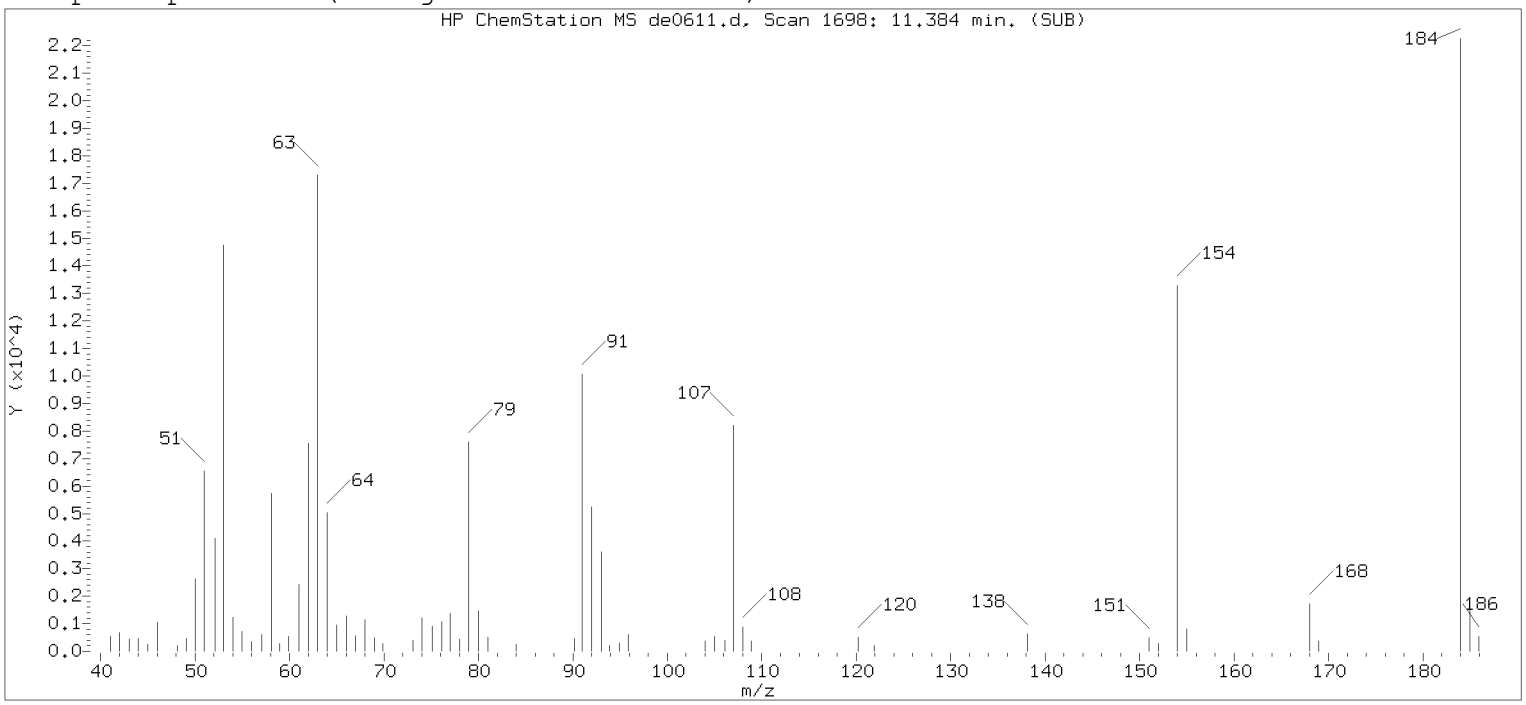
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1714
Retention Time (minutes) : 11.477
Quant Ion : 184.00
Area (flag) : 276873M
On-Column Amount (ng/ul) : 23.1706
Integration start scan : 1692 Integration stop scan: 1738
Y at integration start : -2 Y at integration end: -2

Reason for manual integration: improper integration

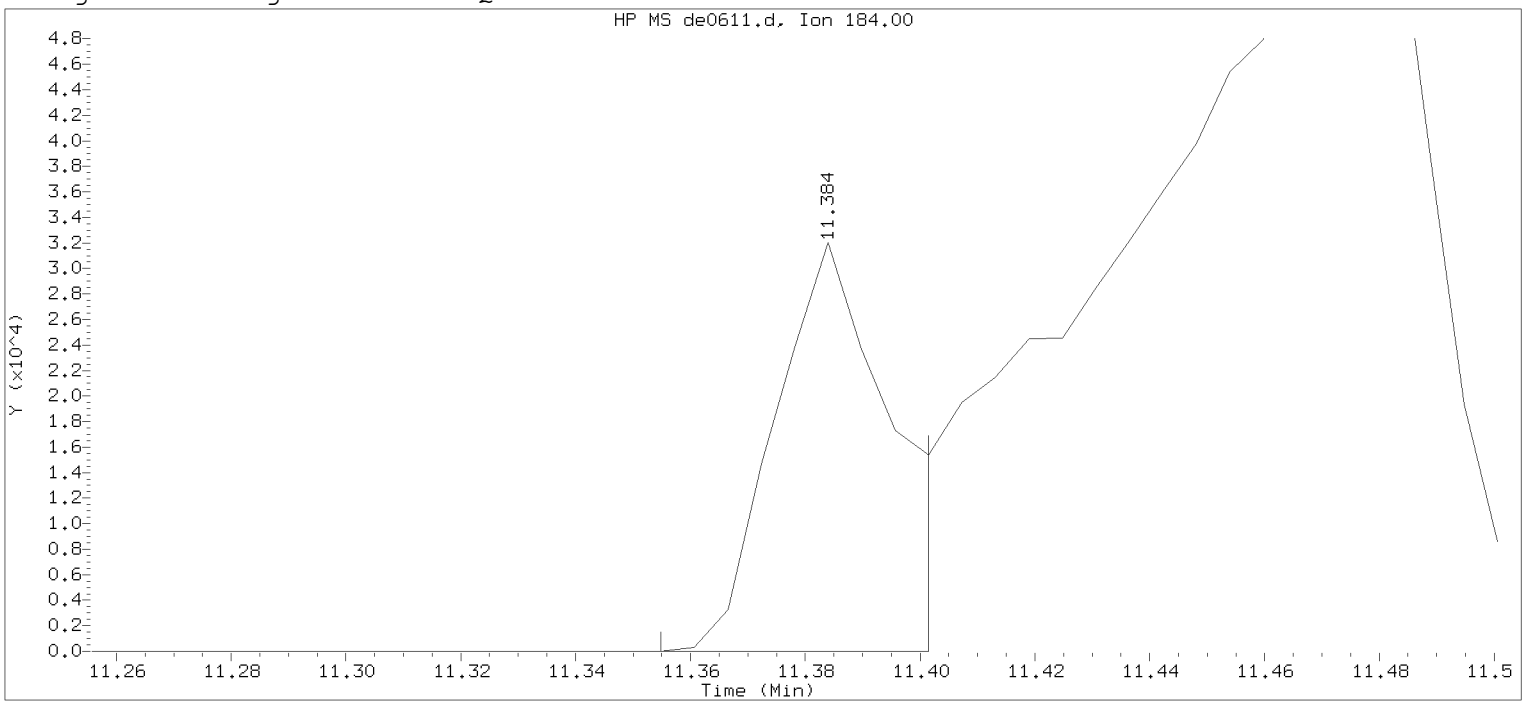
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

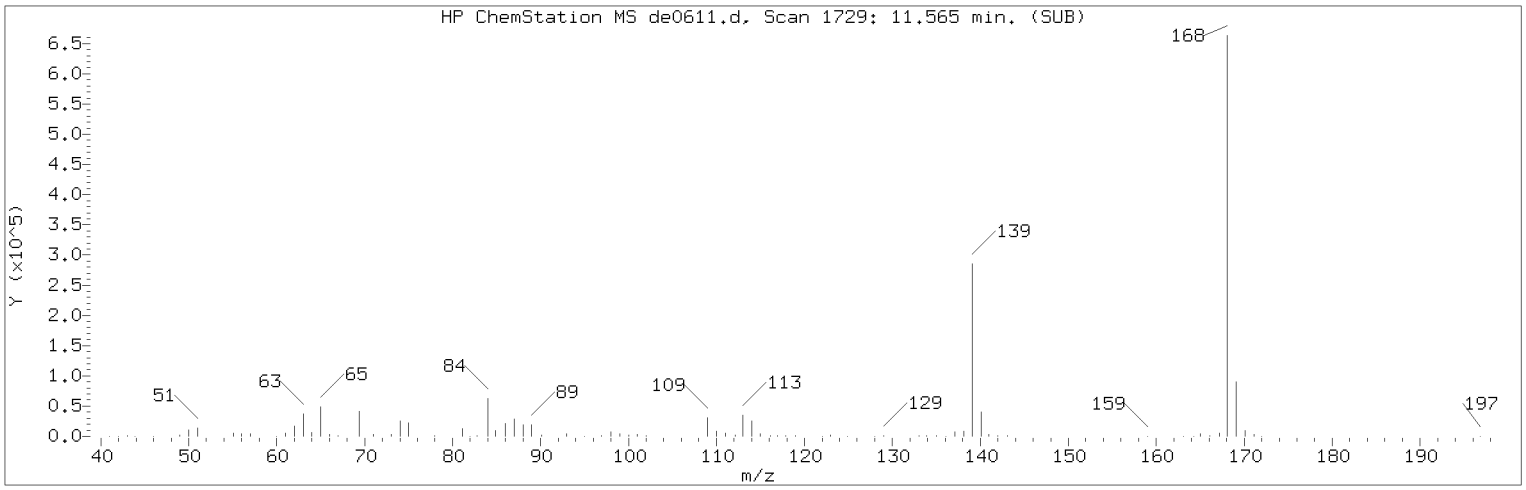
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 17:00
Date, time and analyst ID of latest file update: 23-May-2017 17:11 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

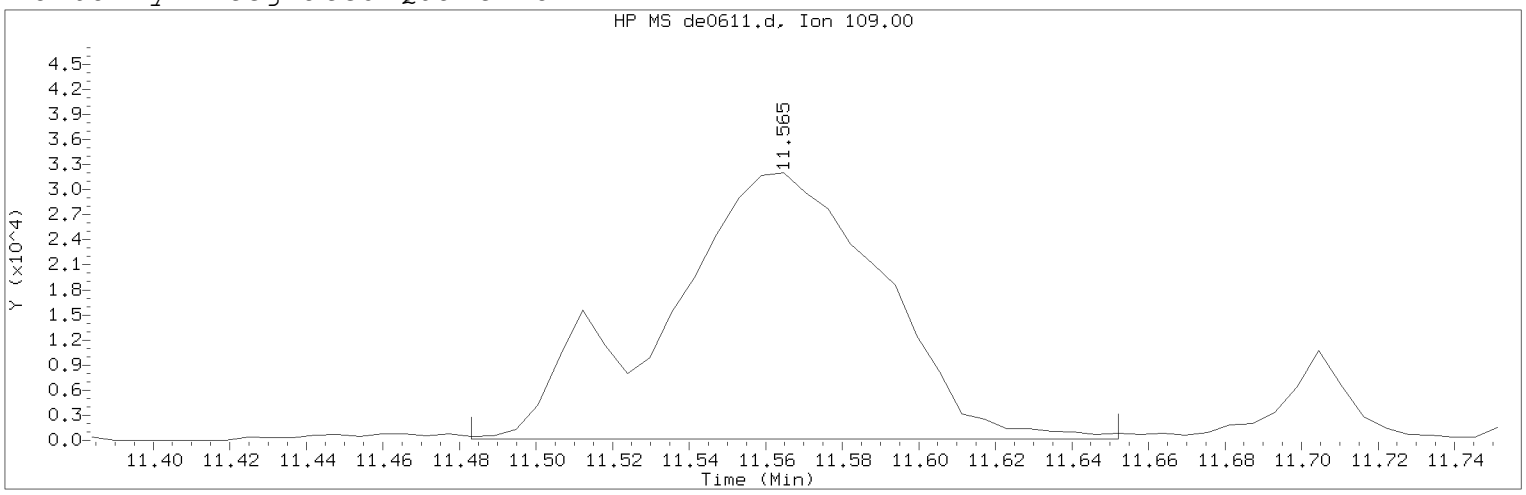
Compound Number	: 115		
Compound Name	: 2,4-Dinitrophenol		
Scan Number	: 1698		
Retention Time (minutes)	: 11.384		
Quant Ion	: 184.00		
Area	: 42935		
On-column Amount (ng/ul)	: 3.5931		
Integration start scan	: 1692	Integration stop scan:	1700
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:29.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

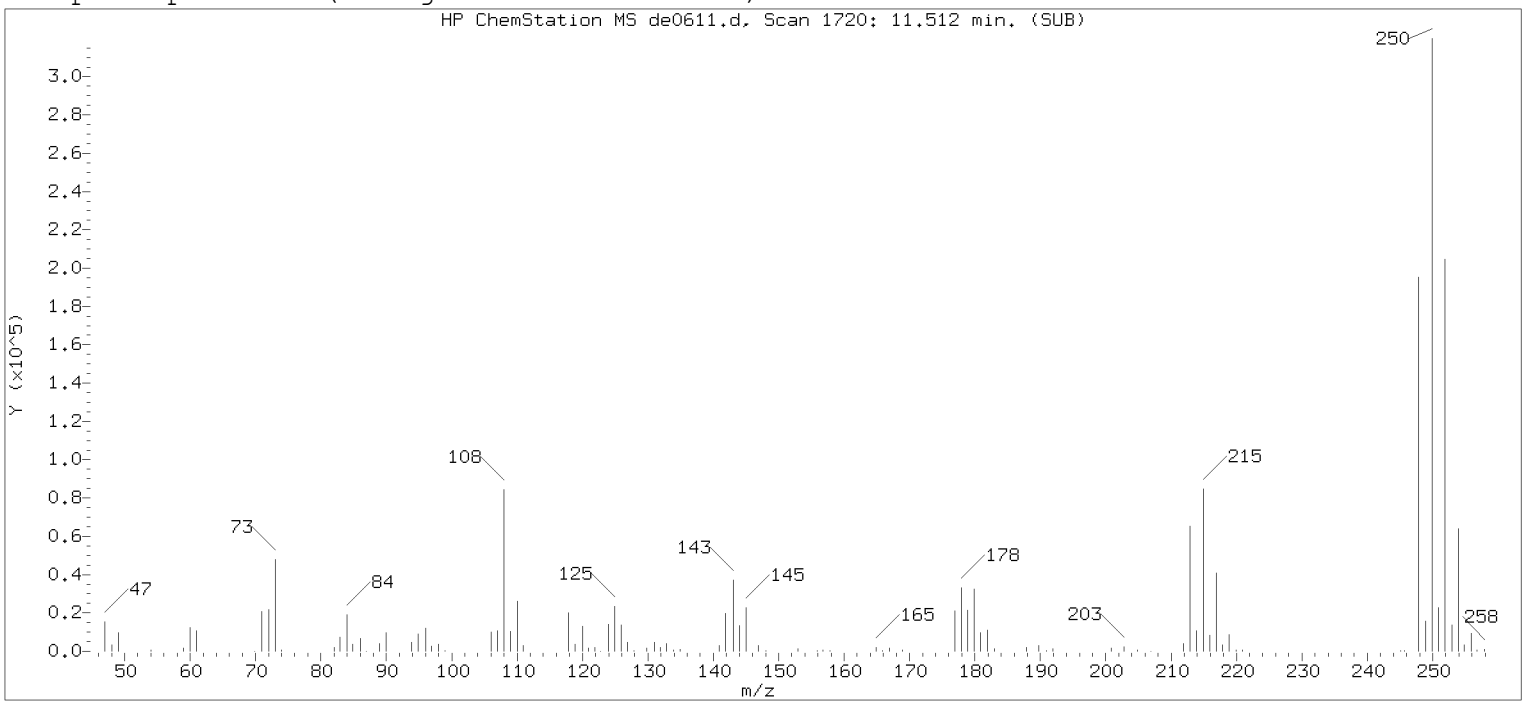
Compound Number : 116
Compound Name : 4-Nitrophenol
Scan Number : 1729
Retention Time (minutes) : 11.565
Quant Ion : 109.00
Area (flag) : 126348M
On-Column Amount (ng/ul) : 8.0632
Integration start scan : 1714 Integration stop scan: 1743
Y at integration start : 187 Y at integration end: 187

Reason for manual integration: improper integration

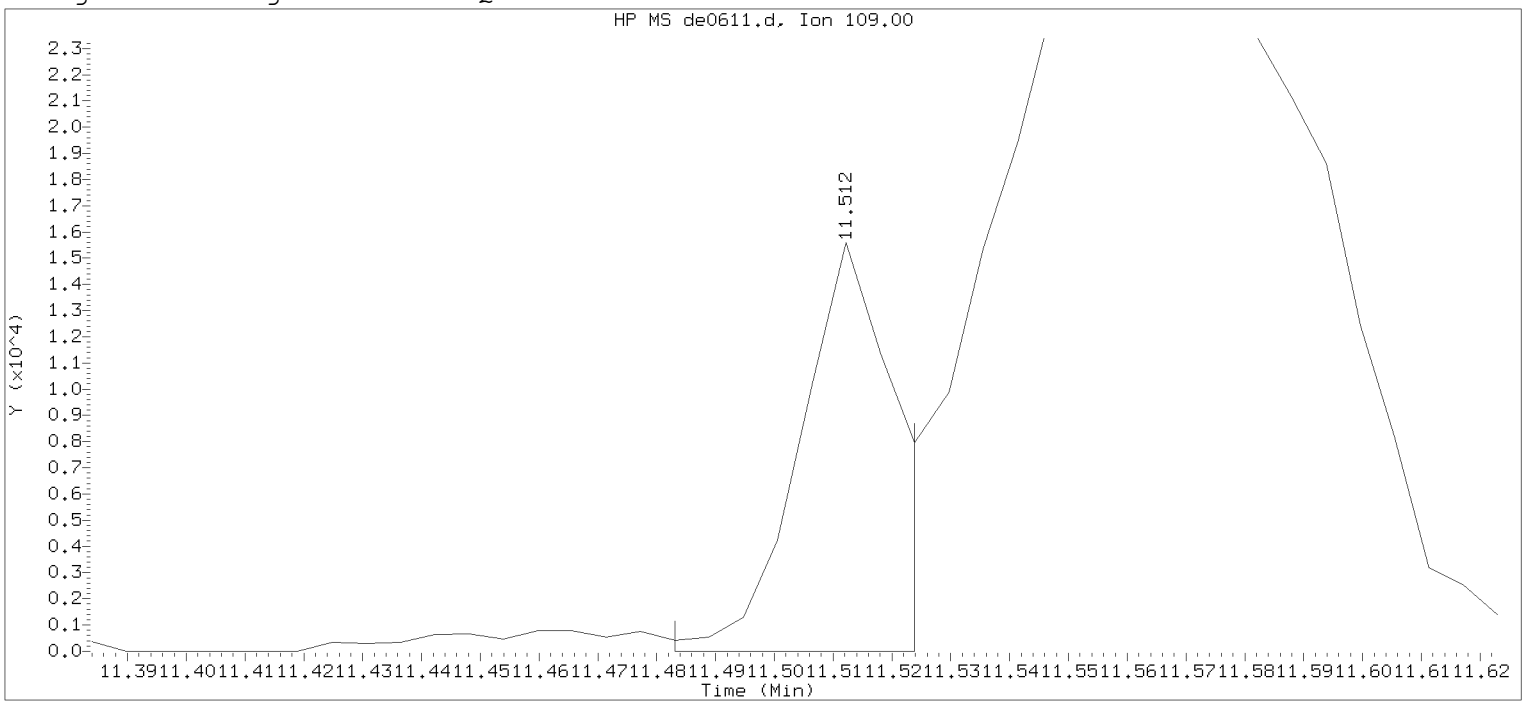
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

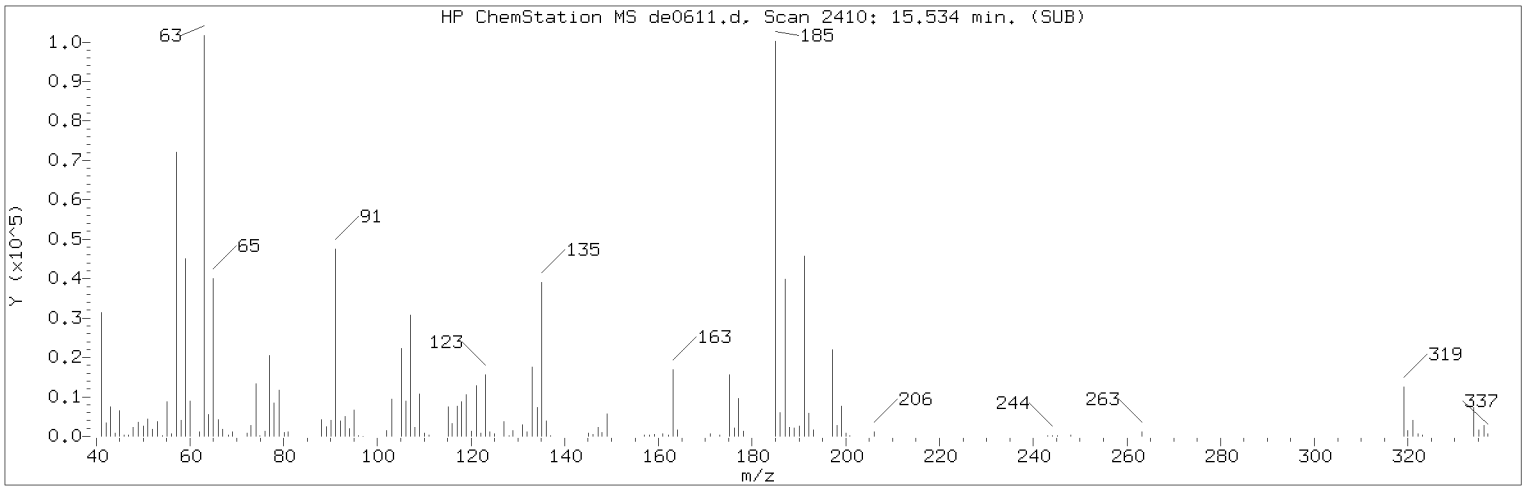
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 17:00
Date, time and analyst ID of latest file update: 23-May-2017 17:11 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

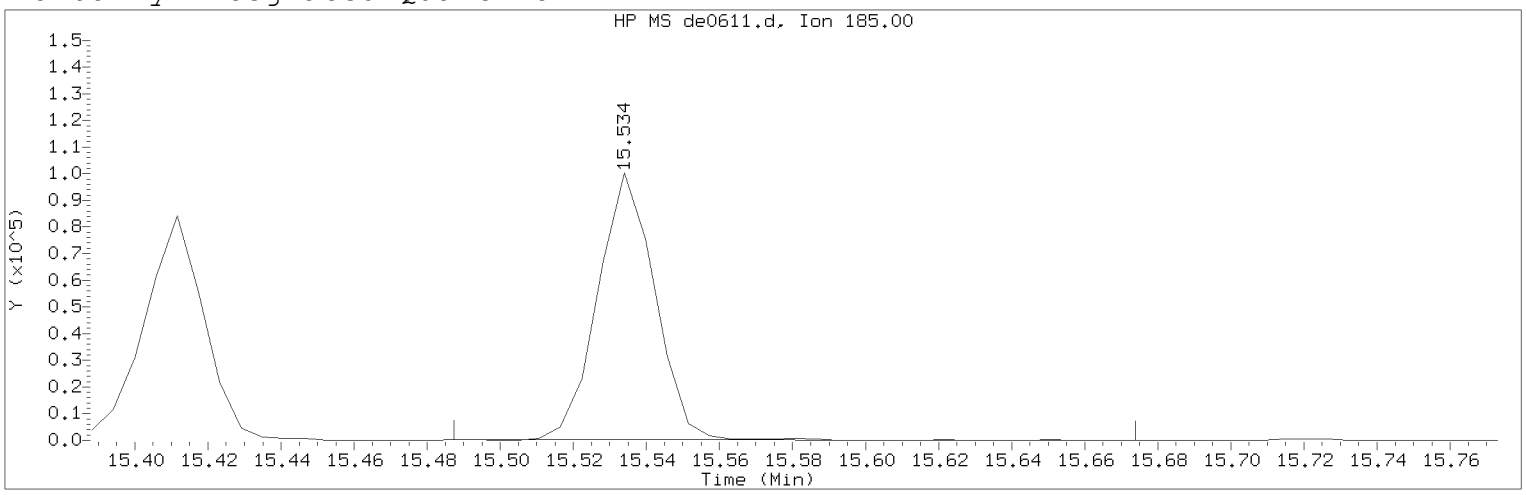
Compound Number	: 116		
Compound Name	: 4-Nitrophenol		
Scan Number	: 1720		
Retention Time (minutes)	: 11.512		
Quant Ion	: 109.00		
Area	: 16562		
On-column Amount (ng/ul)	: 1.0570		
Integration start scan	: 1714	Integration stop scan:	1721
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

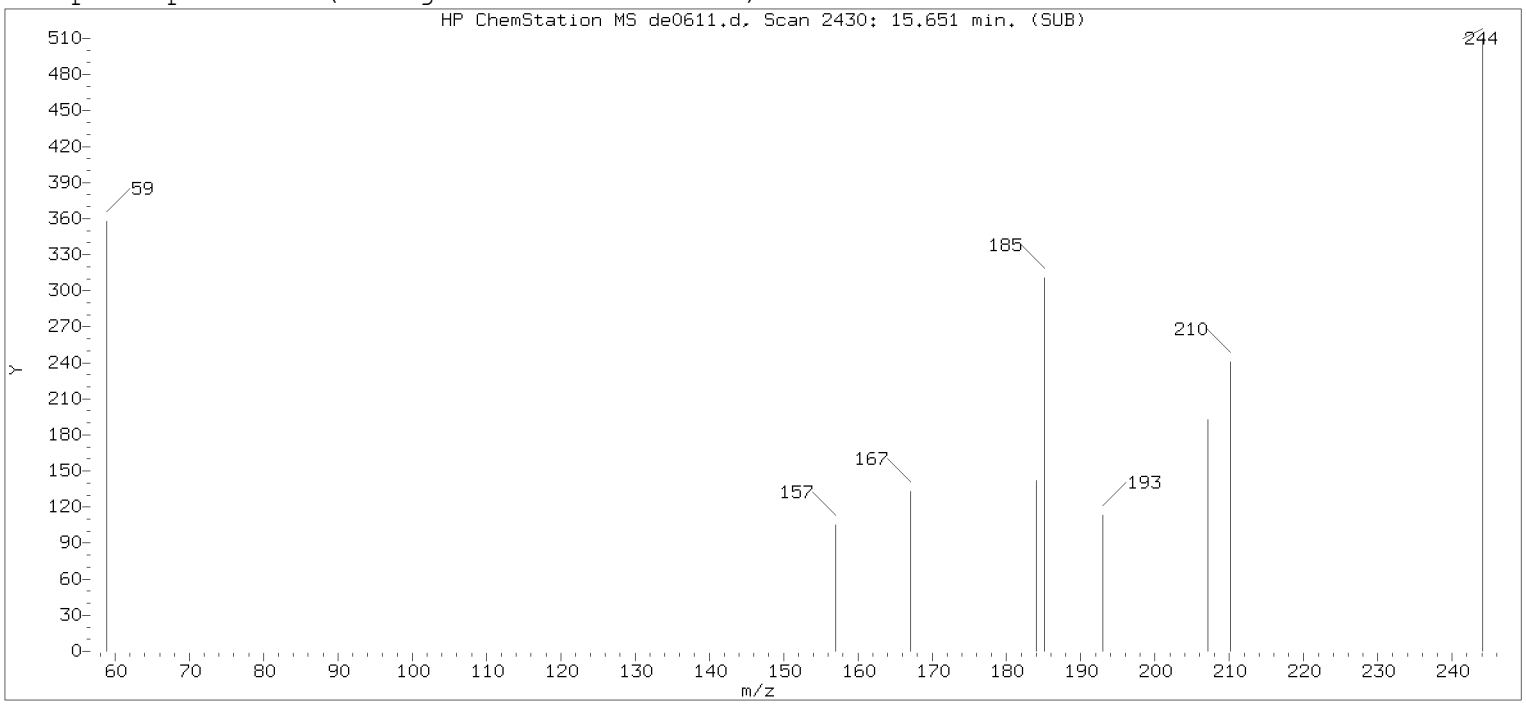
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2410
Retention Time (minutes) : 15.534
Quant Ion : 185.00
Area (flag) : 108764M
On-Column Amount (ng/ul) : 1.7088
Integration start scan : 2401 Integration stop scan: 2433
Y at integration start : 258 Y at integration end: 0

Reason for manual integration: improper integration

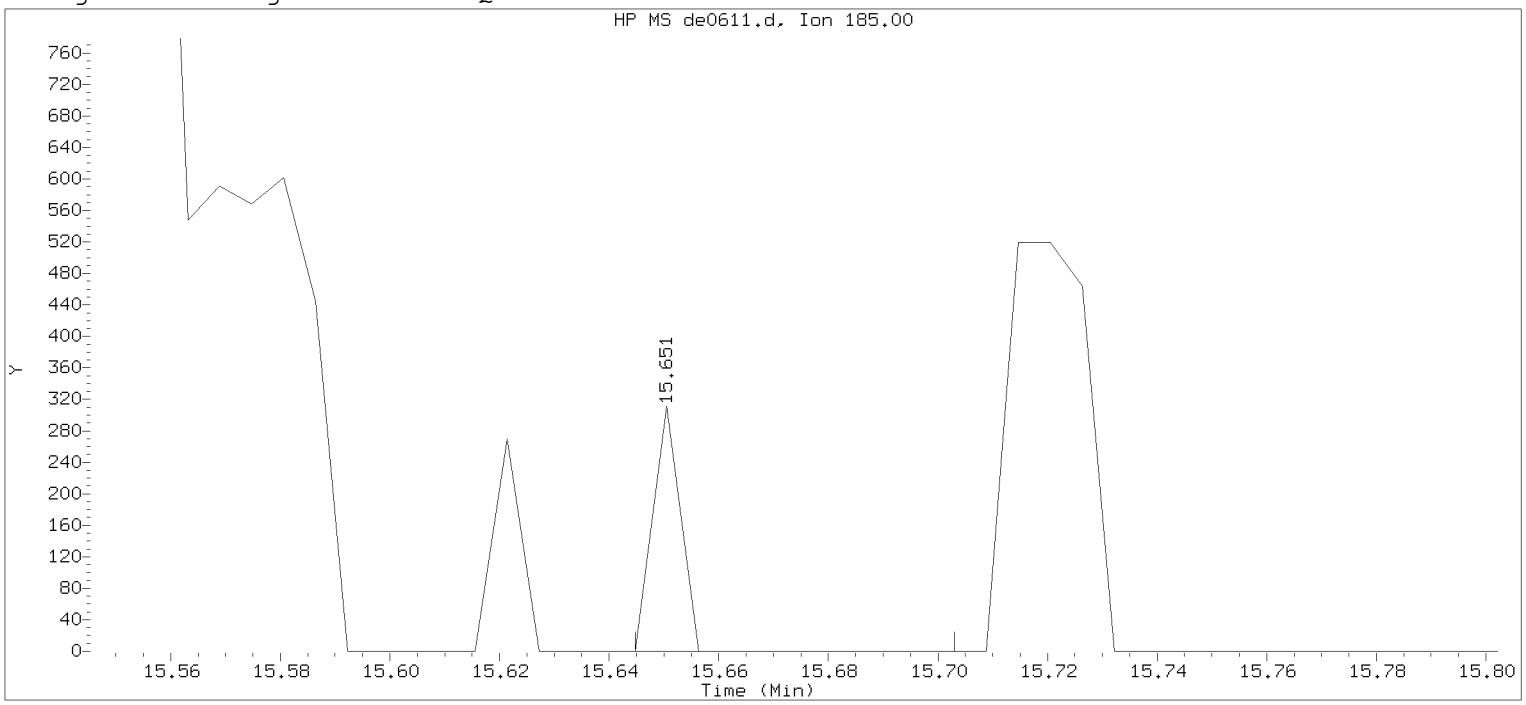
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0611.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 16:48 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 23-MAY-2017 17:00
Date, time and analyst ID of latest file update: 23-May-2017 17:11 Automation

Sample Name: R8504MSD Lab Sample ID: 8999790MSD

Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2430
Retention Time (minutes) : 15.651
Quant Ion : 185.00
Area : 108
On-column Amount (ng/ul) : 0.0000
Integration start scan : 2428 Integration stop scan: 2438
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:29.
Target 3.5 esignature user ID: HZIEGLER

Data file: /chem/HP19760.i/17may30.b/de0930.d
Data file Sample Info. Line: R8504REMS;8999789RE;1;3;MS;;;
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Injection date and time: **30-MAY-2017 12:45**
Instrument ID: **HP19760.i** Batch: **17143WAW**

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.464(0.000)	854	152	165544 (3)	5.00	
65) Naphthalene-d8	8.400(0.000)	1186	136	606605 (2)	5.00	
113) Acenaphthene-d10	11.192(0.000)	1665	164	344693 (2)	5.00	
153) Phenanthrene-d10	13.121(-0.006)	1996	188	667272 (5)	5.00	
175) Pyrene-d10	15.033(-0.006)	2324	212	796366 (1)	5.00	
213) Perylene-d12	19.457(-0.012)	3083	264	682667 (5)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.599(-0.005)	112	1252729	24.390	49%		10 - 84
17) Phenol-d6	(1)	5.987(-0.002)	99	1974282	28.322	57%		10 - 71
44) Nitrobenzene-d5	(2)	7.304(-0.001)	82	1261804	20.072	80%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154(0.000)	172	2183525	20.380	82%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299(-0.001)	330	267063	20.817	42%		13 - 149
179) Terphenyl-d14	(5)	15.353(0.000)	244	2321869	19.868	79%		38 - 125

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)	2.419(-0.009)	74	268014	6.886	27.65			0.5
5) Pyridine	(1)	2.489(-0.010)	79	352200	5.514	22.15			0.5
7) 2-Picoline	(1)	3.684(-0.004)	93	554031	8.495	34.12			0.5
8) N-Nitrosomethylethylamine	(1)	3.871(-0.002)	88	268024	9.630	38.68			0.5
9) Methyl methanesulfonate	(1)	4.331(-0.002)	80	275109	8.639	34.69			0.3
13) N-Nitrosodiethylamine	(1)	4.902(-0.000)	102	265438	10.268	41.24			0.1
15) Ethyl methanesulfonate	(1)	5.369(-0.000)	109	287989	10.314	41.42			0.1
18) Phenol	(1)	6.004(-0.001)	94	611003	7.737	31.07			0.1
19) Aniline	(1)	5.986(-0.000)	93	494173	5.325	21.39			0.1
22) bis(2-Chloroethyl)ether	(1)	6.115(-0.001)	93	605760	10.324	41.46			0.1
23) 2-Chlorophenol	(1)	6.156(-0.000)	128	469706	9.131	36.67			0.1
27) Benzyl alcohol	(1)	6.698(-0.000)	108	344969	9.400	37.75			3
31) 2-Methylphenol	(1)	6.902(-0.000)	108	490566	9.698	38.95			0.1
34) bis(2-Chloroisopropyl)ether	(1)	6.931(-0.000)	45	919202	10.603	42.58			0.1
35) N-Nitrosopyrrolidine	(1)	7.047(-0.000)	100	279029	9.793	39.33			0.1
36) Acetophenone	(1)	7.082(-0.000)	105	830988	10.921	43.86			0.1
37) 4-Methylphenol	(1)	7.141(-0.000)	108	527721	9.068	36.42			0.1
38) N-Nitroso-di-n-propylamine	(1)	7.117(-0.000)	70	491317	10.706	43.00			0.1
39) N-Nitrosomorpholine	(1)	7.117(-0.000)	56	392114	10.042	40.33			0.5
40) o-Toluidine	(1)	7.135(-0.000)	106	448573	5.030	20.20			0.1
43) Hexachloroethane	(1)	7.216(-0.000)	117	171381	7.349	29.51			0.3
45) Nitrobenzene	(2)	7.327(-0.000)	77	700561	11.064	44.43			0.1
48) N-Nitrosopiperidine	(2)	7.560(0.000)	114	257928	10.316	41.43			0.1
50) Isophorone	(2)	7.718(-0.000)	82	1204508	11.123	44.67			0.1
51) 2-Nitrophenol	(2)	7.822(-0.000)	139	270381	10.813	43.42			0.1
53) 2,4-Dimethylphenol	(2)	7.945(-0.000)	107	434185	8.053	32.34			0.1
57) O,O,O-Triethylphosphorothioate	(2)	8.062(0.000)	198	270455	10.631	42.70			0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0930.d Injection date and time: **30-MAY-2017 12:45**
Data file Sample Info. Line: R8504REMS;8999789RE;1;3;MS;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)	8.091(-0.000)	93	785954	11.352	45.59			0.1
60) 2,4-Dichlorophenol	(2)	8.213(-0.000)	162	376236	9.428	37.86			0.1
64) a,a-Dimethylphenethylamine	(2)	8.248(-0.009)	58	1403385M	11.327	45.49		J	1
67) 4-Chloroaniline	(2)	8.545(0.000)	127	397415	6.765	27.17			0.5
68) 2,6-Dichlorophenol	(2)	8.557(-0.000)	162	331454	8.378	33.65			0.1
69) Hexachloropropene	(2)	8.586(0.000)	213	288592	9.107	36.57			0.5
77) N-Nitrosodi-n-butylamine	(2)	9.128(-0.000)	84	445876	10.056	40.38			0.5
81) 1,4-Phenylenediamine	(2)			Not Detected					19
80) 4-Chloro-3-methylphenol	(2)	9.367(-0.000)	107	492132	10.821	43.46			0.1
82) Safrole	(2)	9.437(0.000)	162	374803	10.369	41.64			0.5
83) 2-Methylnaphthalene	(2)	9.542(-0.000)	142	962416	10.144	40.74			0.03
85) Hexachlorocyclopentadiene	(3)	9.810(-0.000)	237	272360	11.585	46.53			1
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.810(-0.000)	216	476195	9.656	38.78			0.1
88) cis-Isosafrole	(3)	9.903(0.000)	162	50992	1.319	5.30			0.1
90) 2,4,6-Trichlorophenol	(3)	10.014(-0.000)	196	211515	7.042	28.28			0.1
92) 2,4,5-Trichlorophenol	(3)	10.072(-0.000)	196	300965	9.278	37.26			0.1
94) trans-Isosafrole	(3)	10.270(-0.000)	162	397849	9.723	39.05			0.1
97) Isosafrole	(3)			448841	11.043	44.35			0.5
96) 2-Chloronaphthalene	(3)	10.306(-0.000)	162	950421	10.935	43.91			0.1
100) 2-Nitroaniline	(3)	10.498(-0.001)	138	298913	11.067	44.45			0.1
104) 1,4-Naphthoquinone	(3)	10.614(-0.001)	158	2819094	78.024	313.35		E	6
106) Dimethylphthalate	(3)	10.842(-0.000)	163	1113860	11.091	44.54			0.5
107) 1,3-Dinitrobenzene	(3)	10.731(0.009)	168	156971	10.045	40.34			0.5
108) 2,6-Dinitrotoluene	(3)	10.906(-0.000)	165	245156	11.035	44.32			0.1
109) Acenaphthylene	(3)	10.958(0.000)	152	1330886	10.464	42.02			0.03
112) 3-Nitroaniline	(3)	11.151(-0.000)	138	206193	8.978	36.06			0.1
114) Acenaphthene	(3)	11.244(-0.000)	153	1016066	10.976	44.08			0.03
115) 2,4-Dinitrophenol	(3)	11.430(-0.009)	184	250014M	19.306	77.54			3
116) 4-Nitrophenol	(3)	11.506(-0.002)	109	124730	7.345	29.50		J	3
117) Pentachlorobenzene	(3)	11.460(0.000)	250	421619	10.587	42.52			0.1
118) 2,4-Dinitrotoluene	(3)	11.541(-0.001)	165	342625	11.467	46.05			0.3
119) Dibenzofuran	(3)	11.524(-0.000)	168	1360919	10.765	43.23			0.1
121) 1-Naphthylamine	(3)	11.634(-0.000)	143	715682	7.980	32.05			1
122) 2,3,4,6-Tetrachlorophenol	(3)	11.722(-0.000)	232	168991	6.918	27.78			0.1
123) 2-Naphthylamine	(3)	11.751(-0.000)	143	692411	7.791	31.29			1
124) Diethylphthalate	(3)	11.932(-0.000)	149	1121140	11.502	46.19			0.5
125) Thionazin	(3)	12.025(-0.000)	107	209954	10.831	43.50			0.5
126) Fluorene	(3)	12.002(-0.000)	166	1105468	10.899	43.77			0.03
127) 4-Chlorophenyl-phenylether	(3)	12.037(-0.000)	204	534124	10.814	43.43			0.1
128) 5-Nitro-o-toluidine	(3)	12.037(-0.001)	152	225031	8.062	32.38			0.1
129) 4-Nitroaniline	(3)	12.042(-0.001)	138	240114	10.503	42.18			0.1
130) 4,6-Dinitro-2-methylphenol	(4)	12.112(-0.001)	198	183228	10.184	40.90			1
131) N-Nitrosodiphenylamine	(4)	12.182(0.000)	169	914951	11.056	44.40			0.1
139) 1,3,5-Trinitrobenzene	(4)	12.520(-0.000)	213	115327	9.908	39.79			1
140) Diallate (peak 1)	(4)	12.544(0.000)	86	399302	7.904	31.74			0.06
141) Phorate	(4)	12.550(0.000)	75	860304	11.448	45.98			0.1
142) Phenacetin	(4)	12.579(-0.000)	108	582019	10.568	42.44			0.1
143) 4-Bromophenyl-phenylether	(4)	12.614(-0.000)	248	315133	11.099	44.58			0.1
144) Diallate (peak 2)	(4)	12.643(-0.000)	86	129528	3.162	12.70			0.06
146) Diallate trans/cis	(4)			528830	11.066	44.44			0.3
145) Hexachlorobenzene	(4)	12.660(-0.000)	284	311453	10.416	41.83			0.03
147) Dimethoate	(4)	12.730(0.000)	87	327295	6.762	27.16			0.8
149) Pentachlorophenol	(4)	12.923(-0.001)	266	109979	6.690	26.87			0.3
150) 4-Aminobiphenyl	(4)	12.917(0.000)	169	691783	7.530	30.24			0.1

M = Compound was manually integrated. E = Compound concentration above calibration range.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0930.d Injection date and time: **30-MAY-2017 12:45**
Data file Sample Info. Line: R8504REMS;8999789RE;1;3;MS;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

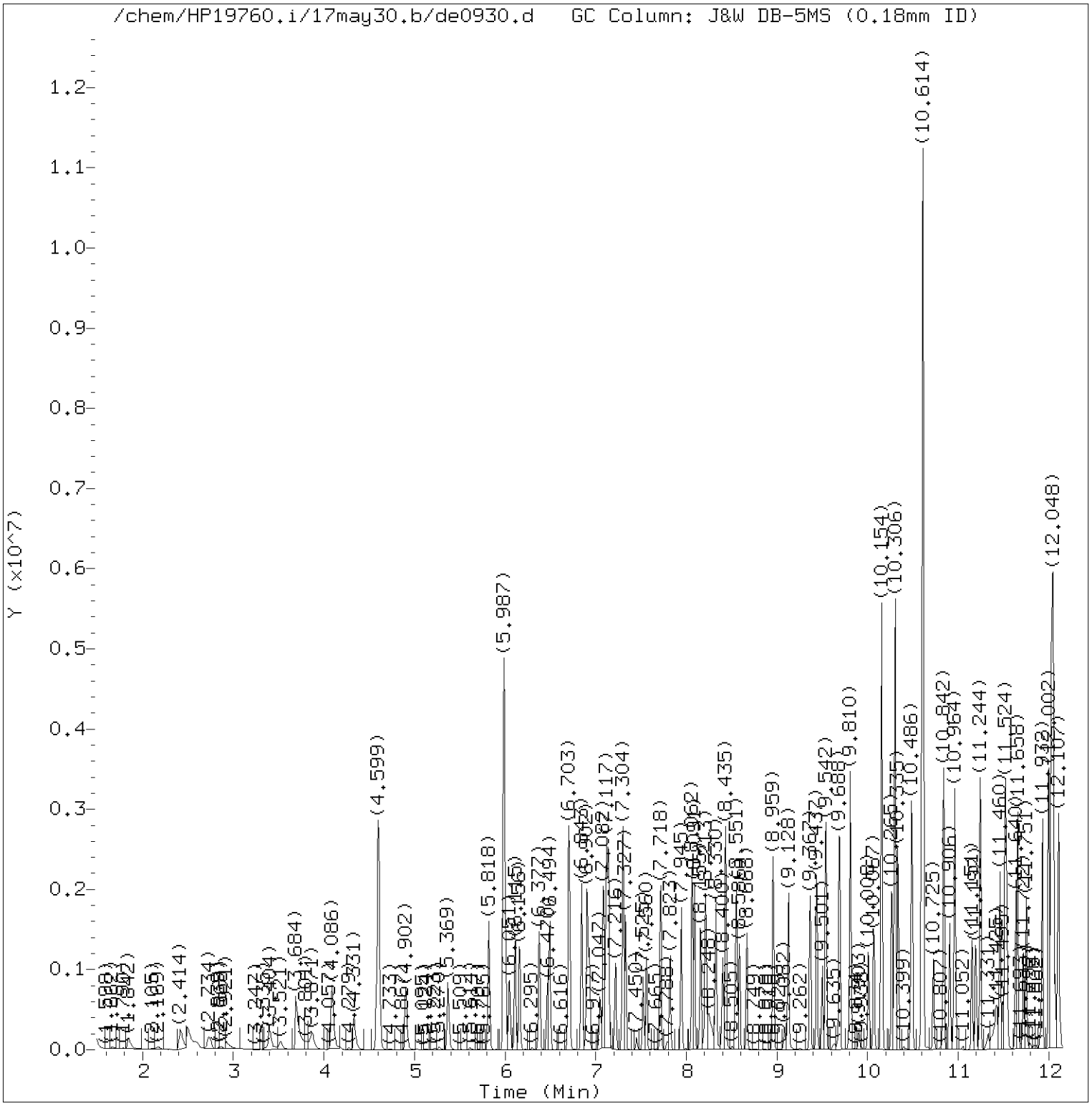
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
151) Pentachloronitrobenzene	(4)	12.917(0.000)	237	138428	10.605	42.59			0.5
152) Pronamide	(4)	13.028(-0.000)	173	531357	11.155	44.80			0.1
155) Phenanthrene	(4)	13.150(0.000)	178	1609272	10.789	43.33			0.03
157) Anthracene	(4)	13.214(0.000)	178	1632583	10.993	44.15			0.03
162) Disulfoton	(4)	13.179(0.000)	88	1680394M	30.686	123.24		E	6
164) Methyl parathion	(4)	13.628(0.000)	109	258203	6.928	27.82			0.3
165) Di-n-butylphthalate	(4)	13.948(-0.000)	149	1962109	11.519	46.26			0.5
167) Parathion	(4)	14.164(-0.000)	109	269508	11.340	45.54			0.5
168) 4-Nitroquinoline-1-oxide	(4)	14.176(-0.001)	190	1810565	116.108	466.30		E	5
170) Methapyrilene	(4)	14.316(-0.000)	97	4537407M	127.112	510.49		E	4
171) Isodrin	(4)	14.520(0.000)	193	210467	11.639	46.74			0.1
173) Fluoranthene	(4)	14.735(-0.000)	202	1910613	11.188	44.93			0.03
177) Pyrene	(5)	15.062(-0.000)	202	1967284	10.880	43.70			0.03
180) Aramite (1)	(5)	15.266(0.000)	185	6080M	7.002	28.12		E	0.3
181) Aramite (2)	(5)	15.295(0.000)	185	5761M	6.995	28.09		E	0.3
183) Aramite (3)	(5)	15.371(0.000)	185	99202M	1.378	5.53		E	0.3
184) Aramite (4)	(5)	15.493(0.000)	185	110833M	1.169	4.70			0.3
186) Aramite	(5)			221876	16.544	66.44		E	1
182) p-Dimethylaminoazobenzene	(5)	15.580(-0.000)	225	359629	12.492	50.17			0.1
185) Chlorobenzilate	(5)	15.674(0.000)	139	599925	11.282	45.31			0.8
187) 3,3'-Dimethylbenzidine	(5)	16.122(0.000)	212	809326	6.932	27.84		J	6
188) Butylbenzylphthalate	(5)	16.198(-0.000)	149	926472	11.576	46.49			0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)	16.501(-0.023)	272	129021M	8.754	35.15		J	6
191) 2-Acetylaminofluorene	(5)	16.542(-0.000)	181	897455	12.040	48.35			0.5
193) 3,3'-Dichlorobenzidine	(5)	17.026(0.000)	252	574606	8.797	35.33			0.5
195) Benzo(a)anthracene	(5)	17.026(-0.000)	228	1998223	11.527	46.29			0.03
196) Chrysene	(5)	17.084(-0.000)	228	1885400	11.550	46.39			0.03
199) bis(2-Ethylhexyl)phthalate	(5)	17.265(-0.000)	149	1391698	11.616	46.65			0.5
205) Di-n-octylphthalate	(6)	18.407(0.000)	149	2505280	11.226	45.09			0.5
206) Benzo(b)fluoranthene	(6)	18.850(-0.000)	252	2070240	11.132	44.71			0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.862(-0.000)	256	845370	11.196	44.96			0.1
208) Benzo(k)fluoranthene	(6)	18.903(-0.000)	252	1966646	10.995	44.16			0.03
211) Benzo(a)pyrene	(6)	19.369(-0.000)	252	1843240	10.727	43.08			0.03
215) 3-Methylcholanthrene	(6)	19.946(0.000)	268	884945	11.572	46.47			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	21.054(-0.000)	276	1993868	11.837	47.54			0.03
220) Dibenz(a,h)anthracene	(6)	21.094(0.000)	278	1684490	12.024	48.29			0.03
221) Benzo(g,h,i)perylene	(6)	21.409(-0.000)	276	1620616	11.758	47.22			0.03

E = Compound concentration above calibration range. M = Compound was manually integrated.

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

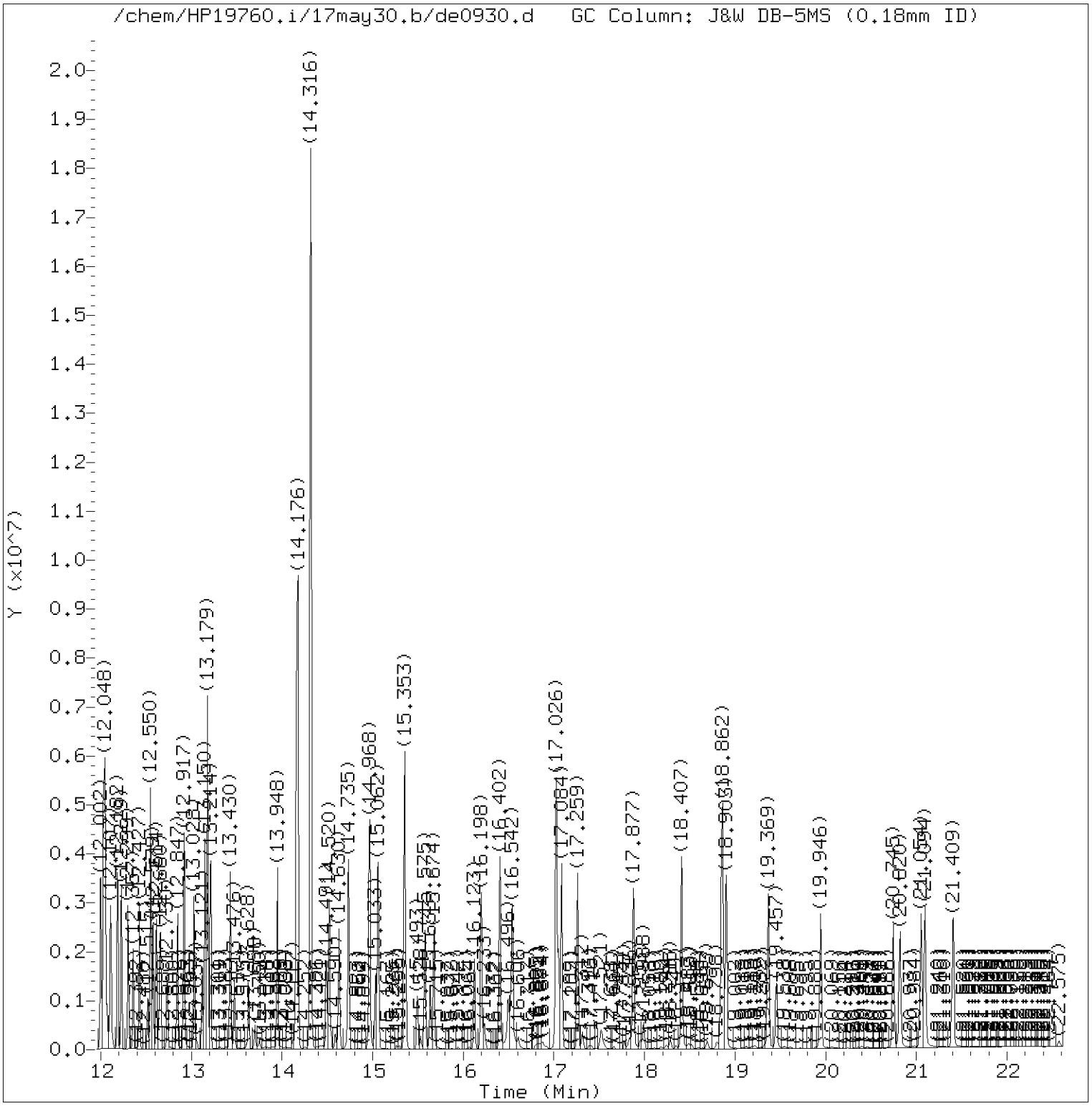
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	2.419	74	268014	6.886
5) Pyridine	(1)	2.489	79	352200	5.514
7) 2-Picoline	(1)	3.684	93	554031	8.495
8) N-Nitrosomethylethylamine	(1)	3.871	88	268024	9.630
9) Methyl methanesulfonate	(1)	4.331	80	275109	8.639
11)$2-Fluorophenol	(1)	4.599	112	1252729	24.390
13) N-Nitrosodiethylamine	(1)	4.902	102	265438	10.268
15) Ethyl methanesulfonate	(1)	5.369	109	287989	10.314
19) Aniline	(1)	5.987	93	494173	5.325
17)$Phenol-d6	(1)	5.987	99	1974282	28.322
18) Phenol	(1)	6.004	94	611003	7.737
22) bis(2-Chloroethyl)ether	(1)	6.115	93	605760	10.324
23) 2-Chlorophenol	(1)	6.156	128	469706	9.131
25)*1,4-Dichlorobenzene-d4	(1)	6.464	152	165544	5.000
27) Benzyl alcohol	(1)	6.698	108	344969	9.400
31) 2-Methylphenol	(1)	6.902	108	490566	9.698
34) bis(2-Chloroisopropyl)ether	(1)	6.931	45	919202	10.603
35) N-Nitrosopyrrolidine	(1)	7.047	100	279029	9.793
36) Acetophenone	(1)	7.082	105	830988	10.921
38) N-Nitroso-di-n-propylamine	(1)	7.117	70	491317	10.706
39) N-Nitrosomorpholine	(1)	7.117	56	392114	10.042
40) o-Toluidine	(1)	7.135	106	448573	5.030
37) 4-Methylphenol	(1)	7.141	108	527721	9.068
43) Hexachloroethane	(1)	7.216	117	171381	7.349
44)$Nitrobenzene-d5	(2)	7.304	82	1261804	20.072
45) Nitrobenzene	(2)	7.327	77	700561	11.064
97) Isosafrole	(3)			448841	11.043
48) N-Nitrosopiperidine	(2)	7.560	114	257928	10.316
50) Isophorone	(2)	7.718	82	1204508	11.123
51) 2-Nitrophenol	(2)	7.823	139	270381	10.813
53) 2,4-Dimethylphenol	(2)	7.945	107	434185	8.053
57) O,O,O-Triethylphosphorothioate	(2)	8.062	198	270455	10.631
55) bis(2-Chloroethoxy)methane	(2)	8.091	93	785954	11.352
60) 2,4-Dichlorophenol	(2)	8.213	162	376236	9.428
64) a,a-Dimethylphenethylamine	(2)	8.248	58	1403385M	11.327
65)*Naphthalene-d8	(2)	8.400	136	606605	5.000
67) 4-Chloroaniline	(2)	8.545	127	397415	6.765
68) 2,6-Dichlorophenol	(2)	8.557	162	331454	8.378
69) Hexachloropropene	(2)	8.586	213	288592	9.107
146) Diallate trans/cis	(4)			528830	11.066

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
77) N-Nitrosodi-n-butylamine	(2)	9.128	84	445876	10.056
80) 4-Chloro-3-methylphenol	(2)	9.367	107	492132	10.821
82) Safrole	(2)	9.437	162	374803	10.369
83) 2-Methylnaphthalene	(2)	9.542	142	962416	10.144
85) Hexachlorocyclopentadiene	(3)	9.810	237	272360	11.585
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.810	216	476195	9.656
88) cis-Isosafrole	(3)	9.903	162	50992	1.319
90) 2,4,6-Trichlorophenol	(3)	10.014	196	211515	7.042
92) 2,4,5-Trichlorophenol	(3)	10.072	196	300965	9.278
93)$2-Fluorobiphenyl	(3)	10.154	172	2183525	20.380
94) trans-Isosafrole	(3)	10.271	162	397849	9.723
96) 2-Chloronaphthalene	(3)	10.306	162	950421	10.935
100) 2-Nitroaniline	(3)	10.498	138	298913	11.067
186) Aramite	(5)			221876	16.544
104) 1,4-Naphthoquinone	(3)	10.614	158	2819094	78.024
107) 1,3-Dinitrobenzene	(3)	10.731	168	156971	10.045
106) Dimethylphthalate	(3)	10.842	163	1113860	11.091
108) 2,6-Dinitrotoluene	(3)	10.906	165	245156	11.035
109) Acenaphthylene	(3)	10.958	152	1330886	10.464
112) 3-Nitroaniline	(3)	11.151	138	206193	8.978
113)*Acenaphthene-d10	(3)	11.192	164	344693	5.000
114) Acenaphthene	(3)	11.244	153	1016066	10.976
115) 2,4-Dinitrophenol	(3)	11.430	184	250014M	19.306
117) Pentachlorobenzene	(3)	11.460	250	421619	10.587
116) 4-Nitrophenol	(3)	11.506	109	124730	7.345
119) Dibenzofuran	(3)	11.524	168	1360919	10.765
118) 2,4-Dinitrotoluene	(3)	11.541	165	342625	11.467
121) 1-Naphthylamine	(3)	11.634	143	715682	7.980
122) 2,3,4,6-Tetrachlorophenol	(3)	11.722	232	168991	6.918
123) 2-Naphthylamine	(3)	11.751	143	692411	7.791
124) Diethylphthalate	(3)	11.932	149	1121140	11.502
126) Fluorene	(3)	12.002	166	1105468	10.899
125) Thionazin	(3)	12.025	107	209954	10.831
128) 5-Nitro-o-toluidine	(3)	12.037	152	225031	8.062
127) 4-Chlorophenyl-phenylether	(3)	12.037	204	534124	10.814
129) 4-Nitroaniline	(3)	12.043	138	240114	10.503
130) 4,6-Dinitro-2-methylphenol	(4)	12.112	198	183228	10.184
131) N-Nitrosodiphenylamine	(4)	12.182	169	914951	11.056
135)$2,4,6-Tribromophenol	(3)	12.299	330	267063	20.817
139) 1,3,5-Trinitrobenzene	(4)	12.520	213	115327	9.908

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Diallate (peak 1)	(4)	12.544	86	399302	7.904
141) Phorate	(4)	12.550	75	860304	11.448
142) Phenacetin	(4)	12.579	108	582019	10.568
143) 4-Bromophenyl-phenylether	(4)	12.614	248	315133	11.099
144) Diallate (peak 2)	(4)	12.643	86	129528	3.162
145) Hexachlorobenzene	(4)	12.660	284	311453	10.416
147) Dimethoate	(4)	12.730	87	327295	6.762
151) Pentachloronitrobenzene	(4)	12.917	237	138428	10.605
150) 4-Aminobiphenyl	(4)	12.917	169	691783	7.530
149) Pentachlorophenol	(4)	12.923	266	109979	6.690
152) Pronamide	(4)	13.028	173	531357	11.155
153)*Phenanthrene-d10	(4)	13.121	188	667272	5.000
155) Phenanthrene	(4)	13.150	178	1609272	10.789
162) Disulfoton	(4)	13.179	88	1680394M	30.686
157) Anthracene	(4)	13.214	178	1632583	10.993
164) Methyl parathion	(4)	13.628	109	258203	6.928
165) Di-n-butylphthalate	(4)	13.948	149	1962109	11.519
167) Parathion	(4)	14.164	109	269508	11.340
168) 4-Nitroquinoline-1-oxide	(4)	14.176	190	1810565	116.108
170) Methapyrilene	(4)	14.316	97	4537407M	127.112
171) Isodrin	(4)	14.520	193	210467	11.639
173) Fluoranthene	(4)	14.735	202	1910613	11.188
175)*Pyrene-d10	(5)	15.033	212	796366	5.000
177) Pyrene	(5)	15.062	202	1967284	10.880
180) Aramite (1)	(5)	15.266	185	6080M	7.002
181) Aramite (2)	(5)	15.295	185	5761M	6.995
179)$Terphenyl-d14	(5)	15.353	244	2321869	19.868
183) Aramite (3)	(5)	15.371	185	99202M	1.378
184) Aramite (4)	(5)	15.493	185	110833M	1.169
182) p-Dimethylaminoazobenzene	(5)	15.580	225	359629	12.492
185) Chlorobenzilate	(5)	15.674	139	599925	11.282
187) 3,3'-Dimethylbenzidine	(5)	16.123	212	809326	6.932
188) Butylbenzylphthalate	(5)	16.198	149	926472	11.576
190) Kepone	(5)	16.501	272	129021M	8.754
191) 2-Acetylaminofluorene	(5)	16.542	181	897455	12.040
195) Benzo(a)anthracene	(5)	17.026	228	1998223	11.527
193) 3,3'-Dichlorobenzidine	(5)	17.026	252	574606	8.797
196) Chrysene	(5)	17.084	228	1885400	11.550
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	149	1391698	11.616
205) Di-n-octylphthalate	(6)	18.407	149	2505280	11.226

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

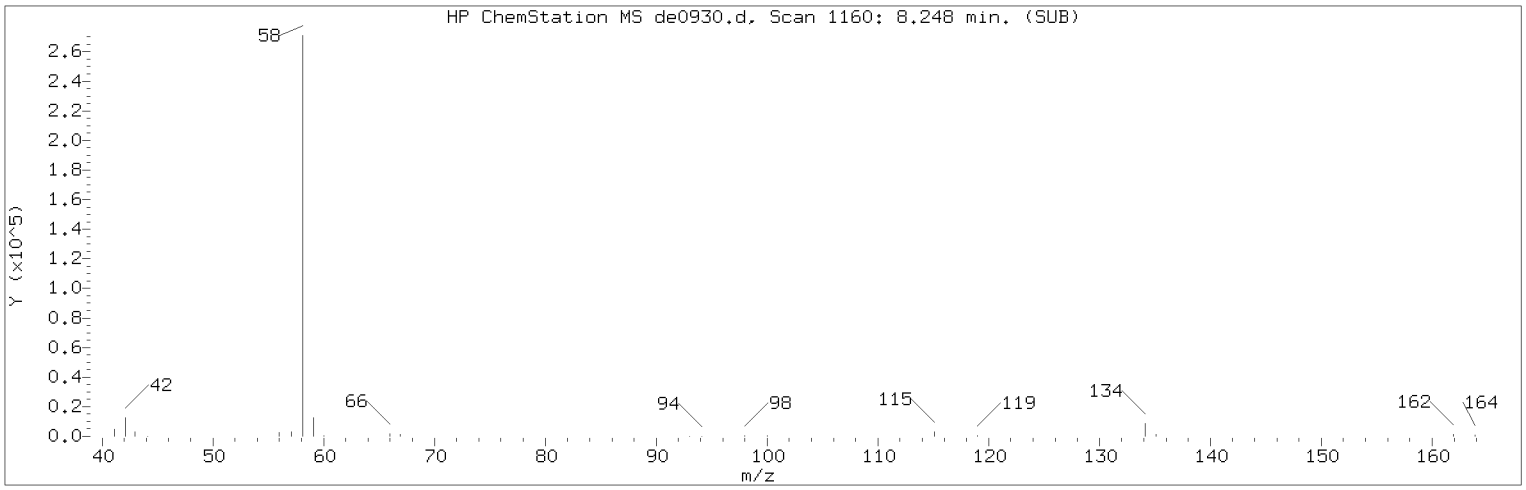
Sample Name: R8504REMS Lab Sample ID: 8999789RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
206) Benzo(b)fluoranthene	(6)	18.850	252	2070240	11.132
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.862	256	845370	11.196
208) Benzo(k)fluoranthene	(6)	18.903	252	1966646	10.995
211) Benzo(a)pyrene	(6)	19.369	252	1843240	10.727
213)*Perylene-d12	(6)	19.457	264	682667	5.000
215) 3-Methylcholanthrene	(6)	19.946	268	884945	11.572
219) Indeno(1,2,3-cd)pyrene	(6)	21.054	276	1993868	11.837
220) Dibenz(a,h)anthracene	(6)	21.094	278	1684490	12.024
221) Benzo(g,h,i)perylene	(6)	21.409	276	1620616	11.758

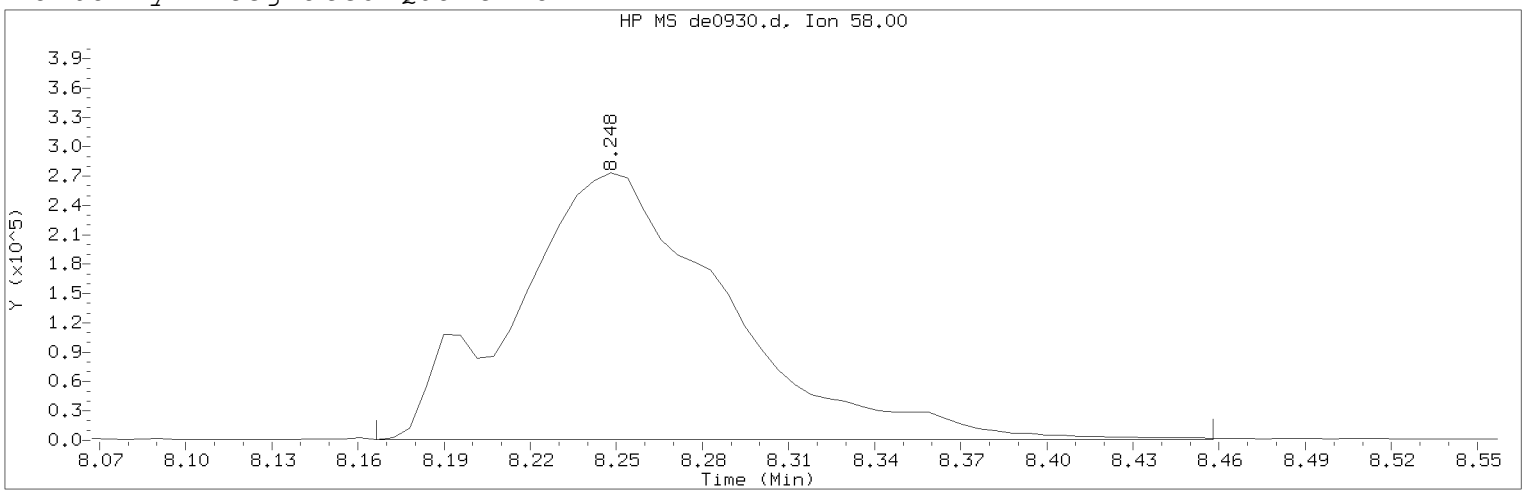
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

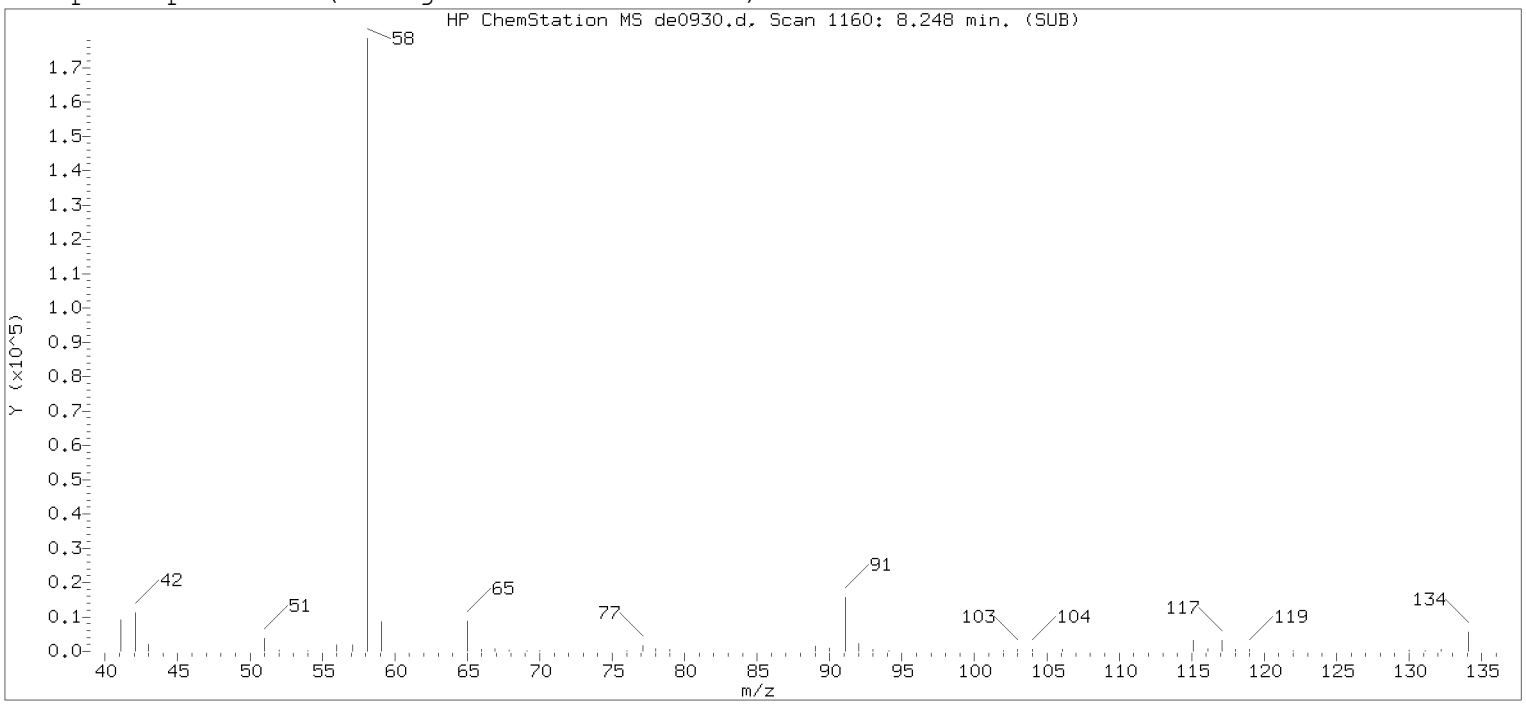
Compound Number : 64
Compound Name : a,a-Dimethylphenethylamine
Scan Number : 1160
Retention Time (minutes) : 8.248
Quant Ion : 58.00
Area (flag) : 1403385M
On-Column Amount (ng/ul) : 11.3266
Integration start scan : 1145 Integration stop scan: 1195
Y at integration start : 824 Y at integration end: 824

Reason for manual integration: improper integration

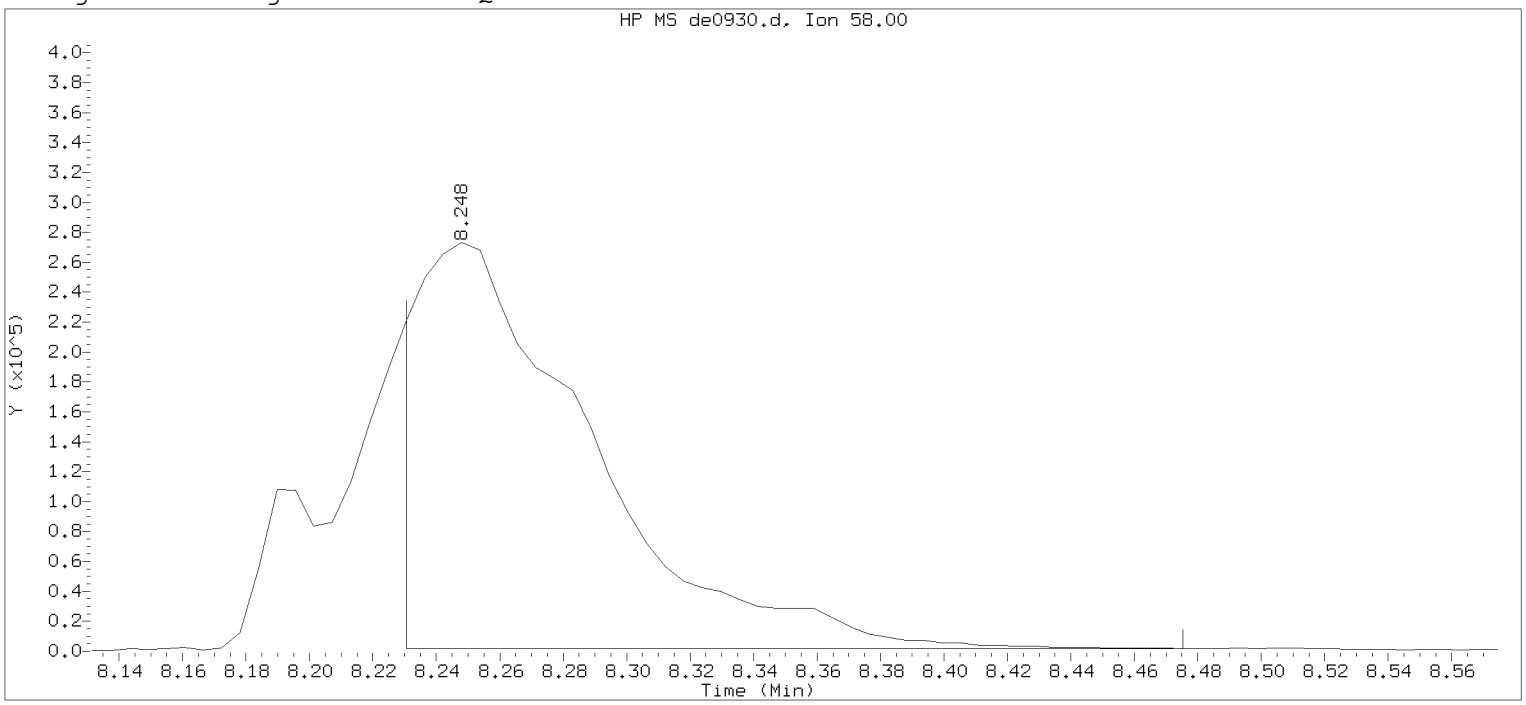
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

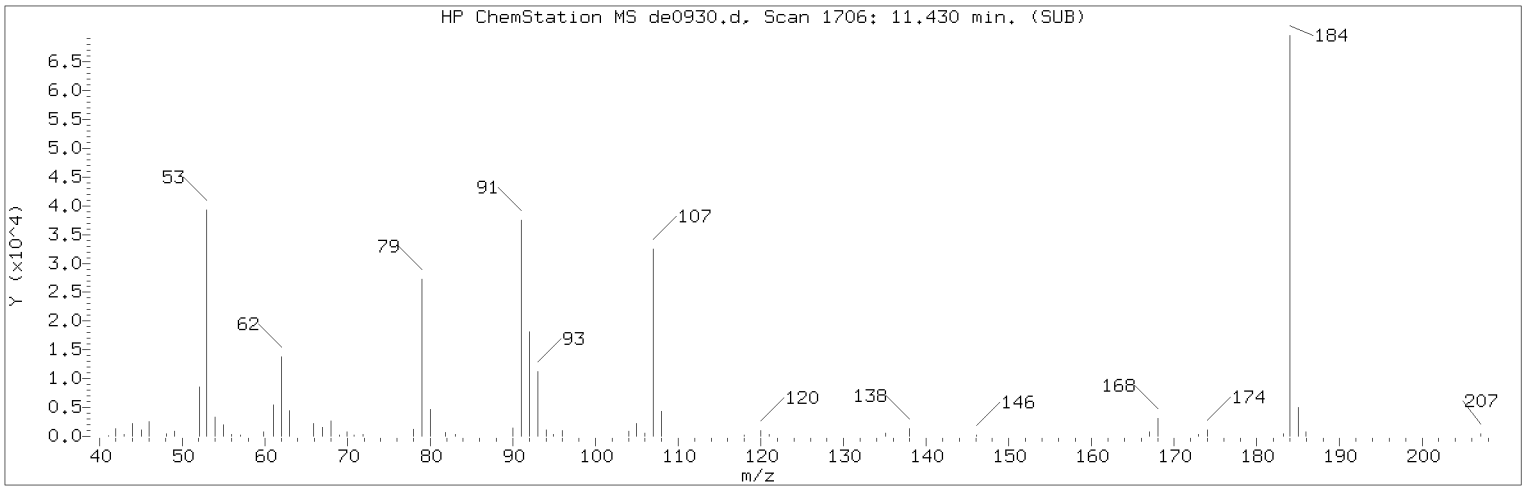
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

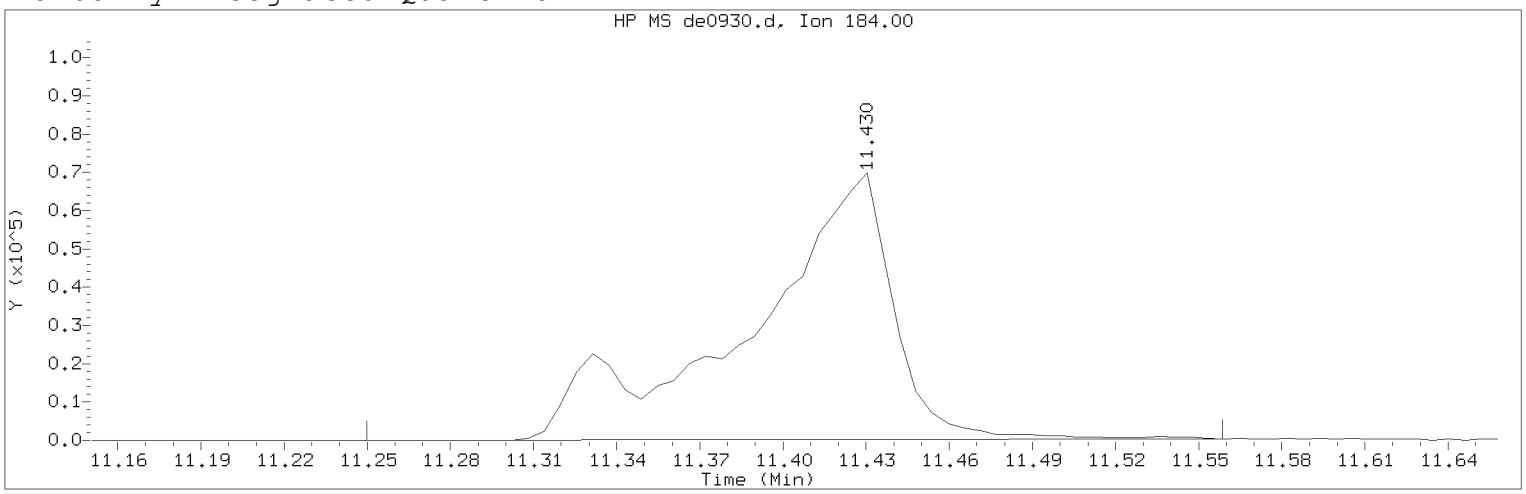
Compound Number : 64
Compound Name : a,a-Dimethylphenethylamine
Scan Number : 1160
Retention Time (minutes) : 8.248
Quant Ion : 58.00
Area : 1038877
On-column Amount (ng/ul) : 8.3847
Integration start scan : 1156 Integration stop scan: 1198
Y at integration start : 1630 Y at integration end: 1630

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

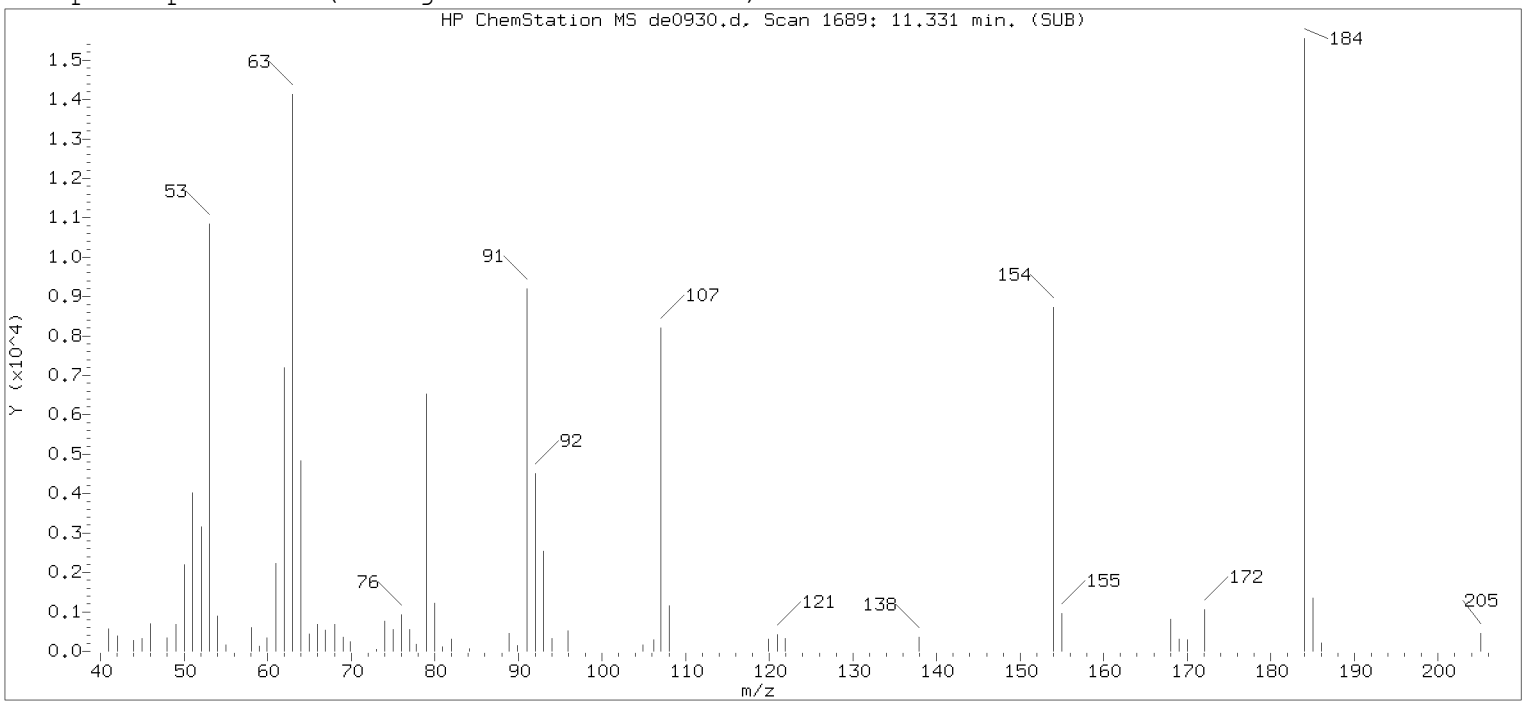
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1706
Retention Time (minutes) : 11.430
Quant Ion : 184.00
Area (flag) : 250014M
On-Column Amount (ng/ul) : 19.3063
Integration start scan : 1674 Integration stop scan: 1727
Y at integration start : 0 Y at integration end: 338

Reason for manual integration: improper integration

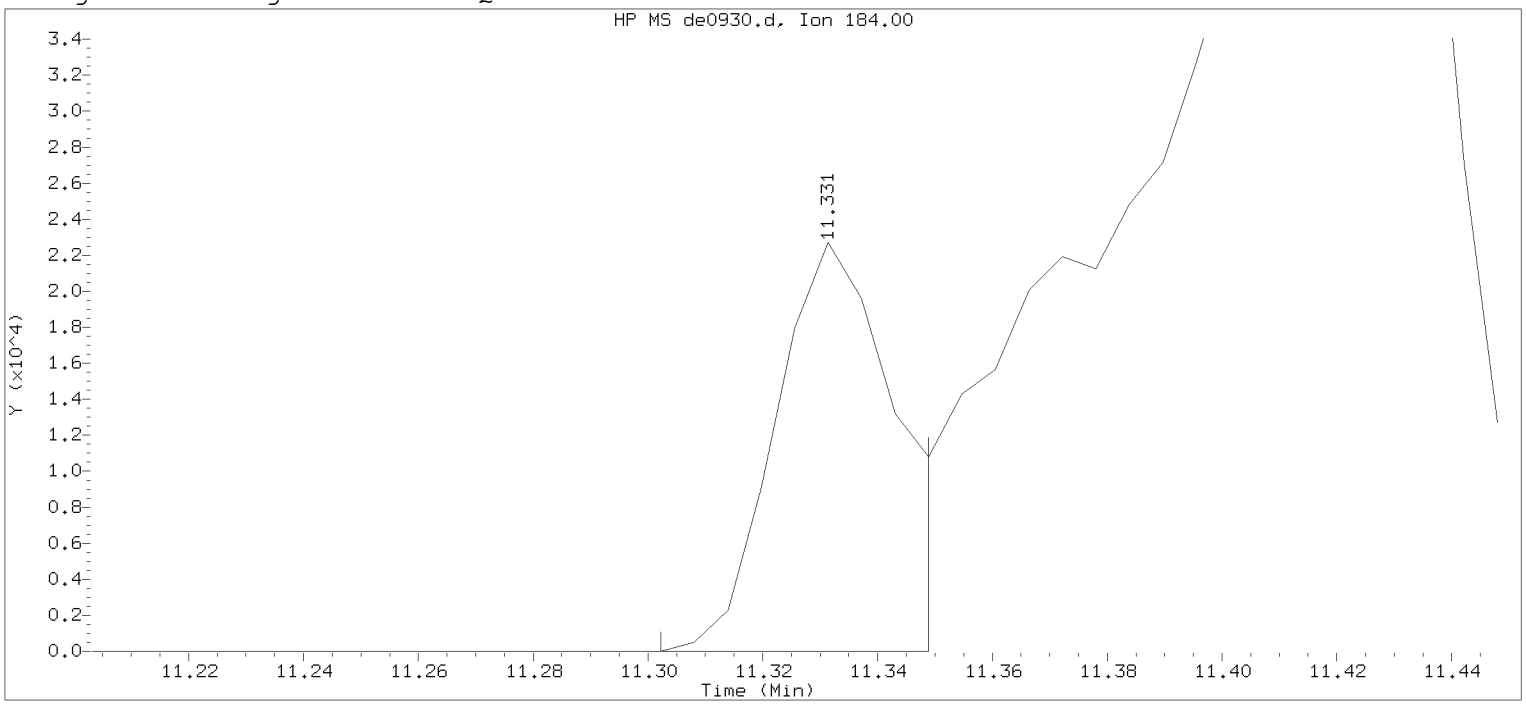
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

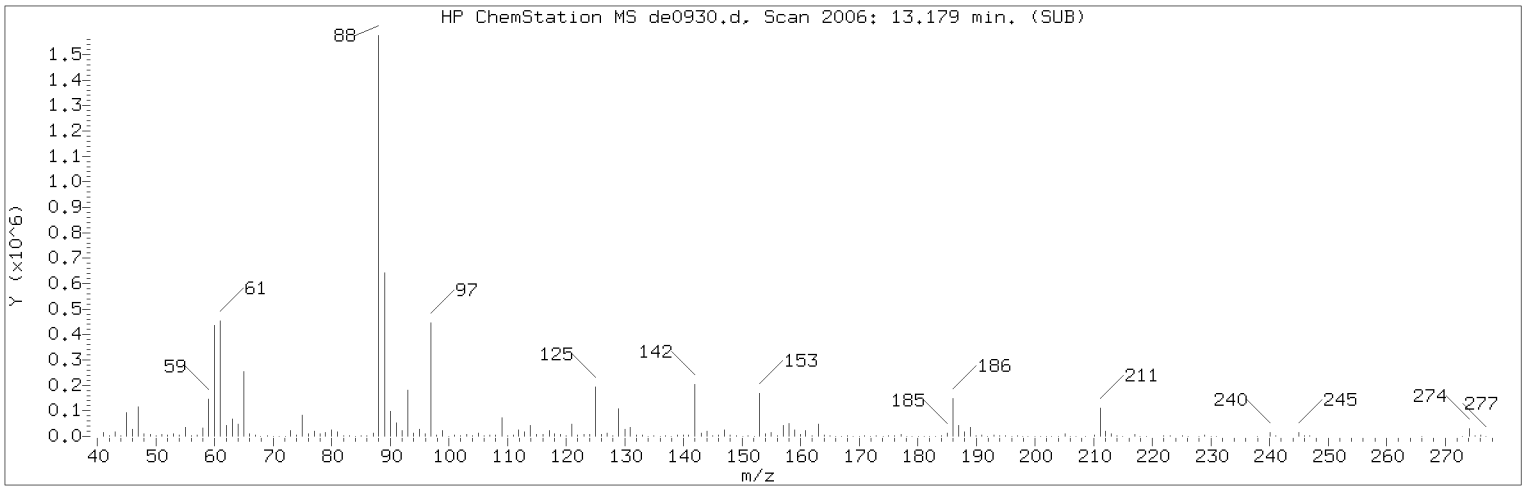
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

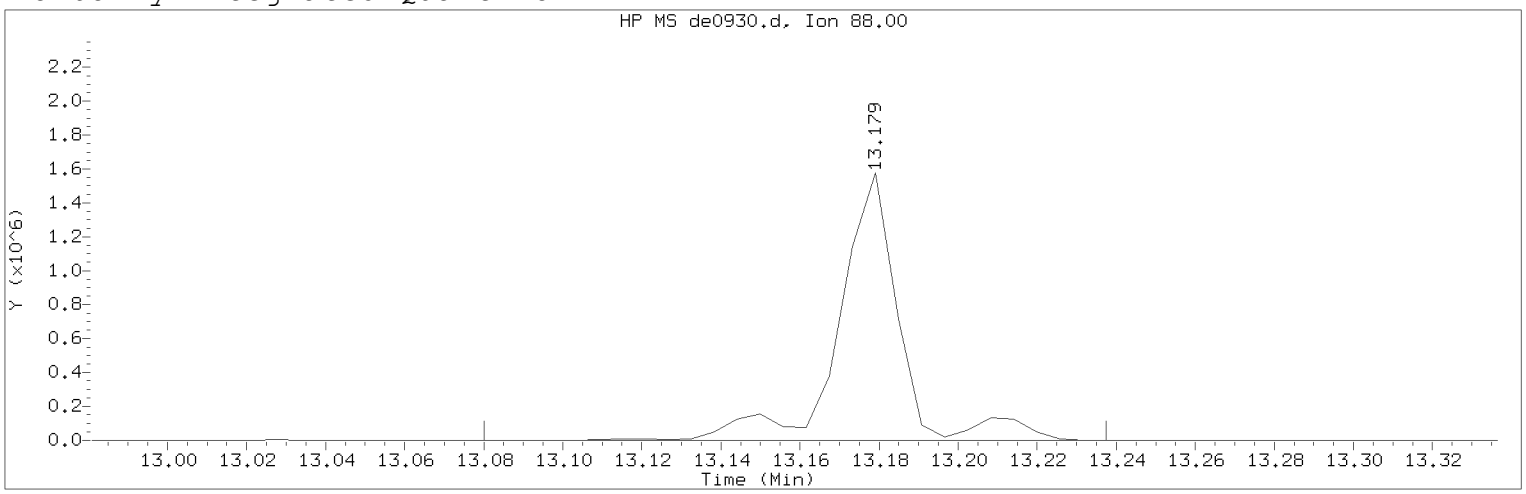
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1689
Retention Time (minutes) : 11.331
Quant Ion : 184.00
Area : 31754
On-column Amount (ng/ul) : 2.4521
Integration start scan : 1683 Integration stop scan: 1691
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

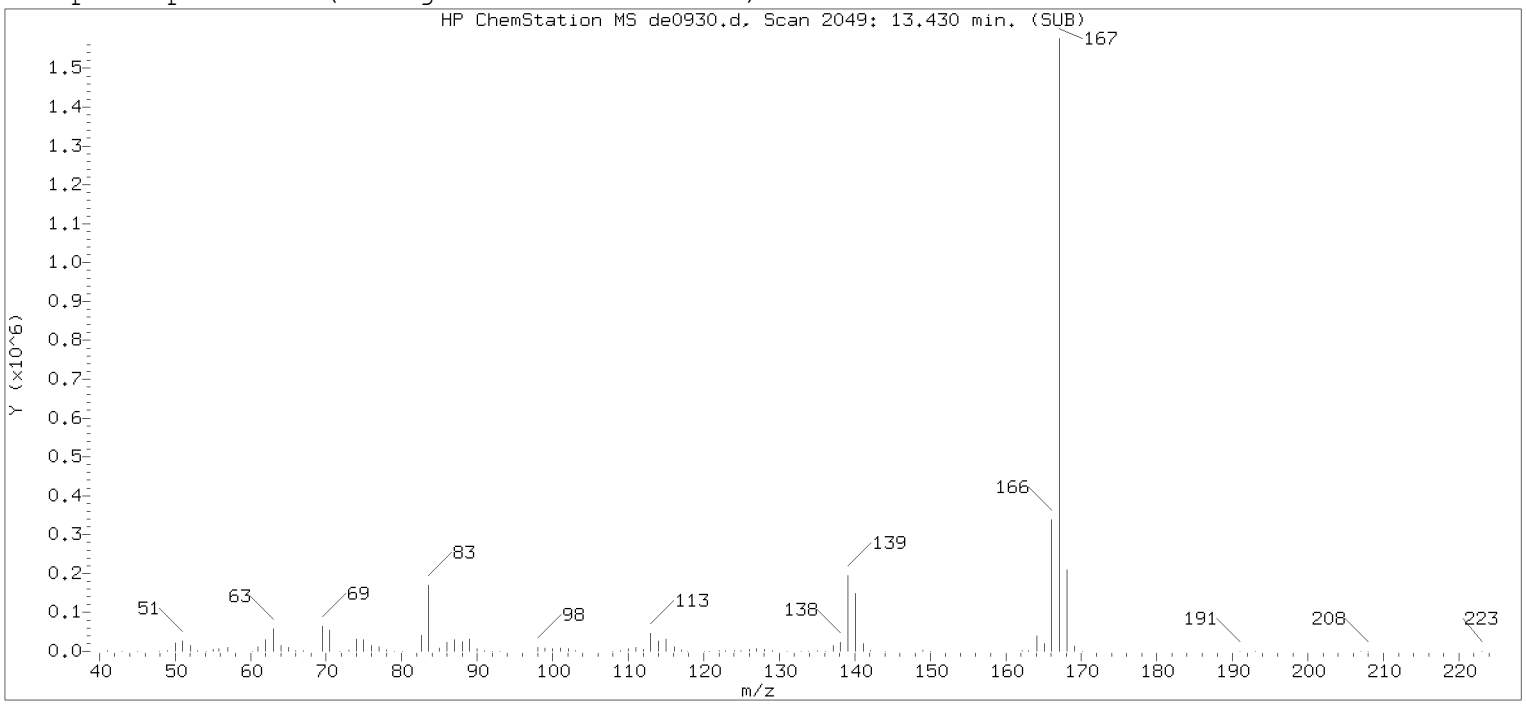
Compound Number : 162
Compound Name : Disulfoton
Scan Number : 2006
Retention Time (minutes) : 13.179
Quant Ion : 88.00
Area (flag) : 1680394M
On-Column Amount (ng/ul) : 30.6856
Integration start scan : 1988 Integration stop scan: 2015
Y at integration start : 0 Y at integration end: 477

Reason for manual integration: improper integration

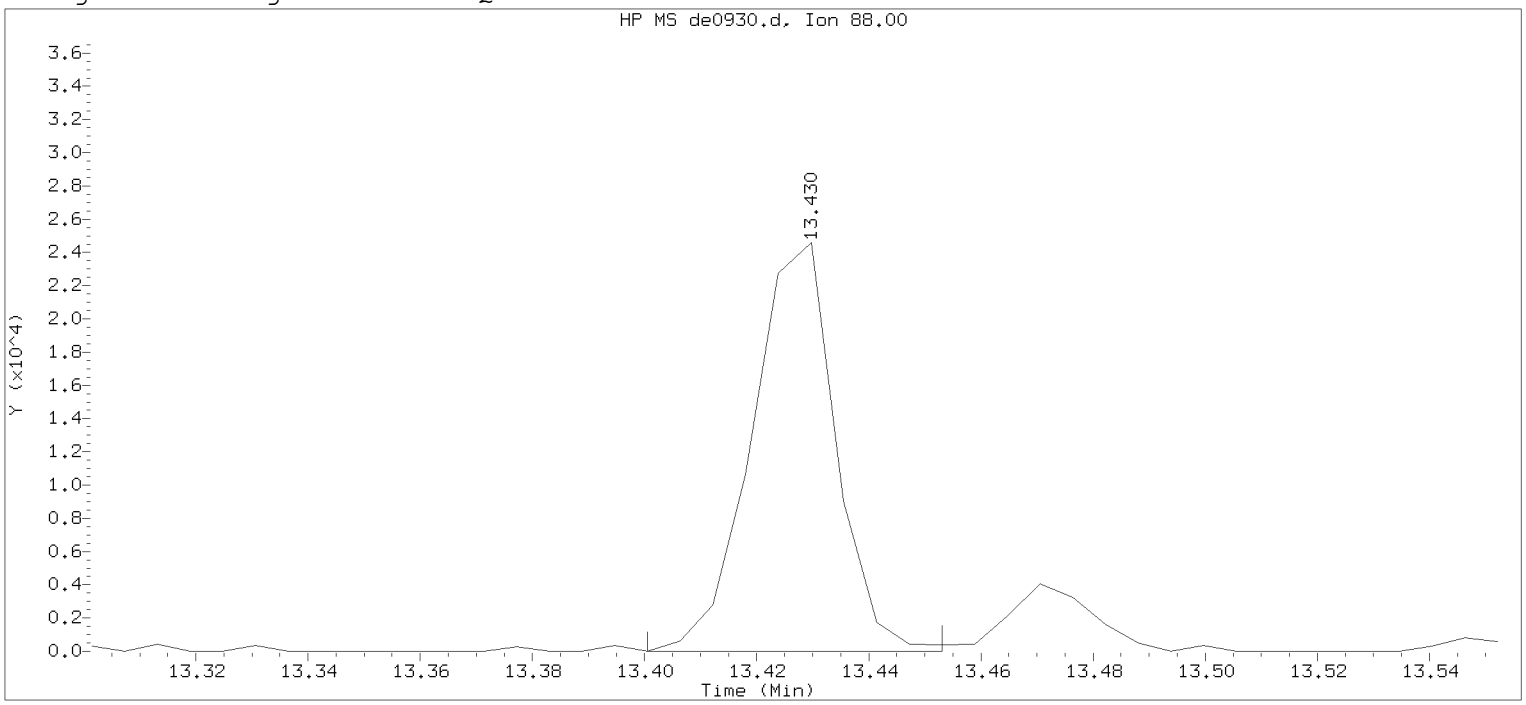
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

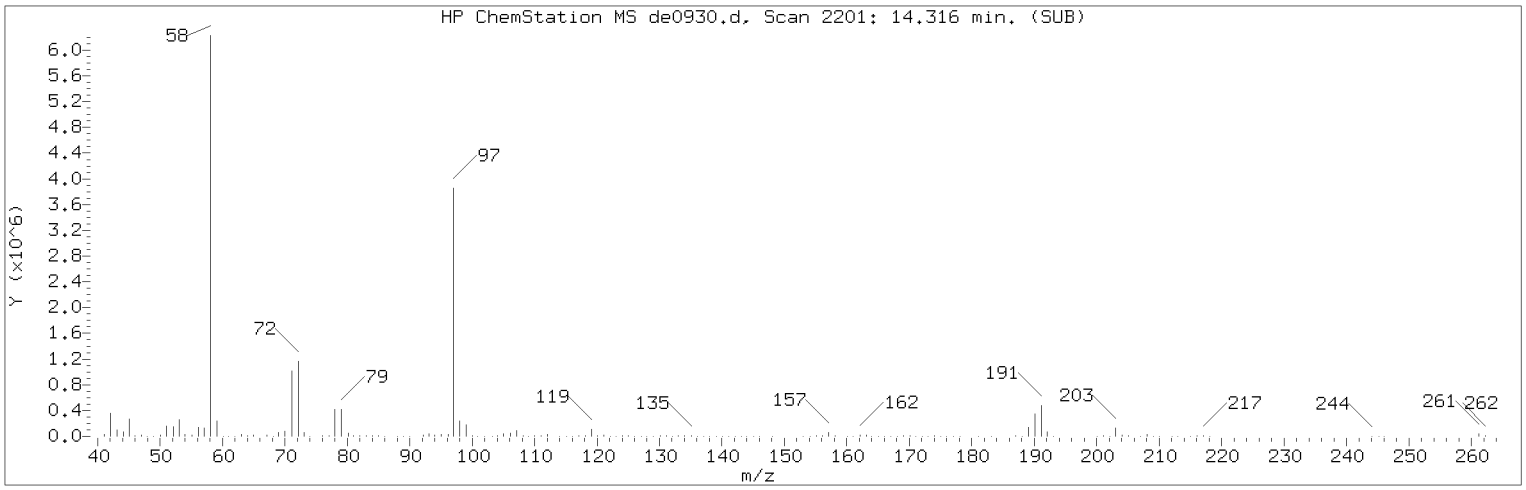
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

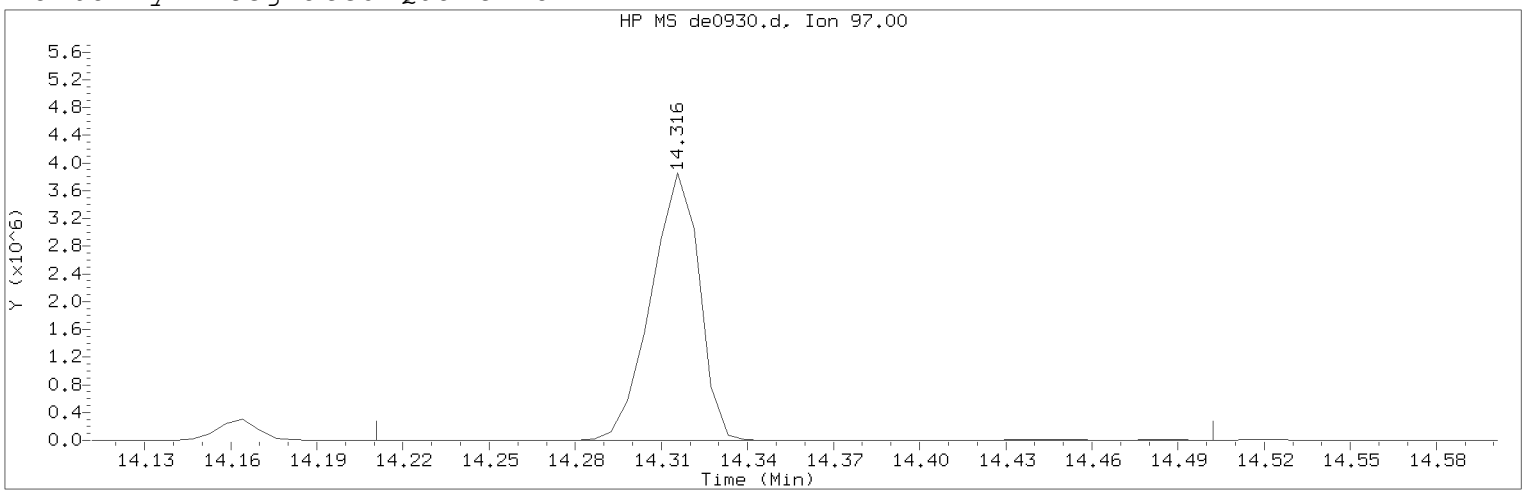
Compound Number	: 162		
Compound Name	: Disulfoton		
Scan Number	: 2049		
Retention Time (minutes)	: 13.430		
Quant Ion	: 88.00		
Area	: 25452		
On-column Amount (ng/ul)	: 1.4776		
Integration start scan	: 2043	Integration stop scan:	2052
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

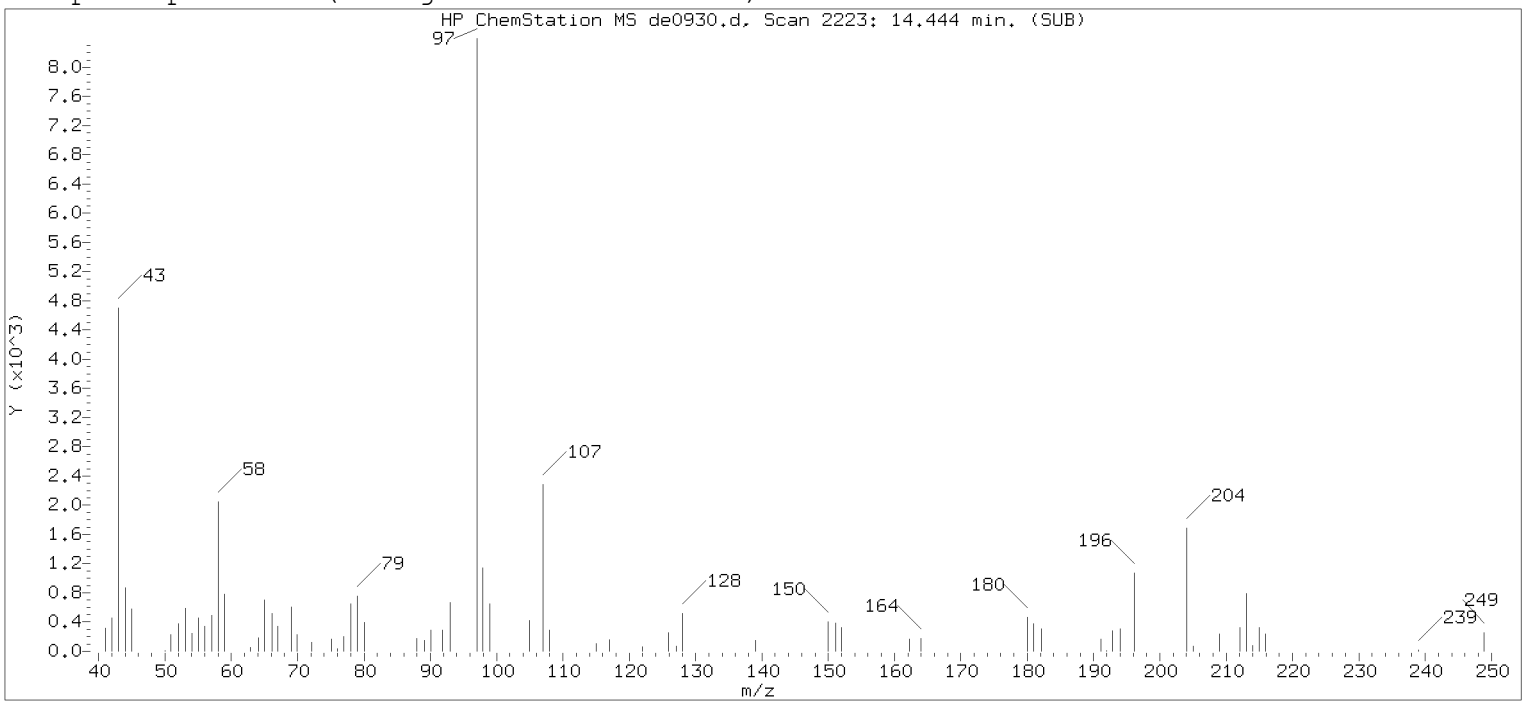
Compound Number : 170
Compound Name : Methapyrilene
Scan Number : 2201
Retention Time (minutes) : 14.316
Quant Ion : 97.00
Area (flag) : 4537407M
On-Column Amount (ng/ul) : 127.1125
Integration start scan : 2182 Integration stop scan: 2232
Y at integration start : 353 Y at integration end: 2010

Reason for manual integration: improper integration

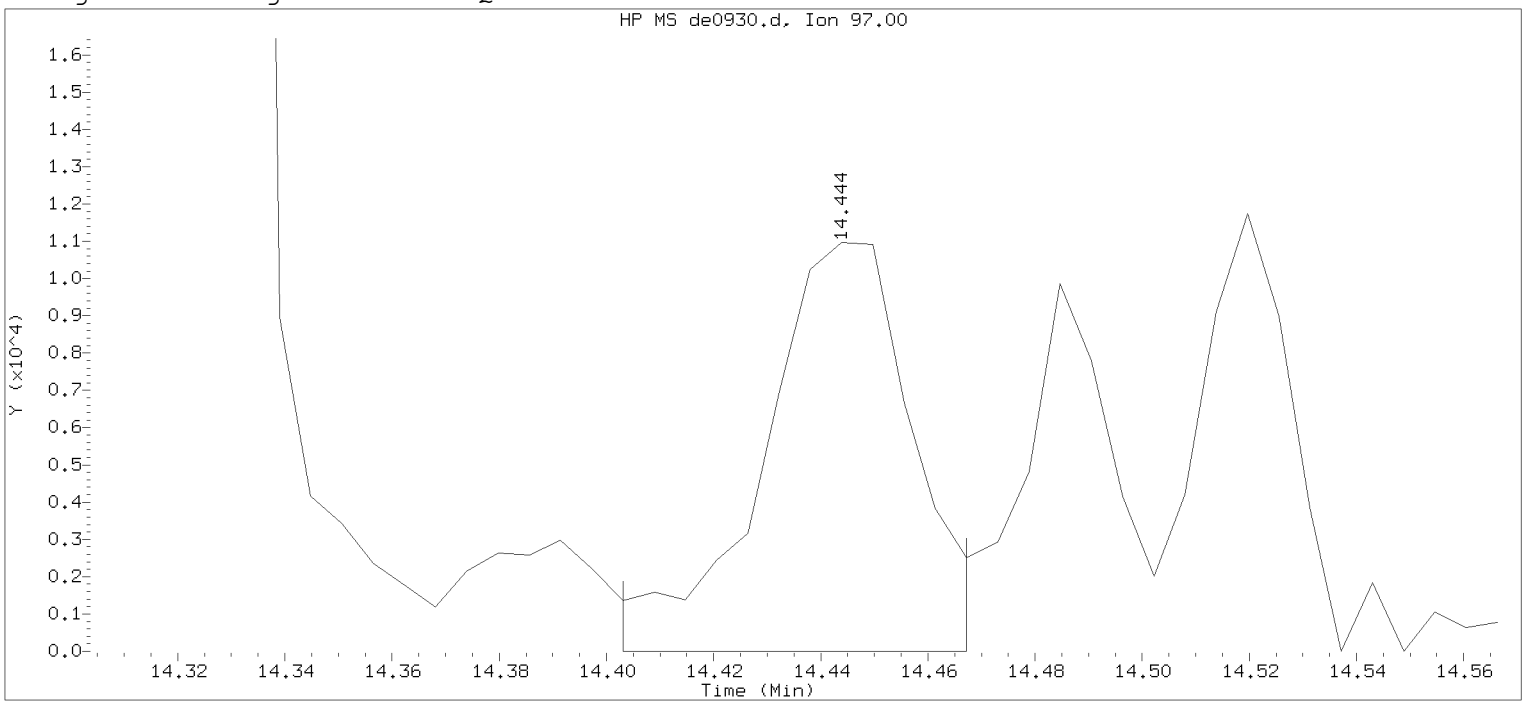
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

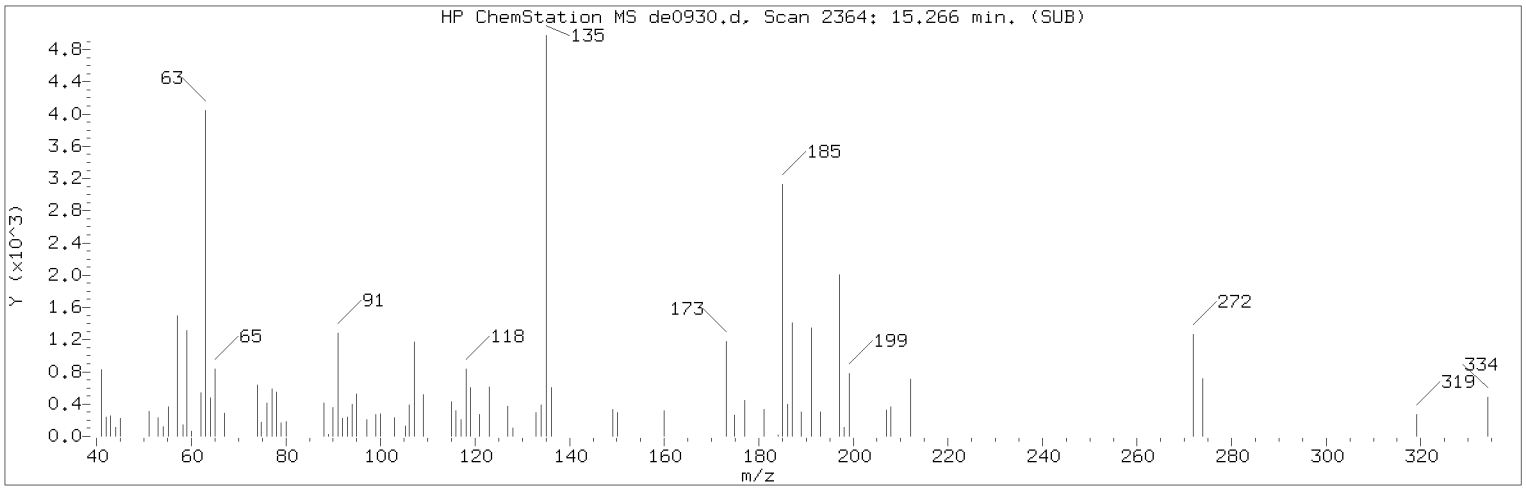
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

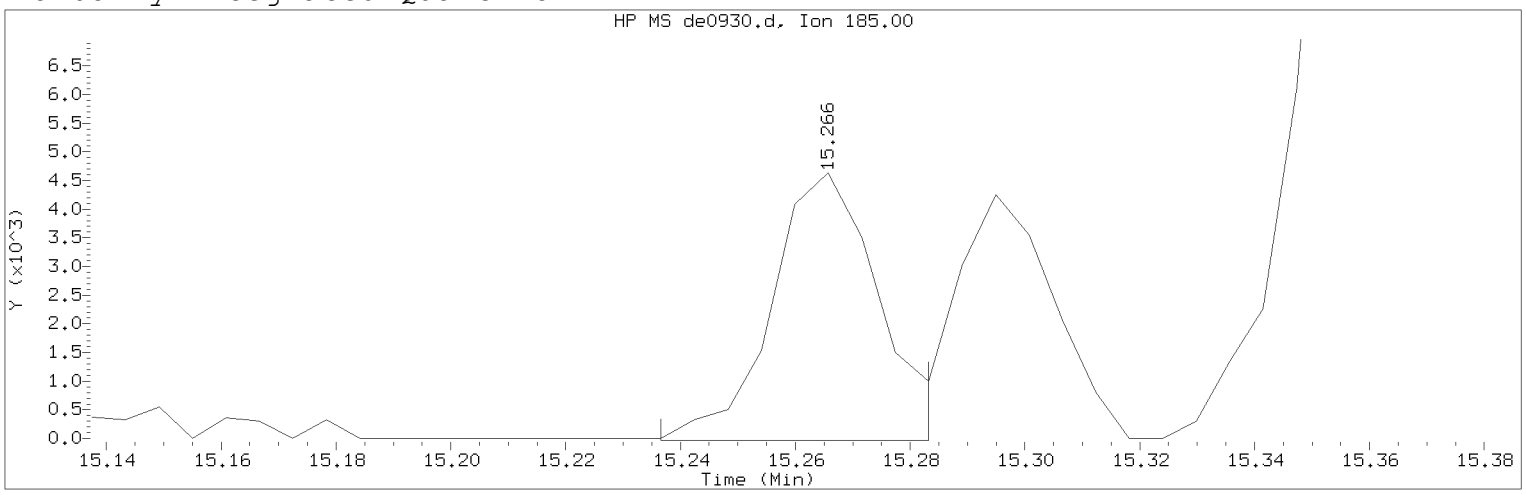
Compound Number	: 170		
Compound Name	: Methapyrilene		
Scan Number	: 2223		
Retention Time (minutes)	: 14.444		
Quant Ion	: 97.00		
Area	: 21024		
On-column Amount (ng/ul)	: 0.5890		
Integration start scan	: 2215	Integration stop scan:	2226
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

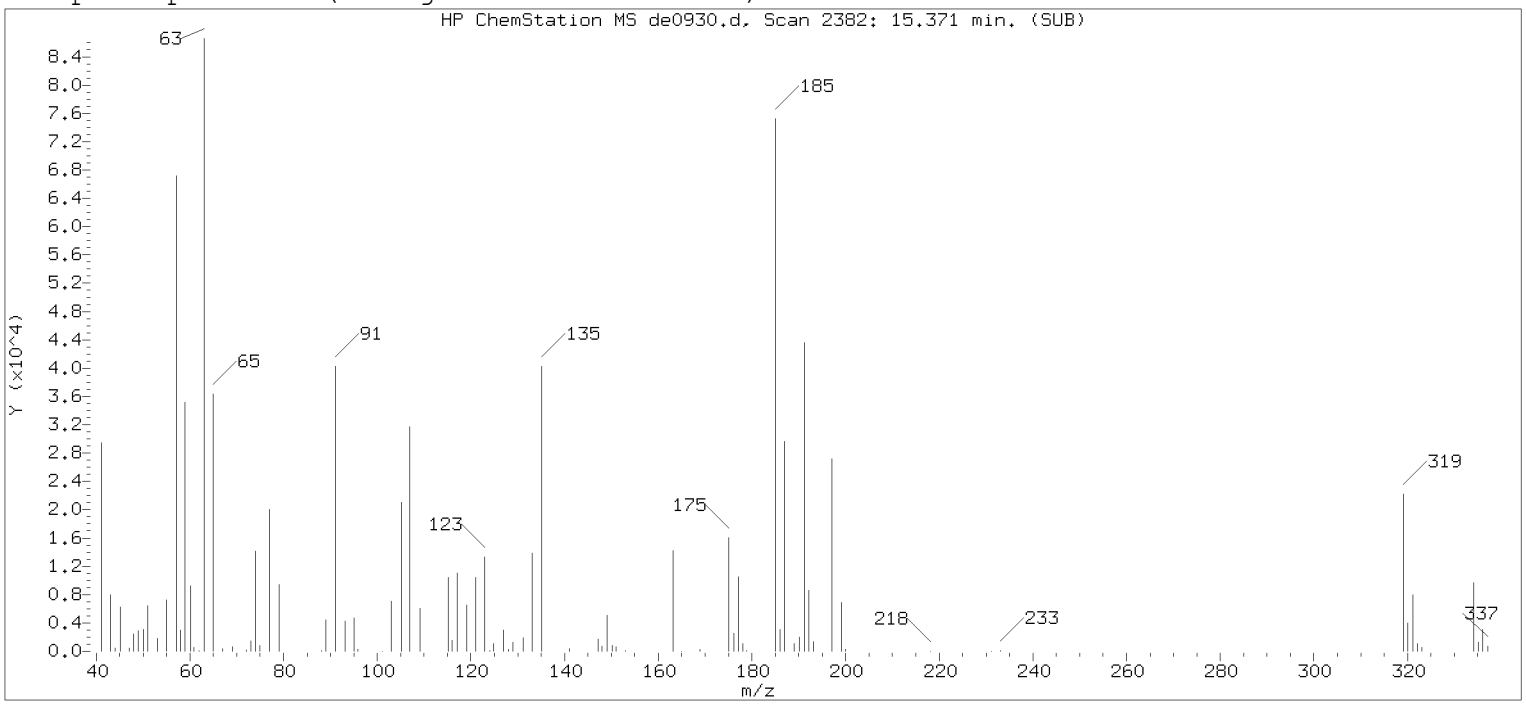
Compound Number : 180
Compound Name : Aramite (1)
Scan Number : 2364
Retention Time (minutes) : 15.266
Quant Ion : 185.00
Area (flag) : 6080M
On-Column Amount (ng/ul) : 7.0016
Integration start scan : 2358 Integration stop scan: 2366
Y at integration start : -32 Y at integration end: -32

Reason for manual integration: improper integration

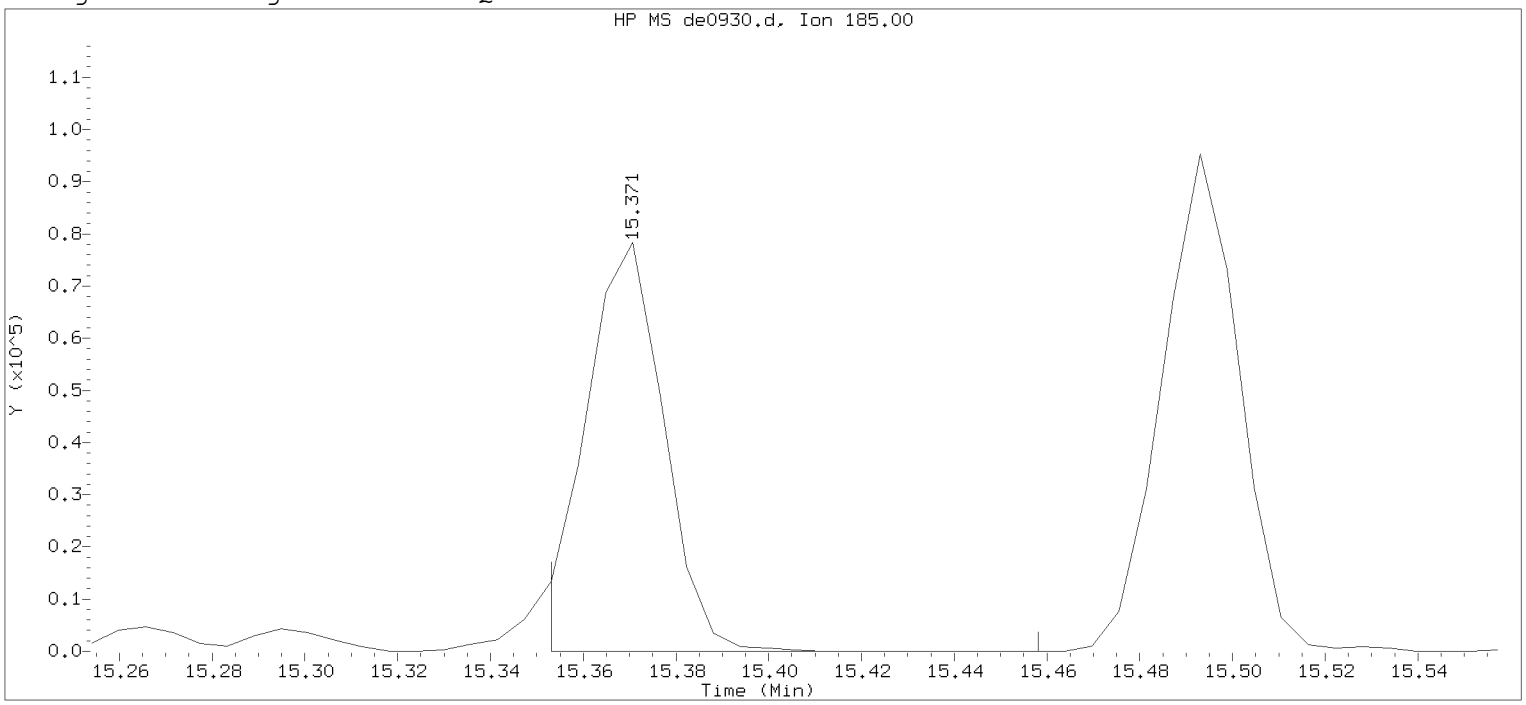
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

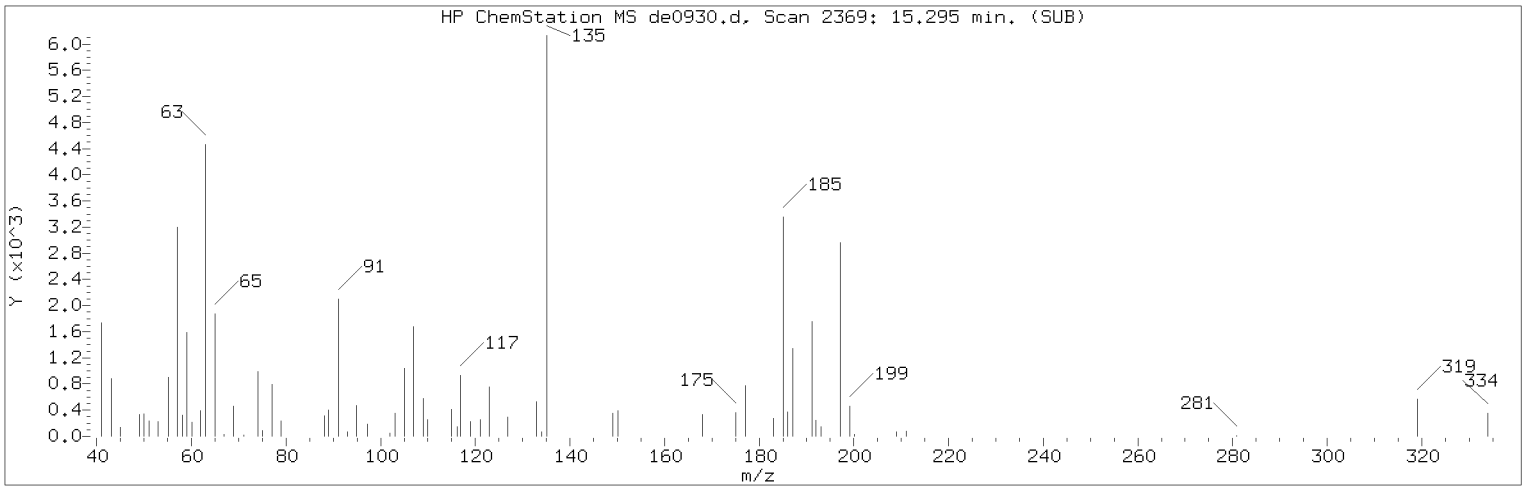
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

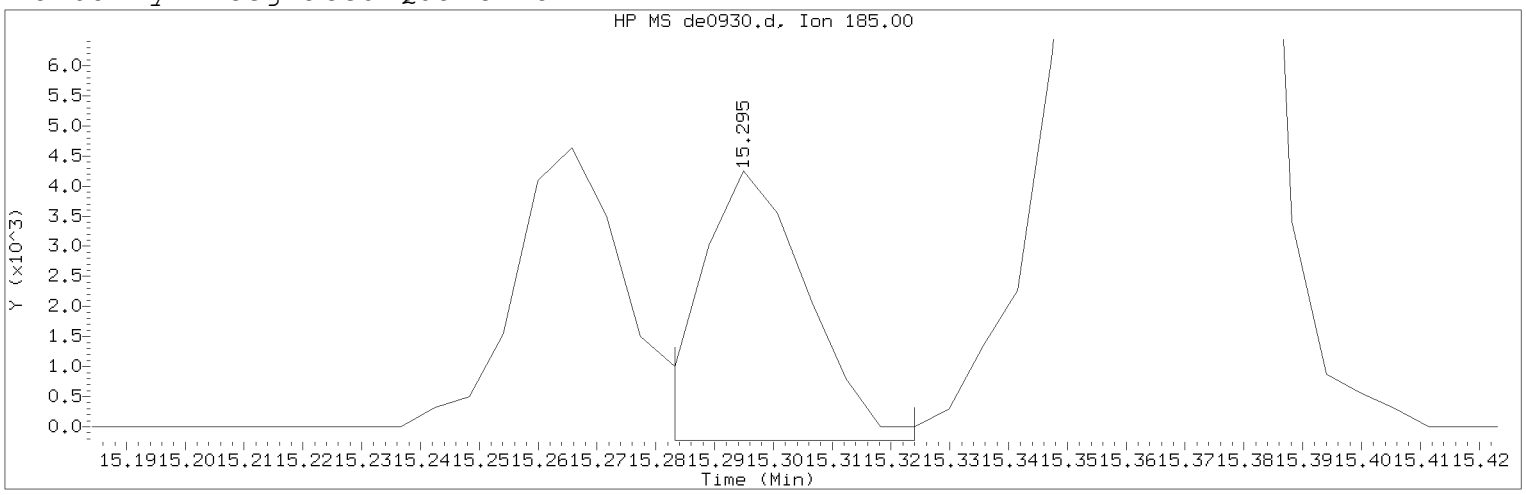
Compound Number : 180
Compound Name : Aramite (1)
Scan Number : 2382
Retention Time (minutes) : 15.371
Quant Ion : 185.00
Area : 91144
On-column Amount (ng/ul) : 104.9602
Integration start scan : 2378 Integration stop scan: 2396
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

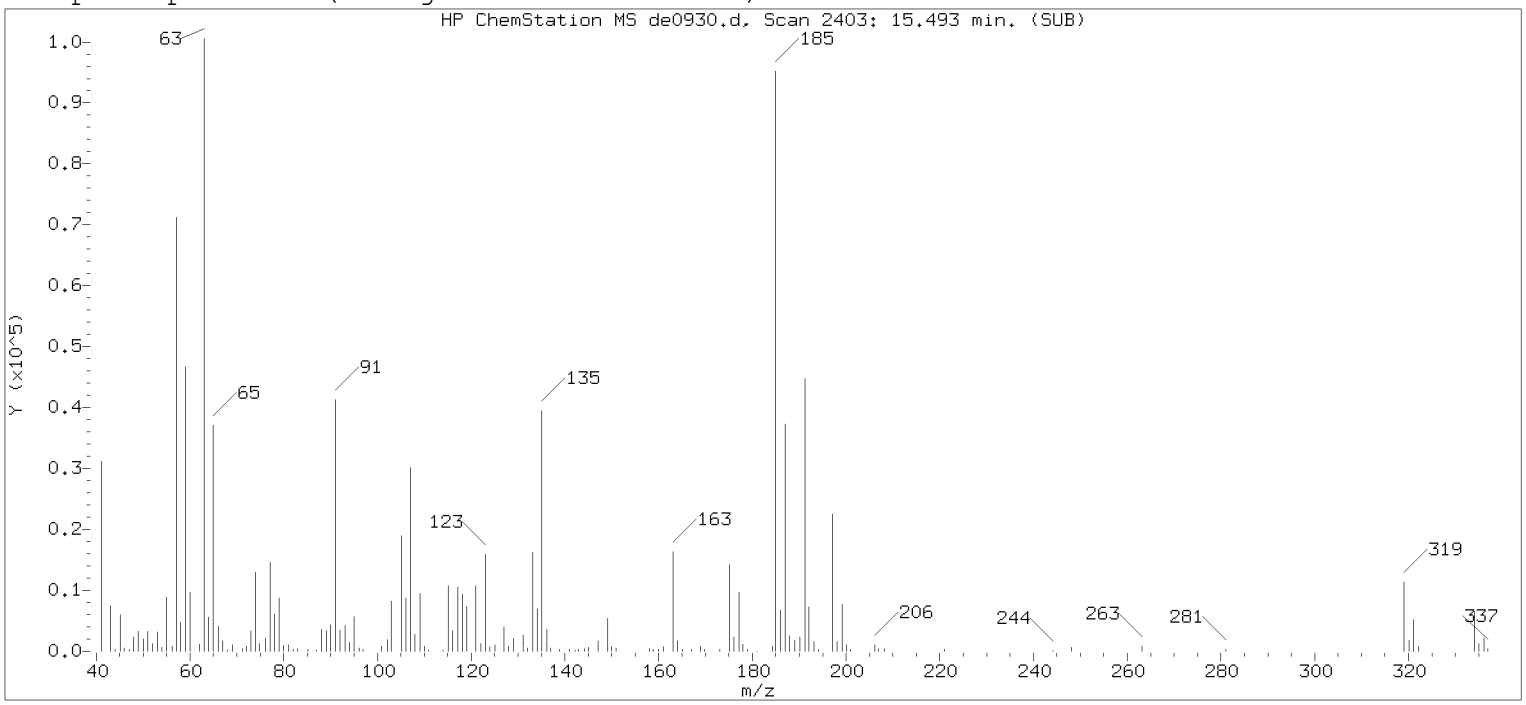
Compound Number : 181
Compound Name : Aramite (2)
Scan Number : 2369
Retention Time (minutes) : 15.295
Quant Ion : 185.00
Area (flag) : 5761M
On-Column Amount (ng/ul) : 6.9947
Integration start scan : 2366 Integration stop scan: 2373
Y at integration start : -224 Y at integration end: -224

Reason for manual integration: improper integration

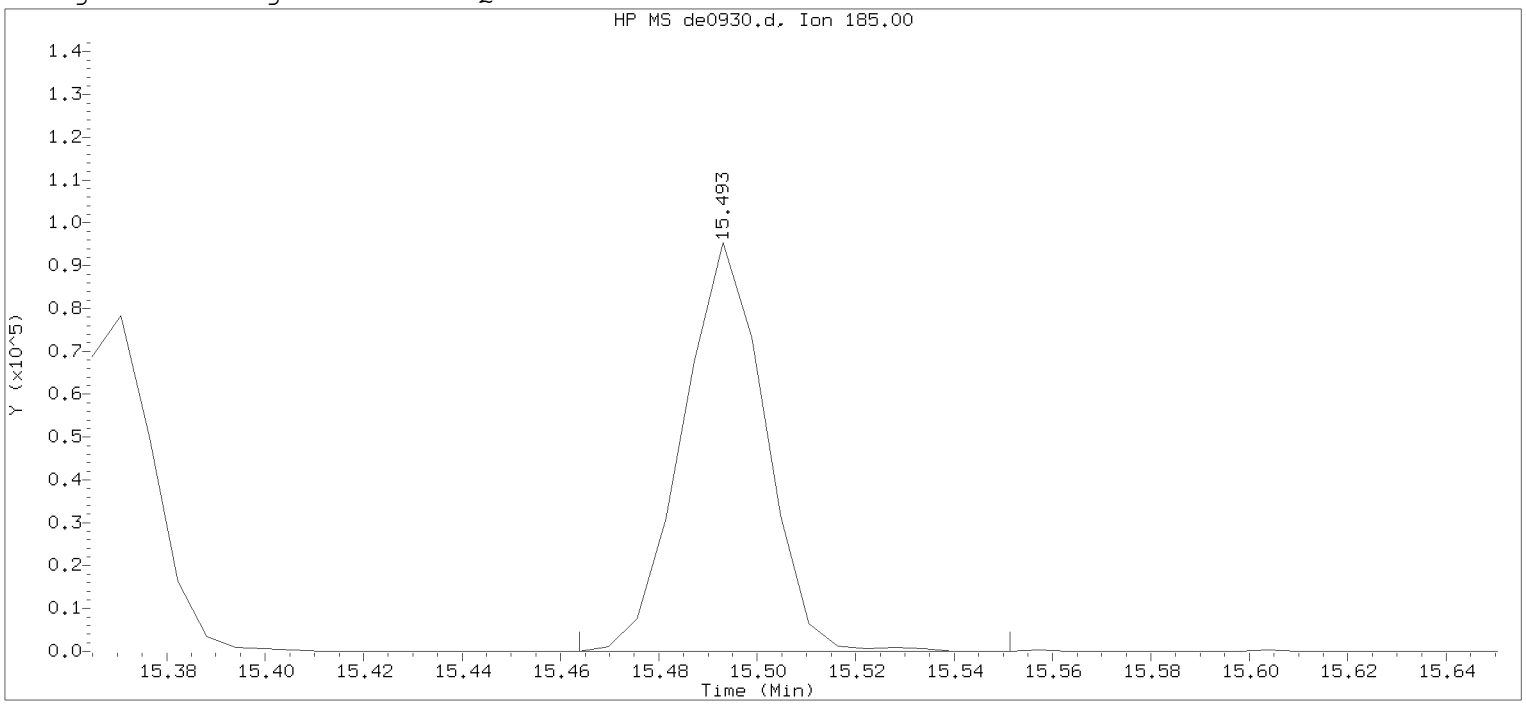
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

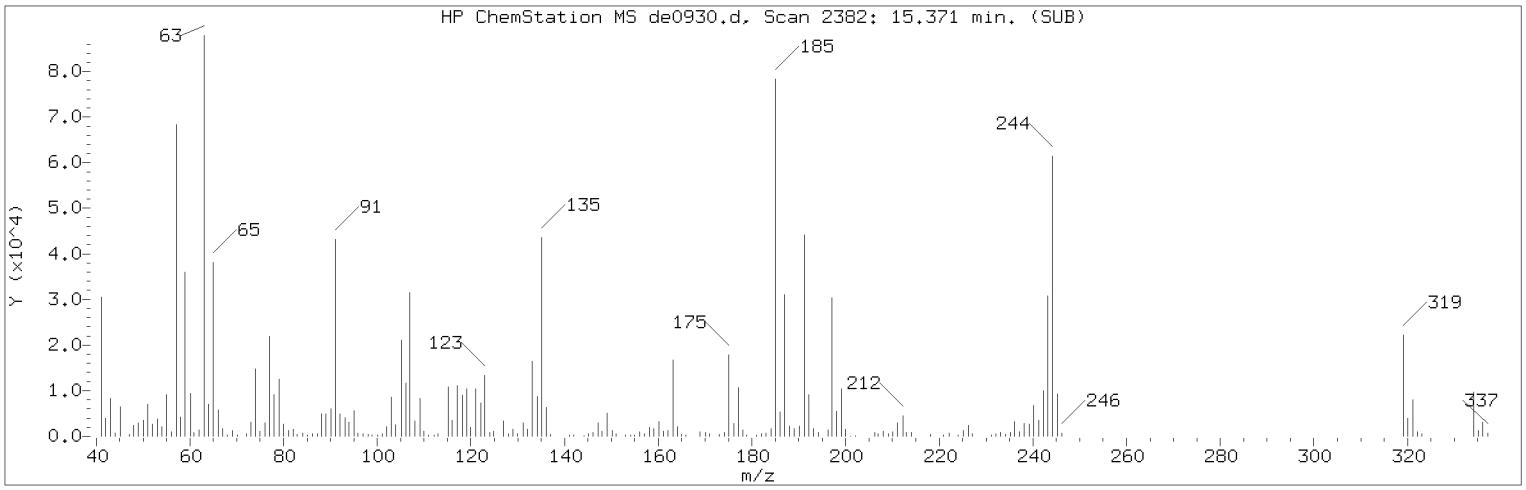
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

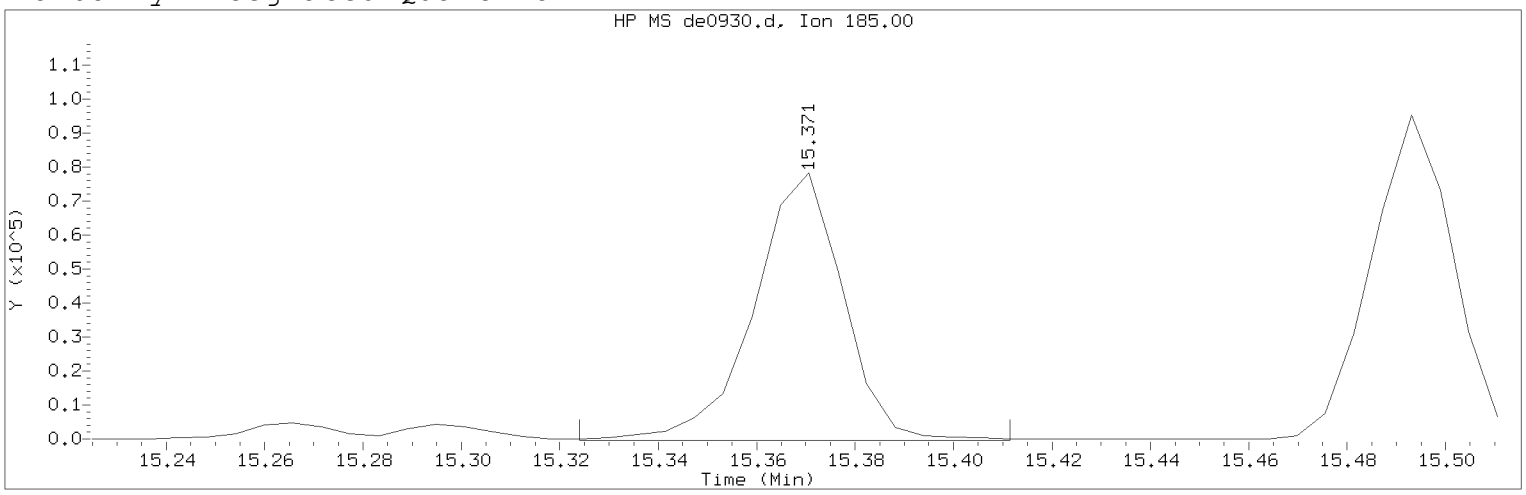
Compound Number	: 181		
Compound Name	: Aramite (2)		
Scan Number	: 2403		
Retention Time (minutes)	: 15.493		
Quant Ion	: 185.00		
Area	: 110905		
On-column Amount (ng/ul)	: 134.6552		
Integration start scan	: 2397	Integration stop scan:	2412
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

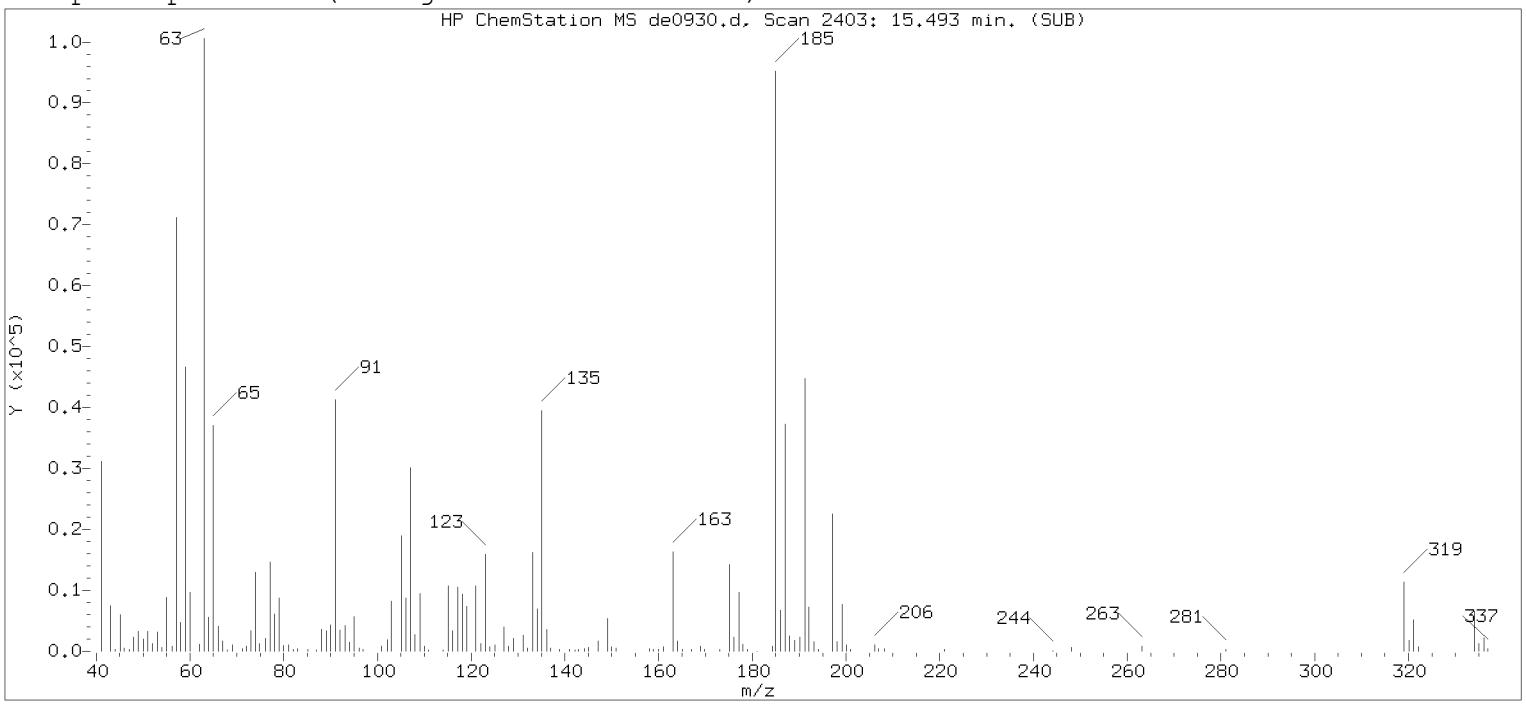
Compound Number : 183
Compound Name : Aramite (3)
Scan Number : 2382
Retention Time (minutes) : 15.371
Quant Ion : 185.00
Area (flag) : 99202M
On-Column Amount (ng/ul) : 1.3782
Integration start scan : 2373 Integration stop scan: 2388
Y at integration start : -395 Y at integration end: -395

Reason for manual integration: improper integration

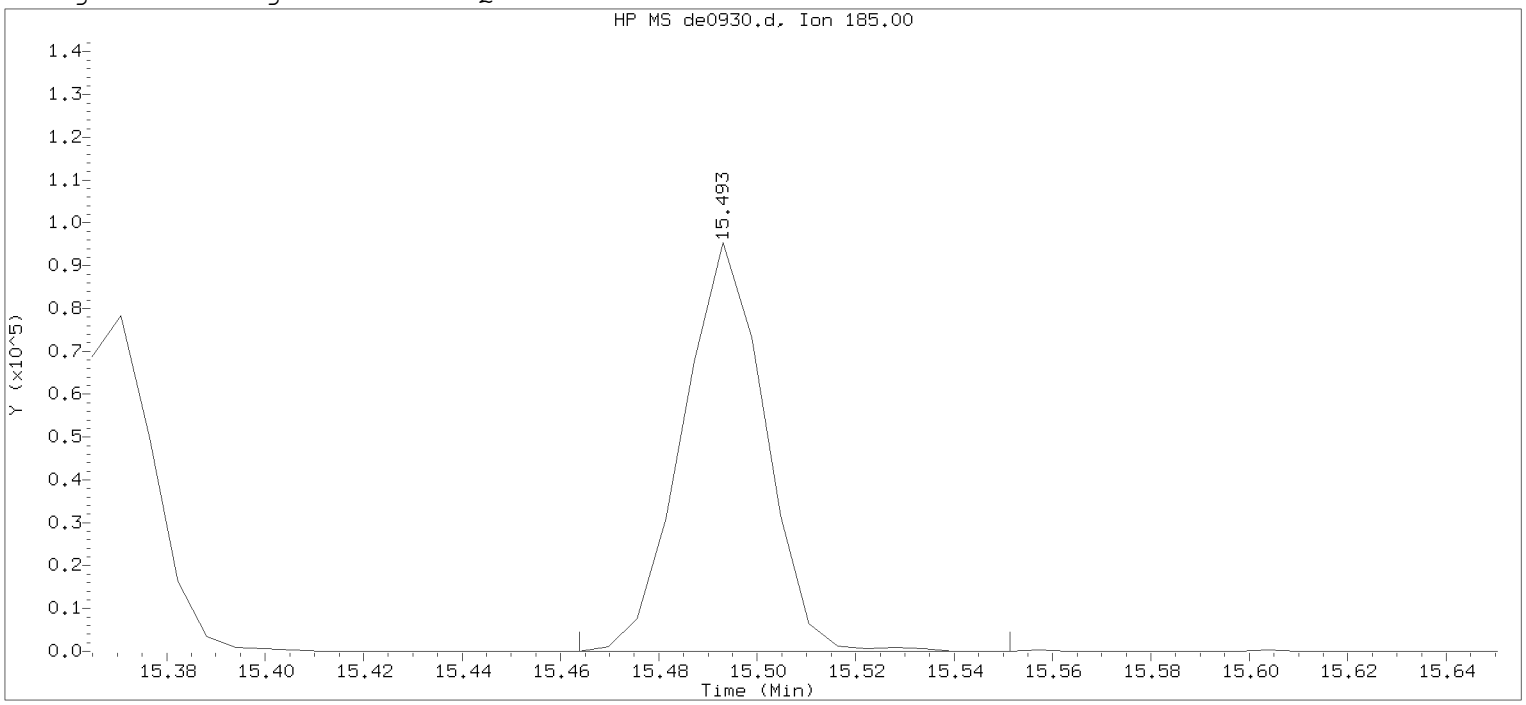
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

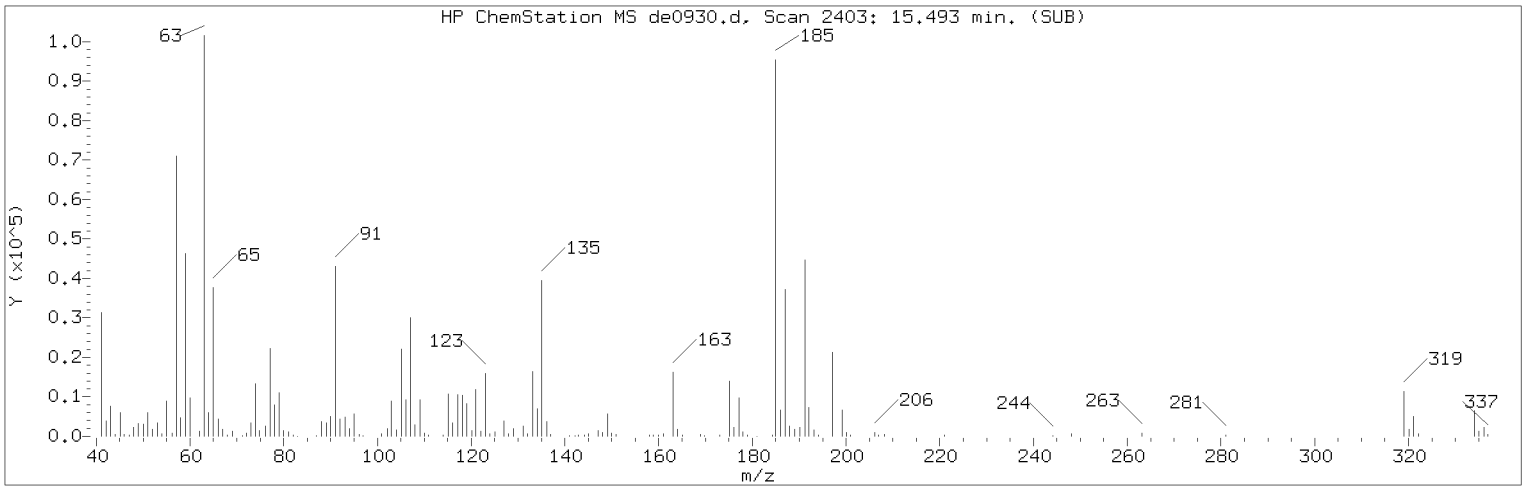
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

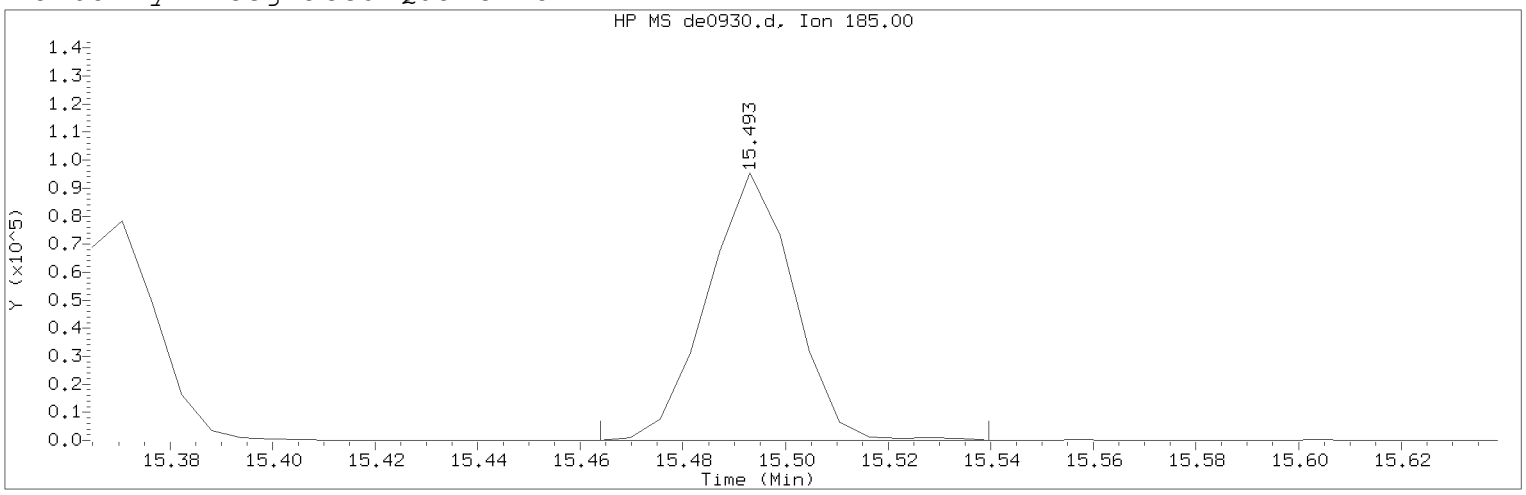
Compound Number	: 183		
Compound Name	: Aramite (3)		
Scan Number	: 2403		
Retention Time (minutes)	: 15.493		
Quant Ion	: 185.00		
Area	: 110902		
On-column Amount (ng/ul)	: 1.5407		
Integration start scan	: 2397	Integration stop scan:	2412
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HBZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

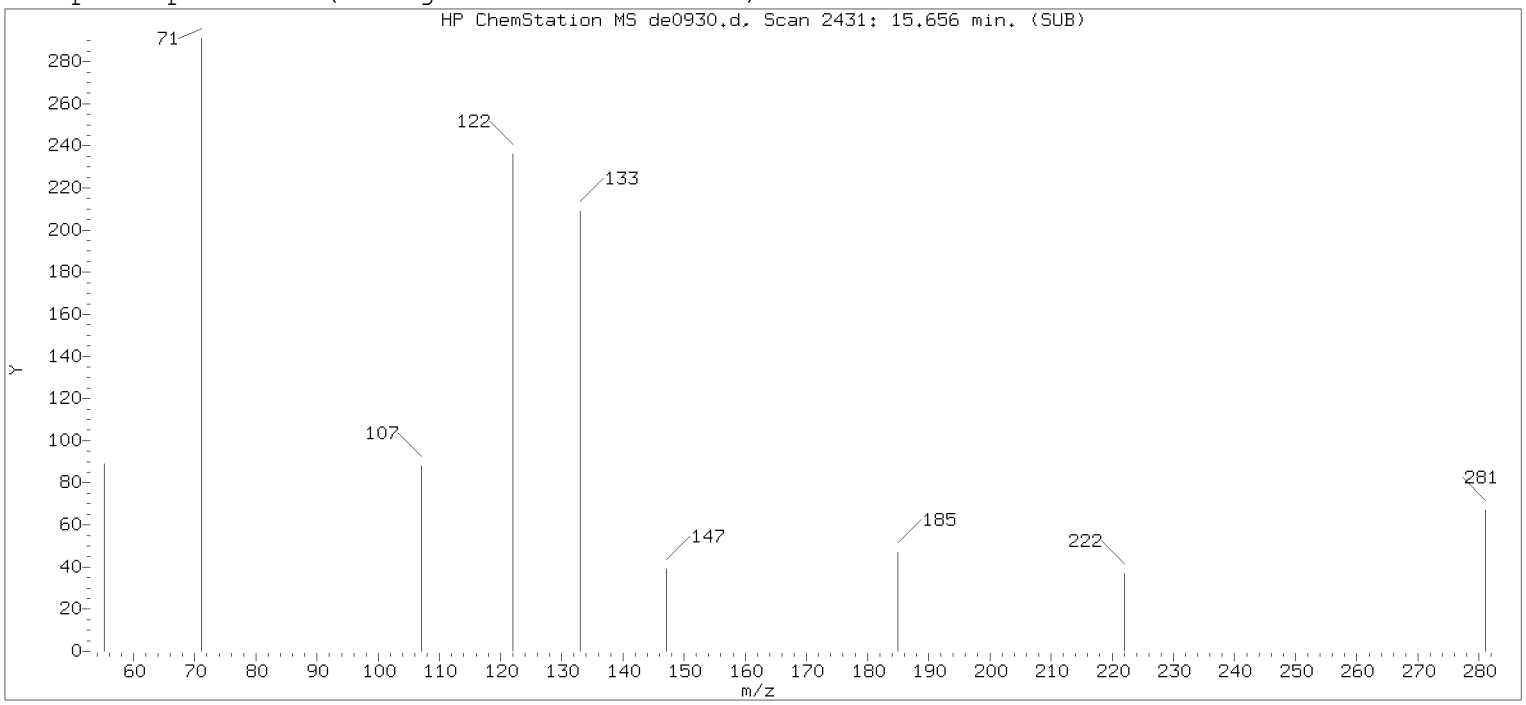
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2403
Retention Time (minutes) : 15.493
Quant Ion : 185.00
Area (flag) : 110833M
On-Column Amount (ng/ul) : 1.1691
Integration start scan : 2397 Integration stop scan: 2410
Y at integration start : 15 Y at integration end: 15

Reason for manual integration: improper integration

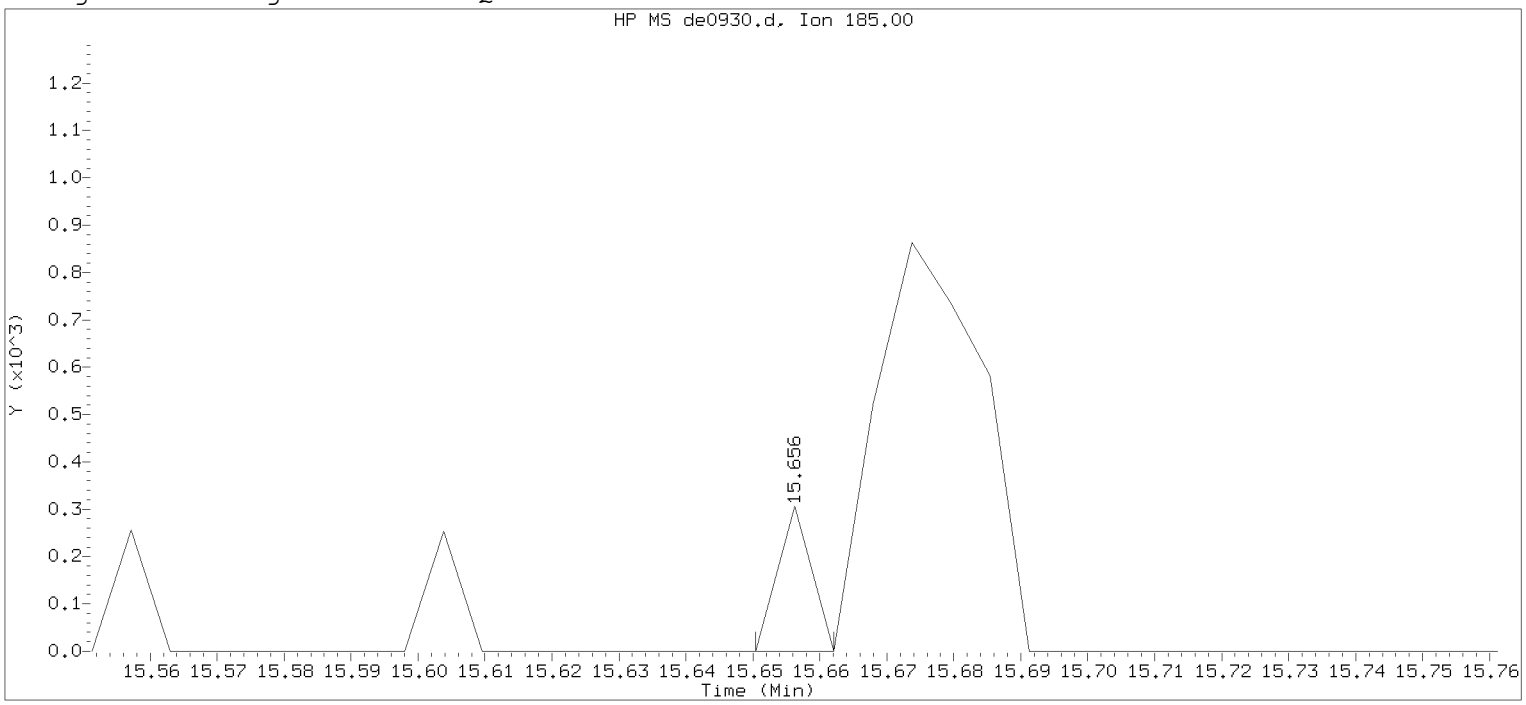
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

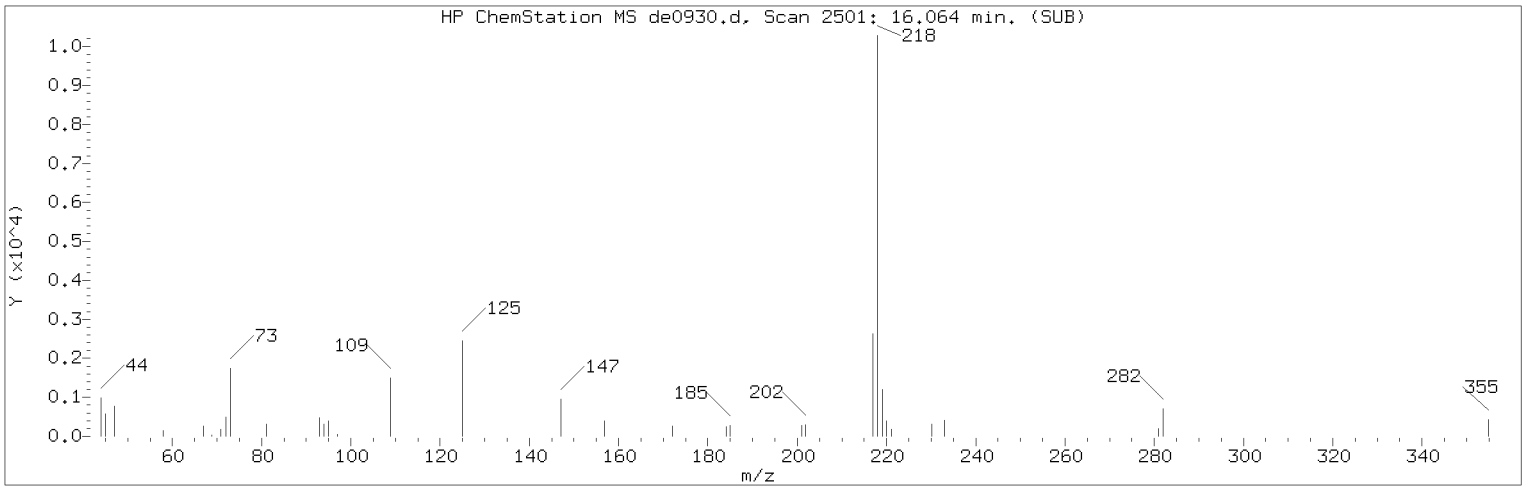
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

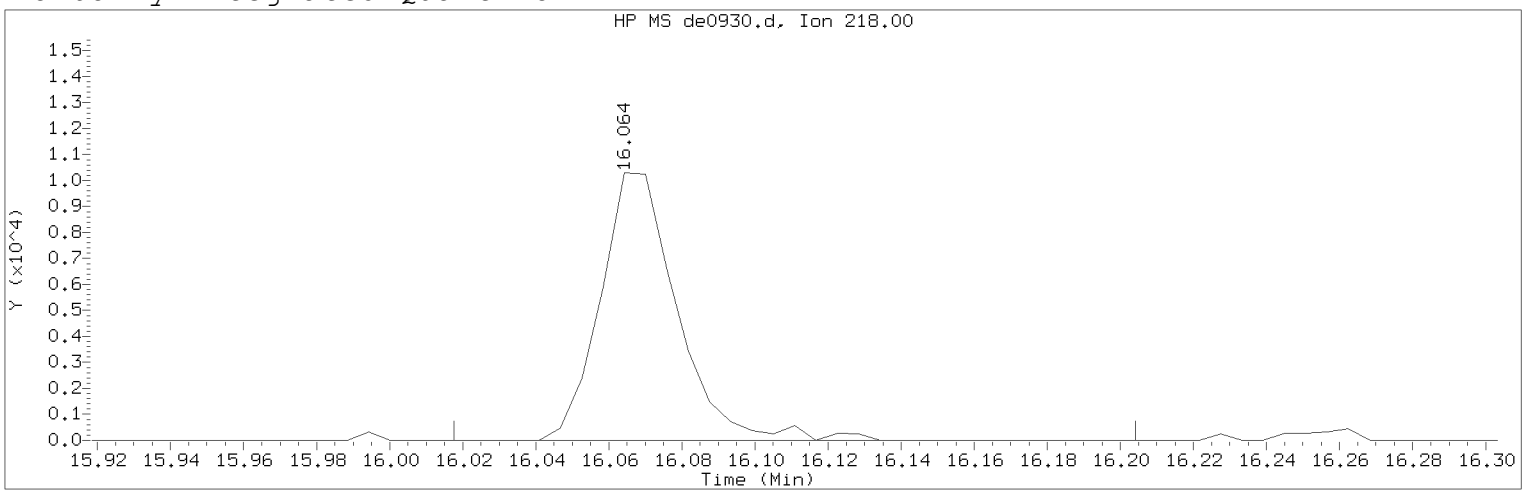
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2431
Retention Time (minutes) : 15.656
Quant Ion : 185.00
Area : 107
On-column Amount (ng/ul) : 0.0011
Integration start scan : 2429 Integration stop scan: 2431
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

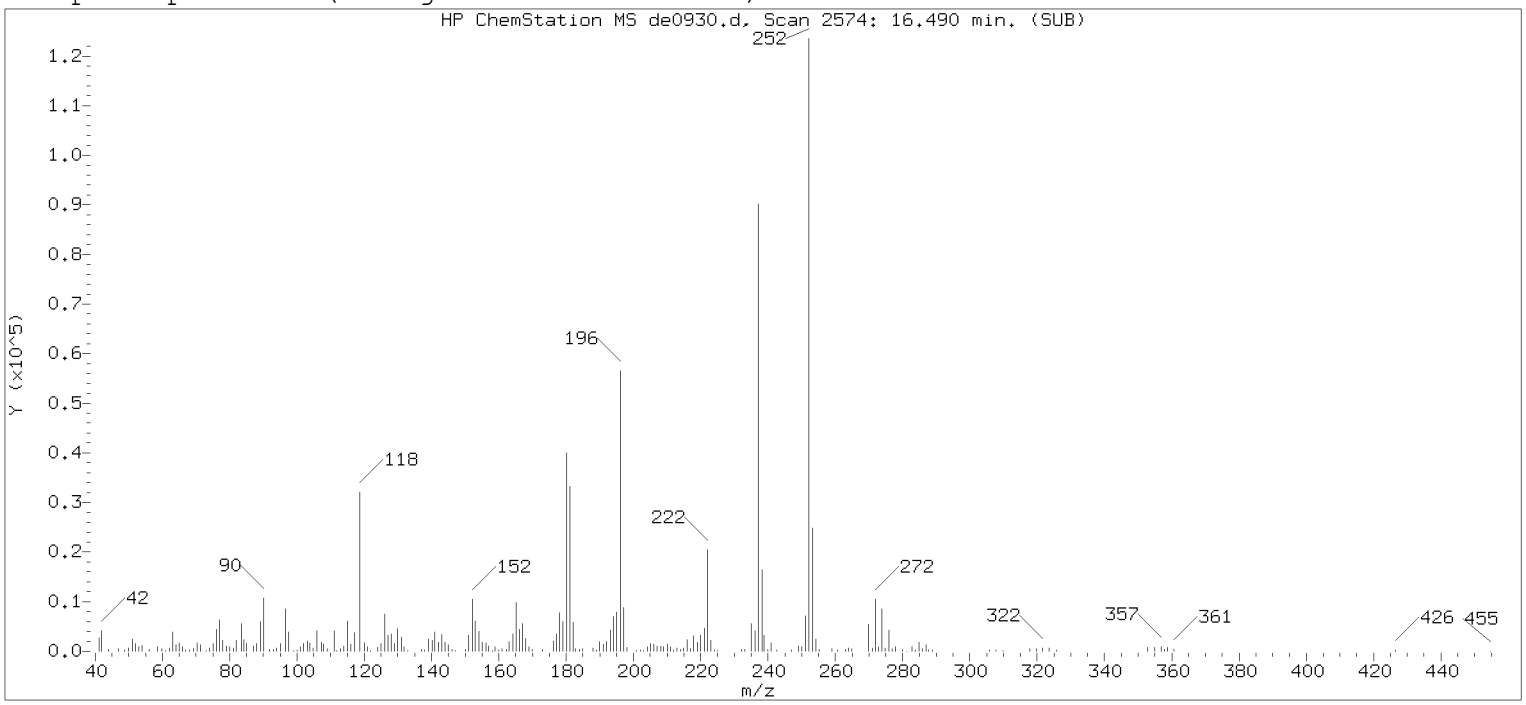
Compound Number : 189
Compound Name : Famphur
Scan Number : 2501
Retention Time (minutes) : 16.064
Quant Ion : 218.00
Area (flag) : 15074M
On-Column Amount (ng/ul) : 0.4867
Integration start scan : 2492 Integration stop scan: 2524
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

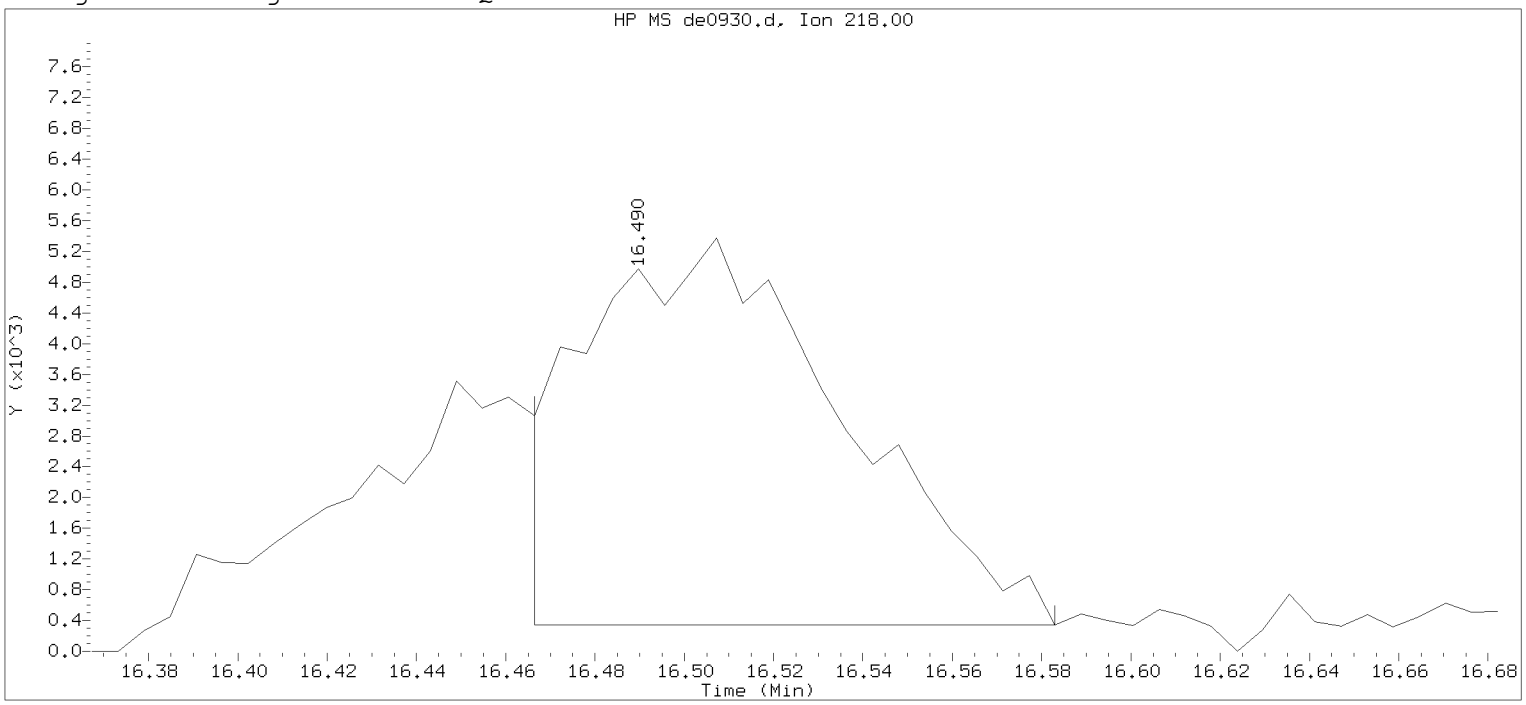
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

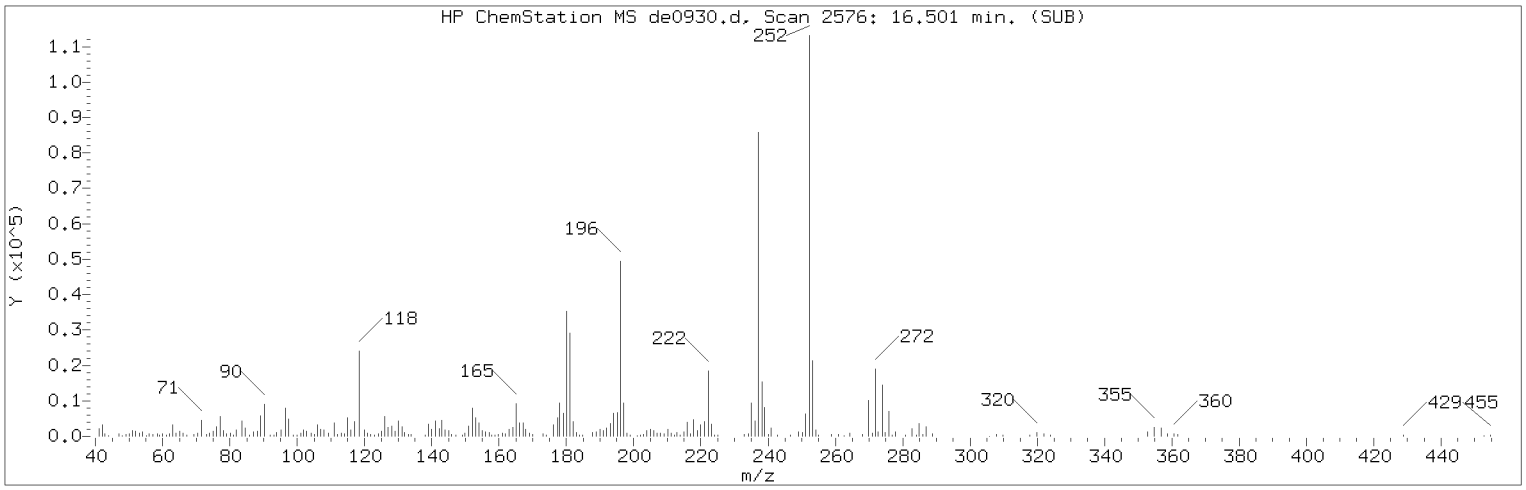
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

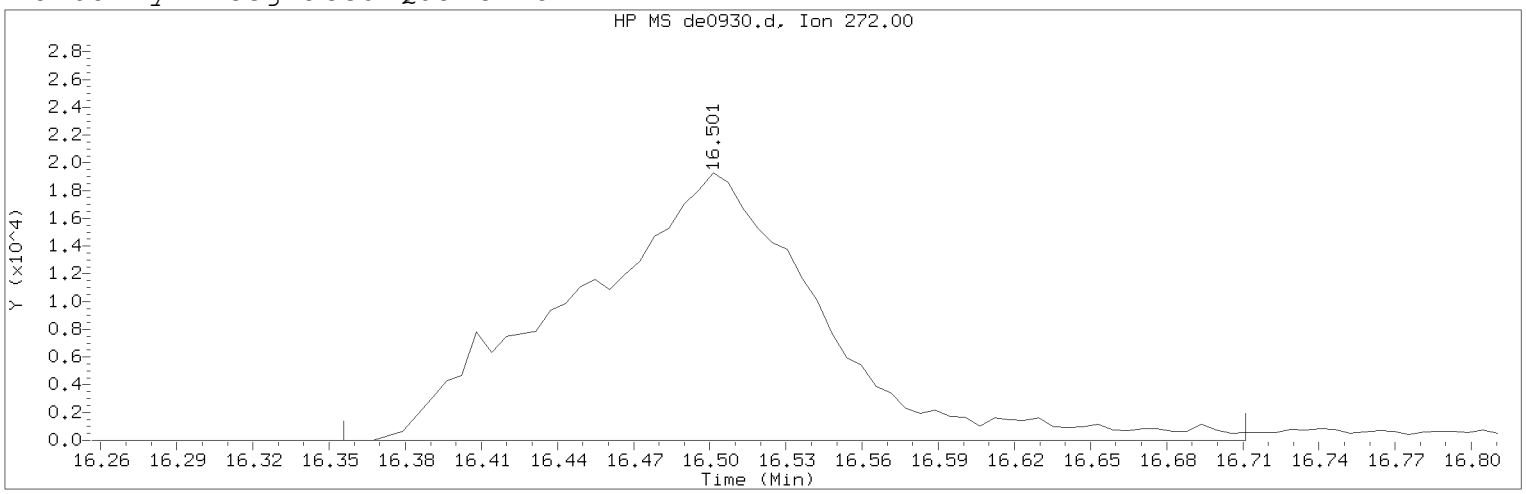
Compound Number	: 189		
Compound Name	: Famphur		
Scan Number	: 2574		
Retention Time (minutes)	: 16.490		
Quant Ion	: 218.00		
Area	: 20469		
On-column Amount (ng/ul)	: 0.6609		
Integration start scan	: 2569	Integration stop scan:	2589
Y at integration start	: 345	Y at integration end:	345

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: R8504REMS Lab Sample ID: 8999789RE

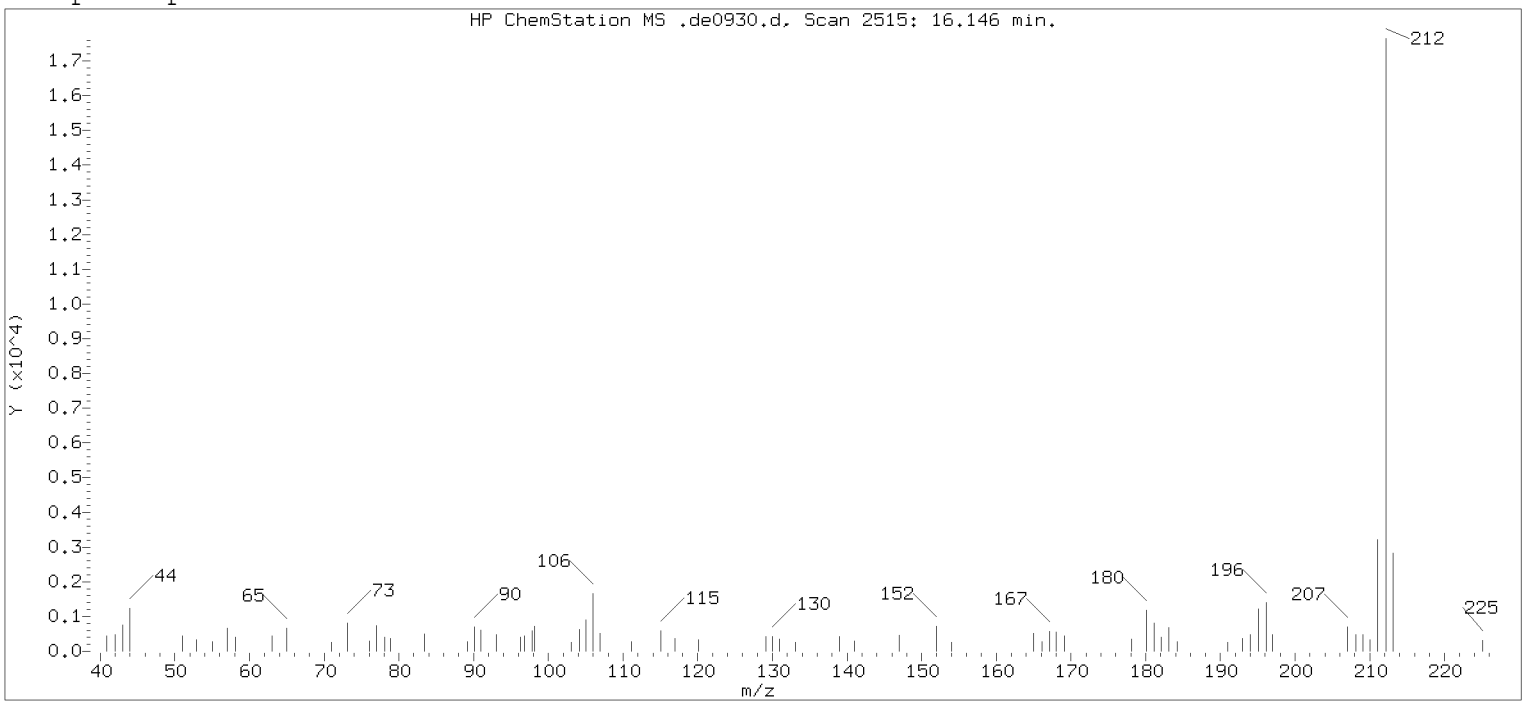
Compound Number : 190
Compound Name : Kepone
Scan Number : 2576
Retention Time (minutes) : 16.501
Quant Ion : 272.00
Area (flag) : 129021M
On-Column Amount (ng/ul) : 8.7535
Integration start scan : 2550 Integration stop scan: 2611
Y at integration start : 1 Y at integration end: 1

Reason for manual integration: missed peak

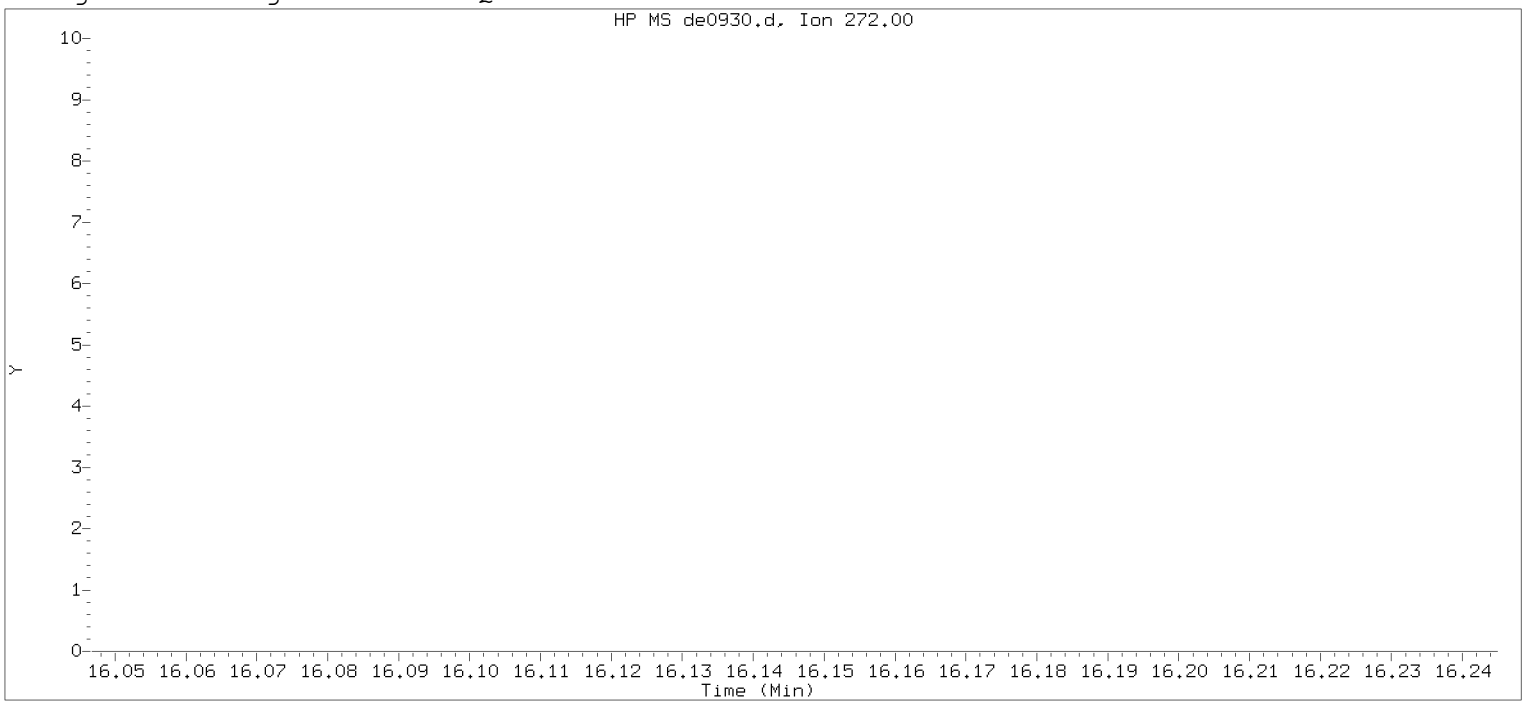
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0930.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 12:45 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:08 Automation

Sample Name: R8504REMS Lab Sample ID: 8999789RE

Compound Number : 190
Compound Name : Kepone
Expected RT (minutes) : 16.146
Quant Ion : 272.00

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Data file: /chem/HP19760.i/17may30.b/de0931.d
Data file Sample Info. Line: R8504REMSD;8999790RE;1;3;MSD;;;
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Injection date and time: **30-MAY-2017 13:12**
Instrument ID: **HP19760.i** Batch: **17143WAW**

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.470(-0.006)	855	152	164448 (3)	5.00	
65) Naphthalene-d8	8.400(0.000)	1186	136	615423 (3)	5.00	
113) Acenaphthene-d10	11.192(0.000)	1665	164	348824 (3)	5.00	
153) Phenanthrene-d10	13.121(-0.006)	1996	188	673637 (6)	5.00	
175) Pyrene-d10	15.033(-0.006)	2324	212	797547 (1)	5.00	
213) Perylene-d12	19.457(-0.012)	3083	264	681911 (5)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.605(-0.005)	112	1194307	23.408	47%		10 - 84
17) Phenol-d6	(1)	5.987(-0.001)	99	1904488	27.502	55%		10 - 71
44) Nitrobenzene-d5	(2)	7.304(-0.001)	82	1308251	20.512	82%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.160(-0.001)	172	2272017	20.955	84%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.299(-0.001)	330	208650	16.071	32%		13 - 149
179) Terphenyl-d14	(5)	15.353(0.000)	244	2418225	20.662	83%		38 - 125

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)	2.420(-0.008)	74	275752	7.132	28.64			0.5
5) Pyridine	(1)	2.495(-0.011)	79	353092	5.565	22.35			0.5
7) 2-Picoline	(1)	3.690(-0.004)	93	571530	8.822	35.43			0.5
8) N-Nitrosomethylethylamine	(1)	3.877(-0.003)	88	272666	9.862	39.61			0.5
9) Methyl methanesulfonate	(1)	4.331(-0.002)	80	284252	8.985	36.08			0.3
13) N-Nitrosodiethylamine	(1)	4.908(-0.001)	102	269543	10.496	42.15			0.1
15) Ethyl methanesulfonate	(1)	5.369(-0.000)	109	292100	10.531	42.29			0.1
18) Phenol	(1)	6.004(-0.000)	94	596804	7.607	30.55			0.1
19) Aniline	(1)	5.987(-0.000)	93	535155	5.805	23.31			0.1
22) bis(2-Chloroethyl)ether	(1)	6.115(-0.000)	93	620532	10.647	42.76			0.1
23) 2-Chlorophenol	(1)	6.162(-0.000)	128	458612	8.975	36.04			0.1
27) Benzyl alcohol	(1)	6.704(0.000)	108	360982	9.901	39.76			3
31) 2-Methylphenol	(1)	6.902(0.000)	108	501795	9.986	40.10			0.1
34) bis(2-Chloroisopropyl)ether	(1)	6.931(0.000)	45	946949	10.996	44.16			0.1
35) N-Nitrosopyrrolidine	(1)	7.053(-0.000)	100	291056	10.283	41.30			0.1
36) Acetophenone	(1)	7.088(0.000)	105	864499	11.437	45.93			0.1
37) 4-Methylphenol	(1)	7.141(0.000)	108	540817	9.355	37.57			0.1
38) N-Nitroso-di-n-propylamine	(1)	7.117(0.000)	70	511651	11.224	45.07			0.1
39) N-Nitrosomorpholine	(1)	7.117(0.000)	56	411486	10.609	42.61			0.5
40) o-Toluidine	(1)	7.135(0.000)	106	483287	5.456	21.91			0.1
43) Hexachloroethane	(1)	7.216(0.001)	117	169606	7.321	29.40			0.3
45) Nitrobenzene	(2)	7.327(-0.000)	77	720025	11.208	45.01			0.1
48) N-Nitrosopiperidine	(2)	7.560(-0.000)	114	269829	10.637	42.72			0.1
50) Isophorone	(2)	7.718(-0.000)	82	1259966	11.468	46.06			0.1
51) 2-Nitrophenol	(2)	7.823(-0.000)	139	282023	11.117	44.65			0.1
53) 2,4-Dimethylphenol	(2)	7.945(-0.000)	107	457678	8.367	33.60			0.1
57) O,O,O-Triethylphosphorothioate	(2)	8.062(0.000)	198	279847	10.843	43.55			0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0931.d Injection date and time: **30-MAY-2017 13:12**
Data file Sample Info. Line: R8504REMSD;8999790RE;1;3;MSD;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)	8.091(-0.000)	93	820542	11.682	46.91			0.1
60) 2,4-Dichlorophenol	(2)	8.213(-0.000)	162	369745	9.133	36.68			0.1
64) a,a-Dimethylphenethylamine	(2)	8.254(-0.010)	58	1558234M	12.396	49.78		J	1
67) 4-Chloroaniline	(2)	8.545(0.000)	127	426247	7.152	28.72			0.5
68) 2,6-Dichlorophenol	(2)	8.557(-0.000)	162	333838	8.318	33.40			0.1
69) Hexachloropropene	(2)	8.586(0.000)	213	284618	8.853	35.55			0.5
77) N-Nitrosodi-n-butylamine	(2)	9.128(-0.000)	84	471284	10.476	42.07			0.5
81) 1,4-Phenylenediamine	(2)			Not Detected					19
80) 4-Chloro-3-methylphenol	(2)	9.367(-0.000)	107	512563	11.109	44.61			0.1
82) Safrole	(2)	9.443(-0.000)	162	394083	10.746	43.16			0.5
83) 2-Methylnaphthalene	(2)	9.542(-0.000)	142	997296	10.361	41.61			0.03
85) Hexachlorocyclopentadiene	(3)	9.810(-0.000)	237	283261	11.906	47.82			1
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.810(-0.000)	216	501995	10.058	40.40			0.1
88) cis-Isosafrole	(3)	9.909(-0.000)	162	53227	1.361	5.47			0.1
90) 2,4,6-Trichlorophenol	(3)	10.014(-0.000)	196	213115	7.011	28.16			0.1
92) 2,4,5-Trichlorophenol	(3)	10.072(-0.000)	196	317654	9.677	38.86			0.1
94) trans-Isosafrole	(3)	10.271(-0.000)	162	442748	10.693	42.94			0.1
97) Isosafrole	(3)			495975	12.054	48.41			0.5
96) 2-Chloronaphthalene	(3)	10.306(-0.000)	162	938214	10.667	42.84			0.1
100) 2-Nitroaniline	(3)	10.498(-0.001)	138	315320	11.537	46.33			0.1
104) 1,4-Naphthoquinone	(3)	10.615(-0.001)	158	2721555	74.433	298.93		E	6
106) Dimethylphthalate	(3)	10.842(-0.000)	163	1165319	11.466	46.05			0.5
107) 1,3-Dinitrobenzene	(3)	10.731(0.009)	168	167259	10.576	42.48			0.5
108) 2,6-Dinitrotoluene	(3)	10.912(-0.001)	165	262575	11.680	46.91			0.1
109) Acenaphthylene	(3)	10.958(0.000)	152	1395627	10.843	43.55			0.03
112) 3-Nitroaniline	(3)	11.151(-0.000)	138	215282	9.263	37.20			0.1
114) Acenaphthene	(3)	11.244(-0.000)	153	1042263	11.126	44.68			0.03
115) 2,4-Dinitrophenol	(3)	11.431(-0.009)	184	276023M	21.062	84.59			3
116) 4-Nitrophenol	(3)	11.512(-0.002)	109	132130A	7.689	30.88			3
117) Pentachlorobenzene	(3)	11.466(-0.000)	250	437316	10.851	43.58			0.1
118) 2,4-Dinitrotoluene	(3)	11.541(-0.001)	165	359383	11.885	47.73			0.3
119) Dibenzofuran	(3)	11.524(-0.000)	168	1407074	10.999	44.17			0.1
121) 1-Naphthylamine	(3)	11.640(-0.001)	143	771613	8.502	34.14			1
122) 2,3,4,6-Tetrachlorophenol	(3)	11.722(-0.000)	232	166878	6.750	27.11			0.1
123) 2-Naphthylamine	(3)	11.757(-0.001)	143	742000	8.251	33.13			1
124) Diethylphthalate	(3)	11.932(-0.000)	149	1156838	11.728	47.10			0.5
125) Thionazin	(3)	12.025(-0.000)	107	221043	11.268	45.25			0.5
126) Fluorene	(3)	12.002(-0.000)	166	1136866	11.075	44.48			0.03
127) 4-Chlorophenyl-phenylether	(3)	12.037(-0.000)	204	553465	11.073	44.47			0.1
128) 5-Nitro-o-toluidine	(3)	12.037(-0.001)	152	236671	8.379	33.65			0.1
129) 4-Nitroaniline	(3)	12.043(-0.001)	138	247258	10.687	42.92			0.1
130) 4,6-Dinitro-2-methylphenol	(4)	12.118(-0.002)	198	200380M	11.032	44.30			1
131) N-Nitrosodiphenylamine	(4)	12.188(-0.000)	169	965606	11.558	46.42			0.1
139) 1,3,5-Trinitrobenzene	(4)	12.521(-0.000)	213	119041	10.130	40.68			1
140) Diallate (peak 1)	(4)	12.544(0.000)	86	416028	8.157	32.76			0.06
141) Phorate	(4)	12.550(0.000)	75	895234	11.801	47.39			0.1
142) Phenacetin	(4)	12.579(-0.000)	108	598433	10.764	43.23			0.1
143) 4-Bromophenyl-phenylether	(4)	12.614(-0.000)	248	325857	11.369	45.66			0.1
144) Diallate (peak 2)	(4)	12.643(-0.000)	86	135511	3.277	13.16			0.06
146) Diallate trans/cis	(4)			551539	11.434	45.92			0.3
145) Hexachlorobenzene	(4)	12.660(-0.000)	284	326142	10.804	43.39			0.03
147) Dimethoate	(4)	12.730(0.000)	87	292571	5.988	24.05			0.8

M = Compound was manually integrated. E = Compound concentration above calibration range. A = User selected an alternate peak.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0931.d Injection date and time: **30-MAY-2017 13:12**
Data file Sample Info. Line: R8504REMSD;8999790RE;1;3;MSD;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
149) Pentachlorophenol	(4)	12.923(-0.001)	266	108458	6.535	26.24			0.3
150) 4-Aminobiphenyl	(4)	12.917(0.000)	169	735686	7.932	31.86			0.1
151) Pentachloronitrobenzene	(4)	12.917(0.000)	237	141403	10.731	43.10			0.5
152) Pronamide	(4)	13.028(-0.000)	173	542334	11.277	45.29			0.1
155) Phenanthrene	(4)	13.150(0.000)	178	1677223	11.139	44.73			0.03
157) Anthracene	(4)	13.214(0.000)	178	1703670	11.364	45.64			0.03
162) Disulfoton	(4)	13.179(0.000)	88	1742296M	31.488	126.46		E	6
164) Methyl parathion	(4)	13.628(0.000)	109	232807	6.188	24.85			0.3
165) Di-n-butylphthalate	(4)	13.949(-0.000)	149	2040793	11.868	47.66			0.5
167) Parathion	(4)	14.164(-0.000)	109	268700	11.199	44.98			0.5
168) 4-Nitroquinoline-1-oxide	(4)	14.176(-0.001)	190	1786794	113.501	455.83		E	5
170) Methapyrilene	(4)	14.316(-0.000)	97	4646207M	128.931	517.79		E	4
171) Isodrin	(4)	14.520(0.000)	193	213809	11.712	47.04			0.1
173) Fluoranthene	(4)	14.735(-0.000)	202	1956438	11.348	45.57			0.03
177) Pyrene	(5)	15.062(-0.000)	202	2014666	11.126	44.68			0.03
180) Aramite (1)	(5)	15.266(0.000)	185	6178M	7.104	28.53		E	0.3
181) Aramite (2)	(5)	15.295(0.000)	185	6491M	7.869	31.60		E	0.3
183) Aramite (3)	(5)	15.371(0.000)	185	99067M	1.374	5.52		E	0.3
184) Aramite (4)	(5)	15.493(0.000)	185	111891M	1.179	4.73			0.3
186) Aramite	(5)			223627	17.526	70.39		E	1
182) p-Dimethylaminoazobenzene	(5)	15.581(-0.000)	225	364194	12.632	50.73			0.1
185) Chlorobenzilate	(5)	15.680(-0.000)	139	611075	11.475	46.08			0.8
187) 3,3'-Dimethylbenzidine	(5)	16.123(0.000)	212	870211	7.442	29.89		J	6
188) Butylbenzylphthalate	(5)	16.198(-0.000)	149	954133	11.904	47.81			0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)	16.496(-0.022)	272	125864M	8.527	34.24		J	6
191) 2-Acetylaminofluorene	(5)	16.542(-0.000)	181	923047	12.365	49.66			0.5
193) 3,3'-Dichlorobenzidine	(5)	17.032(-0.000)	252	603923	9.232	37.08			0.5
195) Benzo(a)anthracene	(5)	17.026(-0.000)	228	2054458	11.834	47.53			0.03
196) Chrysene	(5)	17.084(-0.000)	228	1941857	11.878	47.70			0.03
199) bis(2-Ethylhexyl)phthalate	(5)	17.259(0.000)	149	1424012	11.868	47.66			0.5
205) Di-n-octylphthalate	(6)	18.408(0.000)	149	2552763	11.452	45.99			0.5
206) Benzo(b)fluoranthene	(6)	18.850(-0.000)	252	2134594	11.491	46.15			0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.862(-0.000)	256	875775	11.611	46.63			0.1
208) Benzo(k)fluoranthene	(6)	18.903(-0.000)	252	2023249	11.324	45.48			0.03
211) Benzo(a)pyrene	(6)	19.369(-0.000)	252	1874282	10.920	43.85			0.03
215) 3-Methylcholanthrene	(6)	19.946(0.000)	268	909750	11.910	47.83			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	21.054(-0.000)	276	2001612	11.896	47.78			0.03
220) Dibenz(a,h)anthracene	(6)	21.094(0.000)	278	1703166	12.171	48.88			0.03
221) Benzo(g,h,i)perylene	(6)	21.409(-0.000)	276	1624328	11.798	47.38			0.03

E = Compound concentration above calibration range. M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0931.d Injection date and time: **30-MAY-2017 13:12**
Data file Sample Info. Line: R8504REMSD;8999790RE;1;3;MSD;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

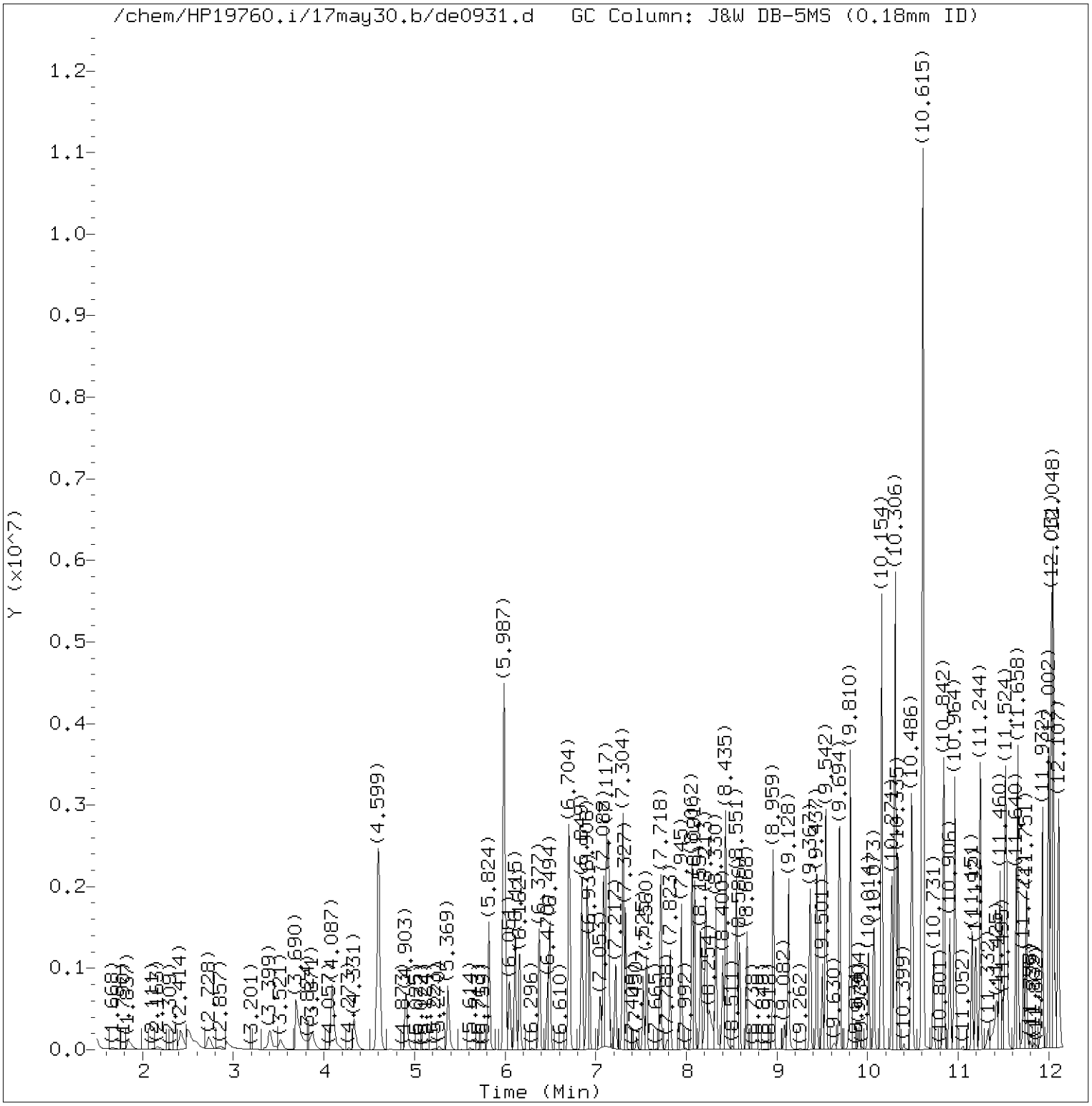
Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 249 ml Volume Injected (Vi): 0.5 ul

THIS SPACE
WAS LEFT
BLANK INTENTIONALLY

Total number of targets = 119

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

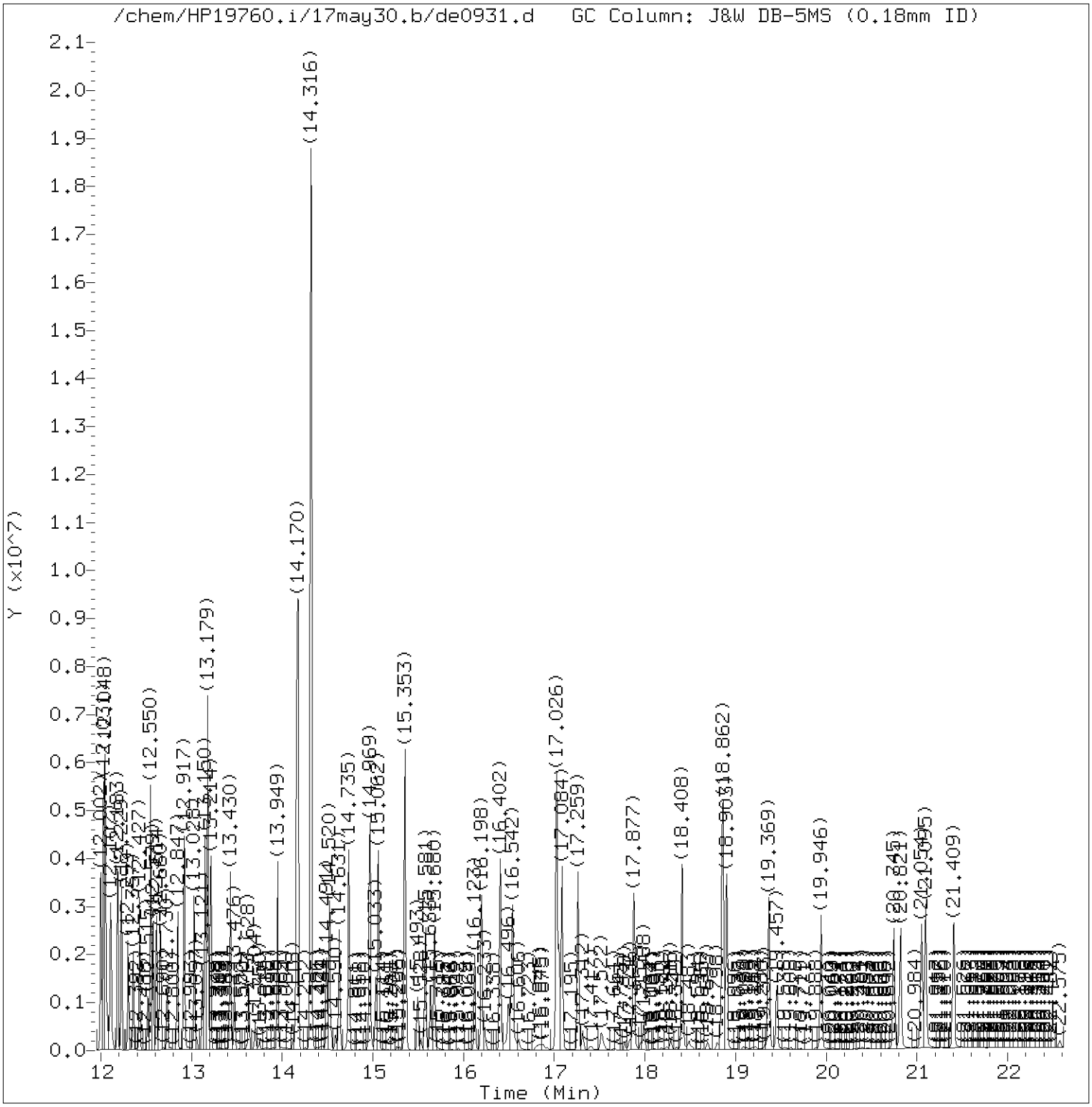
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	2.420	74	275752	7.132
5) Pyridine	(1)	2.495	79	353092	5.565
7) 2-Picoline	(1)	3.690	93	571530	8.822
8) N-Nitrosomethylethylamine	(1)	3.877	88	272666	9.862
9) Methyl methanesulfonate	(1)	4.331	80	284252	8.985
11)$2-Fluorophenol	(1)	4.605	112	1194307	23.408
13) N-Nitrosodiethylamine	(1)	4.908	102	269543	10.496
15) Ethyl methanesulfonate	(1)	5.369	109	292100	10.531
19) Aniline	(1)	5.987	93	535155	5.805
17)$Phenol-d6	(1)	5.987	99	1904488	27.502
18) Phenol	(1)	6.004	94	596804	7.607
22) bis(2-Chloroethyl)ether	(1)	6.115	93	620532	10.647
23) 2-Chlorophenol	(1)	6.162	128	458612	8.975
25)*1,4-Dichlorobenzene-d4	(1)	6.470	152	164448	5.000
27) Benzyl alcohol	(1)	6.704	108	360982	9.901
31) 2-Methylphenol	(1)	6.902	108	501795	9.986
34) bis(2-Chloroisopropyl)ether	(1)	6.931	45	946949	10.996
35) N-Nitrosopyrrolidine	(1)	7.053	100	291056	10.283
36) Acetophenone	(1)	7.088	105	864499	11.437
38) N-Nitroso-di-n-propylamine	(1)	7.117	70	511651	11.224
39) N-Nitrosomorpholine	(1)	7.117	56	411486	10.609
40) o-Toluidine	(1)	7.135	106	483287	5.456
37) 4-Methylphenol	(1)	7.141	108	540817	9.355
43) Hexachloroethane	(1)	7.217	117	169606	7.321
44)$Nitrobenzene-d5	(2)	7.304	82	1308251	20.512
45) Nitrobenzene	(2)	7.327	77	720025	11.208
97) Isosafrole	(3)			495975	12.054
48) N-Nitrosopiperidine	(2)	7.560	114	269829	10.637
50) Isophorone	(2)	7.718	82	1259966	11.468
51) 2-Nitrophenol	(2)	7.823	139	282023	11.117
53) 2,4-Dimethylphenol	(2)	7.945	107	457678	8.367
57) O,O,O-Triethylphosphorothioate	(2)	8.062	198	279847	10.843
55) bis(2-Chloroethoxy)methane	(2)	8.091	93	820542	11.682
60) 2,4-Dichlorophenol	(2)	8.213	162	369745	9.133
64) a,a-Dimethylphenethylamine	(2)	8.254	58	1558234M	12.396
65)*Naphthalene-d8	(2)	8.400	136	615423	5.000
67) 4-Chloroaniline	(2)	8.545	127	426247	7.152
68) 2,6-Dichlorophenol	(2)	8.557	162	333838	8.318
69) Hexachloropropene	(2)	8.586	213	284618	8.853
146) Diallate trans/cis	(4)			551539	11.434

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
77) N-Nitrosodi-n-butylamine	(2)	9.128	84	471284	10.476
80) 4-Chloro-3-methylphenol	(2)	9.367	107	512563	11.109
82) Safrole	(2)	9.443	162	394083	10.746
83) 2-Methylnaphthalene	(2)	9.542	142	997296	10.361
85) Hexachlorocyclopentadiene	(3)	9.810	237	283261	11.906
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.810	216	501995	10.058
88) cis-Isosafrole	(3)	9.909	162	53227	1.361
90) 2,4,6-Trichlorophenol	(3)	10.014	196	213115	7.011
92) 2,4,5-Trichlorophenol	(3)	10.073	196	317654	9.677
93)$2-Fluorobiphenyl	(3)	10.160	172	2272017	20.955
94) trans-Isosafrole	(3)	10.271	162	442748	10.693
96) 2-Chloronaphthalene	(3)	10.306	162	938214	10.667
100) 2-Nitroaniline	(3)	10.498	138	315320	11.537
186) Aramite	(5)			223627	17.526
104) 1,4-Naphthoquinone	(3)	10.615	158	2721555	74.433
107) 1,3-Dinitrobenzene	(3)	10.731	168	167259	10.576
106) Dimethylphthalate	(3)	10.842	163	1165319	11.466
108) 2,6-Dinitrotoluene	(3)	10.912	165	262575	11.680
109) Acenaphthylene	(3)	10.959	152	1395627	10.843
112) 3-Nitroaniline	(3)	11.151	138	215282	9.263
113)*Acenaphthene-d10	(3)	11.192	164	348824	5.000
114) Acenaphthene	(3)	11.244	153	1042263	11.126
115) 2,4-Dinitrophenol	(3)	11.431	184	276023M	21.062
117) Pentachlorobenzene	(3)	11.466	250	437316	10.851
116) 4-Nitrophenol	(3)	11.512	109	132130A	7.689
119) Dibenzofuran	(3)	11.524	168	1407074	10.999
118) 2,4-Dinitrotoluene	(3)	11.541	165	359383	11.885
121) 1-Naphthylamine	(3)	11.640	143	771613	8.502
122) 2,3,4,6-Tetrachlorophenol	(3)	11.722	232	166878	6.750
123) 2-Naphthylamine	(3)	11.757	143	742000	8.251
124) Diethylphthalate	(3)	11.932	149	1156838	11.728
126) Fluorene	(3)	12.002	166	1136866	11.075
125) Thionazin	(3)	12.025	107	221043	11.268
128) 5-Nitro-o-toluidine	(3)	12.037	152	236671	8.379
127) 4-Chlorophenyl-phenylether	(3)	12.037	204	553465	11.073
129) 4-Nitroaniline	(3)	12.043	138	247258	10.687
130) 4,6-Dinitro-2-methylphenol	(4)	12.118	198	200380M	11.032
131) N-Nitrosodiphenylamine	(4)	12.188	169	965606	11.558
135)$2,4,6-Tribromophenol	(3)	12.299	330	208650	16.071
139) 1,3,5-Trinitrobenzene	(4)	12.521	213	119041	10.130

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
140) Diallate (peak 1)	(4)	12.544	86	416028	8.157
141) Phorate	(4)	12.550	75	895234	11.801
142) Phenacetin	(4)	12.579	108	598433	10.764
143) 4-Bromophenyl-phenylether	(4)	12.614	248	325857	11.369
144) Diallate (peak 2)	(4)	12.643	86	135511	3.277
145) Hexachlorobenzene	(4)	12.660	284	326142	10.804
147) Dimethoate	(4)	12.730	87	292571	5.988
151) Pentachloronitrobenzene	(4)	12.917	237	141403	10.731
150) 4-Aminobiphenyl	(4)	12.917	169	735686	7.932
149) Pentachlorophenol	(4)	12.923	266	108458	6.535
152) Pronamide	(4)	13.028	173	542334	11.277
153)*Phenanthrene-d10	(4)	13.121	188	673637	5.000
155) Phenanthrene	(4)	13.150	178	1677223	11.139
162) Disulfoton	(4)	13.179	88	1742296M	31.488
157) Anthracene	(4)	13.214	178	1703670	11.364
164) Methyl parathion	(4)	13.628	109	232807	6.188
165) Di-n-butylphthalate	(4)	13.949	149	2040793	11.868
167) Parathion	(4)	14.164	109	268700	11.199
168) 4-Nitroquinoline-1-oxide	(4)	14.176	190	1786794	113.501
170) Methapyrilene	(4)	14.316	97	4646207M	128.931
171) Isodrin	(4)	14.520	193	213809	11.712
173) Fluoranthene	(4)	14.735	202	1956438	11.348
175)*Pyrene-d10	(5)	15.033	212	797547	5.000
177) Pyrene	(5)	15.062	202	2014666	11.126
180) Aramite (1)	(5)	15.266	185	6178M	7.104
181) Aramite (2)	(5)	15.295	185	6491M	7.869
179)$Terphenyl-d14	(5)	15.353	244	2418225	20.662
183) Aramite (3)	(5)	15.371	185	99067M	1.374
184) Aramite (4)	(5)	15.493	185	111891M	1.179
182) p-Dimethylaminoazobenzene	(5)	15.581	225	364194	12.632
185) Chlorobenzilate	(5)	15.680	139	611075	11.475
187) 3,3'-Dimethylbenzidine	(5)	16.123	212	870211	7.442
188) Butylbenzylphthalate	(5)	16.198	149	954133	11.904
190) Kepone	(5)	16.496	272	125864M	8.527
191) 2-Acetylaminofluorene	(5)	16.542	181	923047	12.365
195) Benzo(a)anthracene	(5)	17.026	228	2054458	11.834
193) 3,3'-Dichlorobenzidine	(5)	17.032	252	603923	9.232
196) Chrysene	(5)	17.084	228	1941857	11.878
199) bis(2-Ethylhexyl)phthalate	(5)	17.259	149	1424012	11.868
205) Di-n-octylphthalate	(6)	18.408	149	2552763	11.452

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

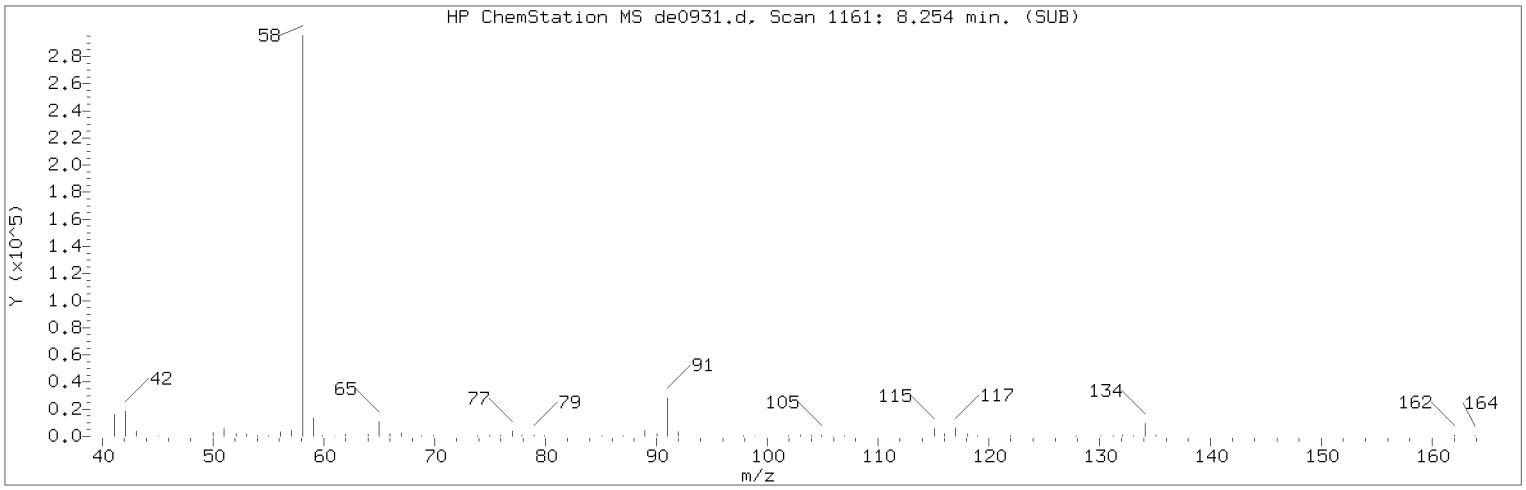
Sample Name: R8504REMSD Lab Sample ID: 8999790RE

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
206) Benzo(b)fluoranthene	(6)	18.851	252	2134594	11.491
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.862	256	875775	11.611
208) Benzo(k)fluoranthene	(6)	18.903	252	2023249	11.324
211) Benzo(a)pyrene	(6)	19.369	252	1874282	10.920
213)*Perylene-d12	(6)	19.457	264	681911	5.000
215) 3-Methylcholanthrene	(6)	19.946	268	909750	11.910
219) Indeno(1,2,3-cd)pyrene	(6)	21.054	276	2001612	11.896
220) Dibenz(a,h)anthracene	(6)	21.095	278	1703166	12.171
221) Benzo(g,h,i)perylene	(6)	21.409	276	1624328	11.798

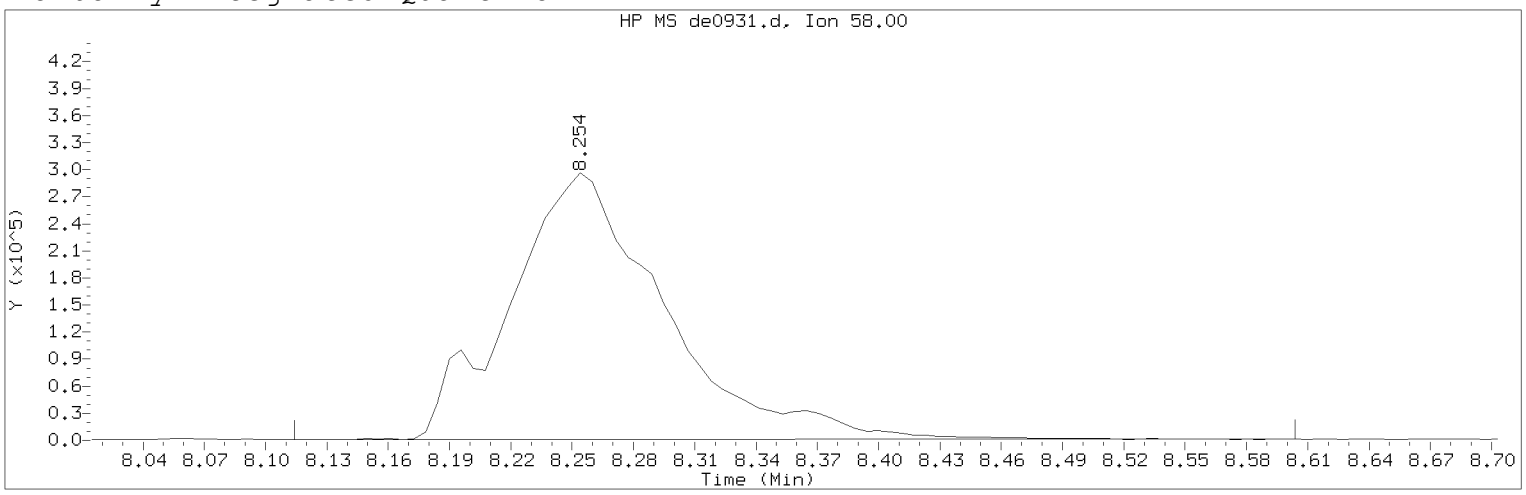
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

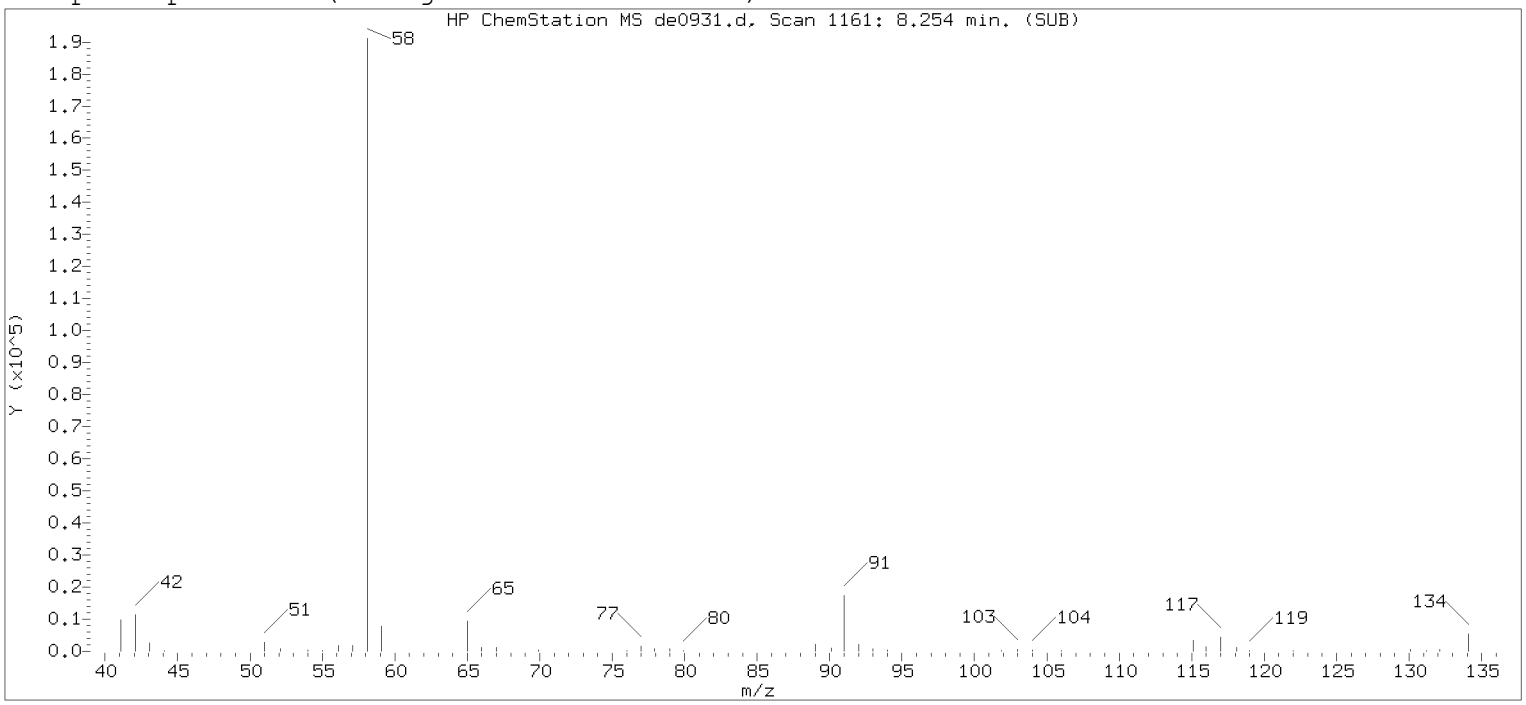
Compound Number : 64
Compound Name : a,a-Dimethylphenethylamine
Scan Number : 1161
Retention Time (minutes) : 8.254
Quant Ion : 58.00
Area (flag) : 1558234M
On-Column Amount (ng/ul) : 12.3962
Integration start scan : 1136 Integration stop scan: 1220
Y at integration start : 510 Y at integration end: 1195

Reason for manual integration: improper integration

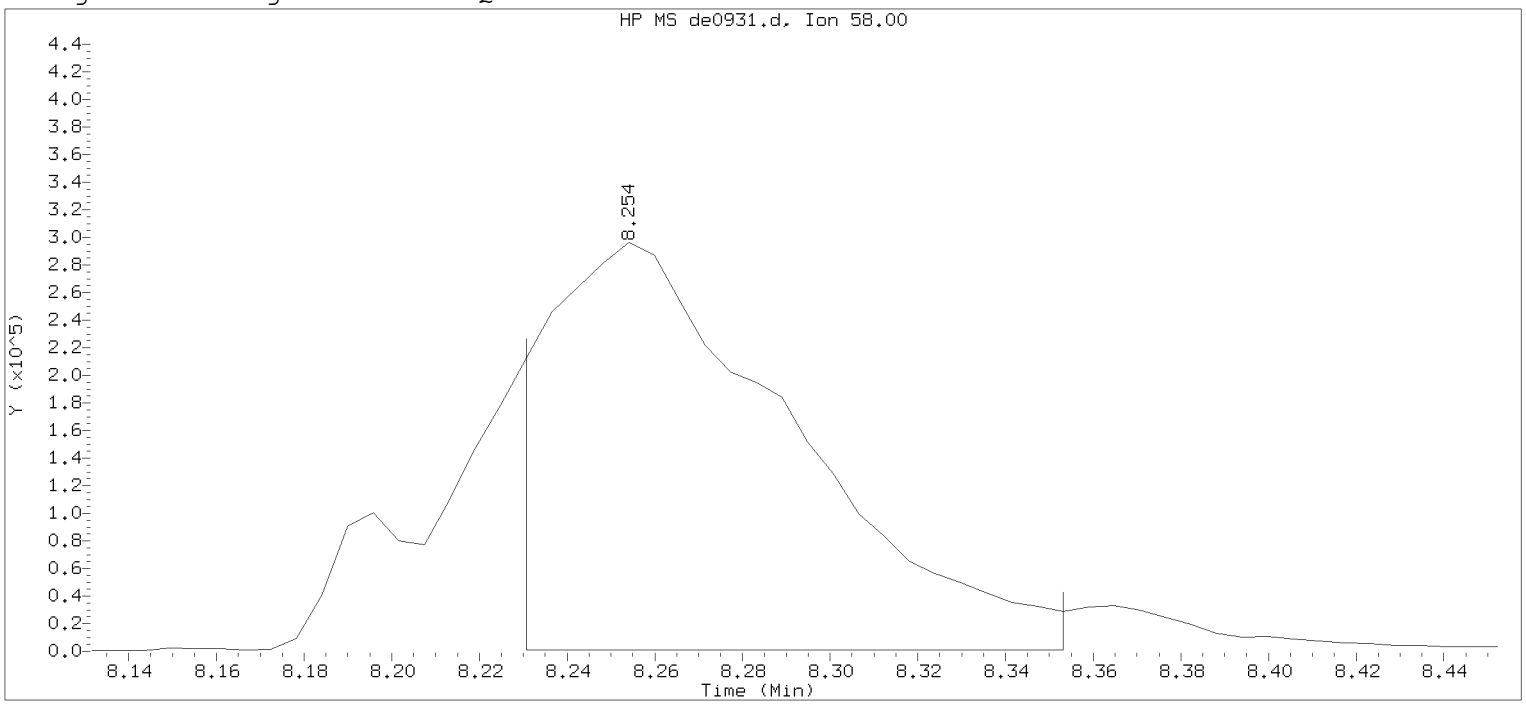
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

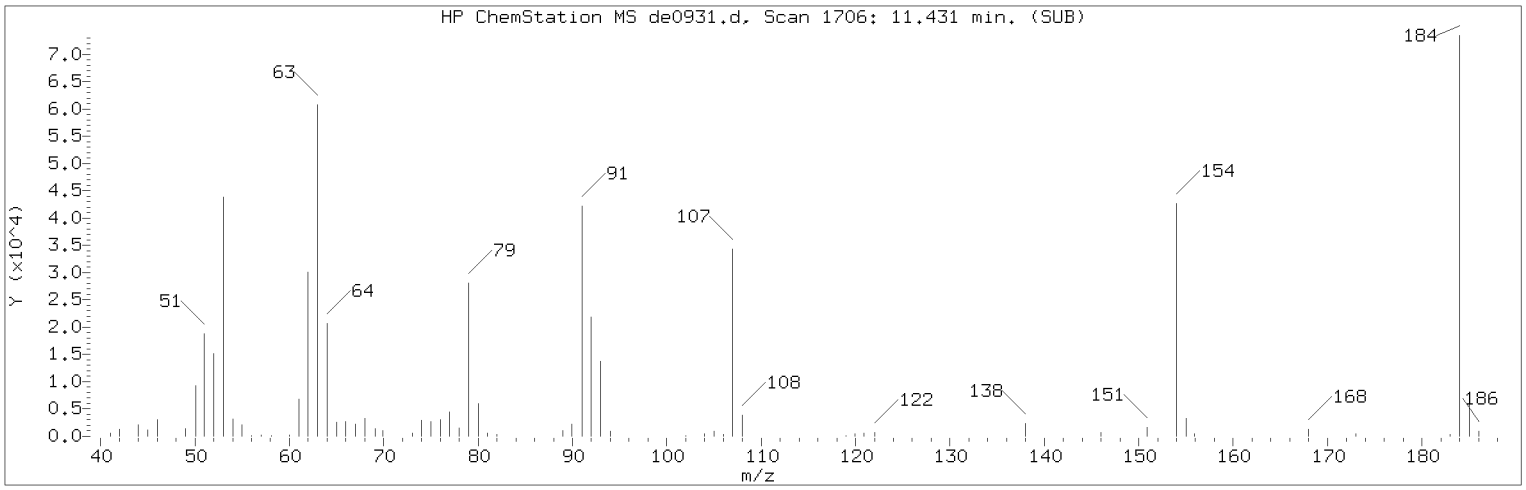
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

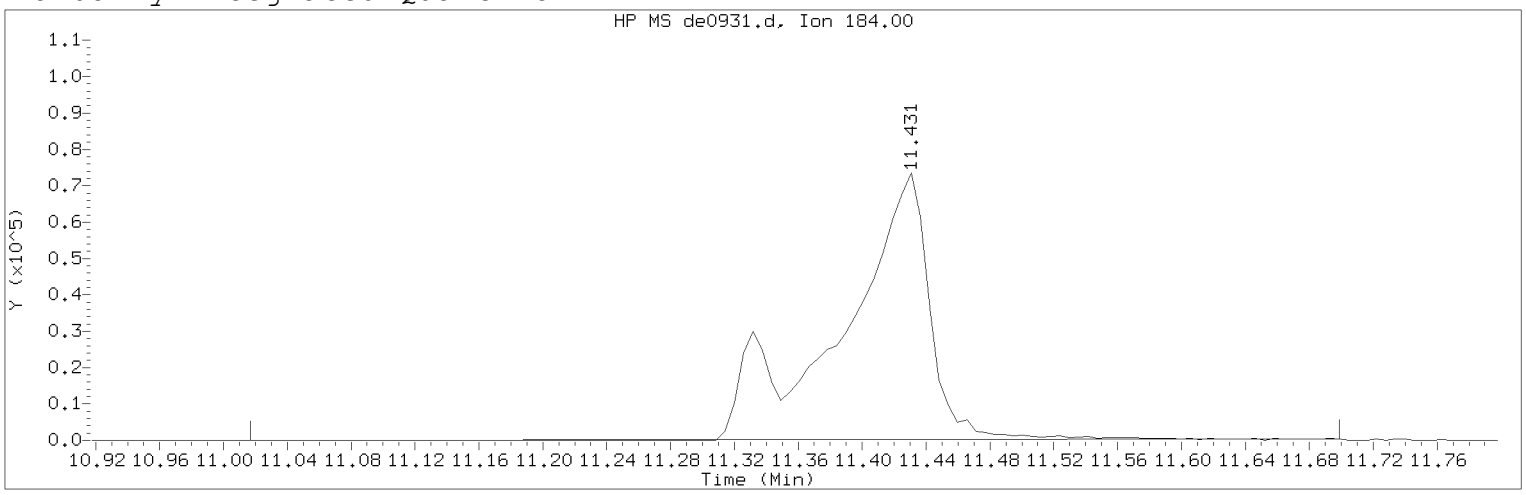
Compound Number	: 64		
Compound Name	: a,a-Dimethylphenethylamine		
Scan Number	: 1161		
Retention Time (minutes)	: 8.254		
Quant Ion	: 58.00		
Area	: 1145679		
On-column Amount (ng/ul)	: 9.1142		
Integration start scan	: 1156	Integration stop scan:	1177
Y at integration start	: 1039	Y at integration end:	1039

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

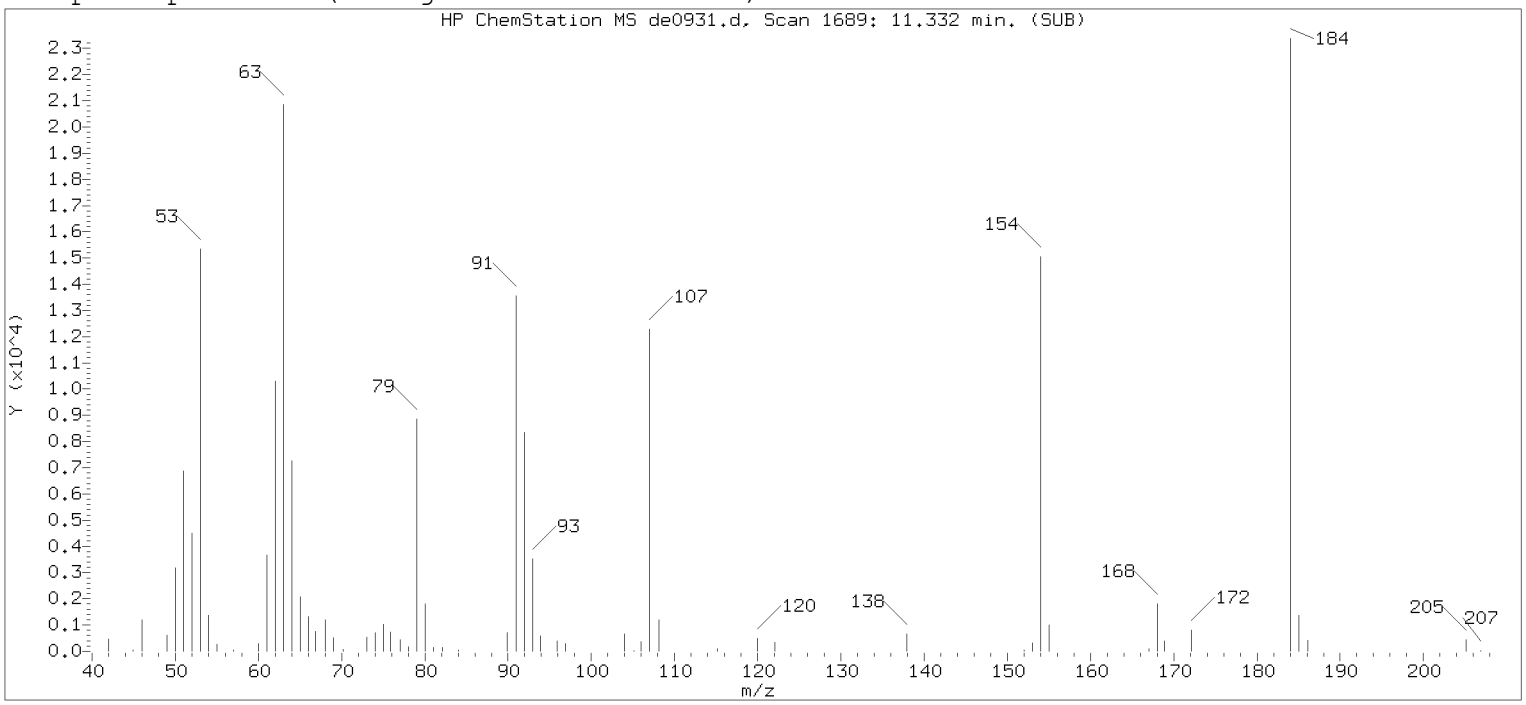
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1706
Retention Time (minutes) : 11.431
Quant Ion : 184.00
Area (flag) : 276023M
On-Column Amount (ng/ul) : 21.0623
Integration start scan : 1634 Integration stop scan: 1751
Y at integration start : 0 Y at integration end: 306

Reason for manual integration: improper integration

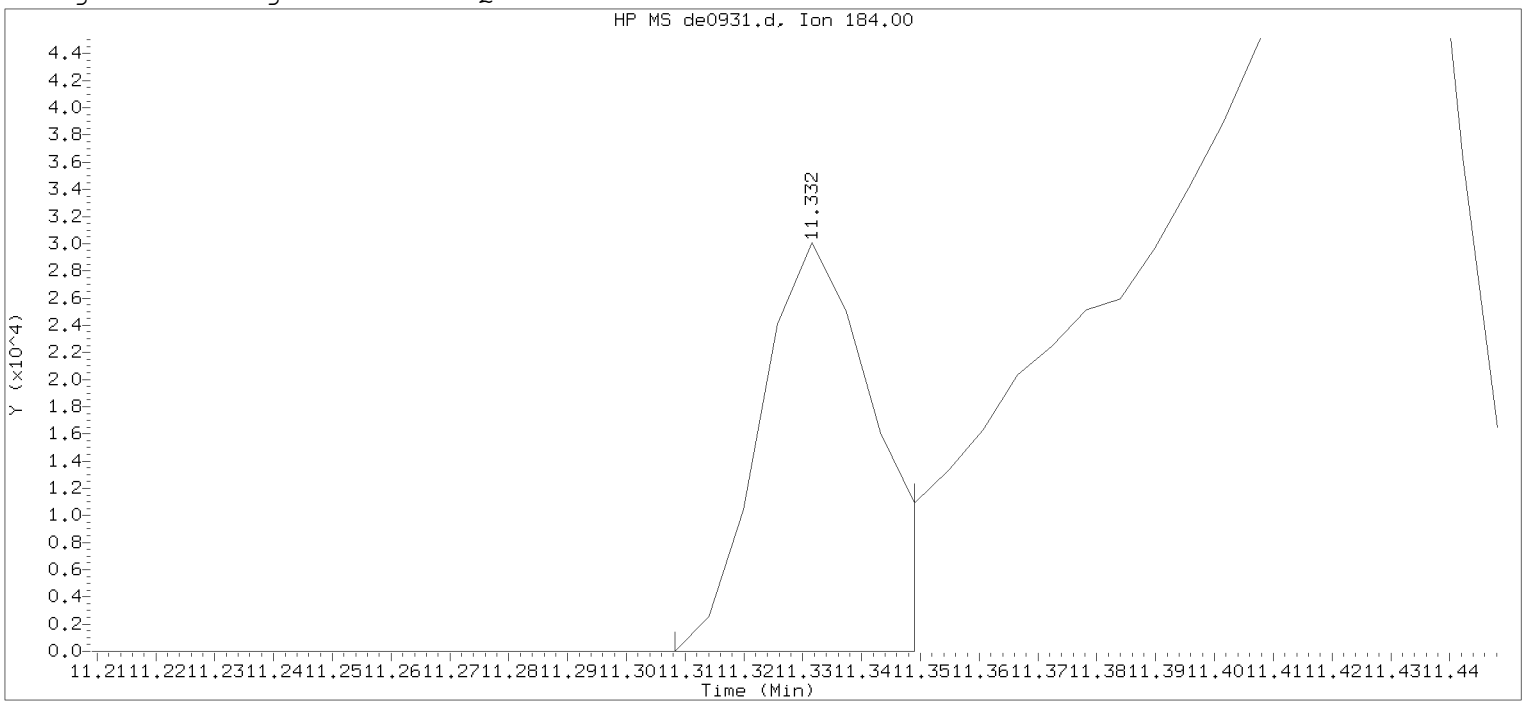
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

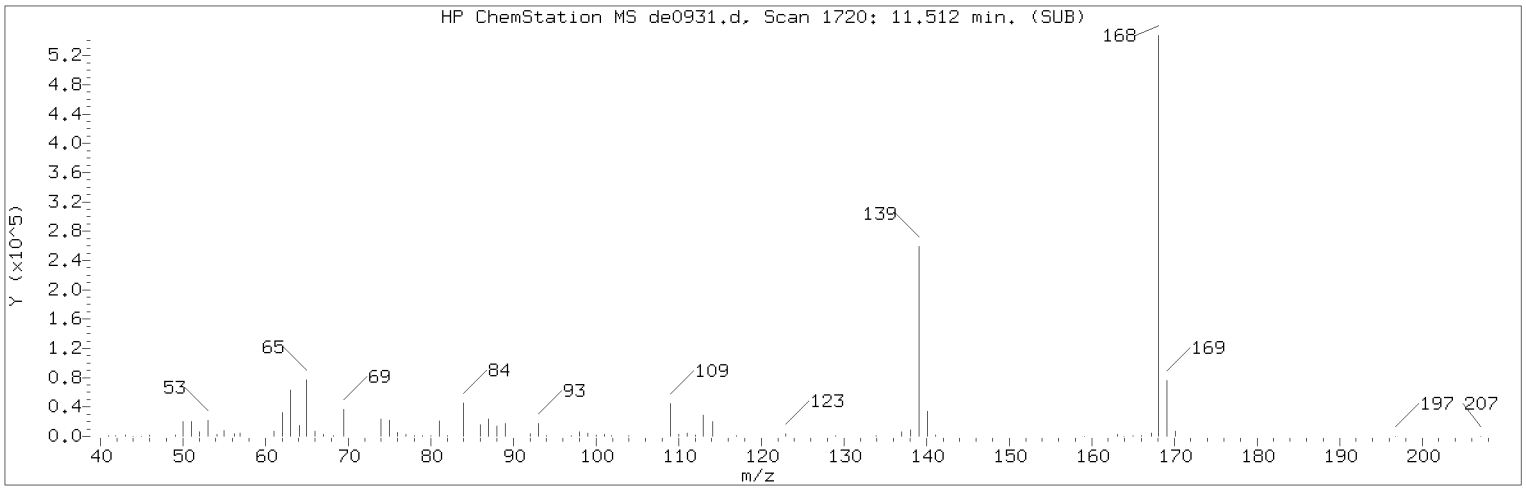
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

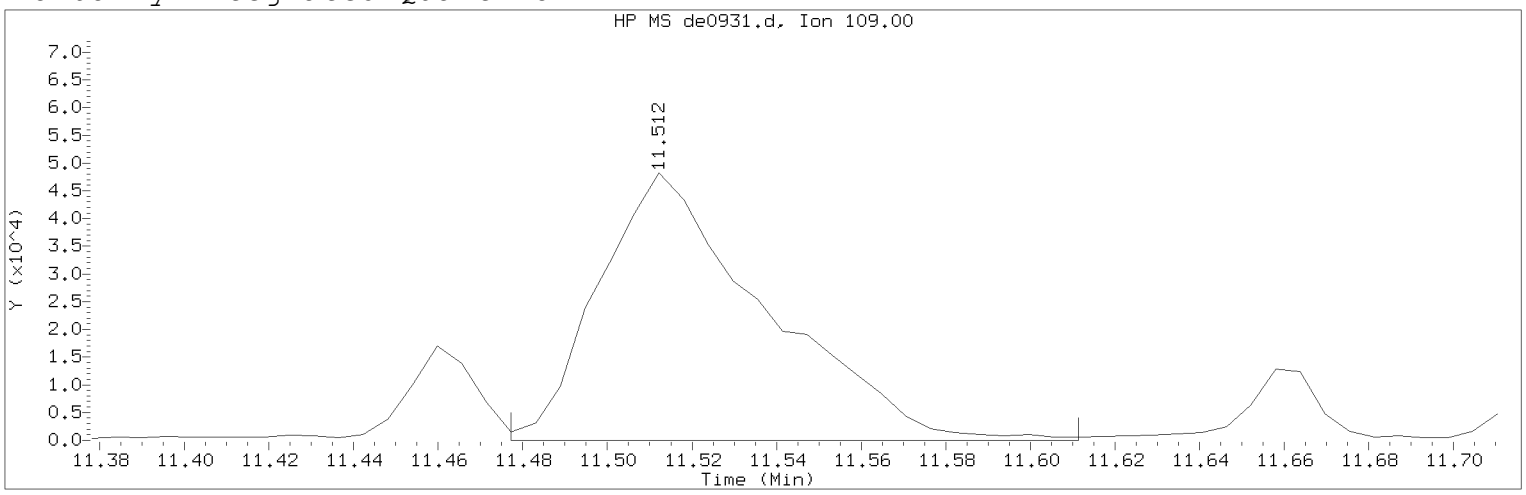
Compound Number	: 115		
Compound Name	: 2,4-Dinitrophenol		
Scan Number	: 1689		
Retention Time (minutes)	: 11.332		
Quant Ion	: 184.00		
Area	: 39780		
On-column Amount (ng/ul)	: 3.0355		
Integration start scan	: 1684	Integration stop scan:	1691
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

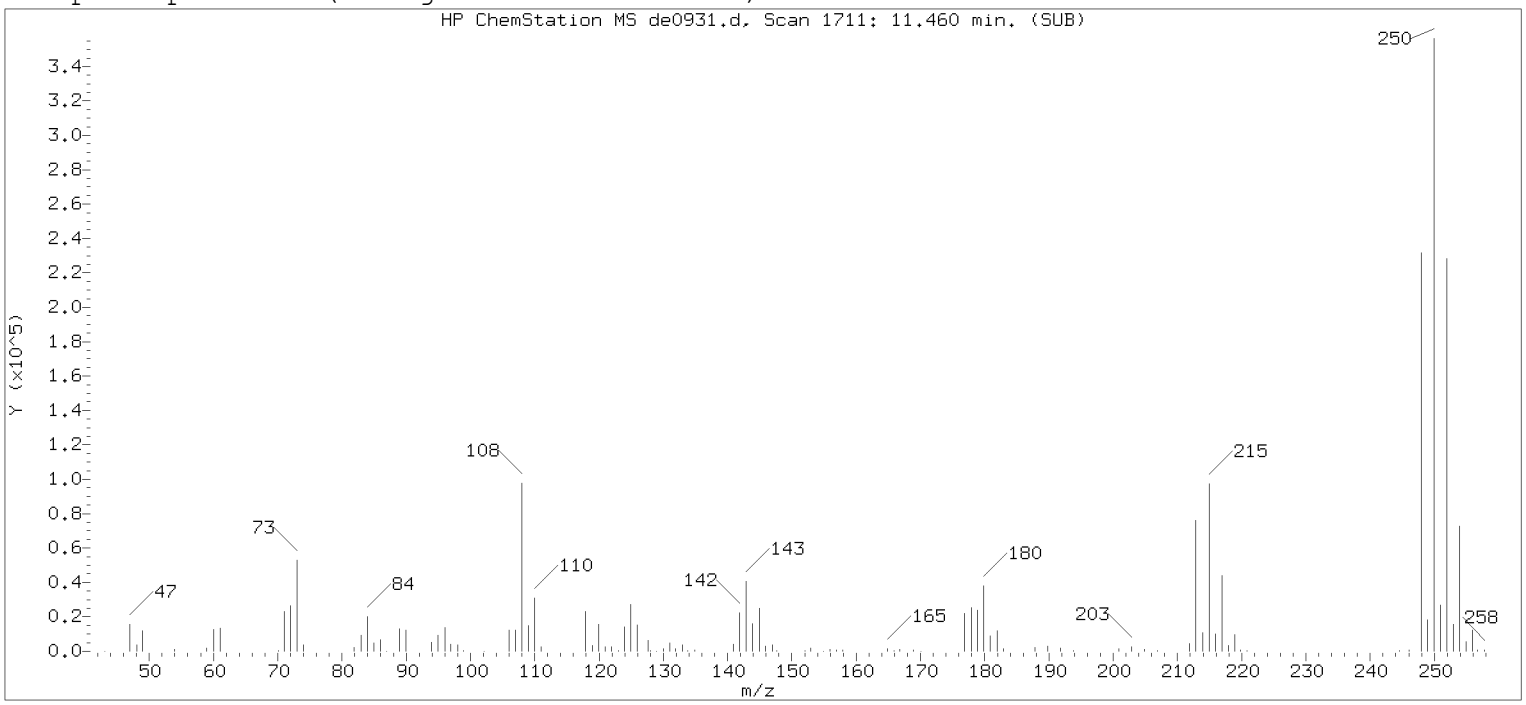
Compound Number : 116
Compound Name : 4-Nitrophenol
Scan Number : 1720
Retention Time (minutes) : 11.512
Quant Ion : 109.00
Area (flag) : 132130A
On-Column Amount (ng/ul) : 7.6885
Integration start scan : 1713 Integration stop scan: 1736
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

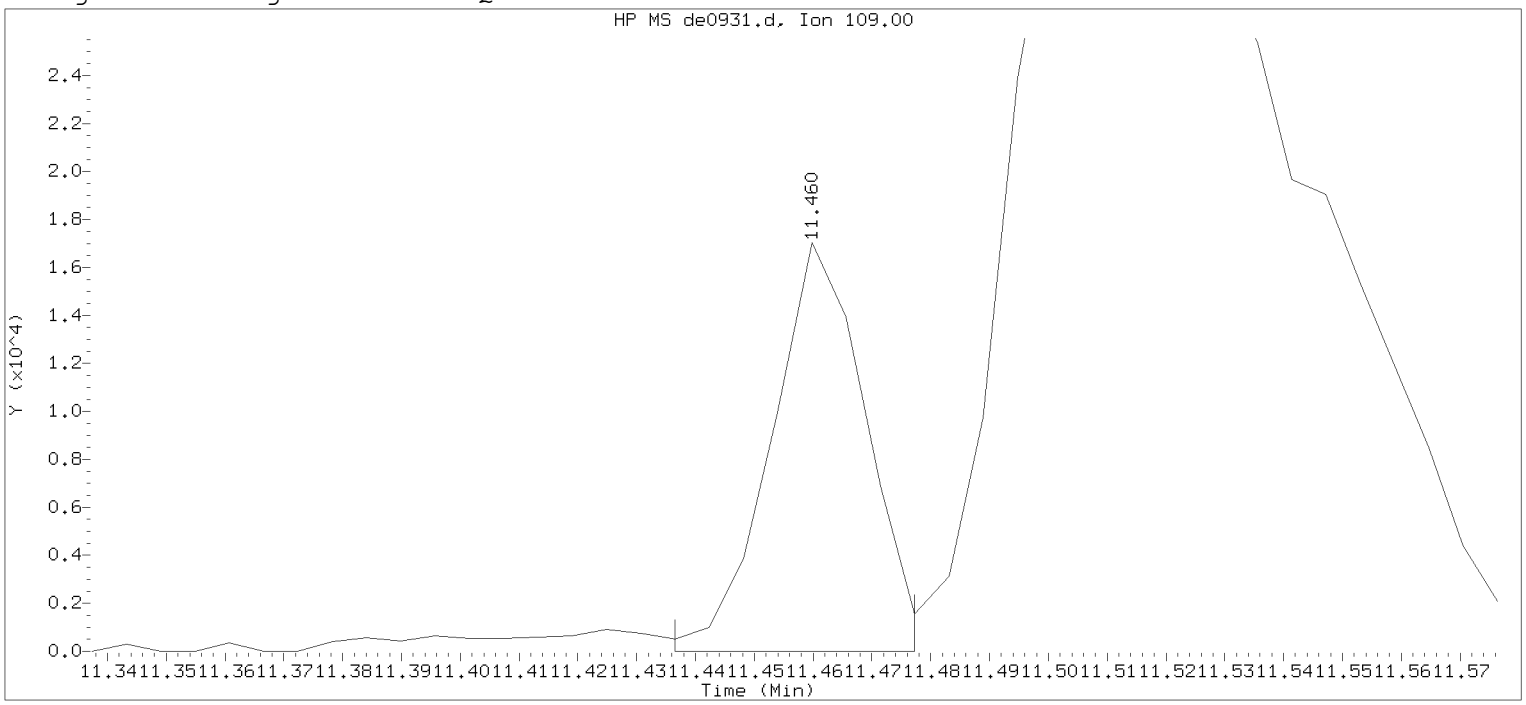
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

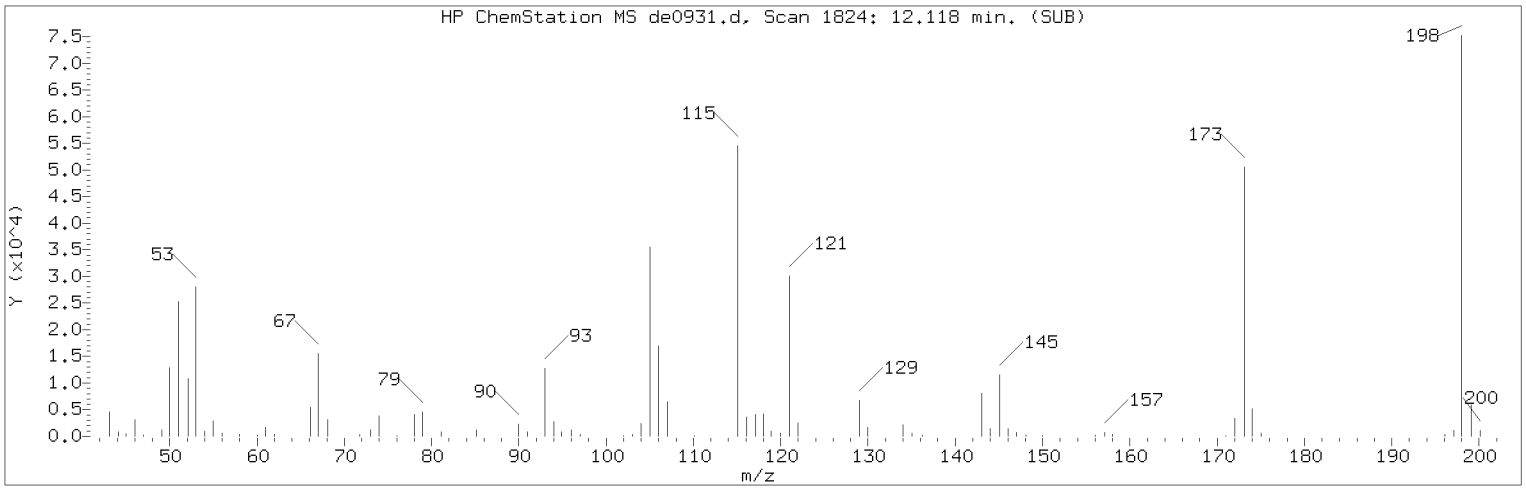
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

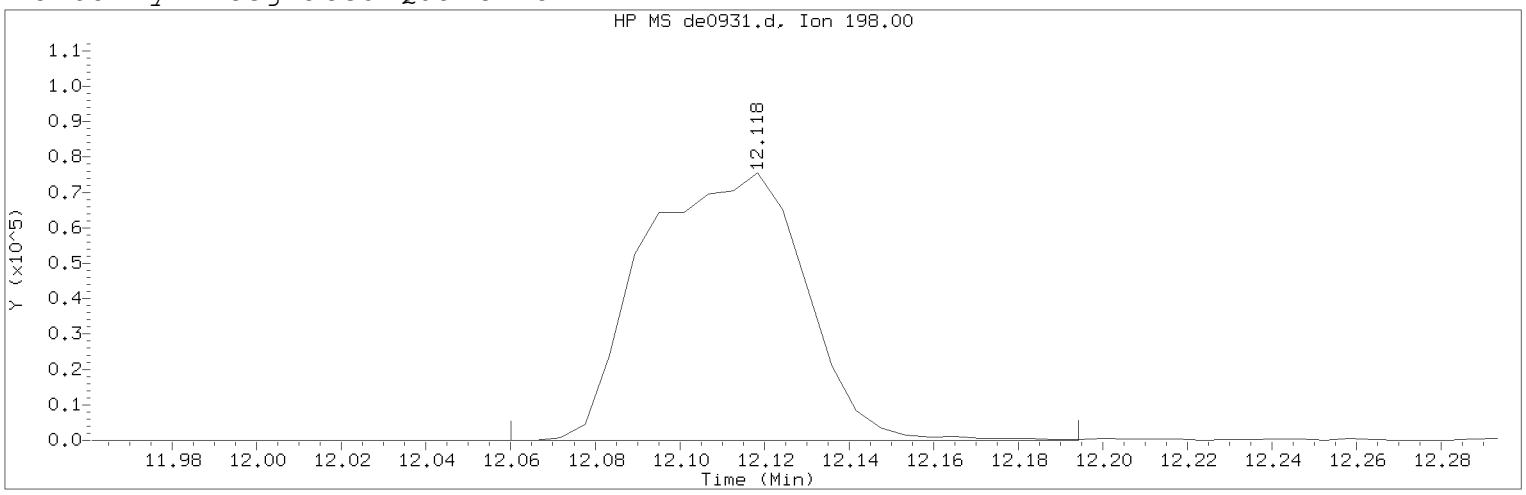
Compound Number	: 116		
Compound Name	: 4-Nitrophenol		
Scan Number	: 1711		
Retention Time (minutes)	: 11.460		
Quant Ion	: 109.00		
Area	: 18767		
On-column Amount (ng/ul)	: 1.0920		
Integration start scan	: 1706	Integration stop scan:	1713
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

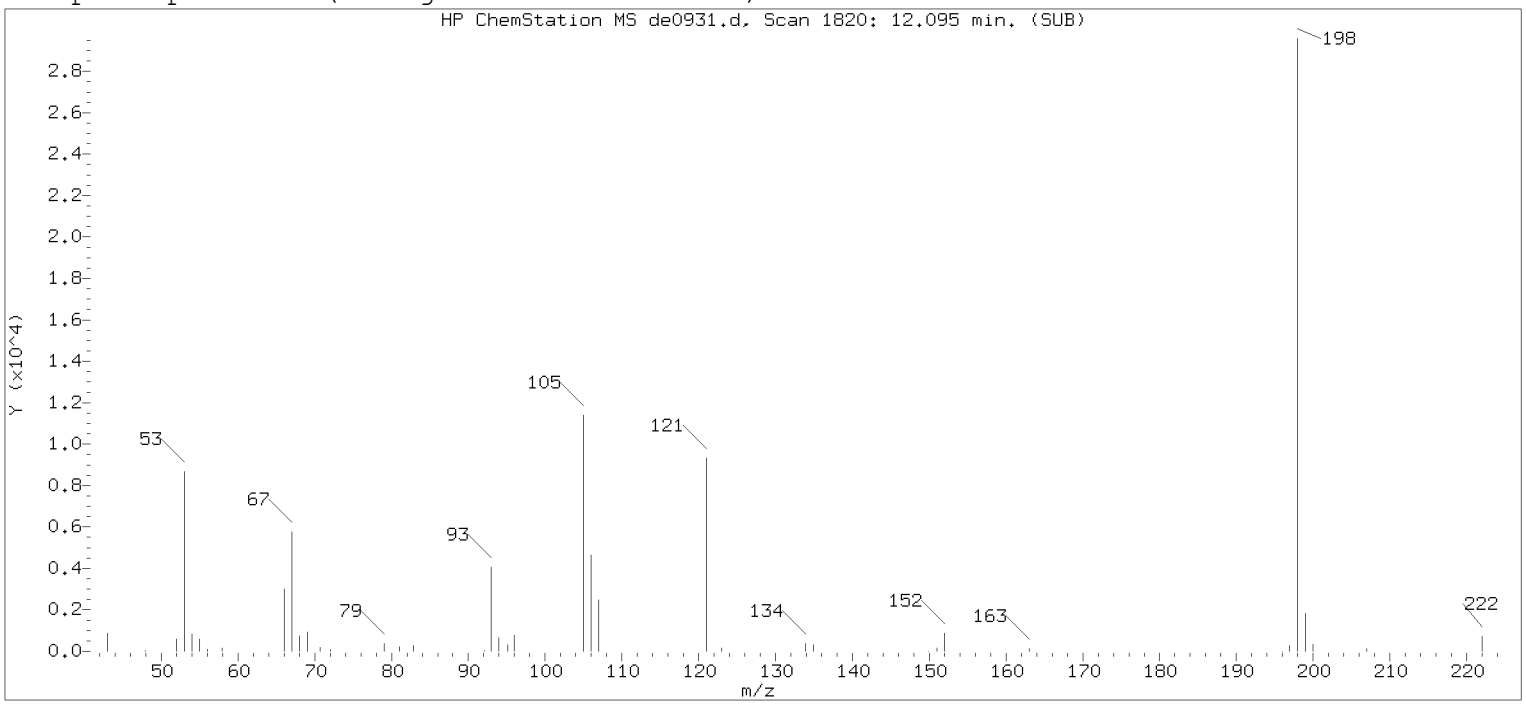
Compound Number : 130
Compound Name : 4,6-Dinitro-2-methylphenol
Scan Number : 1824
Retention Time (minutes) : 12.118
Quant Ion : 198.00
Area (flag) : 200380M
On-Column Amount (ng/ul) : 11.0317
Integration start scan : 1813 Integration stop scan: 1836
Y at integration start : 7 Y at integration end: 7

Reason for manual integration: improper integration

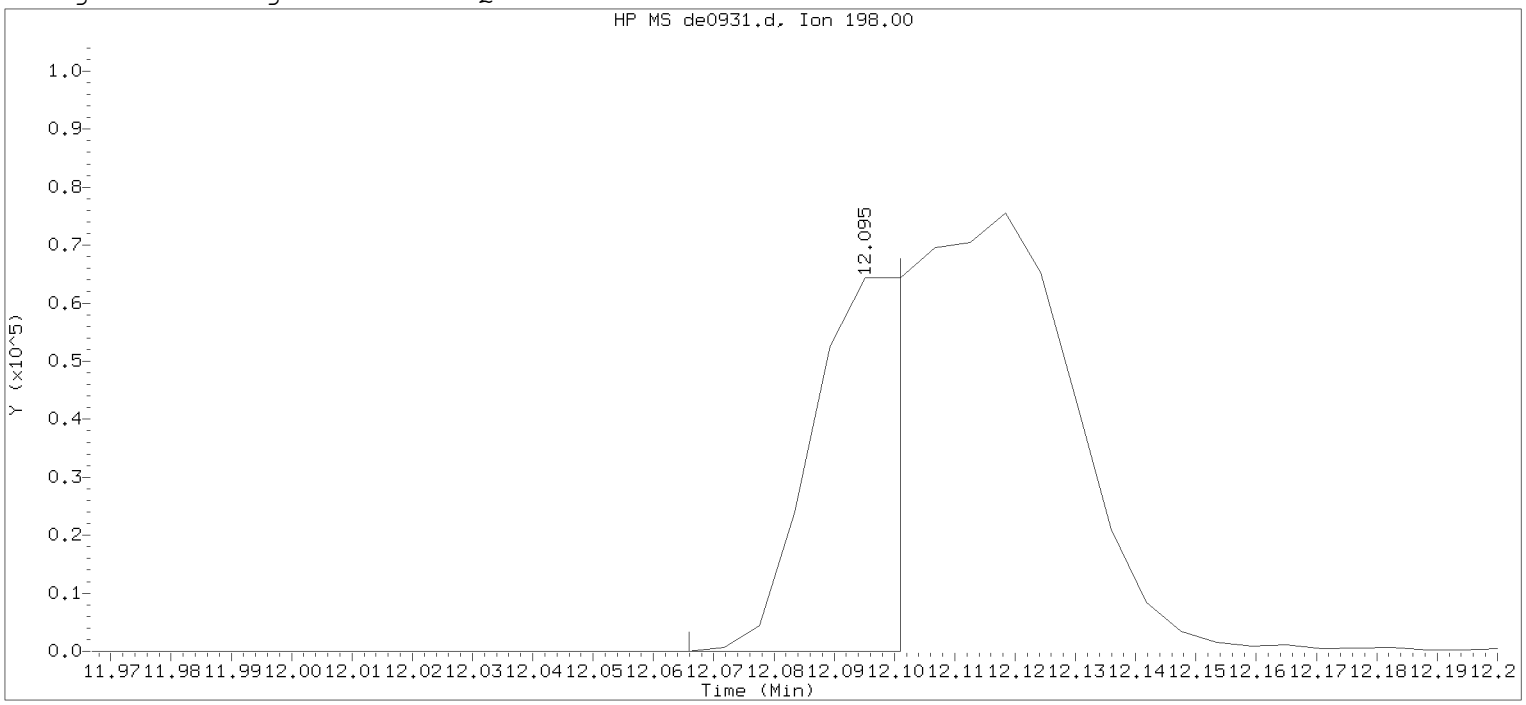
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

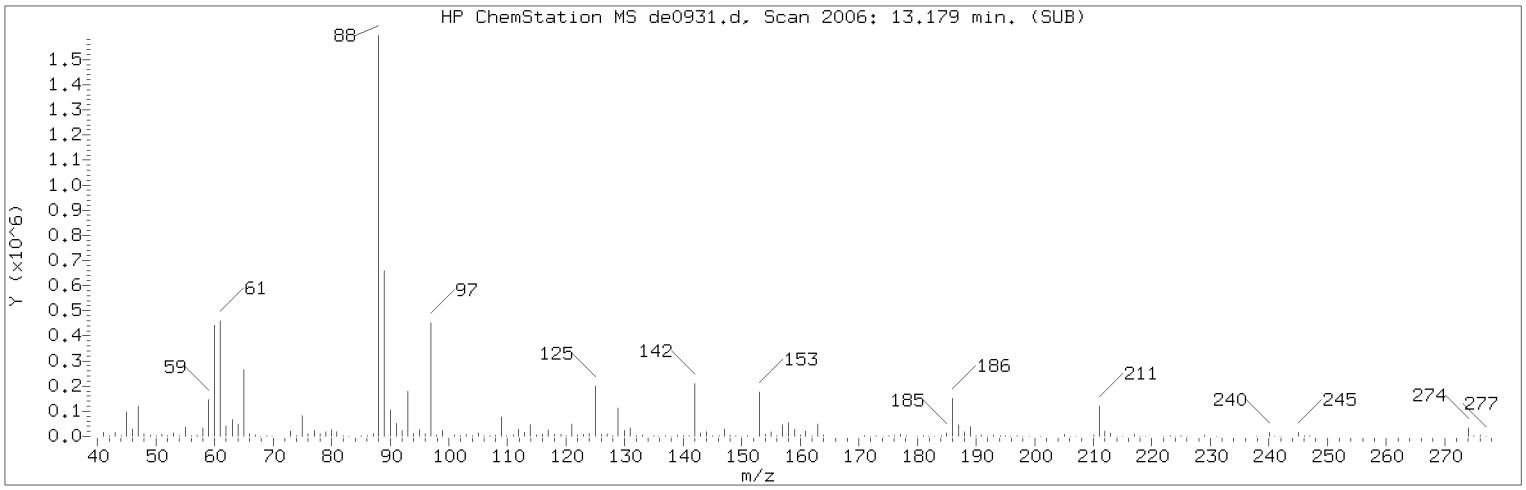
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

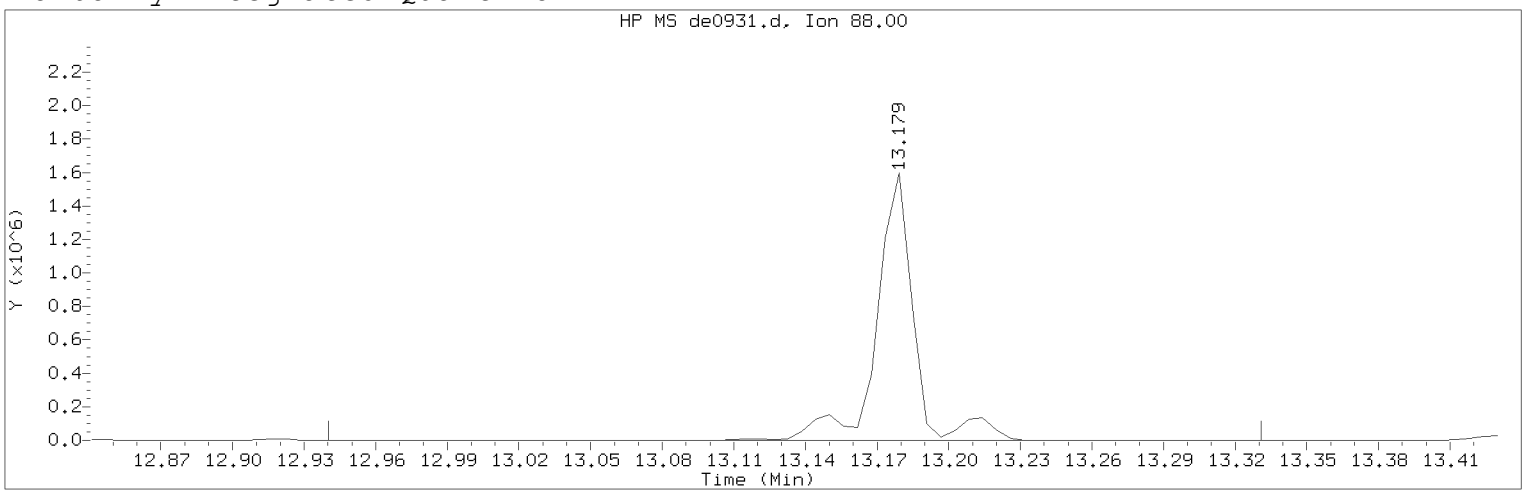
Compound Number : 130
Compound Name : 4,6-Dinitro-2-methylphenol
Scan Number : 1820
Retention Time (minutes) : 12.095
Quant Ion : 198.00
Area : 62334
On-column Amount (ng/ul) : 3.4318
Integration start scan : 1814 Integration stop scan: 1820
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

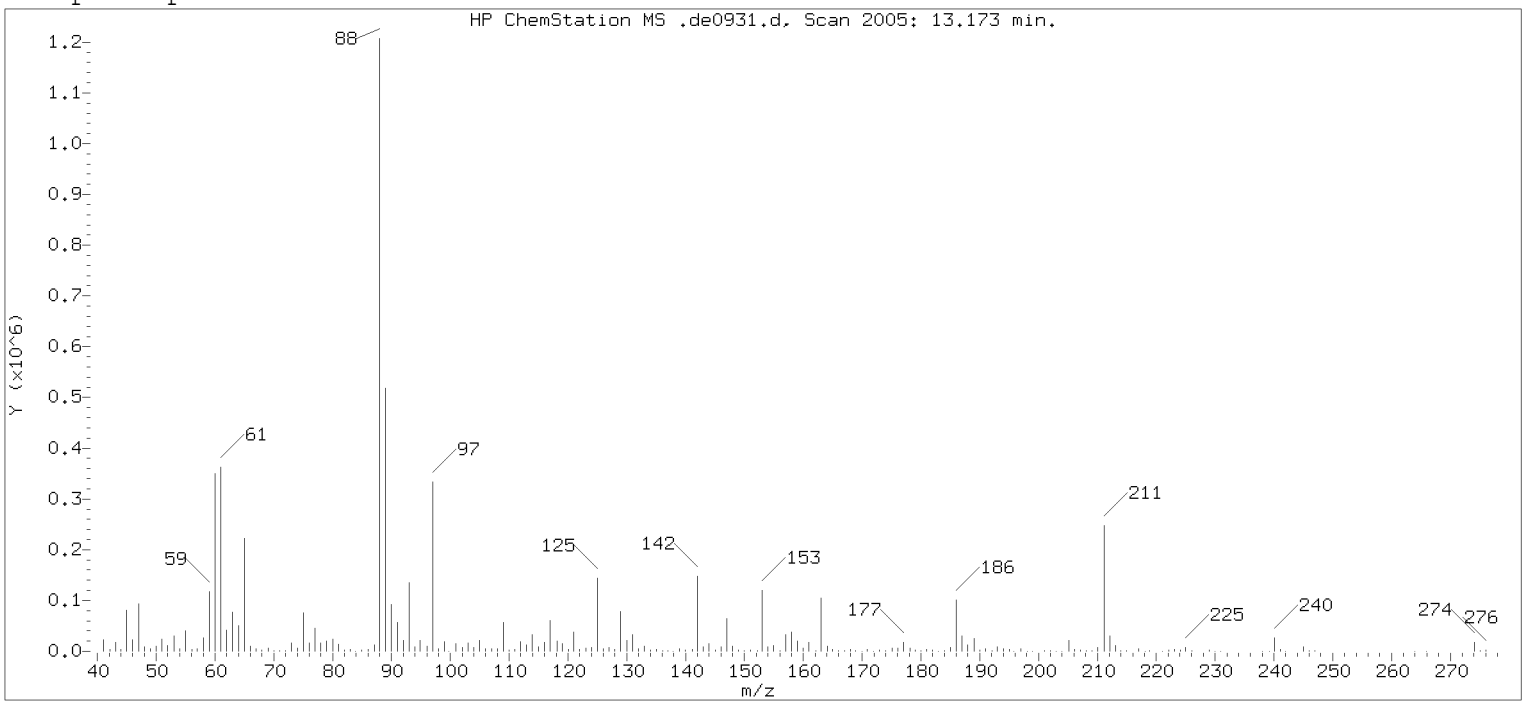
Compound Number : 162
Compound Name : Disulfoton
Scan Number : 2006
Retention Time (minutes) : 13.179
Quant Ion : 88.00
Area (flag) : 1742296M
On-Column Amount (ng/ul) : 31.4876
Integration start scan : 1964 Integration stop scan: 2031
Y at integration start : 440 Y at integration end: 0

Reason for manual integration: missed peak

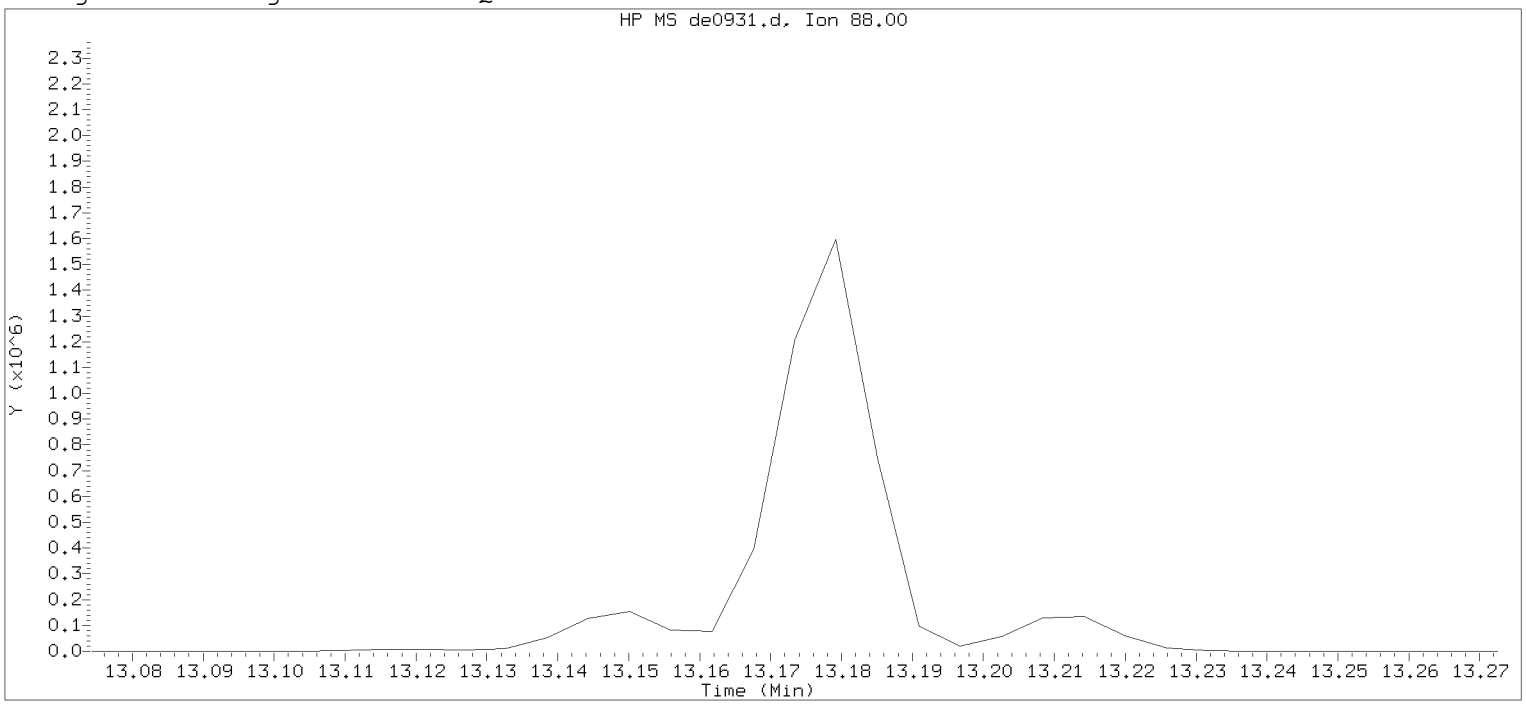
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

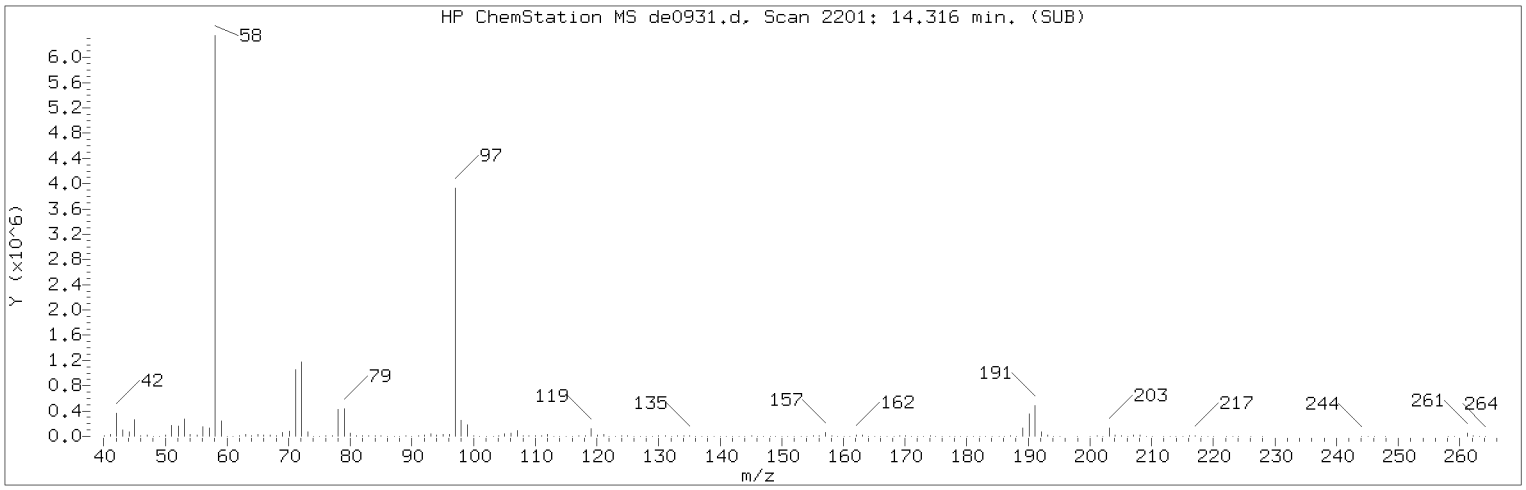
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

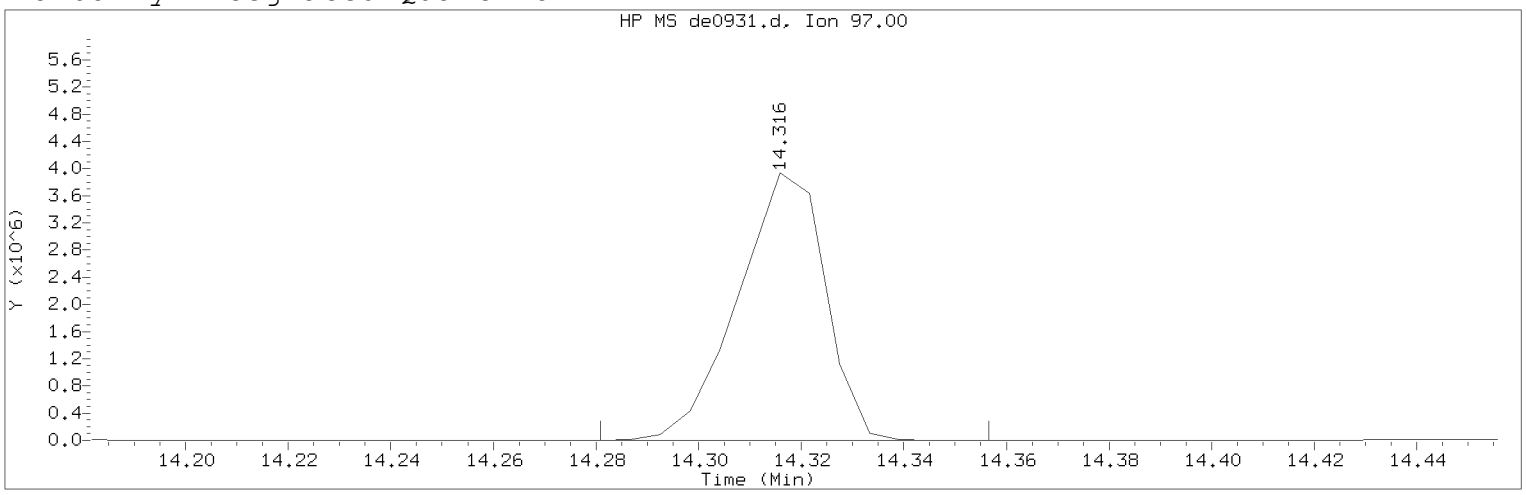
Compound Number : 162
Compound Name : Disulfoton
Expected RT (minutes) : 13.173
Quant Ion : 88.00

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

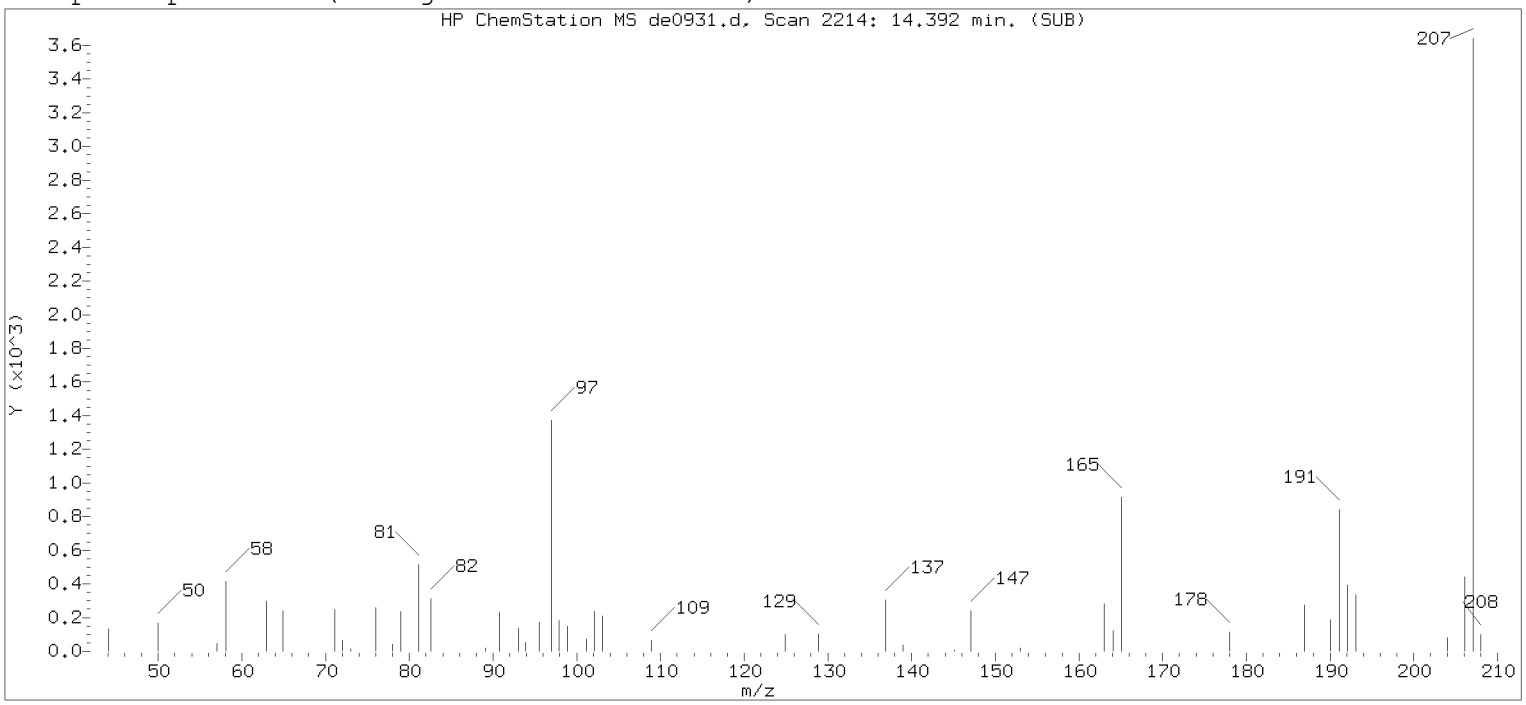
Compound Number : 170
Compound Name : Methapyrilene
Scan Number : 2201
Retention Time (minutes) : 14.316
Quant Ion : 97.00
Area (flag) : 4646207M
On-Column Amount (ng/ul) : 128.9306
Integration start scan : 2194 Integration stop scan: 2207
Y at integration start : 782 Y at integration end: 2174

Reason for manual integration: improper integration

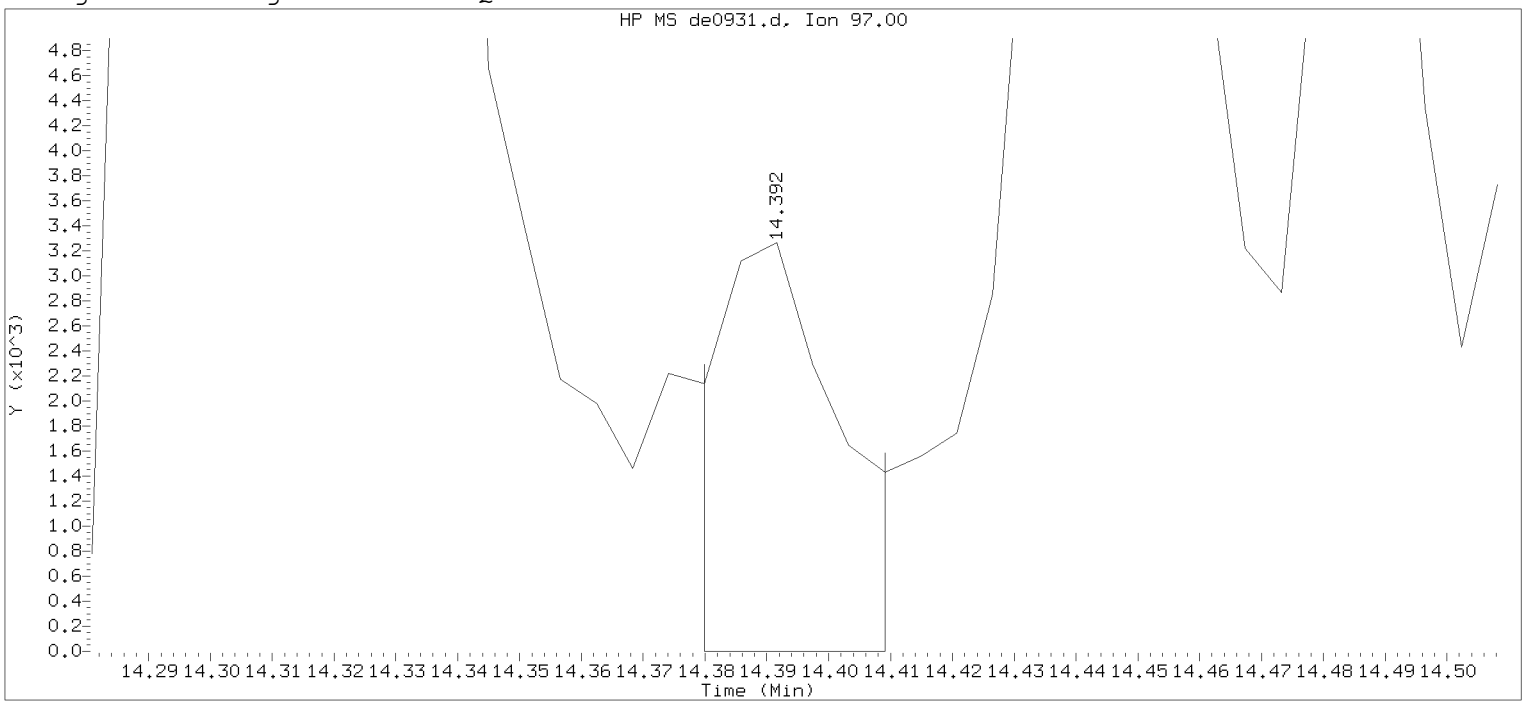
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

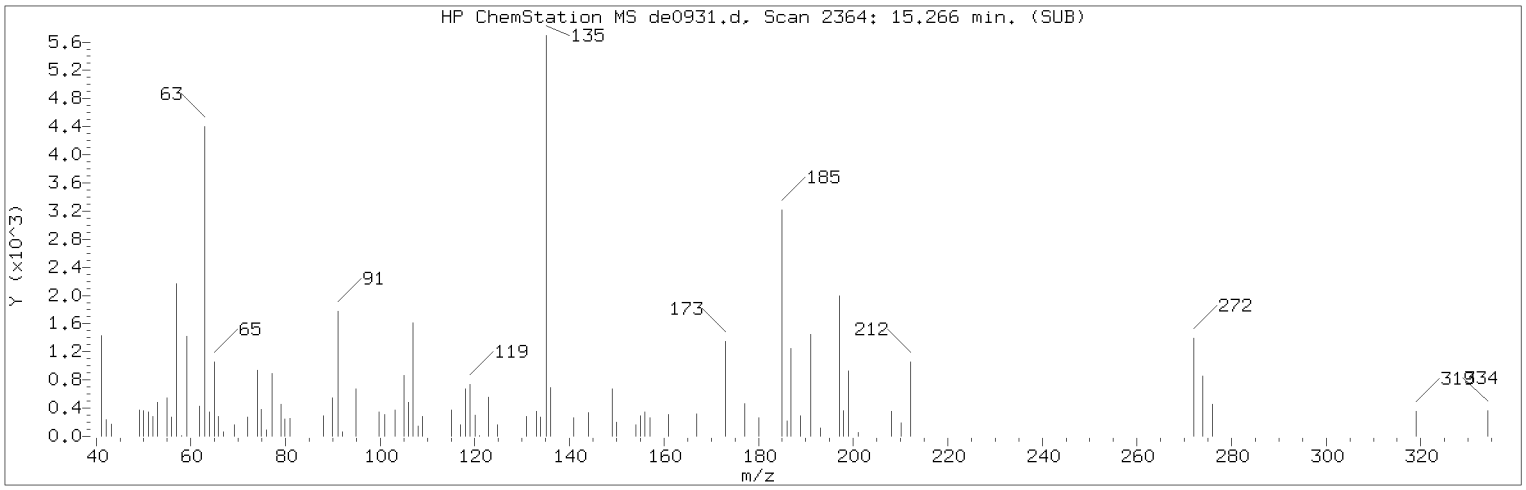
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

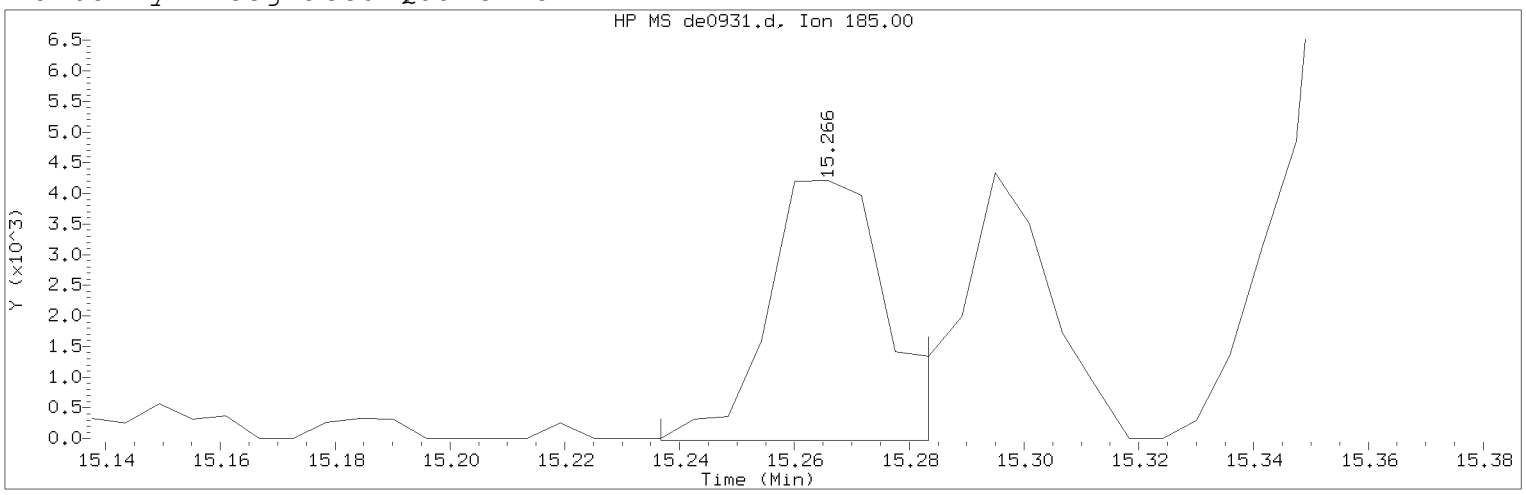
Compound Number	: 170		
Compound Name	: Methapyrilene		
Scan Number	: 2214		
Retention Time (minutes)	: 14.392		
Quant Ion	: 97.00		
Area	: 4234		
On-column Amount (ng/ul)	: 0.1175		
Integration start scan	: 2211	Integration stop scan:	2216
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HBZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

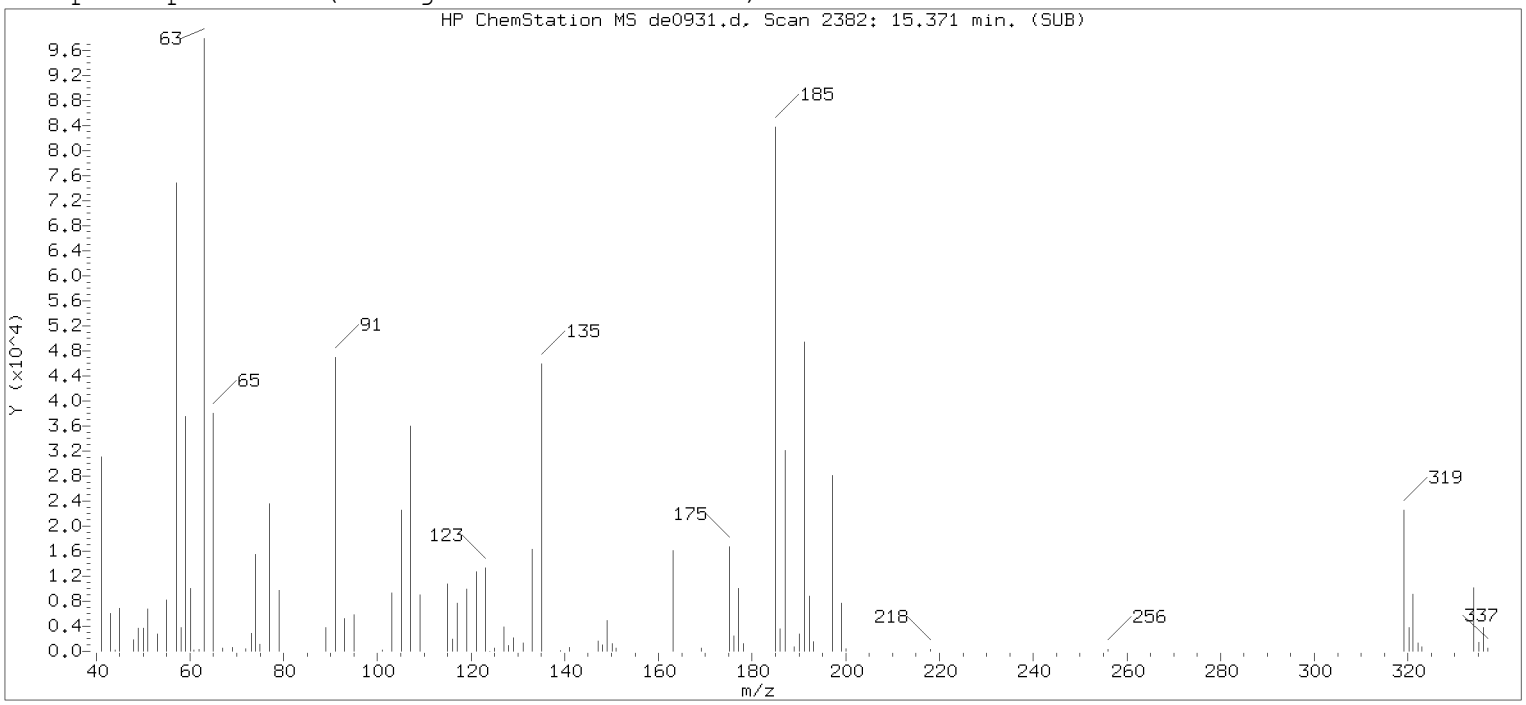
Compound Number : 180
Compound Name : Aramite (1)
Scan Number : 2364
Retention Time (minutes) : 15.266
Quant Ion : 185.00
Area (flag) : 6178M
On-Column Amount (ng/ul) : 7.1039
Integration start scan : 2358 Integration stop scan: 2366
Y at integration start : -29 Y at integration end: -29

Reason for manual integration: improper integration

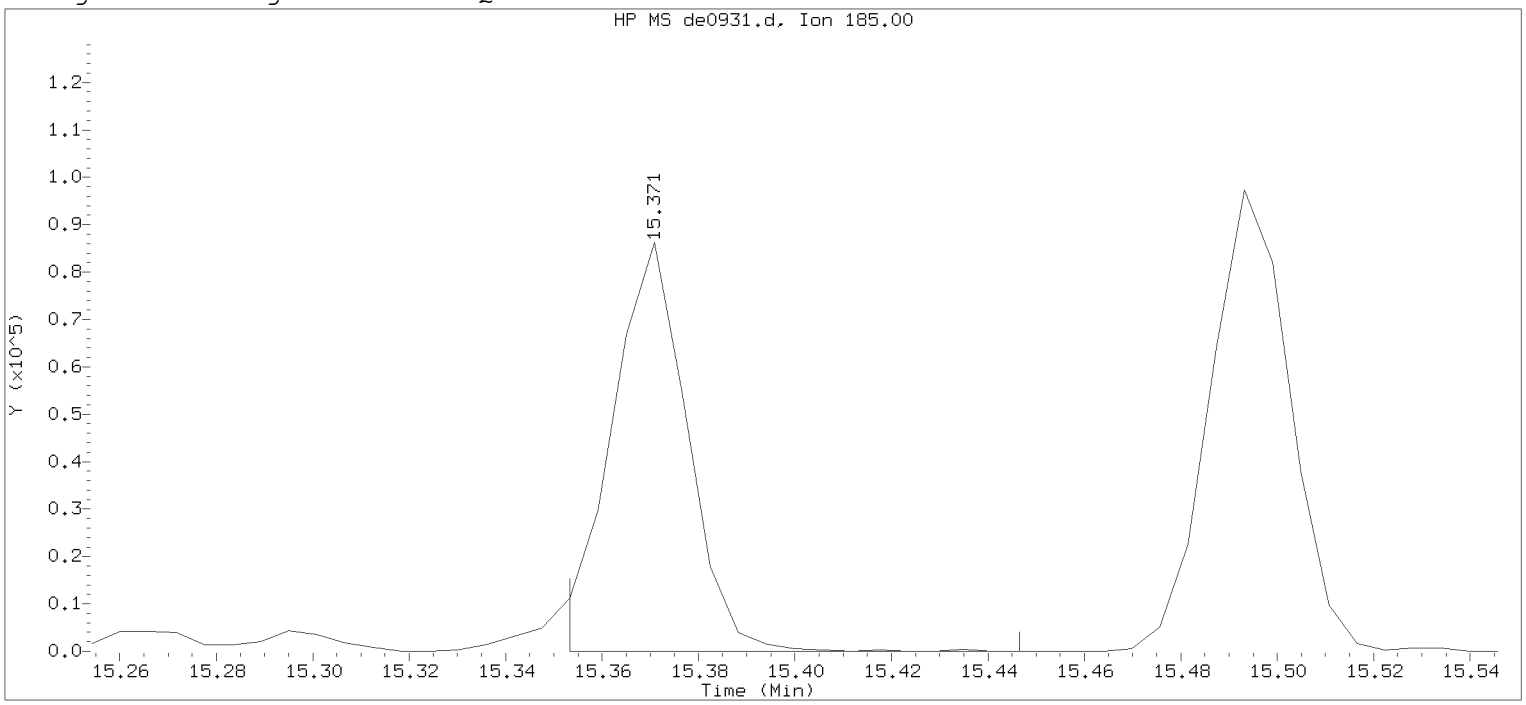
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

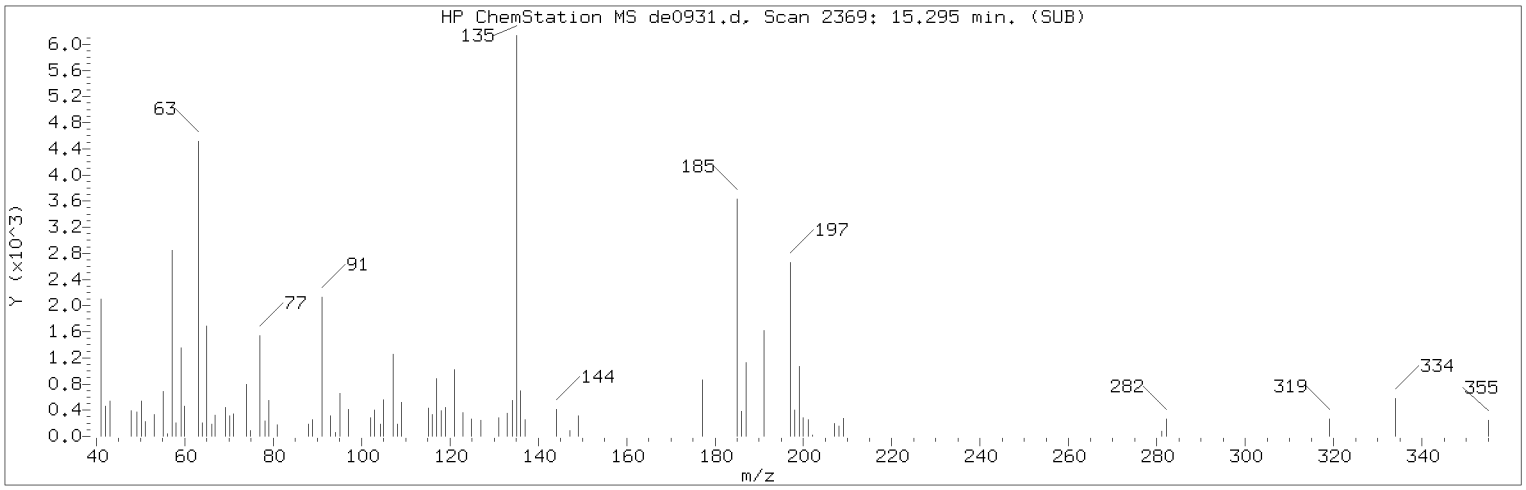
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

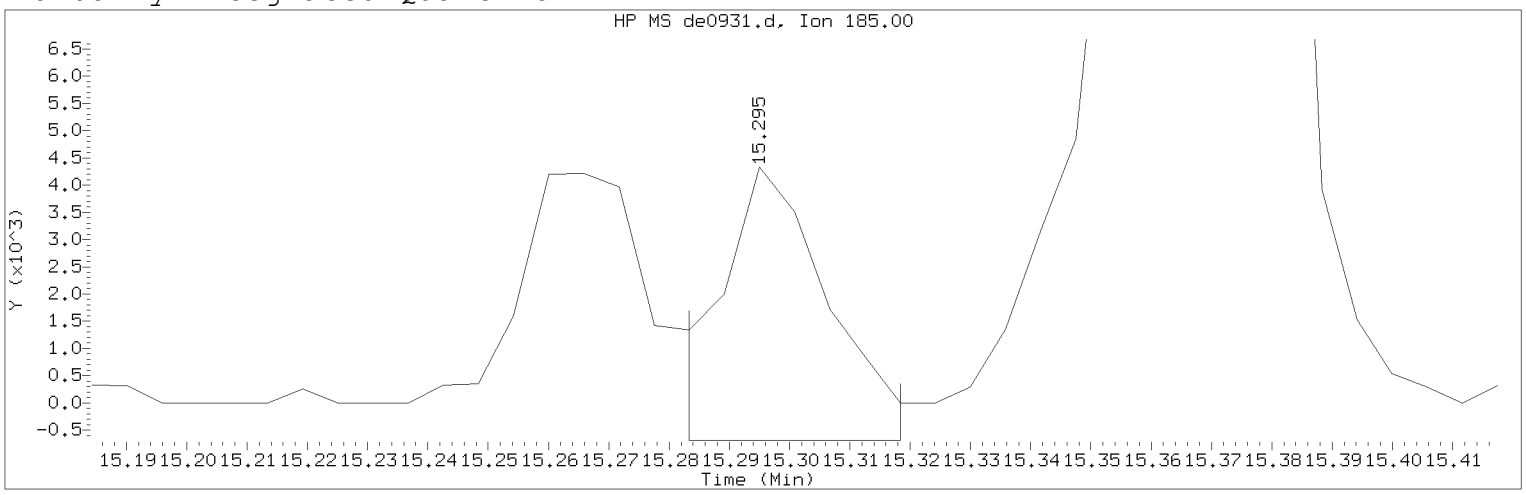
Compound Number	: 180		
Compound Name	: Aramite (1)		
Scan Number	: 2382		
Retention Time (minutes)	: 15.371		
Quant Ion	: 185.00		
Area	: 93732		
On-column Amount (ng/ul)	: 107.7805		
Integration start scan	: 2378	Integration stop scan:	2394
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

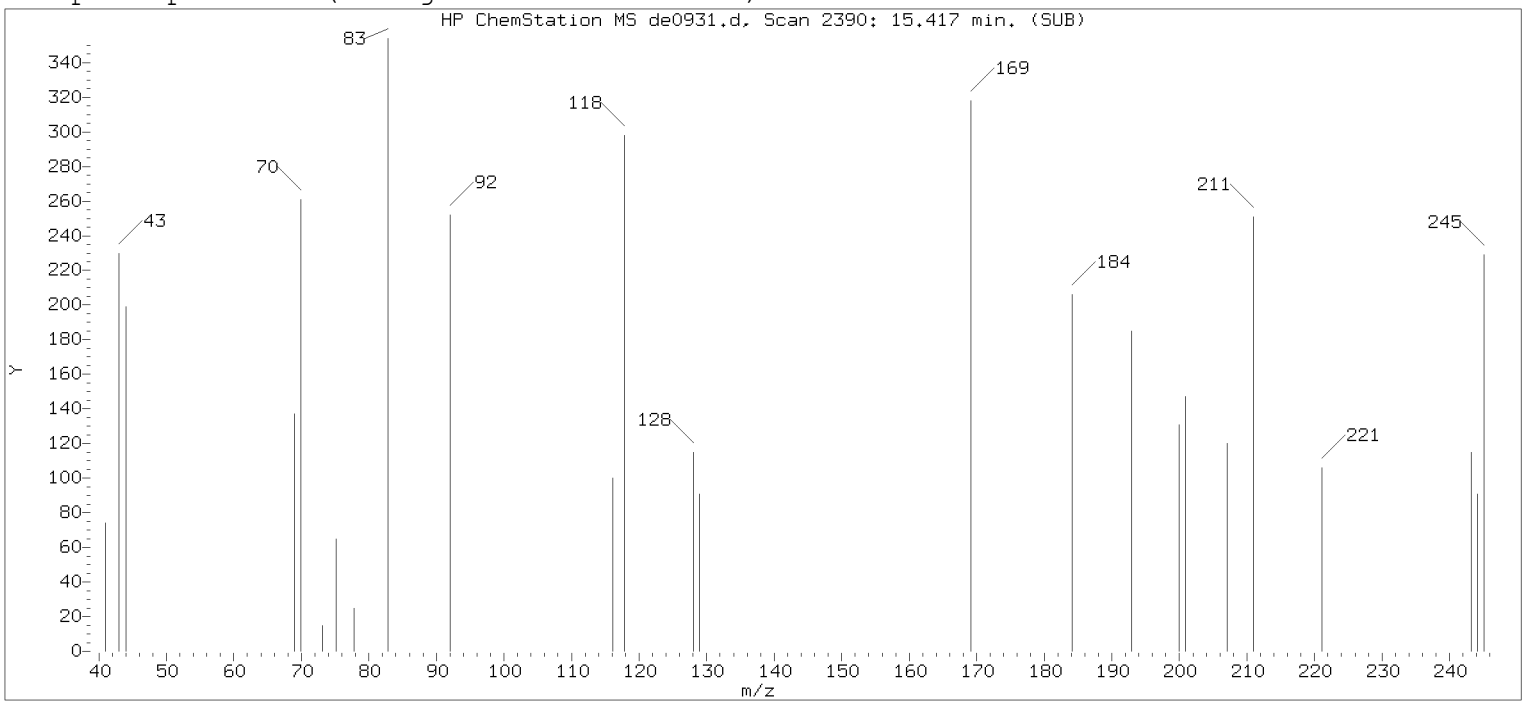
Compound Number : 181
Compound Name : Aramite (2)
Scan Number : 2369
Retention Time (minutes) : 15.295
Quant Ion : 185.00
Area (flag) : 6491M
On-Column Amount (ng/ul) : 7.8694
Integration start scan : 2366 Integration stop scan: 2372
Y at integration start : -687 Y at integration end: -687

Reason for manual integration: improper integration

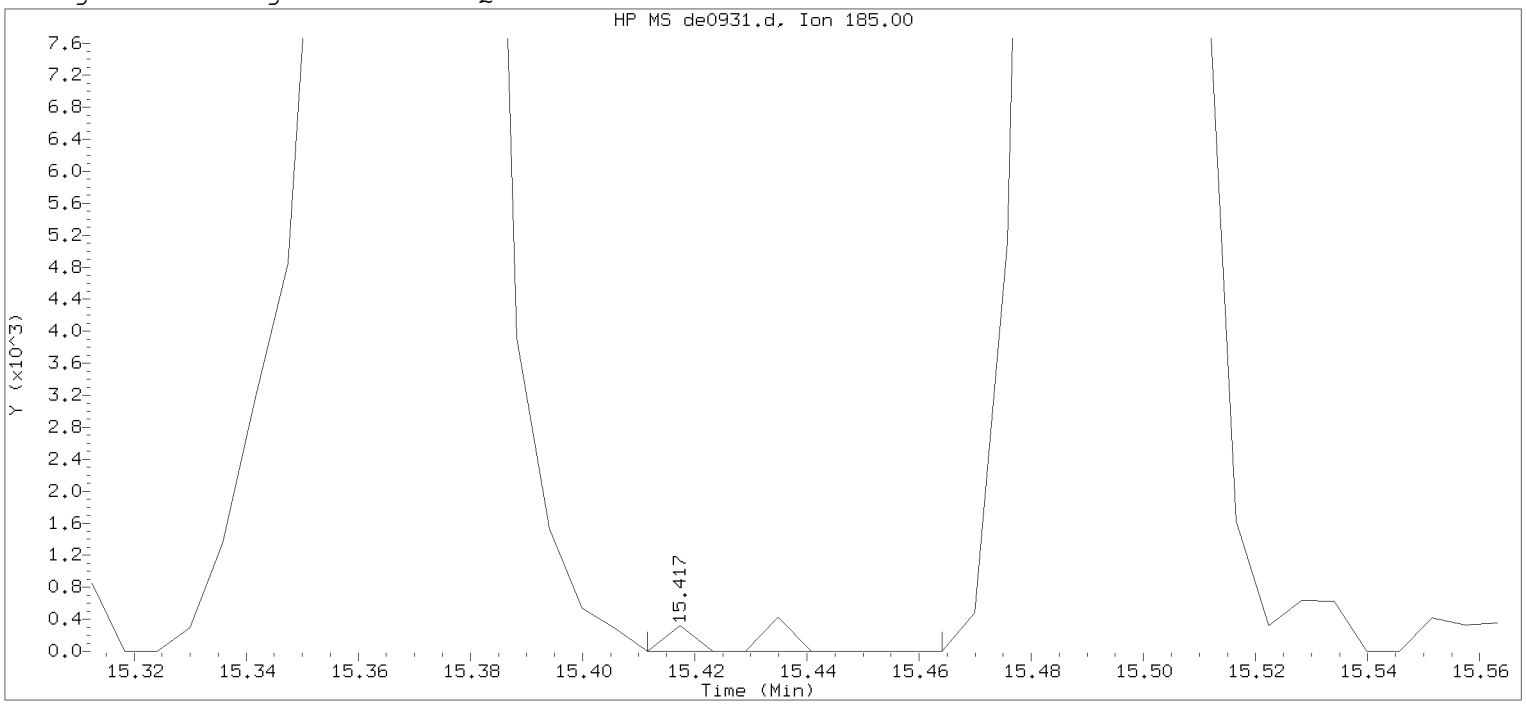
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

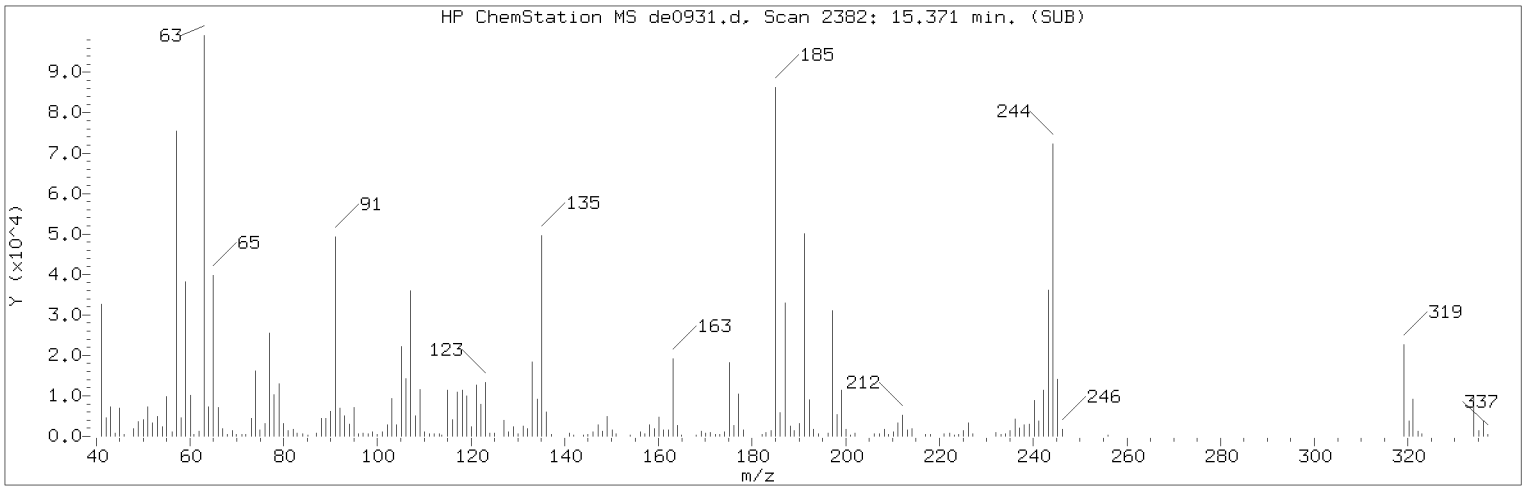
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

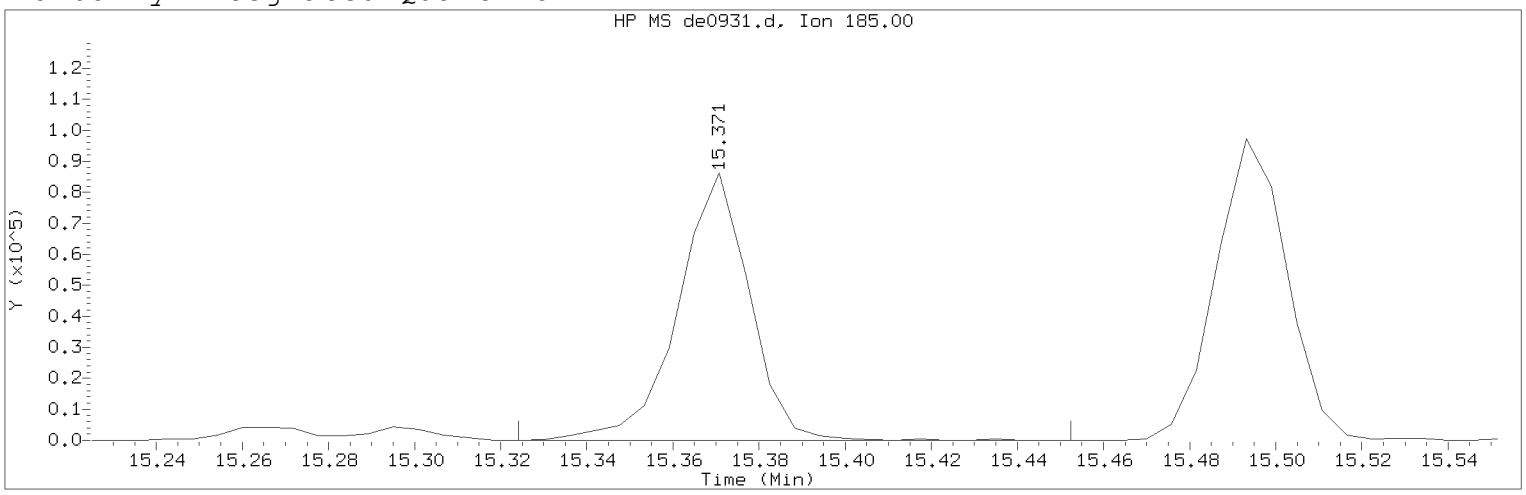
Compound Number	: 181		
Compound Name	: Aramite (2)		
Scan Number	: 2390		
Retention Time (minutes)	: 15.417		
Quant Ion	: 185.00		
Area	: 260		
On-column Amount (ng/ul)	: 0.3163		
Integration start scan	: 2388	Integration stop scan:	2397
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

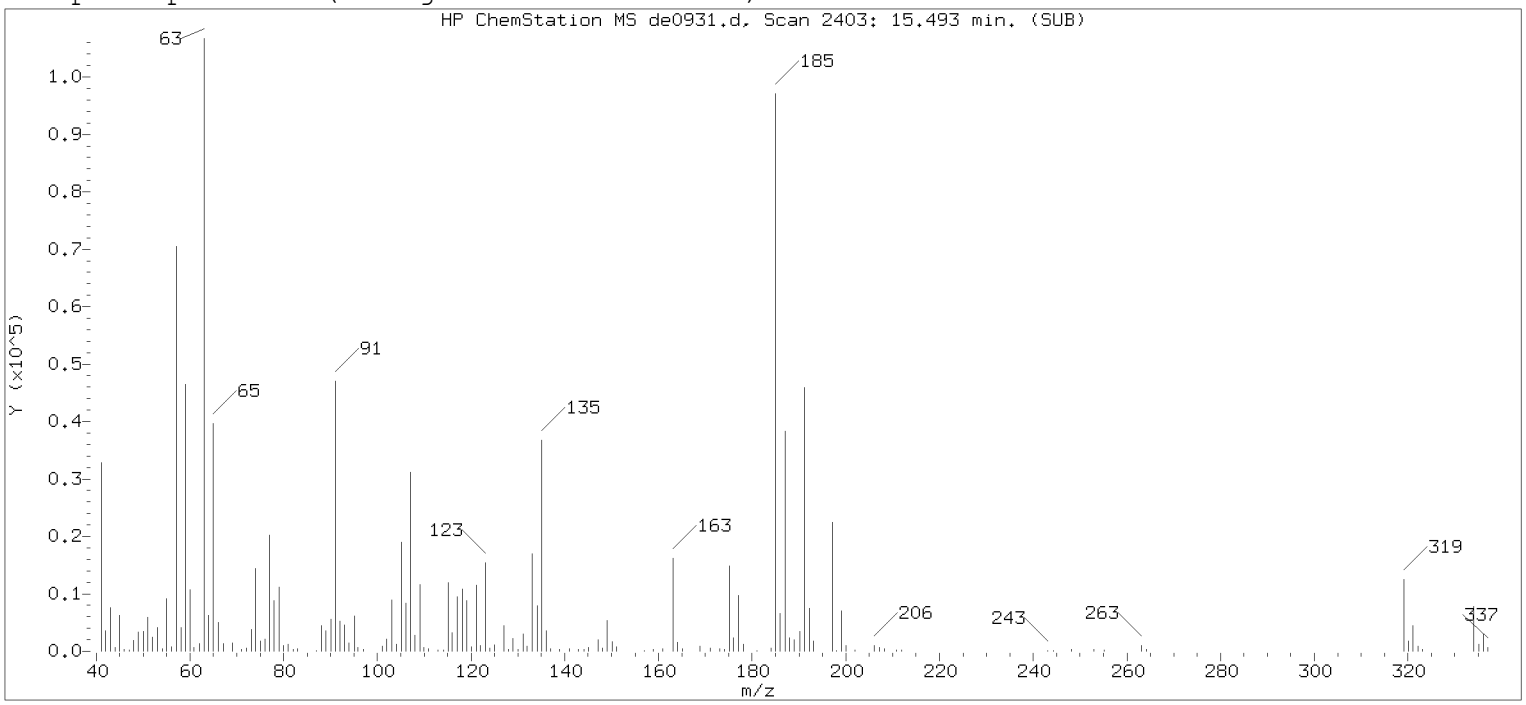
Compound Number : 183
Compound Name : Aramite (3)
Scan Number : 2382
Retention Time (minutes) : 15.371
Quant Ion : 185.00
Area (flag) : 99067M
On-Column Amount (ng/ul) : 1.3743
Integration start scan : 2373 Integration stop scan: 2395
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

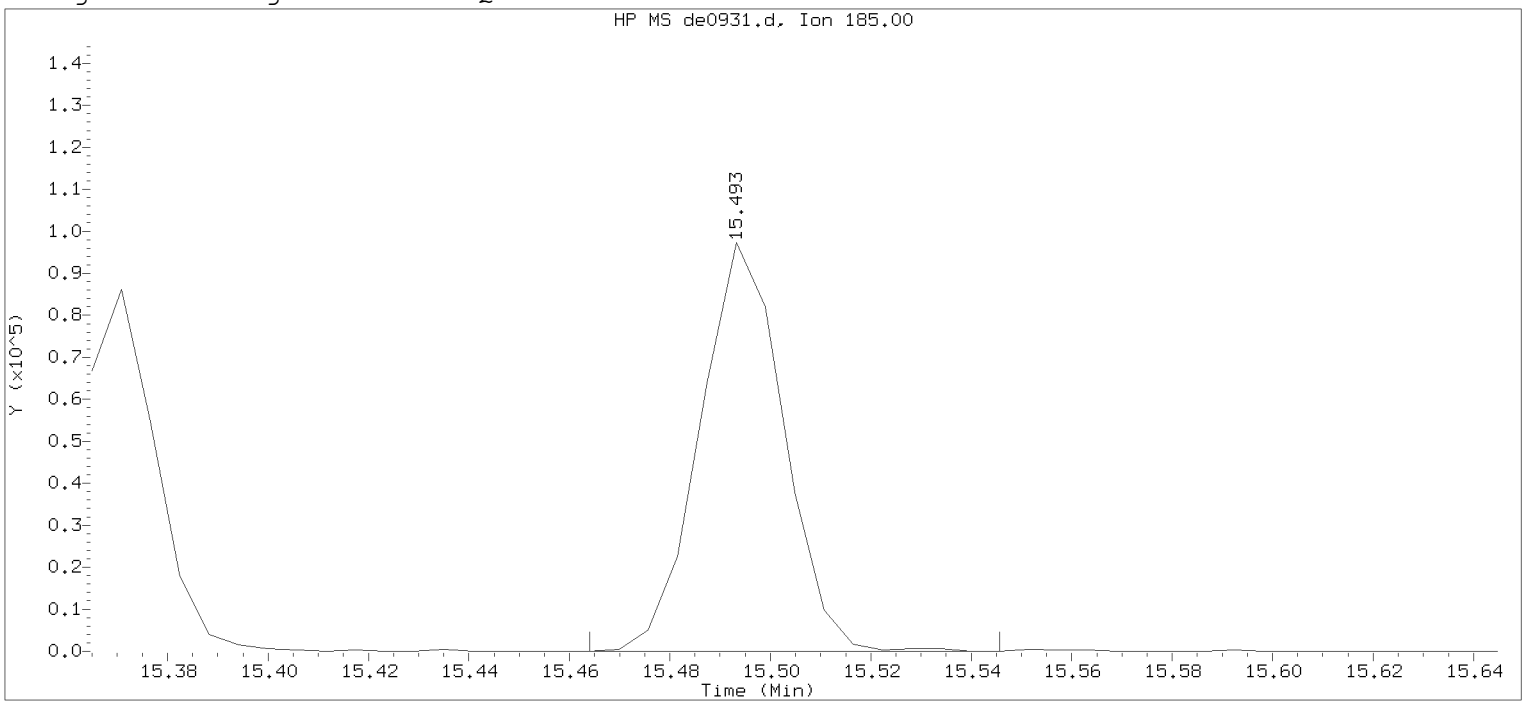
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

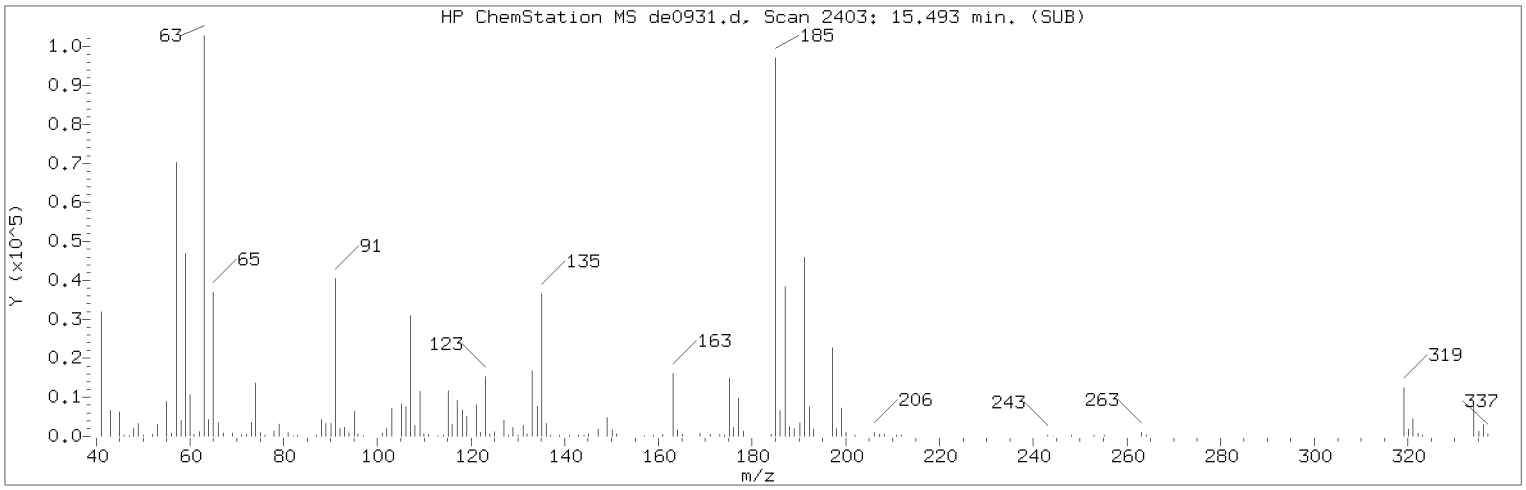
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

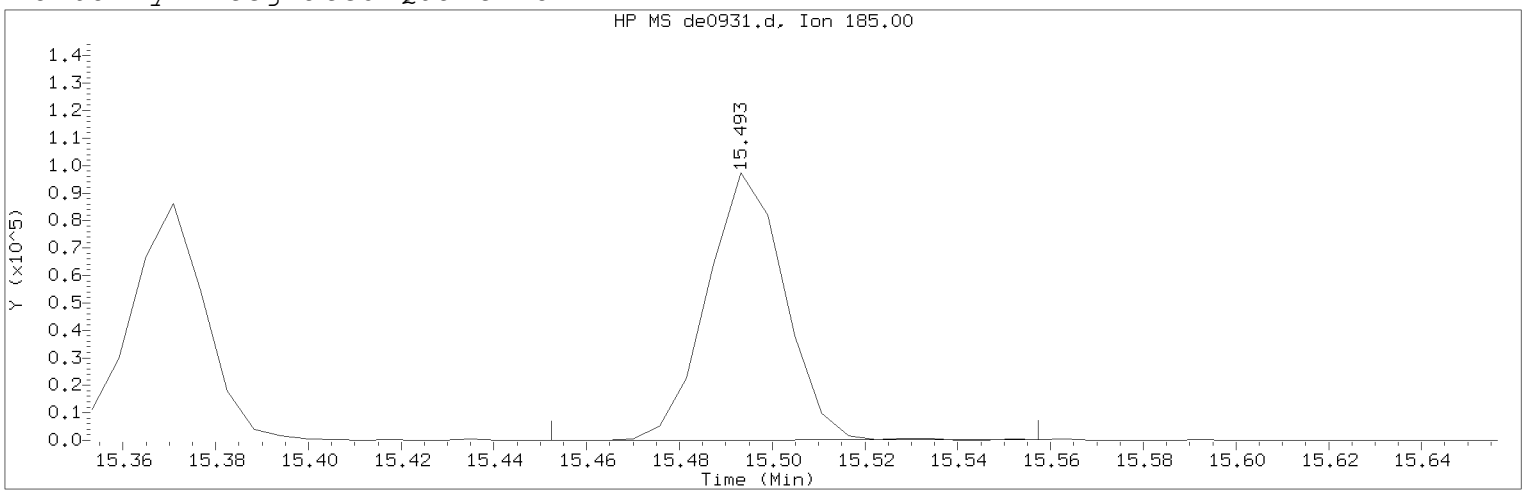
Compound Number	: 183		
Compound Name	: Aramite (3)		
Scan Number	: 2403		
Retention Time (minutes)	: 15.493		
Quant Ion	: 185.00		
Area	: 112725		
On-column Amount (ng/ul)	: 1.5638		
Integration start scan	: 2397	Integration stop scan:	2411
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

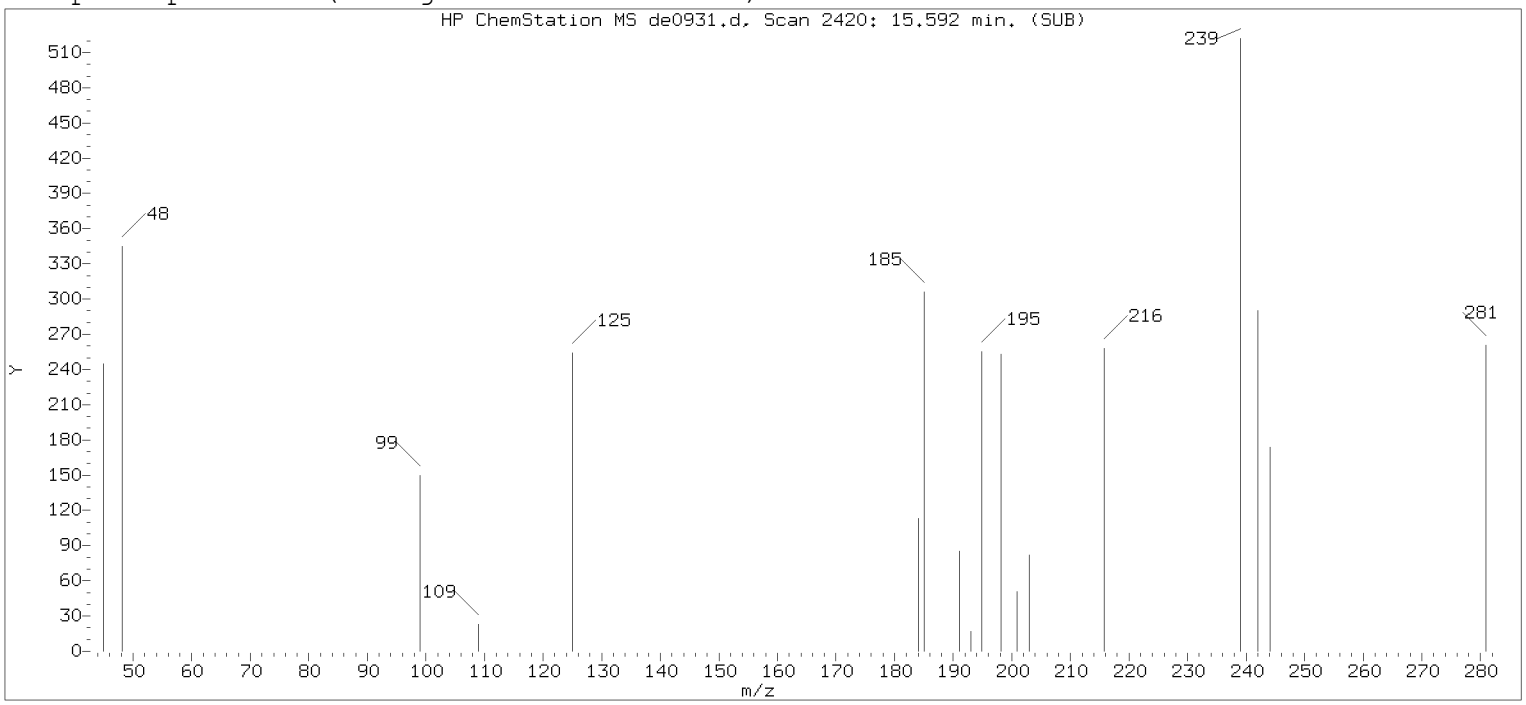
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2403
Retention Time (minutes) : 15.493
Quant Ion : 185.00
Area (flag) : 111891M
On-Column Amount (ng/ul) : 1.1785
Integration start scan : 2395 Integration stop scan: 2413
Y at integration start : 0 Y at integration end: 329

Reason for manual integration: improper integration

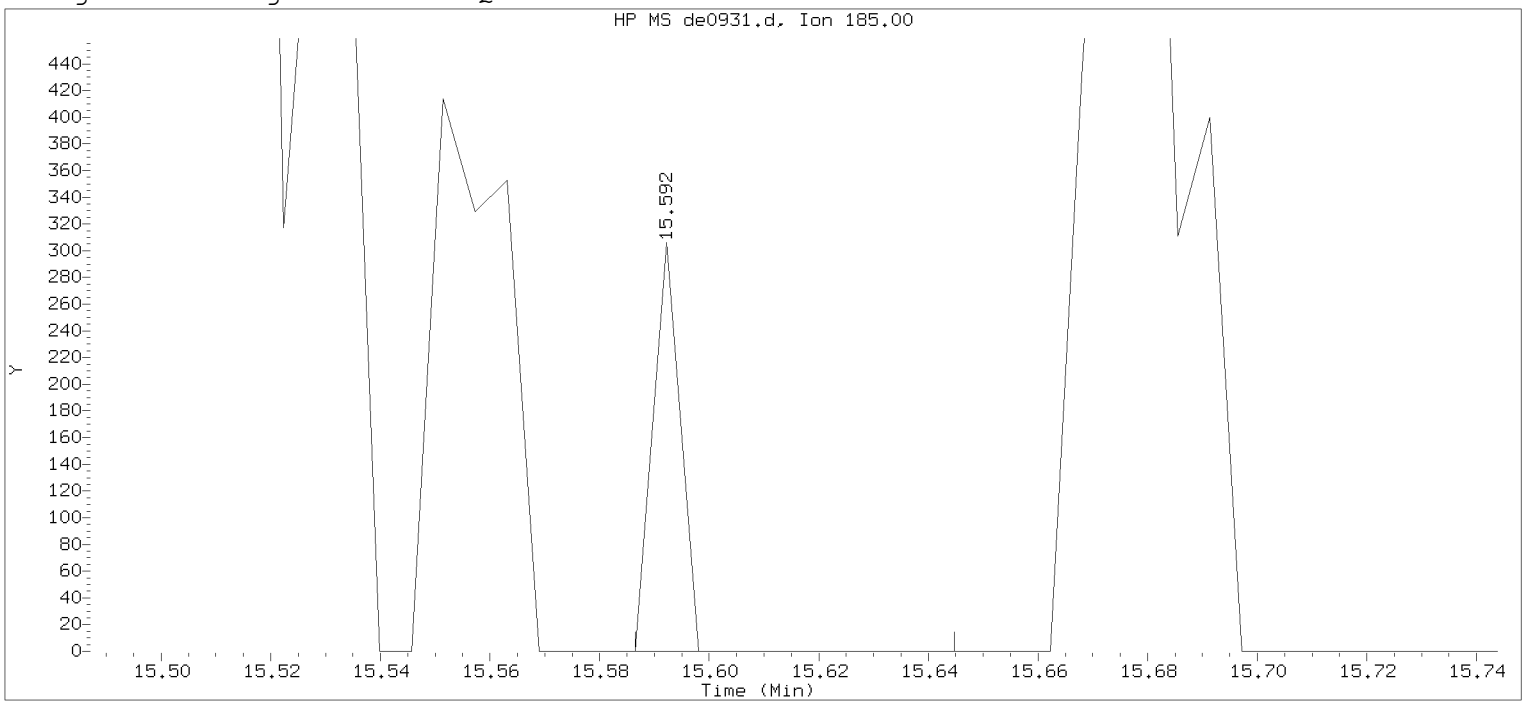
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

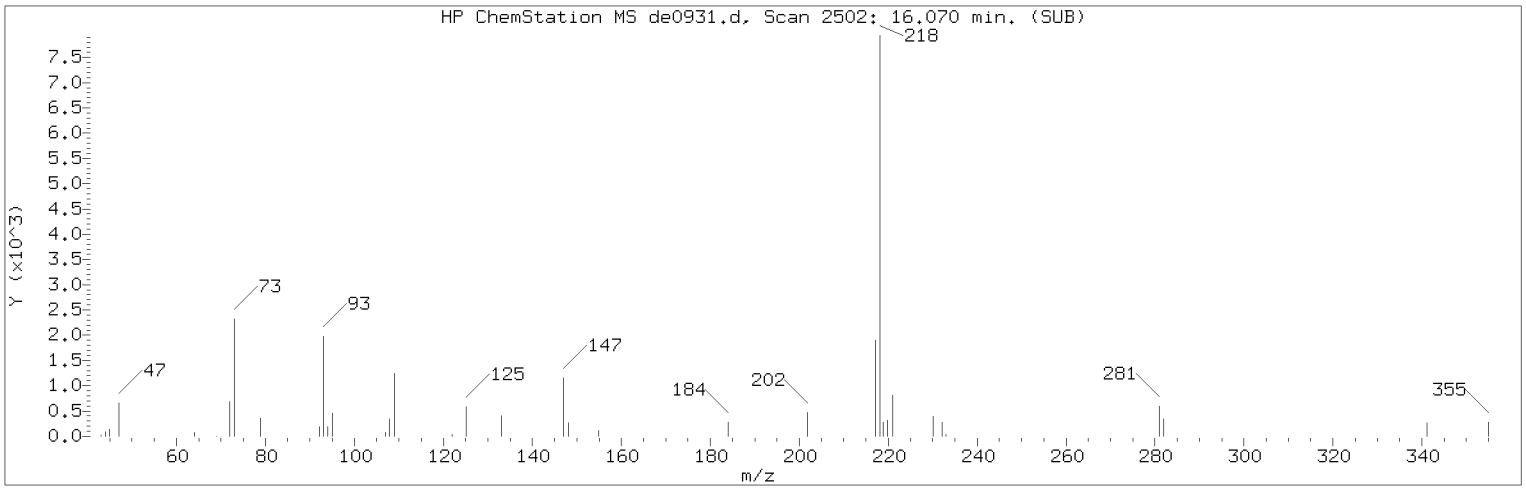
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

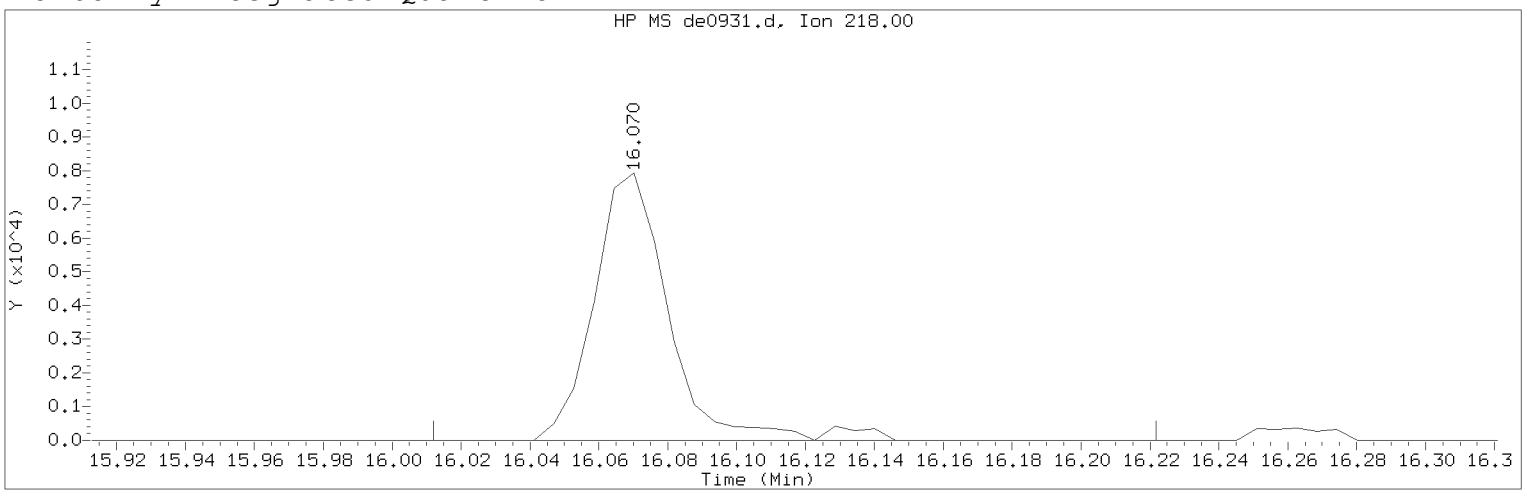
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2420
Retention Time (minutes) : 15.592
Quant Ion : 185.00
Area : 107
On-column Amount (ng/ul) : 0.0011
Integration start scan : 2418 Integration stop scan: 2428
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

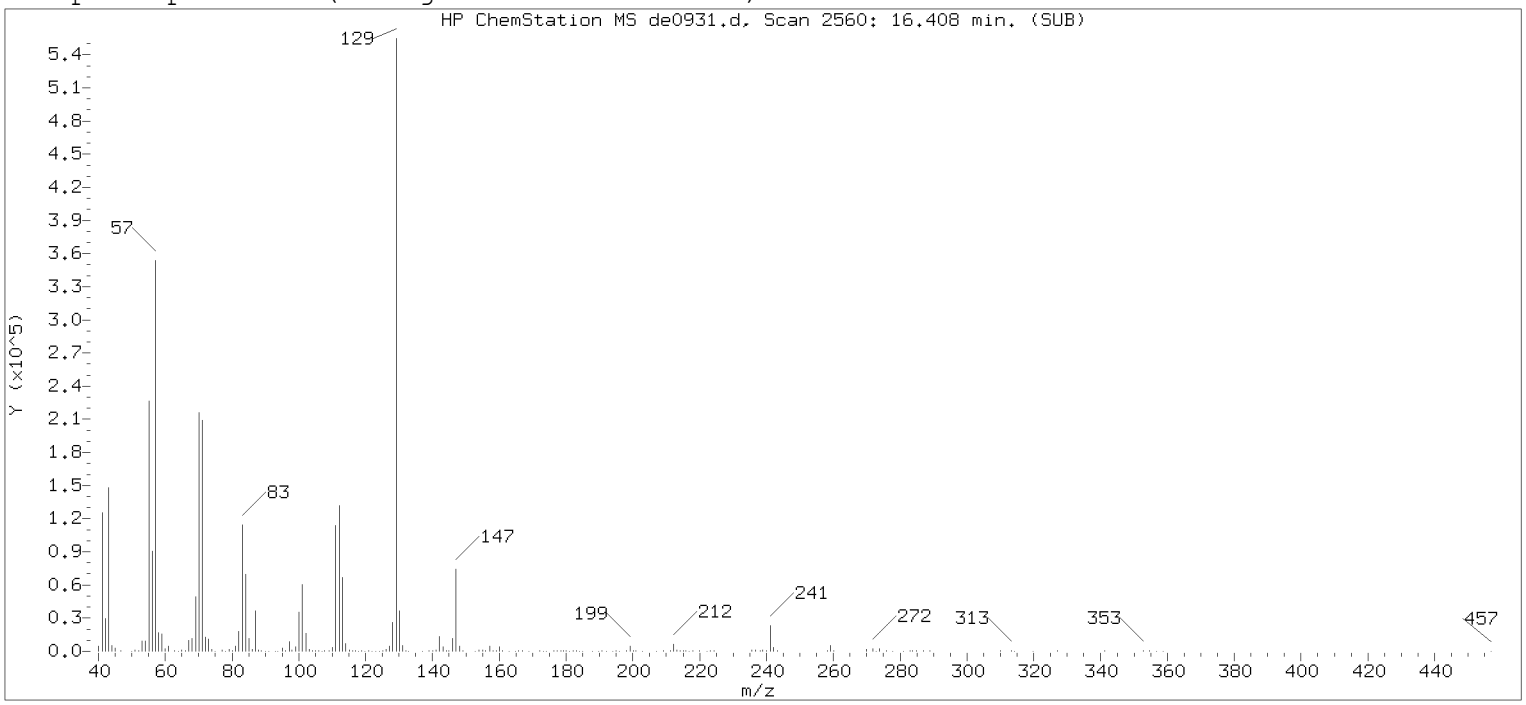
Compound Number : 189
Compound Name : Famphur
Scan Number : 2502
Retention Time (minutes) : 16.070
Quant Ion : 218.00
Area (flag) : 12038M
On-Column Amount (ng/ul) : 0.3881
Integration start scan : 2491 Integration stop scan: 2527
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

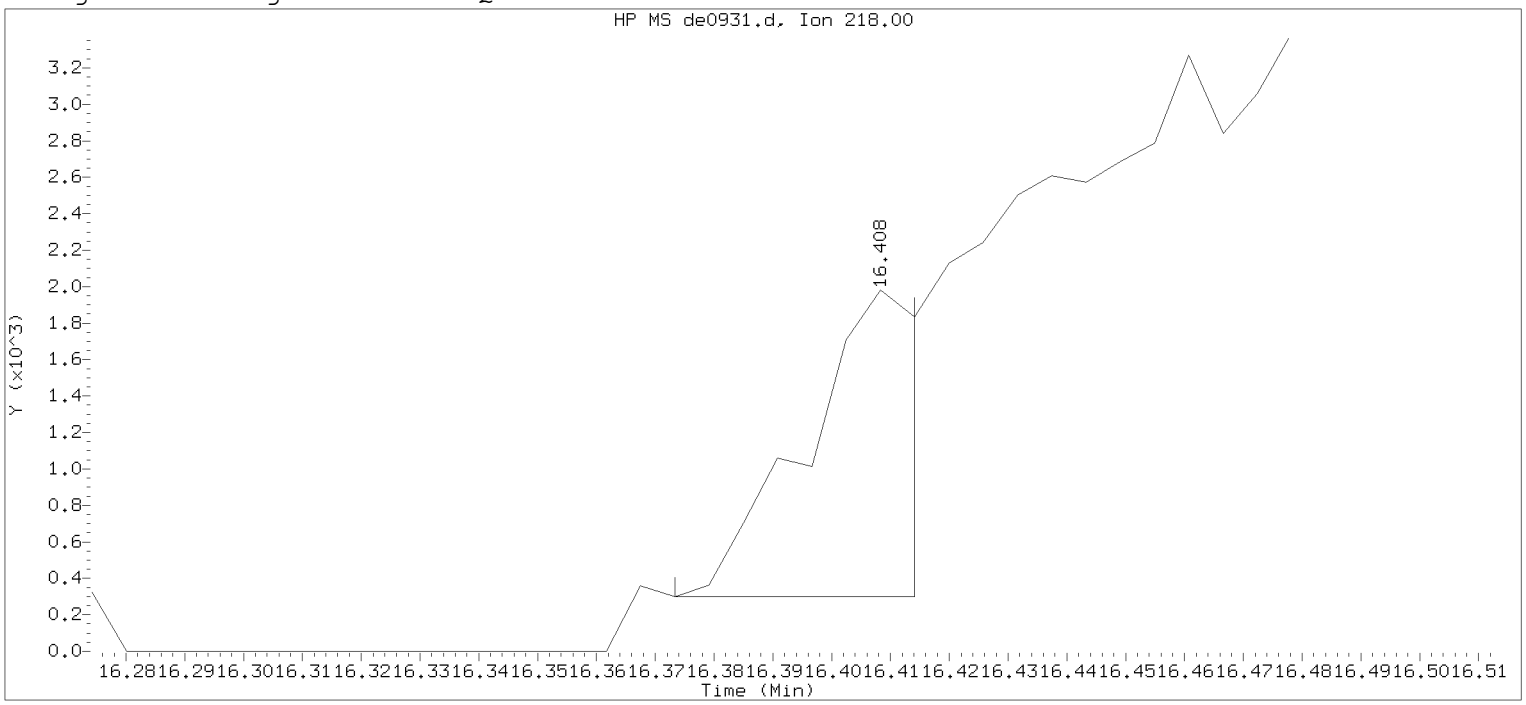
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

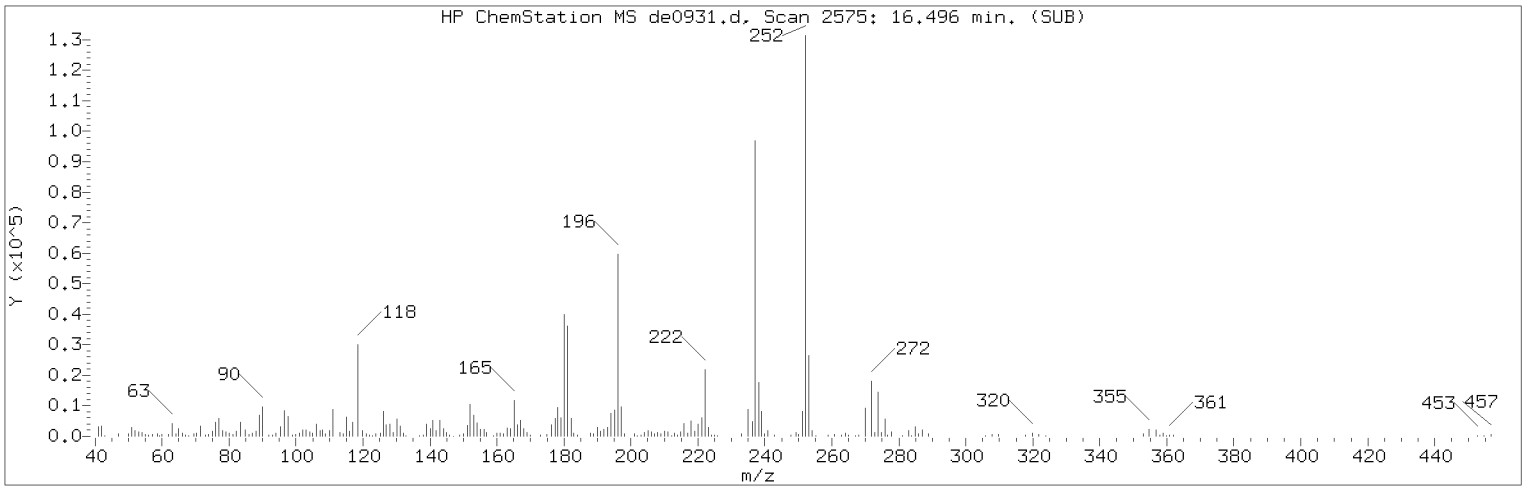
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

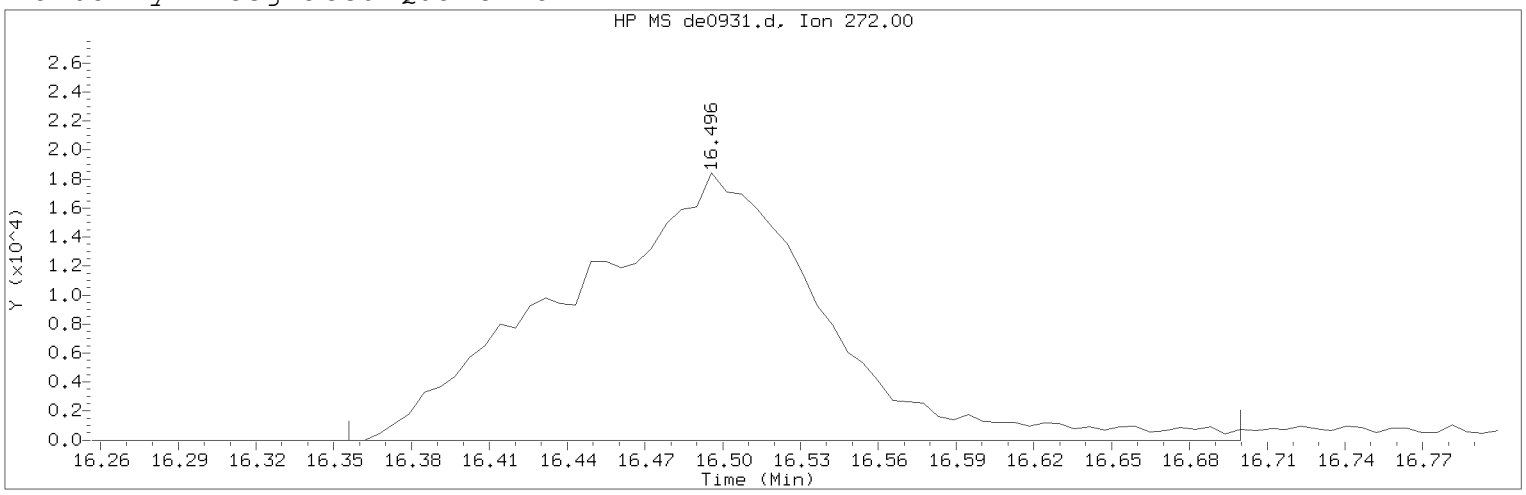
Compound Number	: 189		
Compound Name	: Famphur		
Scan Number	: 2560		
Retention Time (minutes)	: 16.408		
Quant Ion	: 218.00		
Area	: 2029		
On-column Amount (ng/ul)	: 0.0654		
Integration start scan	: 2553	Integration stop scan:	2560
Y at integration start	: 299	Y at integration end:	299

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:31 hbz01996

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

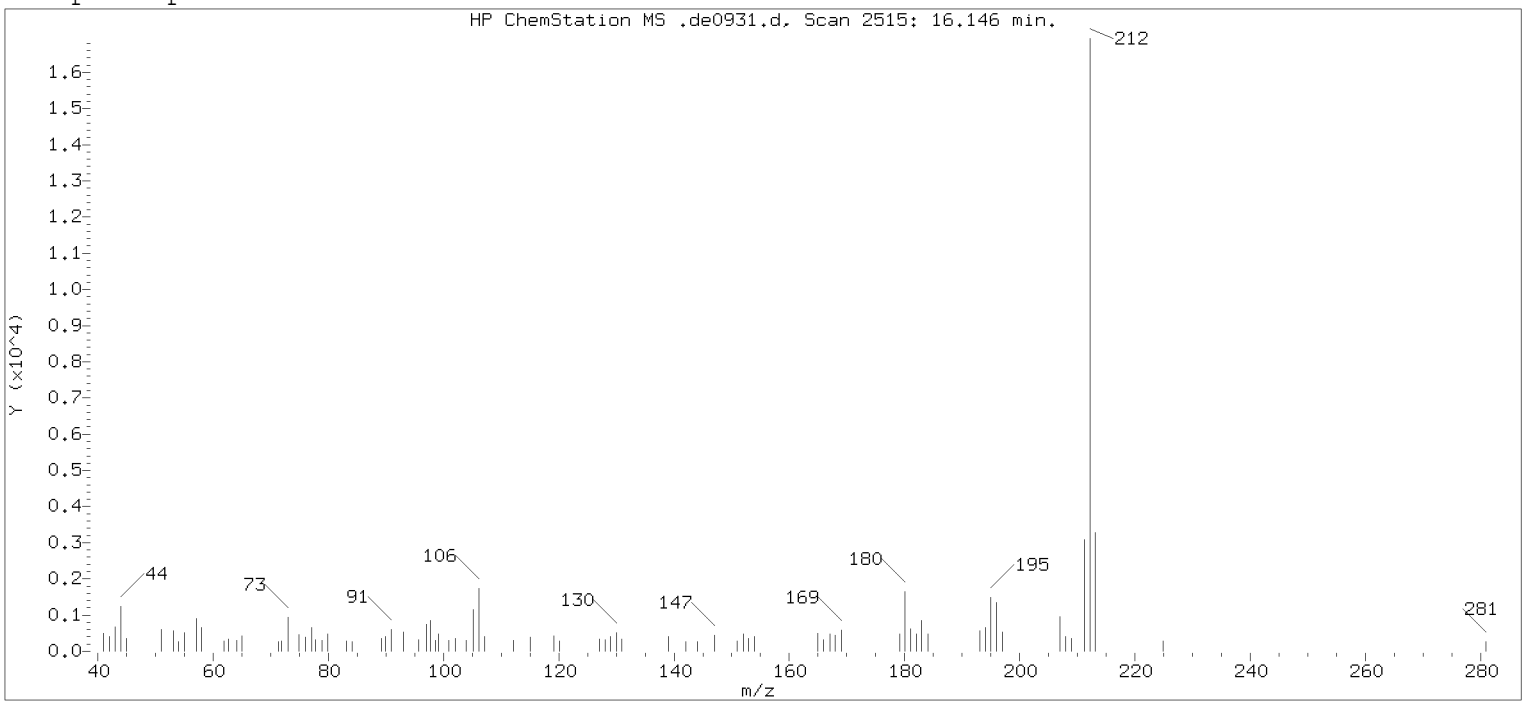
Compound Number : 190
Compound Name : Kepone
Scan Number : 2575
Retention Time (minutes) : 16.496
Quant Ion : 272.00
Area (flag) : 125864M
On-Column Amount (ng/ul) : 8.5267
Integration start scan : 2550 Integration stop scan: 2609
Y at integration start : -17 Y at integration end: -17

Reason for manual integration: missed peak

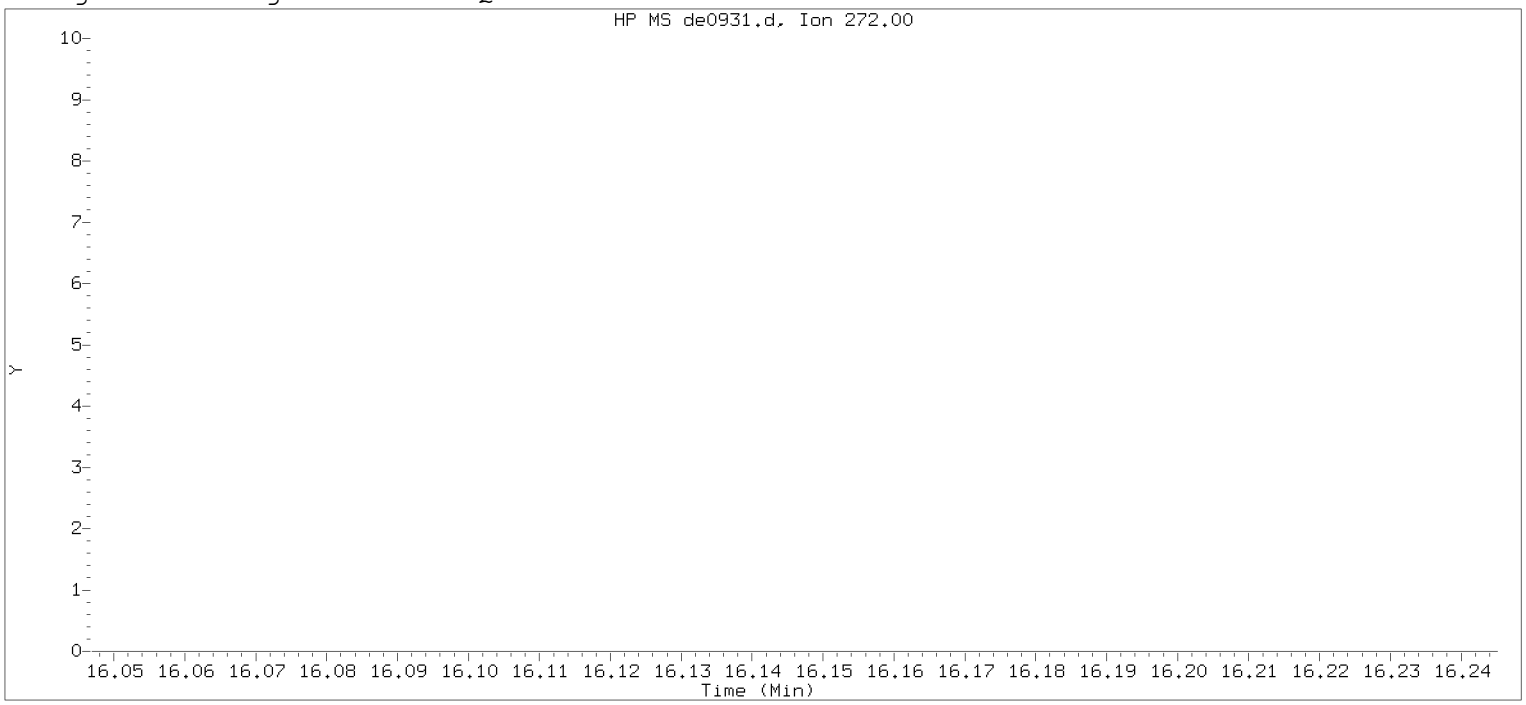
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0931.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 13:12 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 13:36 Automation

Sample Name: R8504REMSD Lab Sample ID: 8999790RE

Compound Number : 190
Compound Name : Kepone
Expected RT (minutes) : 16.146
Quant Ion : 272.00

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HZIEGLER

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0607.d Injection date and time: **23-MAY-2017 14:57**
Data file Sample Info. Line: 142WCLCS1;142WCLCS1;1;3;LCS;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843Mpda**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.534	(0.000)	866	152	152572	(-22)	5.00	
65) Naphthalene-d8	8.458	(0.006)	1196	136	568810	(-22)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	317279	(-23)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	591114	(-25)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	710601	(-26)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	530614	(-33)	5.00	

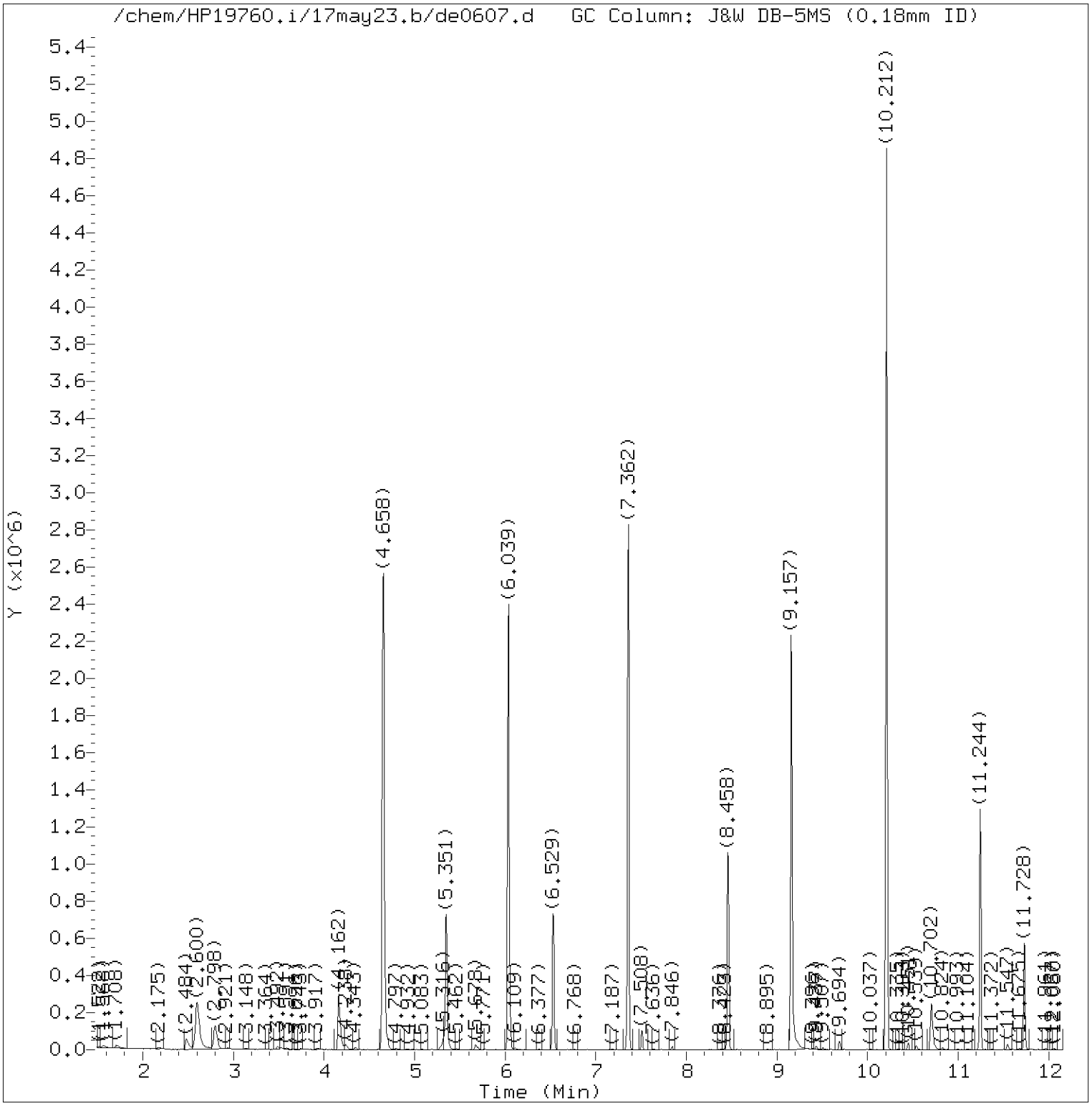
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.362	(-0.001)	82	1219896	20.694	83%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1920093	19.469	78%		41 - 112
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2355943	22.593	90%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
81) 1,4-Phenylenediamine	(2)	9.157	(-0.000)	108	920070	18.919	75.67			19

Total number of targets = 1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:28. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:49. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

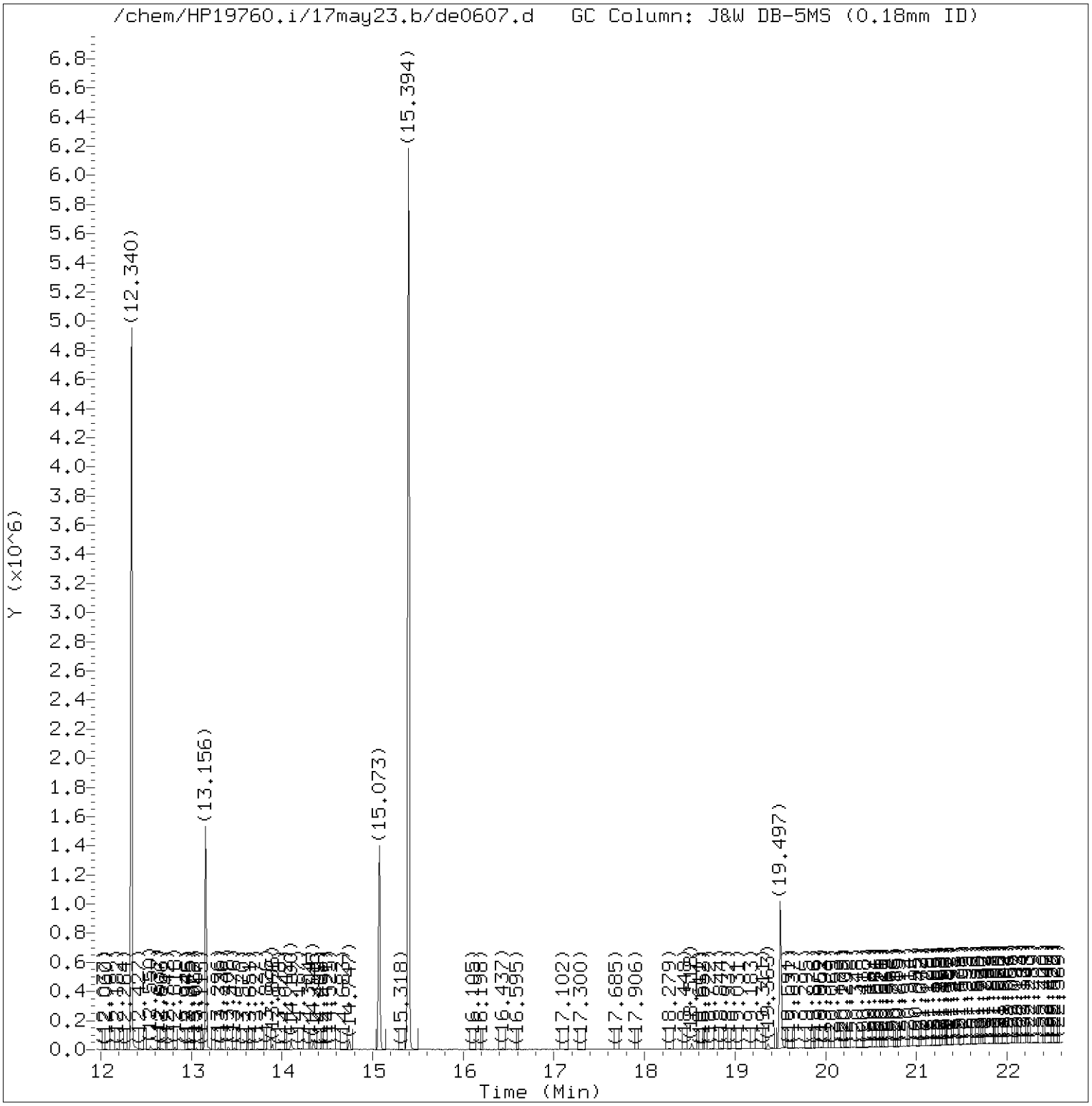
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0607.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:57 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS1 Lab Sample ID: 142WCLCS1

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0607.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:57 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS1 Lab Sample ID: 142WCLCS1

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0607.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:57 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS1 Lab Sample ID: 142WCLCS1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.534	152	152572	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1219896	20.694
65)*Naphthalene-d8	(2)	8.458	136	568810	5.000
81) 1,4-Phenylenediamine	(2)	9.157	108	920070	18.919
93)$2-Fluorobiphenyl	(3)	10.212	172	1920093	19.469
113)*Acenaphthene-d10	(3)	11.244	164	317279	5.000
153)*Phenanthrene-d10	(4)	13.156	188	591114	5.000
175)*Pyrene-d10	(5)	15.073	212	710601	5.000
179)$Terphenyl-d14	(5)	15.394	244	2355943	22.593
213)*Perylene-d12	(6)	19.497	264	530614	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:28.
Target 3.5 esignature user ID: hbz01996

Analysis Summary for GC/MS Semivolatiles

Data file: /chem/HP19760.i/17may23.b/de0608.d
Injection date and time: **23-MAY-2017 15:25**
Data file Sample Info. Line: 142WCLCSD1;142WCLCSD1;1;3;LCSD;;;
Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:48 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843Mpda**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.534	(0.000)	866	152	157110	(-20)	5.00	
65) Naphthalene-d8	8.458	(0.006)	1196	136	579054	(-21)	5.00	
113) Acenaphthene-d10	11.244	(0.006)	1674	164	327999	(-21)	5.00	
153) Phenanthrene-d10	13.156	(0.006)	2002	188	599208	(-24)	5.00	
175) Pyrene-d10	15.073	(0.006)	2331	212	716546	(-25)	5.00	
213) Perylene-d12	19.497	(0.006)	3090	264	530610	(-33)	5.00	

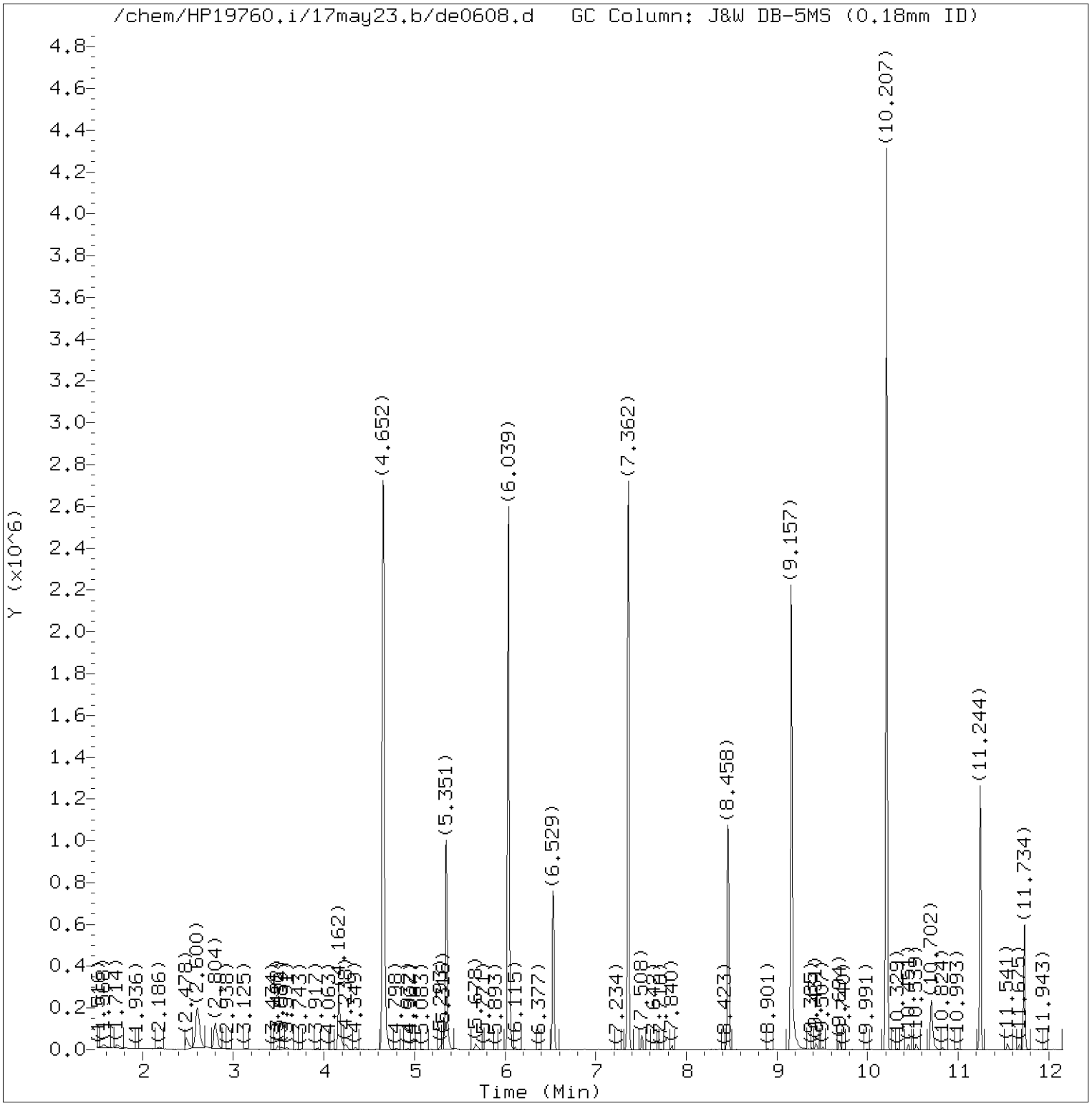
Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.362	(-0.001)	82	1184115	19.732	79%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1680044	16.479	66%		41 - 112
179) Terphenyl-d14	(5)	15.394	(0.000)	244	1669388	15.876	64%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
81) 1,4-Phenylenediamine	(2)				Not Detected					19

Total number of targets = 1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:48. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:49. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

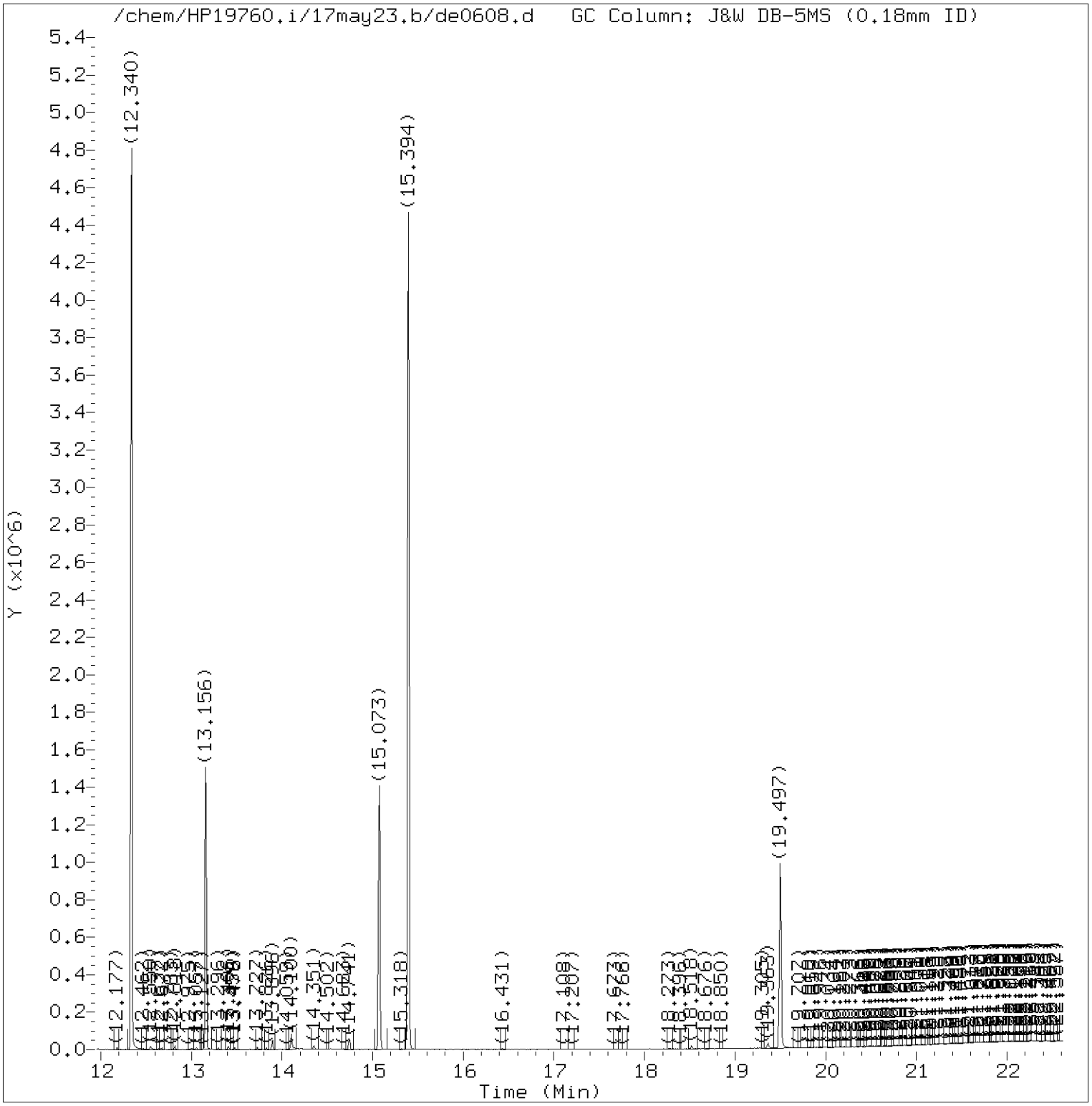
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0608.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 15:25 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:48 hbz01996

Sample Name: 142WCLCSD1 Lab Sample ID: 142WCLCSD1

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:48.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0608.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 15:25 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:48 hbz01996

Sample Name: 142WCLCSD1 Lab Sample ID: 142WCLCSD1

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:48.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0608.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 15:25 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:48 hbz01996

Sample Name: 142WCLCSD1 Lab Sample ID: 142WCLCSD1

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.534	152	157110	5.000
44)$Nitrobenzene-d5	(2)	7.362	82	1184115	19.732
65)*Naphthalene-d8	(2)	8.458	136	579054	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1680044	16.479
113)*Acenaphthene-d10	(3)	11.244	164	327999	5.000
153)*Phenanthrene-d10	(4)	13.156	188	599208	5.000
175)*Pyrene-d10	(5)	15.073	212	716546	5.000
179)$Terphenyl-d14	(5)	15.394	244	1669388	15.876
213)*Perylene-d12	(6)	19.497	264	530610	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:48.
Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0606.d Injection date and time: **23-MAY-2017 14:30**
Data file Sample Info. Line: 142WCLCS;142WCLCS;1;3;LCS;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M-pda**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.534	(0.000)	866	152	155919	(-21)	5.00	
65) Naphthalene-d8	8.464	(0.000)	1197	136	581325	(-20)	5.00	
113) Acenaphthene-d10	11.250	(0.000)	1675	164	324286	(-22)	5.00	
153) Phenanthrene-d10	13.162	(0.000)	2003	188	616857	(-21)	5.00	
175) Pyrene-d10	15.079	(0.000)	2332	212	727611	(-24)	5.00	
213) Perylene-d12	19.503	(0.000)	3091	264	610827	(-23)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.681	(-0.004)	112	1370038	28.321	57%		10 - 84
17) Phenol-d6	(1)	6.045	(-0.001)	99	1469363	22.380	45%		10 - 71
44) Nitrobenzene-d5	(2)	7.368	(-0.001)	82	1191760	19.782	79%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212	(0.000)	172	1870234	18.554	74%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.346	(-0.001)	330	508322	42.116	84%		13 - 149
179) Terphenyl-d14	(5)	15.394	(0.000)	244	2241603	20.994	84%		38 - 125

Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)	2.548	(-0.011)	74	268599	7.327	29.31			0.5
5) Pyridine	(1)	2.629	(-0.015)	79	352981A	5.868	23.47			0.5
7) 2-Picoline	(1)	3.783	(-0.005)	93	554271	9.023	36.09			0.5
8) N-Nitrosomethylethylamine	(1)	3.964	(-0.004)	88	259150	9.886	39.54			0.5
9) Methyl methanesulfonate	(1)	4.413	(-0.002)	80	250666	8.357	33.43			0.3
13) N-Nitrosodiethylamine	(1)	4.984	(-0.001)	102	251958	10.348	41.39			0.1
15) Ethyl methanesulfonate	(1)	5.439	(-0.000)	109	254696	9.685	38.74			0.1
18) Phenol	(1)	6.062	(-0.000)	94	464298	6.242	24.97			0.1
19) Aniline	(1)	6.056	(-0.000)	93	609146	6.969	27.88			0.1
22) bis(2-Chloroethyl)ether	(1)	6.179	(-0.000)	93	575873A	10.421	41.68			0.1
23) 2-Chlorophenol	(1)	6.226	(-0.000)	128	484514	10.001	40.00			0.1
27) Benzyl alcohol	(1)	6.762	(0.000)	108	339498M	9.822	39.29			3
31) 2-Methylphenol	(1)	6.960	(-0.000)	108	469851	9.862	39.45			0.1
34) bis(2-Chloroisopropyl)ether	(1)	6.989	(0.000)	45	851134	10.424	41.70			0.1
35) N-Nitrosopyrrolidine	(1)	7.111	(0.000)	100	270597	10.083	40.33			0.1
36) Acetophenone	(1)	7.146	(0.000)	105	811073	11.317	45.27			0.1
37) 4-Methylphenol	(1)	7.199	(-0.000)	108	502476	9.167	36.67			0.1
38) N-Nitroso-di-n-propylamine	(1)	7.176	(0.000)	70	472665	10.936	43.74			0.1
39) N-Nitrosomorpholine	(1)	7.181	(0.000)	56	386038	10.497	41.99			0.5
40) o-Toluidine	(1)	7.199	(0.000)	106	699556	8.329	33.32			0.1
43) Hexachloroethane	(1)	7.286	(0.000)	117	153948	7.009	28.04			0.3
45) Nitrobenzene	(2)	7.391	(0.000)	77	669880	11.039	44.16			0.1
48) N-Nitrosopiperidine	(2)	7.624	(-0.000)	114	253296	10.571	42.28			0.1
50) Isophorone	(2)	7.776	(-0.000)	82	1165551	11.231	44.92			0.1
51) 2-Nitrophenol	(2)	7.881	(-0.000)	139	255214	10.650	42.60			0.1
53) 2,4-Dimethylphenol	(2)	8.003	(-0.000)	107	417024	8.071	32.28			0.1
57) O,O,O-Triethylphosphorothioate	(2)	8.120	(0.000)	198	249072	10.217	40.87			0.5

A = User selected an alternate peak. M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0606.d Injection date and time: **23-MAY-2017 14:30**
Data file Sample Info. Line: 142WCLCS;142WCLCS;1;3;LCS;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M-pda**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)	8.149(-0.000)	93	749810	11.301	45.20			0.1
60) 2,4-Dichlorophenol	(2)	8.266(0.000)	162	416117	10.881	43.52			0.1
64) a,a-Dimethylphenethylamine	(2)	8.330(-0.012)	58	1290237M	12.833	51.33		E	1
67) 4-Chloroaniline	(2)	8.604(0.000)	127	499811	8.878	35.51			0.5
68) 2,6-Dichlorophenol	(2)	8.615(0.000)	162	408936	10.786	43.15			0.1
69) Hexachloropropene	(2)	8.650(0.000)	213	136787	4.504	18.02			0.5
77) N-Nitrosodi-n-butylamine	(2)	9.181(0.000)	84	437993	10.307	41.23			0.5
80) 4-Chloro-3-methylphenol	(2)	9.414(0.000)	107	470228	10.789	43.16			0.1
82) Safrole	(2)	9.495(0.000)	162	348476	10.059	40.24			0.5
83) 2-Methylnaphthalene	(2)	9.600(0.000)	142	851554	9.366	37.46			0.03
85) Hexachlorocyclopentadiene	(3)	9.868(-0.000)	237	32143	1.453	5.81		J	1
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.868(-0.000)	216	389131	8.387	33.55			0.1
88) cis-Isosafrole	(3)	9.962(0.000)	162	47931	1.318	5.27			0.1
90) 2,4,6-Trichlorophenol	(3)	10.066(-0.000)	196	322520	11.413	45.65			0.1
92) 2,4,5-Trichlorophenol	(3)	10.119(-0.000)	196	338752	11.100	44.40			0.1
94) trans-Isosafrole	(3)	10.323(-0.000)	162	388154	10.083	40.33			0.1
97) Isosafrole	(3)			436085	11.402	45.61			0.5
96) 2-Chloronaphthalene	(3)	10.364(-0.000)	162	823582	10.072	40.29			0.1
100) 2-Nitroaniline	(3)	10.544(-0.000)	138	279155	10.986	43.94			0.1
104) 1,4-Naphthoquinone	(3)			Not Detected					6
106) Dimethylphthalate	(3)	10.894(-0.000)	163	692415	7.328	29.31			0.5
107) 1,3-Dinitrobenzene	(3)	10.894(-0.000)	168	162435	11.048	44.19			0.5
108) 2,6-Dinitrotoluene	(3)	10.958(-0.000)	165	230707	11.039	44.15			0.1
109) Acenaphthylene	(3)	11.017(0.000)	152	1219715	10.193	40.77			0.03
112) 3-Nitroaniline	(3)	11.203(0.000)	138	213410	9.877	39.51			0.1
114) Acenaphthene	(3)	11.302(0.000)	153	907332	10.418	41.67			0.03
115) 2,4-Dinitrophenol	(3)	11.384(-0.000)	184	251987M	20.683	82.73			3
116) 4-Nitrophenol	(3)	11.553(-0.002)	109	132541M	8.296	33.18			3
117) Pentachlorobenzene	(3)	11.512(0.000)	250	322314	8.602	34.41			0.1
118) 2,4-Dinitrotoluene	(3)	11.588(-0.000)	165	317481	11.294	45.18			0.3
119) Dibenzofuran	(3)	11.570(0.000)	168	1235243	10.386	41.54			0.1
121) 1-Naphthylamine	(3)	11.687(0.000)	143	1004050	11.900	47.60			1
122) 2,3,4,6-Tetrachlorophenol	(3)	11.768(-0.000)	232	269800	11.740	46.96			0.1
123) 2-Naphthylamine	(3)	11.798(0.000)	143	814464	9.742	38.97			1
124) Diethylphthalate	(3)	11.972(0.000)	149	916551	9.995	39.98			0.5
125) Thionazin	(3)	12.066(0.000)	107	196681	10.785	43.14			0.5
126) Fluorene	(3)	12.042(0.000)	166	984753	10.319	41.28			0.03
127) 4-Chlorophenyl-phenylether	(3)	12.077(0.000)	204	453654	9.763	39.05			0.1
128) 5-Nitro-o-toluidine	(3)	12.072(0.000)	152	247214	9.415	37.66			0.1
129) 4-Nitroaniline	(3)	12.083(0.000)	138	231785	10.776	43.10			0.1
130) 4,6-Dinitro-2-methylphenol	(4)	12.130(-0.000)	198	172035	10.343	41.37			1
131) N-Nitrosodiphenylamine	(4)	12.223(-0.000)	169	873840	11.423	45.69			0.1
139) 1,3,5-Trinitrobenzene	(4)	12.550(-0.000)	213	34577	3.213	12.85		J	1
140) Diallate (peak 1)	(4)	12.579(0.000)	86	373696	8.001	32.01			0.06
141) Phorate	(4)	12.584(-0.000)	75	755973	10.882	43.53			0.1
142) Phenacetin	(4)	12.608(-0.000)	108	581984	11.431	45.73			0.1
143) 4-Bromophenyl-phenylether	(4)	12.649(-0.000)	248	272409	10.379	41.52			0.1
144) Diallate (peak 2)	(4)	12.678(-0.000)	86	120077	3.171	12.68			0.06
146) Diallate trans/cis	(4)			493773	11.172	44.69			0.3
145) Hexachlorobenzene	(4)	12.695(-0.000)	284	277914	10.054	40.21			0.03
147) Dimethoate	(4)	12.765(0.000)	87	186923	4.178	16.71			0.8
149) Pentachlorophenol	(4)	12.958(-0.000)	266	182972	12.039	48.16			0.3
150) 4-Aminobiphenyl	(4)	12.958(-0.000)	169	799478	9.413	37.65			0.1
151) Pentachloronitrobenzene	(4)	12.958(-0.000)	237	134322	11.132	44.53			0.5

E = Compound concentration above calibration range. M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may23.b/de0606.d Injection date and time: **23-MAY-2017 14:30**
Data file Sample Info. Line: 142WCLCS;142WCLCS;1;3;LCS;;; Instrument ID: **HP19760.i** Batch: **17142WAC**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **24843M-pda**
Calibration date and time (Last Method Edit): 17-JUL-2017 11:24
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

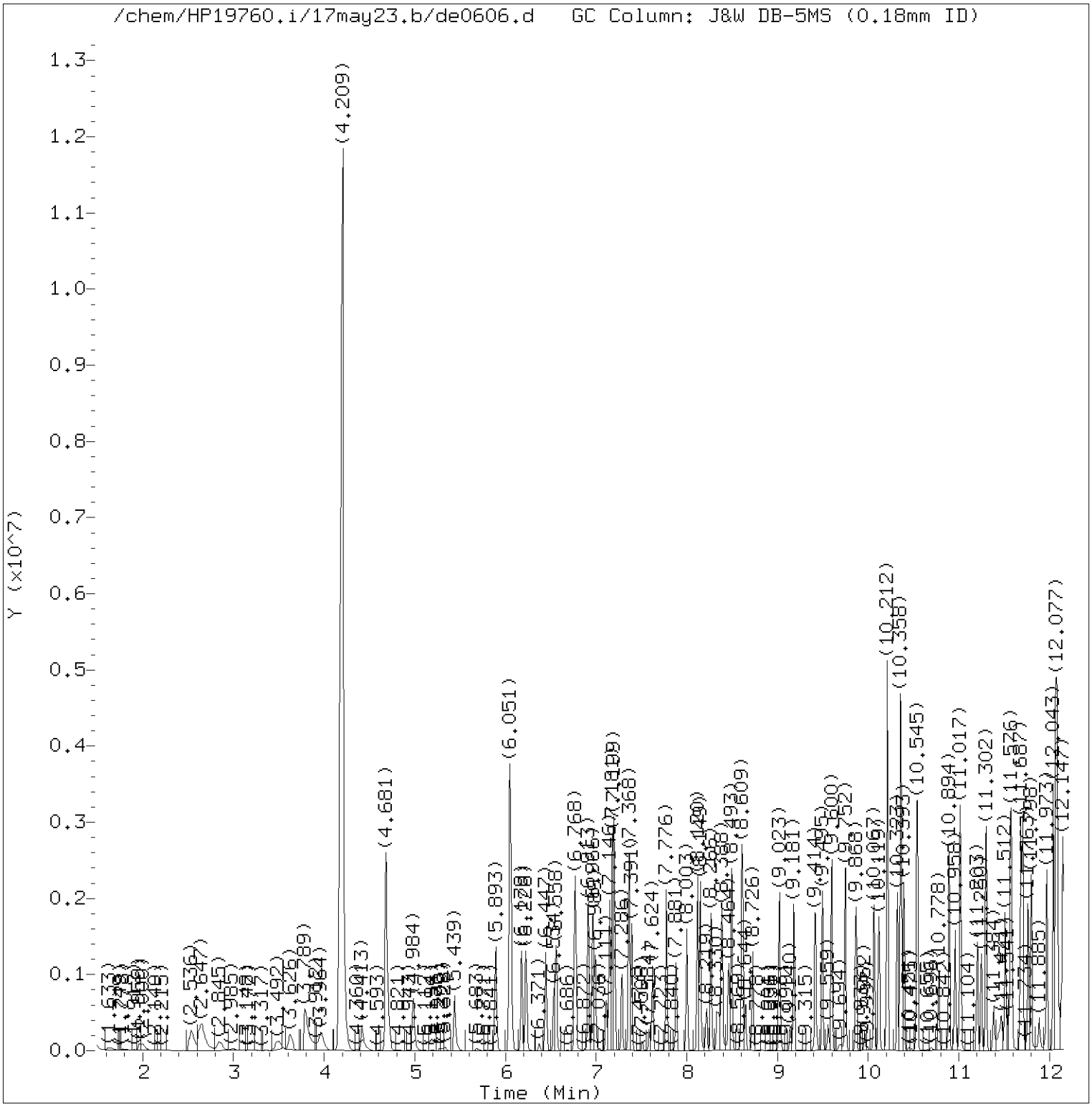
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
152) Pronamide	(4)	13.062(0.000)	173	501735	11.393	45.57			0.1
155) Phenanthrene	(4)	13.191(-0.000)	178	1500584	10.883	43.53			0.03
157) Anthracene	(4)	13.255(-0.000)	178	1487551	10.835	43.34			0.03
162) Disulfoton	(4)	13.214(0.000)	88	1250380	24.900	99.60			6
164) Methyl parathion	(4)	13.669(-0.000)	109	346972	10.071	40.28			0.3
165) Di-n-butylphthalate	(4)	13.989(-0.000)	149	1775818	11.278	45.11			0.5
167) Parathion	(4)	14.205(-0.000)	109	256501	11.675	46.70			0.5
168) 4-Nitroquinoline-1-oxide	(4)	14.222(-0.002)	190	1645721	114.162	456.65		E	5
170) Methapyrilene	(4)	14.356(-0.000)	97	4276454	129.593	518.37		E	4
171) Isodrin	(4)	14.566(-0.000)	193	185168	11.077	44.31			0.1
173) Fluoranthene	(4)	14.776(0.000)	202	1761531	11.158	44.63			0.03
177) Pyrene	(5)	15.102(0.000)	202	1829846	11.076	44.31			0.03
180) Aramite (1)	(5)	15.411(-0.006)	185	54297A	105.651	422.60		E	0.3
181) Aramite (2)	(5)	15.336(0.000)	185	1818A	3.297	13.19			0.3
183) Aramite (3)	(5)	15.411(0.000)	185	54297A	1.175	4.70			0.3
184) Aramite (4)	(5)	15.534(0.000)	185	57798MA	0.917	3.67		J	0.3
186) Aramite	(5)			168210	111.040	444.16		E	1
182) p-Dimethylaminoazobenzene	(5)	15.621(0.000)	225	324459	12.335	49.34			0.1
185) Chlorobenzilate	(5)	15.714(0.000)	139	289998	5.969	23.88			0.8
187) 3,3'-Dimethylbenzidine	(5)	16.169(0.000)	212	846524	7.936	31.74		J	6
188) Butylbenzylphthalate	(5)	16.239(0.000)	149	730243	9.986	39.94			0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)			Not Detected					6
191) 2-Acetylaminofluorene	(5)	16.583(-0.000)	181	802631	11.786	47.14			0.5
193) 3,3'-Dichlorobenzidine	(5)	17.073(0.000)	252	574965	9.635	38.54			0.5
195) Benzo(a)anthracene	(5)	17.073(0.000)	228	1829900	11.553	46.21			0.03
196) Chrysene	(5)	17.131(0.000)	228	1743572	11.690	46.76			0.03
199) bis(2-Ethylhexyl)phthalate	(5)	17.300(0.000)	149	1271513	11.615	46.46			0.5
205) Di-n-octylphthalate	(6)	18.448(-0.000)	149	2171312	10.874	43.50			0.5
206) Benzo(b)fluoranthene	(6)	18.897(0.000)	252	1829907	10.997	43.99			0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.909(-0.000)	256	740252	10.957	43.83			0.1
208) Benzo(k)fluoranthene	(6)	18.949(-0.000)	252	1854520	11.588	46.35			0.03
211) Benzo(a)pyrene	(6)	19.416(0.000)	252	1646720	10.710	42.84			0.03
215) 3-Methylcholanthrene	(6)	19.993(-0.000)	268	818629	11.964	47.86			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	21.100(0.000)	276	1757382	11.660	46.64			0.03
220) Dibenz(a,h)anthracene	(6)	21.141(0.000)	278	1484564	11.843	47.37			0.03
221) Benzo(g,h,i)perylene	(6)	21.450(0.000)	276	1422687	11.536	46.14			0.03

E = Compound concentration above calibration range. A = User selected an alternate peak. M = Compound was manually integrated.

Total number of targets = 118

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

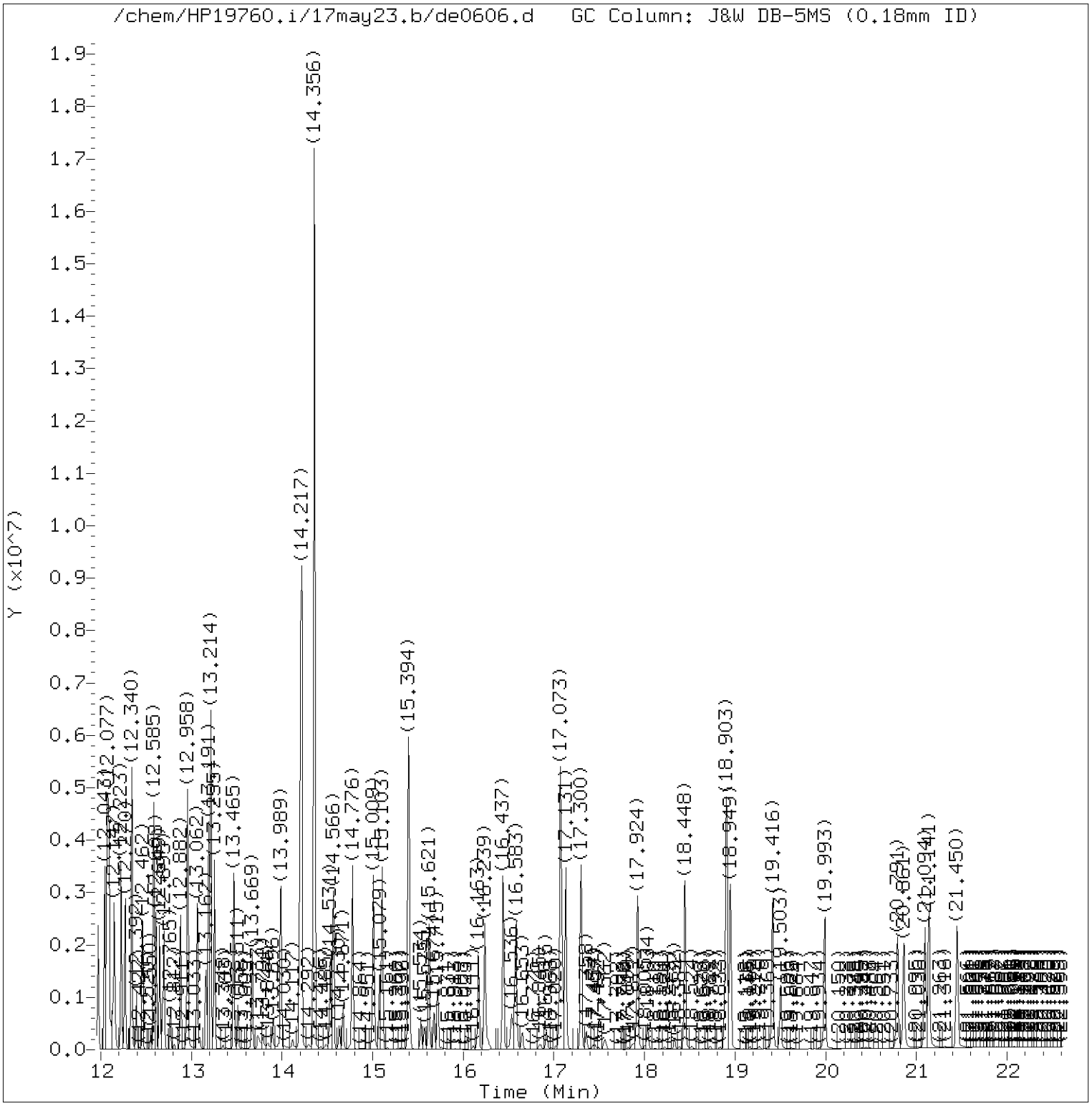
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	2.548	74	268599	7.327
5) Pyridine	(1)	2.629	79	352981A	5.868
7) 2-Picoline	(1)	3.783	93	554271	9.023
8) N-Nitrosomethylethylamine	(1)	3.964	88	259150	9.886
9) Methyl methanesulfonate	(1)	4.413	80	250666	8.357
11)$2-Fluorophenol	(1)	4.681	112	1370038	28.321
13) N-Nitrosodiethylamine	(1)	4.984	102	251958	10.348
15) Ethyl methanesulfonate	(1)	5.439	109	254696	9.685
17)$Phenol-d6	(1)	6.045	99	1469363	22.380
19) Aniline	(1)	6.056	93	609146	6.969
18) Phenol	(1)	6.062	94	464298	6.242
22) bis(2-Chloroethyl)ether	(1)	6.179	93	575873A	10.421
23) 2-Chlorophenol	(1)	6.226	128	484514	10.001
25)*1,4-Dichlorobenzene-d4	(1)	6.534	152	155919	5.000
27) Benzyl alcohol	(1)	6.762	108	339498M	9.822
31) 2-Methylphenol	(1)	6.960	108	469851	9.862
34) bis(2-Chloroisopropyl)ether	(1)	6.989	45	851134	10.424
35) N-Nitrosopyrrolidine	(1)	7.111	100	270597	10.083
36) Acetophenone	(1)	7.146	105	811073	11.317
38) N-Nitroso-di-n-propylamine	(1)	7.176	70	472665	10.936
39) N-Nitrosomorpholine	(1)	7.181	56	386038	10.497
37) 4-Methylphenol	(1)	7.199	108	502476	9.167
40) o-Toluidine	(1)	7.199	106	699556	8.329
43) Hexachloroethane	(1)	7.286	117	153948	7.009
44)$Nitrobenzene-d5	(2)	7.368	82	1191760	19.782
97) Isosafrole	(3)			436085	11.402
45) Nitrobenzene	(2)	7.391	77	669880	11.039
48) N-Nitrosopiperidine	(2)	7.624	114	253296	10.571
50) Isophorone	(2)	7.776	82	1165551	11.231
51) 2-Nitrophenol	(2)	7.881	139	255214	10.650
53) 2,4-Dimethylphenol	(2)	8.003	107	417024	8.071
57) O,O,O-Triethylphosphorothioate	(2)	8.120	198	249072	10.217
55) bis(2-Chloroethoxy)methane	(2)	8.149	93	749810	11.301
60) 2,4-Dichlorophenol	(2)	8.266	162	416117	10.881
64) a,a-Dimethylphenethylamine	(2)	8.330	58	1290237M	12.833
65)*Naphthalene-d8	(2)	8.464	136	581325	5.000
67) 4-Chloroaniline	(2)	8.604	127	499811	8.878
68) 2,6-Dichlorophenol	(2)	8.615	162	408936	10.786
69) Hexachloropropene	(2)	8.650	213	136787	4.504
146) Diallate trans/cis	(4)			493773	11.172

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
77) N-Nitrosodi-n-butylamine	(2)	9.181	84	437993	10.307
80) 4-Chloro-3-methylphenol	(2)	9.414	107	470228	10.789
82) Safrole	(2)	9.495	162	348476	10.059
83) 2-Methylnaphthalene	(2)	9.600	142	851554	9.366
85) Hexachlorocyclopentadiene	(3)	9.868	237	32143	1.453
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.868	216	389131	8.387
88) cis-Isosafrole	(3)	9.962	162	47931	1.318
90) 2,4,6-Trichlorophenol	(3)	10.067	196	322520	11.413
92) 2,4,5-Trichlorophenol	(3)	10.119	196	338752	11.100
93)$2-Fluorobiphenyl	(3)	10.212	172	1870234	18.554
94) trans-Isosafrole	(3)	10.323	162	388154	10.083
96) 2-Chloronaphthalene	(3)	10.364	162	823582	10.072
186) Aramite	(5)			168210	111.040
100) 2-Nitroaniline	(3)	10.545	138	279155	10.986
106) Dimethylphthalate	(3)	10.894	163	692415	7.328
107) 1,3-Dinitrobenzene	(3)	10.894	168	162435	11.048
108) 2,6-Dinitrotoluene	(3)	10.958	165	230707	11.039
109) Acenaphthylene	(3)	11.017	152	1219715	10.193
112) 3-Nitroaniline	(3)	11.203	138	213410	9.877
113)*Acenaphthene-d10	(3)	11.250	164	324286	5.000
114) Acenaphthene	(3)	11.302	153	907332	10.418
115) 2,4-Dinitrophenol	(3)	11.384	184	251987M	20.683
117) Pentachlorobenzene	(3)	11.512	250	322314	8.602
116) 4-Nitrophenol	(3)	11.553	109	132541M	8.296
119) Dibenzofuran	(3)	11.570	168	1235243	10.386
118) 2,4-Dinitrotoluene	(3)	11.588	165	317481	11.294
121) 1-Naphthylamine	(3)	11.687	143	1004050	11.900
122) 2,3,4,6-Tetrachlorophenol	(3)	11.769	232	269800	11.740
123) 2-Naphthylamine	(3)	11.798	143	814464	9.742
124) Diethylphthalate	(3)	11.973	149	916551	9.995
126) Fluorene	(3)	12.043	166	984753	10.319
125) Thionazin	(3)	12.066	107	196681	10.785
128) 5-Nitro-o-toluidine	(3)	12.072	152	247214	9.415
127) 4-Chlorophenyl-phenylether	(3)	12.077	204	453654	9.763
129) 4-Nitroaniline	(3)	12.083	138	231785	10.776
130) 4,6-Dinitro-2-methylphenol	(4)	12.130	198	172035	10.343
131) N-Nitrosodiphenylamine	(4)	12.223	169	873840	11.423
135)$2,4,6-Tribromophenol	(3)	12.346	330	508322	42.116
139) 1,3,5-Trinitrobenzene	(4)	12.550	213	34577	3.213
140) Diallate (peak 1)	(4)	12.579	86	373696	8.001

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
141) Phorate	(4)	12.585	75	755973	10.882
142) Phenacetin	(4)	12.608	108	581984	11.431
143) 4-Bromophenyl-phenylether	(4)	12.649	248	272409	10.379
144) Diallate (peak 2)	(4)	12.678	86	120077	3.171
145) Hexachlorobenzene	(4)	12.695	284	277914	10.054
147) Dimethoate	(4)	12.765	87	186923	4.178
151) Pentachloronitrobenzene	(4)	12.958	237	134322	11.132
149) Pentachlorophenol	(4)	12.958	266	182972	12.039
150) 4-Aminobiphenyl	(4)	12.958	169	799478	9.413
152) Pronamide	(4)	13.062	173	501735	11.393
153)*Phenanthrene-d10	(4)	13.162	188	616857	5.000
155) Phenanthrene	(4)	13.191	178	1500584	10.883
162) Disulfoton	(4)	13.214	88	1250380	24.900
157) Anthracene	(4)	13.255	178	1487551	10.835
164) Methyl parathion	(4)	13.669	109	346972	10.071
165) Di-n-butylphthalate	(4)	13.989	149	1775818	11.278
167) Parathion	(4)	14.205	109	256501	11.675
168) 4-Nitroquinoline-1-oxide	(4)	14.222	190	1645721	114.162
170) Methapyrilene	(4)	14.356	97	4276454	129.593
171) Isodrin	(4)	14.566	193	185168	11.077
173) Fluoranthene	(4)	14.776	202	1761531	11.158
175)*Pyrene-d10	(5)	15.079	212	727611	5.000
177) Pyrene	(5)	15.103	202	1829846	11.076
181) Aramite (2)	(5)	15.336	185	1818A	3.297
179)$Terphenyl-d14	(5)	15.394	244	2241603	20.994
180) Aramite (1)	(5)	15.411	185	54297A	105.651
183) Aramite (3)	(5)	15.411	185	54297A	1.175
184) Aramite (4)	(5)	15.534	185	57798MA	0.917
182) p-Dimethylaminoazobenzene	(5)	15.621	225	324459	12.335
185) Chlorobenzilate	(5)	15.715	139	289998	5.969
187) 3,3'-Dimethylbenzidine	(5)	16.169	212	846524	7.936
188) Butylbenzylphthalate	(5)	16.239	149	730243	9.986
191) 2-Acetylaminofluorene	(5)	16.583	181	802631	11.786
195) Benzo(a)anthracene	(5)	17.073	228	1829900	11.553
193) 3,3'-Dichlorobenzidine	(5)	17.073	252	574965	9.635
196) Chrysene	(5)	17.131	228	1743572	11.690
199) bis(2-Ethylhexyl)phthalate	(5)	17.300	149	1271513	11.615
205) Di-n-octylphthalate	(6)	18.448	149	2171312	10.874
206) Benzo(b)fluoranthene	(6)	18.897	252	1829907	10.997
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.909	256	740252	10.957

M = Compound was manually integrated.
A = User selected an alternate hit.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

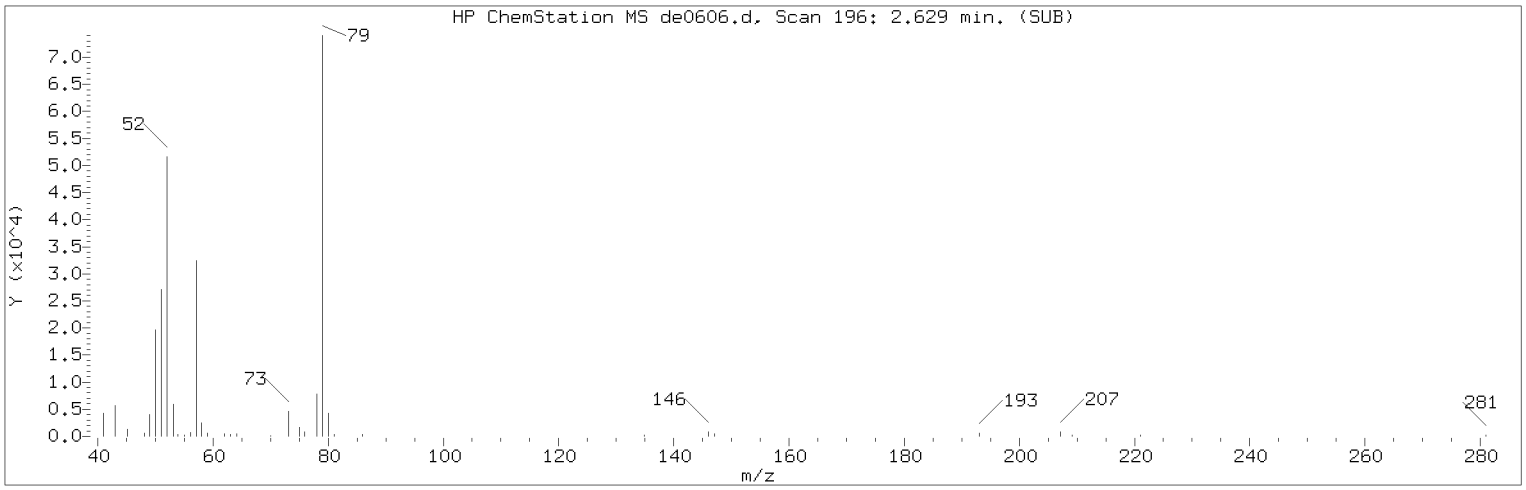
Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
208) Benzo(k)fluoranthene	(6)	18.949	252	1854520	11.588
211) Benzo(a)pyrene	(6)	19.416	252	1646720	10.710
213)*Perylene-d12	(6)	19.503	264	610827	5.000
215) 3-Methylcholanthrene	(6)	19.993	268	818629	11.964
219) Indeno(1,2,3-cd)pyrene	(6)	21.100	276	1757382	11.660
220) Dibenz(a,h)anthracene	(6)	21.141	278	1484564	11.843
221) Benzo(g,h,i)perylene	(6)	21.450	276	1422687	11.536

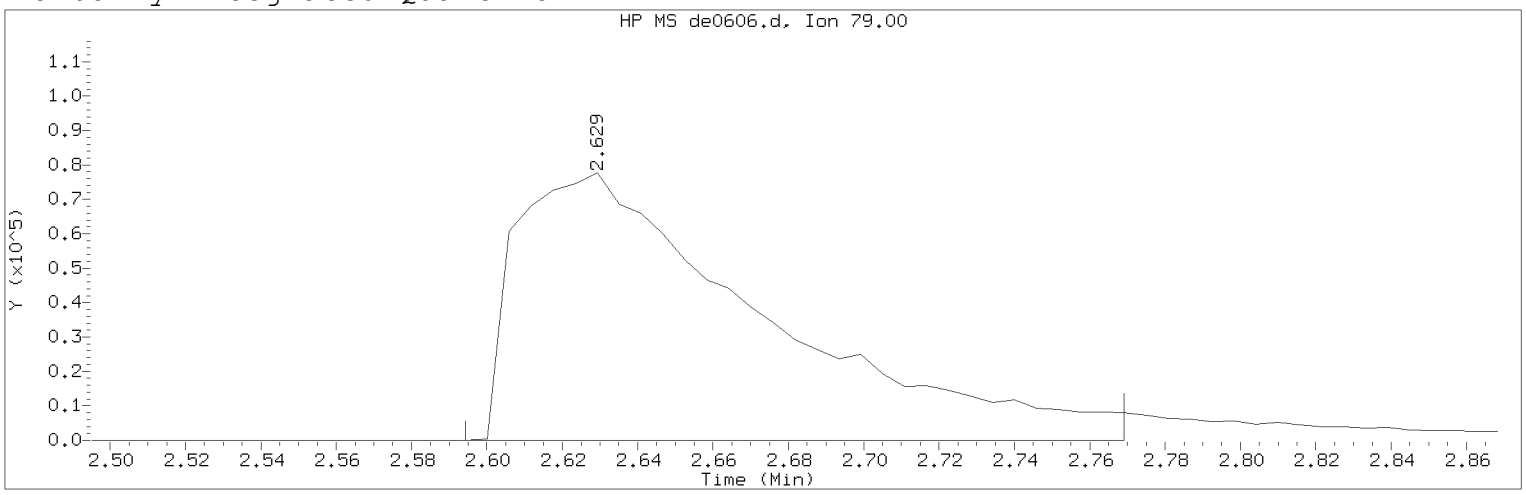
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

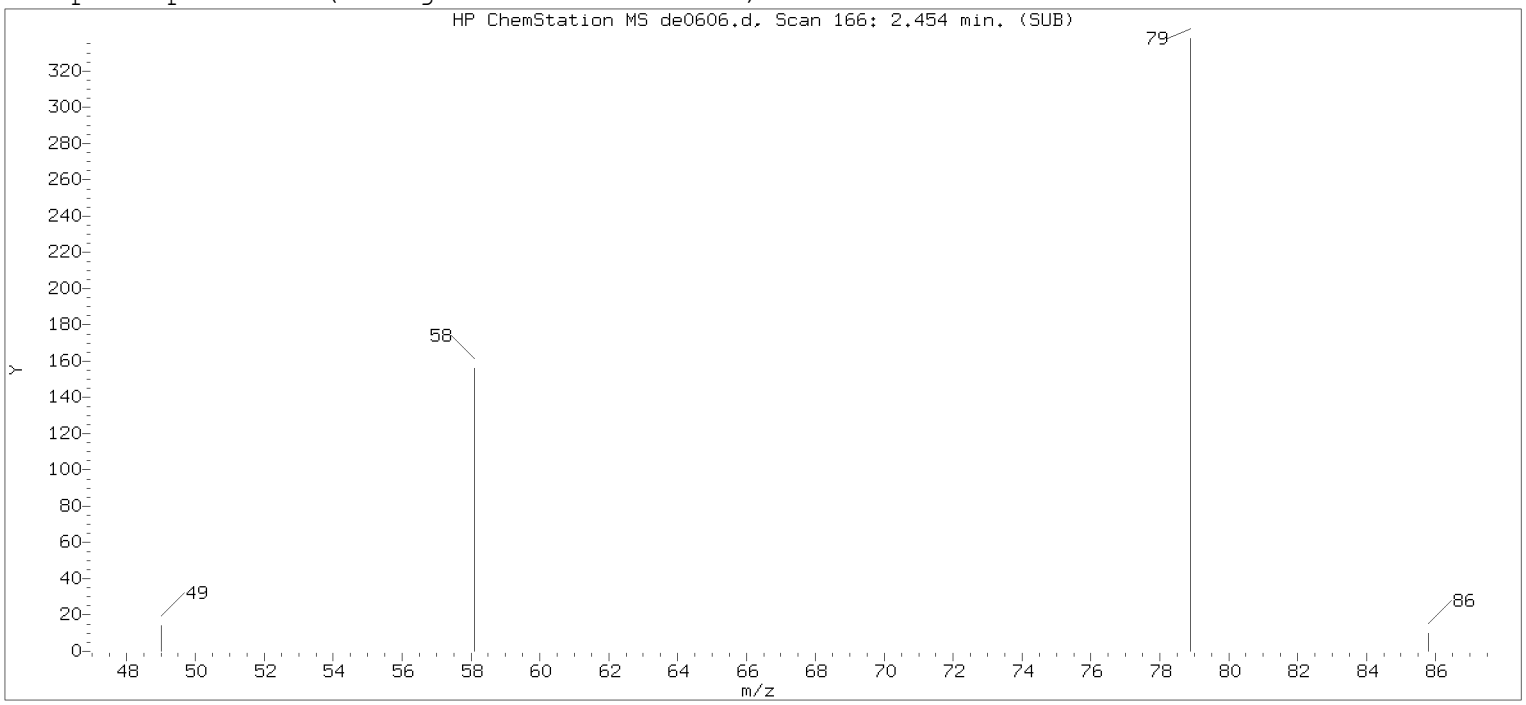
Compound Number : 5
Compound Name : Pyridine
Scan Number : 196
Retention Time (minutes) : 2.629
Quant Ion : 79.00
Area (flag) : 352981A
On-Column Amount (ng/ul) : 5.8677
Integration start scan : 189 Integration stop scan: 219
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

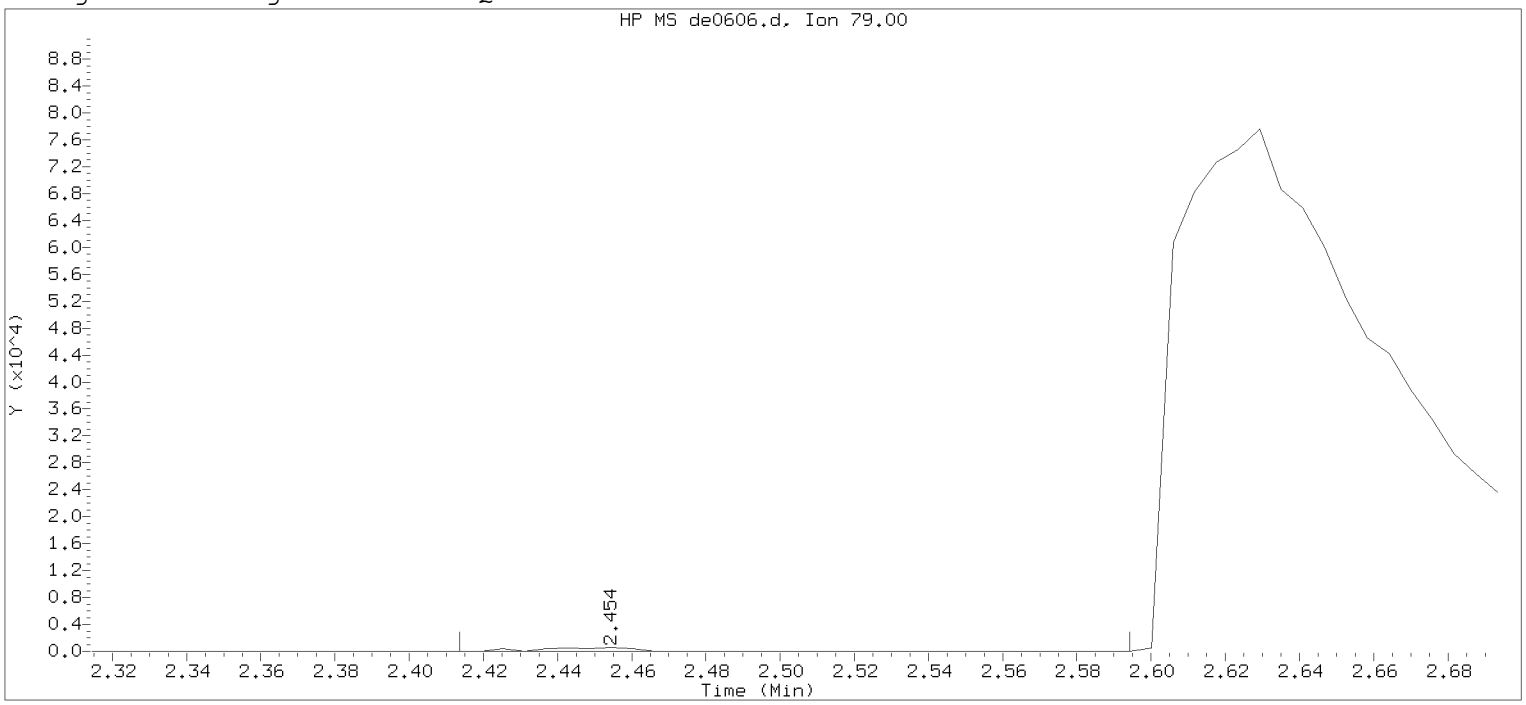
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

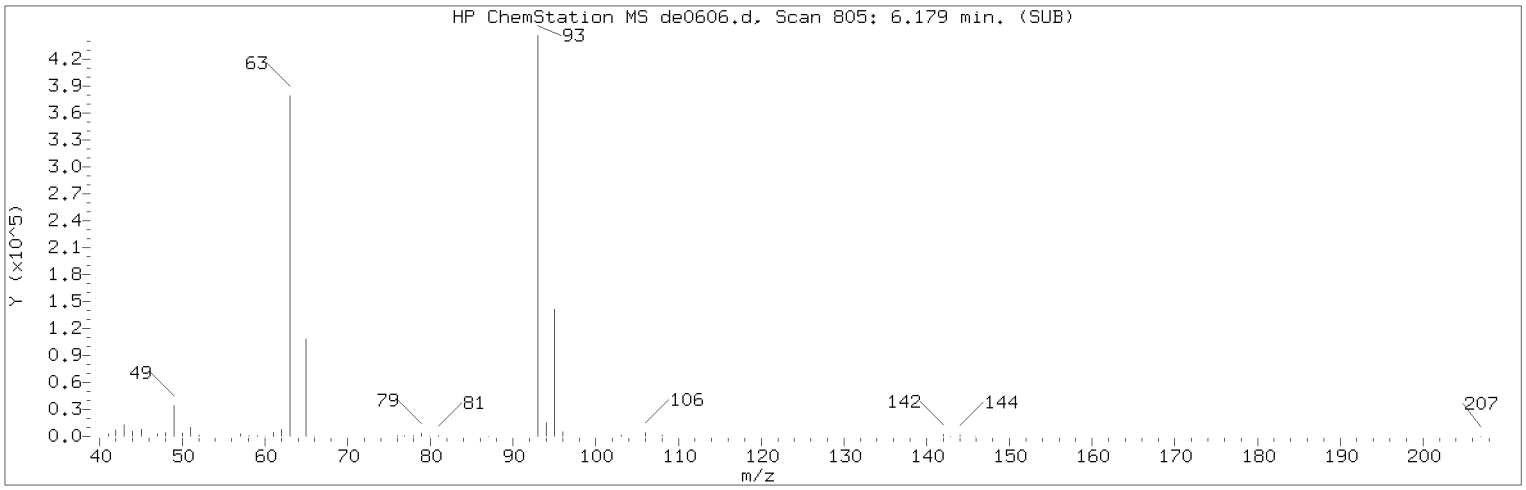
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

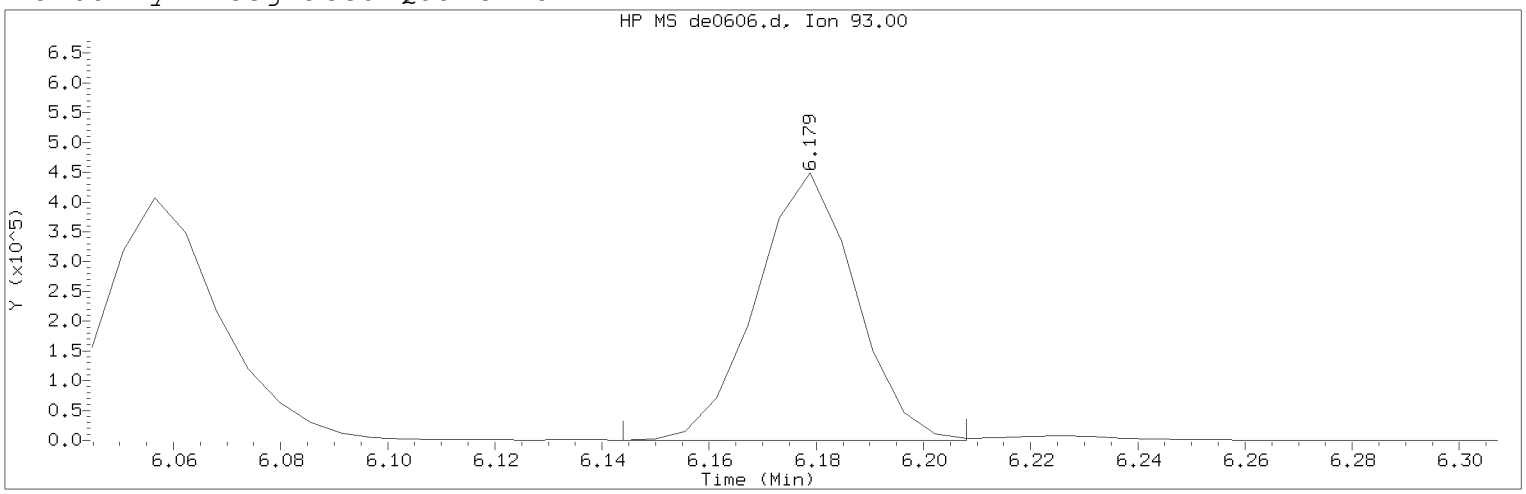
Compound Number	: 5		
Compound Name	: Pyridine		
Scan Number	: 166		
Retention Time (minutes)	: 2.454		
Quant Ion	: 79.00		
Area	: 882		
On-column Amount (ng/ul)	: 0.0147		
Integration start scan	: 158	Integration stop scan:	189
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: HBZ1644

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

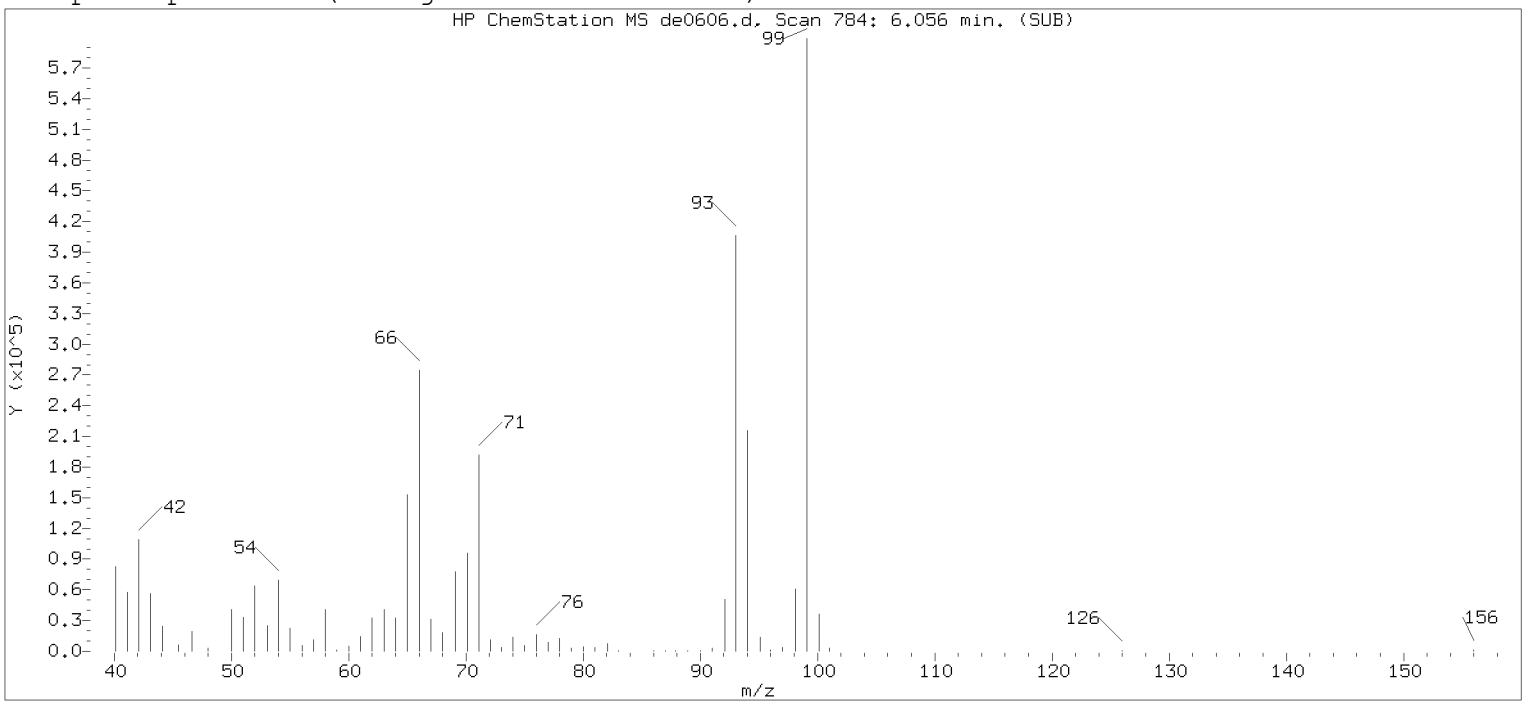
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 805
Retention Time (minutes) : 6.179
Quant Ion : 93.00
Area (flag) : 575873A
On-Column Amount (ng/ul) : 10.4209
Integration start scan : 798 Integration stop scan: 809
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

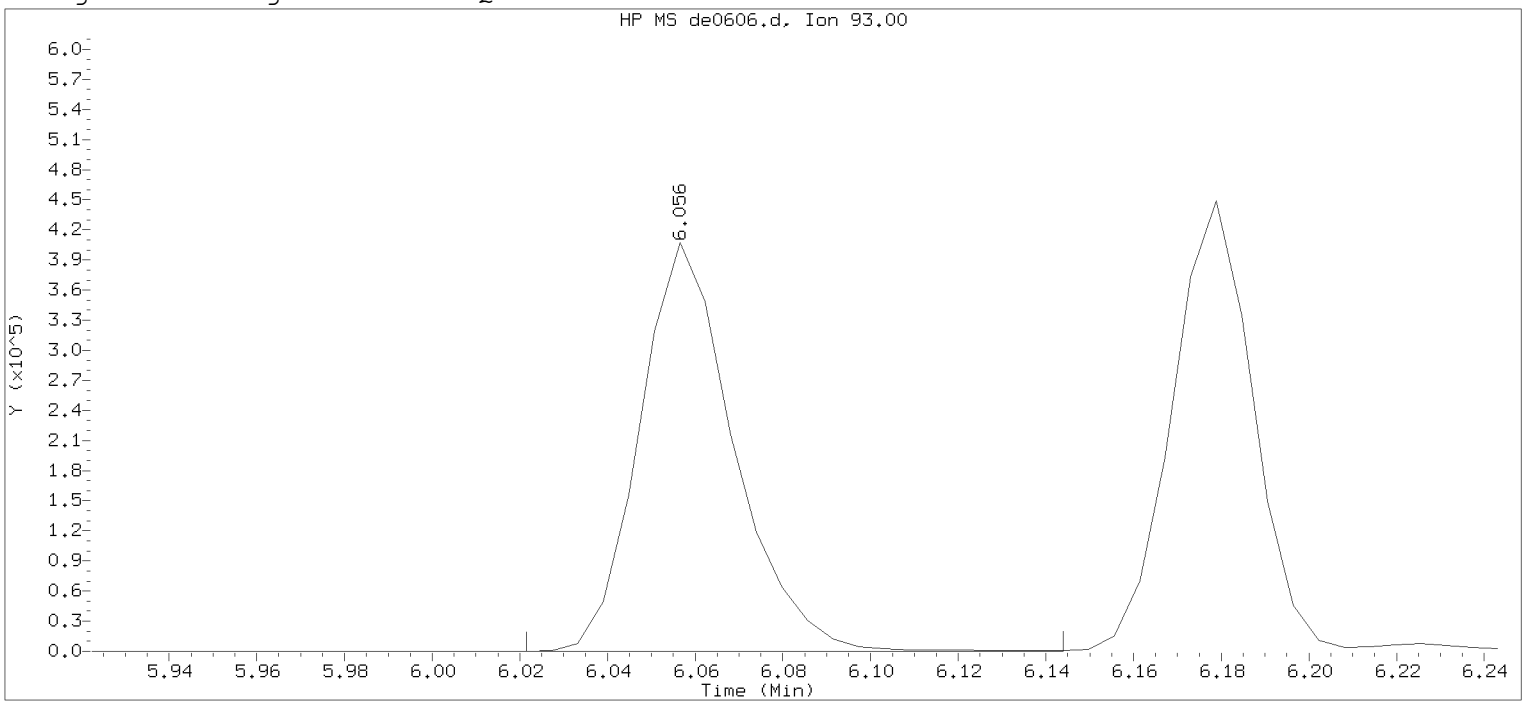
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

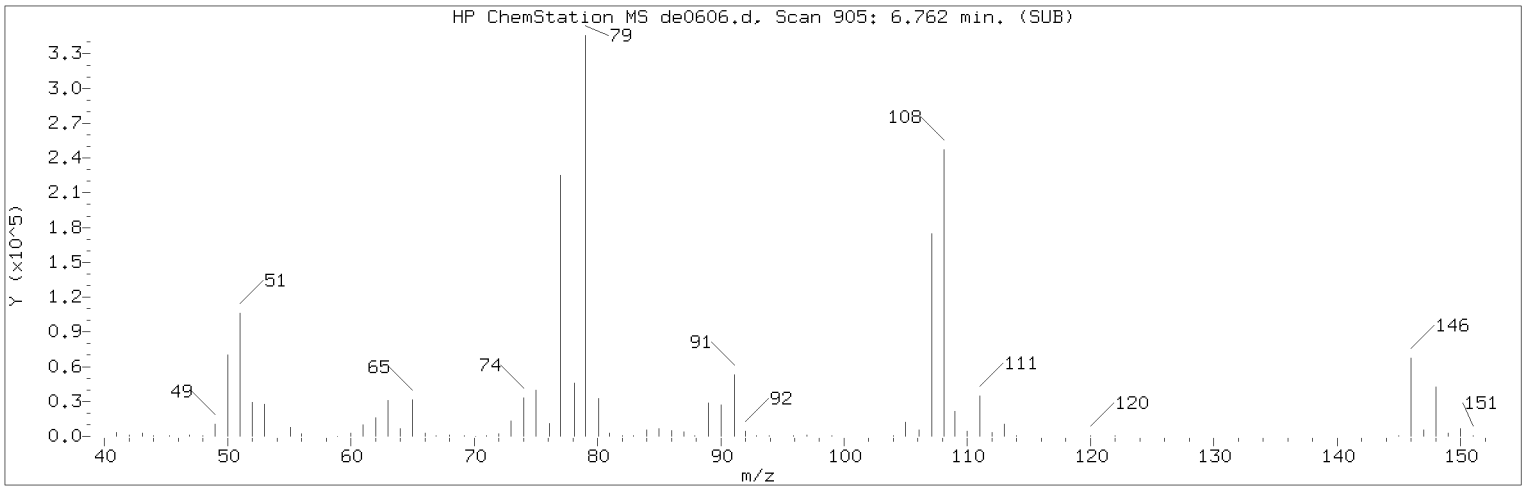
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

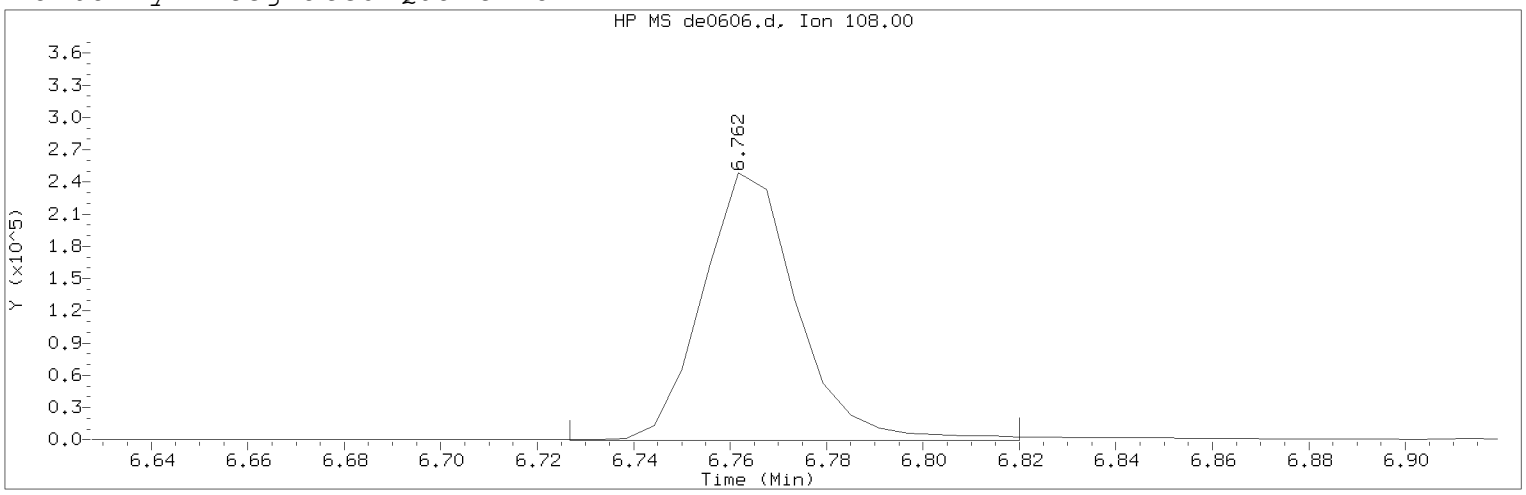
Compound Number : 22
Compound Name : bis(2-Chloroethyl)ether
Scan Number : 784
Retention Time (minutes) : 6.056
Quant Ion : 93.00
Area : 609146
On-column Amount (ng/ul) : 11.0229
Integration start scan : 777 Integration stop scan: 798
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: 1644

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

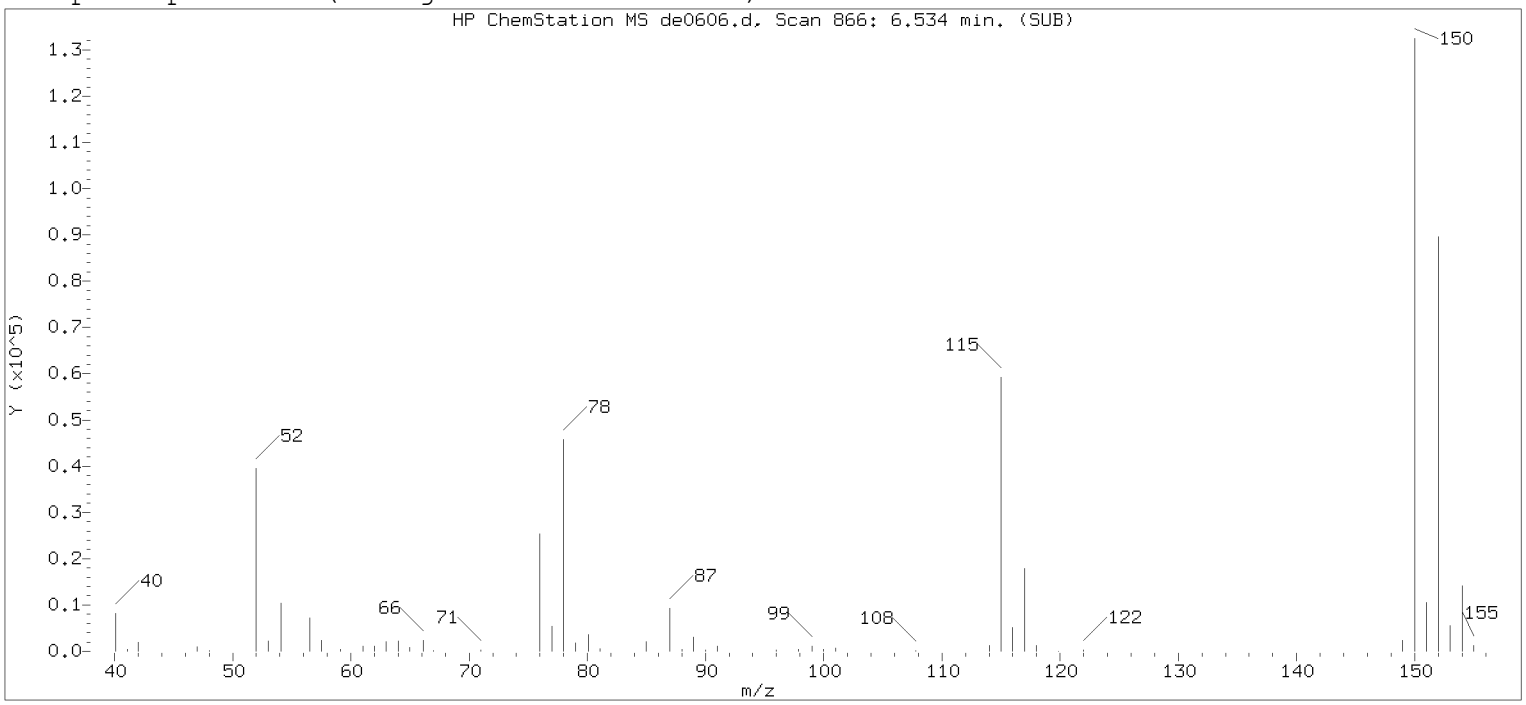
Compound Number : 27
Compound Name : Benzyl alcohol
Scan Number : 905
Retention Time (minutes) : 6.762
Quant Ion : 108.00
Area (flag) : 339498M
On-Column Amount (ng/ul) : 9.8216
Integration start scan : 898 Integration stop scan: 914
Y at integration start : -421 Y at integration end: -421

Reason for manual integration: improper integration

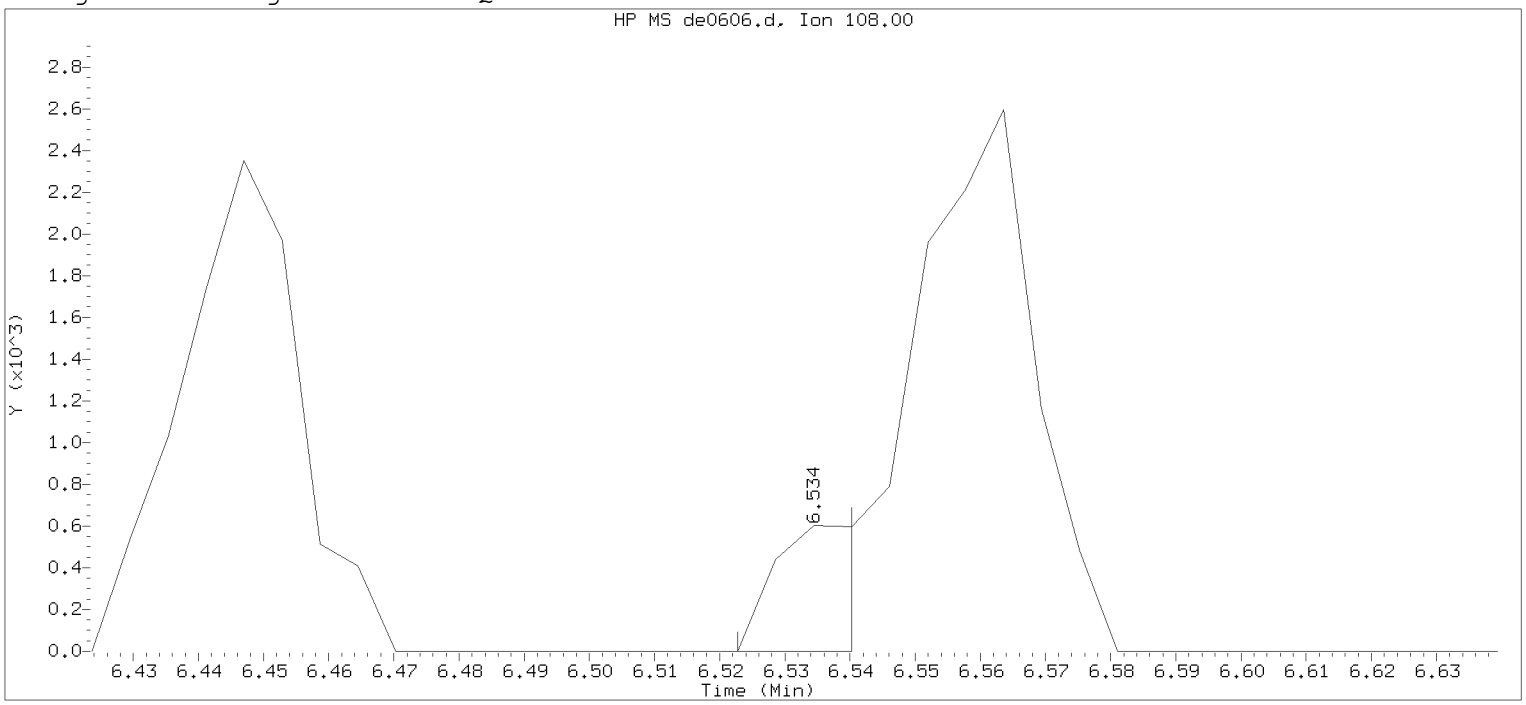
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

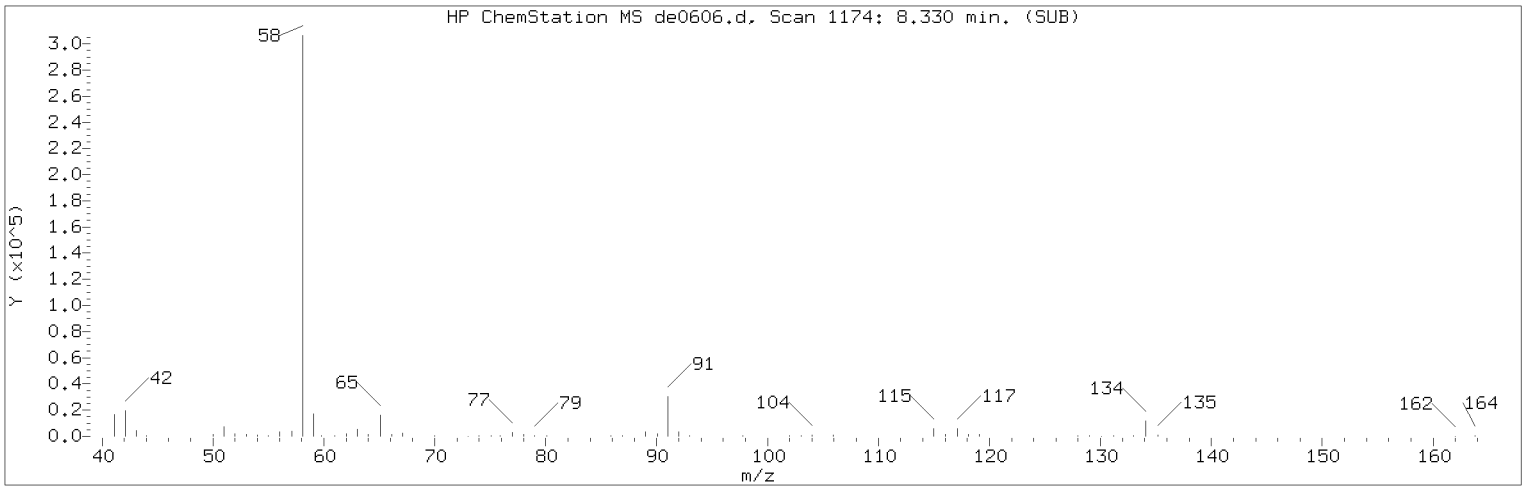
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

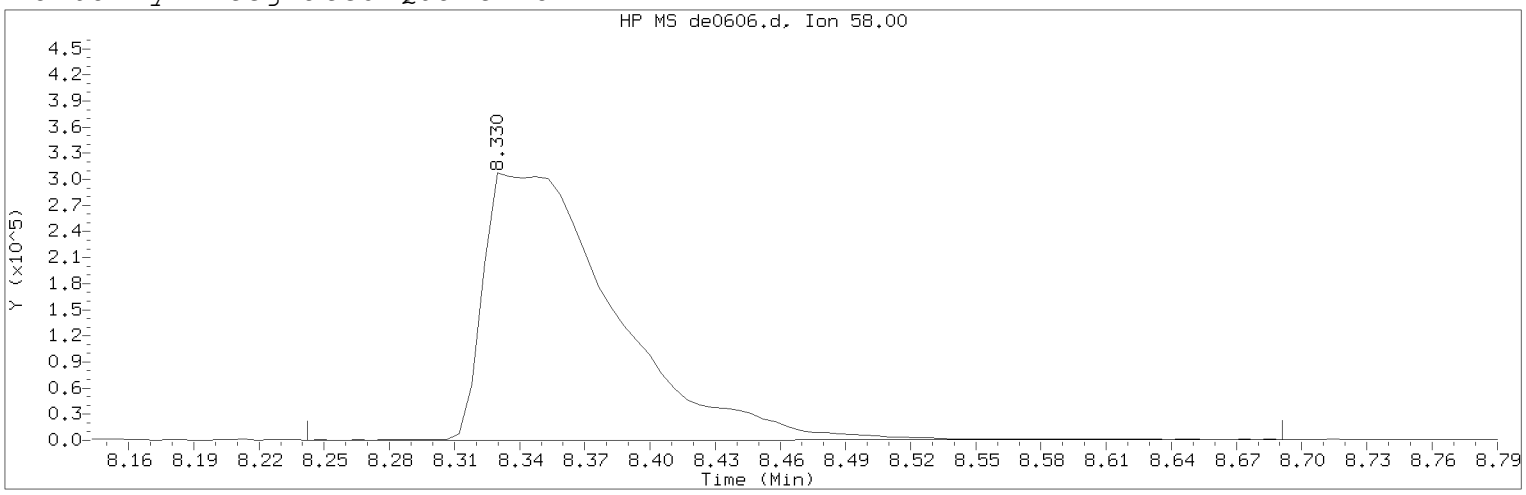
Compound Number : 27
Compound Name : Benzyl alcohol
Scan Number : 866
Retention Time (minutes) : 6.534
Quant Ion : 108.00
Area : 468
On-column Amount (ng/ul) : 0.0136
Integration start scan : 863 Integration stop scan: 866
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

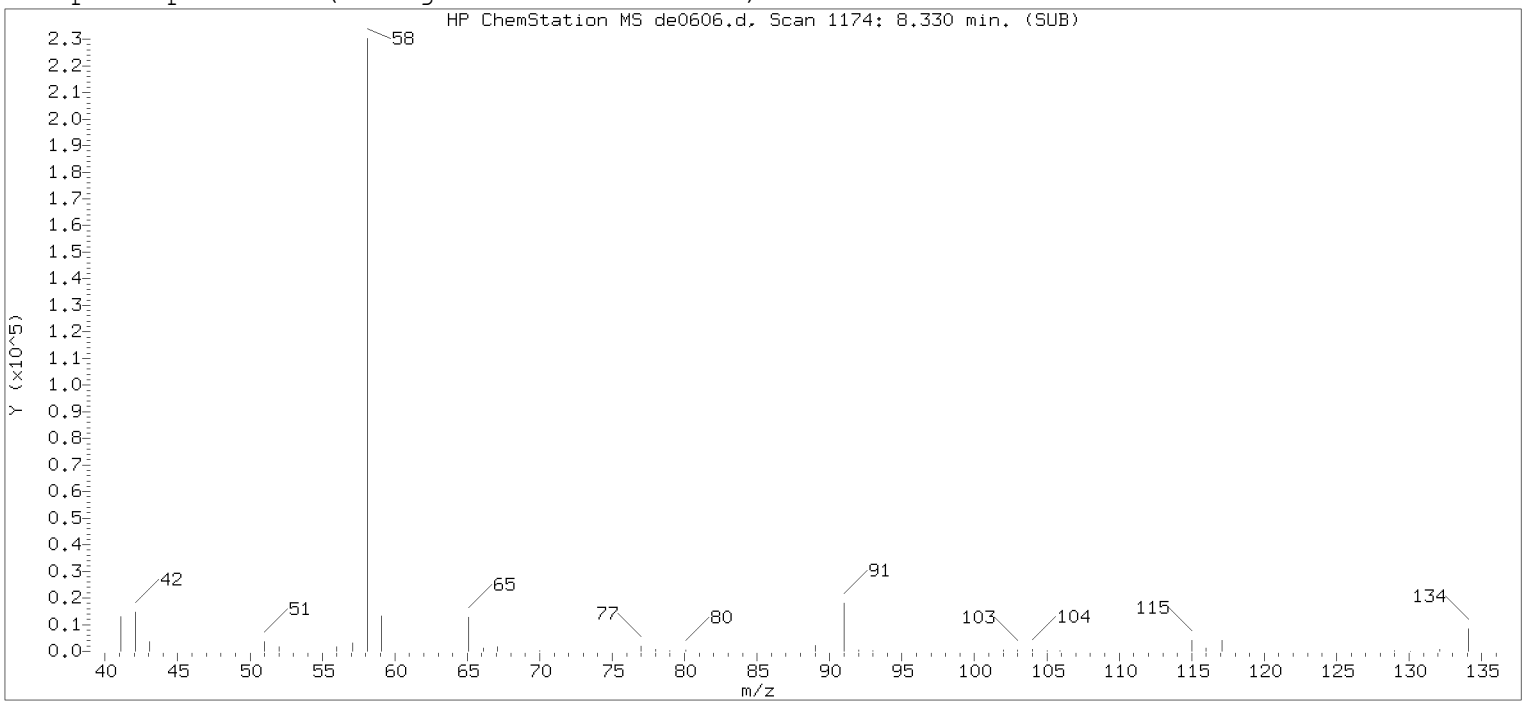
Compound Number : 64
Compound Name : a,a-Dimethylphenethylamine
Scan Number : 1174
Retention Time (minutes) : 8.330
Quant Ion : 58.00
Area (flag) : 1290237M
On-Column Amount (ng/ul) : 12.8334
Integration start scan : 1158 Integration stop scan: 1235
Y at integration start : 343 Y at integration end: 1084

Reason for manual integration: improper integration

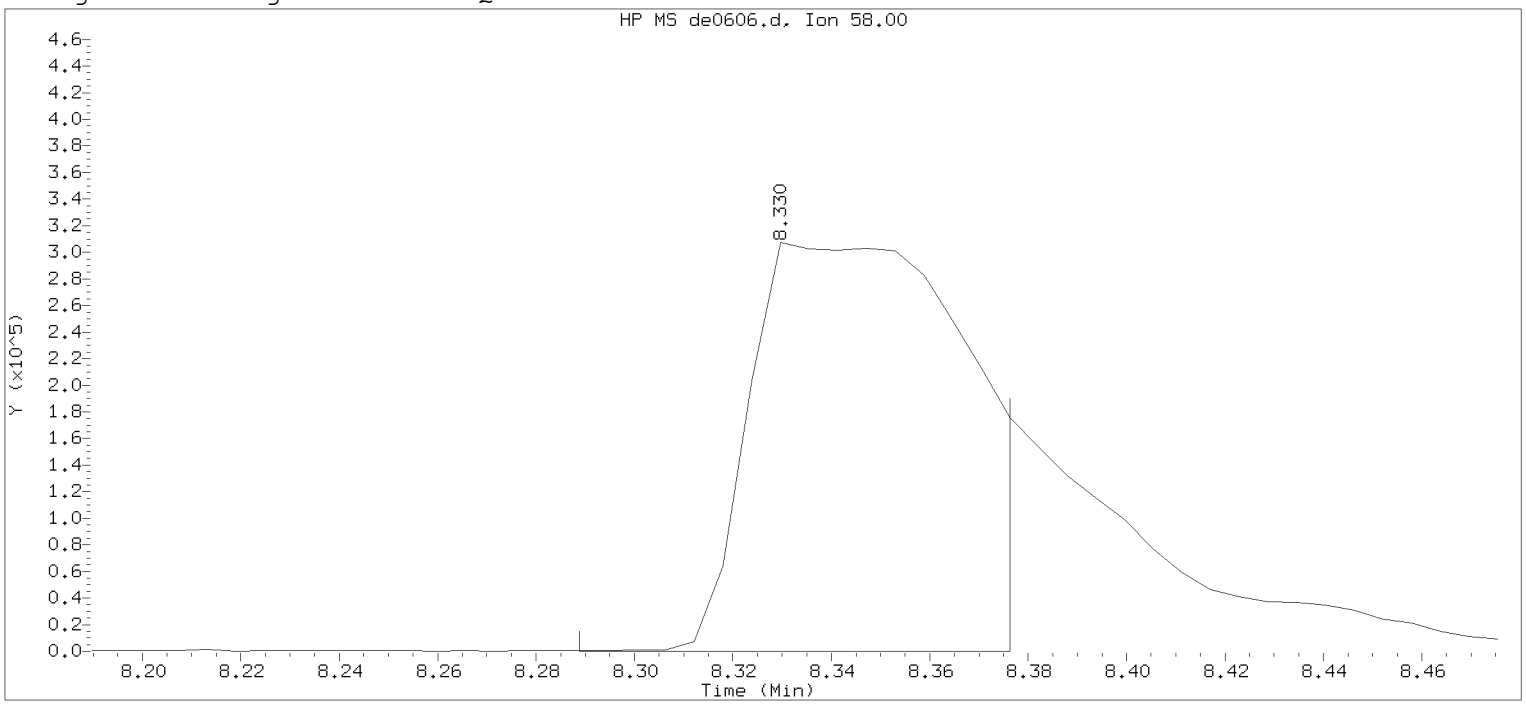
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

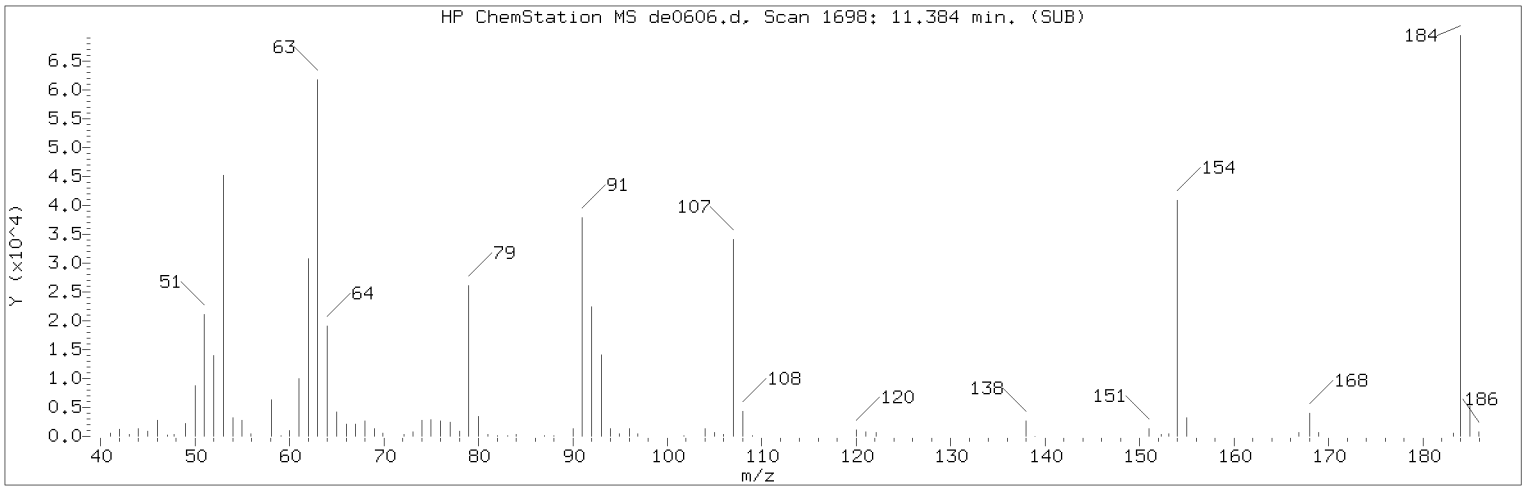
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

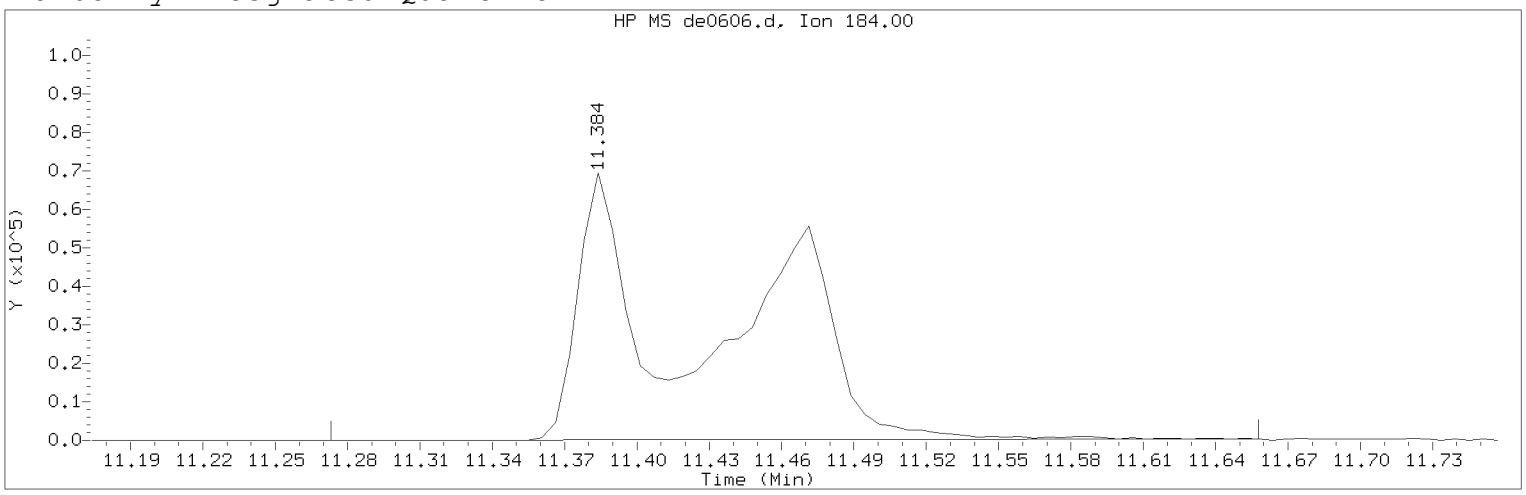
Compound Number : 64
Compound Name : a,a-Dimethylphenethylamine
Scan Number : 1174
Retention Time (minutes) : 8.330
Quant Ion : 58.00
Area : 918420
On-column Amount (ng/ul) : 0.0000
Integration start scan : 1166 Integration stop scan: 1181
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

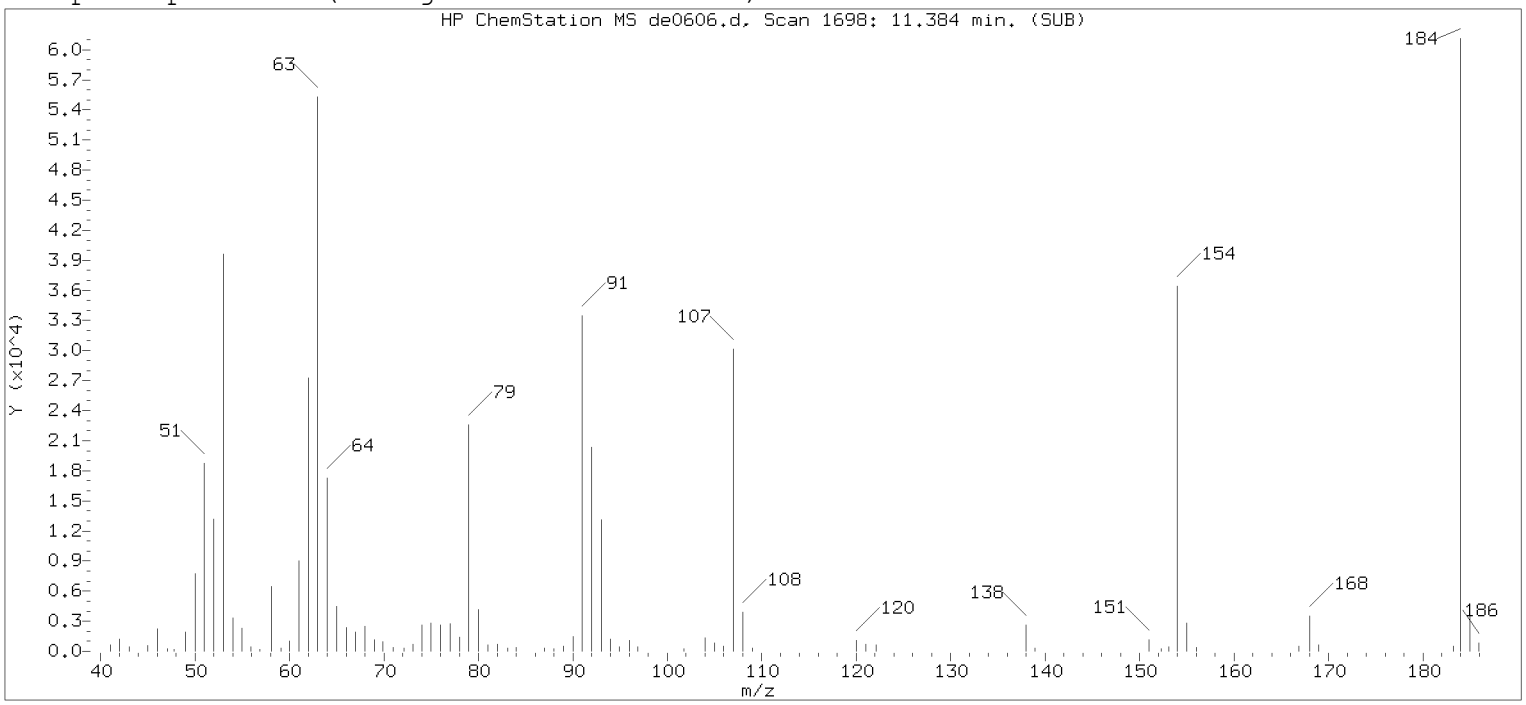
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1698
Retention Time (minutes) : 11.384
Quant Ion : 184.00
Area (flag) : 251987M
On-Column Amount (ng/ul) : 20.6832
Integration start scan : 1678 Integration stop scan: 1744
Y at integration start : 0 Y at integration end: 314

Reason for manual integration: improper integration

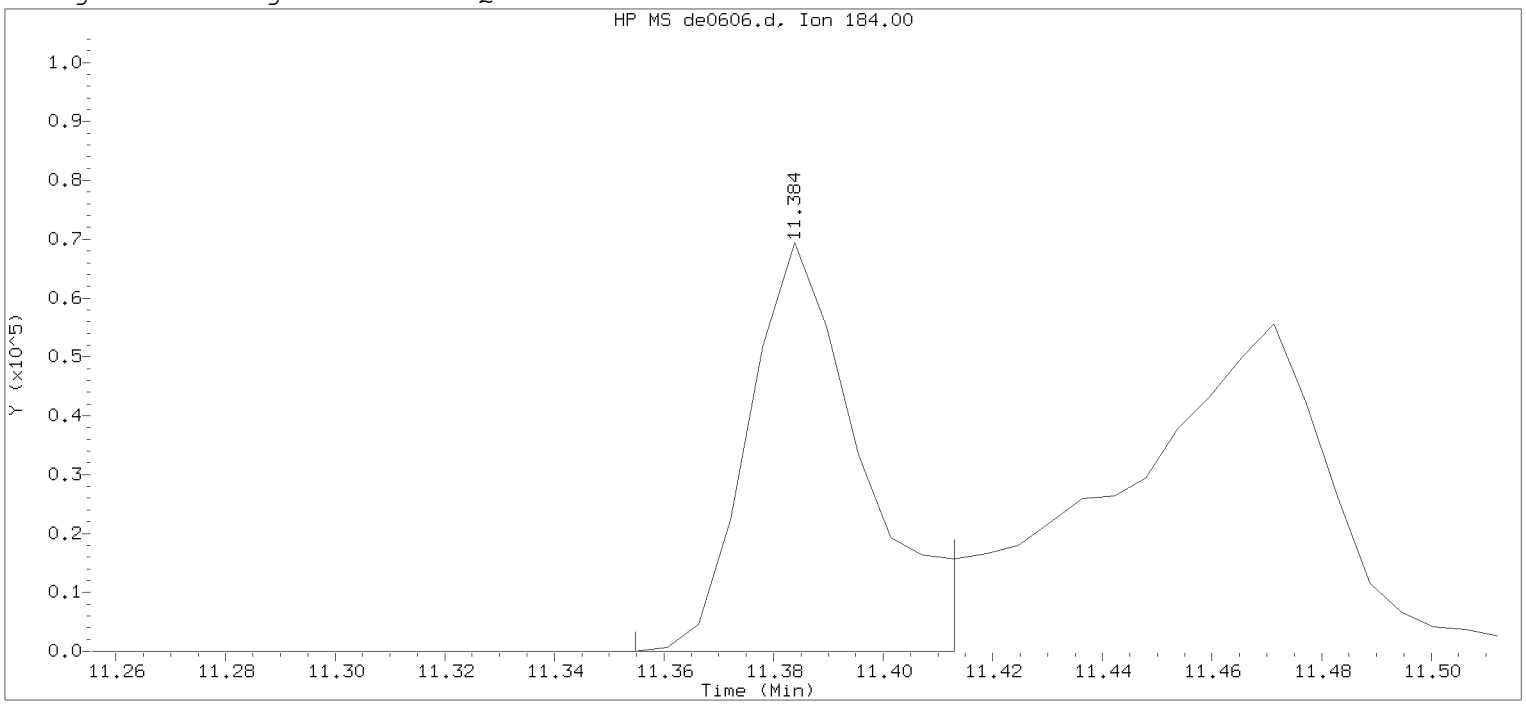
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

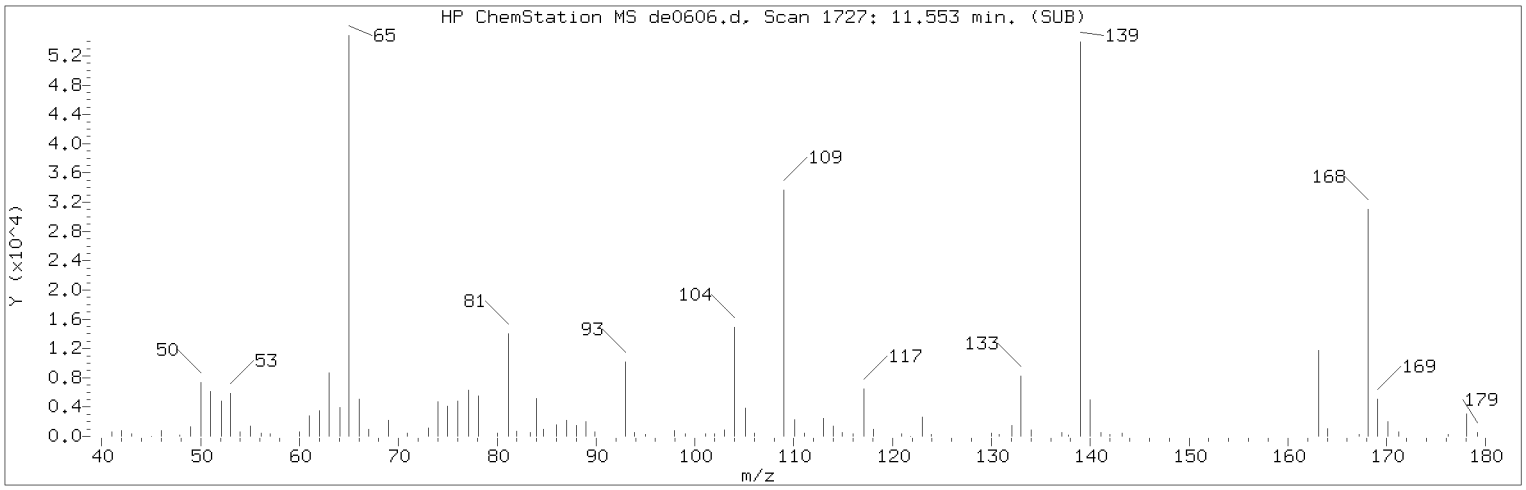
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

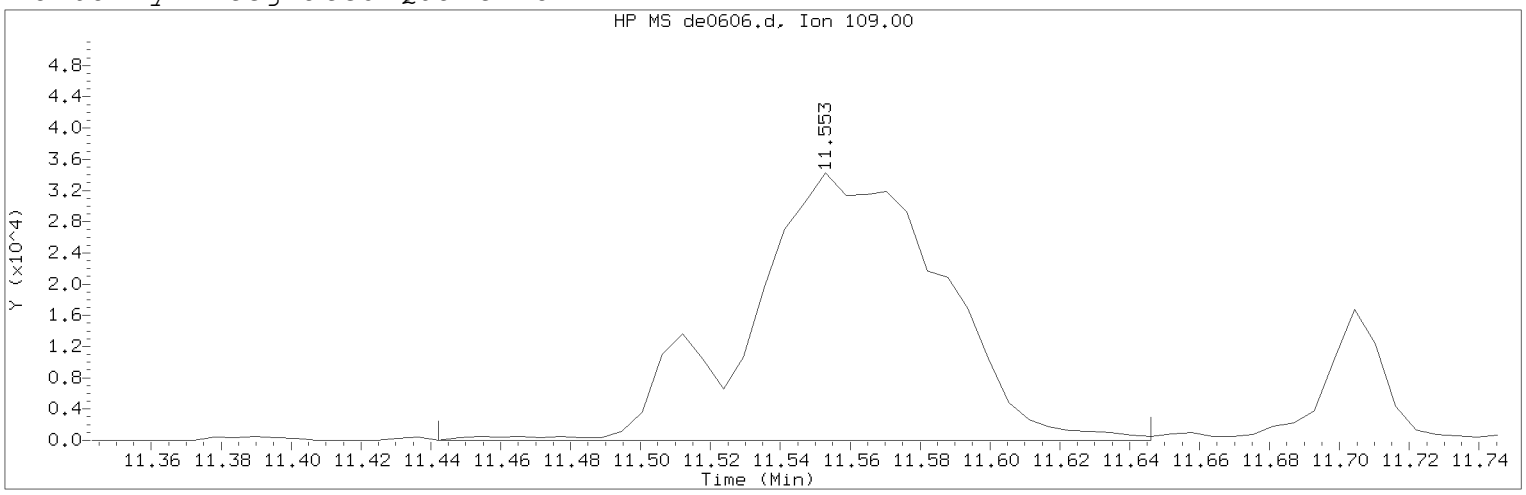
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1698
Retention Time (minutes) : 11.384
Quant Ion : 184.00
Area : 98150
On-column Amount (ng/ul) : 8.0562
Integration start scan : 1692 Integration stop scan: 1702
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

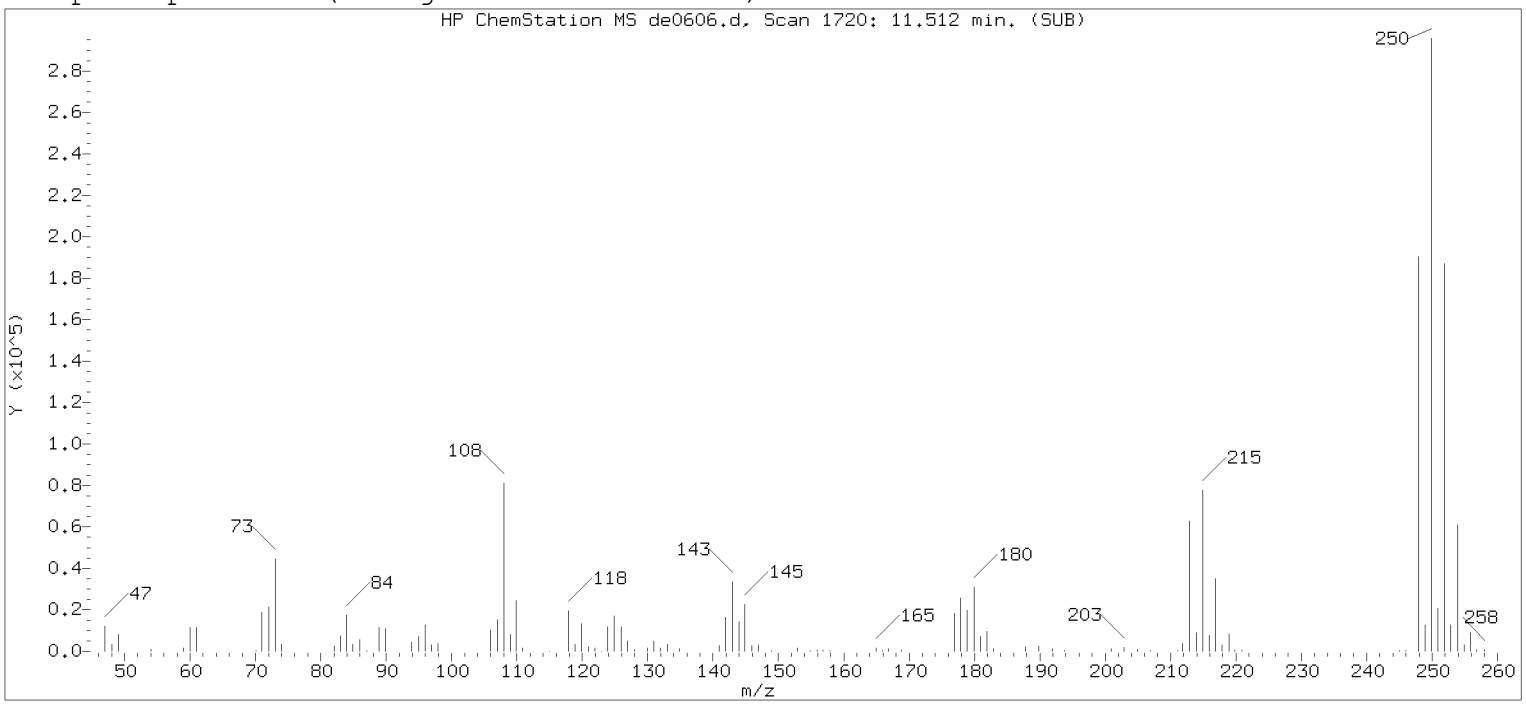
Compound Number : 116
Compound Name : 4-Nitrophenol
Scan Number : 1727
Retention Time (minutes) : 11.553
Quant Ion : 109.00
Area (flag) : 132541M
On-Column Amount (ng/ul) : 8.2960
Integration start scan : 1707 Integration stop scan: 1742
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

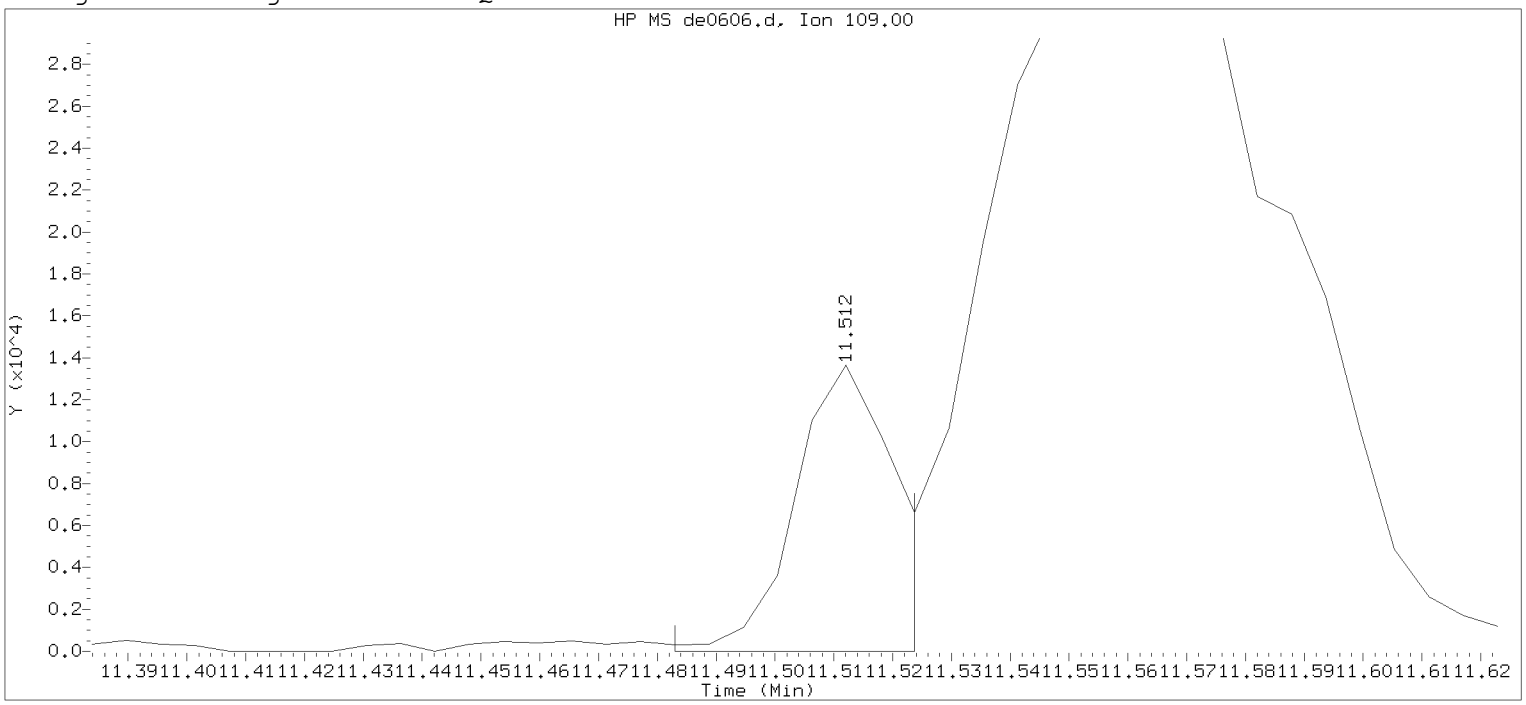
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

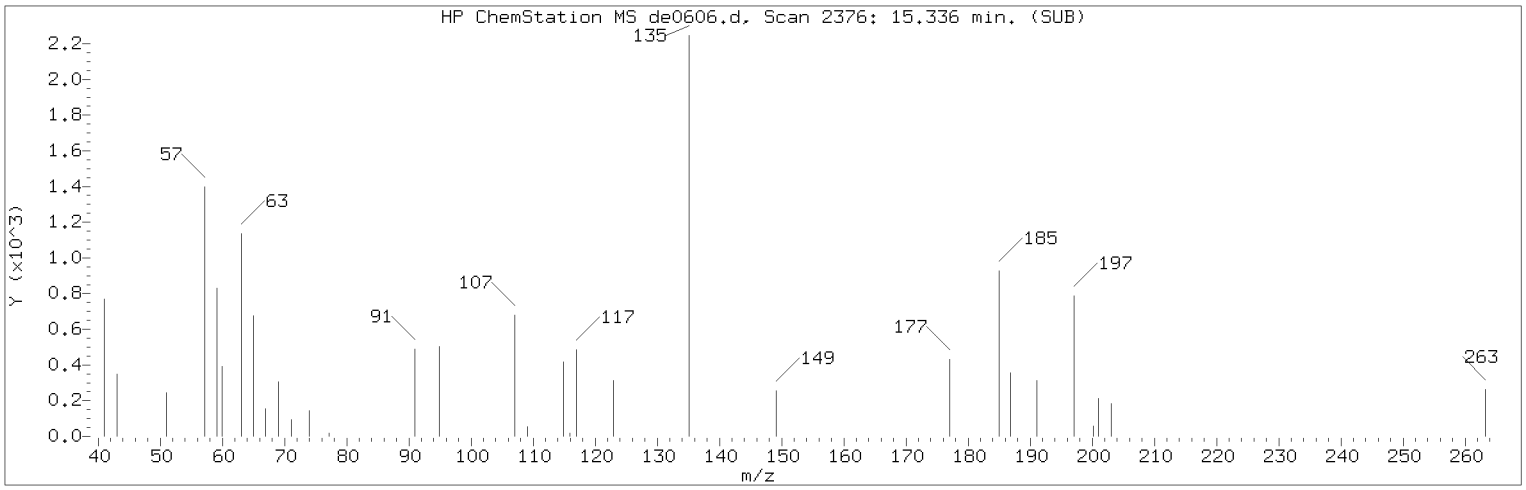
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

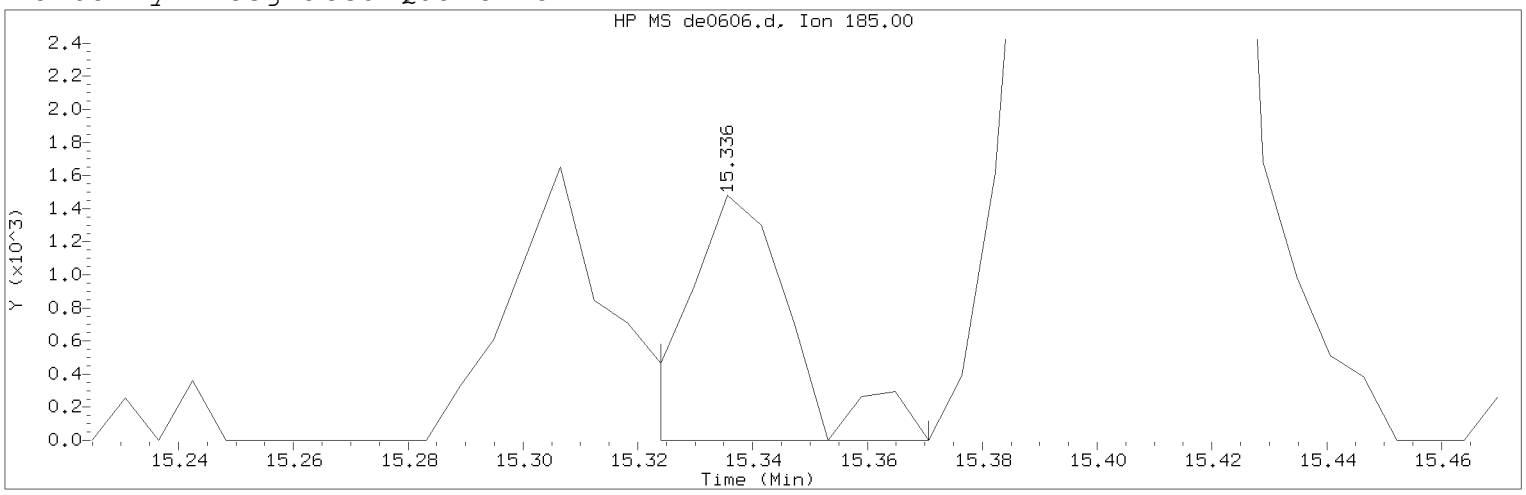
Compound Number : 116
Compound Name : 4-Nitrophenol
Scan Number : 1720
Retention Time (minutes) : 11.512
Quant Ion : 109.00
Area : 15245
On-column Amount (ng/ul) : 0.9542
Integration start scan : 1714 Integration stop scan: 1721
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

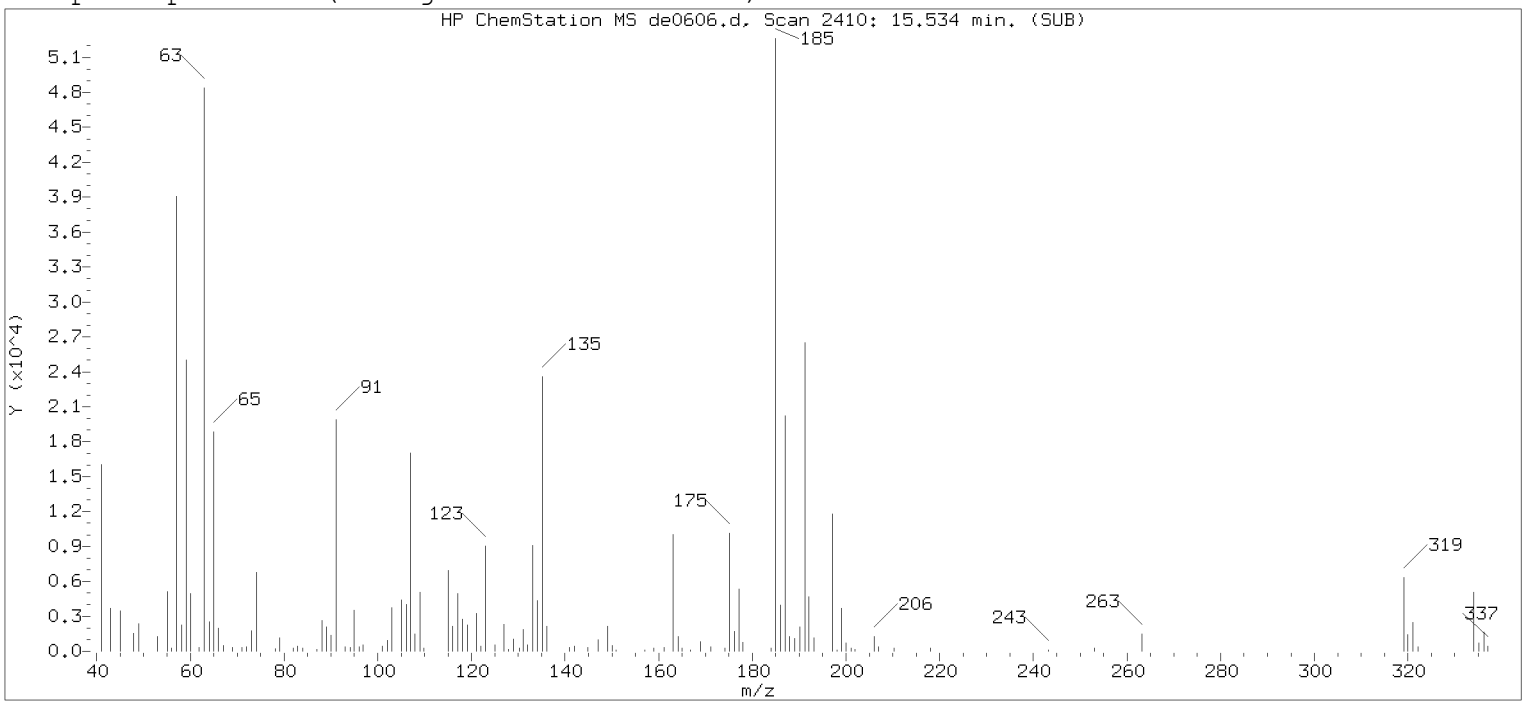
Compound Number : 181
Compound Name : Aramite (2)
Scan Number : 2376
Retention Time (minutes) : 15.336
Quant Ion : 185.00
Area (flag) : 1818A
On-Column Amount (ng/ul) : 3.2966
Integration start scan : 2373 Integration stop scan: 2381
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

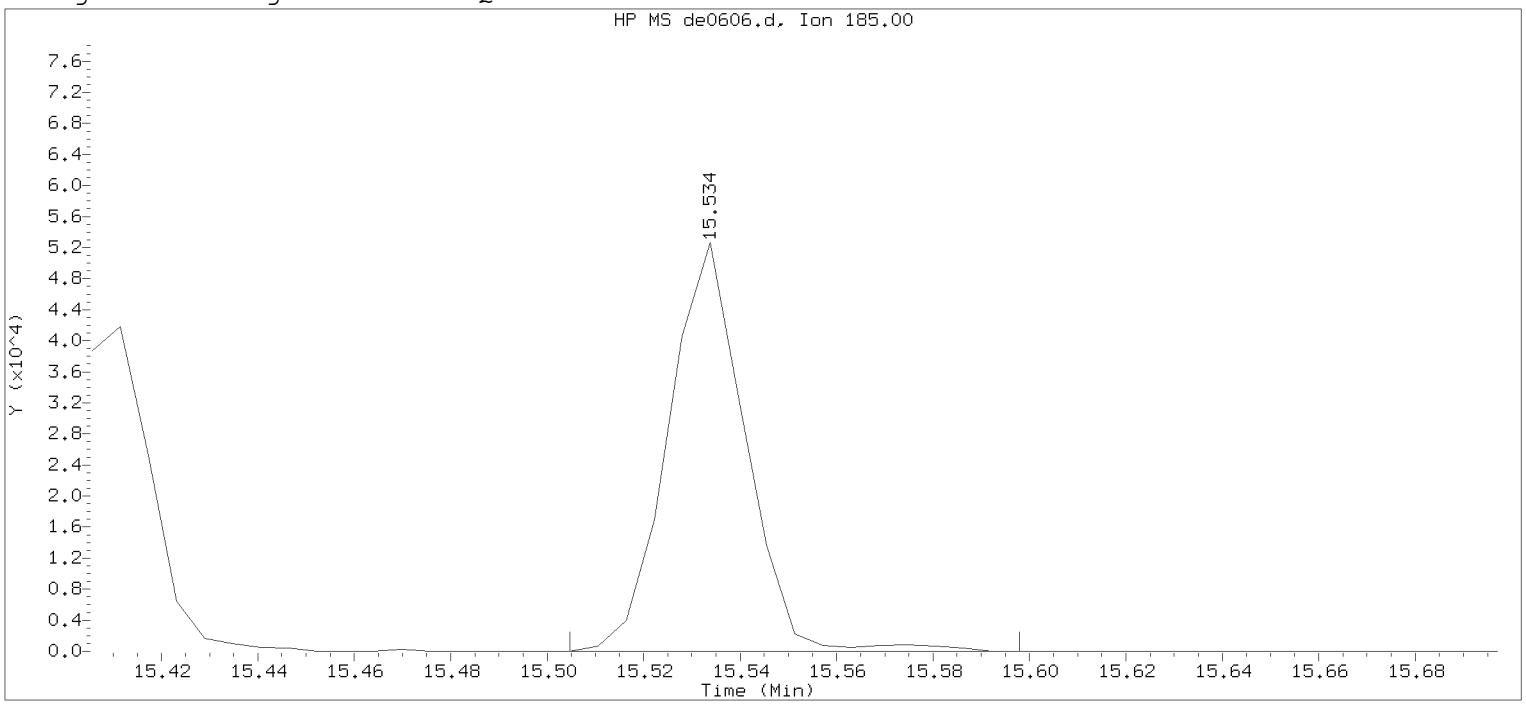
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

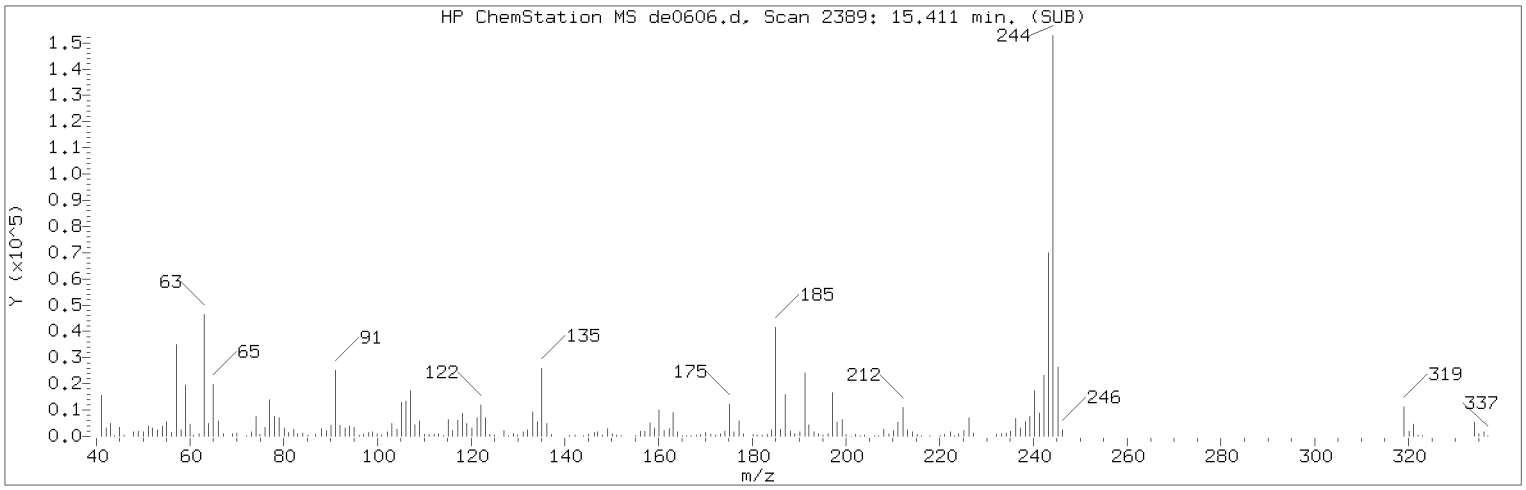
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

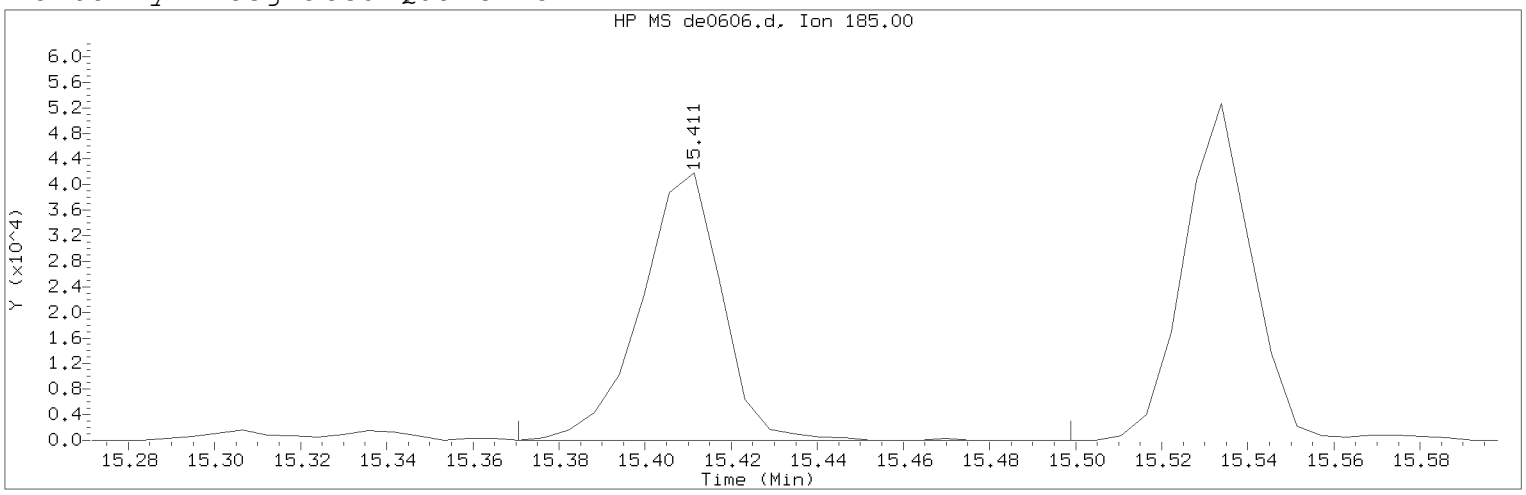
Compound Number : 181
Compound Name : Aramite (2)
Scan Number : 2410
Retention Time (minutes) : 15.534
Quant Ion : 185.00
Area : 58556
On-column Amount (ng/ul) : 0.0000
Integration start scan : 2404 Integration stop scan: 2420
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

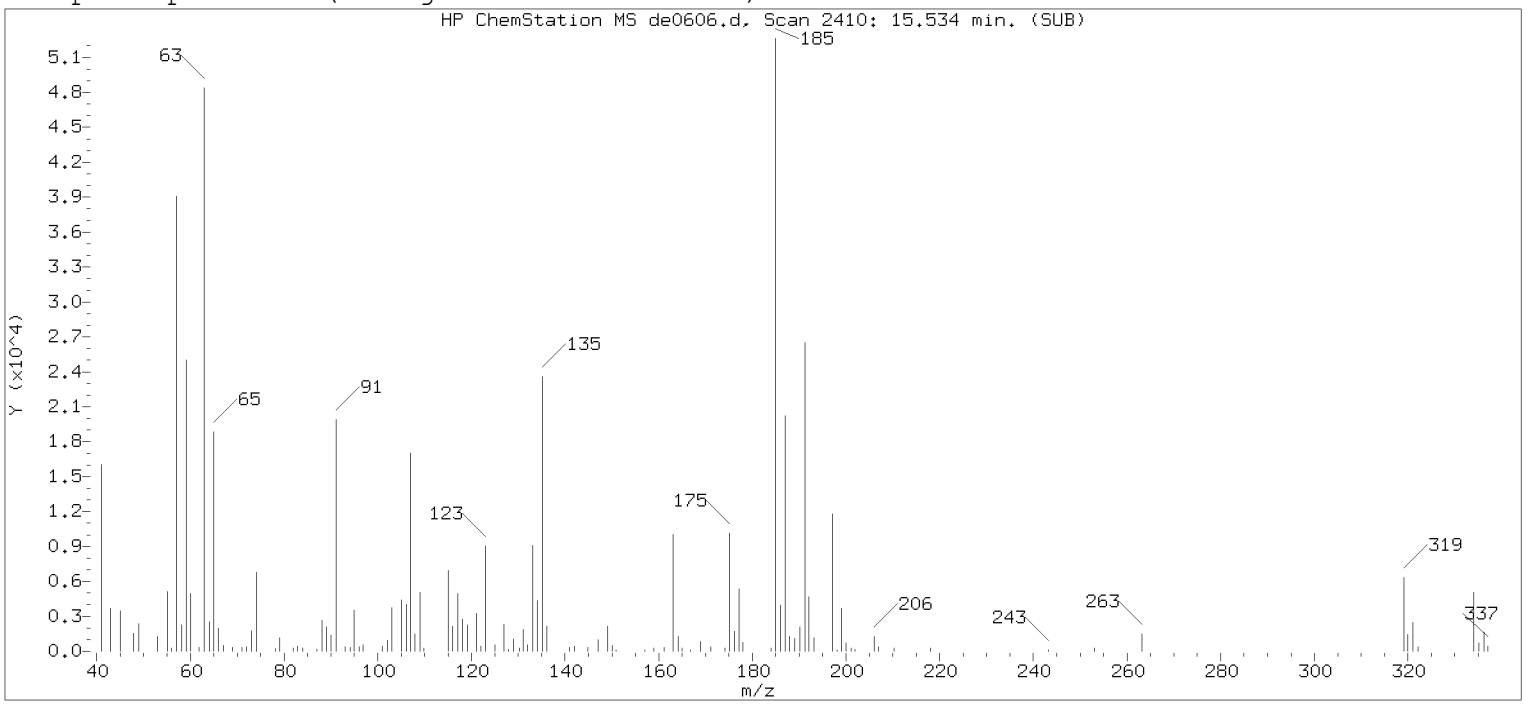
Compound Number : 180
Compound Name : Aramite (1)
Scan Number : 2389
Retention Time (minutes) : 15.411
Quant Ion : 185.00
Area (flag) : 54297A
On-Column Amount (ng/ul) : 105.6512
Integration start scan : 2381 Integration stop scan: 2403
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

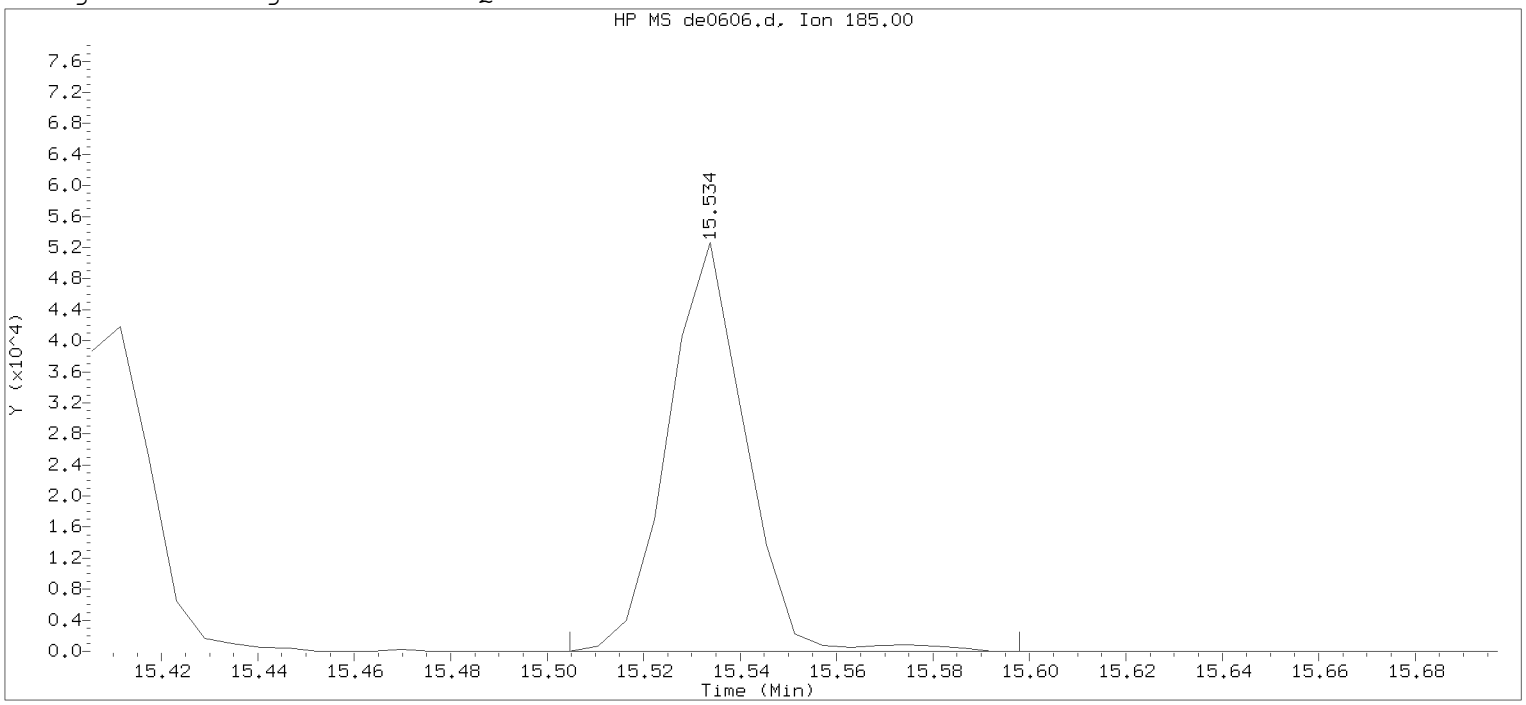
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

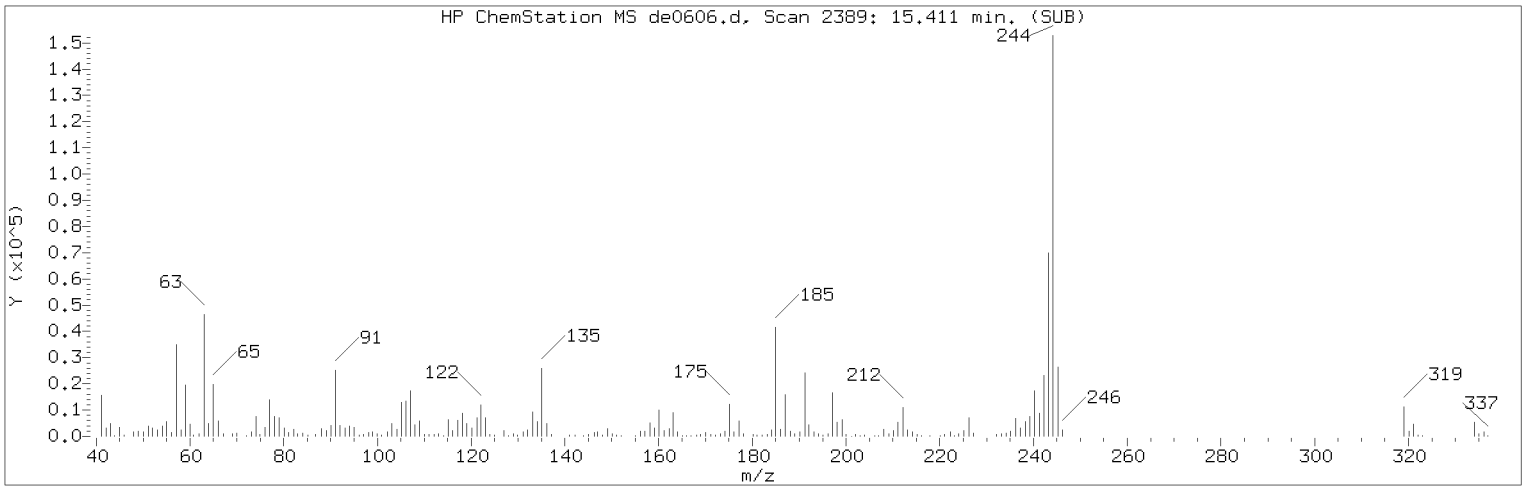
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

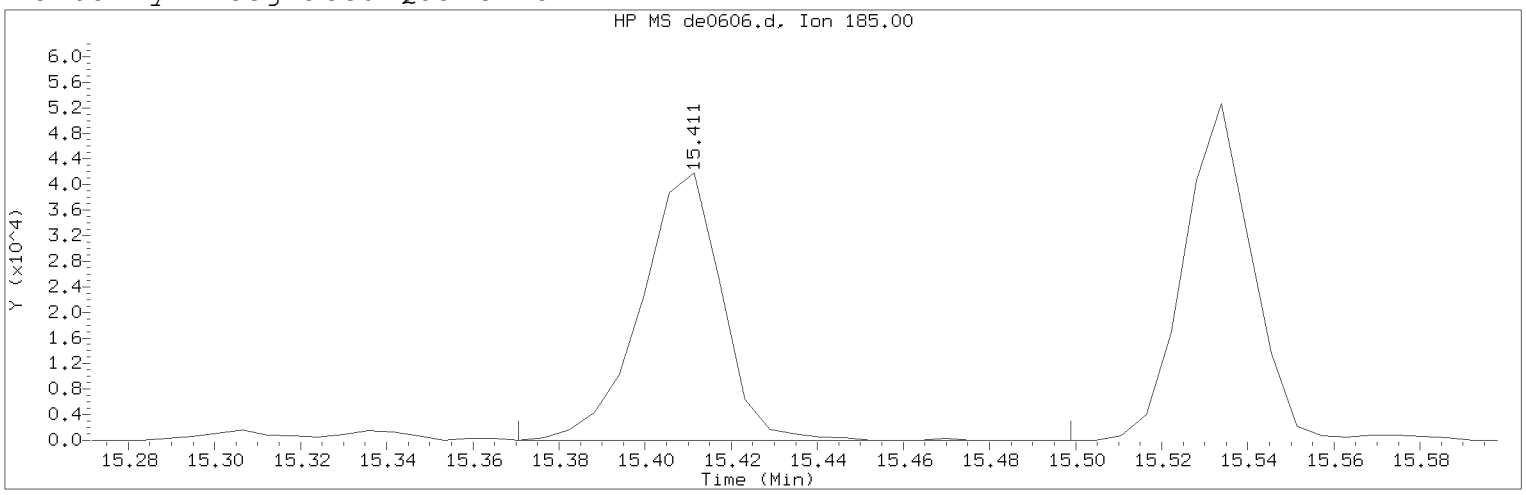
Compound Number : 180
Compound Name : Aramite (1)
Scan Number : 2410
Retention Time (minutes) : 15.534
Quant Ion : 185.00
Area : 58556
On-column Amount (ng/ul) : 0.0000
Integration start scan : 2404 Integration stop scan: 2420
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

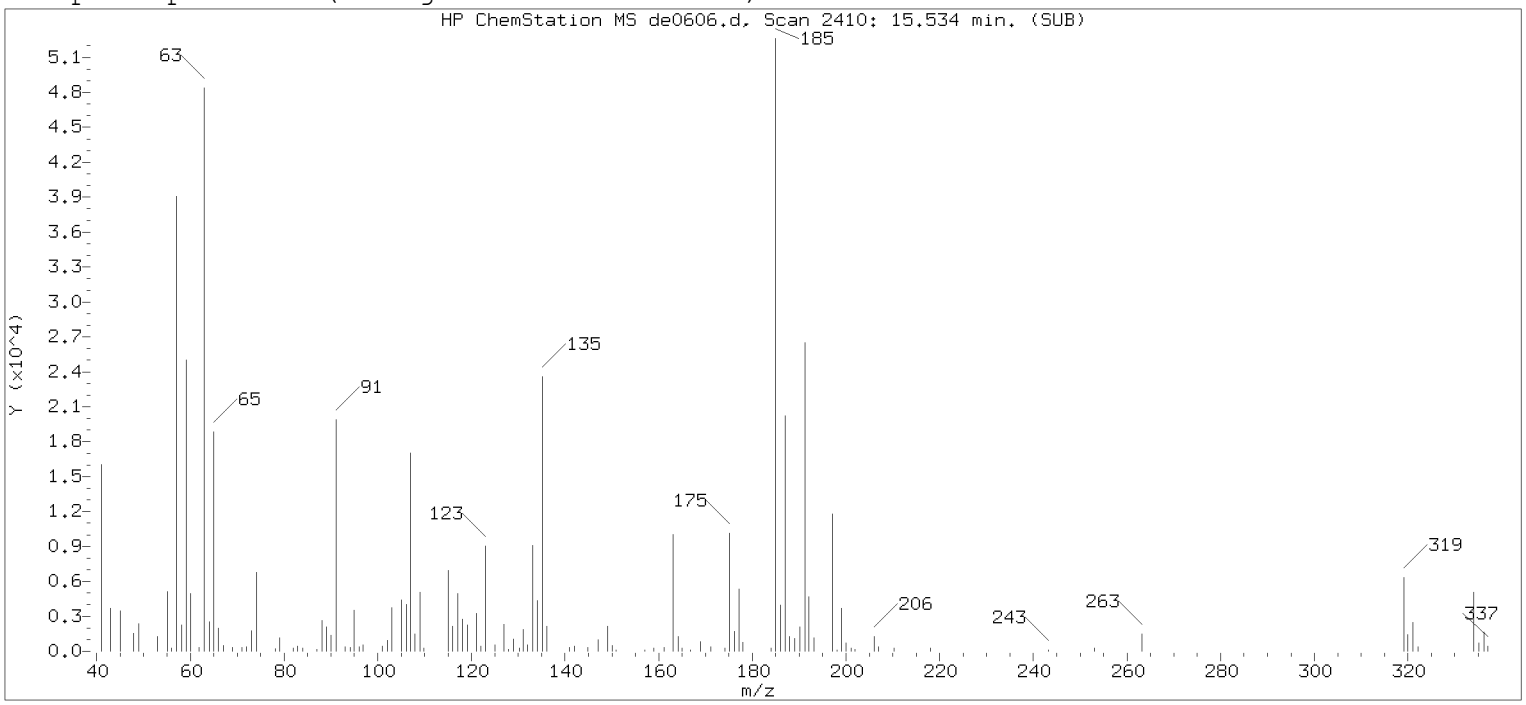
Compound Number : 183
Compound Name : Aramite (3)
Scan Number : 2389
Retention Time (minutes) : 15.411
Quant Ion : 185.00
Area (flag) : 54297A
On-Column Amount (ng/ul) : 1.1746
Integration start scan : 2381 Integration stop scan: 2403
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

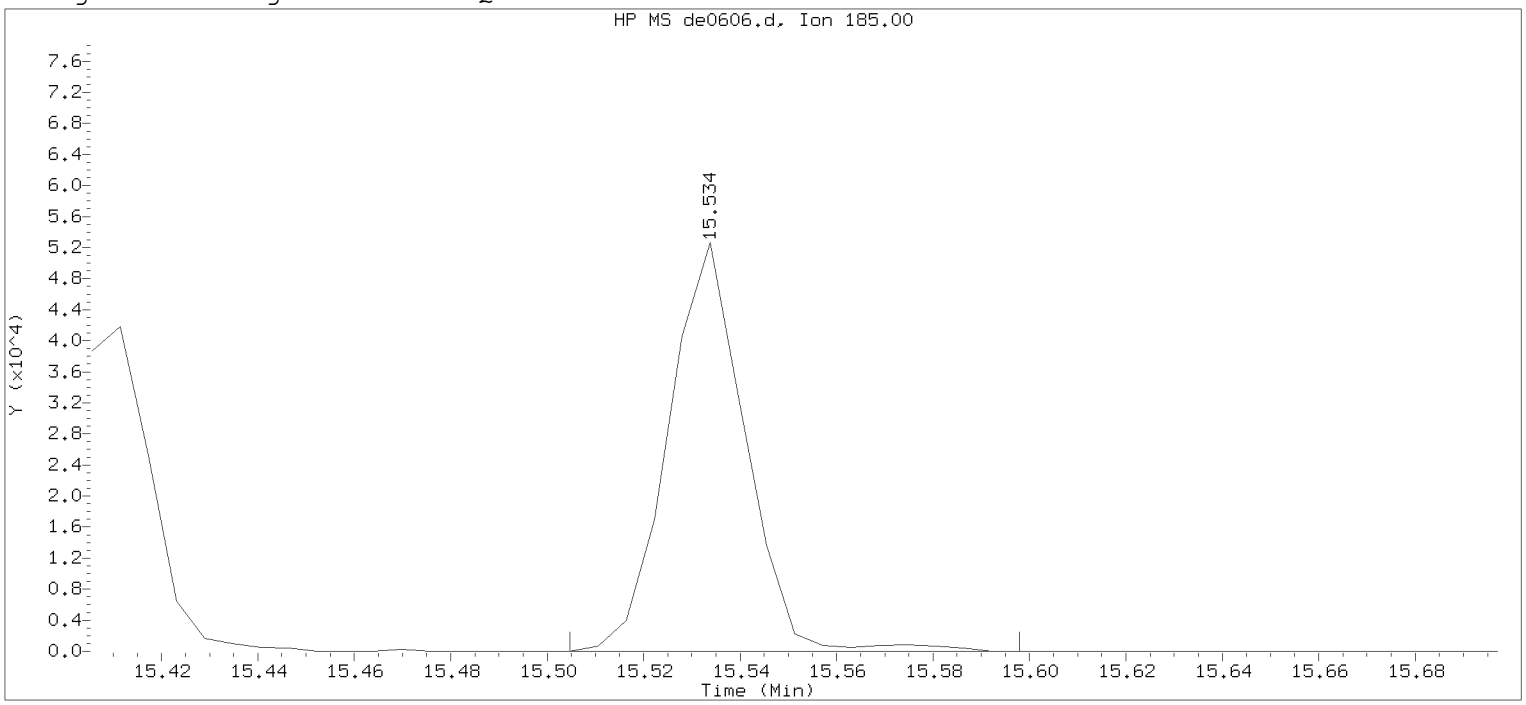
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

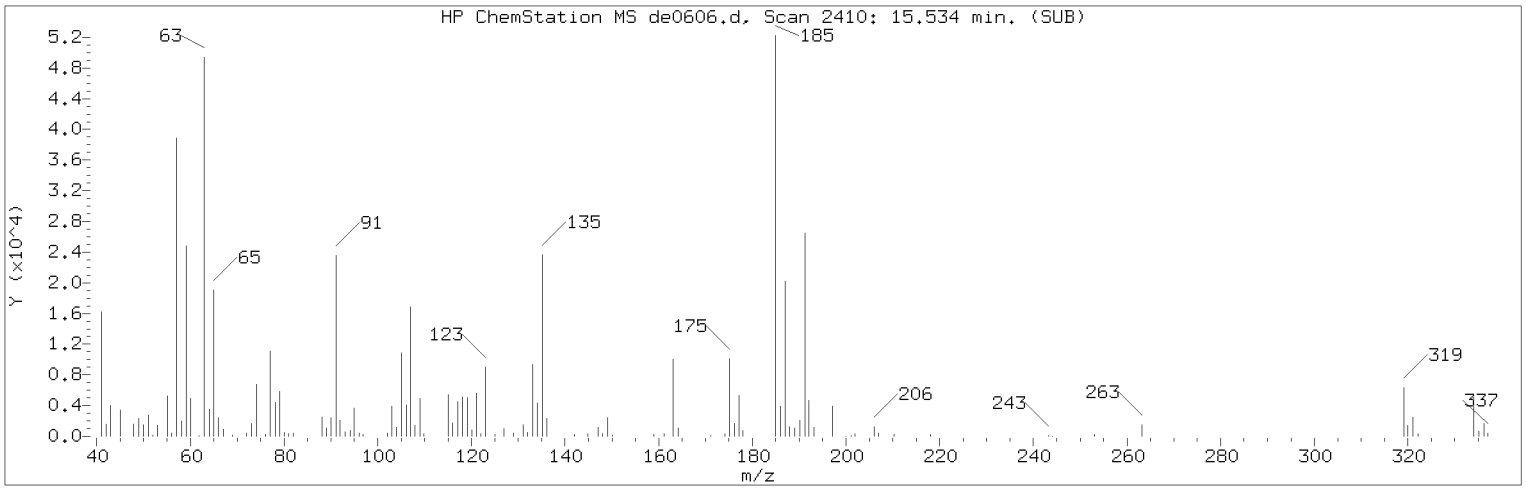
Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

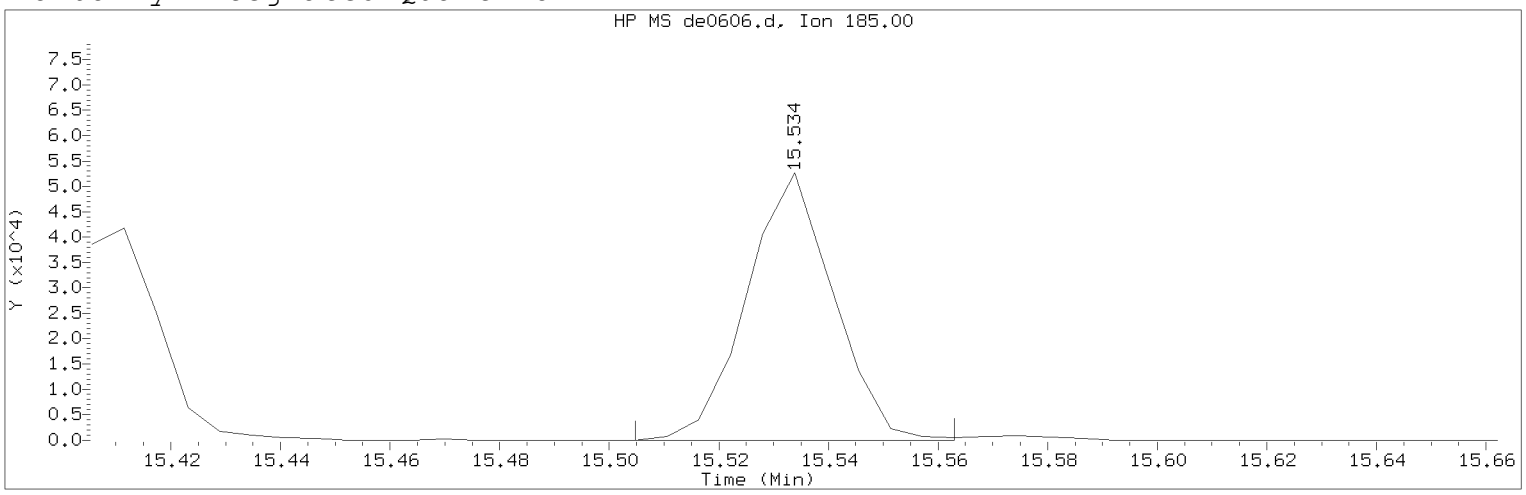
Compound Number : 183
Compound Name : Aramite (3)
Scan Number : 2410
Retention Time (minutes) : 15.534
Quant Ion : 185.00
Area : 58556
On-column Amount (ng/ul) : 0.0000
Integration start scan : 2404 Integration stop scan: 2420
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 17-JUL-2017 11:24
Date, time and analyst ID of latest file update: 17-Jul-2017 11:25 hbz01996

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

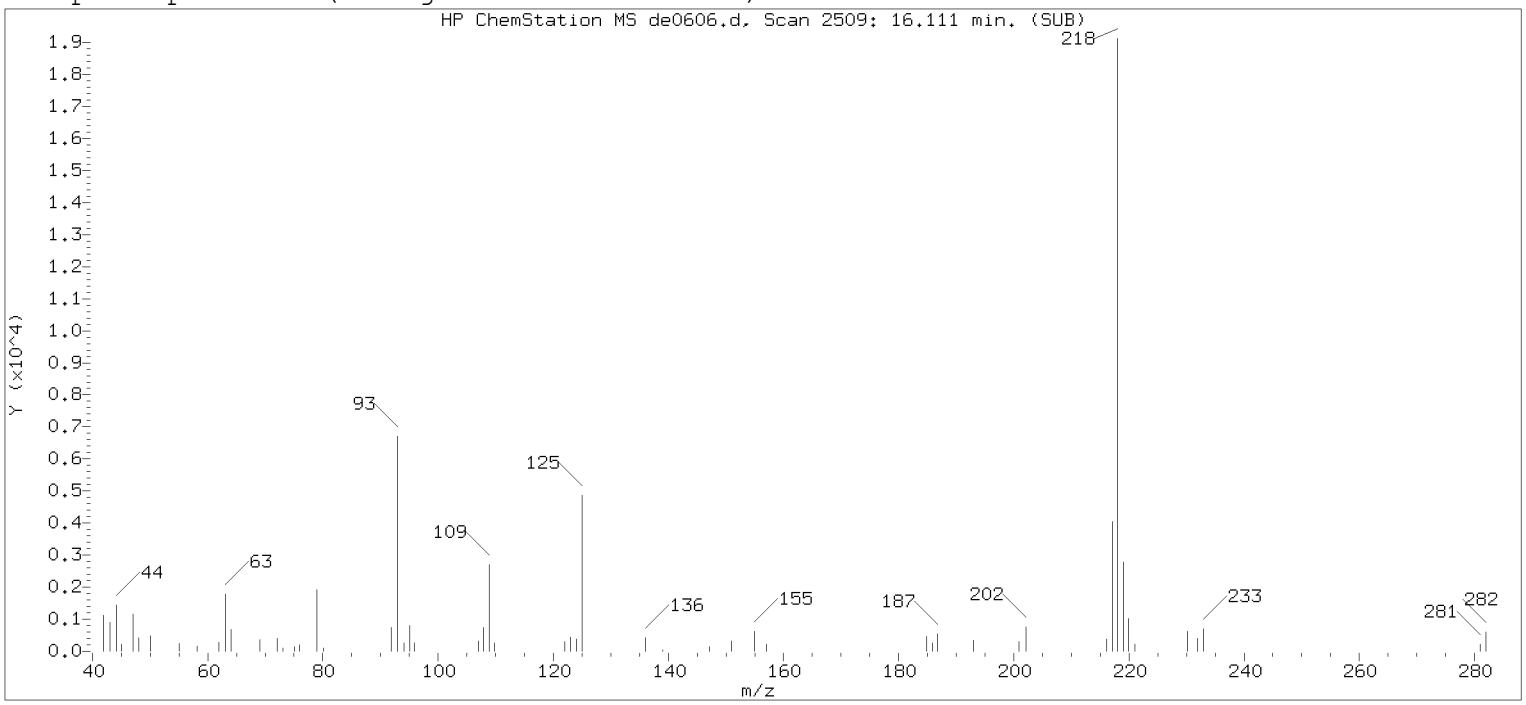
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2410
Retention Time (minutes) : 15.534
Quant Ion : 185.00
Area (flag) : 57798MA
On-Column Amount (ng/ul) : 0.9175
Integration start scan : 2404 Integration stop scan: 2414
Y at integration start : -40 Y at integration end: -40

Reason for manual integration: improper integration

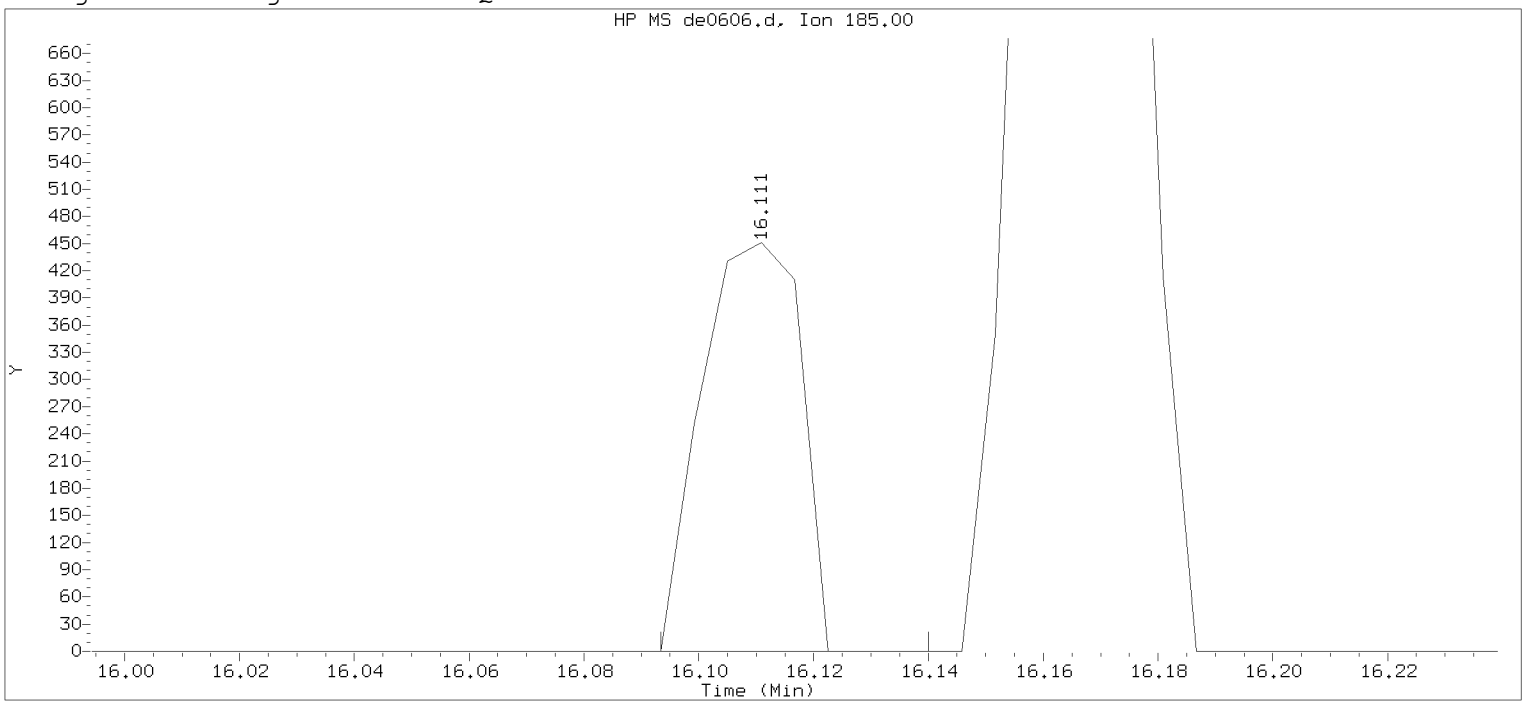
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:45.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may23.b/de0606.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22229l
Calibration date and time: 23-MAY-2017 13:58
Date, time and analyst ID of latest file update: 23-May-2017 14:53 Automation

Sample Name: 142WCLCS Lab Sample ID: 142WCLCS

Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2509
Retention Time (minutes) : 16.111
Quant Ion : 185.00
Area : 539
On-column Amount (ng/ul) : 0.0000
Integration start scan : 2505 Integration stop scan: 2513
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:27.
Target 3.5 esignature user ID: 1662

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

142WWLCS

Data file: /chem/HP19760.i/17may23.b/de0606a.d
Injection date and time: **23-MAY-2017 14:30**
Data file Sample Info. Line: 142WWLCS;142WWLCS;1;3;LCS;;RAAPLOQ;
Instrument ID: **HP19760.i** Batch: **17142WAW**
Date, time and analyst ID of latest file update: 26-May-2017 15:40 em10340

Blank Data file reference: **/chem/HP19760.i/17may23.b/de0605a.d**

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: **22230M**
Calibration date and time (Last Method Edit): 23-MAY-2017 19:05
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may23.b/de0591.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.534(0.000)	866	152	155919 (-21)	5.00	
65) Naphthalene-d8	8.464(0.000)	1197	136	581325 (-20)	5.00	
113) Acenaphthene-d10	11.250(0.000)	1675	164	324286 (-22)	5.00	
153) Phenanthrene-d10	13.162(0.000)	2003	188	616847 (-21)	5.00	
175) Pyrene-d10	15.079(0.000)	2332	212	727611 (-24)	5.00	
213) Perylene-d12	19.503(0.000)	3091	264	610827 (-23)	5.00	

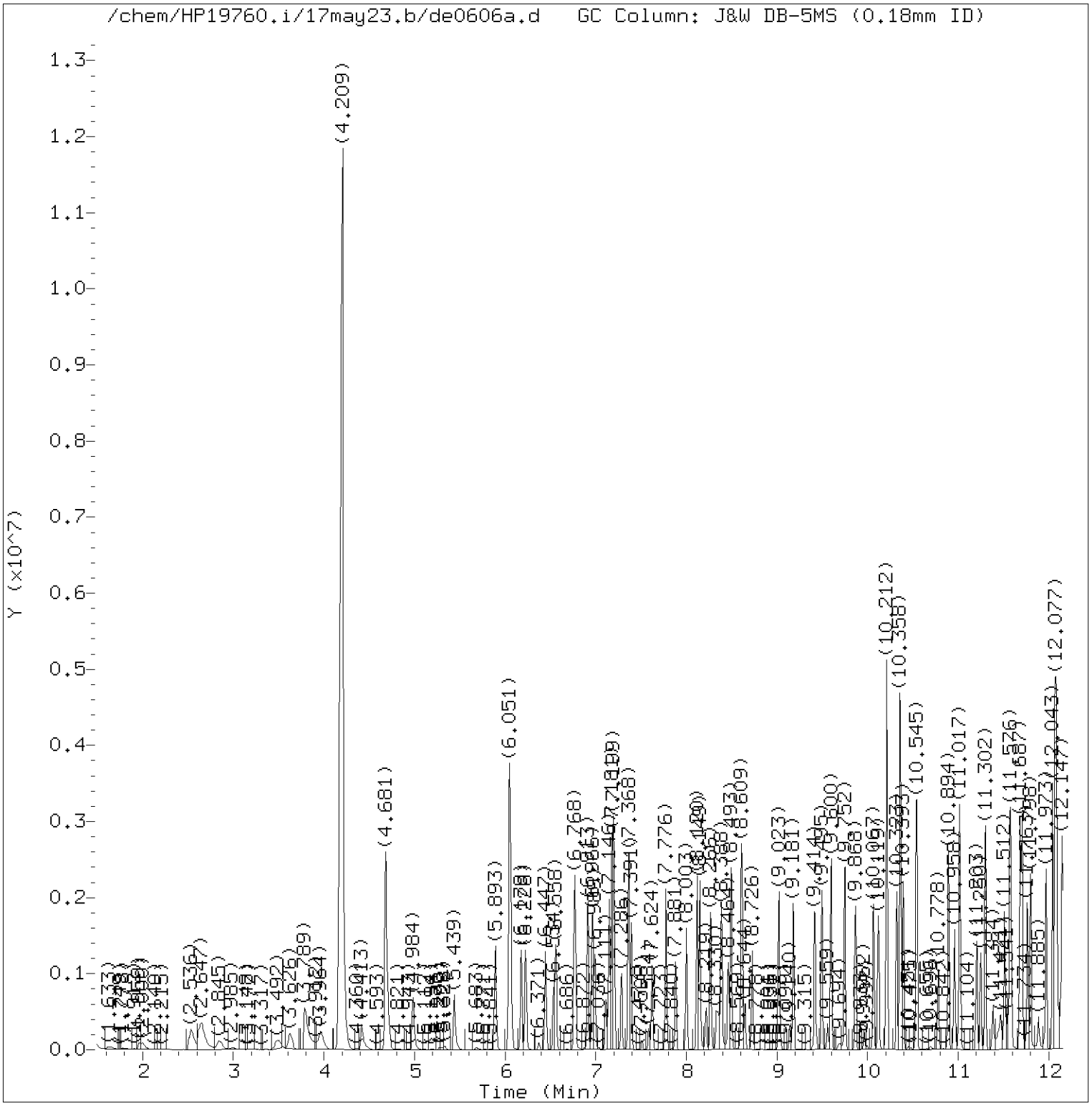
Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.368(-0.001)	82	1191760	19.782	79%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.212(0.000)	172	1870234	18.554	74%		41 - 112
179) Terphenyl-d14	(5)	15.394(0.000)	244	2241603	20.994	84%		38 - 125

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
108) 2,6-Dinitrotoluene	(3)	10.958(-0.000)	165	230707	11.039	44.15			0.1
118) 2,4-Dinitrotoluene	(3)	11.588(-0.000)	165	317481	11.294	45.18			0.3
124) Diethylphthalate	(3)	11.972(0.000)	149	916551	9.995	39.98			0.5

Total number of targets = 3

Digitally signed by Edward Monborne on 05/26/2017 at 15:49. Target 3.5 esignature user ID: em10340

Secondary review performed and digitally signed by Matthew E. Barton on 05/30/2017 at 11:22. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

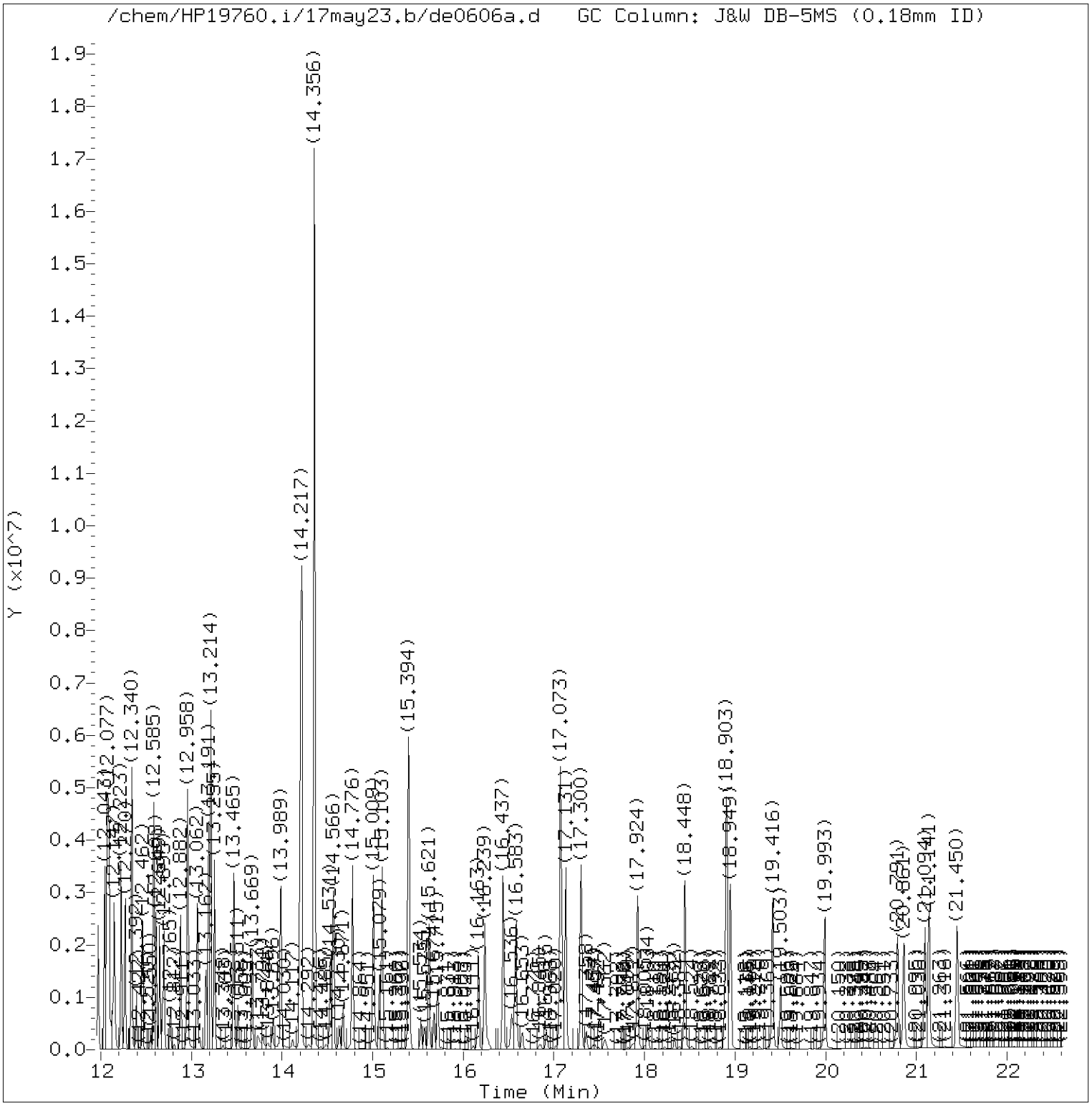
Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606a.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 26-May-2017 15:40 em10340

Sample Name: 142WWLCS Lab Sample ID: 142WWLCS

Digitally signed by Edward Monborne
on 05/26/2017 at 15:49.
Target 3.5 esignature user ID: em10340



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606a.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 26-May-2017 15:40 em10340

Sample Name: 142WWLCS Lab Sample ID: 142WWLCS

Digitally signed by Edward Monborne
on 05/26/2017 at 15:49.
Target 3.5 esignature user ID: em10340

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may23.b/de0606a.d Instrument ID: HP19760.i
Injection date and time: 23-MAY-2017 14:30 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may23.b/rv8270d.m Sublist used: 22230M
Calibration date and time: 23-MAY-2017 19:05
Date, time and analyst ID of latest file update: 26-May-2017 15:40 em10340

Sample Name: 142WWLCS Lab Sample ID: 142WWLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.534	152	155919	5.000
44)$Nitrobenzene-d5	(2)	7.368	82	1191760	19.782
65)*Naphthalene-d8	(2)	8.464	136	581325	5.000
93)$2-Fluorobiphenyl	(3)	10.212	172	1870234	18.554
108) 2,6-Dinitrotoluene	(3)	10.958	165	230707	11.039
113)*Acenaphthene-d10	(3)	11.250	164	324286	5.000
118) 2,4-Dinitrotoluene	(3)	11.588	165	317481	11.294
124) Diethylphthalate	(3)	11.973	149	916551	9.995
153)*Phenanthrene-d10	(4)	13.162	188	616847	5.000
175)*Pyrene-d10	(5)	15.079	212	727611	5.000
179)$Terphenyl-d14	(5)	15.394	244	2241603	20.994
213)*Perylene-d12	(6)	19.503	264	610827	5.000

* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Edward Monborne
on 05/26/2017 at 15:49.
Target 3.5 esignature user ID: em10340

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

143WWLCS2

Data file: /chem/HP19760.i/17may30.b/de0927.d
Injection date and time: **30-MAY-2017 11:23**
Data file Sample Info. Line: 143WWLCS2;143WWLCS2;1;3;LCS;;;
Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843Mpda**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.464	(0.000)	854	152	157933	(-1)	5.00	
65) Naphthalene-d8	8.400	(0.000)	1186	136	591089	(-1)	5.00	
113) Acenaphthene-d10	11.192	(0.000)	1665	164	337585	(0)	5.00	
153) Phenanthrene-d10	13.115	(0.000)	1995	188	629664	(-1)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	765350	(-3)	5.00	
213) Perylene-d12	19.451	(-0.006)	3082	264	611779	(-6)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1174868	19.179	77%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	1941970	18.507	74%		41 - 112
179) Terphenyl-d14	(5)	15.353	(0.000)	244	2154922	19.187	77%		38 - 125

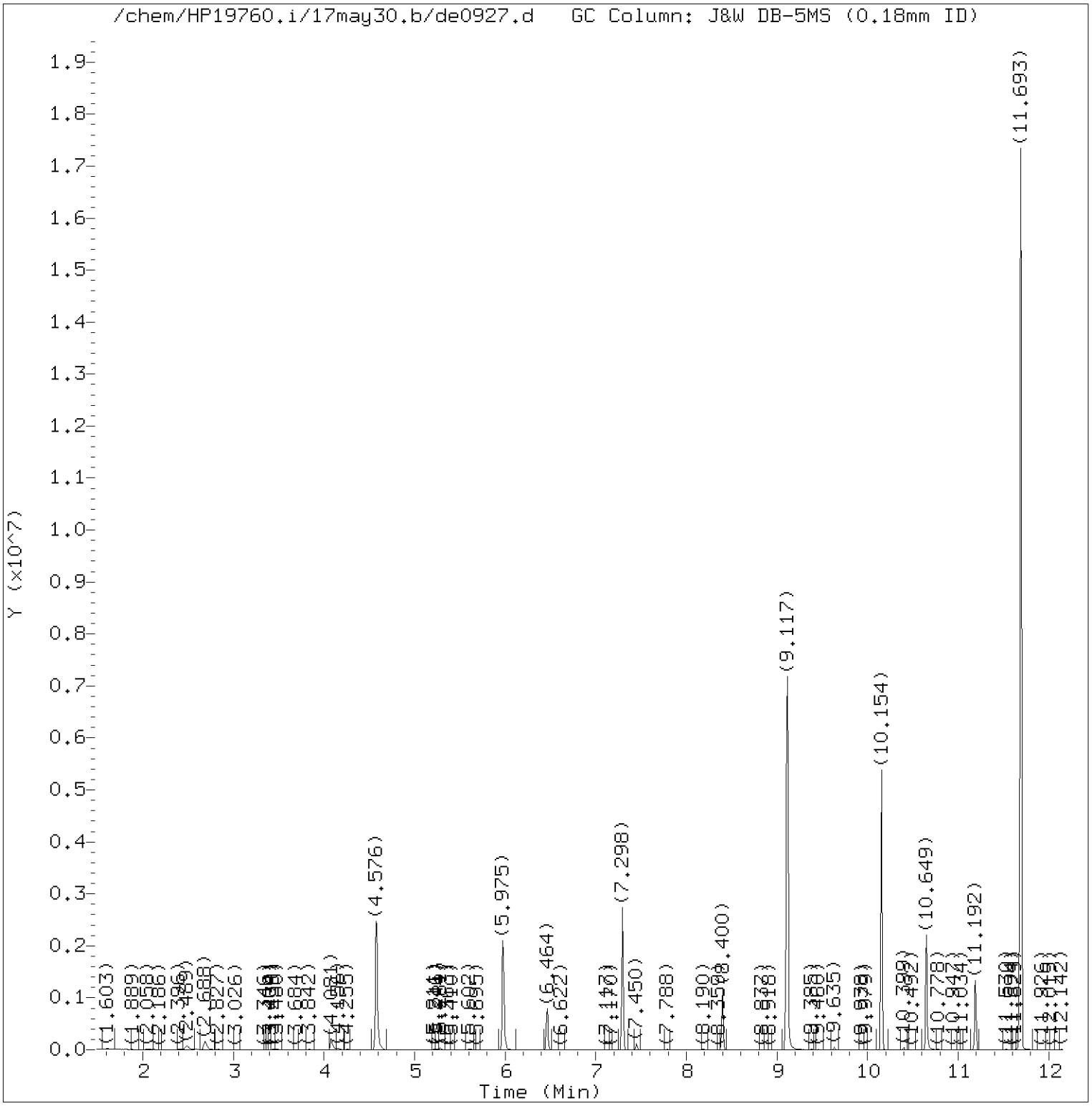
Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
81) 1,4-Phenylenediamine	(2)	9.116	(-0.001)	108	3508556M	69.424	277.70		E	19

E = Compound concentration above calibration range. M = Compound was manually integrated.

Total number of targets = 1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

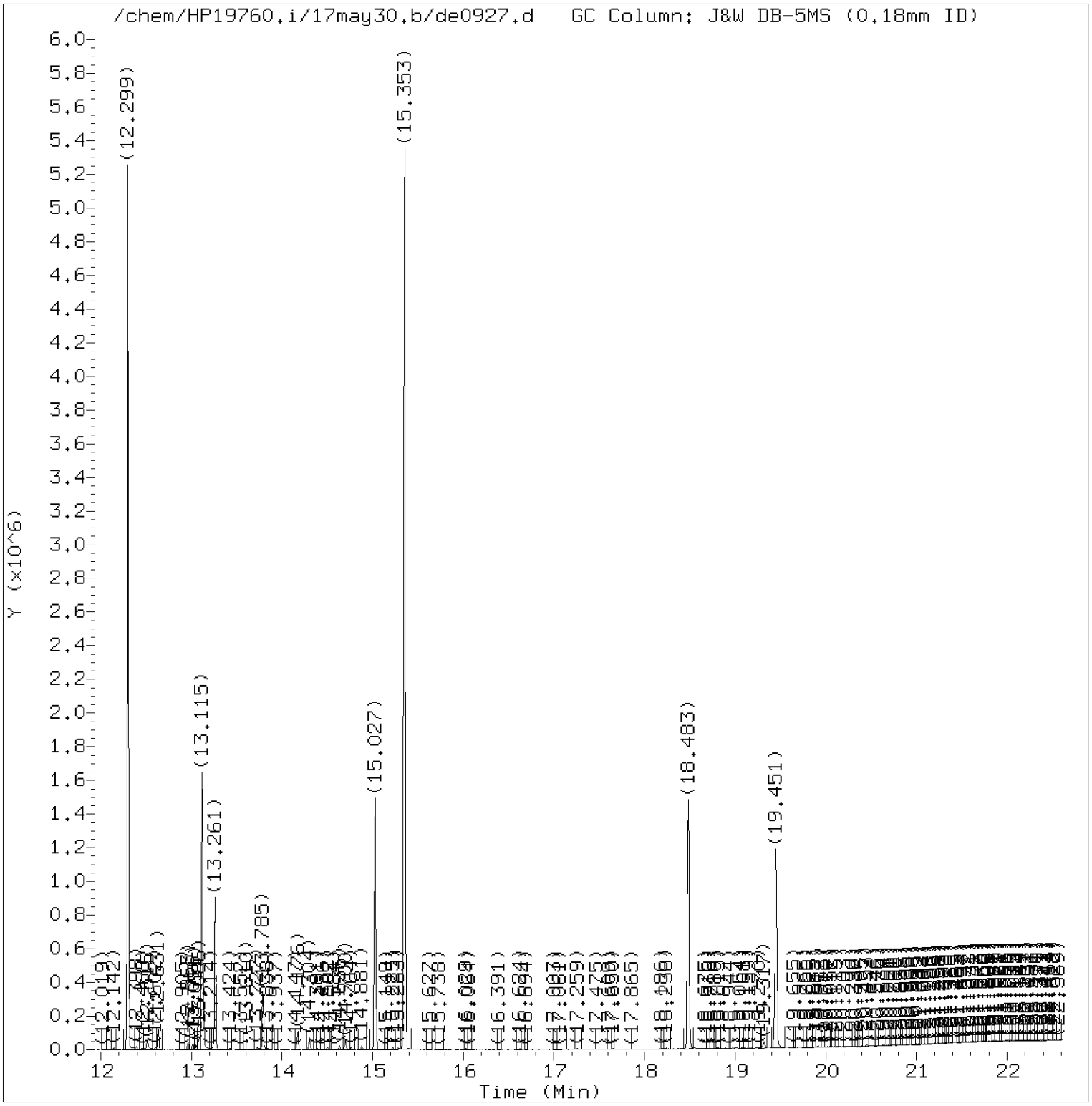
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0927.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:23 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS2 Lab Sample ID: 143WWLCS2

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0927.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:23 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS2 Lab Sample ID: 143WWLCS2

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0927.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:23 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

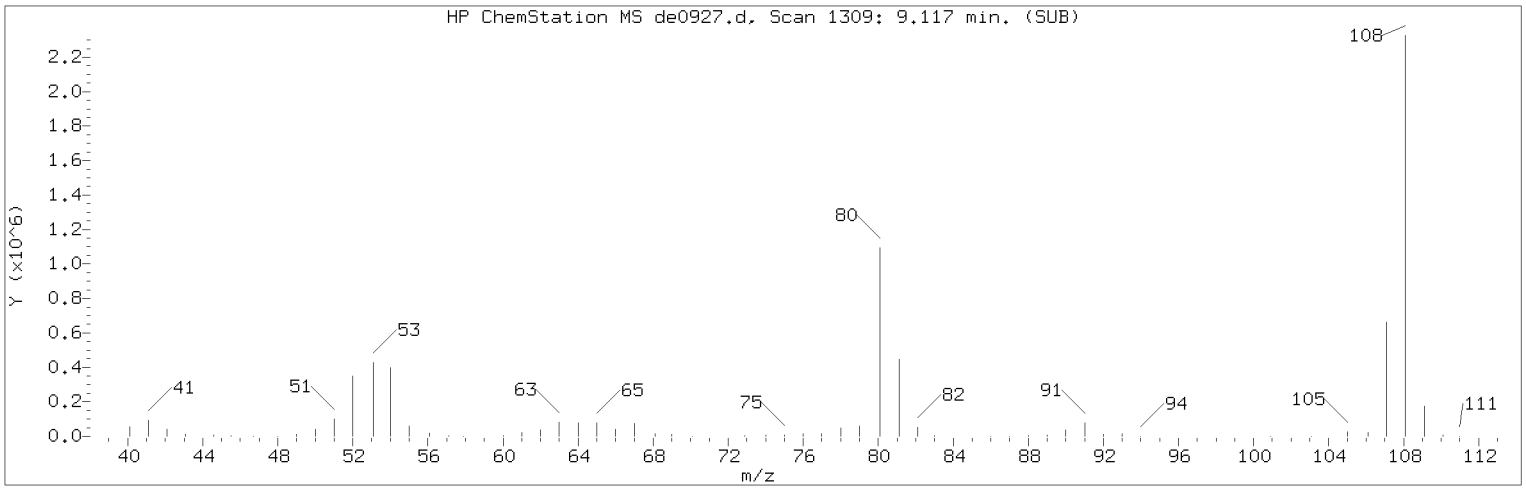
Sample Name: 143WWLCS2 Lab Sample ID: 143WWLCS2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.464	152	157933	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1174868	19.179
65)*Naphthalene-d8	(2)	8.400	136	591089	5.000
81) 1,4-Phenylenediamine	(2)	9.117	108	3508556M	69.424
93)$2-Fluorobiphenyl	(3)	10.154	172	1941970	18.507
113)*Acenaphthene-d10	(3)	11.192	164	337585	5.000
153)*Phenanthrene-d10	(4)	13.115	188	629664	5.000
175)*Pyrene-d10	(5)	15.027	212	765350	5.000
179)$Terphenyl-d14	(5)	15.353	244	2154922	19.187
213)*Perylene-d12	(6)	19.451	264	611779	5.000

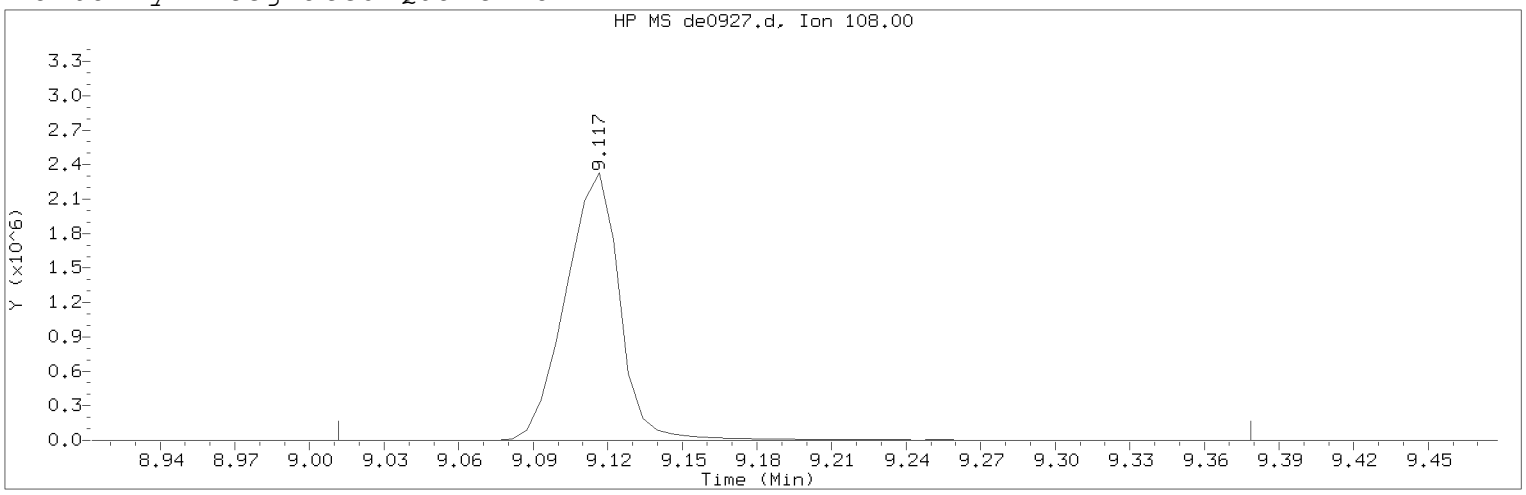
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0927.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:23 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS2 Lab Sample ID: 143WWLCS2

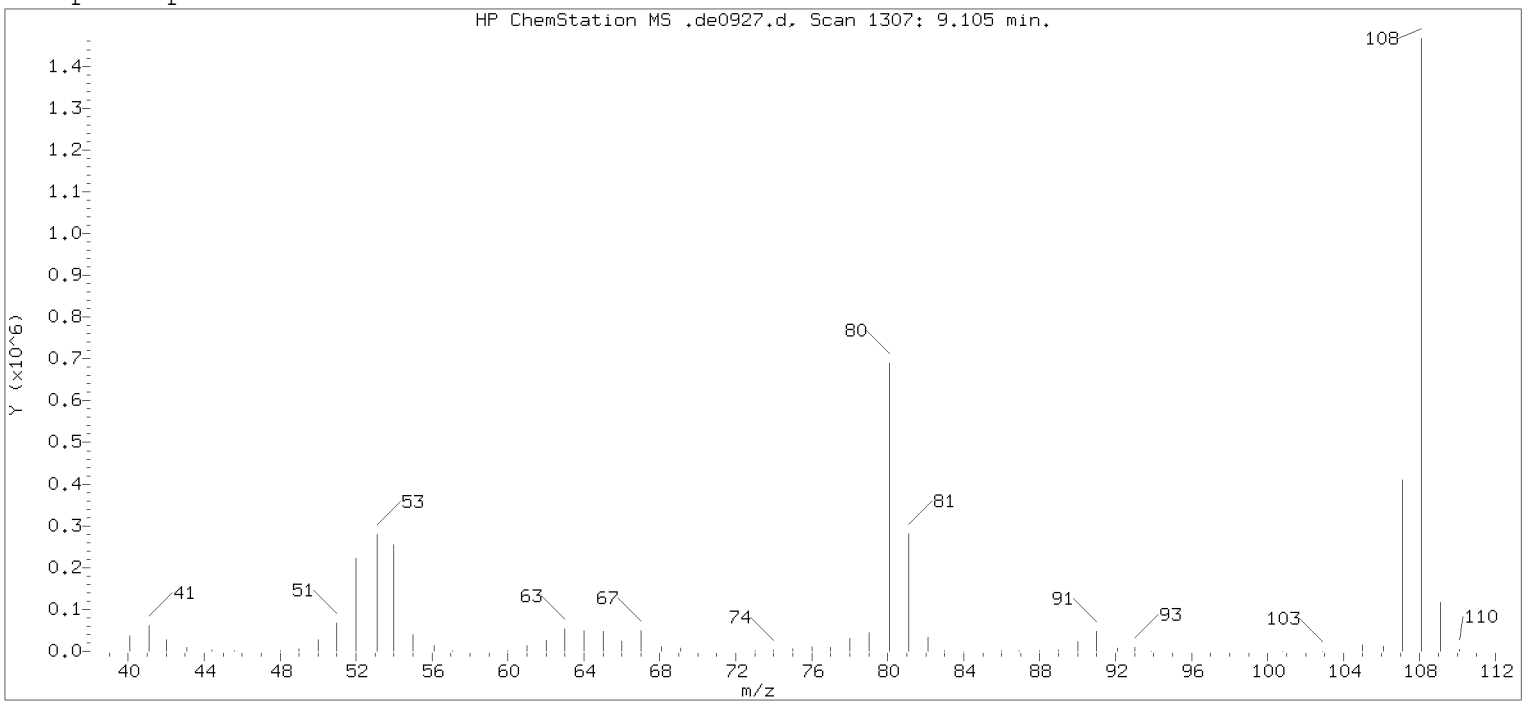
Compound Number : 81
Compound Name : 1,4-Phenylenediamine
Scan Number : 1309
Retention Time (minutes) : 9.117
Quant Ion : 108.00
Area (flag) : 3508556M
On-Column Amount (ng/ul) : 69.4241
Integration start scan : 1290 Integration stop scan: 1353
Y at integration start : 0 Y at integration end: 1267

Reason for manual integration: missed peak

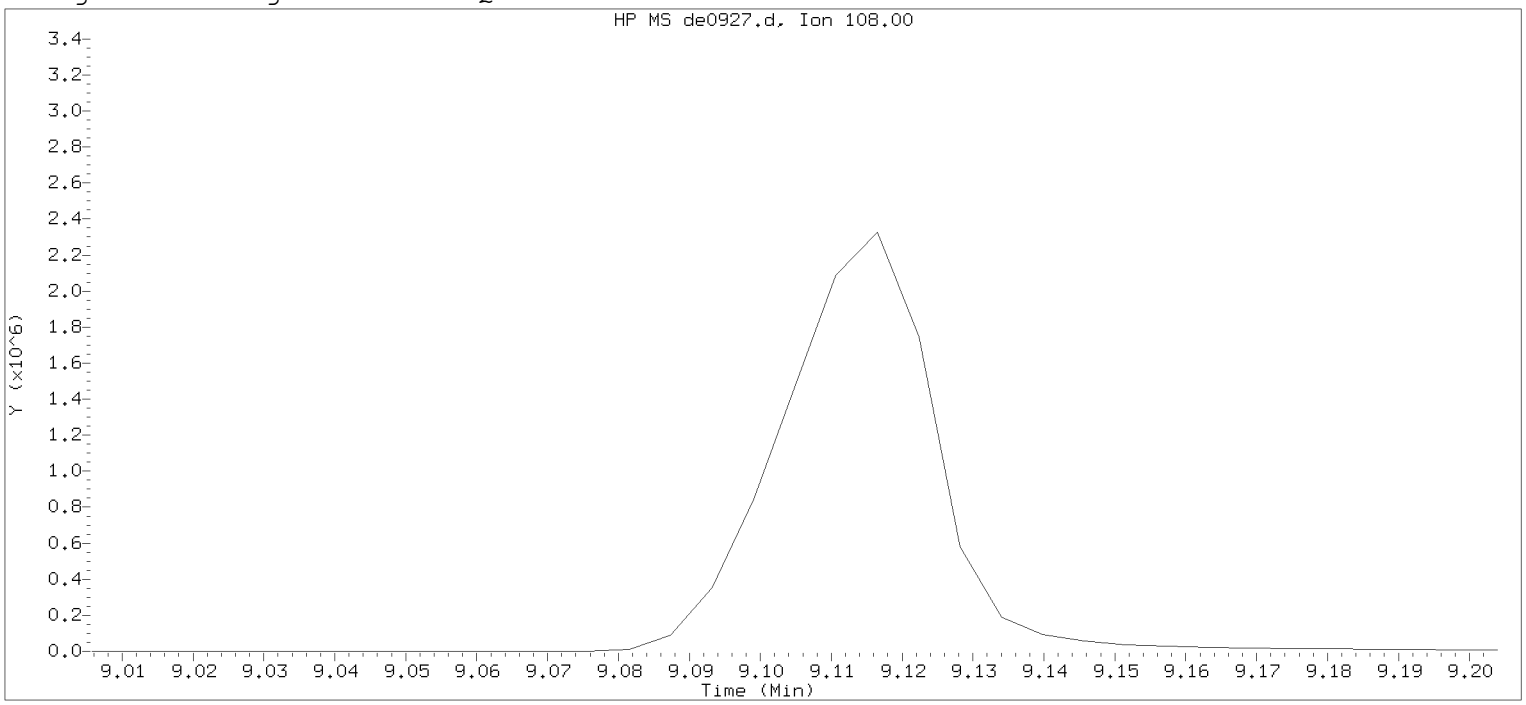
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0927.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:23 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 11:46 Automation

Sample Name: 143WWLCS2 Lab Sample ID: 143WWLCS2

Compound Number : 81
Compound Name : 1,4-Phenylenediamine
Expected RT (minutes) : 9.105
Quant Ion : 108.00

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature used.

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

143WWLCSD2

Data file: /chem/HP19760.i/17may30.b/de0928.d
Injection date and time: **30-MAY-2017 11:50**
Data file Sample Info. Line: 143WWLCSD2;143WWLCSD2;1;3;LCSD;;;
Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843Mpda**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT	(+/-RT)	Scan	QIon	Area	(+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.464	(0.000)	854	152	160486	(0)	5.00	
65) Naphthalene-d8	8.399	(0.000)	1186	136	599267	(1)	5.00	
113) Acenaphthene-d10	11.191	(0.000)	1665	164	342033	(1)	5.00	
153) Phenanthrene-d10	13.115	(0.000)	1995	188	639202	(0)	5.00	
175) Pyrene-d10	15.027	(0.000)	2323	212	774997	(-2)	5.00	
213) Perylene-d12	19.451	(-0.006)	3082	264	612334	(-5)	5.00	

Surrogate Standards	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
44) Nitrobenzene-d5	(2)	7.298	(0.000)	82	1267432	20.408	82%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.154	(0.000)	172	2141462	20.143	81%		41 - 112
179) Terphenyl-d14	(5)	15.353	(0.000)	244	2162509	19.014	76%		38 - 125

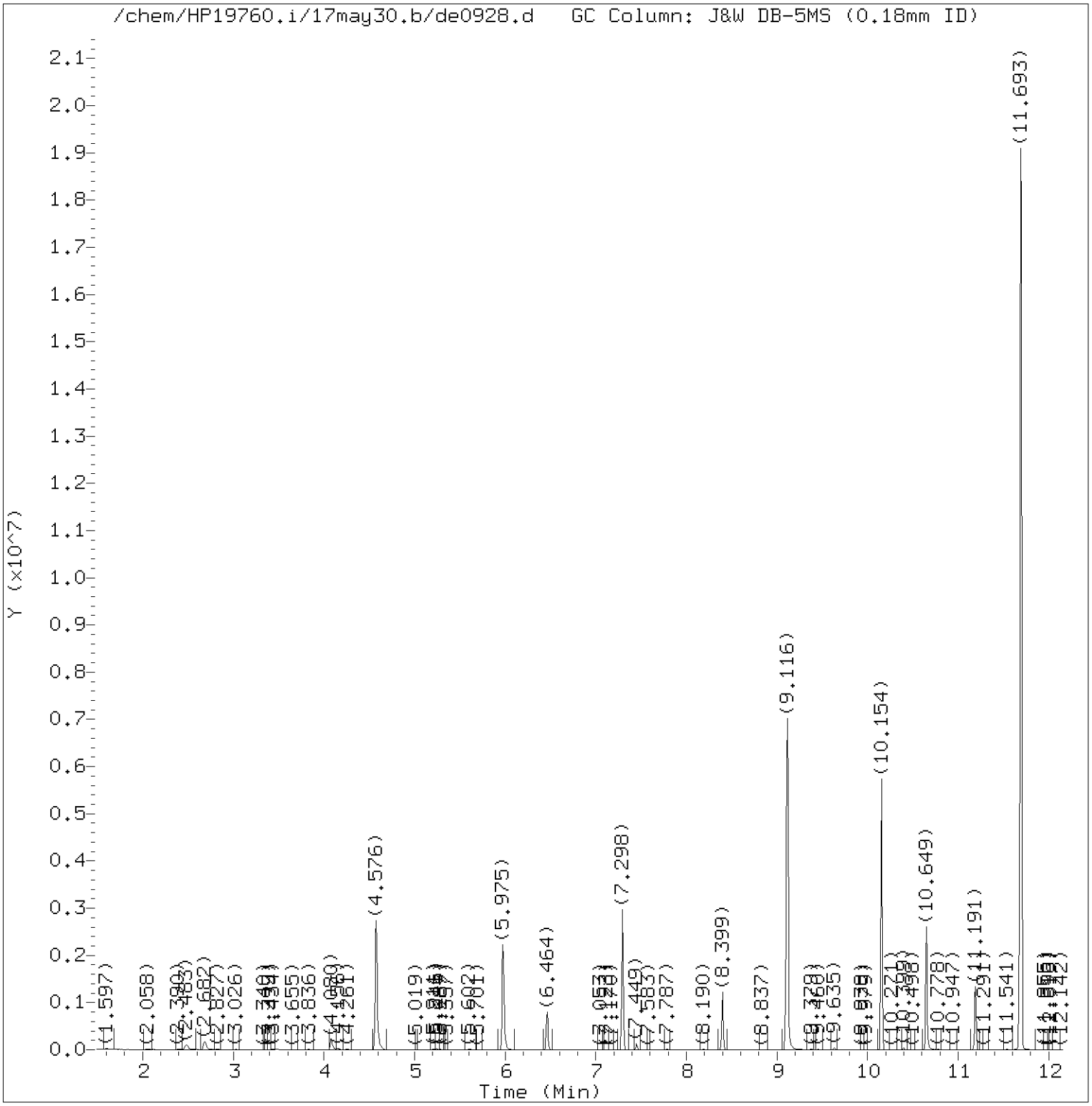
Target Compounds	I.S. Ref.	RT	(+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
81) 1,4-Phenylenediamine	(2)	9.116	(-0.001)	108	3461422M	67.557	270.23		E	19

E = Compound concentration above calibration range. M = Compound was manually integrated.

Total number of targets = 1

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

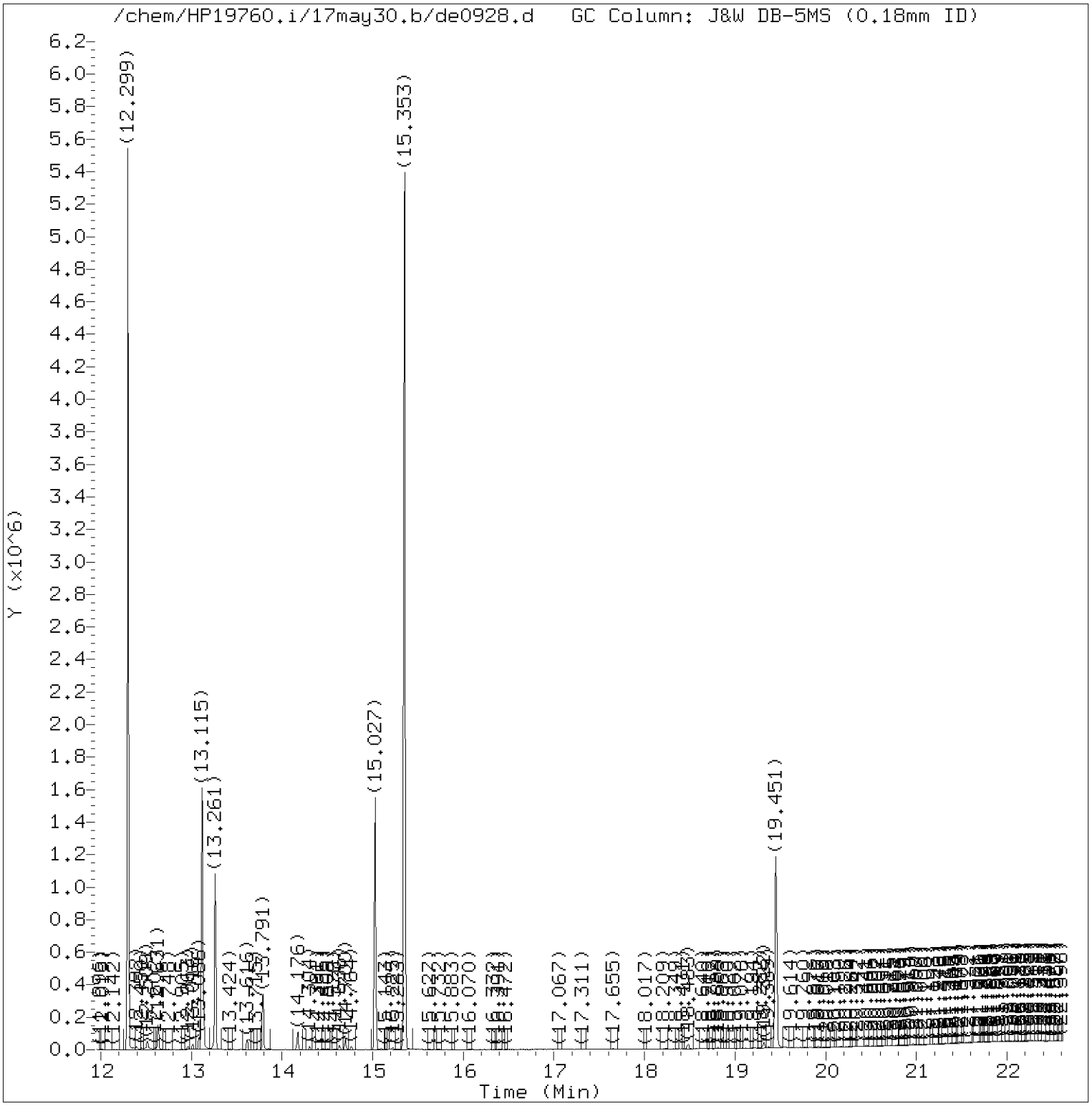
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0928.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:50 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCSD2 Lab Sample ID: 143WWLCSD2

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0928.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:50 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCSD2 Lab Sample ID: 143WWLCSD2

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0928.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:50 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

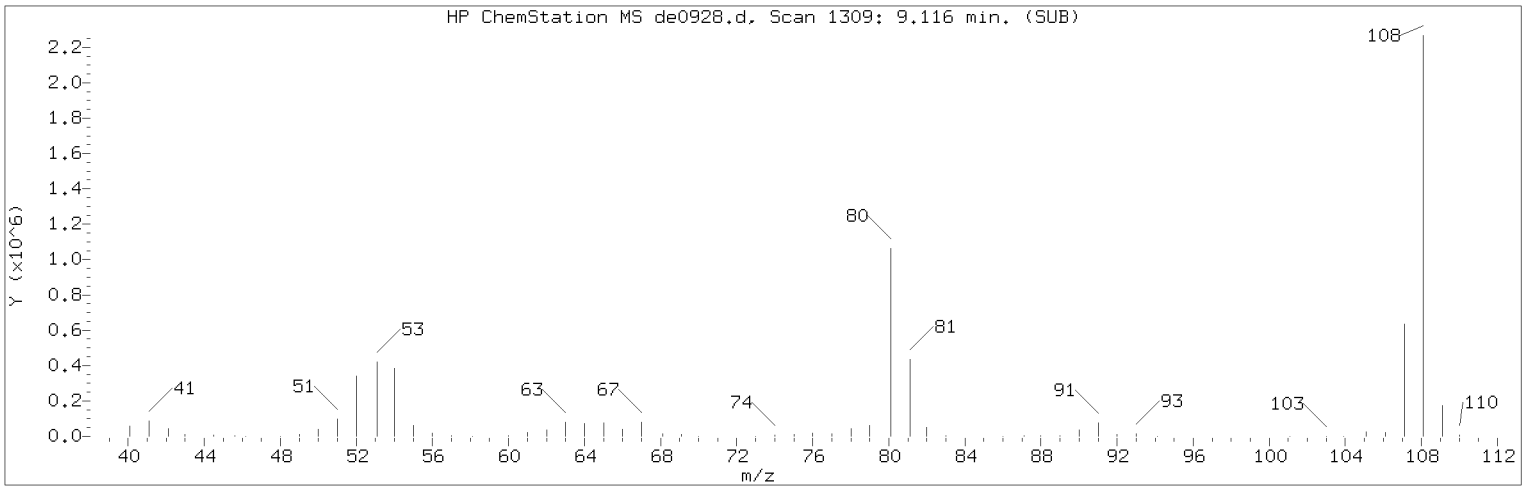
Sample Name: 143WWLCSD2 Lab Sample ID: 143WWLCSD2

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
25)*1,4-Dichlorobenzene-d4	(1)	6.464	152	160486	5.000
44)$Nitrobenzene-d5	(2)	7.298	82	1267432	20.408
65)*Naphthalene-d8	(2)	8.399	136	599267	5.000
81) 1,4-Phenylenediamine	(2)	9.116	108	3461422M	67.557
93)$2-Fluorobiphenyl	(3)	10.154	172	2141462	20.143
113)*Acenaphthene-d10	(3)	11.191	164	342033	5.000
153)*Phenanthrene-d10	(4)	13.115	188	639202	5.000
175)*Pyrene-d10	(5)	15.027	212	774997	5.000
179)$Terphenyl-d14	(5)	15.353	244	2162509	19.014
213)*Perylene-d12	(6)	19.451	264	612334	5.000

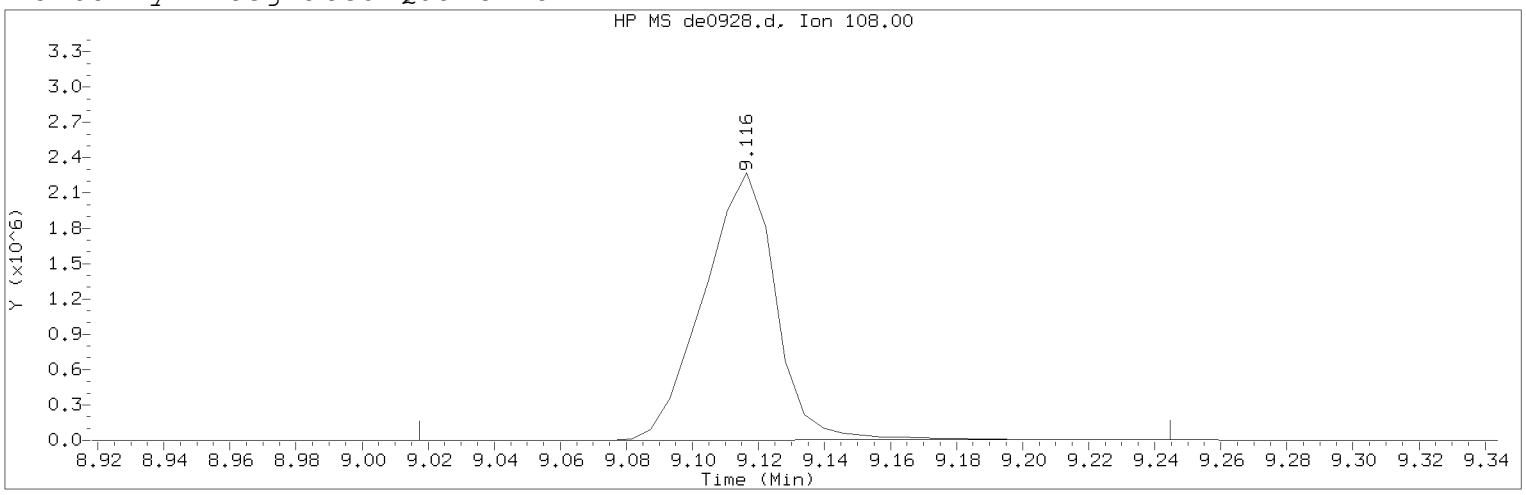
M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0928.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:50 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843Mpda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCSD2 Lab Sample ID: 143WWLCSD2

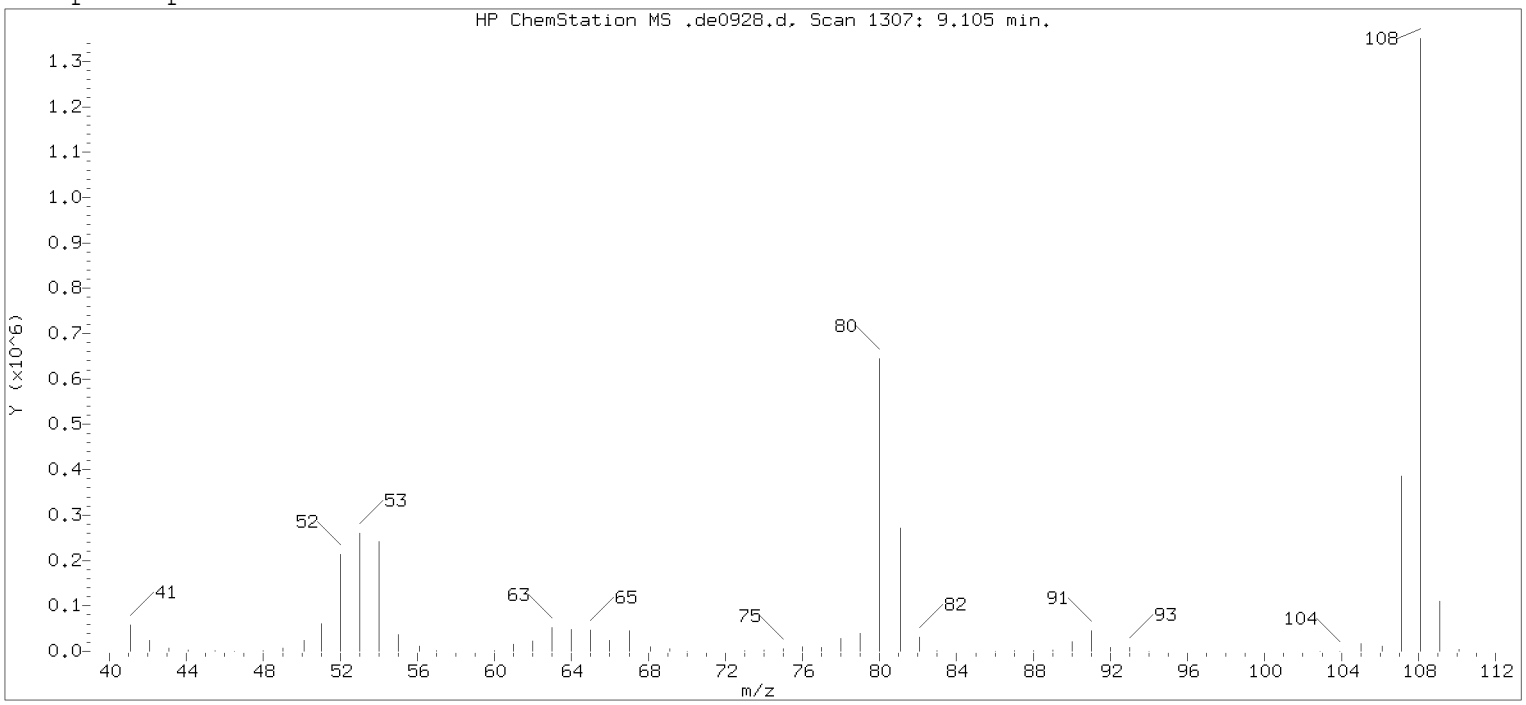
Compound Number : 81
Compound Name : 1,4-Phenylenediamine
Scan Number : 1309
Retention Time (minutes) : 9.116
Quant Ion : 108.00
Area (flag) : 3461422M
On-Column Amount (ng/ul) : 67.5568
Integration start scan : 1291 Integration stop scan: 1330
Y at integration start : 0 Y at integration end: 3355

Reason for manual integration: missed peak

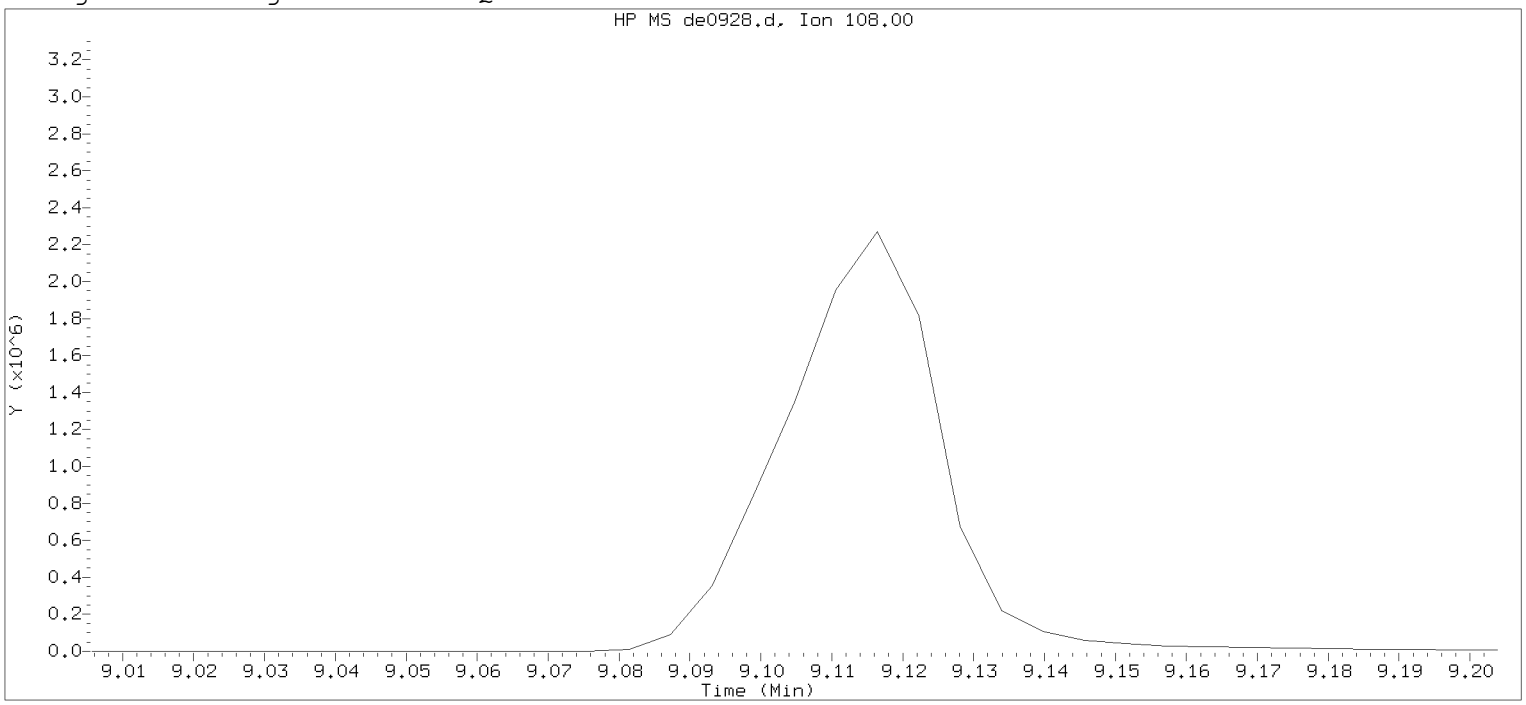
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0928.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 11:50 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: all
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 12:13 Automation

Sample Name: 143WWLCSD2 Lab Sample ID: 143WWLCSD2

Compound Number : 81
Compound Name : 1,4-Phenylenediamine
Expected RT (minutes) : 9.105
Quant Ion : 108.00

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:33.
Target 3.5 esignature user ID: HBZ

Lancaster Laboratories, Inc.
Analysis Summary for GC/MS Semivolatiles

143WWLCS

Data file: /chem/HP19760.i/17may30.b/de0926.d
Injection date and time: **30-MAY-2017 10:55**
Data file Sample Info. Line: 143WWLCS;143WWLCS;1;3;LCS;;;
Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M-pda**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Analysis Comments:

Internal Standards	RT (+/-RT)	Scan	QIon	Area (+/- %Change)	Conc. (on-column)	QC Flag
25) 1,4-Dichlorobenzene-d4	6.470(-0.006)	855	152	163693 (2)	5.00	
65) Naphthalene-d8	8.400(0.000)	1186	136	622358 (4)	5.00	
113) Acenaphthene-d10	11.197(-0.006)	1666	164	352337 (4)	5.00	
153) Phenanthrene-d10	13.121(-0.006)	1996	188	671490 (5)	5.00	
175) Pyrene-d10	15.033(-0.006)	2324	212	806843 (2)	5.00	
213) Perylene-d12	19.457(-0.012)	3083	264	692069 (7)	5.00	

Surrogate Standards	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	%Rec.	QC flags	QC Limits
11) 2-Fluorophenol	(1)	4.605(-0.005)	112	1458444	28.717	57%		10 - 84
17) Phenol-d6	(1)	5.987(-0.001)	99	1613622	23.410	47%		10 - 71
44) Nitrobenzene-d5	(2)	7.304(-0.001)	82	1278605	19.824	79%		29 - 119
93) 2-Fluorobiphenyl	(3)	10.160(0.000)	172	2237749	20.433	82%		41 - 112
135) 2,4,6-Tribromophenol	(3)	12.305(0.000)	330	546949	41.708	83%		13 - 149
179) Terphenyl-d14	(5)	15.353(0.000)	244	2347232	19.824	79%		38 - 125

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
4) N-Nitrosodimethylamine	(1)	2.419(-0.008)	74	274251	7.126	28.50			0.5
5) Pyridine	(1)	2.501(-0.012)	79	357381	5.659	22.63			0.5
7) 2-Picoline	(1)	3.690(-0.004)	93	569159	8.826	35.30			0.5
8) N-Nitrosomethylethylamine	(1)	3.876(-0.003)	88	267781	9.730	38.92			0.5
9) Methyl methanesulfonate	(1)	4.331(-0.002)	80	281251	8.931	35.72			0.3
13) N-Nitrosodiethylamine	(1)	4.908(-0.001)	102	263543	10.310	41.24			0.1
15) Ethyl methanesulfonate	(1)	5.369(-0.000)	109	288846	10.462	41.85			0.1
18) Phenol	(1)	6.004(-0.000)	94	502174	6.431	25.72			0.1
19) Aniline	(1)	5.986(-0.000)	93	526403	5.737	22.95			0.1
22) bis(2-Chloroethyl)ether	(1)	6.115(-0.000)	93	618633	10.663	42.65			0.1
23) 2-Chlorophenol	(1)	6.161(-0.000)	128	522566	10.274	41.10			0.1
27) Benzyl alcohol	(1)	6.698(0.000)	108	351245	9.679	38.72			3
31) 2-Methylphenol	(1)	6.902(0.000)	108	508539	10.167	40.67			0.1
34) bis(2-Chloroisopropyl)ether	(1)	6.931(0.000)	45	930522	10.855	43.42			0.1
35) N-Nitrosopyrrolidine	(1)	7.047(0.000)	100	280372	9.952	39.81			0.1
36) Acetophenone	(1)	7.088(0.000)	105	852775	11.334	45.34			0.1
37) 4-Methylphenol	(1)	7.141(0.000)	108	549260	9.544	38.18			0.1
38) N-Nitroso-di-n-propylamine	(1)	7.117(0.000)	70	497801	10.970	43.88			0.1
39) N-Nitrosomorpholine	(1)	7.117(0.000)	56	396478	10.269	41.08			0.5
40) o-Toluidine	(1)	7.141(0.000)	106	482243	5.469	21.88			0.1
43) Hexachloroethane	(1)	7.216(0.001)	117	163708	7.099	28.40			0.3
45) Nitrobenzene	(2)	7.327(-0.000)	77	708404	10.905	43.62			0.1
48) N-Nitrosopiperidine	(2)	7.560(-0.000)	114	263052	10.255	41.02			0.1
50) Isophorone	(2)	7.718(-0.000)	82	1234857	11.115	44.46			0.1
51) 2-Nitrophenol	(2)	7.822(-0.000)	139	278211	10.844	43.38			0.1
53) 2,4-Dimethylphenol	(2)	7.945(-0.000)	107	453980	8.207	32.83			0.1
57) O,O,O-Triethylphosphorothioate	(2)	8.062(-0.000)	198	273008	10.460	41.84			0.5

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0926.d Injection date and time: **30-MAY-2017 10:55**
Data file Sample Info. Line: 143WWLCS;143WWLCS;1;3;LCS;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M-pda**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
55) bis(2-Chloroethoxy)methane	(2)	8.091(-0.000)	93	809076	11.390	45.56			0.1
60) 2,4-Dichlorophenol	(2)	8.213(-0.000)	162	446998	10.918	43.67			0.1
64) a,a-Dimethylphenethylamine	(2)	8.260(-0.011)	58	1510237M	11.881	47.52		J	1
67) 4-Chloroaniline	(2)	8.545(0.000)	127	423613	7.029	28.11			0.5
68) 2,6-Dichlorophenol	(2)	8.557(-0.000)	162	427277	10.527	42.11			0.1
69) Hexachloropropene	(2)	8.586(0.000)	213	228615	7.032	28.13			0.5
77) N-Nitrosodi-n-butylamine	(2)	9.128(-0.000)	84	448130	9.851	39.40			0.5
80) 4-Chloro-3-methylphenol	(2)	9.367(-0.000)	107	510374	10.938	43.75			0.1
82) Safrole	(2)	9.443(-0.000)	162	373742	10.077	40.31			0.5
83) 2-Methylnaphthalene	(2)	9.542(-0.000)	142	963475	9.898	39.59			0.03
85) Hexachlorocyclopentadiene	(3)	9.810(0.000)	237	106149	4.417	17.67			1
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.810(0.000)	216	459268	9.111	36.44			0.1
88) cis-Isosafrole	(3)	9.909(-0.000)	162	51586	1.306	5.22			0.1
90) 2,4,6-Trichlorophenol	(3)	10.008(0.000)	196	348299	11.344	45.38			0.1
92) 2,4,5-Trichlorophenol	(3)	10.067(0.000)	196	367677	11.089	44.36			0.1
94) trans-Isosafrole	(3)	10.271(-0.000)	162	423956	10.137	40.55			0.1
97) Isosafrole	(3)			475542	11.443	45.77			0.5
96) 2-Chloronaphthalene	(3)	10.306(0.000)	162	913682	10.284	41.14			0.1
100) 2-Nitroaniline	(3)	10.492(-0.000)	138	303936	11.009	44.04			0.1
104) 1,4-Naphthoquinone	(3)			Not Detected					6
106) Dimethylphthalate	(3)	10.842(-0.000)	163	1091409	10.632	42.53			0.5
107) 1,3-Dinitrobenzene	(3)	10.731(0.009)	168	159022	9.955	39.82			0.5
108) 2,6-Dinitrotoluene	(3)	10.912(-0.000)	165	254330	11.200	44.80			0.1
109) Acenaphthylene	(3)	10.958(0.000)	152	1368701	10.528	42.11			0.03
112) 3-Nitroaniline	(3)	11.151(-0.000)	138	216016	9.202	36.81			0.1
114) Acenaphthene	(3)	11.244(0.000)	153	1024454	10.827	43.31			0.03
115) 2,4-Dinitrophenol	(3)	11.425(-0.008)	184	226315M	17.097	68.39			3
116) 4-Nitrophenol	(3)	11.512(-0.002)	109	126796	7.305	29.22		J	3
117) Pentachlorobenzene	(3)	11.465(0.000)	250	424439	10.426	41.71			0.1
118) 2,4-Dinitrotoluene	(3)	11.541(-0.000)	165	347626	11.382	45.53			0.3
119) Dibenzofuran	(3)	11.524(0.000)	168	1391654	10.770	43.08			0.1
121) 1-Naphthylamine	(3)	11.640(-0.000)	143	771554	8.416	33.67			1
122) 2,3,4,6-Tetrachlorophenol	(3)	11.722(0.000)	232	297054	11.897	47.59			0.1
123) 2-Naphthylamine	(3)	11.751(0.000)	143	690643	7.603	30.41			1
124) Diethylphthalate	(3)	11.932(0.000)	149	1116738	11.209	44.83			0.5
125) Thionazin	(3)	12.025(0.000)	107	212881	10.743	42.97			0.5
126) Fluorene	(3)	12.002(0.000)	166	1113905	10.744	42.97			0.03
127) 4-Chlorophenyl-phenylether	(3)	12.037(0.000)	204	546586	10.826	43.30			0.1
128) 5-Nitro-o-toluidine	(3)	12.037(-0.000)	152	223983	7.851	31.40			0.1
129) 4-Nitroaniline	(3)	12.042(-0.000)	138	241881	10.350	41.40			0.1
130) 4,6-Dinitro-2-methylphenol	(4)	12.118(-0.002)	198	189608	10.472	41.89			1
131) N-Nitrosodiphenylamine	(4)	12.188(-0.000)	169	953451	11.449	45.80			0.1
139) 1,3,5-Trinitrobenzene	(4)	12.520(-0.000)	213	100542	8.583	34.33			1
140) Diallate (peak 1)	(4)	12.550(-0.000)	86	402932	7.925	31.70			0.06
141) Phorate	(4)	12.550(0.000)	75	869080	11.492	45.97			0.1
142) Phenacetin	(4)	12.579(-0.000)	108	598164	10.793	43.17			0.1
143) 4-Bromophenyl-phenylether	(4)	12.614(-0.000)	248	318223	11.138	44.55			0.1
144) Diallate (peak 2)	(4)	12.643(-0.000)	86	129023	3.130	12.52			0.06
146) Diallate trans/cis	(4)			531955	11.055	44.22			0.3
145) Hexachlorobenzene	(4)	12.660(-0.000)	284	322258	10.709	42.84			0.03
147) Dimethoate	(4)	12.730(0.000)	87	369787	7.592	30.37			0.8
149) Pentachlorophenol	(4)	12.923(-0.001)	266	190181	11.495	45.98			0.3
150) 4-Aminobiphenyl	(4)	12.923(-0.000)	169	687337	7.435	29.74			0.1
151) Pentachloronitrobenzene	(4)	12.917(0.000)	237	141157	10.746	42.99			0.5

M = Compound was manually integrated.

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32. Target 3.5 esignature user ID: hbz01996

Data file: /chem/HP19760.i/17may30.b/de0926.d Injection date and time: **30-MAY-2017 10:55**
Data file Sample Info. Line: 143WWLCS;143WWLCS;1;3;LCS;;; Instrument ID: **HP19760.i** Batch: **17143WAW**
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Blank Data file reference: **/chem/HP19760.i/17may30.b/de0925.d**

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: **24843M-pda**
Calibration date and time (Last Method Edit): 31-MAY-2017 12:16
Mid Level Daily Calibration Standard Reference: **/chem/HP19760.i/17may30.b/de0921.d**

Matrix: WATER Level: Low GPC clean-up: No On-Column Amount units: ng/ul In Sample Concentration units: ug/L

Sample Concentration Formula: On-Column Amount * DF * Uf * Vt/(Vo)

Dilution Factor (DF): 1 Unit Correction Factor (Uf): 1 Final Extract Volume (Vt): 1000 ul
Sample Volume (Vo): 250 ml Volume Injected (Vi): 0.5 ul

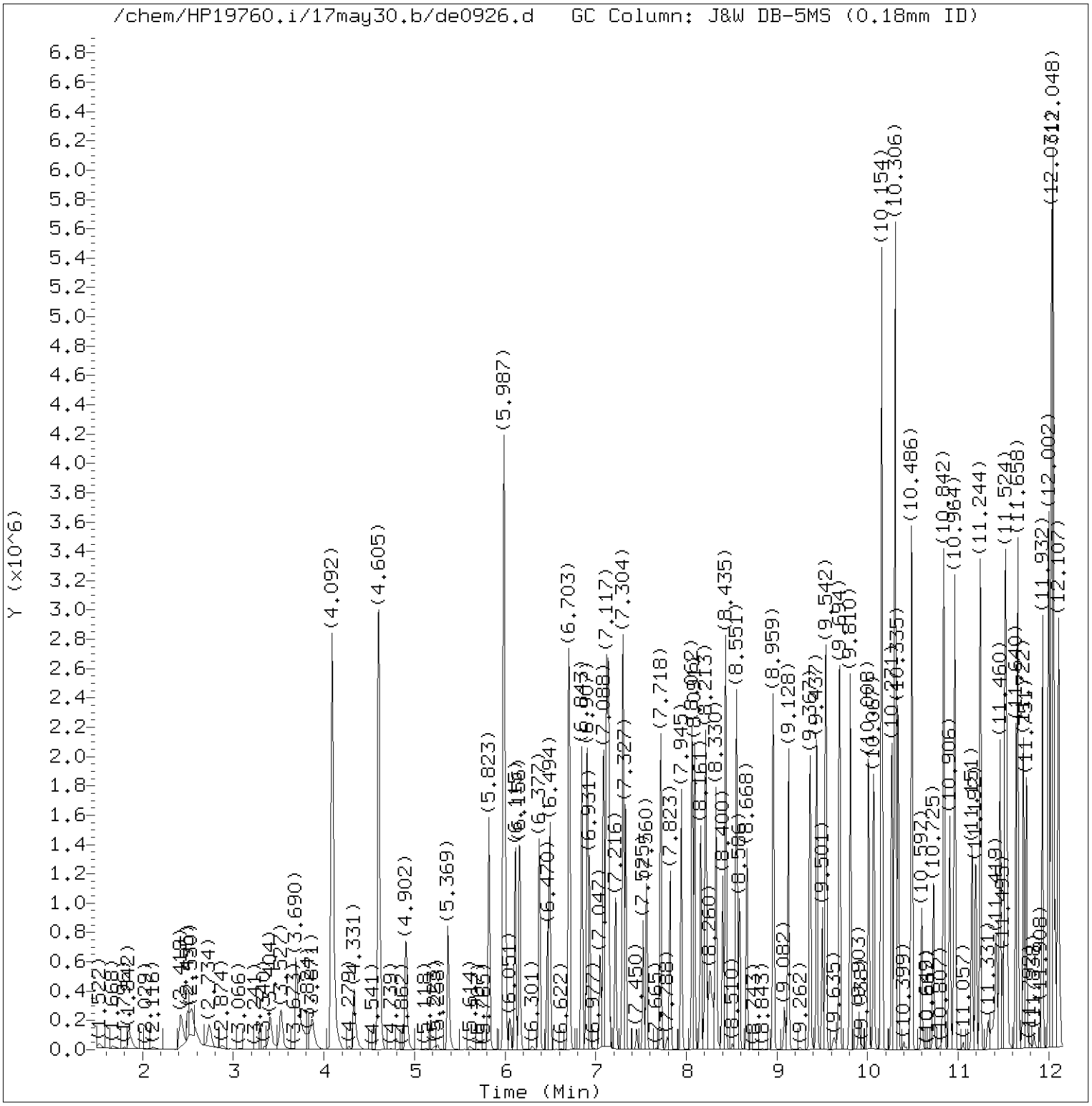
Target Compounds	I.S. Ref.	RT (+/-RRT)	QIon	Area	Conc. (on-column)	Conc. (in sample)	Blank Conc.	Qual.	Reporting Limit (on-column)
152) Pronamide	(4)	13.028(-0.000)	173	524615	10.944	43.78			0.1
155) Phenanthrene	(4)	13.150(0.000)	178	1644546	10.957	43.83			0.03
157) Anthracene	(4)	13.214(0.000)	178	1654647	11.072	44.29			0.03
162) Disulfoton	(4)	13.179(0.000)	88	1672143M	30.355	121.42		E	6
164) Methyl parathion	(4)	13.628(0.000)	109	307182	8.191	32.76			0.3
165) Di-n-butylphthalate	(4)	13.948(-0.000)	149	1972744	11.509	46.04			0.5
167) Parathion	(4)	14.164(-0.000)	109	273524	11.436	45.75			0.5
168) 4-Nitroquinoline-1-oxide	(4)	14.176(-0.001)	190	1781672	113.538	454.15		E	5
170) Methapyrilene	(4)	14.316(-0.000)	97	4784357M	133.189	532.75		E	4
171) Isodrin	(4)	14.520(0.000)	193	208178	11.440	45.76			0.1
173) Fluoranthene	(4)	14.735(-0.000)	202	1921727	11.182	44.73			0.03
177) Pyrene	(5)	15.062(-0.000)	202	1996974	10.901	43.60			0.03
180) Aramite (1)	(5)	15.266(0.000)	185	4550M	5.172	20.69		E	0.3
181) Aramite (2)	(5)	15.301(0.000)	185	4239M	5.080	20.32		E	0.3
183) Aramite (3)	(5)	15.371(0.000)	185	95173M	1.305	5.22		E	0.3
184) Aramite (4)	(5)	15.493(0.000)	185	105030M	1.093	4.37			0.3
186) Aramite	(5)			208992	12.650	50.60		E	1
182) p-Dimethylaminoazobenzene	(5)	15.580(-0.000)	225	349527	11.983	47.93			0.1
185) Chlorobenzilate	(5)	15.680(-0.000)	139	576351	10.698	42.79			0.8
187) 3,3'-Dimethylbenzidine	(5)	16.122(0.000)	212	869334	7.349	29.40		J	6
188) Butylbenzylphthalate	(5)	16.198(-0.000)	149	932757	11.503	46.01			0.5
189) Famphur	(5)			Not Detected					6
190) Kepone	(5)	16.507(-0.023)	272	115866	7.759	31.04		J	6
191) 2-Acetylaminofluorene	(5)	16.542(-0.000)	181	908904	12.036	48.14			0.5
193) 3,3'-Dichlorobenzidine	(5)	17.032(-0.000)	252	606448	9.164	36.66			0.5
195) Benzo(a)anthracene	(5)	17.026(-0.000)	228	2044944	11.643	46.57			0.03
196) Chrysene	(5)	17.084(-0.000)	228	1923232	11.629	46.51			0.03
199) bis(2-Ethylhexyl)phthalate	(5)	17.265(-0.000)	149	1409299	11.610	46.44			0.5
205) Di-n-octylphthalate	(6)	18.407(0.000)	149	2506168	11.078	44.31			0.5
206) Benzo(b)fluoranthene	(6)	18.856(-0.000)	252	2102383	11.152	44.61			0.03
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.868(-0.000)	256	861744	11.257	45.03			0.1
208) Benzo(k)fluoranthene	(6)	18.903(-0.000)	252	2030552	11.198	44.79			0.03
211) Benzo(a)pyrene	(6)	19.369(-0.000)	252	1883358	10.812	43.25			0.03
215) 3-Methylcholanthrene	(6)	19.946(0.000)	268	907514	11.706	46.82			0.1
219) Indeno(1,2,3-cd)pyrene	(6)	21.054(-0.000)	276	2014872	11.799	47.20			0.03
220) Dibenz(a,h)anthracene	(6)	21.100(-0.000)	278	1702269	11.986	47.94			0.03
221) Benzo(g,h,i)perylene	(6)	21.409(-0.000)	276	1646215	11.782	47.13			0.03

E = Compound concentration above calibration range. M = Compound was manually integrated.

Total number of targets = 118

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32. Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39. PARALLAX ID: reb00745



Total Ion Chromatogram (TIC)

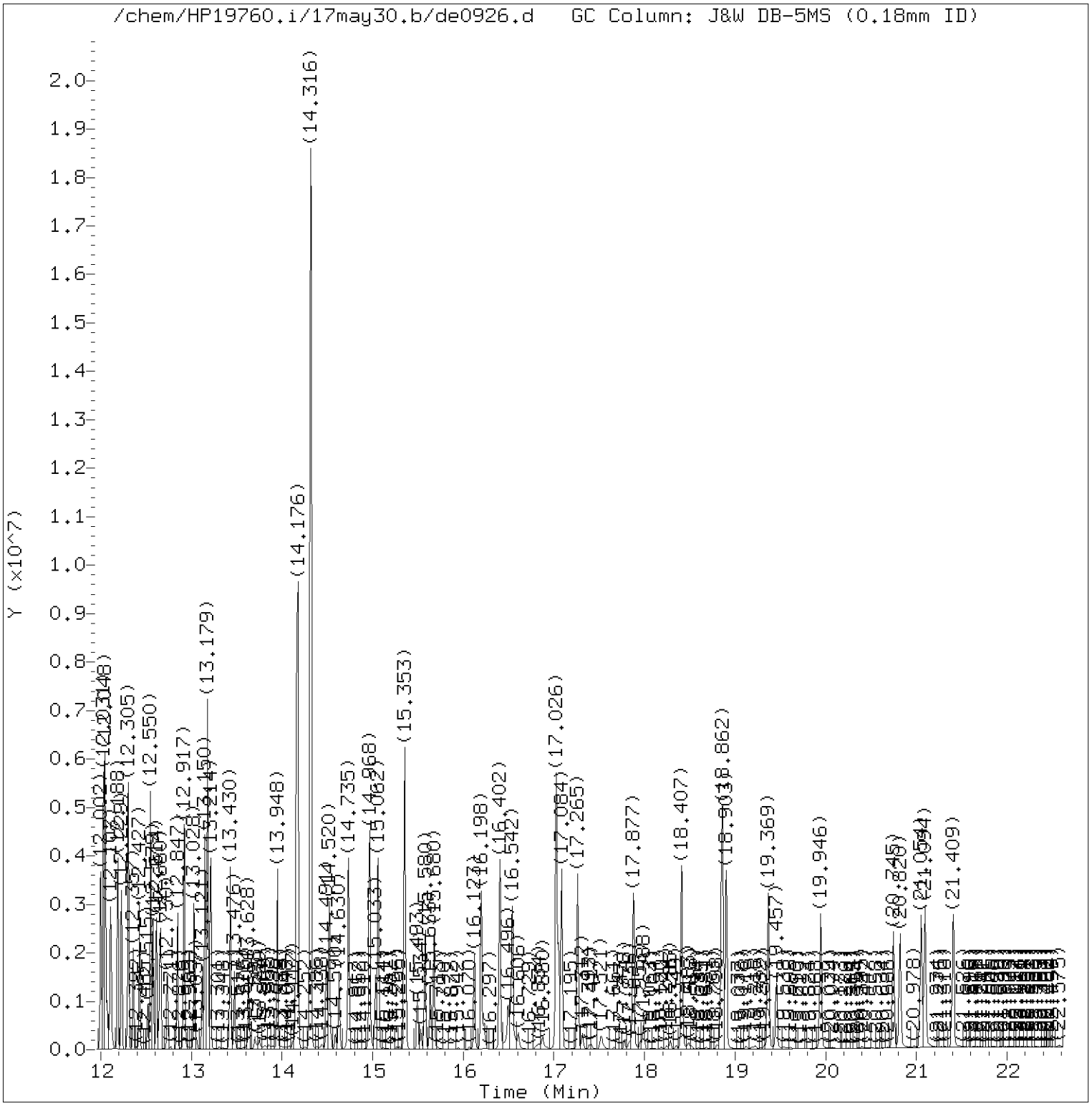
Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996



Total Ion Chromatogram (TIC)

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
4) N-Nitrosodimethylamine	(1)	2.419	74	274251	7.126
5) Pyridine	(1)	2.501	79	357381	5.659
7) 2-Picoline	(1)	3.690	93	569159	8.826
8) N-Nitrosomethylethylamine	(1)	3.877	88	267781	9.730
9) Methyl methanesulfonate	(1)	4.331	80	281251	8.931
11)$2-Fluorophenol	(1)	4.605	112	1458444	28.717
13) N-Nitrosodiethylamine	(1)	4.908	102	263543	10.310
15) Ethyl methanesulfonate	(1)	5.369	109	288846	10.462
19) Aniline	(1)	5.987	93	526403	5.737
17)$Phenol-d6	(1)	5.987	99	1613622	23.410
18) Phenol	(1)	6.004	94	502174	6.431
22) bis(2-Chloroethyl)ether	(1)	6.115	93	618633	10.663
23) 2-Chlorophenol	(1)	6.161	128	522566	10.274
25)*1,4-Dichlorobenzene-d4	(1)	6.470	152	163693	5.000
27) Benzyl alcohol	(1)	6.698	108	351245	9.679
31) 2-Methylphenol	(1)	6.902	108	508539	10.167
34) bis(2-Chloroisopropyl)ether	(1)	6.931	45	930522	10.855
35) N-Nitrosopyrrolidine	(1)	7.047	100	280372	9.952
36) Acetophenone	(1)	7.088	105	852775	11.334
38) N-Nitroso-di-n-propylamine	(1)	7.117	70	497801	10.970
39) N-Nitrosomorpholine	(1)	7.117	56	396478	10.269
37) 4-Methylphenol	(1)	7.141	108	549260	9.544
40) o-Toluidine	(1)	7.141	106	482243	5.469
43) Hexachloroethane	(1)	7.216	117	163708	7.099
44)$Nitrobenzene-d5	(2)	7.304	82	1278605	19.824
45) Nitrobenzene	(2)	7.327	77	708404	10.905
97) Isosafrole	(3)			475542	11.443
48) N-Nitrosopiperidine	(2)	7.560	114	263052	10.255
50) Isophorone	(2)	7.718	82	1234857	11.115
51) 2-Nitrophenol	(2)	7.823	139	278211	10.844
53) 2,4-Dimethylphenol	(2)	7.945	107	453980	8.207
57) O,O,O-Triethylphosphorothioate	(2)	8.062	198	273008	10.460
55) bis(2-Chloroethoxy)methane	(2)	8.091	93	809076	11.390
60) 2,4-Dichlorophenol	(2)	8.213	162	446998	10.918
64) a,a-Dimethylphenethylamine	(2)	8.260	58	1510237M	11.881
65)*Naphthalene-d8	(2)	8.400	136	622358	5.000
67) 4-Chloroaniline	(2)	8.545	127	423613	7.029
68) 2,6-Dichlorophenol	(2)	8.557	162	427277	10.527
69) Hexachloropropene	(2)	8.586	213	228615	7.032
146) Diallate trans/cis	(4)			531955	11.055

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
77) N-Nitrosodi-n-butylamine	(2)	9.128	84	448130	9.851
80) 4-Chloro-3-methylphenol	(2)	9.367	107	510374	10.938
82) Safrole	(2)	9.443	162	373742	10.077
83) 2-Methylnaphthalene	(2)	9.542	142	963475	9.898
86) 1,2,4,5-Tetrachlorobenzene	(3)	9.810	216	459268	9.111
85) Hexachlorocyclopentadiene	(3)	9.810	237	106149	4.417
88) cis-Isosafrole	(3)	9.909	162	51586	1.306
90) 2,4,6-Trichlorophenol	(3)	10.008	196	348299	11.344
92) 2,4,5-Trichlorophenol	(3)	10.067	196	367677	11.089
93)$2-Fluorobiphenyl	(3)	10.160	172	2237749	20.433
94) trans-Isosafrole	(3)	10.271	162	423956	10.137
96) 2-Chloronaphthalene	(3)	10.306	162	913682	10.284
100) 2-Nitroaniline	(3)	10.492	138	303936	11.009
186) Aramite	(5)			208992	12.650
107) 1,3-Dinitrobenzene	(3)	10.731	168	159022	9.955
106) Dimethylphthalate	(3)	10.842	163	1091409	10.632
108) 2,6-Dinitrotoluene	(3)	10.912	165	254330	11.200
109) Acenaphthylene	(3)	10.958	152	1368701	10.528
112) 3-Nitroaniline	(3)	11.151	138	216016	9.202
113)*Acenaphthene-d10	(3)	11.197	164	352337	5.000
114) Acenaphthene	(3)	11.244	153	1024454	10.827
115) 2,4-Dinitrophenol	(3)	11.425	184	226315M	17.097
117) Pentachlorobenzene	(3)	11.465	250	424439	10.426
116) 4-Nitrophenol	(3)	11.512	109	126796	7.305
119) Dibenzofuran	(3)	11.524	168	1391654	10.770
118) 2,4-Dinitrotoluene	(3)	11.541	165	347626	11.382
121) 1-Naphthylamine	(3)	11.640	143	771554	8.416
122) 2,3,4,6-Tetrachlorophenol	(3)	11.722	232	297054	11.897
123) 2-Naphthylamine	(3)	11.751	143	690643	7.603
124) Diethylphthalate	(3)	11.932	149	1116738	11.209
126) Fluorene	(3)	12.002	166	1113905	10.744
125) Thionazin	(3)	12.025	107	212881	10.743
127) 4-Chlorophenyl-phenylether	(3)	12.037	204	546586	10.826
128) 5-Nitro-o-toluidine	(3)	12.037	152	223983	7.851
129) 4-Nitroaniline	(3)	12.043	138	241881	10.350
130) 4,6-Dinitro-2-methylphenol	(4)	12.118	198	189608	10.472
131) N-Nitrosodiphenylamine	(4)	12.188	169	953451	11.449
135)$2,4,6-Tribromophenol	(3)	12.305	330	546949	41.708
139) 1,3,5-Trinitrobenzene	(4)	12.520	213	100542	8.583
140) Diallate (peak 1)	(4)	12.550	86	402932	7.925

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
141) Phorate	(4)	12.550	75	869080	11.492
142) Phenacetin	(4)	12.579	108	598164	10.793
143) 4-Bromophenyl-phenylether	(4)	12.614	248	318223	11.138
144) Diallate (peak 2)	(4)	12.643	86	129023	3.130
145) Hexachlorobenzene	(4)	12.660	284	322258	10.709
147) Dimethoate	(4)	12.730	87	369787	7.592
151) Pentachloronitrobenzene	(4)	12.917	237	141157	10.746
149) Pentachlorophenol	(4)	12.923	266	190181	11.495
150) 4-Aminobiphenyl	(4)	12.923	169	687337	7.435
152) Pronamide	(4)	13.028	173	524615	10.944
153)*Phenanthrene-d10	(4)	13.121	188	671490	5.000
155) Phenanthrene	(4)	13.150	178	1644546	10.957
162) Disulfoton	(4)	13.179	88	1672143M	30.355
157) Anthracene	(4)	13.214	178	1654647	11.072
164) Methyl parathion	(4)	13.628	109	307182	8.191
165) Di-n-butylphthalate	(4)	13.948	149	1972744	11.509
167) Parathion	(4)	14.164	109	273524	11.436
168) 4-Nitroquinoline-1-oxide	(4)	14.176	190	1781672	113.538
170) Methapyrilene	(4)	14.316	97	4784357M	133.189
171) Isodrin	(4)	14.520	193	208178	11.440
173) Fluoranthene	(4)	14.735	202	1921727	11.182
175)*Pyrene-d10	(5)	15.033	212	806843	5.000
177) Pyrene	(5)	15.062	202	1996974	10.901
180) Aramite (1)	(5)	15.266	185	4550M	5.172
181) Aramite (2)	(5)	15.301	185	4239M	5.080
179)$Terphenyl-d14	(5)	15.353	244	2347232	19.824
183) Aramite (3)	(5)	15.371	185	95173M	1.305
184) Aramite (4)	(5)	15.493	185	105030M	1.093
182) p-Dimethylaminoazobenzene	(5)	15.580	225	349527	11.983
185) Chlorobenzilate	(5)	15.680	139	576351	10.698
187) 3,3'-Dimethylbenzidine	(5)	16.123	212	869334	7.349
188) Butylbenzylphthalate	(5)	16.198	149	932757	11.503
190) Kepone	(5)	16.507	272	115866	7.759
191) 2-Acetylaminofluorene	(5)	16.542	181	908904	12.036
195) Benzo(a)anthracene	(5)	17.026	228	2044944	11.643
193) 3,3'-Dichlorobenzidine	(5)	17.032	252	606448	9.164
196) Chrysene	(5)	17.084	228	1923232	11.629
199) bis(2-Ethylhexyl)phthalate	(5)	17.265	149	1409299	11.610
205) Di-n-octylphthalate	(6)	18.407	149	2506168	11.078
206) Benzo(b)fluoranthene	(6)	18.856	252	2102383	11.152

M = Compound was manually integrated.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Quant Report

Target Revision 3.5

Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

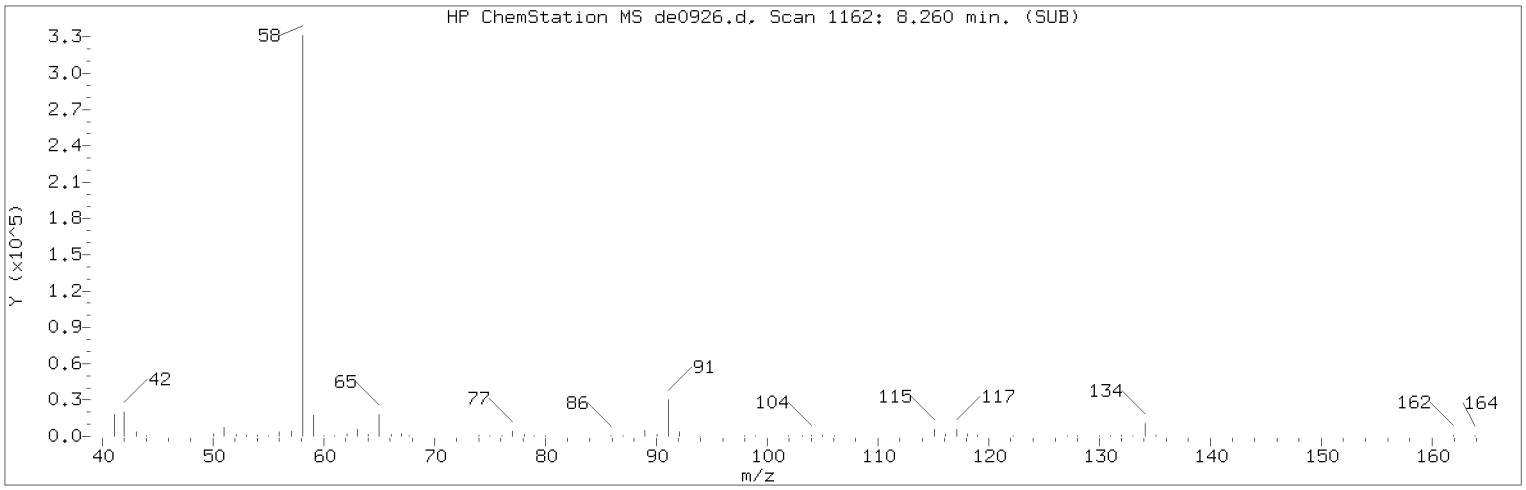
Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

Compounds	I.S. Ref.	RT	QIon	Area	On-Column Amount (ng/ul)
207) 7,12-Dimethylbenz[a]anthracene	(6)	18.868	256	861744	11.257
208) Benzo(k)fluoranthene	(6)	18.903	252	2030552	11.198
211) Benzo(a)pyrene	(6)	19.369	252	1883358	10.812
213)*Perylene-d12	(6)	19.457	264	692069	5.000
215) 3-Methylcholanthrene	(6)	19.946	268	907514	11.706
219) Indeno(1,2,3-cd)pyrene	(6)	21.054	276	2014872	11.799
220) Dibenz(a,h)anthracene	(6)	21.100	278	1702269	11.986
221) Benzo(g,h,i)perylene	(6)	21.409	276	1646215	11.782

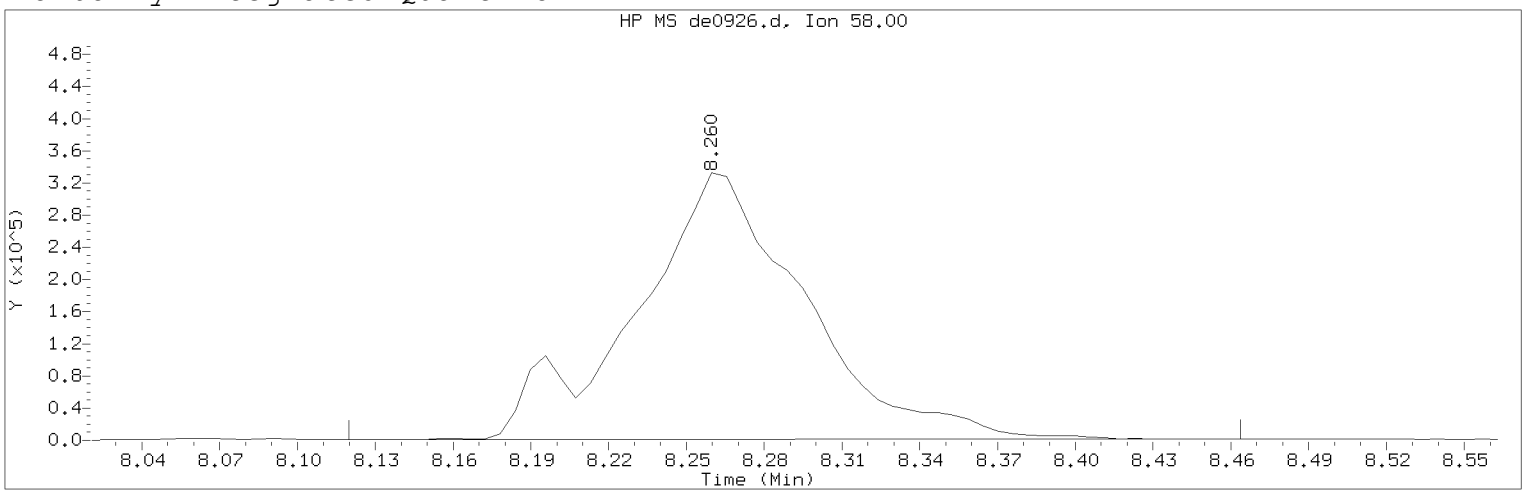
* = Compound is an internal standard.

Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

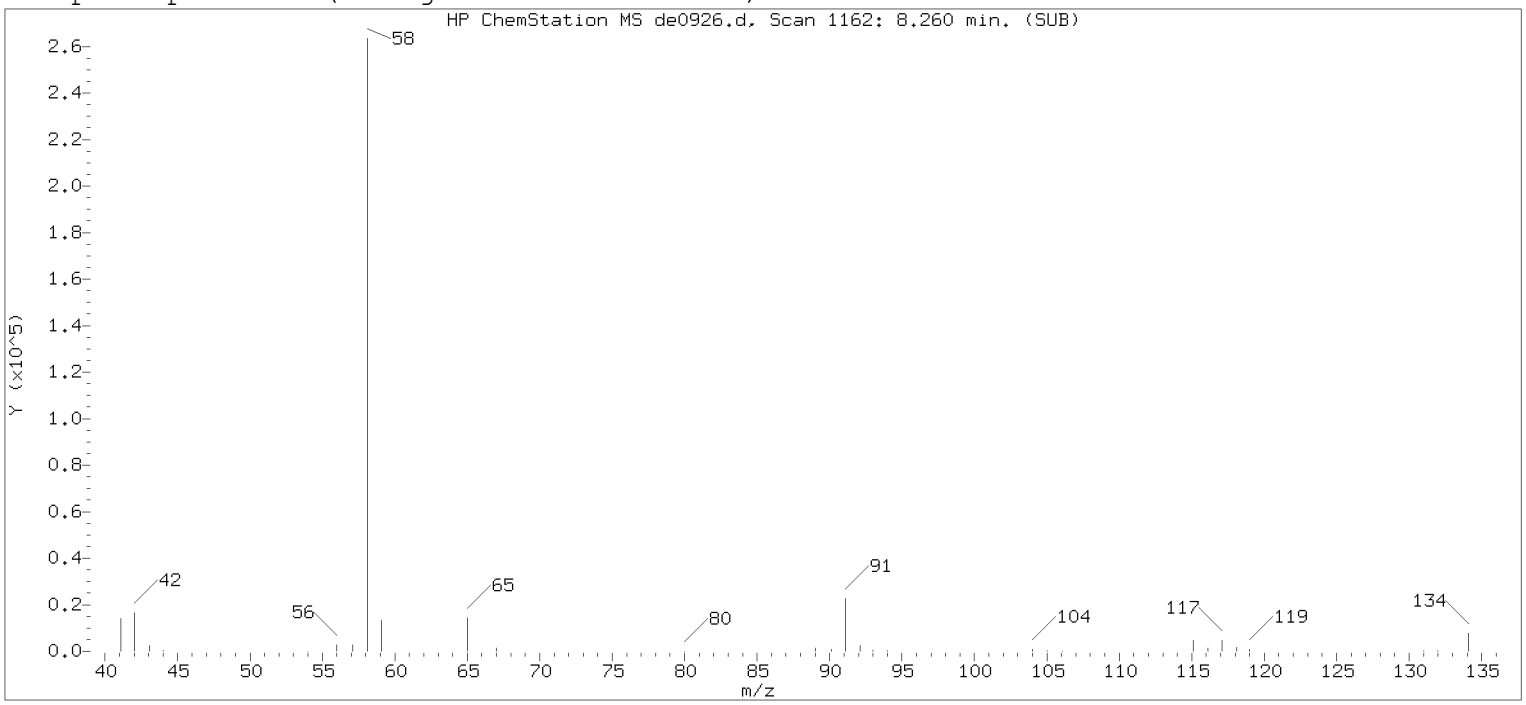
Compound Number : 64
Compound Name : a,a-Dimethylphenethylamine
Scan Number : 1162
Retention Time (minutes) : 8.260
Quant Ion : 58.00
Area (flag) : 1510237M
On-Column Amount (ng/ul) : 11.8805
Integration start scan : 1137 Integration stop scan: 1196
Y at integration start : 621 Y at integration end: 1402

Reason for manual integration: improper integration

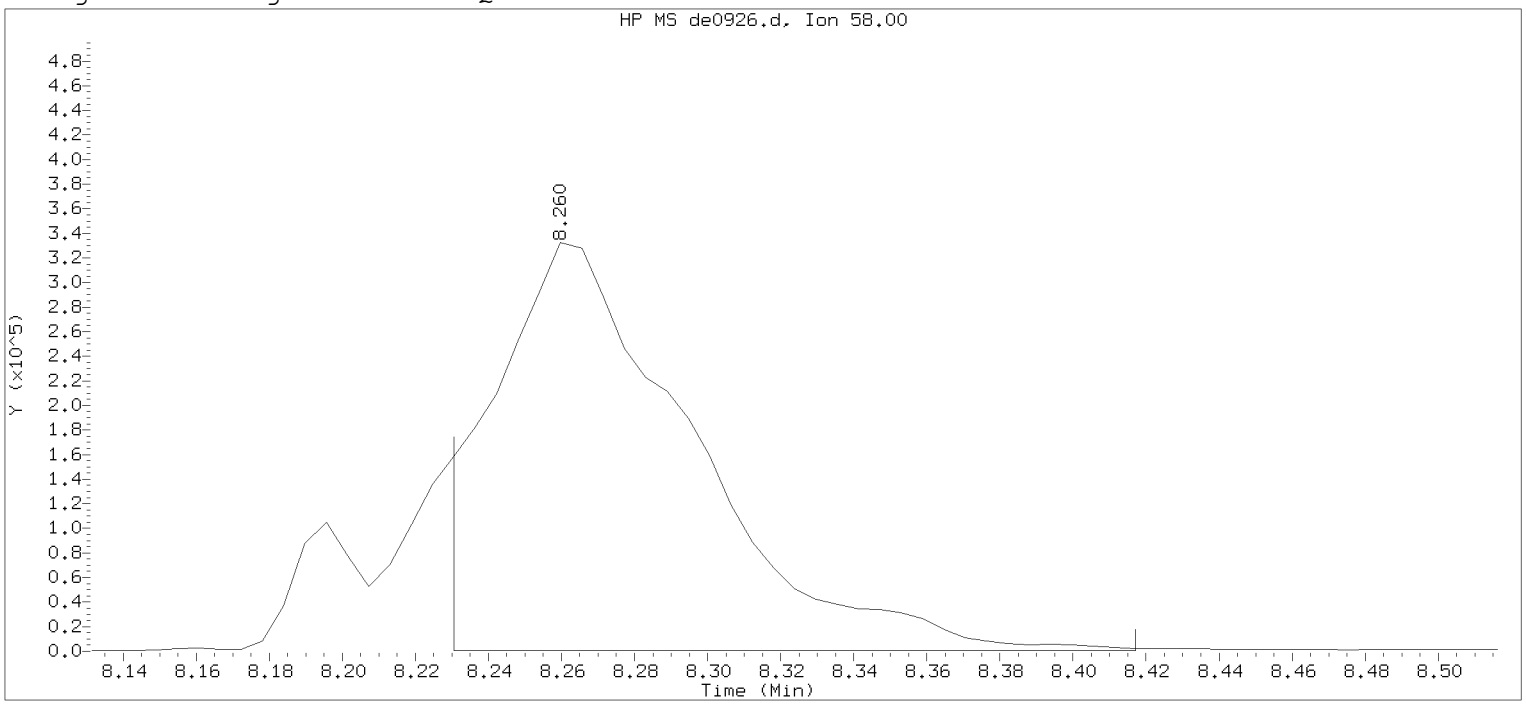
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

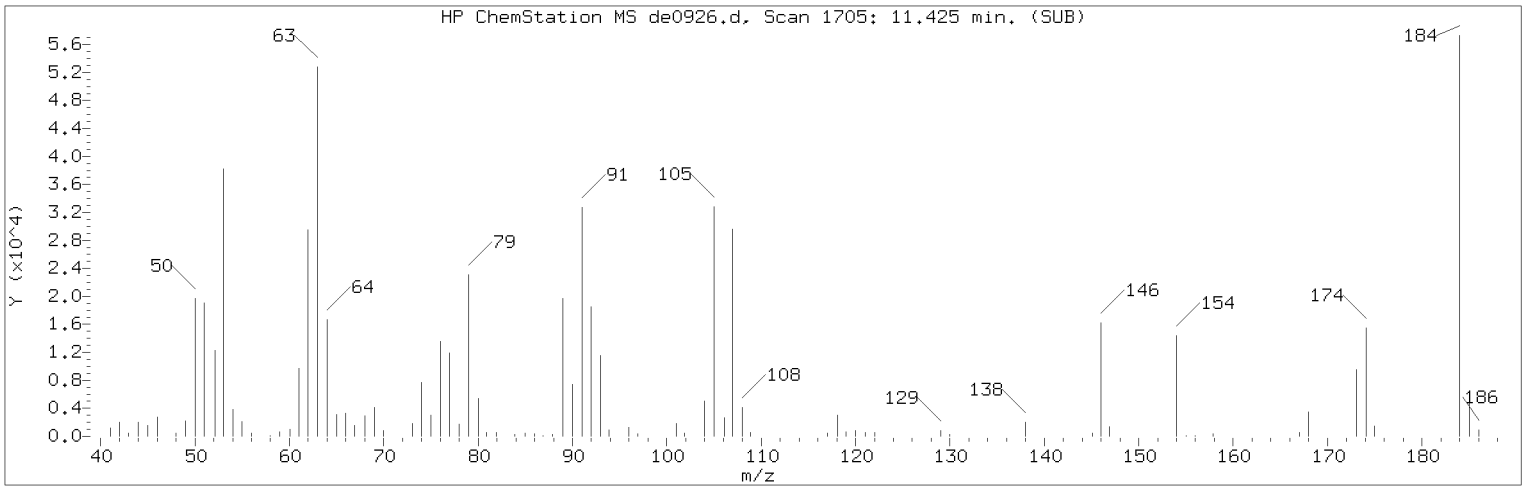
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

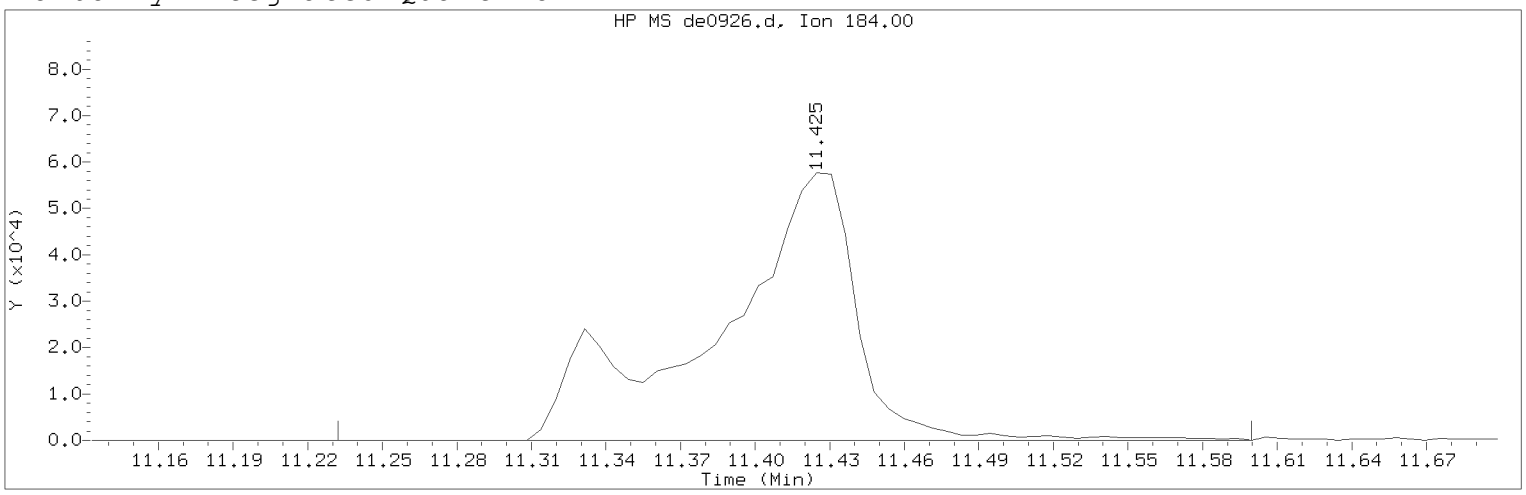
Compound Number	: 64		
Compound Name	: a,a-Dimethylphenethylamine		
Scan Number	: 1162		
Retention Time (minutes)	: 8.260		
Quant Ion	: 58.00		
Area	: 1248685		
On-column Amount (ng/ul)	: 9.8230		
Integration start scan	: 1156	Integration stop scan:	1188
Y at integration start	: 743	Y at integration end:	743

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: HBZ

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

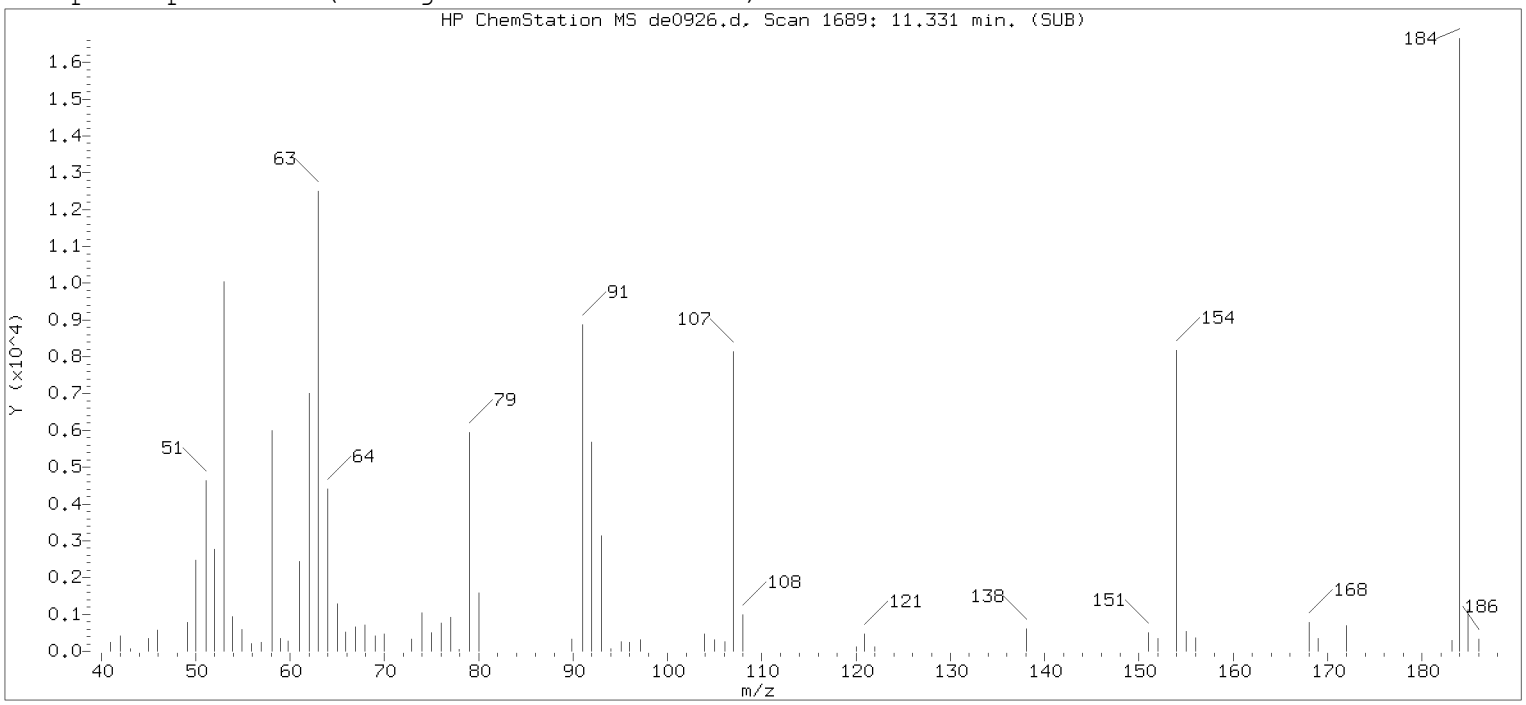
Compound Number : 115
Compound Name : 2,4-Dinitrophenol
Scan Number : 1705
Retention Time (minutes) : 11.425
Quant Ion : 184.00
Area (flag) : 226315M
On-Column Amount (ng/ul) : 17.0971
Integration start scan : 1671 Integration stop scan: 1734
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

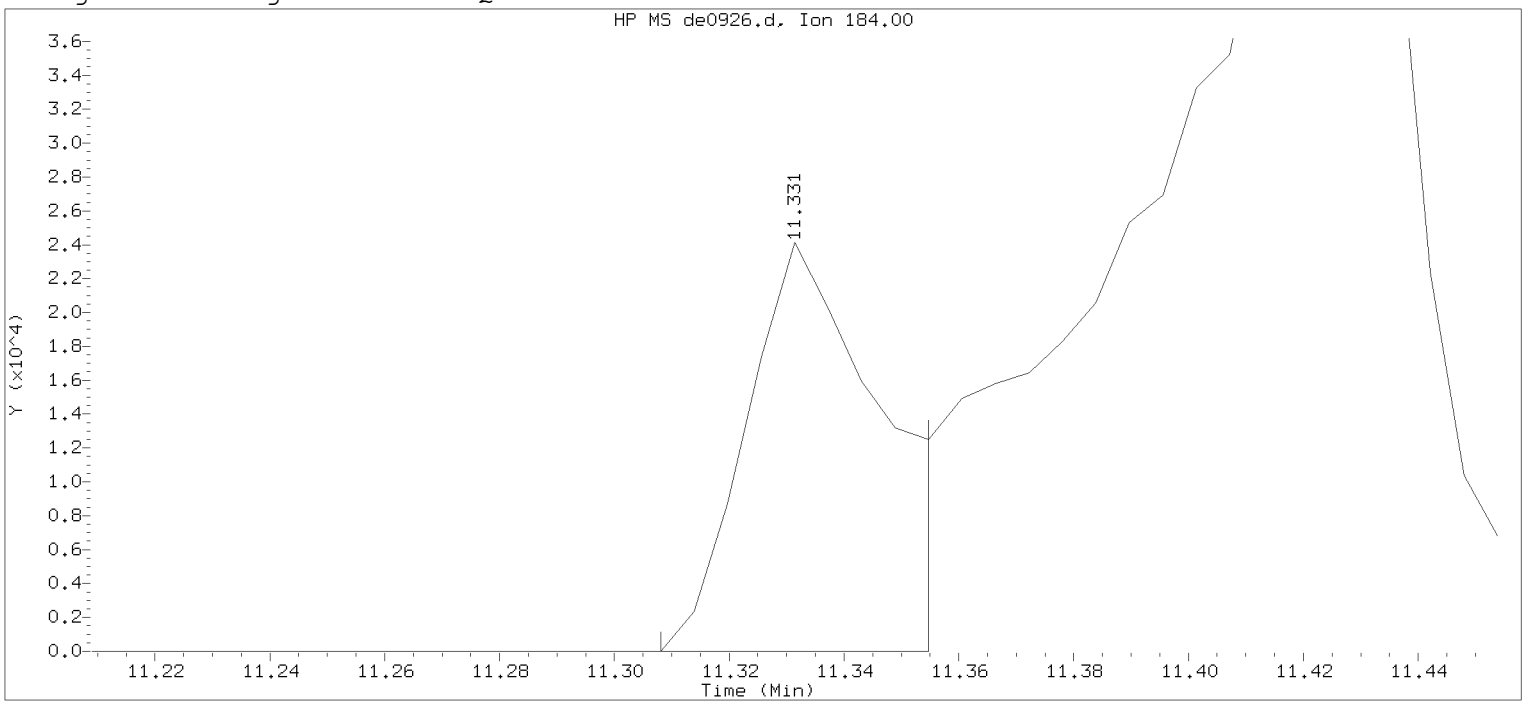
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

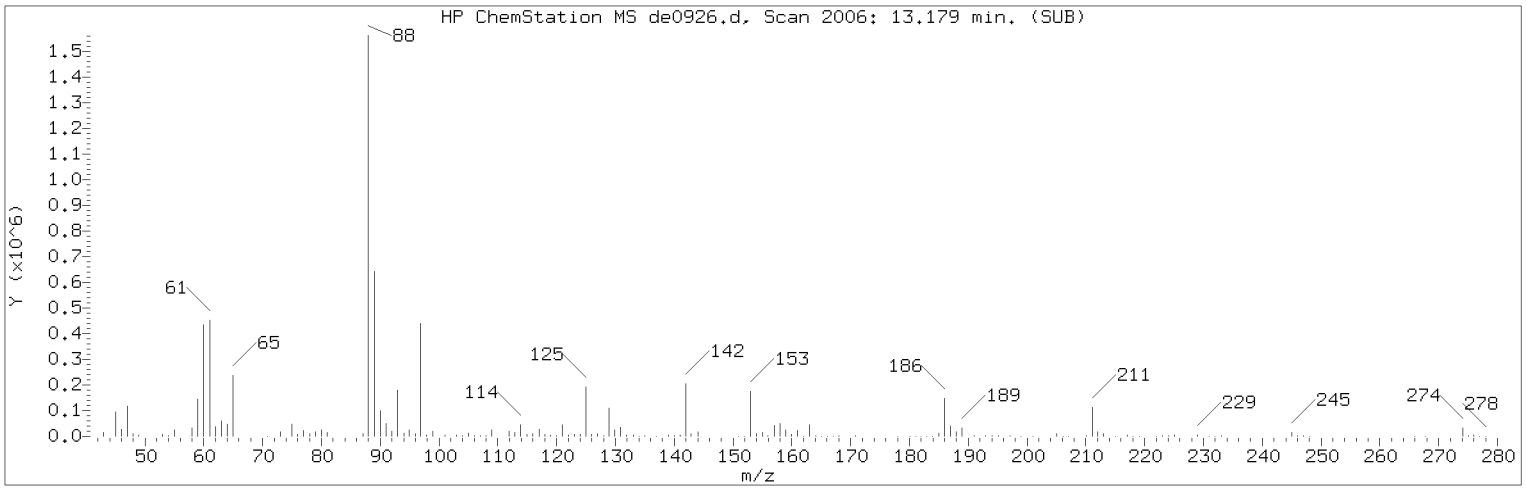
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

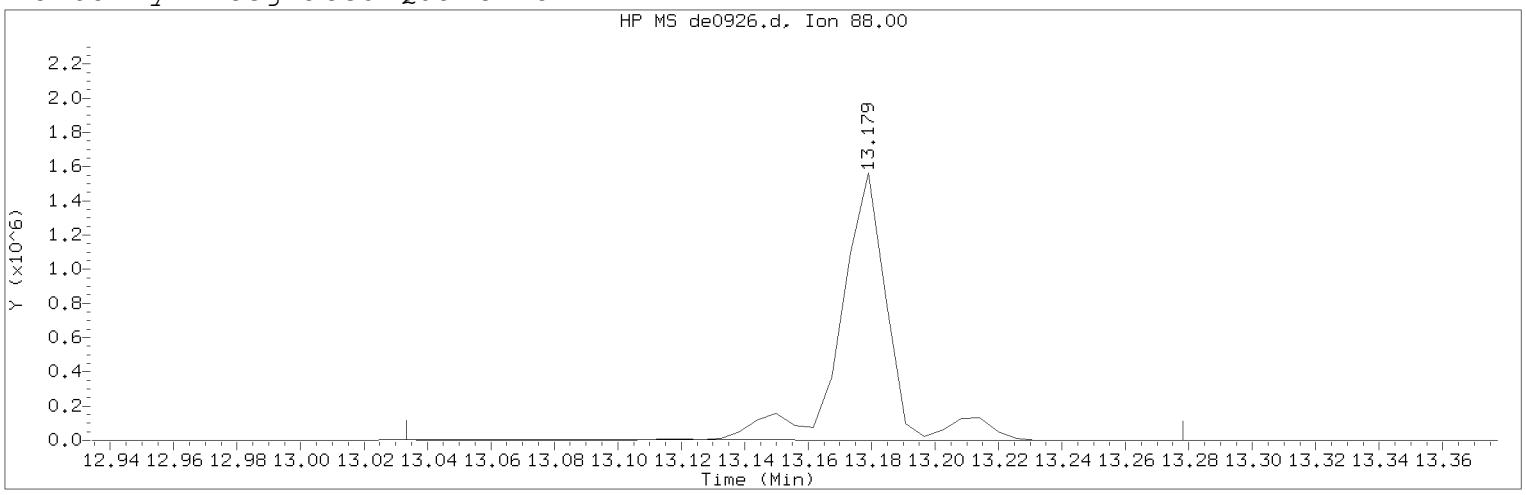
Compound Number	: 115		
Compound Name	: 2,4-Dinitrophenol		
Scan Number	: 1689		
Retention Time (minutes)	: 11.331		
Quant Ion	: 184.00		
Area	: 37838		
On-column Amount (ng/ul)	: 2.8585		
Integration start scan	: 1684	Integration stop scan:	1692
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

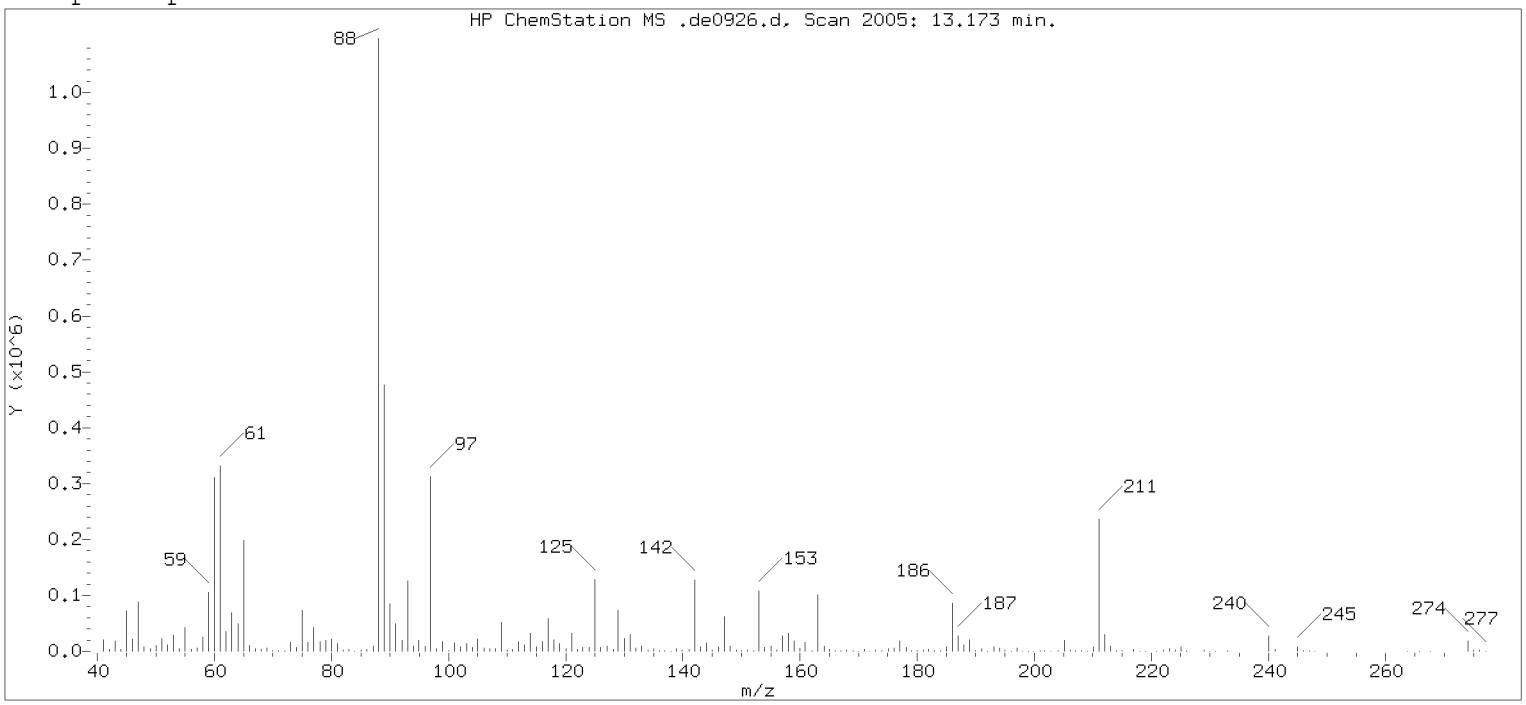
Compound Number : 162
Compound Name : Disulfoton
Scan Number : 2006
Retention Time (minutes) : 13.179
Quant Ion : 88.00
Area (flag) : 1672143M
On-Column Amount (ng/ul) : 30.3546
Integration start scan : 1980 Integration stop scan: 2022
Y at integration start : 2494 Y at integration end: 446

Reason for manual integration: missed peak

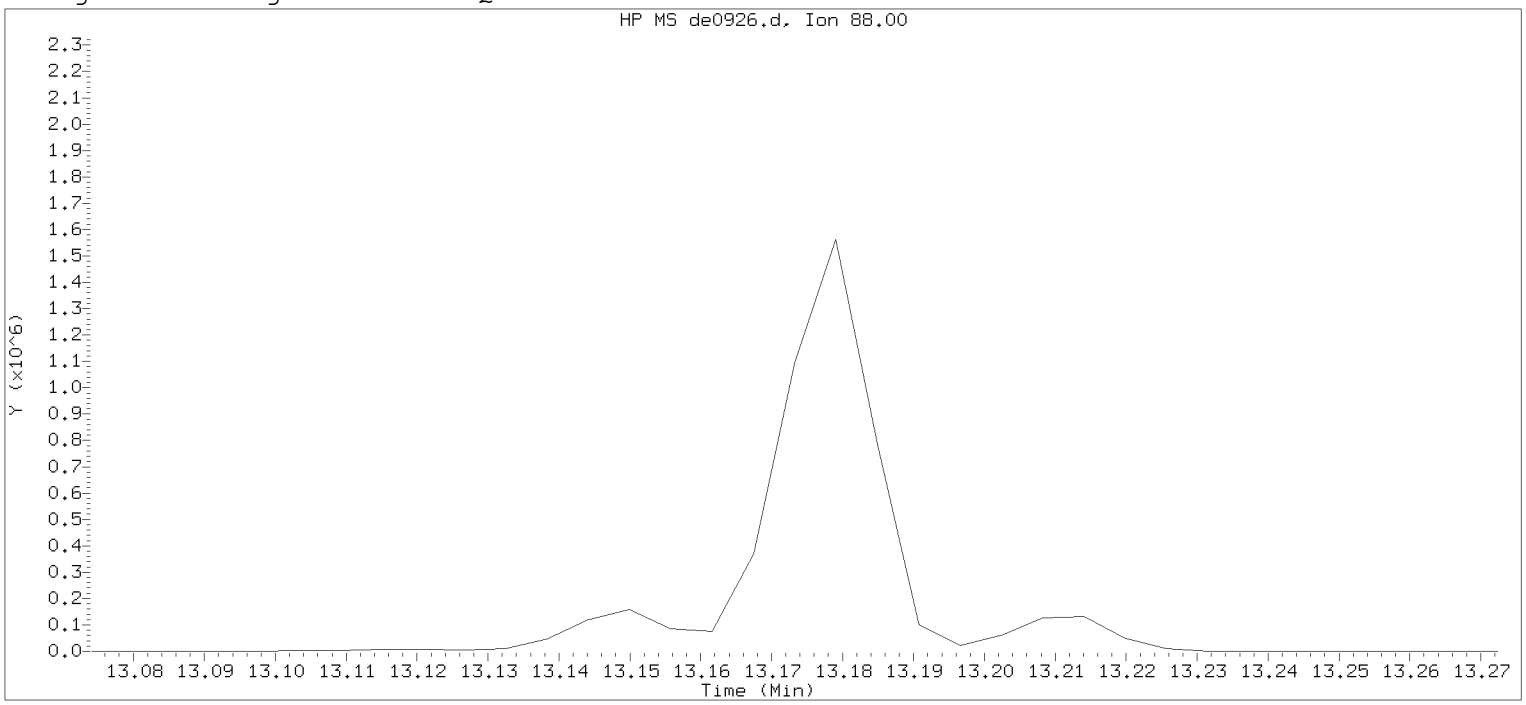
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

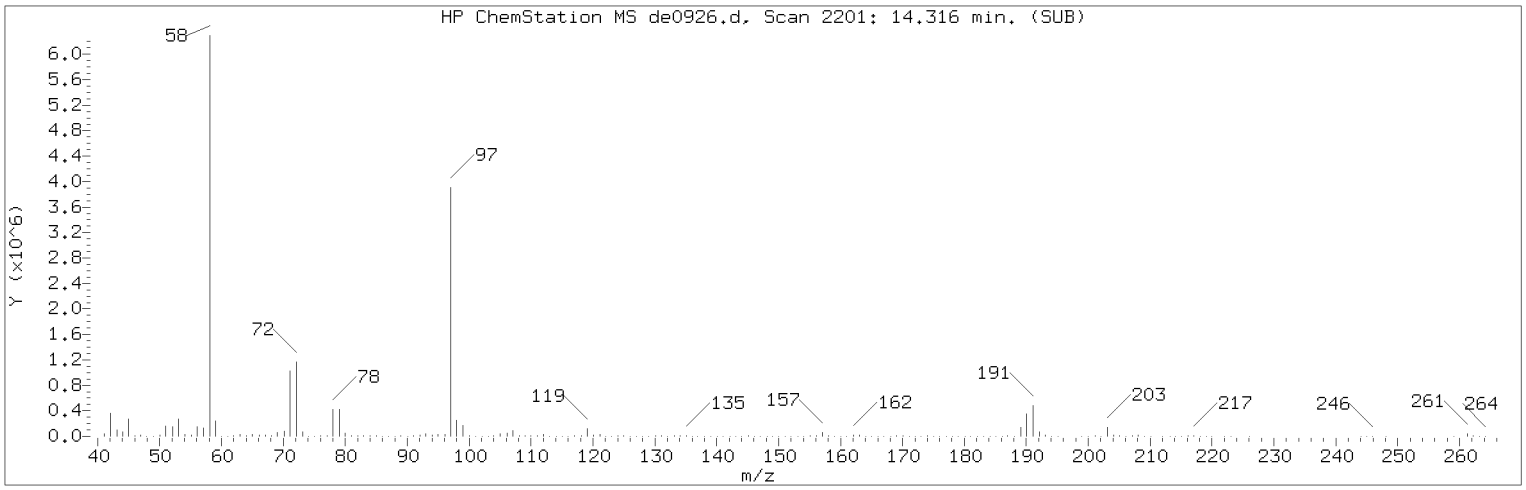
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

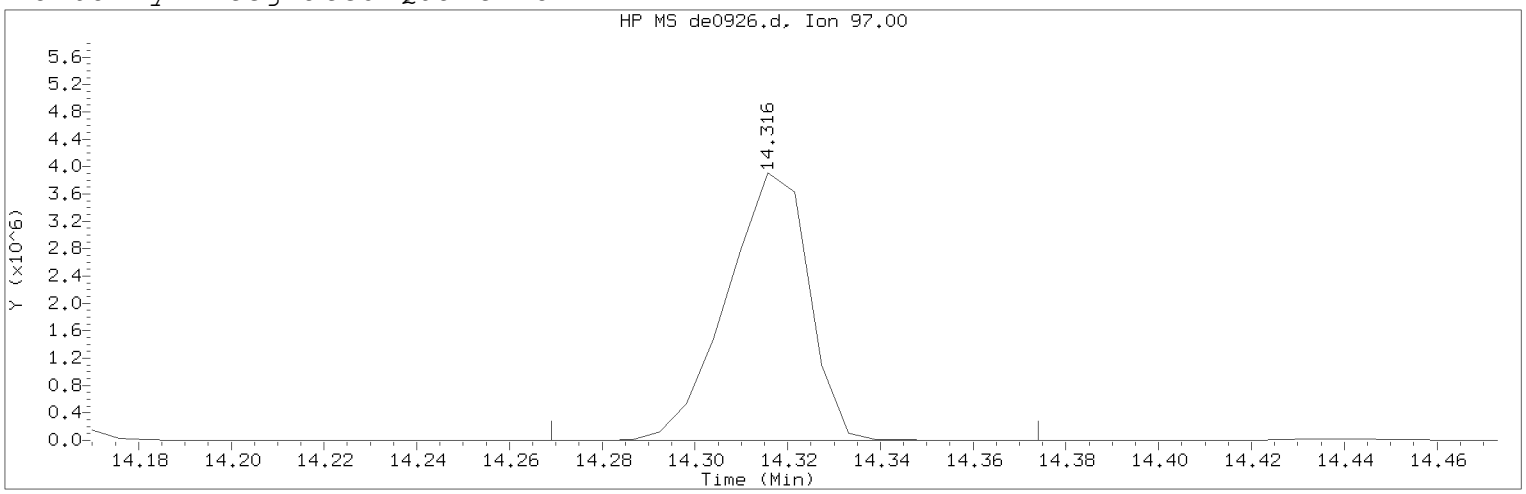
Compound Number : 162
Compound Name : Disulfoton
Expected RT (minutes) : 13.173
Quant Ion : 88.00

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

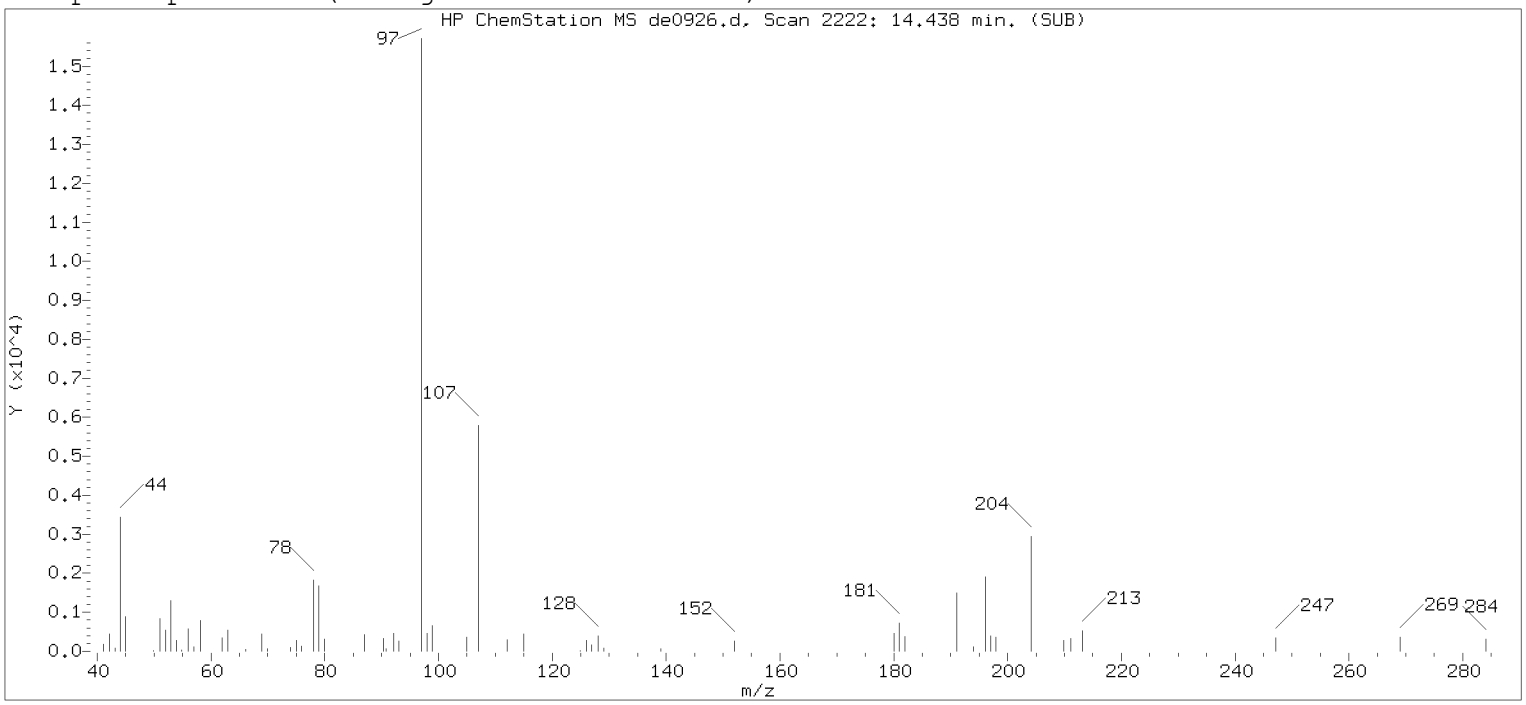
Compound Number : 170
Compound Name : Methapyrilene
Scan Number : 2201
Retention Time (minutes) : 14.316
Quant Ion : 97.00
Area (flag) : 4784357M
On-Column Amount (ng/ul) : 133.1887
Integration start scan : 2192 Integration stop scan: 2210
Y at integration start : 314 Y at integration end: 1497

Reason for manual integration: improper integration

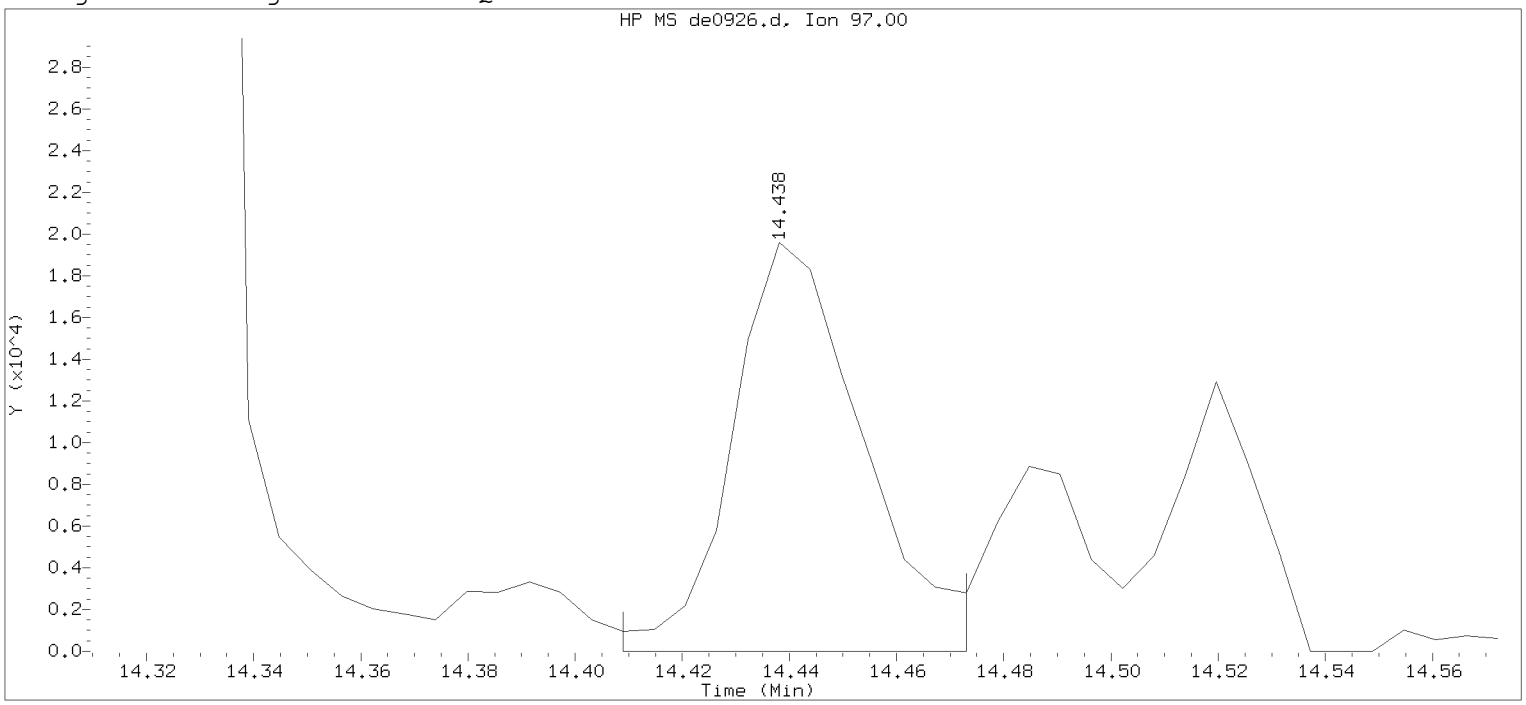
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

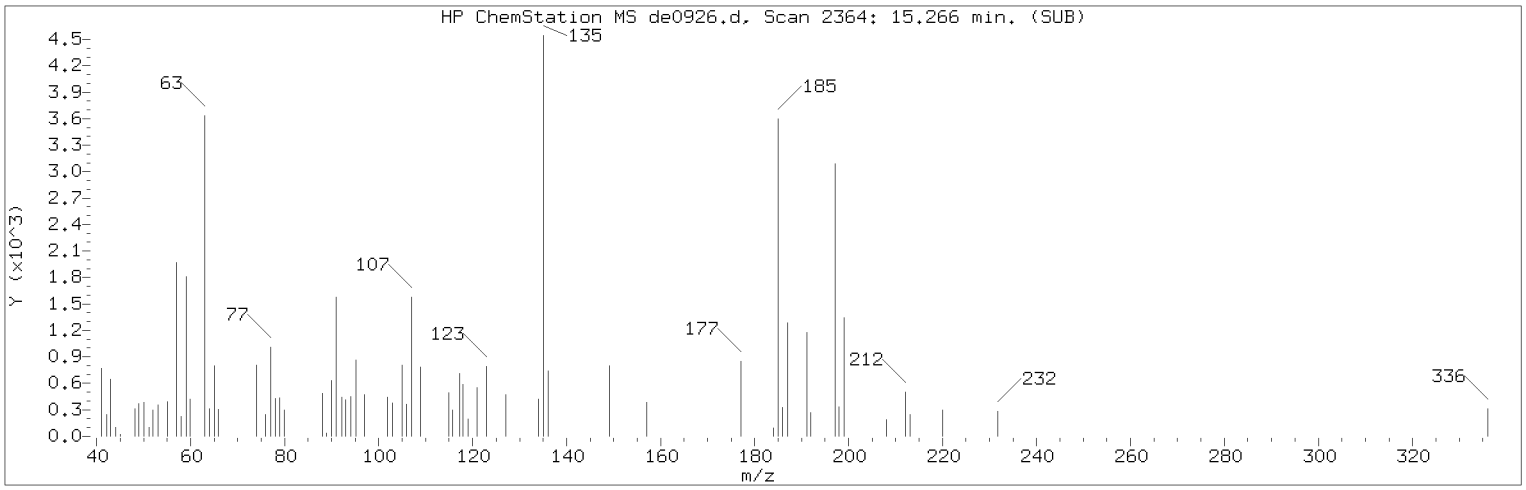
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

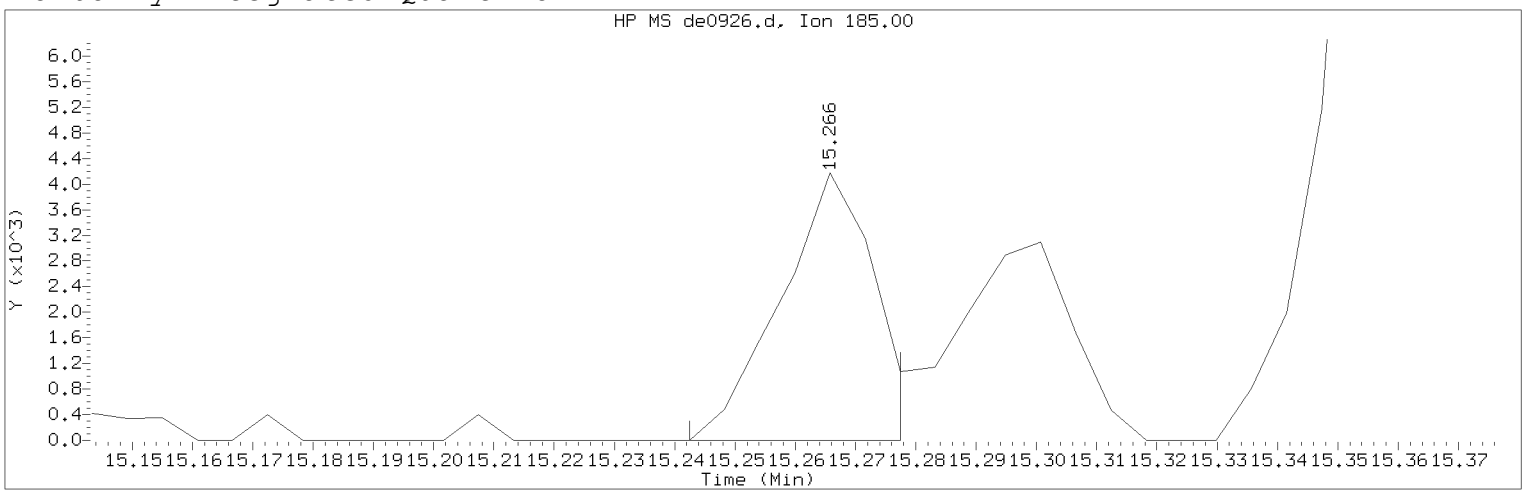
Compound Number	: 170		
Compound Name	: Methapyrilene		
Scan Number	: 2222		
Retention Time (minutes)	: 14.438		
Quant Ion	: 97.00		
Area	: 32677		
On-column Amount (ng/ul)	: 0.9097		
Integration start scan	: 2216	Integration stop scan:	2227
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

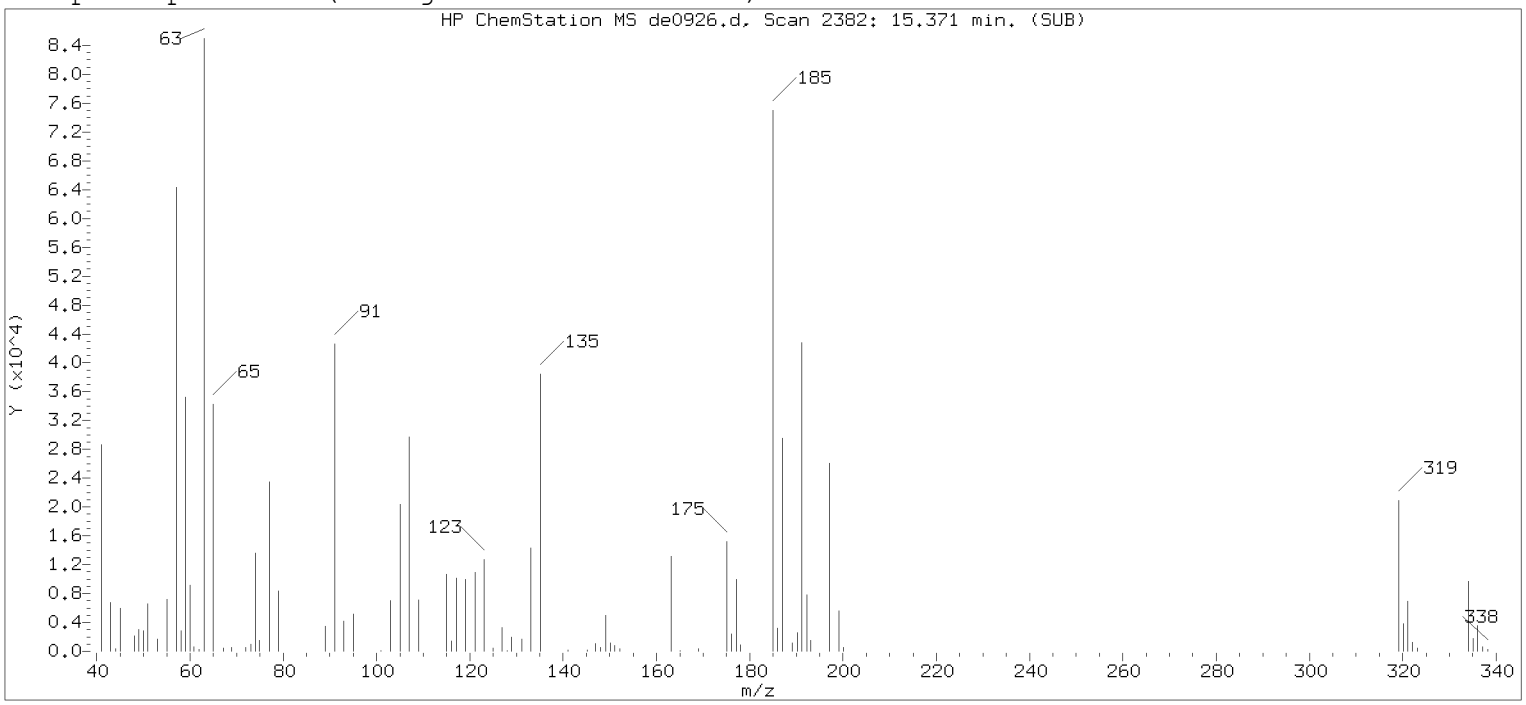
Compound Number : 180
Compound Name : Aramite (1)
Scan Number : 2364
Retention Time (minutes) : 15.266
Quant Ion : 185.00
Area (flag) : 4550M
On-Column Amount (ng/ul) : 5.1717
Integration start scan : 2359 Integration stop scan: 2365
Y at integration start : 5 Y at integration end: 5

Reason for manual integration: improper integration

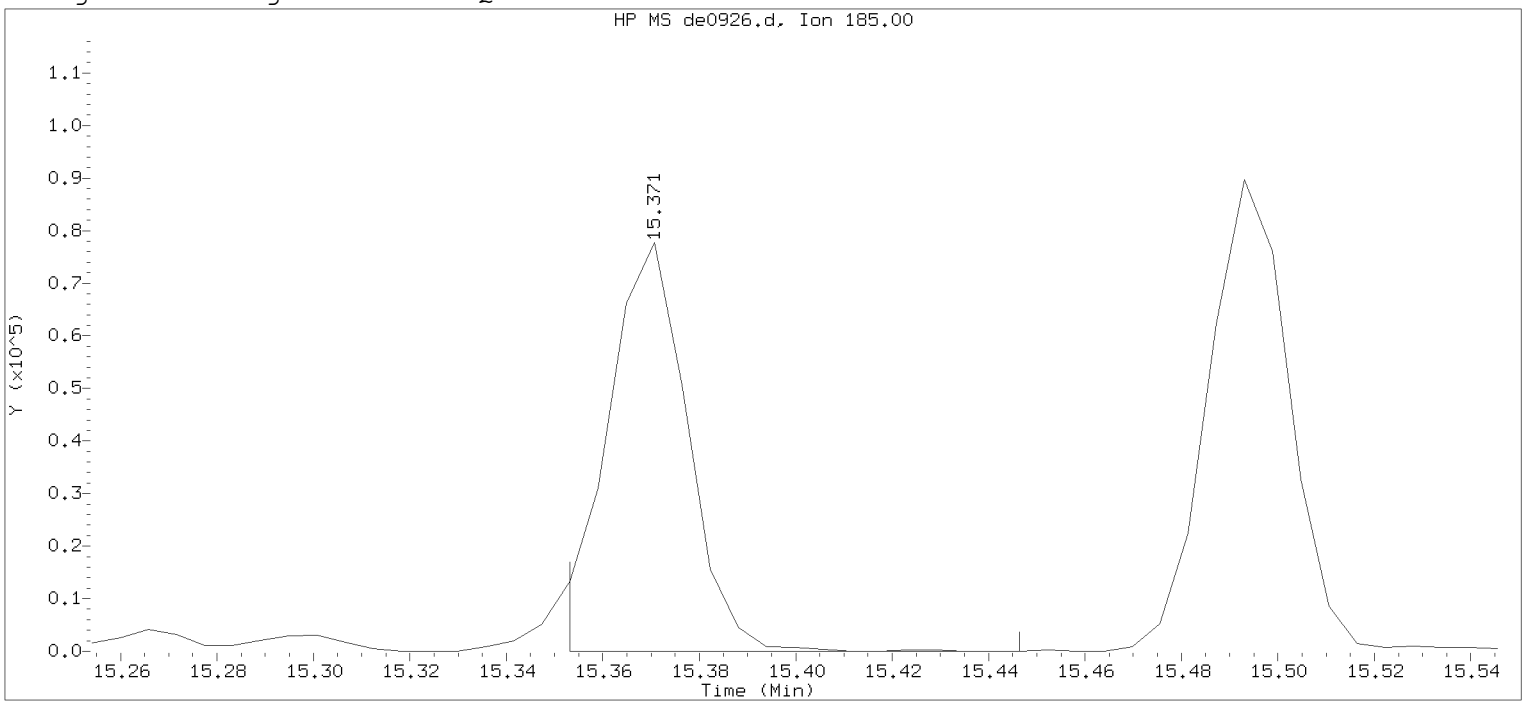
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

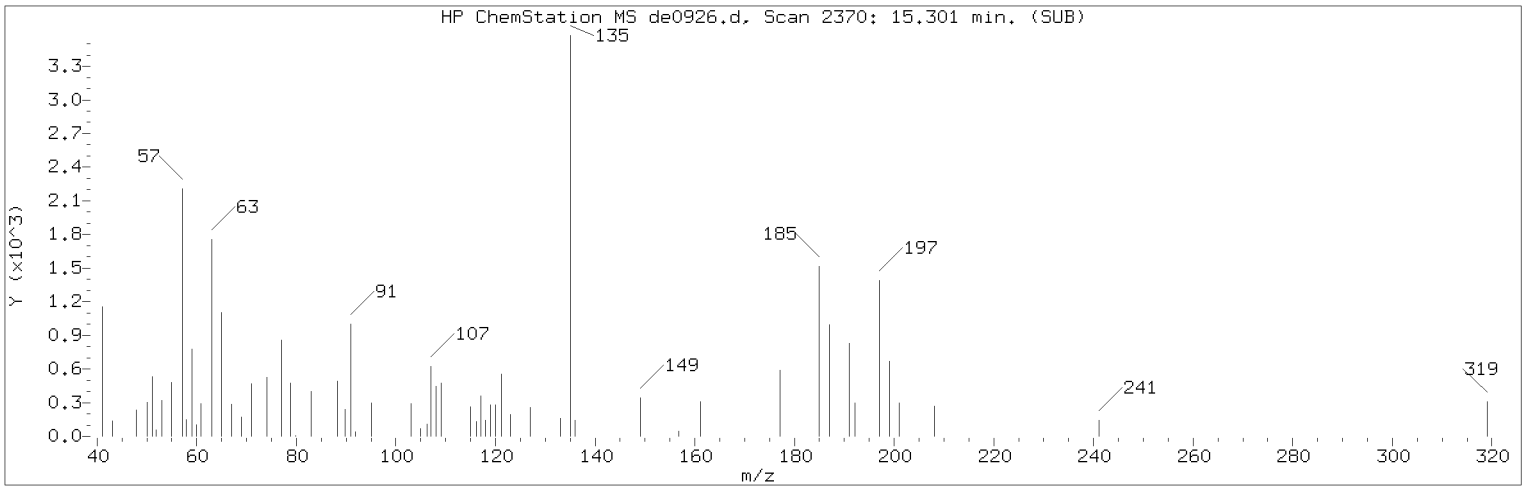
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

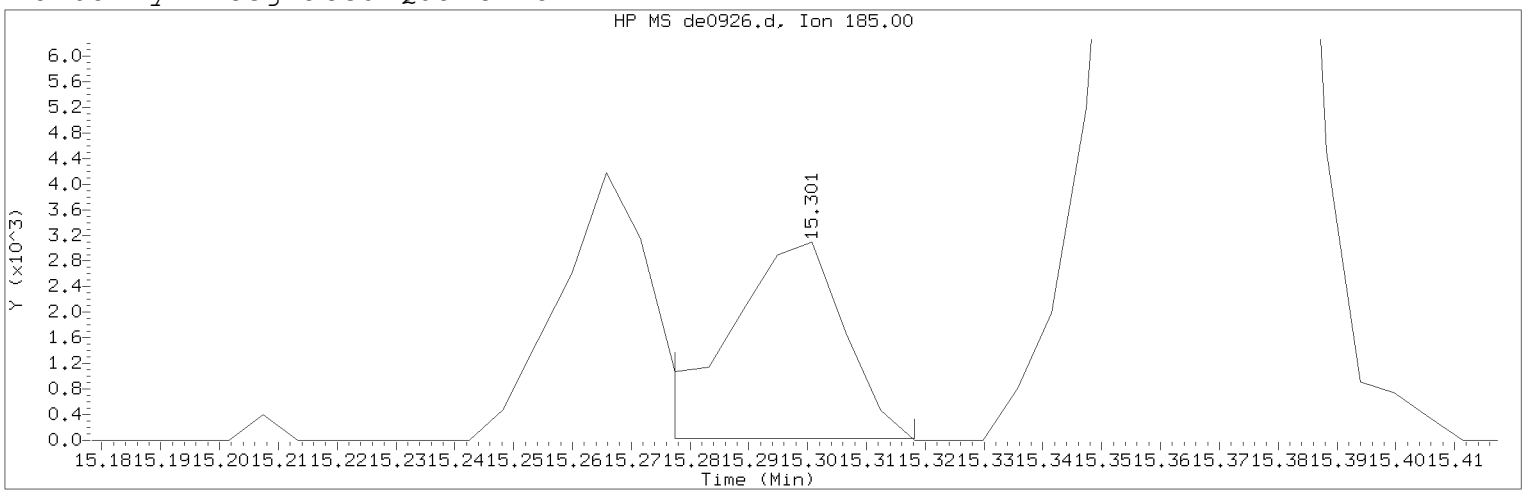
Compound Number : 180
Compound Name : Aramite (1)
Scan Number : 2382
Retention Time (minutes) : 15.371
Quant Ion : 185.00
Area : 89085
On-column Amount (ng/ul) : 101.2570
Integration start scan : 2378 Integration stop scan: 2394
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: HZIEGLER

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

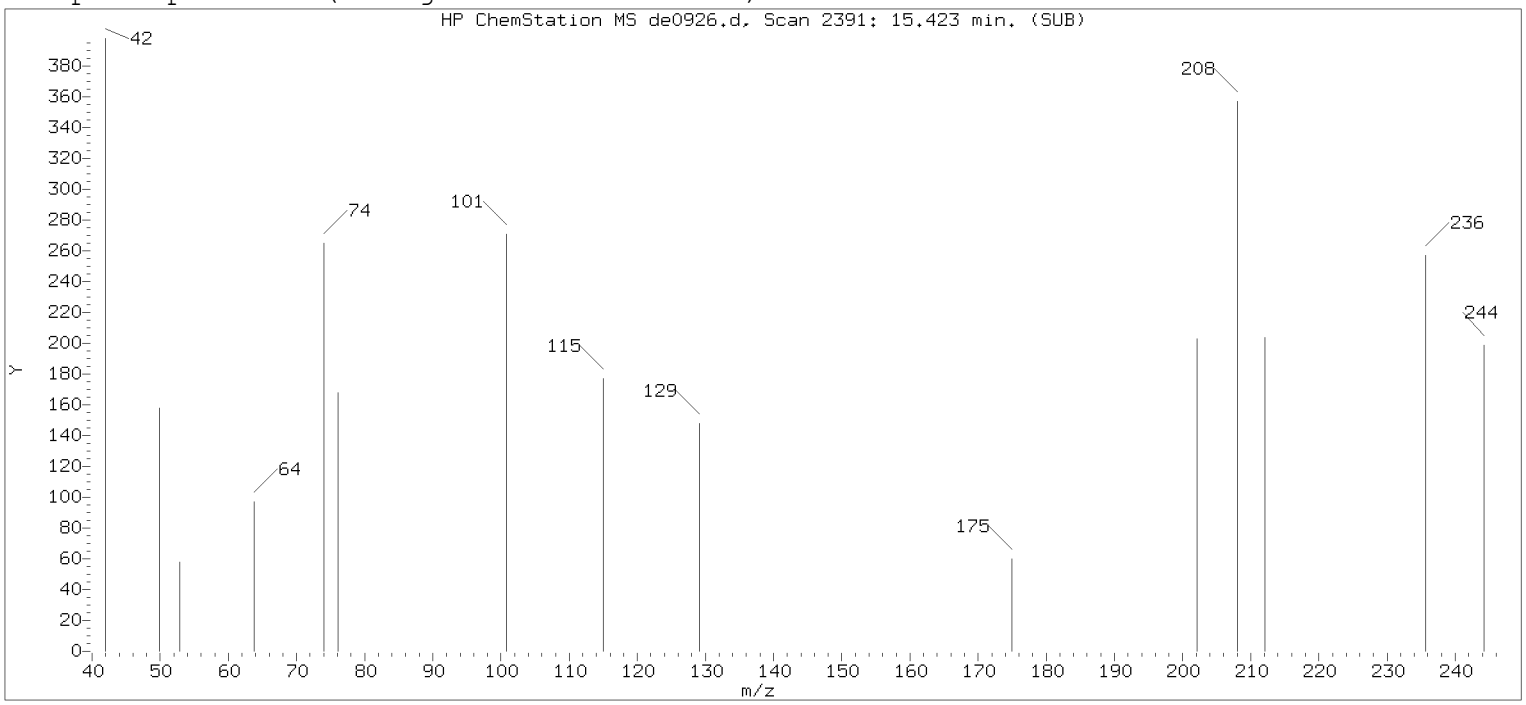
Compound Number : 181
Compound Name : Aramite (2)
Scan Number : 2370
Retention Time (minutes) : 15.301
Quant Ion : 185.00
Area (flag) : 4239M
On-Column Amount (ng/ul) : 5.0799
Integration start scan : 2365 Integration stop scan: 2372
Y at integration start : 35 Y at integration end: 35

Reason for manual integration: improper integration

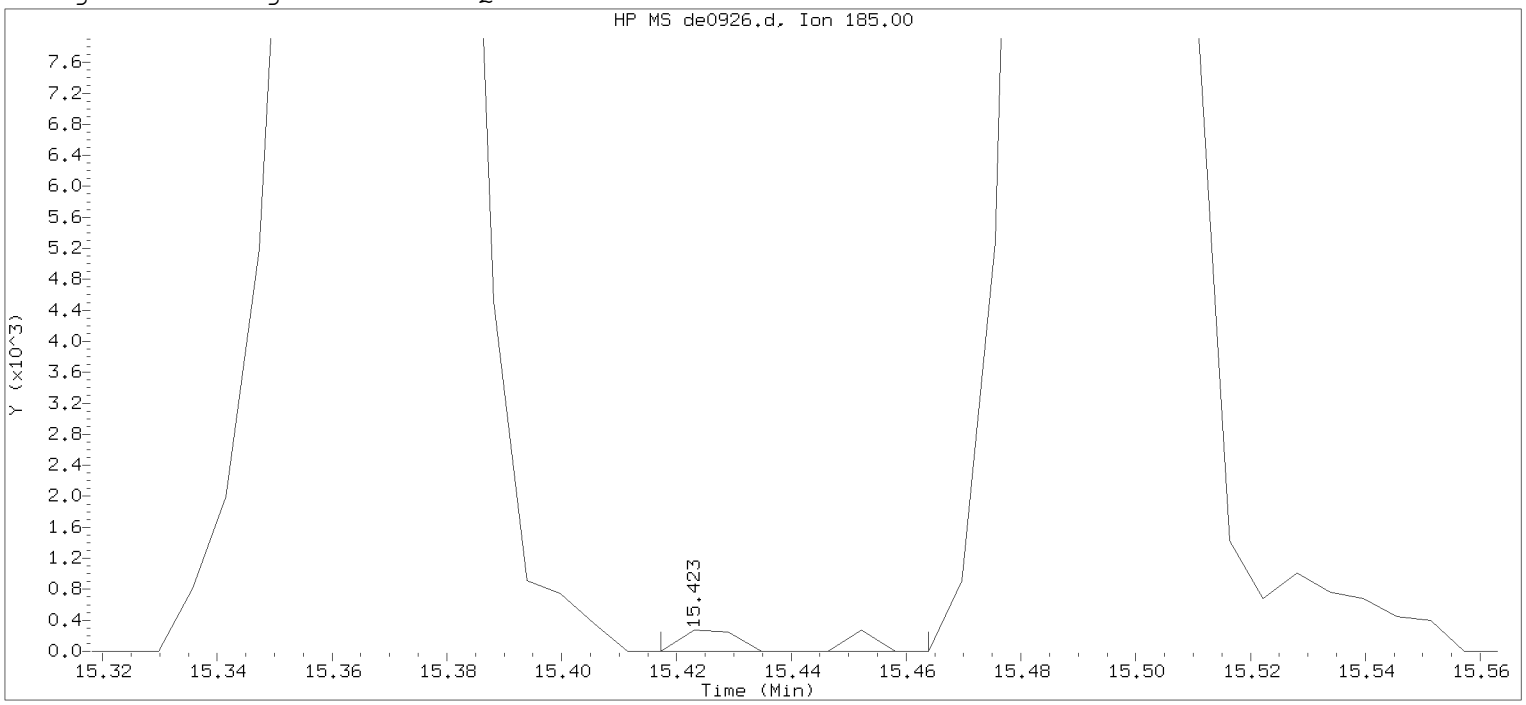
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

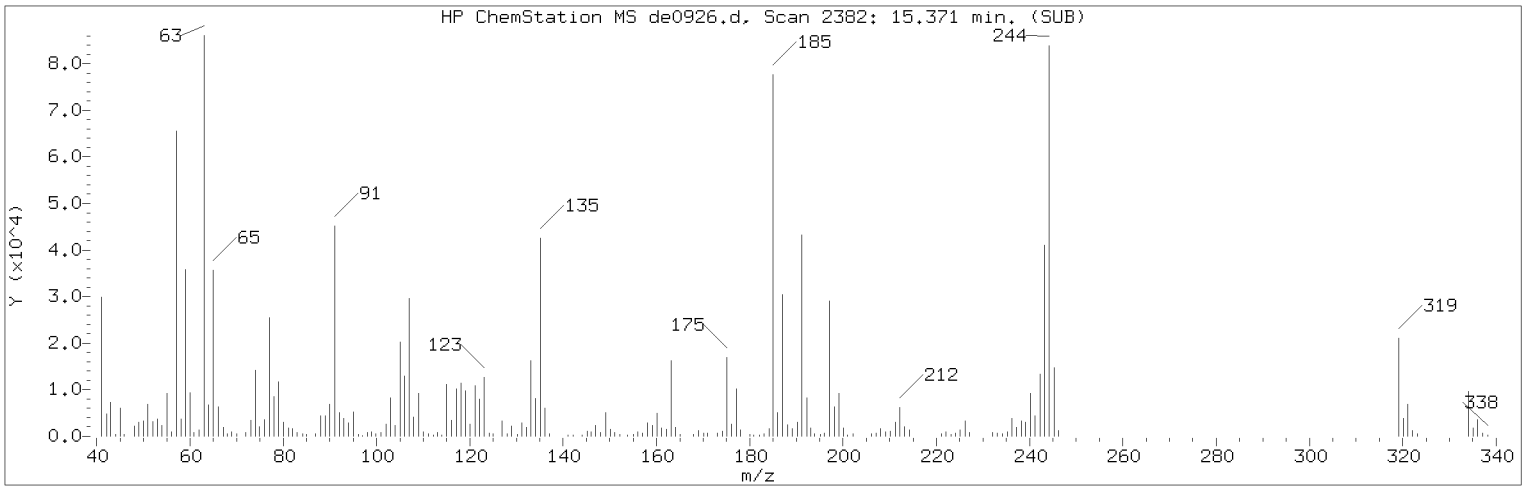
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

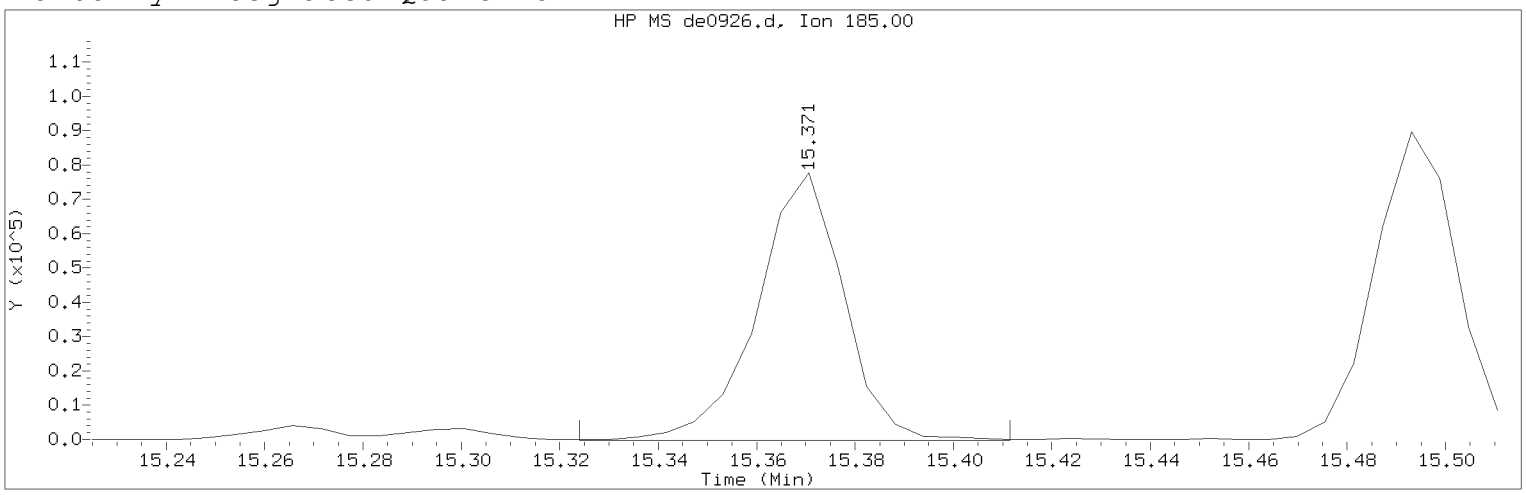
Compound Number : 181
Compound Name : Aramite (2)
Scan Number : 2391
Retention Time (minutes) : 15.423
Quant Ion : 185.00
Area : 280
On-column Amount (ng/ul) : 0.3361
Integration start scan : 2389 Integration stop scan: 2397
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

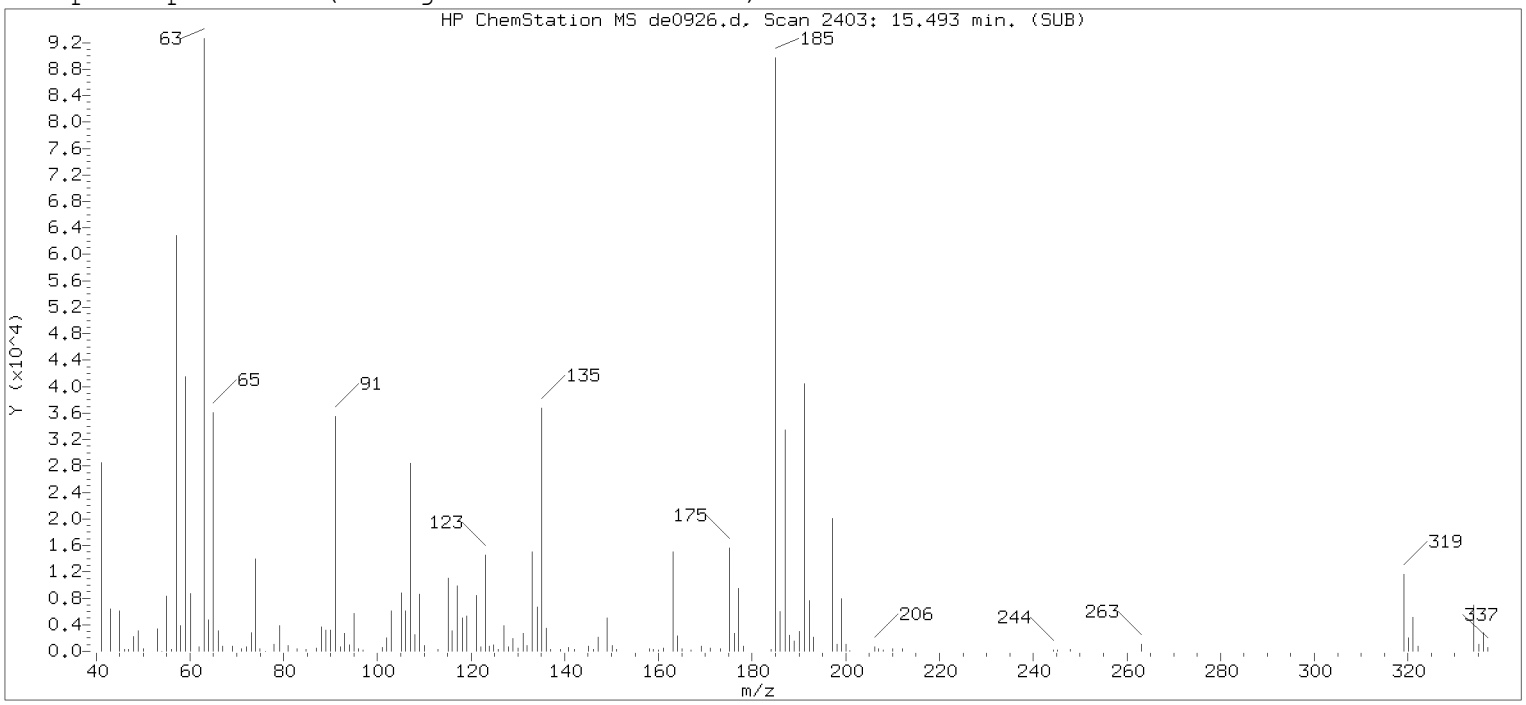
Compound Number : 183
Compound Name : Aramite (3)
Scan Number : 2382
Retention Time (minutes) : 15.371
Quant Ion : 185.00
Area (flag) : 95173M
On-Column Amount (ng/ul) : 1.3050
Integration start scan : 2373 Integration stop scan: 2388
Y at integration start : -206 Y at integration end: -206

Reason for manual integration: improper integration

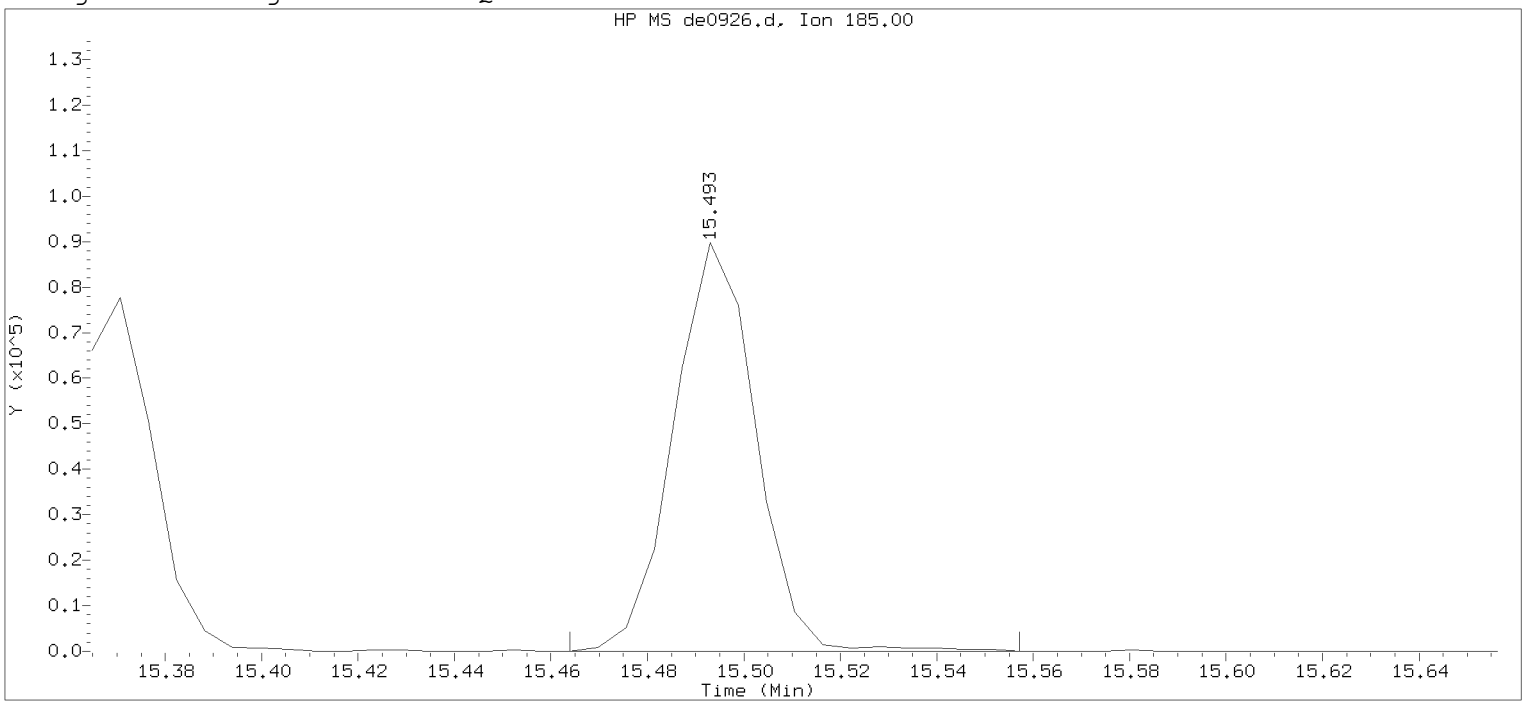
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

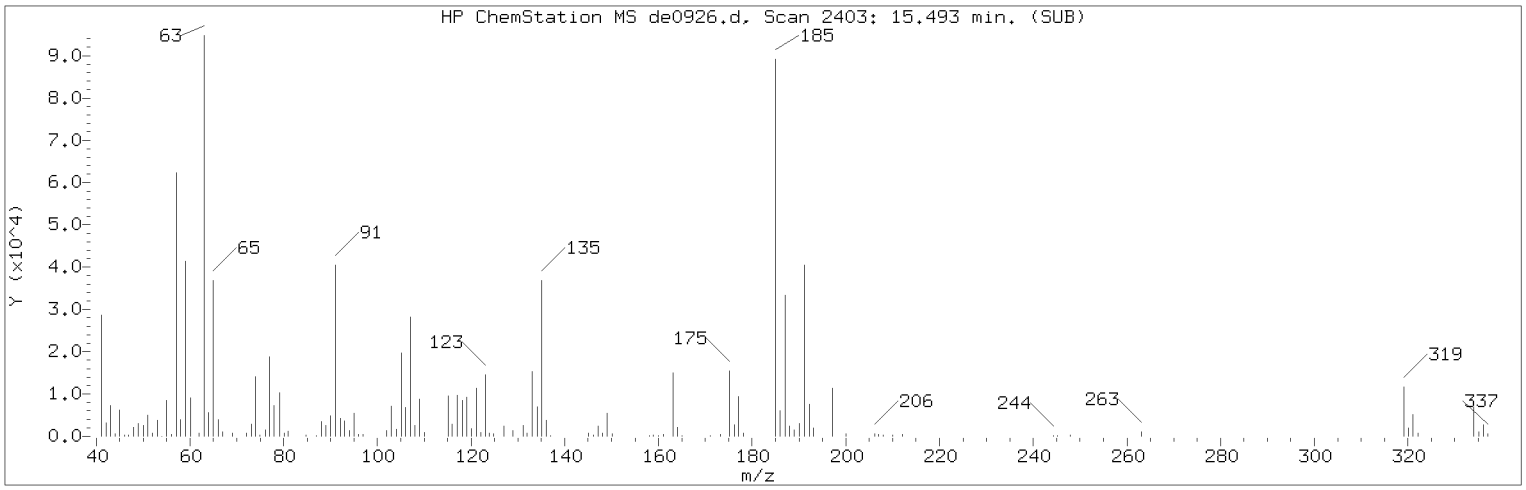
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

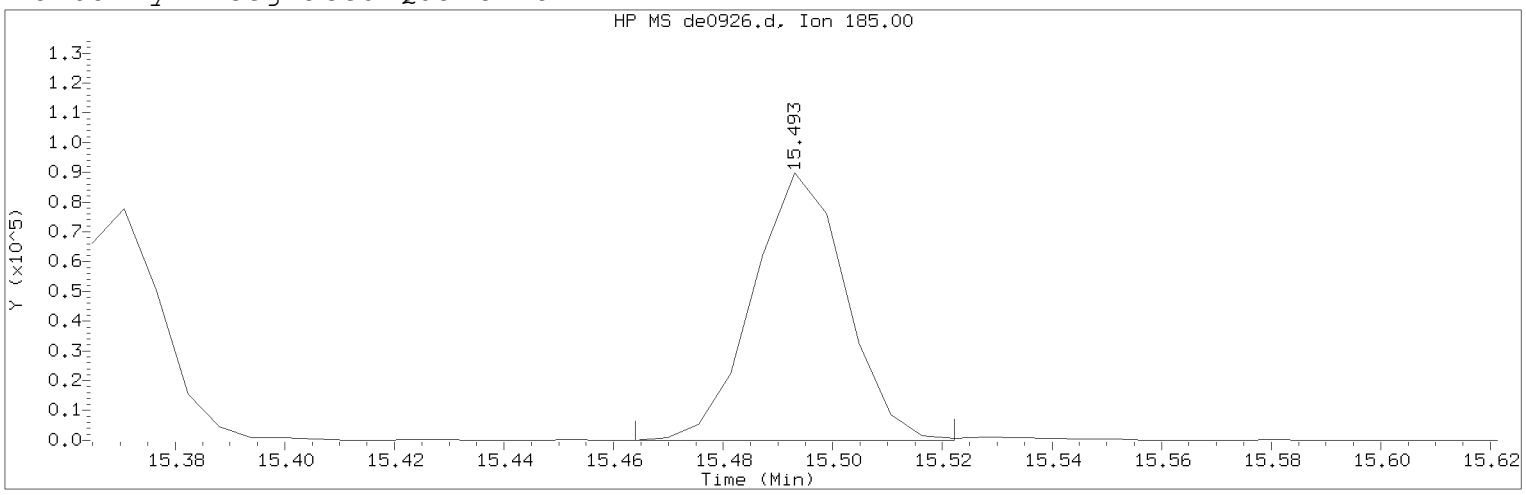
Compound Number	: 183		
Compound Name	: Aramite (3)		
Scan Number	: 2403		
Retention Time (minutes)	: 15.493		
Quant Ion	: 185.00		
Area	: 106097		
On-column Amount (ng/ul)	: 1.4548		
Integration start scan	: 2397	Integration stop scan:	2413
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

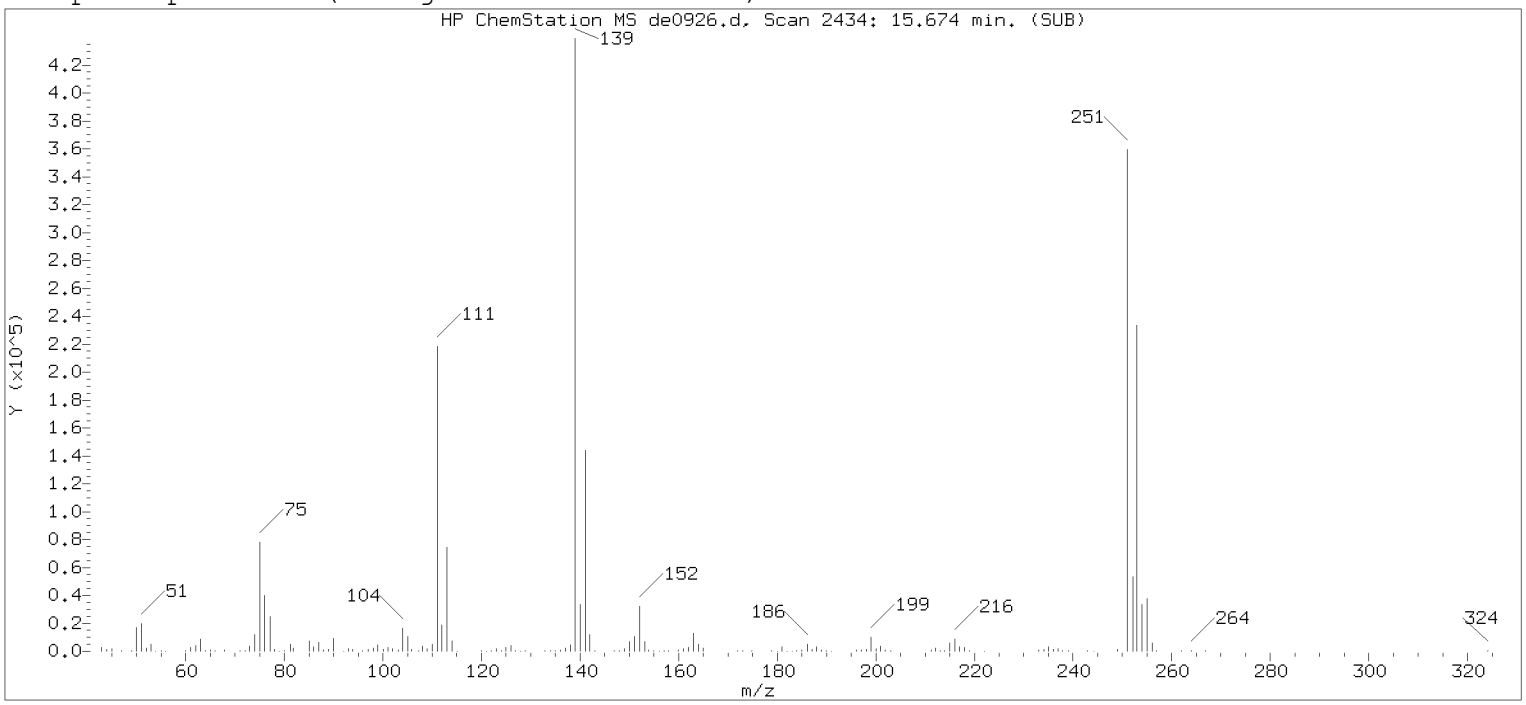
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2403
Retention Time (minutes) : 15.493
Quant Ion : 185.00
Area (flag) : 105030M
On-Column Amount (ng/ul) : 1.0935
Integration start scan : 2397 Integration stop scan: 2407
Y at integration start : -22 Y at integration end: -22

Reason for manual integration: improper integration

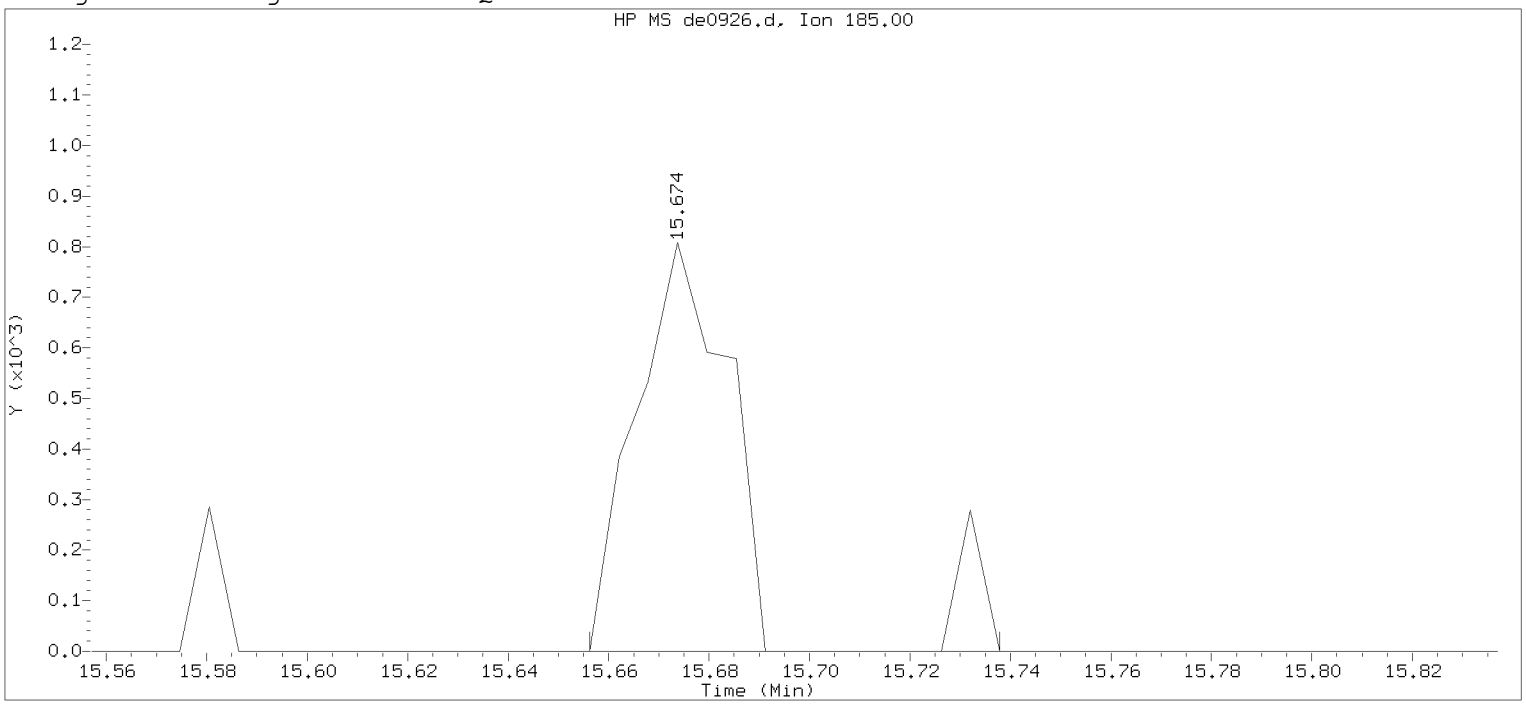
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

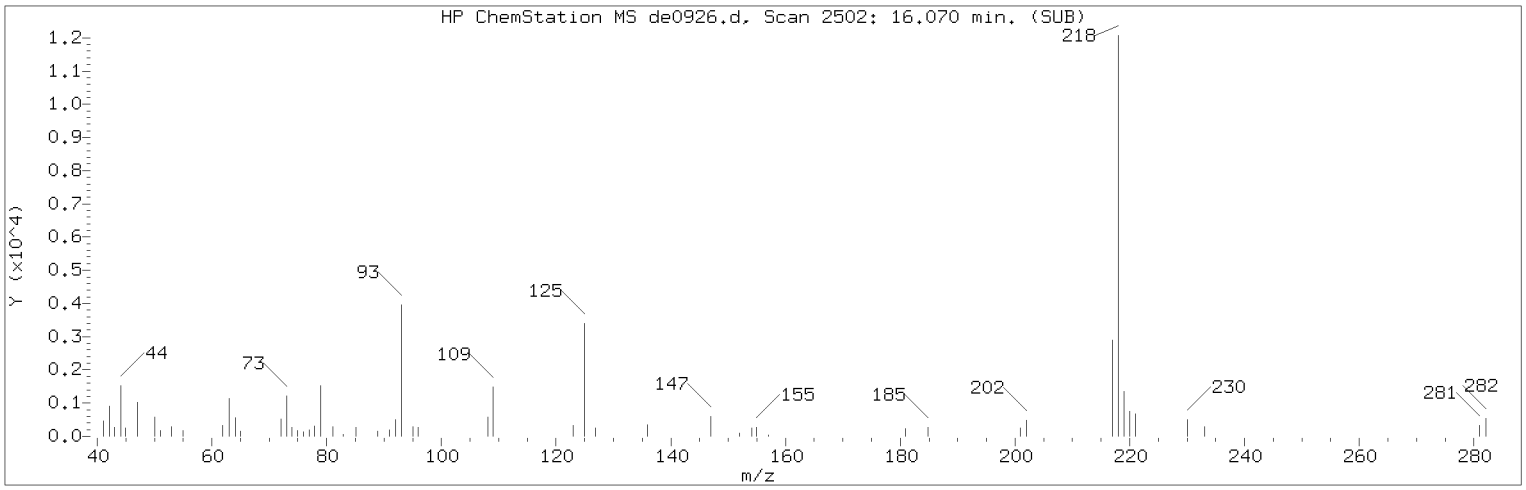
Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

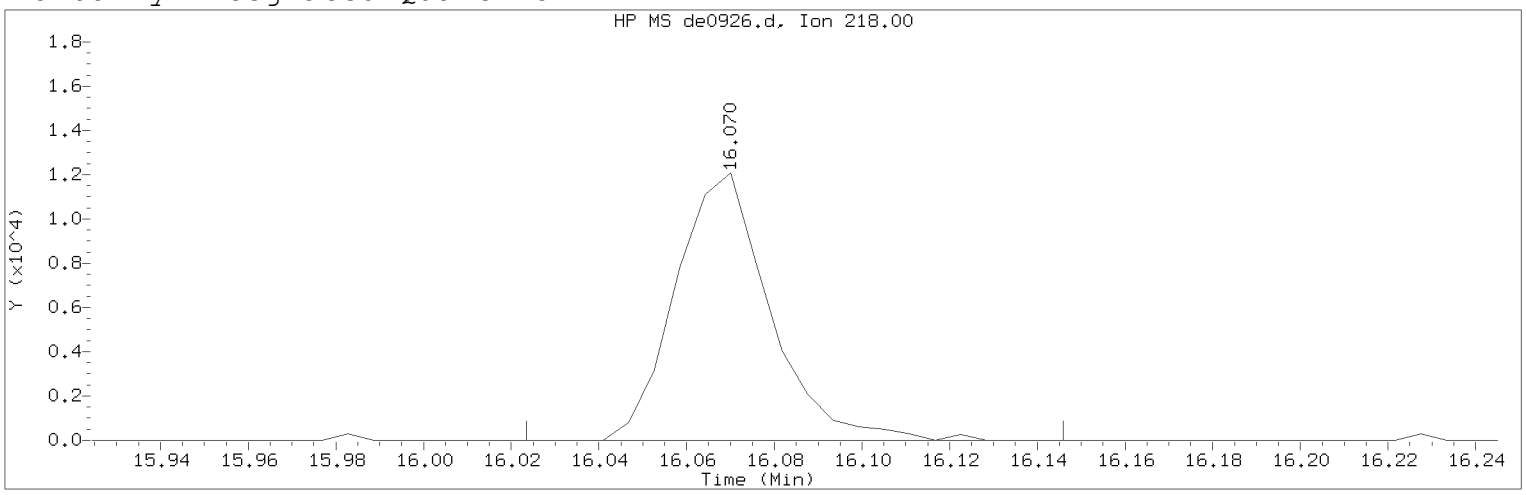
Compound Number : 184
Compound Name : Aramite (4)
Scan Number : 2434
Retention Time (minutes) : 15.674
Quant Ion : 185.00
Area : 1110
On-column Amount (ng/ul) : 0.0116
Integration start scan : 2430 Integration stop scan: 2444
Y at integration start : 0 Y at integration end: 0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature used.

Sample Spectrum (Background Subtracted)



Manually Integrated Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 24843M-pda
Calibration date and time: 31-MAY-2017 12:16
Date, time and analyst ID of latest file update: 17-Jul-2017 11:30 hbz01996

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

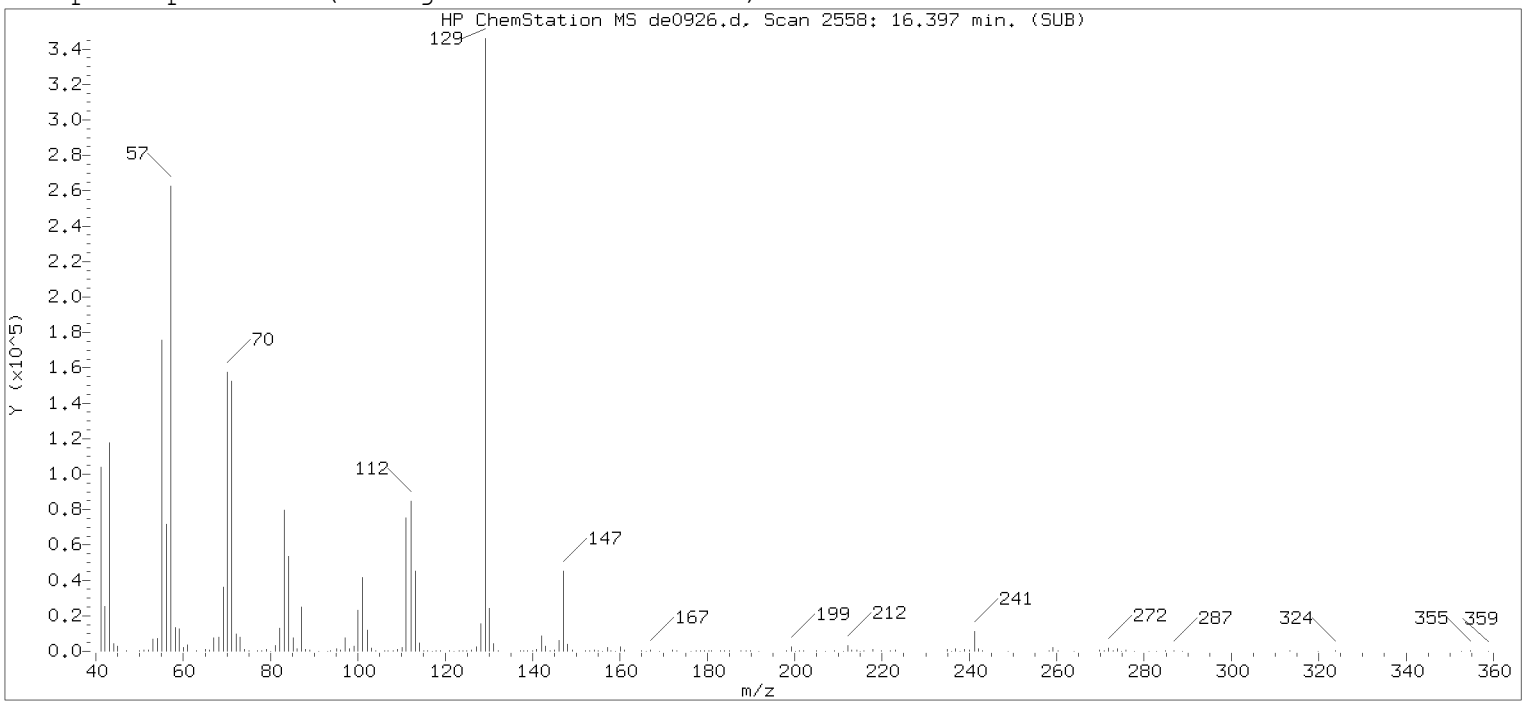
Compound Number : 189
Compound Name : Famphur
Scan Number : 2502
Retention Time (minutes) : 16.070
Quant Ion : 218.00
Area (flag) : 18040M
On-Column Amount (ng/ul) : 0.5749
Integration start scan : 2493 Integration stop scan: 2514
Y at integration start : 0 Y at integration end: 0

Reason for manual integration: improper integration

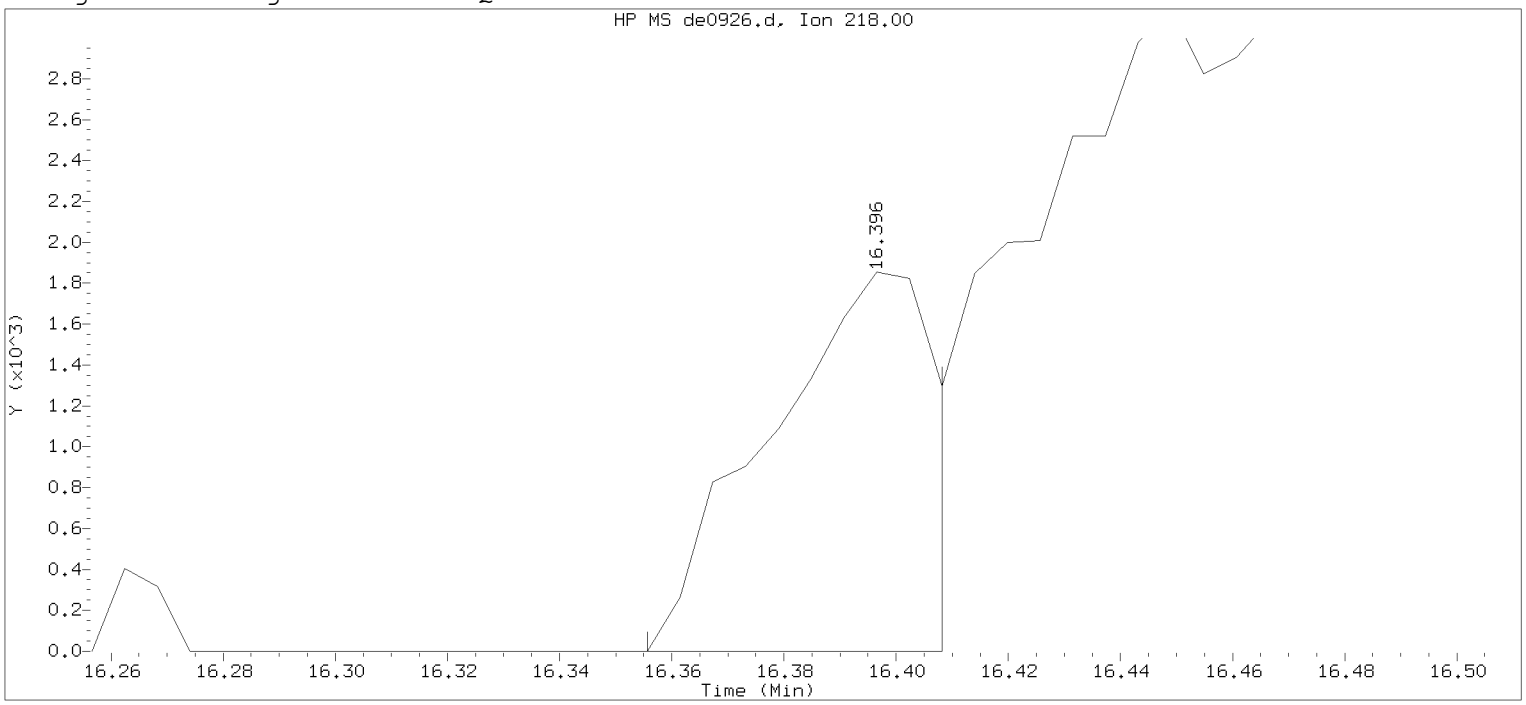
Analyst responsible for change: Digitally signed by Holly B. Ziegler
on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: hbz01996

Secondary review performed and digitally signed by Matthew E. Barton on 07/17/2017 at 11:39.
PARALLAX ID: reb00745

Sample Spectrum (Background Subtracted)



Original Integration of Quant Ion



Data File: /chem/HP19760.i/17may30.b/de0926.d Instrument ID: HP19760.i
Injection date and time: 30-MAY-2017 10:55 Analyst ID: ceb05247

Method used: /chem/HP19760.i/17may30.b/rv8270d.m Sublist used: 22229M
Calibration date and time: 30-MAY-2017 11:39
Date, time and analyst ID of latest file update: 30-May-2017 20:43 em10340

Sample Name: 143WWLCS Lab Sample ID: 143WWLCS

Compound Number	: 189		
Compound Name	: Famphur		
Scan Number	: 2558		
Retention Time (minutes)	: 16.396		
Quant Ion	: 218.00		
Area	: 3628		
On-column Amount (ng/ul)	: 0.1156		
Integration start scan	: 2550	Integration stop scan:	2559
Y at integration start	: 0	Y at integration end:	0

Digitally signed by Holly B. Ziegler on 07/17/2017 at 11:32.
Target 3.5 esignature user ID: HZIEGLER

Extraction/Distillation/Digestion Logs

Semivolatiles by GC/MS

Organic Extraction Batchlog Assigned to: 12385 Christine Gleim Reviewed by: CGB 5/23/17 Start Date: 5-22-17 Start time: 16:00

17142WAC026 Tech 1: CG12385 Tech 2: KWO217

Dept: 26 Prep Analysis: 11010 8270D BNA Extraction SVOAs 8270D MINI

QC	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
8999789MS	R8504	249	SS1712926A	1.0	MS1713526B MS1713526C MS1713826A	1.0 1.0 1.0	1	✓	✓	153B	clear
8999790MSD	R8504	249	SS1712926A		MS1713526B MS1713526C MS1713826A	1.0 1.0 1.0	1	✓	✓	153B	↓
BLANKA	SBLKWC142	250	SS1712926A		—		1	✓	✓		tapwater
LCSA	142WCLCS	250	SS1712926A		MS1713526B MS1713526C MS1713826A	1.0 1.0 1.0	1	✓	✓		↓
LCSAP2	142WCLCS	250	SS1712926A		MS1712226C	0.25	1	✓	✓		
LCSDAP2	142WCLCSD	250	SS1712926A	↓	MS1712226C	0.25	1	✓	✓		↓

Solvent Used	Lot No.
10N NaOH	1701F35
Methylene Chloride	170933
Sodium Sulfate	171394
Sulfuric Acid	166942

⊕ Split to 17142WAC026. CGB 5/23/17

* moved to 17142WAW026 HB2 11:06 5/25/17

Spike Solutions: Witness:

MS1713826A	APPIX #1 MINI SPIKE
MS1712226C	APPIX MIX #2
MS1713526B	MINI SEP. LCS SPIKE #1
MS1713526C	MINI SEP. LCS SPIKE #2
SS1712926A	MINI SEP. BNA SURROGATE

	Sample #	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
⊕	1 ~~8996725 R~~	~~QAWE1~~	241	~~SS1712926A~~	1.0	1	✓	✓	153C	clear	14241	24413	05/30/2017	N
⊕	2 ~~8997579 R~~	~~LYN11~~	249	~~SS1712926A~~		1	✓	✓	153A		14241	22219	05/30/2017	P
⊕	3 ~~8999397~~	~~B-WE2~~	241	~~SS1712926A~~		1	✓	✓	153C		14241		05/31/2017	N
+	4 8999785	R8501	254	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	5 8999786	R8502	248	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	6 8999787	R8503	251	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	7 8999788BKG	R8504	248	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	8 8999791	R8505	250	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	9 8999792	R8506	250	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
*	10 8999793	R8507	250	SS1712926A		1	✓	✓	153B		14241	22230	05/31/2017	N
*	11 8999794	R8508	247	SS1712926A	↓	1	✓	✓	153B	↓	14241	22230	05/31/2017	N

RAE85 Page 1707 of 1713

Bench# 12	Bench# 11	Bench# 10			
Rack ID:	—	Work Station	tumble	Micro Temp 100?	✓
Internal Standard	WSD317	Balance #	25996		

R-VAP ID 4	90° C	R-VAP ID 6	90° C	R-VAP ID 2	90° C			17142WAC026
S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C	

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

	Sample #	Sample Code	Amt (µl)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
*	12 8999795	R8509	248	SS1712926A	1.0	1	✓	✓	153B	clear	14241	22230	05/31/2017	N
*	13 8999796	R8510	250	SS1712926A	↓	1	✓	✓	153B	↓	14241	22230	05/31/2017	N
*	14 8999797	R8511	248	SS1712926A	↓	1	✓	✓	153B	↓	14241	22230	05/31/2017	N
+	15 9002699	Q3WE2	248	SS1712926A	↓	1	✓	✓	153B	↓	14241	24413	06/01/2017	N
+	16 9002700	Q4WE2	248	SS1712926A	↓	1	✓	✓	153B	↓	14241	24413	06/01/2017	N

NA CG 12385
5-22-17

RAE85 Page 1708 of 1713

Bench#	Bench#	Bench#		
Rack ID:		Work Station		Micro Temp 100?
Internal Standard		Balance #		

R-VAP ID	C	R-VAP ID	C	R-VAP ID	C		
S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C

17142WAC026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

Organic Extraction Batchlog Assigned to: 12385 Christine Gleim Reviewed by:_____ Start Date:_____ Start time: _____

17142WAW026 (8)

Tech 1: _____ Tech 2: _____

Dept: 26 Prep Analysis: 11010 8270D BNA Extraction SVOAs 8270D MINI

QC	Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
142WWMSD	142WWMSD		SS1712926A		MS1713526B MS1713526C MS1713826A						
142WWMS	142WWMS		SS1712926A		MS1713526B MS1713526C MS1713826A						
BLANKA	SBLKWW142		SS1712926A								
LCSA	142WWLCS		SS1712926A		MS1713526B MS1713526C MS1713826A						

Solvent Used	Lot No.
10N NaOH	
Methylene Chloride	
Sodium Sulfate	
Sulfuric Acid	

Spike Solutions: Witness:_____

MS1713826A	APPIX #1 MINI SPIKE
MS1713526B	MINI SEP. LCS SPIKE #1
MS1713526C	MINI SEP. LCS SPIKE #2
SS1712926A	MINI SEP. BNA SURROGATE

(8) See attached batchlog for extraction information HB2lucs 5/25/17

Sample #	Sample Code	Amt ( )	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
1 142WW	142WWUS		SS1712926A							14241			
2 8999793	R8507		SS1712926A							14241	22230	05/31/2017	N
3 8999794	R8508		SS1712926A							14241	22230	05/31/2017	N
4 8999795	R8509		SS1712926A							14241	22230	05/31/2017	N
5 8999796	R8510		SS1712926A							14241	22230	05/31/2017	N
6 8999797	R8511		SS1712926A							14241	22230	05/31/2017	N

RAE85 Page 1709 of 1713

Bench#	Bench#	Bench#	
Rack ID:		Work Station	Micro Temp 100?
Internal Standard		Balance #	

R-VAP ID	C	R-VAP ID	C	R-VAP ID	C		
S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C

17142WAW026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

Organic Extraction Batchlog

Assigned to: 12385 Christine Gleim

Reviewed by: CGB5247 5/23/17 Start Date: 5-22-17 Start time: 16:00

17142WAC026

Tech 1: CG12385 Tech 2: KW0217

Dept: 26 Prep Analysis: 11010 8270D BNA Extraction SVOAs 8270D MINI

QC	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
8999789MS	R8504	249	SS1712926A	1.0	MS1713526B MS1713526C MS1713826A	1.0 1.0 1.0	1	✓	✓	153B	clear
8999790MSD	R8504	249	SS1712926A		MS1713526B MS1713526C MS1713826A	1.0 1.0 1.0	1	✓	✓	153B	↓
BLANKA	SBLKWC142	250	SS1712926A		—		1	✓	✓		tapwater
LCSA	142WCLCS	250	SS1712926A		MS1713526B MS1713526C MS1713826A	1.0 1.0 1.0	1	✓	✓		
LCSAP2	142WCLCS	250	SS1712926A		MS1712226C	0.25	1	✓	✓		
LCSDAP2	142WCLCSD	250	SS1712926A	↓	MS1712226C	0.25	1	✓	✓		↓

Solvent Used	Lot No.
10N NaOH	4701F35
Methylene Chloride	170933
Sodium Sulfate	17139A
Sulfuric Acid	166942

(+) Split to 17142WAZ026. CGB5247 5/23/17

Spike Solutions: Witness:_____

MS1713826A	APPIX #1 MINI SPIKE
MS1712226C	APPIX MIX #2
MS1713526B	MINI SEP. LCS SPIKE #1
MS1713526C	MINI SEP. LCS SPIKE #2
SS1712926A	MINI SEP. BNA SURROGATE

	Sample #		Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
(+)	1 8996725	R	QAWE1	241	SS1712926A	1.0	1	✓	✓	153C	clear	14241	24413	05/30/2017	N
(+)	2 8997579	R	LYN11	249	SS1712926A		1	✓	✓	153A		14241	22219	05/30/2017	P
(+)	3 8999397		B-WE2	241	SS1712926A		1	✓	✓	153C		14241		05/31/2017	N
+	4 8999785		R8501	254	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	5 8999786		R8502	248	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	6 8999787		R8503	251	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	7 8999788BKG		R8504	248	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	8 8999791		R8505	250	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	9 8999792		R8506	250	SS1712926A		1	✓	✓	153B		14241	22229	05/31/2017	N
+	10 8999793		R8507	250	SS1712926A		1	✓	✓	153B		14241	22230	05/31/2017	N
+	11 8999794		R8508	247	SS1712926A	↓	1	✓	✓	153B	↓	14241	22230	05/31/2017	N

Bench# 12	Bench# 11	Bench# 10			
Rack ID:	—	Work Station	tumble	Micro Temp 100?	✓
Internal Standard	MSD1317	Balance #	23496		

R-VAP ID 4	90° C	R-VAP ID 6	90° C	R-VAP ID 2	90° C			
S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C	17142WAC026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

RAE85 Page 1710 of 1713

	Sample #	Sample Code	Amt (ml)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
+	12 8999795	R8509	248	SS1712926A	1.0	1	✓	✓	153B	clear	14241	22230	05/31/2017	N
+	13 8999796	R8510	250	SS1712926A	↓	1	✓	✓	153B	↓	14241	22230	05/31/2017	N
+	14 8999797	R8511	248	SS1712926A	↓	1	✓	✓	153B	↓	14241	22230	05/31/2017	N
D	15 9002699	Q3WE2	249	SS1712926A	↓	1	✓	✓	153B	↓	14241	24413	06/01/2017	N
D	16 9002700	Q4WE2	248	SS1712926A	↓	1	✓	✓	153B	↓	14241	24413	06/01/2017	N

NA CG 12385
5-22-17

RAE85 Page 1711 of 1713

Bench#	Bench#	Bench#		
Rack ID:		Work Station		Micro Temp 100?
Internal Standard		Balance #		

R-VAP ID	C	R-VAP ID	C	R-VAP ID	C		
S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C

17142WAC026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

ganic Extraction Batchlog Assigned to: 11067 Osvaldo Sanchez Reviewed by: CB 5/30/17 Start Date: 5/24/17 Start time: 8:00

17143WAW026

Tech 1: 0511067 Tech 2: BC 9121

Dept: 26 Prep Analysis: 11010 8270D BNA Extraction SVOAs 8270D MINI

QC	Sample Code	Amt mL	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments
8999789MS	R8504	247	SS1714326A	1.0	~~MS1713526B~~ MS1713526C MS1713826A	⑧A 1.0	1	✓	✓	153A	Clear
8999790MSD	R8504	249	SS1714326A		~~MS1713526B~~ MS1713526C MS1713826A	⑧A	1	✓	✓	153A	↓
BLANKA	SBLKWW143	250	SS1714326A				1	✓	✓	7	tap H2O
LCSA	143WWLCS	250	SS1714326A		~~MS1713526B~~ MS1713526C MS1713826A	⑧A 1.0	1	✓	✓		↓
LCSAP2	143WWLCS	250	SS1714326A		MS1712226C	0.25	1	✓	✓		
LCSDAP2	143WWLCSD	250	SS1714326A	↓	MS1712226C	0.25	1	✓	✓	L	↓

Solvent Used	Lot No.
10N NaOH	4701F35
Methylene Chloride	170933
Sodium Sulfate	171137A
Sulfuric Acid	1610942

Spike Solutions: Witness: N/A

MS1713826A	APPIX #1 MINI SPIKE
MS1712226C	APPIX MIX #2
~~MS1713526B~~	MINI SEP. LCS SPIKE #1
MS1713526C	MINI SEP. LCS SPIKE #2
SS1714326A	MINI SEP. BNA SURROGATE

⑧A BC 9121 5/24/17 MS1714326A

⑧ Not needed KMB 5/24/17

Sample #	Sample Code	Amt mL	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
1 8999785 R	R8501	265	SS1714326A	1.0	1	✓	✓	153A	Clear	14241	22229	05/31/2017	N
2 8999786 R	R8502	247	SS1714326A		1	✓	✓	153A		14241	22229	05/31/2017	N
3 8999787 R	R8503	269	SS1714326A		1	✓	✓	153A		14241	22229	05/31/2017	N
4 8999788BKGR	R8504	265	SS1714326A		1	✓	✓	153A		14241	22229	05/31/2017	N
5 8999791 R	R8505	247	SS1714326A		1	✓	✓	153A		14241	22229	05/31/2017	N
6 8999792 R	R8506	246	SS1714326A	↓	1	✓	✓	153A	↓	14241	22229	05/31/2017	N
~~7 8999793 R~~	~~R8507~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~
~~8 8999794 R~~	~~R8508~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~
~~9 8999795 R~~	~~R8509~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~
~~10 8999796 R~~	~~R8510~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~
~~11 8999797 R~~	~~R8511~~		~~SS1714326A~~							~~14241~~	~~22230~~	~~05/31/2017~~	~~N~~

Bench#	Bench#	Bench#		
Rack ID:		Work Station	Tumble	Micro Temp 100?
Internal Standard	rv ISTD 1317	Balance #	25996	

R-VAP ID 4	89 C	R-VAP ID 5	89 C	R-VAP ID	C
~~S-bath ID~~	~~C~~	~~S-bath ID~~	~~C~~	N-Evap	C

~~M-vap~~ ~~C~~

17143WAW026

DF = Dilution Factor FV = Final Volume Page 1 of 2 Documented temps are NIST corrected.

RAE85 Page 1712 of 1713

	Sample #	Sample Code	Amt (uL)	SS/IS Sol.	Amt (mL)	FV (mL)	pH 2	pH 11	BC	Comments	Analyses	List	Due Date	Prio
Δ	12 9008979	5-WE2	243	SS1714326A	1.0	1	✓	✓	153A	clear	14241	24413	06/05/2017	N
Δ	13 9008980	6-WE2	246	SS1714326A		1	✓	✓	153A	↓	14241	24413	06/05/2017	N
+	14 9009414	R8801	247	SS1714326A		1	✓	✓	153A	Clear	14241	22228	06/05/2017	N
	15 9009415	R8802	249	SS1714326A		1	✓	✓	153A		14241	22228	06/05/2017	N
	16 9009416	R8803	246	SS1714326A		1	✓	✓	153A		14241	22228	06/05/2017	N
	17 9009417	R8804	247	SS1714326A		1	✓	✓	153A		14241	22228	06/05/2017	N
	18 9009418	R8805	249	SS1714326A		1	✓	✓	153A		14241	22228	06/05/2017	N

+ moved to 17142WAX026 HB2 5/25/17
Δ moved to 17142WAY026 HB2 5/25/17

N/A

RAE85 Page 1713 of 1713

Bench#	Bench#	Bench#		
Rack ID:		Work Station	Tumble	Micro Temp 100?
Internal Standard		Balance #	25996	

R-VAP ID 4	89 C	R-VAP ID 5	89 C	R-VAP ID	C
~~S-bath ID~~	~~C~~	~~S-bath ID~~	~~C~~	~~N-Evap~~	~~C~~

~~M-vap~~	~~C~~	17143WAW026

DF = Dilution Factor FV = Final Volume

Documented temps are NIST corrected.

ANALYTICAL REPORT

Job Number: 240-79703-1

Job Description: RFAAP - Radford VA - HWMU16

For:
Draper Aden Associates, Inc.
2206 South Main Street
Blacksburg, VA 24060

Attention: Janet Frazier

Approved for release.
Opal Johnson
Project Manager II
5/31/2017 4:49 PM

Opal Johnson, Project Manager II
4101 Shuffel Street NW, North Canton, OH, 44720
opal.johnson@testamericainc.com
05/31/2017

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager who has signed this report.

Table of Contents

Cover Title Page 1

Data Summaries 4

Definitions 4

Case Narrative 5

Detection Summary 6

Client Sample Results 7

Default Detection Limits 9

Surrogate Summary 10

QC Sample Results 11

QC Association 13

Chronicle 14

Certification Summary 16

Method Summary 17

Sample Summary 18

Manual Integration Summary 19

Reagent Traceability 21

COAs 113

Organic Sample Data 221

GC/MS Semi VOA 221

Method 8270D 221

Method 8270D QC Summary 222

Method 8270D Sample Data 236

Standards Data 266

Method 8270D ICAL Data 266

Method 8270D CCAL Data 351

Raw QC Data 387

Table of Contents

Method 8270D Tune Data 387
Method 8270D Blank Data 414
Method 8270D LCS/LCSD Data 423
Method 8270D MS/MSD Data 428
Method 8270D Run Logs 436
Method 8270D Prep Data 439
Shipping and Receiving Documents 441
Client Chain of Custody 442

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA TICs

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

CASE NARRATIVE

Client: Draper Aden Associates, Inc.

Project: RFAAP - Radford VA - HWMU16

Report Number: 240-79703-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 5/18/2017 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7º C.

SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Samples 16C1 (240-79703-1), 16MW8 (240-79703-2), 16MW9 (240-79703-3), 16WC1A (240-79703-4), 16WDUP (240-79703-5) and 16WC1B (240-79703-6) were analyzed for semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 05/22/2017 and analyzed on 05/25/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Draper Aden Associates, Inc.
Project/Site: RFAAP - Radford VA - HWMU16

TestAmerica Job ID: 240-79703-1

Client Sample ID: 16C1 — Lab Sample ID: 240-79703-1

No Detections.

Client Sample ID: 16MW8 — Lab Sample ID: 240-79703-2

No Detections.

Client Sample ID: 16MW9 — Lab Sample ID: 240-79703-3

No Detections.

Client Sample ID: 16WC1A — Lab Sample ID: 240-79703-4

No Detections.

Client Sample ID: 16WDUP — Lab Sample ID: 240-79703-5

No Detections.

Client Sample ID: 16WC1B — Lab Sample ID: 240-79703-6

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: 16C1 — Lab Sample ID: 240-79703-1

Date Collected: 05/17/17 10:35 — **Matrix: Water**
Date Received: 05/18/17 10:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	8.9	U	8.9	0.89	ug/L		05/22/17 08:32	05/25/17 14:52	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexachlorophene TIC	*89*	*U*	*ug/L*			*70-30-4*	*05/22/17 08:32*	*05/25/17 14:52*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*88*		*28 - 128*	*05/22/17 08:32*	*05/25/17 14:52*	*1*
Phenol-d5 (Surr)	*54*		*15 - 120*	*05/22/17 08:32*	*05/25/17 14:52*	*1*
Nitrobenzene-d5 (Surr)	*80*		*35 - 120*	*05/22/17 08:32*	*05/25/17 14:52*	*1*
2-Fluorophenol (Surr)	*73*		*17 - 120*	*05/22/17 08:32*	*05/25/17 14:52*	*1*
2-Fluorobiphenyl (Surr)	*74*		*32 - 120*	*05/22/17 08:32*	*05/25/17 14:52*	*1*
2,4,6-Tribromophenol (Surr)	*88*		*33 - 120*	*05/22/17 08:32*	*05/25/17 14:52*	*1*

Client Sample ID: 16MW8 — Lab Sample ID: 240-79703-2

Date Collected: 05/15/17 12:20 — **Matrix: Water**
Date Received: 05/18/17 10:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	10	U	10	1.0	ug/L		05/22/17 08:32	05/25/17 15:16	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexachlorophene TIC	*100*	*U*	*ug/L*			*70-30-4*	*05/22/17 08:32*	*05/25/17 15:16*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*88*		*28 - 128*	*05/22/17 08:32*	*05/25/17 15:16*	*1*
Phenol-d5 (Surr)	*56*		*15 - 120*	*05/22/17 08:32*	*05/25/17 15:16*	*1*
Nitrobenzene-d5 (Surr)	*78*		*35 - 120*	*05/22/17 08:32*	*05/25/17 15:16*	*1*
2-Fluorophenol (Surr)	*75*		*17 - 120*	*05/22/17 08:32*	*05/25/17 15:16*	*1*
2-Fluorobiphenyl (Surr)	*77*		*32 - 120*	*05/22/17 08:32*	*05/25/17 15:16*	*1*
2,4,6-Tribromophenol (Surr)	*88*		*33 - 120*	*05/22/17 08:32*	*05/25/17 15:16*	*1*

Client Sample ID: 16MW9 — Lab Sample ID: 240-79703-3

Date Collected: 05/16/17 11:40 — **Matrix: Water**
Date Received: 05/18/17 10:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	8.9	U	8.9	0.89	ug/L		05/22/17 08:32	05/25/17 15:41	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexachlorophene TIC	*89*	*U*	*ug/L*			*70-30-4*	*05/22/17 08:32*	*05/25/17 15:41*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*83*		*28 - 128*	*05/22/17 08:32*	*05/25/17 15:41*	*1*
Phenol-d5 (Surr)	*54*		*15 - 120*	*05/22/17 08:32*	*05/25/17 15:41*	*1*
Nitrobenzene-d5 (Surr)	*75*		*35 - 120*	*05/22/17 08:32*	*05/25/17 15:41*	*1*
2-Fluorophenol (Surr)	*77*		*17 - 120*	*05/22/17 08:32*	*05/25/17 15:41*	*1*
2-Fluorobiphenyl (Surr)	*72*		*32 - 120*	*05/22/17 08:32*	*05/25/17 15:41*	*1*
2,4,6-Tribromophenol (Surr)	*83*		*33 - 120*	*05/22/17 08:32*	*05/25/17 15:41*	*1*

Client Sample ID: 16WC1A — Lab Sample ID: 240-79703-4

Date Collected: 05/16/17 10:15 **Matrix: Water**
Date Received: 05/18/17 10:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	8.9	U	8.9	0.89	ug/L		05/22/17 08:32	05/25/17 16:54	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexachlorophene TIC	*89*	*U*	*ug/L*			*70-30-4*	*05/22/17 08:32*	*05/25/17 16:54*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*84*		*28 - 128*	*05/22/17 08:32*	*05/25/17 16:54*	*1*
Phenol-d5 (Surr)	*56*		*15 - 120*	*05/22/17 08:32*	*05/25/17 16:54*	*1*
Nitrobenzene-d5 (Surr)	*76*		*35 - 120*	*05/22/17 08:32*	*05/25/17 16:54*	*1*
2-Fluorophenol (Surr)	*75*		*17 - 120*	*05/22/17 08:32*	*05/25/17 16:54*	*1*
2-Fluorobiphenyl (Surr)	*72*		*32 - 120*	*05/22/17 08:32*	*05/25/17 16:54*	*1*
2,4,6-Tribromophenol (Surr)	*90*		*33 - 120*	*05/22/17 08:32*	*05/25/17 16:54*	*1*

Client Sample ID: 16WDUP — Lab Sample ID: 240-79703-5

Date Collected: 05/16/17 10:30 **Matrix: Water**
Date Received: 05/18/17 10:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	8.9	U	8.9	0.89	ug/L		05/22/17 08:32	05/25/17 16:05	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexachlorophene TIC	*89*	*U*	*ug/L*			*70-30-4*	*05/22/17 08:32*	*05/25/17 16:05*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*86*		*28 - 128*	*05/22/17 08:32*	*05/25/17 16:05*	*1*
Phenol-d5 (Surr)	*55*		*15 - 120*	*05/22/17 08:32*	*05/25/17 16:05*	*1*
Nitrobenzene-d5 (Surr)	*78*		*35 - 120*	*05/22/17 08:32*	*05/25/17 16:05*	*1*
2-Fluorophenol (Surr)	*71*		*17 - 120*	*05/22/17 08:32*	*05/25/17 16:05*	*1*
2-Fluorobiphenyl (Surr)	*75*		*32 - 120*	*05/22/17 08:32*	*05/25/17 16:05*	*1*
2,4,6-Tribromophenol (Surr)	*87*		*33 - 120*	*05/22/17 08:32*	*05/25/17 16:05*	*1*

Client Sample ID: 16WC1B — Lab Sample ID: 240-79703-6

Date Collected: 05/15/17 15:40 **Matrix: Water**
Date Received: 05/18/17 10:15

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	10	U	10	1.0	ug/L		05/22/17 08:32	05/25/17 16:29	1

Tentatively Identified Compound	*Est. Result*	*Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexachlorophene TIC	*100*	*U*	*ug/L*			*70-30-4*	*05/22/17 08:32*	*05/25/17 16:29*	*1*

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*84*		*28 - 128*	*05/22/17 08:32*	*05/25/17 16:29*	*1*
Phenol-d5 (Surr)	*64*		*15 - 120*	*05/22/17 08:32*	*05/25/17 16:29*	*1*
Nitrobenzene-d5 (Surr)	*75*		*35 - 120*	*05/22/17 08:32*	*05/25/17 16:29*	*1*
2-Fluorophenol (Surr)	*72*		*17 - 120*	*05/22/17 08:32*	*05/25/17 16:29*	*1*
2-Fluorobiphenyl (Surr)	*75*		*32 - 120*	*05/22/17 08:32*	*05/25/17 16:29*	*1*
2,4,6-Tribromophenol (Surr)	*85*		*33 - 120*	*05/22/17 08:32*	*05/25/17 16:29*	*1*

Default Detection Limits

Client: Draper Aden Associates, Inc.
Project/Site: RFAAP - Radford VA - HWMU16

TestAmerica Job ID: 240-79703-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Prep: 3510C

Analyte	RL	MDL	Units	Method
Sulfotepp	10	1.0	ug/L	8270D

Surrogate Summary

Client: Draper Aden Associates, Inc.
Project/Site: RFAAP - Radford VA - HWMU16

TestAmerica Job ID: 240-79703-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		TPH	PHL	NBZ	2FP	FBP	TBP
Lab Sample ID	Client Sample ID	(28-128)	(15-120)	(35-120)	(17-120)	(32-120)	(33-120)
240-79703-1	16C1	88	54	80	73	74	88
240-79703-2	16MW8	88	56	78	75	77	88
240-79703-3	16MW9	83	54	75	77	72	83
240-79703-4	16WC1A	84	56	76	75	72	90
240-79703-4 MS	16WC1A	93	28	91	59	86	92
240-79703-4 MSD	16WC1A	91	35	93	79	88	95
240-79703-5	16WDUP	86	55	78	71	75	87
240-79703-6	16WC1B	84	64	75	72	75	85
LCS 240-279842/10-A	Lab Control Sample	98	45	103	73	98	97
MB 240-279842/9-A	Method Blank	75	56	70	66	70	78

Surrogate Legend

TPH = Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)
NBZ = Nitrobenzene-d5 (Surr)
2FP = 2-Fluorophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-279842/9-A
Matrix: Water
Analysis Batch: 280357

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 279842

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfotepp	10	U	10	1.0	ug/L		05/22/17 08:32	05/25/17 09:11	1

Tentatively Identified Compound	*MB Est. Result*	*MB Qualifier*	*Unit*	*D*	*RT*	*CAS No.*	*Prepared*	*Analyzed*	*Dil Fac*
Hexachlorophene TIC	*100*	*U*	*ug/L*			*70-30-4*	*05/22/17 08:32*	*05/25/17 09:11*	*1*

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Terphenyl-d14 (Surr)	*75*		*28 - 128*	*05/22/17 08:32*	*05/25/17 09:11*	*1*
Phenol-d5 (Surr)	*56*		*15 - 120*	*05/22/17 08:32*	*05/25/17 09:11*	*1*
Nitrobenzene-d5 (Surr)	*70*		*35 - 120*	*05/22/17 08:32*	*05/25/17 09:11*	*1*
2-Fluorophenol (Surr)	*66*		*17 - 120*	*05/22/17 08:32*	*05/25/17 09:11*	*1*
2-Fluorobiphenyl (Surr)	*70*		*32 - 120*	*05/22/17 08:32*	*05/25/17 09:11*	*1*
2,4,6-Tribromophenol (Surr)	*78*		*33 - 120*	*05/22/17 08:32*	*05/25/17 09:11*	*1*

Lab Sample ID: LCS 240-279842/10-A
Matrix: Water
Analysis Batch: 280762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 279842

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfotepp			32.0	32.6		ug/L		102	10 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Terphenyl-d14 (Surr)	*98*		*28 - 128*
Phenol-d5 (Surr)	*45*		*15 - 120*
Nitrobenzene-d5 (Surr)	*103*		*35 - 120*
2-Fluorophenol (Surr)	*73*		*17 - 120*
2-Fluorobiphenyl (Surr)	*98*		*32 - 120*
2,4,6-Tribromophenol (Surr)	*97*		*33 - 120*

Lab Sample ID: 240-79703-4 MS
Matrix: Water
Analysis Batch: 280762

Client Sample ID: 16WC1A
Prep Type: Total/NA
Prep Batch: 279842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Sulfotepp	8.9	U	28.6	26.5		ug/L		93	10 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Terphenyl-d14 (Surr)	*93*		*28 - 128*
Phenol-d5 (Surr)	*28*		*15 - 120*
Nitrobenzene-d5 (Surr)	*91*		*35 - 120*
2-Fluorophenol (Surr)	*59*		*17 - 120*
2-Fluorobiphenyl (Surr)	*86*		*32 - 120*
2,4,6-Tribromophenol (Surr)	*92*		*33 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-79703-4 MSD
Matrix: Water
Analysis Batch: 280762

Client Sample ID: 16WC1A
Prep Type: Total/NA
Prep Batch: 279842

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfotepp	8.9	U	28.6	26.2		ug/L		92	10 - 120	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Terphenyl-d14 (Surr)	*91*		*28 - 128*
Phenol-d5 (Surr)	*35*		*15 - 120*
Nitrobenzene-d5 (Surr)	*93*		*35 - 120*
2-Fluorophenol (Surr)	*79*		*17 - 120*
2-Fluorobiphenyl (Surr)	*88*		*32 - 120*
2,4,6-Tribromophenol (Surr)	*95*		*33 - 120*

QC Association Summary

Client: Draper Aden Associates, Inc.
Project/Site: RFAAP - Radford VA - HWMU16

TestAmerica Job ID: 240-79703-1

GC/MS Semi VOA

Prep Batch: 279842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79703-1	16C1	Total/NA	Water	3510C	
240-79703-2	16MW8	Total/NA	Water	3510C	
240-79703-3	16MW9	Total/NA	Water	3510C	
240-79703-4	16WC1A	Total/NA	Water	3510C	
240-79703-5	16WDUP	Total/NA	Water	3510C	
240-79703-6	16WC1B	Total/NA	Water	3510C	
MB 240-279842/9-A	Method Blank	Total/NA	Water	3510C	
LCS 240-279842/10-A	Lab Control Sample	Total/NA	Water	3510C	
240-79703-4 MS	16WC1A	Total/NA	Water	3510C	
240-79703-4 MSD	16WC1A	Total/NA	Water	3510C	

Analysis Batch: 280357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-79703-1	16C1	Total/NA	Water	8270D	279842
240-79703-2	16MW8	Total/NA	Water	8270D	279842
240-79703-3	16MW9	Total/NA	Water	8270D	279842
240-79703-4	16WC1A	Total/NA	Water	8270D	279842
240-79703-5	16WDUP	Total/NA	Water	8270D	279842
240-79703-6	16WC1B	Total/NA	Water	8270D	279842
MB 240-279842/9-A	Method Blank	Total/NA	Water	8270D	279842

Analysis Batch: 280762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-279842/10-A	Lab Control Sample	Total/NA	Water	8270D	279842
240-79703-4 MS	16WC1A	Total/NA	Water	8270D	279842
240-79703-4 MSD	16WC1A	Total/NA	Water	8270D	279842

Lab Chronicle

Client: Draper Aden Associates, Inc.
Project/Site: RFAAP - Radford VA - HWMU16

TestAmerica Job ID: 240-79703-1

Client Sample ID: 16C1
Date Collected: 05/17/17 10:35
Date Received: 05/18/17 10:15

Lab Sample ID: 240-79703-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279842	05/22/17 08:32	KEH	TAL CAN
Total/NA	Analysis	8270D		1	280357	05/25/17 14:52	TMH	TAL CAN

Client Sample ID: 16MW8
Date Collected: 05/15/17 12:20
Date Received: 05/18/17 10:15

Lab Sample ID: 240-79703-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279842	05/22/17 08:32	KEH	TAL CAN
Total/NA	Analysis	8270D		1	280357	05/25/17 15:16	TMH	TAL CAN

Client Sample ID: 16MW9
Date Collected: 05/16/17 11:40
Date Received: 05/18/17 10:15

Lab Sample ID: 240-79703-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279842	05/22/17 08:32	KEH	TAL CAN
Total/NA	Analysis	8270D		1	280357	05/25/17 15:41	TMH	TAL CAN

Client Sample ID: 16WC1A
Date Collected: 05/16/17 10:15
Date Received: 05/18/17 10:15

Lab Sample ID: 240-79703-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279842	05/22/17 08:32	KEH	TAL CAN
Total/NA	Analysis	8270D		1	280357	05/25/17 16:54	TMH	TAL CAN

Client Sample ID: 16WDUP
Date Collected: 05/16/17 10:30
Date Received: 05/18/17 10:15

Lab Sample ID: 240-79703-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279842	05/22/17 08:32	KEH	TAL CAN
Total/NA	Analysis	8270D		1	280357	05/25/17 16:05	TMH	TAL CAN

Client Sample ID: 16WC1B
Date Collected: 05/15/17 15:40
Date Received: 05/18/17 10:15

Lab Sample ID: 240-79703-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			279842	05/22/17 08:32	KEH	TAL CAN
Total/NA	Analysis	8270D		1	280357	05/25/17 16:29	TMH	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: Draper Aden Associates, Inc. TestAmerica Job ID: 240-79703-1
Project/Site: RFAAP - Radford VA - HWMU16

Laboratory: TestAmerica Canton

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Virginia	NELAP	3	460175	09-14-17

Method Summary

Client: Draper Aden Associates, Inc. TestAmerica Job ID: 240-79703-1
Project/Site: RFAAP - Radford VA - HWMU16

Method	Method Description	Protocol	Laboratory
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: Draper Aden Associates, Inc.
Project/Site: RFAAP - Radford VA - HWMU16

TestAmerica Job ID: 240-79703-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-79703-1	16C1	Water	05/17/17 10:35	05/18/17 10:15
240-79703-2	16MW8	Water	05/15/17 12:20	05/18/17 10:15
240-79703-3	16MW9	Water	05/16/17 11:40	05/18/17 10:15
240-79703-4	16WC1A	Water	05/16/17 10:15	05/18/17 10:15
240-79703-5	16WDUP	Water	05/16/17 10:30	05/18/17 10:15
240-79703-6	16WC1B	Water	05/15/17 15:40	05/18/17 10:15

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Instrument ID: A4AG2 Analysis Batch Number: 280161

Lab Sample ID: STD4 240-280161/7 IC Client Sample ID:

Date Analyzed: 05/24/17 10:43 Lab File ID: 70524007.D GC Column: RXI-5SILMS/II ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	7.60	Poor chromatography	hulat	05/24/17 11:06

Lab Sample ID: STD9 240-280161/12 IC Client Sample ID:

Date Analyzed: 05/24/17 12:45 Lab File ID: 70524012.D GC Column: RXI-5SILMS/II ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	7.75	Poor chromatography	hulat	05/24/17 13:39

Lab Sample ID: STD8 240-280161/13 IC Client Sample ID:

Date Analyzed: 05/24/17 13:09 Lab File ID: 70524013.D GC Column: RXI-5SILMS/II ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	7.75	Poor chromatography	hulat	05/24/17 13:39

Lab Sample ID: STD7 240-280161/14 IC Client Sample ID:

Date Analyzed: 05/24/17 13:34 Lab File ID: 70524014.D GC Column: RXI-5SILMS/II ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	7.75	Poor chromatography	hulat	05/25/17 05:28

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Instrument ID: A4AG2 Analysis Batch Number: 280161

Lab Sample ID: STD5 240-280161/16 IC Client Sample ID:

Date Analyzed: 05/24/17 14:22 Lab File ID: 70524016.D GC Column: RXI-5SILMS/II ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	7.76	Poor chromatography	hulat	05/25/17 05:29

Lab Sample ID: STD4 240-280161/17 IC Client Sample ID:

Date Analyzed: 05/24/17 14:47 Lab File ID: 70524017.D GC Column: RXI-5SILMS/II ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	7.76	Poor chromatography	hulat	05/25/17 05:32

Lab Sample ID: STD3 240-280161/18 IC Client Sample ID:

Date Analyzed: 05/24/17 15:11 Lab File ID: 70524018.D GC Column: RXI-5SILMS/II ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
alpha,alpha-Dimethyl phenethylamine	7.76	Poor chromatography	hulat	05/25/17 05:33

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
exBNASURR W_00045	02/22/18	05/08/17	MEOH, Lot 0000127999	2000 mL	SMLIST1 SURR_00004	8 mL	2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl (Surr)	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5 (Surr)	20 ug/mL
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14 (Surr)	20 ug/mL
.SMLIST1 SURR_00004	06/30/19		Restek, Lot A0103960		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
EXLIST2spike_00010	07/31/17	02/20/17	MEOH, Lot 0000147462	10 mL	SMLIST2 STOCK_00014	2 mL	1,3,5-Trinitrobenzene	20 ug/mL
							1,4-Dinitrobenzene	20 ug/mL
							1-Naphthylamine	20 ug/mL
							2-Acetylaminofluorene	20 ug/mL
							2-Naphthylamine	20 ug/mL
							2-Picoline	20 ug/mL
							2-Toluidine	20 ug/mL
							3,3'-Dimethylbenzidine	20 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	20 ug/mL
							4-Aminobiphenyl	20 ug/mL
							4-Nitroquinoline-1-oxide	20 ug/mL
							Acrylamide	20 ug/mL
							alpha,alpha-Dimethyl phenethylamine	20 ug/mL
							Dibenz[a,h]acridine	20 ug/mL
							N-Nitro-o-toluidine	20 ug/mL
							N-Nitrosodi-n-butylamine	20 ug/mL
							N-Nitrosodiethylamine	20 ug/mL
							N-Nitrosomethylethylamine	20 ug/mL
							N-Nitrosomorpholine	20 ug/mL
							N-Nitrosopiperidine	20 ug/mL
							N-Nitrosopyrrolidine	20 ug/mL
							p-Dimethylamino azobenzene	20 ug/mL
							p-Phenylene diamine	20 ug/mL
							Pentachloronitrobenzene	20 ug/mL
							Phenacetin	20 ug/mL
							Pronamide	20 ug/mL
							Quinoline	20 ug/mL
							1,4-Naphthoquinone	20 ug/mL
							1-Chloronaphthalene	20 ug/mL
							2,3,5,6-Tetrachlorophenol	20 ug/mL
							7,12-Dimethylbenz(a)anthracene	20 ug/mL
							Chlorobenzilate	20 ug/mL
							Dinoseb	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethyl methanesulfonate	20 ug/mL
							Hexachloropropene	20 ug/mL
							Isodrin	20 ug/mL
							Isosafrole	20 ug/mL
							Isosafrole Peak 1	16.6 ug/mL
							Isosafrole Peak 2	3.4 ug/mL
							Methyl methanesulfonate	20 ug/mL
							Pentachlorobenzene	20 ug/mL
							Pentachloroethane	20 ug/mL
							3-Methylcholanthrene	40 ug/mL
							6-Methylchrysene	40 ug/mL
							Aramite Peak 1	10.2 ug/mL
							Aramite Peak 2	9.8 ug/mL
							Aramite, Total	20 ug/mL
							Diallate	20 ug/mL
							Diallate Peak 1	16.6 ug/mL
							Diallate Peak 2	3.4 ug/mL
							Dimethoate	20 ug/mL
							Disulfoton	20 ug/mL
							Ethyl Parathion	20 ug/mL
							Famphur	20 ug/mL
							Methyl parathion	20 ug/mL
							o,o',o''-Triethylphosphorothioate	20 ug/mL
							Phorate	20 ug/mL
							Safrole, Total	20 ug/mL
							Sulfotepp	20 ug/mL
							Thionazin	20 ug/mL
							Methapyrilene	40 ug/mL
.SMLIST2 STOCK_00014	07/31/17	01/06/17	MECL2, Lot 0000151073	10 mL	SMLIST2 S1_00009	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosomethylethylamine	100 ug/mL
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL
					SMLIST2 S2_00012	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL
							Isosafrole	100 ug/mL
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00012	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00010	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL
							Aramite, Total	100 ug/mL
							Diallate	100 ug/mL
							Diallate Peak 1	83 ug/mL
							Diallate Peak 2	17 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00009	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00009	11/30/17		Restek, Lot A0115538		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Acetylaminofluorene	1000 ug/mL
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00012	12/31/17		Restek, Lot A0123356		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..SMLIST2 S3_00012	11/30/17		Restek, Lot A0122952		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
..SMLIST2 S4_00010	08/31/17		Restek, Lot A0113584		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Aramite, Total	1000 ug/mL
							Diallate	1000 ug/mL
							Diallate Peak 1	830 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diallate Peak 2	170 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00009	07/31/17		Restek, Lot A0112843		(Purchased Reagent)		Methapyrilene	2000 ug/mL
SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
.SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SMLIST1 L1+ W_00003	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1PAH+ST_00003	2 uL	1,1'-Biphenyl	0.1 ug/mL
							1-Methylnaphthalene	0.1 ug/mL
							2-Chloronaphthalene	0.1 ug/mL
							2-Methylnaphthalene	0.1 ug/mL
							Acenaphthene	0.1 ug/mL
							Acenaphthylene	0.1 ug/mL
							Anthracene	0.1 ug/mL
							Benzo[a]anthracene	0.1 ug/mL
							Benzo[a]pyrene	0.1 ug/mL
							Benzo[b]fluoranthene	0.1 ug/mL
							Benzo[g,h,i]perylene	0.1 ug/mL
							Benzo[k]fluoranthene	0.1 ug/mL
							Chrysene	0.1 ug/mL
							Dibenz(a,h)anthracene	0.1 ug/mL
							Dibenzofuran	0.1 ug/mL
							Fluoranthene	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluorene	0.1 ug/mL
							Hexachlorobenzene	0.1 ug/mL
							Indeno[1,2,3-cd]pyrene	0.1 ug/mL
							Naphthalene	0.1 ug/mL
							Phenanthrene	0.1 ug/mL
							Pyrene	0.1 ug/mL
							Pyridine	0.2 ug/mL
							Atrazine	0.2 ug/mL
							Benzaldehyde	0.2 ug/mL
							Caprolactam	0.2 ug/mL
							2-Fluorobiphenyl (Surr)	0.1 ug/mL
							Nitrobenzene-d5 (Surr)	0.1 ug/mL
							Terphenyl-d14 (Surr)	0.1 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1PAH+ST_00003	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 PAH_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Anthracene	100 ug/mL
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Chrysene	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Naphthalene	100 ug/mL
							Phenanthrene	100 ug/mL
							Pyrene	100 ug/mL
							Pyridine	200 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2-Fluorobiphenyl (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 PAH_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Chrysene	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Naphthalene	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2-Fluorobiphenyl (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST1 L2 W_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1 STOCK_00009	10 uL	1,1'-Biphenyl	0.5 ug/mL
							1,2,4,5-Tetrachlorobenzene	0.5 ug/mL
							1,2,4-Trichlorobenzene	0.5 ug/mL
							1,2-Dichlorobenzene	0.5 ug/mL
							1,2-Diphenylhydrazine	0.5 ug/mL
							1,3-Dichlorobenzene	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	0.5 ug/mL
							1,4-Dichlorobenzene	0.5 ug/mL
							1,4-Dioxane	0.5 ug/mL
							1-Methylnaphthalene	0.5 ug/mL
							2,2'-oxybis[1-chloropropane]	0.5 ug/mL
							2,3,4,6-Tetrachlorophenol	0.5 ug/mL
							2,4,5-Trichlorophenol	0.5 ug/mL
							2,4,6-Trichlorophenol	0.5 ug/mL
							2,4-Dichlorophenol	0.5 ug/mL
							2,4-Dimethylphenol	0.5 ug/mL
							2,4-Dinitrophenol	1 ug/mL
							2,4-Dinitrotoluene	0.5 ug/mL
							2,6-Dichlorophenol	0.5 ug/mL
							2,6-Dinitrotoluene	0.5 ug/mL
							2-Chloronaphthalene	0.5 ug/mL
							2-Chlorophenol	0.5 ug/mL
							2-Methylnaphthalene	0.5 ug/mL
							2-Methylphenol	0.5 ug/mL
							2-Nitroaniline	0.5 ug/mL
							2-Nitrophenol	0.5 ug/mL
							3 & 4 Methylphenol	0.5 ug/mL
							3-Nitroaniline	0.5 ug/mL
							4,6-Dinitro-2-methylphenol	1 ug/mL
							4-Bromophenyl phenyl ether	0.5 ug/mL
							4-Chloro-3-methylphenol	0.5 ug/mL
							4-Chloroaniline	0.5 ug/mL
							4-Chlorophenyl phenyl ether	0.5 ug/mL
							4-Nitroaniline	0.5 ug/mL
							4-Nitrophenol	1 ug/mL
							Acenaphthene	0.5 ug/mL
							Acenaphthylene	0.5 ug/mL
							Acetophenone	0.5 ug/mL
							Aniline	0.5 ug/mL
							Anthracene	0.5 ug/mL
							Azobenzene	0.5 ug/mL
							Benzo[a]anthracene	0.5 ug/mL
							Benzo[a]pyrene	0.5 ug/mL
							Benzo[b]fluoranthene	0.5 ug/mL
							Benzo[g,h,i]perylene	0.5 ug/mL
							Benzo[k]fluoranthene	0.5 ug/mL
							Benzyl alcohol	0.5 ug/mL
							Bis(2-chloroethoxy)methane	0.5 ug/mL
							Bis(2-chloroethyl)ether	0.5 ug/mL
							Bis(2-ethylhexyl) phthalate	0.5 ug/mL
							Butyl benzyl phthalate	0.5 ug/mL
							Carbazole	0.5 ug/mL
							Chrysene	0.5 ug/mL
							Di-n-butyl phthalate	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-octyl phthalate	0.5 ug/mL
							Dibenz(a,h)anthracene	0.5 ug/mL
							Dibenzofuran	0.5 ug/mL
							Diethyl phthalate	0.5 ug/mL
							Dimethyl phthalate	0.5 ug/mL
							Diphenylamine	0.4251 ug/mL
							Fluoranthene	0.5 ug/mL
							Fluorene	0.5 ug/mL
							Hexachlorobenzene	0.5 ug/mL
							Hexachlorobutadiene	0.5 ug/mL
							Hexachlorocyclopentadiene	0.5 ug/mL
							Hexachloroethane	0.5 ug/mL
							Hexadecane	0.5 ug/mL
							Indeno[1,2,3-cd]pyrene	0.5 ug/mL
							Isophorone	0.5 ug/mL
							n-Decane	0.5 ug/mL
							N-Nitrosodi-n-propylamine	0.5 ug/mL
							N-Nitrosodimethylamine	0.5 ug/mL
							N-Nitrosodiphenylamine	0.5 ug/mL
							n-Octadecane	0.5 ug/mL
							Naphthalene	0.5 ug/mL
							Nitrobenzene	0.5 ug/mL
							Pentachlorophenol	1 ug/mL
							Phenanthrene	0.5 ug/mL
							Phenol	0.5 ug/mL
							Pyrene	0.5 ug/mL
							Pyridine	1 ug/mL
							Benzoic acid	1 ug/mL
							Indene	1 ug/mL
							Atrazine	1 ug/mL
							Benzaldehyde	1 ug/mL
							Caprolactam	1 ug/mL
							3,3'-Dichlorobenzidine	1 ug/mL
							Benzidine	1 ug/mL
							2,4,6-Tribromophenol (Surr)	0.5 ug/mL
							2-Fluorobiphenyl (Surr)	0.5 ug/mL
							2-Fluorophenol (Surr)	0.5 ug/mL
							Nitrobenzene-d5 (Surr)	0.5 ug/mL
							Phenol-d5 (Surr)	0.5 ug/mL
							Terphenyl-d14 (Surr)	0.5 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1 STOCK_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 S1_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1,2,4,5-Tetrachlorobenzene	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Diphenylhydrazine	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2,2'-oxybis[1-chloropropane]	100 ug/mL
							2,3,4,6-Tetrachlorophenol	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dichlorophenol	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitroaniline	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Nitroaniline	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	100 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Chloroaniline	100 ug/mL
							4-Chlorophenyl phenyl ether	100 ug/mL
							4-Nitroaniline	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Acetophenone	100 ug/mL
							Aniline	100 ug/mL
							Anthracene	100 ug/mL
							Azobenzene	100 ug/mL
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Benzyl alcohol	100 ug/mL
							Bis(2-chloroethoxy)methane	100 ug/mL
							Bis(2-chloroethyl)ether	100 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Carbazole	100 ug/mL
							Chrysene	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Diphenylamine	85.02 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachlorocyclopentadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Hexadecane	100 ug/mL
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Isophorone	100 ug/mL
							n-Decane	100 ug/mL
							N-Nitrosodi-n-propylamine	100 ug/mL
							N-Nitrosodimethylamine	100 ug/mL
							N-Nitrosodiphenylamine	100 ug/mL
							n-Octadecane	100 ug/mL
							Naphthalene	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenanthrene	100 ug/mL
							Phenol	100 ug/mL
							Pyrene	100 ug/mL
							Pyridine	200 ug/mL
					SMLIST1 S10_00003	1 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 S9_00003	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 S1_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850.2 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S10_00003	06/30/18		Restek, Lot A0123819		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 S9_00003	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
SMLIST1 L3 W_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1 STOCK_00009	20 uL	1,1'-Biphenyl	1 ug/mL
							1,2,4,5-Tetrachlorobenzene	1 ug/mL
							1,2,4-Trichlorobenzene	1 ug/mL
							1,2-Dichlorobenzene	1 ug/mL
							1,2-Diphenylhydrazine	1 ug/mL
							1,3-Dichlorobenzene	1 ug/mL
							1,3-Dinitrobenzene	1 ug/mL
							1,4-Dichlorobenzene	1 ug/mL
							1,4-Dioxane	1 ug/mL
							1-Methylnaphthalene	1 ug/mL
							2,2'-oxybis[1-chloropropane]	1 ug/mL
							2,3,4,6-Tetrachlorophenol	1 ug/mL
							2,4,5-Trichlorophenol	1 ug/mL
							2,4,6-Trichlorophenol	1 ug/mL
							2,4-Dichlorophenol	1 ug/mL
							2,4-Dimethylphenol	1 ug/mL
							2,4-Dinitrophenol	2 ug/mL
							2,4-Dinitrotoluene	1 ug/mL
							2,6-Dichlorophenol	1 ug/mL
							2,6-Dinitrotoluene	1 ug/mL
							2-Chloronaphthalene	1 ug/mL
							2-Chlorophenol	1 ug/mL
							2-Methylnaphthalene	1 ug/mL
							2-Methylphenol	1 ug/mL
							2-Nitroaniline	1 ug/mL
							2-Nitrophenol	1 ug/mL
							3 & 4 Methylphenol	1 ug/mL
							3-Nitroaniline	1 ug/mL
							4,6-Dinitro-2-methylphenol	2 ug/mL
							4-Bromophenyl phenyl ether	1 ug/mL
							4-Chloro-3-methylphenol	1 ug/mL
							4-Chloroaniline	1 ug/mL
							4-Chlorophenyl phenyl ether	1 ug/mL
							4-Nitroaniline	1 ug/mL
							4-Nitrophenol	2 ug/mL
							Acenaphthene	1 ug/mL
							Acenaphthylene	1 ug/mL
							Acetophenone	1 ug/mL
							Aniline	1 ug/mL
							Anthracene	1 ug/mL
							Azobenzene	1 ug/mL
							Benzo[a]anthracene	1 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	1 ug/mL
							Benzo[b]fluoranthene	1 ug/mL
							Benzo[g,h,i]perylene	1 ug/mL
							Benzo[k]fluoranthene	1 ug/mL
							Benzyl alcohol	1 ug/mL
							Bis(2-chloroethoxy)methane	1 ug/mL
							Bis(2-chloroethyl)ether	1 ug/mL
							Bis(2-ethylhexyl) phthalate	1 ug/mL
							Butyl benzyl phthalate	1 ug/mL
							Carbazole	1 ug/mL
							Chrysene	1 ug/mL
							Di-n-butyl phthalate	1 ug/mL
							Di-n-octyl phthalate	1 ug/mL
							Dibenz(a,h)anthracene	1 ug/mL
							Dibenzofuran	1 ug/mL
							Diethyl phthalate	1 ug/mL
							Dimethyl phthalate	1 ug/mL
							Diphenylamine	0.8502 ug/mL
							Fluoranthene	1 ug/mL
							Fluorene	1 ug/mL
							Hexachlorobenzene	1 ug/mL
							Hexachlorobutadiene	1 ug/mL
							Hexachlorocyclopentadiene	1 ug/mL
							Hexachloroethane	1 ug/mL
							Hexadecane	1 ug/mL
							Indeno[1,2,3-cd]pyrene	1 ug/mL
							Isophorone	1 ug/mL
							n-Decane	1 ug/mL
							N-Nitrosodi-n-propylamine	1 ug/mL
							N-Nitrosodimethylamine	1 ug/mL
							N-Nitrosodiphenylamine	1 ug/mL
							n-Octadecane	1 ug/mL
							Naphthalene	1 ug/mL
							Nitrobenzene	1 ug/mL
							Pentachlorophenol	2 ug/mL
							Phenanthrene	1 ug/mL
							Phenol	1 ug/mL
							Pyrene	1 ug/mL
							Pyridine	2 ug/mL
							Benzoic acid	2 ug/mL
							Indene	2 ug/mL
							Atrazine	2 ug/mL
							Benzaldehyde	2 ug/mL
							Caprolactam	2 ug/mL
							3,3'-Dichlorobenzidine	2 ug/mL
							Benzidine	2 ug/mL
							2,4,6-Tribromophenol (Surr)	1 ug/mL
							2-Fluorobiphenyl (Surr)	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorophenol (Surr)	1 ug/mL
							Nitrobenzene-d5 (Surr)	1 ug/mL
							Phenol-d5 (Surr)	1 ug/mL
							Terphenyl-d14 (Surr)	1 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1 STOCK_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 S1_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1,2,4,5-Tetrachlorobenzene	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Diphenylhydrazine	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2,2'-oxybis[1-chloropropane]	100 ug/mL
							2,3,4,6-Tetrachlorophenol	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dichlorophenol	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitroaniline	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Nitroaniline	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	100 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Chloroaniline	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl phenyl ether	100 ug/mL
							4-Nitroaniline	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Acetophenone	100 ug/mL
							Aniline	100 ug/mL
							Anthracene	100 ug/mL
							Azobenzene	100 ug/mL
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Benzyl alcohol	100 ug/mL
							Bis(2-chloroethoxy)methane	100 ug/mL
							Bis(2-chloroethyl)ether	100 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Carbazole	100 ug/mL
							Chrysene	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Diphenylamine	85.02 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachlorocyclopentadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Hexadecane	100 ug/mL
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Isophorone	100 ug/mL
							n-Decane	100 ug/mL
							N-Nitrosodi-n-propylamine	100 ug/mL
							N-Nitrosodimethylamine	100 ug/mL
							N-Nitrosodiphenylamine	100 ug/mL
							n-Octadecane	100 ug/mL
							Naphthalene	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenanthrene	100 ug/mL
							Phenol	100 ug/mL
							Pyrene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyridine	200 ug/mL
					SMLIST1 S10_00003	1 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 S9_00003	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 S1_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850.2 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S10_00003	06/30/18		Restek, Lot A0123819		(Purchased Reagent)		Benzoic acid	2000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indene	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 S9_00003	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST1 L4 W_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1 STOCK_00009	40 uL	1,1'-Biphenyl	2 ug/mL
							1,2,4,5-Tetrachlorobenzene	2 ug/mL
							1,2,4-Trichlorobenzene	2 ug/mL
							1,2-Dichlorobenzene	2 ug/mL
							1,2-Diphenylhydrazine	2 ug/mL
							1,3-Dichlorobenzene	2 ug/mL
							1,3-Dinitrobenzene	2 ug/mL
							1,4-Dichlorobenzene	2 ug/mL
							1,4-Dioxane	2 ug/mL
							1-Methylnaphthalene	2 ug/mL
							2,2'-oxybis[1-chloropropane]	2 ug/mL
							2,3,4,6-Tetrachlorophenol	2 ug/mL
							2,4,5-Trichlorophenol	2 ug/mL
							2,4,6-Trichlorophenol	2 ug/mL
							2,4-Dichlorophenol	2 ug/mL
							2,4-Dimethylphenol	2 ug/mL
							2,4-Dinitrophenol	4 ug/mL
							2,4-Dinitrotoluene	2 ug/mL
							2,6-Dichlorophenol	2 ug/mL
							2,6-Dinitrotoluene	2 ug/mL
							2-Chloronaphthalene	2 ug/mL
							2-Chlorophenol	2 ug/mL
							2-Methylnaphthalene	2 ug/mL
							2-Methylphenol	2 ug/mL
							2-Nitroaniline	2 ug/mL
							2-Nitrophenol	2 ug/mL
							3 & 4 Methylphenol	2 ug/mL
							3-Nitroaniline	2 ug/mL
							4,6-Dinitro-2-methylphenol	4 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Bromophenyl phenyl ether	2 ug/mL
							4-Chloro-3-methylphenol	2 ug/mL
							4-Chloroaniline	2 ug/mL
							4-Chlorophenyl phenyl ether	2 ug/mL
							4-Nitroaniline	2 ug/mL
							4-Nitrophenol	4 ug/mL
							Acenaphthene	2 ug/mL
							Acenaphthylene	2 ug/mL
							Acetophenone	2 ug/mL
							Aniline	2 ug/mL
							Anthracene	2 ug/mL
							Azobenzene	2 ug/mL
							Benzo[a]anthracene	2 ug/mL
							Benzo[a]pyrene	2 ug/mL
							Benzo[b]fluoranthene	2 ug/mL
							Benzo[g,h,i]perylene	2 ug/mL
							Benzo[k]fluoranthene	2 ug/mL
							Benzyl alcohol	2 ug/mL
							Bis(2-chloroethoxy)methane	2 ug/mL
							Bis(2-chloroethyl)ether	2 ug/mL
							Bis(2-ethylhexyl) phthalate	2 ug/mL
							Butyl benzyl phthalate	2 ug/mL
							Carbazole	2 ug/mL
							Chrysene	2 ug/mL
							Di-n-butyl phthalate	2 ug/mL
							Di-n-octyl phthalate	2 ug/mL
							Dibenz(a,h)anthracene	2 ug/mL
							Dibenzofuran	2 ug/mL
							Diethyl phthalate	2 ug/mL
							Dimethyl phthalate	2 ug/mL
							Diphenylamine	1.7004 ug/mL
							Fluoranthene	2 ug/mL
							Fluorene	2 ug/mL
							Hexachlorobenzene	2 ug/mL
							Hexachlorobutadiene	2 ug/mL
							Hexachlorocyclopentadiene	2 ug/mL
							Hexachloroethane	2 ug/mL
							Hexadecane	2 ug/mL
							Indeno[1,2,3-cd]pyrene	2 ug/mL
							Isophorone	2 ug/mL
							n-Decane	2 ug/mL
							N-Nitrosodi-n-propylamine	2 ug/mL
							N-Nitrosodimethylamine	2 ug/mL
							N-Nitrosodiphenylamine	2 ug/mL
							n-Octadecane	2 ug/mL
							Naphthalene	2 ug/mL
							Nitrobenzene	2 ug/mL
							Pentachlorophenol	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	2 ug/mL
							Phenol	2 ug/mL
							Pyrene	2 ug/mL
							Pyridine	4 ug/mL
							Benzoic acid	4 ug/mL
							Indene	4 ug/mL
							Atrazine	4 ug/mL
							Benzaldehyde	4 ug/mL
							Caprolactam	4 ug/mL
							3,3'-Dichlorobenzidine	4 ug/mL
							Benzidine	4 ug/mL
							2,4,6-Tribromophenol (Surr)	2 ug/mL
							2-Fluorobiphenyl (Surr)	2 ug/mL
							2-Fluorophenol (Surr)	2 ug/mL
							Nitrobenzene-d5 (Surr)	2 ug/mL
							Phenol-d5 (Surr)	2 ug/mL
							Terphenyl-d14 (Surr)	2 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1 STOCK_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 S1_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1,2,4,5-Tetrachlorobenzene	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Diphenylhydrazine	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2,2'-oxybis[1-chloropropane]	100 ug/mL
							2,3,4,6-Tetrachlorophenol	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dichlorophenol	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dinitrotoluene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitroaniline	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Nitroaniline	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	100 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Chloroaniline	100 ug/mL
							4-Chlorophenyl phenyl ether	100 ug/mL
							4-Nitroaniline	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Acetophenone	100 ug/mL
							Aniline	100 ug/mL
							Anthracene	100 ug/mL
							Azobenzene	100 ug/mL
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Benzyl alcohol	100 ug/mL
							Bis(2-chloroethoxy)methane	100 ug/mL
							Bis(2-chloroethyl)ether	100 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Carbazole	100 ug/mL
							Chrysene	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Diphenylamine	85.02 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachlorocyclopentadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Hexadecane	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Isophorone	100 ug/mL
							n-Decane	100 ug/mL
							N-Nitrosodi-n-propylamine	100 ug/mL
							N-Nitrosodimethylamine	100 ug/mL
							N-Nitrosodiphenylamine	100 ug/mL
							n-Octadecane	100 ug/mL
							Naphthalene	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenanthrene	100 ug/mL
							Phenol	100 ug/mL
							Pyrene	100 ug/mL
							Pyridine	200 ug/mL
					SMLIST1 S10_00003	1 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 S9_00003	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 S1_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850.2 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S10_00003	06/30/18		Restek, Lot A0123819		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 S9_00003	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST1 L5 W_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1 STOCK_00009	100 uL	1,1'-Biphenyl	5 ug/mL
							1,2,4,5-Tetrachlorobenzene	5 ug/mL
							1,2,4-Trichlorobenzene	5 ug/mL
							1,2-Dichlorobenzene	5 ug/mL
							1,2-Diphenylhydrazine	5 ug/mL
							1,3-Dichlorobenzene	5 ug/mL
							1,3-Dinitrobenzene	5 ug/mL
							1,4-Dichlorobenzene	5 ug/mL
							1,4-Dioxane	5 ug/mL
							1-Methylnaphthalene	5 ug/mL
							2,2'-oxybis[1-chloropropane]	5 ug/mL
							2,3,4,6-Tetrachlorophenol	5 ug/mL
							2,4,5-Trichlorophenol	5 ug/mL
							2,4,6-Trichlorophenol	5 ug/mL
							2,4-Dichlorophenol	5 ug/mL
							2,4-Dimethylphenol	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrophenol	10 ug/mL
							2,4-Dinitrotoluene	5 ug/mL
							2,6-Dichlorophenol	5 ug/mL
							2,6-Dinitrotoluene	5 ug/mL
							2-Chloronaphthalene	5 ug/mL
							2-Chlorophenol	5 ug/mL
							2-Methylnaphthalene	5 ug/mL
							2-Methylphenol	5 ug/mL
							2-Nitroaniline	5 ug/mL
							2-Nitrophenol	5 ug/mL
							3 & 4 Methylphenol	5 ug/mL
							3-Nitroaniline	5 ug/mL
							4,6-Dinitro-2-methylphenol	10 ug/mL
							4-Bromophenyl phenyl ether	5 ug/mL
							4-Chloro-3-methylphenol	5 ug/mL
							4-Chloroaniline	5 ug/mL
							4-Chlorophenyl phenyl ether	5 ug/mL
							4-Nitroaniline	5 ug/mL
							4-Nitrophenol	10 ug/mL
							Acenaphthene	5 ug/mL
							Acenaphthylene	5 ug/mL
							Acetophenone	5 ug/mL
							Aniline	5 ug/mL
							Anthracene	5 ug/mL
							Azobenzene	5 ug/mL
							Benzo[a]anthracene	5 ug/mL
							Benzo[a]pyrene	5 ug/mL
							Benzo[b]fluoranthene	5 ug/mL
							Benzo[g,h,i]perylene	5 ug/mL
							Benzo[k]fluoranthene	5 ug/mL
							Benzyl alcohol	5 ug/mL
							Bis(2-chloroethoxy)methane	5 ug/mL
							Bis(2-chloroethyl)ether	5 ug/mL
							Bis(2-ethylhexyl) phthalate	5 ug/mL
							Butyl benzyl phthalate	5 ug/mL
							Carbazole	5 ug/mL
							Chrysene	5 ug/mL
							Di-n-butyl phthalate	5 ug/mL
							Di-n-octyl phthalate	5 ug/mL
							Dibenz(a,h)anthracene	5 ug/mL
							Dibenzofuran	5 ug/mL
							Diethyl phthalate	5 ug/mL
							Dimethyl phthalate	5 ug/mL
							Diphenylamine	4.251 ug/mL
							Fluoranthene	5 ug/mL
							Fluorene	5 ug/mL
							Hexachlorobenzene	5 ug/mL
							Hexachlorobutadiene	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorocyclopentadiene	5 ug/mL
							Hexachloroethane	5 ug/mL
							Hexadecane	5 ug/mL
							Indeno[1,2,3-cd]pyrene	5 ug/mL
							Isophorone	5 ug/mL
							n-Decane	5 ug/mL
							N-Nitrosodi-n-propylamine	5 ug/mL
							N-Nitrosodimethylamine	5 ug/mL
							N-Nitrosodiphenylamine	5 ug/mL
							n-Octadecane	5 ug/mL
							Naphthalene	5 ug/mL
							Nitrobenzene	5 ug/mL
							Pentachlorophenol	10 ug/mL
							Phenanthrene	5 ug/mL
							Phenol	5 ug/mL
							Pyrene	5 ug/mL
							Pyridine	10 ug/mL
							Benzoic acid	10 ug/mL
							Indene	10 ug/mL
							Atrazine	10 ug/mL
							Benzaldehyde	10 ug/mL
							Caprolactam	10 ug/mL
							3,3'-Dichlorobenzidine	10 ug/mL
							Benzidine	10 ug/mL
							2,4,6-Tribromophenol (Surr)	5 ug/mL
							2-Fluorobiphenyl (Surr)	5 ug/mL
							2-Fluorophenol (Surr)	5 ug/mL
							Nitrobenzene-d5 (Surr)	5 ug/mL
							Phenol-d5 (Surr)	5 ug/mL
							Terphenyl-d14 (Surr)	5 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1 STOCK_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 S1_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1,2,4,5-Tetrachlorobenzene	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Diphenylhydrazine	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2,2'-oxybis[1-chloropropane]	100 ug/mL
							2,3,4,6-Tetrachlorophenol	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dichlorophenol	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitroaniline	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Nitroaniline	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	100 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Chloroaniline	100 ug/mL
							4-Chlorophenyl phenyl ether	100 ug/mL
							4-Nitroaniline	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Acetophenone	100 ug/mL
							Aniline	100 ug/mL
							Anthracene	100 ug/mL
							Azobenzene	100 ug/mL
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Benzyl alcohol	100 ug/mL
							Bis(2-chloroethoxy)methane	100 ug/mL
							Bis(2-chloroethyl)ether	100 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Carbazole	100 ug/mL
							Chrysene	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Di-n-octyl phthalate	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Diphenylamine	85.02 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachlorocyclopentadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Hexadecane	100 ug/mL
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Isophorone	100 ug/mL
							n-Decane	100 ug/mL
							N-Nitrosodi-n-propylamine	100 ug/mL
							N-Nitrosodimethylamine	100 ug/mL
							N-Nitrosodiphenylamine	100 ug/mL
							n-Octadecane	100 ug/mL
							Naphthalene	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenanthrene	100 ug/mL
							Phenol	100 ug/mL
							Pyrene	100 ug/mL
							Pyridine	200 ug/mL
					SMLIST1 S10_00003	1 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 S9_00003	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 S1_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850.2 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S10_00003	06/30/18		Restek, Lot A0123819		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 S9_00003	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST1 L6 W_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1 STOCK_00009	200 uL	1,1'-Biphenyl	10 ug/mL
							1,2,4,5-Tetrachlorobenzene	10 ug/mL
							1,2,4-Trichlorobenzene	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	10 ug/mL
							1,2-Diphenylhydrazine	10 ug/mL
							1,3-Dichlorobenzene	10 ug/mL
							1,3-Dinitrobenzene	10 ug/mL
							1,4-Dichlorobenzene	10 ug/mL
							1,4-Dioxane	10 ug/mL
							1-Methylnaphthalene	10 ug/mL
							2,2'-oxybis[1-chloropropane]	10 ug/mL
							2,3,4,6-Tetrachlorophenol	10 ug/mL
							2,4,5-Trichlorophenol	10 ug/mL
							2,4,6-Trichlorophenol	10 ug/mL
							2,4-Dichlorophenol	10 ug/mL
							2,4-Dimethylphenol	10 ug/mL
							2,4-Dinitrophenol	20 ug/mL
							2,4-Dinitrotoluene	10 ug/mL
							2,6-Dichlorophenol	10 ug/mL
							2,6-Dinitrotoluene	10 ug/mL
							2-Chloronaphthalene	10 ug/mL
							2-Chlorophenol	10 ug/mL
							2-Methylnaphthalene	10 ug/mL
							2-Methylphenol	10 ug/mL
							2-Nitroaniline	10 ug/mL
							2-Nitrophenol	10 ug/mL
							3 & 4 Methylphenol	10 ug/mL
							3-Nitroaniline	10 ug/mL
							4,6-Dinitro-2-methylphenol	20 ug/mL
							4-Bromophenyl phenyl ether	10 ug/mL
							4-Chloro-3-methylphenol	10 ug/mL
							4-Chloroaniline	10 ug/mL
							4-Chlorophenyl phenyl ether	10 ug/mL
							4-Nitroaniline	10 ug/mL
							4-Nitrophenol	20 ug/mL
							Acenaphthene	10 ug/mL
							Acenaphthylene	10 ug/mL
							Acetophenone	10 ug/mL
							Aniline	10 ug/mL
							Anthracene	10 ug/mL
							Azobenzene	10 ug/mL
							Benzo[a]anthracene	10 ug/mL
							Benzo[a]pyrene	10 ug/mL
							Benzo[b]fluoranthene	10 ug/mL
							Benzo[g,h,i]perylene	10 ug/mL
							Benzo[k]fluoranthene	10 ug/mL
							Benzyl alcohol	10 ug/mL
							Bis(2-chloroethoxy)methane	10 ug/mL
							Bis(2-chloroethyl)ether	10 ug/mL
							Bis(2-ethylhexyl) phthalate	10 ug/mL
							Butyl benzyl phthalate	10 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	10 ug/mL
							Chrysene	10 ug/mL
							Di-n-butyl phthalate	10 ug/mL
							Di-n-octyl phthalate	10 ug/mL
							Dibenz(a,h)anthracene	10 ug/mL
							Dibenzofuran	10 ug/mL
							Diethyl phthalate	10 ug/mL
							Dimethyl phthalate	10 ug/mL
							Diphenylamine	8.502 ug/mL
							Fluoranthene	10 ug/mL
							Fluorene	10 ug/mL
							Hexachlorobenzene	10 ug/mL
							Hexachlorobutadiene	10 ug/mL
							Hexachlorocyclopentadiene	10 ug/mL
							Hexachloroethane	10 ug/mL
							Hexadecane	10 ug/mL
							Indeno[1,2,3-cd]pyrene	10 ug/mL
							Isophorone	10 ug/mL
							n-Decane	10 ug/mL
							N-Nitrosodi-n-propylamine	10 ug/mL
							N-Nitrosodimethylamine	10 ug/mL
							N-Nitrosodiphenylamine	10 ug/mL
							n-Octadecane	10 ug/mL
							Naphthalene	10 ug/mL
							Nitrobenzene	10 ug/mL
							Pentachlorophenol	20 ug/mL
							Phenanthrene	10 ug/mL
							Phenol	10 ug/mL
							Pyrene	10 ug/mL
							Pyridine	20 ug/mL
							Benzoic acid	20 ug/mL
							Indene	20 ug/mL
							Atrazine	20 ug/mL
							Benzaldehyde	20 ug/mL
							Caprolactam	20 ug/mL
							3,3'-Dichlorobenzidine	20 ug/mL
							Benzidine	20 ug/mL
							2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl (Surr)	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1 STOCK_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 S1_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1,2,4,5-Tetrachlorobenzene	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Diphenylhydrazine	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2,2'-oxybis[1-chloropropane]	100 ug/mL
							2,3,4,6-Tetrachlorophenol	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dichlorophenol	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitroaniline	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Nitroaniline	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	100 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Chloroaniline	100 ug/mL
							4-Chlorophenyl phenyl ether	100 ug/mL
							4-Nitroaniline	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Acetophenone	100 ug/mL
							Aniline	100 ug/mL
							Anthracene	100 ug/mL
							Azobenzene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Benzyl alcohol	100 ug/mL
							Bis(2-chloroethoxy)methane	100 ug/mL
							Bis(2-chloroethyl)ether	100 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Carbazole	100 ug/mL
							Chrysene	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Diphenylamine	85.02 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachlorocyclopentadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Hexadecane	100 ug/mL
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Isophorone	100 ug/mL
							n-Decane	100 ug/mL
							N-Nitrosodi-n-propylamine	100 ug/mL
							N-Nitrosodimethylamine	100 ug/mL
							N-Nitrosodiphenylamine	100 ug/mL
							n-Octadecane	100 ug/mL
							Naphthalene	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenanthrene	100 ug/mL
							Phenol	100 ug/mL
							Pyrene	100 ug/mL
							Pyridine	200 ug/mL
					SMLIST1 S10_00003	1 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 S9_00003	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 S1_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850.2 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S10_00003	06/30/18		Restek, Lot A0123819		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 S9_00003	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST1 L7 W_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1 STOCK_00009	300 uL	1,1'-Biphenyl	15 ug/mL
							1,2,4,5-Tetrachlorobenzene	15 ug/mL
							1,2,4-Trichlorobenzene	15 ug/mL
							1,2-Dichlorobenzene	15 ug/mL
							1,2-Diphenylhydrazine	15 ug/mL
							1,3-Dichlorobenzene	15 ug/mL
							1,3-Dinitrobenzene	15 ug/mL
							1,4-Dichlorobenzene	15 ug/mL
							1,4-Dioxane	15 ug/mL
							1-Methylnaphthalene	15 ug/mL
							2,2'-oxybis[1-chloropropane]	15 ug/mL
							2,3,4,6-Tetrachlorophenol	15 ug/mL
							2,4,5-Trichlorophenol	15 ug/mL
							2,4,6-Trichlorophenol	15 ug/mL
							2,4-Dichlorophenol	15 ug/mL
							2,4-Dimethylphenol	15 ug/mL
							2,4-Dinitrophenol	30 ug/mL
							2,4-Dinitrotoluene	15 ug/mL
							2,6-Dichlorophenol	15 ug/mL
							2,6-Dinitrotoluene	15 ug/mL
							2-Chloronaphthalene	15 ug/mL
							2-Chlorophenol	15 ug/mL
							2-Methylnaphthalene	15 ug/mL
							2-Methylphenol	15 ug/mL
							2-Nitroaniline	15 ug/mL
							2-Nitrophenol	15 ug/mL
							3 & 4 Methylphenol	15 ug/mL
							3-Nitroaniline	15 ug/mL
							4,6-Dinitro-2-methylphenol	30 ug/mL
							4-Bromophenyl phenyl ether	15 ug/mL
							4-Chloro-3-methylphenol	15 ug/mL
							4-Chloroaniline	15 ug/mL
							4-Chlorophenyl phenyl ether	15 ug/mL
							4-Nitroaniline	15 ug/mL
							4-Nitrophenol	30 ug/mL
							Acenaphthene	15 ug/mL
							Acenaphthylene	15 ug/mL
							Acetophenone	15 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Aniline	15 ug/mL
							Anthracene	15 ug/mL
							Azobenzene	15 ug/mL
							Benzo[a]anthracene	15 ug/mL
							Benzo[a]pyrene	15 ug/mL
							Benzo[b]fluoranthene	15 ug/mL
							Benzo[g,h,i]perylene	15 ug/mL
							Benzo[k]fluoranthene	15 ug/mL
							Benzyl alcohol	15 ug/mL
							Bis(2-chloroethoxy)methane	15 ug/mL
							Bis(2-chloroethyl)ether	15 ug/mL
							Bis(2-ethylhexyl) phthalate	15 ug/mL
							Butyl benzyl phthalate	15 ug/mL
							Carbazole	15 ug/mL
							Chrysene	15 ug/mL
							Di-n-butyl phthalate	15 ug/mL
							Di-n-octyl phthalate	15 ug/mL
							Dibenz(a,h)anthracene	15 ug/mL
							Dibenzofuran	15 ug/mL
							Diethyl phthalate	15 ug/mL
							Dimethyl phthalate	15 ug/mL
							Diphenylamine	12.753 ug/mL
							Fluoranthene	15 ug/mL
							Fluorene	15 ug/mL
							Hexachlorobenzene	15 ug/mL
							Hexachlorobutadiene	15 ug/mL
							Hexachlorocyclopentadiene	15 ug/mL
							Hexachloroethane	15 ug/mL
							Hexadecane	15 ug/mL
							Indeno[1,2,3-cd]pyrene	15 ug/mL
							Isophorone	15 ug/mL
							n-Decane	15 ug/mL
							N-Nitrosodi-n-propylamine	15 ug/mL
							N-Nitrosodimethylamine	15 ug/mL
							N-Nitrosodiphenylamine	15 ug/mL
							n-Octadecane	15 ug/mL
							Naphthalene	15 ug/mL
							Nitrobenzene	15 ug/mL
							Pentachlorophenol	30 ug/mL
							Phenanthrene	15 ug/mL
							Phenol	15 ug/mL
							Pyrene	15 ug/mL
							Pyridine	30 ug/mL
							Benzoic acid	30 ug/mL
							Indene	30 ug/mL
							Atrazine	30 ug/mL
							Benzaldehyde	30 ug/mL
							Caprolactam	30 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3,3'-Dichlorobenzidine	30 ug/mL
							Benzidine	30 ug/mL
							2,4,6-Tribromophenol (Surr)	15 ug/mL
							2-Fluorobiphenyl (Surr)	15 ug/mL
							2-Fluorophenol (Surr)	15 ug/mL
							Nitrobenzene-d5 (Surr)	15 ug/mL
							Phenol-d5 (Surr)	15 ug/mL
							Terphenyl-d14 (Surr)	15 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1 STOCK_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 S1_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1,2,4,5-Tetrachlorobenzene	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Diphenylhydrazine	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2,2'-oxybis[1-chloropropane]	100 ug/mL
							2,3,4,6-Tetrachlorophenol	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dichlorophenol	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitroaniline	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Nitroaniline	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	100 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Chloroaniline	100 ug/mL
							4-Chlorophenyl phenyl ether	100 ug/mL
							4-Nitroaniline	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Acetophenone	100 ug/mL
							Aniline	100 ug/mL
							Anthracene	100 ug/mL
							Azobenzene	100 ug/mL
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Benzyl alcohol	100 ug/mL
							Bis(2-chloroethoxy)methane	100 ug/mL
							Bis(2-chloroethyl)ether	100 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Carbazole	100 ug/mL
							Chrysene	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Diphenylamine	85.02 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachlorocyclopentadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Hexadecane	100 ug/mL
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Isophorone	100 ug/mL
							n-Decane	100 ug/mL
							N-Nitrosodi-n-propylamine	100 ug/mL
							N-Nitrosodimethylamine	100 ug/mL
							N-Nitrosodiphenylamine	100 ug/mL
							n-Octadecane	100 ug/mL
							Naphthalene	100 ug/mL
							Nitrobenzene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pentachlorophenol	200 ug/mL
							Phenanthrene	100 ug/mL
							Phenol	100 ug/mL
							Pyrene	100 ug/mL
							Pyridine	200 ug/mL
					SMLIST1 S10_00003	1 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 S9_00003	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 S1_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850.2 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S10_00003	06/30/18		Restek, Lot A0123819		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 S9_00003	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST1 L8 W_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1 STOCK_00009	400 uL	1,1'-Biphenyl	20 ug/mL
							1,2,4,5-Tetrachlorobenzene	20 ug/mL
							1,2,4-Trichlorobenzene	20 ug/mL
							1,2-Dichlorobenzene	20 ug/mL
							1,2-Diphenylhydrazine	20 ug/mL
							1,3-Dichlorobenzene	20 ug/mL
							1,3-Dinitrobenzene	20 ug/mL
							1,4-Dichlorobenzene	20 ug/mL
							1,4-Dioxane	20 ug/mL
							1-Methylnaphthalene	20 ug/mL
							2,2'-oxybis[1-chloropropane]	20 ug/mL
							2,3,4,6-Tetrachlorophenol	20 ug/mL
							2,4,5-Trichlorophenol	20 ug/mL
							2,4,6-Trichlorophenol	20 ug/mL
							2,4-Dichlorophenol	20 ug/mL
							2,4-Dimethylphenol	20 ug/mL
							2,4-Dinitrophenol	40 ug/mL
							2,4-Dinitrotoluene	20 ug/mL
							2,6-Dichlorophenol	20 ug/mL
							2,6-Dinitrotoluene	20 ug/mL
							2-Chloronaphthalene	20 ug/mL
							2-Chlorophenol	20 ug/mL
							2-Methylnaphthalene	20 ug/mL
							2-Methylphenol	20 ug/mL
							2-Nitroaniline	20 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitrophenol	20 ug/mL
							3 & 4 Methylphenol	20 ug/mL
							3-Nitroaniline	20 ug/mL
							4,6-Dinitro-2-methylphenol	40 ug/mL
							4-Bromophenyl phenyl ether	20 ug/mL
							4-Chloro-3-methylphenol	20 ug/mL
							4-Chloroaniline	20 ug/mL
							4-Chlorophenyl phenyl ether	20 ug/mL
							4-Nitroaniline	20 ug/mL
							4-Nitrophenol	40 ug/mL
							Acenaphthene	20 ug/mL
							Acenaphthylene	20 ug/mL
							Acetophenone	20 ug/mL
							Aniline	20 ug/mL
							Anthracene	20 ug/mL
							Azobenzene	20 ug/mL
							Benzo[a]anthracene	20 ug/mL
							Benzo[a]pyrene	20 ug/mL
							Benzo[b]fluoranthene	20 ug/mL
							Benzo[g,h,i]perylene	20 ug/mL
							Benzo[k]fluoranthene	20 ug/mL
							Benzyl alcohol	20 ug/mL
							Bis(2-chloroethoxy)methane	20 ug/mL
							Bis(2-chloroethyl)ether	20 ug/mL
							Bis(2-ethylhexyl) phthalate	20 ug/mL
							Butyl benzyl phthalate	20 ug/mL
							Carbazole	20 ug/mL
							Chrysene	20 ug/mL
							Di-n-butyl phthalate	20 ug/mL
							Di-n-octyl phthalate	20 ug/mL
							Dibenz(a,h)anthracene	20 ug/mL
							Dibenzofuran	20 ug/mL
							Diethyl phthalate	20 ug/mL
							Dimethyl phthalate	20 ug/mL
							Diphenylamine	17.004 ug/mL
							Fluoranthene	20 ug/mL
							Fluorene	20 ug/mL
							Hexachlorobenzene	20 ug/mL
							Hexachlorobutadiene	20 ug/mL
							Hexachlorocyclopentadiene	20 ug/mL
							Hexachloroethane	20 ug/mL
							Hexadecane	20 ug/mL
							Indeno[1,2,3-cd]pyrene	20 ug/mL
							Isophorone	20 ug/mL
							n-Decane	20 ug/mL
							N-Nitrosodi-n-propylamine	20 ug/mL
							N-Nitrosodimethylamine	20 ug/mL
							N-Nitrosodiphenylamine	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Octadecane	20 ug/mL
							Naphthalene	20 ug/mL
							Nitrobenzene	20 ug/mL
							Pentachlorophenol	40 ug/mL
							Phenanthrene	20 ug/mL
							Phenol	20 ug/mL
							Pyrene	20 ug/mL
							Pyridine	40 ug/mL
							Benzoic acid	40 ug/mL
							Indene	40 ug/mL
							Atrazine	40 ug/mL
							Benzaldehyde	40 ug/mL
							Caprolactam	40 ug/mL
							3,3'-Dichlorobenzidine	40 ug/mL
							Benzidine	40 ug/mL
							2,4,6-Tribromophenol (Surr)	20 ug/mL
							2-Fluorobiphenyl (Surr)	20 ug/mL
							2-Fluorophenol (Surr)	20 ug/mL
							Nitrobenzene-d5 (Surr)	20 ug/mL
							Phenol-d5 (Surr)	20 ug/mL
							Terphenyl-d14 (Surr)	20 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1 STOCK_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 S1_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1,2,4,5-Tetrachlorobenzene	100 ug/mL
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Diphenylhydrazine	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2,2'-oxybis[1-chloropropane]	100 ug/mL
							2,3,4,6-Tetrachlorophenol	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dichlorophenol	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitroaniline	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Nitroaniline	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	100 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Chloroaniline	100 ug/mL
							4-Chlorophenyl phenyl ether	100 ug/mL
							4-Nitroaniline	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Acetophenone	100 ug/mL
							Aniline	100 ug/mL
							Anthracene	100 ug/mL
							Azobenzene	100 ug/mL
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Benzyl alcohol	100 ug/mL
							Bis(2-chloroethoxy)methane	100 ug/mL
							Bis(2-chloroethyl)ether	100 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL
							Butyl benzyl phthalate	100 ug/mL
							Carbazole	100 ug/mL
							Chrysene	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Diphenylamine	85.02 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobutadiene	100 ug/mL
							Hexachlorocyclopentadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Hexadecane	100 ug/mL
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Isophorone	100 ug/mL
							n-Decane	100 ug/mL
							N-Nitrosodi-n-propylamine	100 ug/mL
							N-Nitrosodimethylamine	100 ug/mL
							N-Nitrosodiphenylamine	100 ug/mL
							n-Octadecane	100 ug/mL
							Naphthalene	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenanthrene	100 ug/mL
							Phenol	100 ug/mL
							Pyrene	100 ug/mL
							Pyridine	200 ug/mL
					SMLIST1 S10_00003	1 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 S9_00003	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 S1_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850.2 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S10_00003	06/30/18		Restek, Lot A0123819		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 S9_00003	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST1 L9 W_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST1 STOCK_00009	500 uL	1,1'-Biphenyl	25 ug/mL
							1,2,4,5-Tetrachlorobenzene	25 ug/mL
							1,2,4-Trichlorobenzene	25 ug/mL
							1,2-Dichlorobenzene	25 ug/mL
							1,2-Diphenylhydrazine	25 ug/mL
							1,3-Dichlorobenzene	25 ug/mL
							1,3-Dinitrobenzene	25 ug/mL
							1,4-Dichlorobenzene	25 ug/mL
							1,4-Dioxane	25 ug/mL
							1-Methylnaphthalene	25 ug/mL
							2,2'-oxybis[1-chloropropane]	25 ug/mL
							2,3,4,6-Tetrachlorophenol	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,5-Trichlorophenol	25 ug/mL
							2,4,6-Trichlorophenol	25 ug/mL
							2,4-Dichlorophenol	25 ug/mL
							2,4-Dimethylphenol	25 ug/mL
							2,4-Dinitrophenol	50 ug/mL
							2,4-Dinitrotoluene	25 ug/mL
							2,6-Dichlorophenol	25 ug/mL
							2,6-Dinitrotoluene	25 ug/mL
							2-Chloronaphthalene	25 ug/mL
							2-Chlorophenol	25 ug/mL
							2-Methylnaphthalene	25 ug/mL
							2-Methylphenol	25 ug/mL
							2-Nitroaniline	25 ug/mL
							2-Nitrophenol	25 ug/mL
							3 & 4 Methylphenol	25 ug/mL
							3-Nitroaniline	25 ug/mL
							4,6-Dinitro-2-methylphenol	50 ug/mL
							4-Bromophenyl phenyl ether	25 ug/mL
							4-Chloro-3-methylphenol	25 ug/mL
							4-Chloroaniline	25 ug/mL
							4-Chlorophenyl phenyl ether	25 ug/mL
							4-Nitroaniline	25 ug/mL
							4-Nitrophenol	50 ug/mL
							Acenaphthene	25 ug/mL
							Acenaphthylene	25 ug/mL
							Acetophenone	25 ug/mL
							Aniline	25 ug/mL
							Anthracene	25 ug/mL
							Azobenzene	25 ug/mL
							Benzo[a]anthracene	25 ug/mL
							Benzo[a]pyrene	25 ug/mL
							Benzo[b]fluoranthene	25 ug/mL
							Benzo[g,h,i]perylene	25 ug/mL
							Benzo[k]fluoranthene	25 ug/mL
							Benzyl alcohol	25 ug/mL
							Bis(2-chloroethoxy)methane	25 ug/mL
							Bis(2-chloroethyl)ether	25 ug/mL
							Bis(2-ethylhexyl) phthalate	25 ug/mL
							Butyl benzyl phthalate	25 ug/mL
							Carbazole	25 ug/mL
							Chrysene	25 ug/mL
							Di-n-butyl phthalate	25 ug/mL
							Di-n-octyl phthalate	25 ug/mL
							Dibenz(a,h)anthracene	25 ug/mL
							Dibenzofuran	25 ug/mL
							Diethyl phthalate	25 ug/mL
							Dimethyl phthalate	25 ug/mL
							Diphenylamine	21.255 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	25 ug/mL
							Fluorene	25 ug/mL
							Hexachlorobenzene	25 ug/mL
							Hexachlorobutadiene	25 ug/mL
							Hexachlorocyclopentadiene	25 ug/mL
							Hexachloroethane	25 ug/mL
							Hexadecane	25 ug/mL
							Indeno[1,2,3-cd]pyrene	25 ug/mL
							Isophorone	25 ug/mL
							n-Decane	25 ug/mL
							N-Nitrosodi-n-propylamine	25 ug/mL
							N-Nitrosodimethylamine	25 ug/mL
							N-Nitrosodiphenylamine	25 ug/mL
							n-Octadecane	25 ug/mL
							Naphthalene	25 ug/mL
							Nitrobenzene	25 ug/mL
							Pentachlorophenol	50 ug/mL
							Phenanthrene	25 ug/mL
							Phenol	25 ug/mL
							Pyrene	25 ug/mL
							Pyridine	50 ug/mL
							Benzoic acid	50 ug/mL
							Indene	50 ug/mL
							Atrazine	50 ug/mL
							Benzaldehyde	50 ug/mL
							Caprolactam	50 ug/mL
							3,3'-Dichlorobenzidine	50 ug/mL
							Benzidine	50 ug/mL
							2,4,6-Tribromophenol (Surr)	25 ug/mL
							2-Fluorobiphenyl (Surr)	25 ug/mL
							2-Fluorophenol (Surr)	25 ug/mL
							Nitrobenzene-d5 (Surr)	25 ug/mL
							Phenol-d5 (Surr)	25 ug/mL
							Terphenyl-d14 (Surr)	25 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST1 STOCK_00009	01/31/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 S1_00007	1 mL	1,1'-Biphenyl	100 ug/mL
							1,2,4,5-Tetrachlorobenzene	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4-Trichlorobenzene	100 ug/mL
							1,2-Dichlorobenzene	100 ug/mL
							1,2-Diphenylhydrazine	100 ug/mL
							1,3-Dichlorobenzene	100 ug/mL
							1,3-Dinitrobenzene	100 ug/mL
							1,4-Dichlorobenzene	100 ug/mL
							1,4-Dioxane	100 ug/mL
							1-Methylnaphthalene	100 ug/mL
							2,2'-oxybis[1-chloropropane]	100 ug/mL
							2,3,4,6-Tetrachlorophenol	100 ug/mL
							2,4,5-Trichlorophenol	100 ug/mL
							2,4,6-Trichlorophenol	100 ug/mL
							2,4-Dichlorophenol	100 ug/mL
							2,4-Dimethylphenol	100 ug/mL
							2,4-Dinitrophenol	200 ug/mL
							2,4-Dinitrotoluene	100 ug/mL
							2,6-Dichlorophenol	100 ug/mL
							2,6-Dinitrotoluene	100 ug/mL
							2-Chloronaphthalene	100 ug/mL
							2-Chlorophenol	100 ug/mL
							2-Methylnaphthalene	100 ug/mL
							2-Methylphenol	100 ug/mL
							2-Nitroaniline	100 ug/mL
							2-Nitrophenol	100 ug/mL
							3 & 4 Methylphenol	100 ug/mL
							3-Nitroaniline	100 ug/mL
							4,6-Dinitro-2-methylphenol	200 ug/mL
							4-Bromophenyl phenyl ether	100 ug/mL
							4-Chloro-3-methylphenol	100 ug/mL
							4-Chloroaniline	100 ug/mL
							4-Chlorophenyl phenyl ether	100 ug/mL
							4-Nitroaniline	100 ug/mL
							4-Nitrophenol	200 ug/mL
							Acenaphthene	100 ug/mL
							Acenaphthylene	100 ug/mL
							Acetophenone	100 ug/mL
							Aniline	100 ug/mL
							Anthracene	100 ug/mL
							Azobenzene	100 ug/mL
							Benzo[a]anthracene	100 ug/mL
							Benzo[a]pyrene	100 ug/mL
							Benzo[b]fluoranthene	100 ug/mL
							Benzo[g,h,i]perylene	100 ug/mL
							Benzo[k]fluoranthene	100 ug/mL
							Benzyl alcohol	100 ug/mL
							Bis(2-chloroethoxy)methane	100 ug/mL
							Bis(2-chloroethyl)ether	100 ug/mL
							Bis(2-ethylhexyl) phthalate	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Butyl benzyl phthalate	100 ug/mL
							Carbazole	100 ug/mL
							Chrysene	100 ug/mL
							Di-n-butyl phthalate	100 ug/mL
							Di-n-octyl phthalate	100 ug/mL
							Dibenz(a,h)anthracene	100 ug/mL
							Dibenzofuran	100 ug/mL
							Diethyl phthalate	100 ug/mL
							Dimethyl phthalate	100 ug/mL
							Diphenylamine	85.02 ug/mL
							Fluoranthene	100 ug/mL
							Fluorene	100 ug/mL
							Hexachlorobenzene	100 ug/mL
							Hexachlorobutadiene	100 ug/mL
							Hexachlorocyclopentadiene	100 ug/mL
							Hexachloroethane	100 ug/mL
							Hexadecane	100 ug/mL
							Indeno[1,2,3-cd]pyrene	100 ug/mL
							Isophorone	100 ug/mL
							n-Decane	100 ug/mL
							N-Nitrosodi-n-propylamine	100 ug/mL
							N-Nitrosodimethylamine	100 ug/mL
							N-Nitrosodiphenylamine	100 ug/mL
							n-Octadecane	100 ug/mL
							Naphthalene	100 ug/mL
							Nitrobenzene	100 ug/mL
							Pentachlorophenol	200 ug/mL
							Phenanthrene	100 ug/mL
							Phenol	100 ug/mL
							Pyrene	100 ug/mL
							Pyridine	200 ug/mL
					SMLIST1 S10_00003	1 mL	Benzoic acid	200 ug/mL
							Indene	200 ug/mL
					SMLIST1 S11_00004	1 mL	Atrazine	200 ug/mL
							Benzaldehyde	200 ug/mL
							Caprolactam	200 ug/mL
					SMLIST1 S9_00003	1 mL	3,3'-Dichlorobenzidine	200 ug/mL
							Benzidine	200 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 S1_00007	06/30/18		Restek, Lot A0123736		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dinitrobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1,4-Dioxane	1000 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,3,4,6-Tetrachlorophenol	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dichlorophenol	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3 & 4 Methylphenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	2000 ug/mL
							4-Bromophenyl phenyl ether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl phenyl ether	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	2000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Aniline	1000 ug/mL
							Anthracene	1000 ug/mL
							Azobenzene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Benzyl alcohol	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butyl benzyl phthalate	1000 ug/mL
							Carbazole	1000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Diphenylamine	850.2 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Hexadecane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							n-Decane	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							n-Octadecane	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	2000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
							Pyridine	2000 ug/mL
..SMLIST1 S10_00003	06/30/18		Restek, Lot A0123819		(Purchased Reagent)		Benzoic acid	2000 ug/mL
							Indene	2000 ug/mL
..SMLIST1 S11_00004	06/30/18		Restek, Lot A0123718		(Purchased Reagent)		Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..SMLIST1 S9_00003	01/31/18		Restek, Lot A0120168		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST1 SS W_00008	01/31/18	04/04/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00016	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	4 ug/mL
.SMIS80PPMW_00016	04/30/18	04/24/17	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SMLIST1 SS W_00008	01/31/18	04/04/17	MECL2, Lot 0000161829	2 mL	SMLIST1 SS ST_00008	200 uL	4-Nitroaniline	10 ug/mL
							Nitrobenzene	10 ug/mL
							2,4,6-Tribromophenol (Surr)	10 ug/mL
							2-Fluorobiphenyl (Surr)	10 ug/mL
							2-Fluorophenol (Surr)	10 ug/mL
							Nitrobenzene-d5 (Surr)	10 ug/mL
							Phenol-d5 (Surr)	10 ug/mL
							Terphenyl-d14 (Surr)	10 ug/mL
.SMLIST1 SS ST_00008	06/30/18	04/24/17	MECL2, Lot 0000161829	10 mL	SMLIST1 SS S1_00006	1 mL	4-Nitroaniline	100 ug/mL
							Nitrobenzene	100 ug/mL
					SMLIST1 SURR_00005	200 uL	2,4,6-Tribromophenol (Surr)	100 ug/mL
							2-Fluorobiphenyl (Surr)	100 ug/mL
							2-Fluorophenol (Surr)	100 ug/mL
							Nitrobenzene-d5 (Surr)	100 ug/mL
							Phenol-d5 (Surr)	100 ug/mL
							Terphenyl-d14 (Surr)	100 ug/mL
..SMLIST1 SS S1_00006	07/31/18		Restek, Lot A0124300		(Purchased Reagent)		4-Nitroaniline	1000 ug/mL
							Nitrobenzene	1000 ug/mL
..SMLIST1 SURR_00005	12/31/21		Restek, Lot A0123269		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	5000 ug/mL
							2-Fluorobiphenyl (Surr)	5000 ug/mL
							2-Fluorophenol (Surr)	5000 ug/mL
							Nitrobenzene-d5 (Surr)	5000 ug/mL
							Phenol-d5 (Surr)	5000 ug/mL
							Terphenyl-d14 (Surr)	5000 ug/mL
SMLIST2 L2 W_00013	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST2 STOCK_00015	10 uL	1,3,5-Trinitrobenzene	0.5 ug/mL
							1,4-Dinitrobenzene	0.5 ug/mL
							1-Naphthylamine	0.5 ug/mL
							2-Acetylaminofluorene	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Naphthylamine	0.5 ug/mL
							2-Picoline	0.5 ug/mL
							2-Toluidine	0.5 ug/mL
							3,3'-Dimethylbenzidine	0.5 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	0.5 ug/mL
							4-Aminobiphenyl	0.5 ug/mL
							4-Nitroquinoline-1-oxide	0.5 ug/mL
							Acrylamide	0.5 ug/mL
							alpha,alpha-Dimethyl phenethylamine	0.5 ug/mL
							Dibenz[a,h]acridine	0.5 ug/mL
							N-Nitro-o-toluidine	0.5 ug/mL
							N-Nitrosodi-n-butylamine	0.5 ug/mL
							N-Nitrosodiethylamine	0.5 ug/mL
							N-Nitrosomethylethylamine	0.5 ug/mL
							N-Nitrosomorpholine	0.5 ug/mL
							N-Nitrosopiperidine	0.5 ug/mL
							N-Nitrosopyrrolidine	0.5 ug/mL
							p-Dimethylamino azobenzene	0.5 ug/mL
							p-Phenylene diamine	0.5 ug/mL
							Pentachloronitrobenzene	0.5 ug/mL
							Phenacetin	0.5 ug/mL
							Pronamide	0.5 ug/mL
							Quinoline	0.5 ug/mL
							1,4-Naphthoquinone	0.5 ug/mL
							1-Chloronaphthalene	0.5 ug/mL
							2,3,5,6-Tetrachlorophenol	0.5 ug/mL
							7,12-Dimethylbenz(a)anthracene	0.5 ug/mL
							Chlorobenzilate	0.5 ug/mL
							Dinoseb	0.5 ug/mL
							Ethyl methanesulfonate	0.5 ug/mL
							Hexachloropropene	0.5 ug/mL
							Isodrin	0.5 ug/mL
							Isosafrole Peak 1	0.415 ug/mL
							Isosafrole Peak 2	0.085 ug/mL
							Methyl methanesulfonate	0.5 ug/mL
							Pentachlorobenzene	0.5 ug/mL
							Pentachloroethane	0.5 ug/mL
							3-Methylcholanthrene	1 ug/mL
							6-Methylchrysene	1 ug/mL
							Aramite Peak 1	0.255 ug/mL
							Aramite Peak 2	0.245 ug/mL
							Diallate Peak 1	0.43 ug/mL
							Diallate Peak 2	0.07 ug/mL
							Dimethoate	0.5 ug/mL
							Disulfoton	0.5 ug/mL
							Ethyl Parathion	0.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Famphur	0.5 ug/mL
							Methyl parathion	0.5 ug/mL
							o,o',o''-Triethylphosphorothioate	0.5 ug/mL
							Phorate	0.5 ug/mL
							Safrole, Total	0.5 ug/mL
							Sulfotepp	0.5 ug/mL
							Thionazin	0.5 ug/mL
							Methapyrilene	1 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST2 STOCK_00015	01/31/18	04/17/17	MECL2, Lot 0000161829	10 mL	SMLIST2 S1_00010	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL
							N-Nitrosomethylethylamine	100 ug/mL
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL
					SMLIST2 S2_00013	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00013	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00011	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL
							Diallate Peak 1	86 ug/mL
							Diallate Peak 2	14 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00010	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00010	01/31/19		Restek, Lot A0124058		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL
							2-Acetylaminofluorene	1000 ug/mL
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00013	02/28/18		Restek, Lot A0124780		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..SMLIST2 S3_00013	01/31/18		Restek, Lot A0124193		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
..SMLIST2 S4_00011	01/31/19		Restek, Lot A0124571		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Diallate Peak 1	860 ug/mL
							Diallate Peak 2	140 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00010	01/31/19		Restek, Lot A0123866		(Purchased Reagent)		Methapyrilene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
SMLIST2 L3 W_00013	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST2 STOCK_00015	20 uL	1,3,5-Trinitrobenzene	1 ug/mL
							1,4-Dinitrobenzene	1 ug/mL
							1-Naphthylamine	1 ug/mL
							2-Acetylaminofluorene	1 ug/mL
							2-Naphthylamine	1 ug/mL
							2-Picoline	1 ug/mL
							2-Toluidine	1 ug/mL
							3,3'-Dimethylbenzidine	1 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1 ug/mL
							4-Aminobiphenyl	1 ug/mL
							4-Nitroquinoline-1-oxide	1 ug/mL
							Acrylamide	1 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1 ug/mL
							Dibenz[a,h]acridine	1 ug/mL
							N-Nitro-o-toluidine	1 ug/mL
							N-Nitrosodi-n-butylamine	1 ug/mL
							N-Nitrosodiethylamine	1 ug/mL
							N-Nitrosomethylethylamine	1 ug/mL
							N-Nitrosomorpholine	1 ug/mL
							N-Nitrosopiperidine	1 ug/mL
							N-Nitrosopyrrolidine	1 ug/mL
							p-Dimethylamino azobenzene	1 ug/mL
							p-Phenylene diamine	1 ug/mL
							Pentachloronitrobenzene	1 ug/mL
							Phenacetin	1 ug/mL
							Pronamide	1 ug/mL
							Quinoline	1 ug/mL
							1,4-Naphthoquinone	1 ug/mL
							1-Chloronaphthalene	1 ug/mL
							2,3,5,6-Tetrachlorophenol	1 ug/mL
							7,12-Dimethylbenz(a)anthracene	1 ug/mL
							Chlorobenzilate	1 ug/mL
							Dinoseb	1 ug/mL
							Ethyl methanesulfonate	1 ug/mL
							Hexachloropropene	1 ug/mL
							Isodrin	1 ug/mL
							Isosafrole Peak 1	0.83 ug/mL
							Isosafrole Peak 2	0.17 ug/mL
							Methyl methanesulfonate	1 ug/mL
							Pentachlorobenzene	1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pentachloroethane	1 ug/mL
							3-Methylcholanthrene	2 ug/mL
							6-Methylchrysene	2 ug/mL
							Aramite Peak 1	0.51 ug/mL
							Aramite Peak 2	0.49 ug/mL
							Diallate Peak 1	0.86 ug/mL
							Diallate Peak 2	0.14 ug/mL
							Dimethoate	1 ug/mL
							Disulfoton	1 ug/mL
							Ethyl Parathion	1 ug/mL
							Famphur	1 ug/mL
							Methyl parathion	1 ug/mL
							o,o',o''-Triethylphosphorothioate	1 ug/mL
							Phorate	1 ug/mL
							Safrole, Total	1 ug/mL
							Sulfotepp	1 ug/mL
							Thionazin	1 ug/mL
							Methapyrilene	2 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST2 STOCK_00015	01/31/18	04/17/17	MECL2, Lot 0000161829	10 mL	SMLIST2 S1_00010	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL
							N-Nitrosomethylethylamine	100 ug/mL
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL
					SMLIST2 S2_00013	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00013	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00011	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL
							Diallate Peak 1	86 ug/mL
							Diallate Peak 2	14 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00010	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00010	01/31/19		Restek, Lot A0124058		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL
							2-Acetylaminofluorene	1000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00013	02/28/18		Restek, Lot A0124780		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..SMLIST2 S3_00013	01/31/18		Restek, Lot A0124193		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
..SMLIST2 S4_00011	01/31/19		Restek, Lot A0124571		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Diallate Peak 1	860 ug/mL
							Diallate Peak 2	140 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00010	01/31/19		Restek, Lot A0123866		(Purchased Reagent)		Methapyrilene	2000 ug/mL
SMLIST2 L4 W_00013	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST2 STOCK_00015	40 uL	1,3,5-Trinitrobenzene	2 ug/mL
							1,4-Dinitrobenzene	2 ug/mL
							1-Naphthylamine	2 ug/mL
							2-Acetylaminofluorene	2 ug/mL
							2-Naphthylamine	2 ug/mL
							2-Picoline	2 ug/mL
							2-Toluidine	2 ug/mL
							3,3'-Dimethylbenzidine	2 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	2 ug/mL
							4-Aminobiphenyl	2 ug/mL
							4-Nitroquinoline-1-oxide	2 ug/mL
							Acrylamide	2 ug/mL
							alpha,alpha-Dimethyl phenethylamine	2 ug/mL
							Dibenz[a,h]acridine	2 ug/mL
							N-Nitro-o-toluidine	2 ug/mL
							N-Nitrosodi-n-butylamine	2 ug/mL
							N-Nitrosodiethylamine	2 ug/mL
							N-Nitrosomethylethylamine	2 ug/mL
							N-Nitrosomorpholine	2 ug/mL
							N-Nitrosopiperidine	2 ug/mL
							N-Nitrosopyrrolidine	2 ug/mL
							p-Dimethylamino azobenzene	2 ug/mL
							p-Phenylene diamine	2 ug/mL
							Pentachloronitrobenzene	2 ug/mL
							Phenacetin	2 ug/mL
							Pronamide	2 ug/mL
							Quinoline	2 ug/mL
							1,4-Naphthoquinone	2 ug/mL
							1-Chloronaphthalene	2 ug/mL
							2,3,5,6-Tetrachlorophenol	2 ug/mL
							7,12-Dimethylbenz(a)anthracene	2 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlorobenzilate	2 ug/mL
							Dinoseb	2 ug/mL
							Ethyl methanesulfonate	2 ug/mL
							Hexachloropropene	2 ug/mL
							Isodrin	2 ug/mL
							Isosafrole Peak 1	1.66 ug/mL
							Isosafrole Peak 2	0.34 ug/mL
							Methyl methanesulfonate	2 ug/mL
							Pentachlorobenzene	2 ug/mL
							Pentachloroethane	2 ug/mL
							3-Methylcholanthrene	4 ug/mL
							6-Methylchrysene	4 ug/mL
							Aramite Peak 1	1.02 ug/mL
							Aramite Peak 2	0.98 ug/mL
							Diallate Peak 1	1.72 ug/mL
							Diallate Peak 2	0.28 ug/mL
							Dimethoate	2 ug/mL
							Disulfoton	2 ug/mL
							Ethyl Parathion	2 ug/mL
							Famphur	2 ug/mL
							Methyl parathion	2 ug/mL
							o,o',o''-Triethylphosphorothioate	2 ug/mL
							Phorate	2 ug/mL
							Safrole, Total	2 ug/mL
							Sulfotepp	2 ug/mL
							Thionazin	2 ug/mL
							Methapyrilene	4 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20	Restek, Lot A0112833			(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST2 STOCK_00015	01/31/18	04/17/17	MECL2, Lot 0000161829	10 mL	SMLIST2 S1_00010	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL
							N-Nitrosomethylethylamine	100 ug/mL
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL
					SMLIST2 S2_00013	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00013	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00011	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL
							Diallate Peak 1	86 ug/mL
							Diallate Peak 2	14 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00010	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00010	01/31/19		Restek, Lot A0124058		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL
							2-Acetylaminofluorene	1000 ug/mL
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00013	02/28/18		Restek, Lot A0124780		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..SMLIST2 S3_00013	01/31/18		Restek, Lot A0124193		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
..SMLIST2 S4_00011	01/31/19		Restek, Lot A0124571		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Diallate Peak 1	860 ug/mL
							Diallate Peak 2	140 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00010	01/31/19		Restek, Lot A0123866		(Purchased Reagent)		Methapyrilene	2000 ug/mL
SMLIST2 L5 W_00013	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST2 STOCK_00015	100 uL	1,3,5-Trinitrobenzene	5 ug/mL
							1,4-Dinitrobenzene	5 ug/mL
							1-Naphthylamine	5 ug/mL
							2-Acetylaminofluorene	5 ug/mL
							2-Naphthylamine	5 ug/mL
							2-Picoline	5 ug/mL
							2-Toluidine	5 ug/mL
							3,3'-Dimethylbenzidine	5 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	5 ug/mL
							4-Aminobiphenyl	5 ug/mL
							4-Nitroquinoline-1-oxide	5 ug/mL
							Acrylamide	5 ug/mL
							alpha,alpha-Dimethyl phenethylamine	5 ug/mL
							Dibenz[a,h]acridine	5 ug/mL
							N-Nitro-o-toluidine	5 ug/mL
							N-Nitrosodi-n-butylamine	5 ug/mL
							N-Nitrosodiethylamine	5 ug/mL
							N-Nitrosomethylethylamine	5 ug/mL
							N-Nitrosomorpholine	5 ug/mL
							N-Nitrosopiperidine	5 ug/mL
							N-Nitrosopyrrolidine	5 ug/mL
							p-Dimethylamino azobenzene	5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							p-Phenylene diamine	5 ug/mL
							Pentachloronitrobenzene	5 ug/mL
							Phenacetin	5 ug/mL
							Pronamide	5 ug/mL
							Quinoline	5 ug/mL
							1,4-Naphthoquinone	5 ug/mL
							1-Chloronaphthalene	5 ug/mL
							2,3,5,6-Tetrachlorophenol	5 ug/mL
							7,12-Dimethylbenz(a)anthracene	5 ug/mL
							Chlorobenzilate	5 ug/mL
							Dinoseb	5 ug/mL
							Ethyl methanesulfonate	5 ug/mL
							Hexachloropropene	5 ug/mL
							Isodrin	5 ug/mL
							Isosafrole Peak 1	4.15 ug/mL
							Isosafrole Peak 2	0.85 ug/mL
							Methyl methanesulfonate	5 ug/mL
							Pentachlorobenzene	5 ug/mL
							Pentachloroethane	5 ug/mL
							3-Methylcholanthrene	10 ug/mL
							6-Methylchrysene	10 ug/mL
							Aramite Peak 1	2.55 ug/mL
							Aramite Peak 2	2.45 ug/mL
							Diallate Peak 1	4.3 ug/mL
							Diallate Peak 2	0.7 ug/mL
							Dimethoate	5 ug/mL
							Disulfoton	5 ug/mL
							Ethyl Parathion	5 ug/mL
							Famphur	5 ug/mL
							Methyl parathion	5 ug/mL
							o,o',o''-Triethylphosphorothioate	5 ug/mL
							Phorate	5 ug/mL
							Safrole, Total	5 ug/mL
							Sulfotepp	5 ug/mL
							Thionazin	5 ug/mL
							Methapyrilene	10 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	2000 ug/mL
.SMLIST2 STOCK_00015	01/31/18	04/17/17	MECL2, Lot 0000161829	10 mL	SMLIST2 S1_00010	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL
							N-Nitrosomethylethylamine	100 ug/mL
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL
					SMLIST2 S2_00013	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00013	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00011	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Diallate Peak 1	86 ug/mL
							Diallate Peak 2	14 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00010	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00010	01/31/19		Restek, Lot A0124058		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL
							2-Acetylaminofluorene	1000 ug/mL
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00013	02/28/18		Restek, Lot A0124780		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..SMLIST2 S3_00013	01/31/18		Restek, Lot A0124193		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
..SMLIST2 S4_00011	01/31/19		Restek, Lot A0124571		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Diallate Peak 1	860 ug/mL
							Diallate Peak 2	140 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00010	01/31/19		Restek, Lot A0123866		(Purchased Reagent)		Methapyrilene	2000 ug/mL
SMLIST2 L6 W_00013	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST2 STOCK_00015	200 uL	1,3,5-Trinitrobenzene	10 ug/mL
							1,4-Dinitrobenzene	10 ug/mL
							1-Naphthylamine	10 ug/mL
							2-Acetylaminofluorene	10 ug/mL
							2-Naphthylamine	10 ug/mL
							2-Picoline	10 ug/mL
							2-Toluidine	10 ug/mL
							3,3'-Dimethylbenzidine	10 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	10 ug/mL
							4-Aminobiphenyl	10 ug/mL
							4-Nitroquinoline-1-oxide	10 ug/mL
							Acrylamide	10 ug/mL
							alpha,alpha-Dimethyl phenethylamine	10 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz[a,h]acridine	10 ug/mL
							N-Nitro-o-toluidine	10 ug/mL
							N-Nitrosodi-n-butylamine	10 ug/mL
							N-Nitrosodiethylamine	10 ug/mL
							N-Nitrosomethylethylamine	10 ug/mL
							N-Nitrosomorpholine	10 ug/mL
							N-Nitrosopiperidine	10 ug/mL
							N-Nitrosopyrrolidine	10 ug/mL
							p-Dimethylamino azobenzene	10 ug/mL
							p-Phenylene diamine	10 ug/mL
							Pentachloronitrobenzene	10 ug/mL
							Phenacetin	10 ug/mL
							Pronamide	10 ug/mL
							Quinoline	10 ug/mL
							1,4-Naphthoquinone	10 ug/mL
							1-Chloronaphthalene	10 ug/mL
							2,3,5,6-Tetrachlorophenol	10 ug/mL
							7,12-Dimethylbenz(a)anthracene	10 ug/mL
							Chlorobenzilate	10 ug/mL
							Dinoseb	10 ug/mL
							Ethyl methanesulfonate	10 ug/mL
							Hexachloropropene	10 ug/mL
							Isodrin	10 ug/mL
							Isosafrole Peak 1	8.3 ug/mL
							Isosafrole Peak 2	1.7 ug/mL
							Methyl methanesulfonate	10 ug/mL
							Pentachlorobenzene	10 ug/mL
							Pentachloroethane	10 ug/mL
							3-Methylcholanthrene	20 ug/mL
							6-Methylchrysene	20 ug/mL
							Aramite Peak 1	5.1 ug/mL
							Aramite Peak 2	4.9 ug/mL
							Diallate Peak 1	8.6 ug/mL
							Diallate Peak 2	1.4 ug/mL
							Dimethoate	10 ug/mL
							Disulfoton	10 ug/mL
							Ethyl Parathion	10 ug/mL
							Famphur	10 ug/mL
							Methyl parathion	10 ug/mL
							o,o',o''-Triethylphosphorothioate	10 ug/mL
							Phorate	10 ug/mL
							Safrole, Total	10 ug/mL
							Sulfotepp	10 ug/mL
							Thionazin	10 ug/mL
							Methapyrilene	20 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST2 STOCK_00015	01/31/18	04/17/17	MECL2, Lot 0000161829	10 mL	SMLIST2 S1_00010	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL
							N-Nitrosomethylethylamine	100 ug/mL
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL
					SMLIST2 S2_00013	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00013	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00011	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL
							Diallate Peak 1	86 ug/mL
							Diallate Peak 2	14 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00010	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00010	01/31/19		Restek, Lot A0124058		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL
							2-Acetylaminofluorene	1000 ug/mL
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00013	02/28/18		Restek, Lot A0124780		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..SMLIST2 S3_00013	01/31/18		Restek, Lot A0124193		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
..SMLIST2 S4_00011	01/31/19		Restek, Lot A0124571		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Diallate Peak 1	860 ug/mL
							Diallate Peak 2	140 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00010	01/31/19		Restek, Lot A0123866		(Purchased Reagent)		Methapyrilene	2000 ug/mL
SMLIST2 L7 W_00013	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST2 STOCK_00015	300 uL	1,3,5-Trinitrobenzene	15 ug/mL
							1,4-Dinitrobenzene	15 ug/mL
							1-Naphthylamine	15 ug/mL
							2-Acetylaminofluorene	15 ug/mL
							2-Naphthylamine	15 ug/mL
							2-Picoline	15 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Toluidine	15 ug/mL
							3,3'-Dimethylbenzidine	15 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	15 ug/mL
							4-Aminobiphenyl	15 ug/mL
							4-Nitroquinoline-1-oxide	15 ug/mL
							Acrylamide	15 ug/mL
							alpha,alpha-Dimethyl phenethylamine	15 ug/mL
							Dibenz[a,h]acridine	15 ug/mL
							N-Nitro-o-toluidine	15 ug/mL
							N-Nitrosodi-n-butylamine	15 ug/mL
							N-Nitrosodiethylamine	15 ug/mL
							N-Nitrosomethylethylamine	15 ug/mL
							N-Nitrosomorpholine	15 ug/mL
							N-Nitrosopiperidine	15 ug/mL
							N-Nitrosopyrrolidine	15 ug/mL
							p-Dimethylamino azobenzene	15 ug/mL
							p-Phenylene diamine	15 ug/mL
							Pentachloronitrobenzene	15 ug/mL
							Phenacetin	15 ug/mL
							Pronamide	15 ug/mL
							Quinoline	15 ug/mL
							1,4-Naphthoquinone	15 ug/mL
							1-Chloronaphthalene	15 ug/mL
							2,3,5,6-Tetrachlorophenol	15 ug/mL
							7,12-Dimethylbenz(a)anthracene	15 ug/mL
							Chlorobenzilate	15 ug/mL
							Dinoseb	15 ug/mL
							Ethyl methanesulfonate	15 ug/mL
							Hexachloropropene	15 ug/mL
							Isodrin	15 ug/mL
							Isosafrole Peak 1	12.45 ug/mL
							Isosafrole Peak 2	2.55 ug/mL
							Methyl methanesulfonate	15 ug/mL
							Pentachlorobenzene	15 ug/mL
							Pentachloroethane	15 ug/mL
							3-Methylcholanthrene	30 ug/mL
							6-Methylchrysene	30 ug/mL
							Aramite Peak 1	7.65 ug/mL
							Aramite Peak 2	7.35 ug/mL
							Diallate Peak 1	12.9 ug/mL
							Diallate Peak 2	2.1 ug/mL
							Dimethoate	15 ug/mL
							Disulfoton	15 ug/mL
							Ethyl Parathion	15 ug/mL
							Famphur	15 ug/mL
							Methyl parathion	15 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							o,o',o''-Triethylphosphorothioate	15 ug/mL
							Phorate	15 ug/mL
							Safrole, Total	15 ug/mL
							Sulfotepp	15 ug/mL
							Thionazin	15 ug/mL
							Methapyrilene	30 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST2 STOCK_00015	01/31/18	04/17/17	MECL2, Lot 0000161829	10 mL	SMLIST2 S1_00010	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL
							N-Nitrosomethylethylamine	100 ug/mL
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					SMLIST2 S2_00013	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00013	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00011	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL
							Diallate Peak 1	86 ug/mL
							Diallate Peak 2	14 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00010	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00010	01/31/19		Restek, Lot A0124058		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL
							2-Acetylaminofluorene	1000 ug/mL
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00013	02/28/18		Restek, Lot A0124780		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..SMLIST2 S3_00013	01/31/18		Restek, Lot A0124193		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
..SMLIST2 S4_00011	01/31/19		Restek, Lot A0124571		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Diallate Peak 1	860 ug/mL
							Diallate Peak 2	140 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00010	01/31/19		Restek, Lot A0123866		(Purchased Reagent)		Methapyrilene	2000 ug/mL
SMLIST2 L8 W_00013	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST2 STOCK_00015	400 uL	1,3,5-Trinitrobenzene	20 ug/mL
							1,4-Dinitrobenzene	20 ug/mL
							1-Naphthylamine	20 ug/mL
							2-Acetylaminofluorene	20 ug/mL
							2-Naphthylamine	20 ug/mL
							2-Picoline	20 ug/mL
							2-Toluidine	20 ug/mL
							3,3'-Dimethylbenzidine	20 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	20 ug/mL
							4-Aminobiphenyl	20 ug/mL
							4-Nitroquinoline-1-oxide	20 ug/mL
							Acrylamide	20 ug/mL
							alpha,alpha-Dimethyl phenethylamine	20 ug/mL
							Dibenz[a,h]acridine	20 ug/mL
							N-Nitro-o-toluidine	20 ug/mL
							N-Nitrosodi-n-butylamine	20 ug/mL
							N-Nitrosodiethylamine	20 ug/mL
							N-Nitrosomethylethylamine	20 ug/mL
							N-Nitrosomorpholine	20 ug/mL
							N-Nitrosopiperidine	20 ug/mL
							N-Nitrosopyrrolidine	20 ug/mL
							p-Dimethylamino azobenzene	20 ug/mL
							p-Phenylene diamine	20 ug/mL
							Pentachloronitrobenzene	20 ug/mL
							Phenacetin	20 ug/mL
							Pronamide	20 ug/mL
							Quinoline	20 ug/mL
							1,4-Naphthoquinone	20 ug/mL
							1-Chloronaphthalene	20 ug/mL
							2,3,5,6-Tetrachlorophenol	20 ug/mL
							7,12-Dimethylbenz(a)anthracene	20 ug/mL
							Chlorobenzilate	20 ug/mL
							Dinoseb	20 ug/mL
							Ethyl methanesulfonate	20 ug/mL
							Hexachloropropene	20 ug/mL
							Isodrin	20 ug/mL
							Isosafrole Peak 1	16.6 ug/mL
							Isosafrole Peak 2	3.4 ug/mL
							Methyl methanesulfonate	20 ug/mL
							Pentachlorobenzene	20 ug/mL
							Pentachloroethane	20 ug/mL
							3-Methylcholanthrene	40 ug/mL
							6-Methylchrysene	40 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Aramite Peak 1	10.2 ug/mL
							Aramite Peak 2	9.8 ug/mL
							Diallate Peak 1	17.2 ug/mL
							Diallate Peak 2	2.8 ug/mL
							Dimethoate	20 ug/mL
							Disulfoton	20 ug/mL
							Ethyl Parathion	20 ug/mL
							Famphur	20 ug/mL
							Methyl parathion	20 ug/mL
							o,o',o''-Triethylphosphorothioate	20 ug/mL
							Phorate	20 ug/mL
							Safrole, Total	20 ug/mL
							Sulfotepp	20 ug/mL
							Thionazin	20 ug/mL
							Methapyrilene	40 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST2 STOCK_00015	01/31/18	04/17/17	MECL2, Lot 0000161829	10 mL	SMLIST2 S1_00010	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL
							N-Nitrosomethylethylamine	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL
					SMLIST2 S2_00013	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00013	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00011	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL
							Diallate Peak 1	86 ug/mL
							Diallate Peak 2	14 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00010	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00010	01/31/19		Restek, Lot A0124058		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL
							2-Acetylaminofluorene	1000 ug/mL
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00013	02/28/18		Restek, Lot A0124780		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..SMLIST2 S3_00013	01/31/18		Restek, Lot A0124193		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
..SMLIST2 S4_00011	01/31/19		Restek, Lot A0124571		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Diallate Peak 1	860 ug/mL
							Diallate Peak 2	140 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00010	01/31/19		Restek, Lot A0123866		(Purchased Reagent)		Methapyrilene	2000 ug/mL
SMLIST2 L9 W_00013	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
					SMLIST2 STOCK_00015	500 uL	1,3,5-Trinitrobenzene	25 ug/mL
							1,4-Dinitrobenzene	25 ug/mL
							1-Naphthylamine	25 ug/mL
							2-Acetylaminofluorene	25 ug/mL
							2-Naphthylamine	25 ug/mL
							2-Picoline	25 ug/mL
							2-Toluidine	25 ug/mL
							3,3'-Dimethylbenzidine	25 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	25 ug/mL
							4-Aminobiphenyl	25 ug/mL
							4-Nitroquinoline-1-oxide	25 ug/mL
							Acrylamide	25 ug/mL
							alpha,alpha-Dimethyl phenethylamine	25 ug/mL
							Dibenz[a,h]acridine	25 ug/mL
							N-Nitro-o-toluidine	25 ug/mL
							N-Nitrosodi-n-butylamine	25 ug/mL
							N-Nitrosodiethylamine	25 ug/mL
							N-Nitrosomethylethylamine	25 ug/mL
							N-Nitrosomorpholine	25 ug/mL
							N-Nitrosopiperidine	25 ug/mL
							N-Nitrosopyrrolidine	25 ug/mL
							p-Dimethylamino azobenzene	25 ug/mL
							p-Phenylene diamine	25 ug/mL
							Pentachloronitrobenzene	25 ug/mL
							Phenacetin	25 ug/mL
							Pronamide	25 ug/mL
							Quinoline	25 ug/mL
							1,4-Naphthoquinone	25 ug/mL
							1-Chloronaphthalene	25 ug/mL
							2,3,5,6-Tetrachlorophenol	25 ug/mL
							7,12-Dimethylbenz(a)anthracene	25 ug/mL
							Chlorobenzilate	25 ug/mL
							Dinoseb	25 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethyl methanesulfonate	25 ug/mL
							Hexachloropropene	25 ug/mL
							Isodrin	25 ug/mL
							Isosafrole Peak 1	20.75 ug/mL
							Isosafrole Peak 2	4.25 ug/mL
							Methyl methanesulfonate	25 ug/mL
							Pentachlorobenzene	25 ug/mL
							Pentachloroethane	25 ug/mL
							3-Methylcholanthrene	50 ug/mL
							6-Methylchrysene	50 ug/mL
							Aramite Peak 1	12.75 ug/mL
							Aramite Peak 2	12.25 ug/mL
							Diallate Peak 1	21.5 ug/mL
							Diallate Peak 2	3.5 ug/mL
							Dimethoate	25 ug/mL
							Disulfoton	25 ug/mL
							Ethyl Parathion	25 ug/mL
							Famphur	25 ug/mL
							Methyl parathion	25 ug/mL
							o,o',o''-Triethylphosphorothioate	25 ug/mL
							Phorate	25 ug/mL
							Safrole, Total	25 ug/mL
							Sulfotepp	25 ug/mL
							Thionazin	25 ug/mL
							Methapyrilene	50 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
.SMLIST2 STOCK_00015	01/31/18	04/17/17	MECL2, Lot 0000161829	10 mL	SMLIST2 S1_00010	1 mL	1,3,5-Trinitrobenzene	100 ug/mL
							1,4-Dinitrobenzene	100 ug/mL
							1-Naphthylamine	100 ug/mL
							2-Acetylaminofluorene	100 ug/mL
							2-Naphthylamine	100 ug/mL
							2-Picoline	100 ug/mL
							2-Toluidine	100 ug/mL
							3,3'-Dimethylbenzidine	100 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Aminobiphenyl	100 ug/mL
							4-Nitroquinoline-1-oxide	100 ug/mL
							Acrylamide	100 ug/mL
							alpha,alpha-Dimethyl phenethylamine	100 ug/mL
							Dibenz[a,h]acridine	100 ug/mL
							N-Nitro-o-toluidine	100 ug/mL
							N-Nitrosodi-n-butylamine	100 ug/mL
							N-Nitrosodiethylamine	100 ug/mL
							N-Nitrosomethylethylamine	100 ug/mL
							N-Nitrosomorpholine	100 ug/mL
							N-Nitrosopiperidine	100 ug/mL
							N-Nitrosopyrrolidine	100 ug/mL
							p-Dimethylamino azobenzene	100 ug/mL
							p-Phenylene diamine	100 ug/mL
							Pentachloronitrobenzene	100 ug/mL
							Phenacetin	100 ug/mL
							Pronamide	100 ug/mL
							Quinoline	100 ug/mL
					SMLIST2 S2_00013	1 mL	1,4-Naphthoquinone	100 ug/mL
							1-Chloronaphthalene	100 ug/mL
							2,3,5,6-Tetrachlorophenol	100 ug/mL
							7,12-Dimethylbenz(a)anthracene	100 ug/mL
							Chlorobenzilate	100 ug/mL
							Dinoseb	100 ug/mL
							Ethyl methanesulfonate	100 ug/mL
							Hexachloropropene	100 ug/mL
							Isodrin	100 ug/mL
							Isosafrole Peak 1	83 ug/mL
							Isosafrole Peak 2	17 ug/mL
							Methyl methanesulfonate	100 ug/mL
							Pentachlorobenzene	100 ug/mL
							Pentachloroethane	100 ug/mL
					SMLIST2 S3_00013	1 mL	3-Methylcholanthrene	200 ug/mL
							6-Methylchrysene	200 ug/mL
					SMLIST2 S4_00011	1 mL	Aramite Peak 1	51 ug/mL
							Aramite Peak 2	49 ug/mL
							Diallate Peak 1	86 ug/mL
							Diallate Peak 2	14 ug/mL
							Dimethoate	100 ug/mL
							Disulfoton	100 ug/mL
							Ethyl Parathion	100 ug/mL
							Famphur	100 ug/mL
							Methyl parathion	100 ug/mL
							o,o',o''-Triethylphosphorothioate	100 ug/mL
							Phorate	100 ug/mL
							Safrole, Total	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Sulfotepp	100 ug/mL
							Thionazin	100 ug/mL
					SMLIST2 S5_00010	1 mL	Methapyrilene	200 ug/mL
..SMLIST2 S1_00010	01/31/19		Restek, Lot A0124058		(Purchased Reagent)		1,3,5-Trinitrobenzene	1000 ug/mL
							1,4-Dinitrobenzene	1000 ug/mL
							1-Naphthylamine	1000 ug/mL
							2-Acetylaminofluorene	1000 ug/mL
							2-Naphthylamine	1000 ug/mL
							2-Picoline	1000 ug/mL
							2-Toluidine	1000 ug/mL
							3,3'-Dimethylbenzidine	1000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	1000 ug/mL
							4-Aminobiphenyl	1000 ug/mL
							4-Nitroquinoline-1-oxide	1000 ug/mL
							Acrylamide	1000 ug/mL
							alpha,alpha-Dimethyl phenethylamine	1000 ug/mL
							Dibenz[a,h]acridine	1000 ug/mL
							N-Nitro-o-toluidine	1000 ug/mL
							N-Nitrosodi-n-butylamine	1000 ug/mL
							N-Nitrosodiethylamine	1000 ug/mL
							N-Nitrosomethylethylamine	1000 ug/mL
							N-Nitrosomorpholine	1000 ug/mL
							N-Nitrosopiperidine	1000 ug/mL
							N-Nitrosopyrrolidine	1000 ug/mL
							p-Dimethylamino azobenzene	1000 ug/mL
							p-Phenylene diamine	1000 ug/mL
							Pentachloronitrobenzene	1000 ug/mL
							Phenacetin	1000 ug/mL
							Pronamide	1000 ug/mL
							Quinoline	1000 ug/mL
..SMLIST2 S2_00013	02/28/18		Restek, Lot A0124780		(Purchased Reagent)		1,4-Naphthoquinone	1000 ug/mL
							1-Chloronaphthalene	1000 ug/mL
							2,3,5,6-Tetrachlorophenol	1000 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Chlorobenzilate	1000 ug/mL
							Dinoseb	1000 ug/mL
							Ethyl methanesulfonate	1000 ug/mL
							Hexachloropropene	1000 ug/mL
							Isodrin	1000 ug/mL
							Isosafrole Peak 1	830 ug/mL
							Isosafrole Peak 2	170 ug/mL
							Methyl methanesulfonate	1000 ug/mL
							Pentachlorobenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..SMLIST2 S3_00013	01/31/18		Restek, Lot A0124193		(Purchased Reagent)		3-Methylcholanthrene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..SMLIST2 S4_00011	01/31/19		Restek, Lot A0124571		(Purchased Reagent)		Aramite Peak 1	510 ug/mL
							Aramite Peak 2	490 ug/mL
							Diallate Peak 1	860 ug/mL
							Diallate Peak 2	140 ug/mL
							Dimethoate	1000 ug/mL
							Disulfoton	1000 ug/mL
							Ethyl Parathion	1000 ug/mL
							Famphur	1000 ug/mL
							Methyl parathion	1000 ug/mL
							o,o',o''-Triethylphosphorothioate	1000 ug/mL
							Phorate	1000 ug/mL
							Safrole, Total	1000 ug/mL
							Sulfotepp	1000 ug/mL
							Thionazin	1000 ug/mL
..SMLIST2 S5_00010	01/31/19		Restek, Lot A0123866		(Purchased Reagent)		Methapyrilene	2000 ug/mL
SMLIST2 SS W_00011	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMIS80PPMW_00015	100 uL	1,4-Dichlorobenzene-d4	4 ug/mL
							Acenaphthene-d10	4 ug/mL
							Chrysene-d12	4 ug/mL
							Naphthalene-d8	4 ug/mL
							Perylene-d12	4 ug/mL
							Phenanthrene-d10	4 ug/mL
.SMIS80PPMW_00015	10/31/17	10/25/16	MECL2, Lot 0000127195	25 mL	SMIS R_00007	1 mL	1,4-Dichlorobenzene-d4	80 ug/mL
							Acenaphthene-d10	80 ug/mL
							Chrysene-d12	80 ug/mL
							Naphthalene-d8	80 ug/mL
							Perylene-d12	80 ug/mL
							Phenanthrene-d10	80 ug/mL
..SMIS R_00007	07/31/20		Restek, Lot A0112833		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2000 ug/mL
							Acenaphthene-d10	2000 ug/mL
							Chrysene-d12	2000 ug/mL
							Naphthalene-d8	2000 ug/mL
							Perylene-d12	2000 ug/mL
							Phenanthrene-d10	2000 ug/mL
SMLIST2 SS W_00011	10/31/17	04/17/17	MECL2, Lot 0000161829	2 mL	SMLIST2 SS ST_00012	200 uL	Sulfotepp	10 ug/mL
.SMLIST2 SS ST_00012	11/30/17	04/17/17	MECL2, Lot 000161829	5 mL	SMLIST2 SS S4_00007	500 uL	Sulfotepp	100 ug/mL
..SMLIST2 SS S4_00007	01/31/18		Restek, Lot A0116579		(Purchased Reagent)		Sulfotepp	1000 ug/mL

Reagent

exBNASURR W_00045

LABORATORY STANDARDS DOCUMENTATION FORM
FOR TESTAMERICA LABORATORIES, INC.

Standard No. 3040075
ID: exBNASURR W_00045
Exp: 02/22/16 Prpd: KEH Crl: 05/08/17
BNA Surrogates

Standard Name _____

Date Created 5/8/17

Extractionist Initials KH

Extractionist Comments please confirm new BNA surrogate

♦ **Please return copy of chromatogram and recovery results** ♦

Date Analyzed 5/22/17

Passed? Yes ☑
No ☐

Returned copy of chromatogram and recovery page to Extractions? Yes ☑
No ☐

Analyst Initials MV

Analyst Comments _____

WI-NC-020A_101207

Report Date: 22-May-2017 09:12:24 Chrom Revision: 2.2 25-Apr-2017 13:27:22

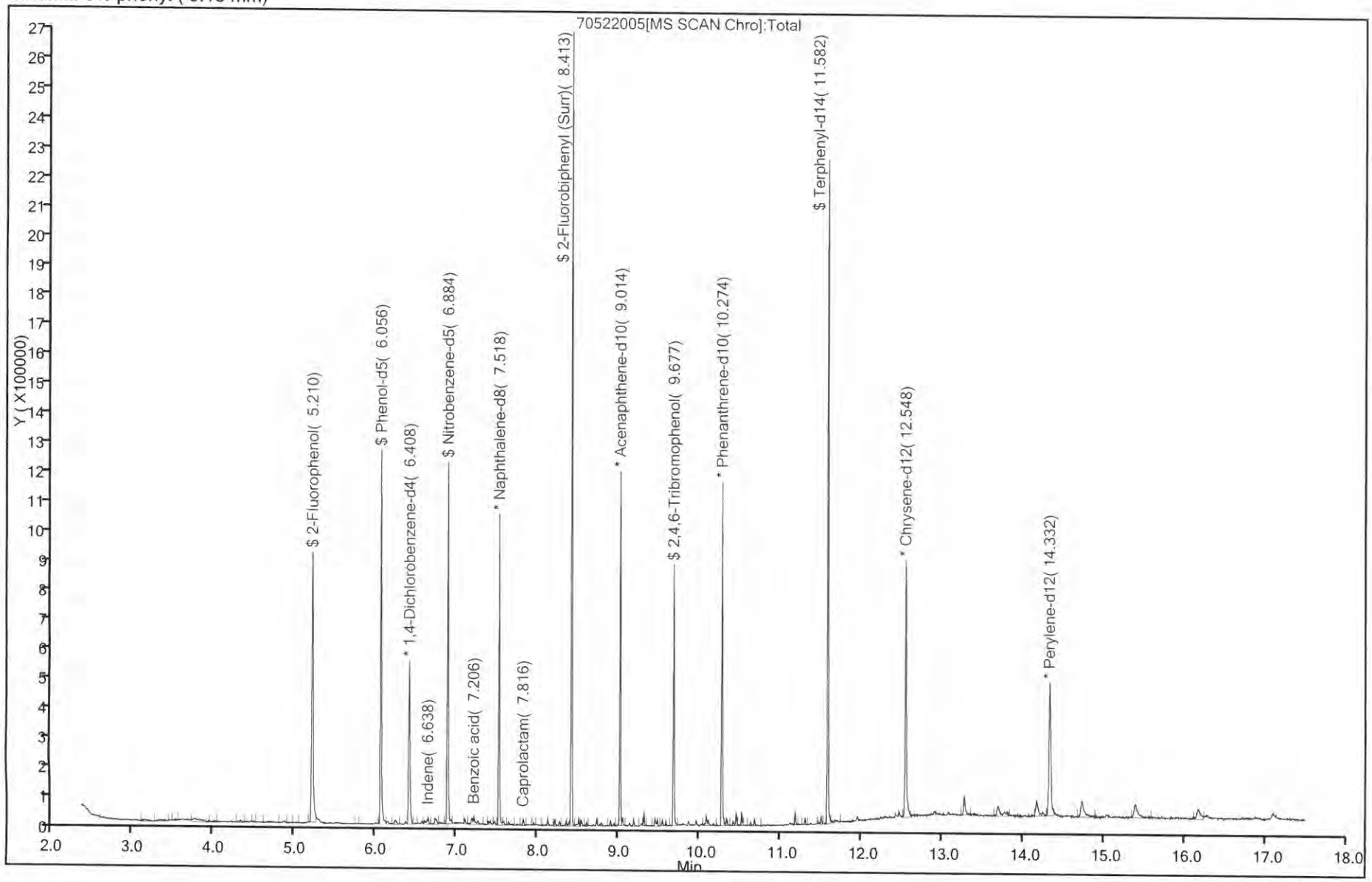
Preliminary Report

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4HP9\20170522-65200.b\70522005.D

Injection Date:	22-May-2017 08:34:30	Instrument ID:	A4HP9	Operator ID:	001574
Lims ID:	bnasurr	Lab Sample ID:	Client 240-279824/5-A	Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8270 _9	Limit Group:	MSS 8270C ICAL		

Column: 5% phenyl (0.18 mm)



Report Date: 22-May-2017 09:12:47 Chrom Revision: 2.2 25-Apr-2017 13:27:22

Preliminary Report

TestAmerica Canton

Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4HP9\20170522-65200.b\70522005.D
Lims ID: bnasurr
Client ID:
Sample Type: Client
Inject. Date: 22-May-2017 08:34:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065200-005
Misc. Info.: BNASURR
Operator ID: 001574 Instrument ID: A4HP9

Method: \\ChromNA\Canton\ChromData\A4HP9\20170522-65200.b\8270 _9.m
Limit Group: MSS 8270C ICAL
Last Update: 22-May-2017 09:12:22 Calib Date: 17-May-2017 10:29:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4HP9\20170517-65062.b\70517009.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK030

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ul	Flags	
* 1 1,4-Dichlorobenzene-d4	152	6.408	6.406	0.002	98	96146	4.00		
* 2 Naphthalene-d8	136	7.518	7.517	0.001	100	382459	4.00		
* 3 Acenaphthene-d10	164	9.014	9.017	-0.003	93	205528	4.00		
* 4 Phenanthrene-d10	188	10.274	10.277	-0.003	98	325984	4.00		
* 5 Chrysene-d12	240	12.548	12.552	-0.004	97	309550	4.00		
* 6 Perylene-d12	264	14.337	14.336	0.001	96	250498	4.00		
$ 7 2-Fluorophenol	112	5.210	5.180	0.030	92	372896	11.0		110%
$ 8 Phenol-d5	99	6.056	6.045	0.011	96	456112	10.7		107%
$ 9 Nitrobenzene-d5	82	6.884	6.882	0.002	87	400135	10.0		100%
$ 10 2-Fluorobiphenyl (Surr)	172	8.413	8.416	-0.003	100	625868	10.1		101%
$ 11 2,4,6-Tribromophenol	330	9.677	9.681	-0.004	89	64080	10.9		109%
$ 12 Terphenyl-d14	244	11.582	11.585	-0.003	98	600216	11.6		116%
25 1,4-Dioxane	88		2.867				ND		
26 N-Nitrosodimethylamine	74		3.458				ND		
27 Pyridine	79		3.511				ND		
20 Dimethylformamide	73		4.240				ND		
28 Ethyl methacrylate	69		4.254				ND		
31 2-Picoline	93		4.526				ND		
32 N-Nitrosomethylethylamine	88		4.636				ND		
303 Acrylamide	71		4.915				ND		
34 Methyl methanesulfonate	80		4.959				ND		
233 n,n'-Dimethylacetamide	44		5.192				ND		
36 N-Nitrosodiethylamine	102		5.372				ND		
37 Ethyl methanesulfonate	79		5.637				ND		
41 Benzaldehyde	77		6.007				ND		
42 Phenylmercaptan	110		6.021				ND		
43 Phenol	94		6.060				ND		
44 Aniline	93		6.103				ND		
45 Pentachloroethane	167		6.127				ND		
69 Bis(2-chloroethyl)ether	93		6.142				ND	U	
46 2-Chlorophenol	128		6.223				ND		

Reagent

SMIS R_00007

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

Certificate of Analysis

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567684 **Lot No.:** A0112833

Description : 8270 Internal Standard

8270 Internal Standard 2,000µg/mL, Methylene Chloride, 5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : July 31, 2020 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dichlorobenzene-d4 **CAS #** 3855-82-1 (Lot PR-18488) **Purity** 99%	2,014.8 µg/mL	+/- 11.7142 µg/mL +/- 89.5186 µg/mL +/- 98.3528 µg/mL	Gravimetric Unstressed Stressed
2	Naphthalene-d8 **CAS #** 1146-65-2 (Lot M-1452) **Purity** 99%	2,015.8 µg/mL	+/- 11.7202 µg/mL +/- 89.5645 µg/mL +/- 98.4032 µg/mL	Gravimetric Unstressed Stressed
3	Acenaphthene-d10 **CAS #** 15067-26-2 (Lot PR-21070) **Purity** 97%	2,002.0 µg/mL	+/- 11.6397 µg/mL +/- 88.9491 µg/mL +/- 97.7271 µg/mL	Gravimetric Unstressed Stressed
4	Phenanthrene-d10 **CAS #** 1517-22-2 (Lot PR-23065) **Purity** 99%	2,007.1 µg/mL	+/- 11.6693 µg/mL +/- 89.1750 µg/mL +/- 97.9753 µg/mL	Gravimetric Unstressed Stressed
5	Chrysene-d12 **CAS #** 1719-03-5 (Lot PR-25081) **Purity** 99%	2,013.2 µg/mL	+/- 11.7047 µg/mL +/- 89.4460 µg/mL +/- 98.2730 µg/mL	Gravimetric Unstressed Stressed
6	Perylene-d12 **CAS #** 1520-96-3 (Lot PR-24113) **Purity** 99%	2,005.4 µg/mL	+/- 11.6598 µg/mL +/- 89.1024 µg/mL +/- 97.8955 µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

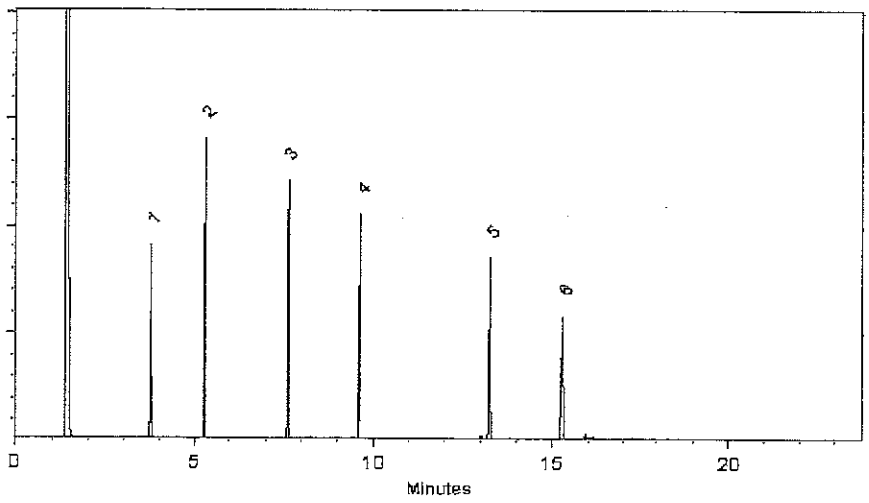
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 27-Jul-2015 **Balance:** B345965662

Jennifer L Pollino - QC Analyst

Date Passed: 29-Jul-2015

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST1 PAH_00007

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0123736

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2018 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG6312V) **Purity** 99%	1,005.0 µg/mL	+/- 5.8567 µg/mL +/- 12.0204 µg/mL +/- 19.1240 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 161108JLM) **Purity** 99%	1,000.0 µg/mL	+/- 5.8275 µg/mL +/- 11.9606 µg/mL +/- 19.0288 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	2,000.0 µg/mL	+/- 11.6282 µg/mL +/- 23.9081 µg/mL +/- 38.0494 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,008.4 µg/mL	+/- 5.8765 µg/mL +/- 12.0611 µg/mL +/- 19.1887 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot 45296HKV) **Purity** 99%	1,001.6 µg/mL	+/- 5.8368 µg/mL +/- 11.9797 µg/mL +/- 19.0593 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 (Lot SHBD4608V) **Purity** 99%	1,001.2 µg/mL	+/- 5.8345 µg/mL +/- 11.9750 µg/mL +/- 19.0517 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,004.0	µg/mL	+/-	5.8508	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	12.0084	µg/mL	Unstressed
	Purity 99%				+/-	19.1049	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,004.2	µg/mL	+/-	5.8520	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	12.0108	µg/mL	Unstressed
	Purity 99%				+/-	19.1087	µg/mL	Stressed
11	Benzyl alcohol		1,004.2	µg/mL	+/-	5.8520	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	12.0108	µg/mL	Unstressed
	Purity 99%				+/-	19.1087	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,006.4	µg/mL	+/-	5.8648	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	12.0371	µg/mL	Unstressed
	Purity 99%				+/-	19.1506	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,003.5	µg/mL	+/-	5.8480	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 5510800)			+/-	12.0027	µg/mL	Unstressed
	Purity 98%				+/-	19.0958	µg/mL	Stressed
15	Acetophenone		1,001.8	µg/mL	+/-	5.8380	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9821	µg/mL	Unstressed
	Purity 99%				+/-	19.0631	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		502.4	µg/mL	+/-	2.9277	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0090	µg/mL	Unstressed
	Purity 99%				+/-	9.5601	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.6	µg/mL	+/-	2.9231	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9994	µg/mL	Unstressed
	Purity 99%				+/-	9.5449	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,009.2	µg/mL	+/-	5.8811	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot NOPCF)			+/-	12.0706	µg/mL	Unstressed
	Purity 99%				+/-	19.2039	µg/mL	Stressed
19	Hexachloroethane		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed
20	Nitrobenzene		1,002.0	µg/mL	+/-	5.8392	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9845	µg/mL	Unstressed
	Purity 99%				+/-	19.0669	µg/mL	Stressed
21	Isophorone		1,005.4	µg/mL	+/-	5.8590	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0252	µg/mL	Unstressed
	Purity 99%				+/-	19.1316	µg/mL	Stressed
22	2-Nitrophenol		1,002.4	µg/mL	+/-	5.8415	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9893	µg/mL	Unstressed
	Purity 99%				+/-	19.0745	µg/mL	Stressed
23	2,4-Dimethylphenol		1,005.6	µg/mL	+/-	5.8602	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0276	µg/mL	Unstressed
	Purity 99%				+/-	19.1354	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,002.4	µg/mL	+/-	5.8415	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9893	µg/mL	Unstressed
	Purity 99%				+/-	19.0745	µg/mL	Stressed
25	2,4-Dichlorophenol		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
27	Naphthalene		1,003.2	µg/mL	+/-	5.8462	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	11.9989	µg/mL	Unstressed
	Purity 99%				+/-	19.0897	µg/mL	Stressed
28	2,6-Dichlorophenol		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
29	4-Chloroaniline		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
30	Hexachlorobutadiene		1,007.6	µg/mL	+/-	5.8720	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0519	µg/mL	Unstressed
	Purity 98%				+/-	19.1741	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,004.2	µg/mL	+/-	5.8520	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0108	µg/mL	Unstressed
	Purity 99%				+/-	19.1087	µg/mL	Stressed
32	2-Methylnaphthalene		1,000.5	µg/mL	+/-	5.8307	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	11.9671	µg/mL	Unstressed
	Purity 95%				+/-	19.0391	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.6	µg/mL	+/-	5.8427	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9917	µg/mL	Unstressed
	Purity 99%				+/-	19.0783	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.0	µg/mL	+/-	5.8625	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0324	µg/mL	Unstressed
	Purity 99%				+/-	19.1430	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,004.2	µg/mL	+/-	5.8520	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBL4698V)			+/-	12.0108	µg/mL	Unstressed
	Purity 99%				+/-	19.1087	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,005.2	µg/mL	+/-	5.8578	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHM01)			+/-	12.0228	µg/mL	Unstressed
	Purity 99%				+/-	19.1278	µg/mL	Stressed
38	2-Chloronaphthalene		1,004.4	µg/mL	+/-	5.8532	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0132	µg/mL	Unstressed
	Purity 99%				+/-	19.1125	µg/mL	Stressed
39	Biphenyl		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed

40	2-Nitroaniline		1,003.2	µg/mL	+/-	5.8462	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/-	11.9989	µg/mL	Unstressed
	Purity 99%				+/-	19.0897	µg/mL	Stressed
41	Acenaphthylene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot L18Q)			+/-	11.9605	µg/mL	Unstressed
	Purity 98%				+/-	19.0287	µg/mL	Stressed
42	1,3-Dinitrohenzene		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
43	Dimethylphthalate		1,006.2	µg/mL	+/-	5.8637	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	12.0348	µg/mL	Unstressed
	Purity 99%				+/-	19.1468	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
45	3-Nitroaniline		1,006.4	µg/mL	+/-	5.8648	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot 12836338V)			+/-	12.0371	µg/mL	Unstressed
	Purity 99%				+/-	19.1506	µg/mL	Stressed
46	Acenaphthene		1,008.4	µg/mL	+/-	5.8765	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBW9515V)			+/-	12.0611	µg/mL	Unstressed
	Purity 99%				+/-	19.1887	µg/mL	Stressed
47	2,4-Dinitrophenol		2,009.2	µg/mL	+/-	11.6817	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot MKBP5833V)			+/-	24.0181	µg/mL	Unstressed
	Purity 99%				+/-	38.2244	µg/mL	Stressed
48	Dibenzofuran		1,005.8	µg/mL	+/-	5.8613	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/-	12.0300	µg/mL	Unstressed
	Purity 99%				+/-	19.1392	µg/mL	Stressed
49	4-Nitrophenol		2,009.4	µg/mL	+/-	11.6828	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBV0501V)			+/-	24.0205	µg/mL	Unstressed
	Purity 99%				+/-	38.2283	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,002.0	µg/mL	+/-	5.8392	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	11.9845	µg/mL	Unstressed
	Purity 99%				+/-	19.0669	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,008.4	µg/mL	+/-	5.8765	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot b16w05191)			+/-	12.0611	µg/mL	Unstressed
	Purity 99%				+/-	19.1887	µg/mL	Stressed
52	Fluorene		1,004.8	µg/mL	+/-	5.8555	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10193329)			+/-	12.0180	µg/mL	Unstressed
	Purity 99%				+/-	19.1202	µg/mL	Stressed
53	n-Hexadecane (C16)		1,006.8	µg/mL	+/-	5.8671	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBG1026V)			+/-	12.0419	µg/mL	Unstressed
	Purity 99%				+/-	19.1582	µg/mL	Stressed
54	Diethylphthalate		1,003.6	µg/mL	+/-	5.8485	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBV9622V)			+/-	12.0037	µg/mL	Unstressed
	Purity 99%				+/-	19.0973	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,002.0	µg/mL	+/-	5.8392	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBW2403V)			+/-	11.9845	µg/mL	Unstressed
	Purity 99%				+/-	19.0669	µg/mL	Stressed

56	4-Nitroaniline		1,001.0	µg/mL	+/-	5.8332	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9722	µg/mL	Unstressed
	Purity 98%				+/-	19.0473	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dimitro-o-cresol)		2,008.0	µg/mL	+/-	11.6747	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC18040V)			+/-	24.0038	µg/mL	Unstressed
	Purity 99%				+/-	38.2016	µg/mL	Stressed
58	Diphenylamine		850.2	µg/mL	+/-	4.9546	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1689	µg/mL	Unstressed
	Purity 99%				+/-	16.1783	µg/mL	Stressed
59	Azohenzene		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBQ0927V)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,001.6	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9793	µg/mL	Unstressed
	Purity 98%				+/-	19.0585	µg/mL	Stressed
61	Hexachlorobenzene		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC19614V)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
62	Pentachlorophenol		2,005.4	µg/mL	+/-	11.6596	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 160412JLM)			+/-	23.9727	µg/mL	Unstressed
	Purity 99%				+/-	38.1522	µg/mL	Stressed
63	n-Octadecane (C18)		1,002.2	µg/mL	+/-	5.8403	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9869	µg/mL	Unstressed
	Purity 99%				+/-	19.0707	µg/mL	Stressed
64	Phenanthrene		1,007.4	µg/mL	+/-	5.8706	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0491	µg/mL	Unstressed
	Purity 99%				+/-	19.1696	µg/mL	Stressed
65	Anthracene		1,002.2	µg/mL	+/-	5.8403	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	11.9869	µg/mL	Unstressed
	Purity 99%				+/-	19.0707	µg/mL	Stressed
66	Carbazole		1,001.0	µg/mL	+/-	5.8332	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 5571400)			+/-	11.9722	µg/mL	Unstressed
	Purity 98%				+/-	19.0473	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.0	µg/mL	+/-	5.8567	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0204	µg/mL	Unstressed
	Purity 99%				+/-	19.1240	µg/mL	Stressed
68	Fluoranthene		1,003.7	µg/mL	+/-	5.8492	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	12.0050	µg/mL	Unstressed
	Purity 98%				+/-	19.0995	µg/mL	Stressed
69	Pyrene		1,004.6	µg/mL	+/-	5.8543	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBR9108V)			+/-	12.0156	µg/mL	Unstressed
	Purity 99%				+/-	19.1164	µg/mL	Stressed
70	Benzyl hutyl phthalate		1,002.3	µg/mL	+/-	5.8412	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKBZ4553V)			+/-	11.9886	µg/mL	Unstressed
	Purity 98%				+/-	19.0734	µg/mL	Stressed
71	Benz(a)anthracene		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed

72	Chrysene		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,002.6	µg/mL	+/-	5.8427	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9917	µg/mL	Unstressed
	Purity 99%				+/-	19.0783	µg/mL	Stressed
74	Di-n-octyl phthalate		1,005.2	µg/mL	+/-	5.8578	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 5555000)			+/-	12.0228	µg/mL	Unstressed
	Purity 99%				+/-	19.1278	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
77	Benzo(a)pyrene		1,005.2	µg/mL	+/-	5.8578	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0228	µg/mL	Unstressed
	Purity 99%				+/-	19.1278	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,004.4	µg/mL	+/-	5.8532	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0132	µg/mL	Unstressed
	Purity 99%				+/-	19.1125	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,005.4	µg/mL	+/-	5.8590	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	12.0252	µg/mL	Unstressed
	Purity 99%				+/-	19.1316	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

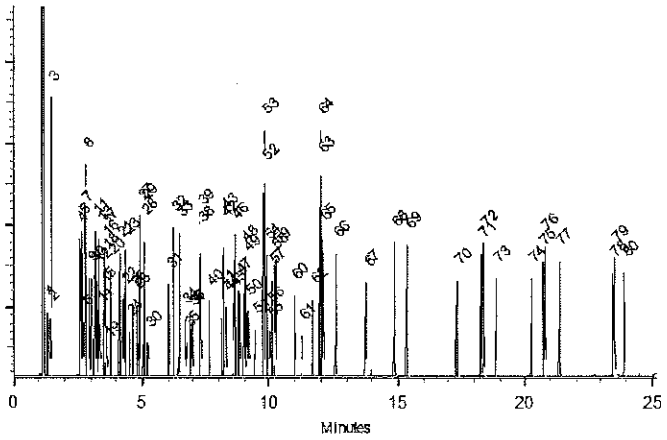
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Sawyer

Date Mixed: 27-Dec-2016 **Balance:** 1128360905

Justine Albertson - Operations Tech-ARM QC

Date Passed: 03-Feb-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST1 S1_00007

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995 **Lot No.:** A0123736

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2018 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBG6312V) **Purity** 99%	1,005.0 µg/mL	+/- 5.8567 µg/mL +/- 12.0204 µg/mL +/- 19.1240 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9 (Lot 161108JLM) **Purity** 99%	1,000.0 µg/mL	+/- 5.8275 µg/mL +/- 11.9606 µg/mL +/- 19.0288 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1 (Lot SHBC7174V) **Purity** 99%	2,000.0 µg/mL	+/- 11.6282 µg/mL +/- 23.9081 µg/mL +/- 38.0494 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2 (Lot SHBF1351V) **Purity** 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	1,008.4 µg/mL	+/- 5.8765 µg/mL +/- 12.0611 µg/mL +/- 19.1887 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4 (Lot 45296HKV) **Purity** 99%	1,001.6 µg/mL	+/- 5.8368 µg/mL +/- 11.9797 µg/mL +/- 19.0593 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5 (Lot SHBD4608V) **Purity** 99%	1,001.2 µg/mL	+/- 5.8345 µg/mL +/- 11.9750 µg/mL +/- 19.0517 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 95-57-8	(Lot STBF2690V)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,004.0	µg/mL	+/-	5.8508	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBM5751V)			+/-	12.0084	µg/mL	Unstressed
	Purity 99%				+/-	19.1049	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,004.2	µg/mL	+/-	5.8520	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	12.0108	µg/mL	Unstressed
	Purity 99%				+/-	19.1087	µg/mL	Stressed
11	Benzyl alcohol		1,004.2	µg/mL	+/-	5.8520	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)			+/-	12.0108	µg/mL	Unstressed
	Purity 99%				+/-	19.1087	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,006.4	µg/mL	+/-	5.8648	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot SHBC1479V)			+/-	12.0371	µg/mL	Unstressed
	Purity 99%				+/-	19.1506	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,003.5	µg/mL	+/-	5.8480	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot 5510800)			+/-	12.0027	µg/mL	Unstressed
	Purity 98%				+/-	19.0958	µg/mL	Stressed
15	Acetophenone		1,001.8	µg/mL	+/-	5.8380	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot MKBR7156V)			+/-	11.9821	µg/mL	Unstressed
	Purity 99%				+/-	19.0631	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		502.4	µg/mL	+/-	2.9277	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot SHBD0627V)			+/-	6.0090	µg/mL	Unstressed
	Purity 99%				+/-	9.5601	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		501.6	µg/mL	+/-	2.9231	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	5.9994	µg/mL	Unstressed
	Purity 99%				+/-	9.5449	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,009.2	µg/mL	+/-	5.8811	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot NOPCF)			+/-	12.0706	µg/mL	Unstressed
	Purity 99%				+/-	19.2039	µg/mL	Stressed
19	Hexachloroethane		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed
20	Nitrobenzene		1,002.0	µg/mL	+/-	5.8392	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot SHBF2348V)			+/-	11.9845	µg/mL	Unstressed
	Purity 99%				+/-	19.0669	µg/mL	Stressed
21	Isophorone		1,005.4	µg/mL	+/-	5.8590	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot MKBG2442V)			+/-	12.0252	µg/mL	Unstressed
	Purity 99%				+/-	19.1316	µg/mL	Stressed
22	2-Nitrophenol		1,002.4	µg/mL	+/-	5.8415	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot BCBH7602V)			+/-	11.9893	µg/mL	Unstressed
	Purity 99%				+/-	19.0745	µg/mL	Stressed
23	2,4-Dimethylphenol		1,005.6	µg/mL	+/-	5.8602	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	12.0276	µg/mL	Unstressed
	Purity 99%				+/-	19.1354	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,002.4	µg/mL	+/-	5.8415	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 3299900)			+/-	11.9893	µg/mL	Unstressed
	Purity 99%				+/-	19.0745	µg/mL	Stressed
25	2,4-Dichlorophenol		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBC5541V)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
27	Naphthalene		1,003.2	µg/mL	+/-	5.8462	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	11.9989	µg/mL	Unstressed
	Purity 99%				+/-	19.0897	µg/mL	Stressed
28	2,6-Dichlorophenol		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 87-65-0	(Lot MKBP8620V)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
29	4-Chloroaniline		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot BCBJ1580V)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
30	Hexachlorobutadiene		1,007.6	µg/mL	+/-	5.8720	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	12.0519	µg/mL	Unstressed
	Purity 98%				+/-	19.1741	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,004.2	µg/mL	+/-	5.8520	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC7309V)			+/-	12.0108	µg/mL	Unstressed
	Purity 99%				+/-	19.1087	µg/mL	Stressed
32	2-Methylnaphthalene		1,000.5	µg/mL	+/-	5.8307	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBF0201V)			+/-	11.9671	µg/mL	Unstressed
	Purity 95%				+/-	19.0391	µg/mL	Stressed
33	1-Methylnaphthalene		1,002.6	µg/mL	+/-	5.8427	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 525000-10)			+/-	11.9917	µg/mL	Unstressed
	Purity 99%				+/-	19.0783	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 95-94-3	(Lot MKBW7717V)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,006.0	µg/mL	+/-	5.8625	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 0012015)			+/-	12.0324	µg/mL	Unstressed
	Purity 99%				+/-	19.1430	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,004.2	µg/mL	+/-	5.8520	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBL4698V)			+/-	12.0108	µg/mL	Unstressed
	Purity 99%				+/-	19.1087	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,005.2	µg/mL	+/-	5.8578	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot FHM01)			+/-	12.0228	µg/mL	Unstressed
	Purity 99%				+/-	19.1278	µg/mL	Stressed
38	2-Chloronaphthalene		1,004.4	µg/mL	+/-	5.8532	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot AJ2UI)			+/-	12.0132	µg/mL	Unstressed
	Purity 99%				+/-	19.1125	µg/mL	Stressed
39	Biphenyl		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed

40	2-Nitroaniline		1,003.2	µg/mL	+/- 5.8462	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBK7597V)			+/- 11.9989	µg/mL	Unstressed
	Purity 99%				+/- 19.0897	µg/mL	Stressed
41	Acenaphthylene		1,000.0	µg/mL	+/- 5.8275	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot L18Q)			+/- 11.9605	µg/mL	Unstressed
	Purity 98%				+/- 19.0287	µg/mL	Stressed
42	1,3-Dinitrohenzene		1,001.6	µg/mL	+/- 5.8368	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot BCBN4329V)			+/- 11.9797	µg/mL	Unstressed
	Purity 99%				+/- 19.0593	µg/mL	Stressed
43	Dimethylphthalate		1,006.2	µg/mL	+/- 5.8637	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/- 12.0348	µg/mL	Unstressed
	Purity 99%				+/- 19.1468	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/- 5.8287	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/- 11.9630	µg/mL	Unstressed
	Purity 99%				+/- 19.0326	µg/mL	Stressed
45	3-Nitroaniline		1,006.4	µg/mL	+/- 5.8648	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot 12836338V)			+/- 12.0371	µg/mL	Unstressed
	Purity 99%				+/- 19.1506	µg/mL	Stressed
46	Acenaphthene		1,008.4	µg/mL	+/- 5.8765	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBW9515V)			+/- 12.0611	µg/mL	Unstressed
	Purity 99%				+/- 19.1887	µg/mL	Stressed
47	2,4-Dinitrophenol		2,009.2	µg/mL	+/- 11.6817	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot MKBP5833V)			+/- 24.0181	µg/mL	Unstressed
	Purity 99%				+/- 38.2244	µg/mL	Stressed
48	Dibenzofuran		1,005.8	µg/mL	+/- 5.8613	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBH8392V)			+/- 12.0300	µg/mL	Unstressed
	Purity 99%				+/- 19.1392	µg/mL	Stressed
49	4-Nitrophenol		2,009.4	µg/mL	+/- 11.6828	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBV0501V)			+/- 24.0205	µg/mL	Unstressed
	Purity 99%				+/- 38.2283	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,002.0	µg/mL	+/- 5.8392	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/- 11.9845	µg/mL	Unstressed
	Purity 99%				+/- 19.0669	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,008.4	µg/mL	+/- 5.8765	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot b16w05191)			+/- 12.0611	µg/mL	Unstressed
	Purity 99%				+/- 19.1887	µg/mL	Stressed
52	Fluorene		1,004.8	µg/mL	+/- 5.8555	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 10193329)			+/- 12.0180	µg/mL	Unstressed
	Purity 99%				+/- 19.1202	µg/mL	Stressed
53	n-Hexadecane (C16)		1,006.8	µg/mL	+/- 5.8671	µg/mL	Gravimetric
	CAS # 544-76-3	(Lot SHBG1026V)			+/- 12.0419	µg/mL	Unstressed
	Purity 99%				+/- 19.1582	µg/mL	Stressed
54	Diethylphthalate		1,003.6	µg/mL	+/- 5.8485	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBV9622V)			+/- 12.0037	µg/mL	Unstressed
	Purity 99%				+/- 19.0973	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,002.0	µg/mL	+/- 5.8392	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBW2403V)			+/- 11.9845	µg/mL	Unstressed
	Purity 99%				+/- 19.0669	µg/mL	Stressed

56	4-Nitroaniline		1,001.0	µg/mL	+/-	5.8332	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	11.9722	µg/mL	Unstressed
	Purity 98%				+/-	19.0473	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dimitro-o-cresol)		2,008.0	µg/mL	+/-	11.6747	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot LC18040V)			+/-	24.0038	µg/mL	Unstressed
	Purity 99%				+/-	38.2016	µg/mL	Stressed
58	Diphenylamine		850.2	µg/mL	+/-	4.9546	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot MKBN8295V)			+/-	10.1689	µg/mL	Unstressed
	Purity 99%				+/-	16.1783	µg/mL	Stressed
59	Azohenzene		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot BCBQ0927V)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,001.6	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	11.9793	µg/mL	Unstressed
	Purity 98%				+/-	19.0585	µg/mL	Stressed
61	Hexachlorobenzene		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LC19614V)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
62	Pentachlorophenol		2,005.4	µg/mL	+/-	11.6596	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 160412JLM)			+/-	23.9727	µg/mL	Unstressed
	Purity 99%				+/-	38.1522	µg/mL	Stressed
63	n-Octadecane (C18)		1,002.2	µg/mL	+/-	5.8403	µg/mL	Gravimetric
	CAS # 593-45-3	(Lot 27SOF)			+/-	11.9869	µg/mL	Unstressed
	Purity 99%				+/-	19.0707	µg/mL	Stressed
64	Phenanthrene		1,007.4	µg/mL	+/-	5.8706	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKCB1762V)			+/-	12.0491	µg/mL	Unstressed
	Purity 99%				+/-	19.1696	µg/mL	Stressed
65	Anthracene		1,002.2	µg/mL	+/-	5.8403	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot MKBR2268V)			+/-	11.9869	µg/mL	Unstressed
	Purity 99%				+/-	19.0707	µg/mL	Stressed
66	Carbazole		1,001.0	µg/mL	+/-	5.8332	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot 5571400)			+/-	11.9722	µg/mL	Unstressed
	Purity 98%				+/-	19.0473	µg/mL	Stressed
67	Di-n-butylphthalate		1,005.0	µg/mL	+/-	5.8567	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBT0244V)			+/-	12.0204	µg/mL	Unstressed
	Purity 99%				+/-	19.1240	µg/mL	Stressed
68	Fluoranthene		1,003.7	µg/mL	+/-	5.8492	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot MKBQ6360V)			+/-	12.0050	µg/mL	Unstressed
	Purity 98%				+/-	19.0995	µg/mL	Stressed
69	Pyrene		1,004.6	µg/mL	+/-	5.8543	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot BCBR9108V)			+/-	12.0156	µg/mL	Unstressed
	Purity 99%				+/-	19.1164	µg/mL	Stressed
70	Benzyl hutyl phthalate		1,002.3	µg/mL	+/-	5.8412	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot MKBZ4553V)			+/-	11.9886	µg/mL	Unstressed
	Purity 98%				+/-	19.0734	µg/mL	Stressed
71	Benz(a)anthracene		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER031412-01)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed

72	Chrysene		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot 012015)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,002.6	µg/mL	+/-	5.8427	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBK2695V)			+/-	11.9917	µg/mL	Unstressed
	Purity 99%				+/-	19.0783	µg/mL	Stressed
74	Di-n-octyl phthalate		1,005.2	µg/mL	+/-	5.8578	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 5555000)			+/-	12.0228	µg/mL	Unstressed
	Purity 99%				+/-	19.1278	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER03101401)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot 012012K)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
77	Benzo(a)pyrene		1,005.2	µg/mL	+/-	5.8578	µg/mL	Gravimetric
	CAS # 50-32-8	(Lot ER071309-02)			+/-	12.0228	µg/mL	Unstressed
	Purity 99%				+/-	19.1278	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,004.4	µg/mL	+/-	5.8532	µg/mL	Gravimetric
	CAS # 193-39-5	(Lot ER082107-02)			+/-	12.0132	µg/mL	Unstressed
	Purity 99%				+/-	19.1125	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 53-70-3	(Lot ER032211-01)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,005.4	µg/mL	+/-	5.8590	µg/mL	Gravimetric
	CAS # 191-24-2	(Lot ER05121401)			+/-	12.0252	µg/mL	Unstressed
	Purity 99%				+/-	19.1316	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

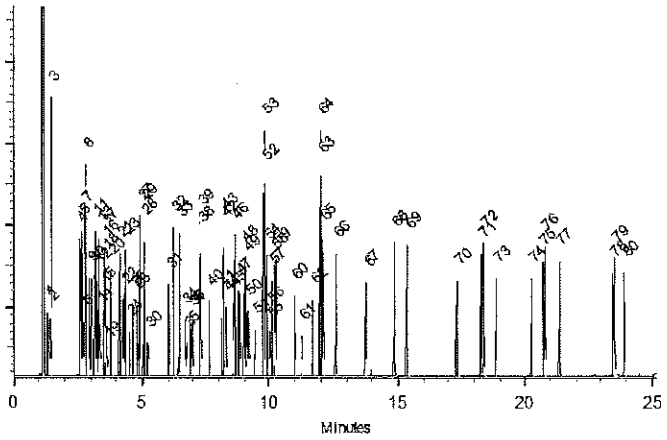
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Sawyer

Date Mixed: 27-Dec-2016 **Balance:** 1128360905

Justine Albertson - Operations Tech-ARM QC

Date Passed: 03-Feb-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST1 S10_00003

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569731 **Lot No.:** A0123819

Description : 8270 List 1 / Std #10

8270 List 1 / Std #10 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2018 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Indene	1,999.8 µg/mL	+/- 11.6272	µg/mL	Gravimetric
	CAS # 95-13-6 (Lot MKBT8433V)		+/- 112.1289	µg/mL	Unstressed
	Purity 98%		+/- 114.7525	µg/mL	Stressed
2	Benzoic acid	2,000.7 µg/mL	+/- 11.6320	µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKBV5544V)		+/- 112.1745	µg/mL	Unstressed
	Purity 99%		+/- 114.7992	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

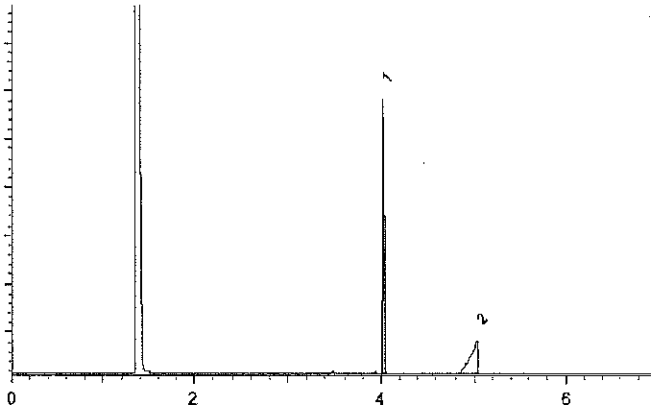
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 29-Dec-2016 **Balance:** B442140311

Justine Albertson - Operations Tech-ARM QC

Date Passed: 06-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST1 S11_00004

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569732 **Lot No.:** A0123718

Description : 8270 List 1 / Std #11

8270 List 1 / Std #11 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2018 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzaldehyde		2,005.3 µg/mL	+/- 11.6592	µg/mL	Gravimetric
	CAS # 100-52-7	(Lot SHBG8690V)		+/- 64.2823	µg/mL	Unstressed
	Purity 99%			+/- 74.7257	µg/mL	Stressed
2	epsilon-Caprolactam		2,002.5 µg/mL	+/- 11.6425	µg/mL	Gravimetric
	CAS # 105-60-2	(Lot I16X016)		+/- 64.1904	µg/mL	Unstressed
	Purity 99%			+/- 74.6188	µg/mL	Stressed
3	Atrazine		2,003.7 µg/mL	+/- 11.6499	µg/mL	Gravimetric
	CAS # 1912-24-9	(Lot P7XPN)		+/- 64.2310	µg/mL	Unstressed
	Purity 99%			+/- 74.6660	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

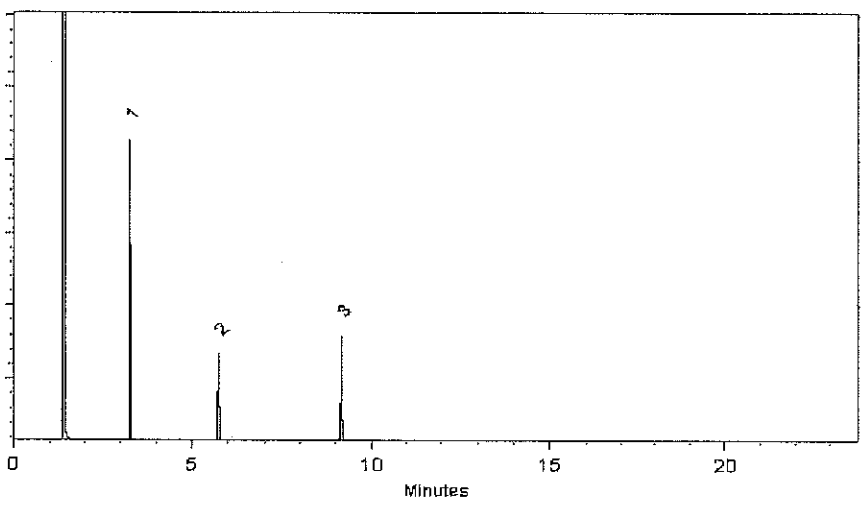
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Sawyer

Date Mixed: 22-Dec-2016 **Balance:** 1128360905

Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Dec-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST1 S9_00003

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569730 **Lot No.:** A0120168

Description : 8270 List 1 / Std #9

8270 List 1 / Std #9 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : January 31, 2018 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzidine	2,019.6 µg/mL	+/- 11.7421 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 160309JLM)		+/- 24.1424 µg/mL	Unstressed
	Purity 99%		+/- 38.4223 µg/mL	Stressed
2	3,3'-Dichlorobenzidine	2,018.1 µg/mL	+/- 11.7334 µg/mL	Gravimetric
	CAS # 91-94-1 (Lot 160311JLM)		+/- 24.1245 µg/mL	Unstressed
	Purity 99%		+/- 38.3938 µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

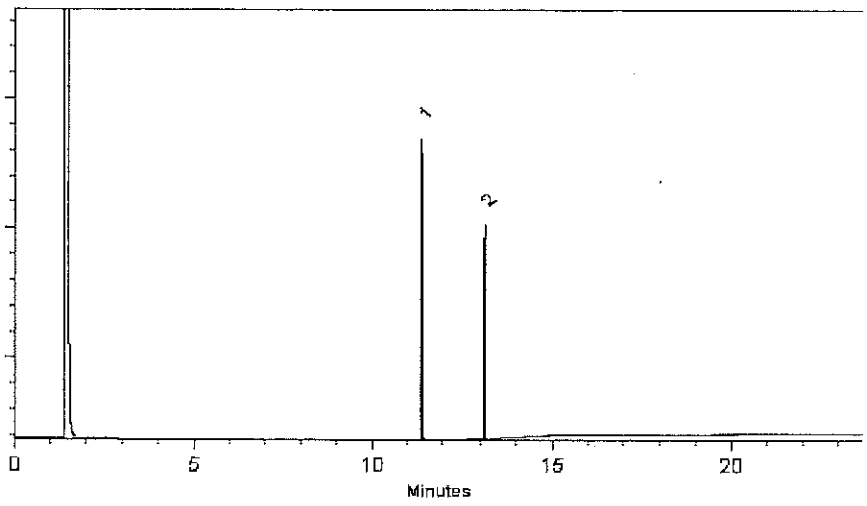
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 05-Jul-2016 **Balance:** 1122030677

Jennifer L. Pollino - QC Analyst

Date Passed: 06-Jul-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST1 SS S1_00006

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 571995.sec **Lot No.:** A0124300

Description : 8270 List 1 / Std #1 MegaMix (2017)

8270 List 1 / Std #1 MegaMix (2017) 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 10 mL **Pkg Amt:** > 5 mL

Expiration Date : July 31, 2018 **Storage:** 10°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1.SEC (Lot CHA4A) **Purity** 99%	1,001.2 µg/mL	+/- 5.8345 µg/mL +/- 11.9750 µg/mL +/- 19.0517 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine **CAS #** 62-75-9.SEC (Lot 61H72) **Purity** 99%	1,000.2 µg/mL	+/- 5.8287 µg/mL +/- 11.9630 µg/mL +/- 19.0326 µg/mL	Gravimetric Unstressed Stressed
3	Pyridine **CAS #** 110-86-1.SEC (Lot QN8DK) **Purity** 99%	2,002.0 µg/mL	+/- 11.6398 µg/mL +/- 23.9320 µg/mL +/- 38.0875 µg/mL	Gravimetric Unstressed Stressed
4	Phenol **CAS #** 108-95-2.SEC (Lot EDPYN) **Purity** 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
5	Aniline **CAS #** 62-53-3.SEC (Lot ZCD3N) **Purity** 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed
6	Bis(2-chloroethyl)ether **CAS #** 111-44-4.SEC (Lot FA010143) **Purity** 99%	1,001.6 µg/mL	+/- 5.8368 µg/mL +/- 11.9797 µg/mL +/- 19.0593 µg/mL	Gravimetric Unstressed Stressed
7	n-Decane (C10) **CAS #** 124-18-5.SEC (Lot UCVNN) **Purity** 99%	1,000.6 µg/mL	+/- 5.8310 µg/mL +/- 11.9678 µg/mL +/- 19.0402 µg/mL	Gravimetric Unstressed Stressed

8	2-Chlorophenol		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 95-57-8.SEC	(Lot GJ01)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
9	1,3-Dichlorobenzene		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 541-73-1.SEC	(Lot FMDFD-KA)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
10	1,4-Dichlorobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 106-46-7.SEC	(Lot 4Y5DC)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
11	Benzyl alcohol		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 100-51-6.SEC	(Lot QZBUO)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
12	1,2-Dichlorobenzene		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 95-50-1.SEC	(Lot R6QDM)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
13	2-Methylphenol (o-cresol)		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 95-48-7.SEC	(Lot NC7HL)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
14	2,2'-oxybis(1-chloropropane)		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 108-60-1.SEC	(Lot 2-KMW-57-8)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
15	Acetophenone		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 98-86-2.SEC	(Lot NSGTI)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		500.8	µg/mL	+/-	2.9184	µg/mL	Gravimetric
	CAS # 108-39-4.SEC	(Lot 6LHTM)			+/-	5.9899	µg/mL	Unstressed
	Purity 99%				+/-	9.5296	µg/mL	Stressed
17	4-Methylphenol (p-cresol)		500.0	µg/mL	+/-	2.9138	µg/mL	Gravimetric
	CAS # 106-44-5.SEC	(Lot 65S2E)			+/-	5.9803	µg/mL	Unstressed
	Purity 99%				+/-	9.5144	µg/mL	Stressed
18	N-Nitroso-di-n-propylamine		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 621-64-7.SEC	(Lot 4817800)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
19	Hexachloroethane		1,001.8	µg/mL	+/-	5.8380	µg/mL	Gravimetric
	CAS # 67-72-1.SEC	(Lot 10173016)			+/-	11.9821	µg/mL	Unstressed
	Purity 99%				+/-	19.0631	µg/mL	Stressed
20	Nitrobenzene		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 98-95-3.SEC	(Lot FLYIG)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
21	Isophorone		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 78-59-1.SEC	(Lot XHGJI)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
22	2-Nitrophenol		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 88-75-5.SEC	(Lot GXJ7J)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
23	2,4-Dimethylphenol		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 105-67-9.SEC	(Lot MKBL3650V)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 111-91-1 *	(Lot 5670100)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
25	2,4-Dichlorophenol		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 120-83-2.SEC	(Lot FHM01)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 120-82-1.SEC	(Lot 3LYYC)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
27	Naphthalene		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 91-20-3.SEC	(Lot SKZ5N)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
28	2,6-Dichlorophenol		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 87-65-0.SEC	(Lot SIDBB)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
29	4-Chloroaniline		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 106-47-8.SEC	(Lot 10171860)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
30	Hexachlorobutadiene		1,000.4	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 87-68-3.SEC	(Lot 4974700)			+/-	11.9652	µg/mL	Unstressed
	Purity 98%				+/-	19.0361	µg/mL	Stressed
31	4-Chloro-3-methylphenol		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 59-50-7.SEC	(Lot FDO02)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
32	2-Methylnaphthalene		1,001.2	µg/mL	+/-	5.8343	µg/mL	Gravimetric
	CAS # 91-57-6.SEC	(Lot 76023-1)			+/-	11.9746	µg/mL	Unstressed
	Purity 98%				+/-	19.0510	µg/mL	Stressed
33	1-Methylnaphthalene		1,000.5	µg/mL	+/-	5.8302	µg/mL	Gravimetric
	CAS # 90-12-0.SEC	(Lot UATSA)			+/-	11.9661	µg/mL	Unstressed
	Purity 97%				+/-	19.0375	µg/mL	Stressed
34	1,2,4,5-Tetrachlorobenzene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 95-94-3.SEC	(Lot AF02)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
35	Hexachlorocyclopentadiene		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 77-47-4.SEC	(Lot 5608400)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
36	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	5.8355	µg/mL	Gravimetric
	CAS # 88-06-2.SEC	(Lot UUMYM)			+/-	11.9769	µg/mL	Unstressed
	Purity 98%				+/-	19.0548	µg/mL	Stressed
37	2,4,5-Trichlorophenol		1,001.0	µg/mL	+/-	5.8336	µg/mL	Gravimetric
	CAS # 95-95-4.SEC	(Lot MKBQ9937V)			+/-	11.9730	µg/mL	Unstressed
	Purity 97%				+/-	19.0486	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 91-58-7.SEC	(Lot LC07783V)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
39	Biphenyl		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 92-52-4.SEC	(Lot 33OQE)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed

40	2-Nitroaniline		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 88-74-4.SEC	(Lot T6E7B)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
41	Acenaphthylene		1,000.7	µg/mL	+/-	5.8316	µg/mL	Gravimetric
	CAS # 208-96-8.SEC	(Lot 0012014)			+/-	11.9690	µg/mL	Unstressed
	Purity 96%				+/-	19.0422	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 99-65-0.SEC	(Lot 3XXLB)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
43	Dimethylphthalate		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 131-11-3.SEC	(Lot 483WC)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 606-20-2.SEC	(Lot GE01)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
45	3-Nitroaniline		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 99-09-2.SEC	(Lot FGN03)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
46	Acenaphthene		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 83-32-9.SEC	(Lot BWZJE)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
47	2,4-Dinitrophenol		2,000.2	µg/mL	+/-	11.6293	µg/mL	Gravimetric
	CAS # 51-28-5.SEC	(Lot 2TXXH)			+/-	23.9105	µg/mL	Unstressed
	Purity 99%				+/-	38.0532	µg/mL	Stressed
48	Dibenzofuran		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 132-64-9.SEC	(Lot 27ZGC)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
49	4-Nitrophenol		2,001.0	µg/mL	+/-	11.6340	µg/mL	Gravimetric
	CAS # 100-02-7.SEC	(Lot 2J5LB)			+/-	23.9201	µg/mL	Unstressed
	Purity 99%				+/-	38.0684	µg/mL	Stressed
50	2,4-Dinitrotoluene		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 121-14-2.SEC	(Lot SHRSA)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
51	2,3,4,6-Tetrachlorophenol		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 58-90-2.SEC	(Lot LC19623V)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
52	Fluorene		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 86-73-7.SEC	(Lot 5027400)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
53	n-Hexadecane (C16)		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 544-76-3.SEC	(Lot A0328141)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
54	Diethylphthalate		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 84-66-2.SEC	(Lot UMBJC)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 7005-72-3.SEC	(Lot P31G)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed

56	4-Nitroaniline		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 100-01-6.SEC	(Lot 5ITRC)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
57	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		2,000.8	µg/mL	+/-	11.6328	µg/mL	Gravimetric
	CAS # 534-52-1.SEC	(Lot 5205800)			+/-	23.9177	µg/mL	Unstressed
	Purity 99%				+/-	38.0646	µg/mL	Stressed
58	Diphenylamine		851.0	µg/mL	+/-	4.9592	µg/mL	Gravimetric
	CAS # 122-39-4.SEC	(Lot 10164691)			+/-	10.1785	µg/mL	Unstressed
	Purity 99%				+/-	16.1935	µg/mL	Stressed
59	Azobenzene		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 103-33-3.SEC	(Lot JUWAG)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
60	4-Bromophenyl phenyl ether		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 101-55-3.SEC	(Lot 84C6D)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
61	Hexachlorobenzene		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 118-74-1.SEC	(Lot 20624)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
62	Pentachlorophenol		2,001.4	µg/mL	+/-	11.6363	µg/mL	Gravimetric
	CAS # 87-86-5.SEC	(Lot 5223600)			+/-	23.9249	µg/mL	Unstressed
	Purity 99%				+/-	38.0761	µg/mL	Stressed
63	n-Octadecane (C18)		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 593-45-3.SEC	(Lot G14U045)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
64	Phenanthrene		1,000.2	µg/mL	+/-	5.8286	µg/mL	Gravimetric
	CAS # 85-01-8.SEC	(Lot 4708400)			+/-	11.9629	µg/mL	Unstressed
	Purity 98%				+/-	19.0324	µg/mL	Stressed
65	Anthracene		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 120-12-7.SEC	(Lot WDFNJ)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
66	Carbazole		1,001.8	µg/mL	+/-	5.8380	µg/mL	Gravimetric
	CAS # 86-74-8.SEC	(Lot LMIZB)			+/-	11.9821	µg/mL	Unstressed
	Purity 99%				+/-	19.0631	µg/mL	Stressed
67	Di-n-butylphthalate		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 84-74-2.SEC	(Lot 42FSG)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
68	Fluoranthene		1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 206-44-0.SEC	(Lot FREGF)			+/-	11.9606	µg/mL	Unstressed
	Purity 99%				+/-	19.0288	µg/mL	Stressed
69	Pyrene		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 129-00-0.SEC	(Lot ROVJC)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
70	Benzyl butyl phthalate		1,001.6	µg/mL	+/-	5.8366	µg/mL	Gravimetric
	CAS # 85-68-7.SEC	(Lot GX3GL)			+/-	11.9793	µg/mL	Unstressed
	Purity 98%				+/-	19.0585	µg/mL	Stressed
71	Benz(a)anthracene		1,000.4	µg/mL	+/-	5.8298	µg/mL	Gravimetric
	CAS # 56-55-3.SEC	(Lot FII01)			+/-	11.9652	µg/mL	Unstressed
	Purity 98%				+/-	19.0361	µg/mL	Stressed

72	chrysene		1,000.6	µg/mL	+/-	5.8310	µg/mL	Gravimetric
	CAS # 218-01-9.SEC	(Lot I3AKL)			+/-	11.9678	µg/mL	Unstressed
	Purity 99%				+/-	19.0402	µg/mL	Stressed
73	Bis(2-ethylhexyl)phthalate		1,001.2	µg/mL	+/-	5.8345	µg/mL	Gravimetric
	CAS # 117-81-7.SEC	(Lot MT8AG)			+/-	11.9750	µg/mL	Unstressed
	Purity 99%				+/-	19.0517	µg/mL	Stressed
74	Di-n-octyl phthalate		1,000.4	µg/mL	+/-	5.8299	µg/mL	Gravimetric
	CAS # 117-84-0.SEC	(Lot O8DLD)			+/-	11.9654	µg/mL	Unstressed
	Purity 99%				+/-	19.0364	µg/mL	Stressed
75	Benzo(b)fluoranthene		1,000.8	µg/mL	+/-	5.8322	µg/mL	Gravimetric
	CAS # 205-99-2.SEC	(Lot 012012B)			+/-	11.9702	µg/mL	Unstressed
	Purity 99%				+/-	19.0440	µg/mL	Stressed
76	Benzo(k)fluoranthene		1,002.0	µg/mL	+/-	5.8389	µg/mL	Gravimetric
	CAS # 207-08-9.SEC	(Lot 3596500)			+/-	11.9839	µg/mL	Unstressed
	Purity 98%				+/-	19.0660	µg/mL	Stressed
77	Benzo(a)pyrene		1,000.2	µg/mL	+/-	5.8287	µg/mL	Gravimetric
	CAS # 50-32-8.SEC	(Lot NPEZF)			+/-	11.9630	µg/mL	Unstressed
	Purity 99%				+/-	19.0326	µg/mL	Stressed
78	Indeno(1,2,3-cd)pyrene		1,001.4	µg/mL	+/-	5.8357	µg/mL	Gravimetric
	CAS # 193-39-5.SEC	(Lot 022015)			+/-	11.9773	µg/mL	Unstressed
	Purity 99%				+/-	19.0555	µg/mL	Stressed
79	Dibenz(a,h)anthracene		1,001.0	µg/mL	+/-	5.8333	µg/mL	Gravimetric
	CAS # 53-70-3.SEC	(Lot 0012012)			+/-	11.9726	µg/mL	Unstressed
	Purity 99%				+/-	19.0478	µg/mL	Stressed
80	Benzo(g,h,i)perylene		1,000.3	µg/mL	+/-	5.8294	µg/mL	Gravimetric
	CAS # 191-24-2.SEC	(Lot 0062012)			+/-	11.9644	µg/mL	Unstressed
	Purity 96%				+/-	19.0349	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Specific Reference Material Notes:

N-nitrosodiphenylamine 1000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 855 ug/mL.
N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

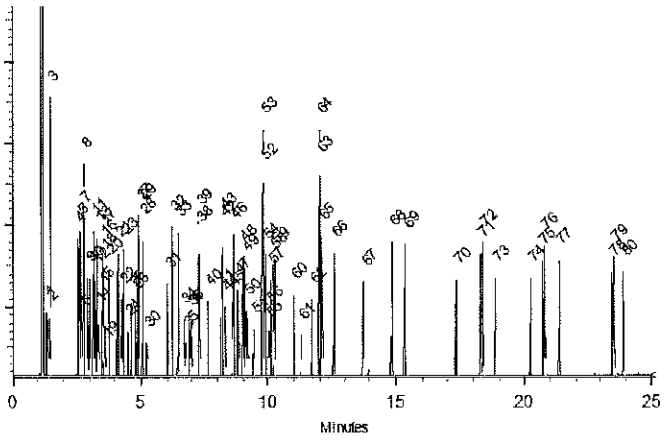
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael Maye

Date Mixed: 18-Jan-2017 **Balance:** 1128353505

Justine Albertson - Operations Tech-ARM GC

Date Passed: 03-Feb-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST1 SURR_00004

RESTEK®

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

Certificate of Analysis

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0103960

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : June 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol **CAS #** 367-12-4 **Purity** 99%	(Lot STBC5591V)	5,006.1 µg/mL	+/- 29.1044 +/- 124.7363 +/- 156.8636	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
2	Phenol-d5 **CAS #** 4165-62-2 **Purity** 99%	(Lot X479P6)	5,002.5 µg/mL	+/- 29.0834 +/- 124.6466 +/- 156.7508	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
3	Nitrobenzene-d5 **CAS #** 4165-60-0 **Purity** 99%	(Lot PR-20474)	5,003.7 µg/mL	+/- 29.0901 +/- 124.6753 +/- 156.7868	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
4	2-Fluorobiphenyl **CAS #** 321-60-8 **Purity** 99%	(Lot B19Z016)	5,002.4 µg/mL	+/- 29.0826 +/- 124.6429 +/- 156.7461	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
5	2,4,6-Tribromophenol **CAS #** 118-79-6 **Purity** 99%	(Lot 29699MJV)	5,024.2 µg/mL	+/- 29.2093 +/- 125.1861 +/- 157.4292	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
6	p-Terphenyl-d14 **CAS #** 1718-51-0 **Purity** 99%	(Lot PR-20577)	5,010.4 µg/mL	+/- 29.1291 +/- 124.8422 +/- 156.9968	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

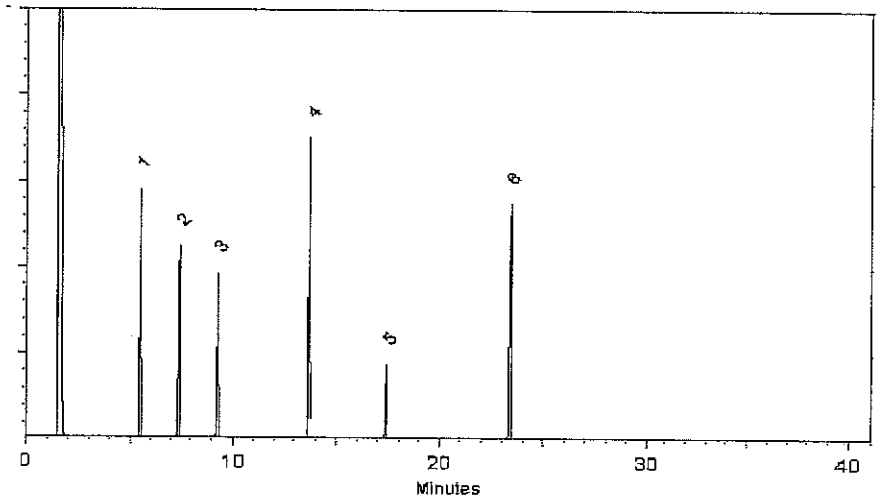
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Sauer

Date Mixed: 11-Jun-2014 **Balance:** 1128360905

Jennifer L. Pollino

Jennifer L. Pollino - QC Analyst

Date Passed: 23-Jun-2014

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST1 SURR_00005

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 **Lot No.:** A0123269

Description : 8270 Surrogate Standard

8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL **Pkg Amt:** > 5 mL

Expiration Date : December 31, 2021 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	2-Fluorophenol		5,017.0	µg/mL	+/- 29.1677	µg/mL	Gravimetric
	CAS # 367-12-4	(Lot STBD7945V)			+/- 146.4126	µg/mL	Unstressed
	Purity 99%				+/- 177.6661	µg/mL	Stressed
2	Phenol-d5		4,965.4	µg/mL	+/- 28.8690	µg/mL	Gravimetric
	CAS # 4165-62-2	(Lot X-479)			+/- 144.9056	µg/mL	Unstressed
	Purity 99%				+/- 175.8373	µg/mL	Stressed
3	Nitrobenzene-d5		5,019.4	µg/mL	+/- 29.1814	µg/mL	Gravimetric
	CAS # 4165-60-0	(Lot PR-25462)			+/- 146.4812	µg/mL	Unstressed
	Purity 99%				+/- 177.7494	µg/mL	Stressed
4	2-Fluorobiphenyl		5,031.5	µg/mL	+/- 29.2518	µg/mL	Gravimetric
	CAS # 321-60-8	(Lot 10194342)			+/- 146.8343	µg/mL	Unstressed
	Purity 99%				+/- 178.1779	µg/mL	Stressed
5	2,4,6-Tribromophenol		5,026.7	µg/mL	+/- 29.2238	µg/mL	Gravimetric
	CAS # 118-79-6	(Lot 29699MJV)			+/- 146.6942	µg/mL	Unstressed
	Purity 99%				+/- 178.0079	µg/mL	Stressed
6	p-Terphenyl-d14		5,029.2	µg/mL	+/- 29.2387	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-21037)			+/- 146.7686	µg/mL	Unstressed
	Purity 99%				+/- 178.0982	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

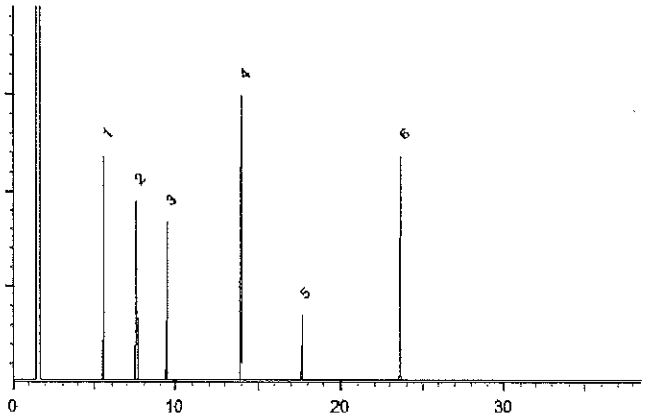
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 06-Dec-2016 **Balance:** B345965662

Justine Albertson - Operations Tech-ARM QC

Date Passed: 08-Dec-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S1_00009

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570667 **Lot No.:** A0115538

Description : 8270 Supplemental Standard #1

8270 Supplemental Standard #1 1,000 ug/ml, Methylene Chloride, 1 ml/ampul
Also described as 8270 List 2 / Std #1

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2017 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Picoline		1,003.2 µg/mL	+/- 5.8873	µg/mL	Gravimetric
	CAS # 109-06-8	(Lot STBD4888V)		+/- 12.0190	µg/mL	Unstressed
	Purity 99%			+/- 19.1024	µg/mL	Stressed
2	N-Nitrosomethylethylamine		1,000.8 µg/mL	+/- 5.8733	µg/mL	Gravimetric
	CAS # 10595-95-6	(Lot 4458400)		+/- 11.9902	µg/mL	Unstressed
	Purity 99%			+/- 19.0567	µg/mL	Stressed
3	Acrylamide		1,002.8 µg/mL	+/- 5.8850	µg/mL	Gravimetric
	CAS # 79-06-1	(Lot 01402JA)		+/- 12.0142	µg/mL	Unstressed
	Purity 99%			+/- 19.0947	µg/mL	Stressed
4	N-Nitrosodiethylamine		1,004.0 µg/mL	+/- 5.8920	µg/mL	Gravimetric
	CAS # 55-18-5	(Lot PEI3F-ES)		+/- 12.0286	µg/mL	Unstressed
	Purity 99%			+/- 19.1176	µg/mL	Stressed
5	N-Nitrosopyrrolidine		1,002.0 µg/mL	+/- 5.8803	µg/mL	Gravimetric
	CAS # 930-55-2	(Lot MKBC5211V)		+/- 12.0046	µg/mL	Unstressed
	Purity 99%			+/- 19.0795	µg/mL	Stressed
6	o-Toluidine		1,000.8 µg/mL	+/- 5.8733	µg/mL	Gravimetric
	CAS # 95-53-4	(Lot 03417PZ)		+/- 11.9902	µg/mL	Unstressed
	Purity 99%			+/- 19.0567	µg/mL	Stressed
7	N-Nitrosomorpholine		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 59-89-2	(Lot MV7MC)		+/- 11.9807	µg/mL	Unstressed
	Purity 99%			+/- 19.0414	µg/mL	Stressed

8	N-Nitrosopiperidine		1,001.6	µg/mL	+/-	5.8779	µg/mL	Gravimetric
	CAS # 100-75-4	(Lot 4369200)			+/-	11.9998	µg/mL	Unstressed
	Purity 99%				+/-	19.0719	µg/mL	Stressed
9	Phentermine (a,a-Dimethylphenethylamine)		1,000.0	µg/mL	+/-	5.8686	µg/mL	Gravimetric
	CAS # 122-09-8	(Lot 151118JLM)			+/-	11.9807	µg/mL	Unstressed
	Purity 99%				+/-	19.0414	µg/mL	Stressed
10	Quinoline		1,000.0	µg/mL	+/-	5.8686	µg/mL	Gravimetric
	CAS # 91-22-5	(Lot Y448A)			+/-	11.9807	µg/mL	Unstressed
	Purity 99%				+/-	19.0414	µg/mL	Stressed
11	N-Nitrosodi-n-butylamine		1,002.0	µg/mL	+/-	5.8803	µg/mL	Gravimetric
	CAS # 924-16-3	(Lot S47KJ)			+/-	12.0046	µg/mL	Unstressed
	Purity 99%				+/-	19.0795	µg/mL	Stressed
12	1,4-Phenylenediamine		1,000.8	µg/mL	+/-	5.8733	µg/mL	Gravimetric
	CAS # 106-50-3	(Lot 2247500)			+/-	11.9902	µg/mL	Unstressed
	Purity 99%				+/-	19.0567	µg/mL	Stressed
13	1,4-Dinitrobenzene		1,002.0	µg/mL	+/-	5.8803	µg/mL	Gravimetric
	CAS # 100-25-4	(Lot S58502V)			+/-	12.0046	µg/mL	Unstressed
	Purity 99%				+/-	19.0795	µg/mL	Stressed
14	1-Naphthylamine (1-aminonaphthalene)		1,007.8	µg/mL	+/-	5.9145	µg/mL	Gravimetric
	CAS # 134-32-7	(Lot R7NAN-IP)			+/-	12.0745	µg/mL	Unstressed
	Purity 98%				+/-	19.1906	µg/mL	Stressed
15	2-Naphthylamine (2-aminonaphthalene)		998.8	µg/mL	+/-	5.8615	µg/mL	Gravimetric
	CAS # 91-59-8	(Lot SLBD0851V)			+/-	11.9663	µg/mL	Unstressed
	Purity 99%				+/-	19.0186	µg/mL	Stressed
16	5-Nitro-o-toluidine		1,002.8	µg/mL	+/-	5.8850	µg/mL	Gravimetric
	CAS # 99-55-8	(Lot N002814)			+/-	12.0142	µg/mL	Unstressed
	Purity 99%				+/-	19.0947	µg/mL	Stressed
17	1,3,5-Trinitrobenzene		1,002.8	µg/mL	+/-	5.8850	µg/mL	Gravimetric
	CAS # 99-35-4	(Lot UNVVB)			+/-	12.0142	µg/mL	Unstressed
	Purity 99%				+/-	19.0947	µg/mL	Stressed
18	Phenacetin		1,001.6	µg/mL	+/-	5.8779	µg/mL	Gravimetric
	CAS # 62-44-2	(Lot 88F0225)			+/-	11.9998	µg/mL	Unstressed
	Purity 99%				+/-	19.0719	µg/mL	Stressed
19	4-Aminobiphenyl		1,002.4	µg/mL	+/-	5.8826	µg/mL	Gravimetric
	CAS # 92-67-1	(Lot SLBF0806V)			+/-	12.0094	µg/mL	Unstressed
	Purity 99%				+/-	19.0871	µg/mL	Stressed
20	Propyzamide		1,000.8	µg/mL	+/-	5.8733	µg/mL	Gravimetric
	CAS # 23950-58-5	(Lot 3795100)			+/-	11.9902	µg/mL	Unstressed
	Purity 99%				+/-	19.0567	µg/mL	Stressed
21	Pentachloronitrobenzene (quintozene)		1,000.0	µg/mL	+/-	5.8686	µg/mL	Gravimetric
	CAS # 82-68-8	(Lot 947600)			+/-	11.9807	µg/mL	Unstressed
	Purity 99%				+/-	19.0414	µg/mL	Stressed
22	4-Nitroquinoline-N-oxide		1,003.0	µg/mL	+/-	5.8860	µg/mL	Gravimetric
	CAS # 56-57-5	(Lot LC15235V)			+/-	12.0164	µg/mL	Unstressed
	Purity 97%				+/-	19.0982	µg/mL	Stressed
23	p-Dimethylaminoazobenzene		1,000.0	µg/mL	+/-	5.8686	µg/mL	Gravimetric
	CAS # 60-11-7	(Lot BCBH3983V)			+/-	11.9807	µg/mL	Unstressed
	Purity 99%				+/-	19.0414	µg/mL	Stressed

24	3,3'-Dimethylbenzidine (o-tolidine)		1,003.6	µg/mL	+/-	5.8896	µg/mL	Gravimetric
	CAS # 119-93-7	(Lot HO6DO)			+/-	12.0235	µg/mL	Unstressed
	Purity 95%				+/-	19.1096	µg/mL	Stressed
25	2-Acetylaminofluorene		1,002.0	µg/mL	+/-	5.8803	µg/mL	Gravimetric
	CAS # 53-96-3	(Lot FCW01)			+/-	12.0046	µg/mL	Unstressed
	Purity 99%				+/-	19.0795	µg/mL	Stressed
26	4,4-Methylene-bis(2-chloroaniline)		998.6	µg/mL	+/-	5.8606	µg/mL	Gravimetric
	CAS # 101-14-4	(Lot 3509000)			+/-	11.9644	µg/mL	Unstressed
	Purity 95%				+/-	19.0155	µg/mL	Stressed
27	Dibenz (a,h) acridine		1,001.6	µg/mL	+/-	5.8777	µg/mL	Gravimetric
	CAS # 226-36-8	(Lot 1-CQW-8-1)			+/-	11.9993	µg/mL	Unstressed
	Purity 98%				+/-	19.0711	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

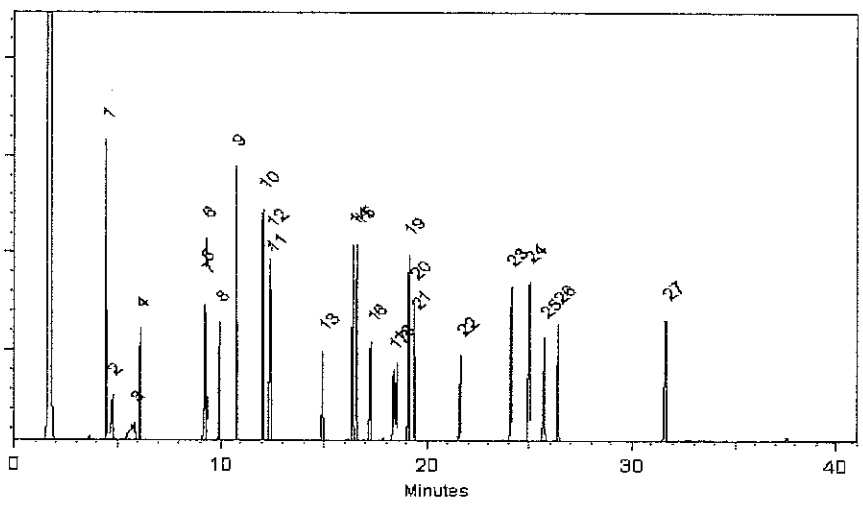
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kendra Swope - Mix Technician

Date Mixed: 19-Nov-2015 **Balance:** B442140311

Jodi E. Breon - QA Analyst

Date Passed: 02-Dec-2015

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S1_00010

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 570667 **Lot No.:** A0124058

Description : 8270 Supplemental Standard #1

8270 Supplemental Standard #1 1,000 ug/ml, Methylene Chloride, 1 ml/ampul
Also described as 8270 List 2 / Std #1

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2019 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Picoline		1,000.4 µg/mL	+/- 5.8709	µg/mL	Gravimetric
	CAS # 109-06-8	(Lot STBD4888V)		+/- 11.9854	µg/mL	Unstressed
	Purity 99%			+/- 19.0490	µg/mL	Stressed
2	N-Nitrosomethylethylamine		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 10595-95-6	(Lot 5107900)		+/- 11.9807	µg/mL	Unstressed
	Purity 99%			+/- 19.0414	µg/mL	Stressed
3	Acrylamide		1,001.6 µg/mL	+/- 5.8779	µg/mL	Gravimetric
	CAS # 79-06-1	(Lot 01402JA)		+/- 11.9998	µg/mL	Unstressed
	Purity 99%			+/- 19.0719	µg/mL	Stressed
4	N-Nitrosodiethylamine		1,000.8 µg/mL	+/- 5.8733	µg/mL	Gravimetric
	CAS # 55-18-5	(Lot PEI3F-ES)		+/- 11.9902	µg/mL	Unstressed
	Purity 99%			+/- 19.0567	µg/mL	Stressed
5	N-Nitrosopyrrolidine		1,002.8 µg/mL	+/- 5.8850	µg/mL	Gravimetric
	CAS # 930-55-2	(Lot MKBC5211V)		+/- 12.0142	µg/mL	Unstressed
	Purity 99%			+/- 19.0947	µg/mL	Stressed
6	o-Toluidine		1,000.4 µg/mL	+/- 5.8709	µg/mL	Gravimetric
	CAS # 95-53-4	(Lot 03417PZ)		+/- 11.9854	µg/mL	Unstressed
	Purity 99%			+/- 19.0490	µg/mL	Stressed
7	N-Nitrosomorpholine		1,004.4 µg/mL	+/- 5.8944	µg/mL	Gravimetric
	CAS # 59-89-2	(Lot MV7MC)		+/- 12.0334	µg/mL	Unstressed
	Purity 99%			+/- 19.1252	µg/mL	Stressed

8	N-Nitrosopiperidine **CAS #** 100-75-4 **Purity** 99%	(Lot 5062900)	1,001.6	µg/mL	+/- 5.8779 +/- 11.9998 +/- 19.0719	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
9	Phentermine (a,a-Dimethylphenethylamine) **CAS #** 122-09-8 **Purity** 99%	(Lot 161222JLM)	1,003.6	µg/mL	+/- 5.8897 +/- 12.0238 +/- 19.1100	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
10	Quinoline **CAS #** 91-22-5 **Purity** 99%	(Lot Y448A)	1,000.4	µg/mL	+/- 5.8709 +/- 11.9854 +/- 19.0490	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
11	N-Nitrosodi-n-butylamine **CAS #** 924-16-3 **Purity** 99%	(Lot S47KJ)	1,003.6	µg/mL	+/- 5.8897 +/- 12.0238 +/- 19.1100	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
12	1,4-Phenylenediamine **CAS #** 106-50-3 **Purity** 99%	(Lot 2247500)	1,001.2	µg/mL	+/- 5.8756 +/- 11.9950 +/- 19.0643	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
13	1,4-Dinitrobenzene **CAS #** 100-25-4 **Purity** 99%	(Lot STBF8844V)	1,002.4	µg/mL	+/- 5.8826 +/- 12.0094 +/- 19.0871	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
14	1-Naphthylamine (1-aminonaphthalene) **CAS #** 134-32-7 **Purity** 98%	(Lot R7NAN-IP)	1,000.8	µg/mL	+/- 5.8731 +/- 11.9899 +/- 19.0562	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
15	2-Naphthylamine (2-aminonaphthalene) **CAS #** 91-59-8 **Purity** 99%	(Lot SLBN2887V)	1,001.2	µg/mL	+/- 5.8756 +/- 11.9950 +/- 19.0643	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
16	5-Nitro-o-toluidine **CAS #** 99-55-8 **Purity** 97%	(Lot 71910/1)	997.5	µg/mL	+/- 5.8542 +/- 11.9513 +/- 18.9947	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
17	1,3,5-Trinitrobenzene **CAS #** 99-35-4 **Purity** 99%	(Lot UNVVB)	1,000.0	µg/mL	+/- 5.8686 +/- 11.9807 +/- 19.0414	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
18	Phenacetin **CAS #** 62-44-2 **Purity** 99%	(Lot 88F0225)	1,002.8	µg/mL	+/- 5.8850 +/- 12.0142 +/- 19.0947	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
19	4-Aminobiphenyl **CAS #** 92-67-1 **Purity** 99%	(Lot SLBF0806V)	1,000.0	µg/mL	+/- 5.8686 +/- 11.9807 +/- 19.0414	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
20	Propyzamide **CAS #** 2395[illegible]5 **Purity** 99%	(Lot 5227700)	1,001.2	µg/mL	+/- 5.8756 +/- 11.9950 +/- 19.0643	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
21	Pentachloronitrobenzene (quintozene) **CAS #** 82-68-8 **Purity** 99%	(Lot 5523500)	1,000.0	µg/mL	+/- 5.8686 +/- 11.9807 +/- 19.0414	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
22	4-Nitroquinoline-N-oxide **CAS #** 56-57-5 **Purity** 99%	(Lot LB98879V)	1,003.2	µg/mL	+/- 5.8873 +/- 12.0190 +/- 19.1024	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
23	p-Dimethylaminoazobenzene **CAS #** 60-11-7 **Purity** 98%	(Lot BCBP8840V)	1,002.0	µg/mL	+/- 5.8800 +/- 12.0040 +/- 19.0786	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

24	3,3'-Dimethylbenzidine (o-tolidine)		1,001.3	µg/mL	+/-	5.8762	µg/mL	Gravimetric
	CAS # 119-93-7	(Lot HO6DO)			+/-	11.9962	µg/mL	Unstressed
	Purity 95%				+/-	19.0662	µg/mL	Stressed
25	2-Acetylaminofluorene		1,004.0	µg/mL	+/-	5.8920	µg/mL	Gravimetric
	CAS # 53-96-3	(Lot FCW01)			+/-	12.0286	µg/mL	Unstressed
	Purity 99%				+/-	19.1176	µg/mL	Stressed
26	4,4-Methylene-bis(2-chloroaniline)		1,002.4	µg/mL	+/-	5.8829	µg/mL	Gravimetric
	CAS # 101-14-4	(Lot 5150500)			+/-	12.0099	µg/mL	Unstressed
	Purity 95%				+/-	19.0879	µg/mL	Stressed
27	Dibenz(a,h)acridine		1,000.8	µg/mL	+/-	5.8733	µg/mL	Gravimetric
	CAS # 226-36-8	(Lot PN090412-01)			+/-	11.9902	µg/mL	Unstressed
	Purity 99%				+/-	19.0567	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

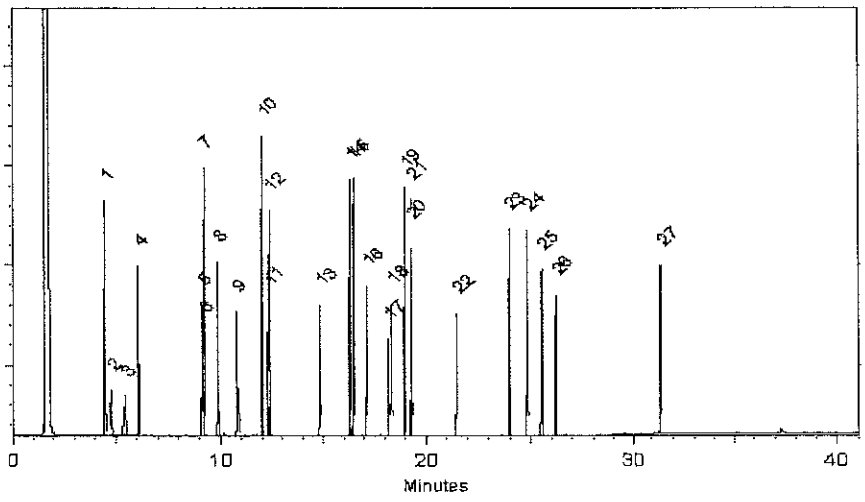
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Sawyer

Date Mixed: 09-Jan-2017 **Balance:** 1128360905

Justine Albertson - Operations Tech-ARM QC

Date Passed: 23-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S2_00012

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569733 **Lot No.:** A0123356

Description : 8270 List 2 / Std #2 (2015)

8270 List 2 / Std #2 (2015) 1,000 ug/ml, Methylene Chloride, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : December 31, 2017 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Methyl methanesulfonate		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 66-27-3	(Lot MKBL6789V)		+/- 45.9419	µg/mL	Unstressed
	Purity 99%			+/- 47.1176	µg/mL	Stressed
2	Ethyl methanesulfonate		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 62-50-0	(Lot FIN01-LVQL)		+/- 45.9419	µg/mL	Unstressed
	Purity 99%			+/- 47.1176	µg/mL	Stressed
3	Pentachloroethane		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 76-01-7	(Lot 160830B-BL2)		+/- 45.9419	µg/mL	Unstressed
	Purity 99%			+/- 47.1176	µg/mL	Stressed
4	Hexachloropropene		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 1888-71-7	(Lot 44391/3)		+/- 45.9419	µg/mL	Unstressed
	Purity 99%			+/- 47.1176	µg/mL	Stressed
5	Isosafrole (cis & trans)		1,000.0 µg/mL	+/- 5.8685	µg/mL	Gravimetric
	CAS # 120-58-1	(Lot MKBK3786V)		+/- 45.9415	µg/mL	Unstressed
	Purity 98%	83% trans; 17% cis		+/- 47.1172	µg/mL	Stressed
6	1-Chloronaphthalene		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 90-13-1	(Lot MYWUK)		+/- 45.9419	µg/mL	Unstressed
	Purity 99%			+/- 47.1176	µg/mL	Stressed
7	1,4-Naphthoquinone		1,000.0 µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 130-15-4	(Lot 3232134094)		+/- 45.9419	µg/mL	Unstressed
	Purity 99%			+/- 47.1176	µg/mL	Stressed

8	Pentachlorobenzene		1,000.0	µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 608-93-5	(Lot MKBV7714V)			+/- 45.9419	µg/mL	Unstressed
	Purity 99%				+/- 47.1176	µg/mL	Stressed
9	2,3,5,6-Tetrachlorophenol		1,000.0	µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 935-95-5	(Lot ER090607-01)			+/- 45.9419	µg/mL	Unstressed
	Purity 99%				+/- 47.1176	µg/mL	Stressed
10	Dinoseb		1,000.0	µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 88-85-7	(Lot 012015)			+/- 45.9419	µg/mL	Unstressed
	Purity 99%				+/- 47.1176	µg/mL	Stressed
11	Isodrin		1,000.0	µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 465-73-6	(Lot 4993900)			+/- 45.9419	µg/mL	Unstressed
	Purity 99%				+/- 47.1176	µg/mL	Stressed
12	Chlorobenzilate		1,000.0	µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 510-15-6	(Lot 5602600)			+/- 45.9419	µg/mL	Unstressed
	Purity 99%				+/- 47.1176	µg/mL	Stressed
13	7,12-Dimethylbenz(a)anthracene		1,000.0	µg/mL	+/- 5.8686	µg/mL	Gravimetric
	CAS # 57-97-6	(Lot ELSQG-PF)			+/- 45.9419	µg/mL	Unstressed
	Purity 99%				+/- 47.1176	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

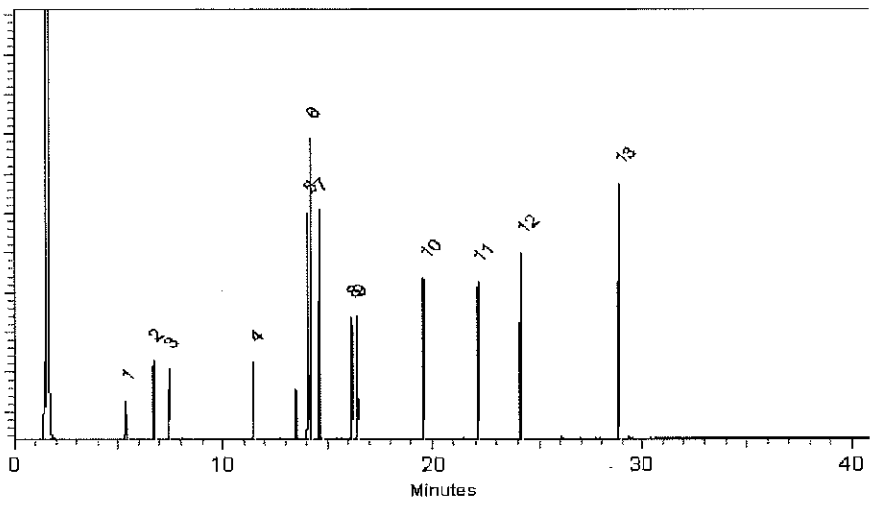
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Joseph Z Marsh

Date Mixed: 08-Dec-2016 **Balance:** 1128342313

Diane Shaffer

Diane Shaffer - Operations Tech-ARM QC

Date Passed: 12-Dec-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S2_00013

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569733 **Lot No.:** A0124780

Description : 8270 List 2 / Std #2 (2015)

8270 List 2 / Std #2 (2015) 1,000 ug/ml, Methylene Chloride, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2018 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Methyl methanesulfonate **CAS #** 66-27-3 **Purity** 99%	(Lot MKBL6789V)	1,005.3 µg/mL	+/- 5.9714 µg/mL +/- 46.1961 µg/mL +/- 47.3779 µg/mL	Gravimetric Unstressed Stressed
2	Ethyl methanesulfonate **CAS #** 62-50-0 **Purity** 99%	(Lot DGMLA)	1,002.0 µg/mL	+/- 5.9516 µg/mL +/- 46.0429 µg/mL +/- 47.2208 µg/mL	Gravimetric Unstressed Stressed
3	Pentachloroethane **CAS #** 76-01-7 **Purity** 99%	(Lot 160830B-BL2)	1,004.7 µg/mL	+/- 5.9674 µg/mL +/- 46.1655 µg/mL +/- 47.3464 µg/mL	Gravimetric Unstressed Stressed
4	Hexachloropropene **CAS #** 1888-71-7 **Purity** 99%	(Lot 44391/3)	1,003.3 µg/mL	+/- 5.9595 µg/mL +/- 46.1042 µg/mL +/- 47.2836 µg/mL	Gravimetric Unstressed Stressed
5	Isosafrole (cis & trans) **CAS #** 120-58-1 **Purity** 98%	(Lot MKBK3786V) 83% trans; 17% cis	1,004.2 µg/mL	+/- 5.9645 µg/mL +/- 46.1428 µg/mL +/- 47.3232 µg/mL	Gravimetric Unstressed Stressed
6	1-Chloronaphthalene **CAS #** 90-13-1 **Purity** 99%	(Lot BBPYI)	1,000.0 µg/mL	+/- 5.9397 µg/mL +/- 45.9510 µg/mL +/- 47.1265 µg/mL	Gravimetric Unstressed Stressed
7	1,4-Naphthoquinone **CAS #** 130-15-4 **Purity** 99%	(Lot 3232134094)	1,000.7 µg/mL	+/- 5.9437 µg/mL +/- 45.9817 µg/mL +/- 47.1579 µg/mL	Gravimetric Unstressed Stressed

8	Pentachlorobenzene		1,000.7	µg/mL	+/-	5.9437	µg/mL	Gravimetric
	CAS # 608-93-5	(Lot 02331CPV)			+/-	45.9817	µg/mL	Unstressed
	Purity 99%				+/-	47.1579	µg/mL	Stressed
9	2,3,5,6-Tetrachlorophenol		1,000.0	µg/mL	+/-	5.9397	µg/mL	Gravimetric
	CAS # 935-95-5	(Lot 012016)			+/-	45.9510	µg/mL	Unstressed
	Purity 99%				+/-	47.1265	µg/mL	Stressed
10	Dinoseb		1,001.3	µg/mL	+/-	5.9476	µg/mL	Gravimetric
	CAS # 88-85-7	(Lot 012015)			+/-	46.0123	µg/mL	Unstressed
	Purity 99%				+/-	47.1893	µg/mL	Stressed
11	Isodrin		1,001.7	µg/mL	+/-	5.9497	µg/mL	Gravimetric
	CAS # 465-73-6	(Lot 5710200)			+/-	46.0285	µg/mL	Unstressed
	Purity 97%				+/-	47.2060	µg/mL	Stressed
12	Chlorobenzilate		1,003.3	µg/mL	+/-	5.9595	µg/mL	Gravimetric
	CAS # 510-15-6	(Lot 5602600)			+/-	46.1042	µg/mL	Unstressed
	Purity 99%				+/-	47.2836	µg/mL	Stressed
13	7,12-Dimethylbenz(a)anthracene		1,004.0	µg/mL	+/-	5.9635	µg/mL	Gravimetric
	CAS # 57-97-6	(Lot ELSQG-PF)			+/-	46.1348	µg/mL	Unstressed
	Purity 99%				+/-	47.3150	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

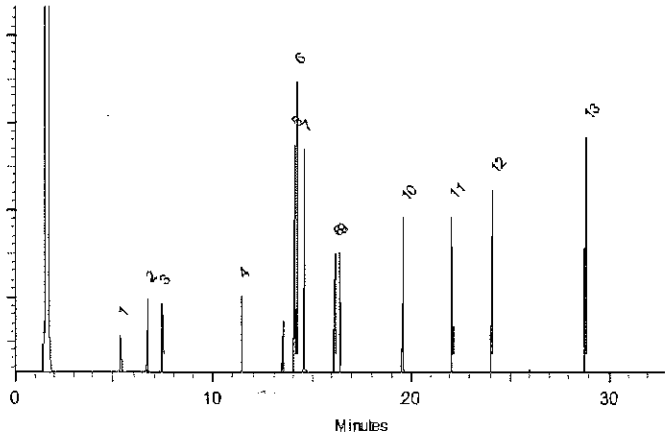
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Sawyer

Date Mixed: 08-Feb-2017 **Balance:** B442140311

Justine Albertson - Operations Tech-ARM QC

Date Passed: 12-Apr-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S3_00012

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567680 **Lot No.:** A0122952

Description : 8270 List 2 / Std #3

8270 List 2 / Std #3 2,000 ug/ml, Methylene Chloride, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : November 30, 2017 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	6-Methylchrysene		2,013.0 µg/mL		+/- 11.8134 µg/mL		Gravimetric
	CAS # 1705-85-7	(Lot ER030711-01)			+/- 90.6809 µg/mL		Unstressed
	Purity 99%				+/- 100.6187 µg/mL		Stressed
2	3-Methylcholanthrene		2,002.0 µg/mL		+/- 11.7489 µg/mL		Gravimetric
	CAS # 56-49-5	(Lot MKBS1548V)			+/- 90.1854 µg/mL		Unstressed
	Purity 99%				+/- 100.0689 µg/mL		Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

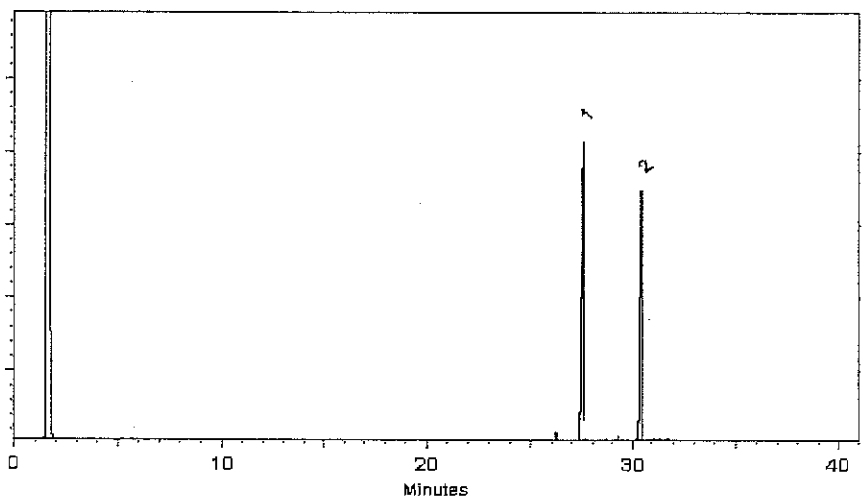
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 15-Nov-2016 **Balance:** 1128360905

Amanda Miller - Operations Tech-ARM QC

Date Passed: 17-Nov-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S3_00013

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567680 **Lot No.:** A0124193

Description : 8270 List 2 / Std #3

8270 List 2 / Std #3 2,000 ug/ml, Methylene Chloride, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2018 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	6-Methylchrysene	2,002.7 µg/mL	+/- 11.7528	µg/mL	Gravimetric
	CAS # 1705-85-7 (Lot ER030711-01)		+/- 90.2155	µg/mL	Unstressed
	Purity 99%		+/- 100.1022	µg/mL	Stressed
2	3-Methylcholanthrene	2,000.0 µg/mL	+/- 11.7371	µg/mL	Gravimetric
	CAS # 56-49-5 (Lot MKBQ8665V)		+/- 90.0953	µg/mL	Unstressed
	Purity 99%		+/- 99.9689	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

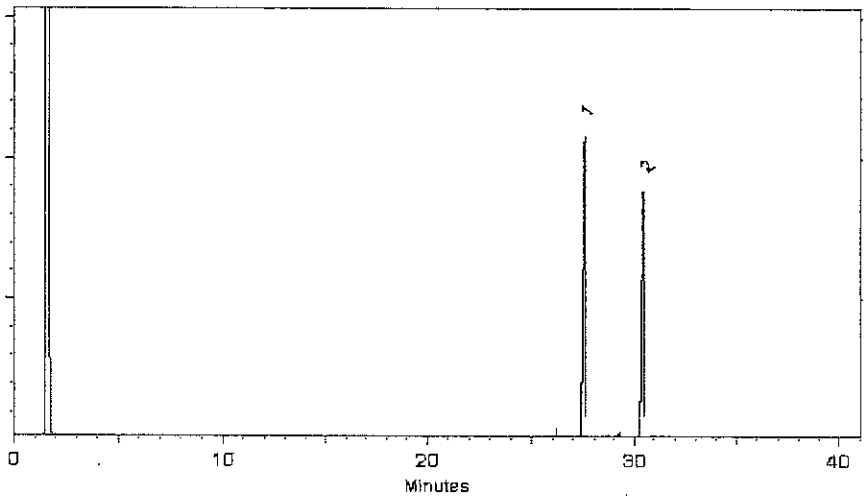
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Solfis - Mix Technician

Date Mixed: 13-Jan-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 17-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S4_00010

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567681 **Lot No.:** A0113584

Description : 8270 List 2 / Std #4

8270 List 2 / Std #4 1,000 ug/ml, Methylene Chloride, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	o,o,o-Triethyl phosphorothioate		1,010.0 µg/mL	+/- 5.9991	µg/mL	Gravimetric
	CAS # 126-68-1	(Lot 4157500)		+/- 36.3868	µg/mL	Unstressed
	Purity 99%			+/- 36.3881	µg/mL	Stressed
2	Safrole		1,009.0 µg/mL	+/- 5.9932	µg/mL	Gravimetric
	CAS # 94-59-7	(Lot 322225/11292)		+/- 36.3508	µg/mL	Unstressed
	Purity 99%			+/- 36.3521	µg/mL	Stressed
3	Zinophos (thionazine)		1,007.0 µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 297-97-2	(Lot 4051700)		+/- 36.2787	µg/mL	Unstressed
	Purity 99%			+/- 36.2800	µg/mL	Stressed
4	Sulfotepp		1,000.3 µg/mL	+/- 5.9416	µg/mL	Gravimetric
	CAS # 3689-24-5	(Lot 4011500)		+/- 36.0381	µg/mL	Unstressed
	Purity 96%			+/- 36.0393	µg/mL	Stressed
5	Diallate (cis and trans)		1,003.0 µg/mL	+/- 5.9575	µg/mL	Gravimetric
	CAS # 2303-16-4	(Lot 3857700)		+/- 36.1346	µg/mL	Unstressed
	Purity 99%	83% cis-Isomer; 17% trans-Isomer		+/- 36.1359	µg/mL	Stressed
6	Phorate		1,006.0 µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 298-02-2	(Lot 4082500)		+/- 36.2427	µg/mL	Unstressed
	Purity 99%			+/- 36.2440	µg/mL	Stressed
7	Dimethoate		1,002.2 µg/mL	+/- 5.9530	µg/mL	Gravimetric
	CAS # 60-51-5	(Lot 4065100)		+/- 36.1073	µg/mL	Unstressed
	Purity 96%			+/- 36.1085	µg/mL	Stressed

8	Disulfoton		1,001.0	µg/mL	+/-	5.9456	µg/mL	Gravimetric
	CAS # 298-04-4	(Lot 2959700)			+/-	36.0626	µg/mL	Unstressed
	Purity 99%				+/-	36.0638	µg/mL	Stressed
9	Methyl parathion		1,009.0	µg/mL	+/-	5.9932	µg/mL	Gravimetric
	CAS # 298-00-0	(Lot 3595300)			+/-	36.3508	µg/mL	Unstressed
	Purity 99%				+/-	36.3521	µg/mL	Stressed
10	Parathion (ethyl parathion)		1,010.0	µg/mL	+/-	5.9991	µg/mL	Gravimetric
	CAS # 56-38-2	(Lot 4180300)			+/-	36.3868	µg/mL	Unstressed
	Purity 99%				+/-	36.3881	µg/mL	Stressed
11	Aramite		1,001.0	µg/mL	+/-	5.9459	µg/mL	Gravimetric
	CAS # 140-57-8	(Lot 032010)			+/-	36.0640	µg/mL	Unstressed
	Purity 97%	51% I; 49% II			+/-	36.0653	µg/mL	Stressed
12	Famphur		1,004.5	µg/mL	+/-	5.9664	µg/mL	Gravimetric
	CAS # 52-85-7	(Lot 4168000)			+/-	36.1887	µg/mL	Unstressed
	Purity 98%				+/-	36.1899	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

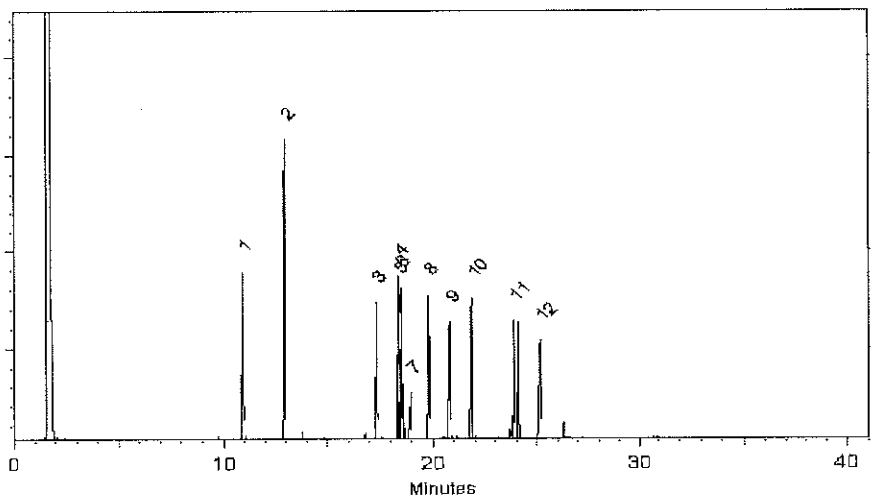
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed: 26-Aug-2015 **Balance:** 1128360905

Amanda Miller - QC Analyst

Date Passed: 03-Sep-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S4_00011

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567681 **Lot No.:** A0124571

Description : 8270 List 2 / Std #4

8270 List 2 / Std #4 1,000 ug/ml, Methylene Chloride, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L., K=2)	
1	o,o,o-Triethyl phosphorothioate		1,000.0 µg/mL	+/- 5.8686 µg/mL	Gravimetric
	CAS # 126-68-1	(Lot 5652500)		+/- 42.8944 µg/mL	Unstressed
	Purity 99%			+/- 42.9129 µg/mL	Stressed
2	Safrole		1,001.5 µg/mL	+/- 5.8774 µg/mL	Gravimetric
	CAS # 94-59-7	(Lot 322225/11292)		+/- 42.9587 µg/mL	Unstressed
	Purity 99%			+/- 42.9772 µg/mL	Stressed
3	Zinophos (thionazine)		1,001.5 µg/mL	+/- 5.8774 µg/mL	Gravimetric
	CAS # 297-97-2	(Lot 5730500)		+/- 42.9587 µg/mL	Unstressed
	Purity 99%			+/- 42.9772 µg/mL	Stressed
4	Sulfotepp		1,001.5 µg/mL	+/- 5.8775 µg/mL	Gravimetric
	CAS # 3689-24-5	(Lot 5825600)		+/- 42.9598 µg/mL	Unstressed
	Purity 97%			+/- 42.9783 µg/mL	Stressed
5	Diallate (cis and trans)		1,000.6 µg/mL	+/- 5.8720 µg/mL	Gravimetric
	CAS # 2303-16-4	(Lot 5199100)		+/- 42.9192 µg/mL	Unstressed
	Purity 98%	86% cis-isomer; 14% trans-isomer		+/- 42.9378 µg/mL	Stressed
6	Phorate		1,000.3 µg/mL	+/- 5.8704 µg/mL	Gravimetric
	CAS # 298-02-2	(Lot 5683900)		+/- 42.9081 µg/mL	Unstressed
	Purity 96%			+/- 42.9266 µg/mL	Stressed
7	Dimethoate		1,001.5 µg/mL	+/- 5.8774 µg/mL	Gravimetric
	CAS # 60-51-5	(Lot 5561900)		+/- 42.9587 µg/mL	Unstressed
	Purity 99%			+/- 42.9772 µg/mL	Stressed

8	Disulfoton		1,001.5	µg/mL	+/-	5.8774	µg/mL	Gravimetric
	CAS # 298-04-4	(Lot 5197100)			+/-	42.9587	µg/mL	Unstressed
	Purity 99%				+/-	42.9772	µg/mL	Stressed
9	Methyl parathion		1,000.5	µg/mL	+/-	5.8715	µg/mL	Gravimetric
	CAS # 298-00-0	(Lot 5652600)			+/-	42.9158	µg/mL	Unstressed
	Purity 99%				+/-	42.9343	µg/mL	Stressed
10	Parathion (ethyl parathion)		1,000.1	µg/mL	+/-	5.8691	µg/mL	Gravimetric
	CAS # 56-38-2	(Lot 5684200)			+/-	42.8982	µg/mL	Unstressed
	Purity 98%				+/-	42.9167	µg/mL	Stressed
11	Aramite		1,000.1	µg/mL	+/-	5.8690	µg/mL	Gravimetric
	CAS # 140-57-8	(Lot 012012)			+/-	42.8974	µg/mL	Unstressed
	Purity 97%	51% I; 49% II			+/-	42.9159	µg/mL	Stressed
12	Famphur		1,000.5	µg/mL	+/-	5.8715	µg/mL	Gravimetric
	CAS # 52-85-7	(Lot 5684100)			+/-	42.9158	µg/mL	Unstressed
	Purity 99%				+/-	42.9343	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

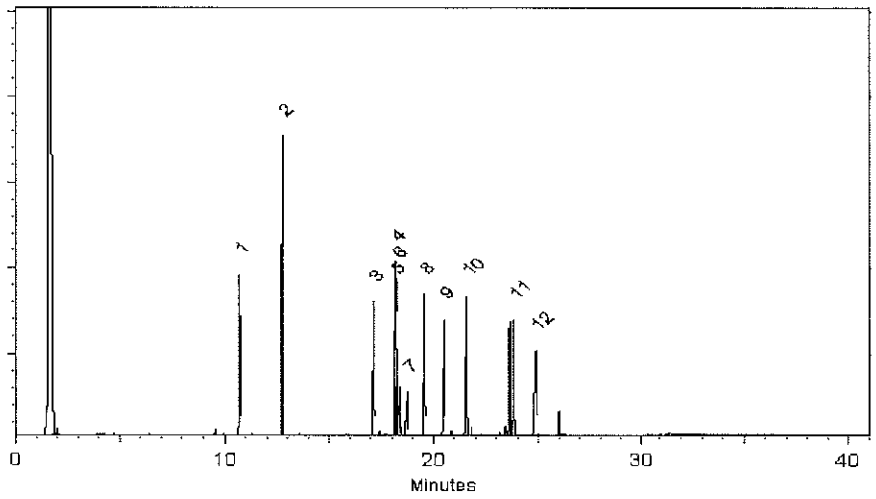
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cathleen Soltis - Mix Technician

Date Mixed: 30-Jan-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 02-Feb-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S5_00009

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3223.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3223.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567682 **Lot No.:** A0112843

Description : 8270 List 2 / Std #5 Methapyrilene

8270 List 2 / Std #5 Methapyrilene 2,000µg/mL, Methylene Chloride, 1mL/ampul
*The reported compound masses are for Methapyrilene HCl. Purity is adjusted to correct for the HCl salt. The reported concentration is of Methapyrilene.

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : July 31, 2017 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Methapyrilene hydrochloride	2,007.6 µg/mL	+/- 11.7816	µg/mL	Gravimetric
	CAS # 135-23-9 (Lot 037F09291)		+/- 22.0386	µg/mL	Unstressed
	Purity 88% CAS # 91-80-5		+/- 37.3166	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

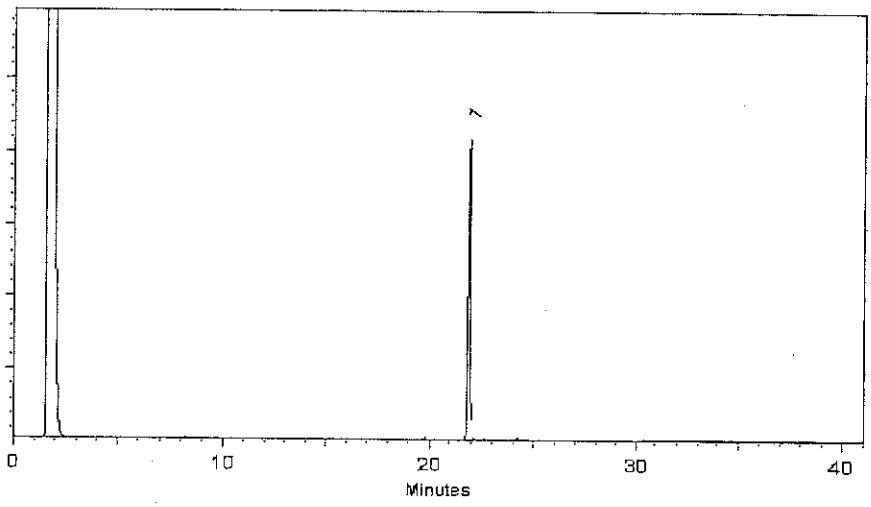
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Connor Flannery – Mix Technician

Date Mixed: 27-Jul-2015 **Balance:** B442140311

Jennifer L Pollino

Jennifer L. Pollino - QC Analyst

Date Passed: 29-Jul-2015

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 S5_00010

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567682 **Lot No.:** A0123886

Description : 8270 List 2 / Std #5 Methapyrilene

8270 List 2 / Std #5 Methapyrilene 2,000µg/mL, Methylene Chloride, 1mL/ampul
*The reported compound masses are for Methapyrilene HCl. Purity is adjusted to correct for the HCl salt. The reported concentration is of Methapyrilene.

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2019 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Methapyrilene hydrochloride	1,998.7 µg/mL	+/- 11.7294	µg/mL	Gravimetric
	CAS # 135-23-9 (Lot 037F09291)		+/- 23.9455	µg/mL	Unstressed
	Purity 87% CAS # 91-80-5		+/- 38.0577	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:
*The reported compound masses are for Methapyrilene HCl. Purity is adjusted to correct for the HCl salt. The reported concentration is of Methapyrilene, CAS # 91-80-5

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

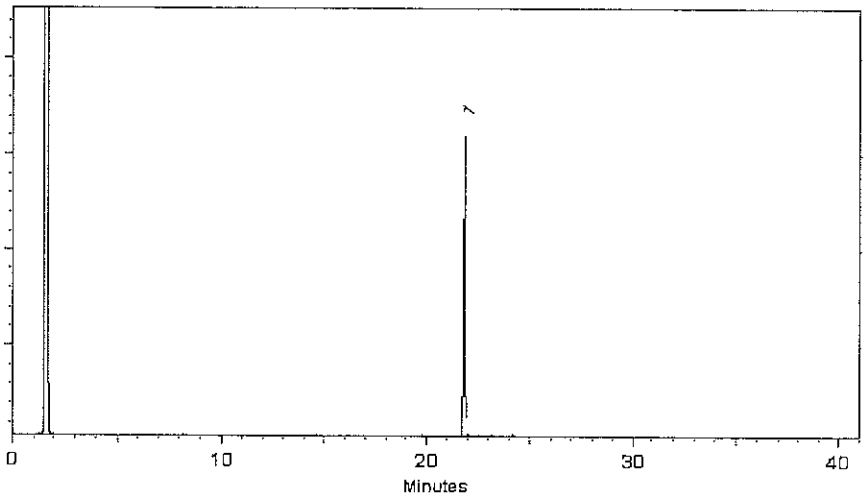
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Sauer

Date Mixed: 03-Jan-2017 **Balance:** 1128360905

Jennifer Pollino

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 09-Jan-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

SMLIST2 SS S4_00007

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567681.sec **Lot No.:** A0116579

Description : 8270 List 2 / Std #4

8270 List 2 / Std #4 1,000 ug/ml, Methylene Chloride, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2018 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	o,o,o-Triethyl phosphorothioate		1,010.0	µg/mL	+/- 5.9991	µg/mL	Gravimetric
	CAS # 126-68-1 *	(Lot 4157500)			+/- 43.3332	µg/mL	Unstressed
	Purity 99%				+/- 43.3519	µg/mL	Stressed
2	Safrole		1,007.0	µg/mL	+/- 5.9813	µg/mL	Gravimetric
	CAS # 94-59-7.SEC	(Lot 793000)			+/- 43.2045	µg/mL	Unstressed
	Purity 99%				+/- 43.2231	µg/mL	Stressed
3	Zinophos (thionazine)		1,004.0	µg/mL	+/- 5.9635	µg/mL	Gravimetric
	CAS # 297-97-2.SEC	(Lot 31018)			+/- 43.0758	µg/mL	Unstressed
	Purity 99%				+/- 43.0943	µg/mL	Stressed
4	Sulfotepp		1,008.0	µg/mL	+/- 5.9872	µg/mL	Gravimetric
	CAS # 3689-24-5.SEC	(Lot 40925)			+/- 43.2474	µg/mL	Unstressed
	Purity 99%				+/- 43.2660	µg/mL	Stressed
5	Diallate (cis and trans)		1,003.0	µg/mL	+/- 5.9575	µg/mL	Gravimetric
	CAS # 2303-16-4.SEC	(Lot 40325)			+/- 43.0329	µg/mL	Unstressed
	Purity 99%	75% cis-Isomer; 25% trans-Isomer			+/- 43.0514	µg/mL	Stressed
6	Phorate		999.4	µg/mL	+/- 5.9359	µg/mL	Gravimetric
	CAS # 298-02-2.SEC	(Lot SZBF054XV)			+/- 42.8767	µg/mL	Unstressed
	Purity 96%				+/- 42.8952	µg/mL	Stressed
7	Dimethoate		1,006.0	µg/mL	+/- 5.9753	µg/mL	Gravimetric
	CAS # 60-51-5.SEC	(Lot 40620)			+/- 43.1616	µg/mL	Unstressed
	Purity 99%				+/- 43.1802	µg/mL	Stressed

8	Disulfoton			1,004.0	µg/mL	+/-	5.9635	µg/mL	Gravimetric
	CAS #	298-04-4.SEC	(Lot 31120)			+/-	43.0758	µg/mL	Unstressed
	Purity	99%				+/-	43.0943	µg/mL	Stressed
9	Methyl parathion			1,008.0	µg/mL	+/-	5.9872	µg/mL	Gravimetric
	CAS #	298-00-0.SEC	(Lot 21005)			+/-	43.2474	µg/mL	Unstressed
	Purity	99%				+/-	43.2660	µg/mL	Stressed
10	Parathion (ethyl parathion)			1,003.0	µg/mL	+/-	5.9575	µg/mL	Gravimetric
	CAS #	56-38-2.SEC	(Lot 50326)			+/-	43.0329	µg/mL	Unstressed
	Purity	99%				+/-	43.0514	µg/mL	Stressed
11	Aramite			1,005.9	µg/mL	+/-	5.9747	µg/mL	Gravimetric
	CAS #	140-57-8 *	(Lot 012012)			+/-	43.1569	µg/mL	Unstressed
	Purity	97%	51% I; 49% II			+/-	43.1755	µg/mL	Stressed
12	Famphur			1,008.4	µg/mL	+/-	5.9897	µg/mL	Gravimetric
	CAS #	52-85-7.SEC	(Lot 10428)			+/-	43.2654	µg/mL	Unstressed
	Purity	98%				+/-	43.2841	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

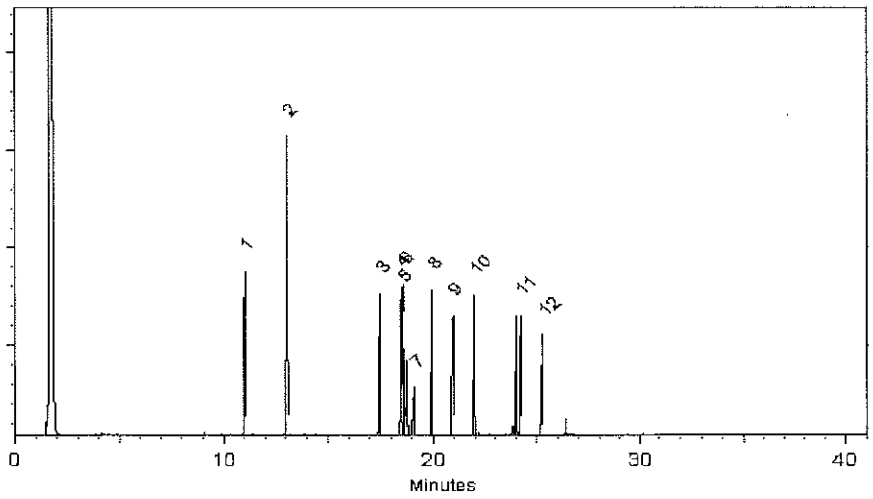
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 14-Jan-2016 **Balance:** B345965662

Amanda Miller - QC Analyst

Date Passed: 18-Jan-2016

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Method 8270D

Semivolatile Organic Compounds (GC/MS) by Method 8270D

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): RXI-5SILMS/ ID: 0.25(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
16C1	240-79703-1	73	54	80	74	88	88
16MW8	240-79703-2	75	56	78	77	88	88
16MW9	240-79703-3	77	54	75	72	83	83
16WC1A	240-79703-4	75	56	76	72	90	84
16WDUP	240-79703-5	71	55	78	75	87	86
16WC1B	240-79703-6	72	64	75	75	85	84
	MB 240-279842/9-A	66	56	70	70	78	75
	LCS 240-279842/10-A	73	45	103	98	97	98
16WC1A MS	240-79703-4 MS	59	28	91	86	92	93
16WC1A MSD	240-79703-4 MSD	79	35	93	88	95	91

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	17-120
PHL = Phenol-d5 (Surr)	15-120
NBZ = Nitrobenzene-d5 (Surr)	35-120
FBP = 2-Fluorobiphenyl (Surr)	32-120
TBP = 2,4,6-Tribromophenol (Surr)	33-120
TPHL = Terphenyl-d14 (Surr)	28-128

Column to be used to flag recovery values

FORM II 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 70530020.D

Lab ID: LCS 240-279842/10-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Sulfotepp	32.0	32.6	102	10-120	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 70530021.D

Lab ID: 240-79703-4 MS Client ID: 16WC1A MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Sulfotepp	28.6	8.9 U	26.5	93	10-120	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 70530022.D

Lab ID: 240-79703-4 MSD Client ID: 16WC1A MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Sulfotepp	28.6	26.2	92	1	35	10-120	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab File ID: 70525004.D Lab Sample ID: MB 240-279842/9-A

Matrix: Water Date Extracted: 05/22/2017 08:32

Instrument ID: A4AG2 Date Analyzed: 05/25/2017 09:11

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
16C1	240-79703-1	70525018.D	05/25/2017 14:52
16MW8	240-79703-2	70525019.D	05/25/2017 15:16
16MW9	240-79703-3	70525020.D	05/25/2017 15:41
16WDUP	240-79703-5	70525021.D	05/25/2017 16:05
16WC1B	240-79703-6	70525022.D	05/25/2017 16:29
16WC1A	240-79703-4	70525023.D	05/25/2017 16:54
	LCS 240-279842/10-A	70530020.D	05/30/2017 12:26
16WC1A MS	240-79703-4 MS	70530021.D	05/30/2017 12:50
16WC1A MSD	240-79703-4 MSD	70530022.D	05/30/2017 13:15

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab File ID: 70524001.D DFTPP Injection Date: 05/24/2017

Instrument ID: A4AG2 DFTPP Injection Time: 08:23

Analysis Batch No.: 280161

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0- 80.0% of mass 198	38.9	
68	Less than 2.0% of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	34.0	
70	Less than 2.0% of mass 69	0.1	(0.4) 1
127	25.0 - 75.0% of mass 198	46.5	
197	Less than 1.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	
199	5.0 to 9.0% of mass 198	6.7	
275	10.0- 30.0% of mass 198	29.9	
365	Greater than 0.75% of mass 198	4.0	
441	Present, but less than mass 443	13.3	
442	40.0 - 110.0% of mass 198	91.0	
443	15.0 - 24.0% of mass 442	17.8	(19.5) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD9 240-280161/2	70524002.D	05/24/2017	08:41
	STD8 240-280161/3	70524003.D	05/24/2017	09:06
	STD7 240-280161/4	70524004.D	05/24/2017	09:30
	STD6 240-280161/5	70524005.D	05/24/2017	09:54
	STD5 240-280161/6	70524006.D	05/24/2017	10:19
	STD4 240-280161/7	70524007.D	05/24/2017	10:43
	STD3 240-280161/8	70524008.D	05/24/2017	11:07
	STD2 240-280161/9	70524009.D	05/24/2017	11:32
	STD1 240-280161/10	70524010.D	05/24/2017	11:56
	ICV 240-280161/11	70524011.D	05/24/2017	12:21
	STD9 240-280161/12	70524012.D	05/24/2017	12:45
	STD8 240-280161/13	70524013.D	05/24/2017	13:09
	STD7 240-280161/14	70524014.D	05/24/2017	13:34
	STD6 240-280161/15	70524015.D	05/24/2017	13:58
	STD5 240-280161/16	70524016.D	05/24/2017	14:22
	STD4 240-280161/17	70524017.D	05/24/2017	14:47
	STD3 240-280161/18	70524018.D	05/24/2017	15:11
	STD2 240-280161/19	70524019.D	05/24/2017	15:35
	ICV 240-280161/20	70524020.D	05/24/2017	16:00

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab File ID: 70525001.D DFTPP Injection Date: 05/25/2017

Instrument ID: A4AG2 DFTPP Injection Time: 08:03

Analysis Batch No.: 280357

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0- 80.0% of mass 198	32.9
68	Less than 2.0% of mass 69	0.2 (0.7) 1
69	Mass 69 relative abundance	30.2
70	Less than 2.0% of mass 69	0.1 (0.5) 1
127	25.0 - 75.0% of mass 198	43.3
197	Less than 1.0% of mass 198	0.2
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.9
275	10.0- 30.0% of mass 198	28.0
365	Greater than 0.75% of mass 198	4.2
441	Present, but less than mass 443	13.9
442	40.0 - 110.0% of mass 198	95.6
443	15.0 - 24.0% of mass 442	18.6 (19.4) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD6 240-280357/2	70525002.D	05/25/2017	08:21
	STD6 240-280357/3	70525003.D	05/25/2017	08:46
	MB 240-279842/9-A	70525004.D	05/25/2017	09:11
16C1	240-79703-1	70525018.D	05/25/2017	14:52
16MW8	240-79703-2	70525019.D	05/25/2017	15:16
16MW9	240-79703-3	70525020.D	05/25/2017	15:41
16WDUP	240-79703-5	70525021.D	05/25/2017	16:05
16WC1B	240-79703-6	70525022.D	05/25/2017	16:29
16WC1A	240-79703-4	70525023.D	05/25/2017	16:54

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab File ID: 70530001.D DFTPP Injection Date: 05/30/2017

Instrument ID: A4AG2 DFTPP Injection Time: 06:51

Analysis Batch No.: 280762

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0- 80.0% of mass 198	44.2	
68	Less than 2.0% of mass 69	0.0	(0.0) 1
69	Mass 69 relative abundance	39.8	
70	Less than 2.0% of mass 69	0.2	(0.5) 1
127	25.0 - 75.0% of mass 198	50.8	
197	Less than 1.0% of mass 198	0.0	
198	Base Peak, 100% relative abundance	100.0	
199	5.0 to 9.0% of mass 198	6.7	
275	10.0- 30.0% of mass 198	26.9	
365	Greater than 0.75% of mass 198	3.4	
441	Present, but less than mass 443	11.3	
442	40.0 - 110.0% of mass 198	75.8	
443	15.0 - 24.0% of mass 442	14.5	(19.1) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD6 240-280762/2	70530002.D	05/30/2017	07:09
	STD6 240-280762/19	70530019.D	05/30/2017	12:02
	LCS 240-279842/10-A	70530020.D	05/30/2017	12:26
16WC1A MS	240-79703-4 MS	70530021.D	05/30/2017	12:50
16WC1A MSD	240-79703-4 MSD	70530022.D	05/30/2017	13:15

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Sample No.: STD6 240-280161/5 Date Analyzed: 05/24/2017 09:54

Instrument ID: A4AG2 GC Column: RXI-5SILMS/IIG ID: 0.25(mm)

Lab File ID (Standard): 70524005.D Heated Purge: (Y/N) N

Calibration ID: 40090

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		263553	6.86	1078604	7.93	603662	9.43
UPPER LIMIT		527106	7.36	2157208	8.43	1207324	9.93
LOWER LIMIT		131777	6.36	539302	7.43	301831	8.93
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-280161/11		287594	6.86	1163336	7.93	645059	9.43
ICV 240-280161/20		261345	6.86	1179437	7.93	669404	9.43
STD6 240-280357/2 CCVIS		244524	6.86	1059173	7.93	632093	9.42
STD6 240-280762/2 CCVIS		190517	6.83	812383	7.90	452389	9.40

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Sample No.: STD6 240-280161/5 Date Analyzed: 05/24/2017 09:54

Instrument ID: A4AG2 GC Column: RXI-5SILMS/IIG ID: 0.25(mm)

Lab File ID (Standard): 70524005.D Heated Purge: (Y/N) N

Calibration ID: 40090

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		889111	10.71	895626	13.70	757478	16.09
UPPER LIMIT		1778222	11.21	1791252	14.20	1514956	16.59
LOWER LIMIT		444556	10.21	447813	13.20	378739	15.59
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 240-280161/11		966088	10.71	984757	13.70	821051	16.10
ICV 240-280161/20		1023271	10.71	913432	13.69	784125	16.09
STD6 240-280357/2 CCVIS		1007886	10.71	1155562	13.69	980235	16.09
STD6 240-280762/2 CCVIS		697724	10.68	758815	13.65	666191	16.03

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Sample No.: STD6 240-280357/2 Date Analyzed: 05/25/2017 08:21

Instrument ID: A4AG2 GC Column: RXI-5SILMS/IIG ID: 0.25(mm)

Lab File ID (Standard): 70525002.D Heated Purge: (Y/N) N

Calibration ID: 40104

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		244524	6.86	1059173	7.93	632093	9.42
UPPER LIMIT		489048	7.36	2118346	8.43	1264186	9.92
LOWER LIMIT		122262	6.36	529587	7.43	316047	8.92
LAB SAMPLE ID	CLIENT SAMPLE ID						
STD6 240-280357/3 CCV		253115	6.86	1201518	7.92	706367	9.42
MB 240-279842/9-A		275882	6.86	1258249	7.92	719216	9.42
240-79703-1	16C1	258324	6.86	1174541	7.92	716370	9.42
240-79703-2	16MW8	249786	6.86	1185173	7.92	715405	9.42
240-79703-3	16MW9	275575	6.86	1182229	7.92	692785	9.42
240-79703-5	16WDUP	295487	6.86	1371956	7.92	819693	9.42
240-79703-6	16WC1B	278606	6.86	1357113	7.92	781546	9.42
240-79703-4	16WC1A	336146	6.86	1530737	7.92	932928	9.42

DCBd4 = 1,4-Dichlorobenzene-d4
DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
NPT = Naphthalene-d8
Area Limit = 50%-200% of internal standard area
ANT = Acenaphthene-d10
RT Limit = ± 0.5 minutes of internal standard RT
ANT = Acenaphthene-d10

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Sample No.: STD6 240-280357/2 Date Analyzed: 05/25/2017 08:21

Instrument ID: A4AG2 GC Column: RXI-5SILMS/IIG ID: 0.25(mm)

Lab File ID (Standard): 70525002.D Heated Purge: (Y/N) N

Calibration ID: 40104

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		1007886	10.71	1155562	13.69	980235	16.09
UPPER LIMIT		2015772	11.21	2311124	14.19	1960470	16.59
LOWER LIMIT		503943	10.21	577781	13.19	490118	15.59
LAB SAMPLE ID	CLIENT SAMPLE ID						
STD6 240-280357/3 CCV		1186791	10.71	1249598	13.68	1062954	16.08
MB 240-279842/9-A		1408100	10.71	1466792	13.68	1204039	16.08
240-79703-1	16C1	1363584	10.71	1364719	13.68	1114554	16.08
240-79703-2	16MW8	1378620	10.71	1391875	13.68	1133541	16.08
240-79703-3	16MW9	1343066	10.71	1350950	13.68	1114311	16.08
240-79703-5	16WDUP	1580930	10.71	1612410	13.68	1301820	16.08
240-79703-6	16WC1B	1456555	10.71	1486461	13.68	1216274	16.08
240-79703-4	16WC1A	1762619	10.71	1788143	13.68	1446842	16.08

PHN = Phenanthrene-d10
CRY = Chrysene-d12
CRY = Chrysene-d12
PRY = Perylene-d12
Area Limit = 50%-200% of internal standard area
PRY = Perylene-d12
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Sample No.: STD6 240-280762/2 Date Analyzed: 05/30/2017 07:09

Instrument ID: A4AG2 GC Column: RXI-5SILMS/IIG ID: 0.25(mm)

Lab File ID (Standard): 70530002.D Heated Purge: (Y/N) N

Calibration ID: 40104

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		190517	6.83	812383	7.90	452389	9.40
UPPER LIMIT		381034	7.33	1624766	8.40	904778	9.90
LOWER LIMIT		95259	6.33	406192	7.40	226195	8.90
LAB SAMPLE ID	CLIENT SAMPLE ID						
STD6 240-280762/19 CCV		169369	6.83	752665	7.90	436210	9.40
LCS 240-279842/10-A		148915	6.83	637705	7.90	378679	9.40
240-79703-4 MS	16WC1A MS	148937	6.83	697466	7.90	391026	9.40
240-79703-4 MSD	16WC1A MSD	150419	6.83	732805	7.90	411351	9.40

DCBd4 = 1,4-Dichlorobenzene-d4
DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
NPT = Naphthalene-d8
Area Limit = 50%-200% of internal standard area
ANT = Acenaphthene-d10
RT Limit = ± 0.5 minutes of internal standard RT
ANT = Acenaphthene-d10

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Sample No.: STD6 240-280762/2 Date Analyzed: 05/30/2017 07:09

Instrument ID: A4AG2 GC Column: RXI-5SILMS/IIG ID: 0.25(mm)

Lab File ID (Standard): 70530002.D Heated Purge: (Y/N) N

Calibration ID: 40104

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		697724	10.68	758815	13.65	666191	16.03
UPPER LIMIT		1395448	11.18	1517630	14.15	1332382	16.53
LOWER LIMIT		348862	10.18	379408	13.15	333096	15.53
LAB SAMPLE ID	CLIENT SAMPLE ID						
STD6 240-280762/19 CCV		714348	10.68	651038	13.64	554724	16.02
LCS 240-279842/10-A		624812	10.68	587383	13.64	485266	16.03
240-79703-4 MS	16WC1A MS	647526	10.68	642934	13.64	516499	16.03
240-79703-4 MSD	16WC1A MSD	693359	10.68	706853	13.64	567734	16.03

PHN = Phenanthrene-d10
PHN = Phenanthrene-d10
CRY = Chrysene-d12
CRY = Chrysene-d12
PRY = Perylene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16C1 | Lab Sample ID: 240-79703-1

Matrix: Water | Lab File ID: 70525018.D

Analysis Method: 8270D | Date Collected: 05/17/2017 10:35

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/25/2017 14:52

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	8.9	U	8.9	0.89

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	88		28-128
4165-62-2	Phenol-d5 (Surr)	54		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	80		35-120
367-12-4	2-Fluorophenol (Surr)	73		17-120
321-60-8	2-Fluorobiphenyl (Surr)	74		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	88		33-120

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16C1 | Lab Sample ID: 240-79703-1

Matrix: Water | Lab File ID: 70525018.D

Analysis Method: 8270D | Date Collected: 05/17/2017 10:35

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/25/2017 14:52

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
70-30-4	Hexachlorophene TIC		89	U	

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525018.D
Lims ID: 240-79703-B-1-A
Client ID: 16C1
Sample Type: Client
Inject. Date: 25-May-2017 14:52:30 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-018
Misc. Info.: 240-79703-B-1-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 31-May-2017 11:43:52

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	97	258324	400.0	
* 2 Naphthalene-d8	136	7.923	7.923	0.000	100	1174541	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	91	716370	400.0	
* 4 Phenanthrene-d10	188	10.705	10.705	0.000	97	1363584	400.0	
* 5 Chrysene-d12	240	13.681	13.681	0.000	97	1364719	400.0	
* 6 Perylene-d12	264	16.081	16.081	0.000	98	1114554	400.0	
$ 7 2-Fluorophenol	112	5.782	5.782	0.000	95	555992	1165.5	
$ 8 Phenol-d5	99	6.493	6.494	-0.001	99	712948	864.8	
$ 9 Nitrobenzene-d5	82	7.299	7.305	-0.006	94	1381563	1279.3	
$ 10 2-Fluorobiphenyl (Surr)	172	8.811	8.811	0.000	100	2653316	1180.8	
$ 11 2,4,6-Tribromophenol	330	10.093	10.099	-0.006	94	304807	1411.8	
$ 12 Terphenyl-d14	244	12.211	12.217	-0.006	99	3630998	1402.6	
62 Nitrobenzene	77		7.317				ND	
125 4-Nitroaniline	138		9.876				ND	
132 Sulfotepp	202		10.035				ND	
T 202 Hexachlorophene TIC	198		14.400				ND	

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

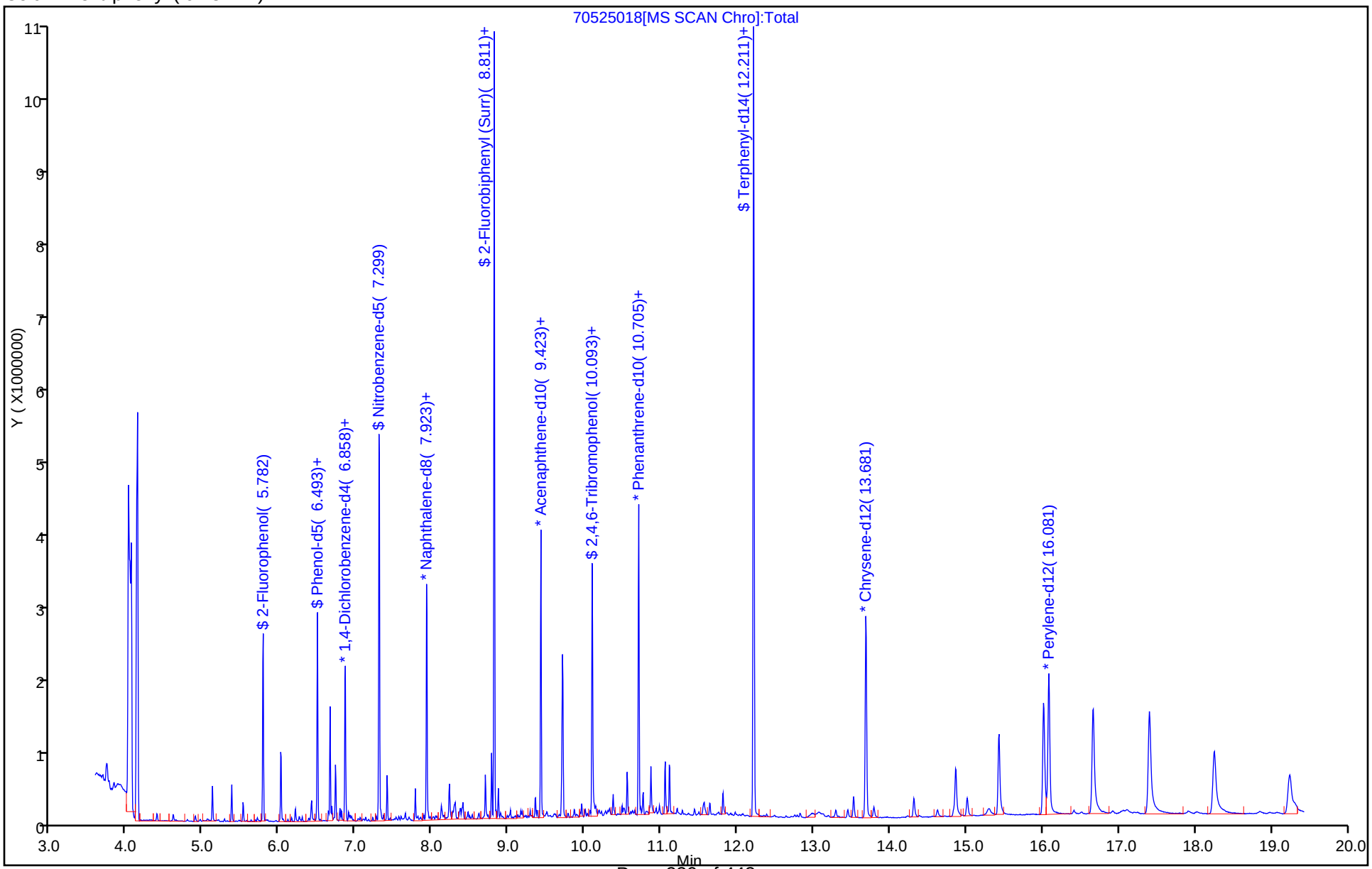
Report Date: 31-May-2017 11:48:06 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525018.D

Injection Date:	25-May-2017 14:52:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	240-79703-B-1-A	Lab Sample ID:	240-79703-1	Worklist Smp#:	18
Client ID:	16C1				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525018.D
Lims ID: 240-79703-B-1-A
Client ID: 16C1
Sample Type: Client
Inject. Date: 25-May-2017 14:52:30 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-018
Misc. Info.: 240-79703-B-1-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 31-May-2017 11:43:52

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	1165.5	72.84
$ 8 Phenol-d5	1600.0	864.8	54.05
$ 9 Nitrobenzene-d5	1600.0	1279.3	79.96
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1180.8	73.80
$ 11 2,4,6-Tribromophenol	1600.0	1411.8	88.24
$ 12 Terphenyl-d14	1600.0	1402.6	87.66

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16MW8 | Lab Sample ID: 240-79703-2

Matrix: Water | Lab File ID: 70525019.D

Analysis Method: 8270D | Date Collected: 05/15/2017 12:20

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 250(mL) | Date Analyzed: 05/25/2017 15:16

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	10	U	10	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	88		28-128
4165-62-2	Phenol-d5 (Surr)	56		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	78		35-120
367-12-4	2-Fluorophenol (Surr)	75		17-120
321-60-8	2-Fluorobiphenyl (Surr)	77		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	88		33-120

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16MW8 | Lab Sample ID: 240-79703-2

Matrix: Water | Lab File ID: 70525019.D

Analysis Method: 8270D | Date Collected: 05/15/2017 12:20

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 250(mL) | Date Analyzed: 05/25/2017 15:16

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
70-30-4	Hexachlorophene TIC		100	U	

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525019.D
Lims ID: 240-79703-A-2-A
Client ID: 16MW8
Sample Type: Client
Inject. Date: 25-May-2017 15:16:30 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-019
Misc. Info.: 240-79703-A-2-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:02:56

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	97	249786	400.0	
* 2 Naphthalene-d8	136	7.923	7.923	0.000	100	1185173	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	92	715405	400.0	
* 4 Phenanthrene-d10	188	10.705	10.705	0.000	97	1378620	400.0	
* 5 Chrysene-d12	240	13.681	13.681	0.000	97	1391875	400.0	
* 6 Perylene-d12	264	16.081	16.081	0.000	98	1133541	400.0	
$ 7 2-Fluorophenol	112	5.782	5.782	0.000	95	550606	1193.6	
$ 8 Phenol-d5	99	6.494	6.494	0.000	99	715599	897.7	
$ 9 Nitrobenzene-d5	82	7.299	7.305	-0.006	93	1354284	1242.8	
$ 10 2-Fluorobiphenyl (Surr)	172	8.811	8.811	0.000	99	2773093	1235.7	
$ 11 2,4,6-Tribromophenol	330	10.093	10.099	-0.006	92	304409	1411.8	
$ 12 Terphenyl-d14	244	12.211	12.217	-0.006	99	3725580	1411.1	
62 Nitrobenzene	77		7.317				ND	
125 4-Nitroaniline	138		9.876				ND	
132 Sulfotepp	202		10.035				ND	
T 202 Hexachlorophene TIC	198		14.400				ND	

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

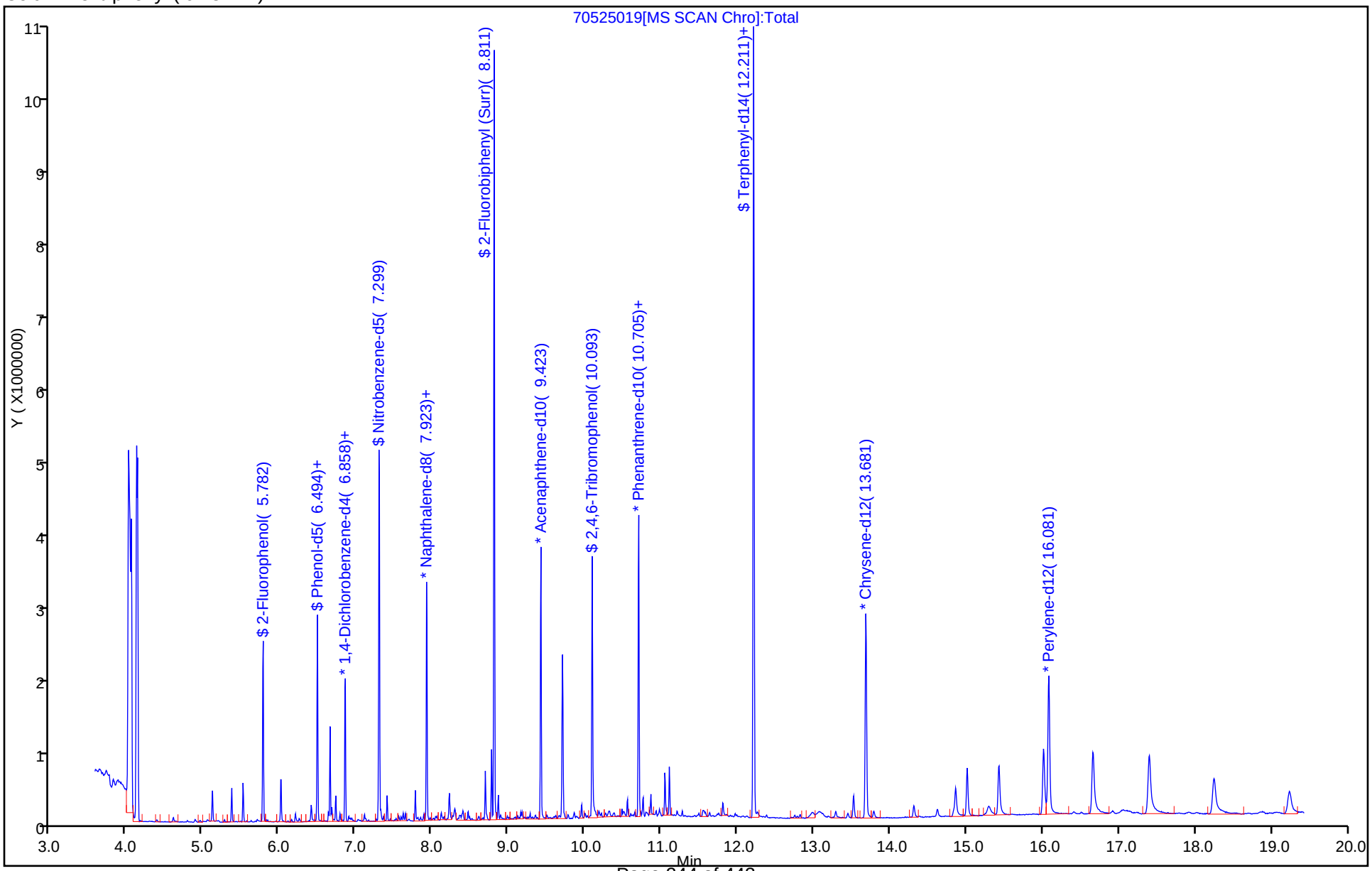
Report Date: 31-May-2017 11:48:10 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525019.D

Injection Date:	25-May-2017 15:16:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	240-79703-A-2-A	Lab Sample ID:	240-79703-2	Worklist Smp#:	19
Client ID:	16MW8				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525019.D
Lims ID: 240-79703-A-2-A
Client ID: 16MW8
Sample Type: Client
Inject. Date: 25-May-2017 15:16:30 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-019
Misc. Info.: 240-79703-A-2-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:02:56

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	1193.6	74.60
$ 8 Phenol-d5	1600.0	897.7	56.11
$ 9 Nitrobenzene-d5	1600.0	1242.8	77.68
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1235.7	77.23
$ 11 2,4,6-Tribromophenol	1600.0	1411.8	88.24
$ 12 Terphenyl-d14	1600.0	1411.1	88.19

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16MW9 | Lab Sample ID: 240-79703-3

Matrix: Water | Lab File ID: 70525020.D

Analysis Method: 8270D | Date Collected: 05/16/2017 11:40

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/25/2017 15:41

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	8.9	U	8.9	0.89

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	83		28-128
4165-62-2	Phenol-d5 (Surr)	54		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	75		35-120
367-12-4	2-Fluorophenol (Surr)	77		17-120
321-60-8	2-Fluorobiphenyl (Surr)	72		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	83		33-120

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16MW9 | Lab Sample ID: 240-79703-3

Matrix: Water | Lab File ID: 70525020.D

Analysis Method: 8270D | Date Collected: 05/16/2017 11:40

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/25/2017 15:41

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
70-30-4	Hexachlorophene TIC		89	U	

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525020.D
Lims ID: 240-79703-B-3-A
Client ID: 16MW9
Sample Type: Client
Inject. Date: 25-May-2017 15:41:30 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-020
Misc. Info.: 240-79703-B-3-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:03:14

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	98	275575	400.0	
* 2 Naphthalene-d8	136	7.923	7.923	0.000	100	1182229	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	92	692785	400.0	
* 4 Phenanthrene-d10	188	10.705	10.705	0.000	97	1343066	400.0	
* 5 Chrysene-d12	240	13.681	13.681	0.000	97	1350950	400.0	
* 6 Perylene-d12	264	16.081	16.081	0.000	98	1114311	400.0	
$ 7 2-Fluorophenol	112	5.782	5.782	0.000	95	625782	1229.7	
$ 8 Phenol-d5	99	6.494	6.494	0.000	99	753403	856.7	
$ 9 Nitrobenzene-d5	82	7.299	7.305	-0.006	92	1298066	1194.2	
$ 10 2-Fluorobiphenyl (Surr)	172	8.811	8.811	0.000	100	2491535	1146.5	
$ 11 2,4,6-Tribromophenol	330	10.093	10.099	-0.006	94	276853	1326.0	
$ 12 Terphenyl-d14	244	12.211	12.217	-0.006	99	3403191	1328.0	
62 Nitrobenzene	77		7.317				ND	
125 4-Nitroaniline	138		9.876				ND	
132 Sulfotepp	202		10.035				ND	
T 202 Hexachlorophene TIC	198		14.400				ND	

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

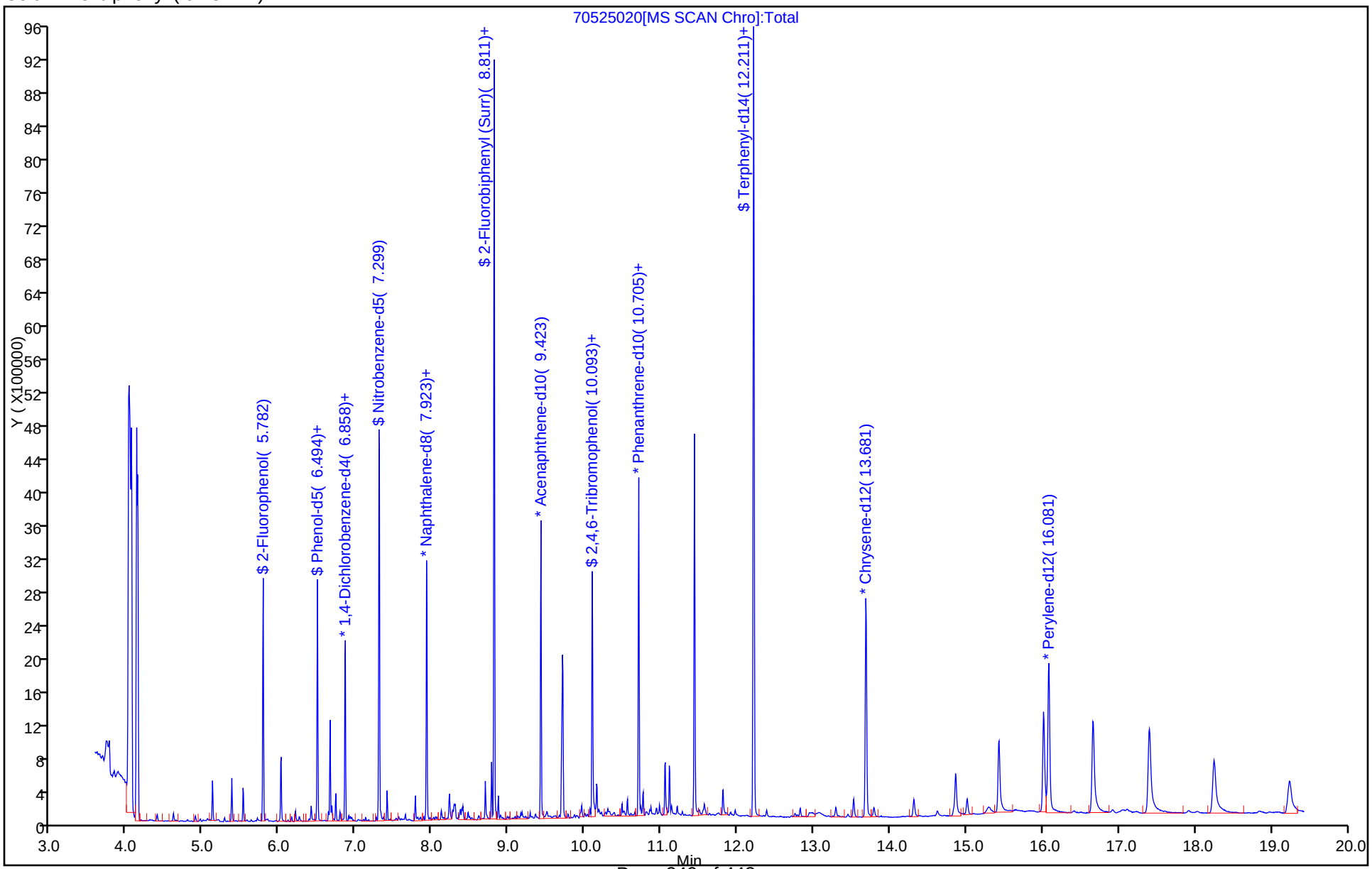
Report Date: 31-May-2017 11:48:12 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525020.D

Injection Date:	25-May-2017 15:41:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	240-79703-B-3-A	Lab Sample ID:	240-79703-3	Worklist Smp#:	20
Client ID:	16MW9				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525020.D
Lims ID: 240-79703-B-3-A
Client ID: 16MW9
Sample Type: Client
Inject. Date: 25-May-2017 15:41:30 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-020
Misc. Info.: 240-79703-B-3-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:03:14

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	1229.7	76.85
$ 8 Phenol-d5	1600.0	856.7	53.54
$ 9 Nitrobenzene-d5	1600.0	1194.2	74.64
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1146.5	71.66
$ 11 2,4,6-Tribromophenol	1600.0	1326.0	82.87
$ 12 Terphenyl-d14	1600.0	1328.0	83.00

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16WC1A | Lab Sample ID: 240-79703-4

Matrix: Water | Lab File ID: 70525023.D

Analysis Method: 8270D | Date Collected: 05/16/2017 10:15

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/25/2017 16:54

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	8.9	U	8.9	0.89

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	84		28-128
4165-62-2	Phenol-d5 (Surr)	56		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	76		35-120
367-12-4	2-Fluorophenol (Surr)	75		17-120
321-60-8	2-Fluorobiphenyl (Surr)	72		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	90		33-120

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16WC1A | Lab Sample ID: 240-79703-4

Matrix: Water | Lab File ID: 70525023.D

Analysis Method: 8270D | Date Collected: 05/16/2017 10:15

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/25/2017 16:54

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
70-30-4	Hexachlorophene TIC		89	U	

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525023.D
Lims ID: 240-79703-E-4-A
Client ID: 16WC1A
Sample Type: Client
Inject. Date: 25-May-2017 16:54:30 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-023
Misc. Info.: 240-79703-E-4-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:04:02

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	97	336146	400.0	
* 2 Naphthalene-d8	136	7.923	7.923	0.000	100	1530737	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	92	932928	400.0	
* 4 Phenanthrene-d10	188	10.705	10.705	0.000	97	1762619	400.0	
* 5 Chrysene-d12	240	13.681	13.681	0.000	97	1788143	400.0	
* 6 Perylene-d12	264	16.081	16.081	0.000	98	1446842	400.0	
$ 7 2-Fluorophenol	112	5.782	5.782	0.000	95	749762	1207.8	
$ 8 Phenol-d5	99	6.494	6.494	0.000	99	952852	888.2	
$ 9 Nitrobenzene-d5	82	7.305	7.305	0.000	91	1710280	1215.2	
$ 10 2-Fluorobiphenyl (Surr)	172	8.811	8.811	0.000	100	3372793	1152.5	
$ 11 2,4,6-Tribromophenol	330	10.093	10.099	-0.006	91	403446	1434.9	
$ 12 Terphenyl-d14	244	12.211	12.217	-0.006	99	4538360	1338.0	
62 Nitrobenzene	77		7.317				ND	
125 4-Nitroaniline	138		9.876				ND	
132 Sulfotepp	202		10.035				ND	
T 202 Hexachlorophene TIC	198		14.400				ND	

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

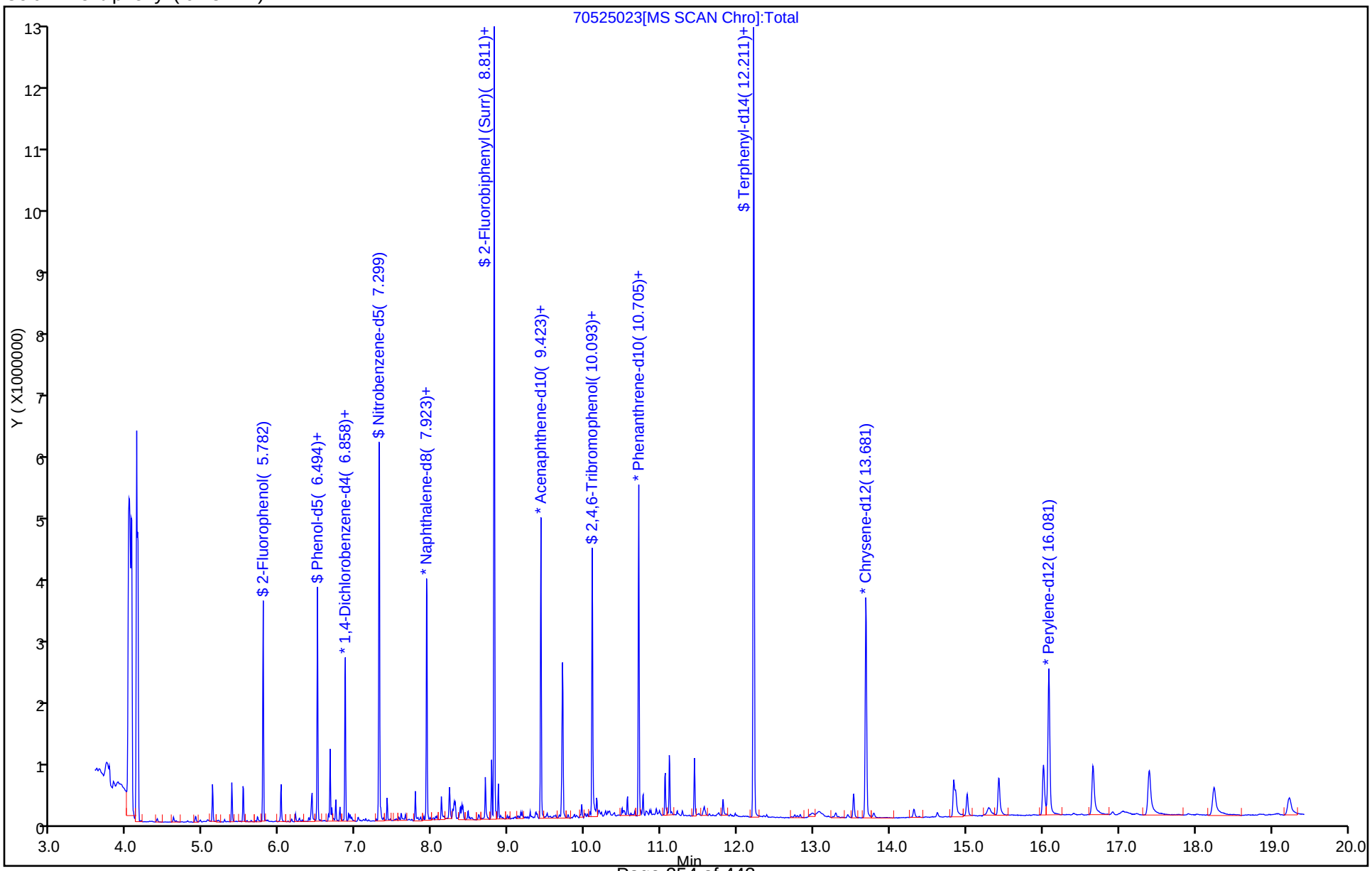
Report Date: 31-May-2017 11:48:19 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525023.D

Injection Date:	25-May-2017 16:54:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	240-79703-E-4-A	Lab Sample ID:	240-79703-4	Worklist Smp#:	23
Client ID:	16WC1A				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	23
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525023.D
Lims ID: 240-79703-E-4-A
Client ID: 16WC1A
Sample Type: Client
Inject. Date: 25-May-2017 16:54:30 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-023
Misc. Info.: 240-79703-E-4-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:04:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	1207.8	75.49
$ 8 Phenol-d5	1600.0	888.2	55.52
$ 9 Nitrobenzene-d5	1600.0	1215.2	75.95
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1152.5	72.03
$ 11 2,4,6-Tribromophenol	1600.0	1434.9	89.68
$ 12 Terphenyl-d14	1600.0	1338.0	83.62

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16WDUP | Lab Sample ID: 240-79703-5

Matrix: Water | Lab File ID: 70525021.D

Analysis Method: 8270D | Date Collected: 05/16/2017 10:30

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/25/2017 16:05

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	8.9	U	8.9	0.89

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	86		28-128
4165-62-2	Phenol-d5 (Surr)	55		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	78		35-120
367-12-4	2-Fluorophenol (Surr)	71		17-120
321-60-8	2-Fluorobiphenyl (Surr)	75		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	87		33-120

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16WDUP | Lab Sample ID: 240-79703-5

Matrix: Water | Lab File ID: 70525021.D

Analysis Method: 8270D | Date Collected: 05/16/2017 10:30

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/25/2017 16:05

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
70-30-4	Hexachlorophene TIC		89	U	

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525021.D
Lims ID: 240-79703-B-5-A
Client ID: 16WDUP
Sample Type: Client
Inject. Date: 25-May-2017 16:05:30 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-021
Misc. Info.: 240-79703-B-5-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:03:30

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	97	295487	400.0	
* 2 Naphthalene-d8	136	7.923	7.923	0.000	100	1371956	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	92	819693	400.0	
* 4 Phenanthrene-d10	188	10.705	10.705	0.000	97	1580930	400.0	
* 5 Chrysene-d12	240	13.681	13.681	0.000	97	1612410	400.0	
* 6 Perylene-d12	264	16.081	16.081	0.000	98	1301820	400.0	
$ 7 2-Fluorophenol	112	5.782	5.782	0.000	95	616286	1129.4	
$ 8 Phenol-d5	99	6.494	6.494	0.000	99	830456	880.7	
$ 9 Nitrobenzene-d5	82	7.299	7.305	-0.006	92	1569011	1243.9	
$ 10 2-Fluorobiphenyl (Surr)	172	8.811	8.811	0.000	100	3094181	1203.4	
$ 11 2,4,6-Tribromophenol	330	10.093	10.099	-0.006	93	345634	1399.1	
$ 12 Terphenyl-d14	244	12.211	12.217	-0.006	99	4207283	1375.6	
62 Nitrobenzene	77		7.317				ND	
125 4-Nitroaniline	138		9.876				ND	
132 Sulfotepp	202		10.035				ND	
T 202 Hexachlorophene TIC	198		14.400				ND	

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

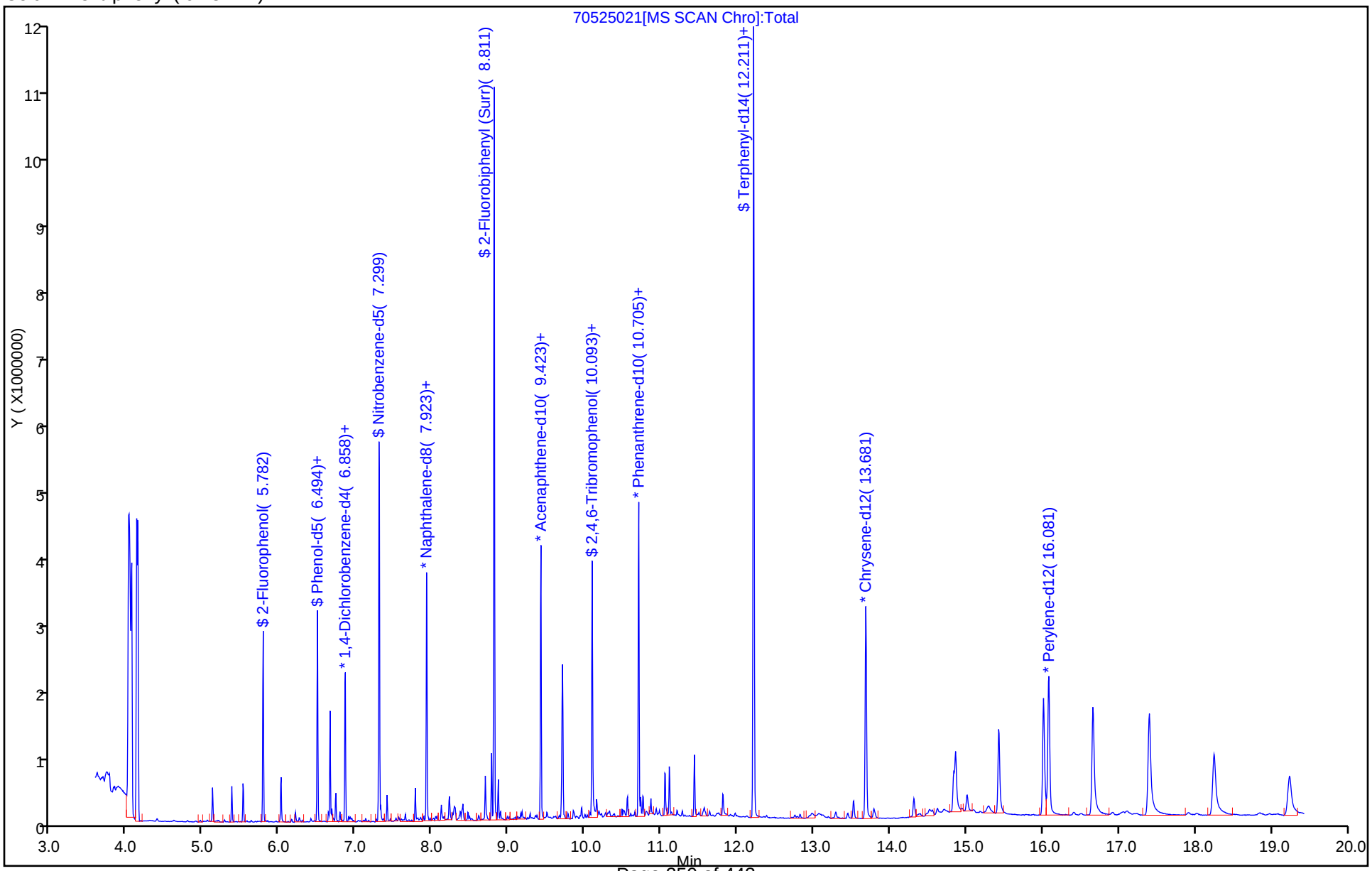
Report Date: 31-May-2017 11:48:14 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525021.D

Injection Date:	25-May-2017 16:05:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	240-79703-B-5-A	Lab Sample ID:	240-79703-5	Worklist Smp#:	21
Client ID:	16WDUP				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525021.D
Lims ID: 240-79703-B-5-A
Client ID: 16WDUP
Sample Type: Client
Inject. Date: 25-May-2017 16:05:30 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-021
Misc. Info.: 240-79703-B-5-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:03:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	1129.4	70.59
$ 8 Phenol-d5	1600.0	880.7	55.04
$ 9 Nitrobenzene-d5	1600.0	1243.9	77.74
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1203.4	75.21
$ 11 2,4,6-Tribromophenol	1600.0	1399.1	87.44
$ 12 Terphenyl-d14	1600.0	1375.6	85.97

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16WC1B | Lab Sample ID: 240-79703-6

Matrix: Water | Lab File ID: 70525022.D

Analysis Method: 8270D | Date Collected: 05/15/2017 15:40

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 250(mL) | Date Analyzed: 05/25/2017 16:29

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	10	U	10	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	84		28-128
4165-62-2	Phenol-d5 (Surr)	64		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	75		35-120
367-12-4	2-Fluorophenol (Surr)	72		17-120
321-60-8	2-Fluorobiphenyl (Surr)	75		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	85		33-120

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16WC1B | Lab Sample ID: 240-79703-6

Matrix: Water | Lab File ID: 70525022.D

Analysis Method: 8270D | Date Collected: 05/15/2017 15:40

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 250(mL) | Date Analyzed: 05/25/2017 16:29

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
70-30-4	Hexachlorophene TIC		100	U	

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525022.D
Lims ID: 240-79703-A-6-A
Client ID: 16WC1B
Sample Type: Client
Inject. Date: 25-May-2017 16:29:30 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-022
Misc. Info.: 240-79703-A-6-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:03:45

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	97	278606	400.0	
* 2 Naphthalene-d8	136	7.923	7.923	0.000	100	1357113	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	92	781546	400.0	
* 4 Phenanthrene-d10	188	10.705	10.705	0.000	97	1456555	400.0	
* 5 Chrysene-d12	240	13.681	13.681	0.000	97	1486461	400.0	
* 6 Perylene-d12	264	16.081	16.081	0.000	98	1216274	400.0	
$ 7 2-Fluorophenol	112	5.782	5.782	0.000	95	596599	1159.6	
$ 8 Phenol-d5	99	6.494	6.494	0.000	99	911617	1025.3	
$ 9 Nitrobenzene-d5	82	7.299	7.305	-0.006	92	1499544	1201.8	
$ 10 2-Fluorobiphenyl (Surr)	172	8.811	8.811	0.000	100	2931115	1195.6	
$ 11 2,4,6-Tribromophenol	330	10.093	10.099	-0.006	92	320963	1362.6	
$ 12 Terphenyl-d14	244	12.211	12.217	-0.006	99	3776777	1339.5	
62 Nitrobenzene	77		7.317				ND	
125 4-Nitroaniline	138		9.876				ND	
132 Sulfotepp	202		10.035				ND	
T 202 Hexachlorophene TIC	198		14.400				ND	

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

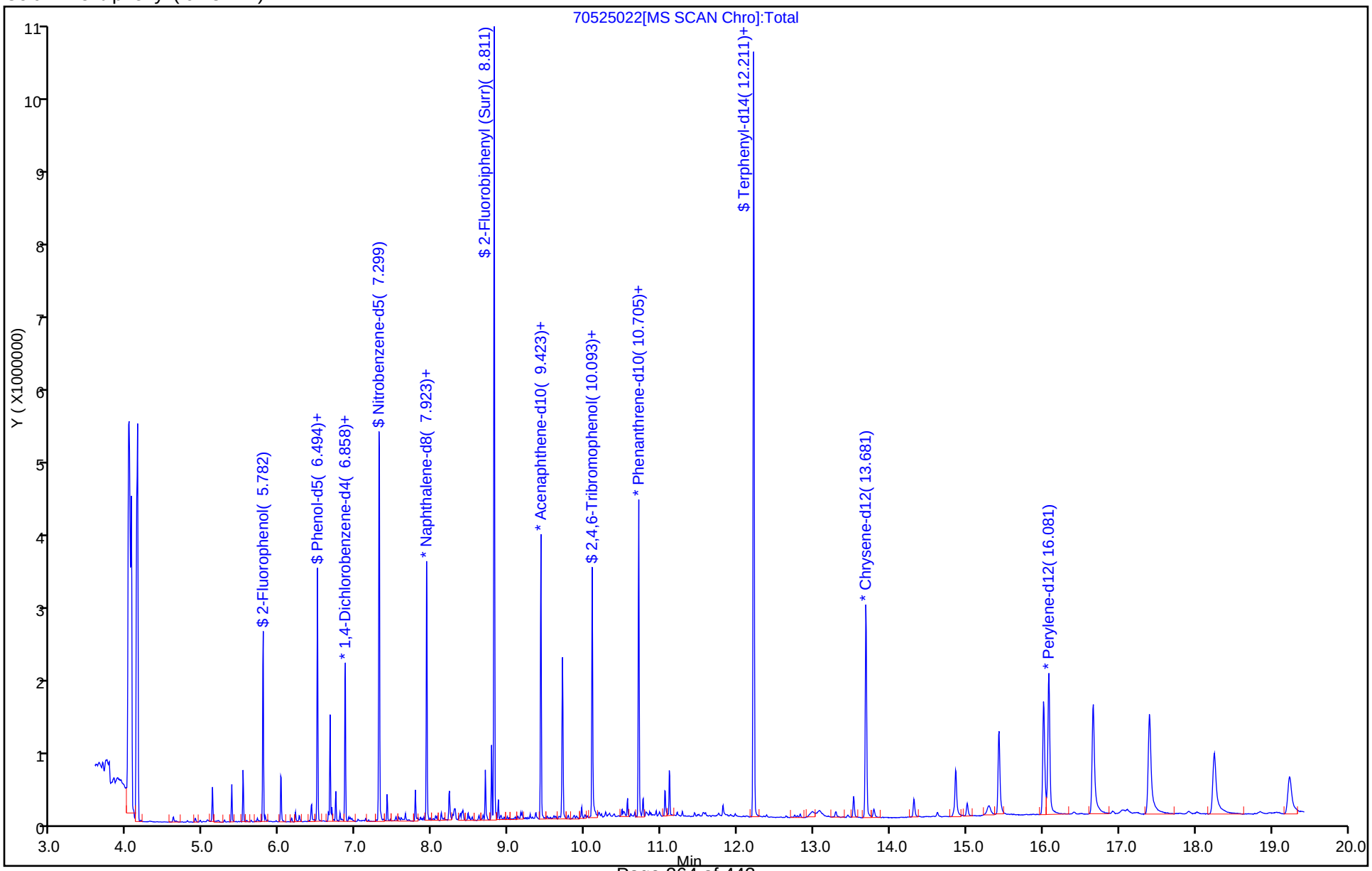
Report Date: 31-May-2017 11:48:17 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525022.D

Injection Date:	25-May-2017 16:29:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	240-79703-A-6-A	Lab Sample ID:	240-79703-6	Worklist Smp#:	22
Client ID:	16WC1B				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525022.D
Lims ID: 240-79703-A-6-A
Client ID: 16WC1B
Sample Type: Client
Inject. Date: 25-May-2017 16:29:30 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-022
Misc. Info.: 240-79703-A-6-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 26-May-2017 06:03:45

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	1159.6	72.47
$ 8 Phenol-d5	1600.0	1025.3	64.08
$ 9 Nitrobenzene-d5	1600.0	1201.8	75.11
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1195.6	74.73
$ 11 2,4,6-Tribromophenol	1600.0	1362.6	85.16
$ 12 Terphenyl-d14	1600.0	1339.5	83.72

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-280161/10	70524010.D
Level 2	STD2 240-280161/9	70524009.D
Level 3	STD3 240-280161/8	70524008.D
Level 4	STD4 240-280161/7	70524007.D
Level 5	STD5 240-280161/6	70524006.D
Level 6	STD6 240-280161/5	70524005.D
Level 7	STD7 240-280161/4	70524004.D
Level 8	STD8 240-280161/3	70524003.D
Level 9	STD9 240-280161/2	70524002.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
1,4-Dioxane	0.2316	0.2396 0.2157	0.2693 0.2791	0.2343 0.2399	0.2295	Ave		0.2424				8.7		20.0			
N-Nitrosodimethylamine	0.8253	0.7604 0.8237	0.8048 0.8537	0.7841 0.8117	0.7834	Ave		0.8059				3.7		20.0			
Pyridine	0.7711 0.7017	0.6163 0.6473	0.7391 0.8250	0.6896 0.7204	0.6376	Ave		0.7053				9.5		20.0			
Benzaldehyde	1.3964 0.7805	1.2055 +++++	1.1975 +++++	1.1367 +++++	0.9120	Qua	23.993	1.0541	-0.000144		0.0100				0.9990		0.9900
Phenol	1.2458	1.3924 1.4107	1.5960 1.4493	1.4212 1.3841	1.1917	Ave		1.3864			0.8000	8.9		20.0			
Aniline	2.1816	2.2359 2.1721	2.4899 2.1110	2.4597 2.4062	2.2941	Ave		2.2938				6.2		20.0			
Bis(2-chloroethyl)ether	1.3611	1.4677 1.4738	1.5550 1.5309	1.5117 1.3587	1.4422	Ave		1.4626			0.7000	5.0		20.0			
n-Decane	1.3636	1.5487 1.2540	1.6126 1.2744	1.4995 1.1327	1.4045	Ave		1.3862				11.7		20.0			
2-Chlorophenol	1.1459	1.1752 1.2466	1.2979 1.2005	1.2592 1.2096	1.1629	Ave		1.2122			0.8000	4.3		20.0			
1,3-Dichlorobenzene	1.4416	1.4885 1.4601	1.5259 1.4776	1.4509 1.4518	1.4363	Ave		1.4666				2.0		20.0			
1,4-Dichlorobenzene	1.4665	1.5404 1.5091	1.5744 1.5148	1.4988 1.4903	1.4874	Ave		1.5102				2.2		20.0			
Benzyl alcohol	0.8954	0.8277 0.9490	0.8324 0.9372	0.8628 0.9520	0.9624	Ave		0.9023				6.1		20.0			
1,2-Dichlorobenzene	1.3915	1.5196 1.4391	1.5032 1.3815	1.5164 1.4004	1.4296	Ave		1.4477				4.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
2-Methylphenol	1.1986	1.1368 1.2298	1.1999 1.1971	1.1886 1.1995	1.1822	Ave		1.1916			0.7000	2.2		20.0			
bis (2-chloroisopropyl) ether	2.1228	2.5267 2.1492	2.6009 2.0474	2.6058 2.0567	2.4478	Ave		2.3196				10.7		20.0			
Indene	2.3986	2.6604 2.3752	2.7935 2.2403	2.7423 2.1956	2.5847	Ave		2.4988				9.1		20.0			
3 & 4 Methylphenol	1.2443	1.0734 1.3280	0.9686 1.3328	1.1159 1.3588	1.2748	Ave		1.2121				11.8		20.0			
N-Nitrosodi-n-propylamine	1.0399	1.1191 1.0515	1.1694 1.0357	1.2272 1.0590	1.1398	Ave		1.1052			0.5000	6.4		20.0			
Acetophenone	1.8373	1.8657 1.8991	2.0543 1.8841	2.0745 1.9192	2.0409	Ave		1.9469			0.0100	4.8		20.0			
Hexachloroethane	0.5326	0.5681 0.5514	0.5918 0.5468	0.5701 0.5392	0.5478	Ave		0.5560			0.3000	3.5		20.0			
Nitrobenzene	0.3427	0.3398 0.3523	0.3559 0.3470	0.3487 0.3390	0.3562	Ave		0.3477			0.2000	2.0		20.0			
Isophorone	0.6536	0.7098 0.6641	0.7447 0.6497	0.7132 0.6390	0.6856	Ave		0.6825			0.4000	5.5		20.0			
2,4-Dimethylphenol	0.3329	0.2984 0.3392	0.2831 0.3385	0.3083 0.3291	0.3411	Ave		0.3213			0.2000	6.8		20.0			
2-Nitrophenol	0.1573	0.1224 0.1656	0.1343 0.1676	0.1412 0.1654	0.1570	Ave		0.1514			0.1000	11.1		20.0			
Benzoic acid	0.1199	+++++ 0.1418	+++++ 0.1309	0.0697 0.1533	0.1084	Lin1	-37.17	0.1503							0.9920		0.9900
Bis(2-chloroethoxy)methane	0.3782	0.4252 0.3781	0.4051 0.3667	0.4045 0.3595	0.3860	Ave		0.3879			0.3000	5.7		20.0			
2,4-Dichlorophenol	0.2561	0.1804 0.2696	0.1696 0.2762	0.2041 0.2732	0.2425	Ave		0.2339			0.2000	18.5		20.0			
1,2,4-Trichlorobenzene	0.2903	0.2888 0.3061	0.2987 0.3095	0.2751 0.3081	0.2823	Ave		0.2949				4.3		20.0			
Naphthalene	1.0900 0.9937	1.0634 1.0070	1.0687 0.9981	1.0223 0.9611	1.0173	Ave		1.0246			0.7000	4.1		20.0			
4-Chloroaniline	0.5184	0.4866 0.5019	0.5121 0.4658	0.5312 0.4310	0.5330	Ave		0.4975			0.0100	7.0		20.0			
2,6-Dichlorophenol	0.2523	0.2116 0.2674	0.2230 0.2710	0.2233 0.2724	0.2493	Ave		0.2463				9.8		20.0			
Hexachlorobutadiene	0.1580	0.1633 0.1694	0.1548 0.1755	0.1525 0.1782	0.1540	Ave		0.1632			0.0100	6.2		20.0			
Caprolactam	0.1151 0.0910	0.1046 0.0898	0.1126 0.0886	0.1081 0.0875	0.1057	Ave		0.1003			0.0100	11.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
4-Chloro-3-methylphenol	0.2675	0.2455 0.2789	0.2602 0.2758	0.2701 0.2687	0.2729	Ave		0.2675			0.2000	3.9		20.0			
2-Methylnaphthalene	0.7384 0.6610	0.7067 0.6875	0.7065 0.6723	0.6943 0.6561	0.6855	Ave		0.6898			0.4000	3.7		20.0			
1-Methylnaphthalene	0.6895 0.6041	0.6467 0.6260	0.6527 0.6230	0.6226 0.6091	0.6162	Ave		0.6322				4.2		20.0			
Hexachlorocyclopentadiene	0.3275	0.2265 0.3644	0.2666 0.3826	0.2679 0.3907	0.3021	Ave		0.3160			0.0500	19.1		20.0			
1,2,4,5-Tetrachlorobenzene	0.4979	0.4229 0.5344	0.4815 0.5393	0.4466 0.5509	0.4839	Ave		0.4947			0.0100	9.2		20.0			
2,4,6-Trichlorophenol	0.2973	0.2303 0.3222	0.2577 0.3299	0.2637 0.3398	0.2898	Ave		0.2913			0.2000	13.3		20.0			
2,4,5-Trichlorophenol	0.2975	0.2404 0.3327	0.2684 0.3322	0.2647 0.3417	0.3031	Ave		0.2976			0.2000	12.5		20.0			
1,1'-Biphenyl	1.4800 1.4027	1.4059 1.4519	1.4585 1.4190	1.3705 1.4206	1.4061	Ave		1.4239			0.0100	2.4		20.0			
2-Chloronaphthalene	1.1319 1.0456	1.0525 1.1146	1.0849 1.1006	1.0546 1.0947	1.0600	Ave		1.0821			0.8000	2.8		20.0			
2-Nitroaniline	0.3296	0.2580 0.3369	0.2980 0.3362	0.3078 0.3292	0.3266	Ave		0.3153			0.0100	8.5		20.0			
Dimethyl phthalate	1.1688	1.2187 1.2251	1.2391 1.2064	1.1614 1.2127	1.1932	Ave		1.2032			0.0100	2.3		20.0			
1,3-Dinitrobenzene	0.1789	0.1278 0.1879	0.1371 0.1888	0.1499 0.1886	0.1672	Ave		0.1658				14.8		20.0			
2,6-Dinitrotoluene	0.2704	0.2272 0.2824	0.2382 0.2821	0.2449 0.2852	0.2653	Ave		0.2620				8.5		20.0			
Acenaphthylene	1.7434 1.7297	1.7435 1.8280	1.7851 1.7919	1.7338 1.7718	1.7615	Ave		1.7654			0.9000	1.8		20.0			
3-Nitroaniline	0.2396	0.2014 0.2048	0.2081 0.1765	0.2429 0.1732	0.2484	Ave		0.2119			0.0100	13.8		20.0			
2,4-Dinitrophenol	0.1105	+++++ 0.1241	0.0614 0.1285	0.0752 0.1381	0.0993	Lin1	-20.05	0.1333			0.0100				0.9940		0.9900
4-Nitrophenol	0.1452	+++++ 0.1636	0.1059 0.1586	0.1112 0.1526	0.1293	Ave		0.1381				16.7		20.0			
Acenaphthene	1.1962 1.0994	1.1519 1.1243	1.1722 1.0835	1.1128 1.0615	1.1204	Ave		1.1247			0.9000	3.8		20.0			
2,4-Dinitrotoluene	0.3289	0.2322 0.3444	0.2805 0.3445	0.3012 0.3542	0.3271	Ave		0.3141			0.2000	13.1		20.0			
Dibenzofuran	1.6441 1.4886	1.4746 1.5809	1.5370 1.5526	1.4891 1.5417	1.4994	Ave		1.5342			0.8000	3.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
2,3,4,6-Tetrachlorophenol	0.2055	0.1720 0.2225	0.1966 0.2316	0.1938 0.2416	0.1935	Ave		0.2071			0.0100	11.1		20.0			
Hexadecane	0.8036	1.0036 0.7772	1.0042 0.7102	0.9284 0.6710	0.8624	Ave		0.8451				15.0		20.0			
Diethyl phthalate	1.1637	1.3518 1.1829	1.2535 1.1588	1.2201 1.1688	1.2012	Ave		1.2126			0.0100	5.3		20.0			
4-Chlorophenyl phenyl ether	0.5624	0.5543 0.6106	0.5474 0.6111	0.5364 0.6209	0.5405	Ave		0.5730			0.4000	6.1		20.0			
4-Nitroaniline	0.2203	0.2108 0.2054	0.2461 0.1806	0.2598 0.1730	0.2312	Ave		0.2159			0.0100	13.9		20.0			
Fluorene	1.3451 1.2313	1.2258 1.2787	1.2270 1.2520	1.2171 1.2305	1.2288	Ave		1.2485			0.9000	3.3		20.0			
4,6-Dinitro-2-methylphenol	0.1036	+++++ 0.1240	0.0605 0.1283	0.0694 0.1277	0.0895	Lin1	-19.83	0.1281			0.0100				0.9930		0.9900
Diphenylamine	0.6673	0.6197 0.7140	0.6497 0.7083	0.6237 0.6893	0.6631	Ave		0.6669				5.3		20.0			
N-Nitrosodiphenylamine	0.5673	0.5269 0.6070	0.5523 0.6022	0.5303 0.5860	0.5638	Ave		0.5670			0.0100	5.3		20.0			
1,2-Diphenylhydrazine(as Azobenzene)	0.8760	0.8479 0.8999	0.8785 0.8702	0.8430 0.8188	0.8736	Ave		0.8637				2.9		20.0			
Azobenzene	0.8758	0.8504 0.8999	0.8784 0.8702	0.8428 0.8188	0.8736	Ave		0.8637				2.9		20.0			
4-Bromophenyl phenyl ether	0.2137	0.1828 0.2314	0.1961 0.2369	0.1853 0.2387	0.1975	Ave		0.2103			0.1000	11.0		20.0			
Atrazine	0.2229 0.2228	0.1823 0.2301	0.1832 0.2220	0.1802 0.2167	0.2008	Ave		0.2068			0.0100	9.8		20.0			
Hexachlorobenzene	0.1997 0.2282	0.2019 0.2549	0.1968 0.2653	0.1890 0.2636	0.2073	Ave		0.2230			0.1000	13.8		20.0			
n-Octadecane	0.5746	0.5637 0.5735	0.6006 0.5402	0.5756 0.4998	0.5856	Ave		0.5642				5.5		20.0			
Pentachlorophenol	0.1019	+++++ 0.1256	+++++ 0.1337	0.0746 0.1391	0.0868	Lin1	-36.49	0.1394			0.0500				0.9900		0.9900
Phenanthrene	1.1730 1.0353	1.0507 1.1187	1.0788 1.1299	1.0219 1.1158	1.0417	Ave		1.0851			0.7000	4.8		20.0			
Anthracene	1.1084 1.1042	1.0520 1.1577	1.0830 1.1550	1.0461 1.1517	1.0886	Ave		1.1052			0.7000	3.9		20.0			
Carbazole	0.9057	0.9194 0.9596	0.9513 0.9026	0.8604 0.8930	0.8690	Ave		0.9076			0.0100	3.9		20.0			
Di-n-butyl phthalate	1.3298	1.6835 1.3432	1.3463 1.3181	1.2614 1.2761	1.3067	Ave		1.3581			0.0100	9.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Fluoranthene	1.0509 1.0940	0.9892 1.1446	1.0042 1.1434	0.9295 1.1633	1.0072	Ave		1.0585			0.6000	7.8		20.0			
Benzidine	0.4158	+++++ 0.4425	0.1619 0.4943	0.2369 0.4865	0.3244	Lin1	-88.51	0.4897							0.9940		0.9900
Pyrene	1.2587 1.0638	1.1655 1.1087	1.0958 1.1229	1.0451 1.1161	1.0575	Ave		1.1149			0.6000	5.9		20.0			
Butyl benzyl phthalate	0.5481	0.4879 0.5807	0.5192 0.5764	0.5160 0.5607	0.5477	Ave		0.5421			0.0100	5.9		20.0			
Bis(2-ethylhexyl) phthalate	0.7837	0.7316 0.8333	0.7912 0.8276	0.7649 0.7901	0.7890	Ave		0.7889			0.0100	4.1		20.0			
3,3'-Dichlorobenzidine	0.3342	0.3091 0.3732	0.3284 0.3869	0.3494 0.3883	0.3584	Ave		0.3535			0.0100	8.1		20.0			
Benzo[a]anthracene	1.1460 1.0280	0.9988 1.0954	0.9792 1.1287	0.9777 1.1223	1.0236	Ave		1.0555			0.8000	6.4		20.0			
Chrysene	1.0789 0.9730	0.9724 1.0401	1.0000 1.0625	0.9852 1.0431	0.9968	Ave		1.0169			0.7000	3.9		20.0			
Di-n-octyl phthalate	1.5778	1.1268 1.6692	1.3399 1.7277	1.4112 1.7387	1.5258	Ave		1.5146			0.0100	14.0		20.0			
Benzo[b]fluoranthene	1.1746 1.2082	1.0999 1.2674	1.1658 1.3379	1.1245 1.3701	1.1545	Ave		1.2114			0.7000	7.8		20.0			
Benzo[k]fluoranthene	1.3285 1.1980	1.1433 1.3124	1.1962 1.3665	1.1910 1.3991	1.2127	Ave		1.2609			0.7000	7.2		20.0			
Benzo[a]pyrene	1.0352 1.1373	1.0249 1.2143	1.0780 1.2659	1.0576 1.3160	1.0994	Ave		1.1365			0.7000	9.3		20.0			
Indeno[1,2,3-cd]pyrene	1.3238 1.3619	1.2191 1.4653	1.3216 1.4896	1.3231 1.5609	1.3520	Ave		1.3797			0.5000	7.6		20.0			
Dibenz(a,h)anthracene	1.1120 1.1700	1.0450 1.2621	1.0747 1.3182	1.1024 1.3847	1.1431	Ave		1.1792			0.4000	9.9		20.0			
Benzo[g,h,i]perylene	0.6223 1.0858	1.0262 1.1358	1.0772 1.1342	1.0699 1.1596	1.0749	Ave		1.0429			0.5000	15.6		20.0			
2-Fluorophenol (Surr)	0.7392	0.7201 0.6795	0.8832 0.7268	0.8133 0.6465	0.7009	Ave		0.7387				10.3		20.0			
Phenol-d5 (Surr)	1.1562	1.2655 1.2952	1.4372 1.3139	1.3501 1.2856	1.1083	Ave		1.2765				8.2		20.0			
Nitrobenzene-d5 (Surr)	0.3460 0.3648	0.3770 0.3730	0.3723 0.3710	0.3681 0.3620	0.3758	Ave		0.3678				2.6		20.0			
2-Fluorobiphenyl (Surr)	1.2813 1.2296	1.2287 1.3046	1.2574 1.2786	1.2096 1.2826	1.2200	Ave		1.2547				2.7		20.0			
2,4,6-Tribromophenol (Surr)	0.1201	0.1007 0.1300	0.1118 0.1331	0.1075 0.1390	0.1223	Ave		0.1206				11.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5		B	M1	M2								
Terphenyl-d14 (Surr)	0.7916 0.7124	0.7258 0.8092	0.7259 0.8233	0.7103 0.8072	0.7230	Ave		0.7588				6.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD1 240-280161/10	70524010.D
Level 2	STD2 240-280161/9	70524009.D
Level 3	STD3 240-280161/8	70524008.D
Level 4	STD4 240-280161/7	70524007.D
Level 5	STD5 240-280161/6	70524006.D
Level 6	STD6 240-280161/5	70524005.D
Level 7	STD7 240-280161/4	70524004.D
Level 8	STD8 240-280161/3	70524003.D
Level 9	STD9 240-280161/2	70524002.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
1,4-Dioxane	DCBd 4	Ave	152575	7242 208892	16388 367528	26477 372224	70035	1000	50.0 1500	100 2000	200 2500	500
N-Nitrosodimethylamine	DCBd 4	Ave	543754	22985 797710	48969 1124327	88591 1259324	239074	1000	50.0 1500	100 2000	200 2500	500
Pyridine	DCBd 4	Ave	8290 924660	37262 1253730	89950 2173000	155822 2235337	389188	20.0 2000	100 3000	200 4000	400 5000	1000
Benzaldehyde	DCBd 4	Qua	15012 1028477	72883 +++++	145732 +++++	256855 +++++	556683	20.0 2000	100 +++++	200 +++++	400 +++++	1000
Phenol	DCBd 4	Ave	820827	42092 1366207	97114 1908766	160576 2147356	363711	1000	50.0 1500	100 2000	200 2500	500
Aniline	DCBd 4	Ave	1437449	67589 2103676	151506 2780262	277915 3732904	700130	1000	50.0 1500	100 2000	200 2500	500
Bis(2-chloroethyl)ether	DCBd 4	Ave	896809	44367 1427347	94616 2016239	170799 2107899	440135	1000	50.0 1500	100 2000	200 2500	500
n-Decane	DCBd 4	Ave	898438	46815 1214477	98120 1678415	169423 1757272	428648	1000	50.0 1500	100 2000	200 2500	500
2-Chlorophenol	DCBd 4	Ave	755020	35526 1207292	78972 1581050	142270 1876502	354896	1000	50.0 1500	100 2000	200 2500	500
1,3-Dichlorobenzene	DCBd 4	Ave	949871	44996 1414050	92844 1946037	163935 2252340	438348	1000	50.0 1500	100 2000	200 2500	500
1,4-Dichlorobenzene	DCBd 4	Ave	966247	46565 1461497	95797 1994971	169350 2311977	453936	1000	50.0 1500	100 2000	200 2500	500
Benzyl alcohol	DCBd 4	Ave	589931	25020 919065	50647 1234257	97486 1476968	293706	1000	50.0 1500	100 2000	200 2500	500
1,2-Dichlorobenzene	DCBd 4	Ave	916826	45937 1393753	91466 1819403	171339 2172618	436310	1000	50.0 1500	100 2000	200 2500	500
2-Methylphenol	DCBd 4	Ave	789722	34364 1191012	73011 1576622	134292 1860898	360802	1000	50.0 1500	100 2000	200 2500	500

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
bis (2-chloroisopropyl) ether	DCBd 4	Ave	1398673	76379 2081487	158256 2696419	294421 3190699	747062	1000	50.0 1500	100 2000	200 2500	500
Indene	DCBd 4	Ave	3160828	160841 4600637	339956 5901020	619702 6812501	1577651	2000	100 3000	200 4000	400 5000	1000
3 & 4 Methylphenol	DCBd 4	Ave	819869	32447 1286166	58937 1755357	126088 2107979	389059	1000	50.0 1500	100 2000	200 2500	500
N-Nitrosodi-n-propylamine	DCBd 4	Ave	685190	33830 1018397	71156 1364038	138663 1642989	347848	1000	50.0 1500	100 2000	200 2500	500
Acetophenone	DCBd 4	Ave	1210547	56399 1839227	124998 2481333	234398 2977468	622880	1000	50.0 1500	100 2000	200 2500	500
Hexachloroethane	DCBd 4	Ave	350903	17172 534047	36009 720130	64417 836520	167196	1000	50.0 1500	100 2000	200 2500	500
Nitrobenzene	NPT	Ave	924152	41844 1419464	90932 1885958	175296 2281227	473249	1000	50.0 1500	100 2000	200 2500	500
Isophorone	NPT	Ave	1762479	87420 2675829	190253 3530797	358536 4300559	910918	1000	50.0 1500	100 2000	200 2500	500
2,4-Dimethylphenol	NPT	Ave	897707	36747 1366483	72331 1839572	154993 2214705	453141	1000	50.0 1500	100 2000	200 2500	500
2-Nitrophenol	NPT	Ave	424284	15075 667053	34308 911060	70985 1113240	208547	1000	50.0 1500	100 2000	200 2500	500
Benzoic acid	NPT	Lin1	646570	+++++ 1142763	+++++ 1422875	70108 2063732	288072	2000	+++++ 3000	+++++ 4000	400 5000	1000
Bis(2-chloroethoxy)methane	NPT	Ave	1019869	52363 1523478	103481 1993088	203358 2419568	512779	1000	50.0 1500	100 2000	200 2500	500
2,4-Dichlorophenol	NPT	Ave	690472	22215 1086237	43326 1500941	102601 1838240	322182	1000	50.0 1500	100 2000	200 2500	500
1,2,4-Trichlorobenzene	NPT	Ave	782919	35571 1233465	76303 1682153	138282 2073466	375097	1000	50.0 1500	100 2000	200 2500	500
Naphthalene	NPT	Ave	25422 2679492	130971 4056979	273007 5424441	513883 6467766	1351569	10.0 1000	50.0 1500	100 2000	200 2500	500
4-Chloroaniline	NPT	Ave	1397862	59926 2022180	130813 2531475	267013 2900770	708099	1000	50.0 1500	100 2000	200 2500	500
2,6-Dichlorophenol	NPT	Ave	680234	26056 1077161	56972 1472700	112259 1832873	331280	1000	50.0 1500	100 2000	200 2500	500
Hexachlorobutadiene	NPT	Ave	426159	20107 682575	39551 953924	76679 1199431	204640	1000	50.0 1500	100 2000	200 2500	500
Caprolactam	NPT	Ave	5369 490921	25766 723620	57515 963484	108631 1177305	280825	20.0 2000	100 3000	200 4000	400 5000	1000
4-Chloro-3-methylphenol	NPT	Ave	721240	30240 1123757	66483 1499091	135779 1808580	362540	1000	50.0 1500	100 2000	200 2500	500
2-Methylnaphthalene	NPT	Ave	17223 1782365	87037 2770045	180484 3653667	349014 4415688	910763	10.0 1000	50.0 1500	100 2000	200 2500	500

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
1-Methylnaphthalene	NPT	Ave	16081 1628840	79647 2522024	166745 3385949	312960 4099303	818716	10.0 1000	50.0 1500	100 2000	200 2500	500
Hexachlorocyclopentadiene	ANT	Ave	 494184	16426 812163	38829 1165583	78422 1462982	225979	 1000	50.0 1500	100 2000	200 2500	500
1,2,4,5-Tetrachlorobenzene	ANT	Ave	 751433	30667 1191086	70135 1642845	130698 2063263	361947	 1000	50.0 1500	100 2000	200 2500	500
2,4,6-Trichlorophenol	ANT	Ave	 448705	16696 718086	37539 1004998	77167 1272357	216775	 1000	50.0 1500	100 2000	200 2500	500
2,4,5-Trichlorophenol	ANT	Ave	 449003	17434 741596	39095 1012088	77478 1279707	226717	 1000	50.0 1500	100 2000	200 2500	500
1,1'-Biphenyl	ANT	Ave	19981 2116837	101943 3235986	212439 4322590	401115 5320087	1051643	10.0 1000	50.0 1500	100 2000	200 2500	500
2-Chloronaphthalene	ANT	Ave	15281 1577939	76314 2484318	158024 3352655	308655 4099719	792779	10.0 1000	50.0 1500	100 2000	200 2500	500
2-Nitroaniline	ANT	Ave	 497463	18710 750825	43405 1024156	90084 1232648	244275	 1000	50.0 1500	100 2000	200 2500	500
Dimethyl phthalate	ANT	Ave	 1763877	88371 2730578	180487 3675066	339918 4541608	892447	 1000	50.0 1500	100 2000	200 2500	500
1,3-Dinitrobenzene	ANT	Ave	 269921	9268 418862	19967 575150	43875 706176	125037	 1000	50.0 1500	100 2000	200 2500	500
2,6-Dinitrotoluene	ANT	Ave	 408112	16477 629483	34691 859406	71682 1068124	198404	 1000	50.0 1500	100 2000	200 2500	500
Acenaphthylene	ANT	Ave	23537 2610318	126420 4074141	260018 5458338	507447 6635261	1317465	10.0 1000	50.0 1500	100 2000	200 2500	500
3-Nitroaniline	ANT	Ave	 361636	14604 456364	30309 537795	71090 648717	185755	 1000	50.0 1500	100 2000	200 2500	500
2,4-Dinitrophenol	ANT	Lin1	 333414	+++++ 553390	17895 782847	43998 1034295	148569	 2000	+++++ 3000	200 4000	400 5000	1000
4-Nitrophenol	ANT	Ave	 438334	+++++ 729484	30862 966518	65072 1143009	193466	 2000	+++++ 3000	200 4000	400 5000	1000
Acenaphthene	ANT	Ave	16149 1659156	83525 2505805	170737 3300571	325689 3975251	838015	10.0 1000	50.0 1500	100 2000	200 2500	500
2,4-Dinitrotoluene	ANT	Ave	 496386	16836 767667	40854 1049558	88160 1326384	244667	 1000	50.0 1500	100 2000	200 2500	500
Dibenzofuran	ANT	Ave	22197 2246522	106927 3523582	223869 4729597	435828 5773388	1121439	10.0 1000	50.0 1500	100 2000	200 2500	500
2,3,4,6-Tetrachlorophenol	ANT	Ave	 310122	12470 495850	28639 705501	56714 904590	144723	 1000	50.0 1500	100 2000	200 2500	500
Hexadecane	ANT	Ave	 1212822	72769 1732239	146270 2163481	271710 2512781	644983	 1000	50.0 1500	100 2000	200 2500	500
Diethyl phthalate	ANT	Ave	 1756135	98017 2636544	182582 3530036	357106 4376890	898385	 1000	50.0 1500	100 2000	200 2500	500

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
4-Chlorophenyl phenyl ether	ANT	Ave	848780	40189 1360894	79737 1861621	157001 2325273	404245	1000	50.0 1500	100 2000	200 2500	500
4-Nitroaniline	ANT	Ave	332481	15284 457825	35840 550198	76038 647712	172918	1000	50.0 1500	100 2000	200 2500	500
Fluorene	ANT	Ave	18160 1858223	88886 2849984	178713 3813752	356230 4608073	919044	10.0 1000	50.0 1500	100 2000	200 2500	500
4,6-Dinitro-2-methylphenol	PHN	Lin1	460504	+++++ 798659	28465 1129418	65596 1430437	205571	2000	+++++ 3000	200 4000	400 5000	1000
Diphenylamine	PHN	Ave	1260978	61881 1954817	130000 2651288	250514 3282435	647541	850	42.5 1275	85.0 1700	170 2126	425
N-Nitrosodiphenylamine	PHN	Ave	1260978	61881 1954817	130000 2651288	250514 3282435	647541	1000	50.0 1500	100 2000	200 2500	500
1,2-Diphenylhydrazine(as Azobenzene)	PHN	Ave	1947217	99583 2898060	206763 3831086	398267 4586033	1003376	1000	50.0 1500	100 2000	200 2500	500
Azobenzene	PHN	Ave	1946685	99875 2898060	206734 3831086	398167 4586025	1003376	1000	50.0 1500	100 2000	200 2500	500
4-Bromophenyl phenyl ether	PHN	Ave	474905	21467 745105	46161 1043155	87520 1336736	226782	1000	50.0 1500	100 2000	200 2500	500
Atrazine	PHN	Ave	9893 990457	42830 1481971	86233 1954455	170302 2427087	461172	20.0 2000	100 3000	200 4000	400 5000	1000
Hexachlorobenzene	PHN	Ave	4432 507221	23718 820992	46316 1168123	89307 1476361	238099	10.0 1000	50.0 1500	100 2000	200 2500	500
n-Octadecane	PHN	Ave	1277234	66209 1846840	141351 2378393	271911 2799377	672534	1000	50.0 1500	100 2000	200 2500	500
Pentachlorophenol	PHN	Lin1	452877	+++++ 809249	+++++ 1177269	70532 1558338	199494	2000	+++++ 3000	+++++ 4000	400 5000	1000
Phenanthrene	PHN	Ave	26027 2301265	123397 3602589	253915 4974375	482744 6249422	1196393	10.0 1000	50.0 1500	100 2000	200 2500	500
Anthracene	PHN	Ave	24594 2454402	123554 3728117	254899 5084867	494212 6450556	1250222	10.0 1000	50.0 1500	100 2000	200 2500	500
Carbazole	PHN	Ave	2013238	107976 3090118	223908 3973756	406494 5001600	998032	1000	50.0 1500	100 2000	200 2500	500
Di-n-butyl phthalate	PHN	Ave	2955814	197725 4325591	316863 5803071	595898 7147281	1500813	1000	50.0 1500	100 2000	200 2500	500
Fluoranthene	PHN	Ave	23318 2431794	116180 3685874	236360 5033983	439115 6515537	1156735	10.0 1000	50.0 1500	100 2000	200 2500	500
Benzidine	CRY	Lin1	1861972	+++++ 2938064	68596 4475556	199839 5859664	712474	2000	+++++ 3000	200 4000	400 5000	1000
Pyrene	CRY	Ave	23101 2381849	116493 3681232	232135 5083142	440882 6720948	1161206	10.0 1000	50.0 1500	100 2000	200 2500	500
Butyl benzyl phthalate	CRY	Ave	1227306	48765 1928052	109979 2609327	217684 3376440	601486	1000	50.0 1500	100 2000	200 2500	500

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 08:41 Calibration End Date: 05/24/2017 11:56 Calibration ID: 40090

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5
Bis(2-ethylhexyl) phthalate	CRY	Ave	1754770	73124 2766738	167613 3746300	322675 4757986	866463	1000	50.0 1500	100 2000	200 2500	500
3,3'-Dichlorobenzidine	CRY	Ave	1496772	61783 2477940	139127 3502610	294816 4676481	787048	2000	100 3000	200 4000	400 5000	1000
Benzo[a]anthracene	CRY	Ave	21033 2301824	99828 3636829	207436 5109304	412441 6758301	1124004	10.0 1000	50.0 1500	100 2000	200 2500	500
Chrysene	CRY	Ave	19801 2178568	97191 3453362	211836 4809950	415623 6281653	1094554	10.0 1000	50.0 1500	100 2000	200 2500	500
Di-n-octyl phthalate	PRY	Ave	2987945	101254 4749419	239122 6525397	504835 8472728	1423382	1000	50.0 1500	100 2000	200 2500	500
Benzo[b]fluoranthene	PRY	Ave	19901 2287910	98838 3606343	208047 5053075	402291 6676413	1077010	10.0 1000	50.0 1500	100 2000	200 2500	500
Benzo[k]fluoranthene	PRY	Ave	22509 2268615	102738 3734405	213478 5160998	426087 6818048	1131333	10.0 1000	50.0 1500	100 2000	200 2500	500
Benzo[a]pyrene	PRY	Ave	17540 2153651	92092 3455283	192388 4781315	378358 6412924	1025648	10.0 1000	50.0 1500	100 2000	200 2500	500
Indeno[1,2,3-cd]pyrene	PRY	Ave	22430 2579111	109550 4169396	235846 5626178	473330 7606513	1261247	10.0 1000	50.0 1500	100 2000	200 2500	500
Dibenz(a,h)anthracene	PRY	Ave	18841 2215634	93905 3591094	191799 4978824	394370 6747980	1066403	10.0 1000	50.0 1500	100 2000	200 2500	500
Benzo[g,h,i]perylene	PRY	Ave	10543 2056087	92209 3231785	192237 4283843	382757 5650974	1002772	10.0 1000	50.0 1500	100 2000	200 2500	500
2-Fluorophenol (Surr)	DCBd 4	Ave	487032	21768 658052	53742 957235	91889 1002929	213916	1000	50.0 1500	100 2000	200 2500	500
Phenol-d5 (Surr)	DCBd 4	Ave	761824	38256 1254431	87450 1730474	152544 1994465	338239	1000	50.0 1500	100 2000	200 2500	500
Nitrobenzene-d5 (Surr)	NPT	Ave	8071 983597	46424 1502843	95112 2016427	185039 2435887	499240	10.0 1000	50.0 1500	100 2000	200 2500	500
2-Fluorobiphenyl (Surr)	ANT	Ave	17298 1855597	89096 2907785	183147 3894799	354038 4803344	912489	10.0 1000	50.0 1500	100 2000	200 2500	500
2,4,6-Tribromophenol (Surr)	ANT	Ave	181178	7301 289754	16281 405433	31475 520508	91456	1000	50.0 1500	100 2000	200 2500	500
Terphenyl-d14 (Surr)	CRY	Ave	14528 1595165	72549 2686754	153786 3727070	299637 4861144	793889	10.0 1000	50.0 1500	100 2000	200 2500	500

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Qua = Quadratic ISTD

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524002.D
Lims ID: std9 l1lvi
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 24-May-2017 08:41:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-002
Misc. Info.: STD9 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:00:46 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 10:01:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	96	248224	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.934	0.000	100	1076763	400.0	400.0	
* 3 Acenaphthene-d10	164	9.433	9.433	0.000	92	599189	400.0	400.0	
* 4 Phenanthrene-d10	188	10.716	10.716	0.000	97	896175	400.0	400.0	
* 5 Chrysene-d12	240	13.704	13.704	0.000	97	963520	400.0	400.0	
* 6 Perylene-d12	264	16.104	16.104	0.000	97	779697	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.000	94	1002929	2500.0	2187.9	
$ 8 Phenol-d5	99	6.504	6.504	0.000	98	1994465	2500.0	2517.8	
$ 9 Nitrobenzene-d5	82	7.310	7.310	0.000	91	2435887	2500.0	2460.5	
$ 10 2-Fluorobiphenyl (Surr)	172	8.822	8.822	0.000	99	4803344	2500.0	2555.6	
$ 11 2,4,6-Tribromophenol	330	10.110	10.110	0.000	94	520508	2500.0	2882.3	
$ 12 Terphenyl-d14	244	12.227	12.227	0.000	99	4861144	2500.0	2659.7	
26 1,4-Dioxane	88	4.416	4.416	0.000	98	372224	2500.0	2474.8	
27 N-Nitrosodimethylamine	74	4.675	4.675	0.000	85	1259324	2500.0	2518.2	
28 Pyridine	79	4.734	4.734	0.000	89	2235337	5000.0	5106.9	
42 Benzaldehyde	77		6.498				ND	ND	
43 Phenol	94	6.516	6.516	0.000	98	2147356	2500.0	2495.9	
44 Aniline	93	6.587	6.587	0.000	97	3732904	2500.0	2622.4	
45 Bis(2-chloroethyl)ether	93	6.604	6.604	0.000	95	2107899	2500.0	2322.4	
244 n-Decane	57	6.692	6.692	0.000	95	1757272	2500.0	2042.8	
47 2-Chlorophenol	128	6.698	6.698	0.000	96	1876502	2500.0	2494.5	
48 1,3-Dichlorobenzene	146	6.828	6.828	0.000	98	2252340	2500.0	2474.8	
49 1,4-Dichlorobenzene	146	6.881	6.881	0.000	93	2311977	2500.0	2467.0	
50 Benzyl alcohol	108	6.945	6.945	0.000	92	1476968	2500.0	2637.7	
51 1,2-Dichlorobenzene	146	7.016	7.016	0.000	97	2172618	2500.0	2418.4	
52 2-Methylphenol	108	7.016	7.016	0.000	96	1860898	2500.0	2516.7	
54 2,2'-oxybis[1-chloropropan	45	7.045	7.045	0.000	92	3190699	2500.0	2216.6	
53 Indene	115	7.087	7.087	0.000	90	6812501	5000.0	4393.3	
55 3 & 4 Methylphenol	108	7.134	7.134	0.000	93	2107979	2500.0	2802.5	
57 N-Nitrosodi-n-propylamine	70	7.157	7.157	0.000	91	1642989	2500.0	2395.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.175	7.175	0.000	95	2977468	2500.0	2464.5	
61 Hexachloroethane	117	7.304	7.304	0.000	90	836520	2500.0	2424.6	
62 Nitrobenzene	77	7.328	7.328	0.000	89	2281227	2500.0	2437.2	
64 Isophorone	82	7.516	7.516	0.000	98	4300559	2500.0	2340.8	
66 2,4-Dimethylphenol	107	7.587	7.587	0.000	95	2214705	2500.0	2560.5	
65 2-Nitrophenol	139	7.598	7.598	0.000	95	1113240	2500.0	2732.3	
70 Benzoic acid	122	7.663	7.663	0.000	90	2063732	5000.0	5347.6	
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	100	2419568	2500.0	2317.1	
72 2,4-Dichlorophenol	162	7.792	7.792	0.000	94	1838240	2500.0	2918.9	
73 1,2,4-Trichlorobenzene	180	7.875	7.875	0.000	94	2073466	2500.0	2612.1	
74 Naphthalene	128	7.951	7.951	0.000	98	6467766	2500.0	2345.0	
75 4-Chloroaniline	127	7.963	7.963	0.000	96	2900770	2500.0	2166.1	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	97	1832873	2500.0	2764.7	
78 Hexachlorobutadiene	225	8.039	8.039	0.000	97	1199431	2500.0	2729.7	
83 Caprolactam	113	8.263	8.263	0.000	77	1177305	5000.0	4359.2	
85 4-Chloro-3-methylphenol	107	8.345	8.345	0.000	96	1808580	2500.0	2511.9	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	93	4415688	2500.0	2377.9	
87 1-Methylnaphthalene	142	8.622	8.622	0.000	93	4099303	2500.0	2408.7	
89 Hexachlorocyclopentadiene	237	8.669	8.669	0.000	97	1462982	2500.0	3090.2	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	97	2063263	2500.0	2784.3	
93 2,4,6-Trichlorophenol	196	8.757	8.757	0.000	92	1272357	2500.0	2915.5	
94 2,4,5-Trichlorophenol	196	8.792	8.792	0.000	95	1279707	2500.0	2870.5	
99 1,1'-Biphenyl	154	8.916	8.916	0.000	95	5320087	2500.0	2494.2	
100 2-Chloronaphthalene	162	8.951	8.951	0.000	97	4099719	2500.0	2529.1	
101 2-Nitroaniline	65	9.010	9.010	0.000	84	1232648	2500.0	2609.9	
104 Dimethyl phthalate	163	9.133	9.133	0.000	99	4541608	2500.0	2519.8	
103 1,3-Dinitrobenzene	168	9.181	9.181	0.000	86	706176	2500.0	2843.8	
106 2,6-Dinitrotoluene	165	9.198	9.198	0.000	95	1068124	2500.0	2721.8	
108 Acenaphthylene	152	9.316	9.316	0.000	98	6635261	2500.0	2509.1	
109 3-Nitroaniline	138	9.369	9.369	0.000	92	648717	2500.0	2044.1	
110 2,4-Dinitrophenol	184	9.445	9.445	0.000	86	1034295	5000.0	5329.3	
112 4-Nitrophenol	109	9.463	9.463	0.000	90	1143009	5000.0	5526.0	
111 Acenaphthene	153	9.463	9.463	0.000	94	3975251	2500.0	2359.6	
113 2,4-Dinitrotoluene	165	9.551	9.551	0.000	93	1326384	2500.0	2818.7	
115 Dibenzofuran	168	9.604	9.604	0.000	95	5773388	2500.0	2512.1	
118 2,3,4,6-Tetrachlorophenol	232	9.698	9.698	0.000	73	904590	2500.0	2915.5	
248 Hexadecane	57	9.716	9.716	0.000	93	2512781	2500.0	1985.0	
120 Diethyl phthalate	149	9.722	9.722	0.000	99	4376890	2500.0	2409.6	
122 4-Chlorophenyl phenyl ethe	204	9.863	9.863	0.000	91	2325273	2500.0	2709.2	
125 4-Nitroaniline	138	9.886	9.886	0.000	81	647712	2500.0	2002.8	
124 Fluorene	166	9.898	9.898	0.000	95	4608073	2500.0	2464.0	
127 4,6-Dinitro-2-methylphenol	198	9.910	9.910	0.000	80	1430437	5000.0	5137.6	
129 Diphenylamine	169	9.957	9.957	0.000	93	3282435	2125.5	2196.9	
128 N-Nitrosodiphenylamine	169	9.957	9.957	0.000	62	3282435	2500.0	2584.0	
131 Azobenzene	77	10.004	10.004	0.000	97	4586025	2500.0	2369.9	
130 1,2-Diphenylhydrazine	77	10.004	10.004	0.000	95	4586033	2500.0	2369.9	
138 4-Bromophenyl phenyl ether	248	10.292	10.292	0.000	58	1336736	2500.0	2837.4	
141 Atrazine	200	10.380	10.380	0.000	93	2427087	5000.0	5239.0	
140 Hexachlorobenzene	284	10.392	10.392	0.000	96	1476361	2500.0	2955.2	
245 n-Octadecane	57	10.498	10.498	0.000	94	2799377	2500.0	2214.6	
143 Pentachlorophenol	266	10.539	10.539	0.000	94	1558338	5000.0	5251.6	
148 Phenanthrene	178	10.739	10.739	0.000	97	6249422	2500.0	2570.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.780	10.780	0.000	97	6450556	2500.0	2605.1	
150 Carbazole	167	10.892	10.892	0.000	83	5001600	2500.0	2459.6	
154 Di-n-butyl phthalate	149	11.122	11.122	0.000	100	7147281	2500.0	2348.9	
159 Fluoranthene	202	11.869	11.869	0.000	97	6515537	2500.0	2747.5	
160 Benzidine	184	11.957	11.957	0.000	99	5859664	5000.0	5147.9	
161 Pyrene	202	12.133	12.133	0.000	98	6720948	2500.0	2502.6	
169 Butyl benzyl phthalate	149	12.763	12.763	0.000	97	3376440	2500.0	2585.7	
174 Bis(2-ethylhexyl) phthalat	149	13.539	13.539	0.000	96	4757986	2500.0	2503.7	
177 3,3'-Dichlorobenzidine	252	13.586	13.586	0.000	54	4676481	5000.0	5492.4	
178 Benzo[a]anthracene	228	13.686	13.686	0.000	98	6758301	2500.0	2658.1	
179 Chrysene	228	13.745	13.745	0.000	94	6281653	2500.0	2564.5	
181 Di-n-octyl phthalate	149	14.568	14.568	0.000	99	8472728	2500.0	2869.8	
183 Benzo[b]fluoranthene	252	15.445	15.445	0.000	97	6676413	2500.0	2827.3	
184 Benzo[k]fluoranthene	252	15.486	15.486	0.000	98	6818048	2500.0	2774.1	
185 Benzo[a]pyrene	252	16.015	16.015	0.000	77	6412924	2500.0	2894.7	
190 Indeno[1,2,3-cd]pyrene	276	18.333	18.333	0.000	97	7606513	2500.0	2828.3	
189 Dibenz(a,h)anthracene	278	18.333	18.333	0.000	90	6747980	2500.0	2935.9	
191 Benzo[g,h,i]perylene	276	18.992	18.992	0.000	96	5650974	2500.0	2779.9	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

SMLIST1 L9 W_00009 Amount Added: 0.10 Units: mL

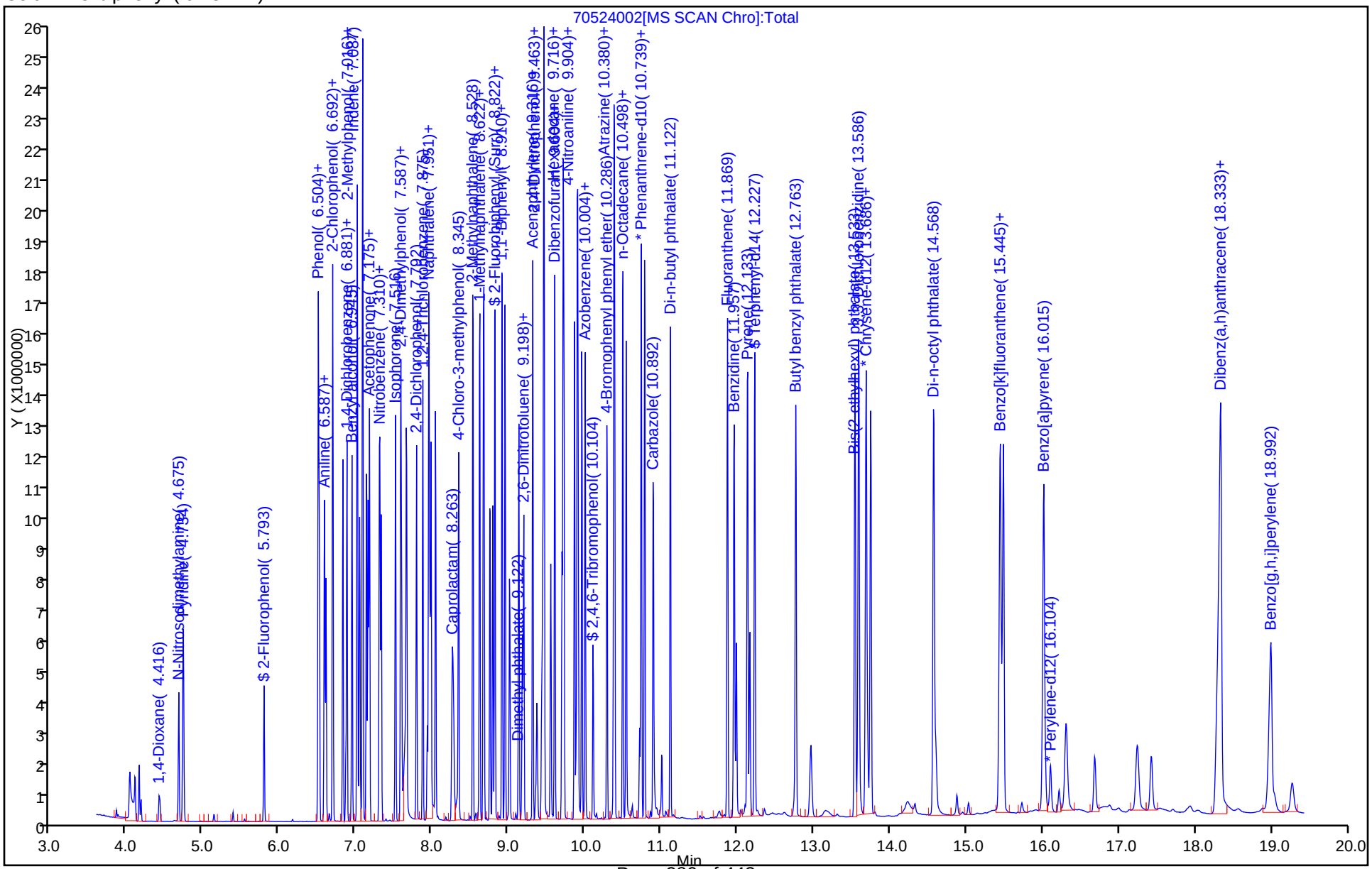
Report Date: 24-May-2017 13:00:48 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524002.D

Injection Date:	24-May-2017 08:41:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std9 l1lvi			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524003.D
Lims ID: std8 l1lvi
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 24-May-2017 09:06:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-003
Misc. Info.: STD8 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:00:51 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 10:06:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	96	263404	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.934	0.000	100	1086944	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.433	-0.005	93	609238	400.0	400.0	
* 4 Phenanthrene-d10	188	10.716	10.716	0.000	97	880533	400.0	400.0	
* 5 Chrysene-d12	240	13.698	13.704	-0.006	97	905383	400.0	400.0	
* 6 Perylene-d12	264	16.098	16.104	-0.006	97	755377	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.001	94	957235	2000.0	1967.9	
$ 8 Phenol-d5	99	6.504	6.504	0.000	97	1730474	2000.0	2058.6	
$ 9 Nitrobenzene-d5	82	7.310	7.310	0.000	91	2016427	2000.0	2017.7	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.822	-0.006	99	3894799	2000.0	2038.0	
$ 11 2,4,6-Tribromophenol	330	10.104	10.110	-0.006	94	405433	2000.0	2208.1	
$ 12 Terphenyl-d14	244	12.222	12.227	-0.005	99	3727070	2000.0	2170.2	
26 1,4-Dioxane	88	4.428	4.416	0.012	98	367528	2000.0	2302.8	
27 N-Nitrosodimethylamine	74	4.675	4.675	0.000	88	1124327	2000.0	2118.7	
28 Pyridine	79	4.740	4.734	0.006	90	2173000	4000.0	4678.4	
42 Benzaldehyde	77		6.498				ND	ND	
43 Phenol	94	6.516	6.516	0.000	98	1908766	2000.0	2090.7	
44 Aniline	93	6.581	6.587	-0.006	97	2780262	2000.0	1840.6	
45 Bis(2-chloroethyl)ether	93	6.604	6.604	0.000	94	2016239	2000.0	2093.4	
244 n-Decane	57	6.693	6.692	0.001	94	1678415	2000.0	1838.6	
47 2-Chlorophenol	128	6.698	6.698	0.000	96	1581050	2000.0	1980.6	
48 1,3-Dichlorobenzene	146	6.828	6.828	0.000	98	1946037	2000.0	2015.0	
49 1,4-Dichlorobenzene	146	6.881	6.881	0.000	94	1994971	2000.0	2006.0	
50 Benzyl alcohol	108	6.946	6.945	0.001	92	1234257	2000.0	2077.2	
52 2-Methylphenol	108	7.016	7.016	0.000	97	1576622	2000.0	2009.3	
51 1,2-Dichlorobenzene	146	7.016	7.016	0.000	96	1819403	2000.0	1908.5	
54 2,2'-oxybis[1-chloropropan	45	7.046	7.045	0.001	92	2696419	2000.0	1765.2	
53 Indene	115	7.087	7.087	0.000	90	5901020	4000.0	3586.2	
55 3 & 4 Methylphenol	108	7.134	7.134	0.000	93	1755357	2000.0	2199.2	
57 N-Nitrosodi-n-propylamine	70	7.157	7.157	0.000	87	1364038	2000.0	1874.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.175	7.175	0.000	95	2481333	2000.0	1935.4	
61 Hexachloroethane	117	7.304	7.304	0.000	90	720130	2000.0	1966.9	
62 Nitrobenzene	77	7.328	7.328	0.000	89	1885958	2000.0	1996.0	
64 Isophorone	82	7.516	7.516	0.000	98	3530797	2000.0	1903.8	
66 2,4-Dimethylphenol	107	7.581	7.587	-0.005	95	1839572	2000.0	2106.8	
65 2-Nitrophenol	139	7.593	7.598	-0.005	96	911060	2000.0	2215.1	
70 Benzoic acid	122	7.657	7.663	-0.006	91	1422875	4000.0	3730.8	
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	99	1993088	2000.0	1890.8	
72 2,4-Dichlorophenol	162	7.793	7.792	0.001	94	1500941	2000.0	2361.0	
73 1,2,4-Trichlorobenzene	180	7.875	7.875	0.000	94	1682153	2000.0	2099.3	
74 Naphthalene	128	7.951	7.951	0.000	98	5424441	2000.0	1948.3	
75 4-Chloroaniline	127	7.963	7.963	0.000	96	2531475	2000.0	1872.6	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	98	1472700	2000.0	2200.6	
78 Hexachlorobutadiene	225	8.040	8.039	0.001	97	953924	2000.0	2150.6	
83 Caprolactam	113	8.257	8.263	-0.006	77	963484	4000.0	3534.1	
85 4-Chloro-3-methylphenol	107	8.340	8.345	-0.005	96	1499091	2000.0	2062.6	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	92	3653667	2000.0	1949.1	
87 1-Methylnaphthalene	142	8.616	8.622	-0.006	93	3385949	2000.0	1970.9	
89 Hexachlorocyclopentadiene	237	8.669	8.669	0.000	95	1165583	2000.0	2421.4	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	97	1642845	2000.0	2180.4	
93 2,4,6-Trichlorophenol	196	8.751	8.757	-0.006	93	1004998	2000.0	2264.9	
94 2,4,5-Trichlorophenol	196	8.792	8.792	0.000	95	1012088	2000.0	2232.7	
99 1,1'-Biphenyl	154	8.910	8.916	-0.006	95	4322590	2000.0	1993.1	
100 2-Chloronaphthalene	162	8.951	8.951	0.000	97	3352655	2000.0	2034.1	
101 2-Nitroaniline	65	9.010	9.010	0.000	84	1024156	2000.0	2132.7	
104 Dimethyl phthalate	163	9.134	9.133	0.001	99	3675066	2000.0	2005.4	
103 1,3-Dinitrobenzene	168	9.175	9.181	-0.006	86	575150	2000.0	2278.0	
106 2,6-Dinitrotoluene	165	9.198	9.198	0.000	95	859406	2000.0	2153.8	
108 Acenaphthylene	152	9.316	9.316	0.000	98	5458338	2000.0	2030.0	
109 3-Nitroaniline	138	9.363	9.369	-0.006	92	537795	2000.0	1666.6	
110 2,4-Dinitrophenol	184	9.445	9.445	0.000	86	782847	4000.0	4005.6	
112 4-Nitrophenol	109	9.463	9.463	0.000	93	966518	4000.0	4595.7	
111 Acenaphthene	153	9.457	9.463	-0.006	94	3300571	2000.0	1926.8	
113 2,4-Dinitrotoluene	165	9.551	9.551	0.000	93	1049558	2000.0	2193.6	
115 Dibenzofuran	168	9.604	9.604	0.000	96	4729597	2000.0	2024.0	
118 2,3,4,6-Tetrachlorophenol	232	9.698	9.698	0.000	74	705501	2000.0	2236.4	
248 Hexadecane	57	9.710	9.716	-0.006	95	2163481	2000.0	1680.9	
120 Diethyl phthalate	149	9.722	9.722	0.000	98	3530036	2000.0	1911.3	
122 4-Chlorophenyl phenyl ethe	204	9.863	9.863	0.000	92	1861621	2000.0	2133.3	
125 4-Nitroaniline	138	9.887	9.886	0.001	83	550198	2000.0	1673.2	
124 Fluorene	166	9.898	9.898	0.000	95	3813752	2000.0	2005.6	
127 4,6-Dinitro-2-methylphenol	198	9.910	9.910	0.000	88	1129418	4000.0	4158.9	
128 N-Nitrosodiphenylamine	169	9.957	9.957	0.000	63	2651288	2000.0	2124.2	
129 Diphenylamine	169	9.957	9.957	0.000	95	2651288	1700.4	1806.0	
130 1,2-Diphenylhydrazine	77	9.998	10.004	-0.006	97	3831086	2000.0	2014.9	
131 Azobenzene	77	9.998	10.004	-0.006	98	3831086	2000.0	2014.9	
138 4-Bromophenyl phenyl ether	248	10.286	10.292	-0.006	67	1043155	2000.0	2253.5	
141 Atrazine	200	10.375	10.380	-0.005	96	1954455	4000.0	4293.8	
140 Hexachlorobenzene	284	10.386	10.392	-0.006	96	1168123	2000.0	2379.7	
245 n-Octadecane	57	10.492	10.498	-0.006	94	2378393	2000.0	1915.0	
143 Pentachlorophenol	266	10.539	10.539	0.000	93	1177269	4000.0	4098.3	
148 Phenanthrene	178	10.734	10.739	-0.005	97	4974375	2000.0	2082.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.781	10.780	0.001	97	5084867	2000.0	2090.1	
150 Carbazole	167	10.892	10.892	0.000	96	3973756	2000.0	1988.9	
154 Di-n-butyl phthalate	149	11.116	11.122	-0.006	100	5803071	2000.0	1941.0	
159 Fluoranthene	202	11.863	11.869	-0.006	98	5033983	2000.0	2160.5	
160 Benzidine	184	11.951	11.957	-0.006	99	4475556	4000.0	4218.2	
161 Pyrene	202	12.128	12.133	-0.005	97	5083142	2000.0	2014.3	
169 Butyl benzyl phthalate	149	12.763	12.763	0.000	99	2609327	2000.0	2126.6	
174 Bis(2-ethylhexyl) phthalat	149	13.533	13.539	-0.006	97	3746300	2000.0	2097.9	
177 3,3'-Dichlorobenzidine	252	13.586	13.586	0.000	51	3502610	4000.0	4377.9	
178 Benzo[a]anthracene	228	13.680	13.686	-0.006	98	5109304	2000.0	2138.6	
179 Chrysene	228	13.739	13.745	-0.006	95	4809950	2000.0	2089.8	
181 Di-n-octyl phthalate	149	14.569	14.568	0.001	100	6525397	2000.0	2281.4	
183 Benzo[b]fluoranthene	252	15.433	15.445	-0.012	97	5053075	2000.0	2208.8	
184 Benzo[k]fluoranthene	252	15.480	15.486	-0.006	99	5160998	2000.0	2167.5	
185 Benzo[a]pyrene	252	16.010	16.015	-0.005	77	4781315	2000.0	2227.7	
190 Indeno[1,2,3-cd]pyrene	276	18.315	18.333	-0.018	98	5626178	2000.0	2159.3	
189 Dibenz(a,h)anthracene	278	18.321	18.333	-0.012	91	4978824	2000.0	2235.9	
191 Benzo[g,h,i]perylene	276	18.980	18.992	-0.012	97	4283843	2000.0	2175.2	
S 193 Methyl Phenols,Total	100				0			4208.6	
S 246 Total Cresols	100				0			4208.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

SMLIST1 L8 W_00009 Amount Added: 0.10 Units: mL

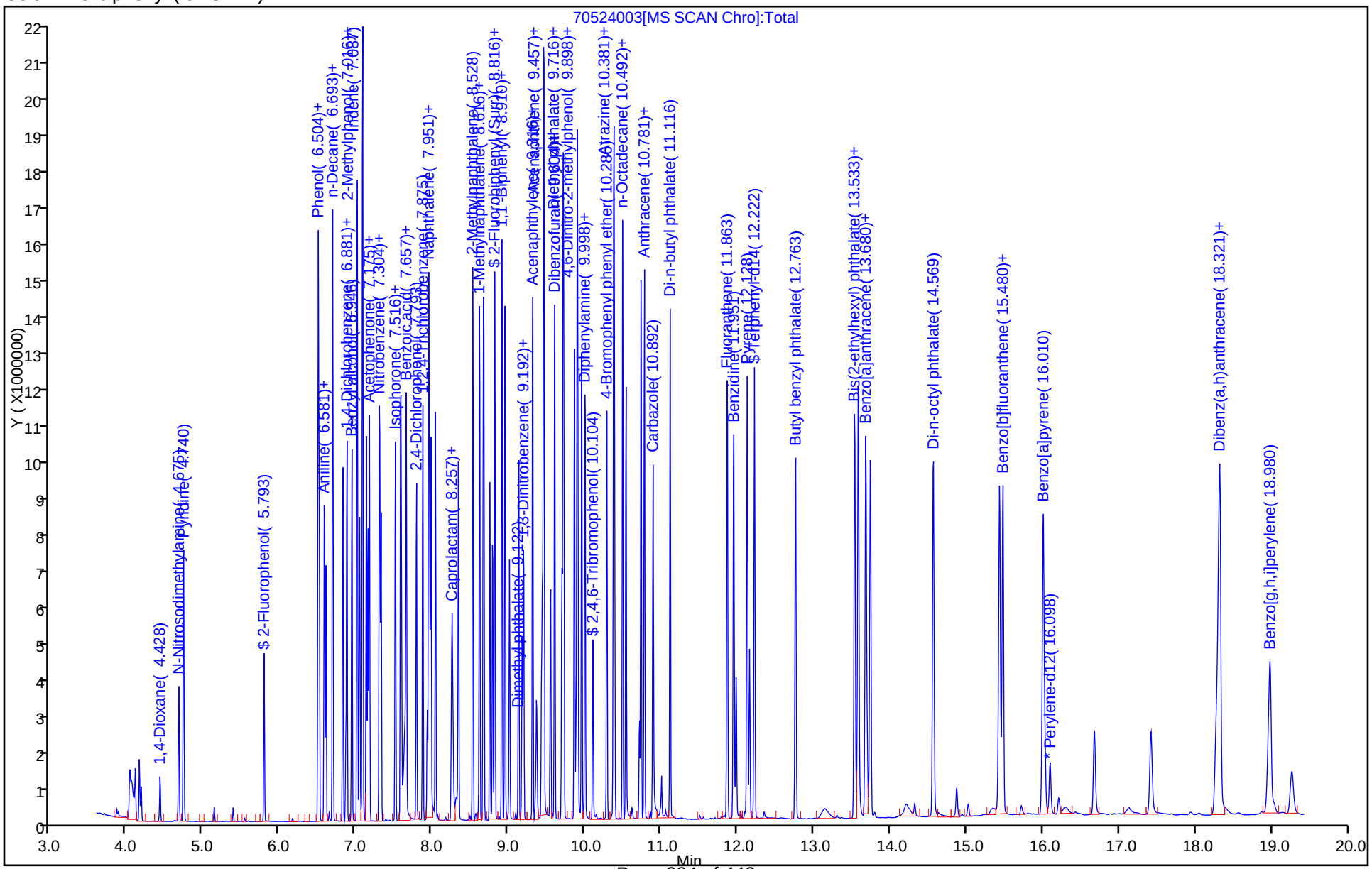
Report Date: 24-May-2017 13:00:53 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524003.D

Injection Date:	24-May-2017 09:06:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std8 l1lvi			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524004.D
Lims ID: std7 l1lvi
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 24-May-2017 09:30:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-004
Misc. Info.: STD7 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:27:52 Calib Date: 24-May-2017 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524012.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 10:26:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	258263	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.928	0.006	100	1074390	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	93	594346	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	858748	400.0	400.0	
* 5 Chrysene-d12	240	13.698	13.692	0.006	97	885386	400.0	400.0	
* 6 Perylene-d12	264	16.098	16.098	0.000	97	758770	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.000	94	658052	1500.0	1379.8	
$ 8 Phenol-d5	99	6.504	6.498	0.006	95	1254431	1500.0	1522.0	
$ 9 Nitrobenzene-d5	82	7.310	7.310	0.000	90	1502843	1500.0	1521.4	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.816	0.000	99	2907785	1500.0	1559.7	
$ 11 2,4,6-Tribromophenol	330	10.104	10.104	0.000	95	289754	1500.0	1617.6	
$ 12 Terphenyl-d14	244	12.222	12.222	0.000	100	2686754	1500.0	1599.8	
26 1,4-Dioxane	88	4.428	4.428	0.000	99	208892	1500.0	1334.9	
27 N-Nitrosodimethylamine	74	4.675	4.669	0.006	88	797710	1500.0	1533.1	
28 Pyridine	79	4.734	4.734	0.000	88	1253730	3000.0	2753.0	
42 Benzaldehyde	77		6.498				ND	ND	
43 Phenol	94	6.516	6.510	0.006	99	1366207	1500.0	1526.2	
44 Aniline	93	6.581	6.581	0.000	96	2103676	1500.0	1420.4	
45 Bis(2-chloroethyl)ether	93	6.604	6.598	0.006	94	1427347	1500.0	1511.5	
244 n-Decane	57	6.693	6.687	0.006	93	1214477	1500.0	1356.9	
47 2-Chlorophenol	128	6.693	6.692	0.001	96	1207292	1500.0	1542.5	
48 1,3-Dichlorobenzene	146	6.828	6.822	0.006	98	1414050	1500.0	1493.3	
49 1,4-Dichlorobenzene	146	6.881	6.875	0.006	93	1461497	1500.0	1498.9	
50 Benzyl alcohol	108	6.946	6.940	0.006	91	919065	1500.0	1577.5	
51 1,2-Dichlorobenzene	146	7.010	7.010	0.000	97	1393753	1500.0	1491.1	
52 2-Methylphenol	108	7.016	7.010	0.006	97	1191012	1500.0	1548.1	
54 2,2'-oxybis[1-chloropropan	45	7.046	7.045	0.001	92	2081487	1500.0	1389.8	
53 Indene	115	7.087	7.081	0.006	90	4600637	3000.0	2851.5	
55 3 & 4 Methylphenol	108	7.134	7.134	0.000	93	1286166	1500.0	1643.5	
57 N-Nitrosodi-n-propylamine	70	7.151	7.151	0.000	88	1018397	1500.0	1427.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.175	7.169	0.006	95	1839227	1500.0	1463.2	
61 Hexachloroethane	117	7.304	7.304	0.000	91	534047	1500.0	1487.7	
62 Nitrobenzene	77	7.328	7.322	0.006	90	1419464	1500.0	1519.9	
64 Isophorone	82	7.510	7.510	0.000	98	2675829	1500.0	1459.7	
66 2,4-Dimethylphenol	107	7.581	7.581	0.000	95	1366483	1500.0	1583.3	
65 2-Nitrophenol	139	7.593	7.592	0.001	96	667053	1500.0	1640.8	
70 Benzoic acid	122	7.646	7.634	0.012	90	1142763	3000.0	3077.7	
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	99	1523478	1500.0	1462.2	
72 2,4-Dichlorophenol	162	7.793	7.787	0.006	95	1086237	1500.0	1728.6	
73 1,2,4-Trichlorobenzene	180	7.875	7.875	0.000	94	1233465	1500.0	1557.3	
74 Naphthalene	128	7.951	7.951	0.000	98	4056979	1500.0	1474.2	
75 4-Chloroaniline	127	7.963	7.963	0.000	96	2022180	1500.0	1513.3	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	97	1077161	1500.0	1628.4	
78 Hexachlorobutadiene	225	8.040	8.039	0.001	97	682575	1500.0	1556.8	
83 Caprolactam	113	8.251	8.245	0.006	77	723620	3000.0	2685.3	
85 4-Chloro-3-methylphenol	107	8.340	8.339	0.001	96	1123757	1500.0	1564.2	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	92	2770045	1500.0	1495.0	
87 1-Methylnaphthalene	142	8.616	8.616	0.000	93	2522024	1500.0	1485.2	
89 Hexachlorocyclopentadiene	237	8.663	8.663	0.000	95	812163	1500.0	1729.5	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	98	1191086	1500.0	1620.4	
93 2,4,6-Trichlorophenol	196	8.751	8.751	0.000	93	718086	1500.0	1658.9	
94 2,4,5-Trichlorophenol	196	8.787	8.786	0.001	94	741596	1500.0	1677.0	
99 1,1'-Biphenyl	154	8.910	8.910	0.000	95	3235986	1500.0	1529.5	
100 2-Chloronaphthalene	162	8.951	8.951	0.000	97	2484318	1500.0	1545.0	
101 2-Nitroaniline	65	9.010	9.010	0.000	85	750825	1500.0	1602.7	
104 Dimethyl phthalate	163	9.128	9.128	0.000	99	2730578	1500.0	1527.3	
103 1,3-Dinitrobenzene	168	9.175	9.175	0.000	84	418862	1500.0	1700.5	
106 2,6-Dinitrotoluene	165	9.192	9.192	0.000	94	629483	1500.0	1617.1	
108 Acenaphthylene	152	9.316	9.310	0.006	98	4074141	1500.0	1553.2	
109 3-Nitroaniline	138	9.363	9.357	0.006	93	456364	1500.0	1449.7	
110 2,4-Dinitrophenol	184	9.440	9.439	0.001	84	553390	3000.0	2943.9	
112 4-Nitrophenol	109	9.457	9.451	0.006	56	729484	3000.0	3555.5	
111 Acenaphthene	153	9.457	9.457	0.000	94	2505805	1500.0	1499.5	
113 2,4-Dinitrotoluene	165	9.545	9.545	0.000	92	767667	1500.0	1644.7	
115 Dibenzofuran	168	9.598	9.598	0.000	96	3523582	1500.0	1545.7	
118 2,3,4,6-Tetrachlorophenol	232	9.698	9.692	0.006	73	495850	1500.0	1611.2	
248 Hexadecane	57	9.710	9.710	0.000	96	1732239	1500.0	1379.5	
120 Diethyl phthalate	149	9.722	9.716	0.006	98	2636544	1500.0	1463.3	
122 4-Chlorophenyl phenyl ethe	204	9.863	9.857	0.006	92	1360894	1500.0	1598.5	
125 4-Nitroaniline	138	9.881	9.881	0.001	85	457825	1500.0	1427.2	
124 Fluorene	166	9.898	9.898	0.000	95	2849984	1500.0	1536.3	
127 4,6-Dinitro-2-methylphenol	198	9.904	9.904	0.000	86	798659	3000.0	3058.1	
128 N-Nitrosodiphenylamine	169	9.957	9.951	0.006	63	1954817	1500.0	1605.9	
129 Diphenylamine	169	9.957	9.951	0.006	95	1954817	1275.3	1365.4	
131 Azobenzene	77	9.998	9.998	0.000	99	2898060	1500.0	1562.9	
130 1,2-Diphenylhydrazine	77	9.998	9.998	0.000	97	2898060	1500.0	1562.9	
138 4-Bromophenyl phenyl ether	248	10.287	10.286	0.000	69	745105	1500.0	1650.5	
141 Atrazine	200	10.375	10.375	0.000	95	1481971	3000.0	3338.3	
140 Hexachlorobenzene	284	10.387	10.386	0.000	95	820992	1500.0	1715.0	
245 n-Octadecane	57	10.492	10.492	0.000	93	1846840	1500.0	1524.7	
143 Pentachlorophenol	266	10.539	10.533	0.006	93	809249	3000.0	2965.9	
148 Phenanthrene	178	10.734	10.733	0.001	97	3602589	1500.0	1546.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.781	10.775	0.006	97	3728117	1500.0	1571.3	
150 Carbazole	167	10.892	10.892	0.000	96	3090118	1500.0	1585.9	
154 Di-n-butyl phthalate	149	11.116	11.116	0.000	100	4325591	1500.0	1483.5	
159 Fluoranthene	202	11.863	11.863	0.000	98	3685874	1500.0	1622.0	
160 Benzidine	184	11.945	11.945	0.000	99	2938064	3000.0	2891.1	
161 Pyrene	202	12.128	12.122	0.006	98	3681232	1500.0	1491.7	
169 Butyl benzyl phthalate	149	12.757	12.757	0.000	99	1928052	1500.0	1606.8	
174 Bis(2-ethylhexyl) phthalat	149	13.533	13.533	0.000	98	2766738	1500.0	1584.4	
177 3,3'-Dichlorobenzidine	252	13.580	13.580	0.000	74	2477940	3000.0	3167.1	
178 Benzo[a]anthracene	228	13.680	13.674	0.006	98	3636829	1500.0	1556.6	
179 Chrysene	228	13.739	13.739	0.000	97	3453362	1500.0	1534.3	
181 Di-n-octyl phthalate	149	14.563	14.563	0.000	100	4749419	1500.0	1653.0	
183 Benzo[b]fluoranthene	252	15.427	15.427	0.000	97	3606343	1500.0	1569.3	
184 Benzo[k]fluoranthene	252	15.474	15.468	0.006	99	3734405	1500.0	1561.3	
185 Benzo[a]pyrene	252	16.004	15.998	0.006	78	3455283	1500.0	1602.7	
190 Indeno[1,2,3-cd]pyrene	276	18.315	18.298	0.017	98	4169396	1500.0	1593.1	
189 Dibenz(a,h)anthracene	278	18.315	18.309	0.006	90	3591094	1500.0	1605.5	
191 Benzo[g,h,i]perylene	276	18.974	18.968	0.006	96	3231785	1500.0	1633.7	
S 193 Methyl Phenols,Total	100				0			3191.6	
S 246 Total Cresols	100				0			3191.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

SMLIST1 L7 W_00009 Amount Added: 0.10 Units: mL

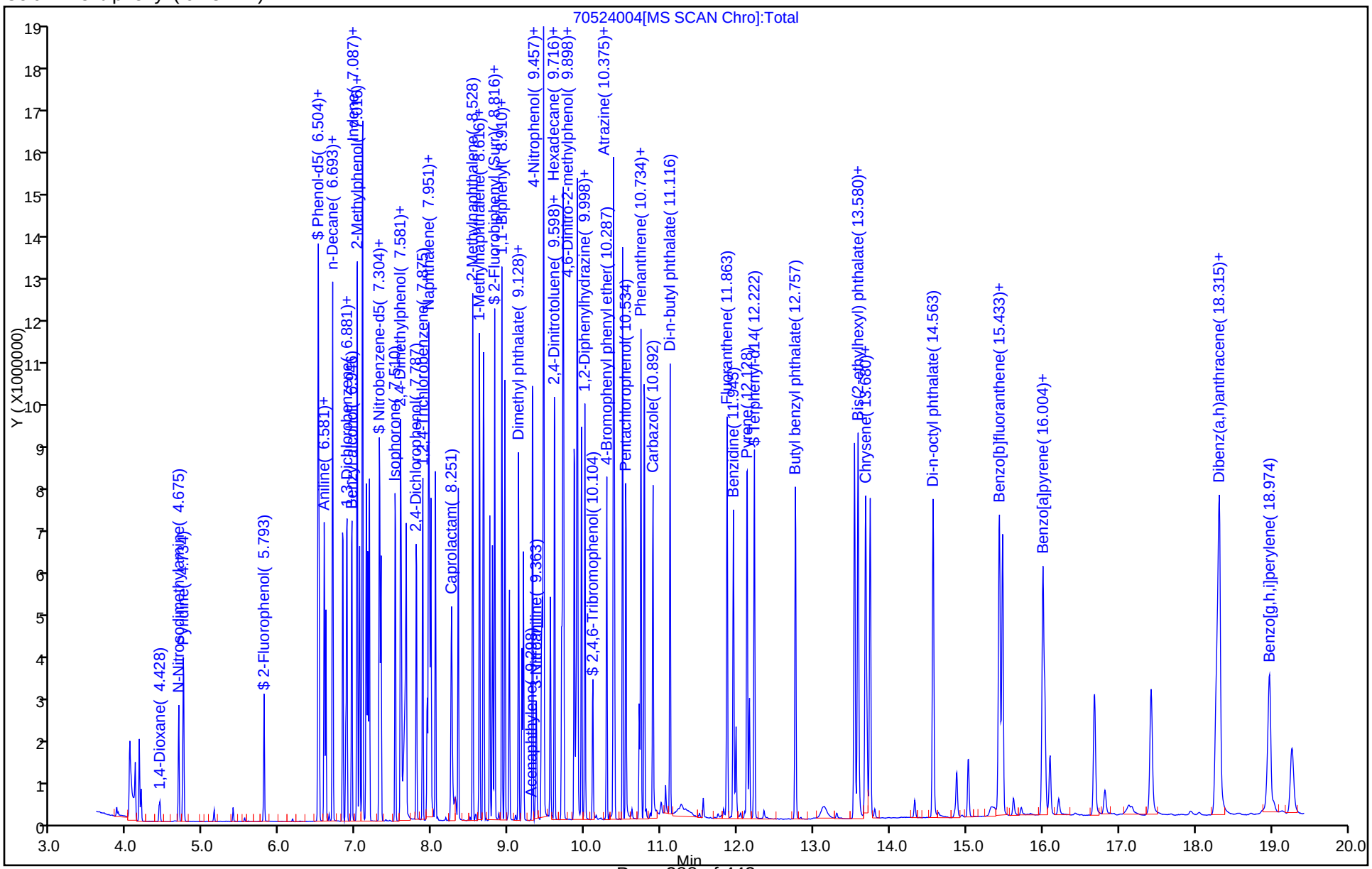
Report Date: 24-May-2017 13:27:53 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524004.D

Injection Date:	24-May-2017 09:30:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std7 l1lvi			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524005.D
Lims ID: std6 l1lvi
Client ID:
Sample Type: ICIS Calib Level: 6
Inject. Date: 24-May-2017 09:54:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-005
Misc. Info.: STD6 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:01:05 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 10:22:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	263553	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.934	0.000	100	1078604	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	93	603662	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	889111	400.0	400.0	
* 5 Chrysene-d12	240	13.698	13.698	0.000	97	895626	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	757478	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.000	94	487032	1000.0	1000.7	
$ 8 Phenol-d5	99	6.498	6.498	0.000	98	761824	1000.0	905.8	
$ 9 Nitrobenzene-d5	82	7.310	7.310	0.000	91	983597	1000.0	991.8	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.816	0.000	100	1855597	1000.0	979.9	
$ 11 2,4,6-Tribromophenol	330	10.104	10.104	0.000	95	181178	1000.0	995.8	
$ 12 Terphenyl-d14	244	12.222	12.222	0.000	99	1595165	1000.0	938.9	
26 1,4-Dioxane	88	4.428	4.428	0.000	98	152575	1000.0	955.4	
27 N-Nitrosodimethylamine	74	4.669	4.669	0.000	89	543754	1000.0	1024.1	
28 Pyridine	79	4.734	4.734	0.000	88	924660	2000.0	1989.6	
42 Benzaldehyde	77	6.498	6.498	0.000	92	1028477	2000.0	2008.8	
43 Phenol	94	6.510	6.510	0.000	98	820827	1000.0	898.6	
44 Aniline	93	6.581	6.581	0.000	97	1437449	1000.0	951.1	
45 Bis(2-chloroethyl)ether	93	6.598	6.598	0.000	94	896809	1000.0	930.6	
244 n-Decane	57	6.687	6.687	0.000	93	898438	1000.0	983.7	
47 2-Chlorophenol	128	6.692	6.692	0.000	97	755020	1000.0	945.3	
48 1,3-Dichlorobenzene	146	6.822	6.822	0.000	98	949871	1000.0	983.0	
49 1,4-Dichlorobenzene	146	6.875	6.875	0.000	93	966247	1000.0	971.1	
50 Benzyl alcohol	108	6.940	6.940	0.000	92	589931	1000.0	992.3	
52 2-Methylphenol	108	7.010	7.010	0.000	88	789722	1000.0	1005.9	
51 1,2-Dichlorobenzene	146	7.010	7.010	0.000	94	916826	1000.0	961.2	
54 2,2'-oxybis[1-chloropropan	45	7.045	7.045	0.000	92	1398673	1000.0	915.1	
53 Indene	115	7.081	7.081	0.000	90	3160828	2000.0	1919.8	
55 3 & 4 Methylphenol	108	7.134	7.134	0.000	93	819869	1000.0	1026.6	
57 N-Nitrosodi-n-propylamine	70	7.151	7.151	0.000	90	685190	1000.0	940.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.169	7.169	0.000	95	1210547	1000.0	943.7	
61 Hexachloroethane	117	7.304	7.304	0.000	92	350903	1000.0	957.9	
62 Nitrobenzene	77	7.322	7.322	0.000	90	924152	1000.0	985.7	
64 Isophorone	82	7.510	7.510	0.000	98	1762479	1000.0	957.7	
66 2,4-Dimethylphenol	107	7.581	7.581	0.000	95	897707	1000.0	1036.1	
65 2-Nitrophenol	139	7.592	7.592	0.000	96	424284	1000.0	1039.6	
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	99	1019869	1000.0	975.0	
70 Benzoic acid	122	7.634	7.634	0.000	90	646570	2000.0	1842.5	
72 2,4-Dichlorophenol	162	7.787	7.787	0.000	96	690472	1000.0	1094.5	
73 1,2,4-Trichlorobenzene	180	7.875	7.875	0.000	94	782919	1000.0	984.6	
74 Naphthalene	128	7.951	7.951	0.000	98	2679492	1000.0	969.8	
75 4-Chloroaniline	127	7.963	7.963	0.000	96	1397862	1000.0	1042.0	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	97	680234	1000.0	1024.3	
78 Hexachlorobutadiene	225	8.039	8.039	0.000	98	426159	1000.0	968.2	
83 Caprolactam	113	8.245	8.245	0.000	76	490921	2000.0	1814.6	
85 4-Chloro-3-methylphenol	107	8.339	8.339	0.000	96	721240	1000.0	1000.0	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	92	1782365	1000.0	958.2	
87 1-Methylnaphthalene	142	8.616	8.616	0.000	93	1628840	1000.0	955.5	
89 Hexachlorocyclopentadiene	237	8.663	8.663	0.000	97	494184	1000.0	1036.1	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	99	751433	1000.0	1006.5	
93 2,4,6-Trichlorophenol	196	8.751	8.751	0.000	94	448705	1000.0	1020.6	
94 2,4,5-Trichlorophenol	196	8.786	8.786	0.000	93	449003	1000.0	999.7	
99 1,1'-Biphenyl	154	8.910	8.910	0.000	95	2116837	1000.0	985.1	
100 2-Chloronaphthalene	162	8.951	8.951	0.000	97	1577939	1000.0	966.2	
101 2-Nitroaniline	65	9.010	9.010	0.000	84	497463	1000.0	1045.5	
104 Dimethyl phthalate	163	9.128	9.128	0.000	98	1763877	1000.0	971.4	
103 1,3-Dinitrobenzene	168	9.175	9.175	0.000	85	269921	1000.0	1078.9	
106 2,6-Dinitrotoluene	165	9.192	9.192	0.000	94	408112	1000.0	1032.3	
108 Acenaphthylene	152	9.310	9.310	0.000	98	2610318	1000.0	979.8	
109 3-Nitroaniline	138	9.357	9.357	0.000	92	361636	1000.0	1131.1	
110 2,4-Dinitrophenol	184	9.439	9.439	0.000	84	333414	2000.0	1807.5	
112 4-Nitrophenol	109	9.451	9.451	0.000	89	438334	2000.0	2103.5	
111 Acenaphthene	153	9.457	9.457	0.000	95	1659156	1000.0	977.5	
113 2,4-Dinitrotoluene	165	9.545	9.545	0.000	92	496386	1000.0	1047.1	
115 Dibenzofuran	168	9.598	9.598	0.000	96	2246522	1000.0	970.3	
118 2,3,4,6-Tetrachlorophenol	232	9.692	9.692	0.000	76	310122	1000.0	992.1	
248 Hexadecane	57	9.710	9.710	0.000	92	1212822	1000.0	951.0	
120 Diethyl phthalate	149	9.716	9.716	0.000	98	1756135	1000.0	959.6	
122 4-Chlorophenyl phenyl ethe	204	9.857	9.857	0.000	97	848780	1000.0	981.6	
125 4-Nitroaniline	138	9.881	9.881	0.000	85	332481	1000.0	1020.5	
124 Fluorene	166	9.898	9.898	0.000	96	1858223	1000.0	986.2	
127 4,6-Dinitro-2-methylphenol	198	9.904	9.904	0.000	84	460504	2000.0	1771.6	
128 N-Nitrosodiphenylamine	169	9.951	9.951	0.000	64	1260978	1000.0	1000.6	
129 Diphenylamine	169	9.951	9.951	0.000	94	1260978	850.2	850.7	
130 1,2-Diphenylhydrazine	77	9.998	9.998	0.000	97	1947217	1000.0	1014.2	
131 Azobenzene	77	9.998	9.998	0.000	99	1946685	1000.0	1014.0	
138 4-Bromophenyl phenyl ether	248	10.286	10.286	0.000	69	474905	1000.0	1016.0	
141 Atrazine	200	10.375	10.375	0.000	94	990457	2000.0	2154.9	
140 Hexachlorobenzene	284	10.386	10.386	0.000	94	507221	1000.0	1023.3	
245 n-Octadecane	57	10.492	10.492	0.000	92	1277234	1000.0	1018.5	
143 Pentachlorophenol	266	10.533	10.533	0.000	92	452877	2000.0	1723.4	
148 Phenanthrene	178	10.733	10.733	0.000	97	2301265	1000.0	954.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.775	10.775	0.000	97	2454402	1000.0	999.1	
150 Carbazole	167	10.892	10.892	0.000	96	2013238	1000.0	997.9	
154 Di-n-butyl phthalate	149	11.116	11.116	0.000	100	2955814	1000.0	979.1	
159 Fluoranthene	202	11.863	11.863	0.000	98	2431794	1000.0	1033.6	
160 Benzidine	184	11.945	11.945	0.000	99	1861972	2000.0	1878.7	
161 Pyrene	202	12.122	12.122	0.000	97	2381849	1000.0	954.2	
169 Butyl benzyl phthalate	149	12.757	12.757	0.000	98	1227306	1000.0	1011.1	
174 Bis(2-ethylhexyl) phthalat	149	13.533	13.533	0.000	97	1754770	1000.0	993.4	
177 3,3'-Dichlorobenzidine	252	13.580	13.580	0.000	52	1496772	2000.0	1891.2	
178 Benzo[a]anthracene	228	13.674	13.674	0.000	99	2301824	1000.0	974.0	
179 Chrysene	228	13.739	13.739	0.000	94	2178568	1000.0	956.8	
181 Di-n-octyl phthalate	149	14.563	14.563	0.000	99	2987945	1000.0	1041.7	
183 Benzo[b]fluoranthene	252	15.427	15.427	0.000	98	2287910	1000.0	997.3	
184 Benzo[k]fluoranthene	252	15.468	15.468	0.000	99	2268615	1000.0	950.1	
185 Benzo[a]pyrene	252	15.998	15.998	0.000	78	2153651	1000.0	1000.7	
190 Indeno[1,2,3-cd]pyrene	276	18.298	18.298	0.000	99	2579111	1000.0	987.1	
189 Dibenz(a,h)anthracene	278	18.309	18.309	0.000	91	2215634	1000.0	992.2	
191 Benzo[g,h,i]perylene	276	18.968	18.968	0.000	96	2056087	1000.0	1041.1	

Reagents:

SMLIST1 L6 W_00009 Amount Added: 0.10 Units: mL

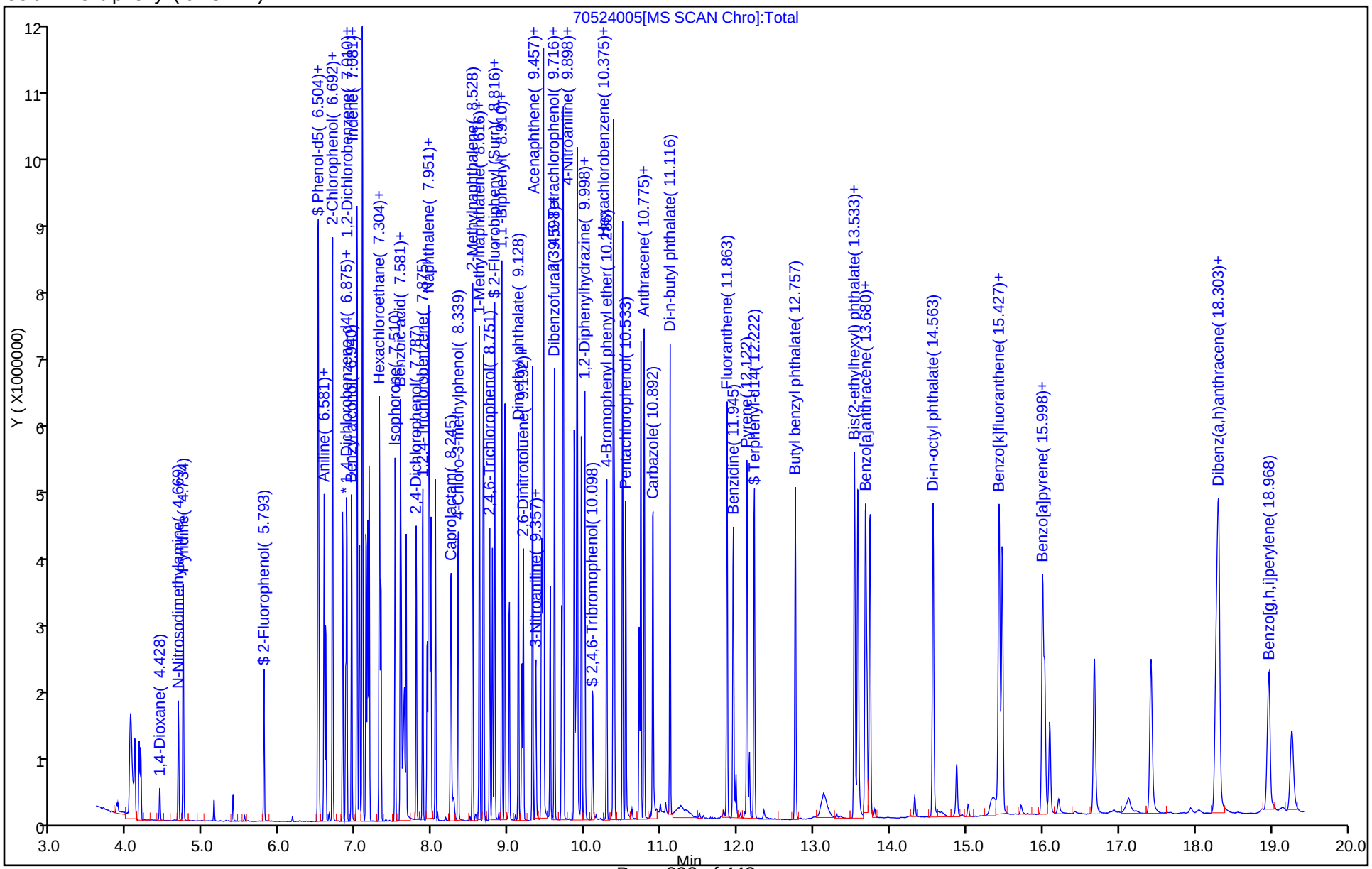
Report Date: 24-May-2017 13:01:07 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524005.D

Injection Date:	24-May-2017 09:54:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std6 l1lvi			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



Report Date: 24-May-2017 13:01:14 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524006.D
Lims ID: std5 l1lvi
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 24-May-2017 10:19:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-006
Misc. Info.: STD5 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:01:12 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 10:43:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	96	244154	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.934	-0.006	100	1062890	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	598345	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	918815	400.0	400.0	
* 5 Chrysene-d12	240	13.698	13.698	0.000	97	878491	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	746299	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.000	94	213916	500.0	474.4	
$ 8 Phenol-d5	99	6.498	6.498	0.000	98	338239	500.0	434.1	
$ 9 Nitrobenzene-d5	82	7.304	7.310	-0.006	93	499240	500.0	510.9	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.816	0.000	100	912489	500.0	486.2	
$ 11 2,4,6-Tribromophenol	330	10.104	10.104	0.000	95	91456	500.0	507.2	
$ 12 Terphenyl-d14	244	12.222	12.222	0.000	99	793889	500.0	476.4	
26 1,4-Dioxane	88	4.428	4.428	0.000	98	70035	500.0	473.4	
27 N-Nitrosodimethylamine	74	4.675	4.669	0.006	89	239074	500.0	486.0	
28 Pyridine	79	4.734	4.734	0.000	88	389188	1000.0	904.0	
42 Benzaldehyde	77	6.498	6.498	0.000	92	556683	1000.0	971.2	
43 Phenol	94	6.510	6.510	0.000	98	363711	500.0	429.8	
44 Aniline	93	6.581	6.581	0.000	97	700130	500.0	500.1	
45 Bis(2-chloroethyl)ether	93	6.598	6.598	0.000	93	440135	500.0	493.0	
244 n-Decane	57	6.687	6.687	0.000	92	428648	500.0	506.6	
47 2-Chlorophenol	128	6.693	6.692	0.001	97	354896	500.0	479.6	
48 1,3-Dichlorobenzene	146	6.822	6.822	0.000	97	438348	500.0	489.7	
49 1,4-Dichlorobenzene	146	6.875	6.875	0.000	93	453936	500.0	492.4	
50 Benzyl alcohol	108	6.940	6.940	0.000	91	293706	500.0	533.3	
51 1,2-Dichlorobenzene	146	7.010	7.010	0.000	94	436310	500.0	493.8	
52 2-Methylphenol	108	7.010	7.010	0.000	89	360802	500.0	496.1	
54 2,2'-oxybis[1-chloropropan	45	7.046	7.045	0.001	92	747062	500.0	527.6	
53 Indene	115	7.081	7.081	0.000	90	1577651	1000.0	1034.4	
55 3 & 4 Methylphenol	108	7.128	7.134	-0.006	94	389059	500.0	525.9	
57 N-Nitrosodi-n-propylamine	70	7.151	7.151	0.000	88	347848	500.0	515.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.169	7.169	0.000	95	622880	500.0	524.2	
61 Hexachloroethane	117	7.304	7.304	0.000	94	167196	500.0	492.7	
62 Nitrobenzene	77	7.322	7.322	0.000	90	473249	500.0	512.2	
64 Isophorone	82	7.510	7.510	0.000	98	910918	500.0	502.3	
66 2,4-Dimethylphenol	107	7.581	7.581	0.000	95	453141	500.0	530.7	
65 2-Nitrophenol	139	7.593	7.592	0.001	95	208547	500.0	518.5	
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	98	512779	500.0	497.5	
70 Benzoic acid	122	7.616	7.634	-0.018	90	288072	1000.0	968.5	
72 2,4-Dichlorophenol	162	7.787	7.787	0.000	96	322182	500.0	518.3	
73 1,2,4-Trichlorobenzene	180	7.875	7.875	0.000	94	375097	500.0	478.7	
74 Naphthalene	128	7.951	7.951	0.000	98	1351569	500.0	496.4	
75 4-Chloroaniline	127	7.963	7.963	0.000	96	708099	500.0	535.7	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	96	331280	500.0	506.2	
78 Hexachlorobutadiene	225	8.040	8.039	0.001	97	204640	500.0	471.8	
83 Caprolactam	113	8.234	8.245	-0.011	76	280825	1000.0	1053.4	
85 4-Chloro-3-methylphenol	107	8.334	8.339	-0.005	97	362540	500.0	510.1	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	93	910763	500.0	496.9	
87 1-Methylnaphthalene	142	8.616	8.616	0.000	93	818716	500.0	487.4	
89 Hexachlorocyclopentadiene	237	8.663	8.663	0.000	96	225979	500.0	478.0	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	99	361947	500.0	489.1	
93 2,4,6-Trichlorophenol	196	8.751	8.751	0.000	95	216775	500.0	497.4	
94 2,4,5-Trichlorophenol	196	8.787	8.786	0.001	94	226717	500.0	509.3	
99 1,1'-Biphenyl	154	8.910	8.910	0.000	96	1051643	500.0	493.7	
100 2-Chloronaphthalene	162	8.945	8.951	-0.006	98	792779	500.0	489.7	
101 2-Nitroaniline	65	9.004	9.010	-0.006	83	244275	500.0	517.9	
104 Dimethyl phthalate	163	9.128	9.128	0.000	98	892447	500.0	495.9	
103 1,3-Dinitrobenzene	168	9.169	9.175	-0.006	84	125037	500.0	504.2	
106 2,6-Dinitrotoluene	165	9.192	9.192	0.000	92	198404	500.0	506.3	
108 Acenaphthylene	152	9.310	9.310	0.000	98	1317465	500.0	498.9	
109 3-Nitroaniline	138	9.351	9.357	-0.006	92	185755	500.0	586.1	
110 2,4-Dinitrophenol	184	9.434	9.439	-0.005	84	148569	1000.0	895.3	
111 Acenaphthene	153	9.457	9.457	0.000	95	838015	500.0	498.1	
112 4-Nitrophenol	109	9.451	9.451	0.000	95	193466	1000.0	936.7	
113 2,4-Dinitrotoluene	165	9.545	9.545	0.000	90	244667	500.0	520.7	
115 Dibenzofuran	168	9.598	9.598	0.000	96	1121439	500.0	488.6	
118 2,3,4,6-Tetrachlorophenol	232	9.692	9.692	0.000	76	144723	500.0	467.1	
248 Hexadecane	57	9.710	9.710	0.000	87	644983	500.0	510.2	
120 Diethyl phthalate	149	9.716	9.716	0.000	98	898385	500.0	495.3	
122 4-Chlorophenyl phenyl ethe	204	9.857	9.857	0.000	98	404245	500.0	471.7	
125 4-Nitroaniline	138	9.875	9.881	-0.005	82	172918	500.0	535.4	
124 Fluorene	166	9.892	9.898	-0.006	94	919044	500.0	492.1	
127 4,6-Dinitro-2-methylphenol	198	9.898	9.904	-0.006	81	205571	1000.0	853.2	
129 Diphenylamine	169	9.951	9.951	0.000	93	647541	425.1	422.7	
128 N-Nitrosodiphenylamine	169	9.951	9.951	0.000	64	647541	500.0	497.2	
131 Azobenzene	77	9.998	9.998	0.000	99	1003376	500.0	505.7	
130 1,2-Diphenylhydrazine	77	9.998	9.998	0.000	97	1003376	500.0	505.7	
138 4-Bromophenyl phenyl ether	248	10.286	10.286	0.000	72	226782	500.0	469.5	
141 Atrazine	200	10.369	10.375	-0.006	92	461172	1000.0	970.9	
140 Hexachlorobenzene	284	10.386	10.386	0.000	95	238099	500.0	464.8	
245 n-Octadecane	57	10.492	10.492	0.000	91	672534	500.0	518.9	
143 Pentachlorophenol	266	10.534	10.533	0.001	92	199494	1000.0	884.8	
148 Phenanthrene	178	10.733	10.733	0.000	98	1196393	500.0	480.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.775	10.775	0.000	98	1250222	500.0	492.5	
150 Carbazole	167	10.886	10.892	-0.006	96	998032	500.0	478.7	
154 Di-n-butyl phthalate	149	11.116	11.116	0.000	100	1500813	500.0	481.1	
159 Fluoranthene	202	11.863	11.863	0.000	98	1156735	500.0	475.8	
160 Benzidine	184	11.939	11.945	-0.006	99	712474	1000.0	843.1	
161 Pyrene	202	12.122	12.122	0.000	97	1161206	500.0	474.2	
169 Butyl benzyl phthalate	149	12.757	12.757	0.000	98	601486	500.0	505.2	
174 Bis(2-ethylhexyl) phthalat	149	13.533	13.533	0.000	98	866463	500.0	500.1	
177 3,3'-Dichlorobenzidine	252	13.574	13.580	-0.006	75	787048	1000.0	1013.8	
178 Benzo[a]anthracene	228	13.674	13.674	0.000	99	1124004	500.0	484.9	
179 Chrysene	228	13.733	13.739	-0.006	98	1094554	500.0	490.1	
181 Di-n-octyl phthalate	149	14.563	14.563	0.000	99	1423382	500.0	503.7	
183 Benzo[b]fluoranthene	252	15.421	15.427	-0.006	98	1077010	500.0	476.5	
184 Benzo[k]fluoranthene	252	15.468	15.468	0.000	99	1131333	500.0	480.9	
185 Benzo[a]pyrene	252	15.998	15.998	0.000	78	1025648	500.0	483.7	
189 Dibenz(a,h)anthracene	278	18.304	18.309	-0.005	90	1066403	500.0	484.7	
190 Indeno[1,2,3-cd]pyrene	276	18.292	18.298	-0.006	98	1261247	500.0	490.0	
191 Benzo[g,h,i]perylene	276	18.956	18.968	-0.012	96	1002772	500.0	515.4	
S 246 Total Cresols	100				0			1022.0	
S 193 Methyl Phenols,Total	100				0			1022.0	

Reagents:

SMLIST1 L5 W_00009 Amount Added: 0.10 Units: mL

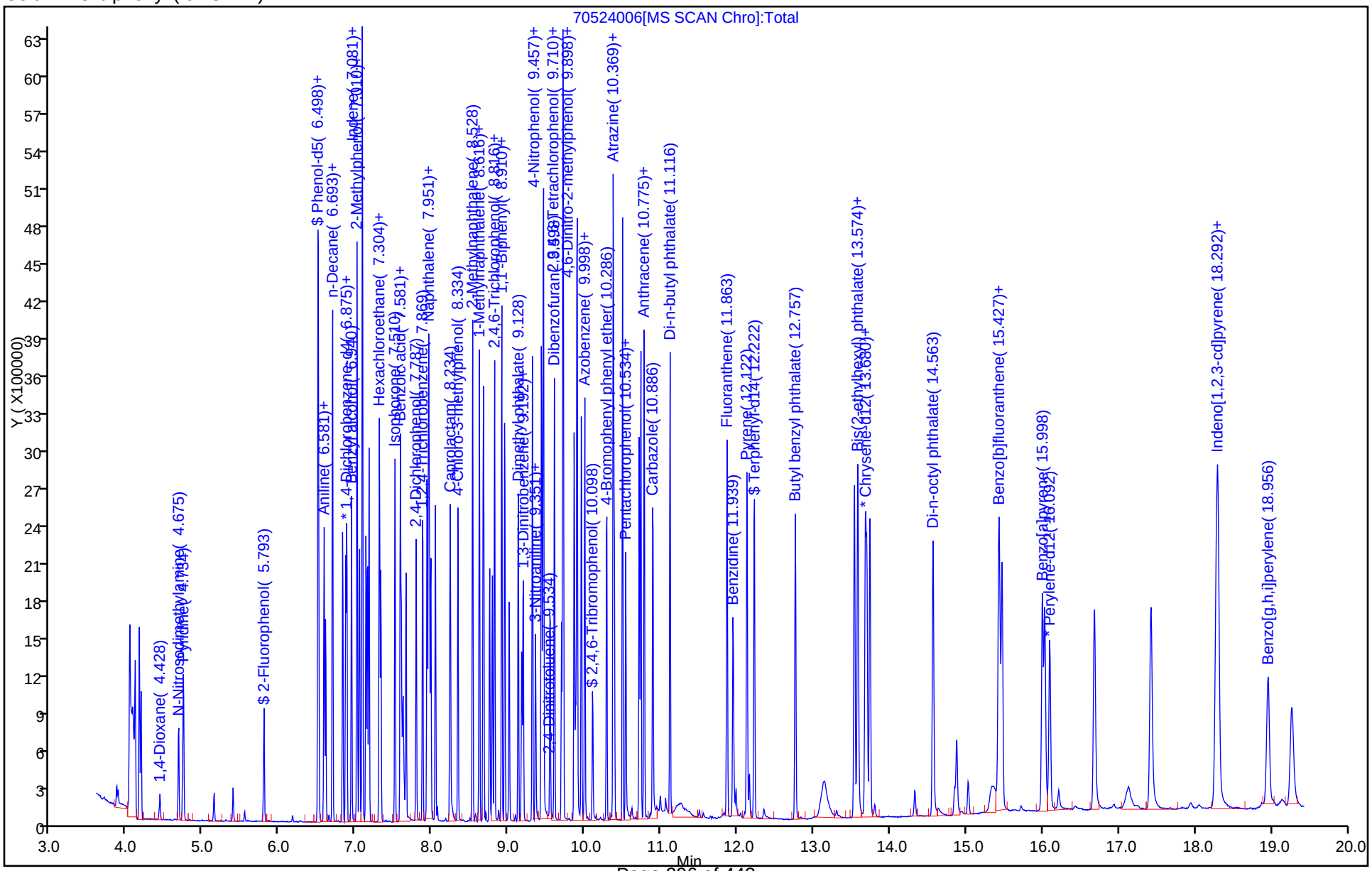
Report Date: 24-May-2017 13:01:14 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524006.D

Injection Date:	24-May-2017 10:19:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std5 l1lvi			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524007.D
Lims ID: std4 l1lvi
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 24-May-2017 10:43:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-007
Misc. Info.: STD4 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:01:17 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 11:07:37

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	225975	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.934	-0.006	100	1005368	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	93	585358	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	944843	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.698	-0.006	97	843705	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	715482	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.000	94	91889	200.0	220.2	
$ 8 Phenol-d5	99	6.498	6.498	0.000	98	152544	200.0	211.5	
$ 9 Nitrobenzene-d5	82	7.304	7.310	-0.006	92	185039	200.0	200.2	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.816	0.000	100	354038	200.0	192.8	
$ 11 2,4,6-Tribromophenol	330	10.098	10.104	-0.006	89	31475	200.0	178.4	
$ 12 Terphenyl-d14	244	12.216	12.222	-0.006	99	299637	200.0	187.2	
26 1,4-Dioxane	88	4.416	4.428	-0.012	96	26477	200.0	193.4	
27 N-Nitrosodimethylamine	74	4.675	4.669	0.006	87	88591	200.0	194.6	
28 Pyridine	79	4.740	4.734	0.006	90	155822	400.0	391.0	
42 Benzaldehyde	77	6.498	6.498	0.000	91	256855	400.0	434.3	
43 Phenol	94	6.510	6.510	0.000	98	160576	200.0	205.0	
44 Aniline	93	6.581	6.581	0.000	97	277915	200.0	214.5	
45 Bis(2-chloroethyl)ether	93	6.598	6.598	0.000	93	170799	200.0	206.7	
244 n-Decane	57	6.687	6.687	0.000	92	169423	200.0	216.3	
47 2-Chlorophenol	128	6.693	6.692	0.001	97	142270	200.0	207.7	
48 1,3-Dichlorobenzene	146	6.822	6.822	0.000	96	163935	200.0	197.9	
49 1,4-Dichlorobenzene	146	6.875	6.875	0.000	92	169350	200.0	198.5	
50 Benzyl alcohol	108	6.940	6.940	0.000	91	97486	200.0	191.2	
52 2-Methylphenol	108	7.010	7.010	0.000	88	134292	200.0	199.5	
51 1,2-Dichlorobenzene	146	7.010	7.010	0.000	93	171339	200.0	209.5	
54 2,2'-oxybis[1-chloropropan	45	7.046	7.045	0.001	92	294421	200.0	224.7	
53 Indene	115	7.081	7.081	0.000	90	619702	400.0	439.0	
55 3 & 4 Methylphenol	108	7.128	7.134	-0.006	92	126088	200.0	184.1	
57 N-Nitrosodi-n-propylamine	70	7.146	7.151	-0.005	90	138663	200.0	222.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.169	7.169	0.000	96	234398	200.0	213.1	
61 Hexachloroethane	117	7.304	7.304	0.000	93	64417	200.0	205.1	
62 Nitrobenzene	77	7.322	7.322	0.000	91	175296	200.0	200.6	
64 Isophorone	82	7.510	7.510	0.000	98	358536	200.0	209.0	
66 2,4-Dimethylphenol	107	7.581	7.581	0.000	96	154993	200.0	191.9	
65 2-Nitrophenol	139	7.593	7.592	0.001	96	70985	200.0	186.6	
70 Benzoic acid	122	7.598	7.634	-0.036	0	70108	400.0	432.8	M
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	100	203358	200.0	208.6	
72 2,4-Dichlorophenol	162	7.787	7.787	0.000	97	102601	200.0	174.5	
73 1,2,4-Trichlorobenzene	180	7.869	7.875	-0.006	94	138282	200.0	186.6	
74 Naphthalene	128	7.951	7.951	0.000	97	513883	200.0	199.5	
75 4-Chloroaniline	127	7.957	7.963	-0.006	95	267013	200.0	213.5	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	96	112259	200.0	181.4	
78 Hexachlorobutadiene	225	8.040	8.039	0.001	96	76679	200.0	186.9	
83 Caprolactam	113	8.228	8.245	-0.017	75	108631	400.0	430.8	
85 4-Chloro-3-methylphenol	107	8.334	8.339	-0.005	97	135779	200.0	202.0	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	92	349014	200.0	201.3	
87 1-Methylnaphthalene	142	8.616	8.616	0.000	92	312960	200.0	197.0	
89 Hexachlorocyclopentadiene	237	8.663	8.663	0.000	96	78422	200.0	169.6	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	98	130698	200.0	180.5	
93 2,4,6-Trichlorophenol	196	8.751	8.751	0.000	95	77167	200.0	181.0	
94 2,4,5-Trichlorophenol	196	8.787	8.786	0.001	93	77478	200.0	177.9	
99 1,1'-Biphenyl	154	8.910	8.910	0.000	96	401115	200.0	192.5	
100 2-Chloronaphthalene	162	8.945	8.951	-0.006	98	308655	200.0	194.9	
101 2-Nitroaniline	65	9.004	9.010	-0.006	81	90084	200.0	195.2	
104 Dimethyl phthalate	163	9.122	9.128	-0.006	98	339918	200.0	193.1	
103 1,3-Dinitrobenzene	168	9.169	9.175	-0.006	83	43875	200.0	180.9	
106 2,6-Dinitrotoluene	165	9.192	9.192	0.000	92	71682	200.0	187.0	
108 Acenaphthylene	152	9.310	9.310	0.000	98	507447	200.0	196.4	
109 3-Nitroaniline	138	9.351	9.357	-0.006	92	71090	200.0	229.3	
110 2,4-Dinitrophenol	184	9.434	9.439	-0.005	72	43998	400.0	375.9	
112 4-Nitrophenol	109	9.451	9.451	0.000	93	65072	400.0	322.0	
111 Acenaphthene	153	9.457	9.457	0.000	95	325689	200.0	197.9	
113 2,4-Dinitrotoluene	165	9.545	9.545	0.000	90	88160	200.0	191.8	
115 Dibenzofuran	168	9.598	9.598	0.000	96	435828	200.0	194.1	
118 2,3,4,6-Tetrachlorophenol	232	9.692	9.692	0.000	77	56714	200.0	187.1	
248 Hexadecane	57	9.710	9.710	0.000	71	271710	200.0	219.7	
120 Diethyl phthalate	149	9.716	9.716	0.000	98	357106	200.0	201.2	
122 4-Chlorophenyl phenyl ethe	204	9.857	9.857	0.000	98	157001	200.0	187.2	
125 4-Nitroaniline	138	9.875	9.881	-0.005	83	76038	200.0	240.7	
124 Fluorene	166	9.892	9.898	-0.006	95	356230	200.0	195.0	
127 4,6-Dinitro-2-methylphenol	198	9.898	9.904	-0.006	84	65596	400.0	371.5	
128 N-Nitrosodiphenylamine	169	9.951	9.951	0.000	65	250514	200.0	187.1	
129 Diphenylamine	169	9.951	9.951	0.000	93	250514	170.0	159.0	
130 1,2-Diphenylhydrazine	77	9.998	9.998	0.000	98	398267	200.0	195.2	
131 Azobenzene	77	9.998	9.998	0.000	99	398167	200.0	195.2	
138 4-Bromophenyl phenyl ether	248	10.286	10.286	0.000	74	87520	200.0	176.2	
141 Atrazine	200	10.369	10.375	-0.006	90	170302	400.0	348.7	
140 Hexachlorobenzene	284	10.386	10.386	0.000	92	89307	200.0	169.6	
245 n-Octadecane	57	10.492	10.492	0.000	91	271911	200.0	204.0	
143 Pentachlorophenol	266	10.534	10.533	0.001	93	70532	400.0	476.0	
148 Phenanthrene	178	10.734	10.733	0.001	98	482744	200.0	188.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.775	10.775	0.000	98	494212	200.0	189.3	
150 Carbazole	167	10.886	10.892	-0.006	96	406494	200.0	189.6	
154 Di-n-butyl phthalate	149	11.116	11.116	0.000	99	595898	200.0	185.8	
159 Fluoranthene	202	11.863	11.863	0.000	99	439115	200.0	175.6	
160 Benzidine	184	11.945	11.945	0.000	99	199839	400.0	374.2	
161 Pyrene	202	12.122	12.122	0.000	97	440882	200.0	187.5	
169 Butyl benzyl phthalate	149	12.757	12.757	0.000	97	217684	200.0	190.4	
174 Bis(2-ethylhexyl) phthalat	149	13.533	13.533	0.000	97	322675	200.0	193.9	
177 3,3'-Dichlorobenzidine	252	13.575	13.580	-0.006	75	294816	400.0	395.4	
178 Benzo[a]anthracene	228	13.674	13.674	0.000	100	412441	200.0	185.3	
179 Chrysene	228	13.733	13.739	-0.006	98	415623	200.0	193.8	
181 Di-n-octyl phthalate	149	14.563	14.563	0.000	99	504835	200.0	186.3	
183 Benzo[b]fluoranthene	252	15.421	15.427	-0.006	98	402291	200.0	185.7	
184 Benzo[k]fluoranthene	252	15.463	15.468	-0.005	98	426087	200.0	188.9	
185 Benzo[a]pyrene	252	15.992	15.998	-0.006	78	378358	200.0	186.1	
190 Indeno[1,2,3-cd]pyrene	276	18.286	18.298	-0.012	94	473330	200.0	191.8	
189 Dibenz(a,h)anthracene	278	18.298	18.309	-0.011	91	394370	200.0	187.0	
191 Benzo[g,h,i]perylene	276	18.951	18.968	-0.017	97	382757	200.0	205.2	
S 193 Methyl Phenols,Total	100				0			383.6	
S 246 Total Cresols	100				0			383.6	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SMLIST1 L4 W_00009 Amount Added: 0.10 Units: mL

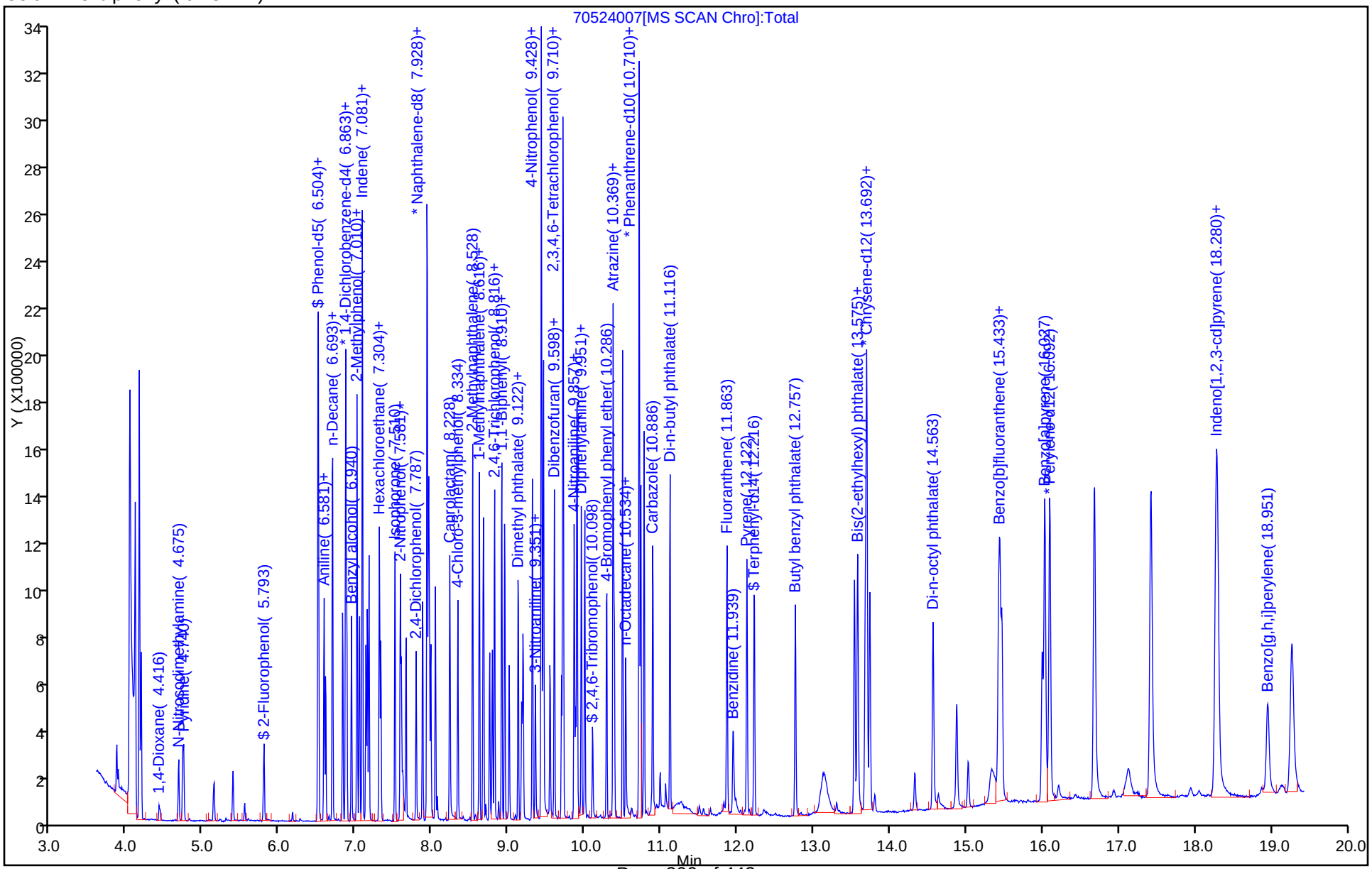
Report Date: 24-May-2017 13:01:19 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524007.D

Injection Date:	24-May-2017 10:43:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std4 l1lvi			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Canton

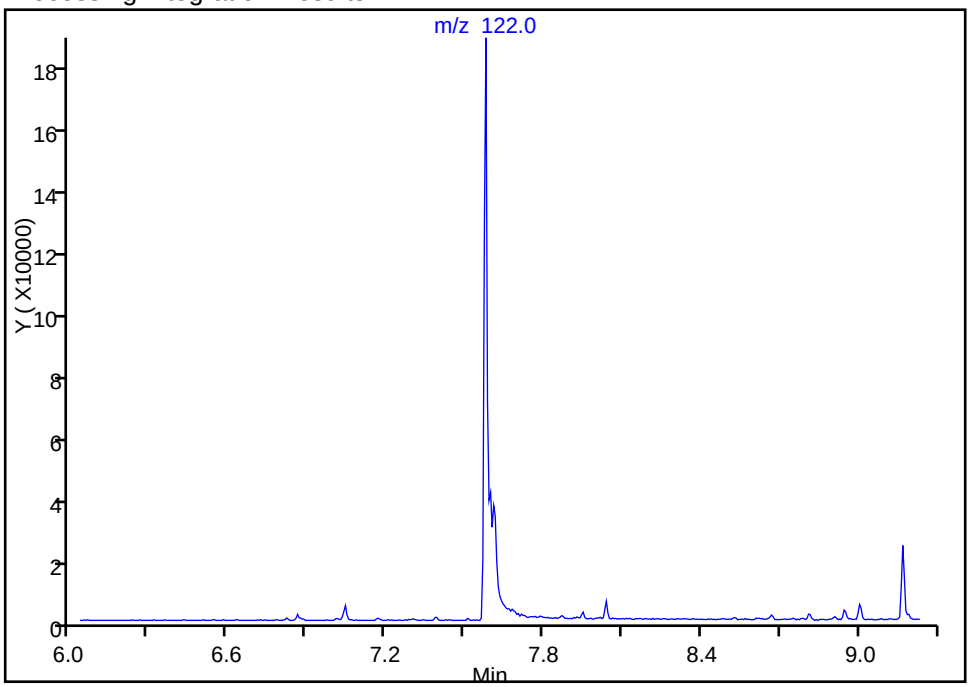
Data File:	\\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524007.D				
Injection Date:	24-May-2017 10:43:30	Instrument ID:	A4AG2		
Lims ID:	std4 l1lvi				
Client ID:					
Operator ID:		ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		
Column:	5% phenyl (0.18 mm)	Detector	MS SCAN		

70 Benzoic acid, CAS: 65-85-0

Signal: 1

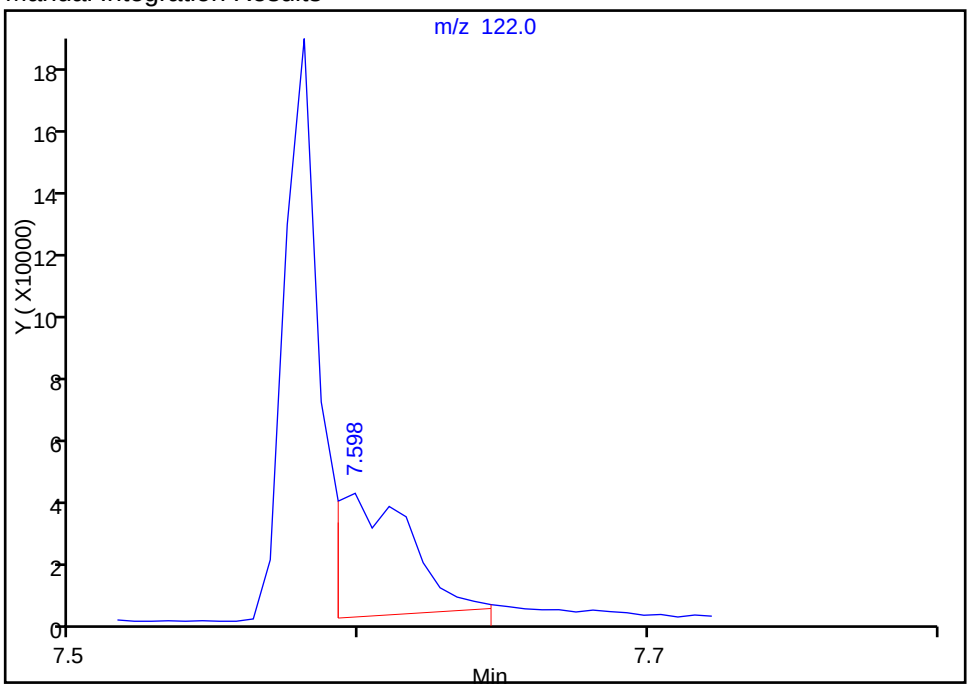
Not Detected
Expected RT: 7.63

Processing Integration Results



Manual Integration Results

RT: 7.60
Area: 70108
Amount: 432.8439
Amount Units: ng/ml



Reviewer: hulat, 24-May-2017 11:06:44
Audit Action: Manually Integrated Audit Reason: Poor chromatography

Report Date: 24-May-2017 13:01:24 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524008.D
Lims ID: std3 l1lvi
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 24-May-2017 11:07:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-008
Misc. Info.: STD3 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:01:22 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 11:32:51

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	98	243389	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.934	-0.006	100	1021856	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	582625	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	941443	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.698	-0.006	97	847368	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	713844	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.000	94	53742	100.0	119.6	
$ 8 Phenol-d5	99	6.499	6.498	0.001	98	87450	100.0	112.6	
$ 9 Nitrobenzene-d5	82	7.304	7.310	-0.006	92	95112	100.0	101.2	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.816	0.000	100	183147	100.0	100.2	
$ 11 2,4,6-Tribromophenol	330	10.098	10.104	-0.006	92	16281	100.0	92.7	
$ 12 Terphenyl-d14	244	12.216	12.222	-0.006	99	153786	100.0	95.7	
26 1,4-Dioxane	88	4.428	4.428	0.000	99	16388	100.0	111.1	
27 N-Nitrosodimethylamine	74	4.669	4.669	0.000	88	48969	100.0	99.9	
28 Pyridine	79	4.734	4.734	0.000	88	89950	200.0	209.6	
42 Benzaldehyde	77	6.499	6.498	0.001	94	145732	200.0	210.5	
43 Phenol	94	6.510	6.510	0.000	98	97114	100.0	115.1	
44 Aniline	93	6.581	6.581	0.000	97	151506	100.0	108.6	
45 Bis(2-chloroethyl)ether	93	6.599	6.598	0.000	95	94616	100.0	106.3	
244 n-Decane	57	6.687	6.687	0.000	92	98120	100.0	116.3	
47 2-Chlorophenol	128	6.693	6.692	0.001	97	78972	100.0	107.1	
48 1,3-Dichlorobenzene	146	6.822	6.822	0.000	97	92844	100.0	104.0	
49 1,4-Dichlorobenzene	146	6.875	6.875	0.000	96	95797	100.0	104.3	
50 Benzyl alcohol	108	6.940	6.940	0.000	91	50647	100.0	92.2	
51 1,2-Dichlorobenzene	146	7.010	7.010	0.000	92	91466	100.0	103.8	
52 2-Methylphenol	108	7.010	7.010	0.000	88	73011	100.0	100.7	
54 2,2'-oxybis[1-chloropropan	45	7.046	7.045	0.001	92	158256	100.0	112.1	
53 Indene	115	7.081	7.081	0.000	90	339956	200.0	223.6	
55 3 & 4 Methylphenol	108	7.128	7.134	-0.006	95	58937	100.0	79.9	
57 N-Nitrosodi-n-propylamine	70	7.146	7.151	-0.005	90	71156	100.0	105.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.169	7.169	0.000	95	124998	100.0	105.5	
61 Hexachloroethane	117	7.304	7.304	0.000	94	36009	100.0	106.4	
62 Nitrobenzene	77	7.322	7.322	0.000	92	90932	100.0	102.4	
64 Isophorone	82	7.510	7.510	0.000	99	190253	100.0	109.1	
66 2,4-Dimethylphenol	107	7.581	7.581	0.000	96	72331	100.0	88.1	
65 2-Nitrophenol	139	7.593	7.592	0.001	97	34308	100.0	88.7	
70 Benzoic acid	122		7.634				ND	ND	
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	99	103481	100.0	104.4	
72 2,4-Dichlorophenol	162	7.787	7.787	0.000	97	43326	100.0	72.5	
73 1,2,4-Trichlorobenzene	180	7.869	7.875	-0.006	94	76303	100.0	101.3	
74 Naphthalene	128	7.951	7.951	0.000	95	273007	100.0	104.3	
75 4-Chloroaniline	127	7.957	7.963	-0.006	95	130813	100.0	102.9	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	96	56972	100.0	90.6	
78 Hexachlorobutadiene	225	8.040	8.039	0.001	96	39551	100.0	94.8	
83 Caprolactam	113	8.228	8.245	-0.017	75	57515	200.0	224.4	
85 4-Chloro-3-methylphenol	107	8.334	8.339	-0.005	97	66483	100.0	97.3	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	92	180484	100.0	102.4	
87 1-Methylnaphthalene	142	8.616	8.616	0.000	93	166745	100.0	103.2	
89 Hexachlorocyclopentadiene	237	8.663	8.663	0.000	97	38829	100.0	84.3	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	98	70135	100.0	97.3	
93 2,4,6-Trichlorophenol	196	8.751	8.751	0.000	95	37539	100.0	88.5	
94 2,4,5-Trichlorophenol	196	8.787	8.786	0.001	94	39095	100.0	90.2	
99 1,1'-Biphenyl	154	8.910	8.910	0.000	95	212439	100.0	102.4	
100 2-Chloronaphthalene	162	8.945	8.951	-0.006	99	158024	100.0	100.3	
101 2-Nitroaniline	65	9.004	9.010	-0.006	81	43405	100.0	94.5	
104 Dimethyl phthalate	163	9.122	9.128	-0.006	98	180487	100.0	103.0	
103 1,3-Dinitrobenzene	168	9.169	9.175	-0.006	83	19967	100.0	82.7	
106 2,6-Dinitrotoluene	165	9.187	9.192	-0.005	92	34691	100.0	90.9	
108 Acenaphthylene	152	9.310	9.310	0.000	98	260018	100.0	101.1	
109 3-Nitroaniline	138	9.351	9.357	-0.006	93	30309	100.0	98.2	
110 2,4-Dinitrophenol	184	9.434	9.439	-0.005	70	17895	200.0	242.5	
112 4-Nitrophenol	109	9.451	9.451	0.000	90	30862	200.0	153.4	
111 Acenaphthene	153	9.457	9.457	0.000	96	170737	100.0	104.2	
113 2,4-Dinitrotoluene	165	9.539	9.545	-0.006	90	40854	100.0	89.3	
115 Dibenzofuran	168	9.598	9.598	0.000	95	223869	100.0	100.2	
118 2,3,4,6-Tetrachlorophenol	232	9.692	9.692	0.000	76	28639	100.0	94.9	
248 Hexadecane	57	9.710	9.710	0.000	71	146270	100.0	118.8	
120 Diethyl phthalate	149	9.716	9.716	0.000	97	182582	100.0	103.4	
122 4-Chlorophenyl phenyl ethe	204	9.857	9.857	0.000	98	79737	100.0	95.5	
125 4-Nitroaniline	138	9.875	9.881	-0.005	83	35840	100.0	114.0	
124 Fluorene	166	9.892	9.898	-0.006	96	178713	100.0	98.3	
127 4,6-Dinitro-2-methylphenol	198	9.898	9.904	-0.006	83	28465	200.0	249.1	
129 Diphenylamine	169	9.951	9.951	0.000	93	130000	85.0	82.8	
128 N-Nitrosodiphenylamine	169	9.951	9.951	0.000	65	130000	100.0	97.4	
131 Azobenzene	77	9.998	9.998	0.000	99	206734	100.0	101.7	
130 1,2-Diphenylhydrazine	77	9.998	9.998	0.000	98	206763	100.0	101.7	
138 4-Bromophenyl phenyl ether	248	10.287	10.286	0.000	75	46161	100.0	93.3	
141 Atrazine	200	10.369	10.375	-0.006	88	86233	200.0	177.2	
140 Hexachlorobenzene	284	10.381	10.386	-0.005	93	46316	100.0	88.3	
245 n-Octadecane	57	10.492	10.492	0.000	91	141351	100.0	106.4	
143 Pentachlorophenol	266		10.533				ND	ND	
148 Phenanthrene	178	10.728	10.733	-0.005	98	253915	100.0	99.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.775	10.775	0.000	98	254899	100.0	98.0	
150 Carbazole	167	10.886	10.892	-0.006	96	223908	100.0	104.8	
154 Di-n-butyl phthalate	149	11.116	11.116	0.000	100	316863	100.0	99.1	
159 Fluoranthene	202	11.863	11.863	0.000	99	236360	100.0	94.9	
160 Benzidine	184	11.939	11.945	-0.006	99	68596	200.0	246.8	
161 Pyrene	202	12.122	12.122	0.000	96	232135	100.0	98.3	
169 Butyl benzyl phthalate	149	12.757	12.757	0.000	97	109979	100.0	95.8	
174 Bis(2-ethylhexyl) phthalat	149	13.533	13.533	0.000	98	167613	100.0	100.3	
177 3,3'-Dichlorobenzidine	252	13.575	13.580	-0.005	76	139127	200.0	185.8	
178 Benzo[a]anthracene	228	13.675	13.674	0.001	99	207436	100.0	92.8	
179 Chrysene	228	13.733	13.739	-0.006	97	211836	100.0	98.3	
181 Di-n-octyl phthalate	149	14.563	14.563	0.000	99	239122	100.0	88.5	
183 Benzo[b]fluoranthene	252	15.421	15.427	-0.006	98	208047	100.0	96.2	
184 Benzo[k]fluoranthene	252	15.463	15.468	-0.005	98	213478	100.0	94.9	
185 Benzo[a]pyrene	252	15.992	15.998	-0.006	77	192388	100.0	94.9	
190 Indeno[1,2,3-cd]pyrene	276	18.286	18.298	-0.012	98	235846	100.0	95.8	
189 Dibenz(a,h)anthracene	278	18.298	18.309	-0.011	90	191799	100.0	91.1	
191 Benzo[g,h,i]perylene	276	18.951	18.968	-0.017	96	192237	100.0	103.3	
S 246 Total Cresols	100				0			180.6	
S 193 Methyl Phenols,Total	100				0			180.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

SMLIST1 L3 W_00009 Amount Added: 0.10 Units: mL

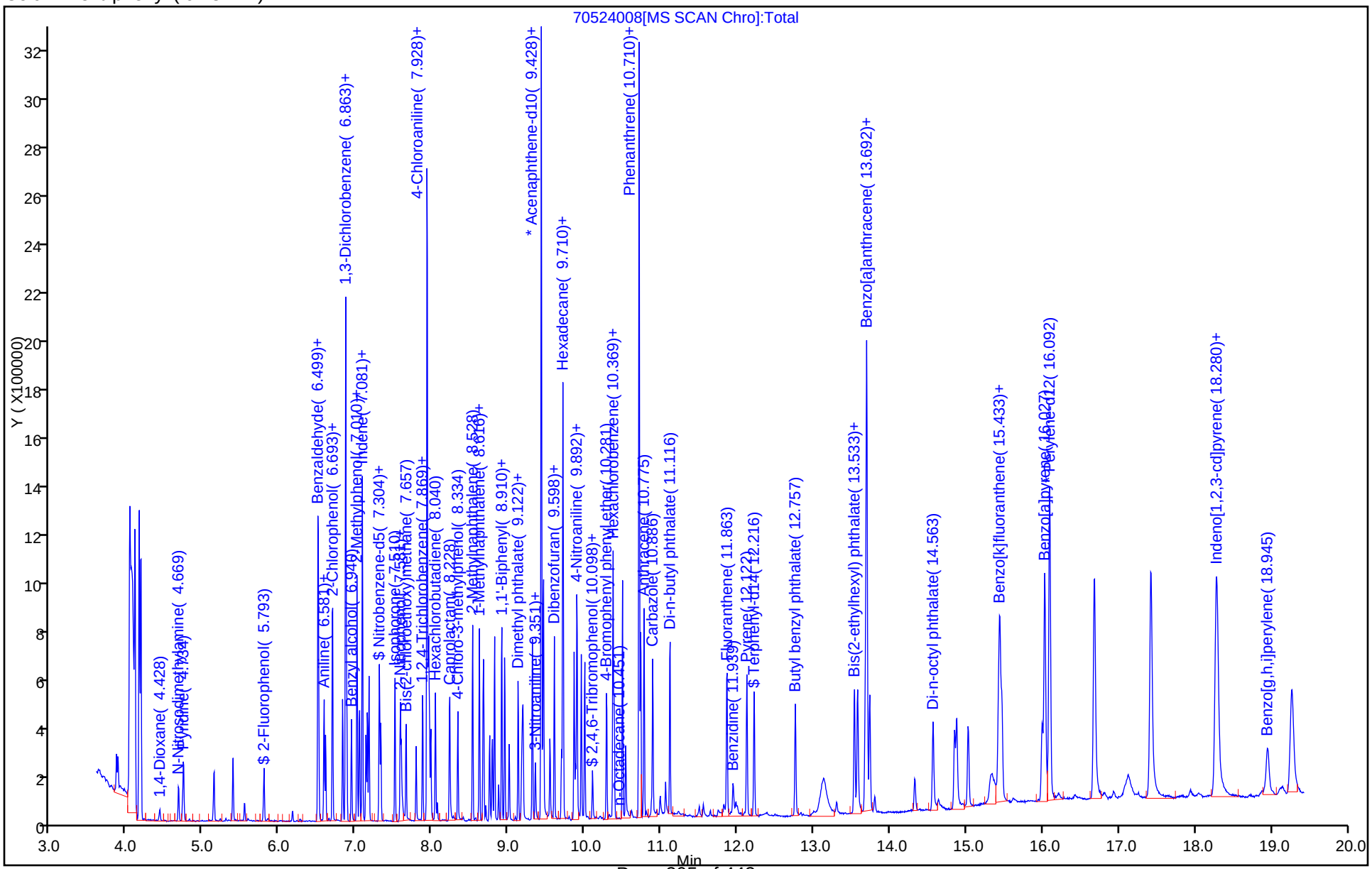
Report Date: 24-May-2017 13:01:24 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524008.D

Injection Date:	24-May-2017 11:07:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std3 l1lvi			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524009.D
Lims ID: std2 l1lvi
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 24-May-2017 11:32:30 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-009
Misc. Info.: STD2 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:01:27 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 12:18:55

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	241833	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.934	-0.006	100	985255	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	93	580083	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	939583	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.698	-0.006	97	799611	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	718867	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.000	93	21768	50.0	48.7	
$ 8 Phenol-d5	99	6.498	6.498	0.000	97	38256	50.0	49.6	
$ 9 Nitrobenzene-d5	82	7.310	7.310	0.000	90	46424	50.0	51.2	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.816	0.000	100	89096	50.0	49.0	
$ 11 2,4,6-Tribromophenol	330	10.098	10.104	-0.006	91	7301	50.0	41.8	
$ 12 Terphenyl-d14	244	12.216	12.222	-0.006	99	72549	50.0	47.8	
26 1,4-Dioxane	88	4.428	4.428	0.000	97	7242	50.0	49.4	
27 N-Nitrosodimethylamine	74	4.675	4.669	0.006	89	22985	50.0	47.2	
28 Pyridine	79	4.740	4.734	0.006	91	37262	100.0	87.4	
42 Benzaldehyde	77	6.498	6.498	0.000	91	72883	100.0	92.8	
43 Phenol	94	6.510	6.510	0.000	98	42092	50.0	50.2	
44 Aniline	93	6.581	6.581	0.000	96	67589	50.0	48.7	
45 Bis(2-chloroethyl)ether	93	6.598	6.598	0.000	91	44367	50.0	50.2	
244 n-Decane	57	6.687	6.687	0.000	91	46815	50.0	55.9	
47 2-Chlorophenol	128	6.693	6.692	0.001	95	35526	50.0	48.5	
48 1,3-Dichlorobenzene	146	6.822	6.822	0.000	97	44996	50.0	50.7	
49 1,4-Dichlorobenzene	146	6.881	6.875	0.006	93	46565	50.0	51.0	
50 Benzyl alcohol	108	6.940	6.940	0.000	91	25020	50.0	45.9	
52 2-Methylphenol	108	7.010	7.010	0.000	95	34364	50.0	47.7	
51 1,2-Dichlorobenzene	146	7.010	7.010	0.000	93	45937	50.0	52.5	
54 2,2'-oxybis[1-chloropropan	45	7.045	7.045	0.000	93	76379	50.0	54.5	
53 Indene	115	7.081	7.081	0.000	90	160841	100.0	106.5	
55 3 & 4 Methylphenol	108	7.128	7.134	-0.006	93	32447	50.0	44.3	
57 N-Nitrosodi-n-propylamine	70	7.151	7.151	0.000	88	33830	50.0	50.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.169	7.169	0.000	92	56399	50.0	47.9	
61 Hexachloroethane	117	7.304	7.304	0.000	93	17172	50.0	51.1	
62 Nitrobenzene	77	7.322	7.322	0.000	91	41844	50.0	48.9	
64 Isophorone	82	7.510	7.510	0.000	98	87420	50.0	52.0	
66 2,4-Dimethylphenol	107	7.581	7.581	0.000	96	36747	50.0	46.4	
65 2-Nitrophenol	139	7.593	7.592	0.001	95	15075	50.0	40.4	
70 Benzoic acid	122		7.634				ND	ND	
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	99	52363	50.0	54.8	
72 2,4-Dichlorophenol	162	7.787	7.787	0.000	96	22215	50.0	38.6	
73 1,2,4-Trichlorobenzene	180	7.869	7.875	-0.006	94	35571	50.0	49.0	
74 Naphthalene	128	7.951	7.951	0.000	97	130971	50.0	51.9	
75 4-Chloroaniline	127	7.963	7.963	0.000	95	59926	50.0	48.9	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	95	26056	50.0	43.0	
78 Hexachlorobutadiene	225	8.040	8.039	0.001	96	20107	50.0	50.0	
83 Caprolactam	113	8.228	8.245	-0.017	76	25766	100.0	104.3	
85 4-Chloro-3-methylphenol	107	8.334	8.339	-0.005	97	30240	50.0	45.9	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	92	87037	50.0	51.2	
87 1-Methylnaphthalene	142	8.616	8.616	0.000	94	79647	50.0	51.1	
89 Hexachlorocyclopentadiene	237	8.663	8.663	0.000	96	16426	50.0	35.8	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	98	30667	50.0	42.7	
93 2,4,6-Trichlorophenol	196	8.751	8.751	0.000	95	16696	50.0	39.5	
94 2,4,5-Trichlorophenol	196	8.787	8.786	0.001	92	17434	50.0	40.4	
99 1,1'-Biphenyl	154	8.910	8.910	0.000	96	101943	50.0	49.4	
100 2-Chloronaphthalene	162	8.945	8.951	-0.006	99	76314	50.0	48.6	
101 2-Nitroaniline	65	9.004	9.010	-0.006	82	18710	50.0	40.9	
104 Dimethyl phthalate	163	9.122	9.128	-0.006	97	88371	50.0	50.6	
103 1,3-Dinitrobenzene	168	9.169	9.175	-0.006	82	9268	50.0	38.6	
106 2,6-Dinitrotoluene	165	9.192	9.192	0.000	92	16477	50.0	43.4	
108 Acenaphthylene	152	9.310	9.310	0.000	98	126420	50.0	49.4	
109 3-Nitroaniline	138	9.351	9.357	-0.006	94	14604	50.0	47.5	
110 2,4-Dinitrophenol	184		9.439				ND	ND	
112 4-Nitrophenol	109		9.451				ND	ND	
111 Acenaphthene	153	9.457	9.457	0.000	95	83525	50.0	51.2	
113 2,4-Dinitrotoluene	165	9.539	9.545	-0.006	89	16836	50.0	37.0	
115 Dibenzofuran	168	9.598	9.598	0.000	95	106927	50.0	48.1	
118 2,3,4,6-Tetrachlorophenol	232	9.692	9.692	0.000	76	12470	50.0	41.5	
248 Hexadecane	57	9.710	9.710	0.000	71	72769	50.0	59.4	
120 Diethyl phthalate	149	9.716	9.716	0.000	97	98017	50.0	55.7	
122 4-Chlorophenyl phenyl ethe	204	9.857	9.857	0.000	97	40189	50.0	48.4	
125 4-Nitroaniline	138	9.881	9.881	0.001	84	15284	50.0	48.8	
124 Fluorene	166	9.892	9.898	-0.006	95	88886	50.0	49.1	
127 4,6-Dinitro-2-methylphenol	198		9.904				ND	ND	
128 N-Nitrosodiphenylamine	169	9.951	9.951	0.000	65	61881	50.0	46.5	
129 Diphenylamine	169	9.951	9.951	0.000	93	61881	42.5	39.5	
130 1,2-Diphenylhydrazine	77	9.998	9.998	0.000	98	99583	50.0	49.1	
131 Azobenzene	77	9.998	9.998	0.000	99	99875	50.0	49.2	
138 4-Bromophenyl phenyl ether	248	10.286	10.286	0.000	75	21467	50.0	43.5	
141 Atrazine	200	10.369	10.375	-0.006	88	42830	100.0	88.2	
140 Hexachlorobenzene	284	10.381	10.386	-0.005	92	23718	50.0	45.3	
245 n-Octadecane	57	10.492	10.492	0.000	92	66209	50.0	50.0	
143 Pentachlorophenol	266		10.533				ND	ND	
148 Phenanthrene	178	10.728	10.733	-0.005	97	123397	50.0	48.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.775	10.775	0.000	98	123554	50.0	47.6	
150 Carbazole	167	10.886	10.892	-0.006	96	107976	50.0	50.6	
154 Di-n-butyl phthalate	149	11.116	11.116	0.000	99	197725	50.0	62.0	
159 Fluoranthene	202	11.863	11.863	0.000	98	116180	50.0	46.7	
160 Benzidine	184		11.945				ND	ND	
161 Pyrene	202	12.122	12.122	0.000	97	116493	50.0	52.3	
169 Butyl benzyl phthalate	149	12.757	12.757	0.000	97	48765	50.0	45.0	
174 Bis(2-ethylhexyl) phthalat	149	13.533	13.533	0.000	97	73124	50.0	46.4	
177 3,3'-Dichlorobenzidine	252	13.574	13.580	-0.006	75	61783	100.0	87.4	
178 Benzo[a]anthracene	228	13.674	13.674	0.000	100	99828	50.0	47.3	
179 Chrysene	228	13.733	13.739	-0.006	97	97191	50.0	47.8	
181 Di-n-octyl phthalate	149	14.563	14.563	0.000	99	101254	50.0	37.2	
183 Benzo[b]fluoranthene	252	15.421	15.427	-0.006	98	98838	50.0	45.4	
184 Benzo[k]fluoranthene	252	15.468	15.468	0.000	99	102738	50.0	45.3	
185 Benzo[a]pyrene	252	15.992	15.998	-0.006	76	92092	50.0	45.1	
190 Indeno[1,2,3-cd]pyrene	276	18.286	18.298	-0.012	92	109550	50.0	44.2	
189 Dibenz(a,h)anthracene	278	18.298	18.309	-0.011	93	93905	50.0	44.3	
191 Benzo[g,h,i]perylene	276	18.951	18.968	-0.017	95	92209	50.0	49.2	
S 193 Methyl Phenols,Total	100				0			92.0	
S 246 Total Cresols	100				0			92.0	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

SMLIST1 L2 W_00009 Amount Added: 0.10 Units: mL

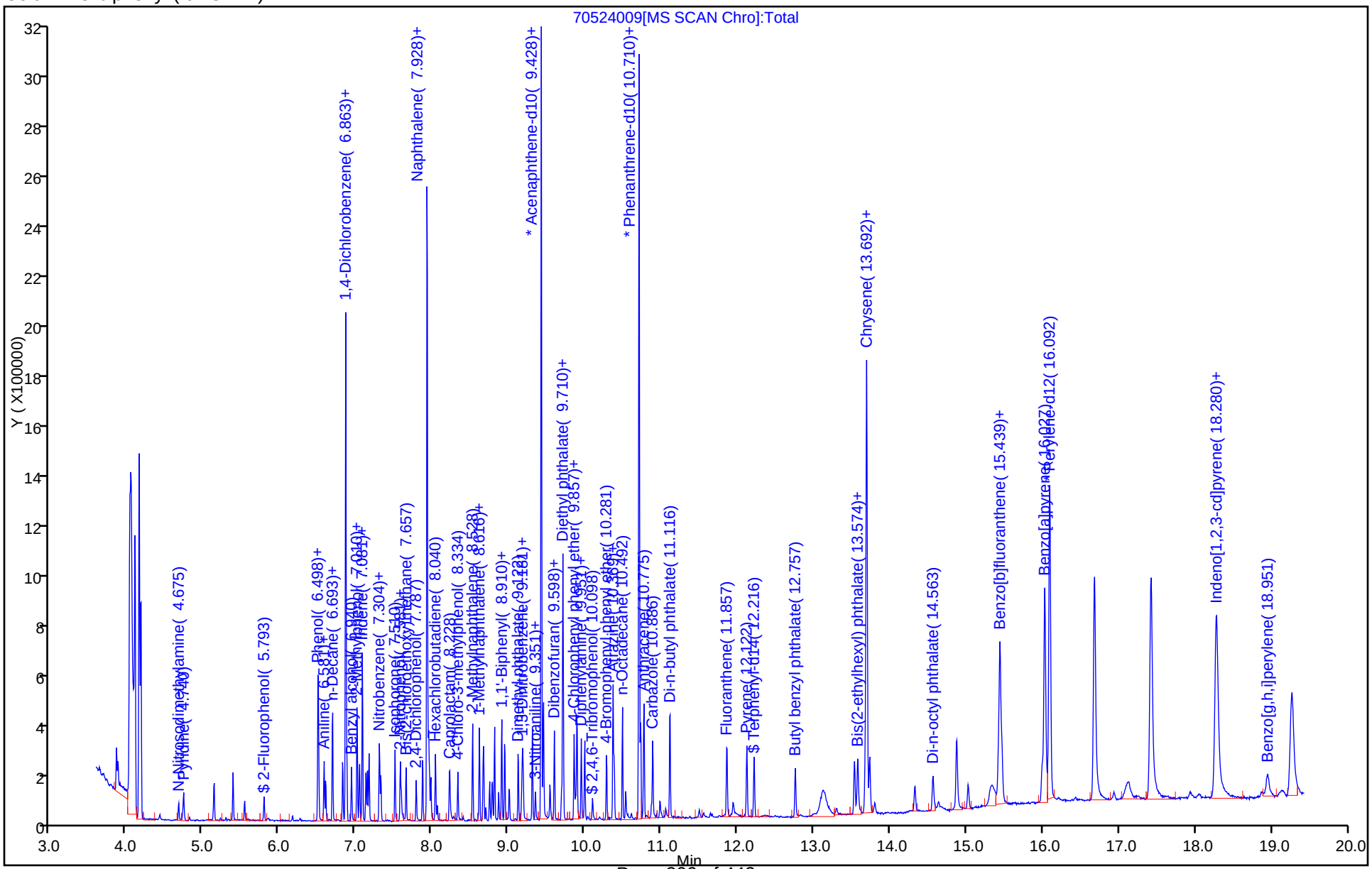
Report Date: 24-May-2017 13:01:28 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524009.D

Injection Date:	24-May-2017 11:32:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std2 l1lvi			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D
Lims ID: std1 l1lvi
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 24-May-2017 11:56:30 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-010
Misc. Info.: STD1 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:20:24 Calib Date: 24-May-2017 12:45:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524012.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 12:30:50

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	215008	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.928	0.000	100	932943	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	540031	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	887518	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	734139	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.098	-0.006	97	677726	400.0	400.0	
$ 9 Nitrobenzene-d5	82	7.310	7.310	0.000	90	8071	10.0	9.41	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.816	0.000	99	17298	10.0	10.2	
$ 12 Terphenyl-d14	244	12.222	12.222	0.000	98	14528	10.0	10.4	
28 Pyridine	79	4.746	4.734	0.012	87	8290	20.0	21.9	
42 Benzaldehyde	77	6.504	6.498	0.006	94	15012	20.0	3.74	
74 Naphthalene	128	7.951	7.951	0.000	94	25422	10.0	10.6	
83 Caprolactam	113	8.234	8.245	-0.011	76	5369	20.0	22.9	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	94	17223	10.0	10.7	
87 1-Methylnaphthalene	142	8.616	8.616	0.000	93	16081	10.0	10.9	
99 1,1'-Biphenyl	154	8.910	8.910	0.000	96	19981	10.0	10.4	
100 2-Chloronaphthalene	162	8.951	8.951	0.000	97	15281	10.0	10.5	
108 Acenaphthylene	152	9.310	9.310	0.000	98	23537	10.0	9.88	
111 Acenaphthene	153	9.457	9.457	0.000	95	16149	10.0	10.6	
115 Dibenzofuran	168	9.598	9.598	0.000	95	22197	10.0	10.7	
124 Fluorene	166	9.898	9.898	0.000	96	18160	10.0	10.8	
141 Atrazine	200	10.369	10.375	-0.006	88	9893	20.0	21.6	
140 Hexachlorobenzene	284	10.386	10.386	0.000	89	4432	10.0	8.96	
148 Phenanthrene	178	10.733	10.733	0.000	97	26027	10.0	10.8	
149 Anthracene	178	10.775	10.775	0.000	97	24594	10.0	10.0	
159 Fluoranthene	202	11.863	11.863	0.000	99	23318	10.0	9.93	
161 Pyrene	202	12.122	12.122	0.000	95	23101	10.0	11.3	
178 Benzo[a]anthracene	228	13.674	13.674	0.000	98	21033	10.0	10.9	
179 Chrysene	228	13.733	13.739	-0.006	97	19801	10.0	10.6	
183 Benzo[b]fluoranthene	252	15.427	15.427	0.000	95	19901	10.0	9.70	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
184 Benzo[k]fluoranthene	252	15.468	15.468	0.000	18	22509	10.0	10.5	
185 Benzo[a]pyrene	252	15.992	15.998	-0.006	63	17540	10.0	9.11	
190 Indeno[1,2,3-cd]pyrene	276	18.292	18.298	-0.006	45	22430	10.0	9.59	
189 Dibenz(a,h)anthracene	278	18.298	18.309	-0.011	49	18841	10.0	9.43	
191 Benzo[g,h,i]perylene	276	18.945	18.968	-0.023	84	10543	10.0	5.97	

Reagents:

SMLIST1 L1+ W_00003 Amount Added: 0.10 Units: mL

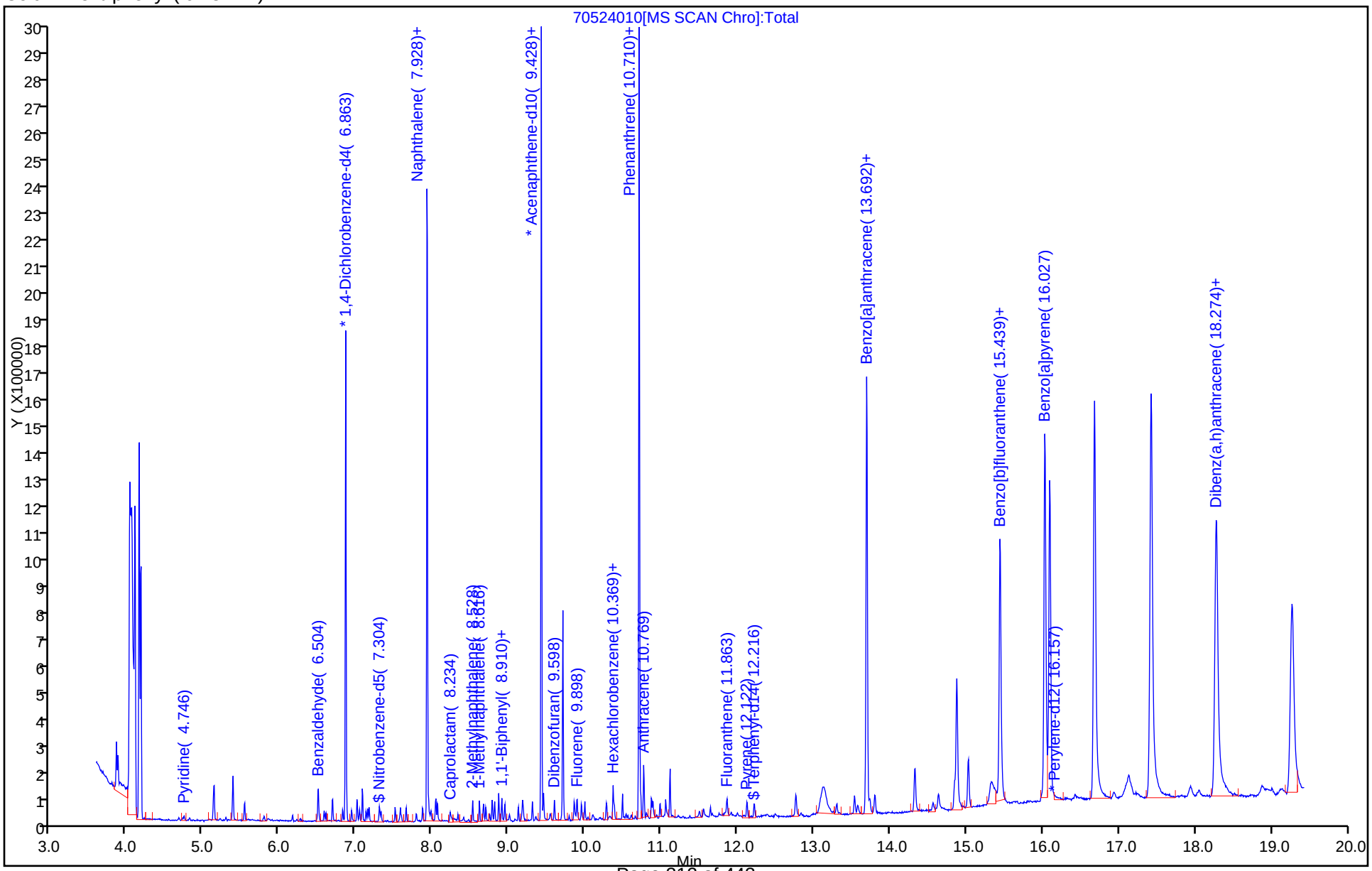
Report Date: 24-May-2017 13:20:25 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Injection Date:	24-May-2017 11:56:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std1 l1lvi			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 12:45 Calibration End Date: 05/24/2017 15:35 Calibration ID: 40104

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 240-280161/19	70524019.D
Level 2	STD3 240-280161/18	70524018.D
Level 3	STD4 240-280161/17	70524017.D
Level 4	STD5 240-280161/16	70524016.D
Level 5	STD6 240-280161/15	70524015.D
Level 6	STD7 240-280161/14	70524014.D
Level 7	STD8 240-280161/13	70524013.D
Level 8	STD9 240-280161/12	70524012.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
2-Picoline	1.1859 1.1566	1.1686 1.2149	1.1554 1.2142	1.1786	1.2160	Ave		1.1863				2.2		20.0			
N-Nitrosomethylethylamine	+++++ 0.6165	0.6699 0.6565	0.6668 0.6343	0.6377	0.6243	Ave		0.6437				3.2		20.0			
Acrylamide	+++++ 0.3033	+++++ 0.3577	0.1224 0.3640	0.1873	0.2259	Qua	-37.10	0.2338	0.0000614						0.9950		0.9900
Methyl methanesulfonate	0.8269 0.8022	0.8695 0.8685	0.8867 0.8149	0.8522	0.7737	Ave		0.8368				4.6		20.0			
N-Nitrosodiethylamine	0.6827 0.6319	0.7038 0.6893	0.6975 0.6395	0.6744	0.6358	Ave		0.6694				4.4		20.0			
Ethyl methanesulfonate	0.9720 0.9473	1.0388 1.0186	1.0822 0.9388	0.9982	0.9419	Ave		0.9922				5.2		20.0			
Pentachloroethane	0.4248 0.4364	0.4195 0.4448	0.4296 0.4570	0.4377	0.4390	Ave		0.4361				2.7		20.0			
N-Nitrosopyrrolidine	0.5361 0.6464	0.6343 0.7131	0.6660 0.6620	0.6906	0.6526	Ave		0.6502				8.1		20.0			
N-Nitrosomorpholine	0.8235 0.8665	0.8912 0.9395	0.9351 0.8568	0.9524	0.8671	Ave		0.8915				5.2		20.0			
2-Toluidine	2.0332 2.0444	2.1912 2.1818	2.2151 1.9690	2.1097	2.0087	Ave		2.0941				4.5		20.0			
N-Nitrosopiperidine	0.1523 0.1564	0.1531 0.1588	0.1600 0.1596	0.1614	0.1582	Ave		0.1575				2.1		20.0			
o,o',o''-Triethylphosphorothioate	0.1629 0.1610	0.1610 0.1667	0.1644 0.1696	0.1608	0.1632	Ave		0.1637				1.9		20.0			
alpha,alpha-Dimethyl phenethylamine	+++++ 0.4768	0.4529 0.5368	0.4598 0.5455	0.3940	0.4758	Ave		0.4774				10.8		20.0			
Hexachloropropene	0.1378 0.1716	0.1465 0.1807	0.1495 0.1857	0.1576	0.1675	Ave		0.1621			0.0100	10.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 12:45 Calibration End Date: 05/24/2017 15:35 Calibration ID: 40104

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
N-Nitrosodi-n-butylamine	0.2097 0.2030	0.2240 0.1976	0.2213 0.1931	0.2170	0.2120	Ave		0.2097				5.3		20.0			
Quinoline	0.5289 0.5764	0.5594 0.5788	0.5775 0.5590	0.6067	0.5893	Ave		0.5720				4.1		20.0			
p-Phenylene diamine	+++++ 0.2238	0.0675 0.2428	0.1406 0.2389	0.1497	0.2284	Lin1	-21.44	0.2445							0.9940		0.9900
Safrole, Total	0.2334 0.2531	0.2413 0.2571	0.2429 0.2584	0.2558	0.2543	Ave		0.2495				3.7		20.0			
Isosafrole Peak 1	0.0774 0.0903	0.0862 0.0932	0.0877 0.0942	0.0884	0.0911	Ave		0.0886				5.9		20.0			
Isosafrole Peak 2	1.8696 2.2874	2.0759 2.3457	2.1706 2.3793	2.2343	2.2362	Ave		2.1999				7.5		20.0			
1-Chloronaphthalene	0.8515 0.9568	0.9023 0.9723	0.9409 0.9648	0.9485	0.9497	Ave		0.9359				4.3		20.0			
1,4-Naphthoquinone	0.1948 0.3363	0.2443 0.3474	0.2703 0.3414	0.2927	0.3255	Ave		0.2941				18.5		20.0			
1,4-Dinitrobenzene	0.0731 0.1512	0.0842 0.1589	0.1010 0.1625	0.1261	0.1449	Lin1	-6.749	0.1586							0.9960		0.9900
Pentachlorobenzene	0.3541 0.4101	0.3678 0.4305	0.3689 0.4448	0.3730	0.3867	Ave		0.3920				8.4		20.0			
1-Naphthylamine	0.6954 0.8824	0.8116 0.9126	0.8554 0.8928	0.9254	0.9338	Ave		0.8637				9.1		20.0			
2,3,5,6-Tetrachlorophenol	0.1107 0.1551	0.1146 0.1684	0.1140 0.1752	0.1334	0.1453	Ave		0.1396				18.2		20.0			
2-Naphthylamine	0.7037 0.9155	0.8595 0.9194	0.9491 0.9090	0.9708	0.9534	Ave		0.8975				9.5		20.0			
Thionazin	0.2411 0.2509	0.2399 0.2475	0.2575 0.2455	0.2555	0.2561	Ave		0.2493				2.7		20.0			
N-Nitro-o-toluidine	0.1691 0.2942	0.1956 0.3065	0.2482 0.3168	0.2829	0.2900	Lin1	-9.456	0.3097							0.9990		0.9900
Sulfotepp	0.0786 0.0952	0.0749 0.1008	0.0777 0.1040	0.0821	0.0892	Ave		0.0878				12.7		20.0			
1,3,5-Trinitrobenzene	+++++ 0.0520	0.0290 0.0577	0.0304 0.0581	0.0364	0.0468	Lin1	-4.514	0.0570							0.9900		0.9900
Phenacetin	0.1828 0.3199	0.2278 0.3270	0.2591 0.3180	0.3061	0.3026	Ave		0.2804				18.6		20.0			
Diallate Peak 1	0.3501 0.3163	0.3567 0.3040	0.3509 0.2875	0.3412	0.3213	Ave		0.3285				7.6		20.0			
Phorate	0.1407 0.1533	0.1470 0.1485	0.1455 0.1428	0.1514	0.1521	Ave		0.1477				3.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 12:45 Calibration End Date: 05/24/2017 15:35 Calibration ID: 40104

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Diallate Peak 2	0.3262 0.3774	0.3585 0.3726	0.3641 0.3675	0.3455	0.3503	Ave		0.3578				4.7		20.0			
Dimethoate	0.1929 0.2471	0.2227 0.2423	0.2319 0.2357	0.2504	0.2460	Ave		0.2336				8.1		20.0			
4-Aminobiphenyl	0.4514 0.7384	0.4905 0.7451	0.6020 0.7475	0.6568	0.7188	Ave		0.6438				18.4		20.0			
Pronamide	0.2500 0.3171	0.2623 0.3249	0.2698 0.3211	0.2785	0.3019	Ave		0.2907				10.0		20.0			
Pentachloronitrobenzene	0.0508 0.0730	0.0563 0.0777	0.0589 0.0806	0.0632	0.0694	Ave		0.0663				16.1		20.0			
Disulfoton	0.3425 0.3572	0.3520 0.3485	0.3609 0.3410	0.3683	0.3570	Ave		0.3534				2.6		20.0			
Dinoseb	+++++ 0.1214	+++++ 0.1314	0.0723 0.1377	0.0865	0.1054	Lin1	-17.83	0.1375							0.9920		0.9900
Methyl parathion	0.1504 0.2180	0.1538 0.2118	0.1779 0.2079	0.2034	0.2143	Ave		0.1922				14.4		20.0			
Ethyl Parathion	0.0782 0.1384	0.0910 0.1414	0.1052 0.1417	0.1236	0.1323	Lin1	-4.508	0.1413							0.9990		0.9900
4-Nitroquinoline-1-oxide	+++++ 0.0599	0.0274 0.0690	0.0264 0.0749	0.0337	0.0502	Qua	-3.354	0.0391	0.0000151						0.9990		0.9900
Methapyrilene	0.2153 0.4982	0.2923 0.4968	0.3891 0.4845	0.4622	0.4823	Lin1	-34.07	0.4993							0.9990		0.9900
Isodrin	0.1165 0.1065	0.1113 0.1053	0.1124 0.1042	0.1094	0.1067	Ave		0.1091				3.8		20.0			
Aramite Peak 1	0.0960 0.1253	0.0951 0.1269	0.1023 0.1299	0.1078	0.1166	Ave		0.1125				12.5		20.0			
Aramite Peak 2	0.1132 0.1585	0.1163 0.1619	0.1239 0.1662	0.1372	0.1510	Ave		0.1410				15.1		20.0			
p-Dimethylamino azobenzene	0.1793 0.2302	0.1818 0.2378	0.1946 0.2465	0.2023	0.2159	Ave		0.2110				12.1		20.0			
Ethyl 4,4'-Dichlorobenzilate	0.2951 0.3769	0.3268 0.3866	0.3283 0.3862	0.3508	0.3601	Ave		0.3513				9.3		20.0			
Famphur	0.2749 +++++	0.2938 +++++	0.2912 +++++	0.2656	0.1622	Ave		0.2575				21.2	*	20.0			
3,3'-Dimethylbenzidine	0.1186 0.5124	0.2130 0.5588	0.3590 0.5931	0.4243	0.4841	Lin1	-31.21	0.5623							0.9930		0.9900
2-Acetylaminofluorene	0.1986 0.4330	0.2663 0.4532	0.3108 0.4719	0.3620	0.4027	Lin1	-18.62	0.4544							0.9960		0.9900
4,4'-Methylene bis(2-chloroaniline)	0.1084 0.1842	0.1326 0.1941	0.1511 0.2067	0.1646	0.1753	Ave		0.1646				19.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 12:45 Calibration End Date: 05/24/2017 15:35 Calibration ID: 40104

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
6-Methylchrysene	0.6796 0.8253	0.6906 0.8557	0.7210 0.8727	0.7294	0.7863	Ave		0.7701				9.8		20.0			
7,12-Dimethylbenz(a)anthracene	0.2990 0.3634	0.3056 0.4070	0.3127 0.4189	0.3422	0.3775	Ave		0.3533				13.0		20.0			
3-Methylcholanthrene	0.4985 0.6892	0.5212 0.7006	0.5647 0.7382	0.5926	0.6241	Ave		0.6161				14.2		20.0			
Dibenz[a,h]acridine	0.7431 0.9813	0.7857 0.9773	0.8249 1.0060	0.8790	0.9143	Ave		0.8889				11.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 12:45 Calibration End Date: 05/24/2017 15:35 Calibration ID: 40104

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD2 240-280161/19	70524019.D
Level 2	STD3 240-280161/18	70524018.D
Level 3	STD4 240-280161/17	70524017.D
Level 4	STD5 240-280161/16	70524016.D
Level 5	STD6 240-280161/15	70524015.D
Level 6	STD7 240-280161/14	70524014.D
Level 7	STD8 240-280161/13	70524013.D
Level 8	STD9 240-280161/12	70524012.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
2-Picoline	DCBd 4	Ave	37408 1202102	69889 1607806	146058 2126147	383424	890858	50.0 1500	100 2000	200 2500	500	1000
N-Nitrosomethylethylamine	DCBd 4	Ave	+++++ 640780	40063 868732	84295 1110714	207469	457357	+++++ 1500	100 2000	200 2500	500	1000
Acrylamide	DCBd 4	Qua	+++++ 315239	+++++ 473420	15472 637409	60937	165495	+++++ 1500	+++++ 2000	200 2500	500	1000
Methyl methanesulfonate	DCBd 4	Ave	26085 833760	52001 1149376	112095 1426990	277249	566803	50.0 1500	100 2000	200 2500	500	1000
N-Nitrosodiethylamine	DCBd 4	Ave	21535 656723	42094 912153	88180 1119864	219400	465785	50.0 1500	100 2000	200 2500	500	1000
Ethyl methanesulfonate	DCBd 4	Ave	30662 984563	62127 1347929	136803 1643803	324727	690039	50.0 1500	100 2000	200 2500	500	1000
Pentachloroethane	DCBd 4	Ave	13399 453587	25090 588594	54306 800201	142397	321591	50.0 1500	100 2000	200 2500	500	1000
N-Nitrosopyrrolidine	DCBd 4	Ave	16912 671867	37939 943720	84195 1159223	224668	478112	50.0 1500	100 2000	200 2500	500	1000
N-Nitrosomorpholine	DCBd 4	Ave	25978 900620	53301 1243241	118211 1500279	309838	635252	50.0 1500	100 2000	200 2500	500	1000
2-Toluidine	DCBd 4	Ave	64136 2124774	131050 2887285	280024 3447694	686321	1471638	50.0 1500	100 2000	200 2500	500	1000
N-Nitrosopiperidine	NPT	Ave	20281 668066	40552 928976	90575 1139055	224650	469726	50.0 1500	100 2000	200 2500	500	1000
o,o',o''-Triethylphosphorothioate	NPT	Ave	21688 687642	42640 975146	93050 1210125	223909	484596	50.0 1500	100 2000	200 2500	500	1000
alpha,alpha-Dimethyl phenethylamine	NPT	Ave	+++++ 2037051	119979 3140962	260192 3891897	548507	1412662	+++++ 1500	100 2000	200 2500	500	1000
Hexachloropropene	NPT	Ave	18352 732859	38804 1057401	84587 1325088	219410	497305	50.0 1500	100 2000	200 2500	500	1000
N-Nitrosodi-n-butylamine	NPT	Ave	27923 867207	59327 1156006	125224 1377809	302145	629546	50.0 1500	100 2000	200 2500	500	1000

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 12:45 Calibration End Date: 05/24/2017 15:35 Calibration ID: 40104

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Quinoline	NPT	Ave	70441 2462327	148169 3386414	326821 3988006	844600	1749495	50.0 1500	100 2000	200 2500	500	1000
p-Phenylene diamine	NPT	Lin1	+++++ 956154	17883 1420691	79563 1704855	208409	678020	+++++ 1500	100 2000	200 2500	500	1000
Safrole, Total	NPT	Ave	31077 1081018	63923 1504055	137464 1843758	356108	754989	50.0 1500	100 2000	200 2500	500	1000
Isosafrole Peak 1	ANT	Ave	5079 179173	11308 251473	23475 311169	58083	127484	41.5 1245	83.0 1660	166 2075	415	830
Isosafrole Peak 2	ANT	Ave	25124 929483	55777 1296844	118991 1609286	300842	641260	8.50 255	17.0 340	34.0 425	85.0	170
1-Chloronaphthalene	ANT	Ave	67306 2286936	142610 3162219	303418 3838618	751270	1602050	50.0 1500	100 2000	200 2500	500	1000
1,4-Naphthoquinone	ANT	Ave	15399 803905	38611 1129742	87161 1358167	231845	548995	50.0 1500	100 2000	200 2500	500	1000
1,4-Dinitrobenzene	ANT	Lin1	5781 361486	13306 516767	32571 646707	99849	244371	50.0 1500	100 2000	200 2500	500	1000
Pentachlorobenzene	ANT	Ave	27987 980223	58131 1400079	118951 1769751	295448	652285	50.0 1500	100 2000	200 2500	500	1000
1-Naphthylamine	ANT	Ave	54973 2109149	128266 2967832	275849 3552218	732976	1575178	50.0 1500	100 2000	200 2500	500	1000
2,3,5,6-Tetrachlorophenol	ANT	Ave	8751 370687	18120 547726	36768 697239	105639	245081	50.0 1500	100 2000	200 2500	500	1000
2-Naphthylamine	ANT	Ave	55626 2188324	135844 2990017	306064 3616676	768881	1608146	50.0 1500	100 2000	200 2500	500	1000
Thionazin	ANT	Ave	19057 599817	37922 804908	83048 976632	202343	432028	50.0 1500	100 2000	200 2500	500	1000
N-Nitro-o-toluidine	ANT	Lin1	13363 703116	30920 996760	80036 1260356	224103	489265	50.0 1500	100 2000	200 2500	500	1000
Sulfotepp	PHN	Ave	10135 347063	19259 497961	41194 630336	106600	239267	50.0 1500	100 2000	200 2500	500	1000
1,3,5-Trinitrobenzene	PHN	Lin1	+++++ 189400	7446 285087	16103 352313	47265	125698	+++++ 1500	100 2000	200 2500	500	1000
Phenacetin	PHN	Ave	23584 1166316	58573 1614814	137272 1928012	397513	811973	50.0 1500	100 2000	200 2500	500	1000
Diallate Peak 1	PHN	Ave	38849 991499	78901 1291063	159906 1499118	380974	741567	43.0 1290	86.0 1720	172 2150	430	860
Phorate	PHN	Ave	18149 558979	37807 733571	77102 865576	196623	408252	50.0 1500	100 2000	200 2500	500	1000
Diallate Peak 2	PHN	Ave	5892 192628	12908 257646	27007 311956	62814	131613	7.00 210	14.0 280	28.0 350	70.0	140
Dimethoate	PHN	Ave	24884 900683	57282 1196426	122880 1429029	325104	660188	50.0 1500	100 2000	200 2500	500	1000

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 12:45 Calibration End Date: 05/24/2017 15:35 Calibration ID: 40104

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
4-Aminobiphenyl	PHN	Ave	58239 2691919	126150 3679765	318954 4532508	852790	1928936	50.0 1500	100 2000	200 2500	500	1000
Pronamide	PHN	Ave	32251 1156016	67449 1604598	142943 1946899	361611	810117	50.0 1500	100 2000	200 2500	500	1000
Pentachloronitrobenzene	PHN	Ave	6558 266286	14484 383854	31235 488880	82008	186297	50.0 1500	100 2000	200 2500	500	1000
Disulfoton	PHN	Ave	44192 1302137	90528 1721334	191215 2067757	478212	957975	50.0 1500	100 2000	200 2500	500	1000
Dinoseb	PHN	Lin1	+++++ 442382	+++++ 648837	38329 834739	112370	282810	+++++ 1500	+++++ 2000	200 2500	500	1000
Methyl parathion	PHN	Ave	19409 794591	39557 1045988	94272 1260400	264166	575216	50.0 1500	100 2000	200 2500	500	1000
Ethyl Parathion	PHN	Lin1	10095 504504	23396 698527	55718 859276	160464	355114	50.0 1500	100 2000	200 2500	500	1000
4-Nitroquinoline-1-oxide	PHN	Qua	+++++ 218422	7050 340872	13998 453999	43724	134839	+++++ 1500	100 2000	200 2500	500	1000
Methapyrilene	PHN	Lin1	55546 3632176	150352 4906997	412296 5875776	1200360	2588792	100 3000	200 4000	400 5000	1000	2000
Isodrin	PHN	Ave	15029 388246	28636 520262	59564 632037	142093	286434	50.0 1500	100 2000	200 2500	500	1000
Aramite Peak 1	CRY	Ave	5340 209870	10522 291899	23507 367442	61990	140789	25.5 765	51.0 1020	102 1275	255	510
Aramite Peak 2	CRY	Ave	6046 255101	12360 357912	27351 451581	75754	175174	24.5 735	49.0 980	98.0 1225	245	490
p-Dimethylamino azobenzene	CRY	Ave	19545 755923	39444 1073024	87666 1367136	228007	511033	50.0 1500	100 2000	200 2500	500	1000
Ethyl 4,4'-Dichlorobenzilate	CRY	Ave	32176 1237661	70879 1744294	147889 2142103	395407	852437	50.0 1500	100 2000	200 2500	500	1000
Famphur	CRY	Ave	29966 +++++	63735 +++++	131189 +++++	299431	383925	50.0 +++++	100 +++++	200 +++++	500	1000
3,3'-Dimethylbenzidine	CRY	Lin1	12931 1682858	46195 2521241	161741 3289881	478326	1145928	50.0 1500	100 2000	200 2500	500	1000
2-Acetylaminofluorene	CRY	Lin1	21653 1422082	57770 2044471	140009 2617476	408023	953248	50.0 1500	100 2000	200 2500	500	1000
4,4'-Methylene bis(2-chloroaniline)	CRY	Ave	11821 604971	28751 875688	68084 1146605	185583	415058	50.0 1500	100 2000	200 2500	500	1000
6-Methylchrysene	CRY	Ave	148178 5420710	299575 7720869	649597 9680601	1644376	3722443	100 3000	200 4000	400 5000	1000	2000
7,12-Dimethylbenz(a)anthracene	PRY	Ave	29656 1044973	60273 1630783	126254 2086392	339492	786191	50.0 1500	100 2000	200 2500	500	1000
3-Methylcholanthrene	PRY	Ave	98873 3963614	205600 5614557	455992 7352783	1175680	2599434	100 3000	200 4000	400 5000	1000	2000

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Canton Job No.: 240-79703-1 Analy Batch No.: 280161

SDG No.:

Instrument ID: A4AG2 GC Column: RXI-5SILMS/ ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/24/2017 12:45 Calibration End Date: 05/24/2017 15:35 Calibration ID: 40104

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (NG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dibenz[a,h]acridine	PRY	Ave	73700 2821843	154966 3915833	333074 5010103	871898	1903949	50.0 1500	100 2000	200 2500	500	1000

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Qua = Quadratic ISTD

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524012.D
Lims ID: std9 l2lvi
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 24-May-2017 12:45:30 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-012
Misc. Info.: STD9 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 05:50:11 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 24-May-2017 13:15:54

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	280164	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.928	0.000	100	1141569	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	636574	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	98	970113	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	887446	400.0	400.0	
* 6 Perylene-d12	264	16.098	16.098	0.000	97	796819	400.0	400.0	
31 2-Picoline	93	5.346	5.346	0.000	97	2126147	2500.0	2558.9	
32 N-Nitrosomethylethylamine	88	5.410	5.410	0.000	83	1110714	2500.0	2463.5	
14 Acrylamide	71	5.604	5.604	0.000	70	637409	2500.0	2460.7	
34 Methyl methanesulfonate	80	5.640	5.640	0.000	89	1426990	2500.0	2434.6	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	92	1119864	2500.0	2388.6	
37 Ethyl methanesulfonate	79	6.187	6.187	0.000	97	1643803	2500.0	2365.4	
46 Pentachloroethane	167	6.640	6.640	0.000	87	800201	2500.0	2619.8	
56 N-Nitrosopyrrolidine	100	7.145	7.145	0.000	83	1159223	2500.0	2545.6	
59 N-Nitrosomorpholine	56	7.169	7.169	0.000	50	1500279	2500.0	2402.7	
60 2-Toluidine	106	7.204	7.204	0.000	97	3447694	2500.0	2350.6	
63 N-Nitrosopiperidine	114	7.445	7.445	0.000	80	1139055	2500.0	2534.4	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	79	1210125	2500.0	2590.3	
71 alpha,alpha-Dimethyl phene	58	7.751	7.751	0.000	98	3891897	2500.0	2856.6	M
77 Hexachloropropene	213	8.028	8.028	0.000	87	1325088	2500.0	2864.1	
82 N-Nitrosodi-n-butylamine	84	8.216	8.216	0.000	94	1377809	2500.0	2302.1	
81 Quinoline	129	8.222	8.222	0.000	97	3988006	2500.0	2443.0	
84 p-Phenylene diamine	108	8.251	8.251	0.000	96	1704855	2500.0	2531.2	
92 Safrole, Total	162	8.422	8.422	0.000	92	1843758	2500.0	2589.1	
95 Isosafrole Peak 1	162	8.663	8.663	0.000	89	311169	2075.0	2208.0	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	93	1609286	425.0	459.7	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	98	3838618	2500.0	2577.4	
102 1,4-Naphthoquinone	158	9.081	9.081	0.000	88	1358167	2500.0	2902.0	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	95	646707	2500.0	2604.4	
114 Pentachlorobenzene	250	9.575	9.575	0.000	98	1769751	2500.0	2837.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
116 2,3,5,6-Tetrachlorophenol	232	9.663	9.663	0.000	57	697239	2500.0	3138.4	
117 1-Naphthylamine	143	9.663	9.663	0.000	99	3552218	2500.0	2584.4	
119 2-Naphthylamine	143	9.728	9.728	0.000	97	3616676	2500.0	2532.0	
121 Thionazin	97	9.798	9.798	0.000	81	976632	2500.0	2462.0	
123 N-Nitro-o-toluidine	152	9.881	9.881	0.000	97	1260356	2500.0	2587.9	
132 Sulfotepp	202	10.045	10.045	0.000	95	630336	2500.0	2960.1	
133 1,3,5-Trinitrobenzene	213	10.139	10.139	0.000	84	352313	2500.0	2629.7	
134 Diallate Peak 1	86	10.186	10.186	0.000	97	1499118	2150.0	1881.7	
135 Phenacetin	108	10.192	10.192	0.000	92	1928012	2500.0	2835.1	
136 Phorate	121	10.198	10.198	0.000	94	865576	2500.0	2416.9	
137 Diallate Peak 2	86	10.269	10.269	0.000	94	311956	350.0	359.5	
139 Dimethoate	87	10.351	10.351	0.000	94	1429029	2500.0	2522.2	
142 4-Aminobiphenyl	169	10.510	10.510	0.000	90	4532508	2500.0	2902.8	
144 Pronamide	173	10.522	10.522	0.000	92	1946899	2500.0	2761.6	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	87	488880	2500.0	3042.3	
146 Disulfoton	88	10.639	10.639	0.000	97	2067757	2500.0	2412.4	
147 Dinoseb	211	10.651	10.651	0.000	97	834739	2500.0	2632.0	
152 Methyl parathion	109	10.975	10.975	0.000	95	1260400	2500.0	2704.0	
155 Ethyl Parathion	97	11.316	11.316	0.000	85	859276	2500.0	2539.8	
156 4-Nitroquinoline-1-oxide	190	11.410	11.410	0.000	94	453999	2500.0	2485.1	
157 Methapyrilene	58	11.439	11.439	0.000	93	5875776	5000.0	4920.2	
158 Isodrin	66	11.716	11.716	0.000	94	632037	2500.0	2389.5	
162 Aramite Peak 1	185	12.128	12.128	0.000	89	367442	1275.0	1472.2	
163 Aramite Peak 2	185	12.216	12.216	0.000	95	451581	1225.0	1443.4	
164 p-Dimethylamino azobenzene	225	12.380	12.380	0.000	94	1367136	2500.0	2919.8	
165 Chlorobenzilate	139	12.410	12.410	0.000	72	2142103	2500.0	2748.0	
168 Famphur	218		12.716				ND	ND	
170 3,3'-Dimethylbenzidine	212	12.798	12.798	0.000	97	3289881	2500.0	2692.6	
172 2-Acetylaminofluorene	181	13.163	13.163	0.000	94	2617476	2500.0	2637.4	
175 4,4'-Methylene bis(2-chlor	231	13.569	13.569	0.000	93	1146605	2500.0	3139.0	
180 6-Methylchrysene	242	14.451	14.451	0.000	96	9680601	5000.0	5666.3	
182 7,12-Dimethylbenz(a)anthra	256	15.404	15.404	0.000	87	2086392	2500.0	2964.5	
186 3-Methylcholanthrene	268	16.639	16.639	0.000	74	7352783	5000.0	5990.7	
188 Dibenz[a,h]acridine	279	17.751	17.751	0.000	70	5010103	2500.0	2829.3	
S 194 Isosafrole	162				0		2500.0	2667.7	
S 195 Diallate	86				0		2500.0	2241.2	
S 196 Aramite, Total	185				0		2500.0	2915.6	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

SMLIST2 L9 W_00013 Amount Added: 0.10 Units: mL

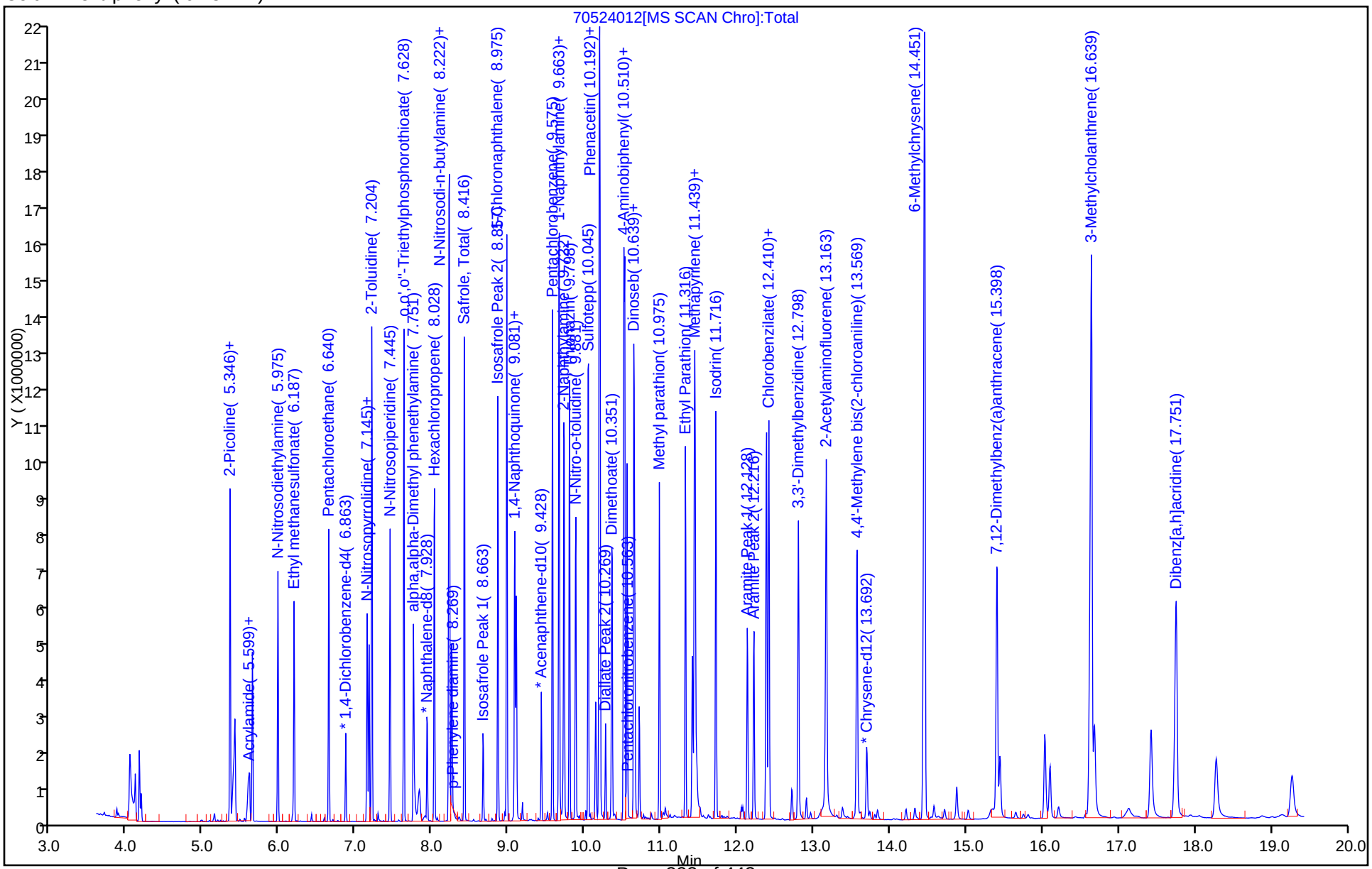
Report Date: 25-May-2017 05:50:12 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524012.D

Injection Date:	24-May-2017 12:45:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std9 l2lvi			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Canton

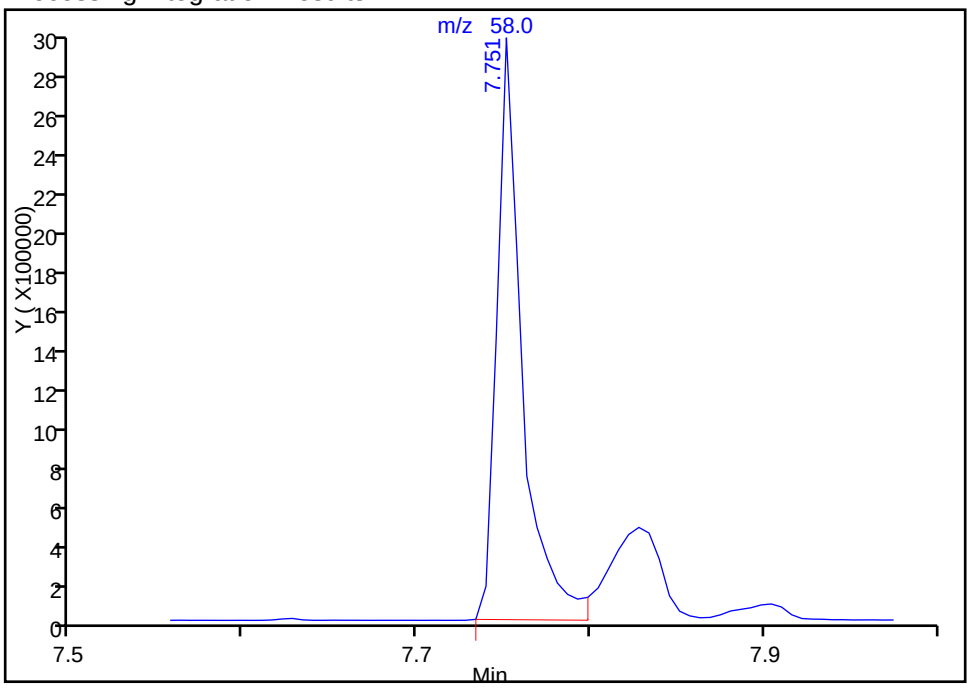
Data File:	\\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524012.D				
Injection Date:	24-May-2017 12:45:30	Instrument ID:	A4AG2		
Lims ID:	std9 l2lvi				
Client ID:					
Operator ID:		ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		
Column:	5% phenyl (0.18 mm)	Detector	MS SCAN		

71 alpha,alpha-Dimethyl phenethylamine, CAS: 122-09-8

Signal: 1

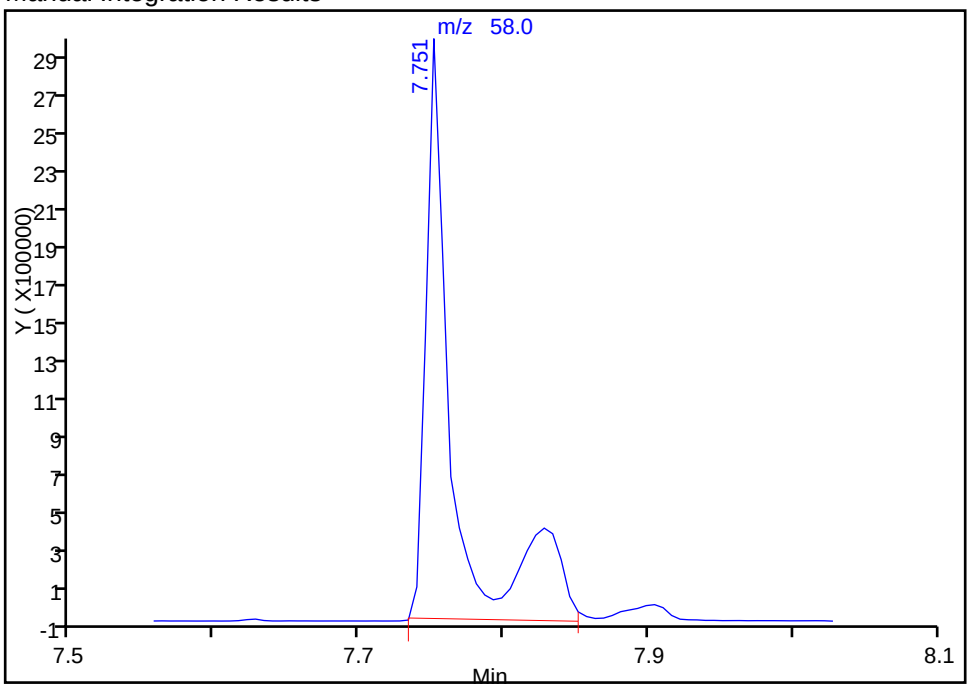
Processing Integration Results

RT: 7.75
Area: 3008406
Amount: 2446.7613
Amount Units: ng/ml



Manual Integration Results

RT: 7.75
Area: 3891897
Amount: 2856.6127
Amount Units: ng/ml



Reviewer: hulat, 24-May-2017 13:39:13

Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524013.D
Lims ID: std8 l2lvi
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 24-May-2017 13:09:30 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-013
Misc. Info.: STD8 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 05:50:13 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 24-May-2017 13:34:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	98	264673	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.928	0.000	100	1170158	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	650435	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	987723	400.0	400.0	
* 5 Chrysene-d12	240	13.698	13.692	0.006	97	902323	400.0	400.0	
* 6 Perylene-d12	264	16.098	16.098	0.000	97	801360	400.0	400.0	
31 2-Picoline	93	5.346	5.346	0.000	97	1607806	2000.0	2048.3	
32 N-Nitrosomethylethylamine	88	5.410	5.410	0.000	95	868732	2000.0	2039.6	
14 Acrylamide	71	5.593	5.604	-0.011	69	473420	2000.0	2081.2	
34 Methyl methanesulfonate	80	5.640	5.640	0.000	89	1149376	2000.0	2075.7	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	93	912153	2000.0	2059.5	
37 Ethyl methanesulfonate	79	6.187	6.187	0.000	97	1347929	2000.0	2053.1	
46 Pentachloroethane	167	6.640	6.640	0.000	90	588594	2000.0	2039.8	
56 N-Nitrosopyrrolidine	100	7.146	7.145	0.001	86	943720	2000.0	2193.7	
59 N-Nitrosomorpholine	56	7.169	7.169	0.000	93	1243241	2000.0	2107.6	
60 2-Toluidine	106	7.204	7.204	0.000	97	2887285	2000.0	2083.7	
63 N-Nitrosopiperidine	114	7.446	7.445	0.001	81	928976	2000.0	2016.5	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	80	975146	2000.0	2036.3	
71 alpha,alpha-Dimethyl phene	58	7.751	7.751	0.000	98	3140962	2000.0	2249.1	M
77 Hexachloropropene	213	8.028	8.028	0.000	90	1057401	2000.0	2229.7	
82 N-Nitrosodi-n-butylamine	84	8.216	8.216	0.000	94	1156006	2000.0	1884.3	
81 Quinoline	129	8.222	8.222	0.000	97	3386414	2000.0	2023.8	
84 p-Phenylene diamine	108	8.251	8.251	0.000	95	1420691	2000.0	2074.1	
92 Safrole, Total	162	8.416	8.422	-0.006	92	1504055	2000.0	2060.5	
95 Isosafrole Peak 1	162	8.663	8.663	0.000	89	251473	1660.0	1746.4	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	92	1296844	340.0	362.5	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	98	3162219	2000.0	2078.0	
102 1,4-Naphthoquinone	158	9.081	9.081	0.000	88	1129742	2000.0	2362.5	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	93	516767	2000.0	2046.0	
114 Pentachlorobenzene	250	9.575	9.575	0.000	98	1400079	2000.0	2196.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
117 1-Naphthylamine	143	9.657	9.663	-0.006	99	2967832	2000.0	2113.2	
116 2,3,5,6-Tetrachlorophenol	232	9.657	9.663	-0.006	60	547726	2000.0	2412.9	
119 2-Naphthylamine	143	9.722	9.728	-0.006	97	2990017	2000.0	2048.7	
121 Thionazin	97	9.798	9.798	0.000	81	804908	2000.0	1985.9	
123 N-Nitro-o-toluidine	152	9.881	9.881	0.000	97	996760	2000.0	2009.9	
132 Sulfotepp	202	10.040	10.045	-0.005	88	497961	2000.0	2296.7	
133 1,3,5-Trinitrobenzene	213	10.140	10.139	0.001	84	285087	2000.0	2106.3	
134 Diallate Peak 1	86	10.187	10.186	0.001	91	1291063	1720.0	1591.6	
135 Phenacetin	108	10.187	10.192	-0.005	80	1614814	2000.0	2332.2	
136 Phorate	121	10.198	10.198	0.000	96	733571	2000.0	2011.8	
137 Diallate Peak 2	86	10.269	10.269	0.000	94	257646	280.0	291.6	
139 Dimethoate	87	10.351	10.351	0.000	93	1196426	2000.0	2074.0	
142 4-Aminobiphenyl	169	10.510	10.510	0.000	88	3679765	2000.0	2314.7	
144 Pronamide	173	10.522	10.522	0.000	91	1604598	2000.0	2235.5	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	86	383854	2000.0	2346.1	
146 Disulfoton	88	10.639	10.639	0.000	98	1721334	2000.0	1972.4	
147 Dinoseb	211	10.651	10.651	0.000	97	648837	2000.0	2040.0	
152 Methyl parathion	109	10.975	10.975	0.000	94	1045988	2000.0	2204.0	
155 Ethyl Parathion	97	11.316	11.316	0.000	85	698527	2000.0	2034.3	
156 4-Nitroquinoline-1-oxide	190	11.410	11.410	0.000	96	340872	2000.0	2027.1	
157 Methapyrilene	58	11.439	11.439	0.000	98	4906997	4000.0	4048.0	
158 Isodrin	66	11.716	11.716	0.000	93	520262	2000.0	1931.9	
162 Aramite Peak 1	185	12.128	12.128	0.000	89	291899	1020.0	1150.2	
163 Aramite Peak 2	185	12.216	12.216	0.000	95	357912	980.0	1125.1	
164 p-Dimethylamino azobenzene	225	12.381	12.380	0.001	95	1073024	2000.0	2253.9	
165 Chlorobenzilate	139	12.410	12.410	0.000	89	1744294	2000.0	2200.8	
168 Famphur	218		12.716				ND	ND	
170 3,3'-Dimethylbenzidine	212	12.798	12.798	0.000	99	2521241	2000.0	2043.1	
172 2-Acetylaminofluorene	181	13.163	13.163	0.000	94	2044471	2000.0	2035.5	
175 4,4'-Methylene bis(2-chlor	231	13.569	13.569	0.000	96	875688	2000.0	2357.8	
180 6-Methylchrysene	242	14.451	14.451	0.000	98	7720869	4000.0	4444.7	
182 7,12-Dimethylbenz(a)anthra	256	15.398	15.404	-0.006	94	1630783	2000.0	2304.0	
186 3-Methylcholanthrene	268	16.633	16.639	-0.006	92	5614557	4000.0	4548.6	
188 Dibenz[a,h]acridine	279	17.745	17.751	-0.006	91	3915833	2000.0	2198.8	
S 194 Isosafrole	162				0		2000.0	2108.9	
S 195 Diallate	86				0		2000.0	1883.3	
S 196 Aramite, Total	185				0		2000.0	2275.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

SMLIST2 L8 W_00013 Amount Added: 0.10 Units: mL

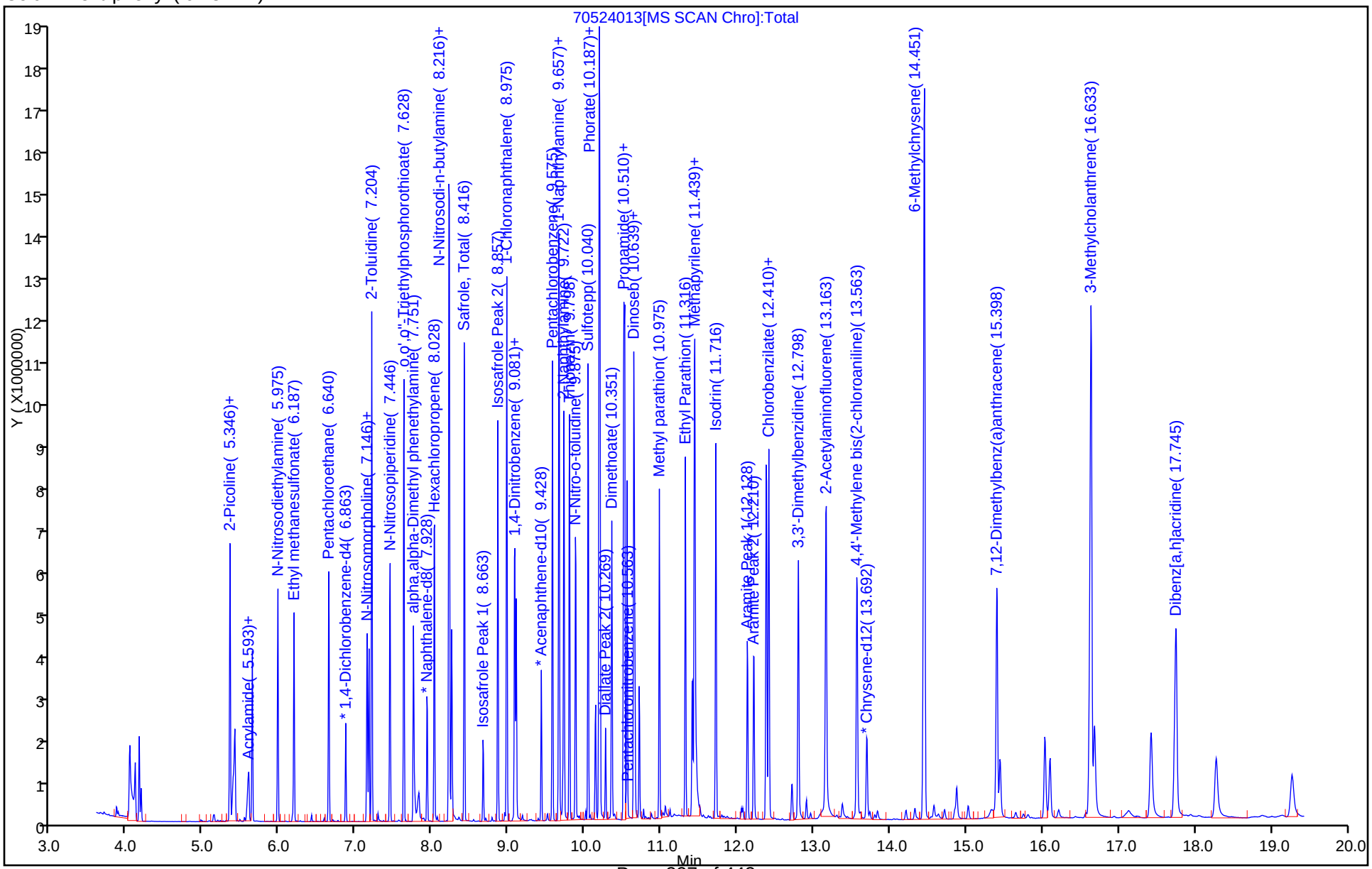
Report Date: 25-May-2017 05:50:14 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524013.D

Injection Date:	24-May-2017 13:09:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std8 l2lvi			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton

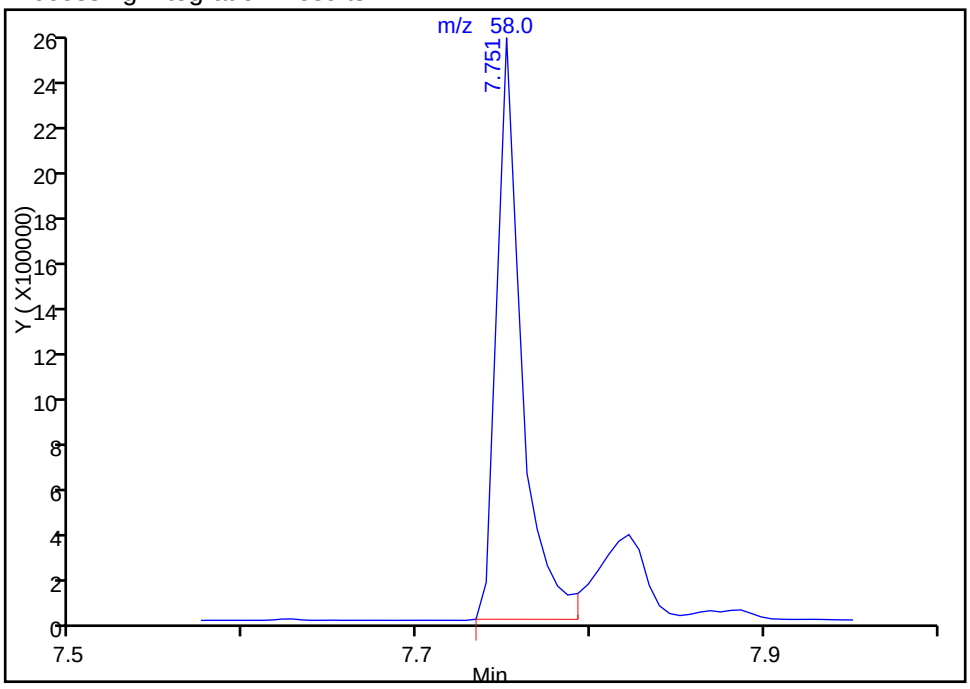
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524013.D
Injection Date: 24-May-2017 13:09:30 Instrument ID: A4AG2
Lims ID: std8 l2lvi
Client ID:
Operator ID: ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL
Column: 5% phenyl (0.18 mm) Detector MS SCAN

71 alpha,alpha-Dimethyl phenethylamine, CAS: 122-09-8

Signal: 1

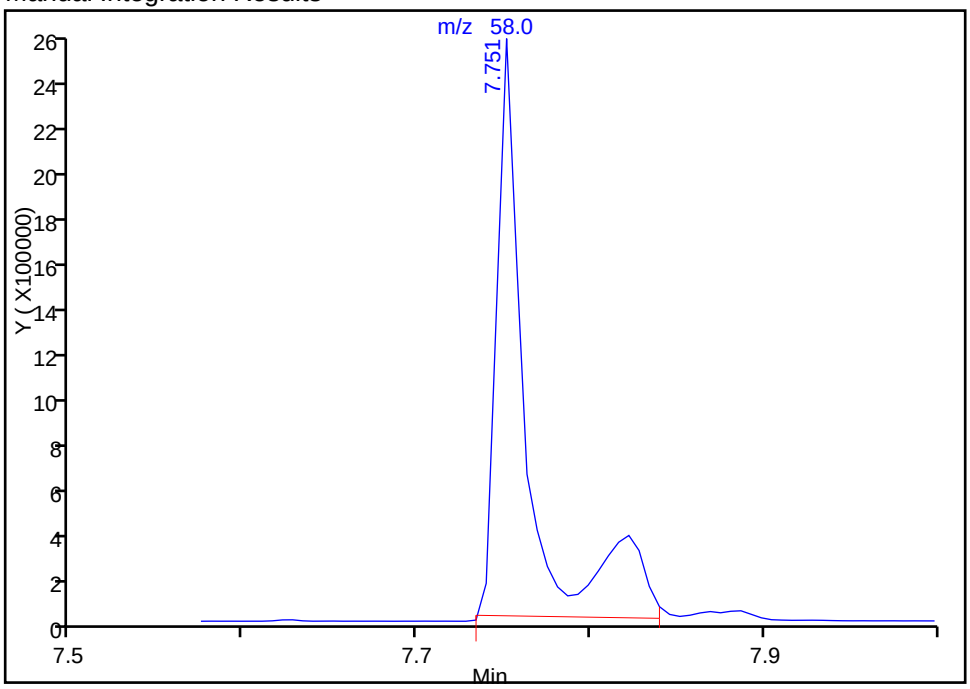
Processing Integration Results

RT: 7.75
Area: 2574356
Amount: 1785.9342
Amount Units: ng/ml



Manual Integration Results

RT: 7.75
Area: 3140962
Amount: 2249.1083
Amount Units: ng/ml



Reviewer: hulat, 24-May-2017 13:39:53
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524014.D
Lims ID: std7 l2lvi
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 24-May-2017 13:34:30 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-014
Misc. Info.: STD7 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 05:50:16 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 05:28:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	277156	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.928	0.006	100	1139183	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	93	637415	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	98	972129	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	875786	400.0	400.0	
* 6 Perylene-d12	264	16.098	16.098	0.000	97	766830	400.0	400.0	
31 2-Picoline	93	5.346	5.346	0.000	97	1202102	1500.0	1462.5	
32 N-Nitrosomethylethylamine	88	5.410	5.410	0.000	95	640780	1500.0	1436.7	
14 Acrylamide	71	5.587	5.604	-0.017	69	315239	1500.0	1507.6	
34 Methyl methanesulfonate	80	5.634	5.640	-0.006	89	833760	1500.0	1437.9	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	94	656723	1500.0	1416.0	
37 Ethyl methanesulfonate	79	6.181	6.187	-0.006	98	984563	1500.0	1432.1	
46 Pentachloroethane	167	6.640	6.640	0.000	90	453587	1500.0	1501.1	
56 N-Nitrosopyrrolidine	100	7.140	7.145	-0.005	85	671867	1500.0	1491.4	
59 N-Nitrosomorpholine	56	7.169	7.169	0.000	94	900620	1500.0	1458.0	
60 2-Toluidine	106	7.204	7.204	0.000	97	2124774	1500.0	1464.4	
63 N-Nitrosopiperidine	114	7.445	7.445	0.000	81	668066	1500.0	1489.6	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	82	687642	1500.0	1475.0	
71 alpha,alpha-Dimethyl phene	58	7.751	7.751	0.000	98	2037051	1500.0	1498.3	M
77 Hexachloropropene	213	8.028	8.028	0.000	90	732859	1500.0	1587.4	
82 N-Nitrosodi-n-butylamine	84	8.216	8.216	0.000	93	867207	1500.0	1452.0	
81 Quinoline	129	8.222	8.222	0.000	97	2462327	1500.0	1511.6	
84 p-Phenylene diamine	108	8.251	8.251	0.000	96	956154	1500.0	1461.0	
92 Safrole, Total	162	8.416	8.422	-0.006	91	1081018	1500.0	1521.2	
95 Isosafrole Peak 1	162	8.663	8.663	0.000	88	179173	1245.0	1269.7	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	92	929483	255.0	265.1	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	98	2286936	1500.0	1533.5	
102 1,4-Naphthoquinone	158	9.081	9.081	0.000	88	803905	1500.0	1715.4	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	94	361486	1500.0	1472.6	
114 Pentachlorobenzene	250	9.575	9.575	0.000	97	980223	1500.0	1569.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
116 2,3,5,6-Tetrachlorophenol	232	9.657	9.663	-0.006	67	370687	1500.0	1666.3	
117 1-Naphthylamine	143	9.657	9.663	-0.006	99	2109149	1500.0	1532.5	
119 2-Naphthylamine	143	9.722	9.728	-0.006	97	2188324	1500.0	1530.0	
121 Thionazin	97	9.798	9.798	0.000	81	599817	1500.0	1510.1	
123 N-Nitro-o-toluidine	152	9.875	9.881	-0.006	96	703116	1500.0	1455.3	
132 Sulfotepp	202	10.039	10.045	-0.006	84	347063	1500.0	1626.4	
133 1,3,5-Trinitrobenzene	213	10.133	10.139	-0.006	84	189400	1500.0	1447.5	
134 Diallate Peak 1	86	10.186	10.186	0.000	90	991499	1290.0	1241.9	
135 Phenacetin	108	10.186	10.192	-0.006	75	1166316	1500.0	1711.5	
136 Phorate	121	10.198	10.198	0.000	95	558979	1500.0	1557.5	
137 Diallate Peak 2	86	10.269	10.269	0.000	94	192628	210.0	221.5	
139 Dimethoate	87	10.351	10.351	0.000	93	900683	1500.0	1586.4	
142 4-Aminobiphenyl	169	10.504	10.510	-0.006	90	2691919	1500.0	1720.5	
144 Pronamide	173	10.522	10.522	0.000	92	1156016	1500.0	1636.4	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	86	266286	1500.0	1653.6	
146 Disulfoton	88	10.639	10.639	0.000	97	1302137	1500.0	1516.0	
147 Dinoseb	211	10.651	10.651	0.000	97	442382	1500.0	1453.1	
152 Methyl parathion	109	10.975	10.975	0.000	94	794591	1500.0	1701.1	
155 Ethyl Parathion	97	11.316	11.316	0.000	84	504504	1500.0	1501.3	
156 4-Nitroquinoline-1-oxide	190	11.404	11.410	-0.006	95	218422	1500.0	1506.4	
157 Methapyrilene	58	11.433	11.439	-0.006	98	3632176	3000.0	3061.3	
158 Isodrin	66	11.716	11.716	0.000	93	388246	1500.0	1464.8	
162 Aramite Peak 1	185	12.127	12.128	-0.001	88	209870	765.0	852.1	
163 Aramite Peak 2	185	12.216	12.216	0.000	94	255101	735.0	826.2	
164 p-Dimethylamino azobenzene	225	12.380	12.380	0.000	95	755923	1500.0	1635.9	
165 Chlorobenzilate	139	12.410	12.410	0.000	88	1237661	1500.0	1608.9	
168 Famphur	218		12.716				ND	ND	
170 3,3'-Dimethylbenzidine	212	12.798	12.798	0.000	99	1682858	1500.0	1422.4	
172 2-Acetylaminofluorene	181	13.157	13.163	-0.006	94	1422082	1500.0	1470.4	
175 4,4'-Methylene bis(2-chlor	231	13.563	13.569	-0.006	97	604971	1500.0	1678.3	
180 6-Methylchrysene	242	14.445	14.451	-0.006	98	5420710	3000.0	3215.1	
182 7,12-Dimethylbenz(a)anthra	256	15.398	15.404	-0.006	93	1044973	1500.0	1542.8	
186 3-Methylcholanthrene	268	16.627	16.639	-0.012	92	3963614	3000.0	3355.7	
188 Dibenz[a,h]acridine	279	17.745	17.751	-0.006	91	2821843	1500.0	1655.8	
S 194 Isosafrole	162				0		1500.0	1534.8	
S 195 Diallate	86				0		1500.0	1463.5	
S 196 Aramite, Total	185				0		1500.0	1678.3	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

SMLIST2 L7 W_00013 Amount Added: 0.10 Units: mL

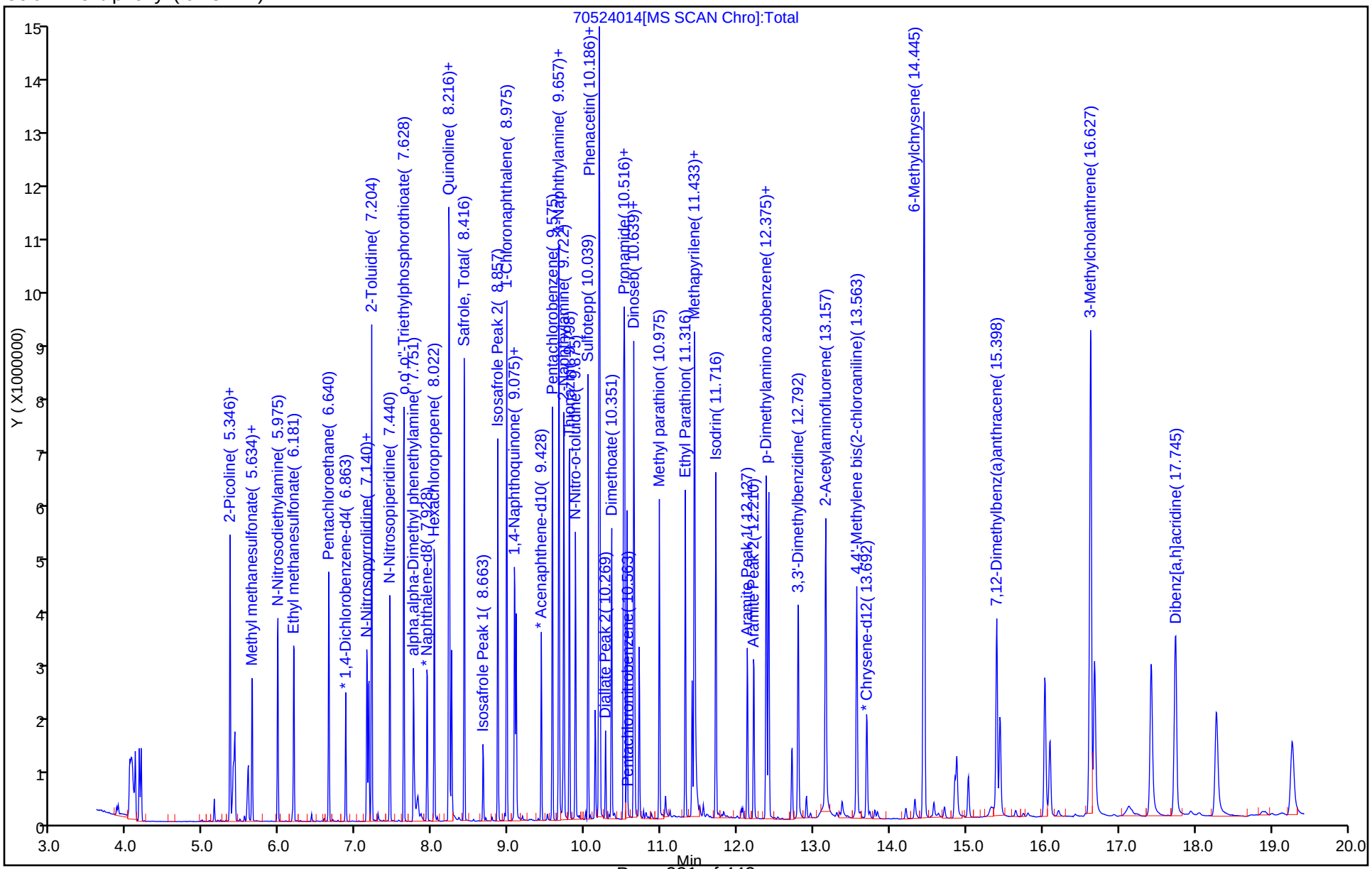
Report Date: 25-May-2017 05:50:17 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524014.D

Injection Date:	24-May-2017 13:34:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std7 l2lvi			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Canton

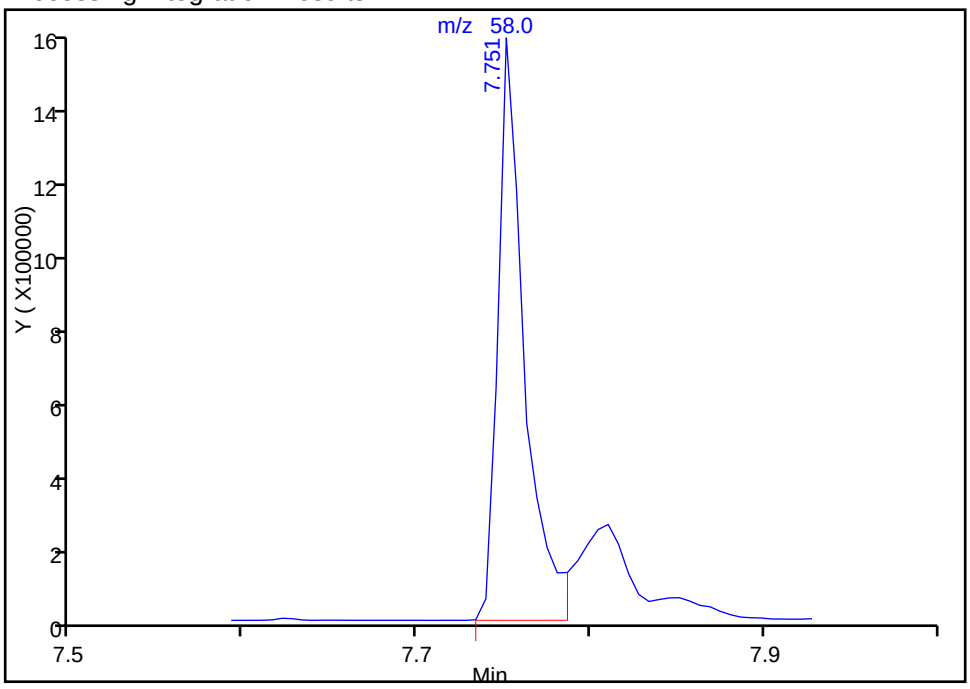
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524014.D
Injection Date: 24-May-2017 13:34:30 Instrument ID: A4AG2
Lims ID: std7 l2lvi
Client ID:
Operator ID: ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL
Column: 5% phenyl (0.18 mm) Detector MS SCAN

71 alpha,alpha-Dimethyl phenethylamine, CAS: 122-09-8

Signal: 1

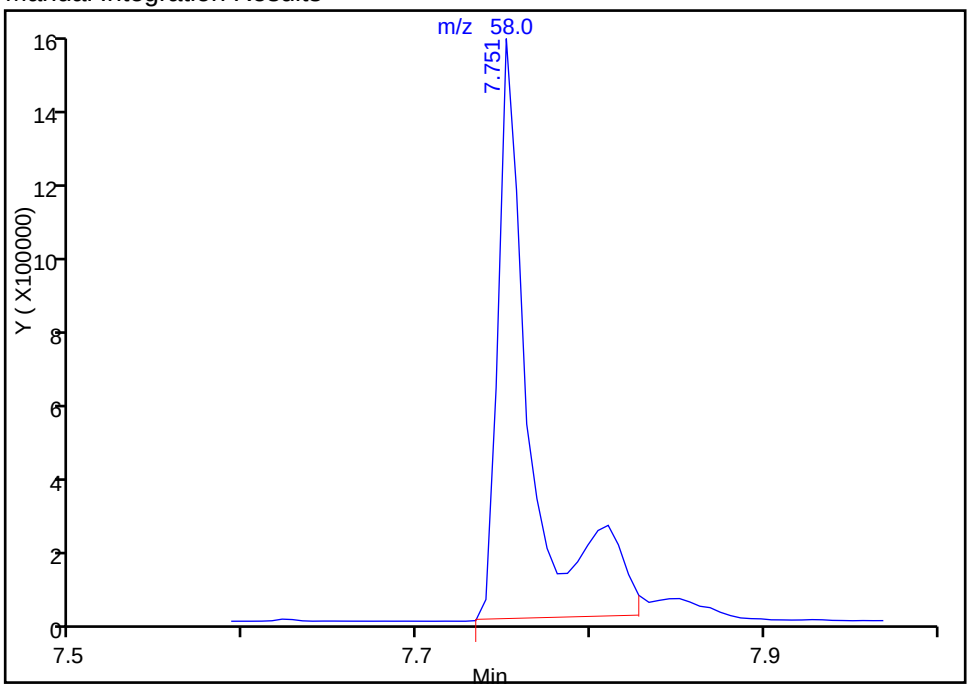
Processing Integration Results

RT: 7.75
Area: 1656515
Amount: 1538.4271
Amount Units: ng/ml



Manual Integration Results

RT: 7.75
Area: 2037051
Amount: 1498.3063
Amount Units: ng/ml



Reviewer: hulat, 25-May-2017 05:28:23
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524015.D
Lims ID: std6 l2lvi
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 24-May-2017 13:58:30 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-015
Misc. Info.: STD6 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 05:50:18 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 05:29:04

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	293050	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.934	0.000	100	1187594	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	93	674733	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	1073489	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	946842	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	833006	400.0	400.0	
31 2-Picoline	93	5.346	5.346	0.000	97	890858	1000.0	1025.0	
32 N-Nitrosomethylethylamine	88	5.410	5.410	0.000	95	457357	1000.0	969.8	
14 Acrylamide	71	5.575	5.575	0.000	74	165495	1000.0	908.2	
34 Methyl methanesulfonate	80	5.634	5.634	0.000	89	566803	1000.0	924.5	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	95	465785	1000.0	949.8	
37 Ethyl methanesulfonate	79	6.181	6.181	0.000	98	690039	1000.0	949.3	
46 Pentachloroethane	167	6.640	6.640	0.000	90	321591	1000.0	1006.6	
56 N-Nitrosopyrrolidine	100	7.140	7.140	0.000	86	478112	1000.0	1003.8	
59 N-Nitrosomorpholine	56	7.163	7.163	0.000	92	635252	1000.0	972.6	
60 2-Toluidine	106	7.204	7.204	0.000	97	1471638	1000.0	959.2	
63 N-Nitrosopiperidine	114	7.439	7.439	0.000	80	469726	1000.0	1004.7	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	84	484596	1000.0	997.1	
71 alpha,alpha-Dimethyl phene	58	7.751	7.751	0.000	97	1412662	1000.0	996.7	
77 Hexachloropropene	213	8.028	8.028	0.000	91	497305	1000.0	1033.3	
82 N-Nitrosodi-n-butylamine	84	8.216	8.216	0.000	92	629546	1000.0	1011.1	
81 Quinoline	129	8.222	8.222	0.000	97	1749495	1000.0	1030.2	
84 p-Phenylene diamine	108	8.251	8.251	0.000	96	678020	1000.0	1021.8	
92 Safrole, Total	162	8.416	8.416	0.000	91	754989	1000.0	1019.1	
95 Isosafrole Peak 1	162	8.663	8.663	0.000	89	127484	830.0	853.4	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	91	641260	170.0	172.8	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	98	1602050	1000.0	1014.8	
102 1,4-Naphthoquinone	158	9.081	9.081	0.000	88	548995	1000.0	1106.7	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	92	244371	1000.0	955.9	
114 Pentachlorobenzene	250	9.575	9.575	0.000	97	652285	1000.0	986.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
117 1-Naphthylamine	143	9.657	9.657	0.000	99	1575178	1000.0	1081.2	
116 2,3,5,6-Tetrachlorophenol	232	9.657	9.657	0.000	73	245081	1000.0	1040.8	
119 2-Naphthylamine	143	9.722	9.722	0.000	97	1608146	1000.0	1062.2	
121 Thionazin	97	9.792	9.792	0.000	80	432028	1000.0	1027.5	
123 N-Nitro-o-toluidine	152	9.875	9.875	0.000	96	489265	1000.0	967.1	
132 Sulfotepp	202	10.039	10.039	0.000	82	239267	1000.0	1015.4	
133 1,3,5-Trinitrobenzene	213	10.133	10.133	0.000	84	125698	1000.0	901.6	
134 Diallate Peak 1	86	10.186	10.186	0.000	97	741567	860.0	841.2	
135 Phenacetin	108	10.180	10.180	0.000	94	811973	1000.0	1079.0	
136 Phorate	121	10.198	10.198	0.000	95	408252	1000.0	1030.1	
137 Diallate Peak 2	86	10.269	10.269	0.000	93	131613	140.0	137.1	
139 Dimethoate	87	10.345	10.345	0.000	94	660188	1000.0	1053.0	
142 4-Aminobiphenyl	169	10.504	10.504	0.000	89	1928936	1000.0	1116.4	
144 Pronamide	173	10.516	10.516	0.000	92	810117	1000.0	1038.5	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	86	186297	1000.0	1047.7	
146 Disulfoton	88	10.639	10.639	0.000	98	957975	1000.0	1010.0	
147 Dinoseb	211	10.651	10.651	0.000	97	282810	1000.0	895.8	
152 Methyl parathion	109	10.975	10.975	0.000	94	575216	1000.0	1115.2	
155 Ethyl Parathion	97	11.316	11.316	0.000	85	355114	1000.0	968.6	
156 4-Nitroquinoline-1-oxide	190	11.404	11.404	0.000	92	134839	1000.0	990.8	
157 Methapyrilene	58	11.433	11.433	0.000	99	2588792	2000.0	2000.1	
158 Isodrin	66	11.716	11.716	0.000	91	286434	1000.0	978.6	
162 Aramite Peak 1	185	12.127	12.127	0.000	90	140789	510.0	528.7	
163 Aramite Peak 2	185	12.210	12.210	0.000	91	175174	490.0	524.8	
164 p-Dimethylamino azobenzene	225	12.374	12.374	0.000	94	511033	1000.0	1022.9	
165 Chlorobenzilate	139	12.410	12.410	0.000	87	852437	1000.0	1025.0	
168 Famphur	218	12.716	12.716	0.000	87	383925	1000.0	629.8	
170 3,3'-Dimethylbenzidine	212	12.792	12.792	0.000	99	1145928	1000.0	916.4	
172 2-Acetylaminofluorene	181	13.151	13.151	0.000	94	953248	1000.0	927.2	
175 4,4'-Methylene bis(2-chlor	231	13.563	13.563	0.000	96	415058	1000.0	1065.0	
180 6-Methylchrysene	242	14.445	14.445	0.000	99	3722443	2000.0	2042.2	
182 7,12-Dimethylbenz(a)anthra	256	15.398	15.398	0.000	94	786191	1000.0	1068.6	
186 3-Methylcholanthrene	268	16.621	16.621	0.000	95	2599434	2000.0	2025.9	
188 Dibenz[a,h]acridine	279	17.739	17.739	0.000	92	1903949	1000.0	1028.5	
S 194 Isosafrole	162				0		1000.0	1026.2	
S 195 Diallate	86				0		1000.0	978.2	
S 196 Aramite, Total	185				0		1000.0	1053.5	

Reagents:

SMLIST2 L6 W_00013 Amount Added: 0.10 Units: mL

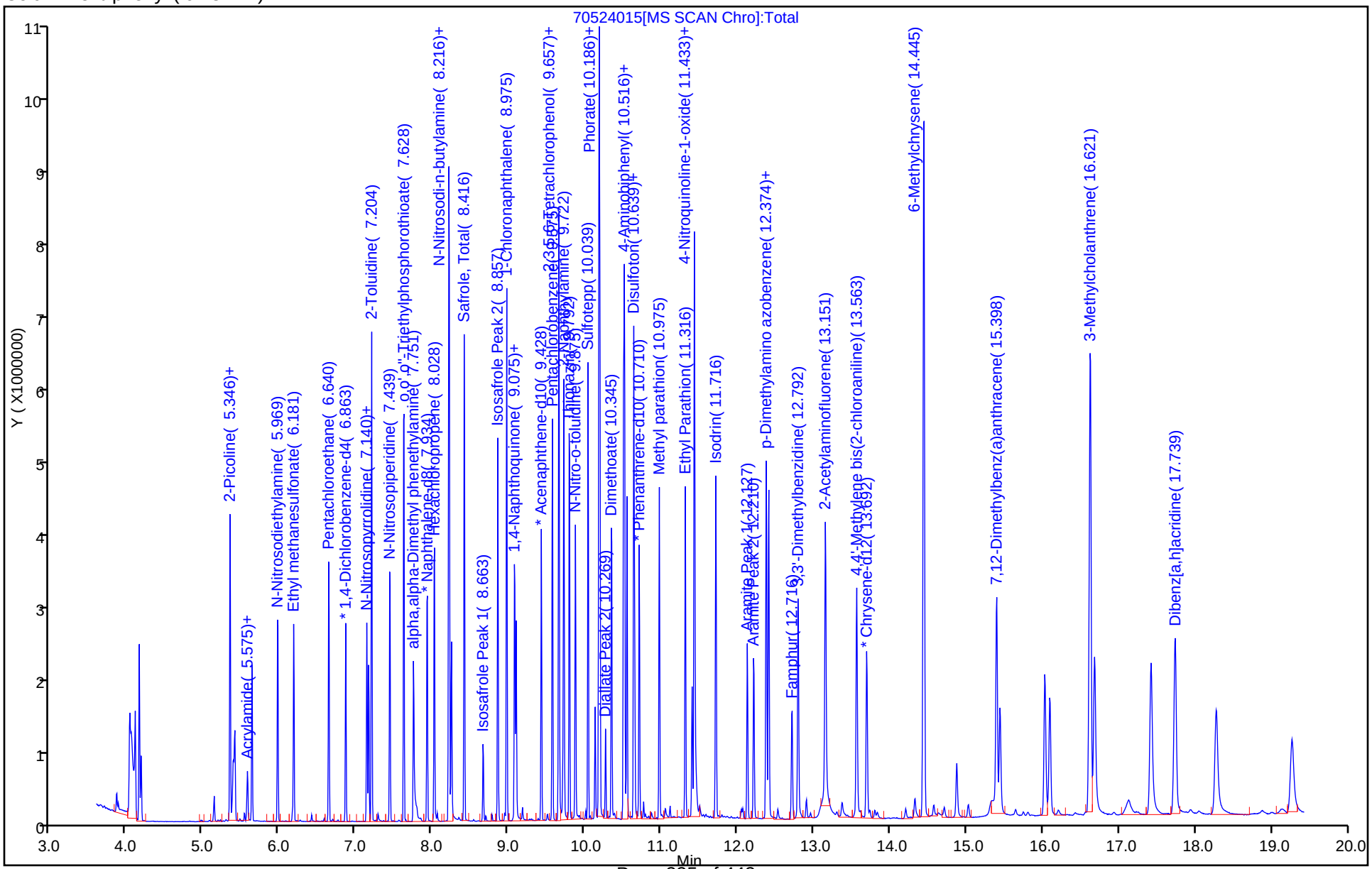
Report Date: 25-May-2017 05:50:19 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524015.D

Injection Date:	24-May-2017 13:58:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std6 l2lvi			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524016.D
Lims ID: std5 l2lvi
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 24-May-2017 14:22:30 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-016
Misc. Info.: STD5 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 05:50:21 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 05:29:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	98	260257	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.934	-0.006	100	1113739	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	93	633625	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	1038799	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	901771	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	793570	400.0	400.0	
31 2-Picoline	93	5.345	5.346	-0.001	96	383424	500.0	496.8	
32 N-Nitrosomethylethylamine	88	5.410	5.410	0.000	95	207469	500.0	495.4	
14 Acrylamide	71	5.569	5.575	-0.006	70	60937	500.0	494.9	
34 Methyl methanesulfonate	80	5.634	5.634	0.000	89	277249	500.0	509.2	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	94	219400	500.0	503.8	
37 Ethyl methanesulfonate	79	6.181	6.181	0.000	98	324727	500.0	503.0	
46 Pentachloroethane	167	6.639	6.640	-0.001	91	142397	500.0	501.9	
56 N-Nitrosopyrrolidine	100	7.139	7.140	-0.001	83	224668	500.0	531.1	
59 N-Nitrosomorpholine	56	7.163	7.163	0.000	93	309838	500.0	534.2	
60 2-Toluidine	106	7.204	7.204	0.000	97	686321	500.0	503.7	
63 N-Nitrosopiperidine	114	7.439	7.439	0.000	80	224650	500.0	512.3	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	86	223909	500.0	491.3	
71 alpha,alpha-Dimethyl phene	58	7.757	7.751	0.006	97	548507	500.0	412.7	M
77 Hexachloropropene	213	8.028	8.028	0.000	92	219410	500.0	486.1	
82 N-Nitrosodi-n-butylamine	84	8.210	8.216	-0.006	93	302145	500.0	517.5	
81 Quinoline	129	8.222	8.222	0.000	96	844600	500.0	530.3	
84 p-Phenylene diamine	108	8.251	8.251	0.000	96	208409	500.0	393.9	
92 Safrole, Total	162	8.416	8.416	0.000	90	356108	500.0	512.6	
95 Isosafrole Peak 1	162	8.663	8.663	0.000	88	58083	415.0	414.1	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	91	300842	85.0	86.3	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	98	751270	500.0	506.8	
102 1,4-Naphthoquinone	158	9.075	9.081	-0.006	86	231845	500.0	497.7	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	94	99849	500.0	439.9	
114 Pentachlorobenzene	250	9.575	9.575	0.000	97	295448	500.0	475.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
116 2,3,5,6-Tetrachlorophenol	232	9.657	9.657	0.000	74	105639	500.0	477.7	
117 1-Naphthylamine	143	9.657	9.657	0.000	99	732976	500.0	535.8	
119 2-Naphthylamine	143	9.722	9.722	0.000	97	768881	500.0	540.8	
121 Thionazin	97	9.792	9.792	0.000	80	202343	500.0	512.5	
123 N-Nitro-o-toluidine	152	9.875	9.875	0.000	96	224103	500.0	487.4	
132 Sulfotepp	202	10.039	10.039	0.000	80	106600	500.0	467.5	
133 1,3,5-Trinitrobenzene	213	10.133	10.133	0.000	84	47265	500.0	398.8	
134 Diallate Peak 1	86	10.186	10.186	0.000	94	380974	430.0	446.6	
135 Phenacetin	108	10.180	10.180	0.000	88	397513	500.0	545.9	
136 Phorate	121	10.192	10.198	-0.006	95	196623	500.0	512.7	
137 Diallate Peak 2	86	10.269	10.269	0.000	94	62814	70.0	67.6	
139 Dimethoate	87	10.345	10.345	0.000	94	325104	500.0	535.9	
142 4-Aminobiphenyl	169	10.504	10.504	0.000	89	852790	500.0	510.1	
144 Pronamide	173	10.516	10.516	0.000	92	361611	500.0	479.0	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	85	82008	500.0	476.6	
146 Disulfoton	88	10.639	10.639	0.000	98	478212	500.0	521.0	
147 Dinoseb	211	10.651	10.651	0.000	97	112370	500.0	444.2	
152 Methyl parathion	109	10.974	10.975	-0.001	94	264166	500.0	529.2	
155 Ethyl Parathion	97	11.316	11.316	0.000	85	160464	500.0	469.3	
156 4-Nitroquinoline-1-oxide	190	11.404	11.404	0.000	86	43724	500.0	441.0	
157 Methapyrilene	58	11.433	11.433	0.000	98	1200360	1000.0	993.9	
158 Isodrin	66	11.710	11.716	-0.006	90	142093	500.0	501.7	
162 Aramite Peak 1	185	12.127	12.127	0.000	87	61990	255.0	244.4	
163 Aramite Peak 2	185	12.210	12.210	0.000	88	75754	245.0	238.3	
164 p-Dimethylamino azobenzene	225	12.374	12.374	0.000	94	228007	500.0	479.2	
165 Chlorobenzilate	139	12.404	12.410	-0.006	86	395407	500.0	499.2	
168 Famphur	218	12.710	12.716	-0.006	87	299431	500.0	515.7	
170 3,3'-Dimethylbenzidine	212	12.792	12.792	0.000	99	478326	500.0	432.8	
172 2-Acetylaminofluorene	181	13.145	13.151	-0.006	96	408023	500.0	439.3	
175 4,4'-Methylene bis(2-chlor	231	13.557	13.563	-0.006	95	185583	500.0	500.0	
180 6-Methylchrysene	242	14.439	14.445	-0.006	99	1644376	1000.0	947.2	
182 7,12-Dimethylbenz(a)anthra	256	15.392	15.398	-0.006	94	339492	500.0	484.4	
186 3-Methylcholanthrene	268	16.615	16.621	-0.006	93	1175680	1000.0	961.8	
188 Dibenz[a,h]acridine	279	17.727	17.739	-0.012	92	871898	500.0	494.4	
S 194 Isosafrole	162				0		500.0	500.4	
S 195 Diallate	86				0		500.0	514.2	
S 196 Aramite, Total	185				0		500.0	482.7	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SMLIST2 L5 W_00013 Amount Added: 0.10 Units: mL

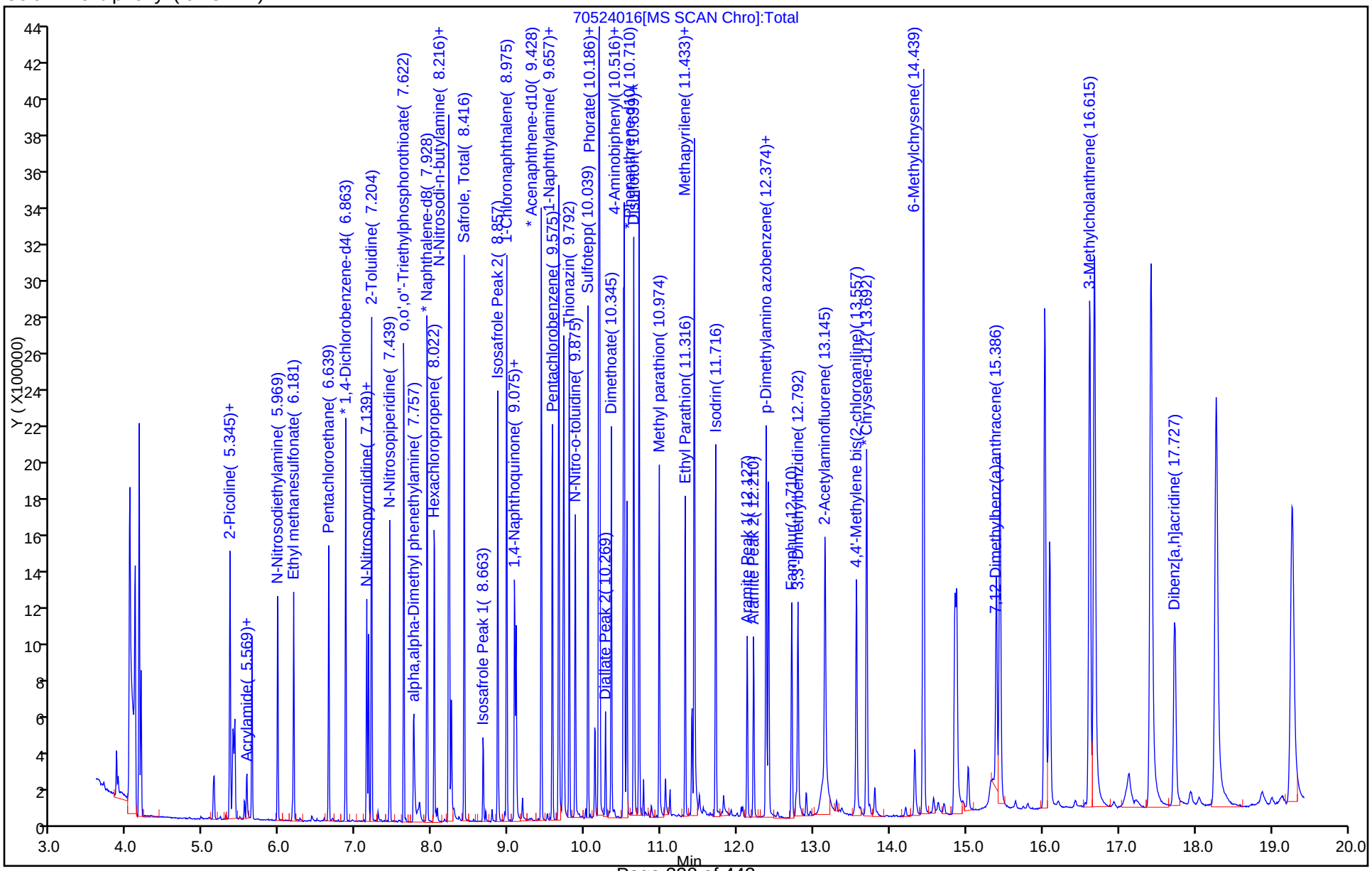
Report Date: 25-May-2017 05:50:22 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524016.D

Injection Date:	24-May-2017 14:22:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std5 l2lvi			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton

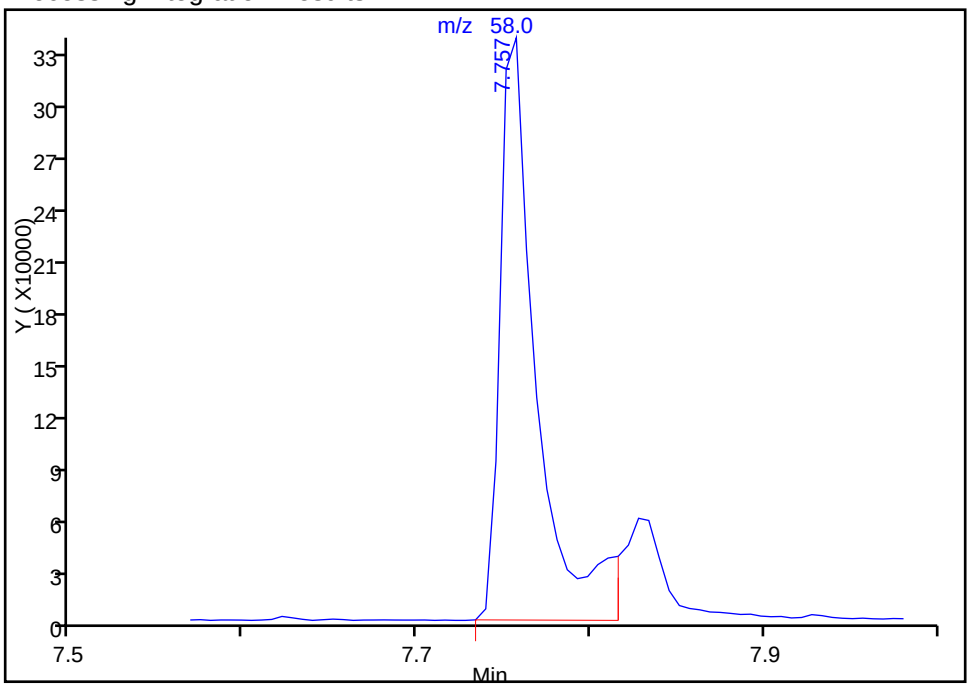
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524016.D
Injection Date: 24-May-2017 14:22:30 Instrument ID: A4AG2
Lims ID: std5 l2lvi
Client ID:
Operator ID: ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL
Column: 5% phenyl (0.18 mm) Detector MS SCAN

71 alpha,alpha-Dimethyl phenethylamine, CAS: 122-09-8

Signal: 1

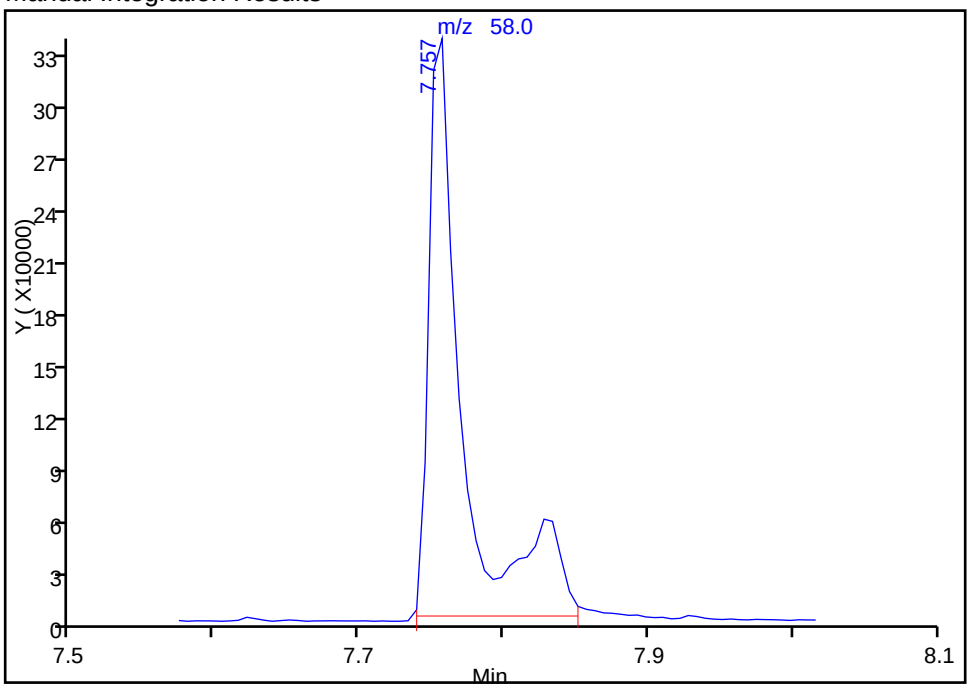
Processing Integration Results

RT: 7.76
Area: 491000
Amount: 387.8372
Amount Units: ng/ml



Manual Integration Results

RT: 7.76
Area: 548507
Amount: 412.6586
Amount Units: ng/ml



Reviewer: hulat, 25-May-2017 05:29:28
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524017.D
Lims ID: std4 l2lvi
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 24-May-2017 14:47:30 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-017
Misc. Info.: STD4 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 05:50:23 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 05:32:51

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	98	252834	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.934	0.000	100	1131835	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	644942	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	1059731	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	900968	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	807504	400.0	400.0	
31 2-Picoline	93	5.351	5.346	0.005	96	146058	200.0	194.8	
32 N-Nitrosomethylethylamine	88	5.410	5.410	0.000	95	84295	200.0	207.2	
14 Acrylamide	71	5.569	5.575	-0.006	69	15472	200.0	247.3	
34 Methyl methanesulfonate	80	5.634	5.634	0.000	89	112095	200.0	211.9	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	92	88180	200.0	208.4	
37 Ethyl methanesulfonate	79	6.181	6.181	0.000	98	136803	200.0	218.1	
46 Pentachloroethane	167	6.640	6.640	0.000	92	54306	200.0	197.0	
56 N-Nitrosopyrrolidine	100	7.140	7.140	0.000	85	84195	200.0	204.9	
59 N-Nitrosomorpholine	56	7.163	7.163	0.000	92	118211	200.0	209.8	
60 2-Toluidine	106	7.204	7.204	0.000	97	280024	200.0	211.6	
63 N-Nitrosopiperidine	114	7.440	7.439	0.001	80	90575	200.0	203.3	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	87	93050	200.0	200.9	
71 alpha,alpha-Dimethyl phene	58	7.757	7.751	0.006	97	260192	200.0	192.6	M
77 Hexachloropropene	213	8.028	8.028	0.000	91	84587	200.0	184.4	
82 N-Nitrosodi-n-butylamine	84	8.210	8.216	-0.006	91	125224	200.0	211.0	
81 Quinoline	129	8.222	8.222	0.000	96	326821	200.0	201.9	
84 p-Phenylene diamine	108	8.251	8.251	0.000	96	79563	200.0	202.7	
92 Safrole, Total	162	8.416	8.416	0.000	88	137464	200.0	194.7	
95 Isosafrole Peak 1	162	8.669	8.663	0.006	87	23475	166.0	164.4	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	92	118991	34.0	33.5	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	98	303418	200.0	201.1	
102 1,4-Naphthoquinone	158	9.075	9.081	-0.006	86	87161	200.0	183.8	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	92	32571	200.0	169.9	
114 Pentachlorobenzene	250	9.575	9.575	0.000	96	118951	200.0	188.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
117 1-Naphthylamine	143	9.657	9.657	0.000	98	275849	200.0	198.1	
116 2,3,5,6-Tetrachlorophenol	232	9.657	9.657	0.000	76	36768	200.0	163.4	
119 2-Naphthylamine	143	9.722	9.722	0.000	96	306064	200.0	211.5	
121 Thionazin	97	9.792	9.792	0.000	80	83048	200.0	206.6	
123 N-Nitro-o-toluidine	152	9.875	9.875	0.000	95	80036	200.0	190.8	
132 Sulfotepp	202	10.039	10.039	0.000	80	41194	200.0	177.1	
133 1,3,5-Trinitrobenzene	213	10.128	10.133	-0.005	85	16103	200.0	186.0	
135 Phenacetin	108	10.181	10.180	0.001	92	137272	200.0	184.8	
134 Diallate Peak 1	86	10.186	10.186	0.000	93	159906	172.0	183.7	
136 Phorate	121	10.192	10.198	-0.006	96	77102	200.0	197.1	
137 Diallate Peak 2	86	10.269	10.269	0.000	96	27007	28.0	28.5	
139 Dimethoate	87	10.345	10.345	0.000	94	122880	200.0	198.5	
142 4-Aminobiphenyl	169	10.504	10.504	0.000	88	318954	200.0	187.0	
144 Pronamide	173	10.516	10.516	0.000	92	142943	200.0	185.6	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	84	31235	200.0	177.9	
146 Disulfoton	88	10.639	10.639	0.000	98	191215	200.0	204.2	
147 Dinoseb	211	10.645	10.651	-0.006	95	38329	200.0	234.8	
152 Methyl parathion	109	10.975	10.975	0.000	94	94272	200.0	185.1	
155 Ethyl Parathion	97	11.316	11.316	0.000	85	55718	200.0	180.8	
156 4-Nitroquinoline-1-oxide	190	11.404	11.404	0.000	83	13998	200.0	204.6	
157 Methapyrilene	58	11.433	11.433	0.000	98	412296	400.0	379.9	
158 Isodrin	66	11.716	11.716	0.000	90	59564	200.0	206.1	
162 Aramite Peak 1	185	12.127	12.127	0.000	84	23507	102.0	92.8	
163 Aramite Peak 2	185	12.210	12.210	0.000	87	27351	98.0	86.1	
164 p-Dimethylamino azobenzene	225	12.374	12.374	0.000	94	87666	200.0	184.4	
165 Chlorobenzilate	139	12.404	12.410	-0.006	86	147889	200.0	186.9	
168 Famphur	218	12.710	12.716	-0.006	87	131189	200.0	226.1	
170 3,3'-Dimethylbenzidine	212	12.792	12.792	0.000	99	161741	200.0	183.2	
172 2-Acetylaminofluorene	181	13.145	13.151	-0.006	96	140009	200.0	177.8	
175 4,4'-Methylene bis(2-chlor	231	13.557	13.563	-0.006	95	68084	200.0	183.6	
180 6-Methylchrysene	242	14.439	14.445	-0.006	99	649597	400.0	374.5	
182 7,12-Dimethylbenz(a)anthra	256	15.392	15.398	-0.006	93	126254	200.0	177.0	
186 3-Methylcholanthrene	268	16.615	16.621	-0.006	93	455992	400.0	366.6	
188 Dibenz[a,h]acridine	279	17.727	17.739	-0.012	92	333074	200.0	185.6	
S 194 Isosafrole	162				0		200.0	198.0	
S 195 Diallate	86				0		200.0	212.2	
S 196 Aramite, Total	185				0		200.0	178.9	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

SMLIST2 L4 W_00013 Amount Added: 0.10 Units: mL

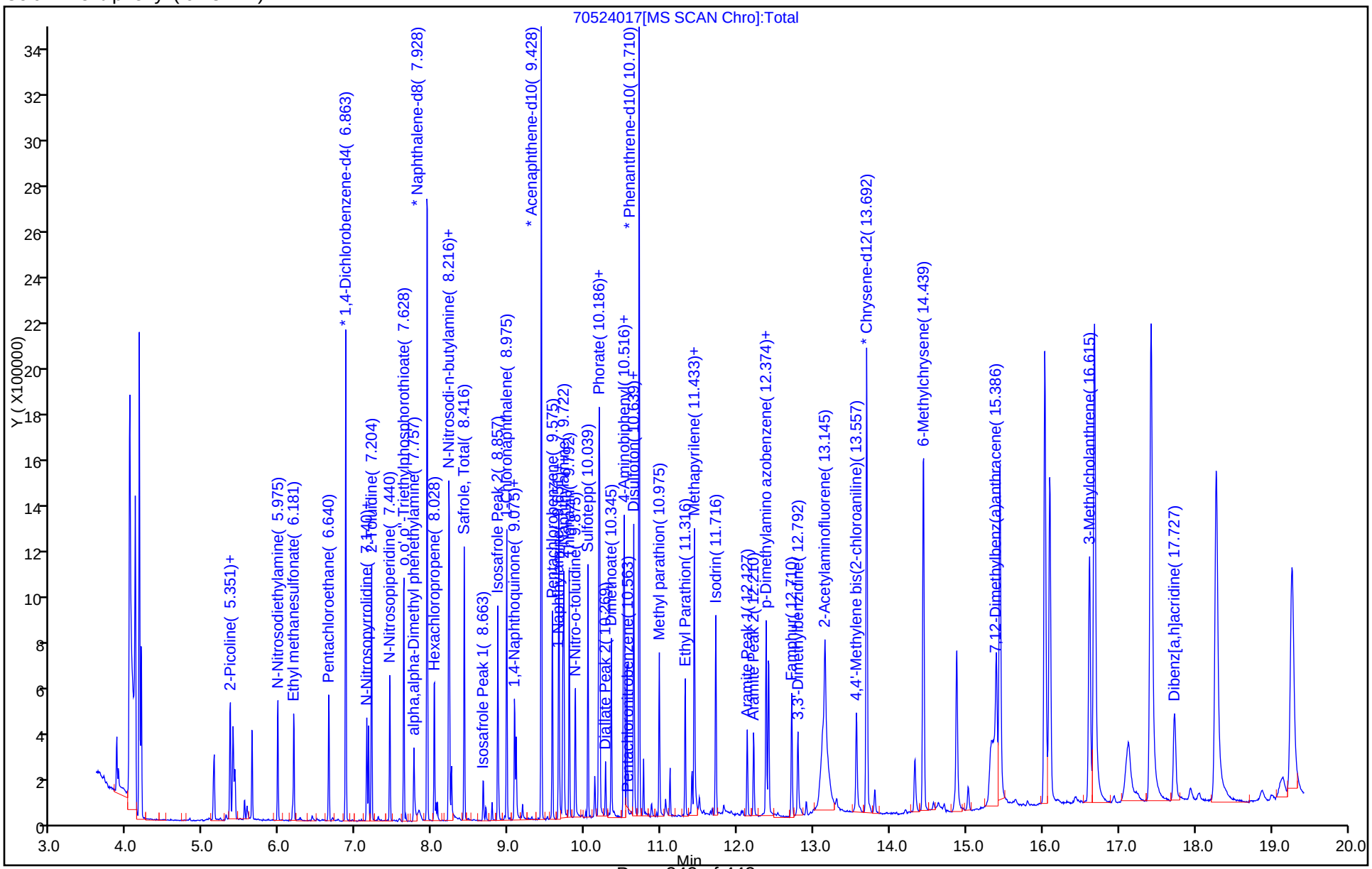
Report Date: 25-May-2017 05:50:24 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524017.D

Injection Date:	24-May-2017 14:47:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std4 l2lvi			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



Manual Integration/User Assign Peak Report

TestAmerica Canton

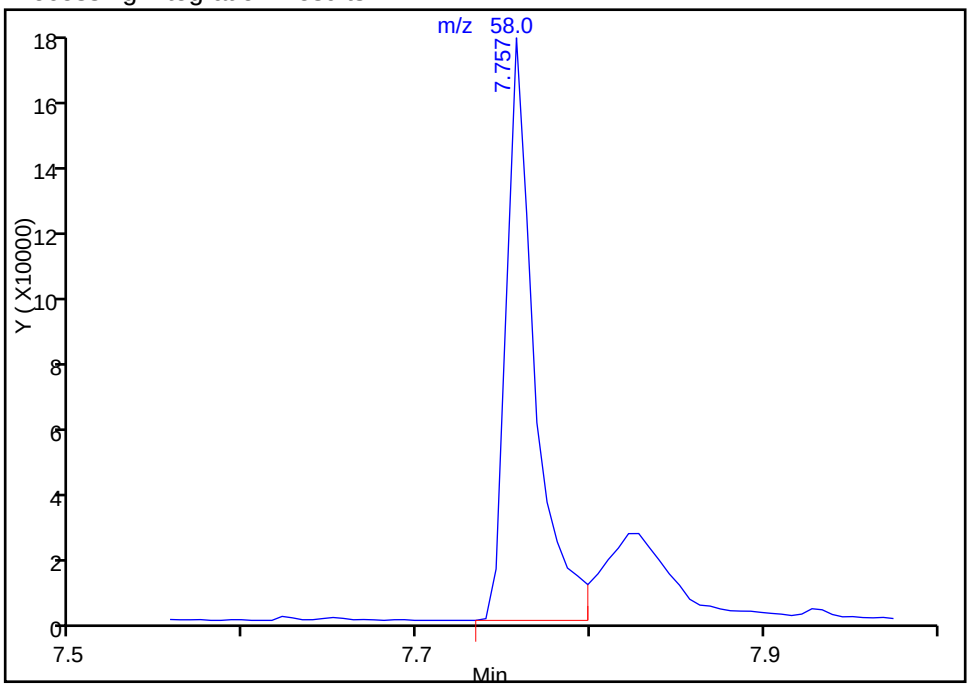
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524017.D
Injection Date: 24-May-2017 14:47:30 Instrument ID: A4AG2
Lims ID: std4 l2lvi
Client ID:
Operator ID: ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL
Column: 5% phenyl (0.18 mm) Detector MS SCAN

71 alpha,alpha-Dimethyl phenethylamine, CAS: 122-09-8

Signal: 1

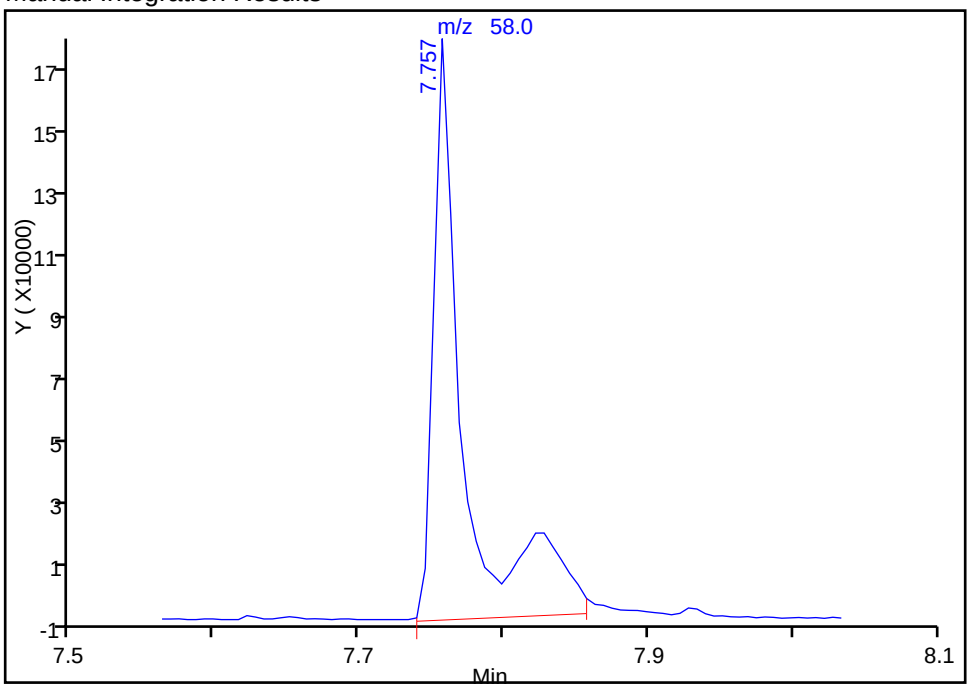
Processing Integration Results

RT: 7.76
Area: 202018
Amount: 186.3845
Amount Units: ng/ml



Manual Integration Results

RT: 7.76
Area: 260192
Amount: 192.6207
Amount Units: ng/ml



Reviewer: hulat, 25-May-2017 05:32:38
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524018.D
Lims ID: std3 l2lvi
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 24-May-2017 15:11:30 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-018
Misc. Info.: STD3 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 05:50:26 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 05:33:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	239233	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.934	-0.006	100	1059538	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	632198	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	1028712	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	867627	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	788979	400.0	400.0	
31 2-Picoline	93	5.351	5.346	0.005	96	69889	100.0	98.5	
32 N-Nitrosomethylethylamine	88	5.410	5.410	0.000	94	40063	100.0	104.1	
14 Acrylamide	71		5.575				ND	ND	
34 Methyl methanesulfonate	80	5.634	5.634	0.000	88	52001	100.0	103.9	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	92	42094	100.0	105.1	
37 Ethyl methanesulfonate	79	6.181	6.181	0.000	98	62127	100.0	104.7	
46 Pentachloroethane	167	6.640	6.640	0.000	91	25090	100.0	96.2	
56 N-Nitrosopyrrolidine	100	7.140	7.140	0.000	86	37939	100.0	97.6	
59 N-Nitrosomorpholine	56	7.163	7.163	0.000	93	53301	100.0	100.0	
60 2-Toluidine	106	7.204	7.204	0.000	97	131050	100.0	104.6	
63 N-Nitrosopiperidine	114	7.445	7.439	0.006	81	40552	100.0	97.2	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	88	42640	100.0	98.3	
71 alpha,alpha-Dimethyl phene	58	7.763	7.751	0.012	97	119979	100.0	94.9	M
77 Hexachloropropene	213	8.028	8.028	0.000	92	38804	100.0	90.4	
82 N-Nitrosodi-n-butylamine	84	8.216	8.216	0.000	92	59327	100.0	106.8	
81 Quinoline	129	8.222	8.222	0.000	96	148169	100.0	97.8	
84 p-Phenylene diamine	108	8.251	8.251	0.000	95	17883	100.0	115.3	
92 Safrole, Total	162	8.416	8.416	0.000	88	63923	100.0	96.7	
95 Isosafrole Peak 1	162	8.669	8.663	0.006	89	11308	83.0	80.8	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	90	55777	17.0	16.0	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	98	142610	100.0	96.4	
102 1,4-Naphthoquinone	158	9.081	9.081	0.000	90	38611	100.0	83.1	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	89	13306	100.0	95.6	
114 Pentachlorobenzene	250	9.575	9.575	0.000	96	58131	100.0	93.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
116 2,3,5,6-Tetrachlorophenol	232	9.657	9.657	0.000	66	18120	100.0	82.1	
117 1-Naphthylamine	143	9.657	9.657	0.000	98	128266	100.0	94.0	
119 2-Naphthylamine	143	9.722	9.722	0.000	96	135844	100.0	95.8	
121 Thionazin	97	9.792	9.792	0.000	80	37922	100.0	96.3	
123 N-Nitro-o-toluidine	152	9.875	9.875	0.000	93	30920	100.0	93.7	
132 Sulfotepp	202	10.039	10.039	0.000	80	19259	100.0	85.3	
133 1,3,5-Trinitrobenzene	213	10.128	10.133	-0.005	88	7446	100.0	130.1	
135 Phenacetin	108	10.181	10.180	0.001	91	58573	100.0	81.2	
134 Diallate Peak 1	86	10.186	10.186	0.000	93	78901	86.0	93.4	
136 Phorate	121	10.192	10.198	-0.006	95	37807	100.0	99.6	
137 Diallate Peak 2	86	10.269	10.269	0.000	94	12908	14.0	14.0	
139 Dimethoate	87	10.345	10.345	0.000	94	57282	100.0	95.3	
142 4-Aminobiphenyl	169	10.504	10.504	0.000	89	126150	100.0	76.2	
144 Pronamide	173	10.516	10.516	0.000	92	67449	100.0	90.2	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	85	14484	100.0	85.0	
146 Disulfoton	88	10.639	10.639	0.000	98	90528	100.0	99.6	
147 Dinoseb	211		10.651				ND	ND	
152 Methyl parathion	109	10.975	10.975	0.000	94	39557	100.0	80.0	
155 Ethyl Parathion	97	11.316	11.316	0.000	84	23396	100.0	96.3	
156 4-Nitroquinoline-1-oxide	190	11.404	11.404	0.000	85	7050	100.0	147.4	
157 Methapyrilene	58	11.433	11.433	0.000	97	150352	200.0	185.3	
158 Isodrin	66	11.716	11.716	0.000	90	28636	100.0	102.1	
162 Aramite Peak 1	185	12.128	12.127	0.001	84	10522	51.0	43.1	
163 Aramite Peak 2	185	12.210	12.210	0.000	86	12360	49.0	40.4	
164 p-Dimethylamino azobenzene	225	12.375	12.374	0.001	93	39444	100.0	86.2	
165 Chlorobenzilate	139	12.404	12.410	-0.006	85	70879	100.0	93.0	
168 Famphur	218	12.710	12.716	-0.006	88	63735	100.0	114.1	
170 3,3'-Dimethylbenzidine	212	12.792	12.792	0.000	99	46195	100.0	93.4	
172 2-Acetylaminofluorene	181	13.145	13.151	-0.006	97	57770	100.0	99.6	
175 4,4'-Methylene bis(2-chlor	231	13.557	13.563	-0.006	94	28751	100.0	80.5	
180 6-Methylchrysene	242	14.433	14.445	-0.012	100	299575	200.0	179.4	
182 7,12-Dimethylbenz(a)anthra	256	15.392	15.398	-0.006	93	60273	100.0	86.5	
186 3-Methylcholanthrene	268	16.610	16.621	-0.011	94	205600	200.0	169.2	
188 Dibenz[a,h]acridine	279	17.727	17.739	-0.012	92	154966	100.0	88.4	
S 194 Isosafrole	162				0		100.0	96.8	
S 195 Diallate	86				0		100.0	107.4	
S 196 Aramite, Total	185				0		100.0	83.5	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

Reagents:

SMLIST2 L3 W_00013 Amount Added: 0.10 Units: mL

Report Date: 25-May-2017 05:50:27 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524018.D

Injection Date: 24-May-2017 15:11:30 Instrument ID: A4AG2 Operator ID:

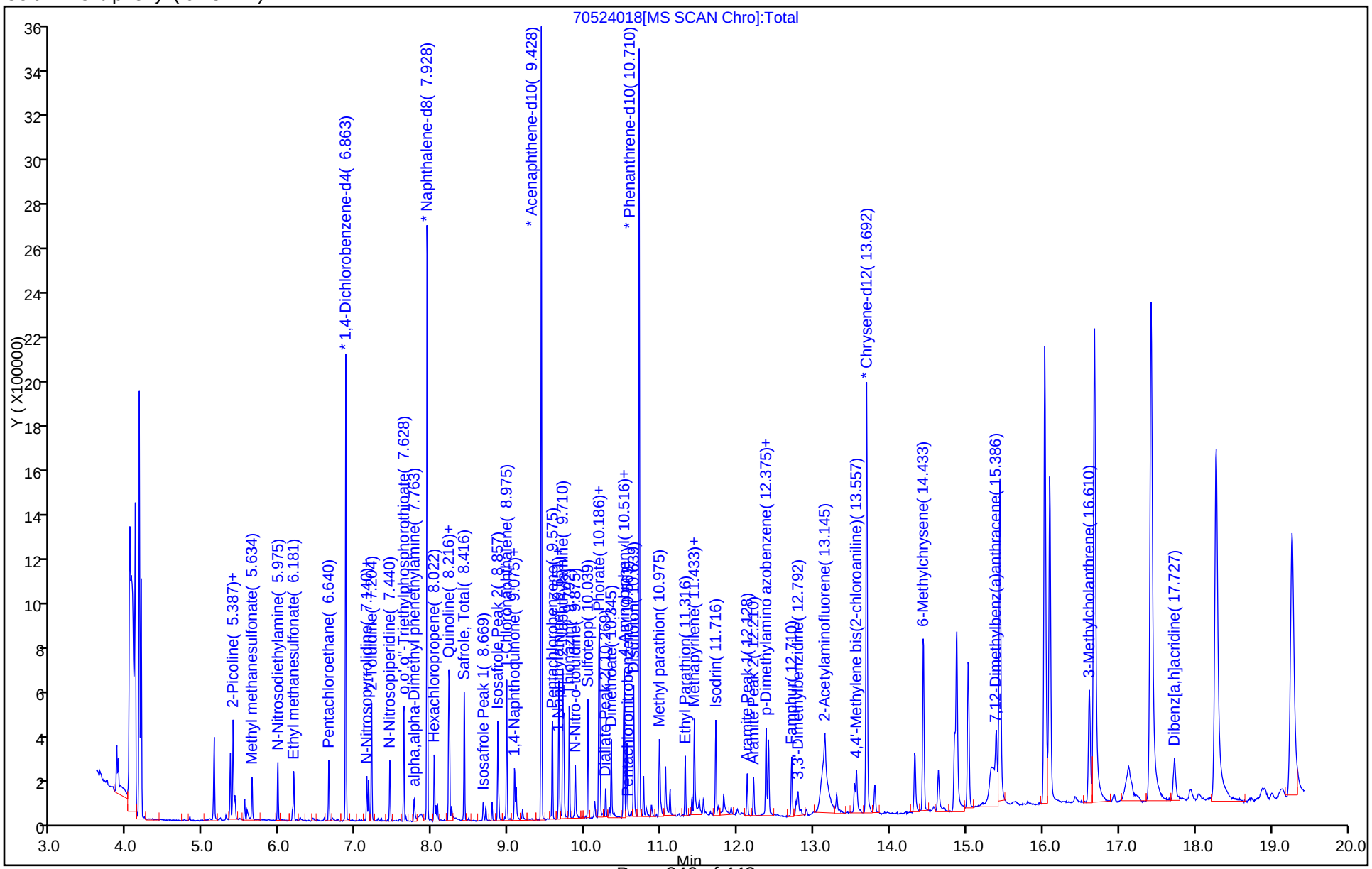
Lims ID: std3 l2lvi Worklist Smp#: 18

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 18

Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

Column: 5% phenyl (0.18 mm)



TestAmerica Canton

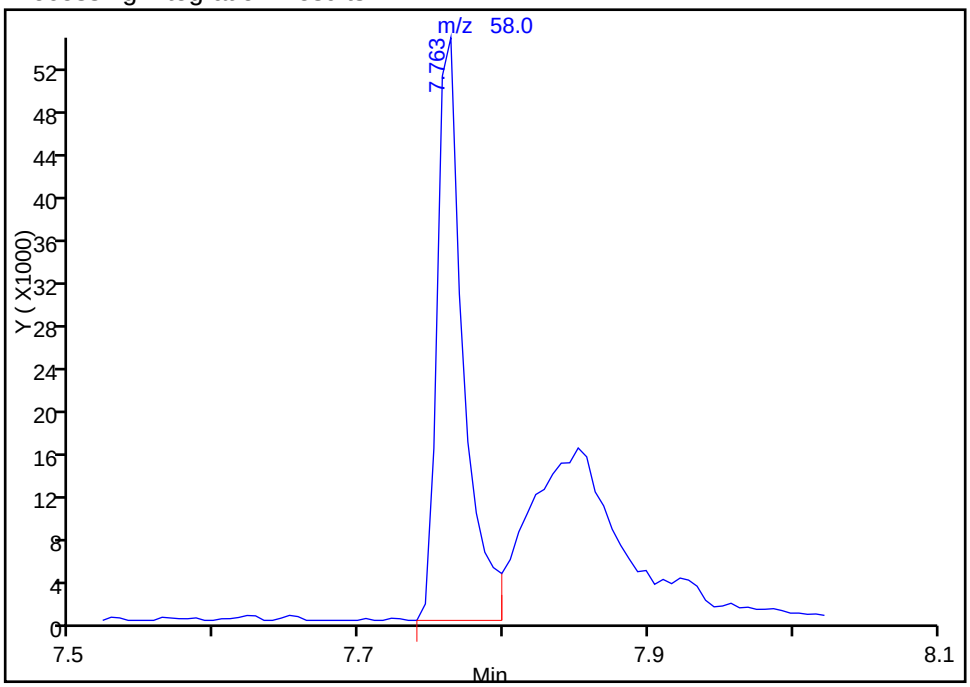
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524018.D
Injection Date: 24-May-2017 15:11:30 Instrument ID: A4AG2
Lims ID: std3 l2lvi
Client ID:
Operator ID: ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL
Column: 5% phenyl (0.18 mm) Detector MS SCAN

71 alpha,alpha-Dimethyl phenethylamine, CAS: 122-09-8

Signal: 1

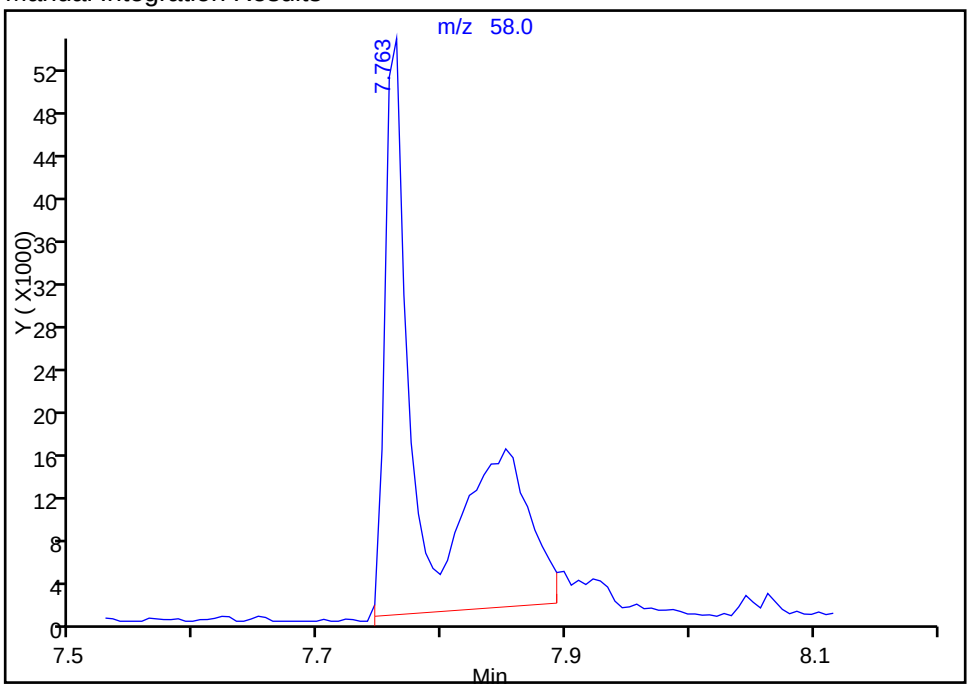
Processing Integration Results

RT: 7.76
Area: 69361
Amount: 95.825414
Amount Units: ng/ml



Manual Integration Results

RT: 7.76
Area: 119979
Amount: 94.881359
Amount Units: ng/ml



Reviewer: hulat, 25-May-2017 05:33:19
Audit Action: Manually Integrated Audit Reason: Poor chromatography

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D
Lims ID: std2 l2lvi
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 24-May-2017 15:35:30 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-019
Misc. Info.: STD2 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 05:50:28 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 05:34:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	252359	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.934	0.000	100	1065378	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	632380	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	97	1032200	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	872188	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	793423	400.0	400.0	
31 2-Picoline	93	5.351	5.346	0.005	96	37408	50.0	50.0	
32 N-Nitrosomethylethylamine	88		5.410				ND	ND	
14 Acrylamide	71		5.575				ND	ND	
34 Methyl methanesulfonate	80	5.634	5.634	0.000	89	26085	50.0	49.4	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	93	21535	50.0	51.0	
37 Ethyl methanesulfonate	79	6.187	6.181	0.006	98	30662	50.0	49.0	
46 Pentachloroethane	167	6.645	6.640	0.005	91	13399	50.0	48.7	
56 N-Nitrosopyrrolidine	100	7.139	7.140	-0.001	88	16912	50.0	41.2	
59 N-Nitrosomorpholine	56	7.163	7.163	0.000	96	25978	50.0	46.2	
60 2-Toluidine	106	7.204	7.204	0.000	97	64136	50.0	48.5	
63 N-Nitrosopiperidine	114	7.445	7.439	0.006	80	20281	50.0	48.4	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	87	21688	50.0	49.7	
71 alpha,alpha-Dimethyl phene	58		7.751				ND	ND	
77 Hexachloropropene	213	8.028	8.028	0.000	93	18352	50.0	42.5	
82 N-Nitrosodi-n-butylamine	84	8.216	8.216	0.000	90	27923	50.0	50.0	
81 Quinoline	129	8.222	8.222	0.000	97	70441	50.0	46.2	
84 p-Phenylene diamine	108		8.251				ND	ND	
92 Safrole, Total	162	8.416	8.416	0.000	90	31077	50.0	46.8	
95 Isosafrole Peak 1	162	8.669	8.663	0.006	85	5079	41.5	36.3	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	90	25124	8.50	7.22	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	99	67306	50.0	45.5	
102 1,4-Naphthoquinone	158	9.081	9.081	0.000	88	15399	50.0	33.1	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	92	5781	50.0	65.6	
114 Pentachlorobenzene	250	9.575	9.575	0.000	96	27987	50.0	45.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
117 1-Naphthylamine	143	9.657	9.657	0.000	97	54973	50.0	40.3	
116 2,3,5,6-Tetrachlorophenol	232	9.657	9.657	0.000	53	8751	50.0	39.7	
119 2-Naphthylamine	143	9.722	9.722	0.000	96	55626	50.0	39.2	
121 Thionazin	97	9.792	9.792	0.000	79	19057	50.0	48.4	
123 N-Nitro-o-toluidine	152	9.875	9.875	0.000	94	13363	50.0	57.8	
132 Sulfotepp	202	10.039	10.039	0.000	80	10135	50.0	44.7	
133 1,3,5-Trinitrobenzene	213		10.133				ND	ND	
135 Phenacetin	108	10.180	10.180	0.000	93	23584	50.0	32.6	
134 Diallate Peak 1	86	10.186	10.186	0.000	93	38849	43.0	45.8	
136 Phorate	121	10.192	10.198	-0.006	96	18149	50.0	47.6	
137 Diallate Peak 2	86	10.269	10.269	0.000	92	5892	7.00	6.38	
139 Dimethoate	87	10.345	10.345	0.000	93	24884	50.0	41.3	
142 4-Aminobiphenyl	169	10.504	10.504	0.000	89	58239	50.0	35.1	
144 Pronamide	173	10.516	10.516	0.000	92	32251	50.0	43.0	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	84	6558	50.0	38.4	
146 Disulfoton	88	10.639	10.639	0.000	98	44192	50.0	48.5	
147 Dinoseb	211		10.651				ND	ND	
152 Methyl parathion	109	10.975	10.975	0.000	93	19409	50.0	39.1	
155 Ethyl Parathion	97	11.316	11.316	0.000	84	10095	50.0	59.6	
156 4-Nitroquinoline-1-oxide	190		11.404				ND	ND	
157 Methapyrilene	58	11.433	11.433	0.000	97	55546	100.0	111.3	
158 Isodrin	66	11.716	11.716	0.000	88	15029	50.0	53.4	
162 Aramite Peak 1	185	12.127	12.127	0.000	84	5340	25.5	21.8	
163 Aramite Peak 2	185	12.210	12.210	0.000	87	6046	24.5	19.7	
164 p-Dimethylamino azobenzene	225	12.374	12.374	0.000	94	19545	50.0	42.5	
165 Chlorobenzilate	139	12.410	12.410	0.000	85	32176	50.0	42.0	
168 Famphur	218	12.710	12.716	-0.006	88	29966	50.0	53.4	
170 3,3'-Dimethylbenzidine	212	12.792	12.792	0.000	98	12931	50.0	66.1	
172 2-Acetylaminofluorene	181	13.145	13.151	-0.006	90	21653	50.0	62.8	
175 4,4'-Methylene bis(2-chlor	231	13.563	13.563	0.000	95	11821	50.0	32.9	
180 6-Methylchrysene	242	14.439	14.445	-0.006	98	148178	100.0	88.2	
182 7,12-Dimethylbenz(a)anthra	256	15.392	15.398	-0.006	91	29656	50.0	42.3	
186 3-Methylcholanthrene	268	16.609	16.621	-0.012	94	98873	100.0	80.9	
188 Dibenz[a,h]acridine	279	17.733	17.739	-0.006	91	73700	50.0	41.8	
S 194 Isosafrole	162				0		50.0	43.5	
S 195 Diallate	86				0		50.0	52.2	
S 196 Aramite, Total	185				0		50.0	41.4	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Reagents:

SMLIST2 L2 W_00013 Amount Added: 0.10 Units: mL

Report Date: 25-May-2017 05:50:29 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Injection Date: 24-May-2017 15:35:30 Instrument ID: A4AG2 Operator ID:

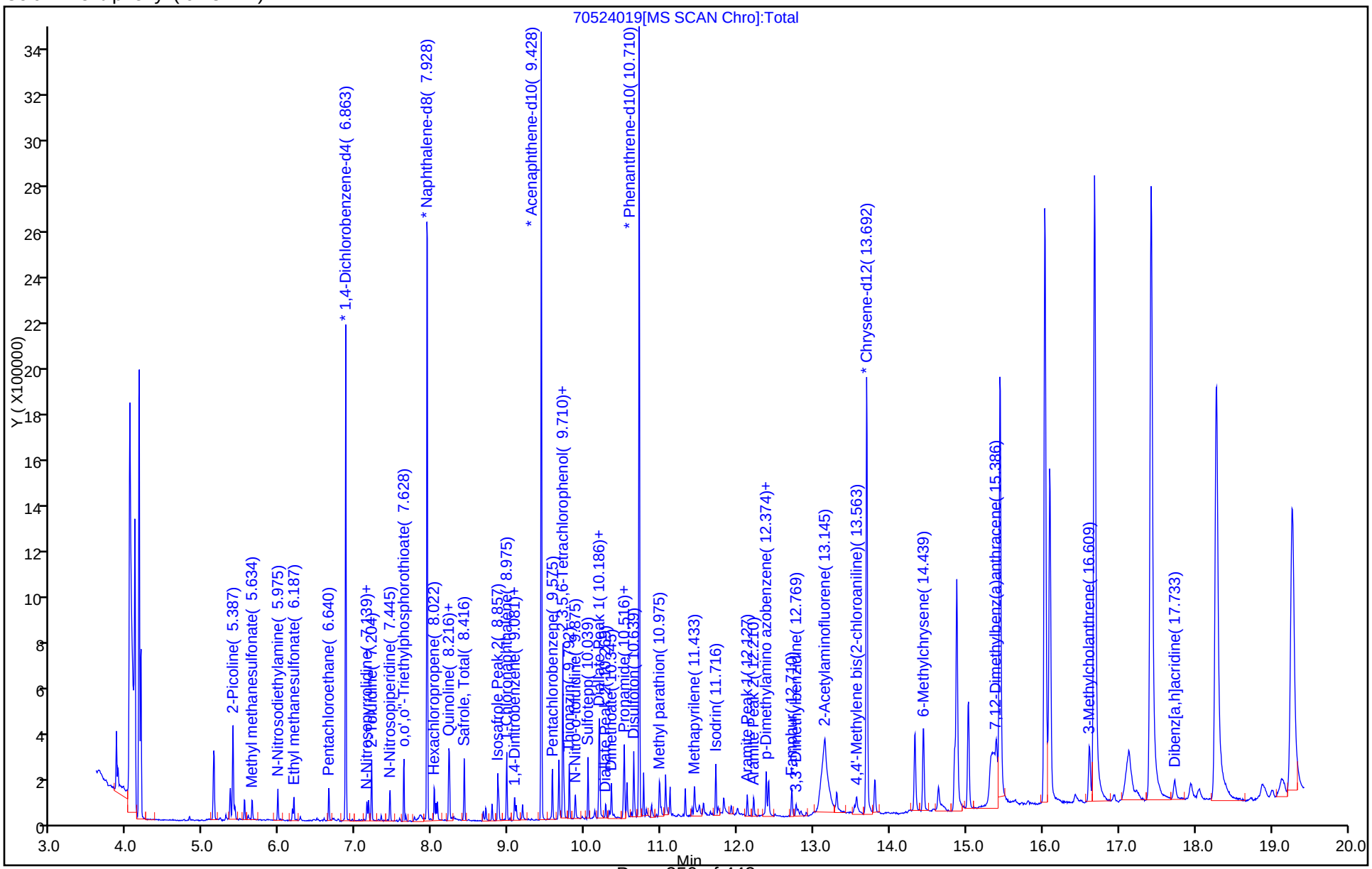
Lims ID: std2 l2lvi Worklist Smp#: 19

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 19

Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

Column: 5% phenyl (0.18 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: ICV 240-280161/11 Calibration Date: 05/24/2017 12:21

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70524011.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.2424	0.2556		1.05	1.00	5.5	30.0
N-Nitrosodimethylamine	Ave	0.8059	0.8536		1.06	1.00	5.9	30.0
Pyridine	Ave	0.7053	0.7756		2.20	2.00	10.0	30.0
Benzaldehyde	Qua		0.7544	0.0100	1.90	2.00	-4.9	30.0
Phenol	Ave	1.386	1.390	0.8000	1.00	1.00	0.3	30.0
Aniline	Ave	2.294	1.956		0.853	1.00	-14.7	30.0
Bis(2-chloroethyl)ether	Ave	1.463	1.399	0.7000	0.957	1.00	-4.3	30.0
n-Decane	Ave	1.386	1.422		1.03	1.00	2.6	30.0
2-Chlorophenol	Ave	1.212	1.204	0.8000	0.993	1.00	-0.7	30.0
1,3-Dichlorobenzene	Ave	1.467	1.502		1.02	1.00	2.4	30.0
1,4-Dichlorobenzene	Ave	1.510	1.516		1.00	1.00	0.4	30.0
Benzyl alcohol	Ave	0.9023	0.9185		1.02	1.00	1.8	30.0
1,2-Dichlorobenzene	Ave	1.448	1.436		0.992	1.00	-0.8	30.0
2-Methylphenol	Ave	1.192	1.194	0.7000	1.00	1.00	0.2	30.0
bis (2-chloroisopropyl) ether	Ave	2.320	2.067		0.891	1.00	-10.9	30.0
Indene	Ave	2.499	2.318		1.86	2.00	-7.2	30.0
3 & 4 Methylphenol	Ave	1.212	1.274		1.05	1.00	5.1	30.0
N-Nitrosodi-n-propylamine	Ave	1.105	1.033	0.5000	0.935	1.00	-6.5	30.0
Acetophenone	Ave	1.947	1.892	0.0100	0.972	1.00	-2.8	30.0
Hexachloroethane	Ave	0.5560	0.5383	0.3000	0.968	1.00	-3.2	30.0
Nitrobenzene	Ave	0.3477	0.3549	0.2000	1.02	1.00	2.1	30.0
Isophorone	Ave	0.6825	0.6697	0.4000	0.981	1.00	-1.9	30.0
2,4-Dimethylphenol	Ave	0.3213	0.2682	0.2000	0.835	1.00	-16.5	30.0
2-Nitrophenol	Ave	0.1514	0.1587	0.1000	1.05	1.00	4.8	30.0
Benzoic acid	Lin1		0.1164		1.80	2.00	-10.2	30.0
Bis(2-chloroethoxy)methane	Ave	0.3879	0.3908	0.3000	1.01	1.00	0.7	30.0
2,4-Dichlorophenol	Ave	0.2339	0.2677	0.2000	1.14	1.00	14.4	30.0
1,2,4-Trichlorobenzene	Ave	0.2949	0.2983		1.01	1.00	1.2	30.0
Naphthalene	Ave	1.025	1.006	0.7000	0.981	1.00	-1.9	30.0
4-Chloroaniline	Ave	0.4975	0.5219	0.0100	1.05	1.00	4.9	30.0
2,6-Dichlorophenol	Ave	0.2463	0.2633		1.07	1.00	6.9	30.0
Hexachlorobutadiene	Ave	0.1632	0.1632	0.0100	1.00	1.00	-0.0	30.0
Caprolactam	Ave	0.1003	0.0909	0.0100	1.81	2.00	-9.4	30.0
4-Chloro-3-methylphenol	Ave	0.2675	0.2784	0.2000	1.04	1.00	4.1	30.0
2-Methylnaphthalene	Ave	0.6898	0.6759	0.4000	0.980	1.00	-2.0	30.0
1-Methylnaphthalene	Ave	0.6322	0.6418		1.02	1.00	1.5	30.0
Hexachlorocyclopentadiene	Ave	0.3160	0.2613	0.0500	0.827	1.00	-17.3	30.0
1,2,4,5-Tetrachlorobenzene	Ave	0.4947	0.5159	0.0100	1.04	1.00	4.3	30.0
2,4,6-Trichlorophenol	Ave	0.2913	0.3191	0.2000	1.10	1.00	9.5	30.0
2,4,5-Trichlorophenol	Ave	0.2976	0.3366	0.2000	1.13	1.00	13.1	30.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: ICV 240-280161/11 Calibration Date: 05/24/2017 12:21

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70524011.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1'-Biphenyl	Ave	1.424	1.476	0.0100	1.04	1.00	3.7	30.0
2-Chloronaphthalene	Ave	1.082	1.100	0.8000	1.02	1.00	1.6	30.0
2-Nitroaniline	Ave	0.3153	0.3455	0.0100	1.10	1.00	9.6	30.0
Dimethyl phthalate	Ave	1.203	1.231	0.0100	1.02	1.00	2.3	30.0
1,3-Dinitrobenzene	Ave	0.1658	0.1867		1.13	1.00	12.6	30.0
2,6-Dinitrotoluene	Ave	0.2620	0.2863		1.09	1.00	9.3	30.0
Acenaphthylene	Ave	1.765	1.825	0.9000	1.03	1.00	3.4	30.0
3-Nitroaniline	Ave	0.2119	0.2309	0.0100	1.09	1.00	9.0	30.0
2,4-Dinitrophenol	Lin1		0.1118	0.0100	1.83	2.00	-8.6	30.0
4-Nitrophenol	Ave	0.1381	0.1530		2.22	2.00	10.8	30.0
Acenaphthene	Ave	1.125	1.183	0.9000	1.05	1.00	5.1	30.0
2,4-Dinitrotoluene	Ave	0.3141	0.3451	0.2000	1.10	1.00	9.8	30.0
Dibenzofuran	Ave	1.534	1.561	0.8000	1.02	1.00	1.7	30.0
2,3,4,6-Tetrachlorophenol	Ave	0.2071	0.2122	0.0100	1.02	1.00	2.4	30.0
Hexadecane	Ave	0.8451	0.7978		0.944	1.00	-5.6	30.0
Diethyl phthalate	Ave	1.213	1.205	0.0100	0.994	1.00	-0.6	30.0
4-Chlorophenyl phenyl ether	Ave	0.5730	0.5836	0.4000	1.02	1.00	1.9	30.0
4-Nitroaniline	Ave	0.2159	0.2155	0.0100	0.998	1.00	-0.2	30.0
Fluorene	Ave	1.248	1.298	0.9000	1.04	1.00	4.0	30.0
4,6-Dinitro-2-methylphenol	Lin1		0.1077	0.0100	1.84	2.00	-8.2	30.0
Diphenylamine	Ave	0.6669	0.7021		0.896	0.851	5.3	30.0
N-Nitrosodiphenylamine	Ave	0.5670	0.5975	0.0100	1.05	1.00	5.4	30.0
1,2-Diphenylhydrazine(as Azobenzene)	Ave	0.8635	0.9023		1.04	1.00	4.5	30.0
Azobenzene	Ave	0.8637	0.9023		1.04	1.00	4.5	30.0
4-Bromophenyl phenyl ether	Ave	0.2103	0.2199	0.1000	1.05	1.00	4.6	30.0
Atrazine	Ave	0.2068	0.2255	0.0100	2.18	2.00	9.0	30.0
Hexachlorobenzene	Ave	0.2230	0.2374	0.1000	1.06	1.00	6.4	30.0
n-Octadecane	Ave	0.5642	0.5800		1.03	1.00	2.8	30.0
Pentachlorophenol	Lin1		0.1169	0.0500	1.94	2.00	-3.1	30.0
Phenanthrene	Ave	1.085	1.085	0.7000	1.00	1.00	-0.0	30.0
Anthracene	Ave	1.105	1.100	0.7000	0.995	1.00	-0.5	30.0
Carbazole	Ave	0.9076	0.9378	0.0100	1.03	1.00	3.3	30.0
Di-n-butyl phthalate	Ave	1.358	1.371	0.0100	1.01	1.00	1.0	30.0
Fluoranthene	Ave	1.058	1.123	0.6000	1.06	1.00	6.1	30.0
Benzidine	Lin1		0.3224		1.50	2.00	-25.1	30.0
Pyrene	Ave	1.115	1.089	0.6000	0.976	1.00	-2.4	30.0
Butyl benzyl phthalate	Ave	0.5421	0.5508	0.0100	1.02	1.00	1.6	30.0
Bis(2-ethylhexyl) phthalate	Ave	0.7889	0.7776	0.0100	0.986	1.00	-1.4	30.0
3,3'-Dichlorobenzidine	Ave	0.3535	0.3521	0.0100	1.99	2.00	-0.4	30.0
Benzo[a]anthracene	Ave	1.056	1.056	0.8000	1.00	1.00	0.0	30.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: ICV 240-280161/11 Calibration Date: 05/24/2017 12:21

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70524011.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chrysene	Ave	1.017	1.000	0.7000	0.984	1.00	-1.6	30.0
Di-n-octyl phthalate	Ave	1.515	1.580	0.0100	1.04	1.00	4.3	30.0
Benzo[b]fluoranthene	Ave	1.211	1.198	0.7000	0.989	1.00	-1.1	30.0
Benzo[k]fluoranthene	Ave	1.261	1.284	0.7000	1.02	1.00	1.8	30.0
Benzo[a]pyrene	Ave	1.137	1.103	0.7000	0.971	1.00	-2.9	30.0
Indeno[1,2,3-cd]pyrene	Ave	1.380	1.420	0.5000	1.03	1.00	2.9	30.0
Dibenz(a,h)anthracene	Ave	1.179	1.240	0.4000	1.05	1.00	5.2	30.0
Benzo[g,h,i]perylene	Ave	1.043	1.076	0.5000	1.03	1.00	3.2	30.0
2-Fluorophenol (Surr)	Ave	0.7387	0.8055		1.09	1.00	9.0	30.0
Phenol-d5 (Surr)	Ave	1.277	1.315		1.03	1.00	3.0	30.0
Nitrobenzene-d5 (Surr)	Ave	0.3678	0.3964		1.08	1.00	7.8	30.0
2-Fluorobiphenyl (Surr)	Ave	1.255	1.355		1.08	1.00	8.0	30.0
2,4,6-Tribromophenol (Surr)	Ave	0.1206	0.1344		1.11	1.00	11.5	30.0
Terphenyl-d14 (Surr)	Ave	0.7588	0.7881		1.04	1.00	3.9	30.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524011.D
Lims ID: icv l1lvi
Client ID:
Sample Type: ICV
Inject. Date: 24-May-2017 12:21:30 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-011
Misc. Info.: ICV L1LVI
Operator ID: Instrument ID: A4AG2
Sublist:

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:01:30 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 12:59:14

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	97	287594	400.0	400.0	
* 2 Naphthalene-d8	136	7.934	7.934	0.000	100	1163336	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	94	645059	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	98	966088	400.0	400.0	
* 5 Chrysene-d12	240	13.698	13.698	0.000	97	984757	400.0	400.0	
* 6 Perylene-d12	264	16.098	16.092	0.006	97	821051	400.0	400.0	
$ 7 2-Fluorophenol	112	5.793	5.793	0.000	94	579107	1000.0	1090.4	
$ 8 Phenol-d5	99	6.504	6.498	0.006	98	945700	1000.0	1030.4	
$ 9 Nitrobenzene-d5	82	7.310	7.310	0.000	93	1152886	1000.0	1077.9	
$ 10 2-Fluorobiphenyl (Surr)	172	8.816	8.816	0.000	99	2185620	1000.0	1080.2	
$ 11 2,4,6-Tribromophenol	330	10.104	10.104	0.000	94	216736	1000.0	1114.8	
$ 12 Terphenyl-d14	244	12.222	12.222	0.000	100	1940316	1000.0	1038.7	
26 1,4-Dioxane	88	4.428	4.428	0.000	98	183775	1000.0	1054.6	
27 N-Nitrosodimethylamine	74	4.675	4.669	0.006	88	613757	1000.0	1059.3	
28 Pyridine	79	4.740	4.734	0.006	88	1115342	2000.0	2199.3	
42 Benzaldehyde	77	6.504	6.498	0.006	92	1084841	2000.0	1902.8	
43 Phenol	94	6.516	6.510	0.006	99	999684	1000.0	1002.9	
44 Aniline	93	6.581	6.581	0.000	97	1406515	1000.0	852.8	
45 Bis(2-chloroethyl)ether	93	6.604	6.598	0.006	94	1005861	1000.0	956.5	
244 n-Decane	57	6.687	6.687	0.000	93	1022292	1000.0	1025.7	
47 2-Chlorophenol	128	6.693	6.692	0.001	95	865869	1000.0	993.5	
48 1,3-Dichlorobenzene	146	6.828	6.822	0.006	98	1080106	1000.0	1024.3	
49 1,4-Dichlorobenzene	146	6.881	6.875	0.006	93	1089680	1000.0	1003.6	
50 Benzyl alcohol	108	6.940	6.940	0.000	92	660365	1000.0	1017.9	
52 2-Methylphenol	108	7.016	7.010	0.006	88	858516	1000.0	1002.1	
51 1,2-Dichlorobenzene	146	7.010	7.010	0.000	94	1032519	1000.0	992.0	
54 2,2'-oxybis[1-chloropropan	45	7.045	7.045	0.000	92	1486447	1000.0	891.3	
53 Indene	115	7.081	7.081	0.000	90	3332929	2000.0	1855.1	
55 3 & 4 Methylphenol	108	7.134	7.134	0.000	93	916063	1000.0	1051.2	
57 N-Nitrosodi-n-propylamine	70	7.151	7.151	0.000	92	742643	1000.0	934.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.169	7.169	0.000	95	1360014	1000.0	971.6	
61 Hexachloroethane	117	7.304	7.304	0.000	92	387056	1000.0	968.3	
62 Nitrobenzene	77	7.328	7.322	0.006	90	1032208	1000.0	1020.7	
64 Isophorone	82	7.510	7.510	0.000	98	1947566	1000.0	981.2	
66 2,4-Dimethylphenol	107	7.581	7.581	0.000	95	780083	1000.0	834.8	
65 2-Nitrophenol	139	7.592	7.592	0.000	97	461465	1000.0	1048.3	
70 Benzoic acid	122	7.634	7.634	0.000	90	677166	2000.0	1796.3	
69 Bis(2-chloroethoxy)methane	93	7.657	7.657	0.000	99	1136427	1000.0	1007.3	
72 2,4-Dichlorophenol	162	7.787	7.787	0.000	96	778442	1000.0	1144.1	
73 1,2,4-Trichlorobenzene	180	7.875	7.875	0.000	94	867651	1000.0	1011.7	
74 Naphthalene	128	7.951	7.951	0.000	98	2924414	1000.0	981.4	
75 4-Chloroaniline	127	7.963	7.963	0.000	96	1517711	1000.0	1049.0	
76 2,6-Dichlorophenol	162	7.981	7.981	0.000	97	765776	1000.0	1069.1	
78 Hexachlorobutadiene	225	8.039	8.039	0.000	97	474540	1000.0	999.6	
83 Caprolactam	113	8.245	8.245	0.000	77	528754	2000.0	1812.1	
85 4-Chloro-3-methylphenol	107	8.339	8.339	0.000	96	809801	1000.0	1041.0	
86 2-Methylnaphthalene	142	8.528	8.528	0.000	92	1965727	1000.0	979.8	
87 1-Methylnaphthalene	142	8.616	8.616	0.000	93	1866448	1000.0	1015.1	
89 Hexachlorocyclopentadiene	237	8.663	8.663	0.000	98	421297	1000.0	826.6	
90 1,2,4,5-Tetrachlorobenzene	216	8.675	8.675	0.000	99	831940	1000.0	1042.8	
93 2,4,6-Trichlorophenol	196	8.751	8.751	0.000	94	514608	1000.0	1095.3	
94 2,4,5-Trichlorophenol	196	8.786	8.786	0.000	93	542874	1000.0	1131.1	
99 1,1'-Biphenyl	154	8.910	8.910	0.000	95	2380241	1000.0	1036.6	
100 2-Chloronaphthalene	162	8.951	8.951	0.000	97	1773320	1000.0	1016.2	
101 2-Nitroaniline	65	9.010	9.010	0.000	84	557117	1000.0	1095.7	
104 Dimethyl phthalate	163	9.128	9.128	0.000	98	1984754	1000.0	1022.9	
103 1,3-Dinitrobenzene	168	9.175	9.175	0.000	85	301022	1000.0	1126.0	
106 2,6-Dinitrotoluene	165	9.192	9.192	0.000	94	461626	1000.0	1092.7	
108 Acenaphthylene	152	9.310	9.310	0.000	98	2943487	1000.0	1033.9	
109 3-Nitroaniline	138	9.357	9.357	0.000	93	372369	1000.0	1089.9	
110 2,4-Dinitrophenol	184	9.439	9.439	0.000	84	360611	2000.0	1827.6	
112 4-Nitrophenol	109	9.451	9.451	0.000	92	493295	2000.0	2215.3	
111 Acenaphthene	153	9.457	9.457	0.000	95	1907011	1000.0	1051.4	
113 2,4-Dinitrotoluene	165	9.545	9.545	0.000	92	556473	1000.0	1098.5	
115 Dibenzofuran	168	9.598	9.598	0.000	96	2516747	1000.0	1017.2	
118 2,3,4,6-Tetrachlorophenol	232	9.692	9.692	0.000	75	342176	1000.0	1024.4	
248 Hexadecane	57	9.710	9.710	0.000	93	1286531	1000.0	944.0	
120 Diethyl phthalate	149	9.722	9.716	0.006	98	1943315	1000.0	993.8	
122 4-Chlorophenyl phenyl ethe	204	9.863	9.857	0.006	94	941100	1000.0	1018.5	
125 4-Nitroaniline	138	9.881	9.881	0.001	84	347461	1000.0	998.0	
124 Fluorene	166	9.898	9.898	0.000	95	2093069	1000.0	1039.6	
127 4,6-Dinitro-2-methylphenol	198	9.904	9.904	0.000	84	520102	2000.0	1835.4	
128 N-Nitrosodiphenylamine	169	9.957	9.951	0.006	63	1443043	1000.0	1053.8	
129 Diphenylamine	169	9.957	9.951	0.006	94	1443043	851.0	895.9	
130 1,2-Diphenylhydrazine	77	9.998	9.998	0.000	97	2179259	1000.0	1044.7	
131 Azobenzene	77	9.998	9.998	0.000	99	2179259	1000.0	1044.7	
138 4-Bromophenyl phenyl ether	248	10.286	10.286	0.000	68	530986	1000.0	1045.5	
141 Atrazine	200	10.375	10.375	0.000	94	1089063	2000.0	2180.7	
140 Hexachlorobenzene	284	10.386	10.386	0.000	94	573258	1000.0	1064.4	
245 n-Octadecane	57	10.492	10.492	0.000	92	1400725	1000.0	1027.9	
143 Pentachlorophenol	266	10.533	10.533	0.000	92	564482	2000.0	1938.4	
148 Phenanthrene	178	10.733	10.733	0.000	97	2619873	1000.0	999.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.775	10.775	0.000	98	2657174	1000.0	995.5	
150 Carbazole	167	10.892	10.892	0.000	96	2264919	1000.0	1033.2	
154 Di-n-butyl phthalate	149	11.116	11.116	0.000	100	3311847	1000.0	1009.7	
159 Fluoranthene	202	11.863	11.863	0.000	98	2712959	1000.0	1061.2	
160 Benzidine	184	11.945	11.945	0.000	99	1587547	2000.0	1497.4	
161 Pyrene	202	12.127	12.122	0.005	97	2679765	1000.0	976.3	
169 Butyl benzyl phthalate	149	12.757	12.757	0.000	98	1356120	1000.0	1016.1	
174 Bis(2-ethylhexyl) phthalat	149	13.533	13.533	0.000	98	1914451	1000.0	985.7	
177 3,3'-Dichlorobenzidine	252	13.580	13.580	0.000	74	1733867	2000.0	1992.5	
178 Benzo[a]anthracene	228	13.680	13.674	0.006	99	2599678	1000.0	1000.4	
179 Chrysene	228	13.739	13.739	0.000	97	2462668	1000.0	983.7	
181 Di-n-octyl phthalate	149	14.563	14.563	0.000	99	3243526	1000.0	1043.3	
183 Benzo[b]fluoranthene	252	15.427	15.427	0.000	98	2459285	1000.0	989.0	
184 Benzo[k]fluoranthene	252	15.474	15.468	0.006	99	2635939	1000.0	1018.5	
185 Benzo[a]pyrene	252	16.004	15.998	0.006	78	2264053	1000.0	970.5	
190 Indeno[1,2,3-cd]pyrene	276	18.304	18.298	0.006	99	2915083	1000.0	1029.3	
189 Dibenz(a,h)anthracene	278	18.309	18.309	0.000	91	2545279	1000.0	1051.6	
191 Benzo[g,h,i]perylene	276	18.968	18.968	0.000	96	2209005	1000.0	1031.9	

Reagents:

SMLIST1 SS W_00008 Amount Added: 0.10 Units: mL

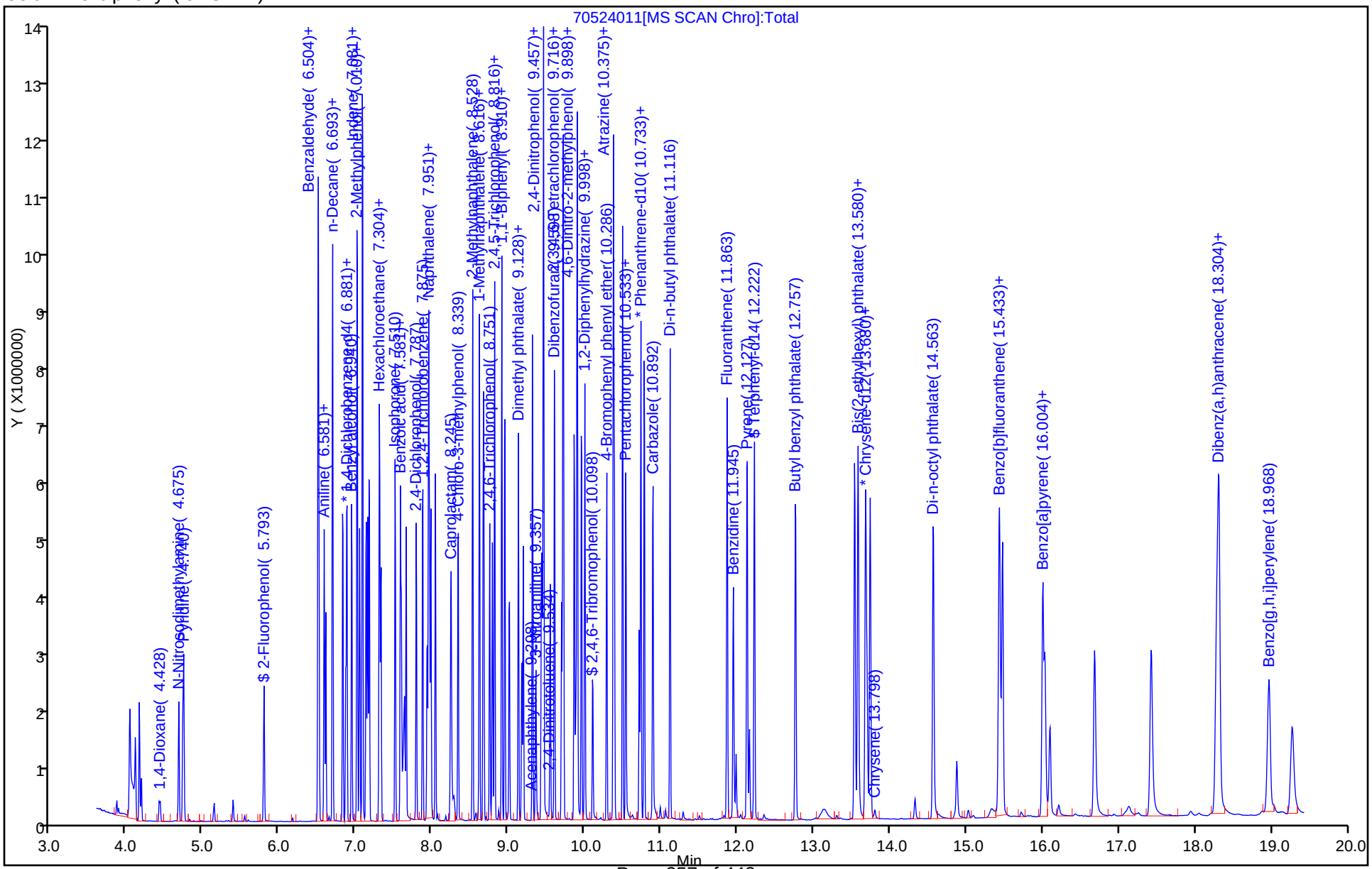
Report Date: 24-May-2017 13:01:34 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524011.D

Injection Date:	24-May-2017 12:21:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	icv l1lvi			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: ICV 240-280161/20 Calibration Date: 05/24/2017 16:00

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 12:45

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 15:35

Lab File ID: 70524020.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Picoline	Ave	1.186	1.187		1.00	1.00	0.0	30.0
N-Nitrosomethylethylamine	Ave	0.6437	0.6520		1.01	1.00	1.3	30.0
Acrylamide	Qua		0.2830		1.07	1.00	6.9	30.0
Methyl methanesulfonate	Ave	0.8368	0.8374		1.00	1.00	0.0	30.0
N-Nitrosodiethylamine	Ave	0.6694	0.6783		1.01	1.00	1.3	30.0
Ethyl methanesulfonate	Ave	0.9922	1.063		1.07	1.00	7.1	30.0
Pentachloroethane	Ave	0.4361	0.4500		1.03	1.00	3.2	30.0
N-Nitrosopyrrolidine	Ave	0.6502	0.7261		1.12	1.00	11.7	30.0
N-Nitrosomorpholine	Ave	0.8915	0.9887		1.11	1.00	10.9	30.0
2-Toluidine	Ave	2.094	2.256		1.08	1.00	7.7	30.0
N-Nitrosopiperidine	Ave	0.1575	0.1550		0.984	1.00	-1.6	30.0
o,o',o''-Triethylphosphorothioate	Ave	0.1637	0.1671		1.02	1.00	2.1	30.0
alpha,alpha-Dimethylphenethylamine	Ave	0.4774	0.3975		0.833	1.00	-16.7	30.0
Hexachloropropene	Ave	0.1621	0.1635	0.0100	1.01	1.00	0.8	30.0
N-Nitrosodi-n-butylamine	Ave	0.2097	0.2117		1.01	1.00	1.0	30.0
Quinoline	Ave	0.5720	0.6089		1.06	1.00	6.5	30.0
p-Phenylene diamine	Lin1		0.2016		0.912	1.00	-8.8	30.0
Safrole, Total	Ave	0.2495	0.2570		1.03	1.00	3.0	30.0
Isosafrole Peak 1	Ave	0.0886	0.4848		0.657	0.120	447.4*	30.0
Isosafrole Peak 2	Ave	2.200	0.4259		0.170	0.880	-80.6*	30.0
1-Chloronaphthalene	Ave	0.9359	0.9910		1.06	1.00	5.9	30.0
1,4-Naphthoquinone	Ave	0.2941	0.3369		1.15	1.00	14.6	30.0
1,4-Dinitrobenzene	Lin1		0.1378		0.911	1.00	-8.9	30.0
Pentachlorobenzene	Ave	0.3920	0.4026		1.03	1.00	2.7	30.0
1-Naphthylamine	Ave	0.8637	0.8284		0.959	1.00	-4.1	30.0
2,3,5,6-Tetrachlorophenol	Ave	0.1396	0.0962		0.689	1.00	-31.1*	30.0
2-Naphthylamine	Ave	0.8975	0.9459		1.05	1.00	5.4	30.0
Thionazin	Ave	0.2493	0.2571		1.03	1.00	3.2	30.0
N-Nitro-o-toluidine	Lin1		0.2884		0.962	1.00	-3.8	30.0
Sulfotepp	Ave	0.0878	0.0929		1.06	1.00	5.8	30.0
1,3,5-Trinitrobenzene	Lin1		0.0464		0.895	1.00	-10.5	30.0
Phenacetin	Ave	0.2804	0.3177		1.13	1.00	13.3	30.0
Diallate Peak 1	Ave	0.3285	0.3446		0.787	0.750	4.9	30.0
Phorate	Ave	0.1477	0.1582		1.07	1.00	7.2	30.0
Diallate Peak 2	Ave	0.3578	0.3453		0.241	0.250	-3.5	30.0
Dimethoate	Ave	0.2336	0.2577		1.10	1.00	10.3	30.0
4-Aminobiphenyl	Ave	0.6438	0.6812		1.06	1.00	5.8	30.0
Pronamide	Ave	0.2907	0.3097		1.07	1.00	6.6	30.0
Pentachloronitrobenzene	Ave	0.0663	0.0714		1.08	1.00	7.8	30.0
Disulfoton	Ave	0.3534	0.3689		1.04	1.00	4.4	30.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: ICV 240-280161/20 Calibration Date: 05/24/2017 16:00

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 12:45

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 15:35

Lab File ID: 70524020.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dinoseb	Lin1		0.1089		0.921	1.00	-7.9	30.0
Methyl parathion	Ave	0.1922	0.2260		1.18	1.00	17.6	30.0
Ethyl Parathion	Lin1		0.1351		0.988	1.00	-1.2	30.0
4-Nitroquinoline-1-oxide	Qua		0.0483		0.962	1.00	-3.8	30.0
Methapyrilene	Lin1		0.4992		2.07	2.00	3.4	30.0
Isodrin	Ave	0.1091	0.1121		1.03	1.00	2.8	30.0
Aramite Peak 1	Ave	0.1125	0.1186		0.538	0.510	5.4	30.0
Aramite Peak 2	Ave	0.1410	0.1540		0.535	0.490	9.2	30.0
p-Dimethylamino azobenzene	Ave	0.2110	0.2357		1.12	1.00	11.7	30.0
Ethyl 4,4'-Dichlorobenzilate	Ave	0.3513	0.3799		1.08	1.00	8.1	30.0
Famphur	Ave	0.2575	0.1550		0.602	1.00	-39.8*	30.0
3,3'-Dimethylbenzidine	Lin1		0.4370		0.833	1.00	-16.7	30.0
2-Acetylaminofluorene	Lin1		0.3967		0.914	1.00	-8.6	30.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.1646	0.1695		1.03	1.00	2.9	30.0
6-Methylchrysene	Ave	0.7701	0.7939		2.06	2.00	3.1	30.0
7,12-Dimethylbenz(a)anthracene	Ave	0.3533	0.3229		0.914	1.00	-8.6	30.0
3-Methylcholanthrene	Ave	0.6161	0.6392		2.07	2.00	3.7	30.0
Dibenz[a,h]acridine	Ave	0.8889	0.9349		1.05	1.00	5.2	30.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524020.D
Lims ID: icv l2lvi
Client ID:
Sample Type: ICV
Inject. Date: 24-May-2017 16:00:30 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065275-020
Misc. Info.: ICV L2LVI
Operator ID: Instrument ID: A4AG2
Sublist:

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 07:55:41 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 07:55:54

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.863	6.863	0.000	98	261345	400.0	400.0	
* 2 Naphthalene-d8	136	7.928	7.934	-0.006	100	1179437	400.0	400.0	
* 3 Acenaphthene-d10	164	9.428	9.428	0.000	92	669404	400.0	400.0	
* 4 Phenanthrene-d10	188	10.710	10.710	0.000	99	1023271	400.0	400.0	
* 5 Chrysene-d12	240	13.692	13.692	0.000	97	913432	400.0	400.0	
* 6 Perylene-d12	264	16.092	16.092	0.000	97	784125	400.0	400.0	
31 2-Picoline	93	5.346	5.346	0.000	96	775369	1000.0	1000.4	
32 N-Nitrosomethylethylamine	88	5.410	5.410	0.000	95	425957	1000.0	1012.8	
14 Acrylamide	71	5.575	5.575	0.000	69	184892	1000.0	1069.0	
34 Methyl methanesulfonate	80	5.634	5.634	0.000	88	547133	1000.0	1000.7	
36 N-Nitrosodiethylamine	102	5.975	5.975	0.000	95	443165	1000.0	1013.3	
37 Ethyl methanesulfonate	79	6.181	6.181	0.000	98	694496	1000.0	1071.3	
46 Pentachloroethane	167	6.640	6.640	0.000	91	294015	1000.0	1031.9	
56 N-Nitrosopyrrolidine	100	7.140	7.140	0.000	86	474373	1000.0	1116.7	
59 N-Nitrosomorpholine	56	7.163	7.163	0.000	92	646000	1000.0	1109.0	
60 2-Toluidine	106	7.204	7.204	0.000	97	1473676	1000.0	1077.1	
63 N-Nitrosopiperidine	114	7.440	7.439	0.001	81	456891	1000.0	984.0	
68 o,o',o''-Triethylphosphoro	198	7.628	7.628	0.000	83	492569	1000.0	1020.5	
71 alpha,alpha-Dimethyl phene	58	7.751	7.751	0.000	97	1172192	1000.0	832.8	
77 Hexachloropropene	213	8.028	8.028	0.000	91	481989	1000.0	1008.4	
82 N-Nitrosodi-n-butylamine	84	8.216	8.216	0.000	93	624306	1000.0	1009.6	
81 Quinoline	129	8.222	8.222	0.000	97	1795524	1000.0	1064.6	
84 p-Phenylene diamine	108	8.251	8.251	0.000	96	594527	1000.0	912.4	
92 Safrole, Total	162	8.416	8.416	0.000	90	757672	1000.0	1029.8	
95 Isosafrole Peak 1	162	8.663	8.663	0.000	89	97349	120.0	656.9	
91 Isosafrole Peak 2	162	8.857	8.857	0.000	92	627192	880.0	170.4	
247 1-Chloronaphthalene	162	8.975	8.975	0.000	98	1658394	1000.0	1058.9	
102 1,4-Naphthoquinone	158	9.075	9.081	-0.006	88	563868	1000.0	1145.7	
105 1,4-Dinitrobenzene	168	9.098	9.098	0.000	92	230633	1000.0	911.4	
114 Pentachlorobenzene	250	9.575	9.575	0.000	97	673756	1000.0	1027.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
116 2,3,5,6-Tetrachlorophenol	232	9.657	9.657	0.000	61	161039	1000.0	689.3	
117 1-Naphthylamine	143	9.657	9.657	0.000	99	1386288	1000.0	959.1	
119 2-Naphthylamine	143	9.722	9.722	0.000	97	1582885	1000.0	1053.8	
121 Thionazin	97	9.792	9.792	0.000	81	430326	1000.0	1031.6	
123 N-Nitro-o-toluidine	152	9.875	9.875	0.000	97	482674	1000.0	961.9	
132 Sulfotepp	202	10.039	10.039	0.000	80	237655	1000.0	1058.1	
133 1,3,5-Trinitrobenzene	213	10.134	10.133	0.001	84	118811	1000.0	894.7	
135 Phenacetin	108	10.181	10.180	0.001	94	812727	1000.0	1133.0	
134 Diallate Peak 1	86	10.186	10.186	0.000	96	661189	750.0	786.8	
136 Phorate	121	10.198	10.198	0.000	95	404778	1000.0	1071.5	
137 Diallate Peak 2	86	10.269	10.269	0.000	94	220843	250.0	241.3	
139 Dimethoate	87	10.345	10.345	0.000	94	659208	1000.0	1103.1	
142 4-Aminobiphenyl	169	10.504	10.504	0.000	89	1742726	1000.0	1058.1	
144 Pronamide	173	10.516	10.516	0.000	92	792373	1000.0	1065.6	
145 Pentachloronitrobenzene	237	10.551	10.551	0.000	85	182708	1000.0	1077.9	
146 Disulfoton	88	10.639	10.639	0.000	98	943627	1000.0	1043.7	
147 Dinoseb	211	10.651	10.651	0.000	96	278586	1000.0	921.4	
152 Methyl parathion	109	10.975	10.975	0.000	94	578156	1000.0	1175.9	
155 Ethyl Parathion	97	11.316	11.316	0.000	85	345470	1000.0	987.8	
156 4-Nitroquinoline-1-oxide	190	11.404	11.404	0.000	91	123481	1000.0	962.0	
157 Methapyrilene	58	11.433	11.433	0.000	99	2553924	2000.0	2067.6	
158 Isodrin	66	11.716	11.716	0.000	92	286875	1000.0	1028.2	
162 Aramite Peak 1	185	12.128	12.127	0.001	87	138142	510.0	537.7	
163 Aramite Peak 2	185	12.210	12.210	0.000	91	172261	490.0	534.9	
164 p-Dimethylamino azobenzene	225	12.375	12.374	0.001	94	538150	1000.0	1116.6	
165 Chlorobenzilate	139	12.410	12.410	0.000	87	867468	1000.0	1081.2	
168 Famphur	218	12.716	12.716	0.000	87	353887	1000.0	601.7	
170 3,3'-Dimethylbenzidine	212	12.792	12.792	0.000	99	997875	1000.0	832.6	
172 2-Acetylaminofluorene	181	13.151	13.151	0.000	95	905869	1000.0	914.0	
175 4,4'-Methylene bis(2-chlor	231	13.563	13.563	0.000	95	386991	1000.0	1029.3	
180 6-Methylchrysene	242	14.445	14.445	0.000	99	3626025	2000.0	2062.0	
182 7,12-Dimethylbenz(a)anthra	256	15.398	15.398	0.000	95	632971	1000.0	913.9	
186 3-Methylcholanthrene	268	16.627	16.621	0.006	92	2506048	2000.0	2074.9	
188 Dibenz[a,h]acridine	279	17.739	17.739	0.000	92	1832642	1000.0	1051.7	
S 194 Isosafrole	162				0		1000.0	827.3	
S 195 Diallate	86				0		1000.0	1028.1	
S 196 Aramite, Total	185				0		1000.0	1072.7	

Reagents:

SMLIST2 SS W_00011 Amount Added: 0.10 Units: mL

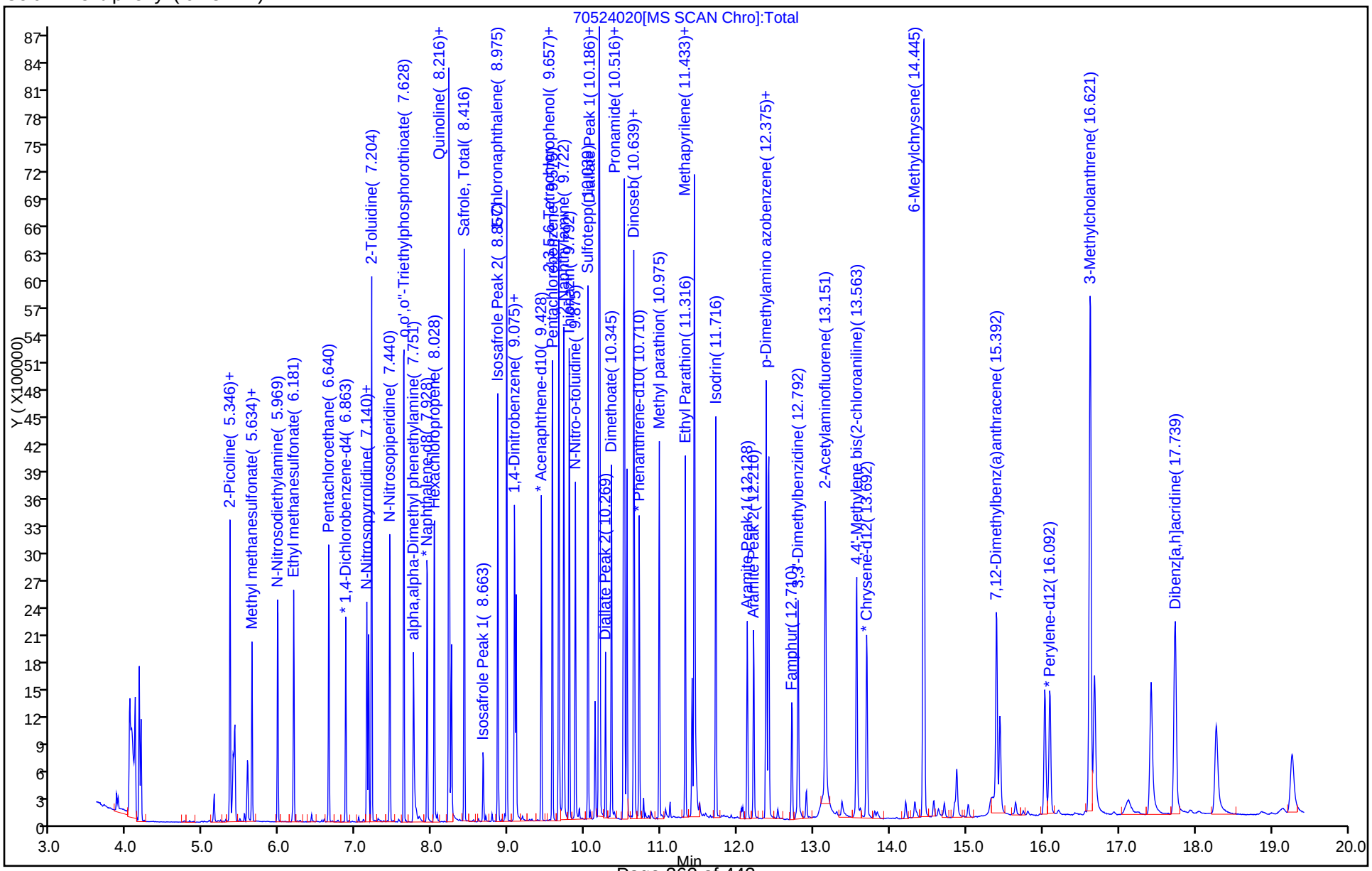
Report Date: 25-May-2017 07:55:56 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524020.D

Injection Date:	24-May-2017 16:00:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	icv l2lvi			Worklist Smp#:	20
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	20
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280357/2 Calibration Date: 05/25/2017 08:21

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70525002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.2424	0.1976		0.815	1.00	-18.5	20.0
N-Nitrosodimethylamine	Ave	0.8059	0.7946		0.986	1.00	-1.4	20.0
Pyridine	Ave	0.7053	0.5828		1.65	2.00	-17.4	20.0
Benzaldehyde	Qua		0.8406	0.0100	2.28	2.00	14.2	20.0
Phenol	Ave	1.386	1.146	0.8000	0.827	1.00	-17.3	20.0
Aniline	Ave	2.294	2.370		1.03	1.00	3.3	20.0
Bis(2-chloroethyl)ether	Ave	1.463	1.458	0.7000	0.997	1.00	-0.3	20.0
n-Decane	Ave	1.386	1.454		1.05	1.00	4.9	20.0
2-Chlorophenol	Ave	1.212	1.204	0.8000	0.993	1.00	-0.7	20.0
1,3-Dichlorobenzene	Ave	1.467	1.396		0.952	1.00	-4.8	20.0
1,4-Dichlorobenzene	Ave	1.510	1.433		0.949	1.00	-5.1	20.0
Benzyl alcohol	Ave	0.9023	0.8414		0.932	1.00	-6.8	20.0
1,2-Dichlorobenzene	Ave	1.448	1.370		0.947	1.00	-5.3	20.0
2-Methylphenol	Ave	1.192	1.051	0.7000	0.882	1.00	-11.8	20.0
bis (2-chloroisopropyl) ether	Ave	2.320	2.550		1.10	1.00	9.9	20.0
Indene	Ave	2.499	2.398		1.92	2.00	-4.0	20.0
3 & 4 Methylphenol	Ave	1.212	1.080		0.891	1.00	-10.9	20.0
N-Nitrosodi-n-propylamine	Ave	1.105	1.127	0.5000	1.02	1.00	1.9	20.0
Acetophenone	Ave	1.947	1.963	0.0100	1.01	1.00	0.8	20.0
Hexachloroethane	Ave	0.5560	0.5430	0.3000	0.977	1.00	-2.3	20.0
Nitrobenzene	Ave	0.3477	0.3578	0.2000	1.03	1.00	2.9	20.0
Isophorone	Ave	0.6825	0.6751	0.4000	0.989	1.00	-1.1	20.0
2,4-Dimethylphenol	Ave	0.3213	0.2777	0.2000	0.864	1.00	-13.6	20.0
2-Nitrophenol	Ave	0.1514	0.1623	0.1000	1.07	1.00	7.3	20.0
Benzoic acid	Lin1		0.1291		1.96	2.00	-1.8	20.0
Bis(2-chloroethoxy)methane	Ave	0.3879	0.3929	0.3000	1.01	1.00	1.3	20.0
2,4-Dichlorophenol	Ave	0.2339	0.2186	0.2000	0.935	1.00	-6.5	20.0
1,2,4-Trichlorobenzene	Ave	0.2949	0.3040		1.03	1.00	3.1	20.0
Naphthalene	Ave	1.025	0.9509	0.7000	0.928	1.00	-7.2	20.0
4-Chloroaniline	Ave	0.4975	0.5039	0.0100	1.01	1.00	1.3	20.0
2,6-Dichlorophenol	Ave	0.2463	0.2461		0.999	1.00	-0.0	20.0
Hexachlorobutadiene	Ave	0.1632	0.1867	0.0100	1.14	1.00	14.4	20.0
Caprolactam	Ave	0.1003	0.0931	0.0100	1.86	2.00	-7.2	20.0
4-Chloro-3-methylphenol	Ave	0.2675	0.2727	0.2000	1.02	1.00	2.0	20.0
2-Methylnaphthalene	Ave	0.6898	0.6795	0.4000	0.985	1.00	-1.5	20.0
1-Methylnaphthalene	Ave	0.6322	0.6165		0.975	1.00	-2.5	20.0
Hexachlorocyclopentadiene	Ave	0.3160	0.3419	0.0500	1.08	1.00	8.2	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.4947	0.5078	0.0100	1.03	1.00	2.6	20.0
2,4,6-Trichlorophenol	Ave	0.2913	0.3216	0.2000	1.10	1.00	10.4	20.0
2,4,5-Trichlorophenol	Ave	0.2976	0.3128	0.2000	1.05	1.00	5.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280357/2 Calibration Date: 05/25/2017 08:21

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70525002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1'-Biphenyl	Ave	1.424	1.347	0.0100	0.946	1.00	-5.4	20.0
2-Chloronaphthalene	Ave	1.082	1.041	0.8000	0.962	1.00	-3.8	20.0
2-Nitroaniline	Ave	0.3153	0.3278	0.0100	1.04	1.00	4.0	20.0
Dimethyl phthalate	Ave	1.203	1.178	0.0100	0.979	1.00	-2.1	20.0
1,3-Dinitrobenzene	Ave	0.1658	0.1863		1.12	1.00	12.4	20.0
2,6-Dinitrotoluene	Ave	0.2620	0.2667		1.02	1.00	1.8	20.0
Acenaphthylene	Ave	1.765	1.664	0.9000	0.943	1.00	-5.7	20.0
3-Nitroaniline	Ave	0.2119	0.2282	0.0100	1.08	1.00	7.7	20.0
2,4-Dinitrophenol	Lin1		0.1132	0.0100	1.85	2.00	-7.6	20.0
4-Nitrophenol	Ave	0.1381	0.1422		2.06	2.00	3.0	20.0
Acenaphthene	Ave	1.125	1.014	0.9000	0.902	1.00	-9.8	20.0
2,4-Dinitrotoluene	Ave	0.3141	0.3367	0.2000	1.07	1.00	7.2	20.0
Dibenzofuran	Ave	1.534	1.449	0.8000	0.945	1.00	-5.5	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.2071	0.2470	0.0100	1.19	1.00	19.3	20.0
Hexadecane	Ave	0.8451	0.8690		1.03	1.00	2.8	20.0
Diethyl phthalate	Ave	1.213	1.078	0.0100	0.889	1.00	-11.1	20.0
4-Chlorophenyl phenyl ether	Ave	0.5730	0.6035	0.4000	1.05	1.00	5.3	20.0
4-Nitroaniline	Ave	0.2159	0.2247	0.0100	1.04	1.00	4.1	20.0
Fluorene	Ave	1.248	1.168	0.9000	0.936	1.00	-6.4	20.0
4,6-Dinitro-2-methylphenol	Lin1		0.1002	0.0100	1.72	2.00	-14.1	20.0
Diphenylamine	Ave	0.6669	0.6267		0.799	0.850	-6.0	20.0
N-Nitrosodiphenylamine	Ave	0.5670	0.5328	0.0100	0.940	1.00	-6.0	20.0
1,2-Diphenylhydrazine(as Azobenzene)	Ave	0.8635	0.7919		0.917	1.00	-8.3	20.0
Azobenzene	Ave	0.8637	0.7926		0.918	1.00	-8.2	20.0
4-Bromophenyl phenyl ether	Ave	0.2103	0.2142	0.1000	1.02	1.00	1.9	20.0
Atrazine	Ave	0.2068	0.2133	0.0100	2.06	2.00	3.1	20.0
Hexachlorobenzene	Ave	0.2230	0.1999	0.1000	0.896	1.00	-10.4	20.0
n-Octadecane	Ave	0.5642	0.5875		1.04	1.00	4.1	20.0
Pentachlorophenol	Lin1		0.1043	0.0500	1.76	2.00	-12.1	20.0
Phenanthrene	Ave	1.085	0.996	0.7000	0.918	1.00	-8.2	20.0
Anthracene	Ave	1.105	1.042	0.7000	0.943	1.00	-5.7	20.0
Carbazole	Ave	0.9076	0.8971	0.0100	0.988	1.00	-1.2	20.0
Di-n-butyl phthalate	Ave	1.358	1.229	0.0100	0.905	1.00	-9.5	20.0
Fluoranthene	Ave	1.058	1.175	0.6000	1.11	1.00	11.0	20.0
Benzidine	Lin1		0.4062		1.84	2.00	-8.0	20.0
Pyrene	Ave	1.115	1.017	0.6000	0.913	1.00	-8.7	20.0
Butyl benzyl phthalate	Ave	0.5421	0.4923	0.0100	0.908	1.00	-9.2	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7889	0.6881	0.0100	0.872	1.00	-12.8	20.0
3,3'-Dichlorobenzidine	Ave	0.3535	0.3504	0.0100	1.98	2.00	-0.9	20.0
Benzo[a]anthracene	Ave	1.056	1.041	0.8000	0.987	1.00	-1.3	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280357/2 Calibration Date: 05/25/2017 08:21

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70525002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chrysene	Ave	1.017	1.001	0.7000	0.985	1.00	-1.5	20.0
Di-n-octyl phthalate	Ave	1.515	1.419	0.0100	0.937	1.00	-6.3	20.0
Benzo[b]fluoranthene	Ave	1.211	1.159	0.7000	0.957	1.00	-4.3	20.0
Benzo[k]fluoranthene	Ave	1.261	1.192	0.7000	0.946	1.00	-5.4	20.0
Benzo[a]pyrene	Ave	1.137	1.119	0.7000	0.984	1.00	-1.6	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.380	1.201	0.5000	0.871	1.00	-12.9	20.0
Dibenz(a,h)anthracene	Ave	1.179	1.015	0.4000	0.861	1.00	-13.9	20.0
Benzo[g,h,i]perylene	Ave	1.043	0.9915	0.5000	0.951	1.00	-4.9	20.0
2-Fluorophenol (Surr)	Ave	0.7387	0.7009		0.949	1.00	-5.1	20.0
Phenol-d5 (Surr)	Ave	1.277	1.028		0.805	1.00	-19.5	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3678	0.3636		0.989	1.00	-1.1	20.0
2-Fluorobiphenyl (Surr)	Ave	1.255	1.206		0.961	1.00	-3.9	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1206	0.1237		1.03	1.00	2.6	20.0
Terphenyl-d14 (Surr)	Ave	0.7588	0.6874		0.906	1.00	-9.4	20.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525002.D
Lims ID: std6 l1lvi
Client ID:
Sample Type: CCVIS
Inject. Date: 25-May-2017 08:21:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-002
Misc. Info.: STD6 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 11:12:42 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 08:46:49

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	97	244524	400.0	400.0	
* 2 Naphthalene-d8	136	7.929	7.929	0.000	100	1059173	400.0	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	92	632093	400.0	400.0	
* 4 Phenanthrene-d10	188	10.711	10.711	0.000	97	1007886	400.0	400.0	
* 5 Chrysene-d12	240	13.693	13.693	0.000	97	1155562	400.0	400.0	
* 6 Perylene-d12	264	16.087	16.087	0.000	98	980235	400.0	400.0	
$ 7 2-Fluorophenol	112	5.782	5.782	0.000	94	428487	1000.0	948.9	
$ 8 Phenol-d5	99	6.494	6.494	0.000	79	628315	1000.0	805.2	
$ 9 Nitrobenzene-d5	82	7.305	7.305	0.000	91	962747	1000.0	988.6	
$ 10 2-Fluorobiphenyl (Surr)	172	8.811	8.811	0.000	100	1906065	1000.0	961.3	
$ 11 2,4,6-Tribromophenol	330	10.099	10.099	0.000	92	195440	1000.0	1025.9	
$ 12 Terphenyl-d14	244	12.217	12.217	0.000	100	1985781	1000.0	905.9	
26 1,4-Dioxane	88	4.394	4.394	0.000	95	120822	1000.0	815.5	
27 N-Nitrosodimethylamine	74	4.647	4.647	0.000	92	485758	1000.0	986.0	
28 Pyridine	79	4.706	4.706	0.000	87	712533	2000.0	1652.5	
42 Benzaldehyde	77	6.494	6.494	0.000	96	1027749	2000.0	2284.3	E
43 Phenol	94	6.505	6.505	0.000	99	700490	1000.0	826.5	
44 Aniline	93	6.576	6.576	0.000	97	1448688	1000.0	1033.1	
45 Bis(2-chloroethyl)ether	93	6.594	6.594	0.000	92	891397	1000.0	997.0	
244 n-Decane	57	6.682	6.682	0.000	93	888852	1000.0	1048.9	
47 2-Chlorophenol	128	6.688	6.688	0.000	97	736029	1000.0	993.2	
48 1,3-Dichlorobenzene	146	6.817	6.817	0.000	97	853133	1000.0	951.6	
49 1,4-Dichlorobenzene	146	6.870	6.870	0.000	93	876219	1000.0	949.1	
50 Benzyl alcohol	108	6.935	6.935	0.000	92	514368	1000.0	932.5	
51 1,2-Dichlorobenzene	146	7.005	7.005	0.000	96	837657	1000.0	946.5	
52 2-Methylphenol	108	7.005	7.005	0.000	97	642736	1000.0	882.4	
54 2,2'-oxybis[1-chloropropan	45	7.041	7.041	0.000	94	1558554	1000.0	1099.1	
53 Indene	115	7.076	7.076	0.000	90	2932072	2000.0	1919.5	
55 3 & 4 Methylphenol	108	7.123	7.123	0.000	93	660502	1000.0	891.4	
57 N-Nitrosodi-n-propylamine	70	7.147	7.147	0.000	90	688795	1000.0	1019.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.164	7.164	0.000	94	1199888	1000.0	1008.2	
61 Hexachloroethane	117	7.299	7.299	0.000	91	331908	1000.0	976.6	
62 Nitrobenzene	77	7.317	7.317	0.000	91	947374	1000.0	1029.0	
64 Isophorone	82	7.505	7.505	0.000	99	1787643	1000.0	989.2	
66 2,4-Dimethylphenol	107	7.576	7.576	0.000	96	735435	1000.0	864.4	
65 2-Nitrophenol	139	7.588	7.588	0.000	97	429855	1000.0	1072.5	
70 Benzoic acid	122	7.623	7.623	0.000	91	683469	2000.0	1964.5	
69 Bis(2-chloroethoxy)methane	93	7.652	7.652	0.000	98	1040446	1000.0	1012.9	
72 2,4-Dichlorophenol	162	7.782	7.782	0.000	97	578910	1000.0	934.5	
73 1,2,4-Trichlorobenzene	180	7.870	7.870	0.000	93	804981	1000.0	1030.9	
74 Naphthalene	128	7.946	7.946	0.000	98	2517954	1000.0	928.1	
75 4-Chloroaniline	127	7.958	7.958	0.000	95	1334383	1000.0	1013.0	
76 2,6-Dichlorophenol	162	7.976	7.976	0.000	96	651702	1000.0	999.4	
78 Hexachlorobutadiene	225	8.035	8.035	0.000	96	494444	1000.0	1143.9	
83 Caprolactam	113	8.241	8.241	0.000	76	493015	2000.0	1855.8	
85 4-Chloro-3-methylphenol	107	8.335	8.335	0.000	96	722143	1000.0	1019.6	
86 2-Methylnaphthalene	142	8.523	8.523	0.000	93	1799361	1000.0	985.1	
87 1-Methylnaphthalene	142	8.611	8.611	0.000	93	1632500	1000.0	975.2	
89 Hexachlorocyclopentadiene	237	8.658	8.658	0.000	96	540345	1000.0	1081.9	
90 1,2,4,5-Tetrachlorobenzene	216	8.670	8.670	0.000	98	802425	1000.0	1026.5	
93 2,4,6-Trichlorophenol	196	8.746	8.746	0.000	93	508160	1000.0	1103.8	
94 2,4,5-Trichlorophenol	196	8.782	8.782	0.000	95	494275	1000.0	1051.0	
99 1,1'-Biphenyl	154	8.905	8.905	0.000	95	2128099	1000.0	945.8	
100 2-Chloronaphthalene	162	8.946	8.946	0.000	96	1645238	1000.0	962.1	
101 2-Nitroaniline	65	9.005	9.005	0.000	82	517967	1000.0	1039.6	
104 Dimethyl phthalate	163	9.123	9.123	0.000	99	1860853	1000.0	978.7	
103 1,3-Dinitrobenzene	168	9.170	9.170	0.000	85	294410	1000.0	1123.9	
106 2,6-Dinitrotoluene	165	9.188	9.188	0.000	94	421391	1000.0	1017.9	
108 Acenaphthylene	152	9.311	9.311	0.000	98	2629590	1000.0	942.6	
109 3-Nitroaniline	138	9.352	9.352	0.000	92	360562	1000.0	1077.0	
110 2,4-Dinitrophenol	184	9.435	9.435	0.000	85	357835	2000.0	1848.9	
111 Acenaphthene	153	9.452	9.452	0.000	95	1602373	1000.0	901.6	
112 4-Nitrophenol	109	9.452	9.452	0.000	92	449381	2000.0	2059.5	
113 2,4-Dinitrotoluene	165	9.540	9.540	0.000	92	532095	1000.0	1071.9	
115 Dibenzofuran	168	9.599	9.599	0.000	96	2290465	1000.0	944.7	
118 2,3,4,6-Tetrachlorophenol	232	9.693	9.693	0.000	74	390375	1000.0	1192.7	
248 Hexadecane	57	9.705	9.705	0.000	88	1373242	1000.0	1028.3	
120 Diethyl phthalate	149	9.717	9.717	0.000	99	1703283	1000.0	888.9	
122 4-Chlorophenyl phenyl ethe	204	9.858	9.858	0.000	91	953726	1000.0	1053.4	
125 4-Nitroaniline	138	9.876	9.876	0.000	83	355021	1000.0	1040.6	
124 Fluorene	166	9.893	9.893	0.000	95	1845796	1000.0	935.6	
127 4,6-Dinitro-2-methylphenol	198	9.899	9.899	0.000	85	504985	2000.0	1718.9	
129 Diphenylamine	169	9.952	9.952	0.000	95	1342517	850.2	798.9	
128 N-Nitrosodiphenylamine	169	9.952	9.952	0.000	63	1342517	1000.0	939.7	
130 1,2-Diphenylhydrazine	77	9.993	9.993	0.000	98	1995475	1000.0	916.9	
131 Azobenzene	77	9.993	9.993	0.000	99	1997149	1000.0	917.7	
138 4-Bromophenyl phenyl ether	248	10.282	10.282	0.000	68	539785	1000.0	1018.8	
141 Atrazine	200	10.370	10.370	0.000	94	1074742	2000.0	2062.8	
140 Hexachlorobenzene	284	10.382	10.382	0.000	92	503599	1000.0	896.3	
245 n-Octadecane	57	10.487	10.487	0.000	91	1480358	1000.0	1041.3	
143 Pentachlorophenol	266	10.535	10.535	0.000	91	525430	2000.0	1757.7	
148 Phenanthrene	178	10.729	10.729	0.000	97	2508564	1000.0	917.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.776	10.776	0.000	97	2625542	1000.0	942.8	
150 Carbazole	167	10.887	10.887	0.000	96	2260318	1000.0	988.4	
154 Di-n-butyl phthalate	149	11.117	11.117	0.000	100	3097439	1000.0	905.1	
159 Fluoranthene	202	11.864	11.864	0.000	97	2961115	1000.0	1110.3	
160 Benzidine	184	11.940	11.940	0.000	99	2346689	2000.0	1839.4	
161 Pyrene	202	12.123	12.123	0.000	98	2939204	1000.0	912.6	
169 Butyl benzyl phthalate	149	12.758	12.758	0.000	98	1422224	1000.0	908.2	
174 Bis(2-ethylhexyl) phthalat	149	13.528	13.528	0.000	97	1987731	1000.0	872.1	
177 3,3'-Dichlorobenzidine	252	13.576	13.576	0.000	74	2024650	2000.0	1982.7	
178 Benzo[a]anthracene	228	13.676	13.676	0.000	98	3008349	1000.0	986.6	
179 Chrysene	228	13.734	13.734	0.000	96	2892448	1000.0	984.6	
181 Di-n-octyl phthalate	149	14.558	14.558	0.000	99	3477324	1000.0	936.8	
183 Benzo[b]fluoranthene	252	15.422	15.422	0.000	97	2840304	1000.0	956.7	
184 Benzo[k]fluoranthene	252	15.470	15.470	0.000	99	2921695	1000.0	945.6	
185 Benzo[a]pyrene	252	15.993	15.993	0.000	77	2741616	1000.0	984.4	
190 Indeno[1,2,3-cd]pyrene	276	18.293	18.293	0.000	99	2943366	1000.0	870.5	
189 Dibenz(a,h)anthracene	278	18.299	18.299	0.000	93	2486992	1000.0	860.7	
191 Benzo[g,h,i]perylene	276	18.952	18.952	0.000	98	2429704	1000.0	950.7	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Reagents:

SMLIST1 L6 W_00009 Amount Added: 0.10 Units: mL

Report Date: 25-May-2017 11:12:44 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525002.D

Injection Date: 25-May-2017 08:21:30 Instrument ID: A4AG2 Operator ID:

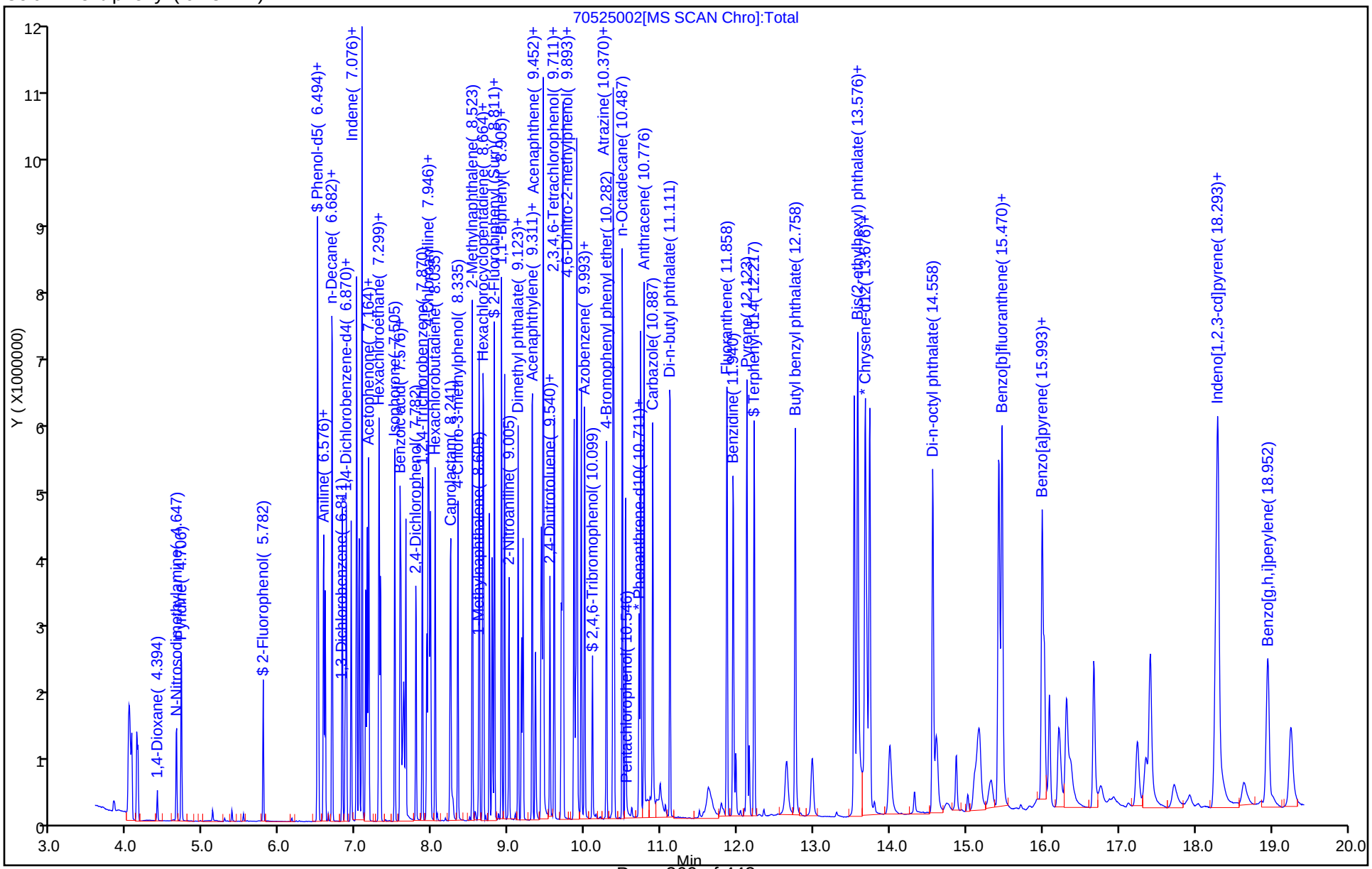
Lims ID: std6 l1lvi Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

Column: 5% phenyl (0.18 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280357/3 | Calibration Date: 05/25/2017 08:46

Instrument ID: A4AG2 | Calib Start Date: 05/24/2017 12:45

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) | Calib End Date: 05/24/2017 15:35

Lab File ID: 70525003.D | Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Picoline	Ave	1.186	1.004		0.846	1.00	-15.4	20.0
N-Nitrosomethylethylamine	Ave	0.6437	0.7092		1.10	1.00	10.2	20.0
Acrylamide	Qua		0.1747		0.756	1.00	-24.4*	20.0
Methyl methanesulfonate	Ave	0.8368	0.9366		1.12	1.00	11.9	20.0
N-Nitrosodiethylamine	Ave	0.6694	0.7340		1.10	1.00	9.7	20.0
Ethyl methanesulfonate	Ave	0.9922	1.160		1.17	1.00	16.9	20.0
Pentachloroethane	Ave	0.4361	0.4099		0.940	1.00	-6.0	20.0
N-Nitrosopyrrolidine	Ave	0.6502	0.7702		1.18	1.00	18.5	20.0
N-Nitrosomorpholine	Ave	0.8915	1.100		1.23	1.00	23.4*	20.0
2-Toluidine	Ave	2.094	2.242		1.07	1.00	7.1	20.0
N-Nitrosopiperidine	Ave	0.1575	0.1576		1.00	1.00	0.0	20.0
o,o',o''-Triethylphosphorothioate	Ave	0.1637	0.1702		1.04	1.00	3.9	20.0
alpha,alpha-Dimethylphenethylamine	Ave	0.4774	0.4814		1.01	1.00	0.8	20.0
Hexachloropropene	Ave	0.1621	0.1913	0.0100	1.18	1.00	18.0	20.0
N-Nitrosodi-n-butylamine	Ave	0.2097	0.2177		1.04	1.00	3.8	20.0
Quinoline	Ave	0.5720	0.5529		0.967	1.00	-3.3	20.0
p-Phenylene diamine	Lin1		0.2443		1.09	1.00	8.7	20.0
Safrole, Total	Ave	0.2495	0.2539		1.02	1.00	1.8	20.0
Isosafrole Peak 1	Ave	0.0886	0.0934		0.875	0.830	5.4	20.0
Isosafrole Peak 2	Ave	2.200	2.248		0.174	0.170	2.2	20.0
1-Chloronaphthalene	Ave	0.9359	0.9105		0.973	1.00	-2.7	20.0
1,4-Naphthoquinone	Ave	0.2941	0.3313		1.13	1.00	12.7	20.0
1,4-Dinitrobenzene	Lin1		0.1514		0.997	1.00	-0.3	20.0
Pentachlorobenzene	Ave	0.3920	0.3981		1.02	1.00	1.6	20.0
1-Naphthylamine	Ave	0.8637	0.9859		1.14	1.00	14.2	20.0
2,3,5,6-Tetrachlorophenol	Ave	0.1396	0.1799		1.29	1.00	28.8*	20.0
2-Naphthylamine	Ave	0.8975	0.9751		1.09	1.00	8.6	20.0
Thionazin	Ave	0.2493	0.2523		1.01	1.00	1.2	20.0
N-Nitro-o-toluidine	Lin1		0.2994		0.997	1.00	-0.3	20.0
Sulfotepp	Ave	0.0878	0.0926		1.05	1.00	5.4	20.0
1,3,5-Trinitrobenzene	Lin1		0.0529		1.01	1.00	0.8	20.0
Phenacetin	Ave	0.2804	0.2860		1.02	1.00	2.0	20.0
Diallate Peak 1	Ave	0.3285	0.3045		0.797	0.860	-7.3	20.0
Phorate	Ave	0.1477	0.1312		0.889	1.00	-11.1	20.0
Diallate Peak 2	Ave	0.3578	0.3373		0.132	0.140	-5.7	20.0
Dimethoate	Ave	0.2336	0.2401		1.03	1.00	2.8	20.0
4-Aminobiphenyl	Ave	0.6438	0.6830		1.06	1.00	6.1	20.0
Pronamide	Ave	0.2907	0.2859		0.984	1.00	-1.6	20.0
Pentachloronitrobenzene	Ave	0.0663	0.0798		1.20	1.00	20.5*	20.0
Disulfoton	Ave	0.3534	0.3498		0.990	1.00	-1.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280357/3 Calibration Date: 05/25/2017 08:46

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 12:45

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 15:35

Lab File ID: 70525003.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dinoseb	Lin1		0.1121		0.945	1.00	-5.5	20.0
Methyl parathion	Ave	0.1922	0.2046		1.06	1.00	6.4	20.0
Ethyl Parathion	Lin1		0.1242		0.911	1.00	-8.9	20.0
4-Nitroquinoline-1-oxide	Qua		0.0414		0.858	1.00	-14.2	20.0
Methapyrilene	Lin1		0.4868		2.02	2.00	0.9	20.0
Isodrin	Ave	0.1091	0.0939		0.861	1.00	-13.9	20.0
Aramite Peak 1	Ave	0.1125	0.1141		0.517	0.510	1.4	20.0
Aramite Peak 2	Ave	0.1410	0.1466		0.509	0.490	4.0	20.0
p-Dimethylamino azobenzene	Ave	0.2110	0.2113		1.00	1.00	0.1	20.0
Ethyl 4,4'-Dichlorobenzilate	Ave	0.3513	0.2955		0.841	1.00	-15.9	20.0
Famphur	Ave	0.2575	0.1911		0.742	1.00	-25.8*	20.0
3,3'-Dimethylbenzidine	Lin1		0.4887		0.925	1.00	-7.5	20.0
2-Acetylaminofluorene	Lin1		0.3789		0.875	1.00	-12.5	20.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.1646	0.1829		1.11	1.00	11.1	20.0
6-Methylchrysene	Ave	0.7701	0.7028		1.83	2.00	-8.7	20.0
7,12-Dimethylbenz(a)anthracene	Ave	0.3533	0.4620		1.31	1.00	30.8*	20.0
3-Methylcholanthrene	Ave	0.6161	0.5684		1.84	2.00	-7.8	20.0
Dibenz[a,h]acridine	Ave	0.8889	0.8326		0.937	1.00	-6.3	20.0

Report Date: 25-May-2017 11:12:48 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525003.D
Lims ID: std6 l2lvi
Client ID:
Sample Type: CCV
Inject. Date: 25-May-2017 08:46:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-003
Misc. Info.: STD6 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 11:12:46 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 10:43:03

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	97	253115	400.0	400.0	
* 2 Naphthalene-d8	136	7.923	7.923	0.000	100	1201518	400.0	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	92	706367	400.0	400.0	
* 4 Phenanthrene-d10	188	10.705	10.705	0.000	97	1186791	400.0	400.0	
* 5 Chrysene-d12	240	13.681	13.681	0.000	97	1249598	400.0	400.0	
* 6 Perylene-d12	264	16.081	16.081	0.000	98	1062954	400.0	400.0	
31 2-Picoline	93	5.329	5.329	0.000	96	635264	1000.0	846.3	
32 N-Nitrosomethylethylamine	88	5.388	5.388	0.000	96	448742	1000.0	1101.7	
14 Acrylamide	71	5.558	5.558	0.000	69	110554	1000.0	755.9	
34 Methyl methanesulfonate	80	5.617	5.617	0.000	88	592667	1000.0	1119.2	
36 N-Nitrosodiethylamine	102	5.958	5.958	0.000	90	464442	1000.0	1096.5	
37 Ethyl methanesulfonate	79	6.170	6.170	0.000	99	734069	1000.0	1169.2	
46 Pentachloroethane	167	6.635	6.635	0.000	91	259380	1000.0	940.0	
56 N-Nitrosopyrrolidine	100	7.135	7.135	0.000	87	487399	1000.0	1184.7	
59 N-Nitrosomorpholine	56	7.158	7.158	0.000	91	696242	1000.0	1234.2	
60 2-Toluidine	106	7.199	7.199	0.000	97	1418754	1000.0	1070.7	
63 N-Nitrosopiperidine	114	7.435	7.435	0.000	83	473339	1000.0	1000.7	
68 o,o',o''-Triethylphosphoro	198	7.623	7.623	0.000	81	511122	1000.0	1039.5	
71 alpha,alpha-Dimethyl phene	58	7.747	7.747	0.000	96	1446094	1000.0	1008.5	
77 Hexachloropropene	213	8.017	8.017	0.000	89	574557	1000.0	1179.9	
82 N-Nitrosodi-n-butylamine	84	8.211	8.211	0.000	94	654031	1000.0	1038.3	
81 Quinoline	129	8.217	8.217	0.000	96	1660818	1000.0	966.6	
84 p-Phenylene diamine	108	8.246	8.246	0.000	95	733799	1000.0	1086.9	
92 Safrole, Total	162	8.411	8.411	0.000	91	762720	1000.0	1017.6	
95 Isosafrole Peak 1	162	8.658	8.658	0.000	91	136825	830.0	875.0	
91 Isosafrole Peak 2	162	8.852	8.852	0.000	93	674854	170.0	173.7	
247 1-Chloronaphthalene	162	8.970	8.970	0.000	98	1607911	1000.0	972.9	
102 1,4-Naphthoquinone	158	9.070	9.070	0.000	87	585122	1000.0	1126.7	
105 1,4-Dinitrobenzene	168	9.093	9.093	0.000	92	267364	1000.0	997.0	
114 Pentachlorobenzene	250	9.570	9.570	0.000	98	703001	1000.0	1015.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
117 1-Naphthylamine	143	9.652	9.652	0.000	99	1741016	1000.0	1141.5	
116 2,3,5,6-Tetrachlorophenol	232	9.652	9.652	0.000	55	317624	1000.0	1288.4	
119 2-Naphthylamine	143	9.717	9.717	0.000	97	1721864	1000.0	1086.4	
121 Thionazin	97	9.788	9.788	0.000	81	445496	1000.0	1012.1	
123 N-Nitro-o-toluidine	152	9.870	9.870	0.000	97	528676	1000.0	997.3	
132 Sulfotepp	202	10.035	10.035	0.000	79	274634	1000.0	1054.2	
133 1,3,5-Trinitrobenzene	213	10.129	10.129	0.000	85	156936	1000.0	1007.9	
135 Phenacetin	108	10.176	10.176	0.000	95	848569	1000.0	1020.0	
134 Diallate Peak 1	86	10.182	10.182	0.000	97	776837	860.0	797.1	
136 Phorate	121	10.188	10.188	0.000	96	389320	1000.0	888.6	
137 Diallate Peak 2	86	10.264	10.264	0.000	94	140120	140.0	132.0	
139 Dimethoate	87	10.340	10.340	0.000	96	712382	1000.0	1027.8	
142 4-Aminobiphenyl	169	10.499	10.499	0.000	88	2026322	1000.0	1060.8	
144 Pronamide	173	10.511	10.511	0.000	91	848350	1000.0	983.7	
145 Pentachloronitrobenzene	237	10.546	10.546	0.000	86	236870	1000.0	1204.9	
146 Disulfoton	88	10.635	10.635	0.000	98	1037942	1000.0	989.8	
147 Dinoseb	211	10.646	10.646	0.000	99	332546	1000.0	944.5	
152 Methyl parathion	109	10.970	10.970	0.000	95	606926	1000.0	1064.3	
155 Ethyl Parathion	97	11.311	11.311	0.000	85	368467	1000.0	911.0	
156 4-Nitroquinoline-1-oxide	190	11.399	11.399	0.000	92	122723	1000.0	858.4	
157 Methapyrilene	58	11.429	11.429	0.000	97	2888493	2000.0	2017.9	
158 Isodrin	66	11.705	11.705	0.000	94	278595	1000.0	861.0	
162 Aramite Peak 1	185	12.123	12.123	0.000	95	181737	510.0	517.1	
163 Aramite Peak 2	185	12.205	12.205	0.000	96	224416	490.0	509.4	
164 p-Dimethylamino azobenzene	225	12.370	12.370	0.000	94	660229	1000.0	1001.4	
165 Chlorobenzilate	139	12.399	12.399	0.000	90	923019	1000.0	840.9	
168 Famphur	218	12.705	12.705	0.000	83	597027	1000.0	742.0	
170 3,3'-Dimethylbenzidine	212	12.787	12.787	0.000	99	1526632	1000.0	924.6	
172 2-Acetylaminofluorene	181	13.140	13.140	0.000	93	1183546	1000.0	874.7	
175 4,4'-Methylene bis(2-chlor	231	13.552	13.552	0.000	97	571232	1000.0	1110.6	
180 6-Methylchrysene	242	14.434	14.434	0.000	98	4391247	2000.0	1825.4	
182 7,12-Dimethylbenz(a)anthra	256	15.387	15.387	0.000	94	1227689	1000.0	1307.6	
186 3-Methylcholanthrene	268	16.611	16.611	0.000	91	3020722	2000.0	1844.9	
188 Dibenz[a,h]acridine	279	17.722	17.722	0.000	91	2212508	1000.0	936.6	
S 194 Isosafrole	162				0		1000.0	1048.7	
S 195 Diallate	86				0		1000.0	929.1	
S 196 Aramite, Total	185				0		1000.0	1026.5	

Reagents:

SMLIST2 L6 W_00013 Amount Added: 0.10 Units: mL

Report Date: 25-May-2017 11:12:48 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525003.D

Injection Date: 25-May-2017 08:46:30 Instrument ID: A4AG2 Operator ID:

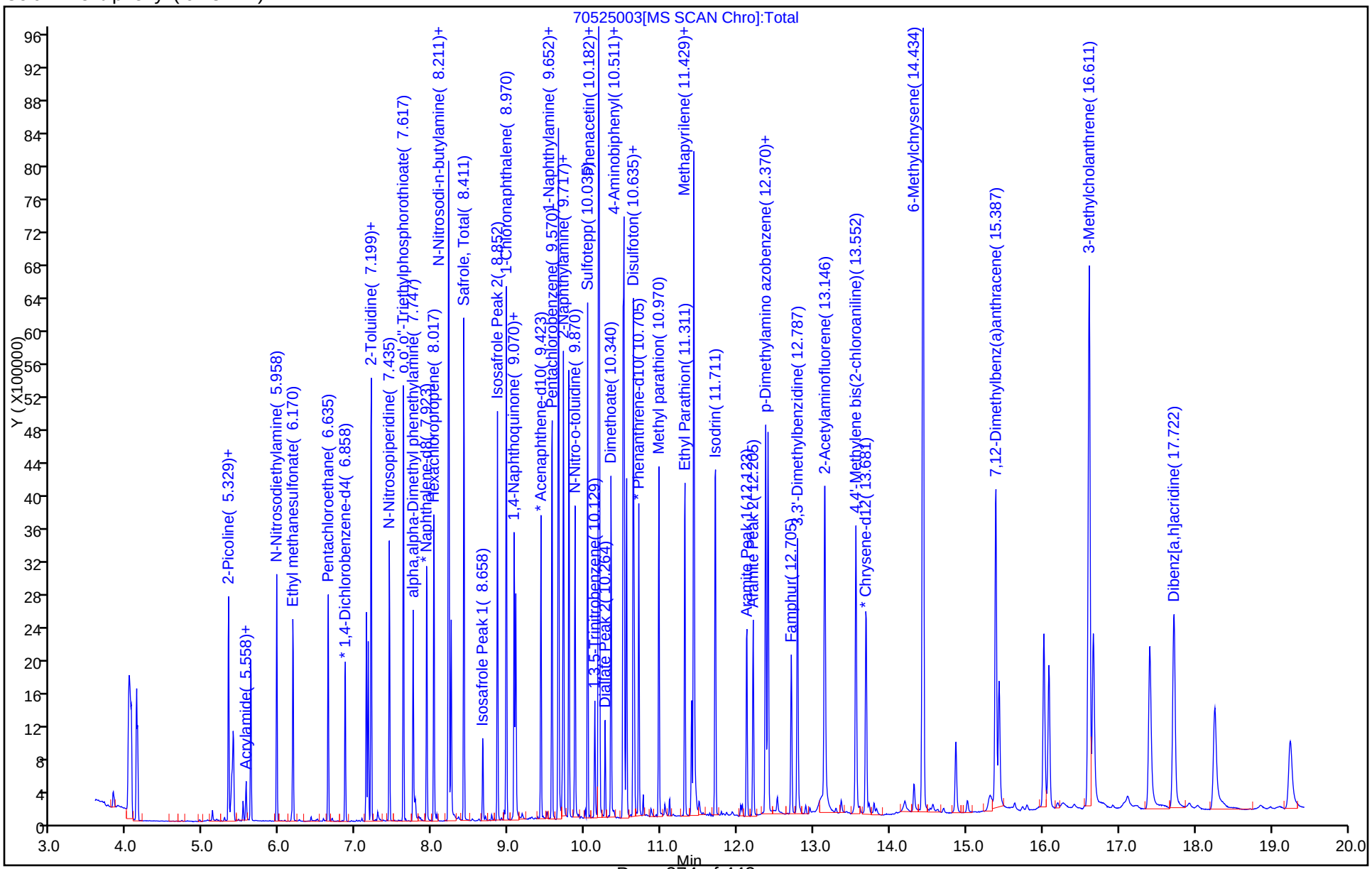
Lims ID: std6 l2lvi Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 3

Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

Column: 5% phenyl (0.18 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280762/2 Calibration Date: 05/30/2017 07:09

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70530002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.2424	0.2345		0.967	1.00	-3.3	20.0
N-Nitrosodimethylamine	Ave	0.8059	0.8697		1.08	1.00	7.9	20.0
Pyridine	Ave	0.7053	0.7526		2.13	2.00	6.7	20.0
Benzaldehyde	Qua		0.9191	0.0100	2.76	2.00	38.1*	20.0
Phenol	Ave	1.386	1.243	0.8000	0.897	1.00	-10.3	20.0
Aniline	Ave	2.294	2.220		0.968	1.00	-3.2	20.0
Bis(2-chloroethyl)ether	Ave	1.463	1.475	0.7000	1.01	1.00	0.8	20.0
2-Chlorophenol	Ave	1.212	1.214	0.8000	1.00	1.00	0.1	20.0
n-Decane	Ave	1.386	1.475		1.06	1.00	6.4	20.0
1,3-Dichlorobenzene	Ave	1.467	1.414		0.964	1.00	-3.6	20.0
1,4-Dichlorobenzene	Ave	1.510	1.442		0.955	1.00	-4.5	20.0
Benzyl alcohol	Ave	0.9023	0.7872		0.872	1.00	-12.8	20.0
1,2-Dichlorobenzene	Ave	1.448	1.382		0.954	1.00	-4.6	20.0
2-Methylphenol	Ave	1.192	1.061	0.7000	0.890	1.00	-11.0	20.0
bis (2-chloroisopropyl) ether	Ave	2.320	2.349		1.01	1.00	1.3	20.0
Indene	Ave	2.499	2.581		2.07	2.00	3.3	20.0
3 & 4 Methylphenol	Ave	1.212	1.015		0.837	1.00	-16.3	20.0
N-Nitrosodi-n-propylamine	Ave	1.105	1.131	0.5000	1.02	1.00	2.3	20.0
Acetophenone	Ave	1.947	2.032	0.0100	1.04	1.00	4.4	20.0
Hexachloroethane	Ave	0.5560	0.5574	0.3000	1.00	1.00	0.3	20.0
Nitrobenzene	Ave	0.3477	0.3823	0.2000	1.10	1.00	9.9	20.0
Isophorone	Ave	0.6825	0.6933	0.4000	1.02	1.00	1.6	20.0
2,4-Dimethylphenol	Ave	0.3213	0.3122	0.2000	0.972	1.00	-2.8	20.0
2-Nitrophenol	Ave	0.1514	0.1723	0.1000	1.14	1.00	13.8	20.0
Benzoic acid	Lin1		0.1538		2.29	2.00	14.7	20.0
Bis(2-chloroethoxy)methane	Ave	0.3879	0.3958	0.3000	1.02	1.00	2.0	20.0
2,4-Dichlorophenol	Ave	0.2339	0.2123	0.2000	0.908	1.00	-9.2	20.0
1,2,4-Trichlorobenzene	Ave	0.2949	0.2794		0.948	1.00	-5.2	20.0
Naphthalene	Ave	1.025	1.015	0.7000	0.990	1.00	-1.0	20.0
4-Chloroaniline	Ave	0.4975	0.5336	0.0100	1.07	1.00	7.2	20.0
2,6-Dichlorophenol	Ave	0.2463	0.2562		1.04	1.00	4.0	20.0
Hexachlorobutadiene	Ave	0.1632	0.1605	0.0100	0.983	1.00	-1.7	20.0
Caprolactam	Ave	0.1003	0.1035	0.0100	2.06	2.00	3.2	20.0
4-Chloro-3-methylphenol	Ave	0.2675	0.2765	0.2000	1.03	1.00	3.4	20.0
2-Methylnaphthalene	Ave	0.6898	0.6626	0.4000	0.961	1.00	-3.9	20.0
1-Methylnaphthalene	Ave	0.6322	0.6081		0.962	1.00	-3.8	20.0
Hexachlorocyclopentadiene	Ave	0.3160	0.3238	0.0500	1.02	1.00	2.4	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.4947	0.4876	0.0100	0.986	1.00	-1.4	20.0
2,4,6-Trichlorophenol	Ave	0.2913	0.3278	0.2000	1.13	1.00	12.5	20.0
2,4,5-Trichlorophenol	Ave	0.2976	0.3327	0.2000	1.12	1.00	11.8	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280762/2 Calibration Date: 05/30/2017 07:09

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70530002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1'-Biphenyl	Ave	1.424	1.394	0.0100	0.979	1.00	-2.1	20.0
2-Chloronaphthalene	Ave	1.082	1.043	0.8000	0.964	1.00	-3.6	20.0
2-Nitroaniline	Ave	0.3153	0.3757	0.0100	1.19	1.00	19.2	20.0
Dimethyl phthalate	Ave	1.203	1.162	0.0100	0.966	1.00	-3.4	20.0
1,3-Dinitrobenzene	Ave	0.1658	0.1997		1.20	1.00	20.5*	20.0
2,6-Dinitrotoluene	Ave	0.2620	0.2762		1.05	1.00	5.4	20.0
Acenaphthylene	Ave	1.765	1.753	0.9000	0.993	1.00	-0.7	20.0
3-Nitroaniline	Ave	0.2119	0.2264	0.0100	1.07	1.00	6.9	20.0
2,4-Dinitrophenol	Lin1		0.1369	0.0100	2.20	2.00	10.2	20.0
Acenaphthene	Ave	1.125	1.076	0.9000	0.957	1.00	-4.3	20.0
4-Nitrophenol	Ave	0.1381	0.1608		2.33	2.00	16.4	20.0
2,4-Dinitrotoluene	Ave	0.3141	0.3371	0.2000	1.07	1.00	7.3	20.0
Dibenzofuran	Ave	1.534	1.522	0.8000	0.992	1.00	-0.8	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.2071	0.2293	0.0100	1.11	1.00	10.7	20.0
Hexadecane	Ave	0.8451	0.8578		1.02	1.00	1.5	20.0
Diethyl phthalate	Ave	1.213	1.154	0.0100	0.951	1.00	-4.9	20.0
4-Chlorophenyl phenyl ether	Ave	0.5730	0.5839	0.4000	1.02	1.00	1.9	20.0
4-Nitroaniline	Ave	0.2159	0.2467	0.0100	1.14	1.00	14.3	20.0
Fluorene	Ave	1.248	1.232	0.9000	0.987	1.00	-1.3	20.0
4,6-Dinitro-2-methylphenol	Lin1		0.1155	0.0100	1.96	2.00	-2.1	20.0
Diphenylamine	Ave	0.6669	0.6649		0.848	0.850	-0.3	20.0
N-Nitrosodiphenylamine	Ave	0.5670	0.5653	0.0100	0.997	1.00	-0.3	20.0
1,2-Diphenylhydrazine(as Azobenzene)	Ave	0.8635	0.8919		1.03	1.00	3.3	20.0
Azobenzene	Ave	0.8637	0.8919		1.03	1.00	3.3	20.0
4-Bromophenyl phenyl ether	Ave	0.2103	0.2034	0.1000	0.967	1.00	-3.3	20.0
Atrazine	Ave	0.2068	0.2042	0.0100	1.98	2.00	-1.2	20.0
Hexachlorobenzene	Ave	0.2230	0.1977	0.1000	0.886	1.00	-11.4	20.0
n-Octadecane	Ave	0.5642	0.5744		1.02	1.00	1.8	20.0
Pentachlorophenol	Lin1		0.1108	0.0500	1.85	2.00	-7.4	20.0
Phenanthrene	Ave	1.085	1.017	0.7000	0.937	1.00	-6.3	20.0
Anthracene	Ave	1.105	1.055	0.7000	0.954	1.00	-4.6	20.0
Carbazole	Ave	0.9076	0.9425	0.0100	1.04	1.00	3.8	20.0
Di-n-butyl phthalate	Ave	1.358	1.297	0.0100	0.955	1.00	-4.5	20.0
Fluoranthene	Ave	1.058	1.141	0.6000	1.08	1.00	7.8	20.0
Benzidine	Lin1		0.4679		2.09	2.00	4.6	20.0
Pyrene	Ave	1.115	1.061	0.6000	0.952	1.00	-4.8	20.0
Butyl benzyl phthalate	Ave	0.5421	0.5356	0.0100	0.988	1.00	-1.2	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7889	0.7597	0.0100	0.963	1.00	-3.7	20.0
3,3'-Dichlorobenzidine	Ave	0.3535	0.3630	0.0100	2.05	2.00	2.7	20.0
Benzo[a]anthracene	Ave	1.056	1.006	0.8000	0.953	1.00	-4.7	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280762/2 Calibration Date: 05/30/2017 07:09

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 08:41

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 11:56

Lab File ID: 70530002.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chrysene	Ave	1.017	0.9785	0.7000	0.962	1.00	-3.8	20.0
Di-n-octyl phthalate	Ave	1.515	1.526	0.0100	1.01	1.00	0.8	20.0
Benzo[b]fluoranthene	Ave	1.211	1.133	0.7000	0.935	1.00	-6.5	20.0
Benzo[k]fluoranthene	Ave	1.261	1.184	0.7000	0.939	1.00	-6.1	20.0
Benzo[a]pyrene	Ave	1.137	1.114	0.7000	0.980	1.00	-2.0	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.380	1.235	0.5000	0.895	1.00	-10.5	20.0
Dibenz(a,h)anthracene	Ave	1.179	1.051	0.4000	0.892	1.00	-10.8	20.0
Benzo[g,h,i]perylene	Ave	1.043	1.018	0.5000	0.976	1.00	-2.4	20.0
2-Fluorophenol (Surr)	Ave	0.7387	0.7836		1.06	1.00	6.1	20.0
Phenol-d5 (Surr)	Ave	1.277	1.150		0.901	1.00	-9.9	20.0
Nitrobenzene-d5 (Surr)	Ave	0.3678	0.3945		1.07	1.00	7.3	20.0
2-Fluorobiphenyl (Surr)	Ave	1.255	1.241		0.989	1.00	-1.1	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1206	0.1204		0.999	1.00	-0.1	20.0
Terphenyl-d14 (Surr)	Ave	0.7588	0.6723		0.886	1.00	-11.4	20.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530002.D
Lims ID: std6 l1lvi
Client ID:
Sample Type: CCVIS
Inject. Date: 30-May-2017 07:09:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065431-002
Misc. Info.: STD6 L1LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub20

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:28 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 30-May-2017 07:43:02

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.828	6.828	0.000	97	190517	400.0	400.0	
* 2 Naphthalene-d8	136	7.904	7.904	0.000	100	812383	400.0	400.0	
* 3 Acenaphthene-d10	164	9.398	9.398	0.000	92	452389	400.0	400.0	
* 4 Phenanthrene-d10	188	10.681	10.681	0.000	97	697724	400.0	400.0	
* 5 Chrysene-d12	240	13.645	13.645	0.000	97	758815	400.0	400.0	
* 6 Perylene-d12	264	16.033	16.033	0.000	98	666191	400.0	400.0	
$ 7 2-Fluorophenol	112	5.746	5.746	0.000	94	373201	1000.0	1060.7	
$ 8 Phenol-d5	99	6.469	6.469	0.000	98	547895	1000.0	901.2	
$ 9 Nitrobenzene-d5	82	7.281	7.281	0.000	90	801149	1000.0	1072.6	
$ 10 2-Fluorobiphenyl (Surr)	172	8.787	8.787	0.000	100	1403224	1000.0	988.8	
$ 11 2,4,6-Tribromophenol	330	10.075	10.075	0.000	93	136167	1000.0	998.7	
$ 12 Terphenyl-d14	244	12.180	12.180	0.000	100	1275302	1000.0	886.0	
26 1,4-Dioxane	88	4.316	4.316	0.000	99	111667	1000.0	967.3	
27 N-Nitrosodimethylamine	74	4.581	4.581	0.000	89	414210	1000.0	1079.2	
28 Pyridine	79	4.640	4.640	0.000	91	716912	2000.0	2134.0	
42 Benzaldehyde	77	6.463	6.463	0.000	94	875500	2000.0	2762.6	E
43 Phenol	94	6.481	6.481	0.000	98	592130	1000.0	896.7	
44 Aniline	93	6.546	6.546	0.000	97	1057364	1000.0	967.8	
45 Bis(2-chloroethyl)ether	93	6.569	6.569	0.000	95	702410	1000.0	1008.3	
244 n-Decane	57	6.657	6.657	0.000	94	702659	1000.0	1064.2	
47 2-Chlorophenol	128	6.657	6.657	0.000	97	578213	1000.0	1001.5	
48 1,3-Dichlorobenzene	146	6.793	6.793	0.000	96	673499	1000.0	964.2	
49 1,4-Dichlorobenzene	146	6.846	6.846	0.000	92	686956	1000.0	955.0	
50 Benzyl alcohol	108	6.910	6.910	0.000	91	374929	1000.0	872.4	
51 1,2-Dichlorobenzene	146	6.981	6.981	0.000	94	658132	1000.0	954.5	
52 2-Methylphenol	108	6.987	6.987	0.000	97	505337	1000.0	890.4	
54 2,2'-oxybis[1-chloropropan	45	7.016	7.016	0.000	92	1118708	1000.0	1012.6	
53 Indene	115	7.051	7.051	0.000	90	2458376	2000.0	2065.6	
55 3 & 4 Methylphenol	108	7.104	7.104	0.000	93	483275	1000.0	837.1	
57 N-Nitrosodi-n-propylamine	70	7.122	7.122	0.000	91	538489	1000.0	1023.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
58 Acetophenone	105	7.140	7.140	0.000	95	967855	1000.0	1043.7	
61 Hexachloroethane	117	7.269	7.269	0.000	94	265478	1000.0	1002.5	
62 Nitrobenzene	77	7.293	7.293	0.000	90	776412	1000.0	1099.5	
64 Isophorone	82	7.481	7.481	0.000	99	1408061	1000.0	1015.8	
66 2,4-Dimethylphenol	107	7.557	7.557	0.000	95	634023	1000.0	971.6	
65 2-Nitrophenol	139	7.563	7.563	0.000	96	349829	1000.0	1138.0	
70 Benzoic acid	122	7.610	7.610	0.000	90	624550	2000.0	2293.1	
69 Bis(2-chloroethoxy)methane	93	7.628	7.628	0.000	99	803755	1000.0	1020.2	
72 2,4-Dichlorophenol	162	7.763	7.763	0.000	96	431252	1000.0	907.6	
73 1,2,4-Trichlorobenzene	180	7.845	7.845	0.000	94	567535	1000.0	947.6	
74 Naphthalene	128	7.922	7.922	0.000	98	2060869	1000.0	990.4	
75 4-Chloroaniline	127	7.934	7.934	0.000	95	1083623	1000.0	1072.5	
76 2,6-Dichlorophenol	162	7.951	7.951	0.000	96	520400	1000.0	1040.4	
78 Hexachlorobutadiene	225	8.010	8.010	0.000	97	325990	1000.0	983.3	
83 Caprolactam	113	8.216	8.216	0.000	77	420430	2000.0	2063.3	
85 4-Chloro-3-methylphenol	107	8.316	8.316	0.000	97	561637	1000.0	1033.9	
86 2-Methylnaphthalene	142	8.498	8.498	0.000	92	1345698	1000.0	960.5	
87 1-Methylnaphthalene	142	8.587	8.587	0.000	93	1234933	1000.0	961.8	
89 Hexachlorocyclopentadiene	237	8.640	8.640	0.000	95	366167	1000.0	1024.4	
90 1,2,4,5-Tetrachlorobenzene	216	8.645	8.645	0.000	99	551435	1000.0	985.6	
93 2,4,6-Trichlorophenol	196	8.722	8.722	0.000	95	370733	1000.0	1125.2	
94 2,4,5-Trichlorophenol	196	8.763	8.763	0.000	94	376324	1000.0	1118.0	
99 1,1'-Biphenyl	154	8.881	8.881	0.000	96	1576364	1000.0	978.9	
100 2-Chloronaphthalene	162	8.922	8.922	0.000	98	1180013	1000.0	964.2	
101 2-Nitroaniline	65	8.981	8.981	0.000	81	424954	1000.0	1191.8	
104 Dimethyl phthalate	163	9.098	9.098	0.000	97	1314481	1000.0	966.0	
103 1,3-Dinitrobenzene	168	9.145	9.145	0.000	85	225847	1000.0	1204.6	
106 2,6-Dinitrotoluene	165	9.163	9.163	0.000	91	312326	1000.0	1054.1	
108 Acenaphthylene	152	9.281	9.281	0.000	98	1982252	1000.0	992.8	
109 3-Nitroaniline	138	9.328	9.328	0.000	92	256030	1000.0	1068.5	
110 2,4-Dinitrophenol	184	9.410	9.410	0.000	84	309638	2000.0	2203.9	
111 Acenaphthene	153	9.428	9.428	0.000	95	1217248	1000.0	957.0	
112 4-Nitrophenol	109	9.434	9.434	0.000	97	363657	2000.0	2328.7	
113 2,4-Dinitrotoluene	165	9.516	9.516	0.000	90	381198	1000.0	1073.0	
115 Dibenzofuran	168	9.569	9.569	0.000	96	1721495	1000.0	992.1	
118 2,3,4,6-Tetrachlorophenol	232	9.669	9.669	0.000	74	259277	1000.0	1106.8	
248 Hexadecane	57	9.681	9.681	0.000	92	970127	1000.0	1015.0	
120 Diethyl phthalate	149	9.692	9.692	0.000	98	1304636	1000.0	951.3	
122 4-Chlorophenyl phenyl ethe	204	9.834	9.834	0.000	94	660337	1000.0	1019.0	
125 4-Nitroaniline	138	9.851	9.851	0.000	82	278971	1000.0	1142.5	
124 Fluorene	166	9.869	9.869	0.000	96	1393065	1000.0	986.6	
127 4,6-Dinitro-2-methylphenol	198	9.875	9.875	0.000	83	402821	2000.0	1957.1	
129 Diphenylamine	169	9.928	9.928	0.000	94	986012	850.2	847.6	
128 N-Nitrosodiphenylamine	169	9.928	9.928	0.000	64	986012	1000.0	997.0	
130 1,2-Diphenylhydrazine	77	9.969	9.969	0.000	98	1555805	1000.0	1032.6	
131 Azobenzene	77	9.969	9.969	0.000	99	1555802	1000.0	1032.6	
138 4-Bromophenyl phenyl ether	248	10.257	10.257	0.000	71	354841	1000.0	967.4	
141 Atrazine	200	10.345	10.345	0.000	95	712499	2000.0	1975.4	
140 Hexachlorobenzene	284	10.357	10.357	0.000	93	344798	1000.0	886.5	
245 n-Octadecane	57	10.463	10.463	0.000	93	1001922	1000.0	1018.1	
143 Pentachlorophenol	266	10.504	10.504	0.000	91	386525	2000.0	1851.4	
148 Phenanthrene	178	10.704	10.704	0.000	98	1773406	1000.0	937.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
149 Anthracene	178	10.745	10.745	0.000	98	1840029	1000.0	954.5	
150 Carbazole	167	10.863	10.863	0.000	96	1643921	1000.0	1038.4	
154 Di-n-butyl phthalate	149	11.086	11.086	0.000	100	2263070	1000.0	955.3	
159 Fluoranthene	202	11.828	11.828	0.000	97	1990211	1000.0	1077.9	
160 Benzidine	184	11.904	11.904	0.000	99	1775329	2000.0	2091.6	
161 Pyrene	202	12.086	12.086	0.000	98	2012807	1000.0	951.7	
169 Butyl benzyl phthalate	149	12.716	12.716	0.000	98	1016130	1000.0	988.1	
174 Bis(2-ethylhexyl) phthalat	149	13.486	13.486	0.000	98	1441091	1000.0	962.9	
177 3,3'-Dichlorobenzidine	252	13.533	13.533	0.000	74	1377248	2000.0	2053.9	
178 Benzo[a]anthracene	228	13.627	13.627	0.000	99	1908744	1000.0	953.3	
179 Chrysene	228	13.686	13.686	0.000	97	1856172	1000.0	962.2	
181 Di-n-octyl phthalate	149	14.510	14.510	0.000	100	2541908	1000.0	1007.7	
183 Benzo[b]fluoranthene	252	15.368	15.368	0.000	97	1887300	1000.0	935.4	
184 Benzo[k]fluoranthene	252	15.410	15.410	0.000	99	1971667	1000.0	938.9	
185 Benzo[a]pyrene	252	15.939	15.939	0.000	77	1854819	1000.0	979.9	
190 Indeno[1,2,3-cd]pyrene	276	18.209	18.209	0.000	98	2057398	1000.0	895.3	
189 Dibenz(a,h)anthracene	278	18.215	18.215	0.000	91	1750946	1000.0	891.6	
191 Benzo[g,h,i]perylene	276	18.862	18.862	0.000	97	1695858	1000.0	976.4	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Reagents:

SMLIST1 L6 W_00009 Amount Added: 0.10 Units: mL

Report Date: 31-May-2017 06:05:29 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530002.D

Injection Date: 30-May-2017 07:09:30 Instrument ID: A4AG2 Operator ID:

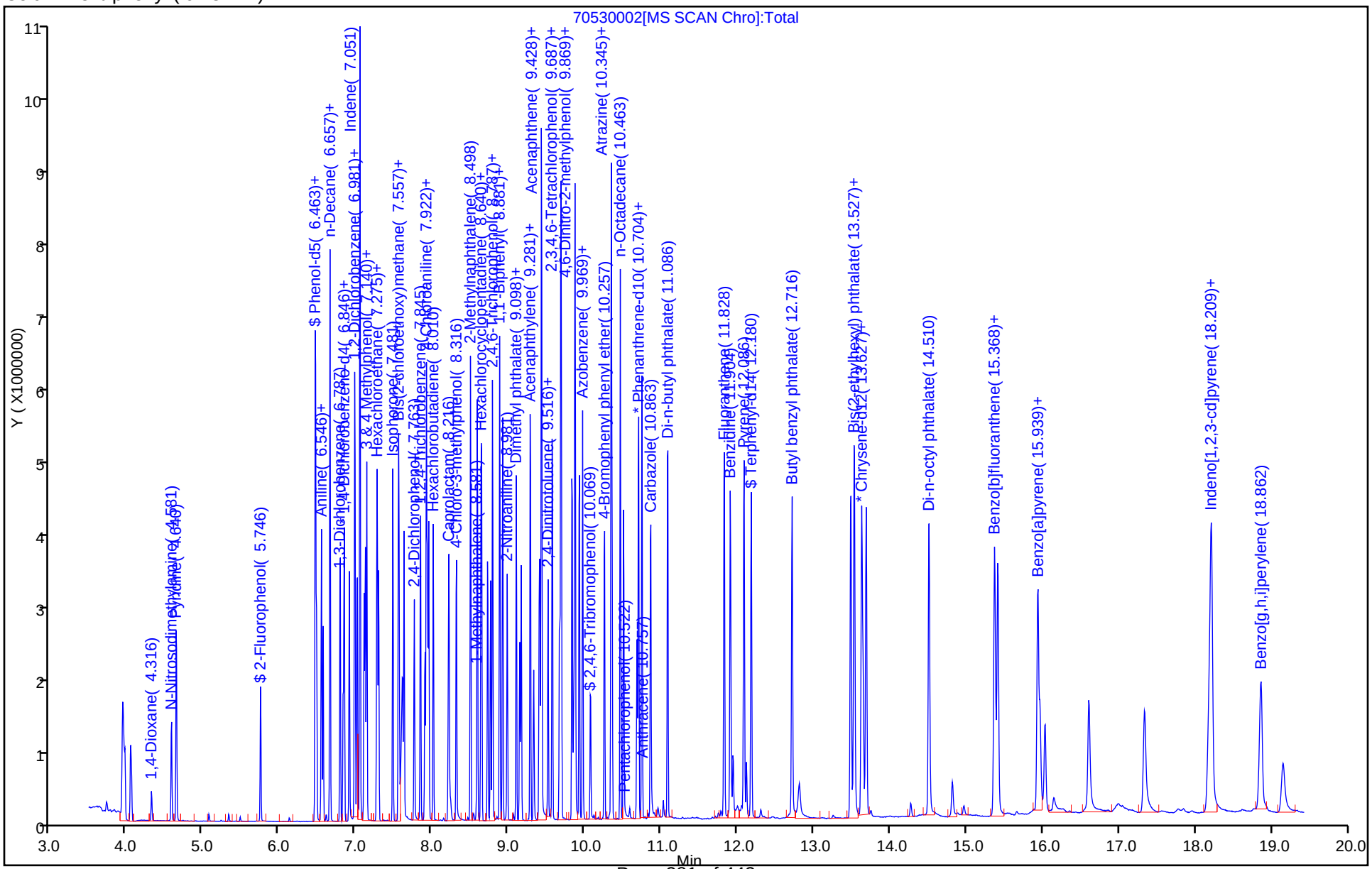
Lims ID: std6 l1lvi Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 2

Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

Column: 5% phenyl (0.18 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280762/19 | Calibration Date: 05/30/2017 12:02

Instrument ID: A4AG2 | Calib Start Date: 05/24/2017 12:45

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) | Calib End Date: 05/24/2017 15:35

Lab File ID: 70530019.D | Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Picoline	Ave	1.186	1.070		0.902	1.00	-9.8	20.0
N-Nitrosomethylethylamine	Ave	0.6437	0.7188		1.12	1.00	11.7	20.0
Acrylamide	Qua		0.1182		0.577	1.00	-42.3*	20.0
Methyl methanesulfonate	Ave	0.8368	0.9052		1.08	1.00	8.2	20.0
N-Nitrosodiethylamine	Ave	0.6694	0.7291		1.09	1.00	8.9	20.0
Ethyl methanesulfonate	Ave	0.9922	1.121		1.13	1.00	13.0	20.0
Pentachloroethane	Ave	0.4361	0.4244		0.973	1.00	-2.7	20.0
N-Nitrosopyrrolidine	Ave	0.6502	0.7717		1.19	1.00	18.7	20.0
N-Nitrosomorpholine	Ave	0.8915	1.035		1.16	1.00	16.1	20.0
2-Toluidine	Ave	2.094	2.265		1.08	1.00	8.1	20.0
N-Nitrosopiperidine	Ave	0.1575	0.1684		1.07	1.00	6.9	20.0
o,o',o''-Triethylphosphorothioate	Ave	0.1637	0.1635		0.999	1.00	-0.1	20.0
alpha,alpha-Dimethylphenethylamine	Ave	0.4774	0.5079		1.06	1.00	6.4	20.0
Hexachloropropene	Ave	0.1621	0.1675	0.0100	1.03	1.00	3.3	20.0
N-Nitrosodi-n-butylamine	Ave	0.2097	0.2313		1.10	1.00	10.3	20.0
Quinoline	Ave	0.5720	0.6247		1.09	1.00	9.2	20.0
p-Phenylene diamine	Lin1		0.2586		1.15	1.00	14.6	20.0
Safrole, Total	Ave	0.2495	0.2566		1.03	1.00	2.8	20.0
Isosafrole Peak 1	Ave	0.0886	0.0930		0.871	0.830	5.0	20.0
Isosafrole Peak 2	Ave	2.200	2.265		0.175	0.170	2.9	20.0
1-Chloronaphthalene	Ave	0.9359	0.9167		0.980	1.00	-2.0	20.0
1,4-Naphthoquinone	Ave	0.2941	0.3405		1.16	1.00	15.8	20.0
1,4-Dinitrobenzene	Lin1		0.1588		1.04	1.00	4.4	20.0
Pentachlorobenzene	Ave	0.3920	0.3870		0.987	1.00	-1.3	20.0
1-Naphthylamine	Ave	0.8637	1.049		1.22	1.00	21.5*	20.0
2,3,5,6-Tetrachlorophenol	Ave	0.1396	0.1614		1.16	1.00	15.6	20.0
2-Naphthylamine	Ave	0.8975	0.9645		1.07	1.00	7.5	20.0
Thionazin	Ave	0.2493	0.2671		1.07	1.00	7.1	20.0
N-Nitro-o-toluidine	Lin1		0.3049		1.01	1.00	1.5	20.0
Sulfotepp	Ave	0.0878	0.0857		0.976	1.00	-2.4	20.0
1,3,5-Trinitrobenzene	Lin1		0.0471		0.906	1.00	-9.4	20.0
Phenacetin	Ave	0.2804	0.3241		1.16	1.00	15.6	20.0
Diallate Peak 1	Ave	0.3285	0.3378		0.884	0.860	2.8	20.0
Phorate	Ave	0.1477	0.1464		0.991	1.00	-0.9	20.0
Diallate Peak 2	Ave	0.3578	0.3512		0.137	0.140	-1.8	20.0
Dimethoate	Ave	0.2336	0.2555		1.09	1.00	9.4	20.0
4-Aminobiphenyl	Ave	0.6438	0.6705		1.04	1.00	4.1	20.0
Pronamide	Ave	0.2907	0.2862		0.984	1.00	-1.6	20.0
Pentachloronitrobenzene	Ave	0.0663	0.0719		1.09	1.00	8.5	20.0
Disulfoton	Ave	0.3534	0.3713		1.05	1.00	5.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Lab Sample ID: STD6 240-280762/19 Calibration Date: 05/30/2017 12:02

Instrument ID: A4AG2 Calib Start Date: 05/24/2017 12:45

GC Column: RXI-5SILMS/IIG ID: 0.25(mm) Calib End Date: 05/24/2017 15:35

Lab File ID: 70530019.D Conc. Units: ng/uL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dinoseb	Lin1		0.1012		0.865	1.00	-13.5	20.0
Methyl parathion	Ave	0.1922	0.2186		1.14	1.00	13.7	20.0
Ethyl Parathion	Lin1		0.1314		0.962	1.00	-3.8	20.0
4-Nitroquinoline-1-oxide	Qua		0.0329		0.725	1.00	-27.5*	20.0
Methapyrilene	Lin1		0.4826		2.00	2.00	0.0	20.0
Isodrin	Ave	0.1091	0.1010		0.926	1.00	-7.4	20.0
Aramite Peak 1	Ave	0.1125	0.1190		0.539	0.510	5.8	20.0
Aramite Peak 2	Ave	0.1410	0.1565		0.544	0.490	11.0	20.0
p-Dimethylamino azobenzene	Ave	0.2110	0.2073		0.982	1.00	-1.8	20.0
Ethyl 4,4'-Dichlorobenzilate	Ave	0.3513	0.3435		0.978	1.00	-2.2	20.0
Famphur	Ave	0.2575	0.1629		0.633	1.00	-36.7*	20.0
3,3'-Dimethylbenzidine	Lin1		0.4580		0.870	1.00	-13.0	20.0
2-Acetylaminofluorene	Lin1		0.3978		0.917	1.00	-8.3	20.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.1646	0.1784		1.08	1.00	8.4	20.0
6-Methylchrysene	Ave	0.7701	0.7309		1.90	2.00	-5.1	20.0
7,12-Dimethylbenz(a)anthracene	Ave	0.3533	0.4886		1.38	1.00	38.3*	20.0
3-Methylcholanthrene	Ave	0.6161	0.5856		1.90	2.00	-5.0	20.0
Dibenz[a,h]acridine	Ave	0.8889	0.8206		0.923	1.00	-7.7	20.0

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530019.D
Lims ID: std6 l2lvi
Client ID:
Sample Type: CCV
Inject. Date: 30-May-2017 12:02:30 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065431-019
Misc. Info.: STD6 L2LVI
Operator ID: Instrument ID: A4AG2
Sublist: chrom-LVI AG2 8270*sub21

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:57 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 30-May-2017 12:56:46

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.828	6.828	0.000	98	169369	400.0	400.0	
* 2 Naphthalene-d8	136	7.898	7.898	0.000	100	752665	400.0	400.0	
* 3 Acenaphthene-d10	164	9.398	9.398	0.000	92	436210	400.0	400.0	
* 4 Phenanthrene-d10	188	10.680	10.680	0.000	98	714348	400.0	400.0	
* 5 Chrysene-d12	240	13.639	13.639	0.000	97	651038	400.0	400.0	
* 6 Perylene-d12	264	16.021	16.021	0.000	98	554724	400.0	400.0	
31 2-Picoline	93	5.281	5.281	0.000	97	453019	1000.0	901.9	
32 N-Nitrosomethylethylamine	88	5.346	5.346	0.000	95	304352	1000.0	1116.6	
14 Acrylamide	71	5.522	5.522	0.000	71	50053	1000.0	576.9	
34 Methyl methanesulfonate	80	5.581	5.581	0.000	89	383260	1000.0	1081.6	
36 N-Nitrosodiethylamine	102	5.928	5.928	0.000	92	308701	1000.0	1089.2	
37 Ethyl methanesulfonate	79	6.140	6.140	0.000	98	474678	1000.0	1129.9	
46 Pentachloroethane	167	6.604	6.604	0.000	91	179685	1000.0	973.1	
56 N-Nitrosopyrrolidine	100	7.110	7.110	0.000	83	326745	1000.0	1186.9	
59 N-Nitrosomorpholine	56	7.134	7.134	0.000	93	438302	1000.0	1161.1	
60 2-Toluidine	106	7.175	7.175	0.000	97	958943	1000.0	1081.5	
63 N-Nitrosopiperidine	114	7.410	7.410	0.000	80	316774	1000.0	1069.0	
68 o,o',o''-Triethylphosphoro	198	7.598	7.598	0.000	86	307706	1000.0	999.0	
71 alpha,alpha-Dimethyl phene	58	7.722	7.722	0.000	98	955767	1000.0	1064.0	
77 Hexachloropropene	213	7.998	7.998	0.000	91	315236	1000.0	1033.4	
82 N-Nitrosodi-n-butylamine	84	8.187	8.187	0.000	93	435283	1000.0	1103.1	
81 Quinoline	129	8.192	8.192	0.000	96	1175457	1000.0	1092.1	
84 p-Phenylene diamine	108	8.222	8.222	0.000	95	486618	1000.0	1145.5	
92 Safrole, Total	162	8.392	8.392	0.000	88	482819	1000.0	1028.3	
95 Isosafrole Peak 1	162	8.639	8.639	0.000	90	84152	830.0	871.4	
91 Isosafrole Peak 2	162	8.828	8.828	0.000	90	419862	170.0	175.0	
247 1-Chloronaphthalene	162	8.945	8.945	0.000	99	999727	1000.0	979.6	
102 1,4-Naphthoquinone	158	9.051	9.051	0.000	88	371277	1000.0	1157.7	
105 1,4-Dinitrobenzene	168	9.069	9.069	0.000	91	173201	1000.0	1043.8	
114 Pentachlorobenzene	250	9.545	9.545	0.000	97	422046	1000.0	987.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
117 1-Naphthylamine	143	9.628	9.628	0.000	98	1144401	1000.0	1215.0	
116 2,3,5,6-Tetrachlorophenol	232	9.628	9.628	0.000	55	176054	1000.0	1156.5	
119 2-Naphthylamine	143	9.692	9.692	0.000	96	1051759	1000.0	1074.5	
121 Thionazin	97	9.763	9.763	0.000	80	291233	1000.0	1071.4	
123 N-Nitro-o-toluidine	152	9.845	9.845	0.000	94	332457	1000.0	1015.0	
132 Sulfotepp	202	10.010	10.010	0.000	78	153080	1000.0	976.2	
133 1,3,5-Trinitrobenzene	213	10.104	10.104	0.000	84	84047	1000.0	905.5	
135 Phenacetin	108	10.151	10.151	0.000	92	578874	1000.0	1156.0	
134 Diallate Peak 1	86	10.157	10.157	0.000	95	518792	860.0	884.3	
136 Phorate	121	10.163	10.163	0.000	96	261453	1000.0	991.4	
137 Diallate Peak 2	86	10.239	10.239	0.000	96	87817	140.0	137.4	
139 Dimethoate	87	10.316	10.316	0.000	95	456222	1000.0	1093.5	
142 4-Aminobiphenyl	169	10.475	10.475	0.000	88	1197350	1000.0	1041.4	
144 Pronamide	173	10.486	10.486	0.000	92	511035	1000.0	984.4	
145 Pentachloronitrobenzene	237	10.516	10.516	0.000	88	128409	1000.0	1085.2	
146 Disulfoton	88	10.604	10.604	0.000	98	663132	1000.0	1050.6	
147 Dinoseb	211	10.622	10.622	0.000	97	180669	1000.0	865.2	
152 Methyl parathion	109	10.939	10.939	0.000	94	390300	1000.0	1137.1	
155 Ethyl Parathion	97	11.280	11.280	0.000	84	234618	1000.0	961.9	
156 4-Nitroquinoline-1-oxide	190	11.369	11.369	0.000	91	58799	1000.0	724.5	
157 Methapyrilene	58	11.398	11.398	0.000	98	1723845	2000.0	2001.4	
158 Isodrin	66	11.675	11.675	0.000	92	180355	1000.0	926.0	
162 Aramite Peak 1	185	12.086	12.086	0.000	91	98774	510.0	539.5	
163 Aramite Peak 2	185	12.169	12.169	0.000	94	124823	490.0	543.8	
164 p-Dimethylamino azobenzene	225	12.333	12.333	0.000	95	337466	1000.0	982.4	
165 Chlorobenzilate	139	12.363	12.363	0.000	87	559031	1000.0	977.6	
168 Famphur	218	12.663	12.663	0.000	87	265159	1000.0	632.6	
170 3,3'-Dimethylbenzidine	212	12.745	12.745	0.000	99	745457	1000.0	870.0	
172 2-Acetylaminofluorene	181	13.098	13.098	0.000	94	647525	1000.0	916.5	
175 4,4'-Methylene bis(2-chlor	231	13.510	13.510	0.000	96	290399	1000.0	1083.7	
180 6-Methylchrysene	242	14.386	14.386	0.000	99	2379259	2000.0	1898.3	
182 7,12-Dimethylbenz(a)anthra	256	15.333	15.333	0.000	94	677627	1000.0	1383.0	
186 3-Methylcholanthrene	268	16.545	16.545	0.000	92	1624164	2000.0	1900.8	
188 Dibenz[a,h]acridine	279	17.639	17.639	0.000	91	1138074	1000.0	923.2	
S 194 Isosafrole	162				0		1000.0	1046.4	
S 195 Diallate	86				0		1000.0	1021.8	
S 196 Aramite, Total	185				0		1000.0	1083.3	

Reagents:

SMLIST2 L6 W_00013 Amount Added: 0.10 Units: mL

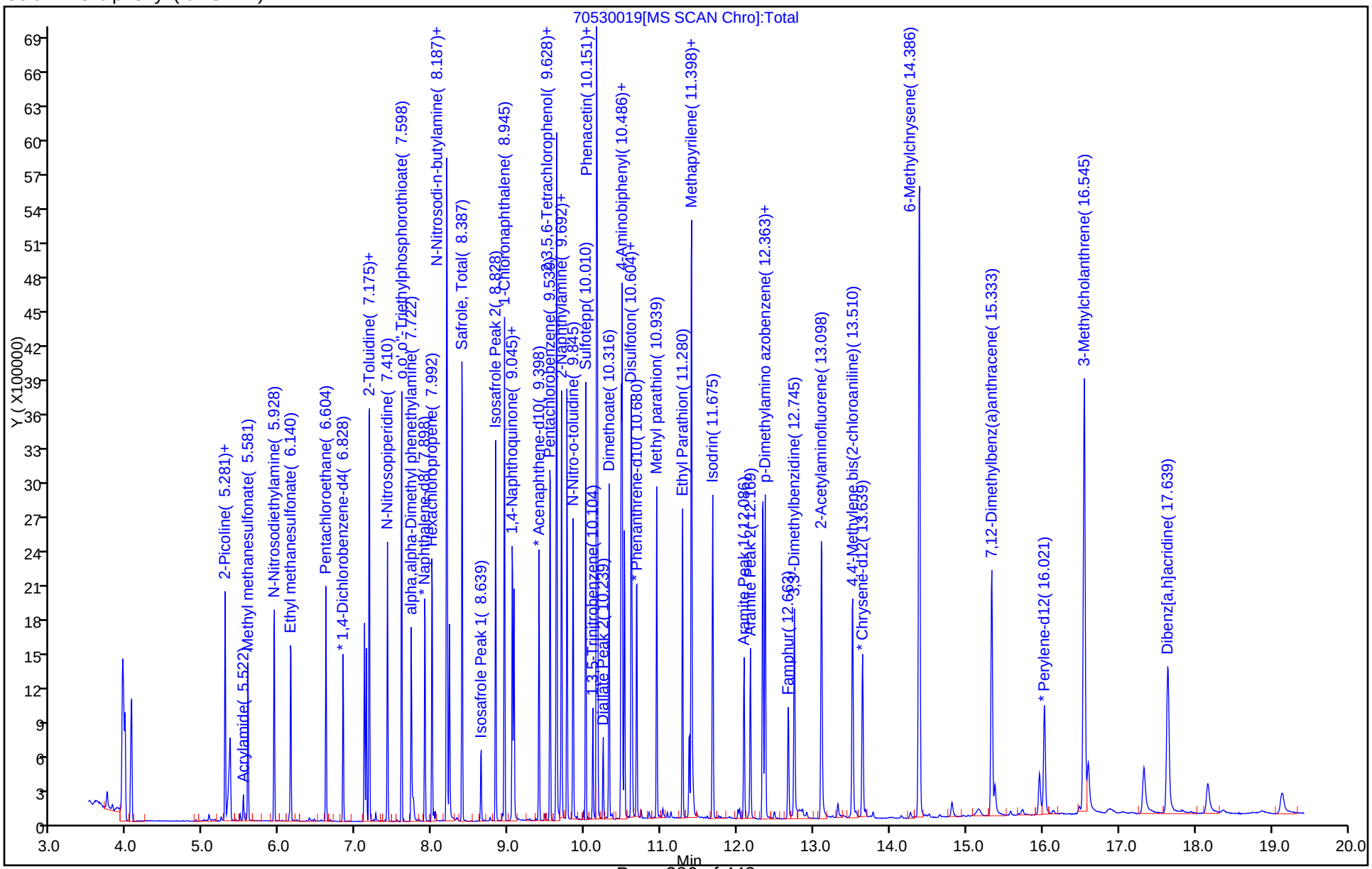
Report Date: 31-May-2017 06:05:58 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530019.D

Injection Date:	30-May-2017 12:02:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	std6 l2lvi			Worklist Smp#:	19
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D
Lims ID: dftpp
Client ID:
Sample Type: DFTPP
Inject. Date: 24-May-2017 08:23:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: primer
Misc. Info.: PRIMER
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 24-May-2017 13:00:39 Calib Date: 24-May-2017 11:56:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524010.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK017

First Level Reviewer: hulat Date: 24-May-2017 09:57:32

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
143 Pentachlorophenol	266	10.533	10.533	0.000	93	1250515	NR	NR	
160 Benzidine	184	11.939	11.939	0.000	99	5897238	NR	NR	
151 DFTPP									
167 4,4'-DDE	246	12.145	12.145	0.000	67	4134		NR	
166 4,4'-DDD	235	12.545	12.545	0.000	94	18832		NR	
171 4,4'-DDT	235	12.945	12.945	0.000	98	3741610	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

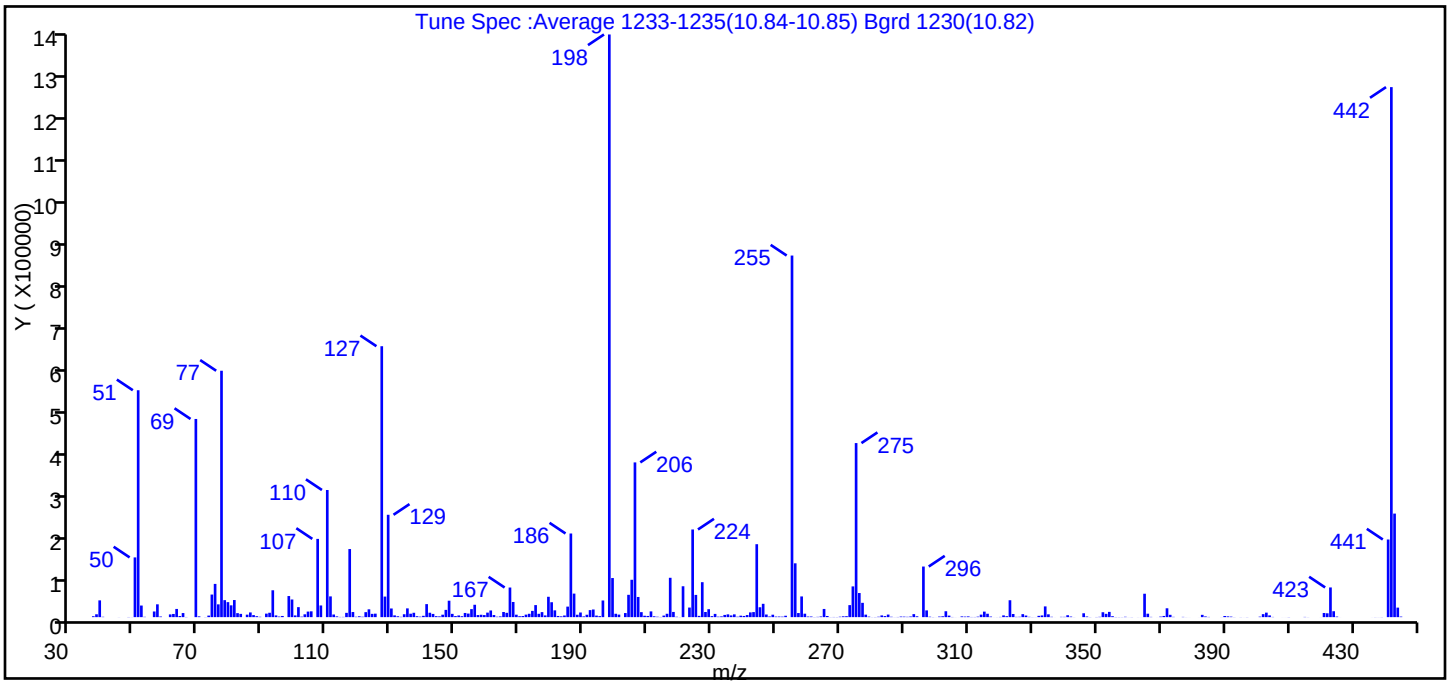
SMDFTPPW_00012 Amount Added: 0.10 Units: mL

MS Tune Report

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D
Injection Date: 24-May-2017 08:23:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL
Tune Method: DFTPP Method CLP OLM4.2

151 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100 percent relative abundance	100
51	30.0 - 80.0 percent of mass 198	38.9
68	Less than 2.0 percent of mass 69	0.0 (0.0)
69	Present	34.0
70	Less than 2.0 percent of mass 69	0.1 (0.4)
127	25.0 - 75.0 percent of mass 198	46.5
197	Less than 1.0 percent of mass 198	0.0
199	5.0 - 9.0 percent of mass 198	6.7
275	10.0 - 30.0 percent of mass 198	29.9
365	Greater than 0.75 percent of mass 198	4.0
441	Present but less than mass 443	13.3 (75.0)
442	40.0 - 110.0 percent of mass 198	91.0
443	15.0 - 24.0 percent of mass 442	17.8 (19.5)

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 24-May-2017 08:23:30
Spectrum: Tune Spec :Average 1233-1235(10.84-10.85) Bgrd 1230(10.82)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 350

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	2119	143.00	7454	234.00	5142	324.00	7279
38.00	6630	144.00	2238	235.00	6433	325.00	658
39.00	38832	145.00	1806	236.00	4001	326.00	828
40.00	825	146.00	5649	237.00	6419	327.00	6950
45.00	138	147.00	16800	238.00	1006	328.00	3682
48.00	357	148.00	38048	239.00	3385	329.00	741
49.00	151	149.00	7620	240.00	2728	330.00	242
50.00	138240	150.00	2453	241.00	4826	331.00	169
51.00	525184	151.00	3880	242.00	10971	332.00	3005
52.00	26856	152.00	2159	243.00	11722	333.00	3932
53.00	751	153.00	9666	244.00	168832	334.00	24856
56.00	13125	154.00	8262	245.00	22896	335.00	6542
57.00	29688	155.00	18568	246.00	30872	336.00	808
58.00	1452	156.00	28632	247.00	6070	337.00	54
61.00	6344	157.00	4840	248.00	1571	339.00	684
62.00	7370	158.00	5518	249.00	5643	340.00	682
63.00	18984	159.00	4769	250.00	1266	341.00	4434
64.00	2527	160.00	10469	251.00	1382	342.00	1331
65.00	9463	161.00	15450	252.00	1148	343.00	152
66.00	384	162.00	4850	253.00	3222	346.00	8955
69.00	458688	163.00	1004	255.00	836928	347.00	1468
70.00	1775	164.00	1656	256.00	124584	348.00	251
72.00	266	165.00	11907	257.00	9472	350.00	365
73.00	3562	166.00	9973	258.00	47928	351.00	732
74.00	52288	167.00	68568	259.00	7955	352.00	11371
75.00	76936	168.00	35096	260.00	1407	353.00	7628
76.00	29608	169.00	5666	261.00	1435	354.00	12180
77.00	570304	170.00	2146	262.00	309	355.00	2188
78.00	39328	171.00	2573	263.00	646	356.00	348
79.00	34720	172.00	5844	264.00	1531	357.00	287
80.00	27320	173.00	7757	265.00	18960	358.00	248
81.00	39584	174.00	14455	266.00	2647	359.00	827
82.00	9267	175.00	27872	267.00	248	360.00	99

Report Date: 24-May-2017 13:00:41 Chrom Revision: 2.2 25-Apr-2017 13:27:22
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 24-May-2017 08:23:30
Spectrum: Tune Spec :Average 1233-1235(10.84-10.85) Bgrd 1230(10.82)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 350

m/z	Y	m/z	Y	m/z	Y	m/z	Y
83.00	7556	176.00	7716	268.00	400	361.00	239
84.00	35	177.00	11628	269.00	342	363.00	113
85.00	5749	178.00	3987	270.00	993	364.00	81
86.00	10890	179.00	47136	271.00	1913	365.00	54192
87.00	4738	180.00	34528	272.00	2180	366.00	7964
88.00	2184	181.00	15708	273.00	27808	367.00	596
89.00	804	182.00	2727	274.00	71160	369.00	62
91.00	8130	183.00	1806	275.00	402880	370.00	1256
92.00	10135	184.00	3789	276.00	55816	371.00	2751
93.00	62192	185.00	24368	277.00	33136	372.00	20512
94.00	3990	186.00	193600	278.00	5789	373.00	5393
95.00	1364	187.00	54472	279.00	1247	374.00	639
96.00	2717	188.00	5550	280.00	212	377.00	577
98.00	48832	189.00	10750	281.00	346	378.00	122
99.00	40824	190.00	1678	282.00	950	379.00	58
100.00	3975	191.00	5539	283.00	4011	382.00	65
101.00	23136	192.00	16272	284.00	2512	383.00	5325
102.00	1140	193.00	17696	285.00	5931	384.00	1612
103.00	6556	194.00	3584	286.00	866	385.00	515
104.00	12883	195.00	2340	287.00	179	389.00	144
105.00	13474	196.00	38584	288.00	418	390.00	2652
107.00	181120	198.00	1348608	289.00	1361	391.00	1748
108.00	27040	199.00	90488	290.00	1172	392.00	1226
110.00	294272	200.00	7788	291.00	758	393.00	210
111.00	48024	201.00	5860	292.00	1470	395.00	193
112.00	6112	203.00	9473	293.00	6989	396.00	62
113.00	1767	204.00	51680	294.00	1947	397.00	227
114.00	485	205.00	86504	296.00	117128	401.00	1129
115.00	550	206.00	358144	297.00	15632	402.00	6953
116.00	9942	207.00	46688	298.00	1026	403.00	10448
117.00	157632	208.00	11561	299.00	296	404.00	4062
118.00	11848	209.00	3245	300.00	89	405.00	483
119.00	893	210.00	2761	301.00	1364	408.00	57
120.00	2008	211.00	13304	302.00	2018	409.00	62

Report Date: 24-May-2017 13:00:41 Chrom Revision: 2.2 25-Apr-2017 13:27:22
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 24-May-2017 08:23:30
Spectrum: Tune Spec :Average 1233-1235(10.84-10.85) Bgrd 1230(10.82)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 350

m/z	Y	m/z	Y	m/z	Y	m/z	Y
121.00	941	212.00	1943	303.00	13654	410.00	286
122.00	11543	213.00	982	304.00	3527	415.00	509
123.00	18096	214.00	413	305.00	407	416.00	170
124.00	7584	215.00	3605	306.00	106	420.00	86
125.00	8046	216.00	7803	307.00	55	421.00	9615
127.00	627072	217.00	91096	308.00	1734	422.00	8915
128.00	47592	218.00	12042	309.00	1274	423.00	68744
129.00	236928	219.00	899	310.00	1696	424.00	13706
130.00	20056	220.00	233	311.00	418	425.00	1308
131.00	4076	221.00	71488	312.00	392	426.00	66
132.00	2037	223.00	22200	313.00	1131	436.00	62
133.00	705	224.00	202880	314.00	5831	437.00	185
134.00	6694	225.00	51480	315.00	12803	438.00	118
135.00	20288	226.00	2952	316.00	7854	439.00	230
136.00	7932	227.00	80904	317.00	1332	441.00	179712
137.00	10109	228.00	11920	318.00	91	442.00	1226752
138.00	2132	229.00	18400	319.00	142	443.00	239680
139.00	1082	230.00	2326	320.00	526	444.00	22048
140.00	3089	231.00	7500	321.00	4051	445.00	1291
141.00	30144	232.00	1134	322.00	2204		
142.00	10186	233.00	1743	323.00	39128		

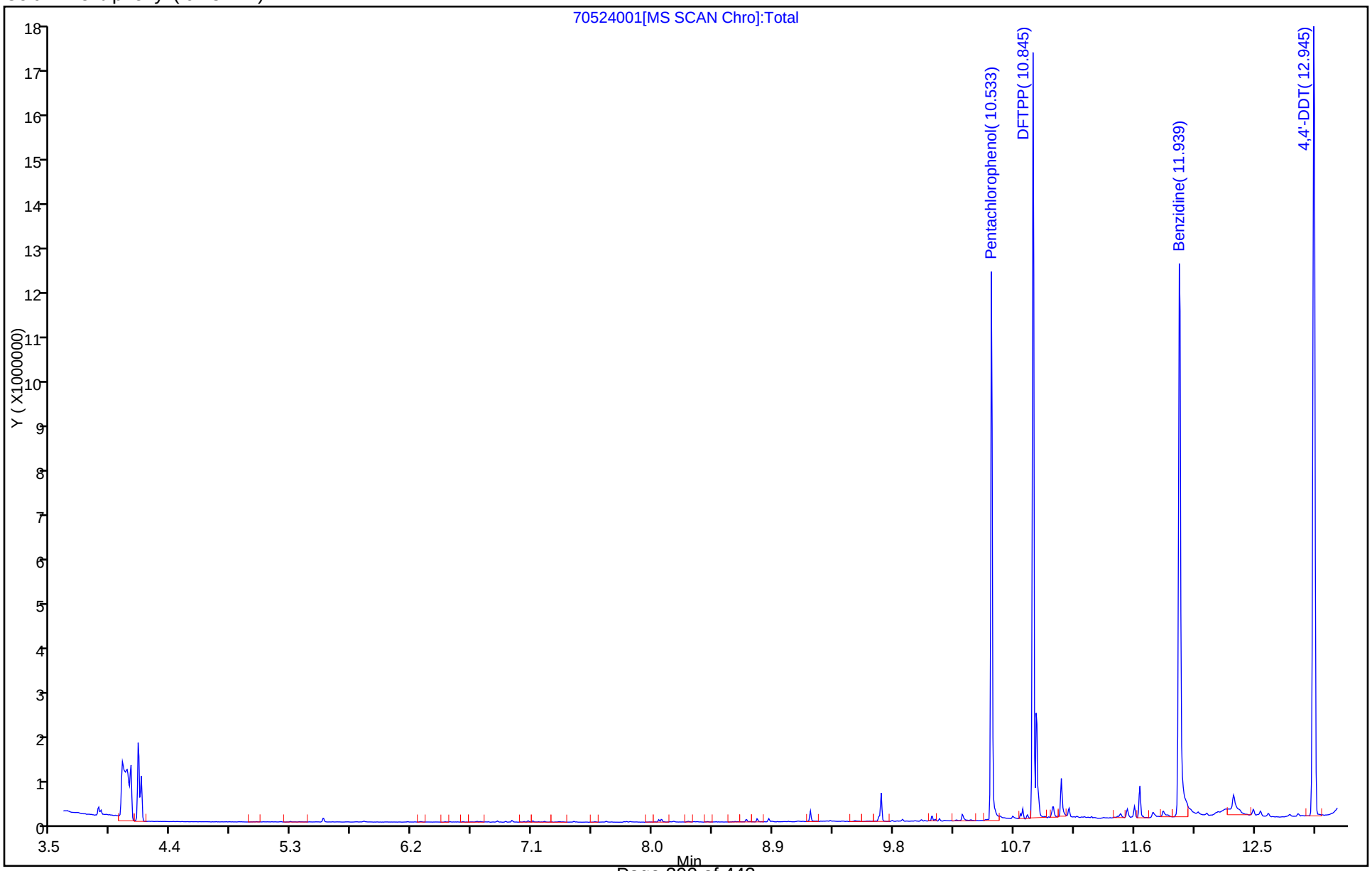
Report Date: 24-May-2017 13:00:41 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D

Injection Date:	24-May-2017 08:23:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	dftpp			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)

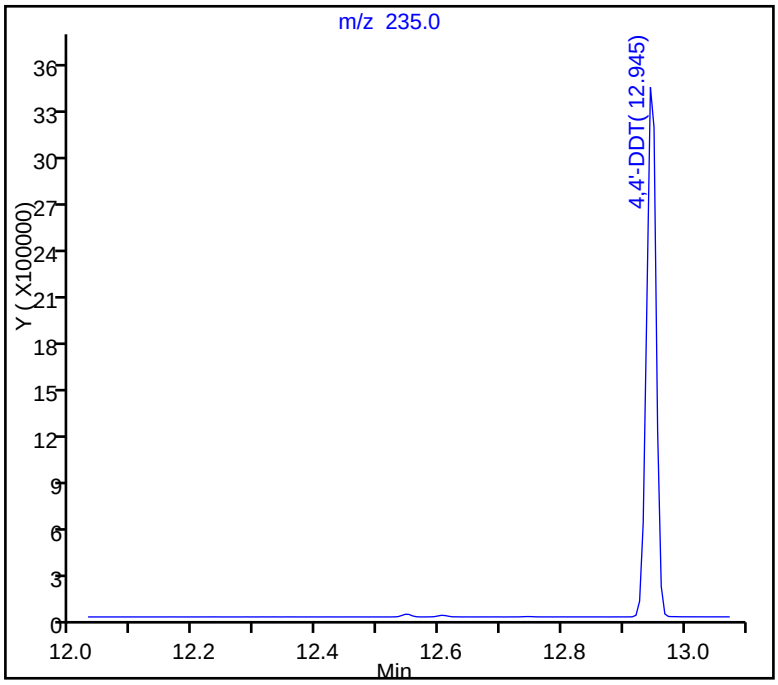


Breakdown Report

TestAmerica Canton

Data File:	\\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D				
Injection Date:	24-May-2017 08:23:30	Instrument ID:	A4AG2		
Lims ID:	dftpp				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

171 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

171 4,4'-DDT, Area = 3741610
166 4,4'-DDD, Area = 18832
167 4,4'-DDE, Area = 4134

%Breakdown: 0.61%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Canton

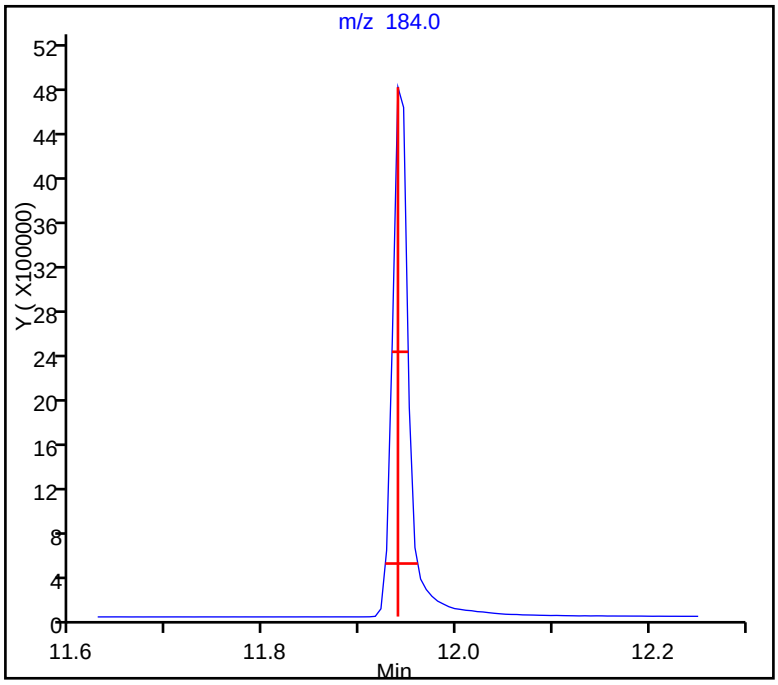
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D
Injection Date: 24-May-2017 08:23:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

160 Benzidine, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.021 (min.)
Front Width = 0.013 (min.)

Tailing Factor = 1.6, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Canton

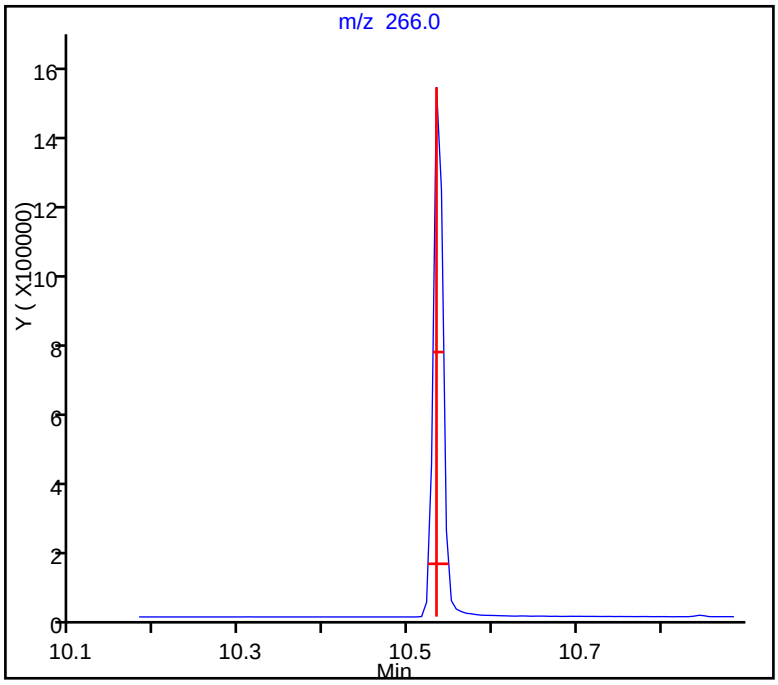
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524001.D
Injection Date: 24-May-2017 08:23:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

143 Pentachlorophenol, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.015 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 1.4, Max. Tailing < 2.00
Passed



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D
Lims ID: dftpp
Client ID:
Sample Type: DFTPP
Inject. Date: 25-May-2017 08:03:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-001
Misc. Info.: DFTPP
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 25-May-2017 11:12:39 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK031

First Level Reviewer: hulat Date: 25-May-2017 08:44:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
143 Pentachlorophenol	266	10.540	10.540	0.000	93	1442347	NR	NR	
160 Benzidine	184	11.952	11.952	0.000	99	7350356	NR	NR	
151 DFTPP									
167 4,4'-DDE	246	12.152	12.152	0.000	67	7424		NR	
166 4,4'-DDD	235	12.558	12.558	0.000	96	73345		NR	
171 4,4'-DDT	235	12.958	12.958	0.000	98	4222272	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

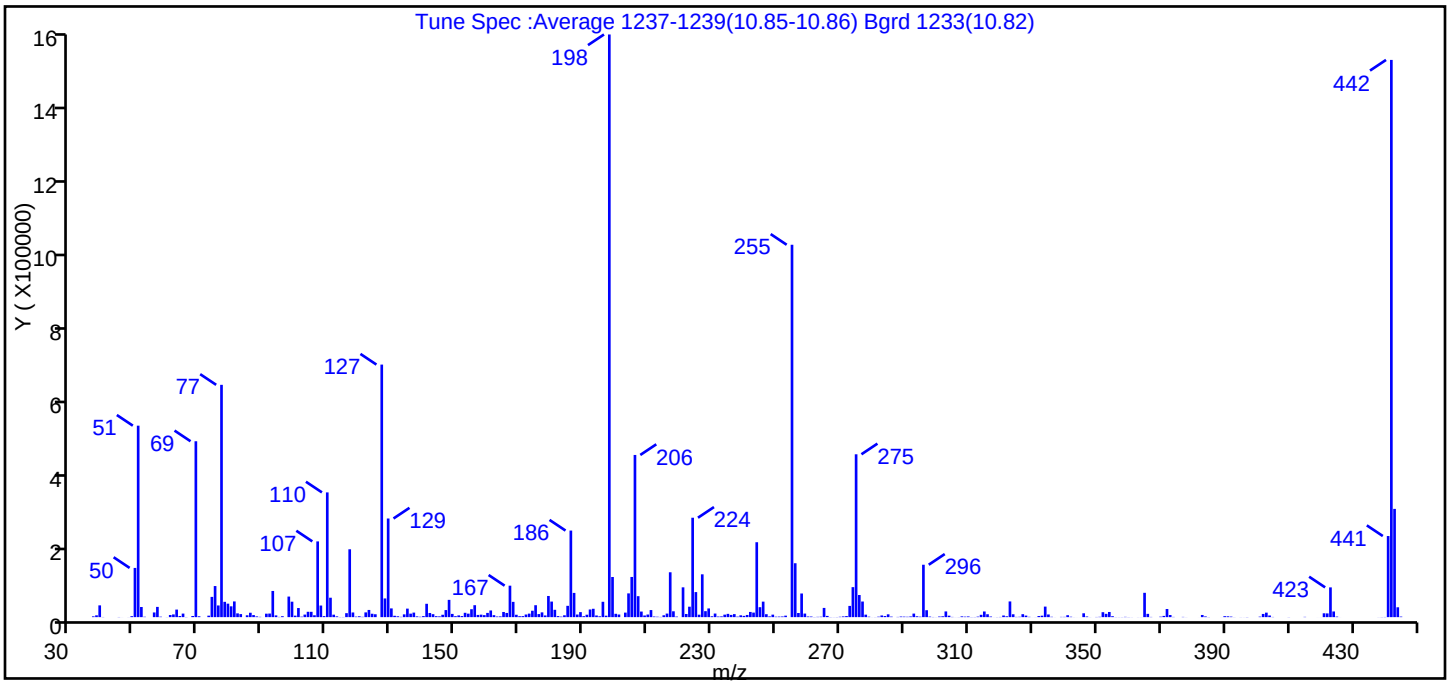
SMDFTPPW_00012 Amount Added: 0.10 Units: mL

MS Tune Report

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D
Injection Date: 25-May-2017 08:03:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL
Tune Method: DFTPP Method CLP OLM4.2

151 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100 percent relative abundance	100
51	30.0 - 80.0 percent of mass 198	32.9
68	Less than 2.0 percent of mass 69	0.2 (0.7)
69	Present	30.2
70	Less than 2.0 percent of mass 69	0.1 (0.5)
127	25.0 - 75.0 percent of mass 198	43.3
197	Less than 1.0 percent of mass 198	0.2
199	5.0 - 9.0 percent of mass 198	6.9
275	10.0 - 30.0 percent of mass 198	28.0
365	Greater than 0.75 percent of mass 198	4.2
441	Present but less than mass 443	13.9 (74.9)
442	40.0 - 110.0 percent of mass 198	95.6
443	15.0 - 24.0 percent of mass 442	18.6 (19.4)

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 25-May-2017 08:03:30
Spectrum: Tune Spec :Average 1237-1239(10.85-10.86) Bgrd 1233(10.82)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 353

m/z	Y	m/z	Y	m/z	Y	m/z	Y
37.00	2068	139.00	933	230.00	2227	321.00	4218
38.00	4678	140.00	2655	231.00	9250	322.00	2176
39.00	30336	141.00	34408	232.00	1562	323.00	40464
40.00	420	142.00	10704	233.00	1948	324.00	7402
45.00	399	143.00	7638	234.00	6423	325.00	638
46.00	77	144.00	2464	235.00	8452	326.00	907
48.00	154	145.00	1995	236.00	5723	327.00	7633
49.00	2484	146.00	6108	237.00	7805	328.00	3983
50.00	126816	147.00	18216	238.00	1306	329.00	817
51.00	493312	148.00	44536	239.00	4691	330.00	65
52.00	26112	149.00	8357	240.00	3254	331.00	178
53.00	1020	150.00	2478	241.00	5606	332.00	2850
56.00	12082	151.00	4462	242.00	13377	333.00	3748
57.00	26392	152.00	2763	243.00	11687	334.00	27152
58.00	1181	153.00	11188	244.00	193024	335.00	6888
59.00	6	154.00	8983	245.00	25648	336.00	939
60.00	194	155.00	20432	246.00	39968	337.00	91
61.00	5504	156.00	30776	247.00	7561	339.00	662
62.00	7000	157.00	5717	248.00	1908	340.00	699
63.00	19496	158.00	6416	249.00	6458	341.00	4993
64.00	2868	159.00	5183	250.00	1151	342.00	1036
65.00	9169	160.00	10920	251.00	1395	343.00	145
66.00	409	161.00	17208	252.00	1702	344.00	73
68.00	2954	162.00	5080	253.00	3820	345.00	70
69.00	453184	163.00	1616	255.00	959424	346.00	9921
70.00	2209	164.00	1885	256.00	138880	347.00	1661
73.00	3790	165.00	13297	257.00	10637	348.00	150
74.00	52160	166.00	10797	258.00	60936	350.00	481
75.00	80112	167.00	81056	259.00	9180	351.00	825
76.00	30120	168.00	39376	260.00	1686	352.00	12757
77.00	598528	169.00	6126	261.00	1530	353.00	8491
78.00	39472	170.00	2452	262.00	384	354.00	13299
79.00	34736	171.00	2654	263.00	760	355.00	2414

Report Date: 25-May-2017 11:12:40 Chrom Revision: 2.2 25-Apr-2017 13:27:22
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 25-May-2017 08:03:30
Spectrum: Tune Spec :Average 1237-1239(10.85-10.86) Bgrd 1233(10.82)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 353

m/z	Y	m/z	Y	m/z	Y	m/z	Y
80.00	27880	172.00	6795	264.00	1095	356.00	242
81.00	40480	173.00	9051	265.00	23768	357.00	214
82.00	9739	174.00	16480	266.00	3159	358.00	289
83.00	7861	175.00	30736	267.00	374	359.00	726
85.00	4782	176.00	7918	268.00	222	360.00	309
86.00	11324	177.00	12298	269.00	374	361.00	166
87.00	5329	178.00	4361	270.00	948	363.00	160
88.00	1890	179.00	54528	271.00	1858	364.00	164
89.00	743	180.00	40096	272.00	2726	365.00	62688
90.00	55	181.00	18936	273.00	28928	366.00	8472
91.00	8935	182.00	2726	274.00	77304	367.00	567
92.00	9261	183.00	1315	275.00	419584	370.00	1222
93.00	67440	184.00	4793	276.00	57000	371.00	3193
94.00	4509	185.00	29152	277.00	40240	372.00	21000
95.00	593	186.00	223040	278.00	6414	373.00	5487
96.00	2391	187.00	62448	279.00	1209	374.00	573
98.00	53008	188.00	6737	280.00	123	377.00	623
99.00	39808	189.00	12954	281.00	243	378.00	136
100.00	3848	190.00	2429	282.00	1187	382.00	51
101.00	23456	191.00	6234	283.00	4346	383.00	5571
102.00	1212	192.00	19744	284.00	2879	384.00	1804
103.00	6556	193.00	21552	285.00	7248	385.00	335
104.00	13821	194.00	4266	286.00	1358	389.00	83
105.00	13729	195.00	2194	288.00	580	390.00	2463
106.00	4824	196.00	39584	289.00	1560	391.00	2113
107.00	195136	197.00	3704	290.00	1309	392.00	1410
108.00	29912	198.00	1501184	291.00	977	393.00	198
109.00	2613	199.00	103408	292.00	1740	395.00	175
110.00	321408	200.00	8600	293.00	9148	396.00	116
111.00	50048	201.00	6736	294.00	2178	397.00	368
112.00	6357	203.00	11675	295.00	1108	401.00	1280
113.00	2013	204.00	61208	296.00	135040	402.00	8261
114.00	402	205.00	103512	297.00	17848	403.00	11614
115.00	416	206.00	417856	298.00	1396	404.00	4265

Report Date: 25-May-2017 11:12:40 Chrom Revision: 2.2 25-Apr-2017 13:27:22
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 25-May-2017 08:03:30
Spectrum: Tune Spec :Average 1237-1239(10.85-10.86) Bgrd 1233(10.82)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 353

m/z	Y	m/z	Y	m/z	Y	m/z	Y
116.00	10252	207.00	54008	299.00	445	405.00	496
117.00	174848	208.00	14389	300.00	181	410.00	280
118.00	12046	209.00	4245	301.00	1617	415.00	712
119.00	1351	210.00	6701	302.00	2228	419.00	54
120.00	2248	211.00	18240	303.00	14732	420.00	82
121.00	794	212.00	1597	304.00	3748	421.00	9925
122.00	12237	213.00	1095	305.00	595	422.00	9625
123.00	18544	214.00	559	306.00	133	423.00	76688
124.00	8728	215.00	4805	307.00	242	424.00	14649
125.00	7448	216.00	9182	308.00	1996	425.00	1403
127.00	650688	217.00	115608	309.00	1282	426.00	65
128.00	48184	218.00	15084	310.00	1782	438.00	165
129.00	254144	219.00	1428	311.00	367	439.00	325
130.00	22544	221.00	76808	312.00	385	440.00	449
131.00	3504	222.00	8137	313.00	1328	441.00	208960
132.00	2209	223.00	26904	314.00	6008	442.00	1435648
133.00	752	224.00	256128	315.00	14597	443.00	278912
134.00	7159	225.00	64552	316.00	7440	444.00	25416
135.00	21944	226.00	6306	317.00	1577	445.00	1408
136.00	9001	227.00	110336	318.00	120		
137.00	11705	228.00	15397	319.00	300		
138.00	1924	229.00	22424	320.00	520		

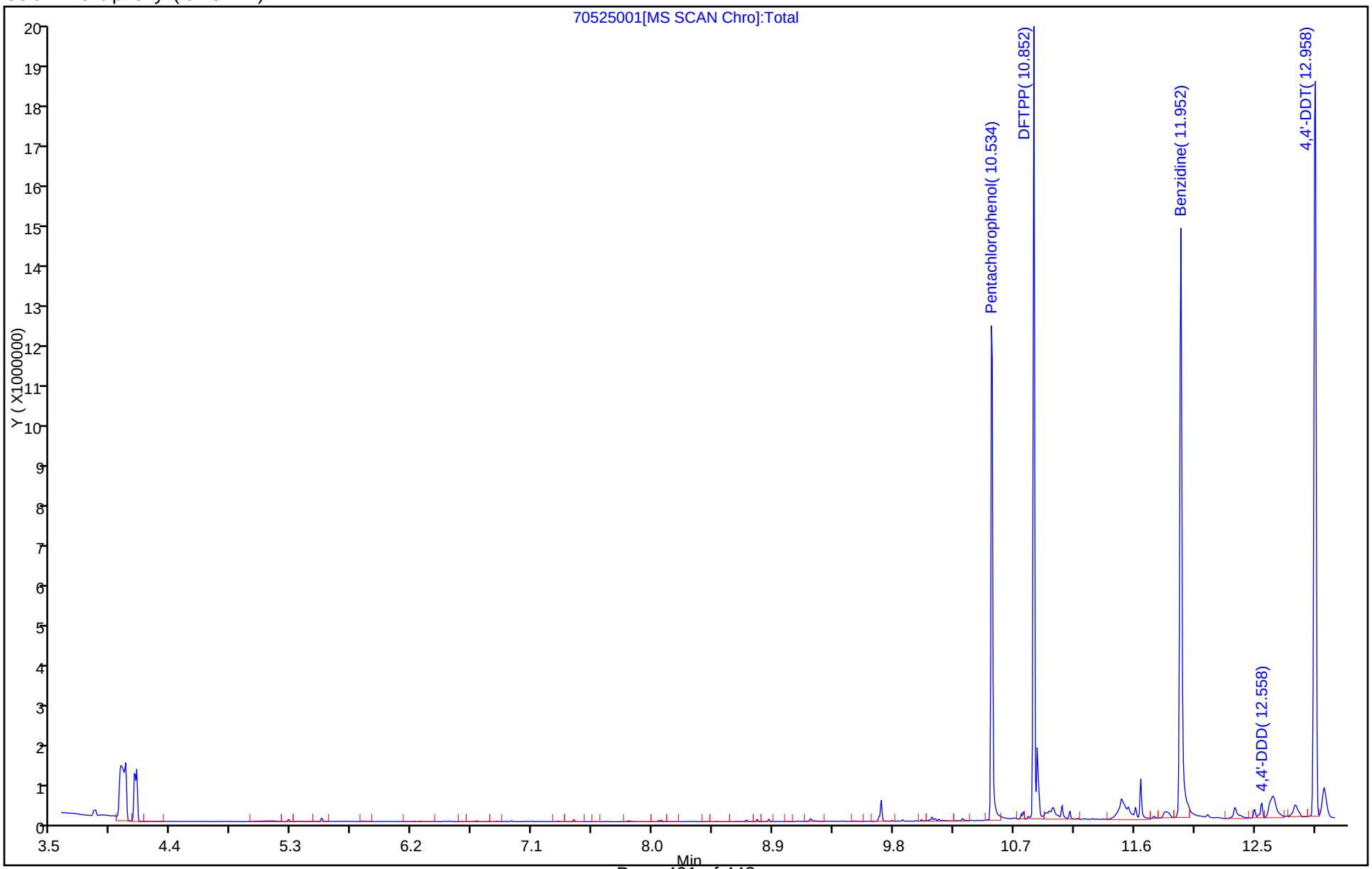
Report Date: 25-May-2017 11:12:40 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D

Injection Date:	25-May-2017 08:03:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	dftpp			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)

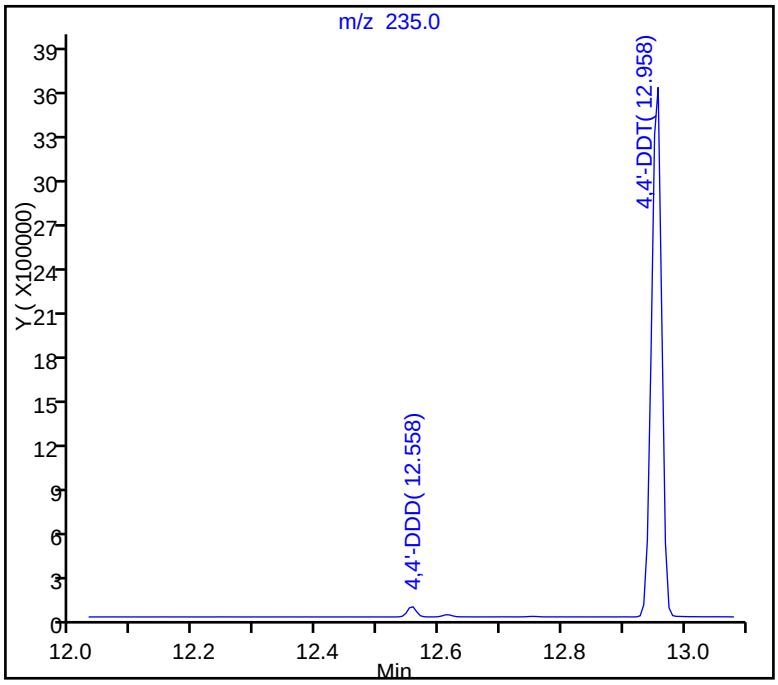


Breakdown Report

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D
Injection Date: 25-May-2017 08:03:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

171 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

171 4,4'-DDT, Area = 4222272
166 4,4'-DDD, Area = 73345
167 4,4'-DDE, Area = 7424

%Breakdown: 1.88%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Canton

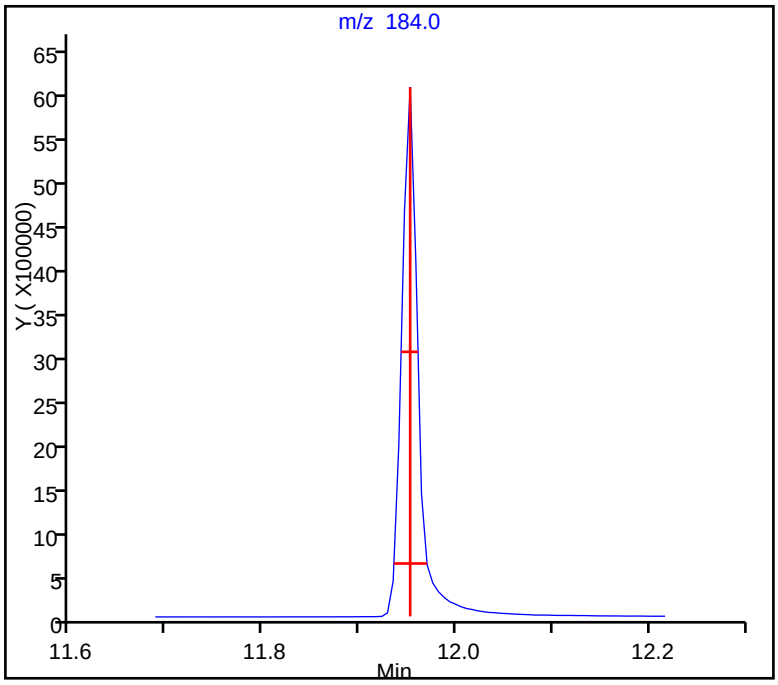
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D
Injection Date: 25-May-2017 08:03:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

160 Benzidine, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.018 (min.)
Front Width = 0.017 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Canton

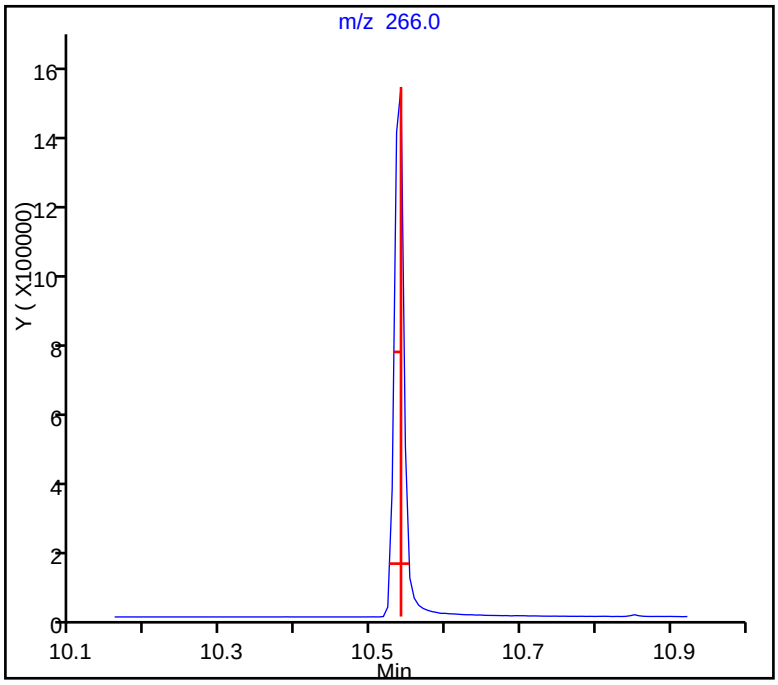
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525001.D
Injection Date: 25-May-2017 08:03:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

143 Pentachlorophenol, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.015 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00
Passed



TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D
Lims ID: dftpp
Client ID:
Sample Type: DFTPP
Inject. Date: 30-May-2017 06:51:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065431-001
Misc. Info.: DFTPP
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:25 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 30-May-2017 07:08:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
143 Pentachlorophenol	266	10.510	10.510	0.000	92	1040566	NR	NR	
160 Benzidine	184	11.904	11.904	0.000	99	5494277	NR	NR	
151 DFTPP									
167 4,4'-DDE	246	12.104	12.104	0.000	69	4477		NR	
166 4,4'-DDD	235	12.563	12.563	0.000	92	11602		NR	
171 4,4'-DDT	235	12.904	12.904	0.000	98	2941682	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

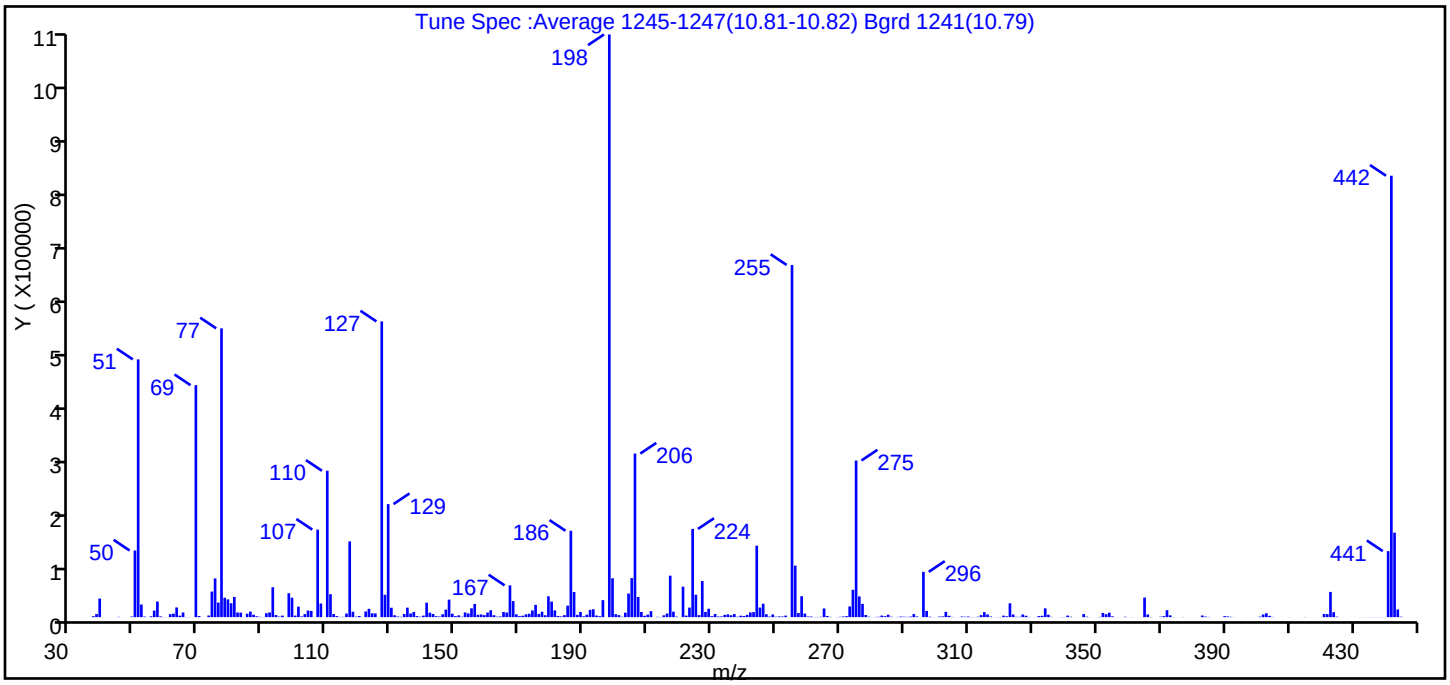
SMDFTPPW_00012 Amount Added: 0.10 Units: mL

MS Tune Report

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D
Injection Date: 30-May-2017 06:51:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL
Tune Method: DFTPP Method CLP OLM4.2

151 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100 percent relative abundance	100
51	30.0 - 80.0 percent of mass 198	44.2
68	Less than 2.0 percent of mass 69	0.0 (0.0)
69	Present	39.8
70	Less than 2.0 percent of mass 69	0.2 (0.5)
127	25.0 - 75.0 percent of mass 198	50.8
197	Less than 1.0 percent of mass 198	0.0
199	5.0 - 9.0 percent of mass 198	6.7
275	10.0 - 30.0 percent of mass 198	26.9
365	Greater than 0.75 percent of mass 198	3.4
441	Present but less than mass 443	11.3 (78.1)
442	40.0 - 110.0 percent of mass 198	75.8
443	15.0 - 24.0 percent of mass 442	14.5 (19.1)

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 30-May-2017 06:51:30
Spectrum: Tune Spec :Average 1245-1247(10.81-10.82) Bgrd 1241(10.79)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	85	137.00	9176	227.00	64032	318.00	105
37.00	1745	138.00	1862	228.00	9246	319.00	187
38.00	5496	139.00	772	229.00	14857	320.00	342
39.00	32968	140.00	2663	230.00	1789	321.00	2654
40.00	44	141.00	25672	231.00	5497	322.00	1506
41.00	51	142.00	8002	232.00	1133	323.00	24544
45.00	501	143.00	5599	233.00	1288	324.00	4746
49.00	1108	144.00	1635	234.00	4067	325.00	583
50.00	118240	145.00	1141	235.00	4926	326.00	584
51.00	457344	146.00	5054	236.00	3293	327.00	4721
52.00	22352	147.00	13418	237.00	5486	328.00	2534
53.00	1033	148.00	31096	238.00	736	329.00	378
55.00	1495	149.00	6076	239.00	2575	331.00	156
56.00	11665	150.00	1813	240.00	1999	332.00	1894
57.00	27672	151.00	3189	241.00	3953	333.00	2360
58.00	1265	152.00	809	242.00	8364	334.00	15650
59.00	331	153.00	8389	243.00	8947	335.00	4221
60.00	97	154.00	6555	244.00	126832	336.00	492
61.00	5445	155.00	15665	245.00	16968	339.00	264
62.00	6210	156.00	23432	246.00	23824	340.00	223
63.00	17192	157.00	4186	247.00	5082	341.00	2799
64.00	2621	158.00	4753	248.00	1043	342.00	788
65.00	8273	159.00	3608	249.00	4744	344.00	73
66.00	251	160.00	8107	250.00	793	345.00	88
67.00	241	161.00	12243	251.00	1309	346.00	5367
69.00	411648	162.00	3480	252.00	1124	347.00	886
70.00	1974	163.00	909	253.00	2723	348.00	134
73.00	2885	164.00	1211	255.00	624896	350.00	113
74.00	45392	165.00	9077	256.00	91376	351.00	446
75.00	68720	166.00	8189	257.00	7199	352.00	7518
76.00	25840	167.00	56352	258.00	37160	353.00	5234
77.00	512448	168.00	28440	259.00	6294	354.00	7905
78.00	34472	169.00	5016	260.00	1116	355.00	1395

Report Date: 31-May-2017 06:05:26 Chrom Revision: 2.2 25-Apr-2017 13:27:22
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 30-May-2017 06:51:30
Spectrum: Tune Spec :Average 1245-1247(10.81-10.82) Bgrd 1241(10.79)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
79.00	31504	170.00	1872	261.00	1098	356.00	75
80.00	24672	171.00	2542	262.00	283	357.00	51
81.00	35800	172.00	4959	263.00	382	358.00	53
82.00	8157	173.00	6027	264.00	647	359.00	674
83.00	7952	174.00	11887	265.00	15464	360.00	60
84.00	241	175.00	21728	266.00	2027	361.00	242
85.00	6031	176.00	5665	267.00	478	363.00	53
86.00	9773	177.00	9656	269.00	254	364.00	136
87.00	4309	178.00	3356	270.00	577	365.00	34736
88.00	1549	179.00	36976	271.00	1214	366.00	4684
89.00	617	180.00	27592	272.00	1765	367.00	353
90.00	168	181.00	12024	273.00	18960	370.00	757
91.00	7043	182.00	2035	274.00	48504	371.00	1836
92.00	8379	183.00	1303	275.00	277952	372.00	12381
93.00	53104	184.00	3575	276.00	36728	373.00	3189
94.00	3711	185.00	20432	277.00	23536	374.00	235
95.00	982	186.00	153280	278.00	3804	377.00	308
96.00	2716	187.00	44672	279.00	847	383.00	2872
98.00	42440	188.00	4098	280.00	73	384.00	1006
99.00	34456	189.00	9214	281.00	338	385.00	422
100.00	2764	190.00	1484	282.00	699	390.00	1787
101.00	18688	191.00	4304	283.00	2787	391.00	1292
102.00	1255	192.00	12908	284.00	1700	392.00	603
103.00	5341	193.00	14055	285.00	4301	393.00	79
104.00	11691	194.00	2861	286.00	721	397.00	113
105.00	10976	195.00	1749	287.00	122	401.00	965
107.00	155264	196.00	30208	288.00	370	402.00	4738
108.00	24232	198.00	1033920	289.00	1061	403.00	6942
110.00	259776	199.00	68912	290.00	739	404.00	2319
111.00	40720	200.00	5257	291.00	519	405.00	385
112.00	5427	201.00	3631	292.00	1093	410.00	120
113.00	1840	202.00	699	293.00	5391	415.00	333
114.00	452	203.00	7996	294.00	1212	420.00	63
115.00	484	204.00	41888	296.00	80408	421.00	5745

Report Date: 31-May-2017 06:05:27 Chrom Revision: 2.2 25-Apr-2017 13:27:22
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D\LVI AG2 8270.rslt\spectra.d
Injection Date: 30-May-2017 06:51:30
Spectrum: Tune Spec :Average 1245-1247(10.81-10.82) Bgrd 1241(10.79)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 346

m/z	Y	m/z	Y	m/z	Y	m/z	Y
116.00	6360	205.00	69208	297.00	11094	422.00	5350
117.00	134400	206.00	290240	298.00	802	423.00	44744
118.00	9572	207.00	35704	299.00	240	424.00	8818
119.00	865	208.00	9136	301.00	1045	425.00	803
120.00	2015	209.00	2409	302.00	1301	427.00	61
121.00	51	210.00	4454	303.00	9333	432.00	62
122.00	10070	211.00	10699	304.00	2436	433.00	115
123.00	14775	213.00	568	305.00	436	434.00	137
124.00	6765	214.00	321	306.00	90	435.00	143
125.00	6574	215.00	3241	307.00	155	436.00	129
127.00	524736	216.00	6381	308.00	1096	437.00	162
128.00	39696	217.00	73576	309.00	766	438.00	182
129.00	200576	218.00	9724	310.00	1107	439.00	253
130.00	16712	219.00	947	311.00	314	441.00	117152
131.00	3364	221.00	54024	312.00	236	442.00	783296
132.00	1116	222.00	2711	313.00	747	443.00	149952
133.00	646	223.00	16896	314.00	3552	444.00	13578
134.00	5538	224.00	156544	315.00	8865	445.00	768
135.00	16824	225.00	39728	316.00	4745		
136.00	6485	226.00	3526	317.00	1058		

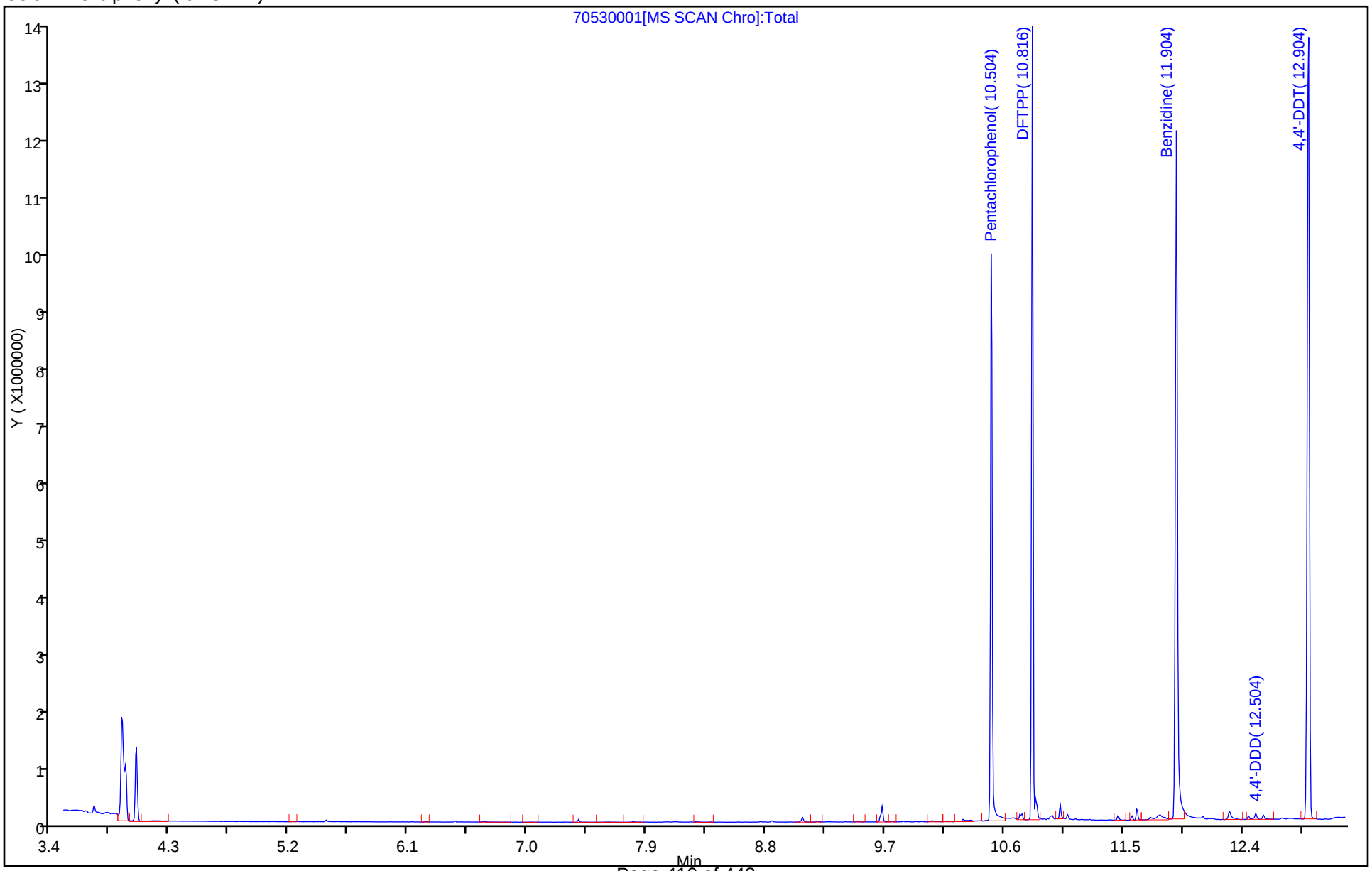
Report Date: 31-May-2017 06:05:27 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D

Injection Date:	30-May-2017 06:51:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	dftpp			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)

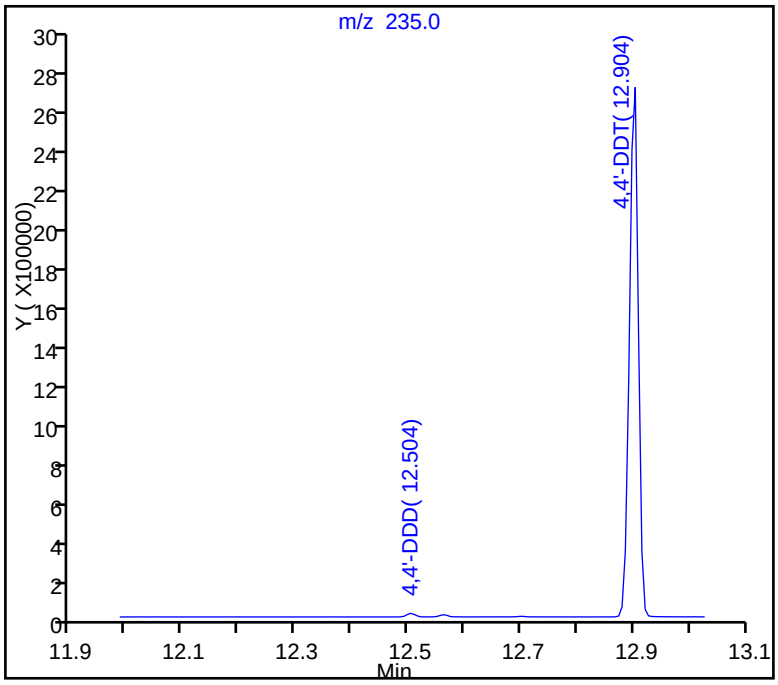


Breakdown Report

TestAmerica Canton

Data File:	\\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D				
Injection Date:	30-May-2017 06:51:30	Instrument ID:	A4AG2		
Lims ID:	dftpp				
Client ID:					
Operator ID:		ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

171 4,4'-DDT, Detector: MS SCAN



SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

171 4,4'-DDT, Area = 2941682
166 4,4'-DDD, Area = 11602
167 4,4'-DDE, Area = 4477

%Breakdown: 0.54%, Max Limit: 20.00%
Passed

Peak Tailing Report

TestAmerica Canton

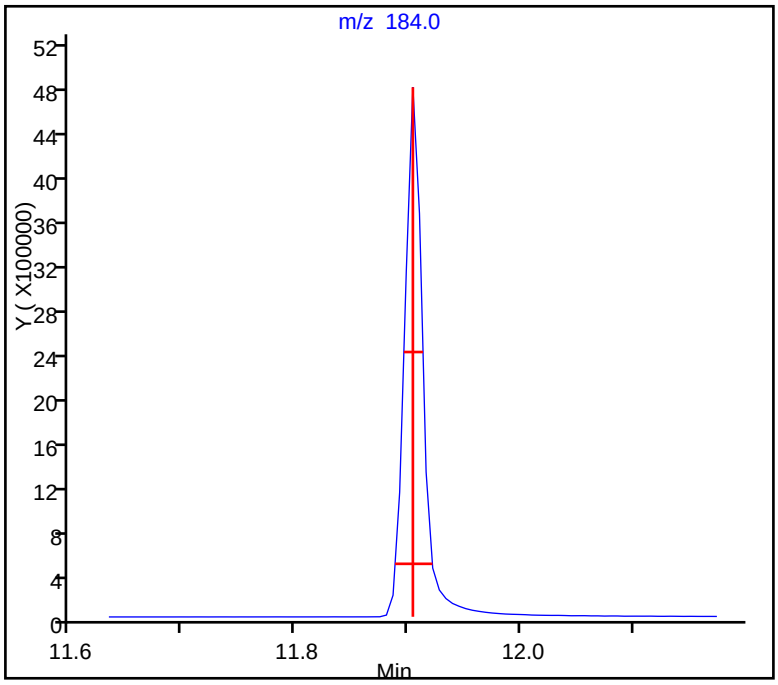
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D
Injection Date: 30-May-2017 06:51:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

160 Benzidine, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.017 (min.)
Front Width = 0.016 (min.)

Tailing Factor = 1.1, Max. Tailing < 2.00
Passed



Peak Tailing Report

TestAmerica Canton

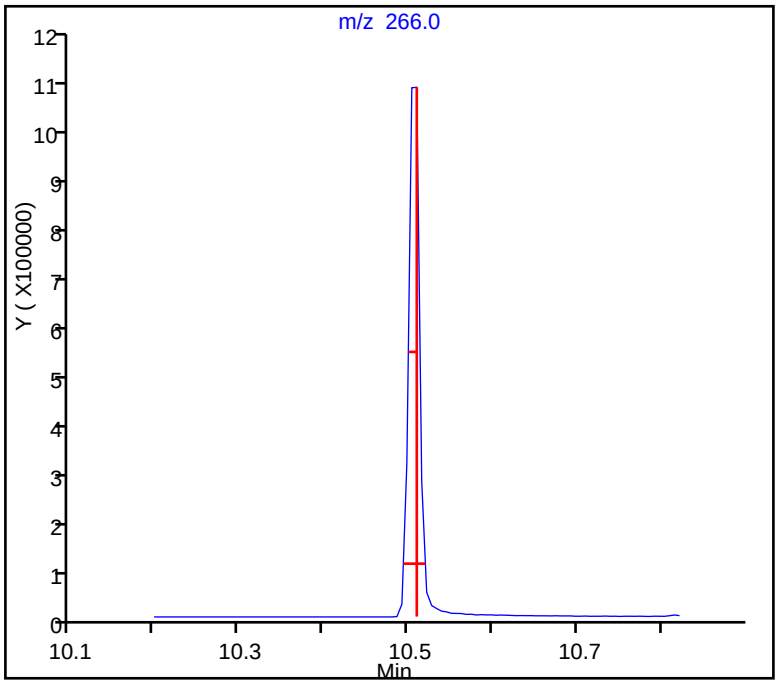
Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530001.D
Injection Date: 30-May-2017 06:51:30 Instrument ID: A4AG2
Lims ID: dftpp
Client ID:
Operator ID: ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

143 Pentachlorophenol, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.016 (min.)

Tailing Factor = 0.6, Max. Tailing < 2.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-279842/9-A

Matrix: Water | Lab File ID: 70525004.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 250(mL) | Date Analyzed: 05/25/2017 09:11

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	10	U	10	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	75		28-128
4165-62-2	Phenol-d5 (Surr)	56		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	70		35-120
367-12-4	2-Fluorophenol (Surr)	66		17-120
321-60-8	2-Fluorobiphenyl (Surr)	70		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	78		33-120

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET
TARGETED TENATIVELY IDENTIFIED COMPOUNDS

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 240-279842/9-A

Matrix: Water | Lab File ID: 70525004.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 250(mL) | Date Analyzed: 05/25/2017 09:11

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280357 | Units: ug/L

CAS NO.	COMPOUND NAME	RT	RESULT	Q	MATCH QUALITY
70-30-4	Hexachlorophene TIC		100	U	

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525004.D
Lims ID: MB 240-279842/9-A
Client ID:
Sample Type: MB
Inject. Date: 25-May-2017 09:11:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-004
Misc. Info.: MB 240-279842/9-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 31-May-2017 11:47:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.858	6.858	0.000	98	275882	400.0	400.0	
* 2 Naphthalene-d8	136	7.923	7.923	0.000	100	1258249	400.0	400.0	
* 3 Acenaphthene-d10	164	9.423	9.423	0.000	92	719216	400.0	400.0	
* 4 Phenanthrene-d10	188	10.705	10.705	0.000	97	1408100	400.0	400.0	
* 5 Chrysene-d12	240	13.681	13.681	0.000	97	1466792	400.0	400.0	
* 6 Perylene-d12	264	16.081	16.081	0.000	98	1204039	400.0	400.0	
$ 7 2-Fluorophenol	112	5.782	5.782	0.000	95	541384	1600.0	1062.6	
$ 8 Phenol-d5	99	6.494	6.494	0.000	99	784784	1600.0	891.4	
$ 9 Nitrobenzene-d5	82	7.299	7.305	-0.006	92	1298408	1600.0	1122.4	
$ 10 2-Fluorobiphenyl (Surr)	172	8.811	8.811	0.000	100	2526715	1600.0	1120.0	
$ 11 2,4,6-Tribromophenol	330	10.093	10.099	-0.006	91	268885	1600.0	1240.5	
$ 12 Terphenyl-d14	244	12.211	12.217	-0.006	99	3331062	1600.0	1197.2	
26 1,4-Dioxane	88		4.394					ND	
27 N-Nitrosodimethylamine	74		4.647					ND	
28 Pyridine	79		4.706					ND	
22 Dimethylformamide	73	4.894	4.736	0.158	59	8804			NC
29 Ethyl methacrylate	69		4.830					ND	
31 2-Picoline	93		5.329					ND	
32 N-Nitrosomethylethylamine	88		5.388					ND	
233 n,n'-Dimethylacetamide	44	5.564	5.553	0.011	45	1287			NC
14 Acrylamide	71		5.558					ND	
34 Methyl methanesulfonate	80		5.617					ND	
36 N-Nitrosodiethylamine	102		5.958					ND	
37 Ethyl methanesulfonate	79		6.170					ND	
286 4-Methyl-1-cyclohexanemeth	55	6.494	6.490	0.004	0	5422			NC
42 Benzaldehyde	77		6.494					ND	
43 Phenol	94		6.505					ND	
44 Aniline	93		6.576					ND	
41 Phenylmercaptan	110		6.581					ND	
45 Bis(2-chloroethyl)ether	93		6.594					ND	
287 4-Methyl-1-cyclohexanemeth	55	6.682	6.624	0.058	0	4135			NC

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
46 Pentachloroethane	167		6.635					ND	
244 n-Decane	57		6.682					ND	
47 2-Chlorophenol	128		6.688					ND	
48 1,3-Dichlorobenzene	146		6.817					ND	
49 1,4-Dichlorobenzene	146		6.870					ND	
232 1-Methyl-2-pyrrilidinone	99	6.858	6.871	-0.013	0	5041			NC
50 Benzyl alcohol	108		6.935					ND	
51 1,2-Dichlorobenzene	146		7.005					ND	
52 2-Methylphenol	108		7.005					ND	
54 2,2'-oxybis[1-chloropropan	45		7.041					ND	
53 Indene	115		7.076					ND	
55 3 & 4 Methylphenol	108		7.123					ND	
56 N-Nitrosopyrrolidine	100		7.135					ND	
57 N-Nitrosodi-n-propylamine	70		7.147					ND	
59 N-Nitrosomorpholine	56		7.158					ND	
58 Acetophenone	105		7.164					ND	
60 2-Toluidine	106		7.199					ND	
61 Hexachloroethane	117		7.299					ND	
62 Nitrobenzene	77		7.317					ND	
63 N-Nitrosopiperidine	114		7.435					ND	
64 Isophorone	82		7.505					ND	
67 1,3,5-Trichlorobenzene	180		7.553					ND	
66 2,4-Dimethylphenol	107		7.576					ND	
65 2-Nitrophenol	139		7.588					ND	
68 o,o',o''-Triethylphosphoro	198		7.623					ND	
70 Benzoic acid	122		7.623					ND	
69 Bis(2-chloroethoxy)methane	93		7.652					ND	
71 alpha,alpha-Dimethyl phene	58		7.747					ND	
72 2,4-Dichlorophenol	162		7.782					ND	
73 1,2,4-Trichlorobenzene	180		7.870					ND	
74 Naphthalene	128		7.946					ND	
75 4-Chloroaniline	127		7.958					ND	
76 2,6-Dichlorophenol	162		7.976					ND	
77 Hexachloropropene	213		8.017					ND	
79 1,2,3-Trichlorobenzene	180		8.024					ND	
78 Hexachlorobutadiene	225		8.035					ND	
80 Benzothiazole	135	8.152	8.112	0.040	87	8028			NC
82 N-Nitrosodi-n-butylamine	84		8.211					ND	
81 Quinoline	129		8.217					ND	
83 Caprolactam	113	8.217	8.241	-0.024	78	62706		198.7	
84 p-Phenylene diamine	108		8.246					ND	
85 4-Chloro-3-methylphenol	107		8.335					ND	
92 Safrole, Total	162		8.411					ND	
86 2-Methylnaphthalene	142		8.523					ND	
87 1-Methylnaphthalene	142		8.611					ND	
88 1,2,3,5-Tetrachlorobenzene	216		8.624					ND	
89 Hexachlorocyclopentadiene	237		8.658					ND	
95 Isosafrole Peak 1	162		8.658					ND	
90 1,2,4,5-Tetrachlorobenzene	216		8.670					ND	
93 2,4,6-Trichlorophenol	196		8.746					ND	
94 2,4,5-Trichlorophenol	196		8.782					ND	
97 2,4-Toluene diamine	121		8.847					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
91 Isosafrole Peak 2	162		8.852					ND	
98 1,2,3,4 -Tetrachlorobenzen	216		8.883					ND	
96 3,4-Dichloronitrobenzene	109		8.900					ND	
99 1,1'-Biphenyl	154		8.905					ND	
100 2-Chloronaphthalene	162		8.946					ND	
192 Phenyl ether	170	8.988	8.953	0.035	60	1132			NC
247 1-Chloronaphthalene	162		8.970					ND	
101 2-Nitroaniline	65		9.005					ND	
102 1,4-Naphthoquinone	158		9.070					ND	
105 1,4-Dinitrobenzene	168		9.093					ND	
104 Dimethyl phthalate	163		9.123					ND	
103 1,3-Dinitrobenzene	168		9.170					ND	
106 2,6-Dinitrotoluene	165		9.188					ND	
108 Acenaphthylene	152		9.311					ND	
109 3-Nitroaniline	138		9.352					ND	
110 2,4-Dinitrophenol	184		9.435					ND	
112 4-Nitrophenol	109		9.452					ND	
111 Acenaphthene	153		9.452					ND	
113 2,4-Dinitrotoluene	165		9.540					ND	
114 Pentachlorobenzene	250		9.570					ND	
115 Dibenzofuran	168		9.599					ND	
116 2,3,5,6-Tetrachlorophenol	232		9.652					ND	
117 1-Naphthylamine	143		9.652					ND	
118 2,3,4,6-Tetrachlorophenol	232		9.693					ND	
248 Hexadecane	57		9.705					ND	
119 2-Naphthylamine	143		9.717					ND	
120 Diethyl phthalate	149	9.711	9.717	-0.006	98	292529		134.2	
121 Thionazin	97		9.788					ND	
126 Tributyl phosphate	99	9.864	9.841	0.023	96	5545			NC
122 4-Chlorophenyl phenyl ethe	204		9.858					ND	
123 N-Nitro-o-toluidine	152		9.870					ND	
125 4-Nitroaniline	138		9.876					ND	
124 Fluorene	166		9.893					ND	
127 4,6-Dinitro-2-methylphenol	198		9.899					ND	
128 N-Nitrosodiphenylamine	169		9.952					ND	
129 Diphenylamine	169		9.952					ND	
131 Azobenzene	77		9.993					ND	
130 1,2-Diphenylhydrazine	77		9.993					ND	
132 Sulfotepp	202		10.035					ND	
133 1,3,5-Trinitrobenzene	213		10.129					ND	
135 Phenacetin	108		10.176					ND	
134 Diallate Peak 1	86		10.182					ND	
136 Phorate	121		10.188					ND	
137 Diallate Peak 2	86		10.264					ND	
138 4-Bromophenyl phenyl ether	248		10.282					ND	
139 Dimethoate	87		10.340					ND	
141 Atrazine	200		10.370					ND	
140 Hexachlorobenzene	284		10.382					ND	
245 n-Octadecane	57		10.487					ND	
142 4-Aminobiphenyl	169		10.499					ND	
144 Pronamide	173		10.511					ND	
143 Pentachlorophenol	266		10.535					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
145 Pentachloronitrobenzene	237		10.546					ND	
146 Disulfoton	88		10.635					ND	
147 Dinoseb	211		10.646					ND	
148 Phenanthrene	178		10.729					ND	
149 Anthracene	178		10.776					ND	
150 Carbazole	167		10.887					ND	
152 Methyl parathion	109		10.970					ND	
154 Di-n-butyl phthalate	149		11.117					ND	
153 Diphenylsulfone	125		11.147					ND	
155 Ethyl Parathion	97		11.311					ND	
156 4-Nitroquinoline-1-oxide	190		11.399					ND	
157 Methapyrilene	58		11.429					ND	
158 Isodrin	66		11.705					ND	
159 Fluoranthene	202		11.864					ND	
160 Benzidine	184		11.940					ND	
161 Pyrene	202		12.123					ND	
162 Aramite Peak 1	185		12.123					ND	
163 Aramite Peak 2	185		12.205					ND	
164 p-Dimethylamino azobenzene	225		12.370					ND	
165 Chlorobenzilate	139		12.399					ND	
168 Famphur	218		12.705					ND	
169 Butyl benzyl phthalate	149		12.758					ND	
170 3,3'-Dimethylbenzidine	212		12.787					ND	
172 2-Acetylaminofluorene	181		13.140					ND	
173 3,3'-Dimethoxybenzidine	244		13.453					ND	
174 Bis(2-ethylhexyl) phthalat	149		13.528					ND	
175 4,4'-Methylene bis(2-chlor	231		13.552					ND	
177 3,3'-Dichlorobenzidine	252		13.576					ND	
178 Benzo[a]anthracene	228		13.676					ND	
179 Chrysene	228		13.734					ND	
180 6-Methylchrysene	242		14.434					ND	
181 Di-n-octyl phthalate	149		14.558					ND	
182 7,12-Dimethylbenz(a)anthra	256		15.387					ND	
183 Benzo[b]fluoranthene	252		15.422					ND	
184 Benzo[k]fluoranthene	252		15.470					ND	
185 Benzo[a]pyrene	252		15.993					ND	
186 3-Methylcholanthrene	268		16.611					ND	
188 Dibenz[a,h]acridine	279		17.722					ND	
187 Dibenz[a,j]acridine	279		17.723					ND	
190 Indeno[1,2,3-cd]pyrene	276		18.293					ND	
189 Dibenz(a,h)anthracene	278		18.299					ND	
191 Benzo[g,h,i]perylene	276		18.952					ND	
280 Chlorpyrifos	1		0.000					ND	
303 Diisobutyl phthalate TIC	1		0.000					ND	
260 o-Phenylphenol	1		0.000					ND	
292 Benzophenone	1		0.000					ND	
255 2-Chloroaniline	1		0.000					ND	
285 Chlorobenzene TIC	1		0.000					ND	
284 2,3,7,8-TCDD TIC	1		0.000					ND	
272 Dibenzo[a,e]pyrene	1		0.000					ND	
300 2-Chloroaniline TIC	1		0.000					ND	
252 4-tert-Butylphenol	1		0.000					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
282 Kepone	272		0.000					ND	
302 3,3'-Dimethoxybenzidine TI	1		0.000					ND	
294 1-Dodecanol	1		0.000					ND	
274 3 & 4 Phenoxyphenol	1		0.000					ND	
290 1-Phenoxy-2-propanol	1		0.000					ND	
S 194 Isosafrole	162		5.181					ND	
S 195 Diallate	86		6.385					ND	
S 196 Aramite, Total	185		7.898					ND	
S 288 4-Methyl-1-cyclohexanemeth	1		0.000					ND	
S 193 Methyl Phenols,Total	100		0.000					ND	
S 246 Total Cresols	100		0.000					ND	
T 201 Kepone TIC	272		8.281					ND	
T 21 2,3,7,8-TCDD	322		8.500					ND	
T 202 Hexachlorophene TIC	198		14.400					ND	
T 301 Perylene TIC	252		15.803					ND	
T 240 3-isopropylphenol TIC	1		0.000					ND	
T 242 Triphenyl Phosphate TIC	1		0.000					ND	
T 237 Tris(2,3-dibromopropyl)pho	1		0.000					ND	
T 197 Hydroquinone TIC	110		0.000					ND	
T 236 4-isopropylphenol TIC	1		0.000					ND	
T 200 Hexamethylphosphoramide TI	44		0.000					ND	
T 234 2-Isopropylphenol TIC	1		0.000					ND	
T 199 Decane TIC	57		0.000					ND	
T 299 Alpha-Terpineol TIC	59		0.000					ND	
T 243 3-(1,1-Dimethylethyl Pheno	1		0.000					ND	
T 239 2,3,7,8 TCDF TIC	1		0.000					ND	
T 198 Octadecane (TIC)	57		0.000					ND	
T 238 Trimethyl phosphate TIC	1		0.000					ND	
T 249 4-Chlorophenol TIC	1		0.000					ND	
T 241 Tricresyl phosphate TIC	1		0.000					ND	
T 289 1-Phenoxy-2-propanol TIC	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

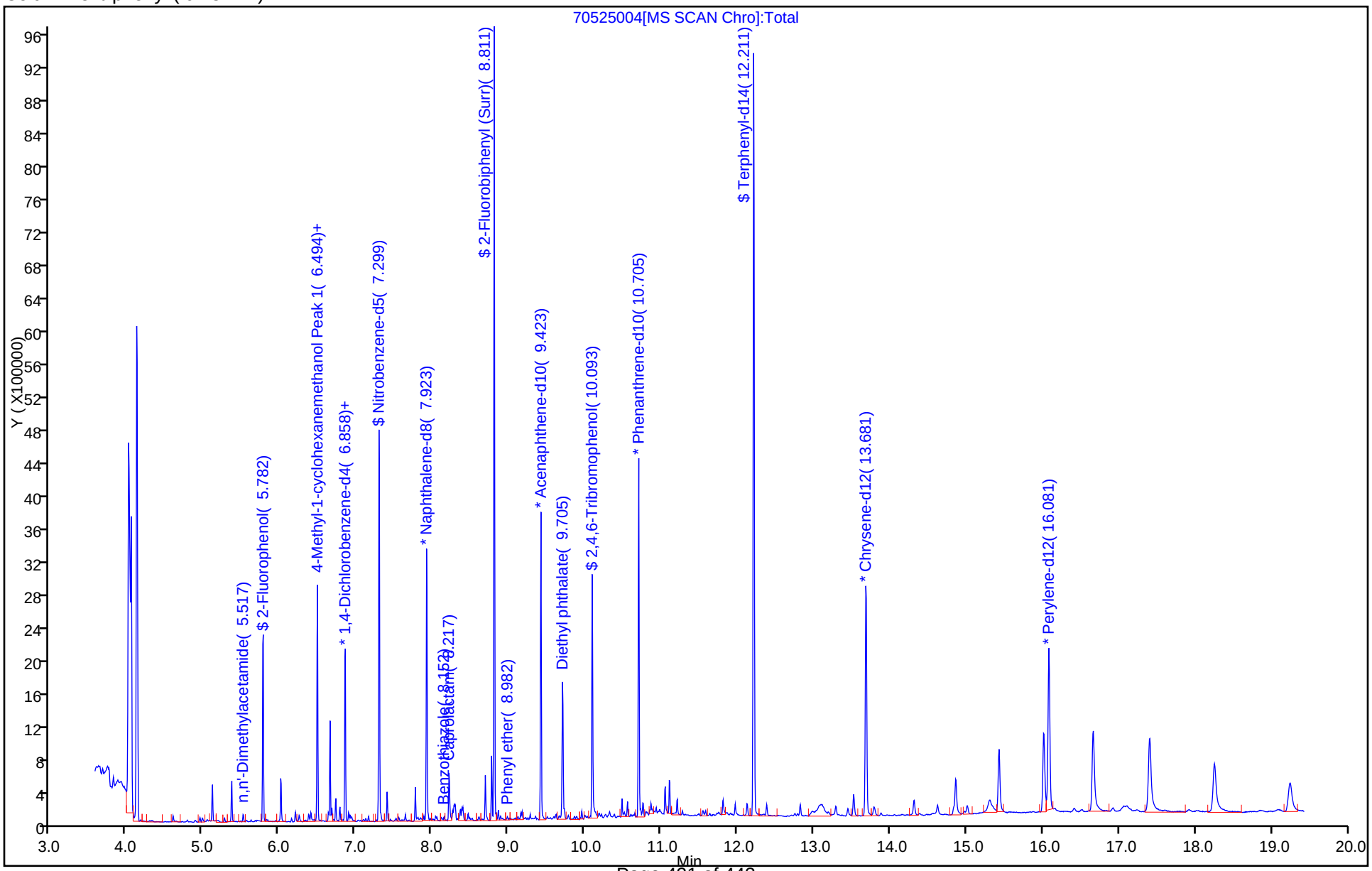
Report Date: 31-May-2017 11:47:57 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525004.D

Injection Date:	25-May-2017 09:11:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	MB 240-279842/9-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\70525004.D
Lims ID: MB 240-279842/9-A
Client ID:
Sample Type: MB
Inject. Date: 25-May-2017 09:11:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065321-004
Misc. Info.: MB 240-279842/9-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170525-65321.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 11:47:35 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 31-May-2017 11:47:34

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	1062.6	66.41
$ 8 Phenol-d5	1600.0	891.4	55.71
$ 9 Nitrobenzene-d5	1600.0	1122.4	70.15
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1120.0	70.00
$ 11 2,4,6-Tribromophenol	1600.0	1240.5	77.53
$ 12 Terphenyl-d14	1600.0	1197.2	74.83

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 240-279842/10-A

Matrix: Water | Lab File ID: 70530020.D

Analysis Method: 8270D | Date Collected:

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:34

Sample wt/vol: 250(mL) | Date Analyzed: 05/30/2017 12:26

Con. Extract Vol.: 5(mL) | Dilution Factor: 2

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280762 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	32.6		20	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	98		28-128
4165-62-2	Phenol-d5 (Surr)	45		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	103		35-120
367-12-4	2-Fluorophenol (Surr)	73		17-120
321-60-8	2-Fluorobiphenyl (Surr)	98		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	97		33-120

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530020.D
Lims ID: LCS 240-279842/10-A
Client ID:
Sample Type: LCS
Inject. Date: 30-May-2017 12:26:30 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 2.0000
Sample Info: 240-0065431-020
Misc. Info.: LCS 240-279842/10-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:57 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 30-May-2017 12:59:16

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.828	6.828	0.000	97	148915	200.0	400.0	
* 2 Naphthalene-d8	136	7.898	7.898	0.000	100	637705	200.0	400.0	
* 3 Acenaphthene-d10	164	9.398	9.398	0.000	92	378679	200.0	400.0	
* 4 Phenanthrene-d10	188	10.681	10.680	0.001	97	624812	200.0	400.0	
* 5 Chrysene-d12	240	13.639	13.639	0.000	97	587383	200.0	400.0	
* 6 Perylene-d12	264	16.027	16.021	0.006	98	485266	200.0	400.0	
$ 7 2-Fluorophenol	112	5.746	5.746	0.000	94	159502	800.0	580.0	
$ 8 Phenol-d5	99	6.469	6.469	0.000	98	170377	800.0	358.5	
$ 9 Nitrobenzene-d5	82	7.275	7.281	-0.006	93	484393	800.0	826.2	
$ 10 2-Fluorobiphenyl (Surr)	172	8.787	8.787	0.000	100	928127	800.0	781.4	
$ 11 2,4,6-Tribromophenol	330	10.069	10.075	-0.006	86	88539	800.0	775.8	
$ 12 Terphenyl-d14	244	12.175	12.180	-0.005	99	876497	800.0	786.7	
31 2-Picoline	93	5.287	5.281	0.006	88	2332	800.0	5.28	
32 N-Nitrosomethylethylamine	88	5.346	5.346	0.000	95	213128	800.0	889.3	
14 Acrylamide	71		5.522				ND	ND	
34 Methyl methanesulfonate	80	5.581	5.581	0.000	88	146228	800.0	469.4	
36 N-Nitrosodiethylamine	102	5.928	5.928	0.000	94	224723	800.0	901.8	
37 Ethyl methanesulfonate	79	6.140	6.140	0.000	98	269978	800.0	730.9	
46 Pentachloroethane	167	6.604	6.604	0.000	91	105357	800.0	649.0	
56 N-Nitrosopyrrolidine	100	7.110	7.110	0.000	84	226775	800.0	936.9	
59 N-Nitrosomorpholine	56	7.134	7.134	0.000	93	300318	800.0	904.8	
60 2-Toluidine	106	7.169	7.175	-0.006	97	109368	800.0	140.3	
63 N-Nitrosopiperidine	114	7.410	7.410	0.000	79	222340	800.0	885.6	
68 o,o',o''-Triethylphosphoro	198	7.598	7.598	0.000	87	224354	800.0	859.7	
71 alpha,alpha-Dimethyl phene	58		7.722				ND	ND	
77 Hexachloropropene	213	7.992	7.998	-0.006	91	99643	800.0	385.5	
82 N-Nitrosodi-n-butylamine	84	8.187	8.187	0.000	92	333545	800.0	997.6	
81 Quinoline	129	8.192	8.192	0.000	96	167151	800.0	183.3	
84 p-Phenylene diamine	108		8.222				ND	ND	
92 Safrole, Total	162	8.387	8.392	-0.005	88	332517	800.0	835.9	
95 Isosafrole Peak 1	162	8.639	8.639	0.000	87	50172	664.0	598.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
91 Isosafrole Peak 2	162	8.828	8.828	0.000	90	254314	136.0	122.1	
247 1-Chloronaphthalene	162	8.945	8.945	0.000	99	659745	800.0	744.7	
102 1,4-Naphthoquinone	158	9.045	9.051	-0.006	83	217480	800.0	781.2	
105 1,4-Dinitrobenzene	168	9.069	9.069	0.000	93	129812	800.0	907.0	
114 Pentachlorobenzene	250	9.545	9.545	0.000	97	270403	800.0	728.7	
117 1-Naphthylamine	143	9.628	9.628	0.000	97	223497	800.0	273.3	
116 2,3,5,6-Tetrachlorophenol	232	9.628	9.628	0.000	82	122904	800.0	930.0	
119 2-Naphthylamine	143	9.692	9.692	0.000	96	373443	800.0	439.5	
121 Thionazin	97	9.763	9.763	0.000	80	214186	800.0	907.7	
123 N-Nitro-o-toluidine	152	9.845	9.845	0.000	95	256000	800.0	903.7	
132 Sulfotepp	202	10.010	10.010	0.000	78	111878	800.0	815.7	
133 1,3,5-Trinitrobenzene	213	10.104	10.104	0.000	84	67616	800.0	839.3	
135 Phenacetin	108	10.151	10.151	0.000	94	439731	800.0	1004.0	
134 Diallate Peak 1	86	10.151	10.157	-0.006	95	366001	664.0	713.3	
136 Phorate	121	10.163	10.163	0.000	96	179736	800.0	779.2	
137 Diallate Peak 2	86	10.239	10.239	0.000	95	87902	136.0	157.3	
139 Dimethoate	87	10.316	10.316	0.000	94	367302	800.0	1006.6	
142 4-Aminobiphenyl	169	10.475	10.475	0.000	89	512051	800.0	509.2	
144 Pronamide	173	10.486	10.486	0.000	92	388420	800.0	855.4	
145 Pentachloronitrobenzene	237	10.516	10.516	0.000	83	96415	800.0	931.6	
146 Disulfoton	88	10.604	10.604	0.000	98	371242	800.0	672.5	
147 Dinoseb	211	10.616	10.622	-0.006	96	124138	800.0	707.5	
152 Methyl parathion	109	10.939	10.939	0.000	94	303960	800.0	1012.5	
155 Ethyl Parathion	97	11.280	11.280	0.000	85	181308	800.0	853.5	
156 4-Nitroquinoline-1-oxide	190	11.369	11.369	0.000	88	36060	800.0	556.3	
157 Methapyrilene	58		11.398				ND	ND	
158 Isodrin	66	11.675	11.675	0.000	91	123478	800.0	724.8	
162 Aramite Peak 1	185	12.086	12.086	0.000	93	79733	408.0	482.6	
163 Aramite Peak 2	185	12.169	12.169	0.000	95	92698	392.0	447.7	
164 p-Dimethylamino azobenzene	225	12.333	12.333	0.000	95	270934	800.0	874.2	
165 Chlorobenzilate	139	12.363	12.363	0.000	87	384843	800.0	745.9	
168 Famphur	218	12.663	12.663	0.000	87	471260	800.0	1246.1	E
170 3,3'-Dimethylbenzidine	212	12.745	12.745	0.000	99	14425	800.0	73.0	
172 2-Acetylaminofluorene	181	13.098	13.098	0.000	94	472980	800.0	749.8	
175 4,4'-Methylene bis(2-chlor	231	13.510	13.510	0.000	97	195883	800.0	810.2	
180 6-Methylchrysene	242	14.380	14.386	-0.006	99	1697474	1600.0	1501.1	
182 7,12-Dimethylbenz(a)anthra	256	15.333	15.333	0.000	93	239485	800.0	558.7	
186 3-Methylcholanthrene	268	16.539	16.545	-0.006	92	759399	1600.0	1016.0	
188 Dibenz[a,h]acridine	279	17.639	17.639	0.000	91	855528	800.0	793.3	
S 194 Isosafrole	162				0		800.0	720.6	
S 195 Diallate	86				0		800.0	870.6	
S 196 Aramite, Total	185				0		800.0	930.3	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

E - Exceeded Maximum Amount

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

Report Date: 31-May-2017 06:06:00 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530020.D

Injection Date: 30-May-2017 12:26:30 Instrument ID: A4AG2 Operator ID:

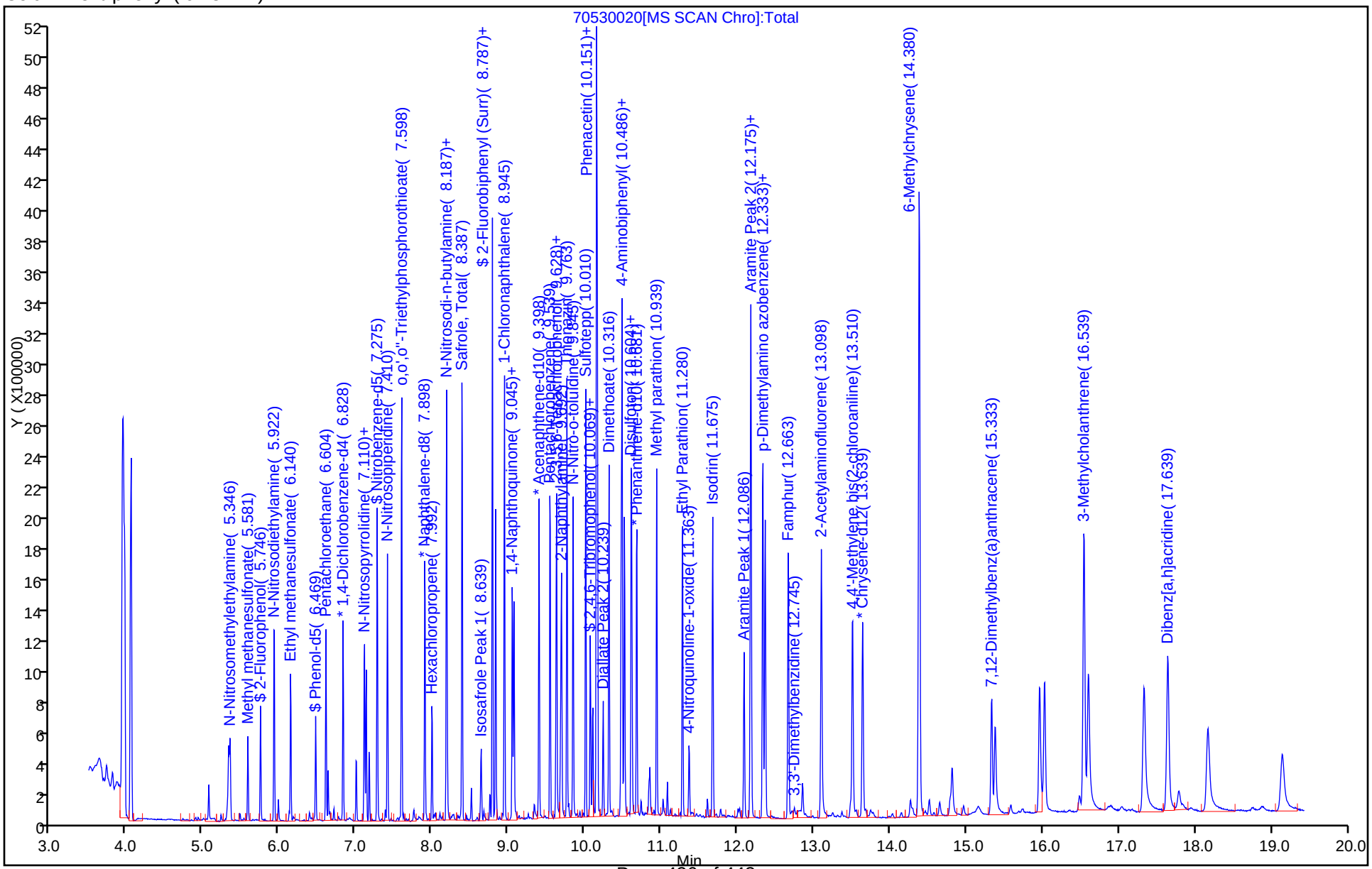
Lims ID: LCS 240-279842/10-A Worklist Smp#: 20

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 2.0000 ALS Bottle#: 20

Method: LVI AG2 8270 Limit Group: MSS 8270D ICAL

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530020.D
Lims ID: LCS 240-279842/10-A
Client ID:
Sample Type: LCS
Inject. Date: 30-May-2017 12:26:30 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 2.0000
Sample Info: 240-0065431-020
Misc. Info.: LCS 240-279842/10-A
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:57 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 30-May-2017 12:59:16

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	580.0	72.50
$ 8 Phenol-d5	1600.0	358.5	44.81
$ 9 Nitrobenzene-d5	1600.0	826.2	103.27
$ 10 2-Fluorobiphenyl (Surr)	1600.0	781.4	97.67
$ 11 2,4,6-Tribromophenol	1600.0	775.8	96.97
$ 12 Terphenyl-d14	1600.0	786.7	98.33

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16WC1A MS | Lab Sample ID: 240-79703-4 MS

Matrix: Water | Lab File ID: 70530021.D

Analysis Method: 8270D | Date Collected: 05/16/2017 10:15

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/30/2017 12:50

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280762 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	26.5		8.9	0.89

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	93		28-128
4165-62-2	Phenol-d5 (Surr)	28		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	91		35-120
367-12-4	2-Fluorophenol (Surr)	59		17-120
321-60-8	2-Fluorobiphenyl (Surr)	86		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	92		33-120

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530021.D
Lims ID: 240-79703-B-4-A MS
Client ID: 16WC1A
Sample Type: MS
Inject. Date: 30-May-2017 12:50:30 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065431-021
Misc. Info.: 240-79703-B-4-A MS
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:57 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 30-May-2017 13:37:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.828	6.828	0.000	98	148937	400.0	400.0	
* 2 Naphthalene-d8	136	7.898	7.898	0.000	100	697466	400.0	400.0	
* 3 Acenaphthene-d10	164	9.398	9.398	0.000	92	391026	400.0	400.0	
* 4 Phenanthrene-d10	188	10.681	10.680	0.001	97	647526	400.0	400.0	
* 5 Chrysene-d12	240	13.639	13.639	0.000	97	642934	400.0	400.0	
* 6 Perylene-d12	264	16.027	16.021	0.006	98	516499	400.0	400.0	
$ 7 2-Fluorophenol	112	5.752	5.746	0.006	94	258063	1600.0	938.3	
$ 8 Phenol-d5	99	6.469	6.469	0.000	98	213569	1600.0	449.3	
$ 9 Nitrobenzene-d5	82	7.275	7.281	-0.006	93	929364	1600.0	1449.3	
$ 10 2-Fluorobiphenyl (Surr)	172	8.787	8.787	0.000	100	1685923	1600.0	1374.5	
$ 11 2,4,6-Tribromophenol	330	10.075	10.075	0.000	94	172894	1600.0	1467.1	
$ 12 Terphenyl-d14	244	12.175	12.180	-0.005	99	1816618	1600.0	1489.6	
62 Nitrobenzene	77		7.293					ND	
125 4-Nitroaniline	138		9.851					ND	
132 Sulfotepp	202	10.010	10.010	0.000	78	210813	1600.0	1483.2	
T 202 Hexachlorophene TIC	198		14.400					ND	

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

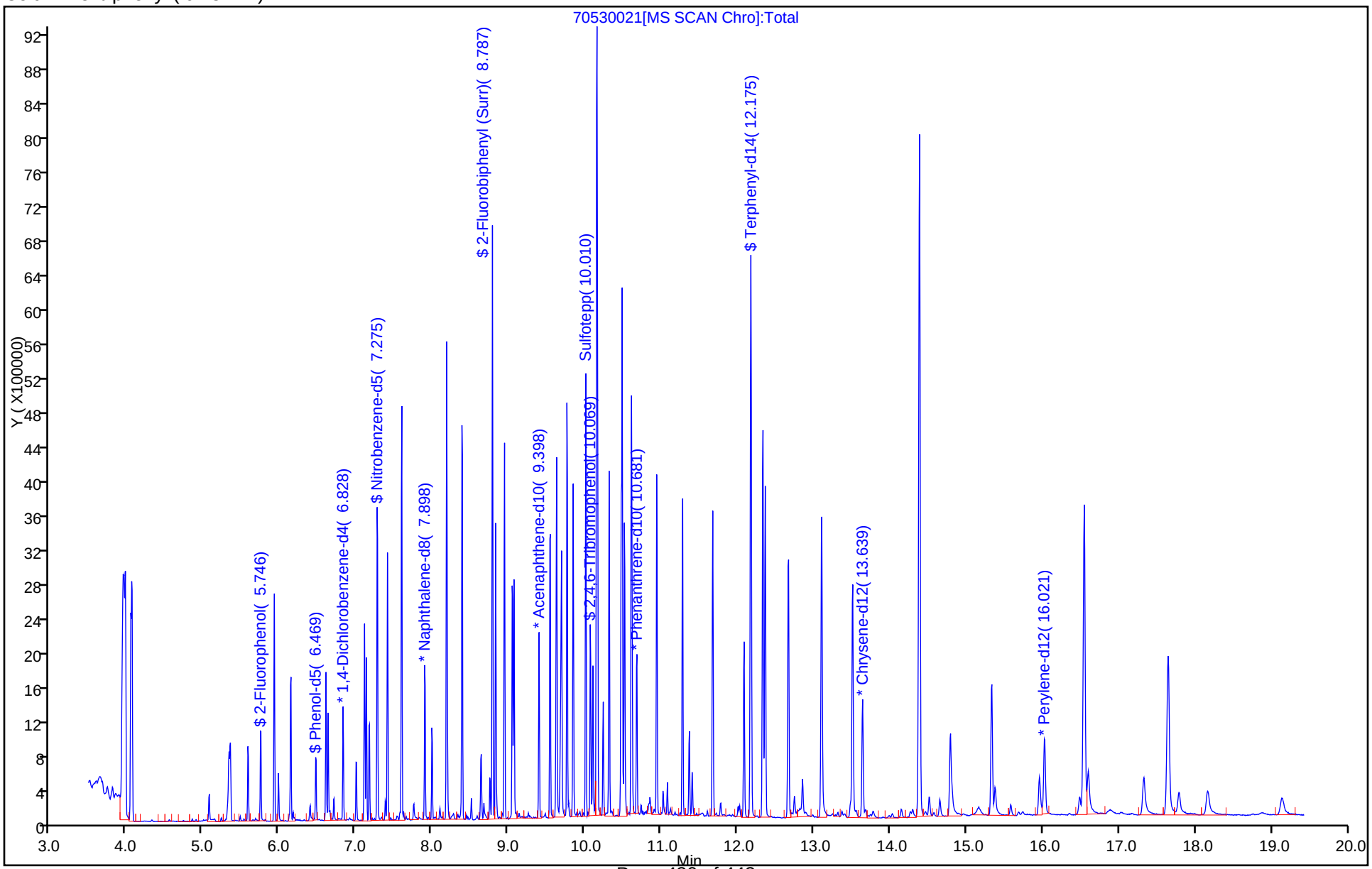
Report Date: 31-May-2017 06:06:02 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530021.D

Injection Date:	30-May-2017 12:50:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	240-79703-B-4-A MS			Worklist Smp#:	21
Client ID:	16WC1A				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	21
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530021.D
Lims ID: 240-79703-B-4-A MS
Client ID: 16WC1A
Sample Type: MS
Inject. Date: 30-May-2017 12:50:30 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065431-021
Misc. Info.: 240-79703-B-4-A MS
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:57 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 30-May-2017 13:37:21

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	938.3	58.64
$ 8 Phenol-d5	1600.0	449.3	28.08
$ 9 Nitrobenzene-d5	1600.0	1449.3	90.58
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1374.5	85.91
$ 11 2,4,6-Tribromophenol	1600.0	1467.1	91.69
$ 12 Terphenyl-d14	1600.0	1489.6	93.10

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Canton | Job No.: 240-79703-1

SDG No.:

Client Sample ID: 16WC1A MSD | Lab Sample ID: 240-79703-4 MSD

Matrix: Water | Lab File ID: 70530022.D

Analysis Method: 8270D | Date Collected: 05/16/2017 10:15

Extract. Method: 3510C | Date Extracted: 05/22/2017 08:32

Sample wt/vol: 280(mL) | Date Analyzed: 05/30/2017 13:15

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | Level: (low/med) Low

% Moisture: | GPC Cleanup:(Y/N) N

Analysis Batch No.: 280762 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
3689-24-5	Sulfotepp	26.2		8.9	0.89

CAS NO.	SURROGATE	%REC	Q	LIMITS
1718-51-0	Terphenyl-d14 (Surr)	91		28-128
4165-62-2	Phenol-d5 (Surr)	35		15-120
4165-60-0	Nitrobenzene-d5 (Surr)	93		35-120
367-12-4	2-Fluorophenol (Surr)	79		17-120
321-60-8	2-Fluorobiphenyl (Surr)	88		32-120
118-79-6	2,4,6-Tribromophenol (Surr)	95		33-120

TestAmerica Canton
Target Compound Quantitation Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530022.D
Lims ID: 240-79703-C-4-A MSD
Client ID: 16WC1A
Sample Type: MSD
Inject. Date: 30-May-2017 13:15:30 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065431-022
Misc. Info.: 240-79703-C-4-A MSD
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:57 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 31-May-2017 06:00:29

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ng/ml	OnCol Amt ng/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	6.828	6.828	0.000	98	150419	400.0	400.0	
* 2 Naphthalene-d8	136	7.898	7.898	0.000	100	732805	400.0	400.0	
* 3 Acenaphthene-d10	164	9.398	9.398	0.000	92	411351	400.0	400.0	
* 4 Phenanthrene-d10	188	10.680	10.680	0.000	97	693359	400.0	400.0	
* 5 Chrysene-d12	240	13.639	13.639	0.000	97	706853	400.0	400.0	
* 6 Perylene-d12	264	16.027	16.021	0.006	98	567734	400.0	400.0	
$ 7 2-Fluorophenol	112	5.746	5.746	0.000	95	350231	1600.0	1260.8	
$ 8 Phenol-d5	99	6.469	6.469	0.000	98	267719	1600.0	557.7	
$ 9 Nitrobenzene-d5	82	7.275	7.281	-0.006	92	1001617	1600.0	1486.6	
$ 10 2-Fluorobiphenyl (Surr)	172	8.786	8.787	-0.001	100	1814511	1600.0	1406.2	
$ 11 2,4,6-Tribromophenol	330	10.075	10.075	0.000	94	188769	1600.0	1522.6	
$ 12 Terphenyl-d14	244	12.180	12.180	0.000	99	1953858	1600.0	1457.2	
62 Nitrobenzene	77		7.293					ND	
125 4-Nitroaniline	138		9.851					ND	
132 Sulfotepp	202	10.010	10.010	0.000	79	223672	1600.0	1469.6	
T 202 Hexachlorophene TIC	198		14.400					ND	

Reagents:

SMIS80PPMW_00015 Amount Added: 5.00 Units: uL Run Reagent

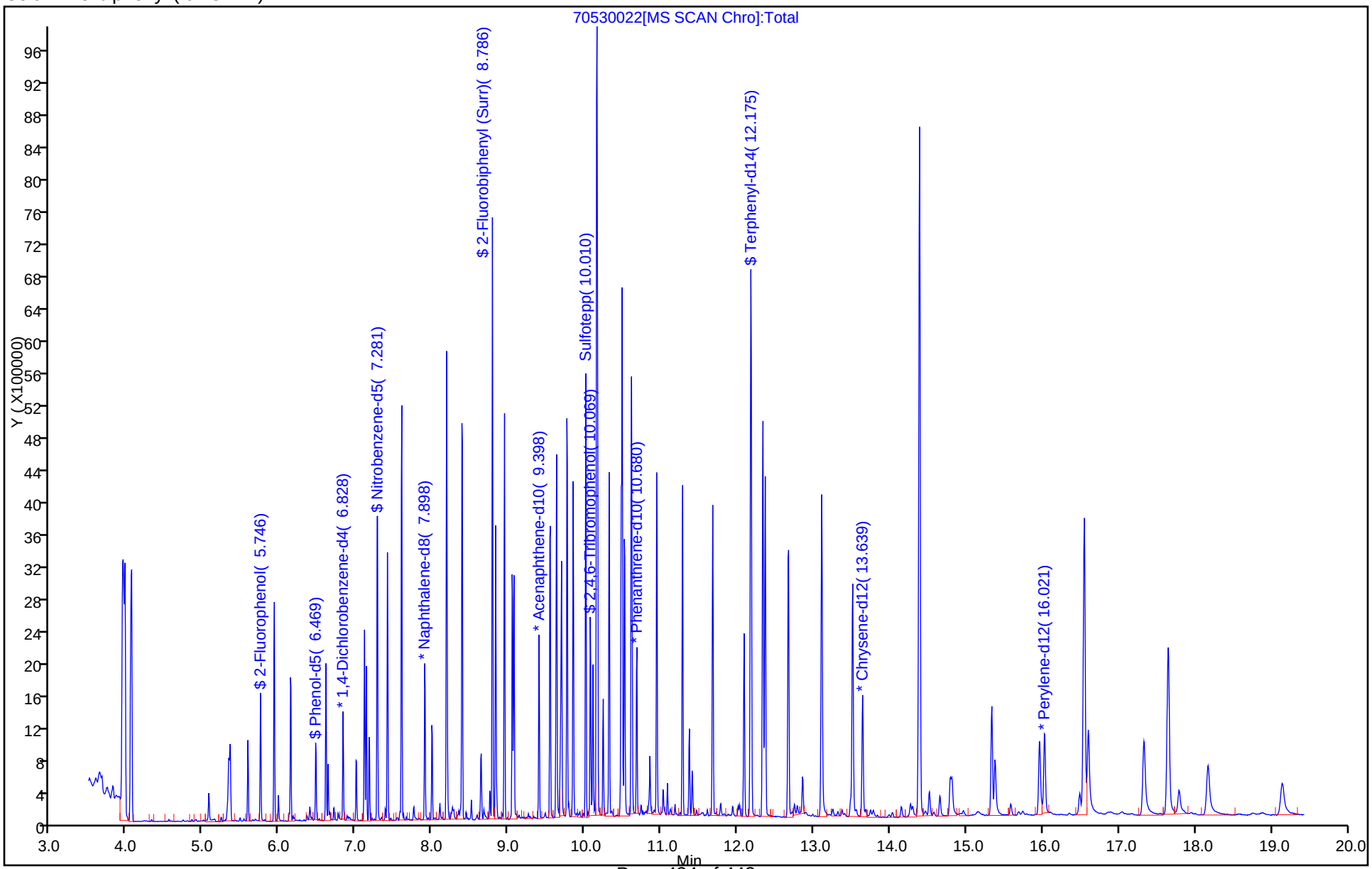
Report Date: 31-May-2017 06:06:04 Chrom Revision: 2.2 25-Apr-2017 13:27:22

TestAmerica Canton

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530022.D

Injection Date:	30-May-2017 13:15:30	Instrument ID:	A4AG2	Operator ID:	
Lims ID:	240-79703-C-4-A MSD			Worklist Smp#:	22
Client ID:	16WC1A				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	LVI AG2 8270	Limit Group:	MSS 8270D ICAL		

Column: 5% phenyl (0.18 mm)



TestAmerica Canton
Recovery Report

Data File: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\70530022.D
Lims ID: 240-79703-C-4-A MSD
Client ID: 16WC1A
Sample Type: MSD
Inject. Date: 30-May-2017 13:15:30 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 240-0065431-022
Misc. Info.: 240-79703-C-4-A MSD
Operator ID: Instrument ID: A4AG2

Method: \\ChromNA\Canton\ChromData\A4AG2\20170530-65431.b\LVI AG2 8270.m
Limit Group: MSS 8270D ICAL
Last Update: 31-May-2017 06:05:57 Calib Date: 24-May-2017 15:35:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Canton\ChromData\A4AG2\20170524-65275.b\70524019.D

Column 1 : 5% phenyl (0.18 mm) Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: hulat Date: 31-May-2017 06:00:29

Compound	Amount Added	Amount Recovered	% Rec.
$ 7 2-Fluorophenol	1600.0	1260.8	78.80
$ 8 Phenol-d5	1600.0	557.7	34.86
$ 9 Nitrobenzene-d5	1600.0	1486.6	92.91
$ 10 2-Fluorobiphenyl (Surr)	1600.0	1406.2	87.89
$ 11 2,4,6-Tribromophenol	1600.0	1522.6	95.17
$ 12 Terphenyl-d14	1600.0	1457.2	91.08

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Instrument ID: A4AG2 Start Date: 05/24/2017 08:23

Analysis Batch Number: 280161 End Date: 05/24/2017 16:00

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 240-280161/1		05/24/2017 08:23	1	70524001.D	RXI-5SILMS/IIG 0.25(mm)
STD9 240-280161/2 IC		05/24/2017 08:41	1	70524002.D	RXI-5SILMS/IIG 0.25(mm)
STD8 240-280161/3 IC		05/24/2017 09:06	1	70524003.D	RXI-5SILMS/IIG 0.25(mm)
STD7 240-280161/4 IC		05/24/2017 09:30	1	70524004.D	RXI-5SILMS/IIG 0.25(mm)
STD6 240-280161/5 ICIS		05/24/2017 09:54	1	70524005.D	RXI-5SILMS/IIG 0.25(mm)
STD5 240-280161/6 IC		05/24/2017 10:19	1	70524006.D	RXI-5SILMS/IIG 0.25(mm)
STD4 240-280161/7 IC		05/24/2017 10:43	1	70524007.D	RXI-5SILMS/IIG 0.25(mm)
STD3 240-280161/8 IC		05/24/2017 11:07	1	70524008.D	RXI-5SILMS/IIG 0.25(mm)
STD2 240-280161/9 IC		05/24/2017 11:32	1	70524009.D	RXI-5SILMS/IIG 0.25(mm)
STD1 240-280161/10 IC		05/24/2017 11:56	1	70524010.D	RXI-5SILMS/IIG 0.25(mm)
ICV 240-280161/11		05/24/2017 12:21	1	70524011.D	RXI-5SILMS/IIG 0.25(mm)
STD9 240-280161/12 IC		05/24/2017 12:45	1	70524012.D	RXI-5SILMS/IIG 0.25(mm)
STD8 240-280161/13 IC		05/24/2017 13:09	1	70524013.D	RXI-5SILMS/IIG 0.25(mm)
STD7 240-280161/14 IC		05/24/2017 13:34	1	70524014.D	RXI-5SILMS/IIG 0.25(mm)
STD6 240-280161/15 IC		05/24/2017 13:58	1	70524015.D	RXI-5SILMS/IIG 0.25(mm)
STD5 240-280161/16 IC		05/24/2017 14:22	1	70524016.D	RXI-5SILMS/IIG 0.25(mm)
STD4 240-280161/17 IC		05/24/2017 14:47	1	70524017.D	RXI-5SILMS/IIG 0.25(mm)
STD3 240-280161/18 IC		05/24/2017 15:11	1	70524018.D	RXI-5SILMS/IIG 0.25(mm)
STD2 240-280161/19 IC		05/24/2017 15:35	1	70524019.D	RXI-5SILMS/IIG 0.25(mm)
ICV 240-280161/20		05/24/2017 16:00	1	70524020.D	RXI-5SILMS/IIG 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Instrument ID: A4AG2 Start Date: 05/25/2017 08:03

Analysis Batch Number: 280357 End Date: 05/25/2017 17:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 240-280357/1		05/25/2017 08:03	1	70525001.D	RXI-5SILMS/IIG 0.25(mm)
STD6 240-280357/2 CCVIS		05/25/2017 08:21	1	70525002.D	RXI-5SILMS/IIG 0.25(mm)
STD6 240-280357/3 CCV		05/25/2017 08:46	1	70525003.D	RXI-5SILMS/IIG 0.25(mm)
MB 240-279842/9-A		05/25/2017 09:11	1	70525004.D	RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 09:35	2		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 10:24	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 10:48	25		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 11:13	100		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 11:37	100		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 12:01	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 12:26	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 12:50	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 13:15	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 13:39	2		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 14:03	10		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 14:28	50		RXI-5SILMS/IIG 0.25(mm)
240-79703-1		05/25/2017 14:52	1	70525018.D	RXI-5SILMS/IIG 0.25(mm)
240-79703-2		05/25/2017 15:16	1	70525019.D	RXI-5SILMS/IIG 0.25(mm)
240-79703-3		05/25/2017 15:41	1	70525020.D	RXI-5SILMS/IIG 0.25(mm)
240-79703-5		05/25/2017 16:05	1	70525021.D	RXI-5SILMS/IIG 0.25(mm)
240-79703-6		05/25/2017 16:29	1	70525022.D	RXI-5SILMS/IIG 0.25(mm)
240-79703-4		05/25/2017 16:54	1	70525023.D	RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 17:18	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/25/2017 17:42	1		RXI-5SILMS/IIG 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Instrument ID: A4AG2 Start Date: 05/30/2017 06:51

Analysis Batch Number: 280762 End Date: 05/30/2017 14:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 240-280762/1		05/30/2017 06:51	1	70530001.D	RXI-5SILMS/IIG 0.25(mm)
STD6 240-280762/2 CCVIS		05/30/2017 07:09	1	70530002.D	RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 07:34	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 07:58	2		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 08:23	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 08:47	2		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 09:11	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 09:36	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 10:00	4		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 10:24	10		RXI-5SILMS/IIG 0.25(mm)
STD6 240-280762/19 CCV		05/30/2017 12:02	1	70530019.D	RXI-5SILMS/IIG 0.25(mm)
LCS 240-279842/10-A		05/30/2017 12:26	2	70530020.D	RXI-5SILMS/IIG 0.25(mm)
240-79703-4 MS		05/30/2017 12:50	1	70530021.D	RXI-5SILMS/IIG 0.25(mm)
240-79703-4 MSD		05/30/2017 13:15	1	70530022.D	RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 13:39	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 14:03	1		RXI-5SILMS/IIG 0.25(mm)
ZZZZZ		05/30/2017 14:28	1		RXI-5SILMS/IIG 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Batch Number: 279842 Batch Start Date: 05/22/17 08:32 Batch Analyst: Harper, Kaitlin E

Batch Method: 3510C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	ReceivedpH	InitialAmount	FinalAmount	FirstAdjustpH	exBNASURR W 00045	EXLIST2spike 00010
240-79703-B-1	16C1	3510C, 8270D	T	7 SU	280 mL	5 mL	2 SU	0.4 mL	
240-79703-A-2	16MW8	3510C, 8270D	T	5 SU	250 mL	5 mL	2 SU	0.4 mL	
240-79703-B-3	16MW9	3510C, 8270D	T	7 SU	280 mL	5 mL	2 SU	0.4 mL	
240-79703-E-4	16WC1A	3510C, 8270D	T	7 SU	280 mL	5 mL	2 SU	0.4 mL	
240-79703-B-4 MS	16WC1A	3510C, 8270D	T	7 SU	280 mL	5 mL	2 SU	0.4 mL	0.4 mL
240-79703-C-4 MSD	16WC1A	3510C, 8270D	T	7 SU	280 mL	5 mL	2 SU	0.4 mL	0.4 mL
240-79703-B-5	16WDUP	3510C, 8270D	T	7 SU	280 mL	5 mL	2 SU	0.4 mL	
240-79703-A-6	16WC1B	3510C, 8270D	T	7 SU	250 mL	5 mL	2 SU	0.4 mL	
MB 240-279842/9		3510C, 8270D		7 SU	250 mL	5 mL	2 SU	0.4 mL	
LCS 240-279842/10		3510C, 8270D		7 SU	250 mL	5 mL	2 SU	0.4 mL	0.4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment					
240-79703-B-1	16C1	3510C, 8270D	T						
240-79703-A-2	16MW8	3510C, 8270D	T	associate w/ 279924					
240-79703-B-3	16MW9	3510C, 8270D	T	associate w/ 279924					
240-79703-E-4	16WC1A	3510C, 8270D	T	associate w/ 279924					
240-79703-B-4 MS	16WC1A	3510C, 8270D	T						
240-79703-C-4 MSD	16WC1A	3510C, 8270D	T						
240-79703-B-5	16WDUP	3510C, 8270D	T	associate w/ 279924					
240-79703-A-6	16WC1B	3510C, 8270D	T	associate w/ 279924					
MB 240-279842/9		3510C, 8270D		associate w/ 279924					
LCS 240-279842/10		3510C, 8270D							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Canton Job No.: 240-79703-1

SDG No.:

Batch Number: 279842 Batch Start Date: 05/22/17 08:32 Batch Analyst: Harper, Kaitlin E

Batch Method: 3510C Batch End Date:

Batch Notes	
Acid Used for pH Adjustment ID	2939366
Na2SO4 ID	2548156
pH Paper ID	2644945 2794738
Prep Solvent ID	3056048

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

3.0 / C2.7

CHAIN OF CUSTODY RECORD

OK JVR 4/12/17

Laboratory: Test America, 4101 Shuffel Drive NW, North Canton, OH, 44720 / Opal Johnson, Manager/1-800-966-9279

Client: 0 **Attn:** 0 **Addres** 0 0 **Phone:** 0 **Fax:** 0 **Fax:** 0	**Consultant:** Draper Aden Associates **Attn:** Janet C. Frazier **Address:** 2206 South Main Street Blacksburg, Virginia 24060 **Phone:** (540) 552-0444 **Fax:** (540) 552-0291	**Sample Site:** RFAAP, Radford, Virginia **Location:** HWMU16 **Event:** 2Q 2017 Annual Groundwater Monitoring Event **DAA JN:** B03204-17 **Lab JN:**	**Project Specific (PS) or Batch (B) QC:** **Sample Collection for Project Complete?** YES UPS: 1Z 237 301 01 9329 6374 **Carrier:** **Tracking Number:**		

Box 1: Matrix	Box 2: Preservative	Box 3: Filtered/Unfiltered	Box 4: Sample Type	Invoice
SW Surface Water T Trip Blank GW Groundwater E Equipment Bla L Leachate P Product S Soil O Other	A HCL E NaOH B HNO_3 F ZnAc C H_2SO_4 G Other (Specify) D $Na_2S_2O_3$ H None	F Filtered U Unfiltered **Box 5: Sample Container Type** P Plastic V VOA AG Amber Glass CG Clear Glass	G Grab C Composite	**Copy to Consultant:** YES **Bill:** CLIENT OTHER **Preserved and shipped on ice:** YES

		Time	Box 1: Matrix	Number of Bottles	8270D/3510C (Semivolatiles)
Box 4 - Sample Type					G
Box 3 - Filtered/Unfiltered					U
Required pH of Sample					
Box 2 - Preservative					H
Box 5 - Sample Container Type					2-250mL AG
Sample ID	**Date: 2017**				
16C1	5/17	1035	GW	2	X
16MW8	5/15	1220	GW	2	X
16MW9	5/16	1140	GW	2	X
16WC1A	5/16	1015	GW	6	X
16WDUP	5/16	1030	GW	2	X
16WC1B	5/15	1540	GW	2	X
16-2	5/15		GW		
16-3	5/16		GW		
16-5	5/		GW		
16WC2B	5/		GW		
16SPRING	5/		GW		
	JVR 5-15-17				

GENERAL NOTES:

1. Report results to detection limit, with J flags, for italicized wells.
2. VELAP accreditation required.
3. Full Deliverable with EDD.
4. 8270 -Analyze for Hexachlorophene and Sulfotepp Only.

QL/DL 100/10 ug/L — QL/DL 10/1 ug/L — JVR 4/12/17

USE FOR QC

240-79703 Chain of Custody

Clients Special Instructions:

Received by lab in Good Condition ____ Yes ____ No Custody Seal Intact ____ Yes ____ No Temperature upon arrival ____ Received on Ice ____

Describe problems, if any.

Sampler Name (Print): Ken Coddington	Date: 5-15-17	#1 Relinquished by (Signature):	Date: 5/17/17	#2 Relinquished by (Signature):	Date:	Sample Storage Time Requested:	
Sampler Signature:	Time: 0800	Company Name: DAA	Time: 1700	Company Name:	Time:		
Sampler Name (Print): Will Mason-Deep	Date: 5-15-17	#1 Received by (Signature):	Date: 05/18/17	#2 Received by (Signature):	Date:	30 DYS ORG/6 MTHS INORG	
Sampler Signature:	Time: 0800	Company Name: TA	Time: 0915	Company Name:	Time:		

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 79703**
Canton Facility

Client Draper Aden Site Name _____ Cooler unpacked by: DH

Cooler Received on 05/18/17 Opened on 05/18/17

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-8 (CF **-0.3** °C) Observed Cooler Temp. 3.0 °C Corrected Cooler Temp. 2.7 °C
   IR GUN #36 (CF **+0.8**°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
   -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
    If yes, Questions 11-15 have been checked at the originating laboratory.
11. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# **HC697954**
12. Were VOAs on the COC? Yes No
13. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No NA
14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #_____ Yes No
15. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by:

17. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

18. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

Ref: SOP NC-SC-0005, Sample Receiving
\\tacorp\corp\QA\QA_Facilities\Canton-QA\Document-Management\Work-Instruction\Word Version Work Instructions\WI-NC-099-042717 Cooler Receipt Form.doc djl

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Draper Aden Associates
2206 South Main Street
Blacksburg, VA 24060
Attention: Janet Frazier

Project Name: **RAAP HWMU16**

Project Number: **B03201-17A**

Lot Number: **SE18010**

Date Completed: **06/09/2017**

Catherine S. Dover
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
Draper Aden Associates
Lot Number: SE18010
Project Name: RAAP HWMU16
Project Number: B03201-17A

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Metals 6020A
Per client request, the metals 6020A samples were re-analyzed to report both an ICSA and an ICSAB at the beginning of the analytical run.

Sample Summary
Draper Aden Associates
Lot Number: SE18010
Project Name: RAAP HWMU16
Project Number: B03201-17A

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	16C1	Aqueous	05/17/2017 1035	05/18/2017
002	16MW8	Aqueous	05/15/2017 1220	05/18/2017
003	16MW9	Aqueous	05/16/2017 1140	05/18/2017
004	16WC1A	Aqueous	05/16/2017 1015	05/18/2017
005	16WDUP	Aqueous	05/16/2017 1030	05/18/2017
006	16WC1B	Aqueous	05/15/2017 1540	05/18/2017

(6 samples)

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-001**

Description: **16C1** Matrix: **Aqueous**

Date Sampled: **05/17/2017 1035** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1652	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-001**

Description: **16C1** Matrix: **Aqueous**

Date Sampled: **05/17/2017 1035** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 1945	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1337	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	1
Barium	**7440-39-3**	**6020A**	**170**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	1.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	1.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	0.20	ug/L	1
Nickel	**7440-02-0**	**6020A**	**4.6**	**J**	**10**	**2.0**	**ug/L**	**1**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	1
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	1
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	**7440-66-6**	**6020A**	**13**	**J**	**30**	**7.3**	**ug/L**	**3**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-002**

Description: **16MW8** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1220** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1653	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-002**

Description: **16MW8** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1220** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 1950	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1343	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	1
Barium	**7440-39-3**	**6020A**	**120**		**10**	**1.0**	**ug/L**	**1**
Beryllium	**7440-41-7**	**6020A**	**0.21**	**J**	**1.0**	**0.20**	**ug/L**	**1**
Cadmium	**7440-43-9**	**6020A**	**0.21**	**J**	**1.0**	**0.20**	**ug/L**	**1**
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	1.0	ug/L	1
Copper	**7440-50-8**	**6020A**	**5.6**		**5.0**	**1.0**	**ug/L**	**1**
Lead	**7439-92-1**	**6020A**	**0.24**	**J**	**2.0**	**0.20**	**ug/L**	**1**
Nickel	**7440-02-0**	**6020A**	**3.4**	**J**	**10**	**2.0**	**ug/L**	**1**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	1
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	1
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	**7440-66-6**	**6020A**	**32**		**30**	**7.3**	**ug/L**	**3**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-003**

Description: **16MW9** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1140** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1654	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-003**

Description: **16MW9** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1140** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 1956	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1348	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	1
Barium	**7440-39-3**	**6020A**	**520**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	**7440-48-4**	**6020A**	**2.7**	**J**	**5.0**	**1.0**	**ug/L**	**1**
Copper	7440-50-8	6020A	5.0	U	5.0	1.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	0.20	ug/L	1
Nickel	**7440-02-0**	**6020A**	**15**		**10**	**2.0**	**ug/L**	**1**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	1
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	1
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	7.3	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-004**

Description: **16WC1A** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1015** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1658	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-004**

Description: **16WC1A** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1015** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2001	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1404	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	1
Barium	**7440-39-3**	**6020A**	**270**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	**7440-48-4**	**6020A**	**6.4**		**5.0**	**1.0**	**ug/L**	**1**
Copper	**7440-50-8**	**6020A**	**5.8**		**5.0**	**1.0**	**ug/L**	**1**
Lead	**7439-92-1**	**6020A**	**0.34**	**J**	**2.0**	**0.20**	**ug/L**	**1**
Nickel	**7440-02-0**	**6020A**	**9.9**	**J**	**10**	**2.0**	**ug/L**	**1**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	1
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	1
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	**7440-66-6**	**6020A**	**16**	**J**	**30**	**7.3**	**ug/L**	**3**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-005**

Description: **16WDUP** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1030** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1701	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-005**

Description: **16WDUP** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1030** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2039	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1431	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	3
Barium	**7440-39-3**	**6020A**	**260**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	**7440-48-4**	**6020A**	**6.2**		**5.0**	**1.0**	**ug/L**	**1**
Copper	7440-50-8	6020A	5.0	U	5.0	1.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	0.20	ug/L	1
Nickel	**7440-02-0**	**6020A**	**9.8**	**J**	**10**	**2.0**	**ug/L**	**3**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	3
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	3
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	**7440-66-6**	**6020A**	**9.4**	**J**	**30**	**7.3**	**ug/L**	**3**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-006**

Description: **16WC1B** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1540** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1702	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-006**

Description: **16WC1B** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1540** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2044	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1437	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	3
Barium	**7440-39-3**	**6020A**	**130**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	**7440-48-4**	**6020A**	**7.4**		**5.0**	**1.0**	**ug/L**	**1**
Copper	7440-50-8	6020A	5.0	U	5.0	1.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	0.20	ug/L	1
Nickel	**7440-02-0**	**6020A**	**3.4**	**J**	**10**	**2.0**	**ug/L**	**3**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	3
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	3
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	7.3	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

Inorganic non-metals - MB

Sample ID: SQ42781-001
Batch: 42781
Analytical Method: 9012B
Matrix: Aqueous
Prep Method: 9012B
Prep Date: 05/24/2017 1208

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Cyanide - Total	20	U	1	20	5.0	ug/L	05/24/2017 1647

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Inorganic non-metals - LCS

Sample ID: SQ42781-002
Batch: 42781
Analytical Method: 9012B
Matrix: Aqueous
Prep Method: 9012B
Prep Date: 05/24/2017 1208

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Cyanide - Total	100	110		1	105	90-110	05/24/2017 1648

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Inorganic non-metals - MS

Sample ID: SE18010-004MS
Batch: 42781
Analytical Method: 9012B
Matrix: Aqueous
Prep Method: 9012B
Prep Date: 05/24/2017 1208

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Cyanide - Total	0.0	100	98		1	98	70-130	05/24/2017 1659

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Inorganic non-metals - MSD

Sample ID: SE18010-004MD
Batch: 42781
Analytical Method: 9012B
Matrix: Aqueous
Prep Method: 9012B
Prep Date: 05/24/2017 1208

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Cyanide - Total	0.0	100	100		1	100	2.3	70-130	20	05/24/2017 1700

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - MB

Sample ID: SQ42482-001
Batch: 42482
Analytical Method: 6020A
Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Antimony	2.0	U	1	2.0	0.40	ug/L	06/06/2017 1327
Arsenic	10	U	1	10	2.0	ug/L	05/19/2017 1934
Barium	10	U	1	10	1.0	ug/L	05/19/2017 1934
Beryllium	1.0	U	1	1.0	0.20	ug/L	05/19/2017 1934
Cadmium	1.0	U	1	1.0	0.20	ug/L	05/19/2017 1934
Chromium	5.0	U	1	5.0	1.0	ug/L	05/19/2017 1934
Cobalt	5.0	U	1	5.0	1.0	ug/L	05/19/2017 1934
Copper	5.0	U	1	5.0	1.0	ug/L	05/19/2017 1934
Lead	2.0	U	1	2.0	0.20	ug/L	05/19/2017 1934
Nickel	10	U	1	10	2.0	ug/L	05/19/2017 1934
Selenium	10	U	1	10	3.0	ug/L	05/19/2017 1934
Silver	2.0	U	1	2.0	0.20	ug/L	05/19/2017 1934
Thallium	1.0	U	1	1.0	0.20	ug/L	05/19/2017 1934
Vanadium	10	U	1	10	1.0	ug/L	05/19/2017 1934
Zinc	30	U	1	30	7.3	ug/L	06/06/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - LCS

Sample ID: SQ42482-002
Batch: 42482
Analytical Method: 6020A

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Antimony	100	84		1	84	80-120	06/06/2017 1332
Arsenic	100	86		1	86	80-120	05/19/2017 1940
Barium	100	84		1	84	80-120	05/19/2017 1940
Beryllium	100	82		1	82	80-120	05/19/2017 1940
Cadmium	100	82		1	82	80-120	05/19/2017 1940
Chromium	100	82		1	82	80-120	05/19/2017 1940
Cobalt	100	85		1	85	80-120	05/19/2017 1940
Copper	100	88		1	88	80-120	05/19/2017 1940
Lead	100	82		1	82	80-120	05/19/2017 1940
Nickel	100	85		1	85	80-120	05/19/2017 1940
Selenium	100	85		1	85	80-120	05/19/2017 1940
Silver	100	82		1	82	80-120	05/19/2017 1940
Thallium	100	85		1	85	80-120	05/19/2017 1940
Vanadium	100	82		1	82	80-120	05/19/2017 1940
Zinc	100	87		1	87	80-120	06/06/2017 1332

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - MS

Sample ID: SE18010-004MS
Batch: 42482
Analytical Method: 6020A

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Antimony	0.0	100	88		1	88	70-130	06/06/2017 1410
Arsenic	0.0	100	90		1	90	70-130	05/19/2017 2006
Barium	270	100	350		1	86	70-130	05/19/2017 2006
Beryllium	0.0	100	87		1	87	70-130	05/19/2017 2006
Cadmium	0.0	100	84		1	84	70-130	05/19/2017 2006
Chromium	0.0	100	83		1	83	70-130	05/19/2017 2006
Cobalt	6.4	100	91		1	85	70-130	05/19/2017 2006
Copper	5.8	100	90		1	84	70-130	05/19/2017 2006
Lead	0.34	100	82		1	81	70-130	05/19/2017 2006
Nickel	9.9	100	96		1	86	70-130	05/19/2017 2006
Selenium	0.0	100	86		1	86	70-130	05/19/2017 2006
Silver	0.0	100	85		1	85	70-130	05/19/2017 2006
Thallium	0.0	100	86		1	86	70-130	05/19/2017 2006
Vanadium	0.0	100	84		1	84	70-130	05/19/2017 2006
Zinc	16	100	100		1	85	70-130	06/06/2017 1410

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - MSD

Sample ID: SE18010-004MD
Batch: 42482
Analytical Method: 6020A

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Antimony	0.0	100	78		1	78	12	70-130	20	06/06/2017 1415
Arsenic	0.0	100	80		1	80	12	70-130	20	05/19/2017 2012
Barium	270	100	340		1	72	4.0	70-130	20	05/19/2017 2012
Beryllium	0.0	100	77		1	77	13	70-130	20	05/19/2017 2012
Cadmium	0.0	100	75		1	75	12	70-130	20	05/19/2017 2012
Chromium	0.0	100	74		1	74	12	70-130	20	05/19/2017 2012
Cobalt	6.4	100	82		1	76	10	70-130	20	05/19/2017 2012
Copper	5.8	100	81		1	75	10	70-130	20	05/19/2017 2012
Lead	0.34	100	73		1	72	12	70-130	20	05/19/2017 2012
Nickel	9.9	100	88		1	78	8.9	70-130	20	05/19/2017 2012
Selenium	0.0	100	77		1	77	12	70-130	20	05/19/2017 2012
Silver	0.0	100	76		1	76	12	70-130	20	05/19/2017 2012
Thallium	0.0	100	77		1	77	12	70-130	20	05/19/2017 2012
Vanadium	0.0	100	75		1	75	11	70-130	20	05/19/2017 2012
Zinc	16	100	90		1	75	11	70-130	20	06/06/2017 1415

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

CHAIN OF CUSTODY RECORD

Laboratory: Shealy Environmental - 106 Vantage Point Dr. West Columbia, SC 29172 803-227-3160 PM: Cathy Dover cell 919-616-1180

SUMD 4-17-17

Client: 0	Consultant: Draper Aden Associates	Sample Site: RFAAP, Radford, Virginia	Project Specific (PS) or Batch (B) QC:
Attn: 0	Attn: Janet C. Frazier	Location: HWMU16	Sample Collection for Project Complete? YES
Addres 0	Address: 2206 South Main Street Blacksburg, Virginia 24060	Event: 2Q 2017 Annual Groundwater Monitoring Event	UPS! Carrier: 1Z 237 301 01 9340 1934
0		DAA JN: B03204-17A	Tracking Number:
Phone: 0	Phone: (540) 552-0444	Lab JN:	
Fax: 0	Fax: (540) 552-0291		
Fax: 0			

Box 1: Matrix
SW Surface Water; GW Groundwater; L Leachate; S Soil; T Trip Blank; E Equipment Bla; P Product; O Other

Box 2: Preservative
A HCL; B HNO_3; C H_2SO_4; D $Na_2S_2O_3$; E NaOH; F ZnAc; G Other (Specify); H None

Box 3: Filtered/Unfiltered
F Filtered; U Unfiltered

Box 5: Sample Container Type
P Plastic; V VOA; AG Amber Glass; CG Clear Glass

Box 4: Sample Type
G Grab; C Composite

Invoice
Copy to Consultant: YES
Bill: CLIENT OTHER
Preserved and shipped on Ice: YES

SE18010

Box 4 - Sample Type					G	G	G						
Box 3 - Filtered/Unfiltered					U	U	U						
Required pH of Sample					<2	<2	>12						
Box 2 - Preservative					B	B	E						
Box 5 - Sample Container Type					1-500 mL P		1-500 mL P						
Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles		ICPMS 6020A/3005A (Metals-Total)	7470A (Mercury-Total)	9012B(Cyanide)	Metals Dissolved	CN diss			

GENERAL NOTES:
1. Report results to detection limit, with J flags, for italicized wells. Report to at or above QL for other locations
2. VELAP accreditation required.
3. Full Deliverable with EDD.
4. Metals -see attached list

Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles		ICPMS 6020A/3005A (Metals-Total)	7470A (Mercury-Total)	9012B(Cyanide)	Metals Dissolved	CN diss			
16C1	5/17	1035	GW	2		X	X	X	52	>12			
16MW8	5/15	1220	GW	2		X	X	X					
16MW9	5/16	1140	GW	2		X	X	X					
16WC1A	5/16	1015	GW	6	(MS/MSD)	X	X	X					USE FOR QC
16WDUP	5/16	1030	GW	2		X	X	X					
16WC1B	5/15	1540	GW	2		X	X	X					
16-2	5/15	1330	GW	1		X	X						
16-3	5/15	1430	GW	1		X	X						
16-5	5/15	0955	GW	1		X	X						
16WC2B	5/15	1125	GW	1		X	X						
16SPRING	5/15	1010	GW			X	X						

Clients Special Instructions:
Received by lab in Good Condition ___ Yes ___ No Custody Seal Intact: / Yes ___ No Temperature upon arival 2.8°C Received on Ice: X Yes ___ No
Describe problems, if any:

Sampler Name (Print): Ken Coddington	Date: 5-15-17	#1 Relinquished by (Signature):	Date: 5/17/17	#2 Relinquished by (Signature): UPS	Date: 5/18/17	Sample Storage Time Requested:
Sampler Signature:	Time: 0800	Company Name: DAA	Time: 1700	Company Name:	Time: 0912	
Sampler Name (Print): Will Mason-Deese	Date: 5-16-17	#1 Received by (Signature):	Date:	#2 Received by (Signature): S Elliott	Date: 5/18/17	30 DYS ORGM MTHS INORG
Sampler Signature:	Time: 0800	Company Name:	Time:	Company Name: SESL	Time: 0912	

T=2.8°C

SUMD 4-17-17

Y5

2/5

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

INORGANICS

THIS APPLIES TO WELLS 16C1, 16MW8, 16MW9,16WC1A, 16WDUP, 16WC1B & QC

HWMU 16

Analyte	Method Ref	LOQ	LOD	CAS#	Units
ANTIMONY	6020A	2	0.4	7440-36-0	UG/L
ARSENIC	6020A	10	2	7440-38-2	UG/L
BARIUM	6020A	10	1	7440-39-3	UG/L
BERYLLIUM	6020A	1	0.2	7440-41-7	UG/L
CADMIUM	6020A	1	0.2	7440-43-9	UG/L
CHROMIUM	6020A	5	1	7440-47-3	UG/L
COBALT	6020A	5	1	7440-48-4	UG/L
COPPER	6020A	5	1	7440-50-8	UG/L
LEAD	6020A	2	0.2	7439-92-1	UG/L
NICKEL	6020A	10	2	7440-02-0	UG/L
SELENIUM	6020A	10	3	7782-49-2	UG/L
SILVER	6020A	2	0.2	7440-22-4	UG/L
THALLIUM	6020A	1	0.2	7440-28-0	UG/L
VANADIUM	6020A	10	1	7440-62-2	UG/L
ZINC	6020A	30	7.3	7440-66-6	UG/L

* report results to MDL w/ "J" flag for above noted wells.
JLR
4/12/11

15 analytes

These are Appendix IX wells. Report estimated results.

Rev 12/2016 per class 1 permit mod

t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

7/5

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

ANALYTICAL METHOD: SEE BELOW
TYPE METHOD: SEE BELOW
CLASS: TOTAL

Method SW 846-6020A/3005A (ICP/MS)

THIS APPLIES TO WELLS 16-2, 16-3,16-5, 16WC2B, 16SPRING

No.	PARAMETER	CAS RN	Required QL/ LOQ (µg/l)
1.	Arsenic	7440-38-2	10
2.	Barium	7440-39-3	10
3.	Beryllium	7440-41-7	1
4.	Cadmium	7440-43-9	1
5.	Chromium	7440-47-3	5
6.	Cobalt	7440-48-4	5
7.	Copper	7440-50-8	5
8.	Lead	7440-92-1	2
9.	Nickel	7440-02-0	10
10.	Vanadium	7440-62-2	10
11.	Zinc	7440-66-6	30

Report to at or above the QL

Updated 4/8/2013 jcf
Zinc QL updated 10 2016 - JCF

* report results for wells above to at or above QL.
JM 9/12/17

t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

5/5

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

* report to MDL w/ J flag.

ANALYTICAL METHOD: 9012B
TYPE METHOD: CLO
CLASS: CYANIDE

JV 4/17

THIS APPLIES TO 16C1, 16MW8, 16MW9,16WC1A, 16WDUP, 16WC1B AND QC

No.	PARAMETER	CAS RN	Required LOQ/DL (µg/l)
1	Cyanide	57-12-5	20 / 5

These are Appendix IX wells.
Report estimated results.

LOD revised 4Q2016 class 1 permit mod

t:\environmental\bbg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

Shealy Environmental Services, Inc.
Document Number: ME0018C-08

Page 1 of 1
Effective Date: 03/07/2017
Expiry Date: 03/07/2022

Sample Receipt Checklist (SRC)

Client: Draper Cooler Inspected by/date: SBE 15/18/17 Lot #: SE18010

Means of receipt: ☐ SESI ☐ Client ☑ UPS ☐ FedEx ☐ Other			
Yes ☑	No ☐		1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?
pH strip ID: 15-1449 Cl strip ID: 17-822 Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt: 12.8 / 12.8 °C / / °C / / °C / / °C Method: ☐ Temperature Blank ☑ Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None			
Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐		6. Were sample IDs listed on the COC?
Yes ☑	No ☐		7. Were sample IDs listed on all sample containers?
Yes ☑	No ☐		8. Was collection date & time listed on the COC?
Yes ☑	No ☐		9. Was collection date & time listed on all sample containers?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with the COC?
Yes ☑	No ☐		11. Were tests to be performed listed on the COC?
Yes ☑	No ☐		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		13. Was adequate sample volume available?
Yes ☐	No ☑		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes ☐	No ☐	NA ☑	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes ☑	No ☐	NA ☐	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
Yes ☑	No ☐	NA ☐	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (< 0.5mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☑	No ☐	NA ☐	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☑		22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)			
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4, HNO_3, HCl, NaOH) using SR # _____.			
Sample(s) _____ were received with bubbles >6 mm in diameter.			
Samples(s) _____ were received with TRC > 0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: _____.			
SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____ Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR# _____			
Sample labels applied by: SBC Verified by: _____ Date: 5/18/17			

Comments: _____

Metals

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-001**

Description: **16C1** Matrix: **Aqueous**

Date Sampled: **05/17/2017 1035** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 1945	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1337	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	1
Barium	**7440-39-3**	**6020A**	**170**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	1.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	1.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	0.20	ug/L	1
Nickel	**7440-02-0**	**6020A**	**4.6**	**J**	**10**	**2.0**	**ug/L**	**1**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	1
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	1
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	**7440-66-6**	**6020A**	**13**	**J**	**30**	**7.3**	**ug/L**	**3**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-002**

Description: **16MW8** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1220** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 1950	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1343	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	1
Barium	**7440-39-3**	**6020A**	**120**		**10**	**1.0**	**ug/L**	**1**
Beryllium	**7440-41-7**	**6020A**	**0.21**	**J**	**1.0**	**0.20**	**ug/L**	**1**
Cadmium	**7440-43-9**	**6020A**	**0.21**	**J**	**1.0**	**0.20**	**ug/L**	**1**
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	1.0	ug/L	1
Copper	**7440-50-8**	**6020A**	**5.6**		**5.0**	**1.0**	**ug/L**	**1**
Lead	**7439-92-1**	**6020A**	**0.24**	**J**	**2.0**	**0.20**	**ug/L**	**1**
Nickel	**7440-02-0**	**6020A**	**3.4**	**J**	**10**	**2.0**	**ug/L**	**1**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	1
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	1
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	**7440-66-6**	**6020A**	**32**		**30**	**7.3**	**ug/L**	**3**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-003**

Description: **16MW9** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1140** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 1956	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1348	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	1
Barium	**7440-39-3**	**6020A**	**520**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	**7440-48-4**	**6020A**	**2.7**	**J**	**5.0**	**1.0**	**ug/L**	**1**
Copper	7440-50-8	6020A	5.0	U	5.0	1.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	0.20	ug/L	1
Nickel	**7440-02-0**	**6020A**	**15**		**10**	**2.0**	**ug/L**	**1**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	1
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	1
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	7.3	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-004**

Description: **16WC1A** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1015** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2001	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1404	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	1
Barium	**7440-39-3**	**6020A**	**270**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	1
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	**7440-48-4**	**6020A**	**6.4**		**5.0**	**1.0**	**ug/L**	**1**
Copper	**7440-50-8**	**6020A**	**5.8**		**5.0**	**1.0**	**ug/L**	**1**
Lead	**7439-92-1**	**6020A**	**0.34**	**J**	**2.0**	**0.20**	**ug/L**	**1**
Nickel	**7440-02-0**	**6020A**	**9.9**	**J**	**10**	**2.0**	**ug/L**	**1**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	1
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	1
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	**7440-66-6**	**6020A**	**16**	**J**	**30**	**7.3**	**ug/L**	**3**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-005**

Description: **16WDUP** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1030** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2039	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1431	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	3
Barium	**7440-39-3**	**6020A**	**260**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	**7440-48-4**	**6020A**	**6.2**		**5.0**	**1.0**	**ug/L**	**1**
Copper	7440-50-8	6020A	5.0	U	5.0	1.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	0.20	ug/L	1
Nickel	**7440-02-0**	**6020A**	**9.8**	**J**	**10**	**2.0**	**ug/L**	**3**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	3
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	3
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	**7440-66-6**	**6020A**	**9.4**	**J**	**30**	**7.3**	**ug/L**	**3**

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE18010-006**

Description: **16WC1B** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1540** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2044	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1437	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Antimony	7440-36-0	6020A	2.0	U	2.0	0.40	ug/L	3
Arsenic	7440-38-2	6020A	10	U	10	2.0	ug/L	3
Barium	**7440-39-3**	**6020A**	**130**		**10**	**1.0**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	0.20	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	0.20	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	1.0	ug/L	1
Cobalt	**7440-48-4**	**6020A**	**7.4**		**5.0**	**1.0**	**ug/L**	**1**
Copper	7440-50-8	6020A	5.0	U	5.0	1.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	0.20	ug/L	1
Nickel	**7440-02-0**	**6020A**	**3.4**	**J**	**10**	**2.0**	**ug/L**	**3**
Selenium	7782-49-2	6020A	10	U	10	3.0	ug/L	3
Silver	7440-22-4	6020A	2.0	U	2.0	0.20	ug/L	3
Thallium	7440-28-0	6020A	1.0	U	1.0	0.20	ug/L	1
Vanadium	7440-62-2	6020A	10	U	10	1.0	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	7.3	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

ICP-MS - MB

Sample ID: SQ42482-001
Batch: 42482
Analytical Method: 6020A
Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Antimony	2.0	U	1	2.0	0.40	ug/L	06/06/2017 1327
Arsenic	10	U	1	10	2.0	ug/L	05/19/2017 1934
Barium	10	U	1	10	1.0	ug/L	05/19/2017 1934
Beryllium	1.0	U	1	1.0	0.20	ug/L	05/19/2017 1934
Cadmium	1.0	U	1	1.0	0.20	ug/L	05/19/2017 1934
Chromium	5.0	U	1	5.0	1.0	ug/L	05/19/2017 1934
Cobalt	5.0	U	1	5.0	1.0	ug/L	05/19/2017 1934
Copper	5.0	U	1	5.0	1.0	ug/L	05/19/2017 1934
Lead	2.0	U	1	2.0	0.20	ug/L	05/19/2017 1934
Nickel	10	U	1	10	2.0	ug/L	05/19/2017 1934
Selenium	10	U	1	10	3.0	ug/L	05/19/2017 1934
Silver	2.0	U	1	2.0	0.20	ug/L	05/19/2017 1934
Thallium	1.0	U	1	1.0	0.20	ug/L	05/19/2017 1934
Vanadium	10	U	1	10	1.0	ug/L	05/19/2017 1934
Zinc	30	U	1	30	7.3	ug/L	06/06/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - LCS

Sample ID: SQ42482-002
Batch: 42482
Analytical Method: 6020A
Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Antimony	100	84		1	84	80-120	06/06/2017 1332
Arsenic	100	86		1	86	80-120	05/19/2017 1940
Barium	100	84		1	84	80-120	05/19/2017 1940
Beryllium	100	82		1	82	80-120	05/19/2017 1940
Cadmium	100	82		1	82	80-120	05/19/2017 1940
Chromium	100	82		1	82	80-120	05/19/2017 1940
Cobalt	100	85		1	85	80-120	05/19/2017 1940
Copper	100	88		1	88	80-120	05/19/2017 1940
Lead	100	82		1	82	80-120	05/19/2017 1940
Nickel	100	85		1	85	80-120	05/19/2017 1940
Selenium	100	85		1	85	80-120	05/19/2017 1940
Silver	100	82		1	82	80-120	05/19/2017 1940
Thallium	100	85		1	85	80-120	05/19/2017 1940
Vanadium	100	82		1	82	80-120	05/19/2017 1940
Zinc	100	87		1	87	80-120	06/06/2017 1332

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - MS

Sample ID: SE18010-004MS
Batch: 42482
Analytical Method: 6020A

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Antimony	0.0	100	88		1	88	70-130	06/06/2017 1410
Arsenic	0.0	100	90		1	90	70-130	05/19/2017 2006
Barium	270	100	350		1	86	70-130	05/19/2017 2006
Beryllium	0.0	100	87		1	87	70-130	05/19/2017 2006
Cadmium	0.0	100	84		1	84	70-130	05/19/2017 2006
Chromium	0.0	100	83		1	83	70-130	05/19/2017 2006
Cobalt	6.4	100	91		1	85	70-130	05/19/2017 2006
Copper	5.8	100	90		1	84	70-130	05/19/2017 2006
Lead	0.34	100	82		1	81	70-130	05/19/2017 2006
Nickel	9.9	100	96		1	86	70-130	05/19/2017 2006
Selenium	0.0	100	86		1	86	70-130	05/19/2017 2006
Silver	0.0	100	85		1	85	70-130	05/19/2017 2006
Thallium	0.0	100	86		1	86	70-130	05/19/2017 2006
Vanadium	0.0	100	84		1	84	70-130	05/19/2017 2006
Zinc	16	100	100		1	85	70-130	06/06/2017 1410

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - MSD

Sample ID: SE18010-004MD
Batch: 42482
Analytical Method: 6020A
Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Antimony	0.0	100	78		1	78	12	70-130	20	06/06/2017 1415
Arsenic	0.0	100	80		1	80	12	70-130	20	05/19/2017 2012
Barium	270	100	340		1	72	4.0	70-130	20	05/19/2017 2012
Beryllium	0.0	100	77		1	77	13	70-130	20	05/19/2017 2012
Cadmium	0.0	100	75		1	75	12	70-130	20	05/19/2017 2012
Chromium	0.0	100	74		1	74	12	70-130	20	05/19/2017 2012
Cobalt	6.4	100	82		1	76	10	70-130	20	05/19/2017 2012
Copper	5.8	100	81		1	75	10	70-130	20	05/19/2017 2012
Lead	0.34	100	73		1	72	12	70-130	20	05/19/2017 2012
Nickel	9.9	100	88		1	78	8.9	70-130	20	05/19/2017 2012
Selenium	0.0	100	77		1	77	12	70-130	20	05/19/2017 2012
Silver	0.0	100	76		1	76	12	70-130	20	05/19/2017 2012
Thallium	0.0	100	77		1	77	12	70-130	20	05/19/2017 2012
Vanadium	0.0	100	75		1	75	11	70-130	20	05/19/2017 2012
Zinc	16	100	90		1	75	11	70-130	20	06/06/2017 1415

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS Metals

- COVER PAGE -
INORGANIC ANALYSIS DATA PACKAGE

Client: Draper Aden Associates

SDG No.: SE18010 **Method Type:** ICP-MS **SOW No.:**

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Lab Sample ID	Client Sample ID	QC Description
SE18010-001	16C1	
SE18010-002	16MW8	
SE18010-003	16MW9	
SE18010-004	16WC1A	
SE18010-004MD	16WC1ASD	Matrix Spike Duplicate
SE18010-004MS	16WC1AS	Matrix Spike
SE18010-005	16WDUP	
SE18010-006	16WC1B	

Were ICP interelement corrections applied?	Yes/No	Yes	
Were ICP background corrections applied?	Yes/No	Yes	
If yes - were raw data generated before applications of background corrections?	Yes/No	No	

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name:

Date: Title:

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1									
	Antimony	207.53	200.0	104	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Arsenic	209.60	200.0	105	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Barium	207.20	200.0	104	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Beryllium	215.03	200.0	108	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Cadmium	207.23	200.0	104	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Chromium	201.20	200.0	101	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Cobalt	203.27	200.0	102	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Copper	213.37	200.0	107	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Lead	195.80	200.0	98	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Nickel	200.20	200.0	100	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Selenium	207.87	200.0	104	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Silver	197.30	200.0	99	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Thallium	210.77	200.0	105	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Vanadium	207.50	200.0	104	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Zinc	205.33	200.0	103	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
CCV1									
	Antimony	319.20	300.0	106	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Arsenic	307.80	300.0	103	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Barium	320.90	300.0	107	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Beryllium	351.80	300.0	117	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Cadmium	315.80	300.0	105	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Chromium	327.20	300.0	109	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Cobalt	326.20	300.0	109	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Copper	312.40	300.0	104	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Lead	319.80	300.0	107	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Nickel	303.20	300.0	101	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Selenium	305.10	300.0	102	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Silver	318.60	300.0	106	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Thallium	322.60	300.0	108	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Vanadium	335.20	300.0	112	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Zinc	303.60	300.0	101	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV2									
	Antimony	296.77	300.0	99	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Arsenic	284.00	300.0	95	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Barium	295.80	300.0	99	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Beryllium	323.90	300.0	108	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Cadmium	288.53	300.0	96	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Chromium	296.20	300.0	99	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Cobalt	294.27	300.0	98	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Copper	283.67	300.0	95	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Lead	292.63	300.0	98	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Nickel	278.97	300.0	93	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Selenium	279.27	300.0	93	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Silver	288.67	300.0	96	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Thallium	296.07	300.0	99	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Vanadium	304.93	300.0	102	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Zinc	278.47	300.0	93	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
CCV3									
	Antimony	280.57	300.0	94	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Arsenic	281.93	300.0	94	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Barium	287.63	300.0	96	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Beryllium	291.27	300.0	97	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Cadmium	278.07	300.0	93	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Chromium	284.77	300.0	95	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Cobalt	285.17	300.0	95	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Copper	285.13	300.0	95	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Lead	282.60	300.0	94	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Nickel	283.33	300.0	94	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Selenium	284.00	300.0	95	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Silver	283.27	300.0	94	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Thallium	288.00	300.0	96	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Vanadium	294.37	300.0	98	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Zinc	274.90	300.0	92	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV4									
	Antimony	267.83	300.0	89	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Arsenic	272.27	300.0	91	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Barium	275.23	300.0	92	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Beryllium	280.53	300.0	94	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Cadmium	269.07	300.0	90	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Chromium	268.53	300.0	90	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Cobalt	272.13	300.0	91	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Copper	278.40	300.0	93	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Lead	268.53	300.0	90	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Nickel	269.93	300.0	90	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Selenium	273.30	300.0	91	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Silver	274.30	300.0	91	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Thallium	275.43	300.0	92	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Vanadium	279.47	300.0	93	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Zinc	266.93	300.0	89	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
CCV5									
	Antimony	266.17	300.0	89	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Arsenic	267.93	300.0	89	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Barium	271.37	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Beryllium	271.10	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Cadmium	263.70	300.0	88	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Chromium	271.13	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Cobalt	269.73	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Copper	269.73	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Lead	268.67	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Nickel	264.10	300.0	88	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Selenium	265.83	300.0	89	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Silver	266.97	300.0	89	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Thallium	274.83	300.0	92	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Vanadium	279.60	300.0	93	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Zinc	259.73	300.0	87	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1									
	Antimony	195.00	200.0	98	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Arsenic	195.63	200.0	98	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Barium	195.77	200.0	98	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Beryllium	213.80	200.0	107	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Cadmium	197.93	200.0	99	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Chromium	191.20	200.0	96	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Cobalt	192.97	200.0	96	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Copper	202.47	200.0	101	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Lead	186.30	200.0	93	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Nickel	193.10	200.0	97	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Selenium	203.67	200.0	102	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Silver	180.83	200.0	90	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Thallium	191.00	200.0	96	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Vanadium	198.30	200.0	99	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Zinc	199.90	200.0	100	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
CCV1									
	Antimony	280.77	300.0	94	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Arsenic	271.63	300.0	91	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Barium	286.57	300.0	96	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Beryllium	323.73	300.0	108	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Cadmium	285.47	300.0	95	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Chromium	281.23	300.0	94	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Cobalt	279.80	300.0	93	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Copper	279.33	300.0	93	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Lead	279.63	300.0	93	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Nickel	277.03	300.0	92	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Selenium	286.30	300.0	95	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Silver	276.93	300.0	92	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Thallium	289.43	300.0	96	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Vanadium	289.90	300.0	97	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Zinc	278.07	300.0	93	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV2									
	Antimony	279.47	300.0	93	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Arsenic	273.87	300.0	91	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Barium	288.37	300.0	96	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Beryllium	304.83	300.0	102	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Cadmium	290.27	300.0	97	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Chromium	289.27	300.0	96	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Cobalt	284.80	300.0	95	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Copper	295.03	300.0	98	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Lead	278.53	300.0	93	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Nickel	285.53	300.0	95	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Selenium	290.97	300.0	97	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Silver	284.23	300.0	95	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Thallium	287.63	300.0	96	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Vanadium	297.07	300.0	99	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Zinc	288.10	300.0	96	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
CCV3									
	Antimony	278.80	300.0	93	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Arsenic	276.80	300.0	92	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Barium	289.80	300.0	97	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Beryllium	301.50	300.0	101	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Cadmium	294.90	300.0	98	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Chromium	288.00	300.0	96	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Cobalt	284.90	300.0	95	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Copper	307.00	300.0	102	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Lead	276.70	300.0	92	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Nickel	293.10	300.0	98	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Selenium	304.90	300.0	102	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Silver	291.20	300.0	97	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Thallium	285.20	300.0	95	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Vanadium	297.60	300.0	99	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Zinc	298.30	300.0	99	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No:** **SAS No.:**

AA CRDL Standard Source:

ICP CRDL Standard Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV									
	Antimony	0.91	1.0	91	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Arsenic	1.06	1.0	106	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Barium	5.08	5.0	102	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Beryllium	0.39	0.4	98	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Cadmium	0.11	0.1	110	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Chromium	0.95	1.0	95	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Cobalt	4.80	5.0	96	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Copper	1.05	1.0	105	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Lead	0.98	1.0	98	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Nickel	4.91	5.0	98	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Selenium	1.00	1.0	100	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Silver	0.97	1.0	97	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Thallium	0.47	0.5	94	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Vanadium	4.73	5.0	95	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Zinc	10.41	10.0	104	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
LLCCV									
	Antimony	0.84	1.0	84	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Arsenic	0.81	1.0	81	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Barium	4.61	5.0	92	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Beryllium	0.34	0.4	85	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Cadmium	0.08	0.1	80	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Chromium	0.87	1.0	87	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Cobalt	4.35	5.0	87	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Copper	1.21	1.0	121	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Lead	0.99	1.0	99	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Nickel	4.62	5.0	92	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Selenium	0.81	1.0	81	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Silver	0.86	1.0	86	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Thallium	0.42	0.5	84	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Vanadium	4.30	5.0	86	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Zinc	9.49	10.0	95	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No:** **SAS No.:**

AA CRDL Standard Source:

ICP CRDL Standard Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV									
	Antimony	0.97	1.0	97	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Arsenic	0.80	1.0	80	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Barium	4.79	5.0	96	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Beryllium	0.35	0.4	88	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Cadmium	0.10	0.1	100	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Chromium	0.98	1.0	98	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Cobalt	4.68	5.0	94	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Copper	0.92	1.0	92	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Lead	0.90	1.0	90	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Nickel	4.73	5.0	95	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Silver	0.91	1.0	91	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Thallium	0.46	0.5	92	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Vanadium	4.75	5.0	95	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Zinc	9.80	10.0	98	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
LLICV2									
	Selenium	4.57	5.0	91	70 - 130	MS	6/6/2017	12:33	MS2060617A 6020A 6020B,

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No:** **SAS No.:**

AA CRDL Standard Source:

ICP CRDL Standard Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
LLCCV									
	Antimony	0.97	1.0	97	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Arsenic	0.91	1.0	91	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Barium	4.88	5.0	98	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Beryllium	0.35	0.4	88	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Cadmium	0.10	0.1	100	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Chromium	0.93	1.0	93	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Cobalt	4.56	5.0	91	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Copper	0.97	1.0	97	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Lead	0.89	1.0	89	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Nickel	4.71	5.0	94	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Selenium	0.95	1.0	95	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Silver	0.95	1.0	95	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Thallium	0.43	0.5	86	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Vanadium	4.54	5.0	91	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Zinc	9.79	10.0	98	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	MDL	PQL	M	Analysis Date	Analysis Time	Run
ICB1										
	Antimony	0.147	+/-1.000	U	0.174	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Arsenic	-0.010	+/-1.000	U	0.261	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Barium	0.006	+/-5.000	U	0.534	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Beryllium	0.010	+/-0.400	U	0.115	0.400	MS	5/19/2017	13:20	MS2051917B 6
	Cadmium	0.005	+/-0.100	U	0.044	0.100	MS	5/19/2017	13:20	MS2051917B 6
	Chromium	0.002	+/-5.000	U	0.632	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Cobalt	0.007	+/-5.000	U	0.262	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Copper	0.002	+/-1.000	U	0.151	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Lead	0.001	+/-1.000	U	0.148	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Nickel	0.009	+/-5.000	U	0.627	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Selenium	-0.004	+/-1.000	U	0.950	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Silver	0.010	+/-1.000	U	0.170	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Thallium	0.002	+/-0.500	U	0.075	0.500	MS	5/19/2017	13:20	MS2051917B 6
	Vanadium	0.098	+/-5.000	U	1.010	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Zinc	0.018	+/-10.000	U	1.594	10.000	MS	5/19/2017	13:20	MS2051917B 6
CCB1										
	Antimony	0.386	+/-1.000	J	0.174	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Arsenic	0.063	+/-1.000	U	0.261	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Barium	-0.003	+/-5.000	U	0.534	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Beryllium	0.022	+/-0.400	U	0.115	0.400	MS	5/19/2017	14:06	MS2051917B 6
	Cadmium	0.010	+/-0.100	U	0.044	0.100	MS	5/19/2017	14:06	MS2051917B 6
	Chromium	0.005	+/-5.000	U	0.632	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Cobalt	0.012	+/-5.000	U	0.262	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Copper	0.009	+/-1.000	U	0.151	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Lead	0.008	+/-1.000	U	0.148	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Nickel	-0.002	+/-5.000	U	0.627	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Selenium	0.121	+/-1.000	U	0.950	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Silver	0.022	+/-1.000	U	0.170	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Thallium	0.030	+/-0.500	U	0.075	0.500	MS	5/19/2017	14:06	MS2051917B 6
	Vanadium	0.104	+/-5.000	U	1.010	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Zinc	-0.001	+/-10.000	U	1.594	10.000	MS	5/19/2017	14:06	MS2051917B 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	MDL	PQL	M	Analysis Date	Analysis Time	Run
CCB2										
	Antimony	0.326	+/-1.000	J	0.174	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Arsenic	-0.024	+/-1.000	U	0.261	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Barium	-0.004	+/-5.000	U	0.534	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Beryllium	0.012	+/-0.400	U	0.115	0.400	MS	5/19/2017	19:29	MS2051917B 6
	Cadmium	0.006	+/-0.100	U	0.044	0.100	MS	5/19/2017	19:29	MS2051917B 6
	Chromium	-0.003	+/-5.000	U	0.632	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Cobalt	0.008	+/-5.000	U	0.262	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Copper	-0.014	+/-1.000	U	0.151	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Lead	0.005	+/-1.000	U	0.148	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Nickel	-0.004	+/-5.000	U	0.627	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Selenium	-0.267	+/-1.000	U	0.950	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Silver	0.006	+/-1.000	U	0.170	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Thallium	0.022	+/-0.500	U	0.075	0.500	MS	5/19/2017	19:29	MS2051917B 6
	Vanadium	0.093	+/-5.000	U	1.010	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Zinc	-0.014	+/-10.000	U	1.594	10.000	MS	5/19/2017	19:29	MS2051917B 6
CCB3										
	Antimony	0.302	+/-1.000	J	0.174	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Arsenic	-0.016	+/-1.000	U	0.261	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Barium	0.001	+/-5.000	U	0.534	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Beryllium	0.031	+/-0.400	U	0.115	0.400	MS	5/19/2017	20:33	MS2051917B 6
	Cadmium	0.011	+/-0.100	U	0.044	0.100	MS	5/19/2017	20:33	MS2051917B 6
	Chromium	-0.007	+/-5.000	U	0.632	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Cobalt	0.015	+/-5.000	U	0.262	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Copper	0.000	+/-1.000	U	0.151	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Lead	0.010	+/-1.000	U	0.148	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Nickel	0.023	+/-5.000	U	0.627	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Selenium	-0.109	+/-1.000	U	0.950	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Silver	0.013	+/-1.000	U	0.170	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Thallium	0.032	+/-0.500	U	0.075	0.500	MS	5/19/2017	20:33	MS2051917B 6
	Vanadium	0.106	+/-5.000	U	1.010	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Zinc	-0.023	+/-10.000	U	1.594	10.000	MS	5/19/2017	20:33	MS2051917B 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	MDL	PQL	M	Analysis Date	Analysis Time	Run
CCB4										
	Antimony	0.325	+/-1.000	J	0.174	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Arsenic	0.001	+/-1.000	U	0.261	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Barium	0.005	+/-5.000	U	0.534	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Beryllium	0.021	+/-0.400	U	0.115	0.400	MS	5/19/2017	21:38	MS2051917B 6
	Cadmium	0.009	+/-0.100	U	0.044	0.100	MS	5/19/2017	21:38	MS2051917B 6
	Chromium	-0.011	+/-5.000	U	0.632	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Cobalt	0.013	+/-5.000	U	0.262	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Copper	-0.011	+/-1.000	U	0.151	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Lead	0.010	+/-1.000	U	0.148	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Nickel	-0.016	+/-5.000	U	0.627	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Selenium	-0.145	+/-1.000	U	0.950	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Silver	0.016	+/-1.000	U	0.170	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Thallium	0.028	+/-0.500	U	0.075	0.500	MS	5/19/2017	21:38	MS2051917B 6
	Vanadium	0.100	+/-5.000	U	1.010	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Zinc	-0.010	+/-10.000	U	1.594	10.000	MS	5/19/2017	21:38	MS2051917B 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	MDL	PQL	M	Analysis Date	Analysis Time	Run
ICB1										
	Antimony	0.237	+/-1.000	J	0.174	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Arsenic	-0.125	+/-1.000	U	0.261	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Barium	0.013	+/-5.000	U	0.534	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Beryllium	0.035	+/-0.400	U	0.115	0.400	MS	6/6/2017	12:17	MS2060617A 6
	Cadmium	0.009	+/-0.100	U	0.044	0.100	MS	6/6/2017	12:17	MS2060617A 6
	Chromium	0.010	+/-5.000	U	0.632	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Cobalt	-0.001	+/-5.000	U	0.262	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Copper	-0.008	+/-1.000	U	0.151	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Lead	0.006	+/-1.000	U	0.148	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Nickel	-0.095	+/-5.000	U	0.627	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Selenium	-0.327	+/-1.000	U	0.950	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Silver	0.009	+/-1.000	U	0.170	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Thallium	0.002	+/-0.500	U	0.075	0.500	MS	6/6/2017	12:17	MS2060617A 6
	Vanadium	0.070	+/-5.000	U	1.010	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Zinc	-0.007	+/-10.000	U	1.594	10.000	MS	6/6/2017	12:17	MS2060617A 6
CCB1										
	Antimony	0.423	+/-1.000	J	0.174	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Arsenic	-0.116	+/-1.000	U	0.261	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Barium	-0.005	+/-5.000	U	0.534	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Beryllium	0.009	+/-0.400	U	0.115	0.400	MS	6/6/2017	12:54	MS2060617A 6
	Cadmium	0.018	+/-0.100	U	0.044	0.100	MS	6/6/2017	12:54	MS2060617A 6
	Chromium	0.029	+/-5.000	U	0.632	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Cobalt	0.004	+/-5.000	U	0.262	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Copper	-0.007	+/-1.000	U	0.151	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Lead	0.012	+/-1.000	U	0.148	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Nickel	-0.097	+/-5.000	U	0.627	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Selenium	-0.309	+/-1.000	U	0.950	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Silver	0.012	+/-1.000	U	0.170	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Thallium	0.015	+/-0.500	U	0.075	0.500	MS	6/6/2017	12:54	MS2060617A 6
	Vanadium	0.090	+/-5.000	U	1.010	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Zinc	0.007	+/-10.000	U	1.594	10.000	MS	6/6/2017	12:54	MS2060617A 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	MDL	PQL	M	Analysis Date	Analysis Time	Run
CCB2										
	Antimony	0.451	+/-1.000	J	0.174	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Arsenic	-0.105	+/-1.000	U	0.261	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Barium	0.026	+/-5.000	U	0.534	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Beryllium	0.014	+/-0.400	U	0.115	0.400	MS	6/6/2017	13:59	MS2060617A 6
	Cadmium	0.012	+/-0.100	U	0.044	0.100	MS	6/6/2017	13:59	MS2060617A 6
	Chromium	0.014	+/-5.000	U	0.632	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Cobalt	-0.001	+/-5.000	U	0.262	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Copper	-0.013	+/-1.000	U	0.151	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Lead	0.008	+/-1.000	U	0.148	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Nickel	-0.112	+/-5.000	U	0.627	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Selenium	-0.281	+/-1.000	U	0.950	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Silver	0.009	+/-1.000	U	0.170	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Thallium	0.011	+/-0.500	U	0.075	0.500	MS	6/6/2017	13:59	MS2060617A 6
	Vanadium	0.067	+/-5.000	U	1.010	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Zinc	-0.013	+/-10.000	U	1.594	10.000	MS	6/6/2017	13:59	MS2060617A 6
CCB3										
	Antimony	0.476	+/-1.000	J	0.174	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Arsenic	-0.114	+/-1.000	U	0.261	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Barium	0.028	+/-5.000	U	0.534	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Beryllium	0.016	+/-0.400	U	0.115	0.400	MS	6/6/2017	15:04	MS2060617A 6
	Cadmium	0.016	+/-0.100	U	0.044	0.100	MS	6/6/2017	15:04	MS2060617A 6
	Chromium	0.031	+/-5.000	U	0.632	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Cobalt	-0.002	+/-5.000	U	0.262	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Copper	-0.043	+/-1.000	U	0.151	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Lead	0.008	+/-1.000	U	0.148	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Nickel	-0.107	+/-5.000	U	0.627	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Selenium	-0.319	+/-1.000	U	0.950	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Silver	0.009	+/-1.000	U	0.170	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Thallium	0.012	+/-0.500	U	0.075	0.500	MS	6/6/2017	15:04	MS2060617A 6
	Vanadium	0.081	+/-5.000	U	1.010	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Zinc	-0.004	+/-10.000	U	1.594	10.000	MS	6/6/2017	15:04	MS2060617A 6

- 4 -

INTERFERENCE CHECK SAMPLE

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

ICS Source: High Purity **Instrument ID:** ICPMS2

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window	Analysis Date	Analysis Time	Run Number
ICSA								
	Antimony	-0.0010			-2.0000 to 2.0000	5/19/2017	13:42	MS2051917B 6
	Arsenic	0.19			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Barium	1.0			-10.0 to 10.0	5/19/2017	13:42	MS2051917B 6
	Beryllium	0.076			-0.800 to 0.800	5/19/2017	13:42	MS2051917B 6
	Cadmium	-0.23			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Chromium	1.1			-10.0 to 10.0	5/19/2017	13:42	MS2051917B 6
	Cobalt	-0.73			-8.00 to 8.00	5/19/2017	13:42	MS2051917B 6
	Copper	-0.33			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Lead	0.20			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Nickel	1.5			-10.0 to 10.0	5/19/2017	13:42	MS2051917B 6
	Selenium	0.17			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Silver	0.19			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Thallium	0.013			-1.000 to 1.000	5/19/2017	13:42	MS2051917B 6
	Vanadium	0.11			-10.00 to 10.00	5/19/2017	13:42	MS2051917B 6
	Zinc	4.0			-10.0 to 10.0	5/19/2017	13:42	MS2051917B 6
ICSAB								
	Antimony	93.5	100	94	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Arsenic	94.3	100	94	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Barium	101	100	101	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Beryllium	106	100	106	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Cadmium	92.5	100	93	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Chromium	99.8	100	100	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Cobalt	96.2	100	96	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Copper	93.3	100	93	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Lead	93.7	100	94	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Nickel	91.8	100	92	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Selenium	91.9	100	92	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Silver	90.7	100	91	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Thallium	99.4	100	99	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Vanadium	99.5	100	100	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Zinc	91.7	100	92	50 - 150%	5/19/2017	13:47	MS2051917B 6

- 4 -

INTERFERENCE CHECK SAMPLE

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

ICS Source: High Purity **Instrument ID:** ICPMS2

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window	Analysis Date	Analysis Time	Run Number
ICSA								
	Antimony	0.070			-2.000 to 2.000	6/6/2017	12:38	MS2060617A 6
	Arsenic	0.16			-2.00 to 2.00	6/6/2017	12:38	MS2060617A 6
	Barium	0.92			-10.00 to 10.00	6/6/2017	12:38	MS2060617A 6
	Beryllium	0.055			-0.800 to 0.800	6/6/2017	12:38	MS2060617A 6
	Cadmium	0.033			-2.000 to 2.000	6/6/2017	12:38	MS2060617A 6
	Chromium	1.1			-10.0 to 10.0	6/6/2017	12:38	MS2060617A 6
	Cobalt	-0.68			-8.00 to 8.00	6/6/2017	12:38	MS2060617A 6
	Copper	-0.041			-2.000 to 2.000	6/6/2017	12:38	MS2060617A 6
	Lead	0.20			-2.00 to 2.00	6/6/2017	12:38	MS2060617A 6
	Nickel	1.2			-10.0 to 10.0	6/6/2017	12:38	MS2060617A 6
	Selenium	-0.11			-2.00 to 2.00	6/6/2017	12:38	MS2060617A 6
	Silver	0.18			-2.00 to 2.00	6/6/2017	12:38	MS2060617A 6
	Thallium	-0.0013			-1.0000 to 1.0000	6/6/2017	12:38	MS2060617A 6
	Vanadium	0.080			-10.000 to 10.000	6/6/2017	12:38	MS2060617A 6
	Zinc	4.1			-10.0 to 10.0	6/6/2017	12:38	MS2060617A 6
ICSAB								
	Antimony	93.3	100	93	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Arsenic	92.3	100	92	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Barium	97.0	100	97	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Beryllium	102	100	102	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Cadmium	91.3	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Chromium	94.8	100	95	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Cobalt	90.7	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Copper	89.1	100	89	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Lead	91.0	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Nickel	88.6	100	89	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Selenium	91.1	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Silver	57.7	100	58	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Thallium	91.2	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Vanadium	94.6	100	95	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Zinc	91.0	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6

- 9 -

SERIAL DILUTION SAMPLE SUMMARY

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Matrix: WATER **Level:** **Client ID:** 16WC1AL

Sample ID: SE18010-004 **Serial Dilution ID:** SE18010-004L

Batch Number: 42482

Analyte	Initial Result ug/L	C	Serial Result ug/L	C	% Difference	Qual	Acceptance Limits	M
Arsenic	0.84	J	1.31	U	100.0		10.00 %	MS
Barium	266.00		273.85		3.0		10.00 %	MS
Beryllium	0.11	U	0.57	U			10.00 %	MS
Cadmium	0.04	U	0.22	U			10.00 %	MS
Chromium	0.63	U	3.16	U			10.00 %	MS
Cobalt	6.37		6.81	J	6.9		10.00 %	MS
Copper	5.77		5.68		1.6		10.00 %	MS
Lead	0.34	J	0.74	U	100.0		10.00 %	MS
Nickel	9.91		10.49	J	5.9		10.00 %	MS
Selenium	0.95	U	4.75	U			10.00 %	MS
Silver	0.17	U	0.85	U			10.00 %	MS
Thallium	0.07	U	0.43	J	100.0		10.00 %	MS
Vanadium	1.01	U	5.05	U			10.00 %	MS

- 9 -

SERIAL DILUTION SAMPLE SUMMARY

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Matrix: WATER **Level:** **Client ID:** 16WC1AL

Sample ID: SE18010-004 **Serial Dilution ID:** SE18010-004L

Batch Number: 42482

Analyte	Initial Result ug/L	C	Serial Result ug/L	C	% Difference	Qual	Acceptance Limits	M
Antimony	0.40	U	2.00	U			10.00 %	MS
Zinc	15.81		14.22	J	10.1		10.00 %	MS

9-IN

METHOD DETECTION LIMITS (MDL) (ANNUALLY)

Lab Name: Shealy Environmental Services, I Contract: RAAP HWMU16

Lab Code: Shealy Case No.: Mod. Ref. No.: SDG No.: SE18010

Instrument Type: MS Instrument ID: ICPMS2 Date: 02/11/2016

Preparation Method: 3005A

Concentration Units (ug/L, mg/kg, or ug): UG/L

Analyte	Wavelength/Mass	MDL
Antimony	123.00	0.174
Arsenic	75.00	0.26
Barium	135.00	0.5
Beryllium	9.00	0.115
Cadmium	114.00	0.04
Chromium	52.00	0.63
Cobalt	59.00	0.262
Copper	65.00	0.15
Lead	208.00	0.15
Nickel	60.00	0.627
Selenium	82.00	0.95
Silver	107.00	0.170
Thallium	205.00	0.075
Vanadium	51.00	1.010
Zinc	66.00	1.59

Comments:

- 12 -
LINEAR RANGES

Client: Draper Aden Associates **SDG No.:** SE18010

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Instrument ID: ICPMS2 **Date:** 4/7/2017

Analyte	Integration Time (sec)	LDR ug/L
Antimony	0.10	1000
Arsenic	0.10	2000
Barium	0.10	10000
Beryllium	0.10	1000
Cadmium	0.10	2000
Chromium	0.10	2000
Cobalt	0.10	2000
Copper	0.10	2000
Lead	0.10	2000
Nickel	0.10	2000
Selenium	0.10	2000
Silver	0.10	500
Thallium	0.10	1000
Vanadium	0.10	2000
Zinc	0.10	2000

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE18010

Instrument ID Number: ICPMS2 Run Number: MS2051917B 6020A 6020B, generate

Start Date: 5/19/2017 End Date: 5/19/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1232																									
BLANK	1.00	1237			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL1	1.00	1243			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL2	1.00	1248			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL3	1.00	1253			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL4	1.00	1259			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL5	1.00	1304			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL6	1.00	1309			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ICV1	1.00	1315			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ICB1	1.00	1320			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ZZZZZZ	1.00	1326																									
LLICV	1.00	1331			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ZZZZZZ	1.00	1336																									
ICSA	1.00	1342			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ICSAB	1.00	1347			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CCV1	1.00	1352			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CCV2	1.00	1400			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CCB1	1.00	1406			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ZZZZZZ	1.00	1411																									
ZZZZZZ	1.00	1417																									
ZZZZZZ	1.00	1422																									
ZZZZZZ	1.00	1427																									
ZZZZZZ	1.00	1433																									
ZZZZZZ	1.00	1438																									
ZZZZZZ	1.00	1443																									
ZZZZZZ	1.00	1449																									
ZZZZZZ	5.00	1454																									
ZZZZZZ	1.00	1500																									
ZZZZZZ	1.00	1505																									
ZZZZZZ	1.00	1510																									
ZZZZZZ	1.00	1516																									
ZZZZZZ	1.00	1521																									
ZZZZZZ	1.00	1527																									
ZZZZZZ	1.00	1532																									
ZZZZZZ	1.00	1537																									
ZZZZZZ	1.00	1543																									
ZZZZZZ	1.00	1548																									

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE18010

Instrument ID Number: ICPMS2 Run Number: MS2051917B 6020A 6020B, generate

Start Date: 5/19/2017 End Date: 5/19/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1553																								
ZZZZZZ	1.00	1559																								
ZZZZZZ	1.00	1604																								
ZZZZZZ	1.00	1610																								
ZZZZZZ	1.00	1615																								
ZZZZZZ	1.00	1620																								
ZZZZZZ	1.00	1626																								
ZZZZZZ	1.00	1631																								
ZZZZZZ	1.00	1637																								
ZZZZZZ	1.00	1642																								
ZZZZZZ	1.00	1647																								
ZZZZZZ	5.00	1653																								
ZZZZZZ	1.00	1658																								
ZZZZZZ	1.00	1704																								
ZZZZZZ	1.00	1709																								
ZZZZZZ	1.00	1714																								
ZZZZZZ	1.00	1720																								
ZZZZZZ	1.00	1725																								
ZZZZZZ	1.00	1730																								
ZZZZZZ	1.00	1736																								
ZZZZZZ	1.00	1741																								
ZZZZZZ	1.00	1747																								
ZZZZZZ	1.00	1752																								
ZZZZZZ	1.00	1757																								
ZZZZZZ	1.00	1803																								
ZZZZZZ	1.00	1808																								
ZZZZZZ	1.00	1814																								
ZZZZZZ	1.00	1819																								
ZZZZZZ	1.00	1824																								
ZZZZZZ	5.00	1830																								
ZZZZZZ	1.00	1835																								
ZZZZZZ	1.00	1840																								
ZZZZZZ	1.00	1846																								
ZZZZZZ	1.00	1851																								
ZZZZZZ	1.00	1857																								
ZZZZZZ	1.00	1902																								
ZZZZZZ	1.00	1907																								

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE18010

Instrument ID Number: ICPMS2 Run Number: MS2051917B 6020A 6020B, generate

Start Date: 5/19/2017 End Date: 5/19/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	5.00	1913																										
ZZZZZZ	1.00	1918																										
CCV3	1.00	1923			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X		
CCB2	1.00	1929			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X		
SO42482-001	1.00	1934				X	X	X	X		X	X	X		X				X		X	X		X	X			
SO42482-002	1.00	1940				X	X	X	X		X	X	X		X				X		X	X		X	X			
SE18010-001	1.00	1945				X	X	X	X		X	X	X		X				X		X	X		X	X			
SE18010-002	1.00	1950				X	X	X	X		X	X	X		X				X		X	X		X	X			
SE18010-003	1.00	1956				X	X	X	X		X	X	X		X				X		X	X		X	X			
SE18010-004	1.00	2001				X	X	X	X		X	X	X		X				X		X	X		X	X			
SE18010-004MS	1.00	2006				X	X	X	X		X	X	X		X				X		X	X		X	X			
SE18010-004MD	1.00	2012				X	X	X	X		X	X	X		X				X		X	X		X	X			
SE18010-004L	5.00	2017				X	X	X	X		X	X	X		X				X		X	X		X	X			
ZZZZZZ	1.00	2022																										
CCV4	1.00	2028			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X		
CCB3	1.00	2033			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X		
SE18010-005	1.00	2039					X	X			X	X	X		X									X	X			
SE18010-006	1.00	2044					X	X			X	X	X		X									X	X			
ZZZZZZ	1.00	2049																										
ZZZZZZ	1.00	2055																										
ZZZZZZ	1.00	2100																										
ZZZZZZ	1.00	2105																										
ZZZZZZ	1.00	2111																										
ZZZZZZ	1.00	2116																										
LLCCV	1.00	2121			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X		
ZZZZZZ	1.00	2127																										
CCV5	1.00	2132			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X		
CCB4	1.00	2138			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X		
ZZZZZZ	1.00	2143																										
ZZZZZZ	1.00	2148																										
ZZZZZZ	1.00	2154																										
ZZZZZZ	1.00	2159																										

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE18010

Instrument ID Number: ICPMS2 Run Number: MS2060617A 6020A 6020B, generate

Start Date: 6/6/2017 End Date: 6/6/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1129																										
BLANK	1.00	1134			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL1	1.00	1140			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL2	1.00	1145			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL3	1.00	1150			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL4	1.00	1156			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL5	1.00	1201			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CAL6	1.00	1206			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ICV1	1.00	1212			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ICB1	1.00	1217			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ZZZZZZ	1.00	1222																										
LLICV	1.00	1228			X	X	X	X	X		X	X	X		X				X			X		X	X	X	
LLICV2	1.00	1233																			X						
ICSA	1.00	1238			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ICSAB	1.00	1244			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CCV1	1.00	1249			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CCB1	1.00	1254			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ZZZZZZ	1.00	1300																										
ZZZZZZ	1.00	1305																										
ZZZZZZ	1.00	1311																										
ZZZZZZ	5.00	1316																										
ZZZZZZ	1.00	1321																										
SO42482-001	1.00	1327			X																					X	
SO42482-002	1.00	1332			X																					X	
SE18010-001	1.00	1337			X																					X	
SE18010-002	1.00	1343			X																					X	
SE18010-003	1.00	1348			X																					X	
CCV2	1.00	1354			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CCB2	1.00	1359			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
SE18010-004	1.00	1404			X																					X	
SE18010-004S	1.00	1410			X																					X	
SE18010-004SD	1.00	1415			X																					X	
SE18010-004L	5.00	1420			X																					X	
ZZZZZZ	1.00	1426																										
SE18010-005	1.00	1431			X	X			X										X		X	X				X	
SE18010-006	1.00	1437			X	X			X										X		X	X				X	
ZZZZZZ	1.00	1442																										

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE18010

Instrument ID Number: ICPMS2 Run Number: MS2060617A 6020A 6020B, generate

Start Date: 6/6/2017 End Date: 6/6/2017

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1447																								
ZZZZZZ	1.00	1453																								
CCV3	1.00	1458			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
CCB3	1.00	1504			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ZZZZZZ	1.00	1509																									
ZZZZZZ	1.00	1514																									
ZZZZZZ	1.00	1520																									
LLCCV	1.00	1525			X	X	X	X	X		X	X	X		X				X		X	X		X	X	X	
ZZZZZZ	1.00	1530																									
ZZZZZZ	1.00	1536																									
ZZZZZZ	1.00	1541																									
ZZZZZZ	50.00	1546																									
ZZZZZZ	50.00	1552																									
ZZZZZZ	50.00	1557																									
ZZZZZZ	50.00	1603																									
ZZZZZZ	250.00	1608																									
ZZZZZZ	50.00	1613																									
ZZZZZZ	5.00	1619																									
ZZZZZZ	5.00	1624																									
ZZZZZZ	5.00	1630																									
ZZZZZZ	5.00	1635																									
ZZZZZZ	1.00	1640																									
ZZZZZZ	1.00	1646																									
ZZZZZZ	1.00	1651																									
ZZZZZZ	1.00	1657																									
ZZZZZZ	1.00	1702																									
ZZZZZZ	1.00	1707																									

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16

Lab Code: Shealy Case No.: _____ NRAS No.: _____ SDG NO.: SE18010

ICP-MS Instrument ID: ICPMS2 Start Date: 05/19/2017 End Date: 05/19/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
TUNE	ZZZZZZ	1232	0											
BLANK	BLANK IM7804-01	1237	100		100		100		100		100		100	
CAL1	CAL1 MW9444	1243	100		99		101		100		100		100	
CAL2	CAL2 MW9445	1248	98		97		97		98		99		98	
CAL3	CAL3 MW9403	1253	98		96		93		96		97		95	
CAL4	CAL4 MW9404	1259	98		95		94		94		97		95	
CAL5	CAL5 MW9446	1304	88		90		83		92		93		91	
CAL6	CAL6 MW9447	1309	84		88		74		91		91		89	
ICV1	ICV1	1315	91		94		88		99		96		96	
ICB1	ICB1	1320	100		101		101		105		100		102	
LLICV	ZZZZZZ	1326	0											
LLICV	LLICV	1331	100		101		103		104		100		102	
LLICV2	ZZZZZZ	1336	0											
ICSA	ICSA	1342	86		90		75		88		90		85	
ICSAB	ICSAB	1347	88		92		75		92		93		88	
CCV1	CCV1	1352	90		93		79		93		97		93	
CCV2	CCV2	1400	91		92		79		94		97		93	
CCB1	CCB1	1406	100		99		97		98		100		98	
SQ42373-001	ZZZZZZ	1411	0											
SQ42373-002	ZZZZZZ	1417	0											
SE17006-001	ZZZZZZ	1422	0											
SE17006-002	ZZZZZZ	1427	0											
SE17006-003	ZZZZZZ	1433	0											
SE17006-004	ZZZZZZ	1438	0											
SE17006-004	ZZZZZZ	1443	0											
SE17006-004	ZZZZZZ	1449	0											
SE17006-004	ZZZZZZ	1454	0											
SE17006-004	ZZZZZZ	1500	0											

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE18010

ICP-MS Instrument ID: ICPMS2 Start Date: 05/19/2017 End Date: 05/19/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
CCV	ZZZZZZ	1505	0											
CCB	ZZZZZZ	1510	0											
SE17006-005	ZZZZZZ	1516	0											
SE17006-006	ZZZZZZ	1521	0											
SE13002-001	ZZZZZZ	1527	0											
SE13002-002	ZZZZZZ	1532	0											
SE13002-003	ZZZZZZ	1537	0											
SE13002-004	ZZZZZZ	1543	0											
SE17066-001	ZZZZZZ	1548	0											
SE17066-002	ZZZZZZ	1553	0											
SE17066-003	ZZZZZZ	1559	0											
SE17066-004	ZZZZZZ	1604	0											
CCV	ZZZZZZ	1610	0											
CCB	ZZZZZZ	1615	0											
SE17066-005	ZZZZZZ	1620	0											
SQ42388-001	ZZZZZZ	1626	0											
SQ42388-002	ZZZZZZ	1631	0											
SE16002-001	ZZZZZZ	1637	0											
SE16002-001	ZZZZZZ	1642	0											
SE16002-001	ZZZZZZ	1647	0											
SE16002-001	ZZZZZZ	1653	0											
SE16002-001	ZZZZZZ	1658	0											
SE16002-002	ZZZZZZ	1704	0											
SE16002-003	ZZZZZZ	1709	0											
CCV	ZZZZZZ	1714	0											
CCB	ZZZZZZ	1720	0											
SE16002-004	ZZZZZZ	1725	0											
SE16002-005	ZZZZZZ	1730	0											
SE16002-006	ZZZZZZ	1736	0											

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE18010

ICP-MS Instrument ID: ICPMS2 Start Date: 05/19/2017 End Date: 05/19/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
SE16002-007	ZZZZZZ	1741	0											
SE18011-001	ZZZZZZ	1747	0											
SE18011-002	ZZZZZZ	1752	0											
SE18011-003	ZZZZZZ	1757	0											
SE18011-004	ZZZZZZ	1803	0											
SE18011-004	ZZZZZZ	1808	0											
SE18011-004	ZZZZZZ	1814	0											
CCV	ZZZZZZ	1819	0											
CCB	ZZZZZZ	1824	0											
SE18011-004	ZZZZZZ	1830	0											
SE18011-004	ZZZZZZ	1835	0											
SE18011-005	ZZZZZZ	1840	0											
SE18011-007	ZZZZZZ	1846	0											
SE18011-008	ZZZZZZ	1851	0											
SE18011-009	ZZZZZZ	1857	0											
SE18011-010	ZZZZZZ	1902	0											
SE18011-011	ZZZZZZ	1907	0											
SE17006-002	ZZZZZZ	1913	0											
SQ42373-001	ZZZZZZ	1918	0											
CCV3	CCV3	1923	83		85		86		90		88		86	
CCB2	CCB2	1929	97		96		105		100		97		97	
SQ42482-001	SQ42482-001MB	1934	95		93		105		97		94		94	
SQ42482-002	LCS	1940	92		90		102		93		92		91	
SE18010-001	16C1	1945	89		90		102		96		93		92	
SE18010-002	16MW8	1950	93		90		100		94		93		94	
SE18010-003	16MW9	1956	86		89		98		94		91		90	
SE18010-004	16WC1A	2001	87		89		98		94		91		90	
SE18010-004	16WC1AS	2006	88		89		98		95		92		92	

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE18010

ICP-MS Instrument ID: ICPMS2 Start Date: 05/19/2017 End Date: 05/19/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
SE18010-004	16WC1ASD	2012	88		89		98		96		92		91	
SE18010-004	16WC1AL	2017	93		92		102		95		94		94	
SE18010-004	ZZZZZZ	2022	0											
CCV4	CCV4	2028	85		88		87		94		90		90	
CCB3	CCB3	2033	99		98		107		102		99		100	
SE18010-005	16WDUP	2039	89		90		100		96		93		92	
SE18010-006	16WC1B	2044	91		91		103		97		93		94	
SE19003-001	ZZZZZZ	2049	0											
SE19003-002	ZZZZZZ	2055	0											
SE19003-003	ZZZZZZ	2100	0											
SE19003-004	ZZZZZZ	2105	0											
SE19003-005	ZZZZZZ	2111	0											
LLCCV	ZZZZZZ	2116	0											
LLCCV	LLCCV	2121	97		95		109		99		96		95	
LLCCV2	ZZZZZZ	2127	0											
CCV5	CCV5	2132	85		87		89		91		90		88	
CCB4	CCB4	2138	97		95		104		97		95		95	
LR	ZZZZZZ	2143	0											
IS	ZZZZZZ	2148	0											
RINSE	ZZZZZZ	2154	0											
RINSE	ZZZZZZ	2159	0											

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16

Lab Code: Shealy Case No.: _____ NRAS No.: _____ SDG NO.: SE18010

ICP-MS Instrument ID: ICPMS2 Start Date: 06/06/2017 End Date: 06/06/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
TUNE	ZZZZZZ	1129	0											
BLANK	BLANK IM7804-01	1134	100		100		100		100		100		100	
CAL1	CAL1 MW9461	1140	101		101		101		100		100		101	
CAL2	CAL2 MW9462	1145	101		101		100		102		100		102	
CAL3	CAL3 MW9463	1150	102		102		100		101		101		102	
CAL4	CAL4 MW9464	1156	101		102		100		103		101		102	
CAL5	CAL5 MW9471	1201	92		97		91		100		98		100	
CAL6	CAL6 MW9472	1206	88		96		82		105		97		100	
ICV1	ICV1	1212	94		100		91		104		100		103	
ICB1	ICB1	1217	101		103		100		106		101		104	
CO	ZZZZZZ	1222	0											
LLICV	LLICV	1228	100		100		100		101		99		101	
LLICV2	LLICV2	1233	100		101		100		102		100		101	
ICSA	ICSA	1238	90		95		82		94		95		92	
ICSAB	ICSAB	1244	93		100		83		101		99		95	
CCV1	CCV1	1249	97		102		87		107		105		104	
CCB1	CCB1	1254	105		105		99		103		105		104	
SQ42715-001	ZZZZZZ	1300	0											
SQ42715-002	ZZZZZZ	1305	0											
SE18011-006	ZZZZZZ	1311	0											
SE18011-006	ZZZZZZ	1316	0											
SE18011-006	ZZZZZZ	1321	0											
SQ42482-001	SQ42482-001MB	1327	103		106		109		106		104		106	
SQ42482-002	LCS	1332	102		103		107		104		102		103	
SE18010-001	16C1	1337	95		101		104		108		101		104	
SE18010-002	16MW8	1343	99		102		107		105		101		107	
SE18010-003	16MW9	1348	94		101		104		110		101		105	
CCV2	CCV2	1354	92		99		94		105		100		102	

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE18010

ICP-MS Instrument ID: ICPMS2 Start Date: 06/06/2017 End Date: 06/06/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
CCB2	CCB2	1359	103		107		108		111		104		108	
SE18010-004	16WC1A	1404	95		102		107		110		102		106	
SE18010-004	16WC1AS	1410	94		102		107		111		101		105	
SE18010-004	16WC1ASD	1415	94		100		105		113		100		104	
SE18010-004	16WC1AL	1420	99		102		105		105		101		103	
SE18010-004	ZZZZZZ	1426	0											
SE18010-005	16WDUP	1431	93		99		106		110		99		103	
SE18010-006	16WC1B	1437	94		99		107		105		99		103	
SE19003-001	ZZZZZZ	1442	0											
SE19003-002	ZZZZZZ	1447	0											
SE19003-003	ZZZZZZ	1453	0											
CCV3	CCV3	1458	89		97		98		105		97		101	
CCB3	CCB3	1504	100		105		111		112		101		107	
SE19003-004	ZZZZZZ	1509	0											
SE19003-005	ZZZZZZ	1514	0											
CO	ZZZZZZ	1520	0											
LLCCV	LLCCV	1525	99		103		111		108		100		104	
LLCCV2	ZZZZZZ	1530	0											
CCV	ZZZZZZ	1536	0											
CCB	ZZZZZZ	1541	0											
SE23022-009	ZZZZZZ	1546	0											
SE27003-001	ZZZZZZ	1552	0											
SE27003-001	ZZZZZZ	1557	0											
SE27003-001	ZZZZZZ	1603	0											
SE27003-001	ZZZZZZ	1608	0											
SE27003-001	ZZZZZZ	1613	0											
SE27003-002	ZZZZZZ	1619	0											
SE27003-003	ZZZZZZ	1624	0											
SE27003-004	ZZZZZZ	1630	0											

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16

Lab Code: Shealy Case No.: _____ NRAS No.: _____ SDG NO.: SE18010

ICP-MS Instrument ID: ICPMS2 Start Date: 06/06/2017 End Date: 06/06/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
SE27003-010	ZZZZZZ	1635	0											
CCV	ZZZZZZ	1640	0											
CCB	ZZZZZZ	1646	0											
LR	ZZZZZZ	1651	0											
IS	ZZZZZZ	1657	0											
RINSE	ZZZZZZ	1702	0											
RINSE	ZZZZZZ	1707	0											

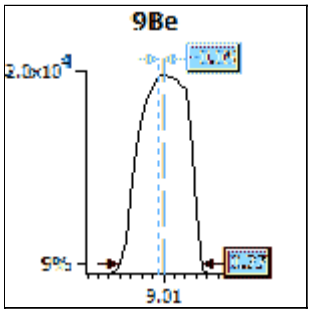
Raw Sample Data

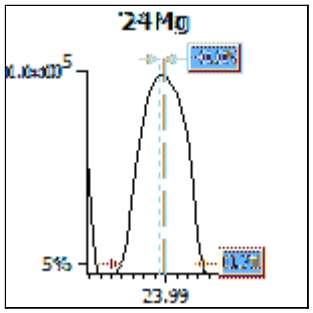
Performance Report

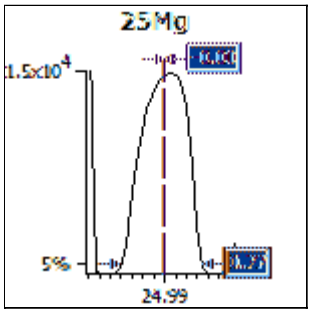
Sample details
Acquired at : 5/19/2017 10:08:22
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

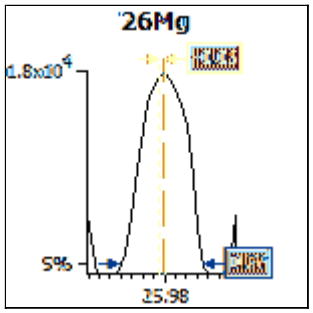
Mass Calibration verification

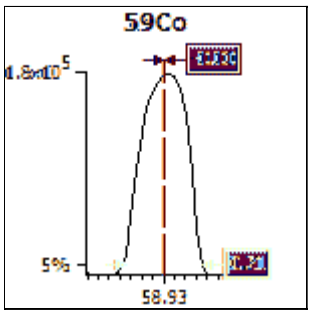
Acquisition parameters
Sweeps : 10
Dwell : 10.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum

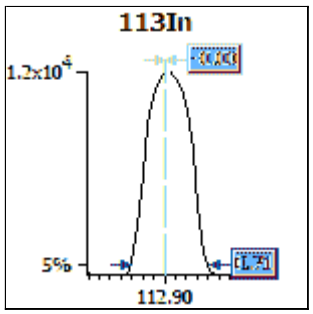


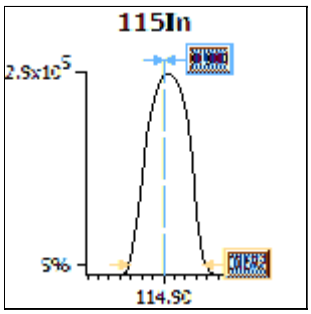


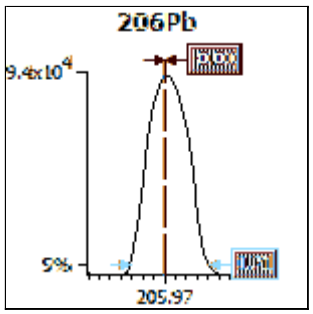


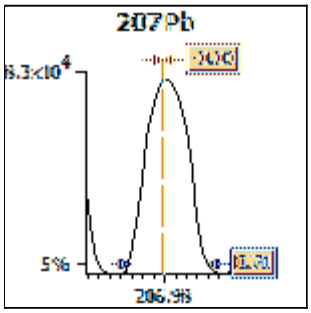


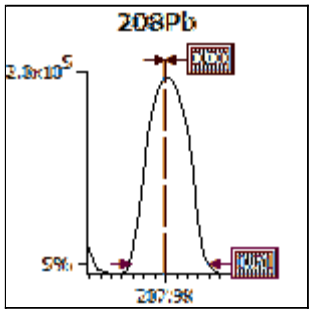












Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
9Be	0.85	0.65	0.10	0.77	-0.05
24Mg	0.85	0.65	0.10	0.71	-0.05
25Mg	0.85	0.65	0.10	0.77	-0.00
26Mg	0.85	0.65	0.10	0.77	-0.05
59Co	0.85	0.65	0.10	0.71	-0.00
113In	0.85	0.65	0.10	0.71	-0.00
115In	0.85	0.65	0.10	0.66	0.00
206Pb	0.85	0.65	0.10	0.71	-0.00
207Pb	0.85	0.65	0.10	0.71	-0.00
208Pb	0.85	0.65	0.10	0.71	0.00

PDF created with pdfFactory trial version www.pdffactory.com

Sample details
Acquired at : 5/19/2017 10:08:22
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

Tune conditions

Major	
Extraction	-98.0
Lens 1	-1043
Lens 2	-82.4
Focus	17.1
D1	-38.4
D2	-144
Pole Bias	1.0
Hexapole Bias	-4.0
Nebuliser	0.65

Minor	
Lens 3	-197.6
Forward power	1404
Horizontal	119
Vertical	645
DA	-58.8
Cool	13.0
Auxiliary	0.80
Sampling Depth	170

Global	
Standard resolution	100
High resolution	115
Analogue Detector	2225
PC Detector	3549

Add. Gases

Sensitivity and stability results

Acquisition parameters

Sweeps : 130

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	56Ar O	59Co	136Ba++	101Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	-	5.0%	-	-
	Countrate	-	>5000	>1000	>1000	>1000	-	>10000	-	-
1	10:08:59	0.769	21531.171	110418.75	14455.173	17414.747	526755.61	177931.09	3775.599	0.000
2	10:09:31	0.000	21393.842	110376.58	14340.329	17196.534	526758.91	177488.11	3871.803	0.000
3	10:10:03	0.000	21322.093	108942.04	14432.050	17080.877	524119.78	175699.93	3763.285	0.000
4	10:10:35	0.000	21560.489	108596.13	14233.195	16907.394	526364.84	176961.62	3657.076	0.769
5	10:11:06	0.000	21666.960	108928.76	14172.307	16831.062	527043.95	175529.73	3659.385	0.000
x		0.154	21494.911	109452.45	14326.611	17086.123	526208.62	176722.10	3745.430	0.154
σ		0.34	137.20	874.04	122.85	233.03	1192.42	1069.15	90.01	0.34
%RSD		223.607	0.638	0.799	0.858	1.364	0.227	0.605	2.403	223.607

Run	Time	113In	115In	138Ba	140Ce	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	5.0%	5.0%	-	-	-	5.0%	5.0%	5.0%	-
	Countrate	>1000	>10000	-	-	-	>10000	>10000	>10000	<2
1	10:08:59	12568.583	289954.21	2451.953	292454.02	4981.712	93367.659	81815.431	198864.11	0.000
2	10:09:31	12506.938	288592.19	2500.431	293334.72	5047.911	92684.355	81048.422	198362.96	0.000
3	10:10:03	12316.612	285834.51	2468.882	290552.87	5040.984	92483.350	80860.961	197516.46	0.000
4	10:10:35	12233.394	286012.89	2395.781	290363.98	5054.839	92251.967	80618.279	196685.85	0.000
5	10:11:06	12429.882	285049.08	2401.167	290161.49	5134.896	91922.434	80669.615	196233.84	0.000
x		12411.082	287088.58	2443.643	291373.42	5052.068	92541.953	81002.542	197532.64	0.000
σ		136.79	2083.39	44.79	1429.64	54.68	541.62	485.14	1103.00	0.00
%RSD		1.102	0.726	1.833	0.491	1.082	0.585	0.599	0.558	0.000

Ratio results

Run	Time	56Ar O/59Co	136Ba++/138Ba	115In/101Bkg	156Ce O/140Ce
Ratio limits		-	-	-	-
1	10:08:59	2.960	1.540	INF	0.017
2	10:09:31	2.968	1.548	INF	0.017
3	10:10:03	2.983	1.524	INF	0.017
4	10:10:35	2.974	1.526	371816.74	0.017
5	10:11:06	3.003	1.524	INF	0.018
x		2.9777	1.5326	371816.74	0.0173
σ		0.02	0.01	0.00	0.00
%RSD		0.5449	0.7180	0.0000	1.4209

Result : The performance report passed.

PDF created with pdfFactory trial version www.pdffactory.com

FORM 11-IN

ICP-MS INTERNAL STANDARD ASSOCIATION

Lab Name: Shealy Environmental Services, I **Contract:**

Lab Code: Shealy **Case No.:** **MA No.:** **SDG No.:**

Instrument ID: ICPMS2

Run Batch: MS2051917B 6020A 6020B, gen **Date:** 05/19/2017

Analyte	Assoc. Internal Standard 1	Assoc. Internal Standard 2
Aluminum	45Sc	
Antimony	115In	
Arsenic	115In	
Barium	115In	159Tb
Beryllium	6Li	45Sc
Boron	45Sc	
Cadmium	209Bi	
Calcium	45Sc	
Chromium	45Sc	89Y
Cobalt	45Sc	89Y
Copper	209Bi	
Iron	45Sc	
Lead	159Tb	
Magnesium	6Li	
Manganese	45Sc	89Y
Molybdenum	45Sc	
Nickel	115In	
Potassium	6Li	45Sc
Selenium	209Bi	
Silicon	6Li	
Silver	209Bi	
Sodium	6Li	45Sc
Thallium	159Tb	
Tin	89Y	
Titanium	45Sc	89Y
Vanadium	45Sc	89Y
Zinc	209Bi	

Experiment Details

Description	PlasmaLab Template BlankExperiment
Template Filename	C:\Program Files\Thermo Fisher\PlasmaLab\data\MS2013017C 6020A.tee
Created By User	DemoX
Analyte Database	200_8.tea
Creation Timestamp	12/1/2004 11:33:01
Last Edited By	eqi.im
Last Edit Timestamp	5/22/2017 11:37:11
Instrument Detector	Simultaneous
Database Version	3.51
Acquisition Mode	Unknown

Numerical Results report key (text indicates meaning)

Blue text indicates that cell is a statistic.
Underlining indicates that a data warning flag is set.

Column headings
- No flag
- Semi Quant
- Standard Addition
- Multi Element

Result cells
- Internal Standard
- Excluded
- QC Warning
- QC Failure

Transient TRA only:
- Peak Not Found
- Manually Edited
- Merged Peak

Data warning flags
I - Invalid calibration
T - Tripped
F - Interference correction failed
M - Result over max
V - Valley integration failed
D - Different method used

Fully Quantitative Concentrations

Id	Label	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al	28Si
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444	0.400	25.000	25.000					40.000	100.000
4	cal2 MW9445	2.000	125.000	125.000					200.000	
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9446				50000.000	50000.000	50000.000	50000.000		5000.000
8	cal6 MW9447				100000.000	100000.000	100000.000	100000.000		10000.000
Id	**Label**	**39K**	**43Ca**	**44Ca**	**47Ti**	**51V**	**52Cr**	**55Mn**	**54Fe**	**56Fe**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444			200.000	5.000	5.000	1.000	5.000	20.000	20.000
4	cal2 MW9445				25.000	25.000	5.000	25.000	100.000	100.000
5	cal3 MW9403	250.000	250.000		250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9446	50000.000	50000.000	50000.000					50000.000	50000.000
8	cal6 MW9447	100000.000	100000.000	100000.000					100000.000	100000.000
Id	**Label**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444	20.000	5.000	5.000	5.000	1.000	1.000	10.000	10.000	10.000
4	cal2 MW9445	100.000	25.000	25.000	25.000	5.000	5.000	50.000	50.000	50.000
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9446	50000.000								
8	cal6 MW9447	100000.000								
Id	**Label**	**75As**	**78Se**	**82Se**	**86Sr**	**95Mo**	**97Mo**	**98Mo**	**107Ag**	**109Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444	1.000	1.000	1.000	10.000	10.000	10.000	10.000	1.000	1.000
4	cal2 MW9445	5.000	5.000	5.000	50.000	50.000	50.000	50.000	5.000	5.000
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9446									
8	cal6 MW9447									
Id	**Label**	**106Cd**	**111Cd**	**114Cd**	**116Sn**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444	0.100	0.100	0.100	5.000	5.000	1.000	1.000	5.000	5.000
4	cal2 MW9445	0.500	0.500	0.500	25.000	25.000	5.000	5.000	25.000	25.000
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000

PDF created with pdfFactory trial version www.pdffactory.com

7	cal5 MW9446							
8	cal6 MW9447							
Id	**Label**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**232Th**	**238U**
		ppb	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**
3	cal1 MW9444	0.500	0.500	1.000	1.000	1.000		50.000
4	cal2 MW9445	2.500	2.500	5.000	5.000	5.000		250.000
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000		
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000		500.000
7	cal5 MW9446							
8	cal6 MW9447							

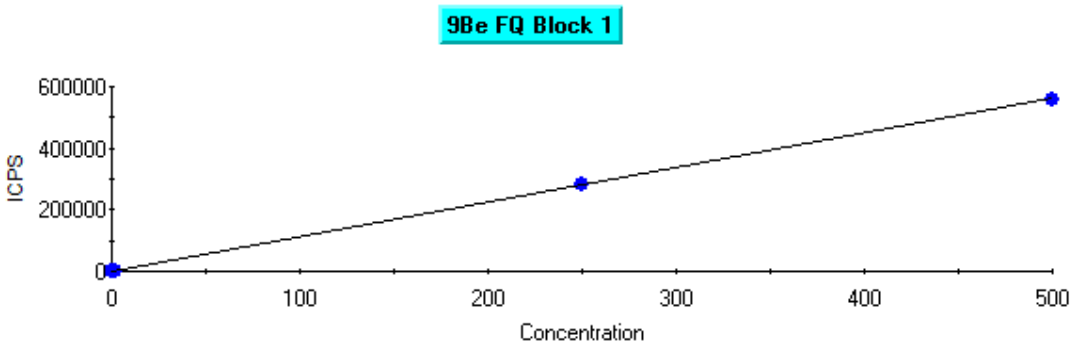
Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	TUNE MW9396	Unknown	1.000	0	1	10	144
2	BLANK IM7804-01	Blank	1.000	0	1	1	144
3	cal1 MW9444	Fully Quant Standard	1.000	0	1	2	144
4	cal2 MW9445	Fully Quant Standard	1.000	0	1	3	144
5	cal3 MW9403	Fully Quant Standard	1.000	0	1	4	144
6	cal4 MW9404	Fully Quant Standard	1.000	0	1	5	144
7	cal5 MW9446	Fully Quant Standard	1.000	0	1	6	144
8	cal6 MW9447	Fully Quant Standard	1.000	0	1	7	144
9	ICV MW-9397 PREP 5/19/17	QC Sample	1.000	4	5	11	144
10	ICB IM7804-01	QC Sample	1.000	0	1	1	144
11	LLICV Co 4ppb MW9459	Unknown	1.000	4	5	2	144
12	LLICV MW9444	QC Sample	1.000	0	1	2	144
13	LLICV2 MW9445	Unknown	1.000	0	1	3	144
14	ICSA MW9430	QC Sample	1.000	4	5	12	144
15	ICSAB MW9460	Unknown	1.000	4	5	1	144
16	CCV MW9450	Unknown	1.000	0	1	9	144
17	CCV MW9450	QC Sample	1.000	0	1	9	144
18	CCB IM7804-01	QC Sample	1.000	0	1	1	144
19	SQ42373-001	QC Sample	1.000	4	1	1	144
20	SQ42373-002	Unknown	1.000	4	1	2	144
21	SE17006-001DIS	Unknown	1.000	4	1	3	144
22	SE17006-002DIS	Unknown	1.000	4	1	4	144
23	SE17006-003DIS	Unknown	1.000	4	1	5	144
24	SE17006-004DIS	Unknown	1.000	4	1	6	144
25	SE17006-004MSDIS	Unknown	1.000	4	1	7	144
26	SE17006-004MDDIS	Unknown	1.000	4	1	8	144
27	SE17006-004SDDIS(5)	Unknown	1.000	4	1	9	144
28	SE17006-004PSDIS	Unknown	1.000	4	1	10	144
29	CCV MW9450	QC Sample	1.000	0	1	9	144
30	CCB IM7804-01	QC Sample	1.000	0	1	1	144
31	SE17006-005DIS	Unknown	1.000	4	2	1	144
32	SE17006-006DIS	Unknown	1.000	4	2	2	144
33	SE13002-001	Unknown	1.000	4	2	3	144
34	SE13002-002	Unknown	1.000	4	2	4	144
35	SE13002-003	Unknown	1.000	4	2	5	144
36	SE13002-004	Unknown	1.000	4	2	6	144
37	SE17066-001	Unknown	1.000	4	2	7	144
38	SE17066-002	Unknown	1.000	4	2	8	144
39	SE17066-003	Unknown	1.000	4	2	9	144
40	SE17066-004	Unknown	1.000	4	2	10	144
41	CCV MW9450	QC Sample	1.000	0	1	9	144
42	CCB IM7804-01	QC Sample	1.000	0	1	1	144
43	SE17066-005	Unknown	1.000	4	3	1	144
44	SQ42388-001	QC Sample	1.000	4	3	2	144
45	SQ42388-002	Unknown	1.000	4	3	3	144
46	SE16002-001	Unknown	1.000	4	3	4	144
47	SE16002-001MS	Unknown	1.000	4	3	5	144
48	SE16002-001MD	Unknown	1.000	4	3	6	144
49	SE16002-001SD(5)	Unknown	1.000	4	3	7	144
50	SE16002-001PS	Unknown	1.000	4	3	8	144
51	SE16002-002	Unknown	1.000	4	3	9	144
52	SE16002-003	Unknown	1.000	4	3	10	144
53	CCV MW9450	QC Sample	1.000	0	1	9	144
54	CCB IM7804-01	QC Sample	1.000	0	1	1	144
55	SE16002-004	Unknown	1.000	4	4	1	144
56	SE16002-005	Unknown	1.000	4	4	2	144
57	SE16002-006	Unknown	1.000	4	4	3	144
58	SE16002-007	Unknown	1.000	4	4	4	144
59	SE18011-001	Unknown	1.000	4	4	5	144
60	SE18011-002	Unknown	1.000	4	4	6	144

PDF created with pdfFactory trial version www.pdffactory.com

61	SE18011-003	Unknown	1.000	4	4	7	144
62	SE18011-004	Unknown	1.000	4	4	8	144
63	SE18011-004MS	Unknown	1.000	4	4	9	144
64	SE18011-004MD	Unknown	1.000	4	4	10	144
65	CCV MW9450	QC Sample	1.000	0	1	9	144
66	CCB IM7804-01	QC Sample	1.000	0	1	1	144
67	SE18011-004SD(5)	Unknown	1.000	4	5	1	144
68	SE18011-004PS	Unknown	1.000	4	5	2	144
69	SE18011-005	Unknown	1.000	4	5	3	144
70	SE18011-007	Unknown	1.000	4	5	4	144
71	SE18011-008	Unknown	1.000	4	5	5	144
72	SE18011-009	Unknown	1.000	4	5	6	144
73	SE18011-010	Unknown	1.000	4	5	7	144
74	SE18011-011	Unknown	1.000	4	5	8	144
75	SE17006-002DIS(5)	Unknown	1.000	3	5	1	144
76	SQ42373-001	QC Sample	1.000	4	1	1	144
77	CCV MW9450	QC Sample	1.000	0	1	9	144
78	CCB IM7804-01	QC Sample	1.000	0	1	1	144
79	SQ42482-001	QC Sample	1.000	3	1	1	144
80	SQ42482-002	Unknown	1.000	3	1	2	144
81	SE18010-001	Unknown	1.000	3	1	3	144
82	SE18010-002	Unknown	1.000	3	1	4	144
83	SE18010-003	Unknown	1.000	3	1	5	144
84	SE18010-004	Unknown	1.000	3	1	6	144
85	SE18010-004MS	Unknown	1.000	3	1	7	144
86	SE18010-004MD	Unknown	1.000	3	1	8	144
87	SE18010-004SD(5)	Unknown	1.000	3	1	9	144
88	SE18010-004PS	Unknown	1.000	3	1	10	144
89	CCV MW9450	QC Sample	1.000	0	1	9	144
90	CCB IM7804-01	QC Sample	1.000	0	1	1	144
91	SE18010-005	Unknown	1.000	3	2	1	144
92	SE18010-006	Unknown	1.000	3	2	2	144
93	SE19003-001	Unknown	1.000	3	2	3	144
94	SE19003-002	Unknown	1.000	3	2	4	144
95	SE19003-003	Unknown	1.000	3	2	5	144
96	SE19003-004	Unknown	1.000	3	2	6	144
97	SE19003-005	Unknown	1.000	3	2	7	144
98	LLCCV Co 4ppb MW9459	Unknown	1.000	4	5	9	144
99	LLCCV MW9444	QC Sample	1.000	4	5	10	144
100	LLCCV2 MW9445	Unknown	1.000	4	5	11	144
101	CCV MW9450	QC Sample	1.000	0	1	9	144
102	CCB IM7804-01	QC Sample	1.000	0	1	1	144
103	LR MW9413	QC Sample	1.000	4	5	12	144
104	IS MW9458	Unknown	1.000	0	1	10	144
105	rinse	Unknown	1.000	0	1	10	144
106	rinse	Unknown	1.000	0	1	10	144

Fully Quant Calibration

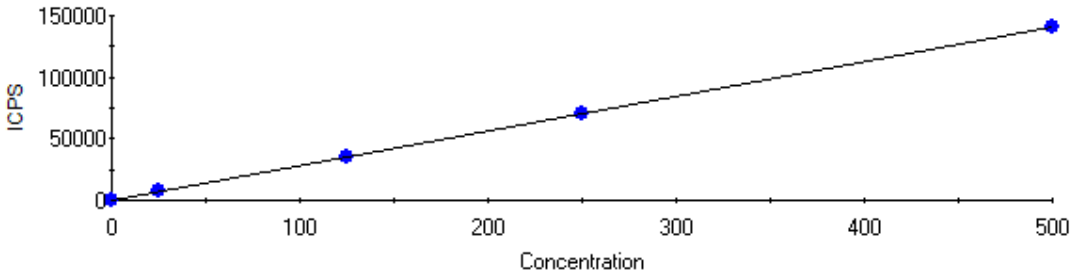


Intercept CPS=24.023643 Intercept Conc=0.021408
Sensitivity=1122.195968 Correlation Coeff=0.999984

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	24.02	0.00
cal1 MW9444	0.400	0.412	0.012	486.47	3.02
cal2 MW9445	2.000	2.102	0.102	2383.26	5.12
cal3 MW9403	250.000	252.367	2.367	283229.75	0.95
cal4 MW9404	500.000	498.816	1.184	559793.17	0.24

PDF created with pdfFactory trial version www.pdffactory.com

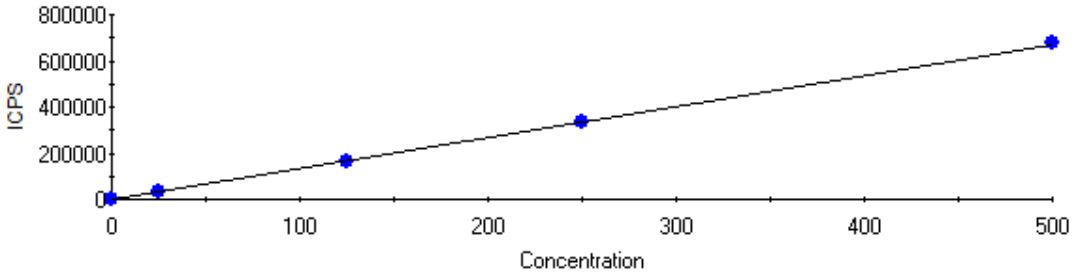
10B FQ Block 1



Intercept CPS=709.467946 Intercept Conc=2.544133
Sensitivity=278.864382 Correlation Coeff=0.999982

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	709.47	0.00
cal1 MW9444	25.000	25.058	0.058	7697.17	0.23
cal2 MW9445	125.000	125.816	0.816	35795.11	0.65
cal3 MW9403	250.000	248.232	1.768	69932.52	0.71
cal4 MW9404	500.000	501.918	1.918	140676.49	0.38

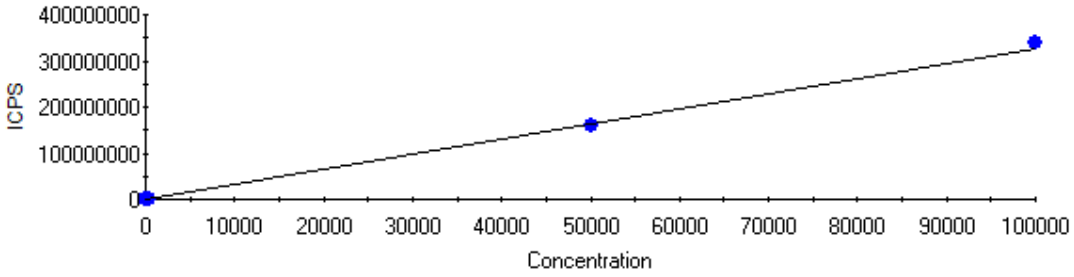
11B FQ Block 1



Intercept CPS=2924.055942 Intercept Conc=2.189821
Sensitivity=1335.294251 Correlation Coeff=0.999933

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	2924.06	0.00
cal1 MW9444	25.000	23.786	1.214	34685.76	4.85
cal2 MW9445	125.000	121.843	3.157	165620.57	2.53
cal3 MW9403	250.000	246.105	3.895	331546.03	1.56
cal4 MW9404	500.000	502.798	2.798	674306.82	0.56

23Na FQ Block 1



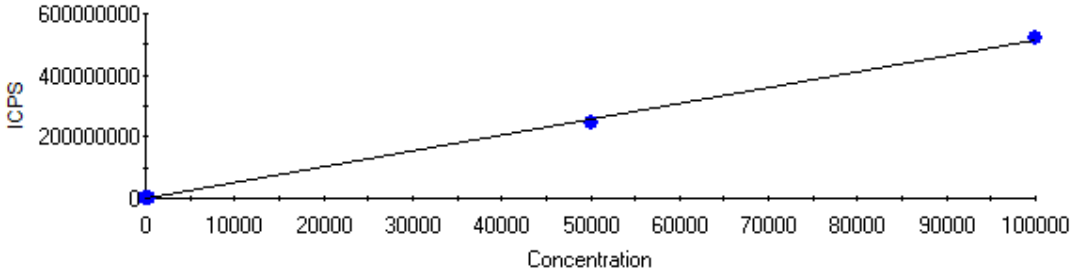
Intercept CPS=32978.986540 Intercept Conc=10.076543
Sensitivity=3272.847159 Correlation Coeff=0.999628

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	0.000	0.000	32978.99	0.00
cal3 MW9403	250.000	218.538	31.462	748221.97	12.58
cal4 MW9404	500.000	449.013	50.987	1502530.14	10.20
cal5 MW9446	50000.000	48941.204	1058.796	160210060.09	2.12
cal6 MW9447	100000.000	103709.522	3709.522	339458395.00	3.71

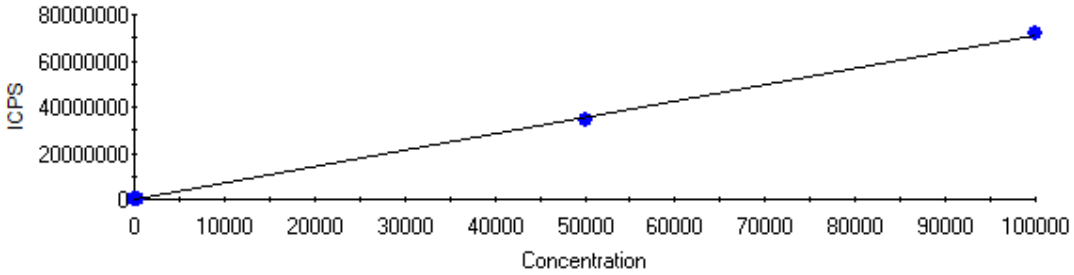
24Mg FQ Block 1



Intercept CPS=18780.456786 Intercept Conc=3.660692
Sensitivity=5130.302545 Correlation Coeff=0.999770

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	18780.46	0.00
cal3 MW9403	250.000	222.277	27.723	1159128.59	11.09
cal4 MW9404	500.000	455.382	44.618	2355026.03	8.92
cal5 MW9446	50000.000	48217.700	1782.300	247390167.17	3.56
cal6 MW9447	100000.000	100891.443	891.443	517622405.28	0.89

25Mg FQ Block 1

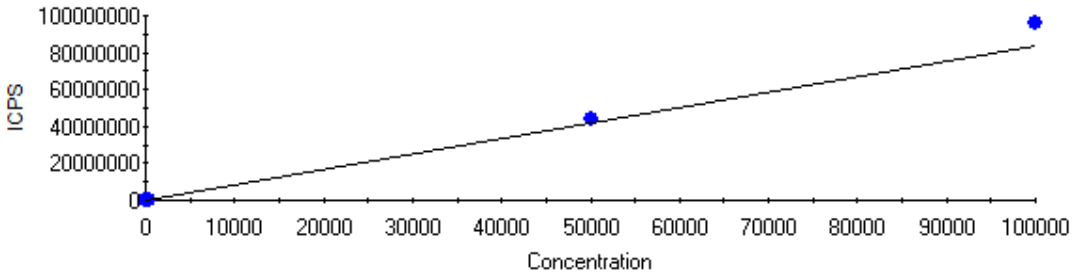


Intercept CPS=2554.019071 Intercept Conc=3.576122
Sensitivity=714.186734 Correlation Coeff=0.999716

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	2554.02	0.00
cal3 MW9403	250.000	209.465	40.535	152151.28	16.21
cal4 MW9404	500.000	424.329	75.671	305604.47	15.13
cal5 MW9446	50000.000	48014.044	1985.956	34293547.23	3.97
cal6 MW9447	100000.000	100993.458	993.458	72130741.78	0.99

PDF created with pdfFactory trial version www.pdffactory.com

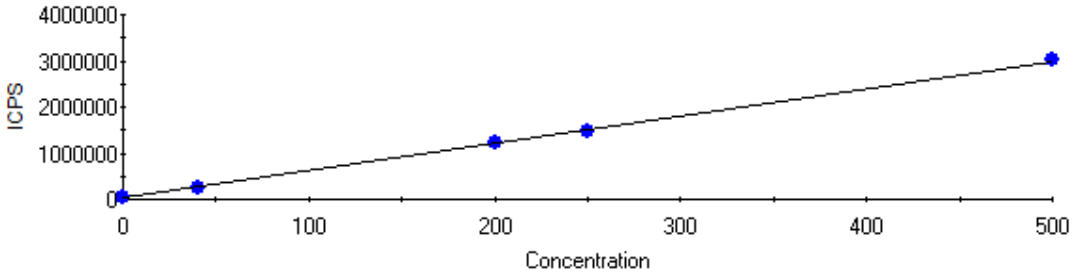
26Mg FQ Block 1



Intercept CPS=2939.566935 Intercept Conc=3.502683
Sensitivity=839.233051 Correlation Coeff=0.998981

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	2939.57	0.00
cal3 MW9403	250.000	215.966	34.034	184185.32	13.61
cal4 MW9404	500.000	430.503	69.497	364231.58	13.90
cal5 MW9446	50000.000	51814.839	1814.839	43487665.28	3.63
cal6 MW9447	100000.000	114206.176	14206.176	95848537.43	14.21

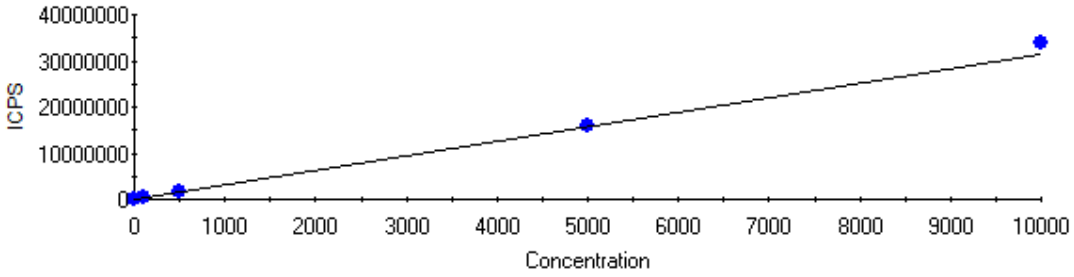
27Al FQ Block 1



Intercept CPS=22679.023090 Intercept Conc=3.817038
Sensitivity=5941.524303 Correlation Coeff=0.999892

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	22679.02	0.00
cal1 MW9444	40.000	37.862	2.138	247635.76	5.35
cal2 MW9445	200.000	200.176	0.176	1212031.67	0.09
cal3 MW9403	250.000	244.418	5.582	1474892.96	2.23
cal4 MW9404	500.000	502.892	2.892	3010621.97	0.58

28Si FQ Block 1



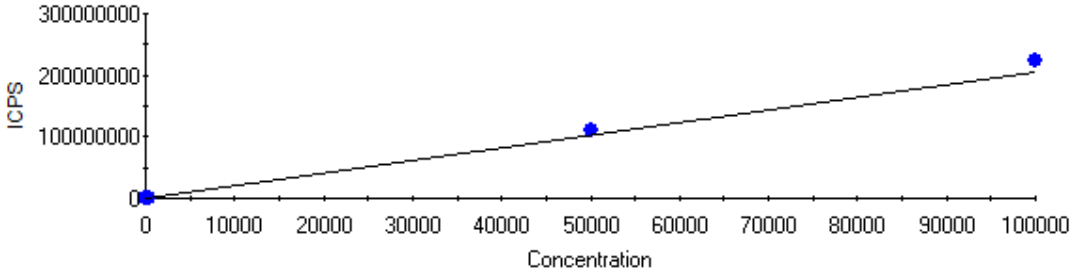
Intercept CPS=54844.229559 Intercept Conc=17.480573
Sensitivity=3137.438926 Correlation Coeff=0.999679

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	0.000	0.000	54844.23	0.00
cal1 MW9444	100.000	94.031	5.969	349861.96	5.97
cal4 MW9404	500.000	503.796	3.796	1635473.63	0.76
cal5 MW9446	5000.000	5118.691	118.691	16114423.06	2.37
cal6 MW9447	10000.000	10801.103	801.103	33942644.43	8.01

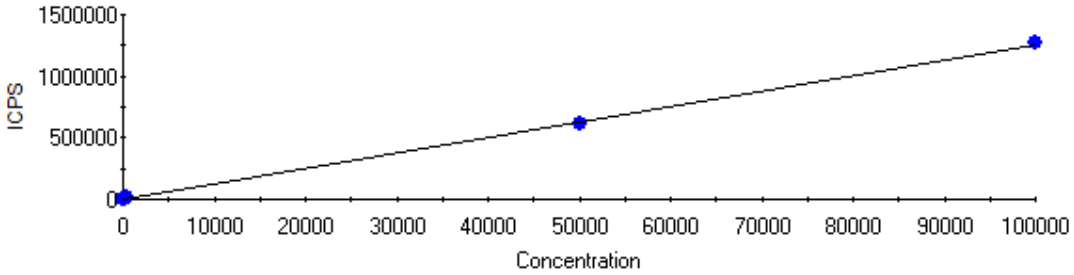
39K FQ Block 1



Intercept CPS=113752.082953 Intercept Conc=55.759759
Sensitivity=2040.038985 Correlation Coeff=0.999961

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	113752.08	0.00
cal3 MW9403	250.000	246.103	3.897	615812.61	1.56
cal4 MW9404	500.000	505.475	5.475	1144941.16	1.10
cal5 MW9446	50000.000	53812.688	3812.688	109893733.70	7.63
cal6 MW9447	100000.000	109631.682	9631.682	223766657.81	9.63

43Ca FQ Block 1

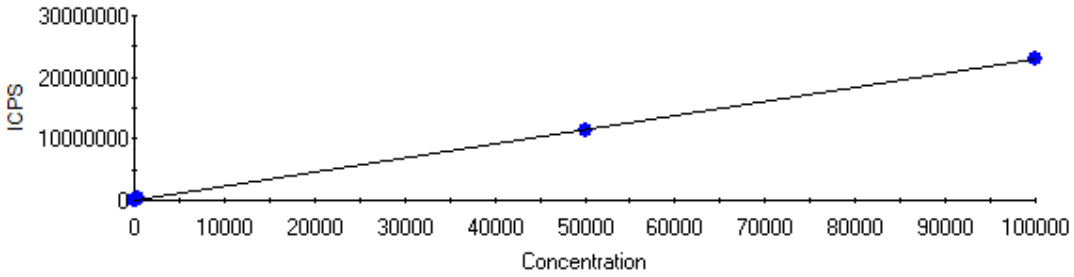


Intercept CPS=131.969293 Intercept Conc=10.497792
Sensitivity=12.571147 Correlation Coeff=0.999859

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	131.97	0.00
cal3 MW9403	250.000	479.577	229.577	6160.80	91.83
cal4 MW9404	500.000	926.631	426.631	11780.78	85.33
cal5 MW9446	50000.000	48733.394	1266.606	612766.64	2.53
cal6 MW9447	100000.000	100630.596	630.596	1265174.00	0.63

PDF created with pdfFactory trial version www.pdffactory.com

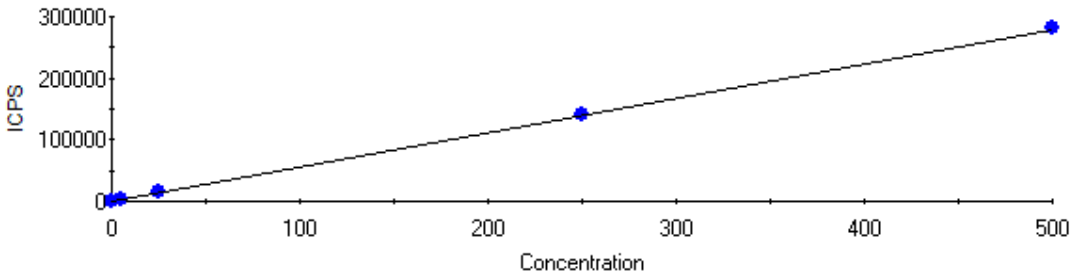
44Ca FQ Block 1



Intercept CPS=3739.071155 Intercept Conc=16.341819
Sensitivity=228.803852 Correlation Coeff=0.999963

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	3739.07	0.00
cal1 MW9444	200.000	174.011	25.989	43553.39	12.99
cal4 MW9404	500.000	653.061	153.061	153161.84	30.61
cal5 MW9446	50000.000	49318.294	681.706	11287954.71	1.36
cal6 MW9447	100000.000	100340.140	340.140	22961949.50	0.34

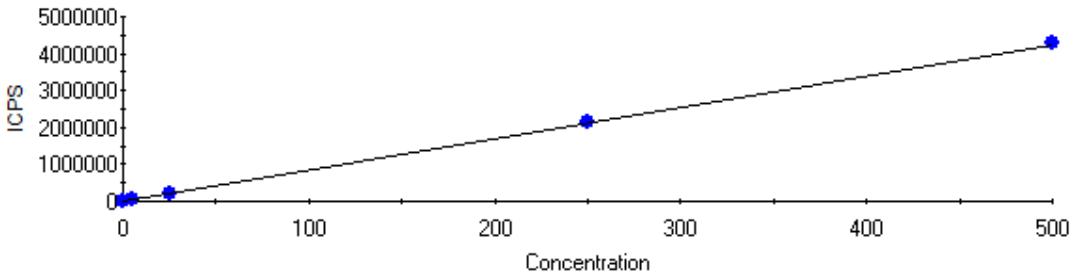
47Ti FQ Block 1



Intercept CPS=63.867137 Intercept Conc=0.114047
Sensitivity=560.005007 Correlation Coeff=0.999987

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	63.87	0.00
cal1 MW9444	5.000	5.038	0.038	2885.41	0.77
cal2 MW9445	25.000	24.817	0.183	13961.43	0.73
cal3 MW9403	250.000	249.986	0.014	140057.46	0.01
cal4 MW9404	500.000	505.192	5.192	282973.87	1.04

51V FQ Block 1



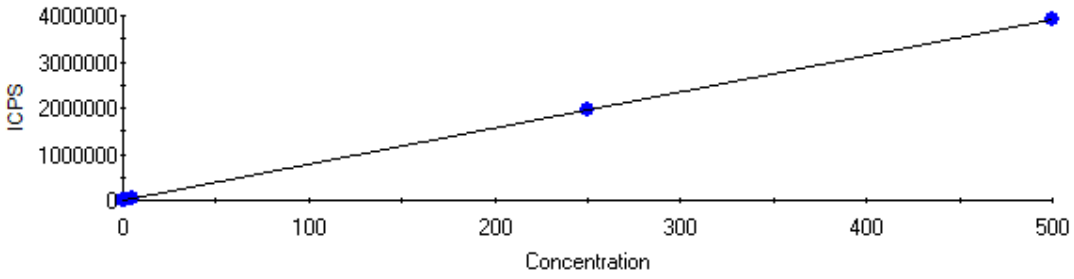
Intercept CPS=0.000000 Intercept Conc=0.000000
Sensitivity=8465.513604 Correlation Coeff=0.999988

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	0.077	0.077	650.14	0.00
cal1 MW9444	5.000	4.764	0.236	40328.86	4.72
cal2 MW9445	25.000	24.330	0.670	205961.94	2.68
cal3 MW9403	250.000	254.568	4.568	2155052.14	1.83
cal4 MW9404	500.000	504.766	4.766	4273100.70	0.95

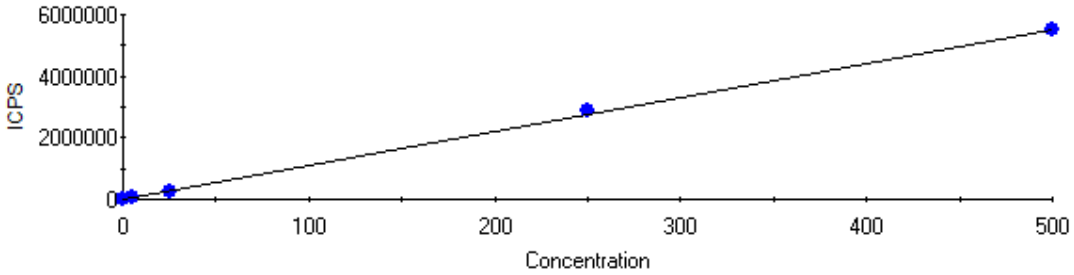
52Cr FQ Block 1



Intercept CPS=2008.328938 Intercept Conc=0.257046
Sensitivity=7813.117377 Correlation Coeff=0.999994

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	2008.33	0.00
cal1 MW9444	1.000	0.987	0.013	9716.97	1.34
cal2 MW9445	5.000	4.834	0.166	39775.03	3.32
cal3 MW9403	250.000	248.585	1.415	1944233.74	0.57
cal4 MW9404	500.000	500.709	0.709	3914107.18	0.14

55Mn FQ Block 1

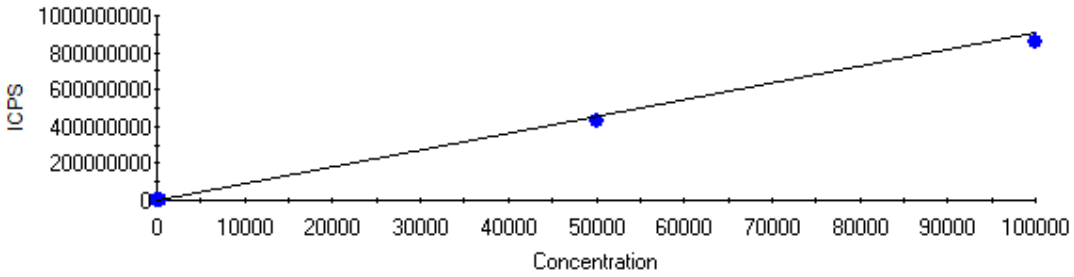


Intercept CPS=476.098234 Intercept Conc=0.042973
Sensitivity=11079.034563 Correlation Coeff=0.999785

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	476.10	0.00
cal1 MW9444	5.000	4.807	0.193	53731.97	3.86
cal2 MW9445	25.000	24.060	0.940	267037.77	3.76
cal3 MW9403	250.000	259.012	9.012	2870078.67	3.60
cal4 MW9404	500.000	497.491	2.509	5512196.92	0.50

PDF created with pdfFactory trial version www.pdffactory.com

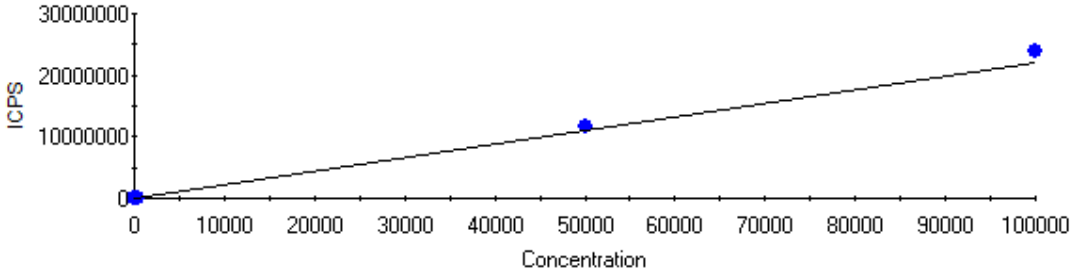
56Fe FQ Block 1



Intercept CPS=546460.360348 Intercept Conc=60.375410
Sensitivity=9051.041808 Correlation Coeff=0.999986

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	546460.36	0.00
cal1 MW9444	20.000	18.365	1.635	712678.22	8.18
cal2 MW9445	100.000	103.187	3.187	1480405.91	3.19
cal3 MW9403	250.000	269.062	19.062	2981751.35	7.62
cal4 MW9404	500.000	467.771	32.229	4780278.88	6.45
cal5 MW9446	50000.000	46731.169	3268.831	423512225.47	6.54
cal6 MW9447	100000.000	94530.262	5469.738	856143816.92	5.47

57Fe FQ Block 1

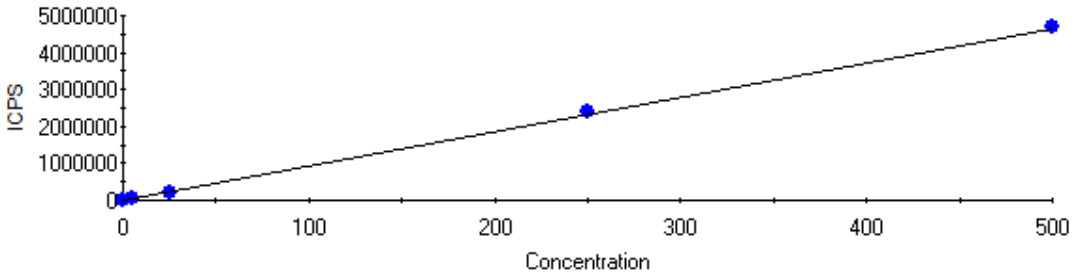


Intercept CPS=5397.251180 Intercept Conc=24.656929
Sensitivity=218.893898 Correlation Coeff=0.999937

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	5397.25	0.00
cal1 MW9444	20.000	19.970	0.030	9768.47	0.15
cal2 MW9445	100.000	102.173	2.173	27762.39	2.17
cal3 MW9403	250.000	244.840	5.160	58991.21	2.06
cal4 MW9404	500.000	497.584	2.416	114315.34	0.48
cal5 MW9446	50000.000	53124.368	3124.368	11633997.21	6.25
cal6 MW9447	100000.000	108942.387	8942.387	23852220.91	8.94

PDF created with pdfFactory trial version www.pdffactory.com

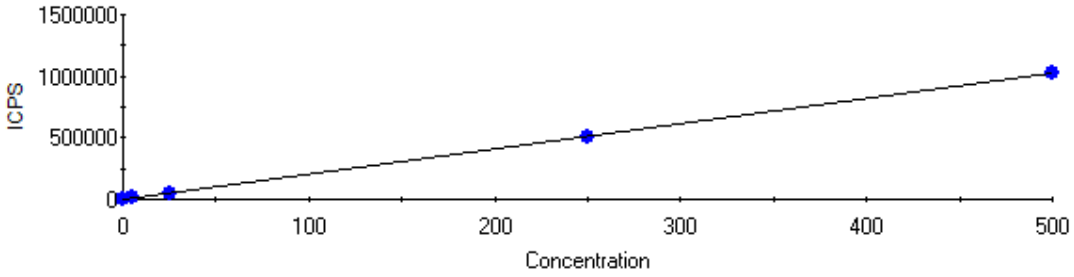
59Co FQ Block 1



Intercept CPS=79.297754 Intercept Conc=0.008547
Sensitivity=9277.634252 Correlation Coeff=0.999969

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	79.30	0.00
cal1 MW9444	5.000	4.819	0.181	44787.91	3.62
cal2 MW9445	25.000	24.287	0.713	225403.37	2.85
cal3 MW9403	250.000	257.049	7.049	2384889.30	2.82
cal4 MW9404	500.000	506.709	6.709	4701142.57	1.34

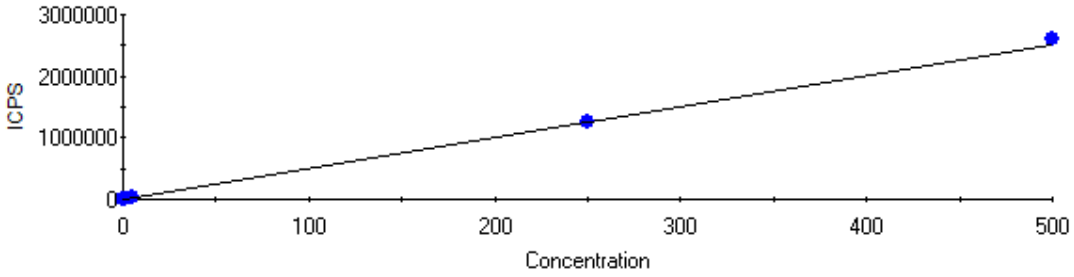
60Ni FQ Block 1



Intercept CPS=194.702993 Intercept Conc=0.094856
Sensitivity=2052.622369 Correlation Coeff=0.999896

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	194.70	0.00
cal1 MW9444	5.000	5.055	0.055	10570.71	1.10
cal2 MW9445	25.000	25.024	0.024	51559.51	0.10
cal3 MW9403	250.000	244.162	5.838	501367.95	2.34
cal4 MW9404	500.000	502.917	2.917	1032493.47	0.58

63Cu FQ Block 1



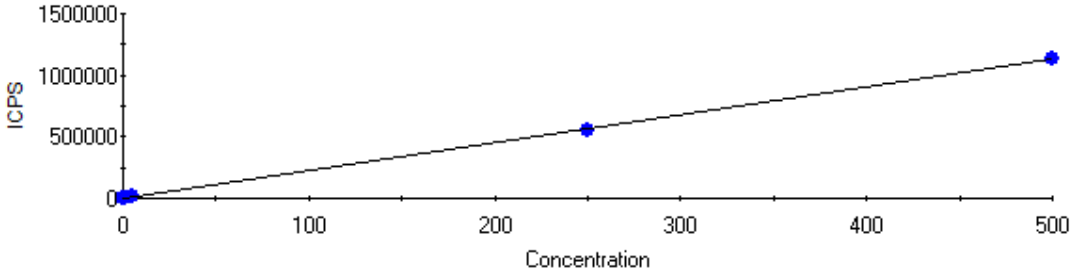
Intercept CPS=473.810767 Intercept Conc=0.094731
Sensitivity=5001.664811 Correlation Coeff=0.999742

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	-0.000	0.000	473.81	0.00
cal1 MW9444	1.000	0.989	0.011	5420.41	1.10
cal2 MW9445	5.000	4.892	0.108	24944.35	2.15
cal3 MW9403	250.000	248.152	1.848	1241646.88	0.74
cal4 MW9404	500.000	520.607	20.607	2604375.36	4.12

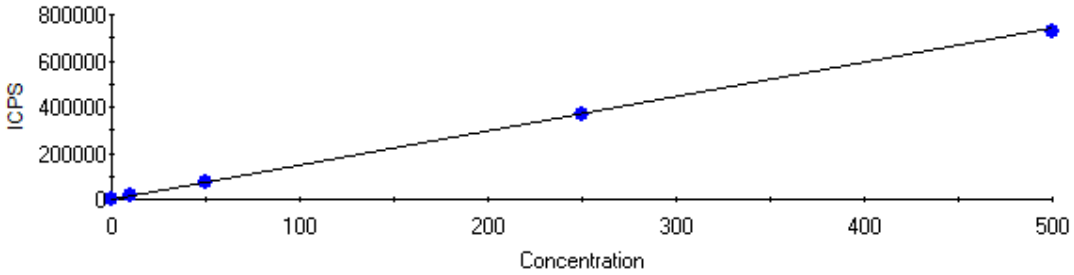
65Cu FQ Block 1



Intercept CPS=163.703351 Intercept Conc=0.072606
Sensitivity=2254.684078 Correlation Coeff=0.999981

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	163.70	0.00
cal1 MW9444	1.000	1.077	0.077	2592.11	7.71
cal2 MW9445	5.000	5.212	0.212	11915.50	4.24
cal3 MW9403	250.000	247.495	2.505	558185.89	1.00
cal4 MW9404	500.000	501.250	1.250	1130325.03	0.25

66Zn FQ Block 1

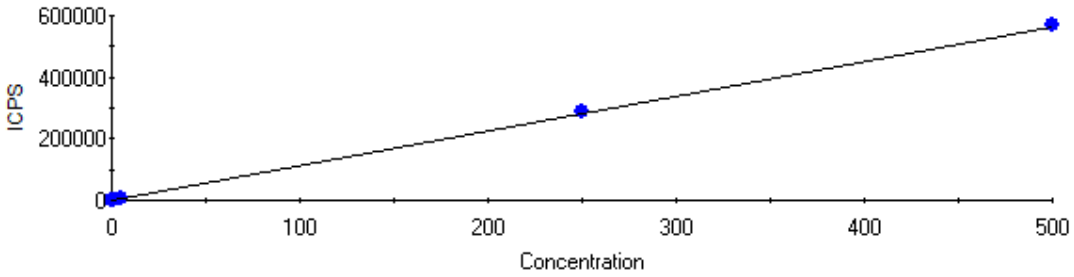


Intercept CPS=290.653703 Intercept Conc=0.195899
Sensitivity=1483.689514 Correlation Coeff=0.999968

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	290.65	0.00
cal1 MW9444	10.000	10.575	0.575	15980.93	5.75
cal2 MW9445	50.000	50.938	0.938	75866.19	1.88
cal3 MW9403	250.000	249.042	0.958	369792.04	0.38
cal4 MW9404	500.000	490.040	9.960	727358.53	1.99

PDF created with pdfFactory trial version www.pdffactory.com

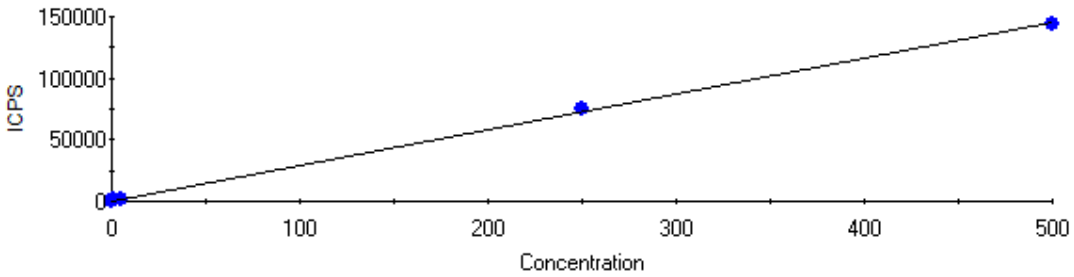
75As FQ Block 1



Intercept CPS=218.667593 Intercept Conc=0.193346
Sensitivity=1130.964226 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	218.67	0.00
cal1 MW9444	1.000	0.931	0.069	1272.01	6.86
cal2 MW9445	5.000	5.138	0.138	6029.05	2.75
cal3 MW9403	250.000	253.289	3.289	286678.99	1.32
cal4 MW9404	500.000	503.875	3.875	570083.66	0.78

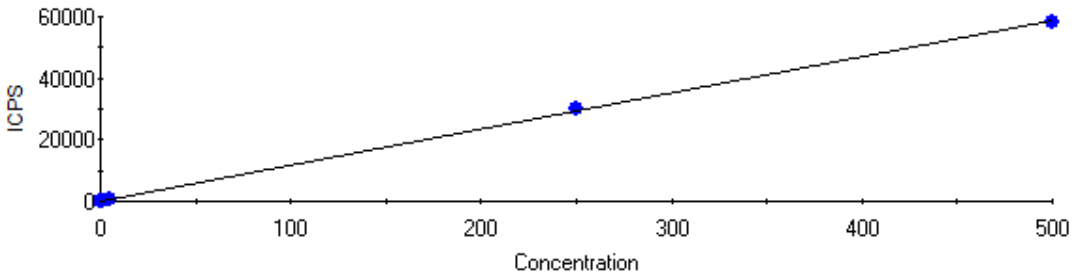
78Se FQ Block 1



Intercept CPS=637.365748 Intercept Conc=2.206243
Sensitivity=288.891911 Correlation Coeff=0.999887

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	637.37	0.00
cal1 MW9444	1.000	1.027	0.027	933.93	2.66
cal2 MW9445	5.000	4.840	0.160	2035.56	3.20
cal3 MW9403	250.000	256.166	6.166	74641.55	2.47
cal4 MW9404	500.000	496.919	3.081	144193.16	0.62

82Se FQ Block 1



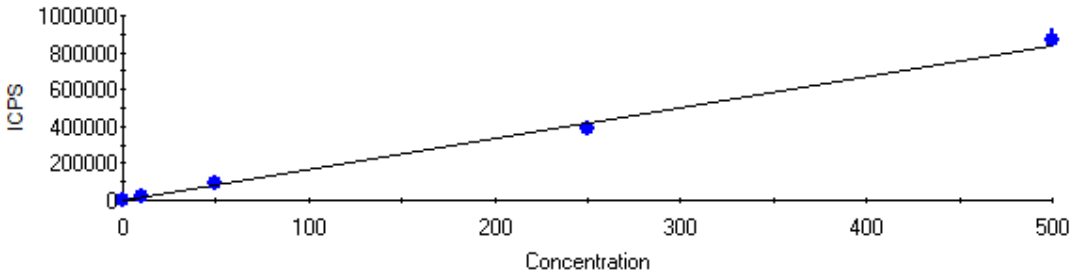
Intercept CPS=123.824947 Intercept Conc=1.054729
Sensitivity=117.399763 Correlation Coeff=0.999862

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	-0.000	0.000	123.82	0.00
cal1 MW9444	1.000	1.106	0.106	253.68	10.61
cal2 MW9445	5.000	4.828	0.172	690.68	3.43
cal3 MW9403	250.000	256.807	6.807	30272.87	2.72
cal4 MW9404	500.000	496.598	3.402	58424.33	0.68

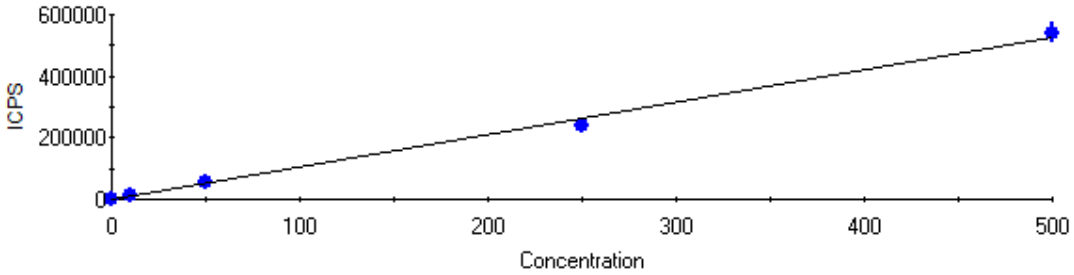
95Mo FQ Block 1



Intercept CPS=819.838500 Intercept Conc=0.489702
Sensitivity=1674.158106 Correlation Coeff=0.998084

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	819.84	0.00
cal1 MW9444	10.000	10.036	0.036	17621.79	0.36
cal2 MW9445	50.000	53.476	3.476	90347.25	6.95
cal3 MW9403	250.000	228.682	21.318	383669.21	8.53
cal4 MW9404	500.000	519.281	19.281	870177.82	3.86

97Mo FQ Block 1

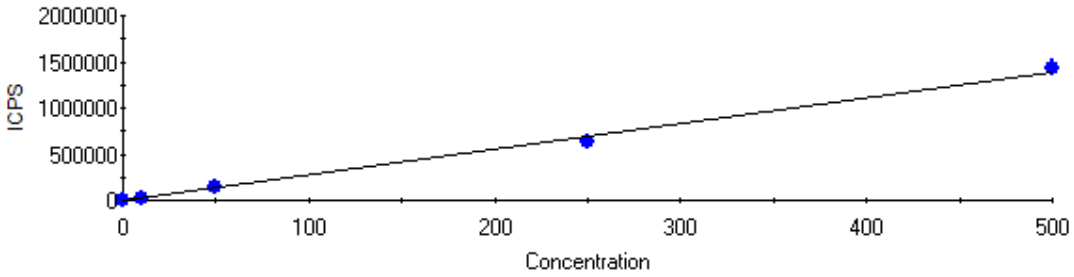


Intercept CPS=413.282622 Intercept Conc=0.393543
Sensitivity=1050.159284 Correlation Coeff=0.998323

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	413.28	0.00
cal1 MW9444	10.000	10.167	0.167	11090.04	1.67
cal2 MW9445	50.000	52.977	2.977	56047.57	5.95
cal3 MW9403	250.000	228.151	21.849	240008.25	8.74
cal4 MW9404	500.000	513.437	13.437	539604.29	2.69

PDF created with pdfFactory trial version www.pdffactory.com

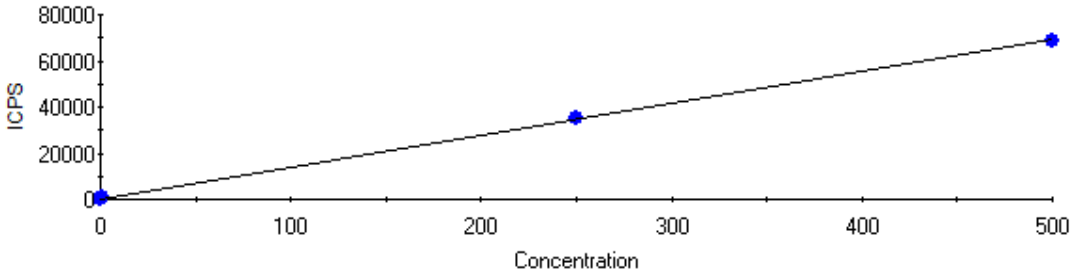
98Mo FQ Block 1



Intercept CPS=1263.245337 Intercept Conc=0.456098
Sensitivity=2769.679032 Correlation Coeff=0.997871

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1263.25	0.00
cal1 MW9444	10.000	9.693	0.307	28110.90	3.07
cal2 MW9445	50.000	52.101	2.101	145566.22	4.20
cal3 MW9403	250.000	225.694	24.306	626362.31	9.72
cal4 MW9404	500.000	517.015	17.015	1433228.66	3.40

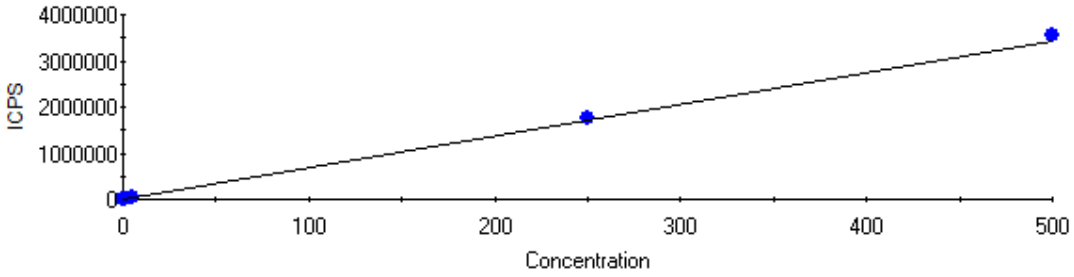
106Cd FQ Block 1



Intercept CPS=335.959951 Intercept Conc=2.444039
Sensitivity=137.460949 Correlation Coeff=0.999987

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	335.96	0.00
cal1 MW9444	0.100	0.478	0.378	401.67	377.99
cal2 MW9445	0.500	2.212	1.712	639.99	342.36
cal3 MW9403	250.000	252.015	2.015	34978.16	0.81
cal4 MW9404	500.000	498.991	1.009	68927.71	0.20

107Ag FQ Block 1



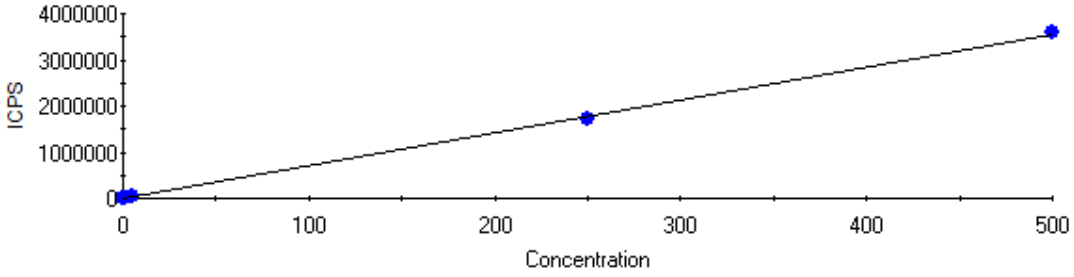
Intercept CPS=66.578934 Intercept Conc=0.009671
Sensitivity=6884.498152 Correlation Coeff=0.999967

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	-0.000	0.000	66.58	0.00
cal1 MW9444	1.000	0.969	0.031	6740.68	3.06
cal2 MW9445	5.000	4.765	0.235	32873.04	4.69
cal3 MW9403	250.000	252.332	2.332	1737242.83	0.93
cal4 MW9404	500.000	513.404	13.404	3534592.98	2.68

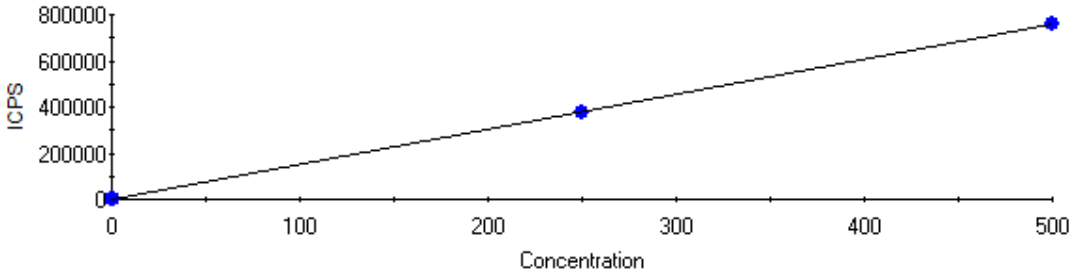
109Ag FQ Block 1



Intercept CPS=68.014831 Intercept Conc=0.009574
Sensitivity=7104.167405 Correlation Coeff=0.999803

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	68.01	0.00
cal1 MW9444	1.000	0.901	0.099	6472.05	9.86
cal2 MW9445	5.000	4.547	0.453	32369.14	9.06
cal3 MW9403	250.000	241.744	8.256	1717461.32	3.30
cal4 MW9404	500.000	504.132	4.132	3581509.59	0.83

111Cd FQ Block 1

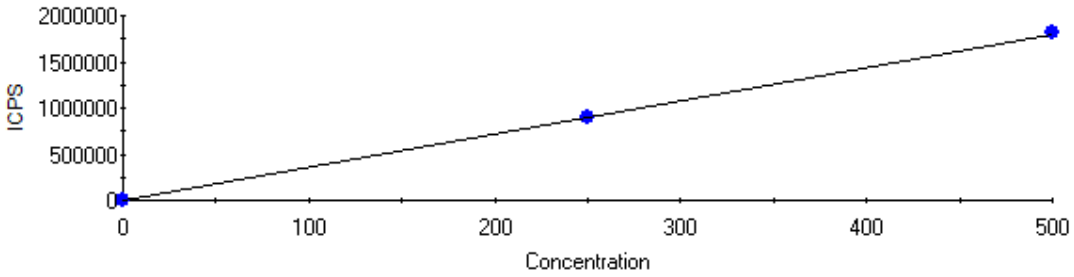


Intercept CPS=6.934427 Intercept Conc=0.004586
Sensitivity=1511.948344 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	6.93	0.00
cal1 MW9444	0.100	0.073	0.027	116.69	27.41
cal2 MW9445	0.500	0.371	0.129	567.55	25.84
cal3 MW9403	250.000	249.042	0.958	376545.69	0.38
cal4 MW9404	500.000	500.479	0.479	756705.48	0.10

PDF created with pdfFactory trial version www.pdffactory.com

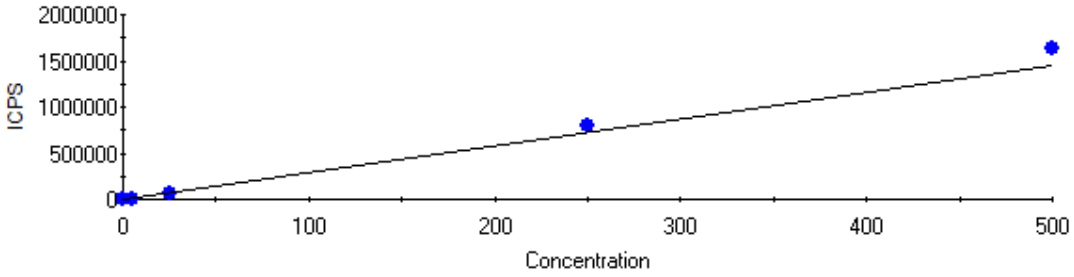
114Cd FQ Block 1



Intercept CPS=17.133462 Intercept Conc=0.004746
Sensitivity=3610.243736 Correlation Coeff=0.999981

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	17.13	0.00
cal1 MW9444	0.100	0.104	0.004	391.25	3.63
cal2 MW9445	0.500	0.455	0.045	1660.08	8.98
cal3 MW9403	250.000	247.304	2.696	892845.92	1.08
cal4 MW9404	500.000	500.970	0.970	1808641.99	0.19

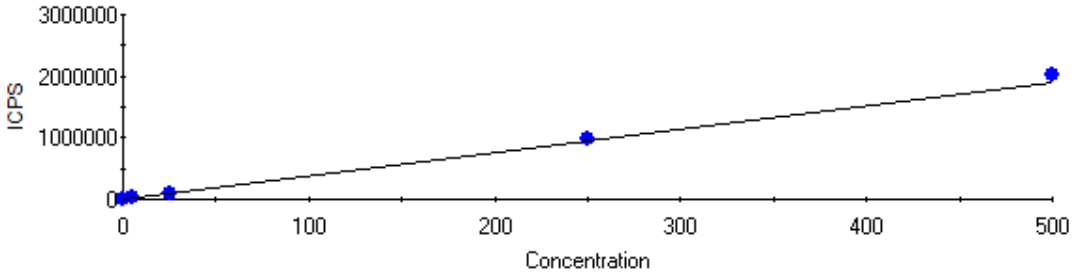
116Sn FQ Block 1



Intercept CPS=185.431641 Intercept Conc=0.063587
Sensitivity=2916.207765 Correlation Coeff=0.999795

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	185.43	0.00
cal1 MW9444	5.000	3.331	1.669	9900.70	33.37
cal2 MW9445	25.000	18.144	6.856	53098.47	27.42
cal3 MW9403	250.000	270.353	20.353	788591.38	8.14
cal4 MW9404	500.000	560.232	60.232	1633939.15	12.05

118Sn FQ Block 1



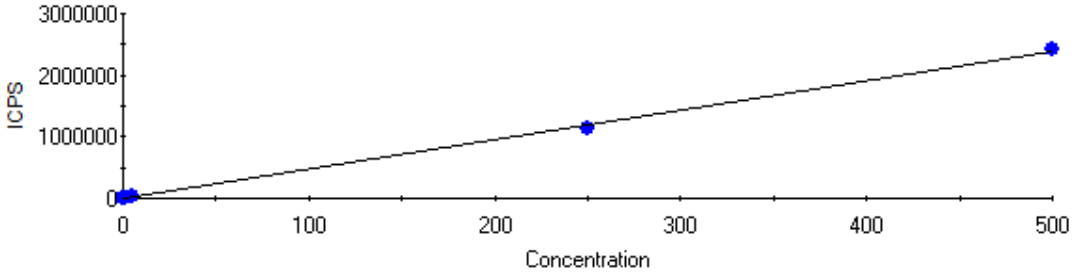
Intercept CPS=655.050425 Intercept Conc=0.172489
Sensitivity=3797.629130 Correlation Coeff=0.999766

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	-0.000	0.000	655.05	0.00
cal1 MW9444	5.000	4.274	0.726	16887.23	14.51
cal2 MW9445	25.000	23.789	1.211	90997.88	4.84
cal3 MW9403	250.000	254.075	4.075	965536.53	1.63
cal4 MW9404	500.000	532.146	32.146	2021546.66	6.43

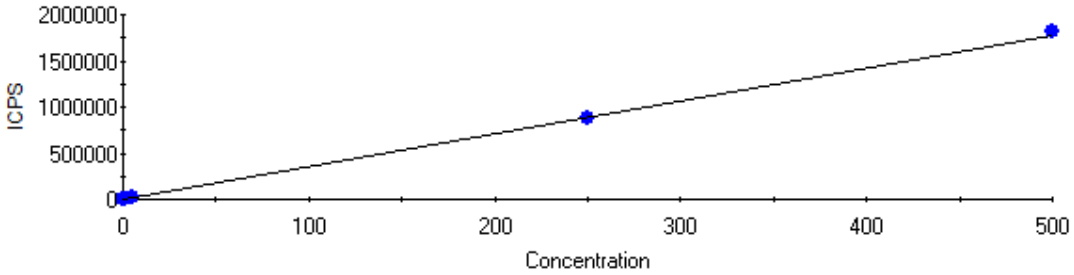
121Sb FQ Block 1



Intercept CPS=513.344597 Intercept Conc=0.107756
Sensitivity=4763.973881 Correlation Coeff=0.999670

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	513.34	0.00
cal1 MW9444	1.000	0.900	0.100	4800.63	10.01
cal2 MW9445	5.000	4.540	0.460	22142.34	9.20
cal3 MW9403	250.000	239.315	10.685	1140602.78	4.27
cal4 MW9404	500.000	505.347	5.347	2407975.16	1.07

123Sb FQ Block 1

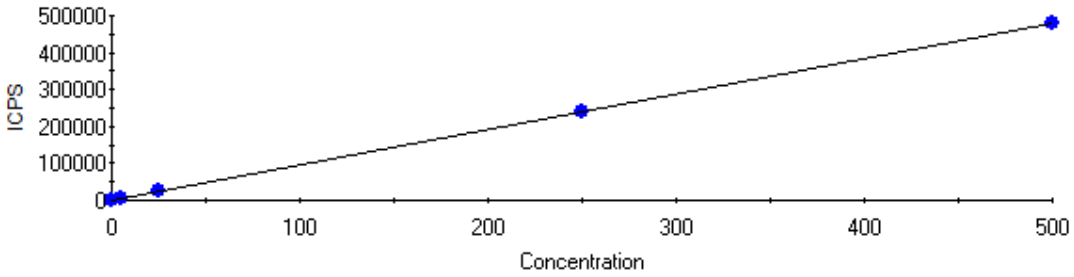


Intercept CPS=432.007309 Intercept Conc=0.122027
Sensitivity=3540.250748 Correlation Coeff=0.999774

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	432.01	0.00
cal1 MW9444	1.000	0.912	0.088	3662.31	8.75
cal2 MW9445	5.000	4.719	0.281	17137.40	5.63
cal3 MW9403	250.000	246.325	3.675	872482.76	1.47
cal4 MW9404	500.000	515.241	15.241	1824512.65	3.05

PDF created with pdfFactory trial version www.pdffactory.com

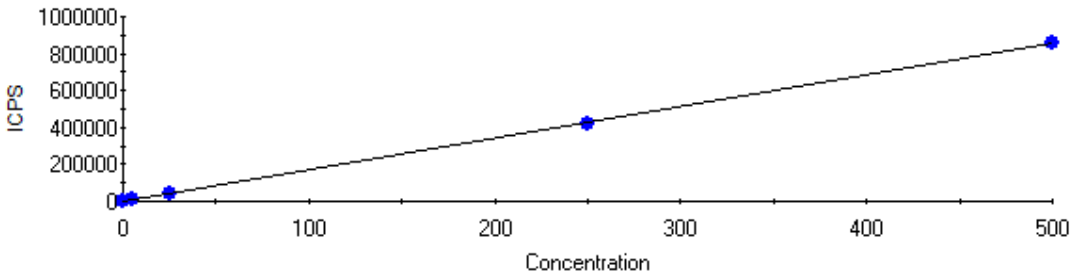
135Ba FQ Block 1



Intercept CPS=35.959484 Intercept Conc=0.037515
Sensitivity=958.531645 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	35.96	0.00
cal1 MW9444	5.000	5.193	0.193	5013.88	3.87
cal2 MW9445	25.000	25.018	0.018	24016.51	0.07
cal3 MW9403	250.000	249.576	0.424	239262.53	0.17
cal4 MW9404	500.000	500.209	0.209	479502.24	0.04

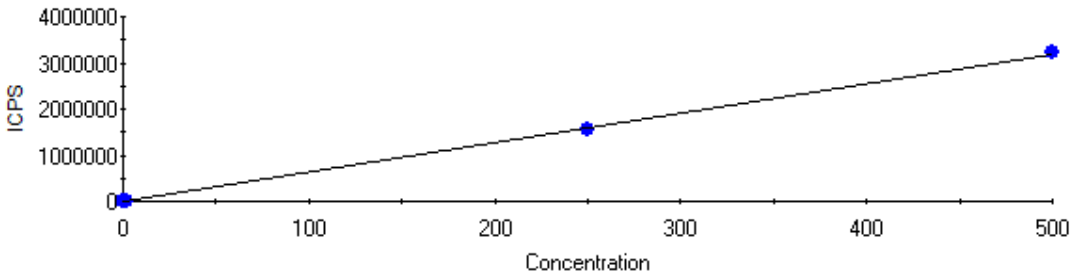
137Ba FQ Block 1



Intercept CPS=59.997950 Intercept Conc=0.035196
Sensitivity=1704.657693 Correlation Coeff=0.999968

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	60.00	0.00
cal1 MW9444	5.000	4.899	0.101	8411.03	2.02
cal2 MW9445	25.000	24.978	0.022	42639.33	0.09
cal3 MW9403	250.000	246.743	3.257	420671.53	1.30
cal4 MW9404	500.000	501.631	1.631	855168.87	0.33

203Tl FQ Block 1



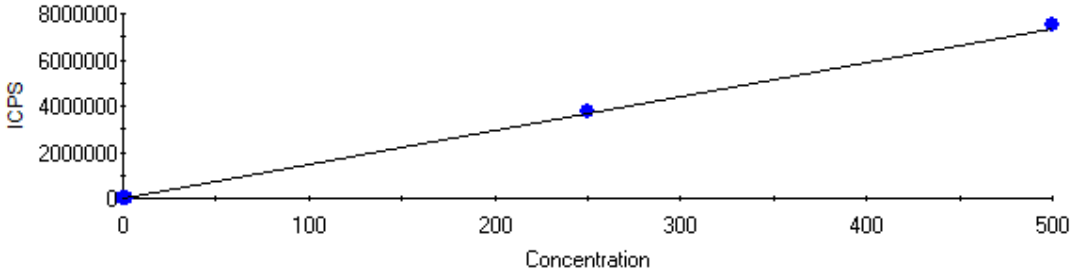
Intercept CPS=106.644512 Intercept Conc=0.016714
Sensitivity=6380.564287 Correlation Coeff=0.999770

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	0.000	0.000	106.64	0.00
cal1 MW9444	0.500	0.451	0.049	2984.41	9.80
cal2 MW9445	2.500	2.319	0.181	14903.85	7.24
cal3 MW9403	250.000	241.090	8.910	1538398.67	3.56
cal4 MW9404	500.000	504.456	4.456	3218819.39	0.89

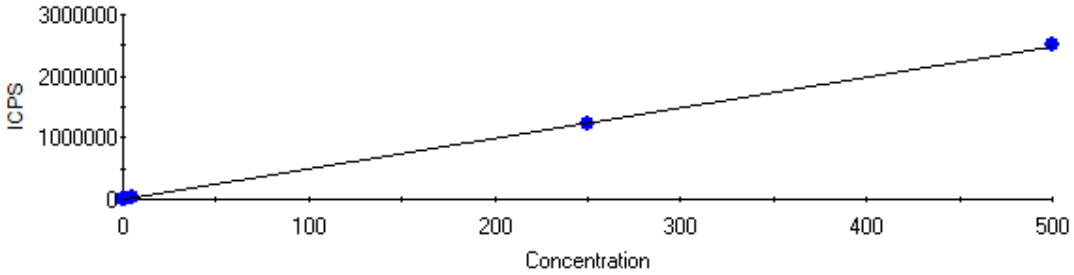
205Tl FQ Block 1



Intercept CPS=253.382772 Intercept Conc=0.017159
Sensitivity=14767.133030 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	253.38	0.00
cal1 MW9444	0.500	0.472	0.028	7223.03	5.61
cal2 MW9445	2.500	2.412	0.088	35874.56	3.51
cal3 MW9403	250.000	253.137	3.137	3738367.98	1.25
cal4 MW9404	500.000	507.605	7.605	7496126.57	1.52

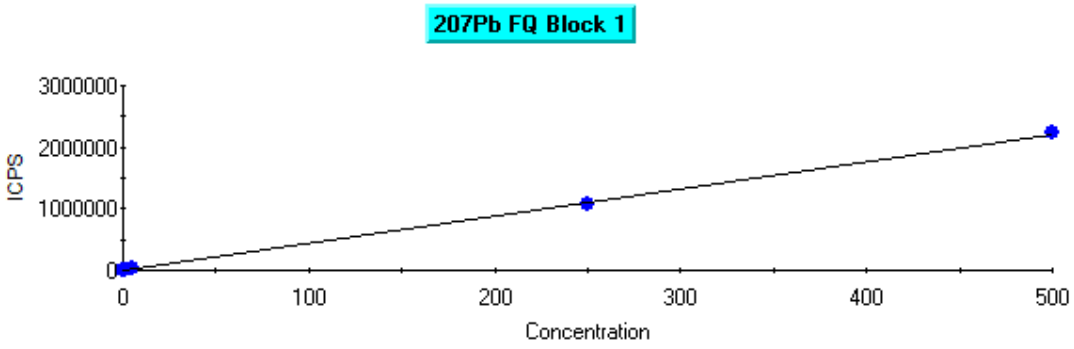
206Pb FQ Block 1



Intercept CPS=82.691235 Intercept Conc=0.016605
Sensitivity=4979.764306 Correlation Coeff=0.999922

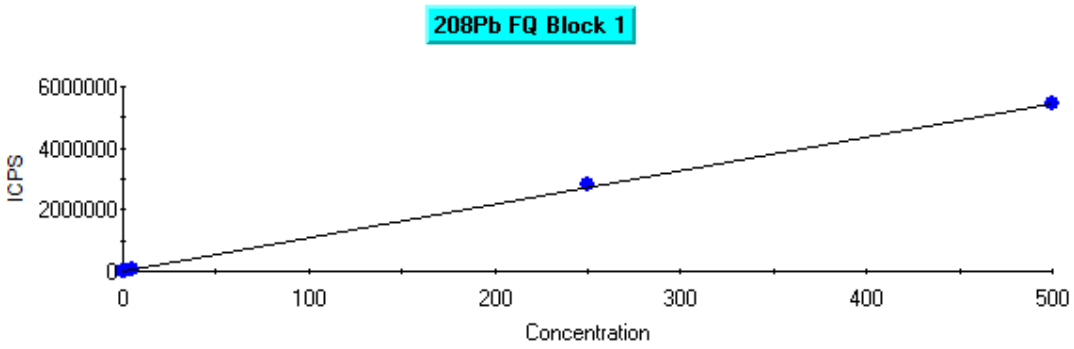
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	82.69	0.00
cal1 MW9444	1.000	1.019	0.019	5156.18	1.88
cal2 MW9445	5.000	4.816	0.184	24063.27	3.69
cal3 MW9403	250.000	244.833	5.167	1219291.87	2.07
cal4 MW9404	500.000	502.585	2.585	2502839.79	0.52

PDF created with pdfFactory trial version www.pdffactory.com



Intercept CPS=69.341425 Intercept Conc=0.015704
Sensitivity=4415.620611 Correlation Coeff=0.999919

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	69.34	0.00
cal1 MW9444	1.000	1.032	0.032	4626.42	3.20
cal2 MW9445	5.000	4.766	0.234	21114.01	4.68
cal3 MW9403	250.000	244.728	5.272	1080696.77	2.11
cal4 MW9404	500.000	502.638	2.638	2219528.56	0.53



Intercept CPS=198.589551 Intercept Conc=0.018133
Sensitivity=10951.977807 Correlation Coeff=0.999921

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	198.59	0.00
cal1 MW9444	1.000	0.951	0.049	10610.28	4.93
cal2 MW9445	5.000	4.688	0.312	51540.61	6.24
cal3 MW9403	250.000	255.099	5.099	2794035.37	2.04
cal4 MW9404	500.000	497.454	2.546	5448301.59	0.51

PDF created with pdfFactory trial version www.pdffactory.com

Dilution Corrected Concentrations

TUNE MW9396 5/19/2017 12:32:33

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	97.8%	0.070	0.213	0.735	14.590	9.080	8.829	8.986	2.408
2	12:33:26	99.2%	0.058	0.237	0.948	13.970	8.602	7.723	8.822	2.388
3	12:33:51	102.9%	0.062	0.124	0.665	13.950	8.897	8.942	8.286	2.418
x		100.0%	0.063	0.191	0.783	14.170	8.860	8.498	8.698	2.405
σ		2.6%	0.006	0.059	0.148	0.366	0.241	0.673	0.366	0.015
%RSD		2.6	9.645	31.020	18.850	2.586	2.722	7.924	4.213	0.632

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	6.770	68.180	10.240	17.710	13.990	99.4%	0.102	0.113	0.059
2	12:33:26	T -2.439	69.060	9.823	16.540	14.190	100.1%	0.086	0.138	0.070
3	12:33:51	T -3.149	67.690	9.076	15.420	12.510	100.6%	0.085	0.144	0.074
x		T 0.394	68.310	9.714	16.550	13.560	100.0%	0.091	0.132	0.068
σ		T 5.533	0.693	0.592	1.144	0.916	0.6%	0.009	0.017	0.008
%RSD		T 1405.000	1.014	6.090	6.909	6.755	0.6	10.380	12.680	11.590

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	-0.032	0.074	10.720	9.493	0.059	0.050	0.075	0.055	0.089
2	12:33:26	-0.047	0.072	10.800	10.710	0.042	0.077	0.103	0.083	0.141
3	12:33:51	-0.069	0.071	10.290	9.077	0.044	0.081	0.064	0.098	0.226
x		-0.049	0.072	10.600	9.759	0.048	0.069	0.081	0.079	0.152
σ		0.019	0.001	0.274	0.848	0.009	0.017	0.020	0.022	0.069
%RSD		38.070	1.921	2.581	8.686	19.290	24.260	25.020	27.950	45.630

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	-0.024	0.121	1.327	8.543	-0.234	4.763	99.4%	0.299	0.389
2	12:33:26	0.023	0.016	1.164	8.309	-0.178	3.599	99.6%	0.363	0.379
3	12:33:51	0.065	0.071	1.515	7.976	-0.024	3.834	101.1%	0.454	0.383
x		0.022	0.069	1.335	8.276	-0.145	4.065	100.0%	0.372	0.384
σ		0.045	0.052	0.176	0.285	0.109	0.616	0.9%	0.078	0.005
%RSD		208.200	75.590	13.150	3.442	75.010	15.140	0.9	20.900	1.227

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	0.255	-0.142	0.049	-0.846	0.032	0.044	0.056	98.2%	0.091
2	12:33:26	0.440	0.457	0.050	-1.088	0.032	0.042	0.043	100.7%	0.084
3	12:33:51	0.308	-0.114	0.048	-0.842	0.042	0.043	0.054	101.1%	0.087
x		0.334	0.067	0.049	-0.925	0.036	0.043	0.051	100.0%	0.087
σ		0.096	0.338	0.001	0.141	0.006	0.001	0.007	1.6%	0.004
%RSD		28.570	506.700	2.758	15.240	16.080	2.164	13.740	1.6	4.122

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	0.053	0.154	0.155	0.085	0.053	98.8%	0.043	0.048	0.059
2	12:33:26	0.136	0.129	0.163	0.046	0.058	99.7%	0.043	0.053	0.050
3	12:33:51	0.069	0.144	0.153	0.131	0.053	101.5%	0.053	0.054	0.062
x		0.086	0.142	0.157	0.088	0.055	100.0%	0.046	0.052	0.057
σ		0.044	0.013	0.005	0.043	0.003	1.4%	0.006	0.003	0.006
%RSD		51.470	8.792	3.319	49.000	5.894	1.4	12.530	5.831	11.170

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:33:00	0.058	0.050	98.5%
2	12:33:26	0.048	0.046	99.9%
3	12:33:51	0.046	0.050	101.6%
x		0.050	0.048	100.0%
σ		0.006	0.002	1.5%
%RSD		12.750	5.143	1.5

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01 5/19/2017 12:37:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	97.6%	-0.003	0.294	0.022	0.335	0.112	0.143	-0.004	0.014
2	12:38:48	99.5%	0.007	-0.404	-0.195	0.142	0.084	0.235	0.177	0.108
3	12:39:14	102.9%	-0.004	0.111	0.173	-0.477	-0.197	-0.378	-0.173	-0.122
x		100.0%	0.000	-0.000	0.000	0.000	0.000	0.000	-0.000	0.000
σ		2.7%	0.006	0.362	0.185	0.424	0.171	0.330	0.175	0.116
%RSD		2.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	6.297	-0.221	0.490	0.672	-0.436	99.8%	0.008	0.073	0.003
2	12:38:48	T -2.514	-1.158	-0.539	0.184	0.460	101.4%	0.027	0.082	-0.010
3	12:39:14	T -3.783	1.379	0.049	-0.856	-0.023	98.8%	-0.035	0.076	0.006
x		T 0.000	-0.000	-0.000	-0.000	0.000	100.0%	0.000	0.077	0.000
σ		T 5.490	1.283	0.516	0.780	0.448	1.3%	0.031	0.005	0.008
%RSD		T 0.000	0.000	0.000	0.000	0.000	1.3	0.000	5.862	0.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	0.002	0.004	0.704	0.171	-0.001	0.007	-0.006	0.001	-0.001
2	12:38:48	-0.004	-0.002	-0.861	-0.286	0.001	-0.013	0.014	-0.002	-0.000
3	12:39:14	0.001	-0.003	0.157	0.116	-0.000	0.006	-0.008	0.001	0.002
x		0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000
σ		0.003	0.004	0.794	0.249	0.001	0.011	0.012	0.002	0.002
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	-0.069	-0.016	-0.156	-0.271	-0.510	0.181	99.1%	-0.030	0.034
2	12:38:48	0.113	-0.038	0.080	0.624	0.527	-0.577	99.9%	0.026	-0.007
3	12:39:14	-0.044	0.054	0.076	-0.353	-0.017	0.395	101.0%	0.004	-0.027
x		0.000	-0.000	0.000	0.000	-0.000	0.000	100.0%	-0.000	0.000
σ		0.099	0.048	0.135	0.542	0.519	0.511	1.0%	0.028	0.031
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	1.0	0.000	0.000

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	-0.060	-0.211	-0.001	0.091	-0.001	-0.001	0.001	99.0%	0.003
2	12:38:48	0.004	0.348	-0.000	-0.137	0.003	0.002	0.000	100.2%	0.004
3	12:39:14	0.056	-0.136	0.002	0.047	-0.002	-0.001	-0.001	100.8%	-0.007
x		0.000	0.000	-0.000	-0.000	-0.000	-0.000	0.000	100.0%	0.000
σ		0.058	0.303	0.002	0.121	0.003	0.002	0.001	0.9%	0.006
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.9	0.000

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	-0.032	-0.000	-0.003	-0.004	0.000	98.5%	-0.001	0.000	0.001
2	12:38:48	0.053	-0.000	0.009	-0.008	-0.002	100.5%	0.002	-0.000	0.000
3	12:39:14	-0.021	0.001	-0.005	0.012	0.002	101.0%	-0.001	-0.000	-0.001
x		-0.000	0.000	0.000	0.000	0.000	100.0%	0.000	0.000	-0.000
σ		0.047	0.001	0.008	0.011	0.002	1.4%	0.002	0.000	0.001
%RSD		0.000	0.000	0.000	0.000	0.000	1.4	0.000	0.000	0.000

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:38:22	-0.000	-0.000	98.4%
2	12:38:48	0.001	-0.003	100.5%
3	12:39:14	-0.001	0.003	101.0%
x		-0.000	0.000	100.0%
σ		0.001	0.003	1.4%
%RSD		0.000	0.000	1.4

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9444 5/19/2017 12:43:15

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	96.9%	0.474	25.800	23.860	180.700	42.610	40.370	42.530	37.200
2	12:44:07	101.3%	0.401	23.870	23.880	169.700	42.180	40.730	39.900	37.000
3	12:44:33	103.6%	0.362	25.500	23.620	173.400	41.900	40.390	40.030	39.390
x		100.6%	0.412	25.060	23.790	174.600	42.230	40.500	40.820	37.860
σ		3.4%	0.057	1.038	0.144	5.551	0.361	0.206	1.483	1.330
%RSD		3.4	13.760	4.144	0.607	3.179	0.855	0.507	3.634	3.512
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	T 96.140	-1.495	207.100	205.000	174.000	101.2%	4.881	4.763	0.959
2	12:44:07	93.250	-0.150	206.900	196.400	171.100	100.9%	5.178	4.667	0.975
3	12:44:33	T 92.700	0.847	211.000	205.000	176.900	99.2%	5.056	4.861	1.026
x		T 94.030	-0.266	208.300	202.200	174.000	100.4%	5.038	4.764	0.987
σ		T 1.846	1.175	2.319	4.945	2.921	1.1%	0.149	0.097	0.035
%RSD		T 1.963	441.700	1.113	2.446	1.679	1.1	2.963	2.037	3.511
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	0.004	4.739	18.430	20.510	4.825	5.069	1.003	1.017	10.620
2	12:44:07	0.010	4.766	17.290	18.930	4.723	5.081	0.975	1.096	10.690
3	12:44:33	0.012	4.916	19.370	20.470	4.909	5.014	0.990	1.119	10.410
x		0.009	4.807	18.360	19.970	4.819	5.055	0.989	1.077	10.580
σ		0.004	0.095	1.037	0.903	0.093	0.036	0.014	0.053	0.147
%RSD		44.320	1.986	5.647	4.523	1.929	0.705	1.420	4.954	1.387
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	0.923	0.796	-0.208	-0.058	1.260	-0.528	98.5%	9.467	9.640
2	12:44:07	0.924	1.307	-0.274	-0.636	1.012	-0.020	100.4%	10.000	9.829
3	12:44:33	0.947	0.977	-0.182	-0.173	1.046	-0.581	100.3%	10.640	11.030
x		0.931	1.027	-0.221	-0.289	1.106	-0.377	99.7%	10.040	10.170
σ		0.014	0.259	0.047	0.306	0.135	0.310	1.1%	0.587	0.754
%RSD		1.466	25.220	21.420	105.900	12.190	82.210	1.1	5.846	7.420
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	9.244	0.660	0.985	-0.195	0.891	0.090	0.075	97.7%	3.213
2	12:44:07	9.785	0.651	0.984	-0.178	0.902	0.079	0.132	99.8%	3.293
3	12:44:33	10.050	0.123	0.939	0.069	0.911	0.049	0.104	100.5%	3.489
x		9.693	0.478	0.969	-0.101	0.901	0.073	0.104	99.3%	3.331
σ		0.412	0.308	0.026	0.148	0.010	0.021	0.029	1.5%	0.142
%RSD		4.249	64.410	2.712	146.100	1.108	29.450	27.590	1.5	4.264
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	4.105	0.950	0.876	5.164	4.933	97.9%	0.447	0.470	1.007
2	12:44:07	4.381	0.910	0.957	5.198	4.913	100.7%	0.472	0.468	1.022
3	12:44:33	4.336	0.840	0.905	5.218	4.850	101.4%	0.434	0.478	1.027
x		4.274	0.900	0.913	5.193	4.899	100.0%	0.451	0.472	1.019
σ		0.148	0.056	0.041	0.028	0.043	1.9%	0.019	0.005	0.010
%RSD		3.467	6.228	4.501	0.530	0.882	1.9	4.244	1.053	1.007
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	12:43:41	1.052	0.941	98.2%						
2	12:44:07	1.012	0.973	100.2%						
3	12:44:33	1.032	0.938	101.7%						
x		1.032	0.951	100.0%						
σ		0.020	0.019	1.8%						
%RSD		1.971	2.034	1.8						

PDF created with pdfFactory trial version www.pdffactory.com

cal2 MW9445 5/19/2017 12:48:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	95.8%	2.101	127.400	122.000	T 928.500	226.400	212.200	216.900	195.500
2	12:49:27	97.5%	2.089	122.200	120.000	T 900.200	226.000	213.400	218.300	200.500
3	12:49:53	97.0%	2.117	127.900	123.500	T 918.000	229.400	217.900	217.500	204.500
x		96.8%	2.102	125.800	121.800	T 915.600	227.300	214.500	217.600	200.200
σ		0.9%	0.014	3.143	1.749	T 14.310	1.823	3.025	0.686	4.501
%RSD		0.9	0.672	2.498	1.436	T 1.563	0.802	1.410	0.315	2.248

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	T 475.900	-0.497	T 1043.000	1052.000	882.000	99.5%	24.570	23.840	4.699
2	12:49:27	T 468.800	2.256	T 1057.000	1005.000	881.400	98.9%	24.600	23.910	4.869
3	12:49:53	T 483.000	2.098	T 1089.000	1020.000	927.500	96.8%	25.280	25.230	4.934
x		T 475.900	1.285	T 1063.000	1026.000	897.000	98.4%	24.820	24.330	4.834
σ		T 7.125	1.546	T 23.420	23.740	26.400	1.4%	0.400	0.784	0.122
%RSD		T 1.497	120.200	T 2.204	2.314	2.944	1.4	1.611	3.223	2.513

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	0.098	23.550	100.700	100.900	24.210	24.920	4.777	4.929	50.600
2	12:49:27	-0.052	24.080	102.800	101.200	24.020	24.610	4.934	5.338	50.180
3	12:49:53	0.010	24.550	106.000	104.500	24.630	25.540	4.966	5.370	52.040
x		0.018	24.060	103.200	102.200	24.290	25.020	4.892	5.212	50.940
σ		0.075	0.499	2.665	1.988	0.309	0.477	0.101	0.246	0.975
%RSD		412.700	2.074	2.583	1.946	1.273	1.905	2.069	4.720	1.913

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	5.146	4.686	0.324	-0.819	4.674	-1.660	97.6%	51.570	50.790
2	12:49:27	5.030	4.873	-0.057	-0.410	5.066	-0.507	98.2%	52.290	52.050
3	12:49:53	5.236	4.960	0.031	-0.298	4.745	-2.081	97.1%	56.570	56.100
x		5.138	4.840	0.099	-0.509	4.828	-1.416	97.6%	53.480	52.980
σ		0.103	0.140	0.199	0.274	0.209	0.815	0.6%	2.706	2.775
%RSD		2.009	2.900	201.200	53.810	4.324	57.540	0.6	5.061	5.239

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	50.660	1.871	4.683	-0.013	4.423	0.324	0.468	96.4%	17.610
2	12:49:27	50.960	2.808	4.745	-0.442	4.488	0.396	0.431	98.6%	17.790
3	12:49:53	54.680	1.957	4.868	-0.297	4.729	0.392	0.466	97.2%	19.030
x		52.100	2.212	4.765	-0.250	4.547	0.371	0.455	97.4%	18.140
σ		2.240	0.518	0.094	0.218	0.161	0.040	0.021	1.1%	0.774
%RSD		4.300	23.410	1.978	87.110	3.543	10.850	4.634	1.2	4.264

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	23.030	4.458	4.577	24.350	24.850	97.4%	2.240	2.360	4.721
2	12:49:27	23.760	4.374	4.747	24.940	24.370	99.2%	2.393	2.404	4.807
3	12:49:53	24.580	4.788	4.833	25.760	25.720	98.9%	2.325	2.473	4.918
x		23.790	4.540	4.719	25.020	24.980	98.5%	2.319	2.412	4.816
σ		0.778	0.219	0.130	0.712	0.685	1.0%	0.077	0.057	0.099
%RSD		3.270	4.823	2.762	2.848	2.743	1.0	3.313	2.377	2.052

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:49:01	4.696	4.674	97.4%
2	12:49:27	4.678	4.670	98.9%
3	12:49:53	4.924	4.719	98.5%
x		4.766	4.688	98.3%
σ		0.137	0.027	0.8%
%RSD		2.877	0.574	0.8

PDF created with pdfFactory trial version www.pdffactory.com

cal3 MW9403 5/19/2017 12:53:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	91.4%	254.800	245.900	238.800	219.300	224.000	213.300	221.300	244.900
2	12:54:46	94.1%	253.500	251.700	247.400	217.900	222.100	206.600	212.800	238.800
3	12:55:12	94.3%	248.800	247.000	252.100	218.300	220.800	208.400	213.800	249.600
x		93.3%	252.400	248.200	246.100	218.500	222.300	209.500	216.000	244.400
σ		1.6%	3.168	3.075	6.750	0.719	1.585	3.471	4.611	5.440
%RSD		1.8	1.255	1.239	2.743	0.329	0.713	1.657	2.135	2.226

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	251.800	1.411	246.000	501.600	324.700	95.8%	249.400	255.400	255.400
2	12:54:46	T 242.000	1.043	243.900	468.700	322.600	96.8%	249.700	250.800	T 241.000
3	12:55:12	246.200	0.139	248.500	468.400	317.100	94.1%	250.800	257.500	T 249.300
x		T 246.700	0.864	246.100	479.600	321.500	95.6%	250.000	254.600	T 248.600
σ		T 4.941	0.655	2.328	19.080	3.928	1.4%	0.737	3.462	T 7.236
%RSD		T 2.003	75.760	0.946	3.978	1.222	1.4	0.295	1.360	T 2.911

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	-5.995	257.600	268.200	238.500	255.400	247.000	245.500	251.000	251.100
2	12:54:46	-2.700	256.700	265.200	244.300	254.500	243.100	245.900	242.600	246.000
3	12:55:12	-3.837	262.700	273.800	251.800	261.300	242.400	253.100	248.900	250.000
x		-4.177	259.000	269.100	244.800	257.000	244.200	248.200	247.500	249.000
σ		1.674	3.211	4.360	6.675	3.685	2.466	4.265	4.356	2.691
%RSD		40.070	1.240	1.620	2.726	1.434	1.010	1.719	1.760	1.080

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	255.500	255.700	0.037	-0.714	261.100	-1.578	94.9%	220.200	218.400
2	12:54:46	251.100	255.900	-0.099	-0.741	251.900	0.808	95.4%	223.000	224.200
3	12:55:12	253.300	256.900	0.049	-0.692	257.400	0.197	96.0%	242.900	241.800
x		253.300	256.200	-0.004	-0.716	256.800	-0.191	95.4%	228.700	228.200
σ		2.168	0.660	0.082	0.025	4.658	1.239	0.6%	12.350	12.200
%RSD		0.856	0.258	1860.000	3.471	1.814	648.200	0.6	5.401	5.349

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	216.900	251.800	251.900	-2.113	239.900	246.400	247.300	94.7%	266.400
2	12:54:46	221.300	250.300	250.600	-2.958	241.000	248.500	243.800	96.3%	269.800
3	12:55:12	238.800	254.000	254.500	0.335	244.400	252.300	250.700	97.0%	274.800
x		225.700	252.000	252.300	-1.578	241.700	249.000	247.300	96.0%	270.400
σ		11.570	1.832	1.983	1.710	2.334	2.998	3.452	1.2%	4.224
%RSD		5.128	0.727	0.786	108.400	0.965	1.204	1.396	1.2	1.562

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	249.700	236.400	243.700	248.400	244.900	95.8%	239.300	T 251.200	T 241.000
2	12:54:46	254.100	239.200	245.700	250.200	246.200	97.6%	239.500	T 251.200	246.000
3	12:55:12	258.500	242.400	249.600	250.200	249.200	97.5%	244.500	T 257.000	T 247.500
x		254.100	239.300	246.300	249.600	246.700	97.0%	241.100	T 253.100	T 244.800
σ		4.390	2.966	2.998	1.031	2.215	1.0%	2.967	T 3.351	T 3.396
%RSD		1.728	1.239	1.217	0.413	0.898	1.1	1.230	T 1.324	T 1.387

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:54:20	242.900	250.200	96.1%
2	12:54:46	241.700	253.500	98.5%
3	12:55:12	249.500	261.500	98.8%
x		244.700	255.100	97.8%
σ		4.194	5.794	1.5%
%RSD		1.714	2.271	1.5

PDF created with pdfFactory trial version www.pdffactory.com

cal4 MW9404 5/19/2017 12:59:15

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	92.0%	M 510.200	M 510.800	M 502.100	458.100	T 460.500	424.600	440.600	T 495.100
2	13:00:06	93.6%	494.400	492.100	491.900	442.800	T 451.200	424.200	426.600	T 498.600
3	13:00:32	95.1%	491.800	M 502.900	M 514.400	446.100	T 454.400	424.300	424.400	TM 515.000
x		93.6%	M 498.800	M 501.900	M 502.800	449.000	T 455.400	424.300	430.500	TM 502.900
σ		1.6%	M 9.964	M 9.387	M 11.280	8.041	T 4.769	0.198	8.808	TM 10.600
%RSD		1.7	M 1.997	M 1.870	M 2.244	1.791	T 1.047	0.047	2.046	TM 2.109

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	T 513.200	-0.903	500.300	937.800	647.700	95.5%	M 500.400	T 499.900	T 491.600
2	13:00:06	497.600	0.637	503.100	920.700	657.600	95.2%	498.500	TM 502.400	T 499.500
3	13:00:32	500.600	2.356	513.100	921.400	653.900	92.5%	M 516.600	TM 512.100	TM 511.000
x		T 503.800	0.697	505.500	926.600	653.100	94.4%	M 505.200	TM 504.800	TM 500.700
σ		T 8.316	1.630	6.760	9.645	5.016	1.6%	M 9.933	TM 6.444	TM 9.778
%RSD		T 1.651	234.000	1.337	1.041	0.768	1.7	M 1.966	TM 1.277	TM 1.953

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	-6.614	T 490.600	T 462.300	495.500	TM 505.600	M 511.700	M 517.900	M 504.000	494.900
2	13:00:06	-8.880	T 495.200	T 462.300	495.600	TM 502.800	M 501.100	M 513.500	M 501.000	487.200
3	13:00:32	-8.157	TM 506.700	T 478.700	501.700	TM 511.700	495.900	M 530.400	498.700	488.000
x		-7.883	TM 497.500	T 467.800	497.600	TM 506.700	M 502.900	M 520.600	M 501.300	490.000
σ		1.157	TM 8.324	T 9.451	3.579	TM 4.560	M 8.068	M 8.781	M 2.663	4.190
%RSD		14.680	TM 1.673	T 2.021	0.719	TM 0.900	M 1.604	M 1.687	M 0.531	0.855

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	M 508.200	M 500.300	0.164	-0.057	M 501.300	-0.622	93.5%	491.500	485.000
2	13:00:06	M 500.700	491.900	-0.021	-0.335	M 502.500	1.271	95.4%	M 514.000	M 509.000
3	13:00:32	M 502.700	498.500	0.197	-0.512	486.000	-0.348	94.8%	M 552.400	M 546.300
x		M 503.900	M 496.900	0.113	-0.301	M 496.600	0.100	94.6%	M 519.300	M 513.400
σ		M 3.881	M 4.403	0.118	0.229	M 9.234	1.023	1.0%	M 30.800	M 30.880
%RSD		M 0.770	M 0.886	103.900	76.060	M 1.859	1022.000	1.0	M 5.932	M 6.014

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	487.800	M 503.500	M 531.000	-9.152	M 513.100	499.900	499.400	93.2%	M 555.900
2	13:00:06	M 512.500	491.900	TM 507.100	T -249.600	M 507.400	496.000	M 500.100	94.7%	M 554.700
3	13:00:32	M 550.700	M 501.500	TM 502.100	1.067	T 491.900	M 505.500	M 503.400	95.8%	M 570.100
x		M 517.000	M 499.000	TM 513.400	T -85.890	TM 504.100	M 500.500	M 501.000	94.6%	M 560.200
σ		M 31.720	M 6.190	TM 15.460	T 141.900	TM 11.000	M 4.774	M 2.133	1.3%	M 8.523
%RSD		M 6.135	M 1.240	TM 3.011	T 165.200	TM 2.181	M 0.954	M 0.426	1.4	M 1.521

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	M 525.300	M 501.700	M 509.900	M 502.200	M 502.200	95.6%	M 502.800	TM 505.200	T 499.500
2	13:00:06	M 527.600	M 504.400	M 514.700	499.200	M 501.500	97.2%	M 505.500	TM 507.300	TM 503.700
3	13:00:32	M 543.600	M 509.900	M 521.200	499.200	M 501.200	97.9%	M 505.200	TM 510.300	TM 504.600
x		M 532.100	M 505.300	M 515.200	M 500.200	M 501.600	96.9%	M 504.500	TM 507.600	TM 502.600
σ		M 9.948	M 4.144	M 5.671	M 1.743	M 0.486	1.2%	M 1.483	TM 2.596	TM 2.709
%RSD		M 1.869	M 0.820	M 1.101	M 0.348	M 0.097	1.2	M 0.294	TM 0.511	TM 0.539

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:59:40	M 500.500	T 493.900	95.9%
2	13:00:06	M 504.400	T 493.700	97.6%
3	13:00:32	M 503.100	TM 504.800	99.7%
x		M 502.600	TM 497.500	97.7%
σ		M 1.969	TM 6.360	1.9%
%RSD		M 0.392	TM 1.278	2.0

PDF created with pdfFactory trial version www.pdffactory.com

cal5 MW9446 5/19/2017 13:04:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	82.4%	0.043	3.112	2.664	┬48790.000	┬47510.000	┬47580.000	┬51550.000	-2.158
2	13:05:26	82.2%	0.052	2.192	2.611	┬48810.000	┬47930.000	┬47500.000	┬51520.000	-2.205
3	13:05:52	82.9%	0.030	2.343	2.584	┬49230.000	┬49210.000	┬48970.000	┬52380.000	-2.219
x		82.5%	0.041	2.549	2.620	┬48940.000	┬48220.000	┬48010.000	┬51810.000	-2.194
σ		0.3%	0.011	0.494	0.041	┬248.700	┬887.200	┬827.100	┬485.500	0.032
%RSD		0.4	26.410	19.370	1.561	┬0.508	┬1.840	┬1.723	┬0.937	1.449

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	┬5081.000	-9.288	┬53000.000	47780.000	┬48260.000	┬92.3%	0.761	0.167	0.522
2	13:05:26	┬5037.000	-10.730	┬52790.000	47900.000	┬48590.000	93.2%	0.553	0.126	0.492
3	13:05:52	┬5238.000	-10.230	┬55650.000	50520.000	┬51100.000	90.8%	0.822	0.150	0.538
x		┬5119.000	-10.080	┬53810.000	48730.000	┬49320.000	┬92.1%	0.712	0.148	0.517
σ		┬105.500	0.732	┬1591.000	1546.000	┬1555.000	┬1.2%	0.141	0.021	0.023
%RSD		┬2.061	7.258	┬2.956	3.172	┬3.152	┬1.3	19.810	14.070	4.522

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	-0.020	0.304	┬45860.000	┬51770.000	-0.145	0.799	0.346	0.257	0.619
2	13:05:26	0.039	0.274	┬45680.000	┬52150.000	-0.137	0.778	0.344	0.269	0.495
3	13:05:52	-0.026	0.288	┬48650.000	┬55450.000	-0.123	0.815	0.357	0.296	0.573
x		-0.002	0.289	┬46730.000	┬53120.000	-0.135	0.797	0.349	0.274	0.562
σ		0.036	0.015	┬1665.000	┬2027.000	0.012	0.019	0.007	0.020	0.063
%RSD		1501.000	5.155	┬3.563	┬3.815	8.565	2.326	2.021	7.213	11.190

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	0.017	0.320	0.866	-1.098	-0.156	-0.654	90.5%	1.602	1.608
2	13:05:26	0.103	0.304	0.993	-0.853	-0.032	-2.107	91.8%	1.639	1.605
3	13:05:52	0.142	0.465	0.890	-1.316	0.250	0.614	90.7%	1.635	1.709
x		0.088	0.363	0.917	-1.089	0.021	-0.716	91.0%	1.625	1.641
σ		0.064	0.089	0.067	0.232	0.208	1.361	0.7%	0.020	0.059
%RSD		73.210	24.420	7.343	21.270	1008.000	190.200	0.7	1.227	3.597

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	1.496	0.288	0.190	-0.082	0.153	0.018	0.035	88.9%	0.259
2	13:05:26	1.697	0.141	0.216	-0.010	0.167	0.014	0.034	90.9%	0.288
3	13:05:52	1.670	-0.305	0.190	0.212	0.184	0.003	0.018	89.3%	0.253
x		1.621	0.041	0.198	0.040	0.168	0.012	0.029	89.7%	0.266
σ		0.109	0.309	0.015	0.153	0.015	0.008	0.010	1.0%	0.019
%RSD		6.745	748.000	7.738	383.400	9.186	68.860	33.440	1.2	7.008

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	0.392	0.707	0.629	0.156	0.172	92.4%	0.018	0.015	0.114
2	13:05:26	0.359	0.697	0.785	0.175	0.280	93.9%	0.011	0.015	0.132
3	13:05:52	0.286	0.693	0.813	0.200	0.219	93.9%	0.007	0.010	0.126
x		0.345	0.699	0.742	0.177	0.224	93.4%	0.012	0.013	0.124
σ		0.054	0.007	0.099	0.022	0.054	0.9%	0.006	0.003	0.009
%RSD		15.680	1.040	13.330	12.410	24.200	0.9	47.830	19.390	7.281

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:05:01	0.114	0.100	86.4%
2	13:05:26	0.136	0.106	89.0%
3	13:05:52	0.144	0.106	88.3%
x		0.131	0.104	87.9%
σ		0.015	0.003	1.4%
%RSD		11.740	3.356	1.6

PDF created with pdfFactory trial version www.pdffactory.com

cal6 MW9447 5/19/2017 13:09:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	72.4%	-0.002	0.725	T -23.550	TM 104300.000	TM 100400.000	TM 100400.000	TM 114000.000	-0.598
2	13:10:48	74.3%	0.054	0.119	0.828	TM 102100.000	T 99010.000	T 99100.000	TM 112600.000	-0.541
3	13:11:14	74.3%	0.040	0.563	0.737	TM 104800.000	TM 103200.000	TM 103400.000	TM 116100.000	-0.403
x		73.6%	0.031	0.469	T -7.329	TM 103700.000	TM 100900.000	TM 101000.000	TM 114200.000	-0.514
σ		1.1%	0.029	0.314	T 14.050	TM 1394.000	TM 2143.000	TM 2220.000	TM 1751.000	0.100
%RSD		1.5	95.070	66.970	T 191.700	TM 1.345	TM 2.124	TM 2.198	TM 1.533	19.490

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	TM 10650.000	-10.670	TM 106600.000	98250.000	T 97620.000	91.1%	1.307	0.120	1.008
2	13:10:48	TM 10620.000	-11.340	TM 107300.000	98720.000	T 98350.000	92.2%	1.436	0.222	0.962
3	13:11:14	TM 11140.000	-9.686	TM 115000.000	M 104900.000	TM 105100.000	89.6%	1.569	0.168	1.059
x		TM 10800.000	-10.560	TM 109600.000	M 100600.000	TM 100300.000	91.0%	1.438	0.170	1.010
σ		TM 291.400	0.830	TM 4650.000	M 3720.000	TM 4098.000	1.3%	0.131	0.051	0.049
%RSD		TM 2.697	7.854	TM 4.241	M 3.697	TM 4.084	1.5	9.117	30.170	4.825

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	0.035	0.503	T 91660.000	TM 105300.000	-0.311	1.466	0.607	0.569	1.323
2	13:10:48	-0.080	0.540	T 92090.000	TM 106500.000	-0.315	1.505	0.606	0.468	1.212
3	13:11:14	-0.013	0.572	T 99840.000	TM 115100.000	-0.349	1.491	0.578	0.503	1.342
x		-0.019	0.538	T 94530.000	TM 108900.000	-0.325	1.487	0.597	0.514	1.292
σ		0.057	0.035	T 4602.000	TM 5371.000	0.021	0.020	0.017	0.052	0.070
%RSD		296.600	6.448	T 4.868	TM 4.930	6.367	1.318	2.787	10.030	5.429

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	0.092	0.370	1.675	0.048	-0.078	0.390	88.6%	0.114	0.171
2	13:10:48	0.104	0.413	1.467	-1.822	-0.014	0.454	90.5%	0.192	0.214
3	13:11:14	0.125	0.271	2.141	-0.944	0.087	1.210	88.6%	0.321	0.351
x		0.107	0.351	1.761	-0.906	-0.002	0.685	89.3%	0.209	0.245
σ		0.016	0.073	0.346	0.936	0.083	0.456	1.1%	0.105	0.094
%RSD		15.380	20.660	19.610	103.200	4520.000	66.570	1.2	50.190	38.290

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	0.099	0.382	0.357	-0.083	0.342	0.024	0.019	86.7%	0.158
2	13:10:48	0.237	0.540	0.352	-0.144	0.305	0.020	0.003	89.1%	0.117
3	13:11:14	0.280	0.367	0.406	-0.094	0.308	0.023	0.009	87.0%	0.145
x		0.206	0.430	0.372	-0.107	0.318	0.022	0.010	87.6%	0.140
σ		0.095	0.096	0.030	0.033	0.021	0.002	0.008	1.3%	0.021
%RSD		46.100	22.220	8.072	30.370	6.478	10.210	80.990	1.5	15.000

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	0.159	0.280	0.265	0.370	0.404	89.6%	-0.002	-0.003	0.210
2	13:10:48	0.202	0.287	0.286	0.461	0.471	91.9%	-0.001	-0.002	0.253
3	13:11:14	0.214	0.365	0.366	0.461	0.456	90.9%	-0.003	-0.004	0.219
x		0.192	0.311	0.306	0.431	0.444	90.8%	-0.002	-0.003	0.227
σ		0.029	0.047	0.053	0.052	0.035	1.1%	0.001	0.001	0.022
%RSD		15.180	15.210	17.420	12.170	7.862	1.2	65.840	45.800	9.864

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:10:23	0.208	0.180	82.9%
2	13:10:48	0.213	0.192	84.6%
3	13:11:14	0.226	0.201	83.1%
x		0.215	0.191	83.5%
σ		0.009	0.011	1.0%
%RSD		4.267	5.629	1.1

PDF created with pdfFactory trial version www.pdffactory.com

ICV MW-9397 PREP 5/19/17 5/19/2017 13:15:22 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	85.6%	221.500	212.800	196.700	┬40550.000	┬39600.000	┬39840.000	┬43740.000	199.500
2	13:16:13	87.6%	216.100	205.600	194.800	┬40190.000	┬39550.000	┬39360.000	┬42780.000	201.000
3	13:16:39	90.0%	207.500	201.900	195.600	┬39510.000	┬38960.000	┬39260.000	┬41890.000	199.500
x		87.7%	107.496%	103.377%	97.848%	┬100.212%	┬39370.000	┬39480.000	┬107.005%	99.990%
σ		2.2%	n/a	n/a	n/a	┬n/a	┬356.100	┬308.900	┬n/a	n/a
%RSD		2.5	3.284	2.669	0.493	┬1.316	┬0.904	┬0.782	┬2.156	0.435

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	┬2193.000	-10.320	┬43360.000	40800.000	┬40280.000	┬99.1%	205.300	206.600	199.700
2	13:16:13	┬2191.000	-9.656	┬43840.000	40460.000	┬40100.000	┬98.9%	208.500	208.200	201.200
3	13:16:39	┬2145.000	-8.299	┬43710.000	39880.000	┬40210.000	98.9%	205.900	207.700	202.700
x		┬108.814%	-9.427	┬109.093%	40380.000	┬100.495%	┬98.9%	103.288%	103.749%	100.606%
σ		┬n/a	1.032	┬n/a	467.200	┬n/a	┬0.1%	n/a	n/a	n/a
%RSD		┬1.257	10.950	┬0.564	1.157	┬0.231	┬0.1	0.833	0.405	0.747

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	-2.865	201.500	┬38210.000	┬43380.000	202.900	203.000	191.500	216.400	207.700
2	13:16:13	-4.147	203.500	┬38990.000	┬43950.000	204.800	199.900	194.900	214.000	203.800
3	13:16:39	-4.233	203.400	┬38350.000	┬43340.000	202.100	197.700	192.900	209.700	204.500
x		-3.748	101.408%	┬96.290%	┬108.893%	101.638%	100.102%	193.100	106.696%	102.654%
σ		0.766	n/a	┬n/a	┬n/a	n/a	n/a	1.708	n/a	n/a
%RSD		20.440	0.543	┬1.086	┬0.778	0.690	1.348	0.885	1.585	1.020

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	212.000	194.500	0.772	-0.052	207.500	-0.408	95.4%	210.900	210.200
2	13:16:13	208.200	194.400	0.559	-0.167	211.300	-0.883	96.3%	217.700	218.000
3	13:16:39	208.600	191.700	0.458	-0.508	204.800	-0.318	97.0%	223.000	222.300
x		104.782%	193.500	0.597	-0.242	103.930%	-0.536	96.2%	108.583%	108.433%
σ		n/a	1.554	0.160	0.237	n/a	0.304	0.8%	n/a	n/a
%RSD		0.995	0.803	26.840	97.770	1.568	56.620	0.9	2.792	2.827

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	208.300	201.800	198.400	-4.417	177.400	196.400	207.900	92.7%	215.000
2	13:16:13	216.500	202.100	197.700	-3.771	177.100	197.500	208.800	95.4%	218.300
3	13:16:39	219.400	197.400	195.800	-1.570	177.400	198.000	205.000	94.9%	220.300
x		107.354%	200.400	98.638%	-3.253	177.300	98.652%	103.612%	94.3%	108.925%
σ		n/a	2.633	n/a	1.493	0.154	n/a	n/a	1.4%	n/a
%RSD		2.674	1.314	0.685	45.900	0.087	0.402	0.975	1.5	1.236

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	206.600	200.300	206.900	207.800	204.800	94.3%	200.900	209.900	206.000
2	13:16:13	210.000	199.600	205.100	206.200	204.500	96.3%	203.200	211.200	206.900
3	13:16:39	209.500	204.300	210.600	207.600	204.400	98.4%	202.800	211.200	206.400
x		104.346%	100.696%	103.780%	103.603%	102.298%	96.3%	202.300	105.384%	206.400
σ		n/a	n/a	n/a	n/a	n/a	2.1%	1.235	n/a	0.490
%RSD		0.882	1.251	1.341	0.424	0.104	2.2	0.610	0.362	0.237

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:15:47	201.600	195.400	88.8%
2	13:16:13	201.100	196.200	91.2%
3	13:16:39	202.800	195.800	92.6%
x		201.900	97.898%	90.9%
σ		0.879	n/a	1.9%
%RSD		0.435	0.214	2.1

PDF created with pdfFactory trial version www.pdffactory.com

ICB IM7804-01 5/19/2017 13:20:43 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	99.3%	0.007	0.957	1.084	7.112	0.712	0.543	0.716	-0.758
2	13:21:35	101.5%	0.017	0.557	0.817	5.966	0.572	0.569	0.584	-0.511
3	13:22:01	101.5%	0.007	0.044	1.072	5.217	0.403	0.274	0.236	-0.668
x		100.8%	0.010	0.519	0.991	6.098	0.562	0.462	0.512	-0.646
σ		1.2%	0.006	0.458	0.150	0.954	0.155	0.163	0.248	0.125
%RSD		1.2	57.330	88.180	15.190	15.640	27.560	35.330	48.480	19.370

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	10.760	-13.930	2.621	0.720	-1.109	105.3%	0.008	0.097	-0.010
2	13:21:35	9.015	-14.370	2.192	-1.055	-0.397	104.6%	0.016	0.099	0.007
3	13:22:01	T 0.116	-14.120	2.056	-0.363	-0.646	103.7%	-0.059	0.097	0.009
x		T 6.630	-14.140	2.290	-0.233	-0.718	104.5%	-0.012	0.098	0.002
σ		T 5.709	0.220	0.295	0.895	0.361	0.8%	0.041	0.001	0.010
%RSD		T 86.100	1.553	12.880	384.700	50.330	0.7	354.700	0.963	546.500

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	-0.015	0.006	4.661	6.387	0.006	0.017	0.008	0.012	0.002
2	13:21:35	-0.017	0.004	4.002	5.501	0.008	0.022	0.017	0.004	0.001
3	13:22:01	-0.009	0.001	5.039	6.687	0.006	-0.013	0.022	-0.011	0.050
x		-0.013	0.004	4.567	6.191	0.007	0.009	0.016	0.002	0.018
σ		0.004	0.002	0.525	0.616	0.001	0.019	0.007	0.012	0.028
%RSD		31.710	62.550	11.490	9.955	16.250	216.100	45.370	702.800	155.700

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	-0.047	0.233	0.039	-0.507	-0.125	-1.203	101.2%	0.498	0.526
2	13:21:35	-0.002	0.285	-0.225	-0.330	0.061	-1.229	102.2%	0.488	0.582
3	13:22:01	0.018	0.119	0.019	-1.065	0.053	-0.798	102.0%	0.469	0.631
x		-0.010	0.212	-0.056	-0.634	-0.004	-1.077	101.8%	0.485	0.580
σ		0.033	0.085	0.147	0.384	0.105	0.242	0.5%	0.015	0.053
%RSD		320.700	39.910	264.600	60.520	2740.000	22.470	0.5	3.049	9.109

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	0.393	0.262	0.012	-0.106	0.002	0.003	0.004	99.4%	0.045
2	13:21:35	0.461	0.096	0.013	-0.042	0.006	-0.003	0.009	101.8%	0.060
3	13:22:01	0.456	0.179	0.005	-0.058	0.006	0.008	0.002	102.1%	0.060
x		0.437	0.179	0.010	-0.069	0.005	0.003	0.005	101.1%	0.055
σ		0.038	0.083	0.004	0.033	0.002	0.005	0.003	1.5%	0.009
%RSD		8.617	46.350	41.600	48.540	47.580	195.800	66.580	1.5	15.910

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	0.061	0.136	0.122	-0.016	-0.002	97.8%	0.003	0.001	0.002
2	13:21:35	0.028	0.159	0.156	0.004	-0.003	101.3%	0.000	0.002	0.013
3	13:22:01	0.068	0.154	0.164	0.032	0.018	101.3%	0.003	0.003	0.002
x		0.052	0.150	0.147	0.006	0.004	100.1%	0.002	0.002	0.006
σ		0.022	0.012	0.022	0.024	0.012	2.0%	0.002	0.001	0.006
%RSD		41.360	7.806	14.790	377.300	266.600	2.0	79.470	49.500	112.600

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:21:09	0.005	-0.000	97.8%
2	13:21:35	0.007	0.000	99.9%
3	13:22:01	0.009	0.002	100.7%
x		0.007	0.001	99.5%
σ		0.002	0.001	1.5%
%RSD		29.160	170.000	1.5

PDF created with pdfFactory trial version www.pdffactory.com

LLICV Co 4ppb MW9459 5/19/2017 13:26:05

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	100.9%	4.308	3.252	3.597	T 758.600	T 755.000	713.600	736.700	2.045
2	13:26:57	105.3%	4.101	3.143	3.349	T 732.300	T 747.400	700.900	713.700	2.198
3	13:27:23	105.5%	4.088	3.545	3.637	T 759.900	T 760.000	706.600	714.100	2.220
x		103.9%	4.166	3.313	3.527	T 750.300	T 754.100	707.100	721.500	2.155
σ		2.6%	0.124	0.208	0.156	T 15.550	T 6.373	6.355	13.150	0.096
%RSD		2.5	2.965	6.270	4.415	T 2.073	T 0.845	0.899	1.822	4.442

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	46.260	-17.980	832.000	804.000	709.500	105.8%	3.491	2.319	3.929
2	13:26:57	46.220	-16.960	T 868.600	775.300	711.100	104.5%	4.015	2.561	3.937
3	13:27:23	44.340	-16.370	T 858.000	808.300	713.900	106.1%	4.242	2.557	3.879
x		45.610	-17.100	T 852.900	795.900	711.500	105.5%	3.916	2.479	3.915
σ		1.097	0.817	T 18.840	17.950	2.201	0.8%	0.385	0.139	0.031
%RSD		2.406	4.776	T 2.209	2.255	0.309	0.8	9.836	5.600	0.801

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	-0.104	3.732	T 640.900	682.900	3.954	4.099	3.929	4.351	4.408
2	13:26:57	-0.108	3.843	T 655.800	703.100	4.083	4.179	4.043	4.343	4.429
3	13:27:23	-0.047	3.900	T 663.200	706.500	4.065	4.288	4.079	4.460	4.550
x		-0.086	3.825	T 653.300	697.500	4.034	4.188	4.017	4.385	4.462
σ		0.034	0.086	T 11.360	12.760	0.070	0.095	0.078	0.066	0.077
%RSD		39.270	2.238	T 1.740	1.830	1.731	2.261	1.950	1.494	1.721

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	4.442	4.647	-0.333	-0.208	5.199	-0.273	102.7%	0.710	0.773
2	13:26:57	4.699	4.791	0.018	-0.875	4.756	0.114	103.7%	0.777	0.791
3	13:27:23	4.445	4.978	-0.085	-0.244	4.558	-0.853	103.4%	0.812	0.964
x		4.529	4.806	-0.133	-0.442	4.837	-0.337	103.3%	0.766	0.843
σ		0.148	0.166	0.181	0.375	0.328	0.487	0.5%	0.052	0.105
%RSD		3.261	3.458	135.700	84.840	6.786	144.200	0.5	6.783	12.500

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	0.738	4.529	3.997	-0.077	3.625	3.989	4.367	100.0%	2.487
2	13:26:57	0.750	4.973	3.941	-0.336	3.609	4.088	4.370	102.5%	2.445
3	13:27:23	0.839	4.724	3.996	-0.013	3.622	4.165	4.195	103.4%	2.371
x		0.776	4.742	3.978	-0.142	3.619	4.081	4.311	102.0%	2.434
σ		0.055	0.223	0.032	0.171	0.009	0.088	0.101	1.8%	0.059
%RSD		7.127	4.697	0.808	120.100	0.239	2.161	2.331	1.7	2.414

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	1.552	3.271	3.307	4.268	4.006	99.2%	3.878	3.831	3.797
2	13:26:57	1.559	3.350	3.290	4.209	4.115	102.0%	3.837	3.910	3.839
3	13:27:23	1.486	3.421	3.604	4.163	4.384	103.0%	3.861	3.954	3.877
x		1.532	3.347	3.401	4.213	4.168	101.4%	3.859	3.898	3.838
σ		0.041	0.075	0.177	0.053	0.195	2.0%	0.021	0.062	0.040
%RSD		2.650	2.246	5.189	1.248	4.666	1.9	0.531	1.602	1.043

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:26:31	3.739	3.734	97.4%
2	13:26:57	3.826	3.724	99.6%
3	13:27:23	3.900	3.884	102.4%
x		3.822	3.781	99.8%
σ		0.081	0.089	2.5%
%RSD		2.108	2.364	2.5

PDF created with pdfFactory trial version www.pdffactory.com

LLICV MW9444 5/19/2017 13:31:27 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	99.3%	0.394	25.420	23.230	182.300	44.100	41.820	43.420	36.790
2	13:32:19	102.6%	0.343	23.870	23.640	171.100	41.880	40.990	42.060	37.670
3	13:32:44	107.0%	0.429	23.520	22.570	166.900	40.530	39.160	38.470	36.970
x		102.9%	97.182%	97.087%	92.585%	86.732%	42.170	40.660	82.634%	92.862%
σ		3.9%	n/a	n/a	n/a	n/a	1.802	1.363	n/a	n/a
%RSD		3.8	11.140	4.169	2.337	4.597	4.274	3.352	6.197	1.247

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	T 91.630	-15.280	207.500	198.300	171.700	104.5%	4.749	4.701	0.959
2	13:32:19	96.650	-12.440	207.000	211.000	172.800	103.7%	4.817	4.804	0.951
3	13:32:44	91.130	-13.560	202.900	204.200	172.400	103.7%	4.749	4.680	0.927
x		T 93.137%	-13.760	102.895%	204.500	86.148%	104.0%	95.435%	94.563%	94.562%
σ		T n/a	1.431	n/a	6.336	n/a	0.5%	n/a	n/a	n/a
%RSD		T 3.275	10.400	1.235	3.098	0.318	0.5	0.826	1.405	1.731

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	-0.042	4.673	19.410	21.470	4.814	5.090	1.020	1.146	10.730
2	13:32:19	0.000	4.806	21.580	21.390	4.761	4.963	0.969	1.054	10.410
3	13:32:44	0.003	4.620	20.330	20.390	4.828	4.674	0.963	0.964	10.100
x		-0.013	93.996%	20.440	105.425%	96.017%	98.183%	0.984	105.475%	104.122%
σ		0.025	n/a	1.093	n/a	n/a	n/a	0.032	n/a	n/a
%RSD		196.700	2.035	5.347	2.855	0.742	4.340	3.201	8.607	3.037

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	1.063	1.131	-0.311	-0.863	1.296	-1.872	99.7%	9.280	9.449
2	13:32:19	0.970	1.241	-0.153	-0.982	0.480	0.604	102.0%	9.669	9.903
3	13:32:44	1.154	1.016	0.022	-1.006	1.224	0.679	103.5%	9.585	10.090
x		106.251%	1.129	-0.147	-0.950	99.995%	-0.196	101.7%	9.511	98.128%
σ		n/a	0.113	0.166	0.076	n/a	1.452	1.9%	0.205	n/a
%RSD		8.641	9.983	113.000	8.046	45.210	739.400	1.9	2.154	3.347

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	9.222	0.622	0.960	-0.150	0.946	0.098	0.122	99.3%	3.385
2	13:32:19	9.711	0.783	0.965	-0.154	0.938	0.074	0.082	101.1%	3.390
3	13:32:44	9.599	0.130	0.971	0.004	0.865	0.078	0.123	103.2%	3.547
x		9.511	0.512	96.499%	-0.100	0.916	0.084	109.215%	101.2%	3.441
σ		0.257	0.341	n/a	0.090	0.045	0.013	n/a	2.0%	0.092
%RSD		2.697	66.550	0.542	90.130	4.871	15.600	21.640	2.0	2.676

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	4.457	0.874	0.917	5.232	5.059	97.5%	0.454	0.483	0.984
2	13:32:19	4.422	0.911	0.892	5.114	5.028	101.0%	0.454	0.472	1.016
3	13:32:44	4.271	0.944	0.916	4.889	5.018	102.6%	0.423	0.455	1.001
x		87.668%	0.910	90.824%	101.562%	5.035	100.4%	0.444	94.028%	1.001
σ		n/a	0.035	n/a	n/a	0.022	2.6%	0.018	n/a	0.016
%RSD		2.265	3.838	1.568	3.428	0.432	2.6	4.006	2.945	1.608

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:31:53	0.963	0.993	96.7%
2	13:32:19	0.942	0.965	99.5%
3	13:32:44	0.988	0.987	102.8%
x		0.965	98.156%	99.7%
σ		0.023	n/a	3.1%
%RSD		2.385	1.493	3.1

PDF created with pdfFactory trial version www.pdffactory.com

LLICV2 MW9445 5/19/2017 13:36:47

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	99.1%	1.994	128.300	121.900	T 921.000	225.300	210.000	215.900	195.200
2	13:37:38	102.4%	1.893	128.300	124.700	T 911.300	225.900	215.800	211.900	205.200
3	13:38:04	104.4%	1.740	125.500	121.900	T 880.000	219.300	205.100	202.700	195.800
x		102.0%	1.876	127.400	122.800	T 904.100	223.500	210.300	210.200	198.700
σ		2.6%	0.128	1.585	1.609	T 21.400	3.651	5.338	6.768	5.641
%RSD		2.6	6.798	1.244	1.310	T 2.367	1.634	2.538	3.220	2.838

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	T 473.600	-16.620	T 1015.000	976.600	871.700	103.2%	23.750	23.870	4.722
2	13:37:38	T 491.400	-15.930	T 1070.000	1032.000	928.700	101.0%	25.430	24.420	4.934
3	13:38:04	457.400	-15.580	T 1014.000	1051.000	884.100	102.2%	25.360	23.540	4.732
x		T 474.100	-16.040	T 1033.000	1020.000	894.900	102.1%	24.850	23.950	4.796
σ		T 17.000	0.531	T 32.050	38.470	29.990	1.1%	0.946	0.443	0.120
%RSD		T 3.586	3.308	T 3.103	3.772	3.352	1.1	3.808	1.851	2.498

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	-0.050	23.360	102.800	103.600	24.300	25.690	4.882	5.295	51.300
2	13:37:38	0.048	24.710	108.300	107.000	25.240	25.390	4.915	5.312	51.640
3	13:38:04	0.123	23.670	104.000	99.150	23.750	24.490	4.825	5.194	49.870
x		0.040	23.910	105.000	103.300	24.430	25.190	4.874	5.267	50.940
σ		0.087	0.705	2.878	3.955	0.752	0.627	0.045	0.064	0.940
%RSD		214.700	2.948	2.740	3.830	3.077	2.488	0.933	1.208	1.845

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	4.753	5.128	0.023	-0.283	4.647	-0.155	99.8%	49.590	49.790
2	13:37:38	5.393	5.152	-0.143	-0.620	5.445	0.020	99.3%	53.450	53.750
3	13:38:04	5.439	4.490	-0.166	-0.680	5.781	-1.068	101.9%	51.970	52.720
x		5.195	4.924	-0.095	-0.528	5.291	-0.401	100.3%	51.670	52.090
σ		0.384	0.376	0.103	0.214	0.583	0.585	1.3%	1.951	2.053
%RSD		7.384	7.629	108.300	40.480	11.010	145.800	1.3	3.776	3.941

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	48.790	2.991	4.807	-0.733	4.369	0.373	0.519	99.5%	18.350
2	13:37:38	52.340	1.495	4.950	-0.101	4.631	0.333	0.510	99.4%	18.360
3	13:38:04	51.580	2.049	4.876	-0.233	4.319	0.352	0.530	101.5%	18.180
x		50.900	2.178	4.877	-0.355	4.440	0.353	0.519	100.2%	18.300
σ		1.869	0.756	0.071	0.333	0.168	0.020	0.010	1.2%	0.100
%RSD		3.672	34.720	1.462	93.760	3.774	5.678	1.916	1.2	0.546

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	22.990	4.241	4.360	24.350	24.190	98.7%	2.234	2.358	4.745
2	13:37:38	24.220	4.540	4.654	25.090	24.930	98.9%	2.400	2.506	4.851
3	13:38:04	23.130	4.551	4.519	24.750	24.180	102.7%	2.247	2.349	4.868
x		23.450	4.444	4.511	24.730	24.430	100.1%	2.294	2.404	4.821
σ		0.675	0.176	0.147	0.370	0.430	2.3%	0.092	0.088	0.067
%RSD		2.880	3.961	3.261	1.495	1.762	2.3	4.020	3.668	1.386

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:37:12	4.710	4.553	97.9%
2	13:37:38	4.937	4.693	98.4%
3	13:38:04	4.715	4.569	100.6%
x		4.787	4.605	98.9%
σ		0.130	0.076	1.4%
%RSD		2.704	1.660	1.4

PDF created with pdfFactory trial version www.pdffactory.com

ICSA MW9430 5/19/2017 13:42:08 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	73.2%	0.060	28.720	27.260	TM 106000.000	TM 102900.000	TM 102900.000	TM 114000.000	TM 102400.000
2	13:43:00	74.8%	0.054	26.480	27.260	TM 105600.000	TM 103800.000	TM 103700.000	TM 114000.000	TM 104700.000
3	13:43:26	75.8%	0.113	27.100	28.320	TM 103600.000	TM 102000.000	TM 102700.000	TM 114900.000	TM 104100.000
x		74.6%	1.#IO%	27.430	1.#IO%	TM 105.089%	TM 102900.000	TM 103100.000	TM 114.289%	TM 103.716%
σ		1.3%	n/a	1.157	n/a	TM n/a	TM 925.000	TM 510.200	TM n/a	TM n/a
%RSD		1.8	42.970	4.216	2.205	TM 1.224	TM 0.899	TM 0.495	TM 0.431	TM 1.125

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	T 793.200	T 18580.000	TM 114700.000	M 102300.000	TM 102000.000	87.0%	M 2322.000	0.186	1.131
2	13:43:00	T 796.500	T 18870.000	TM 114800.000	M 102500.000	TM 103500.000	87.5%	M 2330.000	0.194	1.068
3	13:43:26	T 785.500	T 18970.000	TM 115800.000	M 103600.000	TM 103400.000	88.4%	M 2307.000	-0.048	1.060
x		T 1.#IO%	T 18800.000	TM 115.106%	M 102800.000	TM 102.948%	87.7%	M 115.995%	1.#IO%	1.#IO%
σ		T n/a	T 202.600	TM n/a	M 678.900	TM n/a	0.7%	M n/a	n/a	n/a
%RSD		T 0.718	T 1.078	TM 0.511	M 0.660	TM 0.797	0.8	M 0.503	124.400	3.594

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	1.575	0.691	T 96940.000	TM 113100.000	-0.715	1.585	-0.183	-0.242	4.056
2	13:43:00	1.552	0.696	T 98860.000	TM 113800.000	-0.724	1.533	-0.126	-0.255	3.882
3	13:43:26	1.755	0.727	T 99800.000	TM 114700.000	-0.742	1.476	-0.039	-0.495	4.023
x		1.627	1.#IO%	T 98530.000	TM 113.869%	-1.#IO%	1.#IO%	-1.#IO%	-1.#IO%	1.#IO%
σ		0.111	n/a	T 1460.000	TM n/a	n/a	n/a	n/a	n/a	n/a
%RSD		6.825	2.806	T 1.481	TM 0.683	1.935	3.569	62.570	43.120	2.313

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	0.204	0.594	5.913	4.264	0.032	2.878	83.8%	TM 2670.000	M 2585.000
2	13:43:00	0.305	0.983	6.387	4.243	0.240	4.418	85.5%	TM 2745.000	M 2670.000
3	13:43:26	0.072	0.911	5.865	4.273	0.240	1.700	86.0%	TM 2766.000	M 2692.000
x		1.#IO%	0.829	6.055	4.260	1.#IO%	2.998	85.1%	TM 2727.000	M 132.449%
σ		n/a	0.207	0.289	0.016	n/a	1.363	1.2%	TM 50.700	M n/a
%RSD		60.200	24.970	4.768	0.365	70.220	45.460	1.4	TM 1.859	M 2.138

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	TM 2607.000	0.780	0.195	11.890	0.185	-6.485	-0.106	87.4%	1.086
2	13:43:00	TM 2682.000	0.664	0.181	11.790	0.175	-6.828	-0.256	89.6%	0.912
3	13:43:26	TM 2716.000	-0.795	0.189	10.850	0.168	-6.878	-0.330	91.8%	0.941
x		TM 2668.000	0.216	1.#IO%	11.510	0.176	-6.730	-1.#IO%	89.6%	1.#IO%
σ		TM 55.520	0.878	n/a	0.576	0.009	0.214	n/a	2.2%	n/a
%RSD		TM 2.081	405.800	3.757	5.008	4.904	3.182	49.630	2.5	9.512

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	0.162	0.026	-0.013	0.971	0.992	87.2%	0.006	0.017	0.223
2	13:43:00	0.120	0.024	0.009	0.964	0.987	90.5%	0.011	0.008	0.228
3	13:43:26	-0.055	0.039	0.001	1.137	0.957	92.3%	0.010	0.013	0.198
x		1.#IO%	0.029	-1.#IO%	1.024	1.#IO%	90.0%	0.009	1.#IO%	0.216
σ		n/a	0.008	n/a	0.098	n/a	2.6%	0.003	n/a	0.016
%RSD		152.700	27.630	1076.000	9.549	1.945	2.8	31.350	37.150	7.461

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:42:34	0.205	0.190	83.6%
2	13:43:00	0.200	0.185	86.1%
3	13:43:26	0.198	0.212	88.5%
x		0.201	1.#IO%	86.1%
σ		0.004	n/a	2.5%
%RSD		1.860	7.390	2.9

PDF created with pdfFactory trial version www.pdffactory.com

ICSAB MW9460 5/19/2017 13:47:32

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	73.6%	107.700	4.976	4.359	TM 104000.000	TM 101800.000	TM 102300.000	TM 116600.000	TM 100300.000
2	13:48:23	74.5%	105.500	3.577	4.100	TM 104300.000	TM 101600.000	TM 101300.000	TM 114000.000	TM 100800.000
3	13:48:48	75.8%	104.700	4.988	3.793	TM 102400.000	TM 100500.000	T 99940.000	TM 112500.000	TM 99660.000
x		74.6%	106.000	4.513	4.084	TM 103600.000	TM 101300.000	TM 101200.000	TM 114400.000	TM 100300.000
σ		1.1%	1.577	0.811	0.284	TM 1003.000	TM 717.100	TM 1173.000	TM 2063.000	TM 580.300
%RSD		1.5	1.488	17.980	6.941	TM 0.968	TM 0.708	TM 1.159	TM 1.804	TM 0.579

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	52.640	T 18560.000	TM 113200.000	M 100500.000	T 98580.000	T 92.0%	M 2238.000	99.970	99.840
2	13:48:23	49.940	T 18990.000	TM 113500.000	M 100300.000	TM 100800.000	90.5%	M 2263.000	99.920	100.900
3	13:48:48	T 51.220	T 19210.000	TM 115000.000	M 101300.000	TM 100300.000	T 92.4%	M 2248.000	98.550	98.830
x		T 51.270	T 18920.000	TM 113900.000	M 100700.000	TM 99910.000	T 91.6%	M 2250.000	99.480	99.840
σ		T 1.355	T 330.600	TM 956.500	M 538.600	TM 1166.000	T 1.0%	M 12.760	0.806	1.009
%RSD		T 2.642	T 1.747	TM 0.840	M 0.535	TM 1.167	T 1.1	M 0.567	0.811	1.011

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	0.796	98.960	T 94810.000	TM 109800.000	95.690	93.030	89.170	95.540	93.630
2	13:48:23	0.734	98.840	T 96000.000	TM 111400.000	96.540	91.210	89.450	92.600	90.920
3	13:48:48	1.243	99.010	T 95760.000	TM 111900.000	96.450	90.990	88.050	91.690	90.490
x		0.924	98.940	T 95520.000	TM 111000.000	96.230	91.750	88.890	93.270	91.680
σ		0.278	0.088	T 627.100	TM 1104.000	0.462	1.119	0.740	2.013	1.704
%RSD		30.070	0.089	T 0.657	TM 0.994	0.481	1.220	0.833	2.158	1.858

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	94.710	91.250	4.276	2.901	95.100	2.277	86.8%	TM 2570.000	M 2507.000
2	13:48:23	93.420	88.930	3.973	1.926	89.910	2.365	88.1%	TM 2666.000	M 2601.000
3	13:48:48	94.710	89.100	3.950	2.762	90.720	3.605	88.6%	TM 2642.000	M 2581.000
x		94.280	89.760	4.066	2.529	91.910	2.749	87.8%	TM 2626.000	M 2563.000
σ		0.745	1.295	0.182	0.528	2.794	0.743	0.9%	TM 49.860	M 49.160
%RSD		0.790	1.443	4.479	20.860	3.040	27.030	1.0	TM 1.899	M 1.918

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	TM 2513.000	86.710	91.540	11.630	T 88.300	82.980	93.030	90.6%	31.800
2	13:48:23	TM 2619.000	89.090	90.620	10.270	82.620	82.280	92.360	92.0%	32.160
3	13:48:48	TM 2597.000	87.090	89.860	12.120	82.610	82.990	91.970	93.1%	32.030
x		TM 2576.000	87.630	90.670	11.340	T 84.510	82.750	92.460	91.9%	32.000
σ		TM 55.500	1.276	0.843	0.957	T 3.283	0.406	0.537	1.3%	0.180
%RSD		TM 2.154	1.456	0.930	8.438	T 3.885	0.491	0.581	1.4	0.563

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	2.219	89.770	92.210	101.100	99.460	90.6%	97.090	99.440	100.000
2	13:48:23	2.589	91.000	94.370	98.840	98.810	93.1%	96.440	98.950	99.280
3	13:48:48	2.319	91.110	93.850	101.700	98.720	93.9%	97.190	99.740	99.090
x		2.376	90.630	93.480	100.500	99.000	92.5%	96.910	99.370	99.470
σ		0.191	0.744	1.127	1.501	0.407	1.7%	0.405	0.396	0.504
%RSD		8.055	0.821	1.206	1.493	0.411	1.8	0.418	0.399	0.507

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:47:57	97.560	93.160	85.9%
2	13:48:23	98.490	93.220	88.6%
3	13:48:48	97.690	94.570	90.0%
x		97.910	93.650	88.2%
σ		0.500	0.798	2.1%
%RSD		0.511	0.852	2.4

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 13:52:54

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	76.6%	363.700	317.400	308.200	T 66630.000	T 65130.000	T 65640.000	T 73770.000	349.300
2	13:53:46	79.6%	347.800	300.600	301.700	T 64230.000	T 63200.000	T 62450.000	T 69250.000	337.000
3	13:54:12	82.2%	343.700	315.600	312.400	T 63070.000	T 61800.000	T 61990.000	T 67400.000	339.500
x		79.4%	351.800	311.200	307.400	T 64650.000	T 63380.000	T 63360.000	T 70140.000	341.900
σ		2.8%	10.550	9.217	5.382	T 1815.000	T 1672.000	T 1986.000	T 3277.000	6.487
%RSD		3.5	3.001	2.962	1.751	T 2.807	T 2.639	T 3.135	T 4.672	1.897

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	T 3561.000	72.290	T 72260.000	65290.000	T 64300.000	93.0%	329.400	343.300	334.000
2	13:53:46	T 3378.000	70.960	T 70720.000	62910.000	T 63200.000	93.6%	320.400	T 333.200	324.100
3	13:54:12	T 3317.000	71.480	T 71440.000	63880.000	T 64110.000	93.1%	319.600	T 329.100	323.400
x		T 3418.000	71.580	T 71470.000	64020.000	T 63870.000	93.2%	323.100	T 335.200	327.200
σ		T 126.700	0.669	T 773.700	1194.000	T 586.300	0.3%	5.440	T 7.315	5.916
%RSD		T 3.708	0.935	T 1.083	1.865	T 0.918	0.4	1.684	T 2.182	1.808

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	-8.429	T 326.700	T 62790.000	T 71500.000	333.200	317.000	304.300	327.900	312.600
2	13:53:46	-8.201	T 320.800	T 61480.000	T 70040.000	323.200	297.700	294.100	309.200	302.000
3	13:54:12	-8.064	T 326.600	T 62520.000	T 70090.000	322.300	294.900	292.600	300.100	296.100
x		-8.231	T 324.700	T 62260.000	T 70540.000	326.200	303.200	297.000	312.400	303.600
σ		0.184	T 3.351	T 689.700	T 827.900	6.071	12.040	6.364	14.160	8.372
%RSD		2.238	T 1.032	T 1.108	T 1.174	1.861	3.971	2.143	4.533	2.758

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	313.800	290.300	1.600	-0.355	311.400	1.314	92.0%	354.800	350.000
2	13:53:46	305.700	291.000	1.527	-0.798	300.100	-0.146	93.4%	359.100	357.300
3	13:54:12	303.800	289.000	1.990	-0.203	303.700	0.725	94.5%	371.300	373.000
x		307.800	290.100	1.706	-0.452	305.100	0.631	93.3%	361.700	360.100
σ		5.321	0.998	0.249	0.309	5.769	0.734	1.2%	8.562	11.770
%RSD		1.729	0.344	14.600	68.370	1.891	116.400	1.3	2.367	3.268

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	351.600	301.900	327.100	-1.516	295.000	307.900	322.800	90.7%	346.000
2	13:53:46	358.300	298.300	317.800	0.193	289.300	300.300	314.000	93.4%	343.800
3	13:54:12	368.200	302.300	310.900	-3.227	288.800	296.900	310.600	94.4%	343.300
x		359.400	300.800	318.600	-1.516	291.000	301.700	315.800	92.8%	344.400
σ		8.329	2.212	8.112	1.710	3.438	5.633	6.336	1.9%	1.432
%RSD		2.318	0.735	2.546	112.700	1.182	1.867	2.007	2.0	0.416

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	333.500	315.200	323.500	325.400	325.300	95.0%	332.500	T 326.300	340.600
2	13:53:46	333.500	307.500	317.100	320.200	317.000	97.6%	321.700	T 320.300	330.400
3	13:54:12	332.300	309.800	317.100	317.000	315.500	98.9%	321.400	T 321.100	330.500
x		333.100	310.800	319.200	320.900	319.200	97.2%	325.200	T 322.600	333.800
σ		0.686	3.983	3.690	4.222	5.276	2.0%	6.351	T 3.245	5.889
%RSD		0.206	1.281	1.156	1.316	1.653	2.0	1.953	T 1.006	1.764

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:53:20	334.800	323.700	87.4%
2	13:53:46	324.700	317.500	90.9%
3	13:54:12	323.600	318.000	92.7%
x		327.700	319.800	90.3%
σ		6.169	3.462	2.7%
%RSD		1.882	1.083	3.0

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 14:00:56 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	77.0%	335.400	289.300	282.100	T 60980.000	T 59690.000	T 58650.000	T 65830.000	302.500
2	14:01:47	79.3%	319.200	283.900	279.700	T 59300.000	T 58120.000	T 58160.000	T 64260.000	298.200
3	14:02:13	81.4%	317.100	280.900	286.100	T 57610.000	T 56870.000	T 56700.000	T 62710.000	301.600
x		79.2%	107.966%	94.897%	94.212%	T 98.822%	T 58220.000	T 57840.000	T 107.104%	100.245%
σ		2.2%	n/a	n/a	n/a	T n/a	T 1409.000	T 1016.000	T n/a	n/a
%RSD		2.7	3.089	1.496	1.151	T 2.842	T 2.419	T 1.756	T 2.427	0.748

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	T 3164.000	18.680	T 65380.000	58670.000	T 57350.000	T 93.7%	293.200	T 303.700	295.800
2	14:01:47	T 3077.000	16.880	T 64890.000	57780.000	T 57830.000	T 94.2%	291.500	T 306.100	296.700
3	14:02:13	T 3101.000	17.120	T 65330.000	57660.000	T 57880.000	93.3%	290.900	305.000	296.100
x		T 103.804%	17.560	T 108.661%	58030.000	T 96.145%	T 93.7%	97.280%	T 101.645%	98.724%
σ		T n/a	0.975	T n/a	552.700	T n/a	T 0.4%	n/a	T n/a	n/a
%RSD		T 1.449	5.552	T 0.414	0.952	T 0.504	T 0.5	0.414	T 0.396	0.154

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	-7.859	T 291.600	T 56130.000	T 63450.000	294.800	282.000	268.400	286.200	282.000
2	14:01:47	-7.917	T 292.000	T 55480.000	T 63440.000	293.500	277.100	273.900	283.600	277.200
3	14:02:13	-6.307	T 298.000	T 57030.000	T 64170.000	294.500	277.800	273.200	281.200	276.200
x		-7.361	T 97.958%	T 93.686%	T 106.147%	98.100%	93.003%	271.800	94.555%	92.818%
σ		0.913	T n/a	T n/a	T n/a	n/a	n/a	2.980	n/a	n/a
%RSD		12.400	T 1.230	T 1.392	T 0.661	0.233	0.949	1.096	0.889	1.132

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	286.000	271.300	1.148	-1.001	282.200	1.438	92.5%	309.000	310.800
2	14:01:47	280.800	275.700	1.761	-0.697	276.700	-1.517	92.9%	319.400	317.800
3	14:02:13	285.200	272.700	1.251	-1.044	278.900	1.050	94.0%	333.500	334.100
x		94.662%	273.200	1.387	-0.914	93.082%	0.324	93.1%	106.884%	106.967%
σ		n/a	2.262	0.328	0.189	n/a	1.605	0.8%	n/a	n/a
%RSD		0.985	0.828	23.660	20.680	0.983	496.100	0.9	3.838	3.728

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	306.500	278.700	289.900	-0.760	266.600	279.000	288.800	90.8%	313.700
2	14:01:47	316.100	281.000	289.600	0.379	267.800	280.400	289.900	92.6%	318.100
3	14:02:13	332.800	282.600	286.500	-2.510	268.300	281.700	286.900	92.9%	319.300
x		106.156%	280.800	96.222%	-0.964	267.600	280.400	96.174%	92.1%	105.683%
σ		n/a	1.970	n/a	1.455	0.847	1.353	n/a	1.1%	n/a
%RSD		4.173	0.702	0.646	151.000	0.316	0.483	0.533	1.2	0.947

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	301.800	286.300	294.400	295.500	295.800	96.0%	297.300	T 295.100	304.000
2	14:01:47	306.400	288.600	297.700	296.200	293.200	97.4%	293.200	T 295.700	302.800
3	14:02:13	308.400	291.400	298.200	295.700	294.500	97.9%	295.000	T 297.400	303.400
x		101.835%	96.254%	98.918%	98.602%	98.164%	97.1%	98.396%	T 98.681%	101.127%
σ		n/a	n/a	n/a	n/a	n/a	0.9%	n/a	T n/a	n/a
%RSD		1.104	0.890	0.678	0.118	0.439	1.0	0.706	T 0.397	0.210

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:01:21	299.000	290.000	89.7%
2	14:01:47	296.900	292.200	91.4%
3	14:02:13	297.400	295.700	92.9%
x		99.257%	97.548%	91.3%
σ		n/a	n/a	1.6%
%RSD		0.362	0.980	1.8

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 14:06:15 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	93.6%	0.028	2.334	2.369	6.190	2.253	2.269	2.110	0.151
2	14:07:08	97.7%	0.004	1.958	2.128	5.131	2.010	2.000	2.198	0.309
3	14:07:35	98.5%	0.033	1.491	1.883	4.089	1.616	1.571	2.058	0.053
x		96.6%	0.022	1.928	2.127	5.137	1.959	1.947	2.122	0.171
σ		2.6%	0.015	0.422	0.243	1.050	0.322	0.352	0.071	0.130
%RSD		2.7	70.860	21.910	11.440	20.450	16.420	18.080	3.338	75.650

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	T -2.472	0.345	5.008	3.950	2.120	97.1%	0.041	0.113	0.016
2	14:07:08	7.398	2.368	5.846	1.986	2.047	96.8%	0.048	0.097	0.011
3	14:07:35	6.718	3.117	1.728	0.887	1.209	100.7%	0.028	0.104	-0.012
x		T 3.881	1.943	4.194	2.274	1.792	98.2%	0.039	0.104	0.005
σ		T 5.513	1.434	2.176	1.552	0.507	2.2%	0.010	0.008	0.015
%RSD		T 142.000	73.800	51.890	68.240	28.260	2.2	26.570	7.659	288.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	-0.016	0.007	4.388	7.096	0.009	-0.006	0.025	0.006	0.021
2	14:07:08	0.004	0.017	4.562	5.735	0.018	0.004	0.030	0.018	-0.016
3	14:07:35	0.003	0.014	0.453	2.492	0.007	-0.003	0.024	0.004	-0.007
x		-0.003	0.013	3.134	5.107	0.012	-0.002	0.027	0.009	-0.001
σ		0.011	0.005	2.323	2.365	0.006	0.005	0.003	0.007	0.019
%RSD		377.800	38.390	74.130	46.310	51.020	292.200	12.180	81.100	3391.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	0.018	0.334	0.173	-0.524	-0.082	-1.451	95.6%	0.795	1.035
2	14:07:08	0.095	0.347	-0.043	-0.414	0.331	-0.754	97.2%	1.179	1.263
3	14:07:35	0.076	0.139	0.183	-0.624	0.116	-0.300	100.3%	1.055	0.945
x		0.063	0.273	0.105	-0.521	0.121	-0.835	97.7%	1.010	1.081
σ		0.040	0.116	0.128	0.105	0.206	0.580	2.4%	0.196	0.164
%RSD		63.110	42.610	121.900	20.200	170.100	69.440	2.4	19.400	15.170

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	0.880	-0.019	0.018	0.034	0.013	-0.004	0.010	96.2%	0.202
2	14:07:08	1.169	0.102	0.027	-0.043	0.020	0.017	0.013	98.9%	0.158
3	14:07:35	1.022	-0.116	0.020	0.055	0.009	0.019	0.006	101.8%	0.147
x		1.024	-0.011	0.022	0.015	0.014	0.011	0.010	98.9%	0.169
σ		0.145	0.109	0.005	0.051	0.005	0.013	0.003	2.8%	0.029
%RSD		14.110	1026.000	21.990	334.600	38.540	117.900	33.640	2.8	17.160

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	0.193	0.380	0.407	0.001	-0.004	97.1%	0.028	0.035	0.021
2	14:07:08	0.187	0.416	0.392	-0.016	0.003	99.5%	0.018	0.028	0.014
3	14:07:35	0.196	0.383	0.359	0.007	-0.015	103.6%	0.037	0.028	0.008
x		0.192	0.393	0.386	-0.003	-0.005	100.0%	0.028	0.030	0.014
σ		0.004	0.020	0.025	0.012	0.009	3.3%	0.009	0.004	0.006
%RSD		2.207	5.091	6.358	470.200	168.400	3.3	33.500	12.770	44.160

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:06:42	0.015	0.007	97.1%
2	14:07:08	0.018	0.014	100.2%
3	14:07:35	0.013	0.003	104.1%
x		0.015	0.008	100.4%
σ		0.002	0.005	3.5%
%RSD		15.540	67.060	3.5

PDF created with pdfFactory trial version www.pdffactory.com

SQ42373-001 5/19/2017 14:11:46 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	99.9%	0.014	-0.034	0.112	21.460	1.498	1.300	1.449	0.196
2	14:12:38	103.3%	0.006	0.214	0.278	19.900	1.137	1.205	1.053	0.090
3	14:13:03	103.8%	0.006	-0.188	-0.022	18.940	1.226	1.132	1.419	0.323
x		102.4%	0.009	-0.002	0.122	20.100	1.287	1.212	1.307	0.203
σ		2.1%	0.005	0.203	0.150	1.269	0.188	0.085	0.220	0.117
%RSD		2.1	52.020	8228.000	122.500	6.311	14.590	6.978	16.860	57.500

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	11.340	T 37210.000	8.863	30.980	30.500	99.7%	0.044	0.064	-0.071
2	14:12:38	10.830	T 37510.000	8.032	29.890	29.370	98.2%	0.031	-0.033	-0.072
3	14:13:03	T -1.142	T 37450.000	7.083	35.820	31.930	98.7%	0.002	0.180	-0.081
x		T 7.011	T 37390.000	7.993	32.230	30.600	98.9%	0.026	0.070	-0.075
σ		T 7.065	T 158.400	0.891	3.156	1.285	0.8%	0.022	0.107	0.006
%RSD		T 100.800	T 0.424	11.140	9.792	4.199	0.8	84.290	151.500	7.845

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	3.988	0.469	1.402	5.054	0.004	-0.018	0.156	0.156	0.520
2	14:12:38	3.955	0.475	1.796	5.350	0.002	0.009	0.150	0.131	0.518
3	14:13:03	3.753	0.469	0.950	3.719	-0.001	0.021	0.122	0.146	0.502
x		3.899	0.471	1.383	4.708	0.002	0.004	0.143	0.144	0.513
σ		0.127	0.003	0.424	0.869	0.002	0.020	0.018	0.013	0.010
%RSD		3.269	0.719	30.640	18.460	128.200	482.400	12.740	8.839	1.903

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	-0.124	-0.295	8.696	8.815	-0.403	-1.209	97.1%	0.013	0.088
2	14:12:38	0.068	0.264	9.206	8.357	-0.183	-0.669	98.8%	0.150	0.320
3	14:13:03	-0.022	0.267	8.842	7.863	-0.224	-0.251	99.2%	0.133	0.301
x		-0.026	0.079	8.914	8.345	-0.270	-0.710	98.4%	0.099	0.236
σ		0.096	0.323	0.263	0.476	0.117	0.480	1.1%	0.074	0.129
%RSD		369.400	410.200	2.946	5.705	43.310	67.680	1.1	75.290	54.580

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	0.103	0.281	0.005	-0.080	0.008	0.004	-0.000	98.8%	0.127
2	14:12:38	0.161	-0.490	0.005	0.197	0.011	0.001	-0.000	99.3%	0.141
3	14:13:03	0.147	-0.005	0.009	0.013	0.001	-0.001	0.005	100.6%	0.145
x		0.137	-0.071	0.006	0.043	0.006	0.001	0.001	99.6%	0.138
σ		0.030	0.390	0.003	0.141	0.005	0.003	0.003	0.9%	0.009
%RSD		22.060	547.000	40.200	325.200	83.430	204.200	204.500	0.9	6.840

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	0.246	0.149	0.090	0.013	0.017	100.0%	0.424	0.438	0.011
2	14:12:38	0.055	0.115	0.135	0.008	0.014	101.9%	0.273	0.270	0.011
3	14:13:03	0.159	0.128	0.157	0.016	0.020	102.8%	0.186	0.173	0.022
x		0.153	0.131	0.127	0.012	0.017	101.6%	0.294	0.294	0.014
σ		0.096	0.017	0.034	0.004	0.003	1.4%	0.120	0.134	0.007
%RSD		62.410	12.900	26.930	31.530	18.890	1.4	40.810	45.790	45.510

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:12:12	0.015	0.005	100.6%
2	14:12:38	0.006	0.012	102.7%
3	14:13:03	0.009	0.015	103.9%
x		0.010	0.010	102.4%
σ		0.004	0.005	1.7%
%RSD		44.250	47.970	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SQ42373-002 5/19/2017 14:17:07

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	97.1%	97.190	99.070	97.930	T 884.800	T 879.100	831.500	840.300	98.400
2	14:17:59	97.0%	98.210	103.000	104.400	T 925.700	T 907.400	843.400	833.300	99.710
3	14:18:25	99.7%	93.110	97.640	100.600	T 879.100	T 878.700	817.400	803.700	98.740
x		97.9%	96.170	99.890	101.000	T 896.500	T 888.400	830.800	825.800	98.950
σ		1.6%	2.698	2.751	3.265	T 25.440	T 16.470	13.020	19.410	0.681
%RSD		1.6	2.805	2.754	3.233	T 2.837	T 1.853	1.567	2.351	0.688

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	T 928.200	T 26560.000	T 1042.000	1091.000	925.400	95.6%	98.340	96.510	96.590
2	14:17:59	T 938.300	T 27360.000	T 1071.000	1063.000	953.200	94.0%	101.000	99.010	99.190
3	14:18:25	T 889.800	T 26470.000	T 1027.000	1061.000	920.800	94.2%	98.840	96.830	96.720
x		T 918.800	T 26800.000	T 1047.000	1072.000	933.100	94.6%	99.380	97.450	97.500
σ		T 25.590	T 493.600	T 22.110	16.520	17.500	0.9%	1.399	1.357	1.465
%RSD		T 2.785	T 1.842	T 2.112	1.542	1.876	0.9	1.407	1.393	1.502

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	1.803	97.720	T 931.800	989.700	98.830	96.900	97.400	98.010	96.070
2	14:17:59	2.009	100.600	T 967.200	1033.000	102.000	98.500	101.400	98.510	96.780
3	14:18:25	2.276	97.650	T 949.500	1017.000	99.760	94.730	99.630	96.240	95.730
x		2.029	98.660	T 949.500	1013.000	100.200	96.710	99.480	97.590	96.190
σ		0.238	1.677	T 17.680	21.960	1.640	1.893	2.006	1.190	0.535
%RSD		11.700	1.699	T 1.862	2.167	1.637	1.957	2.017	1.219	0.556

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	95.160	97.320	6.538	6.080	97.350	-1.272	94.8%	100.400	102.100
2	14:17:59	94.700	100.200	6.499	5.972	95.370	-0.177	94.1%	107.600	108.500
3	14:18:25	92.100	99.130	6.126	5.032	94.560	-0.687	95.6%	107.000	108.400
x		93.990	98.900	6.388	5.695	95.760	-0.712	94.8%	105.000	106.300
σ		1.647	1.479	0.228	0.576	1.433	0.548	0.8%	3.987	3.697
%RSD		1.753	1.495	3.562	10.120	1.496	76.940	0.8	3.798	3.477

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	100.500	101.900	95.230	-1.859	92.560	96.310	94.750	95.3%	106.800
2	14:17:59	105.700	102.400	97.460	-0.521	93.710	100.100	97.520	96.0%	110.900
3	14:18:25	105.800	101.300	93.140	-0.954	91.460	95.810	94.610	98.1%	109.100
x		104.000	101.800	95.280	-1.111	92.580	97.390	95.630	96.5%	109.000
σ		3.061	0.543	2.161	0.683	1.129	2.326	1.638	1.5%	2.024
%RSD		2.944	0.533	2.268	61.470	1.219	2.388	1.713	1.5	1.858

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	100.800	91.300	94.380	96.800	95.350	97.6%	92.690	99.790	96.140
2	14:17:59	105.700	92.500	95.500	99.420	98.740	98.0%	95.440	103.600	99.660
3	14:18:25	102.100	90.630	94.370	97.660	96.090	101.7%	94.040	99.720	97.070
x		102.900	91.480	94.750	97.960	96.730	99.1%	94.060	101.000	97.620
σ		2.503	0.947	0.652	1.334	1.784	2.3%	1.370	2.234	1.824
%RSD		2.432	1.035	0.688	1.362	1.844	2.3	1.457	2.211	1.868

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:17:34	94.970	95.420	98.2%
2	14:17:59	97.820	98.850	98.5%
3	14:18:25	95.240	94.690	100.9%
x		96.010	96.320	99.2%
σ		1.574	2.219	1.5%
%RSD		1.639	2.304	1.5

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-001DIS 5/19/2017 14:22:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	96.2%	0.016	139.700	137.100	┬64310.000	┬24090.000	┬23970.000	┬24560.000	┬4.733
2	14:23:21	96.4%	-0.003	141.500	141.700	┬65530.000	┬24000.000	┬24020.000	┬24930.000	┬4.889
3	14:23:47	99.4%	0.000	143.100	141.600	┬64810.000	┬23730.000	┬23480.000	┬24090.000	┬7.831
x		97.3%	0.004	141.400	140.100	┬64880.000	┬23940.000	┬23820.000	┬24530.000	┬5.817
σ		1.8%	0.010	1.704	2.610	┬616.200	┬190.300	┬298.800	┬420.200	┬1.745
%RSD		1.9	232.200	1.205	1.862	┬0.950	┬0.795	┬1.255	┬1.713	┬30.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	┬7837.000	┬43290.000	┬1775.000	73640.000	┬72410.000	┬96.7%	1.032	0.652	0.052
2	14:23:21	┬7784.000	┬44110.000	┬1774.000	73410.000	┬72520.000	┬97.9%	1.209	0.892	0.078
3	14:23:47	┬7803.000	┬44200.000	┬1807.000	73870.000	┬74350.000	┬96.7%	1.143	0.699	0.051
x		┬7808.000	┬43870.000	┬1785.000	73640.000	┬73090.000	┬97.1%	1.128	0.748	0.060
σ		┬26.760	┬500.400	┬18.710	228.900	┬1089.000	┬0.7%	0.089	0.127	0.016
%RSD		┬0.343	┬1.141	┬1.048	0.311	┬1.490	┬0.7	7.923	17.040	25.770

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	5.569	1.798	48.480	375.100	-1.390	0.994	0.799	0.833	1.854
2	14:23:21	5.257	1.800	┬50.380	362.200	-1.387	1.034	0.767	0.773	1.784
3	14:23:47	5.715	1.860	┬52.040	345.900	-1.413	1.001	0.790	0.784	1.781
x		5.514	1.819	┬50.300	361.100	-1.397	1.010	0.785	0.796	1.806
σ		0.234	0.035	┬1.779	14.650	0.014	0.022	0.017	0.032	0.041
%RSD		4.238	1.947	┬3.537	4.059	1.023	2.143	2.125	4.024	2.286

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	0.271	0.104	63.680	62.550	0.006	0.080	94.8%	0.948	1.040
2	14:23:21	0.185	0.214	63.590	65.100	-0.300	-0.406	95.5%	0.951	1.117
3	14:23:47	0.079	0.413	63.200	63.960	-0.050	-0.393	95.4%	0.890	1.104
x		0.178	0.244	63.490	63.870	-0.115	-0.240	95.2%	0.930	1.087
σ		0.096	0.156	0.253	1.280	0.163	0.277	0.4%	0.035	0.041
%RSD		53.990	64.080	0.398	2.005	141.800	115.500	0.4	3.729	3.774

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	0.972	10.890	0.016	-4.141	0.011	-0.001	-0.033	92.7%	0.097
2	14:23:21	1.045	11.630	0.016	-4.381	0.008	0.012	-0.031	95.6%	0.084
3	14:23:47	1.005	9.928	0.014	-3.752	0.018	0.001	-0.016	95.3%	0.100
x		1.007	10.810	0.015	-4.091	0.012	0.004	-0.027	94.6%	0.094
σ		0.037	0.851	0.001	0.318	0.005	0.007	0.009	1.6%	0.008
%RSD		3.644	7.871	5.162	7.766	44.590	173.200	34.330	1.7	9.018

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	1.585	0.286	0.264	102.600	101.700	96.4%	0.024	0.028	0.121
2	14:23:21	1.729	0.286	0.285	102.800	101.200	98.4%	0.020	0.020	0.119
3	14:23:47	1.448	0.235	0.257	103.200	102.800	99.4%	0.010	0.013	0.108
x		1.588	0.269	0.269	102.900	101.900	98.1%	0.018	0.020	0.116
σ		0.141	0.029	0.014	0.315	0.779	1.6%	0.007	0.008	0.007
%RSD		8.858	10.950	5.261	0.306	0.765	1.6	41.330	39.020	6.019

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:22:55	0.102	0.094	89.2%
2	14:23:21	0.106	0.095	93.0%
3	14:23:47	0.104	0.104	93.9%
x		0.104	0.098	92.0%
σ		0.002	0.006	2.5%
%RSD		1.929	5.819	2.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-002DIS 5/19/2017 14:27:51

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	94.0%	0.013	51.970	48.820	T 22100.000	T 25220.000	T 25300.000	T 26150.000	T -5.975
2	14:28:43	93.7%	0.017	49.510	T 30.200	T 22550.000	T 25300.000	T 25090.000	T 26040.000	T -5.547
3	14:29:08	95.4%	0.016	48.630	47.960	T 22010.000	T 25150.000	T 25080.000	T 25680.000	1.129
x		94.4%	0.015	50.040	T 42.330	T 22220.000	T 25220.000	T 25160.000	T 25960.000	T -3.464
σ		0.9%	0.002	1.729	T 10.510	T 290.600	T 76.040	T 121.600	T 243.700	T 3.984
%RSD		1.0	13.790	3.455	T 24.830	T 1.308	T 0.301	T 0.484	T 0.939	T 115.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	T 9147.000	T 42450.000	483.300	77140.000	T 76690.000	T 95.7%	1.067	0.060	-0.000
2	14:28:43	T 9069.000	T 42220.000	479.100	76910.000	T 76760.000	T 97.0%	1.185	0.196	-0.003
3	14:29:08	T 9144.000	T 42900.000	487.800	77760.000	T 77570.000	T 94.7%	0.904	-0.126	0.004
x		T 9120.000	T 42530.000	483.400	77270.000	T 77000.000	T 95.8%	1.052	0.044	0.000
σ		T 44.410	T 345.800	4.394	439.100	T 488.800	T 1.1%	0.141	0.162	0.004
%RSD		T 0.487	T 0.813	0.909	0.568	T 0.635	T 1.2	13.390	371.500	1535.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	6.079	TM 791.000	12.670	363.600	-1.270	1.555	0.278	0.399	1.017
2	14:28:43	5.964	TM 786.700	9.704	338.400	-1.284	1.294	0.309	0.406	0.945
3	14:29:08	6.198	TM 810.600	11.380	336.200	-1.276	1.361	0.258	0.411	0.962
x		6.080	TM 796.100	11.250	346.100	-1.277	1.403	0.282	0.405	0.975
σ		0.117	TM 12.790	1.488	15.220	0.007	0.135	0.026	0.006	0.037
%RSD		1.925	TM 1.606	13.230	4.398	0.529	9.646	9.111	1.566	3.846

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	0.212	-0.184	160.800	162.800	0.331	0.421	94.1%	0.287	0.375
2	14:28:43	0.397	-0.037	155.800	160.300	0.049	-0.483	93.7%	0.311	0.400
3	14:29:08	0.352	0.381	158.600	158.500	0.399	-0.056	94.7%	0.315	0.507
x		0.320	0.053	158.400	160.500	0.260	-0.039	94.2%	0.304	0.427
σ		0.097	0.293	2.514	2.162	0.185	0.452	0.5%	0.015	0.070
%RSD		30.200	548.700	1.587	1.346	71.310	1151.000	0.6	4.987	16.450

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	0.341	9.517	-0.002	-3.600	-0.001	0.015	-0.024	92.6%	0.055
2	14:28:43	0.325	9.023	-0.003	-3.420	0.001	0.026	-0.019	94.4%	0.074
3	14:29:08	0.291	8.701	-0.002	-3.284	0.001	0.018	-0.009	94.8%	0.103
x		0.319	9.080	-0.002	-3.435	0.000	0.020	-0.017	94.0%	0.077
σ		0.025	0.411	0.001	0.158	0.001	0.006	0.007	1.2%	0.024
%RSD		7.974	4.527	27.050	4.610	576.500	28.780	42.820	1.2	31.560

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	1.395	0.085	0.088	49.450	48.250	95.8%	0.011	0.001	0.016
2	14:28:43	1.341	0.083	0.097	49.270	48.900	98.1%	-0.002	0.002	0.005
3	14:29:08	1.218	0.104	0.081	48.580	48.430	99.8%	0.002	0.002	0.018
x		1.318	0.091	0.088	49.100	48.520	97.9%	0.004	0.002	0.013
σ		0.091	0.012	0.008	0.459	0.335	2.0%	0.007	0.000	0.007
%RSD		6.869	12.830	9.278	0.934	0.690	2.0	172.800	19.270	54.690

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:28:16	0.006	-0.001	91.2%
2	14:28:43	0.011	0.004	93.1%
3	14:29:08	0.009	0.005	94.3%
x		0.009	0.003	92.9%
σ		0.002	0.003	1.6%
%RSD		26.220	105.600	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-003DIS 5/19/2017 14:33:13

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	103.8%	0.020	0.353	0.350	2.322	0.198	-0.021	0.293	-0.505
2	14:34:04	104.9%	0.002	-0.338	0.600	2.864	0.540	0.544	0.639	-0.451
3	14:34:30	106.1%	-0.005	-0.515	0.758	3.244	0.942	1.010	0.814	-0.263
x		104.9%	0.006	-0.167	0.570	2.810	0.560	0.511	0.582	-0.406
σ		1.2%	0.013	0.459	0.206	0.463	0.372	0.516	0.266	0.127
%RSD		1.1	211.500	274.700	36.120	16.480	66.460	101.000	45.620	31.370

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	15.350	T 35250.000	-1.220	4.821	3.213	101.7%	0.083	0.027	-0.002
2	14:34:04	15.530	T 35620.000	-0.471	3.027	3.680	101.0%	0.020	-0.017	-0.057
3	14:34:30	T 8.739	T 36130.000	0.225	3.638	5.154	98.7%	0.016	0.137	-0.031
x		T 13.210	T 35670.000	-0.489	3.829	4.016	100.4%	0.040	0.049	-0.030
σ		T 3.869	T 442.800	0.723	0.912	1.013	1.6%	0.037	0.079	0.028
%RSD		T 29.300	T 1.242	147.900	23.810	25.220	1.6	93.670	161.300	92.800

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	6.539	0.471	3.350	1.004	-0.001	0.024	0.275	0.307	0.313
2	14:34:04	6.525	0.519	3.051	-0.790	0.001	0.039	0.299	0.273	0.377
3	14:34:30	6.383	0.544	3.396	-1.217	0.000	0.036	0.272	0.281	0.299
x		6.482	0.512	3.265	-0.334	0.000	0.033	0.282	0.287	0.330
σ		0.086	0.037	0.187	1.179	0.001	0.008	0.015	0.018	0.042
%RSD		1.330	7.228	5.736	352.700	575.600	24.750	5.220	6.206	12.610

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	0.251	-0.373	12.320	11.730	0.229	-0.370	98.0%	-0.191	-0.101
2	14:34:04	0.193	0.054	12.400	12.310	0.228	-0.562	99.5%	-0.196	-0.111
3	14:34:30	0.145	0.116	12.670	12.790	0.266	-1.383	98.3%	-0.146	-0.123
x		0.196	-0.068	12.460	12.280	0.241	-0.772	98.6%	-0.178	-0.112
σ		0.053	0.266	0.184	0.530	0.022	0.538	0.8%	0.028	0.011
%RSD		27.100	393.400	1.477	4.318	9.034	69.750	0.8	15.610	9.891

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	-0.208	0.094	-0.001	-0.025	-0.003	0.003	-0.000	98.6%	0.036
2	14:34:04	-0.180	0.200	-0.003	-0.081	-0.001	-0.003	-0.003	100.3%	0.047
3	14:34:30	-0.169	-0.225	0.000	0.081	-0.004	0.008	0.005	98.4%	0.052
x		-0.186	0.023	-0.001	-0.008	-0.003	0.003	0.000	99.1%	0.045
σ		0.020	0.221	0.002	0.082	0.001	0.005	0.004	1.1%	0.008
%RSD		10.700	958.800	133.200	977.400	52.960	214.900	1304.000	1.1	18.700

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	0.084	0.018	-0.002	0.001	-0.007	98.7%	-0.003	-0.005	0.016
2	14:34:04	0.062	0.034	0.009	-0.017	-0.014	101.0%	-0.006	-0.002	0.019
3	14:34:30	0.010	0.013	0.057	0.000	0.007	100.6%	-0.006	-0.005	0.010
x		0.052	0.022	0.021	-0.005	-0.005	100.1%	-0.005	-0.004	0.015
σ		0.038	0.011	0.031	0.010	0.011	1.2%	0.002	0.001	0.005
%RSD		73.510	50.030	147.400	186.800	240.200	1.2	37.940	35.740	32.090

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:33:38	0.023	0.008	98.6%
2	14:34:04	0.013	0.016	101.2%
3	14:34:30	0.012	0.008	100.8%
x		0.016	0.011	100.2%
σ		0.006	0.004	1.4%
%RSD		37.350	42.160	1.4

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004DIS 5/19/2017 14:38:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	89.7%	0.014	33.670	32.980	T 17930.000	T 45770.000	T 45320.000	T 47960.000	T 31.720
2	14:39:27	91.4%	0.025	31.790	33.970	T 18150.000	T 45360.000	T 45430.000	T 47850.000	T 32.630
3	14:39:53	93.1%	0.017	33.830	34.410	T 18140.000	T 45600.000	T 45670.000	T 46510.000	T 33.550
x		91.4%	0.019	33.100	33.790	T 18070.000	T 45580.000	T 45470.000	T 47440.000	T 32.630
σ		1.7%	0.006	1.133	0.731	T 126.400	T 202.800	T 181.300	T 810.100	T 0.913
%RSD		1.9	30.710	3.424	2.162	T 0.700	T 0.445	T 0.399	T 1.708	T 2.796

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	T 7780.000	T 43910.000	569.400	M 119200.000	TM 115300.000	T 95.4%	1.792	0.380	0.054
2	14:39:27	T 7885.000	T 44970.000	578.300	M 119900.000	TM 117900.000	T 95.1%	1.465	0.228	0.085
3	14:39:53	T 7788.000	T 45010.000	580.800	M 119000.000	TM 118000.000	T 94.0%	4.616	0.495	0.087
x		T 7817.000	T 44630.000	576.200	M 119400.000	TM 117100.000	T 94.8%	2.625	0.368	0.076
σ		T 58.340	T 621.800	5.995	M 461.800	TM 1513.000	T 0.7%	1.732	0.134	0.018
%RSD		T 0.746	T 1.393	1.040	M 0.387	TM 1.292	T 0.8	66.010	36.380	24.230

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	7.638	16.050	T 93.400	630.800	-2.257	2.319	0.512	0.783	1.309
2	14:39:27	7.606	16.140	T 94.800	600.300	-2.255	2.309	0.494	0.771	1.249
3	14:39:53	7.349	16.190	T 94.300	566.800	-2.248	2.261	0.544	0.744	1.147
x		7.531	16.130	T 94.160	599.300	-2.253	2.297	0.516	0.766	1.235
σ		0.159	0.073	T 0.709	32.010	0.005	0.031	0.025	0.020	0.082
%RSD		2.104	0.453	T 0.753	5.342	0.207	1.351	4.907	2.611	6.608

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	0.978	0.023	389.500	398.200	0.792	0.847	91.6%	0.493	0.765
2	14:39:27	0.447	-0.316	392.200	391.700	0.447	-0.614	93.3%	0.548	0.729
3	14:39:53	0.457	0.185	399.300	399.900	0.604	1.254	93.0%	0.609	0.778
x		0.627	-0.036	393.700	396.600	0.614	0.496	92.6%	0.550	0.757
σ		0.304	0.256	5.060	4.322	0.173	0.982	0.9%	0.058	0.026
%RSD		48.460	713.700	1.285	1.090	28.160	198.200	1.0	10.540	3.373

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	0.556	10.530	-0.003	-3.951	-0.003	0.033	-0.001	90.3%	0.059
2	14:39:27	0.564	10.000	0.000	-3.799	-0.005	0.049	0.006	92.1%	0.083
3	14:39:53	0.566	7.590	0.001	-2.813	-0.003	0.038	0.014	92.5%	0.035
x		0.562	9.373	-0.001	-3.521	-0.004	0.040	0.006	91.6%	0.059
σ		0.005	1.567	0.002	0.618	0.001	0.008	0.008	1.2%	0.024
%RSD		0.937	16.710	381.600	17.540	25.790	21.240	122.400	1.3	40.580

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	1.460	0.009	0.036	112.000	110.800	93.4%	-0.002	-0.004	0.055
2	14:39:27	1.447	0.041	0.014	112.600	112.100	95.7%	0.010	0.000	0.044
3	14:39:53	1.041	0.051	0.042	113.700	110.700	96.9%	-0.004	-0.003	0.053
x		1.316	0.034	0.030	112.800	111.200	95.3%	0.001	-0.002	0.051
σ		0.239	0.022	0.014	0.865	0.773	1.8%	0.008	0.002	0.006
%RSD		18.130	64.220	47.510	0.767	0.695	1.9	551.000	104.800	11.110

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:39:01	0.044	0.037	87.4%
2	14:39:27	0.035	0.049	89.4%
3	14:39:53	0.058	0.044	90.7%
x		0.046	0.043	89.2%
σ		0.012	0.006	1.6%
%RSD		25.480	14.090	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004MSDIS 5/19/2017 14:43:58

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	91.5%	96.570	135.800	124.600	T 18510.000	T 45020.000	T 44490.000	T 46930.000	141.700
2	14:44:50	90.5%	96.880	130.300	127.500	T 18840.000	T 45980.000	T 45880.000	T 48450.000	T 153.200
3	14:45:16	89.3%	92.680	122.600	126.600	T 18430.000	T 44860.000	T 44330.000	T 46270.000	T 151.800
x		90.4%	95.380	129.600	126.200	T 18590.000	T 45290.000	T 44900.000	T 47220.000	T 148.900
σ		1.1%	2.341	6.647	1.487	T 217.000	T 608.800	T 853.500	T 1119.000	T 6.243
%RSD		1.2	2.454	5.129	1.178	T 1.167	T 1.344	T 1.901	T 2.369	T 4.193

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	T 8376.000	T 37190.000	T 1580.000	M 116600.000	TM 113800.000	97.1%	94.440	90.960	88.250
2	14:44:50	T 8634.000	T 38200.000	T 1633.000	M 119200.000	TM 117100.000	T 94.4%	97.530	94.210	92.680
3	14:45:16	T 8198.000	T 37410.000	T 1583.000	M 115600.000	TM 114100.000	91.6%	95.020	92.330	90.440
x		T 8403.000	T 37600.000	T 1599.000	M 117200.000	TM 115000.000	T 94.4%	95.660	92.500	90.460
σ		T 218.900	T 533.800	T 29.810	M 1874.000	TM 1830.000	T 2.7%	1.643	1.634	2.212
%RSD		T 2.605	T 1.420	T 1.865	M 1.600	TM 1.591	T 2.9	1.717	1.767	2.445

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	5.345	105.500	T 966.800	1529.000	87.180	93.250	89.530	99.220	92.280
2	14:44:50	5.645	109.500	T 998.900	1518.000	89.980	92.950	91.720	99.510	94.030
3	14:45:16	5.578	107.700	T 985.600	1463.000	87.270	86.650	89.960	94.190	88.950
x		5.523	107.500	T 983.800	1503.000	88.140	90.950	90.400	97.640	91.750
σ		0.158	2.001	T 16.160	35.160	1.593	3.727	1.160	2.992	2.577
%RSD		2.853	1.860	T 1.642	2.338	1.807	4.097	1.284	3.064	2.809

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	96.250	85.800	393.900	408.300	93.120	-0.764	92.9%	99.870	101.100
2	14:44:50	96.330	84.720	400.900	412.100	90.380	-0.140	93.1%	106.400	106.900
3	14:45:16	91.830	85.710	395.900	399.500	89.780	-0.440	93.3%	108.200	109.200
x		94.800	85.410	396.900	406.600	91.100	-0.448	93.1%	104.800	105.800
σ		2.577	0.602	3.605	6.474	1.783	0.312	0.2%	4.400	4.169
%RSD		2.718	0.705	0.908	1.592	1.957	69.690	0.2	4.197	3.943

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	98.360	97.970	89.990	-2.650	82.050	86.950	91.080	92.1%	98.350
2	14:44:50	105.000	99.820	91.480	-5.166	84.490	90.430	92.180	91.4%	100.500
3	14:45:16	107.100	94.920	86.790	-3.344	81.160	87.970	89.250	94.1%	100.200
x		103.500	97.570	89.420	-3.720	82.570	88.450	90.840	92.5%	99.680
σ		4.546	2.473	2.393	1.300	1.722	1.789	1.479	1.4%	1.166
%RSD		4.394	2.534	2.676	34.930	2.085	2.022	1.629	1.5	1.169

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	95.450	87.030	90.220	199.900	198.000	96.4%	90.940	90.890	93.310
2	14:44:50	97.900	89.380	92.410	207.800	202.800	96.1%	93.620	94.940	96.850
3	14:45:16	96.560	87.730	89.820	199.000	195.200	99.5%	90.380	90.070	93.460
x		96.640	88.050	90.820	202.200	198.700	97.3%	91.650	91.960	94.540
σ		1.226	1.207	1.393	4.840	3.869	1.9%	1.736	2.609	2.000
%RSD		1.268	1.371	1.534	2.393	1.948	2.0	1.894	2.836	2.116

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:44:24	91.590	85.780	89.3%
2	14:44:50	95.210	89.470	90.1%
3	14:45:16	91.590	85.340	92.5%
x		92.800	86.860	90.6%
σ		2.088	2.267	1.7%
%RSD		2.250	2.610	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004MDDIS 5/19/2017 14:49:22

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	91.0%	95.290	135.700	127.100	T 18600.000	T 44720.000	T 44470.000	T 46640.000	T 145.600
2	14:50:13	90.8%	94.360	128.100	124.700	T 18340.000	T 44790.000	T 44510.000	T 47700.000	T 148.600
3	14:50:39	90.0%	93.690	126.600	127.500	T 19010.000	T 47160.000	T 47150.000	T 49730.000	T 154.100
x		90.6%	94.450	130.100	126.400	T 18650.000	T 45560.000	T 45380.000	T 48020.000	T 149.400
σ		0.5%	0.801	4.871	1.515	T 335.700	T 1392.000	T 1533.000	T 1570.000	T 4.343
%RSD		0.6	0.848	3.743	1.198	T 1.801	T 3.056	T 3.379	T 3.269	T 2.907

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	T 8309.000	T 40800.000	T 1578.000	M 115200.000	TM 113200.000	T 95.8%	95.610	91.070	87.740
2	14:50:13	T 8401.000	T 42620.000	T 1617.000	M 116700.000	TM 113900.000	T 95.5%	93.390	90.380	87.870
3	14:50:39	T 8565.000	T 43640.000	T 1638.000	M 119200.000	TM 118200.000	T 93.8%	93.800	93.750	91.580
x		T 8425.000	T 42350.000	T 1611.000	M 117000.000	TM 115100.000	T 95.1%	94.270	91.730	89.060
σ		T 129.800	T 1439.000	T 30.510	M 2051.000	TM 2687.000	T 1.1%	1.182	1.780	2.179
%RSD		T 1.541	T 3.398	T 1.894	M 1.753	TM 2.335	T 1.1	1.253	1.941	2.447

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	6.051	103.600	T 950.400	1486.000	85.840	90.730	84.520	94.160	88.170
2	14:50:13	6.738	106.000	T 957.400	1486.000	87.060	90.680	85.600	91.720	86.410
3	14:50:39	6.120	108.400	T 996.000	1521.000	88.740	91.510	87.410	94.870	88.030
x		6.303	106.000	T 967.900	1497.000	87.210	90.970	85.840	93.590	87.530
σ		0.378	2.400	T 24.590	20.470	1.453	0.466	1.459	1.652	0.980
%RSD		6.001	2.265	T 2.541	1.367	1.667	0.512	1.699	1.765	1.120

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	93.250	83.980	412.800	417.200	89.730	0.480	92.8%	101.700	100.500
2	14:50:13	93.300	84.560	407.900	413.100	85.980	-0.451	93.0%	102.000	103.100
3	14:50:39	94.130	82.910	414.000	418.800	87.850	0.147	93.7%	108.700	107.800
x		93.560	83.820	411.600	416.300	87.850	0.059	93.1%	104.100	103.800
σ		0.494	0.842	3.215	2.914	1.876	0.471	0.5%	3.957	3.694
%RSD		0.528	1.004	0.781	0.700	2.135	804.100	0.5	3.800	3.560

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	99.320	96.790	89.290	-3.760	81.430	86.520	90.090	91.0%	96.370
2	14:50:13	102.300	96.010	87.570	-2.694	81.450	87.340	88.720	92.3%	98.290
3	14:50:39	106.700	97.150	90.610	-2.738	83.840	89.610	91.690	91.8%	100.400
x		102.800	96.650	89.150	-3.064	82.240	87.820	90.170	91.7%	98.350
σ		3.740	0.587	1.524	0.603	1.384	1.599	1.486	0.6%	2.011
%RSD		3.639	0.608	1.709	19.690	1.683	1.820	1.649	0.7	2.044

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	93.120	87.010	89.140	199.300	198.000	94.7%	90.150	90.970	92.870
2	14:50:13	95.060	87.090	90.250	198.600	198.900	97.9%	90.290	90.280	92.540
3	14:50:39	97.280	89.970	93.160	207.100	204.400	97.6%	93.240	93.450	96.530
x		95.150	88.030	90.850	201.600	200.400	96.7%	91.230	91.570	93.980
σ		2.083	1.688	2.078	4.696	3.476	1.8%	1.746	1.664	2.212
%RSD		2.189	1.917	2.288	2.329	1.734	1.8	1.914	1.817	2.353

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:49:48	90.930	86.350	88.7%
2	14:50:13	90.300	85.280	91.4%
3	14:50:39	94.640	88.590	90.6%
x		91.960	86.740	90.2%
σ		2.346	1.693	1.4%
%RSD		2.551	1.952	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004SDDIS(5) 5/19/2017 14:54:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	92.9%	0.009	6.377	6.861	T 3417.000	T 8720.000	T 8488.000	T 8822.000	4.836
2	14:55:39	93.5%	0.001	6.264	7.426	T 3358.000	T 8619.000	T 8535.000	T 8727.000	T -0.718
3	14:56:05	95.3%	0.035	5.951	7.478	T 3586.000	T 9256.000	T 9061.000	T 9266.000	6.119
x		93.9%	0.015	6.198	7.255	T 3454.000	T 8865.000	T 8694.000	T 8938.000	T 3.413
σ		1.2%	0.017	0.221	0.342	T 118.400	T 342.400	T 318.000	T 287.500	T 3.634
%RSD		1.3	114.900	3.558	4.714	T 3.428	T 3.862	T 3.658	T 3.217	T 106.500

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	T 1451.000	T 8115.000	107.100	22000.000	T 21910.000	T 94.2%	0.166	0.213	0.019
2	14:55:39	T 1440.000	T 8398.000	109.500	22220.000	T 22080.000	T 92.1%	0.180	0.194	-0.003
3	14:56:05	T 1537.000	T 8930.000	115.200	23950.000	T 23730.000	T 92.4%	0.288	0.229	0.005
x		T 1476.000	T 8481.000	110.600	22720.000	T 22570.000	T 92.9%	0.212	0.212	0.007
σ		T 53.000	T 413.400	4.193	1072.000	T 1004.000	T 1.2%	0.067	0.017	0.011
%RSD		T 3.590	T 4.875	3.791	4.719	T 4.446	T 1.3	31.520	8.246	154.400

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	1.900	3.185	T 20.370	112.600	-0.406	0.442	0.086	0.127	0.258
2	14:55:39	1.952	3.243	T 18.010	103.300	-0.415	0.374	0.098	0.127	0.276
3	14:56:05	2.060	3.400	17.100	115.600	-0.442	0.466	0.093	0.139	0.385
x		1.970	3.276	T 18.490	110.500	-0.421	0.427	0.092	0.131	0.306
σ		0.082	0.111	T 1.684	6.418	0.019	0.047	0.006	0.007	0.069
%RSD		4.144	3.390	T 9.107	5.807	4.516	11.090	6.742	5.107	22.470

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	-0.013	0.320	73.630	76.250	0.052	-0.971	95.0%	0.015	0.055
2	14:55:39	0.165	0.312	75.280	75.620	-0.005	-0.973	95.4%	0.055	0.190
3	14:56:05	0.054	0.039	79.050	79.400	-0.227	-1.500	92.5%	0.092	0.163
x		0.069	0.224	75.990	77.090	-0.060	-1.148	94.3%	0.054	0.136
σ		0.090	0.160	2.776	2.026	0.147	0.305	1.6%	0.039	0.071
%RSD		131.000	71.380	3.653	2.628	245.800	26.590	1.7	71.640	52.400

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	0.076	1.908	0.003	-0.716	0.003	0.008	0.004	94.8%	0.022
2	14:55:39	0.088	1.420	0.005	-0.545	0.001	0.016	0.012	95.5%	0.054
3	14:56:05	0.140	1.196	-0.002	-0.459	-0.001	0.010	0.000	93.8%	0.016
x		0.101	1.508	0.002	-0.573	0.001	0.011	0.005	94.7%	0.031
σ		0.034	0.364	0.003	0.131	0.002	0.004	0.006	0.8%	0.021
%RSD		33.560	24.170	165.000	22.810	217.800	37.370	111.500	0.9	66.680

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	0.227	0.014	0.027	21.310	20.900	96.3%	0.028	0.017	0.009
2	14:55:39	0.194	0.020	0.026	20.990	20.980	99.4%	0.013	0.016	0.014
3	14:56:05	0.171	0.015	0.015	23.380	22.500	97.2%	0.012	0.019	0.008
x		0.198	0.016	0.023	21.890	21.460	97.6%	0.017	0.017	0.010
σ		0.028	0.003	0.006	1.299	0.901	1.6%	0.009	0.001	0.003
%RSD		14.200	17.990	28.480	5.932	4.197	1.7	51.900	7.934	29.190

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:55:12	0.012	0.014	95.7%
2	14:55:39	0.010	0.011	97.8%
3	14:56:05	0.011	0.007	94.7%
x		0.011	0.010	96.1%
σ		0.001	0.003	1.5%
%RSD		6.891	32.000	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004PSDIS 5/19/2017 15:00:10

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	90.3%	95.110	133.100	132.800	T 18540.000	T 44930.000	T 44880.000	T 46740.000	T 140.800
2	15:01:02	91.4%	93.930	134.200	133.300	T 18050.000	T 44070.000	T 43770.000	T 45750.000	T 133.000
3	15:01:27	93.7%	92.430	129.600	129.700	T 17950.000	T 44730.000	T 44160.000	T 45820.000	T 136.700
x		91.8%	93.830	132.300	131.900	T 18180.000	T 44580.000	T 44270.000	T 46100.000	T 136.800
σ		1.8%	1.343	2.391	1.955	T 316.600	T 454.200	T 561.000	T 549.800	T 3.919
%RSD		1.9	1.431	1.807	1.482	T 1.741	T 1.019	T 1.267	T 1.193	T 2.864

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	T 8327.000	T 41140.000	T 1575.000	M 115400.000	TM 111600.000	T 93.2%	93.720	91.240	89.720
2	15:01:02	T 8235.000	T 41730.000	T 1553.000	M 114400.000	TM 112900.000	T 94.5%	95.380	91.090	88.960
3	15:01:27	T 8329.000	T 42300.000	T 1566.000	M 114500.000	TM 114000.000	93.8%	95.100	92.460	90.960
x		T 8297.000	T 41720.000	T 1564.000	M 114700.000	TM 112800.000	T 93.8%	94.730	91.590	89.880
σ		T 53.670	T 578.000	T 11.050	M 554.500	TM 1226.000	T 0.6%	0.886	0.751	1.008
%RSD		T 0.647	T 1.385	T 0.706	M 0.483	TM 1.087	T 0.7	0.936	0.819	1.121

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	6.464	104.000	T 959.200	1502.000	88.080	89.850	86.700	92.650	87.910
2	15:01:02	6.475	105.000	T 968.300	1472.000	87.270	90.880	86.260	91.160	87.720
3	15:01:27	6.696	107.700	T 988.200	1473.000	89.530	90.100	87.430	92.470	88.170
x		6.545	105.600	T 971.900	1483.000	88.290	90.280	86.800	92.090	87.930
σ		0.131	1.938	T 14.820	16.810	1.149	0.541	0.592	0.814	0.227
%RSD		1.999	1.836	T 1.525	1.134	1.301	0.599	0.682	0.884	0.258

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	90.270	84.720	385.200	388.300	90.720	0.260	91.1%	103.000	103.200
2	15:01:02	90.950	85.010	377.100	378.100	88.700	-0.465	93.5%	104.200	103.300
3	15:01:27	92.190	85.210	381.900	385.200	91.660	-0.135	93.1%	108.000	109.000
x		91.140	84.980	381.400	383.800	90.360	-0.113	92.6%	105.100	105.200
σ		0.971	0.248	4.067	5.218	1.513	0.363	1.3%	2.609	3.307
%RSD		1.066	0.292	1.066	1.360	1.674	321.200	1.4	2.482	3.144

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	100.400	95.330	89.130	-3.821	82.130	86.850	90.340	90.8%	98.020
2	15:01:02	102.600	99.890	89.840	-3.861	82.110	86.640	90.080	92.0%	98.040
3	15:01:27	106.300	100.300	87.880	-3.859	83.380	90.120	89.750	92.0%	101.000
x		103.100	98.510	88.950	-3.847	82.540	87.870	90.060	91.6%	99.020
σ		2.941	2.758	0.996	0.022	0.728	1.954	0.296	0.7%	1.720
%RSD		2.853	2.800	1.119	0.583	0.881	2.224	0.328	0.7	1.737

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	95.610	79.020	82.320	200.100	197.900	95.0%	90.810	91.590	93.420
2	15:01:02	95.440	79.980	82.360	200.300	198.400	97.1%	91.590	91.660	93.720
3	15:01:27	97.660	81.520	84.560	205.200	199.000	98.2%	92.680	93.130	94.470
x		96.230	80.170	83.080	201.800	198.400	96.8%	91.690	92.130	93.870
σ		1.235	1.260	1.282	2.892	0.576	1.6%	0.940	0.873	0.540
%RSD		1.283	1.571	1.543	1.433	0.291	1.7	1.025	0.948	0.576

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:00:36	91.920	86.810	88.8%
2	15:01:02	92.260	86.380	90.4%
3	15:01:27	92.980	88.100	92.3%
x		92.390	87.100	90.5%
σ		0.544	0.896	1.8%
%RSD		0.589	1.029	1.9

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 15:05:34 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	84.3%	306.600	303.100	284.600	T 57460.000	T 55720.000	T 54650.000	T 59390.000	T 297.800
2	15:06:25	84.2%	299.600	285.600	282.000	T 57100.000	T 55940.000	T 56190.000	T 60520.000	295.700
3	15:06:52	84.4%	308.300	299.600	288.600	T 58370.000	T 57100.000	T 56420.000	T 60520.000	301.200
x		84.3%	101.614%	98.704%	95.024%	T 96.074%	T 56250.000	T 55750.000	T 100.236%	T 99.409%
σ		0.1%	n/a	n/a	n/a	T n/a	T 743.800	T 962.800	T n/a	T n/a
%RSD		0.1	1.518	3.122	1.176	T 1.135	T 1.322	T 1.727	T 1.088	T 0.943

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	T 2990.000	202.300	T 63230.000	57290.000	T 57040.000	T 94.4%	286.400	299.900	T 287.600
2	15:06:25	T 3000.000	223.200	T 63930.000	57120.000	T 57570.000	T 94.0%	286.200	T 301.000	288.100
3	15:06:52	T 3037.000	240.400	T 66380.000	58470.000	T 58670.000	92.7%	300.100	311.000	296.800
x		T 100.291%	222.000	T 107.521%	57630.000	T 96.267%	T 93.7%	96.969%	T 101.309%	T 96.949%
σ		T n/a	19.110	T n/a	735.600	T n/a	T 0.9%	n/a	T n/a	T n/a
%RSD		T 0.825	8.608	T 2.565	1.276	T 1.433	T 1.0	2.729	T 2.017	T 1.786

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	-6.820	T 281.100	T 53950.000	T 62580.000	294.000	284.800	267.000	288.400	280.000
2	15:06:25	-6.744	T 287.600	T 55040.000	T 62590.000	290.600	277.200	267.600	284.400	277.400
3	15:06:52	-7.644	T 296.700	T 56480.000	T 64490.000	299.900	281.200	276.100	287.300	280.000
x		-7.069	T 96.149%	T 91.925%	T 105.370%	98.277%	93.686%	270.200	95.571%	93.038%
σ		0.499	T n/a	T n/a	T n/a	n/a	n/a	5.058	n/a	n/a
%RSD		7.061	T 2.715	T 2.304	T 1.734	1.602	1.351	1.872	0.731	0.545

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	283.200	271.500	5.435	4.773	278.000	-1.265	89.6%	294.700	291.900
2	15:06:25	277.400	266.700	5.399	3.115	277.900	-0.390	91.6%	309.400	306.100
3	15:06:52	286.800	275.300	5.084	3.447	284.500	-1.294	90.8%	327.100	324.400
x		94.157%	271.100	5.306	3.778	93.378%	-0.983	90.6%	103.471%	102.493%
σ		n/a	4.333	0.193	0.878	n/a	0.514	1.0%	n/a	n/a
%RSD		1.681	1.598	3.639	23.220	1.346	52.250	1.1	5.216	5.305

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	290.800	278.400	288.000	-0.005	265.700	275.300	284.600	88.4%	308.200
2	15:06:25	306.200	283.500	287.900	-7.311	262.800	273.700	284.500	91.4%	310.000
3	15:06:52	324.500	277.900	289.900	-1.256	269.200	280.800	288.200	91.3%	323.800
x		102.392%	279.900	96.198%	-2.857	265.900	276.600	95.266%	90.4%	104.663%
σ		n/a	3.120	n/a	3.907	3.166	3.746	n/a	1.7%	n/a
%RSD		5.489	1.115	0.392	136.800	1.191	1.354	0.736	1.9	2.722

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	295.700	276.700	284.400	293.300	288.700	92.4%	290.200	T 293.100	298.800
2	15:06:25	298.900	277.700	284.300	290.500	288.100	94.6%	290.700	T 292.900	297.800
3	15:06:52	309.400	287.600	295.000	294.200	290.400	95.4%	293.700	T 296.500	302.100
x		100.444%	93.568%	95.960%	97.548%	96.358%	94.1%	97.181%	T 98.054%	99.849%
σ		n/a	n/a	n/a	n/a	n/a	1.5%	n/a	T n/a	n/a
%RSD		2.380	2.146	2.140	0.667	0.406	1.6	0.645	T 0.684	0.747

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:05:59	293.800	287.500	87.0%
2	15:06:25	290.400	287.100	89.1%
3	15:06:52	296.900	291.900	89.9%
x		97.904%	96.279%	88.7%
σ		n/a	n/a	1.5%
%RSD		1.107	0.912	1.7

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 15:10:55 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	99.0%	0.040	1.288	1.657	1.795	2.030	1.753	2.288	-0.679
2	15:11:47	102.3%	0.031	1.180	1.651	1.720	1.870	1.994	1.962	-0.572
3	15:12:13	105.0%	0.033	1.841	1.420	1.126	1.496	1.657	1.528	-0.566
x		102.1%	0.035	1.436	1.576	1.547	1.799	1.801	1.926	-0.606
σ		3.0%	0.005	0.354	0.135	0.366	0.274	0.174	0.382	0.063
%RSD		3.0	13.150	24.670	8.576	23.690	15.230	9.641	19.810	10.470

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	T -0.709	136.000	1.855	0.801	1.901	101.5%	0.006	0.088	-0.013
2	15:11:47	8.691	153.100	0.990	6.939	2.546	100.3%	0.007	0.109	-0.019
3	15:12:13	7.425	165.200	1.002	4.878	2.462	99.0%	-0.027	0.094	-0.019
x		T 5.136	151.400	1.282	4.206	2.303	100.3%	-0.005	0.097	-0.017
σ		T 5.101	14.670	0.496	3.123	0.351	1.2%	0.020	0.011	0.003
%RSD		T 99.320	9.687	38.670	74.260	15.220	1.2	402.200	11.160	19.930

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	0.040	0.016	-1.218	4.318	0.008	0.070	-0.001	0.006	-0.025
2	15:11:47	0.023	0.009	-0.556	2.341	0.014	0.035	-0.002	-0.009	0.036
3	15:12:13	0.040	0.002	-0.205	1.557	0.015	0.016	0.019	0.008	-0.025
x		0.034	0.009	-0.660	2.739	0.012	0.041	0.006	0.002	-0.005
σ		0.010	0.007	0.514	1.423	0.004	0.027	0.012	0.009	0.035
%RSD		27.640	76.500	77.920	51.940	33.720	67.670	213.200	531.800	775.500

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	-0.030	0.063	2.159	1.159	-0.109	-2.421	98.8%	0.565	0.766
2	15:11:47	-0.047	0.129	1.854	2.517	-0.182	-0.237	98.6%	0.585	0.837
3	15:12:13	-0.027	0.068	1.813	1.212	-0.190	-1.826	98.5%	0.630	0.837
x		-0.035	0.087	1.942	1.629	-0.160	-1.495	98.6%	0.593	0.814
σ		0.011	0.037	0.189	0.769	0.045	1.129	0.2%	0.033	0.041
%RSD		31.530	42.470	9.747	47.200	27.800	75.530	0.2	5.597	5.060

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	0.531	-0.133	0.020	0.091	0.014	0.003	0.028	97.9%	0.166
2	15:11:47	0.701	0.938	0.014	-0.346	0.012	0.015	0.006	99.1%	0.202
3	15:12:13	0.579	0.660	0.009	-0.240	0.011	0.016	0.007	99.9%	0.161
x		0.604	0.488	0.015	-0.165	0.012	0.011	0.013	99.0%	0.176
σ		0.087	0.556	0.005	0.228	0.002	0.007	0.012	1.0%	0.023
%RSD		14.450	113.800	37.190	138.300	13.010	66.230	92.040	1.0	12.870

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	0.181	0.306	0.379	0.009	0.036	98.9%	0.022	0.026	0.006
2	15:11:47	0.297	0.346	0.391	0.021	0.017	100.3%	0.034	0.029	0.015
3	15:12:13	0.236	0.367	0.419	-0.004	0.005	100.7%	0.027	0.025	0.011
x		0.238	0.340	0.396	0.009	0.019	99.9%	0.028	0.027	0.011
σ		0.058	0.031	0.020	0.013	0.016	0.9%	0.006	0.002	0.004
%RSD		24.480	9.223	5.169	145.800	83.660	0.9	22.170	7.341	41.040

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:11:21	0.005	0.014	99.4%
2	15:11:47	0.009	0.010	99.9%
3	15:12:13	0.012	0.015	100.8%
x		0.009	0.013	100.0%
σ		0.003	0.003	0.7%
%RSD		39.410	19.570	0.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-005DIS 5/19/2017 15:16:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	93.4%	0.017	108.600	109.500	T 30100.000	T 56530.000	T 56090.000	T 59150.000	10.890
2	15:17:09	95.9%	0.008	106.300	108.500	T 28930.000	T 55080.000	T 56220.000	T 58060.000	T 6.519
3	15:17:34	93.4%	0.001	110.600	117.100	T 31940.000	T 59840.000	T 60260.000	T 61420.000	11.440
x		94.2%	0.009	108.500	111.700	T 30320.000	T 57150.000	T 57520.000	T 59540.000	T 9.616
σ		1.4%	0.008	2.178	4.689	T 1516.000	T 2441.000	T 2369.000	T 1711.000	T 2.696
%RSD		1.5	86.230	2.007	4.199	T 5.001	T 4.272	T 4.118	T 2.874	T 28.040

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	T 7889.000	T 37370.000	520.200	M 101000.000	T 98470.000	T 98.4%	1.282	0.139	0.040
2	15:17:09	T 7805.000	T 37680.000	520.900	98490.000	T 98540.000	T 98.7%	0.981	0.129	0.065
3	15:17:34	T 8437.000	T 40410.000	555.800	M 107700.000	TM 107000.000	T 93.6%	0.993	0.104	0.005
x		T 8044.000	T 38490.000	532.300	M 102400.000	TM 101300.000	T 96.9%	1.085	0.124	0.037
σ		T 343.300	T 1670.000	20.330	M 4760.000	TM 4912.000	T 2.9%	0.171	0.018	0.030
%RSD		T 4.268	T 4.338	3.818	M 4.649	TM 4.847	T 3.0	15.720	14.310	81.790

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	5.348	26.270	T 57.070	493.300	-1.844	2.113	0.988	1.415	1.961
2	15:17:09	5.484	26.870	54.360	473.300	-1.804	2.084	1.091	1.373	2.064
3	15:17:34	6.121	28.910	T 64.830	491.600	-1.960	2.038	1.142	1.463	2.015
x		5.651	27.350	T 58.750	486.100	-1.870	2.079	1.074	1.417	2.013
σ		0.412	1.386	T 5.434	11.080	0.081	0.038	0.079	0.045	0.051
%RSD		7.299	5.069	T 9.249	2.280	4.334	1.814	7.314	3.185	2.552

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	0.379	0.251	328.400	333.800	1.140	-1.116	94.2%	1.746	1.793
2	15:17:09	0.313	0.566	329.000	333.300	0.367	-1.142	95.0%	1.585	1.957
3	15:17:34	0.219	0.728	343.600	352.900	0.632	-0.121	92.7%	1.934	2.118
x		0.303	0.515	333.700	340.000	0.713	-0.793	94.0%	1.755	1.956
σ		0.080	0.243	8.628	11.180	0.393	0.582	1.1%	0.174	0.162
%RSD		26.470	47.120	2.586	3.290	55.080	73.390	1.2	9.935	8.301

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	1.702	6.902	0.003	-2.603	-0.000	0.047	0.013	92.7%	0.199
2	15:17:09	1.675	9.053	0.003	-3.420	0.002	0.030	-0.003	94.4%	0.115
3	15:17:34	1.836	8.168	0.004	-3.083	-0.001	0.005	0.005	91.9%	0.112
x		1.738	8.041	0.003	-3.036	0.000	0.027	0.005	93.0%	0.142
σ		0.086	1.081	0.001	0.411	0.001	0.021	0.008	1.2%	0.049
%RSD		4.977	13.450	21.740	13.530	1900.000	79.030	162.600	1.3	34.370

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	1.028	0.156	0.195	74.470	72.380	96.2%	0.130	0.125	0.055
2	15:17:09	1.308	0.202	0.200	74.540	74.530	98.4%	0.092	0.086	0.038
3	15:17:34	1.176	0.229	0.212	79.160	78.180	97.8%	0.055	0.057	0.054
x		1.171	0.196	0.202	76.060	75.030	97.5%	0.092	0.089	0.049
σ		0.140	0.037	0.009	2.689	2.935	1.1%	0.037	0.034	0.009
%RSD		11.950	18.970	4.419	3.535	3.911	1.2	40.700	37.970	19.030

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:16:43	0.028	0.022	88.3%
2	15:17:09	0.033	0.038	90.5%
3	15:17:34	0.045	0.031	87.6%
x		0.036	0.030	88.8%
σ		0.009	0.008	1.5%
%RSD		24.290	24.930	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-006DIS 5/19/2017 15:21:40

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	104.0%	0.013	0.029	0.715	7.248	0.880	1.037	1.090	-0.878
2	15:22:32	107.5%	0.022	-0.399	0.842	7.125	0.758	0.528	0.410	-0.994
3	15:22:58	109.7%	0.021	-0.139	0.180	6.223	0.289	0.574	0.213	-0.869
x		107.1%	0.019	-0.169	0.579	6.865	0.642	0.713	0.571	-0.914
σ		2.9%	0.005	0.216	0.351	0.560	0.312	0.281	0.460	0.070
%RSD		2.7	26.710	127.500	60.680	8.152	48.550	39.460	80.510	7.620

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	12.240	T 39760.000	-2.692	1.354	2.481	101.9%	0.974	0.043	0.073
2	15:22:32	11.960	T 39880.000	-2.636	2.645	2.906	101.4%	0.048	-0.008	0.087
3	15:22:58	10.410	T 39510.000	-3.919	-0.459	2.891	101.0%	-0.001	0.024	0.098
x		11.540	T 39720.000	-3.082	1.180	2.760	101.4%	0.341	0.020	0.086
σ		0.988	T 187.700	0.725	1.559	0.241	0.5%	0.549	0.025	0.012
%RSD		8.561	T 0.473	23.520	132.200	8.735	0.4	161.300	130.300	14.360

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	8.085	0.551	4.288	-0.911	0.001	0.065	1.571	1.618	1.537
2	15:22:32	8.086	0.516	4.486	-0.581	-0.004	0.074	1.618	1.634	1.364
3	15:22:58	7.746	0.508	3.210	-0.666	-0.003	0.042	1.604	1.617	1.512
x		7.972	0.525	3.995	-0.719	-0.002	0.060	1.598	1.623	1.471
σ		0.196	0.023	0.687	0.171	0.002	0.016	0.024	0.010	0.093
%RSD		2.459	4.325	17.200	23.780	117.000	26.770	1.512	0.596	6.352

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	0.099	0.269	14.800	13.120	0.214	-0.082	98.1%	-0.213	-0.147
2	15:22:32	0.084	-0.081	14.470	14.090	-0.407	0.349	98.3%	-0.205	-0.067
3	15:22:58	0.219	-0.087	13.050	12.300	-0.194	-0.483	101.4%	-0.178	-0.084
x		0.134	0.033	14.110	13.170	-0.129	-0.072	99.3%	-0.198	-0.099
σ		0.074	0.204	0.926	0.895	0.316	0.416	1.8%	0.019	0.042
%RSD		55.000	610.700	6.567	6.794	244.100	578.400	1.8	9.366	42.420

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	-0.178	-0.039	0.005	0.025	0.002	0.003	0.009	97.8%	0.062
2	15:22:32	-0.181	-0.075	-0.001	0.023	-0.002	-0.006	-0.001	98.2%	0.061
3	15:22:58	-0.182	0.667	-0.002	-0.245	-0.005	-0.006	-0.006	100.8%	0.072
x		-0.180	0.184	0.001	-0.065	-0.001	-0.003	0.001	99.0%	0.065
σ		0.002	0.419	0.004	0.155	0.003	0.005	0.008	1.6%	0.006
%RSD		0.981	227.000	546.300	237.400	233.300	162.700	1536.000	1.6	9.249

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	0.034	0.058	0.039	0.001	0.025	98.7%	0.010	0.003	0.031
2	15:22:32	0.066	0.086	0.090	0.005	0.015	99.1%	0.003	0.003	0.048
3	15:22:58	0.171	0.076	0.058	0.004	0.025	102.1%	-0.000	-0.001	0.034
x		0.090	0.074	0.062	0.003	0.021	100.0%	0.004	0.001	0.037
σ		0.072	0.014	0.026	0.002	0.006	1.9%	0.006	0.002	0.009
%RSD		79.360	19.560	41.390	68.720	26.950	1.9	129.300	161.100	24.010

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:22:06	0.036	0.037	96.9%
2	15:22:32	0.041	0.029	100.2%
3	15:22:58	0.037	0.037	103.3%
x		0.038	0.034	100.1%
σ		0.003	0.004	3.2%
%RSD		7.711	12.750	3.2

PDF created with pdfFactory trial version www.pdffactory.com

SE13002-001 5/19/2017 15:27:01

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	96.6%	0.148	79.180	79.790	T 10800.000	T 4057.000	T 3983.000	T 4093.000	TM 2255.000
2	15:27:53	97.1%	0.133	75.540	80.250	T 10750.000	T 4073.000	T 4003.000	T 4054.000	TM 2226.000
3	15:28:19	95.9%	0.139	76.300	83.240	T 11060.000	T 4199.000	T 4146.000	T 4214.000	TM 2341.000
x		96.5%	0.140	77.010	81.090	T 10870.000	T 4110.000	T 4044.000	T 4121.000	TM 2274.000
σ		0.6%	0.008	1.922	1.873	T 167.600	T 77.920	T 88.830	T 83.550	TM 59.670
%RSD		0.6	5.560	2.496	2.310	T 1.541	T 1.896	T 2.196	T 2.028	TM 2.624

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	T 4831.000	T 38310.000	T 28280.000	58570.000	T 57920.000	95.9%	15.740	3.140	2.929
2	15:27:53	T 4788.000	T 38100.000	T 28330.000	58420.000	T 58530.000	95.7%	16.210	3.573	3.003
3	15:28:19	T 5071.000	T 40490.000	T 29620.000	60470.000	T 60260.000	93.7%	15.210	3.506	3.041
x		T 4897.000	T 38970.000	T 28750.000	59150.000	T 58900.000	95.1%	15.720	3.407	2.991
σ		T 152.600	T 1323.000	T 757.000	1141.000	T 1214.000	1.2%	0.503	0.233	0.057
%RSD		T 3.116	T 3.395	T 2.634	1.928	T 2.061	1.3	3.199	6.843	1.911

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	4.811	42.070	T 3769.000	4255.000	-0.252	1.613	0.877	0.979	2.538
2	15:27:53	4.463	42.000	T 3774.000	4313.000	-0.229	1.445	0.865	1.088	2.529
3	15:28:19	4.618	44.000	T 3987.000	4474.000	-0.265	1.632	0.946	1.067	2.809
x		4.631	42.690	T 3843.000	4347.000	-0.249	1.563	0.896	1.045	2.626
σ		0.174	1.139	T 124.300	113.200	0.018	0.103	0.044	0.058	0.159
%RSD		3.763	2.669	T 3.235	2.604	7.392	6.579	4.866	5.535	6.068

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	1.347	0.184	121.400	124.400	0.967	-0.745	97.0%	0.482	0.488
2	15:27:53	1.562	0.662	121.300	124.500	0.594	-0.169	97.5%	0.584	0.705
3	15:28:19	1.615	0.296	123.300	124.300	0.805	-0.738	97.2%	0.742	0.781
x		1.508	0.381	122.000	124.400	0.789	-0.550	97.2%	0.603	0.658
σ		0.142	0.250	1.119	0.110	0.187	0.331	0.2%	0.131	0.152
%RSD		9.409	65.720	0.918	0.089	23.710	60.080	0.2	21.760	23.110

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	0.619	13.610	-0.000	-5.180	-0.003	0.009	-0.020	90.8%	0.103
2	15:27:53	0.610	10.590	0.000	-4.024	0.000	0.009	-0.029	92.6%	0.119
3	15:28:19	0.628	13.030	0.003	-4.922	0.003	0.034	-0.025	92.2%	0.110
x		0.619	12.410	0.001	-4.709	0.000	0.017	-0.025	91.9%	0.111
σ		0.009	1.598	0.002	0.607	0.003	0.015	0.004	0.9%	0.008
%RSD		1.409	12.880	147.100	12.890	3205.000	85.730	17.800	1.0	7.309

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	1.863	0.081	0.087	47.970	45.990	93.9%	0.013	0.010	1.191
2	15:27:53	1.446	0.117	0.128	47.690	47.460	95.5%	0.025	0.014	1.260
3	15:28:19	1.814	0.123	0.116	49.320	48.990	95.9%	0.020	0.016	1.255
x		1.707	0.107	0.110	48.330	47.480	95.1%	0.019	0.013	1.236
σ		0.228	0.023	0.021	0.876	1.502	1.0%	0.006	0.003	0.038
%RSD		13.360	21.250	19.120	1.814	3.163	1.1	31.910	24.190	3.110

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:27:27	1.142	1.115	90.5%
2	15:27:53	1.195	1.094	92.3%
3	15:28:19	1.254	1.138	91.1%
x		1.197	1.116	91.3%
σ		0.056	0.022	0.9%
%RSD		4.712	1.974	1.0

PDF created with pdfFactory trial version www.pdffactory.com

SE13002-002 5/19/2017 15:32:25

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	93.2%	0.009	157.200	152.500	T 10430.000	T 5070.000	T 5014.000	T 5158.000	T 64.830
2	15:33:17	95.2%	0.027	157.200	154.400	T 10580.000	T 5148.000	T 5033.000	T 5228.000	T 64.580
3	15:33:44	95.6%	0.020	155.300	159.900	T 10630.000	T 5181.000	T 5201.000	T 5258.000	T 70.310
x		94.7%	0.019	156.600	155.600	T 10550.000	T 5133.000	T 5083.000	T 5215.000	T 66.580
σ		1.3%	0.009	1.104	3.812	T 99.700	T 56.640	T 103.000	T 51.340	T 3.235
%RSD		1.4	48.700	0.705	2.450	T 0.945	T 1.103	T 2.026	T 0.985	T 4.859

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	T 5981.000	T 39030.000	T 14930.000	98810.000	T 96410.000	T 94.8%	2.354	0.482	0.616
2	15:33:17	T 5996.000	T 39980.000	T 14950.000	97430.000	T 94930.000	95.1%	3.817	0.525	0.636
3	15:33:44	T 6106.000	T 41290.000	T 15380.000	M 100500.000	TM 100400.000	T 92.7%	2.732	0.340	0.676
x		T 6028.000	T 40100.000	T 15090.000	M 98920.000	TM 97230.000	T 94.2%	2.968	0.449	0.642
σ		T 68.670	T 1134.000	T 253.700	M 1539.000	TM 2806.000	T 1.3%	0.759	0.097	0.031
%RSD		T 1.139	T 2.828	T 1.682	M 1.556	TM 2.886	T 1.4	25.590	21.580	4.762

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	4.751	179.700	T 3196.000	3901.000	-1.753	1.570	0.687	0.975	11.260
2	15:33:17	4.293	179.800	T 3207.000	3842.000	-1.731	1.404	0.728	0.955	10.610
3	15:33:44	4.698	191.100	T 3413.000	4052.000	-1.798	1.418	0.760	1.012	11.460
x		4.581	183.500	T 3272.000	3932.000	-1.761	1.464	0.725	0.981	11.110
σ		0.250	6.542	T 122.700	108.500	0.034	0.092	0.036	0.029	0.443
%RSD		5.466	3.565	T 3.750	2.759	1.937	6.280	5.027	2.954	3.983

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	0.548	0.559	123.800	126.700	-0.103	0.059	91.9%	-0.102	-0.072
2	15:33:17	0.651	-0.009	119.400	122.000	0.471	1.065	93.5%	-0.063	-0.009
3	15:33:44	0.812	0.260	125.000	125.800	0.540	-0.393	91.9%	-0.054	0.030
x		0.670	0.270	122.700	124.800	0.303	0.244	92.4%	-0.073	-0.017
σ		0.133	0.284	2.974	2.501	0.353	0.746	0.9%	0.025	0.051
%RSD		19.870	105.200	2.423	2.004	116.600	306.400	1.0	34.860	300.900

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	-0.078	17.590	-0.001	-6.642	-0.006	0.012	-0.038	90.3%	0.120
2	15:33:17	-0.114	15.650	-0.005	-5.972	-0.007	0.009	-0.042	91.7%	0.121
3	15:33:44	0.005	15.860	-0.003	-6.038	-0.005	0.034	-0.033	92.1%	0.132
x		-0.062	16.370	-0.003	-6.217	-0.006	0.018	-0.038	91.4%	0.124
σ		0.061	1.064	0.002	0.370	0.001	0.014	0.004	1.0%	0.007
%RSD		97.770	6.501	57.180	5.942	20.770	77.050	11.920	1.1	5.277

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	2.475	0.029	0.081	69.470	67.650	93.3%	-0.001	-0.005	3.395
2	15:33:17	2.271	0.077	0.027	70.720	67.830	95.2%	-0.006	-0.007	3.301
3	15:33:44	2.317	0.083	0.083	72.230	71.780	94.4%	-0.009	-0.006	3.448
x		2.354	0.063	0.064	70.800	69.090	94.3%	-0.005	-0.006	3.381
σ		0.107	0.030	0.032	1.379	2.336	1.0%	0.004	0.001	0.074
%RSD		4.539	46.990	49.690	1.947	3.382	1.0	82.450	20.690	2.190

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:32:51	3.206	2.971	89.1%
2	15:33:17	3.162	3.020	91.7%
3	15:33:44	3.475	3.141	89.6%
x		3.281	3.044	90.1%
σ		0.169	0.087	1.4%
%RSD		5.160	2.870	1.5

PDF created with pdfFactory trial version www.pdffactory.com

SE13002-003 5/19/2017 15:37:49

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	93.4%	0.150	177.000	189.400	T 19840.000	T 6694.000	T 6569.000	T 6816.000	TM 2520.000
2	15:38:41	92.9%	0.231	180.400	193.000	T 19840.000	T 6679.000	T 6560.000	T 6826.000	TM 2522.000
3	15:39:07	94.3%	0.179	176.800	191.800	T 19430.000	T 6634.000	T 6461.000	T 6831.000	TM 2611.000
x		93.5%	0.187	178.100	191.400	T 19700.000	T 6669.000	T 6530.000	T 6824.000	TM 2551.000
σ		0.7%	0.041	2.031	1.808	T 237.700	T 31.210	T 60.040	T 7.720	TM 51.970
%RSD		0.8	22.070	1.141	0.944	T 1.206	T 0.468	T 0.920	T 0.113	TM 2.038
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	T 7441.000	T 39030.000	T 24620.000	M 125900.000	TM 122900.000	T 96.7%	T -41.160	3.861	6.569
2	15:38:41	T 7630.000	T 40160.000	T 25200.000	M 129700.000	TM 125400.000	T 97.2%	T -39.050	4.159	6.549
3	15:39:07	T 7600.000	T 40900.000	T 25530.000	M 130600.000	TM 127600.000	T 95.9%	T -46.600	3.921	6.791
x		T 7557.000	T 40030.000	T 25110.000	M 128700.000	TM 125300.000	T 96.6%	T -42.270	3.980	6.636
σ		T 101.200	T 939.400	T 458.700	M 2493.000	TM 2353.000	T 0.6%	T 3.891	0.157	0.134
%RSD		T 1.339	T 2.347	T 1.826	M 1.937	TM 1.878	T 0.7	T 9.205	3.949	2.024
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	4.737	142.400	T 6133.000	7171.000	-1.145	3.528	1.637	2.061	4.253
2	15:38:41	4.254	143.500	T 6246.000	T 7425.000	-1.191	3.614	1.525	1.954	4.306
3	15:39:07	4.517	147.300	T 6460.000	T 7776.000	-1.165	3.514	1.662	2.081	4.461
x		4.503	144.400	T 6280.000	T 7457.000	-1.167	3.552	1.608	2.032	4.340
σ		0.242	2.569	T 166.500	T 304.000	0.023	0.054	0.073	0.068	0.108
%RSD		5.363	1.779	T 2.651	T 4.076	1.987	1.522	4.538	3.367	2.494
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	4.259	-0.239	187.400	191.400	0.549	-0.272	100.1%	1.451	1.474
2	15:38:41	4.385	0.166	188.900	192.600	0.526	-0.725	100.7%	1.488	1.751
3	15:39:07	4.515	-0.099	189.300	191.300	0.870	-0.308	101.3%	1.626	1.700
x		4.387	-0.057	188.600	191.800	0.648	-0.435	100.7%	1.522	1.642
σ		0.128	0.206	0.996	0.737	0.192	0.252	0.6%	0.093	0.147
%RSD		2.919	360.000	0.528	0.384	29.630	57.900	0.6	6.087	8.980
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	1.485	27.440	0.005	-10.540	0.005	-0.000	-0.098	90.3%	0.090
2	15:38:41	1.498	26.440	0.004	-10.060	0.002	0.017	-0.097	92.1%	0.103
3	15:39:07	1.727	25.100	0.003	-9.581	-0.001	-0.007	-0.085	92.6%	0.119
x		1.570	26.330	0.004	-10.060	0.002	0.003	-0.093	91.7%	0.104
σ		0.136	1.175	0.001	0.478	0.003	0.012	0.008	1.2%	0.015
%RSD		8.687	4.462	21.770	4.752	137.400	369.800	8.074	1.3	14.190
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	3.684	0.072	0.057	56.210	56.930	92.8%	0.009	0.008	1.241
2	15:38:41	3.513	0.088	0.089	56.220	56.330	95.4%	0.013	0.007	1.231
3	15:39:07	3.357	0.114	0.073	57.780	57.640	96.5%	0.020	0.011	1.290
x		3.518	0.091	0.073	56.740	56.970	94.9%	0.014	0.009	1.254
σ		0.164	0.021	0.016	0.903	0.656	1.9%	0.005	0.002	0.032
%RSD		4.657	23.170	21.980	1.591	1.151	2.0	39.650	24.570	2.515
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	15:38:15	1.165	1.121	87.5%						
2	15:38:41	1.106	1.115	90.6%						
3	15:39:07	1.237	1.098	90.5%						
x		1.169	1.111	89.6%						
σ		0.066	0.012	1.8%						
%RSD		5.604	1.048	2.0						

PDF created with pdfFactory trial version www.pdffactory.com

SE13002-004 5/19/2017 15:43:13

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	94.6%	0.076	119.300	122.600	T 10340.000	T 2312.000	2191.000	2241.000	T 284.000
2	15:44:04	98.1%	0.051	122.400	124.100	T 10230.000	T 2270.000	2143.000	2170.000	T 281.500
3	15:44:29	98.3%	0.037	120.700	125.800	T 10190.000	T 2272.000	2123.000	2085.000	T 285.000
x		97.0%	0.055	120.800	124.200	T 10250.000	T 2285.000	2152.000	2165.000	T 283.500
σ		2.1%	0.020	1.562	1.599	T 78.860	T 23.780	34.860	78.210	T 1.821
%RSD		2.1	36.460	1.293	1.288	T 0.769	T 1.041	1.620	3.612	T 0.642

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	T 4168.000	T 39940.000	T 3852.000	66910.000	T 66060.000	T 96.4%	4.178	1.121	0.994
2	15:44:04	T 4151.000	T 39920.000	T 3867.000	67140.000	T 65920.000	T 95.6%	3.209	1.129	1.050
3	15:44:29	T 4093.000	T 40220.000	T 3909.000	67010.000	T 66210.000	T 93.6%	3.860	1.294	1.038
x		T 4137.000	T 40030.000	T 3876.000	67020.000	T 66060.000	T 95.2%	3.749	1.181	1.027
σ		T 39.080	T 166.900	T 29.420	115.900	T 147.900	T 1.5%	0.494	0.098	0.030
%RSD		T 0.945	T 0.417	T 0.759	0.173	T 0.224	T 1.5	13.170	8.296	2.894

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	5.122	46.370	T 1374.000	1773.000	-1.048	1.261	0.483	0.654	1.676
2	15:44:04	5.009	46.410	T 1395.000	1747.000	-1.026	1.225	0.437	0.571	1.531
3	15:44:29	4.871	47.550	T 1434.000	1788.000	-1.045	1.150	0.508	0.647	1.506
x		5.001	46.780	T 1401.000	1769.000	-1.040	1.212	0.476	0.624	1.571
σ		0.125	0.667	T 30.390	20.930	0.012	0.057	0.036	0.046	0.092
%RSD		2.508	1.425	T 2.169	1.183	1.123	4.695	7.494	7.414	5.826

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	1.406	0.310	88.320	90.660	0.761	-1.148	95.6%	0.356	0.405
2	15:44:04	0.917	-0.231	87.370	86.740	-0.074	-0.715	96.2%	0.307	0.411
3	15:44:29	1.102	0.234	85.740	85.020	-0.268	0.054	95.9%	0.292	0.376
x		1.141	0.104	87.150	87.470	0.139	-0.603	95.9%	0.318	0.397
σ		0.247	0.293	1.305	2.891	0.547	0.609	0.3%	0.033	0.019
%RSD		21.640	281.400	1.497	3.305	392.400	101.000	0.3	10.430	4.706

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	0.318	13.020	-0.004	-4.978	-0.008	-0.007	-0.049	91.4%	0.053
2	15:44:04	0.305	14.270	-0.007	-5.453	-0.001	-0.002	-0.055	92.9%	0.031
3	15:44:29	0.381	10.460	-0.006	-3.995	-0.005	-0.002	-0.037	93.3%	0.031
x		0.335	12.580	-0.006	-4.809	-0.005	-0.004	-0.047	92.6%	0.038
σ		0.040	1.944	0.002	0.744	0.003	0.003	0.009	1.0%	0.013
%RSD		12.060	15.450	28.910	15.460	70.120	90.180	19.660	1.1	33.470

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	1.729	0.017	0.003	21.220	20.580	93.6%	-0.011	-0.008	0.300
2	15:44:04	2.004	0.024	0.019	20.680	20.510	96.5%	-0.008	-0.008	0.291
3	15:44:29	1.451	0.037	0.003	21.620	21.310	97.0%	-0.002	-0.009	0.275
x		1.728	0.026	0.008	21.170	20.800	95.7%	-0.007	-0.008	0.289
σ		0.277	0.010	0.009	0.468	0.444	1.8%	0.005	0.001	0.012
%RSD		16.030	38.620	115.300	2.209	2.134	1.9	65.310	8.086	4.276

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:43:39	0.287	0.237	90.8%
2	15:44:04	0.252	0.254	92.3%
3	15:44:29	0.253	0.256	93.9%
x		0.264	0.249	92.3%
σ		0.020	0.011	1.6%
%RSD		7.636	4.344	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-001 5/19/2017 15:48:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	91.5%	0.037	3.334	3.888	T 5689.000	T 24800.000	T 24870.000	T 26490.000	6.195
2	15:49:26	93.7%	0.032	3.516	3.585	T 5661.000	T 25370.000	T 24870.000	T 26100.000	5.870
3	15:49:52	91.6%	0.010	4.237	3.513	T 5930.000	T 25910.000	T 26100.000	T 27470.000	T 1.302
x		92.2%	0.026	3.695	3.662	T 5760.000	T 25360.000	T 25280.000	T 26690.000	T 4.456
σ		1.2%	0.014	0.478	0.199	T 148.000	T 553.200	T 708.000	T 704.400	T 2.736
%RSD		1.4	55.570	12.920	5.434	T 2.569	T 2.182	T 2.801	T 2.639	T 61.410

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	TM 17070.000	T 39410.000	T 1747.000	45000.000	T 44820.000	T 98.3%	3.593	1.211	0.141
2	15:49:26	TM 16960.000	T 39700.000	T 1741.000	43960.000	T 44840.000	T 98.9%	4.162	1.364	0.132
3	15:49:52	TM 17530.000	T 40590.000	T 1806.000	46140.000	T 47010.000	98.1%	4.088	1.532	0.135
x		TM 17190.000	T 39900.000	T 1764.000	45030.000	T 45560.000	T 98.5%	3.948	1.369	0.136
σ		TM 303.800	T 613.200	T 35.860	1090.000	T 1257.000	T 0.4%	0.309	0.160	0.004
%RSD		TM 1.767	T 1.537	T 2.032	2.420	T 2.759	T 0.4	7.836	11.710	3.066

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	4.052	TM 9706.000	T 78420.000	T 91310.000	122.100	10.580	0.245	0.319	17.550
2	15:49:26	3.700	TM 9820.000	T 79690.000	T 91770.000	121.900	10.780	0.239	0.398	18.120
3	15:49:52	3.770	TM 10090.000	T 81950.000	T 94820.000	125.300	11.160	0.246	0.359	18.150
x		3.841	TM 9873.000	T 80020.000	T 92630.000	123.100	10.840	0.243	0.359	17.940
σ		0.186	TM 198.600	T 1785.000	T 1910.000	1.904	0.295	0.004	0.039	0.339
%RSD		4.849	TM 2.012	T 2.231	T 2.062	1.547	2.721	1.499	10.910	1.892

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	1.736	0.095	37.810	38.280	0.069	-1.696	93.2%	-0.179	-0.049
2	15:49:26	1.690	-0.141	38.240	37.510	-0.025	-0.539	94.9%	-0.183	-0.051
3	15:49:52	2.015	-0.168	38.100	38.400	-0.202	-0.052	94.1%	-0.146	-0.025
x		1.813	-0.071	38.050	38.060	-0.053	-0.763	94.1%	-0.169	-0.041
σ		0.176	0.145	0.223	0.485	0.138	0.845	0.8%	0.020	0.015
%RSD		9.688	203.000	0.585	1.275	260.800	110.700	0.9	11.830	35.030

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	-0.137	2.118	-0.007	-0.813	-0.005	0.049	0.033	92.1%	0.047
2	15:49:26	-0.182	0.935	-0.003	-0.330	-0.001	0.026	0.057	93.3%	0.049
3	15:49:52	-0.110	1.012	-0.000	-0.359	-0.004	0.065	0.041	93.1%	0.073
x		-0.143	1.355	-0.004	-0.501	-0.003	0.046	0.044	92.8%	0.056
σ		0.037	0.662	0.003	0.271	0.002	0.020	0.012	0.6%	0.015
%RSD		25.560	48.870	98.000	54.090	62.400	42.810	27.260	0.7	26.110

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	0.314	0.084	0.079	20.580	20.250	93.9%	-0.008	-0.006	6.152
2	15:49:26	0.165	0.102	0.096	20.180	20.410	95.9%	-0.005	-0.006	6.251
3	15:49:52	0.212	0.106	0.123	21.980	21.000	96.0%	-0.002	-0.009	6.383
x		0.230	0.097	0.099	20.910	20.560	95.3%	-0.005	-0.007	6.262
σ		0.076	0.012	0.022	0.946	0.397	1.2%	0.003	0.002	0.116
%RSD		33.100	12.240	22.340	4.522	1.933	1.2	61.550	25.010	1.851

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:49:00	5.742	5.595	90.6%
2	15:49:26	5.776	5.555	92.4%
3	15:49:52	5.901	5.754	91.6%
x		5.806	5.635	91.5%
σ		0.084	0.105	0.9%
%RSD		1.444	1.865	0.9

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-002 5/19/2017 15:53:57

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	88.4%	0.043	314.200	324.100	T 22110.000	TM 119000.000	TM 119600.000	TM 128400.000	T 242.400
2	15:54:48	86.5%	0.023	319.000	327.300	T 22430.000	TM 121800.000	TM 121600.000	TM 132300.000	T 242.500
3	15:55:14	88.3%	0.015	321.000	329.900	T 21700.000	TM 119400.000	TM 120000.000	TM 129700.000	T 246.000
x		87.7%	0.027	318.100	327.100	T 22080.000	TM 120100.000	TM 120400.000	TM 130100.000	T 243.600
σ		1.1%	0.014	3.481	2.893	T 366.800	TM 1508.000	TM 1083.000	TM 1965.000	T 2.074
%RSD		1.2	53.110	1.095	0.885	T 1.661	TM 1.256	TM 0.899	TM 1.510	T 0.851

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	TM 15720.000	T 48010.000	T 3671.000	TM 230000.000	TM 220100.000	T 97.8%	26.560	3.984	0.898
2	15:54:48	TM 16020.000	T 48990.000	T 3713.000	TM 230400.000	TM 222500.000	T 98.8%	27.560	4.374	0.961
3	15:55:14	TM 15920.000	T 49250.000	T 3698.000	TM 232500.000	TM 223600.000	T 96.9%	26.130	4.142	0.955
x		TM 15880.000	T 48750.000	T 3694.000	TM 231000.000	TM 222100.000	T 97.8%	26.750	4.167	0.938
σ		TM 154.400	T 652.400	T 21.430	TM 1351.000	TM 1775.000	T 1.0%	0.734	0.197	0.035
%RSD		TM 0.972	T 1.338	T 0.580	TM 0.585	TM 0.799	T 1.0	2.745	4.717	3.729

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	5.592	TM 2272.000	T 5421.000	6821.000	16.640	53.800	0.855	1.285	2.896
2	15:54:48	5.247	TM 2273.000	T 5448.000	6855.000	16.720	53.820	0.811	1.322	3.002
3	15:55:14	5.397	TM 2328.000	T 5523.000	6850.000	16.510	52.840	0.828	1.234	2.717
x		5.412	TM 2291.000	T 5464.000	6842.000	16.620	53.490	0.831	1.280	2.871
σ		0.173	TM 31.850	T 52.600	18.170	0.108	0.561	0.022	0.044	0.144
%RSD		3.192	TM 1.390	T 0.963	0.266	0.647	1.049	2.646	3.462	5.016

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	0.796	-0.112	1066.000	1084.000	2.250	-0.753	97.0%	-0.074	0.031
2	15:54:48	0.855	0.153	1078.000	1105.000	1.799	-0.052	97.8%	-0.125	0.011
3	15:55:14	0.243	0.150	1077.000	1093.000	1.169	-1.259	99.3%	-0.048	0.011
x		0.631	0.064	1074.000	1094.000	1.739	-0.688	98.0%	-0.082	0.018
σ		0.338	0.152	6.315	10.530	0.543	0.606	1.2%	0.039	0.011
%RSD		53.500	238.600	0.588	0.963	31.230	88.130	1.2	47.050	63.610

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	-0.112	52.780	0.014	-20.220	0.007	0.047	-0.179	89.2%	0.515
2	15:54:48	-0.081	54.410	0.021	-20.810	0.008	0.041	-0.175	89.5%	0.552
3	15:55:14	-0.081	51.270	0.016	-19.640	0.008	0.037	-0.179	90.9%	0.493
x		-0.091	52.820	0.017	-20.220	0.007	0.042	-0.178	89.8%	0.520
σ		0.018	1.569	0.004	0.583	0.001	0.005	0.002	0.9%	0.030
%RSD		19.740	2.970	21.800	2.884	10.590	11.850	1.264	1.0	5.776

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	7.549	0.095	0.163	167.700	163.900	91.3%	0.031	0.031	0.118
2	15:54:48	7.690	0.140	0.132	171.800	168.100	92.8%	0.027	0.030	0.104
3	15:55:14	7.307	0.162	0.157	168.600	165.300	94.6%	0.028	0.024	0.119
x		7.515	0.132	0.150	169.300	165.800	92.9%	0.029	0.028	0.114
σ		0.194	0.034	0.017	2.182	2.139	1.6%	0.002	0.004	0.008
%RSD		2.576	25.960	11.020	1.288	1.290	1.8	7.629	14.550	7.418

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:54:22	0.107	0.074	82.5%
2	15:54:48	0.100	0.084	84.3%
3	15:55:14	0.090	0.094	86.8%
x		0.099	0.084	84.5%
σ		0.008	0.010	2.1%
%RSD		8.276	11.680	2.5

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-003 5/19/2017 15:59:20

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	93.7%	0.198	12.780	12.070	T 5698.000	T 10170.000	T 10030.000	T 10500.000	TM 3235.000
2	16:00:12	98.2%	0.182	11.200	12.910	T 5647.000	T 10030.000	T 9924.000	T 10030.000	TM 3326.000
3	16:00:38	97.9%	0.161	11.030	12.650	T 5663.000	T 10110.000	T 10010.000	T 10120.000	TM 3439.000
x		96.6%	0.181	11.670	12.550	T 5669.000	T 10100.000	T 9989.000	T 10220.000	TM 3333.000
σ		2.5%	0.019	0.967	0.429	T 26.120	T 68.290	T 57.330	T 251.500	TM 102.300
%RSD		2.6	10.350	8.286	3.423	T 0.461	T 0.676	T 0.574	T 2.461	TM 3.069

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	T 9701.000	T 35730.000	T 9433.000	17320.000	T 17460.000	T 98.5%	249.900	13.910	5.278
2	16:00:12	T 9550.000	T 36060.000	T 9416.000	17440.000	T 17560.000	96.8%	251.300	14.000	5.158
3	16:00:38	T 9797.000	T 36890.000	T 9694.000	17770.000	T 17970.000	T 94.9%	253.600	14.030	5.289
x		T 9683.000	T 36230.000	T 9514.000	17510.000	T 17670.000	T 96.7%	251.600	13.980	5.242
σ		T 124.500	T 597.900	T 155.600	231.100	T 271.700	T 1.8%	1.866	0.066	0.073
%RSD		T 1.286	T 1.650	T 1.635	1.320	T 1.538	T 1.9	0.742	0.469	1.386

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	4.712	T 281.400	T 4386.000	4810.000	132.200	15.830	8.711	9.380	8.488
2	16:00:12	4.568	T 286.500	T 4516.000	4895.000	130.700	14.860	8.446	9.506	8.055
3	16:00:38	4.613	T 292.700	T 4595.000	4937.000	133.900	15.090	8.581	9.445	8.073
x		4.631	T 286.900	T 4499.000	4881.000	132.200	15.260	8.579	9.443	8.205
σ		0.074	T 5.648	T 105.100	64.440	1.594	0.511	0.132	0.063	0.245
%RSD		1.589	T 1.969	T 2.337	1.320	1.206	3.348	1.542	0.667	2.987

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	0.214	-0.096	155.000	157.300	-0.164	-1.612	95.8%	-0.272	-0.193
2	16:00:12	0.431	0.200	154.700	156.200	0.652	-1.811	98.2%	-0.258	-0.209
3	16:00:38	0.335	0.376	151.400	152.800	0.409	0.676	98.5%	-0.233	-0.117
x		0.327	0.160	153.700	155.400	0.299	-0.915	97.5%	-0.254	-0.173
σ		0.109	0.239	1.979	2.350	0.419	1.382	1.5%	0.020	0.049
%RSD		33.290	149.000	1.288	1.512	140.000	151.000	1.5	7.717	28.510

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	-0.239	3.792	0.077	-1.373	0.082	0.174	0.161	92.5%	0.274
2	16:00:12	-0.240	3.805	0.079	-1.381	0.074	0.176	0.142	94.4%	0.237
3	16:00:38	-0.161	3.025	0.073	-1.036	0.060	0.173	0.181	94.3%	0.269
x		-0.213	3.541	0.076	-1.263	0.072	0.174	0.161	93.7%	0.260
σ		0.045	0.447	0.003	0.197	0.011	0.001	0.020	1.1%	0.020
%RSD		21.170	12.620	4.118	15.590	15.080	0.843	12.210	1.1	7.815

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	0.711	-0.023	-0.039	91.420	89.550	93.9%	0.147	0.154	2.846
2	16:00:12	0.679	-0.040	-0.031	91.890	90.470	96.9%	0.140	0.140	2.813
3	16:00:38	0.586	-0.009	-0.035	92.070	91.070	97.4%	0.149	0.146	2.946
x		0.659	-0.024	-0.035	91.790	90.360	96.0%	0.146	0.147	2.868
σ		0.065	0.016	0.004	0.337	0.765	1.9%	0.005	0.007	0.069
%RSD		9.838	64.910	11.330	0.367	0.846	2.0	3.218	5.041	2.411

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:59:46	2.638	2.633	92.2%
2	16:00:12	2.625	2.549	93.9%
3	16:00:38	2.656	2.566	96.1%
x		2.640	2.583	94.0%
σ		0.016	0.044	1.9%
%RSD		0.603	1.722	2.1

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-004 5/19/2017 16:04:44

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	97.4%	0.128	2.141	2.042	T 3984.000	T 3135.000	T 3058.000	T 3175.000	32.140
2	16:05:36	103.3%	0.092	2.125	2.249	T 3843.000	T 2996.000	2864.000	T 2981.000	32.100
3	16:06:02	104.4%	0.136	1.640	2.058	T 3829.000	T 3017.000	T 2902.000	T 2968.000	T 28.000
x		101.7%	0.119	1.969	2.116	T 3885.000	T 3049.000	T 2942.000	T 3041.000	T 30.750
σ		3.8%	0.023	0.285	0.115	T 85.650	T 75.110	T 103.000	T 115.700	T 2.380
%RSD		3.7	19.460	14.470	5.442	T 2.204	T 2.463	T 3.500	T 3.805	T 7.742

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	T 7126.000	T 32100.000	T 1635.000	4696.000	4335.000	101.5%	3.575	0.944	0.481
2	16:05:36	T 6874.000	T 31940.000	T 1618.000	4527.000	4290.000	103.2%	4.066	0.855	0.486
3	16:06:02	T 6838.000	T 32110.000	T 1624.000	4576.000	4274.000	103.4%	3.850	1.001	0.497
x		T 6946.000	T 32050.000	T 1626.000	4600.000	4300.000	102.7%	3.830	0.933	0.488
σ		T 156.900	T 95.600	T 8.652	86.900	31.700	1.0%	0.246	0.074	0.008
%RSD		T 2.259	T 0.298	T 0.532	1.889	0.737	1.0	6.428	7.906	1.684

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	3.510	TM 3669.000	T 40430.000	T 45820.000	127.900	2.342	1.928	2.243	2.906
2	16:05:36	3.401	TM 3650.000	T 40370.000	T 45140.000	126.200	2.280	1.892	2.070	2.955
3	16:06:02	3.168	TM 3586.000	T 40030.000	T 45670.000	124.900	2.375	1.843	1.943	2.925
x		3.360	TM 3635.000	T 40280.000	T 45540.000	126.300	2.333	1.888	2.085	2.928
σ		0.175	TM 43.470	T 216.000	T 358.200	1.500	0.048	0.042	0.150	0.025
%RSD		5.203	TM 1.196	T 0.536	T 0.786	1.188	2.070	2.244	7.219	0.843

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	1.712	0.243	77.890	77.450	0.430	-0.198	97.4%	0.497	0.556
2	16:05:36	1.636	0.007	72.920	76.440	0.705	-0.616	100.8%	0.553	0.504
3	16:06:02	1.489	0.578	75.100	74.620	0.217	-0.922	101.5%	0.491	0.594
x		1.612	0.276	75.300	76.170	0.451	-0.578	99.9%	0.513	0.551
σ		0.113	0.287	2.490	1.435	0.245	0.363	2.2%	0.034	0.045
%RSD		7.028	104.000	3.307	1.883	54.370	62.850	2.2	6.652	8.236

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	0.473	1.482	-0.000	-0.539	-0.001	0.033	0.069	96.0%	0.039
2	16:05:36	0.455	0.569	-0.000	-0.178	-0.005	0.084	0.064	97.1%	0.052
3	16:06:02	0.554	1.608	-0.000	-0.559	-0.002	0.053	0.078	99.2%	0.039
x		0.494	1.220	-0.000	-0.426	-0.003	0.057	0.070	97.4%	0.044
σ		0.053	0.567	0.000	0.214	0.002	0.026	0.007	1.6%	0.007
%RSD		10.670	46.500	78.350	50.350	79.370	45.240	10.160	1.7	17.130

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	0.167	-0.051	-0.038	68.760	68.270	95.2%	0.025	0.023	0.110
2	16:05:36	0.096	-0.033	-0.037	68.150	67.690	98.1%	0.022	0.032	0.116
3	16:06:02	0.171	-0.040	-0.055	67.260	66.600	100.4%	0.023	0.023	0.107
x		0.145	-0.041	-0.043	68.050	67.520	97.9%	0.023	0.026	0.111
σ		0.042	0.009	0.010	0.752	0.845	2.6%	0.002	0.005	0.005
%RSD		29.260	22.450	22.730	1.105	1.251	2.7	6.822	20.920	4.067

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:05:10	0.098	0.083	93.9%
2	16:05:36	0.104	0.083	96.5%
3	16:06:02	0.105	0.097	98.9%
x		0.102	0.088	96.4%
σ		0.004	0.008	2.5%
%RSD		3.628	9.379	2.6

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 16:10:08 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	87.9%	300.100	299.000	┬285.500	┬57330.000	┬54990.000	┬54730.000	┬58980.000	289.300
2	16:11:01	89.1%	297.100	285.600	278.800	┬56770.000	┬55060.000	┬55740.000	┬59350.000	302.700
3	16:11:27	90.6%	287.000	277.500	272.800	┬54590.000	┬53160.000	┬53070.000	┬55540.000	287.600
x		89.2%	98.236%	95.801%	┬93.010%	┬93.718%	┬54400.000	┬54510.000	┬96.595%	97.737%
σ		1.4%	n/a	n/a	┬n/a	┬n/a	┬1078.000	┬1348.000	┬n/a	n/a
%RSD		1.5	2.334	3.779	┬2.273	┬2.582	┬1.981	┬2.472	┬3.626	2.811
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	┬2983.000	274.000	┬62220.000	56350.000	┬55860.000	┬98.4%	284.700	┬295.800	285.600
2	16:11:01	┬3063.000	295.600	┬63770.000	57060.000	┬57640.000	┬96.6%	291.400	┬302.300	292.300
3	16:11:27	┬2903.000	305.600	┬63190.000	55700.000	┬55670.000	┬97.6%	286.200	┬297.200	285.900
x		┬99.442%	291.700	┬105.103%	56370.000	┬93.982%	┬97.5%	95.811%	┬99.482%	95.985%
σ		┬n/a	16.150	┬n/a	676.100	┬n/a	┬0.9%	n/a	┬n/a	n/a
%RSD		┬2.687	5.537	┬1.245	1.199	┬1.923	┬0.9	1.217	┬1.137	1.313
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	-7.774	┬279.000	┬52900.000	┬61070.000	286.500	286.500	263.000	299.500	285.800
2	16:11:01	-5.499	┬289.900	┬55210.000	┬63450.000	296.100	289.900	270.100	300.900	290.400
3	16:11:27	-9.284	┬284.300	┬53970.000	┬61620.000	287.900	279.500	263.200	293.000	281.400
x		-7.519	┬94.804%	┬90.044%	┬103.411%	96.713%	95.103%	265.400	99.271%	95.284%
σ		1.906	┬n/a	┬n/a	┬n/a	n/a	n/a	4.019	n/a	n/a
%RSD		25.350	┬1.922	┬2.144	┬2.004	1.783	1.856	1.514	1.422	1.567
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	285.900	264.000	4.045	2.969	292.800	-0.786	93.4%	288.900	284.300
2	16:11:01	284.800	263.300	3.421	2.008	289.200	-1.076	93.2%	309.300	308.500
3	16:11:27	281.900	260.800	3.401	1.533	287.600	-1.448	95.4%	311.300	311.700
x		94.737%	262.700	3.622	2.170	96.628%	-1.104	94.0%	101.054%	100.505%
σ		n/a	1.667	0.366	0.732	n/a	0.332	1.2%	n/a	n/a
%RSD		0.715	0.635	10.120	33.710	0.912	30.070	1.3	4.093	4.961
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	281.700	272.000	294.400	-2.873	259.800	269.100	288.400	90.9%	298.700
2	16:11:01	306.000	273.800	301.400	-2.872	266.400	273.700	293.900	91.0%	308.000
3	16:11:27	311.900	268.100	290.600	-1.618	259.500	269.400	284.700	93.4%	300.100
x		99.956%	271.300	98.493%	-2.454	261.900	270.800	96.329%	91.8%	100.758%
σ		n/a	2.912	n/a	0.724	3.913	2.549	n/a	1.4%	n/a
%RSD		5.344	1.073	1.862	29.490	1.494	0.941	1.598	1.5	1.671
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	285.200	270.400	277.700	285.000	284.700	93.2%	285.000	┬281.700	292.000
2	16:11:01	294.800	277.400	286.600	293.900	293.000	93.7%	297.000	┬292.300	303.100
3	16:11:27	290.000	272.300	279.500	282.700	281.500	96.3%	286.100	┬285.200	295.300
x		96.661%	91.119%	93.742%	95.737%	95.469%	94.4%	96.443%	┬95.465%	98.938%
σ		n/a	n/a	n/a	n/a	n/a	1.6%	n/a	┬n/a	n/a
%RSD		1.652	1.331	1.677	2.067	2.078	1.7	2.292	┬1.881	1.913
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	16:10:34	287.200	276.200	86.2%						
2	16:11:01	296.300	282.800	86.1%						
3	16:11:27	290.300	279.700	89.2%						
x		97.083%	93.181%	87.2%						
σ		n/a	n/a	1.8%						
%RSD		1.592	1.171	2.0						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 16:15:32 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	105.5%	0.019	1.164	1.720	0.878	2.312	2.397	2.290	-0.711
2	16:16:25	109.7%	0.001	1.642	1.747	0.387	2.225	1.779	2.188	-0.696
3	16:16:51	109.9%	0.040	1.242	1.730	0.490	2.364	2.353	2.089	-0.727
x		108.4%	0.020	1.349	1.732	0.585	2.300	2.176	2.189	-0.712
σ		2.5%	0.020	0.256	0.014	0.259	0.070	0.345	0.101	0.016
%RSD		2.3	96.090	18.980	0.805	44.210	3.045	15.850	4.607	2.209

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	9.246	181.300	3.598	4.355	1.989	104.9%	0.009	0.087	0.003
2	16:16:25	T 3.452	192.200	2.821	7.106	3.189	104.6%	-0.018	0.120	-0.006
3	16:16:51	8.107	207.800	2.934	3.581	3.059	103.7%	0.024	0.100	0.014
x		T 6.935	193.800	3.118	5.014	2.745	104.4%	0.005	0.102	0.004
σ		T 3.070	13.350	0.420	1.853	0.659	0.7%	0.021	0.017	0.010
%RSD		T 44.260	6.891	13.470	36.950	23.990	0.6	450.000	16.570	275.700

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	0.030	0.107	4.166	4.785	0.014	0.014	-0.005	-0.012	0.049
2	16:16:25	0.028	0.092	4.049	3.671	0.018	0.009	-0.031	0.000	0.096
3	16:16:51	0.033	0.098	3.751	2.781	0.023	0.019	-0.030	-0.004	0.043
x		0.030	0.099	3.989	3.746	0.018	0.014	-0.022	-0.005	0.063
σ		0.003	0.007	0.214	1.004	0.004	0.005	0.015	0.006	0.029
%RSD		9.654	7.388	5.364	26.810	23.470	35.390	66.800	122.100	45.950

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	-0.024	0.158	1.769	1.481	-0.294	-1.478	101.0%	0.417	0.572
2	16:16:25	-0.026	0.166	1.882	0.764	-0.314	-0.806	102.1%	0.566	0.601
3	16:16:51	-0.027	0.209	2.160	1.710	-0.218	-0.080	101.5%	0.504	0.580
x		-0.026	0.177	1.937	1.318	-0.275	-0.788	101.5%	0.495	0.584
σ		0.002	0.027	0.201	0.494	0.051	0.699	0.6%	0.075	0.015
%RSD		6.589	15.380	10.390	37.440	18.490	88.740	0.6	15.140	2.537

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	0.477	0.428	0.017	-0.155	0.013	0.011	0.010	98.4%	0.133
2	16:16:25	0.562	0.277	0.015	-0.096	0.018	0.002	0.010	101.3%	0.126
3	16:16:51	0.544	0.372	0.011	-0.132	0.012	0.005	0.014	101.1%	0.081
x		0.528	0.359	0.014	-0.128	0.014	0.006	0.011	100.3%	0.113
σ		0.045	0.077	0.003	0.030	0.003	0.004	0.002	1.6%	0.028
%RSD		8.473	21.360	23.920	23.240	22.140	73.210	21.540	1.6	25.010

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	0.170	0.295	0.281	0.009	0.008	97.8%	0.030	0.029	0.007
2	16:16:25	0.176	0.333	0.350	0.008	0.025	99.8%	0.021	0.018	0.005
3	16:16:51	0.170	0.336	0.318	0.008	0.004	100.5%	0.019	0.024	0.006
x		0.172	0.321	0.316	0.008	0.013	99.4%	0.023	0.024	0.006
σ		0.003	0.023	0.034	0.001	0.011	1.4%	0.006	0.005	0.001
%RSD		1.974	7.108	10.870	8.220	90.050	1.4	25.030	22.130	19.310

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:15:58	0.016	0.010	96.7%
2	16:16:25	0.020	0.014	99.6%
3	16:16:51	0.020	0.011	100.3%
x		0.018	0.012	98.9%
σ		0.002	0.002	1.9%
%RSD		10.990	18.220	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-005 5/19/2017 16:20:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	105.6%	0.171	1.968	2.687	T 2522.000	T 4284.000	T 4191.000	T 4280.000	TM 2070.000
2	16:21:48	108.2%	0.164	2.540	2.644	T 2532.000	T 4323.000	T 4272.000	T 4240.000	TM 2065.000
3	16:22:13	111.9%	0.174	2.346	2.844	T 2480.000	T 4224.000	T 4202.000	T 4134.000	TM 2027.000
x		108.5%	0.170	2.285	2.725	T 2511.000	T 4277.000	T 4222.000	T 4218.000	TM 2054.000
σ		3.2%	0.005	0.291	0.105	T 27.540	T 49.720	T 44.260	T 75.280	TM 23.540
%RSD		2.9	3.125	12.730	3.850	T 1.097	T 1.162	T 1.048	T 1.785	TM 1.146

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	TM 14160.000	T 25080.000	T 1611.000	7493.000	7186.000	105.2%	288.000	16.990	6.053
2	16:21:48	TM 14310.000	T 25900.000	T 1661.000	7711.000	7230.000	104.4%	290.100	16.920	6.400
3	16:22:13	TM 13440.000	T 24690.000	T 1594.000	7440.000	7167.000	106.3%	289.200	16.960	6.201
x		TM 13970.000	T 25230.000	T 1622.000	7548.000	7194.000	105.3%	289.100	16.960	6.218
σ		TM 464.600	T 616.700	T 35.070	143.800	32.500	1.0%	1.071	0.037	0.174
%RSD		TM 3.325	T 2.445	T 2.162	1.905	0.452	0.9	0.370	0.218	2.803

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	3.606	78.640	T 4288.000	4614.000	3.043	2.266	2.659	3.251	19.930
2	16:21:48	3.734	80.160	T 4426.000	4704.000	3.067	2.485	2.761	3.198	19.740
3	16:22:13	3.453	78.230	T 4350.000	4614.000	3.080	2.314	2.672	3.077	18.990
x		3.598	79.010	T 4355.000	4644.000	3.063	2.355	2.697	3.175	19.550
σ		0.141	1.018	T 68.930	51.480	0.019	0.115	0.055	0.089	0.498
%RSD		3.908	1.288	T 1.583	1.109	0.607	4.896	2.054	2.798	2.548

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	0.021	-0.271	41.870	43.330	-0.083	-1.141	109.0%	-0.101	0.005
2	16:21:48	0.061	-0.213	43.220	40.790	-0.095	1.212	109.8%	0.032	0.092
3	16:22:13	0.073	-0.310	40.760	41.650	0.104	-1.879	112.7%	0.014	0.212
x		0.052	-0.265	41.950	41.920	-0.025	-0.603	110.5%	-0.019	0.103
σ		0.027	0.049	1.231	1.292	0.111	1.614	1.9%	0.072	0.104
%RSD		53.260	18.490	2.934	3.081	451.000	267.900	1.7	390.000	101.200

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	-0.057	2.400	0.024	-0.903	0.017	0.045	0.037	97.8%	0.202
2	16:21:48	0.009	1.474	0.015	-0.563	0.024	0.038	0.034	99.0%	0.221
3	16:22:13	0.004	1.321	0.019	-0.505	0.010	0.053	0.035	101.4%	0.196
x		-0.015	1.731	0.019	-0.657	0.017	0.045	0.035	99.4%	0.206
σ		0.036	0.584	0.005	0.215	0.007	0.007	0.002	1.9%	0.013
%RSD		249.800	33.710	23.730	32.780	40.600	15.920	4.309	1.9	6.480

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	0.563	0.120	0.138	68.360	66.100	98.5%	0.078	0.094	0.812
2	16:21:48	0.438	0.147	0.125	68.110	67.510	99.7%	0.070	0.069	0.843
3	16:22:13	0.417	0.129	0.130	68.320	66.460	103.1%	0.049	0.047	0.831
x		0.473	0.132	0.131	68.260	66.690	100.4%	0.066	0.070	0.829
σ		0.079	0.014	0.007	0.136	0.736	2.4%	0.015	0.023	0.016
%RSD		16.640	10.370	5.185	0.199	1.103	2.4	22.800	33.470	1.892

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:21:22	0.786	0.750	95.8%
2	16:21:48	0.842	0.790	97.7%
3	16:22:13	0.744	0.897	100.9%
x		0.791	0.812	98.1%
σ		0.049	0.076	2.6%
%RSD		6.228	9.336	2.6

PDF created with pdfFactory trial version www.pdffactory.com

SQ42388-001 5/19/2017 16:26:20 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	106.8%	0.005	-0.385	-0.398	5.375	-0.559	-0.717	-0.730	-0.739
2	16:27:12	107.8%	0.002	-0.600	-0.332	5.042	-0.666	-0.668	-0.749	-0.837
3	16:27:38	110.7%	-0.005	-0.779	-0.280	4.870	-0.627	-0.802	-0.841	-0.692
x		108.4%	0.001	-0.588	-0.337	5.096	-0.617	-0.729	-0.773	-0.756
σ		2.0%	0.005	0.197	0.059	0.257	0.054	0.068	0.059	0.074
%RSD		1.9	757.800	33.580	17.670	5.041	8.763	9.324	7.671	9.785
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	T 2.997	T 40680.000	0.553	14.200	10.670	100.2%	0.043	-0.002	-0.168
2	16:27:12	9.278	T 39960.000	-1.723	9.982	11.760	100.6%	-0.043	-0.017	-0.130
3	16:27:38	T -0.619	T 40900.000	-1.193	9.907	12.110	99.3%	-0.013	0.036	-0.135
x		T 3.885	T 40510.000	-0.788	11.360	11.510	100.0%	-0.004	0.006	-0.144
σ		T 5.008	T 492.300	1.191	2.458	0.751	0.7%	0.044	0.027	0.021
%RSD		T 128.900	T 1.215	151.100	21.630	6.524	0.7	993.300	473.100	14.520
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	5.517	0.466	-0.339	-0.729	0.004	-0.035	0.059	0.100	1.171
2	16:27:12	5.539	0.463	-1.100	-1.349	-0.004	-0.006	0.044	0.080	1.128
3	16:27:38	5.380	0.489	-1.483	-2.425	-0.004	-0.008	0.043	0.048	1.174
x		5.479	0.473	-0.974	-1.501	-0.001	-0.016	0.049	0.076	1.158
σ		0.086	0.014	0.582	0.858	0.004	0.016	0.009	0.026	0.026
%RSD		1.569	2.988	59.770	57.140	298.600	100.200	18.410	34.430	2.223
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	0.038	0.200	3.901	3.093	-0.152	0.886	96.3%	-0.342	-0.257
2	16:27:12	-0.092	-0.212	4.024	3.748	-0.174	-0.394	98.9%	-0.314	-0.208
3	16:27:38	0.032	0.055	4.242	2.943	-0.081	-0.686	99.1%	-0.264	-0.179
x		-0.007	0.014	4.056	3.261	-0.136	-0.064	98.1%	-0.306	-0.215
σ		0.073	0.209	0.172	0.428	0.048	0.836	1.6%	0.040	0.039
%RSD		984.000	1462.000	4.249	13.120	35.620	1298.000	1.6	12.960	18.360
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	-0.306	0.075	-0.004	-0.002	-0.002	0.000	-0.003	97.3%	0.053
2	16:27:12	-0.278	-0.142	-0.002	0.049	-0.004	0.000	-0.005	98.4%	0.043
3	16:27:38	-0.280	0.031	-0.002	-0.017	-0.003	0.003	-0.005	98.6%	0.025
x		-0.288	-0.012	-0.003	0.010	-0.003	0.001	-0.004	98.1%	0.040
σ		0.016	0.115	0.001	0.034	0.001	0.002	0.001	0.7%	0.014
%RSD		5.427	947.000	45.210	346.800	36.880	136.200	32.240	0.7	35.390
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	0.002	0.029	0.010	0.018	0.003	96.9%	-0.002	0.005	0.001
2	16:27:12	0.032	0.014	0.019	-0.012	0.015	99.0%	0.004	0.002	-0.004
3	16:27:38	0.001	0.033	0.029	0.009	0.010	100.2%	-0.009	-0.004	-0.001
x		0.012	0.026	0.020	0.005	0.009	98.7%	-0.002	0.001	-0.001
σ		0.018	0.010	0.009	0.016	0.006	1.7%	0.007	0.005	0.002
%RSD		145.400	38.860	48.210	313.800	60.680	1.7	271.200	578.700	162.500
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	16:26:46	-0.004	0.004	96.7%						
2	16:27:12	0.008	-0.003	98.8%						
3	16:27:38	0.002	-0.001	100.0%						
x		0.002	0.000	98.5%						
σ		0.006	0.004	1.7%						
%RSD		364.300	14530.000	1.7						

PDF created with pdfFactory trial version www.pdffactory.com

SQ42388-002 5/19/2017 16:31:44

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	106.1%	86.860	96.430	92.100	T 792.600	T 777.300	725.000	722.600	90.730
2	16:32:36	106.6%	85.460	98.690	93.810	T 805.800	T 789.200	748.300	726.100	96.350
3	16:33:02	109.3%	83.760	97.890	94.200	T 790.200	T 787.400	728.000	704.700	93.270
x		107.4%	85.360	97.670	93.370	T 796.200	T 784.600	733.800	717.800	93.450
σ		1.7%	1.555	1.145	1.118	T 8.404	T 6.424	12.690	11.480	2.815
%RSD		1.6	1.822	1.173	1.198	T 1.056	T 0.819	1.730	1.600	3.013

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	T 816.300	T 40660.000	T 924.800	963.100	809.600	101.1%	87.950	85.860	84.710
2	16:32:36	T 839.500	T 42000.000	T 950.100	998.200	863.000	97.3%	92.430	88.630	88.700
3	16:33:02	T 817.900	T 42280.000	T 955.600	968.200	861.300	97.8%	90.820	89.620	89.300
x		T 824.600	T 41650.000	T 943.500	976.500	844.600	98.7%	90.400	88.040	87.570
σ		T 12.970	T 866.800	T 16.430	18.960	30.370	2.1%	2.270	1.950	2.498
%RSD		T 1.573	T 2.081	T 1.741	1.942	3.596	2.1	2.512	2.215	2.852

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	4.626	84.470	T 823.100	882.100	87.680	90.540	88.480	94.370	90.930
2	16:32:36	4.036	89.340	T 871.300	930.600	92.560	91.770	91.840	94.480	92.610
3	16:33:02	4.324	89.370	T 871.200	918.400	91.870	91.500	91.310	93.550	92.320
x		4.329	87.730	T 855.200	910.300	90.700	91.270	90.540	94.130	91.960
σ		0.295	2.817	T 27.790	25.220	2.641	0.648	1.810	0.505	0.896
%RSD		6.811	3.211	T 3.249	2.770	2.911	0.710	1.999	0.537	0.974

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	89.860	89.080	5.194	4.480	93.060	-0.437	95.9%	88.440	89.040
2	16:32:36	92.000	93.640	6.069	4.523	94.260	-0.372	94.7%	94.510	95.900
3	16:33:02	91.760	91.440	4.425	4.389	90.860	0.630	95.8%	96.600	98.000
x		91.210	91.390	5.229	4.464	92.730	-0.060	95.5%	93.180	94.310
σ		1.175	2.277	0.822	0.069	1.721	0.598	0.7%	4.240	4.686
%RSD		1.289	2.491	15.720	1.536	1.856	1001.000	0.7	4.551	4.968

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	87.270	88.000	88.050	-0.063	82.920	85.920	87.350	95.8%	94.710
2	16:32:36	93.710	91.150	90.070	-0.194	86.120	89.360	89.110	95.2%	99.240
3	16:33:02	94.560	87.000	88.610	1.286	84.300	89.820	89.240	96.0%	98.530
x		91.840	88.720	88.910	0.343	84.450	88.360	88.570	95.7%	97.490
σ		3.987	2.169	1.043	0.819	1.602	2.134	1.053	0.4%	2.437
%RSD		4.341	2.444	1.173	238.900	1.898	2.415	1.189	0.4	2.500

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	89.060	81.000	84.450	88.620	86.980	95.8%	83.930	88.320	86.630
2	16:32:36	92.610	83.980	87.170	89.680	89.670	96.2%	86.270	91.820	88.970
3	16:33:02	92.850	86.470	88.580	90.400	89.650	98.0%	85.530	90.300	88.170
x		91.500	83.820	86.740	89.570	88.770	96.7%	85.240	90.140	87.930
σ		2.122	2.738	2.100	0.896	1.550	1.2%	1.197	1.754	1.191
%RSD		2.319	3.267	2.421	1.000	1.746	1.2	1.404	1.946	1.354

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:32:10	85.180	83.990	95.2%
2	16:32:36	87.710	88.010	96.3%
3	16:33:02	87.080	87.260	97.3%
x		86.660	86.420	96.2%
σ		1.317	2.136	1.1%
%RSD		1.520	2.472	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001 5/19/2017 16:37:08

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	103.0%	0.038	48.250	48.090	T 15610.000	T 11310.000	T 11250.000	T 11290.000	T 50.330
2	16:37:59	104.9%	0.037	47.900	47.700	T 15500.000	T 11240.000	T 11050.000	T 11130.000	T 53.190
3	16:38:25	103.5%	0.006	48.250	49.180	T 15630.000	T 11380.000	T 11230.000	T 11110.000	T 53.370
x		103.8%	0.027	48.130	48.320	T 15580.000	T 11310.000	T 11180.000	T 11180.000	T 52.300
σ		1.0%	0.018	0.200	0.766	T 67.040	T 70.140	T 112.100	T 97.980	T 1.707
%RSD		1.0	66.350	0.415	1.586	T 0.430	T 0.620	T 1.003	T 0.877	T 3.263

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	T 8639.000	T 42740.000	710.900	55050.000	T 53280.000	T 96.6%	1.226	-0.062	0.094
2	16:37:59	T 8495.000	T 42280.000	694.300	53030.000	T 52560.000	T 98.8%	1.537	0.207	0.153
3	16:38:25	T 8694.000	T 44330.000	T 750.200	54950.000	T 54360.000	T 97.1%	1.336	0.066	0.104
x		T 8609.000	T 43120.000	T 718.500	54340.000	T 53400.000	T 97.5%	1.366	0.070	0.117
σ		T 103.000	T 1075.000	T 28.680	1138.000	T 906.800	T 1.2%	0.158	0.134	0.031
%RSD		T 1.197	T 2.492	T 3.992	2.095	T 1.698	T 1.2	11.540	191.800	26.830

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	6.132	50.220	214.100	423.200	-0.986	0.949	0.247	0.389	2.362
2	16:37:59	5.665	50.190	211.000	421.300	-0.954	0.911	0.263	0.405	2.345
3	16:38:25	6.137	51.540	T 192.300	417.500	-1.001	0.827	0.274	0.349	2.465
x		5.978	50.650	T 205.800	420.700	-0.980	0.896	0.261	0.381	2.391
σ		0.271	0.773	T 11.770	2.862	0.024	0.062	0.013	0.028	0.065
%RSD		4.539	1.525	T 5.720	0.680	2.487	6.952	5.135	7.450	2.701

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	1.117	-0.377	10.590	9.102	0.276	-0.797	94.0%	0.148	0.300
2	16:37:59	1.328	-0.303	9.500	9.090	-0.274	-0.846	95.1%	0.253	0.319
3	16:38:25	1.481	-0.014	9.610	8.577	0.498	-0.826	94.8%	0.214	0.324
x		1.309	-0.231	9.899	8.923	0.167	-0.823	94.6%	0.205	0.315
σ		0.183	0.192	0.599	0.299	0.397	0.025	0.6%	0.053	0.013
%RSD		13.950	83.020	6.047	3.355	238.500	3.032	0.6	25.700	3.998

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	0.214	132.500	0.005	-50.490	-0.002	0.024	-0.484	92.2%	0.167
2	16:37:59	0.256	121.100	-0.004	-46.140	-0.007	0.004	-0.442	93.8%	0.144
3	16:38:25	0.310	114.900	0.005	-43.730	-0.001	0.015	-0.406	94.0%	0.148
x		0.260	122.900	0.002	-46.790	-0.003	0.015	-0.444	93.3%	0.153
σ		0.048	8.944	0.005	3.423	0.003	0.010	0.039	1.0%	0.012
%RSD		18.540	7.280	249.800	7.317	101.800	70.100	8.828	1.1	8.082

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	18.310	0.101	0.132	95.200	93.970	94.8%	0.043	0.039	0.094
2	16:37:59	16.790	0.096	0.162	94.670	93.850	96.2%	0.019	0.027	0.096
3	16:38:25	15.980	0.117	0.127	98.220	96.130	96.7%	0.017	0.021	0.102
x		17.030	0.105	0.140	96.030	94.650	95.9%	0.026	0.029	0.097
σ		1.183	0.011	0.019	1.917	1.281	1.0%	0.015	0.009	0.004
%RSD		6.950	10.500	13.790	1.996	1.353	1.0	55.750	30.880	4.060

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:37:33	0.089	0.084	90.3%
2	16:37:59	0.099	0.089	92.8%
3	16:38:25	0.112	0.100	92.8%
x		0.100	0.091	92.0%
σ		0.011	0.008	1.4%
%RSD		11.270	8.907	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001MS 5/19/2017 16:42:32

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	96.7%	82.710	138.700	132.600	T 17260.000	T 12670.000	T 12480.000	T 12820.000	T 182.900
2	16:43:23	98.6%	79.620	138.400	133.700	T 17400.000	T 12750.000	T 12620.000	T 12750.000	T 183.400
3	16:43:49	100.6%	76.930	132.400	134.900	T 17080.000	T 12670.000	T 12570.000	T 12410.000	T 192.600
x		98.6%	79.760	136.500	133.700	T 17250.000	T 12700.000	T 12560.000	T 12660.000	T 186.300
σ		2.0%	2.895	3.528	1.117	T 161.200	T 45.300	T 74.290	T 223.300	T 5.443
%RSD		2.0	3.630	2.585	0.836	T 0.935	T 0.357	T 0.592	T 1.763	T 2.922

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	T 9846.000	T 43300.000	T 1662.000	57260.000	T 55600.000	T 96.0%	85.450	78.850	78.310
2	16:43:23	T 9904.000	T 43020.000	T 1659.000	56100.000	T 56010.000	T 96.3%	84.180	80.890	78.950
3	16:43:49	T 9723.000	T 43780.000	T 1675.000	56730.000	T 56480.000	T 93.6%	85.110	82.810	81.200
x		T 9824.000	T 43370.000	T 1665.000	56700.000	T 56030.000	T 95.3%	84.920	80.850	79.490
σ		T 92.780	T 385.300	T 8.294	578.700	T 444.100	T 1.5%	0.660	1.979	1.516
%RSD		T 0.944	T 0.889	T 0.498	1.021	T 0.793	T 1.6	0.777	2.448	1.907

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	5.479	134.000	T 971.400	1284.000	80.230	82.320	78.780	84.590	81.620
2	16:43:23	5.178	133.900	T 977.900	1263.000	79.340	82.160	77.450	84.900	80.470
3	16:43:49	5.458	136.400	T 1010.000	1300.000	81.200	82.830	79.870	84.320	79.730
x		5.372	134.800	T 986.300	1282.000	80.260	82.440	78.700	84.610	80.610
σ		0.168	1.418	T 20.490	18.430	0.930	0.351	1.211	0.290	0.954
%RSD		3.128	1.052	T 2.078	1.438	1.159	0.426	1.539	0.343	1.183

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	86.610	76.230	8.869	9.773	79.240	-0.904	92.7%	88.690	88.110
2	16:43:23	84.200	77.650	9.870	9.601	79.950	-1.545	93.6%	89.550	90.850
3	16:43:49	86.850	77.680	9.338	8.218	81.040	-2.009	94.3%	95.570	94.350
x		85.890	77.190	9.359	9.197	80.080	-1.486	93.5%	91.270	91.100
σ		1.466	0.829	0.501	0.852	0.903	0.555	0.8%	3.747	3.128
%RSD		1.707	1.074	5.354	9.266	1.128	37.360	0.8	4.105	3.434

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	87.380	217.800	80.520	-53.430	73.790	77.230	79.510	91.9%	86.470
2	16:43:23	88.790	195.100	79.390	-45.380	74.300	78.080	79.480	92.5%	87.540
3	16:43:49	93.060	199.900	79.870	-46.250	74.650	79.530	79.850	92.4%	86.850
x		89.740	204.300	79.930	-48.350	74.250	78.280	79.610	92.3%	86.960
σ		2.954	11.960	0.564	4.418	0.437	1.162	0.205	0.3%	0.543
%RSD		3.292	5.856	0.706	9.137	0.588	1.484	0.257	0.3	0.625

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	101.400	76.490	78.910	180.800	177.800	93.7%	78.440	80.970	81.560
2	16:43:23	99.240	77.780	80.700	182.200	179.500	95.8%	79.520	80.970	81.820
3	16:43:49	100.500	78.710	81.740	180.600	180.400	97.2%	80.590	81.390	83.440
x		100.400	77.660	80.450	181.200	179.300	95.6%	79.510	81.110	82.270
σ		1.084	1.111	1.431	0.910	1.323	1.7%	1.075	0.240	1.017
%RSD		1.080	1.431	1.778	0.502	0.738	1.8	1.353	0.295	1.237

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:42:57	79.670	76.870	90.2%
2	16:43:23	80.970	77.170	91.8%
3	16:43:49	81.400	77.980	92.3%
x		80.680	77.340	91.4%
σ		0.900	0.571	1.1%
%RSD		1.115	0.739	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001MD 5/19/2017 16:47:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	98.5%	86.300	145.200	138.200	T 16770.000	T 12280.000	T 12010.000	T 12230.000	T 194.400
2	16:48:47	99.2%	85.510	147.100	140.100	T 16730.000	T 12280.000	T 12130.000	T 12200.000	T 211.000
3	16:49:12	101.4%	83.550	141.800	139.900	T 16370.000	T 12040.000	T 12040.000	T 11930.000	T 203.300
x		99.7%	85.120	144.700	139.400	T 16620.000	T 12200.000	T 12060.000	T 12120.000	T 202.900
σ		1.5%	1.418	2.697	1.045	T 219.400	T 140.900	T 62.020	T 163.400	T 8.322
%RSD		1.5	1.665	1.864	0.749	T 1.320	T 1.155	T 0.514	T 1.348	T 4.101

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	T 9285.000	T 42110.000	T 1664.000	53960.000	T 53040.000	T 96.7%	86.210	85.250	83.750
2	16:48:47	T 9509.000	T 43300.000	T 1694.000	55080.000	T 54330.000	96.4%	88.190	85.670	84.010
3	16:49:12	T 9505.000	T 43650.000	T 1703.000	54850.000	T 54440.000	T 94.9%	87.560	85.280	83.810
x		T 9433.000	T 43020.000	T 1687.000	54630.000	T 53940.000	T 96.0%	87.320	85.400	83.860
σ		T 128.100	T 807.800	T 19.990	589.900	T 780.100	T 1.0%	1.011	0.235	0.139
%RSD		T 1.358	T 1.878	T 1.185	1.080	T 1.446	T 1.0	1.158	0.275	0.165

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	4.796	134.800	T 999.600	1292.000	84.090	88.530	82.010	88.180	84.260
2	16:48:47	5.165	137.700	T 1018.000	1299.000	85.080	87.770	83.300	89.640	85.750
3	16:49:12	4.900	138.300	T 1038.000	1310.000	84.350	85.830	82.560	86.540	84.160
x		4.954	136.900	T 1018.000	1300.000	84.510	87.380	82.620	88.120	84.720
σ		0.191	1.854	T 19.090	9.219	0.511	1.394	0.647	1.552	0.885
%RSD		3.848	1.354	T 1.875	0.709	0.604	1.596	0.783	1.762	1.045

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	90.850	81.290	6.616	7.087	87.920	-0.743	92.4%	92.730	91.920
2	16:48:47	90.920	82.520	7.811	7.193	82.270	-1.667	92.4%	95.460	96.120
3	16:49:12	88.320	80.150	7.877	5.698	85.790	-0.033	94.2%	98.190	99.620
x		90.030	81.320	7.434	6.659	85.330	-0.814	93.0%	95.460	95.880
σ		1.479	1.185	0.710	0.834	2.850	0.819	1.0%	2.727	3.855
%RSD		1.643	1.457	9.549	12.530	3.340	100.600	1.1	2.856	4.020

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	90.560	209.400	83.890	-49.140	78.490	82.530	82.770	90.7%	91.690
2	16:48:47	94.350	206.400	85.330	-45.980	79.550	85.770	84.850	91.8%	92.790
3	16:49:12	97.720	200.800	83.610	-44.640	78.610	82.550	83.850	93.2%	92.330
x		94.210	205.500	84.280	-46.590	78.880	83.620	83.820	91.9%	92.270
σ		3.583	4.384	0.926	2.312	0.585	1.865	1.041	1.2%	0.550
%RSD		3.803	2.133	1.098	4.963	0.742	2.230	1.242	1.4	0.597

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	103.000	81.360	85.230	183.000	180.300	93.3%	82.320	85.050	84.830
2	16:48:47	106.500	82.920	85.270	185.200	182.500	94.4%	84.580	87.960	88.450
3	16:49:12	103.800	81.770	85.100	183.300	181.000	96.3%	84.150	86.300	87.050
x		104.400	82.020	85.200	183.800	181.300	94.7%	83.690	86.440	86.780
σ		1.819	0.809	0.088	1.208	1.104	1.5%	1.201	1.460	1.824
%RSD		1.742	0.987	0.104	0.657	0.609	1.6	1.435	1.689	2.102

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:48:21	84.090	81.340	90.5%
2	16:48:47	86.520	83.660	91.0%
3	16:49:12	85.550	81.690	92.5%
x		85.390	82.230	91.4%
σ		1.224	1.251	1.0%
%RSD		1.433	1.521	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001SD(5) 5/19/2017 16:53:17

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	103.3%	0.038	10.220	10.060	T 3203.000	T 2387.000	2307.000	2266.000	9.115
2	16:54:08	105.9%	0.002	10.780	10.070	T 3199.000	T 2331.000	2242.000	2208.000	8.981
3	16:54:34	104.7%	0.003	9.572	10.290	T 3251.000	T 2376.000	2264.000	2200.000	T 2.914
x		104.7%	0.014	10.190	10.140	T 3218.000	T 2365.000	2271.000	2225.000	T 7.003
σ		1.3%	0.020	0.605	0.132	T 28.930	T 29.790	33.070	35.650	T 3.542
%RSD		1.3	143.500	5.939	1.300	T 0.899	T 1.260	1.456	1.602	T 50.580

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	T 1805.000	T 8861.000	143.400	11310.000	T 10970.000	T 97.4%	0.158	0.027	-0.009
2	16:54:08	T 1749.000	T 8746.000	136.200	10980.000	10130.000	99.4%	0.116	0.010	0.007
3	16:54:34	T 1790.000	T 9024.000	144.400	11530.000	10700.000	96.1%	0.220	0.157	0.012
x		T 1781.000	T 8877.000	141.400	11270.000	T 10600.000	T 97.6%	0.165	0.065	0.003
σ		T 28.830	T 139.600	4.512	281.100	T 429.000	T 1.6%	0.053	0.080	0.011
%RSD		T 1.618	T 1.573	3.192	2.494	T 4.048	T 1.7	31.910	123.700	331.600

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	1.697	10.570	37.820	85.340	-0.204	0.197	0.032	0.108	0.687
2	16:54:08	1.814	10.330	32.300	78.990	-0.195	0.221	0.019	0.076	0.488
3	16:54:34	1.637	10.820	35.640	82.100	-0.209	0.163	0.031	0.074	0.564
x		1.716	10.570	35.250	82.140	-0.203	0.194	0.027	0.086	0.580
σ		0.090	0.242	2.779	3.173	0.007	0.029	0.007	0.019	0.100
%RSD		5.239	2.284	7.882	3.863	3.439	15.010	26.510	22.240	17.240

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	0.375	-0.178	2.197	1.622	-0.243	-0.565	95.9%	-0.190	0.048
2	16:54:08	0.321	-0.391	2.462	1.697	0.120	1.538	98.1%	-0.086	-0.007
3	16:54:34	0.333	-0.204	2.115	2.835	0.307	-1.287	95.2%	-0.077	-0.017
x		0.343	-0.258	2.258	2.051	0.061	-0.104	96.4%	-0.118	0.008
σ		0.029	0.116	0.182	0.680	0.280	1.468	1.5%	0.063	0.035
%RSD		8.414	45.170	8.037	33.140	455.500	1405.000	1.6	53.460	426.500

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	-0.075	26.840	-0.004	-10.220	-0.003	0.005	-0.090	95.4%	0.025
2	16:54:08	-0.100	26.100	0.002	-9.881	-0.000	-0.006	-0.089	97.4%	0.054
3	16:54:34	-0.063	28.630	-0.007	-10.890	-0.004	0.011	-0.099	95.9%	0.029
x		-0.079	27.190	-0.003	-10.330	-0.002	0.003	-0.093	96.2%	0.036
σ		0.019	1.302	0.004	0.516	0.002	0.008	0.005	1.1%	0.016
%RSD		24.200	4.788	138.600	4.990	75.240	253.800	5.908	1.1	43.750

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	3.732	-0.021	-0.020	19.610	19.030	96.4%	0.107	0.111	0.011
2	16:54:08	3.658	-0.013	-0.028	19.780	19.420	97.9%	0.086	0.100	0.030
3	16:54:34	4.024	-0.023	-0.018	19.850	20.150	97.2%	0.075	0.073	0.015
x		3.805	-0.019	-0.022	19.750	19.540	97.2%	0.089	0.095	0.019
σ		0.194	0.005	0.005	0.124	0.570	0.8%	0.016	0.019	0.010
%RSD		5.090	27.540	23.430	0.626	2.918	0.8	18.010	20.460	53.350

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:53:43	0.032	0.014	95.0%
2	16:54:08	0.011	0.009	97.7%
3	16:54:34	0.027	0.013	96.5%
x		0.023	0.012	96.4%
σ		0.011	0.002	1.3%
%RSD		46.380	18.870	1.4

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001PS 5/19/2017 16:58:40

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	98.3%	90.380	149.500	147.900	┬16500.000	┬12310.000	┬11950.000	┬12070.000	┬149.100
2	16:59:30	97.5%	91.180	145.400	147.400	┬16870.000	┬12310.000	┬12240.000	┬12200.000	┬149.500
3	16:59:56	98.5%	89.570	143.200	144.600	┬16410.000	┬12120.000	┬11890.000	┬11980.000	┬146.600
x		98.1%	90.380	146.000	146.600	┬16600.000	┬12250.000	┬12030.000	┬12080.000	┬148.400
σ		0.6%	0.805	3.205	1.817	┬243.100	┬110.400	┬188.300	┬107.500	┬1.571
%RSD		0.6	0.891	2.195	1.239	┬1.465	┬0.901	┬1.565	┬0.890	┬1.059

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	┬9377.000	┬41600.000	┬1682.000	54040.000	┬52720.000	┬95.4%	94.620	89.700	88.580
2	16:59:30	┬9369.000	┬42220.000	┬1687.000	53220.000	┬53300.000	┬93.2%	93.660	90.750	89.090
3	16:59:56	┬9230.000	┬42250.000	┬1709.000	53860.000	┬53240.000	┬94.6%	94.100	89.010	87.970
x		┬9325.000	┬42020.000	┬1693.000	53710.000	┬53090.000	┬94.4%	94.130	89.820	88.550
σ		┬82.430	┬364.700	┬14.360	429.200	┬320.700	┬1.1%	0.481	0.879	0.561
%RSD		┬0.884	┬0.868	┬0.849	0.799	┬0.604	┬1.1	0.512	0.979	0.633

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	6.026	140.100	┬1053.000	1335.000	89.330	92.370	89.100	96.200	91.470
2	16:59:30	5.005	142.200	┬1067.000	1346.000	89.240	90.300	88.470	93.490	90.380
3	16:59:56	5.129	141.400	┬1068.000	1343.000	89.490	90.810	86.950	91.540	88.850
x		5.387	141.200	┬1063.000	1342.000	89.350	91.160	88.170	93.740	90.230
σ		0.557	1.055	┬8.469	5.838	0.124	1.080	1.104	2.344	1.318
%RSD		10.340	0.747	┬0.797	0.435	0.139	1.185	1.252	2.501	1.461

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	92.960	89.130	9.394	9.863	89.700	-1.499	92.0%	98.660	100.400
2	16:59:30	90.860	86.310	10.440	8.527	89.760	-0.428	92.7%	102.800	102.300
3	16:59:56	89.350	86.790	10.130	8.801	86.280	-0.472	93.7%	101.800	102.700
x		91.060	87.410	9.988	9.064	88.580	-0.800	92.8%	101.100	101.800
σ		1.813	1.509	0.539	0.706	1.992	0.606	0.8%	2.162	1.234
%RSD		1.991	1.726	5.393	7.786	2.249	75.780	0.9	2.138	1.212

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	97.720	214.000	89.610	-49.170	82.930	87.200	88.810	90.6%	96.840
2	16:59:30	101.500	211.000	88.940	-46.070	83.560	88.450	88.780	92.1%	98.480
3	16:59:56	101.400	199.500	88.540	-42.350	83.050	87.970	88.290	92.2%	97.970
x		100.200	208.200	89.030	-45.860	83.180	87.880	88.630	91.6%	97.760
σ		2.154	7.664	0.539	3.411	0.336	0.632	0.291	0.9%	0.841
%RSD		2.150	3.681	0.606	7.438	0.403	0.719	0.329	1.0	0.860

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	109.400	80.680	83.180	185.900	182.800	93.5%	88.110	90.700	90.470
2	16:59:30	111.000	80.350	83.650	185.500	184.000	94.4%	88.490	92.660	91.510
3	16:59:56	107.900	81.250	84.400	186.200	182.500	97.2%	88.730	90.770	91.920
x		109.400	80.760	83.740	185.900	183.100	95.0%	88.440	91.380	91.300
σ		1.537	0.454	0.616	0.318	0.759	1.9%	0.315	1.111	0.744
%RSD		1.404	0.562	0.735	0.171	0.414	2.0	0.356	1.216	0.814

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:59:05	89.880	86.010	89.7%
2	16:59:30	89.470	87.510	91.8%
3	16:59:56	90.090	85.810	92.6%
x		89.810	86.440	91.4%
σ		0.314	0.927	1.5%
%RSD		0.350	1.072	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-002 5/19/2017 17:04:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	97.6%	0.019	25.680	26.260	T 19720.000	T 17360.000	T 17350.000	T 17340.000	T 33.360
2	17:04:54	100.2%	0.011	27.250	27.120	T 19430.000	T 17020.000	T 16770.000	T 16940.000	T 32.820
3	17:05:20	100.1%	0.004	28.040	26.750	T 19280.000	T 17030.000	T 16780.000	T 17080.000	T 40.380
x		99.3%	0.011	26.990	26.710	T 19480.000	T 17140.000	T 16970.000	T 17120.000	T 35.520
σ		1.5%	0.008	1.199	0.428	T 224.600	T 190.300	T 331.600	T 204.900	T 4.218
%RSD		1.5	69.110	4.444	1.603	T 1.153	T 1.111	T 1.954	T 1.197	T 11.880

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	T 5974.000	T 47300.000	T 14640.000	M 124800.000	TM 120200.000	T 94.9%	1.220	0.256	0.929
2	17:04:54	T 5863.000	T 47290.000	T 14840.000	M 124300.000	TM 119700.000	96.3%	1.676	0.190	0.957
3	17:05:20	T 5936.000	T 48050.000	T 14890.000	M 125500.000	TM 121800.000	T 95.8%	1.154	0.075	0.960
x		T 5924.000	T 47540.000	T 14790.000	M 124800.000	TM 120600.000	T 95.7%	1.350	0.174	0.949
σ		T 56.410	T 436.500	T 129.400	M 576.400	TM 1075.000	T 0.7%	0.284	0.092	0.017
%RSD		T 0.952	T 0.918	T 0.875	M 0.462	TM 0.892	T 0.8	21.040	52.720	1.809

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	6.546	161.200	T 244.700	800.800	10.320	15.570	1.209	1.435	6.421
2	17:04:54	6.511	162.600	T 242.700	772.600	10.170	14.920	1.200	1.707	6.330
3	17:05:20	6.688	162.200	T 242.500	770.200	10.310	15.110	1.204	1.595	6.073
x		6.581	162.000	T 243.300	781.200	10.270	15.200	1.205	1.579	6.275
σ		0.094	0.708	T 1.228	17.040	0.082	0.336	0.005	0.137	0.181
%RSD		1.421	0.437	T 0.505	2.182	0.798	2.208	0.381	8.653	2.880

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	1.222	-0.017	85.680	90.870	-0.448	-0.113	92.3%	0.747	0.947
2	17:04:54	0.995	0.247	86.050	87.750	-0.113	-1.680	92.9%	0.788	0.796
3	17:05:20	0.998	-0.253	87.160	88.690	0.395	-0.633	93.8%	0.799	0.890
x		1.072	-0.008	86.300	89.110	-0.055	-0.809	93.0%	0.778	0.878
σ		0.130	0.250	0.774	1.601	0.425	0.798	0.7%	0.028	0.076
%RSD		12.170	3250.000	0.896	1.797	765.300	98.690	0.8	3.552	8.664

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	0.649	64.830	0.021	-24.690	0.019	0.070	-0.174	90.2%	0.109
2	17:04:54	0.722	65.730	0.030	-24.970	0.020	0.057	-0.194	92.0%	0.130
3	17:05:20	0.795	63.990	0.030	-24.280	0.022	0.048	-0.199	92.0%	0.198
x		0.722	64.850	0.027	-24.650	0.020	0.059	-0.189	91.4%	0.146
σ		0.073	0.869	0.005	0.347	0.002	0.011	0.013	1.0%	0.047
%RSD		10.100	1.340	18.990	1.409	7.694	18.910	6.960	1.1	32.130

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	8.981	0.376	0.433	46.710	45.580	93.6%	0.009	0.009	0.124
2	17:04:54	9.147	0.416	0.386	45.760	45.910	95.3%	0.006	0.006	0.116
3	17:05:20	8.900	0.412	0.430	47.060	45.750	95.4%	0.014	0.012	0.134
x		9.009	0.401	0.416	46.510	45.750	94.7%	0.010	0.009	0.124
σ		0.126	0.022	0.026	0.676	0.167	1.0%	0.004	0.003	0.009
%RSD		1.397	5.457	6.234	1.453	0.366	1.1	37.930	33.540	7.307

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:04:28	0.126	0.110	87.2%
2	17:04:54	0.103	0.095	89.0%
3	17:05:20	0.098	0.109	90.6%
x		0.109	0.105	88.9%
σ		0.015	0.009	1.7%
%RSD		13.770	8.216	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-003 5/19/2017 17:09:26

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	92.0%	0.060	11.510	11.480	T 7677.000	T 14210.000	T 14000.000	T 14510.000	TM 649.000
2	17:10:18	95.6%	0.102	10.940	10.430	T 7341.000	T 13870.000	T 13710.000	T 14060.000	TM 624.200
3	17:10:44	95.7%	0.050	11.910	11.320	T 7157.000	T 13570.000	T 13440.000	T 13820.000	TM 601.400
x		94.4%	0.070	11.450	11.080	T 7392.000	T 13880.000	T 13720.000	T 14130.000	TM 624.900
σ		2.1%	0.028	0.484	0.569	T 264.000	T 319.700	T 278.700	T 349.500	TM 23.800
%RSD		2.2	39.290	4.225	5.140	T 3.571	T 2.302	T 2.032	T 2.473	TM 3.809

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	T 5959.000	T 46150.000	T 3111.000	M 132900.000	TM 129200.000	T 93.7%	T -52.950	0.791	3.451
2	17:10:18	T 5756.000	T 45690.000	T 3070.000	M 129200.000	TM 127700.000	T 94.6%	23.710	14.040	4.073
3	17:10:44	T 5701.000	T 47060.000	T 3135.000	M 131700.000	TM 127700.000	T 93.0%	T -56.660	-0.542	T -1.597
x		T 5805.000	T 46300.000	T 3106.000	M 131200.000	TM 128200.000	T 93.8%	T -28.630	4.762	T 1.976
σ		T 135.600	T 694.400	T 32.950	M 1903.000	TM 850.100	T 0.8%	T 45.370	8.060	T 3.109
%RSD		T 2.335	T 1.500	T 1.061	M 1.450	TM 0.663	T 0.8	T 158.400	169.300	T 157.400

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	7.966	81.450	T 418.500	1007.000	13.360	6.155	3.277	4.026	5.782
2	17:10:18	T -9.383	79.160	T 395.100	951.900	13.270	5.710	3.118	3.912	5.754
3	17:10:44	9.337	81.200	T 407.500	941.000	13.130	T -21.890	3.237	3.758	5.336
x		T 2.640	80.600	T 407.000	966.500	13.250	T -3.340	3.211	3.899	5.624
σ		T 10.430	1.252	T 11.720	35.180	0.118	T 16.060	0.083	0.135	0.250
%RSD		T 395.200	1.553	T 2.879	3.640	0.888	T 480.900	2.572	3.451	4.438

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	0.323	0.307	8.893	7.570	0.802	1.180	91.5%	0.521	0.481
2	17:10:18	0.760	0.111	8.556	6.818	0.784	-0.899	92.8%	0.455	0.569
3	17:10:44	0.066	0.312	9.144	7.138	0.222	-0.919	93.6%	0.523	0.729
x		0.383	0.244	8.864	7.176	0.603	-0.213	92.6%	0.499	0.593
σ		0.351	0.114	0.295	0.377	0.330	1.206	1.1%	0.038	0.126
%RSD		91.570	47.010	3.326	5.260	54.750	567.300	1.2	7.686	21.180

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	0.426	53.190	0.041	-20.150	0.026	0.007	-0.187	89.2%	0.089
2	17:10:18	0.379	45.870	0.027	-17.440	0.027	0.042	-0.151	89.5%	0.040
3	17:10:44	0.803	43.370	0.031	-16.430	0.027	0.034	-0.131	91.3%	0.108
x		0.536	47.480	0.033	-18.010	0.027	0.028	-0.157	90.0%	0.079
σ		0.233	5.103	0.007	1.925	0.001	0.019	0.028	1.1%	0.035
%RSD		43.370	10.750	21.660	10.690	1.920	66.520	18.170	1.3	44.410

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	7.287	0.201	0.197	61.160	59.730	92.1%	0.001	0.004	0.466
2	17:10:18	6.223	0.274	0.253	61.680	59.530	94.3%	-0.001	0.002	0.498
3	17:10:44	5.952	0.201	0.236	58.900	58.690	96.2%	0.002	0.001	0.468
x		6.487	0.226	0.229	60.580	59.320	94.2%	0.001	0.002	0.477
σ		0.706	0.042	0.029	1.477	0.555	2.1%	0.001	0.002	0.018
%RSD		10.880	18.700	12.500	2.438	0.935	2.2	181.400	69.370	3.720

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:09:53	0.430	0.411	87.0%
2	17:10:18	0.466	0.414	89.7%
3	17:10:44	0.450	0.397	91.8%
x		0.449	0.408	89.5%
σ		0.018	0.009	2.4%
%RSD		4.069	2.253	2.6

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 17:14:50 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	84.7%	291.900	298.100	279.500	┬56020.000	┬53090.000	┬53200.000	┬57440.000	287.900
2	17:15:42	85.3%	299.000	300.000	278.000	┬56370.000	┬54580.000	┬54600.000	┬58440.000	290.900
3	17:16:08	88.7%	290.400	289.600	285.800	┬54900.000	┬53430.000	┬52810.000	┬55890.000	292.600
x		86.2%	97.932%	98.631%	93.695%	┬92.936%	┬53700.000	┬53540.000	┬95.433%	96.821%
σ		2.2%	n/a	n/a	n/a	┬n/a	┬779.300	┬940.900	┬n/a	n/a
%RSD		2.5	1.561	1.868	1.479	┬1.379	┬1.451	┬1.758	┬2.241	0.809

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	┬2904.000	319.800	┬60910.000	54260.000	┬54490.000	94.4%	278.200	290.600	279.500
2	17:15:42	┬2971.000	342.600	┬63570.000	56320.000	┬56530.000	┬93.5%	286.000	294.700	283.100
3	17:16:08	┬2908.000	360.000	┬63010.000	56300.000	┬56830.000	94.0%	283.500	293.600	282.600
x		┬97.589%	340.800	┬104.164%	55630.000	┬93.253%	┬94.0%	94.203%	97.653%	93.900%
σ		┬n/a	20.150	┬n/a	1184.000	┬n/a	┬0.4%	n/a	n/a	n/a
%RSD		┬1.297	5.911	┬2.241	2.129	┬2.271	┬0.5	1.408	0.720	0.691

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	-8.282	┬270.300	┬51370.000	┬59500.000	279.900	277.000	256.500	286.900	278.000
2	17:15:42	-5.435	┬285.900	┬54230.000	┬62230.000	284.600	282.100	262.600	289.600	279.500
3	17:16:08	-6.767	┬282.300	┬54240.000	┬61490.000	283.500	273.500	261.700	282.600	274.300
x		-6.828	┬93.167%	┬88.805%	┬101.797%	94.221%	92.503%	260.300	95.453%	92.420%
σ		1.425	┬n/a	┬n/a	┬n/a	n/a	n/a	3.315	n/a	n/a
%RSD		20.870	┬2.927	┬3.102	┬2.311	0.862	1.565	1.274	1.238	0.974

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	282.300	263.300	1.942	1.029	283.600	-0.601	88.8%	279.500	277.800
2	17:15:42	281.300	264.000	2.217	0.835	283.400	-0.627	89.6%	303.800	301.700
3	17:16:08	277.300	256.100	2.115	-0.273	280.800	-0.237	91.7%	313.000	310.400
x		93.430%	261.100	2.092	0.530	94.207%	-0.488	90.0%	99.590%	98.871%
σ		n/a	4.403	0.139	0.703	n/a	0.218	1.5%	n/a	n/a
%RSD		0.949	1.686	6.643	132.500	0.550	44.680	1.7	5.785	5.685

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	277.500	270.200	281.400	-4.399	256.500	266.100	277.600	86.7%	293.600
2	17:15:42	301.200	273.800	289.100	-3.256	261.500	272.800	286.000	87.7%	305.400
3	17:16:08	309.000	267.200	283.900	-3.125	256.500	264.400	280.000	90.0%	299.500
x		98.637%	270.400	94.927%	-3.593	258.200	267.700	93.739%	88.1%	99.834%
σ		n/a	3.303	n/a	0.701	2.923	4.433	n/a	1.7%	n/a
%RSD		5.558	1.221	1.378	19.500	1.132	1.656	1.539	1.9	1.967

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	283.000	266.900	273.000	283.500	278.100	90.7%	281.000	┬279.700	287.700
2	17:15:42	291.500	276.900	284.900	287.700	285.300	91.4%	286.600	┬288.300	297.100
3	17:16:08	287.100	271.300	277.500	285.100	282.800	93.3%	285.000	┬285.700	293.500
x		95.727%	90.561%	92.822%	95.143%	94.020%	91.8%	94.728%	┬94.854%	97.599%
σ		n/a	n/a	n/a	n/a	n/a	1.3%	n/a	┬n/a	n/a
%RSD		1.468	1.846	2.161	0.755	1.302	1.5	1.008	┬1.540	1.618

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:15:16	281.800	272.900	84.3%
2	17:15:42	290.400	281.500	85.3%
3	17:16:08	288.400	280.500	87.3%
x		95.616%	92.761%	85.6%
σ		n/a	n/a	1.5%
%RSD		1.575	1.694	1.8

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 17:20:12 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	103.0%	0.024	1.408	1.777	-1.265	-0.064	-0.092	-0.097	-1.128
2	17:21:03	104.7%	0.023	1.172	1.578	-1.702	-0.102	-0.117	0.068	-1.118
3	17:21:28	109.5%	0.024	1.098	1.256	-2.242	-0.233	-0.326	-0.430	-0.965
x		105.8%	0.024	1.226	1.537	-1.736	-0.133	-0.178	-0.153	-1.070
σ		3.4%	0.001	0.162	0.263	0.489	0.089	0.129	0.254	0.091
%RSD		3.2	3.118	13.230	17.090	28.190	66.610	72.170	165.500	8.520

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	T 1.877	204.900	0.603	2.003	2.047	101.8%	-0.009	0.097	-0.022
2	17:21:03	8.236	219.500	-0.389	3.670	0.529	103.2%	-0.072	0.105	0.005
3	17:21:28	T -0.509	238.800	-2.727	4.921	0.523	102.9%	-0.017	0.080	-0.016
x		T 3.201	221.100	-0.838	3.531	1.033	102.6%	-0.033	0.094	-0.011
σ		T 4.520	17.040	1.709	1.464	0.879	0.8%	0.035	0.013	0.014
%RSD		T 141.200	7.709	204.100	41.460	85.070	0.8	106.700	13.620	128.800

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	0.047	0.007	-0.640	1.856	0.005	0.035	-0.019	0.013	-0.057
2	17:21:03	0.038	0.012	-3.391	-0.372	0.011	-0.008	-0.015	-0.011	-0.017
3	17:21:28	0.062	0.004	-3.288	-0.338	0.005	0.017	-0.007	-0.006	-0.005
x		0.049	0.007	-2.440	0.382	0.007	0.015	-0.013	-0.001	-0.026
σ		0.012	0.004	1.559	1.277	0.004	0.022	0.006	0.013	0.027
%RSD		25.090	52.040	63.920	333.900	49.370	147.300	46.380	971.200	102.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	-0.045	0.083	0.467	0.365	-0.187	-1.978	98.4%	0.370	0.426
2	17:21:03	-0.016	-0.002	0.971	0.078	-0.228	0.713	99.6%	0.450	0.507
3	17:21:28	-0.075	0.144	0.633	0.553	-0.240	-0.447	100.0%	0.414	0.429
x		-0.045	0.075	0.690	0.332	-0.219	-0.571	99.3%	0.411	0.454
σ		0.030	0.073	0.257	0.240	0.028	1.350	0.9%	0.040	0.046
%RSD		65.410	97.170	37.220	72.140	12.860	236.500	0.9	9.768	10.090

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	0.426	0.053	0.012	-0.026	0.008	0.006	-0.003	97.6%	0.147
2	17:21:03	0.462	0.258	0.006	-0.073	0.006	-0.003	0.002	98.8%	0.121
3	17:21:28	0.408	0.277	0.001	-0.096	0.009	0.003	0.002	99.1%	0.138
x		0.432	0.196	0.006	-0.065	0.008	0.002	0.000	98.5%	0.135
σ		0.028	0.124	0.006	0.036	0.001	0.004	0.003	0.8%	0.013
%RSD		6.399	63.350	86.510	55.080	14.790	207.000	1783.000	0.8	9.769

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	0.170	0.290	0.295	-0.012	0.001	96.6%	0.026	0.021	0.007
2	17:21:03	0.197	0.341	0.363	0.026	0.005	98.5%	0.022	0.024	0.007
3	17:21:28	0.182	0.314	0.372	0.000	-0.019	99.8%	0.022	0.022	0.004
x		0.183	0.315	0.343	0.005	-0.004	98.3%	0.024	0.022	0.006
σ		0.014	0.026	0.042	0.019	0.013	1.6%	0.002	0.001	0.002
%RSD		7.392	8.153	12.280	400.500	308.700	1.6	8.961	6.051	26.050

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:20:37	0.011	0.011	96.7%
2	17:21:03	0.000	0.004	97.9%
3	17:21:28	0.005	0.003	99.1%
x		0.006	0.006	97.9%
σ		0.006	0.004	1.2%
%RSD		102.200	70.130	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-004 5/19/2017 17:25:33

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	95.9%	0.027	6.193	T -18.450	T 9251.000	T 17330.000	T 17090.000	T 17440.000	2.155
2	17:26:24	98.5%	0.018	5.761	5.686	T 9417.000	T 17000.000	T 16700.000	T 17010.000	2.489
3	17:26:49	96.8%	0.030	5.956	5.675	T 9174.000	T 17140.000	T 17080.000	T 17560.000	2.578
x		97.1%	0.025	5.970	T -2.362	T 9281.000	T 17150.000	T 16960.000	T 17340.000	2.407
σ		1.3%	0.006	0.217	T 13.930	T 123.900	T 164.900	T 224.300	T 292.800	0.223
%RSD		1.3	24.040	3.630	T 589.800	T 1.335	T 0.961	T 1.323	T 1.689	9.263

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	T 6643.000	T 44710.000	T 1822.000	M 130800.000	TM 127200.000	T 96.7%	0.663	0.171	0.055
2	17:26:24	T 6565.000	T 44680.000	T 1818.000	M 130600.000	TM 126400.000	96.5%	0.709	0.005	0.068
3	17:26:49	T 6770.000	T 46610.000	T 1868.000	M 134700.000	TM 130900.000	T 94.4%	0.643	-0.027	0.080
x		T 6659.000	T 45330.000	T 1836.000	M 132000.000	TM 128200.000	T 95.9%	0.672	0.049	0.068
σ		T 103.400	T 1106.000	T 27.990	M 2348.000	TM 2385.000	T 1.3%	0.034	0.106	0.012
%RSD		T 1.552	T 2.439	T 1.525	M 1.778	TM 1.861	T 1.3	5.025	215.000	18.320

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	6.288	21.580	21.780	615.300	1.608	2.152	0.274	0.647	1.406
2	17:26:24	6.649	21.740	19.190	567.400	1.529	1.983	0.245	0.564	1.310
3	17:26:49	6.909	22.500	19.710	571.200	1.508	2.095	0.234	0.578	1.321
x		6.616	21.940	20.230	584.600	1.548	2.077	0.251	0.596	1.345
σ		0.312	0.489	1.368	26.610	0.052	0.086	0.020	0.044	0.052
%RSD		4.714	2.229	6.765	4.552	3.386	4.149	8.076	7.438	3.890

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	0.213	0.401	5.238	4.485	0.656	-0.282	92.4%	-0.099	0.115
2	17:26:24	0.256	0.023	5.458	4.023	0.519	-0.914	92.9%	0.070	0.068
3	17:26:49	0.154	0.283	4.519	4.122	0.037	-0.297	93.2%	0.055	0.038
x		0.207	0.236	5.072	4.210	0.404	-0.498	92.8%	0.008	0.074
σ		0.051	0.194	0.491	0.243	0.325	0.361	0.4%	0.094	0.038
%RSD		24.650	82.150	9.690	5.772	80.400	72.520	0.4	1112.000	52.070

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	0.004	54.460	0.006	-20.780	0.007	-0.006	-0.205	89.9%	0.098
2	17:26:24	0.011	50.780	0.005	-19.330	0.006	0.002	-0.195	91.7%	0.103
3	17:26:49	-0.006	52.710	0.010	-20.070	0.009	-0.000	-0.199	90.8%	0.088
x		0.003	52.650	0.007	-20.060	0.007	-0.001	-0.200	90.8%	0.096
σ		0.009	1.843	0.003	0.723	0.002	0.004	0.005	0.9%	0.008
%RSD		296.600	3.500	41.760	3.603	23.300	303.600	2.701	1.0	7.988

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	7.468	0.134	0.114	11.700	11.560	92.3%	0.120	0.118	0.021
2	17:26:24	7.114	0.161	0.181	11.720	11.570	94.4%	0.071	0.074	0.025
3	17:26:49	7.225	0.180	0.182	12.400	11.500	94.9%	0.045	0.040	0.006
x		7.269	0.159	0.159	11.940	11.540	93.9%	0.079	0.077	0.017
σ		0.181	0.023	0.039	0.399	0.038	1.4%	0.038	0.039	0.010
%RSD		2.491	14.480	24.310	3.343	0.328	1.5	48.110	50.650	58.680

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:25:58	0.016	0.004	86.7%
2	17:26:24	0.008	0.020	89.9%
3	17:26:49	0.015	0.014	89.1%
x		0.013	0.013	88.6%
σ		0.004	0.008	1.6%
%RSD		30.190	63.510	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-005 5/19/2017 17:30:54

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	91.1%	0.115	39.110	41.280	T 29010.000	T 27200.000	T 26920.000	T 28160.000	2.214
2	17:31:47	94.2%	0.123	41.010	41.490	T 28880.000	T 27050.000	T 26850.000	T 27160.000	2.084
3	17:32:13	93.7%	0.108	39.870	41.640	T 27980.000	T 26710.000	T 26780.000	T 27310.000	2.229
x		93.0%	0.115	40.000	41.470	T 28620.000	T 26990.000	T 26850.000	T 27540.000	2.176
σ		1.7%	0.007	0.960	0.181	T 556.800	T 247.400	T 73.810	T 536.400	0.080
%RSD		1.8	6.181	2.400	0.437	T 1.946	T 0.917	T 0.275	T 1.947	3.678

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	TM 14790.000	T 48870.000	603.400	M 201900.000	TM 191100.000	T 92.7%	1.738	-0.271	0.086
2	17:31:47	TM 14660.000	T 50020.000	615.900	TM 199400.000	TM 193600.000	T 93.0%	1.493	0.096	0.112
3	17:32:13	TM 14800.000	T 50990.000	622.300	TM 200600.000	TM 193400.000	91.1%	1.501	0.144	0.121
x		TM 14750.000	T 49960.000	613.900	TM 200600.000	TM 192700.000	T 92.3%	1.577	-0.011	0.106
σ		TM 77.560	T 1058.000	9.633	TM 1269.000	TM 1356.000	T 1.0%	0.140	0.227	0.018
%RSD		TM 0.526	T 2.118	1.569	TM 0.633	TM 0.704	T 1.1	8.840	2153.000	17.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	6.544	TM 1077.000	T 3422.000	4507.000	-3.809	6.385	0.310	0.707	1.645
2	17:31:47	5.847	TM 1076.000	T 3436.000	4471.000	-3.752	6.221	0.281	0.677	1.460
3	17:32:13	5.791	TM 1109.000	T 3536.000	4584.000	-3.771	6.091	0.326	0.622	1.631
x		6.061	TM 1087.000	T 3465.000	4521.000	-3.777	6.232	0.306	0.669	1.578
σ		0.420	TM 18.510	T 61.810	57.620	0.029	0.147	0.023	0.043	0.103
%RSD		6.921	TM 1.702	T 1.784	1.274	0.759	2.365	7.509	6.486	6.528

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	0.339	0.086	292.400	296.800	0.098	0.835	89.2%	-0.160	-0.118
2	17:31:47	0.519	-0.237	295.700	288.400	0.184	-0.828	90.9%	-0.179	-0.160
3	17:32:13	0.060	-0.079	297.800	298.700	-0.157	-0.637	90.3%	-0.225	-0.122
x		0.306	-0.077	295.300	294.600	0.042	-0.210	90.1%	-0.188	-0.133
σ		0.231	0.161	2.715	5.506	0.177	0.910	0.9%	0.033	0.023
%RSD		75.650	210.100	0.920	1.869	424.700	433.000	1.0	17.800	17.400

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	-0.219	79.250	0.005	-30.210	-0.004	-0.002	-0.299	87.4%	0.044
2	17:31:47	-0.175	78.140	-0.004	-29.800	-0.003	0.006	-0.300	88.7%	0.081
3	17:32:13	-0.176	72.420	-0.002	-27.550	-0.004	-0.003	-0.266	90.2%	0.052
x		-0.190	76.600	-0.000	-29.190	-0.004	0.000	-0.288	88.8%	0.059
σ		0.025	3.663	0.005	1.432	0.001	0.005	0.019	1.4%	0.020
%RSD		13.320	4.782	1121.000	4.908	25.470	1279.000	6.593	1.6	33.180

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	10.890	0.045	0.042	197.800	193.900	90.5%	-0.003	-0.002	0.047
2	17:31:47	10.720	0.065	0.069	195.300	193.000	92.6%	-0.004	-0.005	0.048
3	17:32:13	10.090	0.085	0.034	197.700	193.800	93.8%	0.011	-0.004	0.034
x		10.570	0.065	0.049	196.900	193.500	92.3%	0.001	-0.004	0.043
σ		0.419	0.020	0.018	1.423	0.499	1.7%	0.008	0.002	0.008
%RSD		3.965	30.590	37.260	0.723	0.258	1.8	562.100	47.730	17.800

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:31:20	0.057	0.044	84.1%
2	17:31:47	0.052	0.047	86.8%
3	17:32:13	0.043	0.042	88.1%
x		0.051	0.044	86.3%
σ		0.007	0.003	2.1%
%RSD		14.560	6.267	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-006 5/19/2017 17:36:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	90.2%	0.180	156.700	154.400	T 77860.000	T 32450.000	T 31990.000	T 33440.000	6.904
2	17:37:10	91.2%	0.158	151.200	152.500	T 77520.000	T 32030.000	T 31990.000	T 32840.000	T 0.158
3	17:37:36	92.9%	0.132	148.500	150.000	T 75460.000	T 31580.000	T 31660.000	T 32870.000	6.701
x		91.4%	0.157	152.200	152.300	T 76950.000	T 32020.000	T 31880.000	T 33050.000	T 4.588
σ		1.4%	0.024	4.183	2.217	T 1298.000	T 433.500	T 192.500	T 339.200	T 3.838
%RSD		1.5	15.250	2.749	1.455	T 1.686	T 1.354	T 0.604	T 1.026	T 83.660
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	TM 11400.000	T 53370.000	T 713.200	TM 215500.000	TM 204400.000	T 94.2%	1.117	-0.059	0.202
2	17:37:10	TM 11410.000	T 54810.000	694.300	TM 213100.000	TM 205300.000	T 92.9%	1.094	0.033	0.187
3	17:37:36	TM 11190.000	T 54050.000	678.500	TM 210400.000	TM 203200.000	95.1%	1.316	0.057	0.178
x		TM 11330.000	T 54080.000	T 695.300	TM 213000.000	TM 204300.000	T 94.1%	1.176	0.010	0.189
σ		TM 123.100	T 717.100	T 17.380	TM 2557.000	TM 1034.000	T 1.1%	0.122	0.061	0.012
%RSD		TM 1.086	T 1.326	T 2.499	TM 1.200	TM 0.506	T 1.1	10.370	595.800	6.400
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	6.681	TM 837.200	T 1428.000	2427.000	-2.123	14.620	0.246	0.476	1.981
2	17:37:10	6.462	TM 845.400	T 1450.000	2391.000	-2.029	13.830	0.231	0.369	1.931
3	17:37:36	6.374	TM 836.100	T 1427.000	2322.000	-2.082	13.130	0.241	0.425	1.808
x		6.505	TM 839.600	T 1435.000	2380.000	-2.078	13.860	0.239	0.423	1.907
σ		0.158	TM 5.055	T 13.170	53.600	0.047	0.746	0.008	0.054	0.089
%RSD		2.431	TM 0.602	T 0.917	2.252	2.260	5.384	3.170	12.640	4.655
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	6.471	-0.034	491.700	497.200	0.373	-0.301	T 89.3%	-0.026	0.011
2	17:37:10	6.835	-0.352	496.000	504.100	0.923	-0.657	90.5%	-0.017	0.135
3	17:37:36	6.470	-0.242	482.800	492.300	1.091	-0.857	T 91.4%	-0.057	0.063
x		6.592	-0.209	490.200	497.900	0.796	-0.605	T 90.4%	-0.033	0.070
σ		0.210	0.162	6.763	5.918	0.375	0.282	T 1.1%	0.021	0.062
%RSD		3.188	77.300	1.380	1.189	47.180	46.530	T 1.2	64.770	89.550
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	-0.022	162.600	-0.004	-62.000	-0.006	-0.003	-0.636	86.5%	0.376
2	17:37:10	0.016	142.800	0.000	-54.420	-0.005	0.006	-0.558	87.7%	0.471
3	17:37:36	-0.016	141.000	0.001	-53.680	-0.003	-0.000	-0.552	90.0%	0.394
x		-0.007	148.800	-0.001	-56.700	-0.005	0.001	-0.582	88.1%	0.414
σ		0.021	11.980	0.003	4.605	0.002	0.005	0.047	1.8%	0.051
%RSD		291.700	8.049	287.100	8.121	35.040	625.000	8.080	2.0	12.280
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	22.580	0.008	0.036	209.200	206.200	90.1%	-0.005	-0.008	0.007
2	17:37:10	19.890	0.031	0.055	209.400	207.300	92.7%	-0.003	-0.008	0.025
3	17:37:36	19.860	0.024	0.044	205.400	202.500	94.5%	-0.009	-0.007	0.010
x		20.770	0.021	0.045	208.000	205.400	92.4%	-0.006	-0.008	0.014
σ		1.560	0.012	0.009	2.273	2.508	2.2%	0.004	0.001	0.010
%RSD		7.508	57.330	20.840	1.093	1.221	2.4	62.600	8.421	69.020
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	17:36:44	0.018	0.015	81.9%						
2	17:37:10	0.009	0.016	84.1%						
3	17:37:36	0.008	0.012	85.8%						
x		0.012	0.014	83.9%						
σ		0.006	0.002	2.0%						
%RSD		46.940	14.030	2.4						

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-007 5/19/2017 17:41:42

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	90.6%	0.049	187.600	178.600	T 64220.000	T 20000.000	T 19680.000	T 20760.000	1.818
2	17:42:32	92.0%	0.029	192.200	189.400	T 63980.000	T 20140.000	T 20200.000	T 20830.000	2.229
3	17:42:58	94.7%	0.039	186.600	183.700	T 62260.000	T 19970.000	T 19860.000	T 20030.000	2.068
x		92.4%	0.039	188.800	183.900	T 63490.000	T 20040.000	T 19910.000	T 20540.000	2.038
σ		2.1%	0.010	2.974	5.405	T 1068.000	T 94.130	T 263.300	T 443.600	0.207
%RSD		2.3	25.920	1.575	2.938	T 1.683	T 0.470	T 1.322	T 2.159	10.160

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	T 8179.000	T 47750.000	701.000	M 108600.000	TM 105900.000	T 95.4%	0.900	-0.010	-0.093
2	17:42:32	T 8336.000	T 49640.000	734.000	M 112700.000	TM 109400.000	92.2%	0.755	0.256	-0.068
3	17:42:58	T 8195.000	T 50210.000	741.200	M 114100.000	TM 111300.000	T 91.9%	0.882	0.237	-0.093
x		T 8237.000	T 49200.000	725.400	M 111800.000	TM 108900.000	T 93.2%	0.845	0.161	-0.085
σ		T 86.670	T 1289.000	21.400	M 2834.000	TM 2744.000	T 1.9%	0.079	0.149	0.014
%RSD		T 1.052	T 2.620	2.950	M 2.535	TM 2.521	T 2.1	9.332	92.270	16.690

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	7.336	89.250	T 253.700	737.900	-2.100	1.619	0.276	0.492	4.790
2	17:42:32	7.305	94.580	T 270.000	730.000	-2.180	1.569	0.298	0.438	4.547
3	17:42:58	7.165	95.640	T 273.200	719.700	-2.183	1.431	0.354	0.434	4.630
x		7.269	93.160	T 265.600	729.200	-2.155	1.540	0.309	0.454	4.656
σ		0.091	3.424	T 10.470	9.125	0.047	0.097	0.041	0.032	0.123
%RSD		1.251	3.675	T 3.941	1.251	2.185	6.322	13.100	7.112	2.649

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	1.736	-0.207	14.770	16.960	-0.212	-0.814	90.1%	-0.234	-0.118
2	17:42:32	1.556	-0.123	15.750	16.540	-0.260	-1.104	89.8%	-0.199	-0.129
3	17:42:58	1.673	0.066	14.780	14.220	0.027	-0.648	90.4%	-0.170	-0.079
x		1.655	-0.088	15.100	15.910	-0.148	-0.856	90.1%	-0.201	-0.109
σ		0.091	0.140	0.564	1.475	0.154	0.231	0.3%	0.032	0.027
%RSD		5.513	158.600	3.736	9.273	104.000	26.980	0.3	16.000	24.490

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	-0.191	237.200	0.003	-90.440	-0.004	-0.003	-0.904	87.9%	0.060
2	17:42:32	-0.195	229.900	-0.004	-87.640	-0.004	-0.003	-0.856	87.7%	0.085
3	17:42:58	-0.139	215.000	-0.007	-81.980	-0.006	0.000	-0.819	88.4%	0.050
x		-0.175	227.400	-0.003	-86.690	-0.005	-0.002	-0.860	88.0%	0.065
σ		0.031	11.300	0.005	4.313	0.001	0.002	0.043	0.3%	0.018
%RSD		17.720	4.970	175.100	4.976	27.240	99.130	4.954	0.4	27.410

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	32.350	-0.028	0.028	28.080	26.860	91.7%	-0.007	-0.012	0.008
2	17:42:32	31.390	-0.008	0.027	29.440	27.930	91.4%	-0.012	-0.010	0.025
3	17:42:58	29.330	0.010	0.026	29.290	29.110	92.8%	-0.009	-0.007	0.024
x		31.020	-0.009	0.027	28.940	27.970	92.0%	-0.009	-0.010	0.019
σ		1.540	0.019	0.001	0.745	1.125	0.8%	0.002	0.002	0.009
%RSD		4.964	216.500	3.827	2.575	4.024	0.8	23.650	23.940	49.880

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:42:07	0.018	0.011	84.7%
2	17:42:32	0.027	0.023	85.6%
3	17:42:58	0.026	0.019	85.3%
x		0.024	0.018	85.2%
σ		0.004	0.006	0.5%
%RSD		18.800	32.660	0.6

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-001 5/19/2017 17:47:03

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	93.2%	0.040	124.500	115.100	┬19270.000	┬24970.000	┬24960.000	┬25530.000	┬8.169
2	17:47:54	96.2%	-0.003	117.900	112.200	┬18640.000	┬24310.000	┬24430.000	┬24760.000	13.570
3	17:48:20	97.0%	0.027	120.600	118.100	┬18490.000	┬24540.000	┬24400.000	┬24430.000	┬7.925
x		95.4%	0.021	121.000	115.100	┬18800.000	┬24610.000	┬24600.000	┬24910.000	┬9.888
σ		2.0%	0.022	3.332	2.961	┬414.600	┬333.000	┬312.300	┬564.900	┬3.191
%RSD		2.1	103.200	2.753	2.573	┬2.205	┬1.353	┬1.270	┬2.268	┬32.270

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	┬8940.000	┬45680.000	516.400	87530.000	┬86110.000	┬94.8%	0.996	0.365	0.241
2	17:47:54	┬8707.000	┬44610.000	507.300	86970.000	┬85110.000	┬95.4%	2.175	0.236	0.265
3	17:48:20	┬8664.000	┬45230.000	517.900	87650.000	┬87030.000	93.2%	1.191	-0.107	0.208
x		┬8770.000	┬45180.000	513.900	87390.000	┬86080.000	┬94.4%	1.454	0.165	0.238
σ		┬148.600	┬538.200	5.772	365.200	┬962.400	┬1.1%	0.632	0.244	0.029
%RSD		┬1.695	┬1.191	1.123	0.418	┬1.118	┬1.2	43.480	148.100	12.060

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	7.392	52.250	179.200	539.600	1.593	2.624	0.249	0.443	2.657
2	17:47:54	7.422	51.980	178.300	525.200	1.594	2.807	0.263	0.472	2.474
3	17:48:20	7.688	54.090	184.100	530.000	1.620	2.579	0.251	0.406	2.748
x		7.501	52.770	180.500	531.600	1.602	2.670	0.255	0.440	2.626
σ		0.163	1.148	3.160	7.333	0.016	0.121	0.008	0.033	0.139
%RSD		2.176	2.176	1.751	1.379	0.972	4.531	2.985	7.532	5.305

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	0.101	0.021	9.680	8.414	-0.295	-0.344	90.3%	0.307	0.310
2	17:47:54	0.569	0.031	9.527	9.113	-0.164	-0.850	91.2%	0.310	0.337
3	17:48:20	0.545	-0.227	8.336	7.877	-0.507	-0.682	91.2%	0.367	0.363
x		0.405	-0.058	9.181	8.468	-0.322	-0.625	90.9%	0.328	0.337
σ		0.264	0.147	0.736	0.620	0.174	0.258	0.5%	0.034	0.027
%RSD		65.140	251.000	8.014	7.321	53.910	41.270	0.6	10.380	7.925

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	0.327	167.800	0.001	-63.910	-0.006	0.087	-0.582	89.2%	0.041
2	17:47:54	0.301	171.600	-0.002	-65.340	-0.003	0.049	-0.576	89.6%	0.054
3	17:48:20	0.378	157.400	-0.002	-59.950	-0.006	0.063	-0.537	90.1%	0.069
x		0.336	165.600	-0.001	-63.060	-0.005	0.066	-0.565	89.6%	0.055
σ		0.039	7.335	0.002	2.792	0.002	0.020	0.024	0.5%	0.014
%RSD		11.670	4.429	170.300	4.428	31.920	29.570	4.266	0.5	25.300

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	23.030	0.060	0.069	92.620	90.580	91.5%	-0.007	-0.011	0.052
2	17:47:54	23.490	0.038	0.055	91.690	90.870	93.0%	-0.012	-0.013	0.044
3	17:48:20	21.660	0.067	0.040	91.270	90.950	94.4%	-0.009	-0.011	0.069
x		22.730	0.055	0.055	91.860	90.800	93.0%	-0.009	-0.012	0.055
σ		0.952	0.015	0.015	0.692	0.192	1.4%	0.002	0.001	0.013
%RSD		4.187	26.700	27.080	0.754	0.211	1.6	23.780	9.747	23.950

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:47:28	0.042	0.039	86.8%
2	17:47:54	0.041	0.043	89.1%
3	17:48:20	0.053	0.054	89.4%
x		0.045	0.045	88.4%
σ		0.007	0.008	1.4%
%RSD		14.890	17.780	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-002 5/19/2017 17:52:26

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	93.7%	0.005	6.917	7.698	T 8822.000	T 11670.000	T 11470.000	T 11750.000	T 28.670
2	17:53:17	94.3%	0.009	7.769	7.292	T 8591.000	T 11480.000	T 11470.000	T 11680.000	T 29.230
3	17:53:43	93.1%	0.025	7.737	8.134	T 8992.000	T 11920.000	T 11840.000	T 12080.000	T 28.760
x		93.7%	0.013	7.475	7.708	T 8802.000	T 11690.000	T 11590.000	T 11840.000	T 28.890
σ		0.6%	0.010	0.483	0.421	T 201.400	T 220.500	T 212.600	T 210.100	T 0.300
%RSD		0.6	79.990	6.459	5.463	T 2.288	T 1.886	T 1.834	T 1.775	T 1.040

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	T 7190.000	T 42630.000	270.900	M 122700.000	TM 120000.000	T 94.2%	1.126	0.085	0.407
2	17:53:17	T 7140.000	T 43120.000	274.700	M 122700.000	TM 119400.000	T 93.3%	1.105	0.225	0.430
3	17:53:43	T 7493.000	T 46070.000	288.900	M 130500.000	TM 127000.000	T 90.8%	1.886	0.251	0.468
x		T 7274.000	T 43940.000	278.200	M 125300.000	TM 122100.000	T 92.8%	1.372	0.187	0.435
σ		T 191.400	T 1860.000	9.486	M 4503.000	TM 4196.000	T 1.7%	0.445	0.089	0.031
%RSD		T 2.631	T 4.234	3.410	M 3.594	TM 3.436	T 1.9	32.440	47.660	7.039

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	7.172	1.852	48.350	592.900	-2.149	2.228	0.265	0.590	2.939
2	17:53:17	7.001	1.864	48.130	556.600	-2.137	2.200	0.295	0.532	2.876
3	17:53:43	7.019	2.047	T 56.870	606.900	-2.258	2.290	0.345	0.492	3.133
x		7.064	1.921	T 51.120	585.400	-2.181	2.239	0.302	0.538	2.983
σ		0.094	0.109	T 4.983	25.950	0.067	0.046	0.041	0.049	0.134
%RSD		1.330	5.684	T 9.747	4.433	3.051	2.062	13.440	9.129	4.495

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	-0.008	-0.324	23.650	23.900	-0.118	-1.097	89.3%	-0.195	-0.139
2	17:53:17	-0.012	0.320	23.560	22.530	0.284	-0.675	91.0%	-0.159	-0.096
3	17:53:43	0.273	-0.473	24.640	25.580	0.304	1.499	89.0%	-0.135	-0.029
x		0.084	-0.159	23.950	24.000	0.157	-0.091	89.8%	-0.163	-0.088
σ		0.163	0.421	0.600	1.528	0.238	1.393	1.1%	0.031	0.055
%RSD		193.700	264.900	2.506	6.364	152.200	1527.000	1.2	18.750	63.270

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	-0.109	51.080	-0.002	-19.430	-0.003	-0.006	-0.197	88.1%	0.033
2	17:53:17	-0.133	54.070	-0.001	-20.600	-0.006	-0.006	-0.198	89.1%	0.036
3	17:53:43	-0.125	49.190	-0.003	-18.720	0.001	-0.003	-0.183	88.1%	0.060
x		-0.122	51.450	-0.002	-19.580	-0.002	-0.005	-0.193	88.4%	0.043
σ		0.012	2.464	0.001	0.949	0.004	0.002	0.008	0.6%	0.015
%RSD		9.682	4.789	44.460	4.844	149.300	36.610	4.354	0.6	33.950

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	7.083	-0.026	-0.017	36.230	35.470	91.0%	-0.012	-0.013	0.030
2	17:53:17	7.328	-0.012	-0.038	36.820	35.930	92.5%	-0.007	-0.010	0.031
3	17:53:43	6.860	-0.001	-0.052	37.950	36.890	91.4%	-0.011	-0.010	0.028
x		7.091	-0.013	-0.036	37.000	36.100	91.6%	-0.010	-0.011	0.029
σ		0.234	0.012	0.017	0.871	0.720	0.8%	0.003	0.002	0.002
%RSD		3.302	96.980	49.090	2.353	1.995	0.9	28.650	13.400	5.264

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:52:51	0.023	0.024	86.0%
2	17:53:17	0.033	0.024	88.3%
3	17:53:43	0.025	0.026	86.9%
x		0.027	0.025	87.1%
σ		0.006	0.001	1.2%
%RSD		20.270	4.200	1.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-003 5/19/2017 17:57:50

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	92.3%	0.009	1.676	2.262	T 5177.000	T 8142.000	T 8027.000	T 8333.000	4.504
2	17:58:42	93.1%	0.009	1.873	2.372	T 5179.000	T 8220.000	T 8133.000	T 8251.000	4.410
3	17:59:07	94.4%	-0.002	2.656	2.057	T 5171.000	T 8242.000	T 8179.000	T 8169.000	4.525
x		93.3%	0.005	2.068	2.230	T 5175.000	T 8201.000	T 8113.000	T 8251.000	4.480
σ		1.0%	0.007	0.519	0.160	T 3.785	T 52.390	T 78.020	T 82.200	0.062
%RSD		1.1	125.600	25.070	7.178	T 0.073	T 0.639	T 0.962	T 0.996	1.374

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	T 7042.000	T 41610.000	228.100	M 133500.000	TM 128200.000	92.5%	0.737	-0.046	0.004
2	17:58:42	T 7132.000	T 43480.000	235.000	M 137700.000	TM 133300.000	T 90.4%	0.724	0.170	0.065
3	17:59:07	T 7138.000	T 43710.000	237.900	M 138100.000	TM 134400.000	T 89.7%	0.826	0.329	0.079
x		T 7104.000	T 42930.000	233.700	M 136400.000	TM 132000.000	T 90.9%	0.762	0.151	0.050
σ		T 54.270	T 1151.000	5.062	M 2500.000	TM 3325.000	T 1.5%	0.055	0.188	0.040
%RSD		T 0.764	T 2.682	2.166	M 1.832	TM 2.519	T 1.6	7.267	124.900	80.210

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	7.313	0.865	10.220	589.200	-2.553	2.028	0.268	0.433	1.241
2	17:58:42	7.076	0.921	11.920	601.300	-2.600	1.982	0.227	0.511	1.286
3	17:59:07	6.767	0.906	11.430	587.200	-2.613	1.786	0.225	0.471	1.251
x		7.052	0.898	11.190	592.600	-2.589	1.932	0.240	0.472	1.259
σ		0.274	0.029	0.876	7.606	0.032	0.128	0.024	0.039	0.024
%RSD		3.884	3.235	7.832	1.284	1.222	6.629	9.947	8.357	1.898

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	-0.140	-0.090	12.580	11.600	-0.493	0.698	88.7%	-0.327	-0.250
2	17:58:42	0.089	-0.177	13.210	12.170	0.240	-1.100	90.0%	-0.321	-0.246
3	17:59:07	0.378	0.084	13.890	12.460	-0.234	0.169	90.2%	-0.357	-0.224
x		0.109	-0.061	13.220	12.080	-0.162	-0.078	89.6%	-0.335	-0.240
σ		0.259	0.133	0.653	0.438	0.372	0.924	0.8%	0.019	0.014
%RSD		238.200	218.100	4.937	3.629	228.900	1186.000	0.9	5.726	5.848

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	-0.320	37.520	-0.007	-14.310	-0.006	-0.005	-0.146	86.8%	0.034
2	17:58:42	-0.284	30.910	-0.003	-11.740	-0.006	-0.002	-0.117	88.1%	0.037
3	17:59:07	-0.273	35.500	-0.004	-13.540	-0.004	0.001	-0.133	88.2%	0.040
x		-0.292	34.640	-0.005	-13.190	-0.005	-0.002	-0.132	87.7%	0.037
σ		0.025	3.384	0.002	1.319	0.001	0.003	0.015	0.8%	0.003
%RSD		8.529	9.769	46.250	9.998	24.460	133.700	11.110	0.9	8.133

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	5.157	-0.055	-0.039	25.250	24.970	90.2%	-0.010	-0.010	0.012
2	17:58:42	4.285	-0.048	-0.040	25.810	24.930	91.9%	-0.009	-0.012	0.012
3	17:59:07	4.858	-0.044	-0.035	25.460	25.470	93.0%	-0.012	-0.011	0.022
x		4.767	-0.049	-0.038	25.510	25.130	91.7%	-0.010	-0.011	0.015
σ		0.443	0.005	0.003	0.283	0.302	1.4%	0.002	0.001	0.006
%RSD		9.301	11.020	6.999	1.109	1.201	1.5	15.140	9.949	36.710

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:58:16	0.013	0.012	86.5%
2	17:58:42	0.014	0.009	87.3%
3	17:59:07	0.015	0.011	88.0%
x		0.014	0.011	87.3%
σ		0.001	0.001	0.7%
%RSD		9.519	13.860	0.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004 5/19/2017 18:03:14

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	90.0%	0.089	23.400	22.930	T 15060.000	T 17010.000	T 16830.000	T 17240.000	3.075
2	18:04:06	91.7%	0.076	23.300	23.060	T 14710.000	T 16970.000	T 16600.000	T 17050.000	2.969
3	18:04:32	87.4%	0.068	23.030	22.670	T 14890.000	T 17240.000	T 17000.000	T 17380.000	3.278
x		89.7%	0.078	23.240	22.880	T 14890.000	T 17070.000	T 16810.000	T 17230.000	3.107
σ		2.2%	0.011	0.193	0.196	T 176.400	T 147.200	T 203.000	T 165.300	0.157
%RSD		2.4	13.580	0.828	0.856	T 1.185	T 0.862	T 1.207	T 0.959	5.049

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	T 7331.000	T 42830.000	323.300	M 155100.000	TM 149600.000	92.7%	0.782	-0.124	0.080
2	18:04:06	T 7141.000	T 43200.000	328.500	M 157500.000	TM 150800.000	91.7%	0.798	0.227	0.102
3	18:04:32	T 7344.000	T 45310.000	342.300	M 163300.000	TM 157700.000	87.0%	0.799	0.190	0.106
x		T 7272.000	T 43780.000	331.400	M 158600.000	TM 152700.000	90.5%	0.793	0.098	0.096
σ		T 114.000	T 1340.000	9.819	M 4235.000	TM 4392.000	3.1%	0.010	0.193	0.014
%RSD		T 1.568	T 3.060	2.963	M 2.670	TM 2.876	3.4	1.200	197.500	14.650

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	7.618	48.320	T 471.300	1167.000	-1.577	2.446	0.084	0.420	2.550
2	18:04:06	7.091	49.240	T 489.400	1152.000	-1.579	2.333	0.097	0.393	2.499
3	18:04:32	7.139	51.650	T 507.800	1148.000	-1.647	2.258	0.106	0.441	2.625
x		7.283	49.740	T 489.500	1156.000	-1.601	2.346	0.096	0.418	2.558
σ		0.292	1.721	T 18.280	9.896	0.040	0.094	0.011	0.024	0.063
%RSD		4.003	3.459	T 3.734	0.856	2.483	4.020	11.570	5.718	2.481

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	1.255	-0.145	21.460	20.580	-0.017	-1.189	87.4%	-0.284	-0.196
2	18:04:06	1.062	-0.341	20.970	21.220	0.256	-1.243	89.2%	-0.250	-0.107
3	18:04:32	1.494	0.043	22.460	22.880	0.168	0.930	85.1%	-0.248	-0.026
x		1.270	-0.148	21.630	21.560	0.136	-0.501	87.3%	-0.261	-0.110
σ		0.217	0.192	0.761	1.186	0.139	1.239	2.1%	0.020	0.085
%RSD		17.060	129.900	3.516	5.503	102.600	247.400	2.4	7.679	77.920

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	-0.238	101.900	-0.004	-38.770	-0.005	0.001	-0.381	86.9%	0.059
2	18:04:06	-0.193	97.290	-0.002	-37.060	-0.008	-0.003	-0.359	87.8%	0.038
3	18:04:32	-0.209	86.930	-0.005	-33.040	-0.004	0.007	-0.323	86.7%	0.035
x		-0.213	95.390	-0.004	-36.290	-0.006	0.002	-0.354	87.1%	0.044
σ		0.023	7.687	0.001	2.940	0.002	0.005	0.029	0.6%	0.013
%RSD		10.760	8.059	34.100	8.103	30.660	287.200	8.201	0.7	29.950

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	14.080	-0.039	-0.049	70.350	69.690	89.8%	-0.015	-0.010	0.028
2	18:04:06	13.380	-0.035	-0.023	70.120	68.930	92.1%	-0.012	-0.014	0.042
3	18:04:32	12.190	-0.021	-0.048	71.100	70.810	92.1%	-0.016	-0.012	0.040
x		13.220	-0.032	-0.040	70.520	69.810	91.3%	-0.014	-0.012	0.037
σ		0.958	0.010	0.015	0.512	0.944	1.3%	0.002	0.002	0.008
%RSD		7.251	30.940	36.870	0.725	1.352	1.4	15.310	15.440	20.980

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:03:40	0.027	0.023	84.8%
2	18:04:06	0.036	0.027	87.8%
3	18:04:32	0.015	0.030	85.8%
x		0.026	0.027	86.1%
σ		0.011	0.003	1.5%
%RSD		40.760	12.160	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004MS 5/19/2017 18:08:38

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	90.0%	79.130	110.000	100.900	T 15630.000	T 17480.000	T 17300.000	T 18360.000	76.340
2	18:09:29	89.9%	80.420	105.400	101.300	T 15630.000	T 17860.000	T 17580.000	T 18110.000	79.110
3	18:09:55	91.2%	76.890	98.450	100.800	T 15260.000	T 17620.000	T 17590.000	T 18130.000	77.540
x		90.4%	78.810	104.600	101.000	T 15510.000	T 17650.000	T 17490.000	T 18200.000	77.660
σ		0.7%	1.788	5.822	0.297	T 211.500	T 191.600	T 164.900	T 138.700	1.387
%RSD		0.8	2.269	5.564	0.294	T 1.364	T 1.085	T 0.943	T 0.762	1.786

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	T 7922.000	T 41190.000	T 1137.000	M 157100.000	TM 151000.000	T 94.2%	77.310	74.700	72.520
2	18:09:29	T 8046.000	T 41860.000	T 1167.000	M 160800.000	TM 154700.000	T 91.1%	79.030	75.810	74.910
3	18:09:55	T 7758.000	T 41020.000	T 1146.000	M 155800.000	TM 149000.000	T 92.0%	74.680	72.760	72.260
x		T 7909.000	T 41350.000	T 1150.000	M 157900.000	TM 151600.000	T 92.4%	77.000	74.420	73.230
σ		T 144.200	T 446.300	T 15.170	M 2581.000	TM 2885.000	T 1.6%	2.191	1.543	1.464
%RSD		T 1.823	T 1.079	T 1.319	M 1.634	TM 1.904	T 1.7	2.845	2.073	1.999

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	5.783	121.700	T 1174.000	1925.000	71.150	76.840	69.870	79.870	75.980
2	18:09:29	5.876	127.600	T 1237.000	1996.000	73.860	79.320	71.930	78.700	75.130
3	18:09:55	6.392	122.200	T 1186.000	1854.000	70.890	74.450	70.070	75.780	72.510
x		6.017	123.800	T 1199.000	1925.000	71.960	76.870	70.620	78.120	74.540
σ		0.328	3.293	T 33.310	70.650	1.647	2.436	1.137	2.109	1.808
%RSD		5.456	2.659	T 2.778	3.670	2.288	3.169	1.610	2.700	2.425

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	79.390	70.090	34.080	33.830	76.480	-0.288	89.0%	79.990	80.140
2	18:09:29	82.480	70.680	34.140	33.980	75.810	1.958	89.3%	85.660	86.080
3	18:09:55	77.840	69.590	32.500	32.090	73.640	-0.371	91.4%	84.010	83.620
x		79.900	70.120	33.570	33.300	75.310	0.433	89.9%	83.220	83.280
σ		2.360	0.543	0.932	1.053	1.484	1.321	1.3%	2.917	2.987
%RSD		2.954	0.774	2.775	3.162	1.970	305.100	1.5	3.506	3.587

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	78.240	174.400	73.430	-41.090	66.380	71.940	73.870	87.2%	78.480
2	18:09:29	83.550	168.800	73.930	-36.120	68.380	74.230	73.640	86.2%	80.580
3	18:09:55	82.350	161.000	71.120	-35.560	66.250	70.330	72.270	89.2%	78.990
x		81.380	168.100	72.830	-37.590	67.010	72.170	73.260	87.5%	79.350
σ		2.787	6.742	1.501	3.044	1.191	1.960	0.864	1.5%	1.092
%RSD		3.425	4.011	2.061	8.099	1.778	2.716	1.179	1.8	1.376

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	89.020	70.710	73.540	144.000	142.400	89.5%	74.150	74.300	76.560
2	18:09:29	89.500	73.530	76.060	147.800	145.400	92.3%	75.500	75.480	77.830
3	18:09:55	87.540	72.140	74.270	144.000	142.800	94.7%	73.140	73.340	75.120
x		88.690	72.120	74.620	145.300	143.500	92.2%	74.260	74.370	76.500
σ		1.022	1.411	1.293	2.224	1.657	2.6%	1.183	1.070	1.359
%RSD		1.152	1.957	1.733	1.531	1.154	2.8	1.593	1.439	1.776

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:09:03	75.030	71.110	84.6%
2	18:09:29	76.410	71.080	86.0%
3	18:09:55	73.840	69.400	88.5%
x		75.100	70.530	86.3%
σ		1.285	0.982	2.0%
%RSD		1.712	1.392	2.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004MD 5/19/2017 18:14:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	92.0%	82.050	110.700	105.600	T 15390.000	T 17510.000	T 17450.000	T 17750.000	78.930
2	18:14:52	90.1%	82.190	108.000	107.000	T 16000.000	T 18360.000	T 18040.000	T 18430.000	83.410
3	18:15:18	91.6%	79.810	107.100	107.000	T 15340.000	T 17790.000	T 17810.000	T 18060.000	82.090
x		91.2%	81.350	108.600	106.500	T 15580.000	T 17890.000	T 17770.000	T 18080.000	81.480
σ		1.0%	1.334	1.838	0.836	T 368.700	T 433.100	T 297.400	T 342.700	2.304
%RSD		1.1	1.640	1.692	0.785	T 2.367	T 2.421	T 1.674	T 1.896	2.827

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	T 7867.000	T 42280.000	T 1191.000	TM 156000.000	TM 150000.000	T 92.6%	80.400	76.460	75.080
2	18:14:52	T 8060.000	T 44060.000	T 1221.000	M 160900.000	TM 158300.000	T 90.1%	82.960	79.800	78.270
3	18:15:18	T 8052.000	T 44190.000	T 1236.000	M 160900.000	TM 155300.000	90.2%	81.410	79.540	78.380
x		T 7993.000	T 43510.000	T 1216.000	TM 159300.000	TM 154500.000	T 91.0%	81.590	78.600	77.240
σ		T 109.400	T 1066.000	T 23.260	TM 2824.000	TM 4232.000	T 1.4%	1.287	1.861	1.871
%RSD		T 1.368	T 2.450	T 1.913	TM 1.773	TM 2.738	T 1.5	1.577	2.368	2.423

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	6.506	125.000	T 1208.000	1968.000	75.000	82.400	73.430	81.510	78.340
2	18:14:52	7.034	131.500	T 1269.000	1996.000	77.080	82.610	76.070	83.920	82.160
3	18:15:18	5.939	131.500	T 1272.000	1997.000	77.560	79.270	73.580	79.490	78.430
x		6.493	129.300	T 1250.000	1987.000	76.550	81.430	74.360	81.640	79.640
σ		0.548	3.778	T 35.730	16.120	1.359	1.870	1.487	2.219	2.178
%RSD		8.433	2.921	T 2.859	0.811	1.776	2.297	1.999	2.718	2.734

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	81.820	70.950	24.270	24.170	78.800	1.010	88.9%	84.030	85.160
2	18:14:52	86.640	77.180	24.500	23.570	84.200	-0.223	88.0%	88.810	91.530
3	18:15:18	85.090	73.020	25.130	22.790	79.070	1.286	90.1%	91.250	92.360
x		84.520	73.720	24.630	23.510	80.690	0.691	89.0%	88.030	89.680
σ		2.462	3.178	0.448	0.691	3.044	0.803	1.0%	3.675	3.943
%RSD		2.913	4.311	1.819	2.940	3.773	116.200	1.1	4.174	4.396

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	83.470	178.300	76.760	-39.930	70.680	74.610	76.080	86.6%	81.880
2	18:14:52	88.870	179.200	79.380	-39.410	73.470	78.540	79.910	85.3%	86.010
3	18:15:18	90.460	168.700	76.510	-36.380	70.720	76.280	77.300	88.3%	85.200
x		87.600	175.400	77.550	-38.570	71.620	76.480	77.760	86.7%	84.370
σ		3.664	5.801	1.589	1.917	1.601	1.973	1.958	1.5%	2.191
%RSD		4.182	3.308	2.049	4.969	2.236	2.579	2.518	1.8	2.597

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	93.190	74.030	77.230	150.500	146.600	90.0%	77.250	77.500	79.290
2	18:14:52	95.130	78.780	81.280	155.300	152.500	90.6%	80.530	80.450	82.870
3	18:15:18	93.620	77.000	80.300	149.700	148.200	92.9%	78.550	78.230	80.790
x		93.980	76.600	79.600	151.800	149.100	91.2%	78.780	78.730	80.990
σ		1.018	2.397	2.109	2.991	3.047	1.5%	1.651	1.536	1.797
%RSD		1.083	3.129	2.649	1.970	2.043	1.7	2.095	1.951	2.219

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:14:27	77.430	73.160	84.7%
2	18:14:52	82.250	76.030	84.1%
3	18:15:18	78.850	74.560	86.8%
x		79.510	74.580	85.2%
σ		2.477	1.435	1.4%
%RSD		3.115	1.924	1.7

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 18:19:23 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	84.6%	292.000	292.000	269.100	┬53710.000	┬51730.000	┬51950.000	┬56480.000	279.100
2	18:20:14	85.0%	291.100	286.100	271.200	┬54600.000	┬53180.000	┬52830.000	┬56180.000	275.800
3	18:20:39	85.3%	287.200	287.600	280.900	┬55280.000	┬54320.000	┬54200.000	┬56900.000	290.300
x		85.0%	96.706%	96.189%	91.240%	┬90.886%	┬53080.000	┬52990.000	┬94.200%	93.910%
σ		0.4%	n/a	n/a	n/a	┬n/a	┬1299.000	┬1137.000	┬n/a	n/a
%RSD		0.4	0.872	1.050	2.310	┬1.444	┬2.448	┬2.145	┬0.645	2.686
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	┬2823.000	344.100	┬59910.000	53740.000	┬53870.000	┬93.3%	271.200	279.200	271.100
2	18:20:14	┬2855.000	365.400	┬59220.000	53360.000	┬53790.000	┬93.6%	273.100	┬283.000	274.100
3	18:20:39	┬2906.000	393.300	┬62590.000	55620.000	┬55790.000	91.1%	284.700	290.800	283.800
x		┬95.382%	367.600	┬100.954%	54240.000	┬90.807%	┬92.7%	92.111%	┬94.772%	92.109%
σ		┬n/a	24.680	┬n/a	1209.000	┬n/a	┬1.4%	n/a	┬n/a	n/a
%RSD		┬1.454	6.713	┬2.936	2.229	┬2.084	┬1.5	2.641	┬2.066	2.415
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	-6.047	┬267.600	┬50510.000	┬58490.000	273.400	276.400	252.500	280.300	270.200
2	18:20:14	-6.689	┬270.700	┬51330.000	┬59230.000	276.100	269.100	254.300	277.800	269.500
3	18:20:39	-5.945	┬283.700	┬53960.000	┬61240.000	282.800	274.700	262.400	282.700	275.700
x		-6.227	┬91.334%	┬86.554%	┬99.424%	92.471%	91.131%	256.400	93.423%	90.605%
σ		0.404	┬n/a	┬n/a	┬n/a	n/a	n/a	5.286	n/a	n/a
%RSD		6.480	┬3.105	┬3.468	┬2.385	1.735	1.383	2.062	0.881	1.248
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	276.700	254.500	2.498	0.516	282.400	-0.088	88.2%	276.500	275.900
2	18:20:14	270.800	256.300	2.949	0.559	273.000	-1.092	89.2%	288.900	288.300
3	18:20:39	279.600	265.200	2.161	1.277	280.300	-1.229	88.9%	314.600	312.200
x		91.904%	258.600	2.536	0.784	92.859%	-0.803	88.8%	97.781%	97.387%
σ		n/a	5.755	0.395	0.428	n/a	0.623	0.5%	n/a	n/a
%RSD		1.639	2.225	15.590	54.550	1.760	77.600	0.6	6.613	6.319
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	271.600	264.700	276.200	-2.594	251.000	259.900	273.100	85.3%	286.900
2	18:20:14	286.600	258.100	276.200	1.727	251.200	260.900	272.500	87.8%	290.000
3	18:20:39	310.700	268.000	283.600	-3.065	256.500	265.900	278.000	87.1%	299.800
x		96.554%	263.600	92.878%	-1.311	252.900	262.200	91.499%	86.7%	97.405%
σ		n/a	5.065	n/a	2.641	3.129	3.241	n/a	1.3%	n/a
%RSD		6.807	1.921	1.539	201.500	1.237	1.236	1.097	1.5	2.303
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	274.900	262.700	269.500	276.500	274.000	89.2%	273.500	┬273.300	280.400
2	18:20:14	277.600	262.600	270.700	275.100	275.500	90.4%	273.800	┬279.200	┬283.000
3	18:20:39	287.300	275.600	283.300	283.500	282.400	92.1%	284.100	┬281.400	┬293.700
x		93.310%	88.982%	91.508%	92.787%	92.432%	90.6%	92.368%	┬92.657%	┬95.237%
σ		n/a	n/a	n/a	n/a	n/a	1.5%	n/a	┬n/a	┬n/a
%RSD		2.330	2.792	2.791	1.620	1.609	1.6	2.184	┬1.510	┬2.466
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	18:19:48	276.000	266.600	83.2%						
2	18:20:14	280.300	273.400	85.5%						
3	18:20:39	288.500	274.900	84.8%						
x		93.869%	90.549%	84.5%						
σ		n/a	n/a	1.2%						
%RSD		2.267	1.645	1.4						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 18:24:44 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	101.2%	0.028	1.414	1.859	0.399	0.740	0.547	0.878	-1.052
2	18:25:35	102.8%	0.027	1.635	1.938	0.706	0.825	0.555	0.871	-1.059
3	18:26:00	105.9%	0.016	1.404	1.684	-0.652	0.375	0.342	0.605	-1.039
x		103.3%	0.024	1.484	1.827	0.151	0.646	0.482	0.785	-1.050
σ		2.4%	0.007	0.131	0.130	0.712	0.239	0.121	0.156	0.011
%RSD		2.3	28.780	8.799	7.126	470.800	37.000	25.040	19.860	1.007

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	8.850	221.800	0.679	8.641	4.248	97.9%	-0.056	0.084	-0.031
2	18:25:35	8.628	239.500	1.170	8.908	4.986	98.2%	-0.056	0.093	-0.023
3	18:26:00	6.078	250.700	-0.189	9.860	3.606	98.1%	-0.056	0.098	-0.018
x		7.852	237.300	0.553	9.137	4.280	98.1%	-0.056	0.091	-0.024
σ		1.541	14.570	0.688	0.641	0.690	0.1%	0.000	0.007	0.007
%RSD		19.620	6.142	124.400	7.015	16.120	0.1	0.149	7.756	28.810

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	0.085	0.018	-2.171	0.601	0.010	0.046	-0.011	0.006	0.066
2	18:25:35	0.074	0.023	-0.412	1.508	0.004	0.013	-0.008	-0.012	-0.025
3	18:26:00	0.073	0.013	-2.358	-1.018	0.003	0.022	-0.038	-0.029	0.015
x		0.077	0.018	-1.647	0.364	0.006	0.027	-0.019	-0.012	0.019
σ		0.007	0.005	1.074	1.280	0.004	0.017	0.017	0.017	0.046
%RSD		8.472	25.640	65.200	352.000	61.540	62.130	85.670	150.600	245.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	0.029	0.132	1.200	0.517	-0.069	1.551	95.3%	0.450	0.614
2	18:25:35	0.034	0.171	1.142	1.683	-0.077	-0.853	95.4%	0.509	0.534
3	18:26:00	0.034	-0.035	1.052	-0.198	0.022	-0.032	97.4%	0.453	0.639
x		0.032	0.089	1.131	0.667	-0.041	0.222	96.0%	0.470	0.596
σ		0.003	0.109	0.075	0.950	0.055	1.222	1.2%	0.033	0.055
%RSD		9.035	122.300	6.613	142.300	133.300	549.900	1.2	7.017	9.229

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	0.507	0.140	0.009	-0.059	0.008	0.020	0.013	94.2%	0.155
2	18:25:35	0.487	-0.341	0.011	0.125	0.009	-0.002	0.011	95.5%	0.155
3	18:26:00	0.510	0.379	0.010	-0.150	0.010	0.011	0.003	96.6%	0.138
x		0.501	0.059	0.010	-0.028	0.009	0.010	0.009	95.5%	0.149
σ		0.012	0.367	0.001	0.140	0.001	0.011	0.005	1.2%	0.010
%RSD		2.461	618.100	11.280	496.600	10.220	117.900	55.840	1.3	6.651

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	0.165	0.290	0.285	-0.002	0.027	93.0%	0.031	0.033	0.014
2	18:25:35	0.122	0.297	0.309	-0.029	0.019	95.5%	0.031	0.026	0.011
3	18:26:00	0.229	0.309	0.308	0.010	-0.001	96.9%	0.045	0.035	0.014
x		0.172	0.299	0.300	-0.007	0.015	95.1%	0.036	0.031	0.013
σ		0.054	0.010	0.014	0.020	0.015	2.0%	0.008	0.005	0.002
%RSD		31.260	3.321	4.590	287.000	98.120	2.1	21.750	14.920	13.080

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:25:09	0.012	0.009	92.5%
2	18:25:35	0.002	0.009	96.2%
3	18:26:00	0.006	0.004	97.3%
x		0.007	0.007	95.3%
σ		0.005	0.003	2.5%
%RSD		73.660	42.990	2.6

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004SD(5) 5/19/2017 18:30:04

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	102.2%	0.035	4.440	4.671	T 2829.000	T 3293.000	T 3243.000	T 3260.000	-0.006
2	18:30:55	102.9%	0.034	6.092	4.848	T 2883.000	T 3335.000	T 3258.000	T 3221.000	0.039
3	18:31:21	102.6%	0.010	5.066	5.656	T 2905.000	T 3479.000	T 3427.000	T 3334.000	0.258
x		102.5%	0.026	5.199	5.058	T 2872.000	T 3369.000	T 3309.000	T 3272.000	0.097
σ		0.3%	0.014	0.834	0.525	T 39.120	T 97.610	T 101.800	T 57.390	0.141
%RSD		0.3	53.410	16.030	10.380	T 1.362	T 2.897	T 3.075	T 1.754	145.700

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	T 1408.000	T 8077.000	60.840	30200.000	T 29900.000	98.1%	0.141	0.092	-0.023
2	18:30:55	T 1400.000	T 8250.000	61.580	30670.000	T 30470.000	T 98.6%	0.227	0.100	-0.001
3	18:31:21	T 1465.000	T 8531.000	65.880	31960.000	T 31900.000	T 94.6%	0.097	0.024	-0.027
x		T 1425.000	T 8286.000	62.770	30940.000	T 30760.000	T 97.1%	0.155	0.072	-0.017
σ		T 35.580	T 229.100	2.718	912.100	T 1032.000	T 2.2%	0.066	0.042	0.014
%RSD		T 2.497	T 2.764	4.331	2.948	T 3.357	T 2.2	42.550	58.210	84.070

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	1.098	9.790	101.500	245.000	-0.285	0.498	0.005	0.073	0.518
2	18:30:55	1.134	9.789	98.780	233.300	-0.288	0.441	0.014	0.110	0.443
3	18:31:21	1.239	10.180	107.300	240.600	-0.309	0.419	0.014	0.087	0.612
x		1.157	9.919	102.500	239.600	-0.294	0.453	0.011	0.090	0.524
σ		0.073	0.225	4.380	5.921	0.013	0.041	0.005	0.018	0.085
%RSD		6.336	2.269	4.272	2.471	4.456	9.019	47.630	20.420	16.190

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	0.193	-0.238	4.886	3.864	-0.074	-0.082	94.9%	-0.258	-0.025
2	18:30:55	0.298	-0.014	4.480	4.820	0.085	-0.997	95.2%	-0.143	-0.023
3	18:31:21	0.268	0.066	4.809	4.040	-0.020	0.982	95.2%	-0.101	-0.023
x		0.253	-0.062	4.725	4.241	-0.003	-0.032	95.1%	-0.168	-0.024
σ		0.054	0.158	0.216	0.509	0.080	0.990	0.2%	0.082	0.001
%RSD		21.470	253.800	4.567	12.000	2792.000	3055.000	0.2	48.670	4.596

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	-0.154	19.680	0.001	-7.503	-0.001	0.006	-0.073	93.4%	0.056
2	18:30:55	-0.112	17.540	0.004	-6.656	0.001	0.005	-0.066	93.5%	0.050
3	18:31:21	-0.087	15.840	0.003	-6.036	0.002	-0.006	-0.055	94.5%	0.059
x		-0.118	17.680	0.003	-6.732	0.000	0.002	-0.065	93.8%	0.055
σ		0.034	1.924	0.002	0.737	0.001	0.007	0.009	0.6%	0.004
%RSD		29.040	10.880	54.950	10.940	368.900	381.000	13.930	0.6	8.053

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	2.786	0.043	0.043	13.990	13.830	93.9%	0.082	0.090	0.005
2	18:30:55	2.459	0.052	0.065	13.610	13.640	95.9%	0.056	0.068	0.010
3	18:31:21	2.242	0.066	0.035	14.430	14.290	95.6%	0.043	0.036	0.008
x		2.496	0.054	0.047	14.010	13.920	95.1%	0.060	0.065	0.008
σ		0.274	0.012	0.016	0.407	0.333	1.1%	0.020	0.028	0.002
%RSD		10.980	21.680	33.400	2.908	2.395	1.2	32.640	42.720	30.720

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:30:30	0.012	0.005	92.2%
2	18:30:55	0.006	-0.001	94.1%
3	18:31:21	0.020	0.005	94.1%
x		0.013	0.003	93.5%
σ		0.007	0.003	1.1%
%RSD		53.440	103.000	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004PS 5/19/2017 18:35:27

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	96.6%	86.290	119.700	115.800	T 14970.000	T 16870.000	T 16790.000	T 17160.000	89.500
2	18:36:18	93.9%	87.160	116.200	114.100	T 15370.000	T 17390.000	T 17140.000	T 17590.000	90.650
3	18:36:44	98.4%	83.220	119.700	116.000	T 14590.000	T 16510.000	T 16390.000	T 16580.000	88.250
x		96.3%	85.550	118.600	115.300	T 14980.000	T 16920.000	T 16770.000	T 17110.000	89.470
σ		2.3%	2.073	2.000	1.066	T 391.800	T 442.000	T 372.200	T 508.400	1.202
%RSD		2.3	2.423	1.687	0.924	T 2.616	T 2.612	T 2.219	T 2.971	1.343

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	T 7986.000	T 40860.000	T 1226.000	M 155900.000	TM 148200.000	94.5%	87.180	84.780	84.390
2	18:36:18	T 7997.000	T 41850.000	T 1267.000	M 157000.000	TM 150600.000	T 91.7%	87.440	86.010	85.010
3	18:36:44	T 7849.000	T 41940.000	T 1254.000	M 154400.000	TM 147700.000	T 93.4%	86.990	83.730	82.840
x		T 7944.000	T 41550.000	T 1249.000	M 155700.000	TM 148800.000	T 93.2%	87.200	84.840	84.080
σ		T 82.370	T 597.300	T 21.280	M 1294.000	TM 1582.000	T 1.4%	0.223	1.137	1.117
%RSD		T 1.037	T 1.438	T 1.704	M 0.831	TM 1.063	T 1.5	0.256	1.340	1.328

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	5.020	133.200	T 1277.000	2082.000	83.100	89.140	79.570	90.680	85.730
2	18:36:18	5.586	134.700	T 1305.000	2035.000	83.680	88.420	81.110	88.320	85.640
3	18:36:44	5.313	133.900	T 1292.000	2001.000	82.070	85.830	79.490	86.440	83.360
x		5.306	133.900	T 1291.000	2039.000	82.950	87.800	80.050	88.480	84.910
σ		0.283	0.755	T 14.130	41.030	0.813	1.744	0.912	2.122	1.342
%RSD		5.336	0.564	T 1.094	2.012	0.980	1.987	1.140	2.398	1.581

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	91.110	80.250	18.240	19.900	88.500	-0.655	90.2%	92.650	91.620
2	18:36:18	87.480	80.010	18.500	20.310	87.520	-0.819	90.8%	97.590	98.030
3	18:36:44	84.620	78.690	20.000	17.860	82.250	0.562	91.4%	96.280	97.620
x		87.730	79.650	18.910	19.360	86.090	-0.304	90.8%	95.510	95.760
σ		3.254	0.842	0.947	1.315	3.362	0.754	0.6%	2.561	3.591
%RSD		3.709	1.057	5.008	6.794	3.905	248.200	0.6	2.682	3.750

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	90.730	180.100	84.770	-36.850	76.980	81.350	84.310	87.3%	89.000
2	18:36:18	96.280	164.100	84.360	-31.050	77.040	81.760	84.220	88.2%	90.690
3	18:36:44	95.440	170.100	82.320	-33.500	75.940	81.980	83.050	89.8%	91.500
x		94.150	171.400	83.820	-33.800	76.650	81.690	83.860	88.5%	90.400
σ		2.992	8.059	1.314	2.912	0.622	0.320	0.706	1.3%	1.276
%RSD		3.178	4.701	1.568	8.614	0.811	0.392	0.841	1.4	1.411

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	99.940	74.160	76.320	154.800	153.200	90.3%	84.490	85.480	86.940
2	18:36:18	98.060	75.160	77.920	156.300	154.800	92.5%	86.000	86.320	88.390
3	18:36:44	99.410	74.590	77.900	155.200	152.700	93.3%	84.840	86.210	86.350
x		99.140	74.640	77.380	155.400	153.500	92.0%	85.110	86.000	87.230
σ		0.965	0.502	0.917	0.814	1.096	1.5%	0.790	0.455	1.052
%RSD		0.974	0.672	1.185	0.524	0.714	1.7	0.928	0.529	1.206

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:35:52	85.390	80.270	85.0%
2	18:36:18	86.210	81.030	86.6%
3	18:36:44	85.490	80.800	88.8%
x		85.690	80.700	86.8%
σ		0.450	0.392	1.9%
%RSD		0.525	0.486	2.2

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-005 5/19/2017 18:40:51

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	85.3%	0.020	28.810	28.230	T 77600.000	T 21760.000	T 21830.000	T 23090.000	T 3.515
2	18:41:42	85.2%	0.020	29.000	29.650	T 77870.000	T 22370.000	T 22310.000	T 23320.000	10.630
3	18:42:08	85.8%	0.012	29.610	29.050	T 76790.000	T 21920.000	T 22020.000	T 22890.000	10.640
x		85.4%	0.017	29.140	28.980	T 77420.000	T 22020.000	T 22050.000	T 23100.000	T 8.263
σ		0.3%	0.005	0.420	0.709	T 562.200	T 319.200	T 240.400	T 211.300	T 4.112
%RSD		0.4	28.310	1.442	2.447	T 0.726	T 1.450	T 1.090	T 0.915	T 49.770

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	T 6585.000	T 44100.000	482.400	TM 221100.000	TM 216600.000	90.3%	0.806	0.230	0.304
2	18:41:42	T 6786.000	T 46130.000	510.600	TM 232600.000	TM 226400.000	T 87.2%	0.780	0.127	0.297
3	18:42:08	T 6655.000	T 45650.000	508.100	TM 230000.000	TM 222300.000	T 89.1%	0.890	0.165	0.305
x		T 6675.000	T 45290.000	500.400	TM 227900.000	TM 221700.000	T 88.9%	0.825	0.174	0.302
σ		T 102.500	T 1058.000	15.630	TM 6047.000	TM 4915.000	T 1.5%	0.057	0.052	0.005
%RSD		T 1.536	T 2.336	3.124	TM 2.653	TM 2.216	T 1.7	6.964	29.930	1.530

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	6.571	3.482	24.210	976.700	-4.264	4.375	0.759	1.591	2.305
2	18:41:42	6.753	3.671	25.100	963.400	-4.461	4.212	0.709	1.592	2.380
3	18:42:08	6.632	3.668	24.210	927.100	-4.435	4.228	0.709	1.496	2.092
x		6.652	3.607	24.510	955.700	-4.387	4.272	0.726	1.560	2.259
σ		0.092	0.108	0.518	25.670	0.107	0.090	0.029	0.055	0.149
%RSD		1.389	2.998	2.112	2.686	2.439	2.100	3.974	3.556	6.612

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	0.360	1.136	12.840	10.740	0.691	-1.131	86.0%	0.085	0.193
2	18:41:42	-0.111	0.722	11.120	12.590	1.243	-0.271	85.7%	0.253	0.257
3	18:42:08	-0.290	0.846	12.500	11.250	1.263	0.181	86.4%	0.221	0.321
x		-0.014	0.902	12.150	11.530	1.065	-0.407	86.0%	0.186	0.257
σ		0.336	0.213	0.908	0.955	0.325	0.666	0.4%	0.089	0.064
%RSD		2465.000	23.560	7.475	8.288	30.490	163.700	0.5	47.980	24.810

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	0.216	95.480	0.008	-36.410	0.004	0.015	-0.352	83.9%	0.094
2	18:41:42	0.271	111.400	0.013	-42.500	0.001	0.021	-0.421	83.2%	0.098
3	18:42:08	0.277	102.000	0.006	-38.880	-0.001	0.008	-0.373	84.2%	0.095
x		0.255	103.000	0.009	-39.260	0.001	0.015	-0.382	83.8%	0.096
σ		0.034	8.023	0.004	3.061	0.003	0.006	0.036	0.5%	0.002
%RSD		13.190	7.790	44.710	7.797	207.500	43.450	9.319	0.6	2.061

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	13.000	0.241	0.287	14.680	14.410	87.8%	0.008	0.010	0.012
2	18:41:42	15.150	0.302	0.335	14.990	14.780	87.9%	0.005	0.011	0.019
3	18:42:08	13.880	0.289	0.366	15.290	15.060	90.2%	0.001	0.004	0.018
x		14.010	0.278	0.329	14.990	14.750	88.7%	0.005	0.008	0.017
σ		1.080	0.032	0.040	0.305	0.325	1.3%	0.003	0.003	0.004
%RSD		7.712	11.530	12.090	2.032	2.206	1.5	70.720	40.020	22.960

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:41:16	0.008	0.016	80.6%
2	18:41:42	0.018	0.011	80.4%
3	18:42:08	0.018	0.011	82.7%
x		0.015	0.012	81.2%
σ		0.006	0.003	1.3%
%RSD		40.290	22.430	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-007 5/19/2017 18:46:13

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	91.7%	0.052	22.710	23.400	T 12340.000	T 14510.000	T 14480.000	T 14860.000	2.253
2	18:47:05	93.3%	0.070	23.900	23.330	T 12070.000	T 14350.000	T 14100.000	T 14400.000	2.425
3	18:47:31	93.4%	0.059	23.760	23.830	T 12300.000	T 14650.000	T 14470.000	T 14590.000	2.501
x		92.8%	0.061	23.460	23.520	T 12240.000	T 14500.000	T 14350.000	T 14610.000	2.393
σ		0.9%	0.009	0.655	0.268	T 146.700	T 149.100	T 218.500	T 231.000	0.127
%RSD		1.0	15.030	2.794	1.141	T 1.198	T 1.028	T 1.523	T 1.581	5.313

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	TM 10960.000	T 42010.000	296.500	M 113300.000	TM 109600.000	92.9%	1.150	0.192	0.082
2	18:47:05	TM 10740.000	T 42030.000	292.300	M 111500.000	TM 109700.000	93.6%	1.255	0.170	0.062
3	18:47:31	TM 10910.000	T 43260.000	305.200	M 113400.000	TM 111000.000	T 91.9%	0.945	-0.021	0.066
x		TM 10870.000	T 42430.000	298.000	M 112800.000	TM 110100.000	T 92.8%	1.117	0.114	0.070
σ		TM 115.600	T 715.000	6.552	M 1049.000	TM 810.600	T 0.9%	0.158	0.117	0.011
%RSD		TM 1.064	T 1.685	2.199	M 0.930	TM 0.736	T 0.9	14.120	103.200	15.560

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	7.043	31.180	T 558.000	1092.000	-2.201	1.535	0.083	0.306	1.374
2	18:47:05	6.672	31.250	T 560.700	1054.000	-2.174	1.512	0.073	0.358	1.219
3	18:47:31	6.860	32.370	T 578.400	1076.000	-2.193	1.479	0.096	0.311	1.015
x		6.858	31.600	T 565.700	1074.000	-2.189	1.509	0.084	0.325	1.203
σ		0.186	0.668	T 11.100	19.070	0.014	0.028	0.012	0.028	0.180
%RSD		2.708	2.114	T 1.961	1.775	0.638	1.858	14.290	8.731	14.970

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	0.440	-0.419	4.027	3.028	-0.359	-0.115	88.9%	-0.091	0.029
2	18:47:05	0.403	-0.311	3.266	2.606	0.054	-1.423	89.6%	-0.104	0.071
3	18:47:31	0.895	-0.307	4.174	3.101	-0.135	0.049	89.0%	0.031	0.108
x		0.580	-0.346	3.822	2.911	-0.146	-0.497	89.2%	-0.055	0.069
σ		0.274	0.063	0.487	0.267	0.207	0.807	0.4%	0.074	0.040
%RSD		47.260	18.370	12.750	9.170	141.100	162.400	0.5	135.400	57.450

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	-0.015	82.410	-0.004	-31.410	-0.003	-0.003	-0.298	87.3%	0.114
2	18:47:05	-0.066	80.280	-0.000	-30.590	-0.003	-0.000	-0.291	87.8%	0.100
3	18:47:31	0.019	74.290	0.003	-28.300	-0.003	0.006	-0.271	87.9%	0.123
x		-0.020	78.990	-0.001	-30.100	-0.003	0.001	-0.287	87.7%	0.112
σ		0.042	4.211	0.004	1.611	0.000	0.005	0.014	0.3%	0.011
%RSD		207.700	5.331	622.000	5.351	13.780	544.500	4.853	0.4	10.230

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	11.440	0.084	0.054	85.200	82.410	90.0%	-0.001	-0.003	0.008
2	18:47:05	11.090	0.074	0.080	85.060	84.070	92.1%	-0.006	-0.009	0.009
3	18:47:31	10.350	0.077	0.084	87.170	85.350	92.3%	-0.006	-0.000	0.011
x		10.960	0.078	0.073	85.810	83.940	91.4%	-0.004	-0.004	0.009
σ		0.557	0.005	0.016	1.183	1.475	1.3%	0.003	0.004	0.001
%RSD		5.085	6.462	22.260	1.378	1.758	1.4	70.580	101.000	13.320

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:46:39	0.013	0.006	86.2%
2	18:47:05	0.008	0.005	87.8%
3	18:47:31	0.018	0.014	87.5%
x		0.013	0.009	87.2%
σ		0.005	0.005	0.9%
%RSD		40.160	57.770	1.0

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-008 5/19/2017 18:51:37

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	91.3%	0.002	8.301	8.528	T 20710.000	T 11430.000	T 11240.000	T 11590.000	2.328
2	18:52:28	97.7%	0.012	7.730	8.120	T 19750.000	T 10910.000	T 10720.000	T 10640.000	2.342
3	18:52:54	96.8%	0.008	8.275	8.233	T 19220.000	T 10910.000	T 10830.000	T 10800.000	2.450
x		95.3%	0.007	8.102	8.294	T 19900.000	T 11080.000	T 10930.000	T 11010.000	2.373
σ		3.5%	0.005	0.323	0.211	T 754.500	T 302.100	T 274.600	T 505.800	0.067
%RSD		3.6	67.140	3.981	2.541	T 3.792	T 2.726	T 2.512	T 4.594	2.811

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	T 7275.000	T 42470.000	329.500	M 120100.000	TM 116000.000	92.5%	0.783	-0.111	0.000
2	18:52:28	T 7058.000	T 42810.000	328.200	M 118400.000	TM 117100.000	T 90.9%	0.900	-0.052	0.025
3	18:52:54	T 7090.000	T 42520.000	323.100	M 118200.000	TM 117800.000	T 91.6%	0.690	-0.056	0.063
x		T 7141.000	T 42600.000	326.900	M 118900.000	TM 117000.000	T 91.7%	0.791	-0.073	0.029
σ		T 116.900	T 181.200	3.404	M 1007.000	TM 916.200	T 0.8%	0.105	0.033	0.031
%RSD		T 1.638	T 0.425	1.041	M 0.847	TM 0.783	T 0.9	13.300	45.710	107.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	6.984	1.510	17.940	556.600	-2.295	2.048	0.160	0.378	1.499
2	18:52:28	6.617	1.550	15.150	516.100	-2.248	2.002	0.161	0.295	1.375
3	18:52:54	6.736	1.617	13.310	499.200	-2.259	1.958	0.129	0.427	1.449
x		6.779	1.559	15.460	523.900	-2.267	2.003	0.150	0.366	1.441
σ		0.187	0.054	2.328	29.510	0.025	0.045	0.019	0.067	0.062
%RSD		2.765	3.471	15.060	5.631	1.082	2.242	12.450	18.250	4.318

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	0.178	-0.197	11.180	10.470	0.078	-2.998	88.6%	-0.231	-0.052
2	18:52:28	0.254	-0.214	10.960	10.620	-0.033	-1.239	89.2%	-0.156	0.025
3	18:52:54	-0.131	0.289	10.830	10.450	0.120	0.033	89.4%	-0.122	-0.011
x		0.101	-0.041	10.990	10.510	0.055	-1.402	89.1%	-0.170	-0.012
σ		0.204	0.285	0.174	0.091	0.079	1.522	0.4%	0.056	0.039
%RSD		202.900	702.300	1.585	0.869	144.300	108.600	0.4	33.080	312.200

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	-0.144	56.690	-0.006	-21.590	-0.006	0.009	-0.216	87.0%	0.020
2	18:52:28	-0.092	51.760	-0.006	-19.710	-0.003	-0.003	-0.192	87.9%	0.027
3	18:52:54	-0.090	53.170	-0.000	-20.230	-0.005	0.003	-0.198	88.9%	0.041
x		-0.109	53.880	-0.004	-20.510	-0.004	0.003	-0.202	87.9%	0.029
σ		0.030	2.537	0.003	0.972	0.002	0.006	0.012	1.0%	0.011
%RSD		27.970	4.710	77.460	4.739	42.530	193.200	6.177	1.1	36.080

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	7.744	0.009	0.018	47.830	47.960	90.0%	-0.007	-0.008	0.008
2	18:52:28	7.133	0.027	0.005	48.200	47.840	91.7%	-0.010	-0.007	0.005
3	18:52:54	7.331	0.008	0.004	49.000	48.170	92.5%	-0.005	-0.006	0.006
x		7.403	0.015	0.009	48.340	47.990	91.4%	-0.007	-0.007	0.006
σ		0.312	0.011	0.008	0.599	0.167	1.3%	0.003	0.001	0.001
%RSD		4.216	70.980	87.000	1.239	0.349	1.4	38.360	10.830	20.250

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:52:02	0.009	0.005	84.8%
2	18:52:28	0.017	0.006	87.5%
3	18:52:54	0.016	0.001	87.8%
x		0.014	0.004	86.7%
σ		0.005	0.003	1.7%
%RSD		32.840	69.280	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-009 5/19/2017 18:57:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	90.9%	0.010	31.170	29.190	T 14270.000	T 13770.000	T 13610.000	T 13900.000	3.359
2	18:57:52	91.8%	0.029	29.670	30.200	T 14440.000	T 13950.000	T 13760.000	T 13690.000	3.441
3	18:58:17	94.1%	0.024	30.800	29.660	T 14150.000	T 13560.000	T 13520.000	T 13480.000	3.610
x		92.3%	0.021	30.550	29.680	T 14290.000	T 13760.000	T 13630.000	T 13690.000	3.470
σ		1.6%	0.010	0.783	0.503	T 146.900	T 197.000	T 119.300	T 206.100	0.128
%RSD		1.8	47.190	2.564	1.696	T 1.028	T 1.431	T 0.875	T 1.505	3.695

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	T 8626.000	T 43630.000	324.000	M 139700.000	TM 134200.000	T 90.6%	0.975	-0.109	-0.033
2	18:57:52	T 8518.000	T 43920.000	324.600	M 138200.000	TM 135900.000	T 90.3%	0.844	-0.079	-0.086
3	18:58:17	T 8545.000	T 44770.000	326.100	M 137800.000	TM 134200.000	90.5%	0.984	0.032	-0.067
x		T 8563.000	T 44110.000	324.900	M 138600.000	TM 134700.000	T 90.5%	0.934	-0.052	-0.062
σ		T 56.040	T 592.700	1.069	M 1007.000	TM 993.600	T 0.2%	0.078	0.074	0.027
%RSD		T 0.655	T 1.344	0.329	M 0.727	TM 0.737	T 0.2	8.393	142.100	43.310

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	6.507	TM 685.100	T 278.600	910.700	-1.515	5.060	0.070	0.413	1.674
2	18:57:52	6.646	TM 694.800	T 279.600	873.800	-1.385	4.808	0.118	0.368	1.670
3	18:58:17	6.483	TM 704.100	T 284.900	860.100	-1.458	4.931	0.100	0.377	1.491
x		6.545	TM 694.600	T 281.000	881.500	-1.453	4.933	0.096	0.386	1.612
σ		0.088	TM 9.480	T 3.385	26.200	0.065	0.126	0.024	0.024	0.104
%RSD		1.345	TM 1.365	T 1.204	2.972	4.494	2.556	25.040	6.174	6.467

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	0.039	-0.097	16.890	15.300	-0.363	-0.873	87.9%	-0.060	0.064
2	18:57:52	0.744	0.226	15.580	15.970	0.103	-0.884	88.3%	-0.019	0.091
3	18:58:17	0.672	-0.161	18.070	16.330	-0.075	-0.587	89.0%	0.033	0.040
x		0.485	-0.011	16.850	15.870	-0.112	-0.781	88.4%	-0.015	0.065
σ		0.388	0.208	1.245	0.518	0.235	0.168	0.5%	0.047	0.026
%RSD		80.070	1975.000	7.393	3.266	210.700	21.520	0.6	304.600	39.440

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	-0.058	91.210	-0.001	-34.750	-0.006	0.000	-0.343	86.2%	0.046
2	18:57:52	0.022	75.700	-0.003	-28.810	-0.001	-0.006	-0.290	87.1%	0.019
3	18:58:17	-0.048	76.590	-0.006	-29.200	-0.004	0.000	-0.285	86.6%	0.030
x		-0.028	81.170	-0.003	-30.920	-0.004	-0.002	-0.306	86.7%	0.032
σ		0.043	8.709	0.002	3.324	0.002	0.004	0.032	0.4%	0.013
%RSD		155.900	10.730	81.170	10.750	61.450	177.200	10.450	0.5	42.620

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	12.480	-0.002	-0.016	83.670	84.140	88.8%	0.009	0.009	0.013
2	18:57:52	10.360	-0.010	0.017	84.560	84.170	90.0%	0.015	0.012	0.003
3	18:58:17	10.410	-0.000	0.018	86.910	85.180	91.9%	0.013	0.015	0.005
x		11.080	-0.004	0.006	85.050	84.500	90.2%	0.012	0.012	0.007
σ		1.211	0.005	0.019	1.675	0.590	1.6%	0.003	0.003	0.005
%RSD		10.930	135.500	310.900	1.970	0.699	1.7	22.560	27.000	77.290

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:57:26	0.019	0.007	84.1%
2	18:57:52	0.013	0.002	85.4%
3	18:58:17	0.019	0.009	86.9%
x		0.017	0.006	85.5%
σ		0.003	0.004	1.4%
%RSD		19.970	64.430	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-010 5/19/2017 19:02:24

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	92.8%	0.025	11.870	10.760	T 7051.000	T 4463.000	T 4342.000	T 4417.000	5.081
2	19:03:14	92.8%	0.006	11.230	11.210	T 7099.000	T 4422.000	T 4321.000	T 4439.000	6.486
3	19:03:40	94.6%	0.020	10.150	10.430	T 7018.000	T 4486.000	T 4416.000	T 4404.000	5.355
x		93.4%	0.017	11.080	10.800	T 7056.000	T 4457.000	T 4360.000	T 4420.000	5.641
σ		1.0%	0.010	0.871	0.392	T 40.770	T 32.340	T 49.990	T 17.450	0.745
%RSD		1.1	59.750	7.862	3.624	T 0.578	T 0.726	T 1.147	T 0.395	13.200

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	T 5810.000	T 42180.000	302.800	M 132400.000	TM 128800.000	93.0%	0.686	-0.066	-0.016
2	19:03:14	T 5941.000	T 43690.000	309.000	M 136000.000	TM 131200.000	T 91.0%	0.475	0.086	0.007
3	19:03:40	T 5850.000	T 43230.000	302.700	M 133500.000	TM 130600.000	T 92.7%	0.642	0.204	0.041
x		T 5867.000	T 43030.000	304.800	M 133900.000	TM 130200.000	T 92.2%	0.601	0.075	0.010
σ		T 67.120	T 777.400	3.584	M 1863.000	TM 1252.000	T 1.1%	0.112	0.135	0.028
%RSD		T 1.144	T 1.806	1.176	M 1.391	TM 0.962	T 1.1	18.560	180.800	272.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	6.731	1.057	13.170	576.100	-2.536	2.257	0.234	0.503	1.076
2	19:03:14	6.400	1.067	13.810	580.600	-2.595	2.241	0.239	0.517	1.181
3	19:03:40	6.284	1.061	12.060	545.000	-2.544	2.126	0.245	0.526	1.136
x		6.472	1.062	13.010	567.200	-2.558	2.208	0.239	0.516	1.131
σ		0.232	0.005	0.884	19.360	0.032	0.071	0.006	0.012	0.053
%RSD		3.585	0.468	6.794	3.413	1.267	3.216	2.421	2.308	4.657

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	0.306	-0.192	22.910	22.590	0.801	0.516	89.1%	-0.310	-0.164
2	19:03:14	0.526	-0.068	24.310	21.610	0.095	0.184	89.7%	-0.282	-0.256
3	19:03:40	0.066	-0.190	23.220	22.640	0.048	-0.953	90.0%	-0.278	-0.250
x		0.299	-0.150	23.480	22.280	0.315	-0.084	89.6%	-0.290	-0.223
σ		0.230	0.071	0.735	0.579	0.422	0.771	0.5%	0.017	0.051
%RSD		76.830	47.450	3.132	2.598	134.200	912.100	0.5	5.919	22.910

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	-0.271	46.370	-0.003	-17.670	-0.005	0.013	-0.167	87.0%	0.037
2	19:03:14	-0.252	37.760	-0.002	-14.370	-0.007	0.019	-0.131	88.5%	0.019
3	19:03:40	-0.271	42.380	-0.001	-16.140	-0.004	0.012	-0.152	89.3%	-0.009
x		-0.265	42.170	-0.002	-16.060	-0.005	0.015	-0.150	88.3%	0.016
σ		0.011	4.308	0.001	1.648	0.002	0.003	0.018	1.2%	0.023
%RSD		4.209	10.220	69.630	10.260	29.590	23.130	12.240	1.3	146.100

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	6.341	-0.013	-0.039	20.790	20.430	90.8%	-0.009	-0.010	0.020
2	19:03:14	5.194	-0.020	-0.029	20.810	20.590	92.0%	-0.012	-0.012	0.014
3	19:03:40	5.864	-0.034	-0.018	21.380	20.730	93.3%	-0.007	-0.011	0.014
x		5.800	-0.022	-0.029	21.000	20.580	92.0%	-0.009	-0.011	0.016
σ		0.576	0.010	0.010	0.335	0.151	1.3%	0.002	0.001	0.003
%RSD		9.934	45.940	35.960	1.593	0.732	1.4	27.050	8.772	20.170

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:02:49	0.011	0.012	85.8%
2	19:03:14	0.021	0.004	88.3%
3	19:03:40	0.012	0.006	88.7%
x		0.015	0.008	87.6%
σ		0.006	0.004	1.6%
%RSD		39.740	54.580	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-011 5/19/2017 19:07:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	96.6%	-0.003	3.726	3.421	T 3222.000	T 9925.000	T 9726.000	T 9704.000	2.608
2	19:08:38	93.2%	0.025	3.804	3.393	T 3295.000	T 10160.000	T 9968.000	T 10200.000	2.685
3	19:09:04	95.3%	0.005	3.063	3.258	T 3261.000	T 10050.000	T 9926.000	T 9911.000	2.719
x		95.0%	0.009	3.531	3.357	T 3259.000	T 10050.000	T 9874.000	T 9937.000	2.670
σ		1.7%	0.014	0.407	0.087	T 36.340	T 118.800	T 129.400	T 246.800	0.057
%RSD		1.8	159.600	11.530	2.596	T 1.115	T 1.183	T 1.311	T 2.484	2.138

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	T 4981.000	T 42810.000	378.400	M 123800.000	TM 120200.000	T 91.2%	0.514	-0.087	0.069
2	19:08:38	T 5065.000	T 43520.000	375.400	M 125000.000	TM 120700.000	T 91.8%	0.626	-0.038	0.101
3	19:09:04	T 5041.000	T 44730.000	384.400	M 126500.000	TM 123600.000	90.1%	0.441	0.086	0.104
x		T 5029.000	T 43690.000	379.400	M 125100.000	TM 121500.000	T 91.0%	0.527	-0.013	0.091
σ		T 43.280	T 969.300	4.570	M 1376.000	TM 1829.000	T 0.9%	0.093	0.089	0.020
%RSD		T 0.861	T 2.219	1.205	M 1.100	TM 1.505	T 0.9	17.700	691.900	21.650

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	7.262	4.445	19.410	564.600	-2.122	2.747	0.190	0.544	1.633
2	19:08:38	7.002	4.446	17.350	522.400	-2.175	2.679	0.214	0.472	1.585
3	19:09:04	6.992	4.587	19.360	525.500	-2.213	2.629	0.215	0.459	1.541
x		7.085	4.493	18.710	537.500	-2.170	2.685	0.206	0.492	1.586
σ		0.153	0.082	1.179	23.490	0.045	0.059	0.014	0.046	0.046
%RSD		2.160	1.816	6.301	4.369	2.097	2.204	6.873	9.398	2.903

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	-0.191	-0.169	6.269	5.498	-0.051	0.890	88.3%	-0.254	-0.222
2	19:08:38	0.123	0.510	5.956	4.863	0.163	-1.558	89.0%	-0.276	-0.178
3	19:09:04	0.086	0.192	6.678	5.811	0.085	-1.719	89.3%	-0.219	-0.178
x		0.006	0.178	6.301	5.390	0.066	-0.796	88.9%	-0.250	-0.193
σ		0.171	0.340	0.362	0.483	0.108	1.462	0.5%	0.029	0.026
%RSD		2859.000	190.900	5.745	8.960	165.000	183.800	0.6	11.500	13.300

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	-0.217	53.870	0.035	-20.530	0.041	-0.002	-0.203	87.1%	-0.005
2	19:08:38	-0.217	56.290	0.046	-21.440	0.022	-0.002	-0.205	88.2%	0.001
3	19:09:04	-0.160	48.530	0.031	-18.500	0.028	0.003	-0.176	87.8%	-0.005
x		-0.198	52.900	0.037	-20.160	0.030	-0.001	-0.195	87.7%	-0.003
σ		0.033	3.971	0.008	1.507	0.009	0.003	0.017	0.6%	0.003
%RSD		16.740	7.507	20.370	7.477	30.990	667.100	8.483	0.6	120.600

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	7.371	-0.040	-0.057	23.750	23.520	90.2%	-0.010	-0.006	0.012
2	19:08:38	7.655	-0.016	-0.046	24.610	24.060	92.3%	-0.006	-0.006	0.013
3	19:09:04	6.606	-0.024	-0.027	25.030	23.840	93.3%	-0.007	-0.010	0.017
x		7.211	-0.027	-0.043	24.470	23.800	91.9%	-0.007	-0.007	0.014
σ		0.542	0.012	0.015	0.652	0.272	1.6%	0.002	0.002	0.003
%RSD		7.523	45.830	35.420	2.664	1.142	1.7	24.100	30.330	18.250

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:08:12	0.005	0.004	86.7%
2	19:08:38	0.008	0.006	88.1%
3	19:09:04	0.016	0.019	88.0%
x		0.010	0.010	87.6%
σ		0.006	0.008	0.8%
%RSD		58.670	84.110	0.9

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-002DIS(5) 5/19/2017 19:13:11

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	100.3%	0.011	10.020	9.747	┬4466.000	┬5057.000	┬4881.000	┬4781.000	-0.591
2	19:14:03	101.6%	-0.014	9.458	10.020	┬4504.000	┬5161.000	┬5102.000	┬4901.000	-0.422
3	19:14:29	106.4%	-0.008	9.251	9.344	┬4082.000	┬4647.000	┬4600.000	┬4560.000	┬-6.896
x		102.7%	-0.004	9.577	9.705	┬4350.000	┬4955.000	┬4861.000	┬4747.000	┬-2.637
σ		3.2%	0.013	0.398	0.343	┬233.400	┬271.900	┬251.400	┬173.000	┬3.690
%RSD		3.1	339.300	4.158	3.529	┬5.366	┬5.486	┬5.173	┬3.644	┬140.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	┬1813.000	┬8449.000	89.460	15410.000	┬15540.000	┬95.0%	0.074	0.117	-0.030
2	19:14:03	┬1837.000	┬8698.000	90.540	15680.000	┬15740.000	┬93.0%	0.124	0.088	-0.025
3	19:14:29	┬1696.000	┬8240.000	83.810	14640.000	┬14570.000	┬95.7%	0.140	0.115	-0.025
x		┬1782.000	┬8462.000	87.940	15240.000	┬15290.000	┬94.6%	0.113	0.107	-0.027
σ		┬75.310	┬229.100	3.616	540.500	┬624.500	┬1.4%	0.034	0.016	0.003
%RSD		┬4.226	┬2.708	4.111	3.546	┬4.085	┬1.5	30.410	14.860	9.528

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	1.907	157.700	-2.920	70.230	-0.255	0.289	0.001	0.047	0.140
2	19:14:03	2.017	163.000	-3.754	68.310	-0.262	0.323	-0.003	0.023	0.152
3	19:14:29	1.845	152.400	-5.690	59.650	-0.250	0.259	0.013	0.037	0.147
x		1.923	157.700	-4.121	66.060	-0.256	0.290	0.004	0.036	0.146
σ		0.087	5.285	1.421	5.636	0.006	0.032	0.008	0.012	0.006
%RSD		4.531	3.351	34.480	8.532	2.294	11.130	213.000	33.750	3.946

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	-0.056	-0.309	29.510	29.230	-0.273	-1.650	91.9%	-0.356	-0.285
2	19:14:03	0.051	0.099	31.670	30.950	0.285	-1.610	90.7%	-0.372	-0.209
3	19:14:29	-0.019	-0.072	29.760	30.250	0.226	0.520	95.2%	-0.350	-0.211
x		-0.008	-0.094	30.310	30.140	0.079	-0.913	92.6%	-0.359	-0.235
σ		0.055	0.205	1.182	0.864	0.306	1.242	2.3%	0.011	0.044
%RSD		665.300	218.800	3.898	2.867	388.200	136.000	2.5	3.087	18.540

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	-0.318	1.718	-0.008	-0.660	-0.009	0.006	-0.009	91.4%	-0.019
2	19:14:03	-0.285	1.317	-0.002	-0.506	-0.008	0.004	-0.010	90.9%	-0.029
3	19:14:29	-0.313	-0.451	-0.005	0.167	-0.006	0.003	-0.000	95.4%	-0.023
x		-0.305	0.862	-0.005	-0.333	-0.008	0.004	-0.006	92.6%	-0.024
σ		0.018	1.154	0.003	0.440	0.001	0.002	0.005	2.5%	0.005
%RSD		5.732	133.900	59.120	131.900	19.410	40.580	82.750	2.6	21.190

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	0.230	-0.057	-0.086	10.010	9.886	92.8%	-0.011	-0.011	-0.004
2	19:14:03	0.152	-0.066	-0.076	9.769	10.230	93.4%	-0.012	-0.010	-0.008
3	19:14:29	-0.083	-0.062	-0.063	9.318	9.195	97.4%	-0.013	-0.014	-0.008
x		0.100	-0.062	-0.075	9.698	9.771	94.5%	-0.012	-0.012	-0.007
σ		0.163	0.004	0.012	0.349	0.529	2.5%	0.001	0.002	0.003
%RSD		163.600	7.249	15.620	3.603	5.410	2.7	6.262	16.420	38.900

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:13:37	0.001	-0.004	93.1%
2	19:14:03	-0.007	-0.006	92.3%
3	19:14:29	-0.001	-0.006	96.6%
x		-0.002	-0.005	94.0%
σ		0.004	0.001	2.3%
%RSD		181.800	26.240	2.5

PDF created with pdfFactory trial version www.pdffactory.com

SQ42373-001 5/19/2017 19:18:34 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	105.1%	-0.008	-0.947	-0.792	13.750	-0.234	-0.369	-0.235	-0.422
2	19:19:25	105.8%	-0.008	-0.433	-0.572	14.510	-0.053	0.105	-0.046	-0.473
3	19:19:51	111.6%	-0.005	-0.934	-0.702	12.980	-0.343	-0.443	-0.546	-0.494
x		107.5%	-0.007	-0.771	-0.689	13.750	-0.210	-0.236	-0.276	-0.463
σ		3.6%	0.001	0.293	0.111	0.767	0.147	0.297	0.252	0.037
%RSD		3.3	21.160	38.030	16.050	5.579	69.880	126.000	91.480	8.072

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	T 5.156	T 35770.000	1.717	33.800	29.570	97.3%	-0.048	0.014	-0.078
2	19:19:25	11.360	T 36980.000	2.096	43.630	30.350	95.9%	-0.017	-0.022	-0.100
3	19:19:51	11.580	T 35640.000	0.704	29.310	30.260	96.9%	-0.040	-0.127	-0.104
x		T 9.366	T 36130.000	1.506	35.580	30.060	96.7%	-0.035	-0.045	-0.094
σ		T 3.647	T 739.100	0.720	7.325	0.431	0.7%	0.016	0.073	0.014
%RSD		T 38.940	T 2.046	47.790	20.590	1.433	0.7	45.580	162.400	15.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	6.278	0.416	-0.411	0.580	-0.004	0.004	0.046	0.048	0.418
2	19:19:25	6.331	0.463	0.228	-1.418	-0.004	0.017	0.030	0.085	0.519
3	19:19:51	6.217	0.426	-0.070	-3.406	-0.007	0.013	0.046	0.066	0.494
x		6.275	0.435	-0.084	-1.415	-0.005	0.011	0.041	0.066	0.477
σ		0.057	0.025	0.320	1.993	0.002	0.007	0.009	0.019	0.053
%RSD		0.903	5.689	379.300	140.800	37.090	61.410	23.090	28.480	11.010

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	0.000	-0.254	9.129	7.835	-0.321	-1.114	94.3%	-0.421	-0.347
2	19:19:25	0.058	-0.092	8.743	8.382	-0.187	-1.243	93.8%	-0.437	-0.350
3	19:19:51	0.092	-0.569	8.177	8.430	0.112	-0.425	96.2%	-0.408	-0.307
x		0.050	-0.305	8.683	8.216	-0.132	-0.927	94.8%	-0.422	-0.335
σ		0.046	0.242	0.479	0.330	0.221	0.440	1.3%	0.015	0.024
%RSD		92.490	79.560	5.512	4.021	167.800	47.430	1.4	3.457	7.129

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	-0.386	0.415	-0.005	-0.148	-0.005	-0.005	-0.005	93.0%	0.014
2	19:19:25	-0.387	0.347	-0.008	-0.105	-0.007	-0.002	-0.011	93.9%	0.004
3	19:19:51	-0.379	-0.467	-0.005	0.172	-0.008	-0.002	-0.003	95.4%	0.012
x		-0.384	0.098	-0.006	-0.027	-0.007	-0.003	-0.006	94.1%	0.010
σ		0.005	0.491	0.002	0.174	0.001	0.002	0.004	1.2%	0.005
%RSD		1.212	499.300	26.820	646.900	18.830	53.990	68.990	1.3	54.100

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	0.092	-0.055	-0.080	0.012	0.007	93.9%	-0.013	-0.014	-0.005
2	19:19:25	0.084	-0.050	-0.050	0.038	0.020	94.7%	-0.012	-0.014	0.002
3	19:19:51	0.025	-0.049	-0.050	-0.029	0.006	96.9%	-0.015	-0.012	-0.004
x		0.067	-0.051	-0.060	0.007	0.011	95.2%	-0.013	-0.013	-0.002
σ		0.037	0.004	0.017	0.034	0.007	1.6%	0.001	0.001	0.004
%RSD		54.860	7.013	28.720	489.600	66.020	1.7	10.590	8.372	158.600

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:19:00	0.001	-0.003	94.4%
2	19:19:25	-0.012	-0.006	95.4%
3	19:19:51	0.001	-0.002	97.3%
x		-0.003	-0.004	95.7%
σ		0.007	0.002	1.5%
%RSD		215.700	54.260	1.6

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 19:23:57 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	85.2%	294.000	301.000	284.000	T 55730.000	T 53810.000	T 53470.000	T 56100.000	T 299.500
2	19:24:48	86.0%	286.800	296.200	276.000	T 54780.000	T 53460.000	T 53100.000	T 55450.000	287.800
3	19:25:14	85.4%	293.000	292.300	281.800	T 55930.000	T 54040.000	T 53570.000	T 56170.000	287.900
x		85.5%	97.087%	98.834%	93.541%	T 92.466%	T 53770.000	T 53380.000	T 93.179%	T 97.251%
σ		0.4%	n/a	n/a	n/a	T n/a	T 293.200	T 247.500	T n/a	T n/a
%RSD		0.4	1.346	1.477	1.471	T 1.109	T 0.545	T 0.464	T 0.707	T 2.295
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	T 2902.000	297.900	T 62100.000	55940.000	T 56510.000	88.9%	285.400	295.400	286.400
2	19:24:48	T 2856.000	318.300	T 62080.000	55170.000	T 56110.000	T 90.6%	281.300	291.200	283.200
3	19:25:14	T 2909.000	337.800	T 63330.000	56470.000	T 56390.000	T 90.4%	290.200	296.500	284.700
x		T 96.302%	318.000	T 104.170%	55860.000	T 93.899%	T 90.0%	95.213%	98.131%	94.923%
σ		T n/a	19.940	T n/a	651.000	T n/a	T 0.9%	n/a	n/a	n/a
%RSD		T 0.993	6.272	T 1.144	1.165	T 0.365	T 1.0	1.574	0.952	0.575
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	-5.712	286.700	T 53170.000	T 60830.000	286.400	287.500	264.000	289.700	280.200
2	19:24:48	-6.730	T 279.800	T 53040.000	T 61100.000	281.600	284.700	263.600	286.600	273.600
3	19:25:14	-7.598	T 281.900	T 53950.000	T 62080.000	287.500	277.800	264.300	279.100	270.900
x		-6.680	T 94.273%	T 88.981%	T 102.225%	95.060%	94.438%	264.000	95.037%	91.632%
σ		0.944	T n/a	T n/a	T n/a	n/a	n/a	0.385	n/a	n/a
%RSD		14.130	T 1.255	T 0.925	T 1.070	1.097	1.762	0.146	1.905	1.736
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	285.700	269.500	1.681	0.198	294.600	-0.592	85.1%	292.000	288.500
2	19:24:48	280.900	258.800	1.741	-0.446	279.700	-1.637	86.2%	300.500	298.000
3	19:25:14	279.200	263.700	1.970	0.196	277.700	-0.854	87.4%	311.600	311.700
x		93.973%	264.000	1.797	-0.017	94.664%	-1.027	86.3%	100.460%	99.806%
σ		n/a	5.377	0.153	0.372	n/a	0.544	1.2%	n/a	n/a
%RSD		1.202	2.037	8.488	2144.000	3.244	52.930	1.4	3.260	3.900
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	290.300	267.600	285.600	-0.794	258.700	271.500	280.900	83.2%	300.800
2	19:24:48	295.100	277.200	282.200	-2.532	260.900	271.800	276.100	83.8%	299.600
3	19:25:14	310.500	270.900	282.000	-1.650	257.500	269.600	277.200	86.5%	303.600
x		99.544%	271.900	94.418%	-1.658	259.100	270.900	92.686%	84.5%	100.449%
σ		n/a	4.891	n/a	0.869	1.731	1.204	n/a	1.8%	n/a
%RSD		3.536	1.799	0.714	52.390	0.668	0.445	0.897	2.1	0.684
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	285.300	268.000	276.800	287.300	282.700	86.0%	285.900	T 287.800	T 295.000
2	19:24:48	290.600	275.500	282.900	290.800	286.200	88.3%	283.600	T 288.300	T 291.800
3	19:25:14	290.700	273.500	282.000	284.800	283.400	90.3%	283.500	T 287.900	291.800
x		96.288%	90.772%	93.530%	95.875%	94.698%	88.2%	94.770%	T 95.998%	T 97.613%
σ		n/a	n/a	n/a	n/a	n/a	2.1%	n/a	T n/a	T n/a
%RSD		1.073	1.411	1.179	1.057	0.654	2.4	0.474	T 0.101	T 0.631
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	19:24:22	291.300	283.500	80.8%						
2	19:24:48	288.800	281.800	83.4%						
3	19:25:14	289.700	282.500	85.1%						
x		96.656%	94.210%	83.1%						
σ		n/a	n/a	2.2%						
%RSD		0.433	0.306	2.6						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 19:29:18 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	102.1%	0.014	1.097	1.702	-0.287	0.280	0.143	0.243	-1.182
2	19:30:10	104.5%	0.006	1.488	1.035	-0.560	0.396	0.255	0.428	-1.275
3	19:30:36	107.3%	0.015	1.596	1.295	-1.090	0.096	0.321	0.144	-1.156
x		104.7%	0.012	1.394	1.344	-0.646	0.257	0.239	0.271	-1.204
σ		2.6%	0.005	0.263	0.336	0.408	0.151	0.090	0.144	0.062
%RSD		2.5	42.900	18.840	25.000	63.240	58.810	37.400	53.210	5.176

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	T -0.637	195.900	1.056	3.006	0.986	98.8%	-0.063	0.106	-0.003
2	19:30:10	7.844	207.000	0.164	3.766	-0.142	100.2%	-0.021	0.098	-0.007
3	19:30:36	7.380	214.000	-1.555	3.841	0.585	99.5%	-0.042	0.074	0.000
x		T 4.863	205.700	-0.112	3.538	0.476	99.5%	-0.042	0.093	-0.003
σ		T 4.768	9.127	1.327	0.462	0.572	0.7%	0.021	0.016	0.004
%RSD		T 98.060	4.438	1189.000	13.050	120.000	0.7	49.920	17.490	108.900

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	0.034	0.002	-3.197	1.380	0.004	-0.004	0.006	-0.017	-0.049
2	19:30:10	0.051	0.011	-3.946	1.165	0.006	-0.012	-0.005	-0.018	0.029
3	19:30:36	0.080	-0.004	-5.304	-0.226	0.013	0.003	-0.012	-0.008	-0.022
x		0.055	0.003	-4.149	0.773	0.008	-0.004	-0.004	-0.014	-0.014
σ		0.023	0.008	1.068	0.872	0.005	0.008	0.009	0.005	0.039
%RSD		42.070	259.400	25.750	112.700	60.600	179.900	252.800	37.120	284.200

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	0.064	0.291	0.841	-0.018	0.043	-1.910	95.7%	0.458	0.401
2	19:30:10	-0.061	-0.186	0.354	0.199	-0.294	-1.190	96.4%	0.453	0.565
3	19:30:36	-0.075	0.277	0.555	0.416	-0.549	-0.199	97.7%	0.442	0.606
x		-0.024	0.127	0.583	0.199	-0.267	-1.099	96.6%	0.451	0.524
σ		0.077	0.271	0.245	0.217	0.297	0.859	1.0%	0.008	0.109
%RSD		321.000	213.000	41.980	108.900	111.300	78.110	1.0	1.810	20.730

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	0.351	0.166	0.012	-0.037	0.006	0.004	0.006	94.3%	0.091
2	19:30:10	0.520	0.300	0.006	-0.103	0.011	0.006	0.008	96.6%	0.130
3	19:30:36	0.457	-0.325	-0.000	0.134	0.008	0.017	0.006	97.4%	0.112
x		0.443	0.047	0.006	-0.002	0.008	0.009	0.006	96.1%	0.111
σ		0.086	0.329	0.006	0.122	0.002	0.007	0.001	1.6%	0.019
%RSD		19.320	697.900	104.000	5215.000	30.560	80.940	17.480	1.7	17.470

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	0.120	0.305	0.315	0.002	0.005	94.5%	0.031	0.022	0.017
2	19:30:10	0.242	0.300	0.350	-0.012	0.011	96.5%	0.019	0.024	0.018
3	19:30:36	0.079	0.323	0.313	-0.003	0.020	98.4%	0.026	0.021	0.010
x		0.147	0.309	0.326	-0.004	0.012	96.5%	0.025	0.022	0.015
σ		0.085	0.012	0.020	0.007	0.008	2.0%	0.006	0.001	0.004
%RSD		57.840	3.854	6.253	164.700	65.160	2.0	23.900	5.462	28.670

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:29:44	0.011	0.004	95.2%
2	19:30:10	0.009	0.005	97.2%
3	19:30:36	0.014	0.005	99.1%
x		0.011	0.005	97.1%
σ		0.003	0.001	1.9%
%RSD		26.400	11.670	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SQ42482-001 5/19/2017 19:34:40 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	102.2%	0.003	-0.095	-0.225	10.890	-0.521	-0.620	-0.662	-1.250
2	19:35:31	105.7%	-0.004	-0.577	-0.008	10.170	-0.546	-0.768	-0.882	-1.243
3	19:35:56	106.7%	0.009	-0.320	-0.334	10.130	-0.734	-0.700	-0.866	-1.352
x		104.9%	0.003	-0.331	-0.189	10.400	-0.601	-0.696	-0.804	-1.282
σ		2.3%	0.007	0.241	0.166	0.429	0.116	0.074	0.123	0.061
%RSD		2.2	263.600	72.880	87.690	4.130	19.390	10.620	15.240	4.773

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	9.757	T 39460.000	3.202	21.290	16.120	97.9%	-0.019	0.051	-0.110
2	19:35:31	10.020	T 40990.000	3.139	22.190	17.870	94.9%	-0.031	0.077	-0.112
3	19:35:56	9.446	T 40260.000	1.624	26.770	18.720	96.9%	0.004	0.134	-0.106
x		9.743	T 40240.000	2.655	23.420	17.570	96.6%	-0.015	0.087	-0.109
σ		0.290	T 767.800	0.893	2.942	1.326	1.5%	0.018	0.042	0.003
%RSD		2.974	T 1.908	33.650	12.570	7.549	1.6	116.700	48.570	2.924

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	4.842	0.419	-4.832	1.992	0.000	0.022	0.039	0.046	0.561
2	19:35:31	4.751	0.439	-2.886	-0.484	-0.002	-0.026	0.047	0.060	0.598
3	19:35:56	4.299	0.424	-5.329	-1.037	-0.003	0.000	0.042	0.070	0.587
x		4.631	0.427	-4.349	0.157	-0.002	-0.001	0.043	0.059	0.582
σ		0.291	0.010	1.291	1.613	0.002	0.024	0.004	0.012	0.019
%RSD		6.273	2.410	29.690	1026.000	98.960	1865.000	9.790	21.220	3.268

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	0.008	-0.111	3.095	1.429	-0.151	-0.139	92.5%	-0.221	-0.133
2	19:35:31	-0.087	-0.180	3.368	1.700	-0.171	0.426	94.1%	-0.147	-0.032
3	19:35:56	0.098	-0.308	2.917	1.984	-0.117	-0.198	94.2%	-0.144	-0.063
x		0.007	-0.200	3.126	1.704	-0.146	0.030	93.6%	-0.171	-0.076
σ		0.092	0.100	0.227	0.278	0.027	0.345	0.9%	0.044	0.052
%RSD		1418.000	50.230	7.269	16.300	18.790	1159.000	1.0	25.470	67.640

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	-0.183	0.117	-0.002	-0.050	0.001	0.000	0.005	91.8%	0.070
2	19:35:31	-0.157	-0.237	0.003	0.085	-0.001	-0.003	-0.002	93.1%	0.088
3	19:35:56	-0.137	0.793	0.001	-0.307	-0.003	-0.003	-0.011	94.5%	0.059
x		-0.159	0.224	0.001	-0.091	-0.001	-0.002	-0.003	93.1%	0.072
σ		0.023	0.524	0.002	0.199	0.002	0.002	0.008	1.3%	0.015
%RSD		14.570	233.600	482.100	219.000	216.700	94.050	314.100	1.4	20.480

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	0.115	0.104	0.074	0.058	0.067	91.7%	0.245	0.247	0.005
2	19:35:31	0.080	0.081	0.104	0.034	0.037	94.3%	0.145	0.159	0.001
3	19:35:56	0.244	0.111	0.108	0.042	0.054	95.2%	0.074	0.081	0.004
x		0.146	0.098	0.095	0.045	0.053	93.7%	0.155	0.162	0.003
σ		0.086	0.016	0.019	0.012	0.015	1.8%	0.086	0.083	0.002
%RSD		58.990	15.950	19.530	27.730	28.150	1.9	55.400	51.380	59.250

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:35:05	0.011	0.005	93.0%
2	19:35:31	0.002	0.006	95.1%
3	19:35:56	0.014	-0.002	96.8%
x		0.009	0.003	95.0%
σ		0.006	0.005	1.9%
%RSD		66.900	158.700	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SQ42482-002 5/19/2017 19:40:01

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	101.2%	83.570	92.920	88.690	T 760.900	T 752.200	699.200	677.200	83.970
2	19:40:54	101.3%	83.030	95.110	90.710	T 780.600	T 757.400	708.500	687.900	87.160
3	19:41:20	103.0%	80.010	92.540	90.040	T 757.500	T 741.800	687.900	660.500	86.210
x		101.8%	82.200	93.520	89.810	T 766.300	T 750.500	698.500	675.200	85.780
σ		1.0%	1.919	1.387	1.029	T 12.460	T 7.949	10.310	13.800	1.638
%RSD		1.0	2.335	1.483	1.146	T 1.626	T 1.059	1.476	2.044	1.909

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	791.000	T 40150.000	877.500	913.000	777.600	94.3%	81.280	80.210	79.820
2	19:40:54	T 796.300	T 41060.000	T 906.500	946.200	800.100	92.3%	87.950	83.410	83.560
3	19:41:20	T 774.000	T 40620.000	T 912.600	893.000	800.300	91.6%	83.990	82.460	81.970
x		T 787.100	T 40610.000	T 898.900	917.400	792.700	92.7%	84.410	82.030	81.790
σ		T 11.690	T 452.100	T 18.730	26.880	13.010	1.4%	3.354	1.647	1.877
%RSD		T 1.485	T 1.113	T 2.084	2.930	1.641	1.5	3.974	2.008	2.295

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	4.272	80.410	T 779.900	824.900	82.330	84.630	82.600	87.700	84.350
2	19:40:54	4.518	83.720	T 810.200	869.500	85.590	85.480	86.930	89.440	85.820
3	19:41:20	3.884	82.890	T 813.900	866.000	85.930	85.770	85.210	86.300	86.290
x		4.225	82.340	T 801.300	853.500	84.610	85.300	84.910	87.810	85.490
σ		0.320	1.721	T 18.660	24.790	1.989	0.591	2.181	1.572	1.013
%RSD		7.565	2.090	T 2.329	2.904	2.350	0.693	2.568	1.791	1.185

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	86.640	82.320	1.816	1.052	82.300	-0.695	91.4%	84.470	83.530
2	19:40:54	87.000	85.380	1.748	1.779	87.340	-0.638	90.1%	89.190	89.690
3	19:41:20	85.670	85.420	1.500	1.637	84.520	-0.192	90.9%	91.970	93.020
x		86.440	84.370	1.688	1.489	84.720	-0.508	90.8%	88.540	88.750
σ		0.685	1.776	0.167	0.385	2.523	0.276	0.7%	3.789	4.814
%RSD		0.792	2.104	9.866	25.870	2.979	54.220	0.7	4.279	5.425

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	81.770	84.090	81.500	-0.080	77.210	81.230	79.740	90.1%	88.060
2	19:40:54	87.220	83.040	83.740	1.811	80.670	84.750	82.530	90.3%	92.170
3	19:41:20	90.080	85.060	82.030	0.804	79.510	83.830	82.720	90.8%	92.200
x		86.360	84.060	82.420	0.845	79.130	83.270	81.670	90.4%	90.810
σ		4.218	1.011	1.171	0.946	1.761	1.830	1.666	0.3%	2.382
%RSD		4.885	1.202	1.421	112.000	2.226	2.198	2.040	0.4	2.623

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	82.600	76.350	79.200	81.640	80.710	91.0%	77.600	82.930	80.760
2	19:40:54	86.660	80.240	82.840	84.570	83.870	91.4%	80.020	86.270	83.030
3	19:41:20	86.630	80.520	83.480	84.820	83.640	92.3%	80.280	86.140	83.540
x		85.300	79.040	81.840	83.680	82.740	91.6%	79.300	85.110	82.440
σ		2.339	2.327	2.312	1.764	1.763	0.7%	1.478	1.891	1.483
%RSD		2.742	2.944	2.825	2.108	2.130	0.7	1.864	2.222	1.799

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:40:27	79.240	79.640	91.3%
2	19:40:54	82.180	83.290	92.3%
3	19:41:20	82.490	83.120	93.2%
x		81.300	82.020	92.3%
σ		1.795	2.060	1.0%
%RSD		2.207	2.511	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-001 5/19/2017 19:45:23

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	99.6%	0.011	4.557	3.929	┬4001.000	┬25410.000	┬25640.000	┬25410.000	2.956
2	19:46:15	102.9%	0.020	3.550	4.051	┬3906.000	┬25260.000	┬25500.000	┬24920.000	2.961
3	19:46:41	102.1%	0.017	3.440	3.317	┬3852.000	┬24980.000	┬24970.000	┬25010.000	2.732
x		101.5%	0.016	3.849	3.766	┬3920.000	┬25220.000	┬25370.000	┬25110.000	2.883
σ		1.7%	0.005	0.616	0.393	┬75.450	┬222.000	┬350.100	┬259.300	0.131
%RSD		1.7	29.870	16.000	10.440	┬1.925	┬0.880	┬1.380	┬1.032	4.534
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	┬7227.000	┬44370.000	┬3409.000	84290.000	┬83570.000	┬94.8%	0.845	0.322	0.020
2	19:46:15	┬7193.000	┬45580.000	┬3494.000	85300.000	┬85380.000	┬94.8%	0.762	0.009	0.019
3	19:46:41	┬6960.000	┬44520.000	┬3377.000	81960.000	┬82170.000	┬96.9%	0.964	0.236	0.080
x		┬7126.000	┬44820.000	┬3427.000	83850.000	┬83700.000	┬95.5%	0.857	0.189	0.040
σ		┬145.300	┬662.100	┬60.650	1712.000	┬1610.000	┬1.2%	0.102	0.162	0.035
%RSD		┬2.039	┬1.477	┬1.770	2.042	┬1.924	┬1.3	11.880	85.500	87.940
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	6.002	55.090	5.692	392.900	-1.347	4.699	0.137	0.365	11.680
2	19:46:15	6.504	55.860	5.165	375.100	-1.375	4.706	0.178	0.343	11.640
3	19:46:41	6.092	53.640	2.555	354.900	-1.320	4.453	0.140	0.297	10.630
x		6.199	54.860	4.470	374.300	-1.347	4.619	0.152	0.335	11.310
σ		0.267	1.126	1.680	19.030	0.027	0.144	0.023	0.035	0.595
%RSD		4.311	2.052	37.580	5.083	2.014	3.119	15.140	10.450	5.257
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	-0.054	-0.111	9.241	9.214	0.153	0.417	90.9%	-0.013	0.141
2	19:46:15	0.047	-0.381	9.467	9.262	0.267	-0.401	91.8%	0.110	0.161
3	19:46:41	0.391	0.192	9.819	7.491	-0.035	-1.406	94.0%	0.028	0.165
x		0.128	-0.100	9.509	8.656	0.128	-0.463	92.2%	0.042	0.156
σ		0.233	0.287	0.291	1.009	0.153	0.913	1.6%	0.063	0.013
%RSD		182.400	287.200	3.065	11.660	119.000	197.100	1.7	151.100	8.357
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	0.115	1.511	0.001	-0.549	-0.003	0.029	0.014	88.4%	0.089
2	19:46:15	0.128	2.177	0.001	-0.819	-0.005	0.037	0.019	90.0%	0.077
3	19:46:41	0.130	1.498	0.002	-0.479	-0.002	0.031	0.023	91.7%	0.063
x		0.124	1.728	0.001	-0.616	-0.003	0.032	0.019	90.0%	0.076
σ		0.008	0.388	0.000	0.180	0.002	0.004	0.005	1.7%	0.013
%RSD		6.425	22.460	37.190	29.140	51.130	13.410	24.160	1.8	16.650
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	0.299	0.049	0.052	166.700	165.300	90.2%	0.065	0.071	0.045
2	19:46:15	0.409	0.073	0.055	167.000	166.900	92.2%	0.047	0.048	0.030
3	19:46:41	0.265	0.046	0.033	165.800	161.800	95.0%	0.034	0.023	0.047
x		0.324	0.056	0.047	166.500	164.700	92.5%	0.048	0.048	0.040
σ		0.075	0.015	0.012	0.602	2.593	2.4%	0.016	0.024	0.009
%RSD		23.190	26.500	25.160	0.362	1.574	2.6	32.080	50.610	23.240
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	19:45:49	0.023	0.022	85.6%						
2	19:46:15	0.027	0.031	88.4%						
3	19:46:41	0.042	0.028	91.4%						
x		0.031	0.027	88.5%						
σ		0.010	0.004	2.9%						
%RSD		31.420	16.090	3.2						

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-002 5/19/2017 19:50:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	99.6%	0.187	1.394	1.996	T 4467.000	T 4219.000	T 4114.000	T 4080.000	31.520
2	19:51:39	100.1%	0.215	1.303	1.602	T 4329.000	T 4137.000	T 4019.000	T 3957.000	31.170
3	19:52:05	101.2%	0.241	1.053	1.857	T 4257.000	T 4148.000	T 4032.000	T 3947.000	30.940
x		100.3%	0.214	1.250	1.818	T 4351.000	T 4168.000	T 4055.000	T 3995.000	31.210
σ		0.8%	0.027	0.176	0.200	T 106.800	T 44.640	T 51.570	T 74.130	0.293
%RSD		0.8	12.560	14.100	10.990	T 2.454	T 1.071	T 1.272	T 1.856	0.938

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	T 5730.000	T 41780.000	T 3701.000	8111.000	7575.000	93.4%	0.865	0.199	0.058
2	19:51:39	T 5627.000	T 41860.000	T 3659.000	8077.000	7537.000	93.9%	0.830	0.019	0.067
3	19:52:05	T 5655.000	T 42630.000	T 3713.000	7973.000	7540.000	93.2%	0.713	-0.105	0.030
x		T 5671.000	T 42090.000	T 3691.000	8054.000	7551.000	93.5%	0.802	0.037	0.052
σ		T 53.320	T 467.600	T 28.290	71.730	21.020	0.3%	0.079	0.153	0.020
%RSD		T 0.940	T 1.111	T 0.767	0.891	0.278	0.4	9.888	408.800	37.850

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	8.405	T 349.800	47.430	86.760	0.730	3.326	5.331	5.741	29.290
2	19:51:39	8.307	T 349.200	47.190	78.040	0.688	3.529	5.255	5.638	28.940
3	19:52:05	8.214	T 353.000	48.300	82.690	0.760	3.258	5.232	5.544	28.890
x		8.309	T 350.700	47.640	82.500	0.726	3.371	5.273	5.641	29.040
σ		0.095	T 2.045	0.584	4.367	0.036	0.141	0.052	0.099	0.220
%RSD		1.147	T 0.583	1.225	5.293	4.998	4.177	0.983	1.750	0.756

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	0.126	-0.569	7.645	6.870	0.087	-1.515	92.9%	-0.185	-0.112
2	19:51:39	0.354	0.100	7.866	6.262	0.095	-0.463	93.6%	-0.279	-0.142
3	19:52:05	0.271	-0.245	8.161	6.917	0.120	-1.699	94.1%	-0.226	-0.144
x		0.250	-0.238	7.891	6.683	0.101	-1.226	93.5%	-0.230	-0.133
σ		0.116	0.335	0.259	0.366	0.017	0.667	0.6%	0.047	0.018
%RSD		46.210	140.600	3.279	5.474	17.100	54.400	0.7	20.310	13.460

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	-0.234	1.730	0.013	-0.551	0.014	0.181	0.194	88.7%	0.089
2	19:51:39	-0.193	1.907	0.018	-0.686	0.022	0.282	0.217	89.7%	0.111
3	19:52:05	-0.193	1.552	0.018	-0.550	0.013	0.227	0.211	90.4%	0.098
x		-0.206	1.729	0.016	-0.596	0.016	0.230	0.207	89.6%	0.099
σ		0.023	0.178	0.003	0.078	0.005	0.050	0.012	0.8%	0.011
%RSD		11.360	10.270	16.090	13.110	32.210	21.850	5.823	0.9	11.290

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	0.311	0.022	0.004	119.900	119.800	91.2%	0.047	0.051	0.258
2	19:51:39	0.267	-0.000	0.003	120.100	119.600	92.4%	0.049	0.043	0.272
3	19:52:05	0.265	0.017	-0.003	121.900	121.000	93.8%	0.045	0.045	0.227
x		0.281	0.013	0.001	120.600	120.100	92.5%	0.047	0.046	0.252
σ		0.026	0.012	0.004	1.077	0.718	1.3%	0.002	0.004	0.023
%RSD		9.281	89.880	336.800	0.893	0.598	1.4	4.151	9.319	9.303

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:51:13	0.251	0.231	90.6%
2	19:51:39	0.254	0.240	93.2%
3	19:52:05	0.274	0.242	93.8%
x		0.260	0.238	92.5%
σ		0.012	0.006	1.7%
%RSD		4.804	2.481	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-003 5/19/2017 19:56:07

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	98.2%	-0.003	6.075	5.896	T 4034.000	T 35400.000	T 35190.000	T 35230.000	2.053
2	19:57:01	97.5%	0.015	5.977	7.153	T 4063.000	T 36300.000	T 35910.000	T 35560.000	2.221
3	19:57:27	99.4%	-0.011	6.261	6.093	T 3984.000	T 35780.000	T 35600.000	T 35740.000	2.176
x		98.4%	0.000	6.104	6.380	T 4027.000	T 35830.000	T 35570.000	T 35510.000	2.150
σ		1.0%	0.013	0.144	0.676	T 40.130	T 449.300	T 361.400	T 260.700	0.087
%RSD		1.0	2778.000	2.362	10.600	T 0.997	T 1.254	T 1.016	T 0.734	4.041

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	T 8742.000	T 44230.000	T 3737.000	M 116000.000	TM 114500.000	T 94.5%	1.060	0.058	-0.017
2	19:57:01	T 8800.000	T 45370.000	T 3927.000	M 120900.000	TM 119600.000	T 93.7%	0.803	-0.129	-0.009
3	19:57:27	T 8831.000	T 46800.000	T 3926.000	M 121600.000	TM 118500.000	T 94.0%	1.036	-0.079	0.023
x		T 8791.000	T 45470.000	T 3863.000	M 119500.000	TM 117500.000	T 94.1%	0.966	-0.050	-0.001
σ		T 45.390	T 1288.000	T 109.500	M 3079.000	TM 2685.000	T 0.4%	0.142	0.097	0.021
%RSD		T 0.516	T 2.833	T 2.835	M 2.577	TM 2.286	T 0.4	14.710	194.900	1690.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	6.841	T 369.700	T 1366.000	1994.000	2.680	15.360	0.062	0.351	1.289
2	19:57:01	6.987	T 382.500	T 1414.000	2050.000	2.793	15.780	0.062	0.338	1.348
3	19:57:27	6.791	T 388.600	T 1446.000	2043.000	2.715	15.030	0.072	0.349	1.350
x		6.873	T 380.300	T 1409.000	2029.000	2.729	15.390	0.065	0.346	1.329
σ		0.102	T 9.634	T 40.660	30.690	0.058	0.377	0.005	0.007	0.035
%RSD		1.479	T 2.534	T 2.887	1.513	2.129	2.451	8.376	2.093	2.617

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	1.243	0.061	10.770	11.870	0.196	-0.642	89.9%	-0.298	-0.244
2	19:57:01	1.531	0.088	12.190	10.190	-0.160	-0.274	88.7%	-0.319	-0.182
3	19:57:27	1.203	-0.313	12.720	10.460	0.014	-0.822	90.6%	-0.309	-0.187
x		1.326	-0.055	11.890	10.840	0.017	-0.579	89.7%	-0.309	-0.205
σ		0.179	0.224	1.006	0.899	0.178	0.280	0.9%	0.011	0.035
%RSD		13.500	410.800	8.457	8.295	1060.000	48.290	1.1	3.467	16.950

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	-0.288	2.168	0.009	-0.816	0.003	0.004	-0.006	88.2%	0.023
2	19:57:01	-0.270	4.469	0.013	-1.708	0.017	0.013	-0.012	87.7%	0.037
3	19:57:27	-0.243	2.845	0.016	-1.056	0.009	0.003	-0.005	89.8%	0.056
x		-0.267	3.161	0.013	-1.193	0.010	0.007	-0.008	88.6%	0.039
σ		0.023	1.182	0.004	0.462	0.007	0.005	0.004	1.1%	0.016
%RSD		8.484	37.410	30.060	38.700	70.070	79.370	48.930	1.2	42.290

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	0.287	-0.037	-0.017	M 510.500	M 506.800	90.3%	0.029	0.033	0.005
2	19:57:01	0.602	0.021	-0.007	M 534.700	M 530.900	90.9%	0.031	0.029	0.021
3	19:57:27	0.435	0.007	-0.005	M 525.700	M 525.800	92.4%	0.028	0.033	0.009
x		0.441	-0.003	-0.010	M 523.700	M 521.200	91.2%	0.029	0.032	0.012
σ		0.158	0.030	0.006	M 12.250	M 12.680	1.1%	0.002	0.002	0.008
%RSD		35.780	957.800	64.840	M 2.339	M 2.433	1.2	5.445	6.911	70.660

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:56:34	0.011	0.013	85.0%
2	19:57:01	0.006	0.011	84.9%
3	19:57:27	-0.000	0.008	86.8%
x		0.005	0.011	85.6%
σ		0.005	0.003	1.1%
%RSD		100.600	25.320	1.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004 5/19/2017 20:01:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	97.1%	0.012	6.383	6.249	T 4416.000	T 29060.000	T 29370.000	T 29470.000	3.410
2	20:02:22	96.8%	0.034	5.783	6.111	T 4470.000	T 29280.000	T 29150.000	T 29470.000	3.529
3	20:02:48	99.1%	0.044	6.010	6.828	T 4459.000	T 29900.000	T 29750.000	T 29610.000	3.713
x		97.7%	0.030	6.059	6.396	T 4448.000	T 29420.000	T 29420.000	T 29520.000	3.551
σ		1.3%	0.016	0.303	0.381	T 28.610	T 432.300	T 302.800	T 75.900	0.153
%RSD		1.3	54.980	5.003	5.948	T 0.643	T 1.470	T 1.029	T 0.257	4.312

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	T 6988.000	T 44000.000	T 2897.000	88400.000	T 86740.000	T 94.2%	0.774	-0.139	0.041
2	20:02:22	T 7004.000	T 43920.000	T 2887.000	87660.000	T 87170.000	T 94.9%	0.866	-0.073	0.056
3	20:02:48	T 7114.000	T 45430.000	T 3004.000	92440.000	T 91660.000	T 93.2%	0.899	0.077	0.111
x		T 7035.000	T 44450.000	T 2929.000	89500.000	T 88520.000	T 94.1%	0.847	-0.045	0.070
σ		T 68.860	T 848.800	T 64.780	2574.000	T 2725.000	T 0.9%	0.065	0.111	0.037
%RSD		T 0.979	T 1.910	T 2.211	2.876	T 3.079	T 0.9	7.635	246.300	53.010

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	6.218	TM 1783.000	T 1498.000	2029.000	6.290	9.900	4.846	6.127	11.840
2	20:02:22	5.845	TM 1777.000	T 1504.000	1977.000	6.357	9.723	4.882	5.473	11.340
3	20:02:48	5.737	TM 1869.000	T 1582.000	2043.000	6.470	10.110	5.081	5.699	11.860
x		5.933	TM 1809.000	T 1528.000	2016.000	6.372	9.910	4.936	5.766	11.680
σ		0.252	TM 51.580	T 46.600	34.830	0.091	0.193	0.126	0.332	0.291
%RSD		4.251	TM 2.851	T 3.050	1.727	1.423	1.943	2.558	5.753	2.493

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	0.864	-0.237	8.138	6.478	-0.048	-1.766	90.5%	-0.234	-0.151
2	20:02:22	0.837	-0.025	8.659	7.173	0.159	-1.132	90.3%	-0.193	-0.133
3	20:02:48	0.820	-0.084	8.945	8.068	-0.021	-1.270	89.9%	-0.185	-0.087
x		0.840	-0.115	8.580	7.240	0.030	-1.389	90.2%	-0.204	-0.124
σ		0.022	0.109	0.409	0.797	0.112	0.333	0.3%	0.026	0.033
%RSD		2.649	94.830	4.768	11.010	373.100	23.980	0.3	12.880	26.650

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	-0.203	4.191	-0.004	-1.605	-0.003	0.003	-0.019	88.2%	0.073
2	20:02:22	-0.152	2.747	-0.007	-1.036	-0.002	0.003	-0.006	88.6%	0.072
3	20:02:48	-0.125	4.065	-0.005	-1.504	-0.004	0.000	-0.018	88.6%	0.077
x		-0.160	3.668	-0.005	-1.382	-0.003	0.002	-0.014	88.5%	0.074
σ		0.040	0.800	0.002	0.303	0.001	0.002	0.007	0.2%	0.003
%RSD		24.910	21.800	33.340	21.950	31.790	80.560	49.760	0.3	3.651

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	0.711	-0.028	-0.048	260.300	257.000	89.9%	0.036	0.036	0.383
2	20:02:22	0.478	-0.035	-0.015	264.000	261.900	92.0%	0.036	0.033	0.374
3	20:02:48	0.682	-0.016	-0.010	273.600	269.700	91.0%	0.044	0.034	0.349
x		0.624	-0.026	-0.024	266.000	262.900	91.0%	0.039	0.034	0.369
σ		0.127	0.010	0.021	6.826	6.373	1.1%	0.004	0.002	0.018
%RSD		20.350	36.710	85.320	2.566	2.425	1.2	11.500	4.388	4.862

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:01:56	0.331	0.322	85.9%
2	20:02:22	0.352	0.333	88.1%
3	20:02:48	0.395	0.353	86.8%
x		0.359	0.336	87.0%
σ		0.033	0.015	1.1%
%RSD		9.107	4.566	1.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004MS 5/19/2017 20:06:51

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	96.4%	88.370	99.490	96.110	T 5279.000	T 30350.000	T 30010.000	T 30490.000	85.920
2	20:07:43	98.2%	87.730	103.500	97.460	T 5190.000	T 29920.000	T 29700.000	T 30110.000	86.680
3	20:08:09	99.4%	85.910	101.000	97.270	T 5092.000	T 29770.000	T 29480.000	T 29330.000	87.260
x		98.0%	87.340	101.300	96.950	T 5187.000	T 30010.000	T 29730.000	T 29980.000	86.620
σ		1.5%	1.276	2.001	0.730	T 93.890	T 303.600	T 263.000	T 589.800	0.675
%RSD		1.5	1.461	1.975	0.753	T 1.810	T 1.011	T 0.885	T 1.968	0.779

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	T 7708.000	T 42050.000	T 3831.000	89860.000	T 87780.000	T 94.4%	87.130	84.270	82.960
2	20:07:43	T 7688.000	T 42230.000	T 3825.000	89300.000	T 87930.000	95.5%	88.500	84.830	83.420
3	20:08:09	T 7600.000	T 42880.000	T 3905.000	89910.000	T 88610.000	T 94.4%	86.490	84.040	82.880
x		T 7665.000	T 42380.000	T 3854.000	89690.000	T 88110.000	T 94.7%	87.370	84.380	83.080
σ		T 57.180	T 436.100	T 44.860	340.200	T 439.000	T 0.7%	1.025	0.406	0.291
%RSD		T 0.746	T 1.029	T 1.164	0.379	T 0.498	T 0.7	1.173	0.481	0.350

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	5.121	TM 1873.000	T 2318.000	2848.000	90.610	95.930	82.110	91.280	93.080
2	20:07:43	4.735	TM 1871.000	T 2330.000	2855.000	91.600	97.150	81.970	90.430	92.000
3	20:08:09	4.946	TM 1903.000	T 2371.000	2884.000	91.490	94.940	81.420	87.670	89.650
x		4.934	TM 1883.000	T 2340.000	2862.000	91.230	96.000	81.830	89.790	91.580
σ		0.193	TM 17.830	T 27.760	19.250	0.544	1.105	0.363	1.888	1.753
%RSD		3.921	TM 0.947	T 1.186	0.672	0.596	1.151	0.443	2.103	1.914

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	89.120	81.150	11.530	9.826	84.230	-0.826	90.6%	92.230	92.490
2	20:07:43	91.200	80.850	10.570	10.870	87.340	-0.109	92.2%	94.290	94.860
3	20:08:09	89.150	80.420	10.550	9.063	86.350	-1.509	92.6%	95.980	98.060
x		89.820	80.810	10.880	9.920	85.970	-0.815	91.8%	94.160	95.140
σ		1.194	0.371	0.558	0.908	1.587	0.700	1.0%	1.876	2.799
%RSD		1.329	0.459	5.131	9.153	1.846	85.950	1.1	1.992	2.942

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	90.560	85.990	85.460	-1.064	78.050	81.840	84.230	88.1%	88.950
2	20:07:43	92.630	89.420	85.840	-2.922	78.320	83.350	84.530	88.9%	90.110
3	20:08:09	94.600	88.220	83.650	-3.102	77.000	82.000	83.640	91.0%	91.270
x		92.600	87.880	84.980	-2.363	77.790	82.400	84.130	89.3%	90.110
σ		2.023	1.740	1.169	1.128	0.695	0.826	0.452	1.5%	1.160
%RSD		2.185	1.980	1.376	47.760	0.894	1.003	0.537	1.6	1.288

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	85.610	82.030	84.070	352.000	347.900	90.0%	83.960	85.900	86.230
2	20:07:43	87.160	82.770	86.340	355.100	350.000	93.0%	85.390	86.500	87.400
3	20:08:09	87.740	81.580	83.840	349.000	345.400	94.0%	83.740	86.610	87.000
x		86.840	82.130	84.750	352.100	347.700	92.3%	84.360	86.330	86.880
σ		1.103	0.601	1.384	3.081	2.303	2.1%	0.895	0.381	0.592
%RSD		1.271	0.732	1.633	0.875	0.662	2.2	1.061	0.441	0.682

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:07:17	84.330	81.380	86.1%
2	20:07:43	85.630	81.780	88.1%
3	20:08:09	84.880	81.530	90.3%
x		84.950	81.570	88.2%
σ		0.655	0.202	2.1%
%RSD		0.771	0.247	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004MD 5/19/2017 20:12:12

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	96.4%	79.480	95.440	88.340	T 5233.000	T 29850.000	T 29660.000	T 30170.000	78.640
2	20:13:03	96.9%	78.080	92.480	88.600	T 5172.000	T 30410.000	T 30370.000	T 30870.000	79.920
3	20:13:29	100.9%	73.000	87.600	83.780	T 4929.000	T 28470.000	T 27950.000	T 28200.000	74.790
x		98.1%	76.850	91.840	86.900	T 5111.000	T 29570.000	T 29330.000	T 29750.000	77.780
σ		2.5%	3.410	3.963	2.712	T 160.800	T 999.000	T 1243.000	T 1382.000	2.670
%RSD		2.5	4.437	4.315	3.121	T 3.147	T 3.378	T 4.239	T 4.645	3.432

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	T 7625.000	T 42630.000	T 3726.000	88530.000	T 87560.000	T 94.6%	79.380	76.160	75.130
2	20:13:03	T 7662.000	T 42370.000	T 3747.000	88890.000	T 88800.000	T 94.8%	78.780	76.210	74.810
3	20:13:29	T 7200.000	T 40630.000	T 3543.000	84010.000	T 84810.000	T 98.3%	75.240	73.410	71.580
x		T 7496.000	T 41880.000	T 3672.000	87140.000	T 87060.000	T 95.9%	77.800	75.260	73.840
σ		T 256.500	T 1087.000	T 112.400	2719.000	T 2045.000	T 2.1%	2.240	1.601	1.962
%RSD		T 3.422	T 2.595	T 3.060	3.120	T 2.350	T 2.2	2.879	2.128	2.656

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	5.101	TM 1839.000	T 2216.000	2792.000	82.830	89.560	74.410	83.400	83.980
2	20:13:03	5.635	TM 1878.000	T 2256.000	2769.000	83.330	87.970	73.120	82.000	83.960
3	20:13:29	4.794	TM 1811.000	T 2163.000	2677.000	80.480	85.910	70.650	78.070	79.310
x		5.177	TM 1843.000	T 2212.000	2746.000	82.210	87.810	72.730	81.160	82.420
σ		0.426	TM 33.760	T 46.720	60.700	1.524	1.833	1.909	2.762	2.688
%RSD		8.219	TM 1.832	T 2.112	2.211	1.854	2.087	2.625	3.403	3.261

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	81.150	75.080	10.230	9.286	79.470	-0.627	89.5%	81.660	82.360
2	20:13:03	81.860	72.730	10.540	9.651	79.070	-1.287	90.2%	85.320	84.950
3	20:13:29	77.120	68.300	9.610	9.170	71.090	0.164	92.6%	81.540	81.840
x		80.040	72.040	10.130	9.369	76.540	-0.584	90.8%	82.840	83.050
σ		2.559	3.441	0.472	0.251	4.727	0.727	1.6%	2.148	1.664
%RSD		3.197	4.777	4.665	2.681	6.175	124.500	1.8	2.592	2.004

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	81.210	78.960	77.320	-2.344	69.640	73.780	76.000	88.3%	82.000
2	20:13:03	83.360	81.170	76.180	-2.248	70.960	75.630	76.200	88.5%	83.660
3	20:13:29	80.220	73.970	73.560	0.643	67.850	72.370	72.620	90.8%	79.280
x		81.590	78.030	75.680	-1.317	69.480	73.930	74.940	89.2%	81.640
σ		1.610	3.687	1.928	1.697	1.560	1.636	2.012	1.4%	2.210
%RSD		1.973	4.725	2.548	128.900	2.245	2.213	2.685	1.6	2.707

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	78.100	72.310	75.260	338.800	336.600	90.0%	75.630	77.090	77.620
2	20:13:03	79.590	74.740	76.520	346.200	341.900	91.4%	75.580	78.020	77.620
3	20:13:29	76.560	71.100	74.170	329.500	327.900	94.6%	72.960	75.230	74.870
x		78.080	72.720	75.320	338.200	335.500	92.0%	74.720	76.780	76.710
σ		1.514	1.850	1.176	8.357	7.075	2.4%	1.528	1.421	1.588
%RSD		1.938	2.544	1.561	2.471	2.109	2.6	2.044	1.850	2.070

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:12:38	76.630	73.050	85.8%
2	20:13:03	76.600	74.140	88.3%
3	20:13:29	74.410	70.490	90.9%
x		75.880	72.560	88.3%
σ		1.269	1.872	2.6%
%RSD		1.673	2.580	2.9

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004SD(5) 5/19/2017 20:17:34

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	102.5%	0.017	0.599	1.431	T 914.500	T 6045.000	T 5963.000	T 5985.000	-1.086
2	20:18:26	102.1%	0.021	0.464	0.822	T 880.100	T 6031.000	T 5940.000	T 5914.000	-1.189
3	20:18:51	101.9%	0.014	0.966	1.335	T 926.200	T 6360.000	T 6169.000	T 5972.000	-0.916
x		102.2%	0.017	0.676	1.196	T 906.900	T 6145.000	T 6024.000	T 5957.000	-1.064
σ		0.3%	0.003	0.260	0.328	T 23.940	T 186.200	T 126.500	T 37.660	0.138
%RSD		0.3	19.900	38.420	27.400	T 2.640	T 3.029	T 2.101	T 0.632	12.940

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	T 1423.000	T 8803.000	569.700	18100.000	T 17940.000	T 97.2%	0.070	0.087	-0.006
2	20:18:26	T 1391.000	T 8923.000	572.900	18130.000	T 18170.000	T 95.9%	0.072	0.078	-0.009
3	20:18:51	T 1466.000	T 9569.000	602.900	19220.000	T 19000.000	T 91.9%	0.205	0.134	0.001
x		T 1427.000	T 9098.000	581.800	18480.000	T 18370.000	T 95.0%	0.116	0.099	-0.005
σ		T 37.870	T 411.700	18.290	636.400	T 555.300	T 2.7%	0.077	0.030	0.005
%RSD		T 2.655	T 4.525	3.143	3.443	T 3.023	T 2.9	66.640	30.050	117.600

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	1.452	T 367.700	T 279.500	374.300	1.340	2.072	1.056	1.184	2.407
2	20:18:26	1.352	T 367.900	T 280.600	375.600	1.316	2.181	0.990	1.057	2.545
3	20:18:51	1.440	T 392.800	T 311.500	402.200	1.427	2.041	1.102	1.164	2.711
x		1.415	T 376.100	T 290.600	384.100	1.361	2.098	1.049	1.135	2.554
σ		0.054	T 14.440	T 18.180	15.710	0.058	0.073	0.056	0.068	0.152
%RSD		3.848	T 3.839	T 6.256	4.092	4.290	3.498	5.352	6.001	5.947

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	0.188	-0.489	1.775	0.705	0.216	-1.573	94.5%	-0.195	-0.143
2	20:18:26	0.104	-0.183	1.867	1.079	-0.124	0.233	94.9%	-0.163	-0.120
3	20:18:51	0.165	-0.351	1.609	1.636	-0.075	-0.885	92.8%	-0.204	-0.054
x		0.152	-0.341	1.750	1.140	0.006	-0.742	94.0%	-0.187	-0.105
σ		0.043	0.153	0.131	0.469	0.184	0.911	1.1%	0.021	0.046
%RSD		28.290	44.880	7.469	41.110	3330.000	122.900	1.2	11.300	43.830

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	-0.138	0.415	0.000	-0.165	-0.001	0.006	-0.009	92.1%	0.012
2	20:18:26	-0.120	0.481	0.000	-0.190	0.002	-0.006	-0.003	93.0%	0.014
3	20:18:51	-0.117	0.973	0.001	-0.360	-0.002	0.009	-0.001	91.9%	0.003
x		-0.125	0.623	0.001	-0.238	-0.000	0.003	-0.005	92.4%	0.010
σ		0.011	0.305	0.000	0.106	0.002	0.008	0.004	0.6%	0.006
%RSD		9.032	48.910	81.590	44.460	3078.000	268.200	85.430	0.6	61.840

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	0.117	-0.062	-0.080	54.080	52.890	93.1%	0.106	0.095	0.065
2	20:18:26	0.082	-0.051	-0.066	53.890	53.270	94.8%	0.081	0.084	0.074
3	20:18:51	0.191	-0.053	-0.067	56.350	55.570	93.4%	0.070	0.080	0.083
x		0.130	-0.055	-0.071	54.770	53.910	93.8%	0.086	0.086	0.074
σ		0.056	0.006	0.008	1.368	1.448	0.9%	0.018	0.008	0.009
%RSD		43.020	10.880	11.300	2.497	2.686	1.0	21.420	9.178	12.440

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:18:00	0.047	0.074	92.9%
2	20:18:26	0.055	0.079	94.1%
3	20:18:51	0.089	0.060	92.7%
x		0.063	0.071	93.2%
σ		0.022	0.010	0.7%
%RSD		35.370	13.850	0.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004PS 5/19/2017 20:22:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	97.2%	87.800	106.200	99.880	T 5177.000	T 29320.000	T 29270.000	T 29680.000	90.090
2	20:23:48	96.9%	85.630	103.200	101.000	T 5119.000	T 29590.000	T 29430.000	T 29310.000	90.180
3	20:24:14	97.5%	87.230	103.500	99.150	T 5281.000	T 30200.000	T 30180.000	T 30270.000	91.510
x		97.2%	86.890	104.300	100.000	T 5192.000	T 29710.000	T 29630.000	T 29760.000	90.590
σ		0.3%	1.129	1.663	0.933	T 82.290	T 450.300	T 489.900	T 483.800	0.795
%RSD		0.3	1.299	1.595	0.933	T 1.585	T 1.516	T 1.653	T 1.626	0.878

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	T 7590.000	T 43390.000	T 3807.000	88940.000	T 86940.000	T 94.6%	87.490	83.260	82.180
2	20:23:48	T 7668.000	T 44060.000	T 3875.000	87900.000	T 87650.000	T 93.6%	88.030	84.720	83.300
3	20:24:14	T 7709.000	T 44790.000	T 3892.000	90590.000	T 90260.000	T 93.7%	91.840	87.750	85.220
x		T 7656.000	T 44080.000	T 3858.000	89140.000	T 88290.000	T 94.0%	89.120	85.240	83.570
σ		T 60.330	T 697.200	T 45.030	1358.000	T 1749.000	T 0.5%	2.371	2.291	1.540
%RSD		T 0.788	T 1.582	T 1.167	1.523	T 1.981	T 0.6	2.660	2.688	1.843

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	4.841	TM 1828.000	T 2295.000	2827.000	90.260	95.560	86.250	95.580	95.290
2	20:23:48	4.408	TM 1868.000	T 2321.000	2850.000	91.550	96.240	86.850	94.540	95.120
3	20:24:14	4.654	TM 1925.000	T 2393.000	2930.000	94.170	98.170	88.740	97.600	96.210
x		4.634	TM 1874.000	T 2336.000	2869.000	91.990	96.650	87.280	95.910	95.540
σ		0.217	TM 48.600	T 50.420	54.250	1.993	1.354	1.300	1.555	0.584
%RSD		4.690	TM 2.594	T 2.158	1.891	2.167	1.400	1.489	1.622	0.611

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	86.120	79.640	7.631	7.351	84.290	0.730	91.0%	91.610	91.160
2	20:23:48	87.560	82.110	8.178	6.752	85.700	-0.368	91.1%	95.300	95.620
3	20:24:14	88.380	85.100	8.594	7.583	89.720	-0.028	90.5%	98.300	96.960
x		87.350	82.280	8.134	7.229	86.570	0.111	90.8%	95.070	94.580
σ		1.145	2.732	0.483	0.429	2.821	0.562	0.3%	3.348	3.034
%RSD		1.310	3.321	5.933	5.937	3.259	504.500	0.4	3.522	3.208

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	89.270	92.410	85.230	-4.184	77.050	81.530	84.360	88.7%	90.040
2	20:23:48	93.560	90.800	84.500	-3.180	78.250	83.930	84.090	88.9%	92.520
3	20:24:14	96.340	87.900	86.860	-2.101	79.750	84.010	86.890	88.9%	93.920
x		93.060	90.370	85.530	-3.155	78.350	83.160	85.120	88.8%	92.160
σ		3.560	2.285	1.208	1.042	1.352	1.407	1.544	0.1%	1.968
%RSD		3.826	2.529	1.412	33.030	1.726	1.692	1.814	0.1	2.136

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	87.250	73.320	75.300	342.500	341.500	90.2%	84.110	85.960	86.430
2	20:23:48	88.060	74.610	76.990	347.000	342.000	92.4%	83.840	86.650	86.980
3	20:24:14	90.550	76.630	79.030	355.900	351.500	92.8%	87.310	88.280	90.240
x		88.620	74.850	77.110	348.500	345.000	91.8%	85.080	86.960	87.890
σ		1.720	1.666	1.869	6.819	5.650	1.4%	1.931	1.196	2.060
%RSD		1.940	2.225	2.424	1.957	1.637	1.5	2.269	1.375	2.344

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:23:22	85.120	81.400	86.5%
2	20:23:48	85.920	82.340	88.4%
3	20:24:14	88.210	84.180	87.7%
x		86.420	82.640	87.5%
σ		1.602	1.415	1.0%
%RSD		1.854	1.712	1.1

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 20:28:19 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	86.4%	281.500	290.500	272.200	T 54700.000	T 51710.000	T 51230.000	T 55060.000	278.600
2	20:29:09	87.3%	281.300	283.000	266.900	T 54640.000	T 52540.000	T 52130.000	T 55450.000	282.500
3	20:29:35	87.4%	278.800	280.800	270.800	T 53660.000	T 51700.000	T 51480.000	T 54850.000	277.600
x		87.0%	93.514%	94.907%	89.985%	T 90.557%	T 51980.000	T 51620.000	T 91.867%	93.183%
σ		0.6%	n/a	n/a	n/a	T n/a	T 481.300	T 465.200	T n/a	n/a
%RSD		0.6	0.531	1.785	1.022	T 1.070	T 0.926	T 0.901	T 0.558	0.923

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	T 2837.000	282.100	T 59540.000	53210.000	T 53250.000	T 94.8%	269.000	274.700	265.400
2	20:29:09	T 2832.000	300.600	T 60940.000	53620.000	T 54070.000	T 93.9%	273.000	282.500	271.700
3	20:29:35	T 2831.000	313.600	T 61150.000	53690.000	T 54440.000	94.2%	273.500	281.200	268.500
x		T 94.448%	298.800	T 100.905%	53500.000	T 89.868%	T 94.3%	90.608%	93.158%	89.521%
σ		T n/a	15.800	T n/a	257.500	T n/a	T 0.5%	n/a	n/a	n/a
%RSD		T 0.107	5.290	T 1.442	0.481	T 1.125	T 0.5	0.910	1.509	1.173

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	-5.092	T 261.500	T 50060.000	T 57700.000	272.200	271.400	247.100	278.500	266.900
2	20:29:09	-6.693	T 265.600	T 50780.000	T 58250.000	272.500	269.800	253.200	281.500	269.200
3	20:29:35	-6.272	T 269.700	T 51660.000	T 59000.000	271.700	268.600	251.200	275.200	264.700
x		-6.019	T 88.531%	T 84.721%	T 97.197%	90.708%	89.985%	250.500	92.802%	88.986%
σ		0.830	T n/a	T n/a	T n/a	n/a	n/a	3.139	n/a	n/a
%RSD		13.790	T 1.533	T 1.577	T 1.118	0.147	0.521	1.253	1.128	0.850

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	271.800	254.900	1.194	0.098	274.200	-0.449	89.0%	269.900	270.800
2	20:29:09	273.700	255.800	1.002	-0.552	280.500	-0.171	90.1%	286.700	287.700
3	20:29:35	271.300	249.200	1.395	-1.033	265.200	-1.454	90.6%	293.800	293.100
x		90.746%	253.300	1.197	-0.495	91.093%	-0.691	89.9%	94.479%	94.617%
σ		n/a	3.604	0.196	0.567	n/a	0.675	0.8%	n/a	n/a
%RSD		0.463	1.423	16.400	114.500	2.811	97.640	0.9	4.327	4.096

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	268.100	255.500	275.000	-0.928	246.500	253.700	268.500	86.6%	281.200
2	20:29:09	285.800	256.000	276.300	-2.724	249.600	256.700	270.900	87.6%	287.200
3	20:29:35	290.500	260.100	271.600	-0.788	247.100	257.700	267.800	88.2%	287.600
x		93.827%	257.200	91.432%	-1.480	247.700	256.000	89.697%	87.5%	95.106%
σ		n/a	2.532	n/a	1.080	1.624	2.108	n/a	0.8%	n/a
%RSD		4.194	0.984	0.888	72.950	0.656	0.823	0.612	1.0	1.242

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	269.700	257.300	264.600	275.800	270.100	88.5%	269.800	T 273.500	277.700
2	20:29:09	273.300	261.800	268.900	275.500	273.400	90.3%	272.900	T 276.600	282.900
3	20:29:35	276.100	261.400	270.000	274.400	272.300	92.1%	272.600	T 276.200	281.700
x		91.017%	86.718%	89.280%	91.738%	90.654%	90.3%	90.593%	T 91.812%	93.583%
σ		n/a	n/a	n/a	n/a	n/a	1.8%	n/a	T n/a	n/a
%RSD		1.185	0.967	1.055	0.261	0.616	2.0	0.624	T 0.608	0.973

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:28:44	273.400	266.700	83.5%
2	20:29:09	278.500	271.500	84.9%
3	20:29:35	276.400	267.400	86.3%
x		92.024%	89.512%	84.9%
σ		n/a	n/a	1.4%
%RSD		0.937	0.951	1.6

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 20:33:40 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	104.0%	0.040	1.851	1.259	-0.192	1.554	1.691	1.397	-1.241
2	20:34:31	110.0%	0.024	0.971	1.190	-0.223	1.501	1.270	1.297	-1.137
3	20:34:57	108.0%	0.028	0.882	0.890	-1.014	1.123	0.806	1.124	-1.154
x		107.3%	0.031	1.235	1.113	-0.476	1.392	1.255	1.272	-1.177
σ		3.0%	0.008	0.535	0.196	0.466	0.235	0.443	0.138	0.056
%RSD		2.8	26.940	43.360	17.630	97.870	16.870	35.260	10.830	4.756

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	T -0.574	140.000	0.678	10.420	1.470	103.4%	-0.066	0.117	0.009
2	20:34:31	7.501	148.600	0.017	4.774	0.904	101.7%	-0.065	0.114	-0.004
3	20:34:57	7.274	156.300	-0.779	5.373	-0.323	102.0%	-0.044	0.087	-0.024
x		T 4.734	148.300	-0.028	6.857	0.684	102.3%	-0.058	0.106	-0.007
σ		T 4.598	8.130	0.730	3.104	0.917	0.9%	0.012	0.017	0.017
%RSD		T 97.130	5.483	2599.000	45.270	134.100	0.9	21.170	15.920	246.900

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	0.002	0.054	-2.626	-0.939	0.017	0.012	-0.018	-0.014	-0.028
2	20:34:31	0.020	0.062	-1.819	-1.397	0.015	0.034	-0.012	0.004	-0.000
3	20:34:57	0.035	0.057	-1.943	-1.562	0.014	0.023	-0.005	0.011	-0.040
x		0.019	0.058	-2.130	-1.299	0.015	0.023	-0.012	0.000	-0.023
σ		0.017	0.004	0.435	0.323	0.002	0.011	0.007	0.013	0.020
%RSD		87.280	6.811	20.410	24.880	11.470	47.070	54.180	4344.000	88.470

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	-0.045	-0.018	0.260	-0.485	-0.181	0.023	98.9%	0.435	0.587
2	20:34:31	-0.041	-0.179	0.131	-0.794	-0.103	-0.725	100.0%	0.568	0.524
3	20:34:57	0.038	0.018	0.239	-0.863	-0.043	-0.428	99.6%	0.502	0.537
x		-0.016	-0.060	0.210	-0.714	-0.109	-0.377	99.5%	0.501	0.549
σ		0.047	0.105	0.069	0.201	0.069	0.377	0.6%	0.066	0.033
%RSD		296.700	176.200	33.100	28.160	63.210	99.970	0.6	13.240	6.015

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	0.383	-0.059	0.013	0.047	0.010	0.014	0.026	96.5%	0.135
2	20:34:31	0.554	-0.177	0.017	0.107	0.013	0.003	0.000	98.3%	0.115
3	20:34:57	0.495	0.050	0.011	-0.025	0.009	0.013	0.007	98.9%	0.148
x		0.477	-0.062	0.013	0.043	0.011	0.010	0.011	97.9%	0.133
σ		0.087	0.114	0.003	0.066	0.002	0.006	0.014	1.3%	0.017
%RSD		18.130	183.700	20.980	153.300	16.960	64.880	123.600	1.3	12.760

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	0.142	0.301	0.321	-0.016	0.006	96.9%	0.030	0.036	0.012
2	20:34:31	0.163	0.326	0.281	0.026	0.017	99.0%	0.026	0.034	0.018
3	20:34:57	0.126	0.325	0.306	-0.008	0.010	100.2%	0.028	0.027	0.017
x		0.144	0.318	0.302	0.001	0.011	98.7%	0.028	0.032	0.016
σ		0.019	0.014	0.020	0.022	0.006	1.6%	0.002	0.005	0.003
%RSD		13.040	4.437	6.749	3561.000	51.800	1.7	8.014	14.400	22.170

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:34:05	0.023	0.009	96.5%
2	20:34:31	0.013	0.012	99.3%
3	20:34:57	-0.002	0.008	100.2%
x		0.011	0.010	98.7%
σ		0.013	0.002	1.9%
%RSD		110.800	23.010	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-005 5/19/2017 20:39:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	98.1%	0.015	6.774	6.387	T 4447.000	T 29190.000	T 28990.000	T 29370.000	2.458
2	20:39:51	101.1%	0.018	6.309	6.605	T 4317.000	T 28740.000	T 28630.000	T 28940.000	2.324
3	20:40:17	101.4%	0.007	6.805	6.668	T 4369.000	T 29000.000	T 28660.000	T 28760.000	2.644
x		100.2%	0.013	6.629	6.553	T 4378.000	T 28980.000	T 28760.000	T 29030.000	2.475
σ		1.8%	0.006	0.278	0.148	T 65.260	T 225.100	T 200.000	T 316.100	0.161
%RSD		1.8	42.520	4.195	2.254	T 1.491	T 0.777	T 0.695	T 1.089	6.485

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	T 6843.000	T 45430.000	T 2861.000	88430.000	T 87160.000	97.3%	0.710	0.198	0.121
2	20:39:51	T 6862.000	T 45530.000	T 2898.000	88270.000	T 87680.000	T 95.9%	0.804	-0.022	0.139
3	20:40:17	T 6856.000	T 46550.000	T 2963.000	90000.000	T 88900.000	T 95.2%	0.863	0.095	0.090
x		T 6854.000	T 45840.000	T 2907.000	88900.000	T 87920.000	T 96.1%	0.792	0.090	0.116
σ		T 9.520	T 622.900	T 51.520	957.800	T 893.200	T 1.1%	0.077	0.110	0.025
%RSD		T 0.139	T 1.359	T 1.772	1.077	T 1.016	T 1.1	9.734	121.900	21.110

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	4.952	TM 1741.000	T 1450.000	1943.000	6.243	9.897	0.231	0.477	8.490
2	20:39:51	5.387	TM 1790.000	T 1492.000	1983.000	6.183	9.373	0.269	0.478	8.536
3	20:40:17	5.038	TM 1827.000	T 1519.000	1968.000	6.162	9.667	0.253	0.458	8.553
x		5.126	TM 1786.000	T 1487.000	1964.000	6.196	9.646	0.251	0.471	8.526
σ		0.231	TM 43.210	T 34.700	20.350	0.042	0.262	0.019	0.011	0.032
%RSD		4.496	TM 2.419	T 2.334	1.036	0.679	2.719	7.558	2.417	0.380

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	0.964	-0.243	7.687	6.126	-0.491	0.982	91.8%	0.011	0.049
2	20:39:51	0.887	-0.043	7.985	6.639	-0.047	-0.595	92.7%	0.093	0.115
3	20:40:17	0.782	-0.038	8.091	7.747	-0.048	0.375	91.8%	0.201	0.255
x		0.878	-0.108	7.921	6.837	-0.195	0.254	92.1%	0.102	0.139
σ		0.091	0.117	0.210	0.829	0.256	0.795	0.5%	0.095	0.105
%RSD		10.400	108.000	2.648	12.120	131.100	313.300	0.6	93.480	75.450

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	-0.001	4.076	0.006	-1.526	-0.002	0.017	0.003	90.0%	0.095
2	20:39:51	0.118	3.778	0.005	-1.430	0.006	0.005	-0.004	90.7%	0.107
3	20:40:17	0.093	4.919	0.000	-1.881	0.002	-0.001	-0.017	90.1%	0.074
x		0.070	4.258	0.004	-1.612	0.002	0.007	-0.006	90.3%	0.092
σ		0.062	0.592	0.003	0.238	0.004	0.009	0.010	0.4%	0.017
%RSD		89.130	13.910	87.480	14.730	194.100	128.500	169.500	0.4	18.020

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	0.645	0.196	0.163	260.100	259.000	91.1%	0.202	0.188	0.025
2	20:39:51	0.631	0.184	0.168	265.100	258.300	93.0%	0.135	0.136	0.004
3	20:40:17	0.804	0.199	0.174	267.700	264.900	93.9%	0.097	0.118	0.016
x		0.693	0.193	0.168	264.300	260.700	92.7%	0.145	0.147	0.015
σ		0.096	0.008	0.006	3.839	3.656	1.4%	0.053	0.037	0.011
%RSD		13.820	4.189	3.320	1.452	1.402	1.5	36.760	24.910	71.270

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:39:26	0.012	0.010	87.6%
2	20:39:51	0.014	0.011	89.3%
3	20:40:17	0.021	0.018	89.4%
x		0.016	0.013	88.8%
σ		0.005	0.004	1.0%
%RSD		29.410	30.250	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-006 5/19/2017 20:44:23

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	99.1%	0.015	6.133	6.775	T 2792.000	T 17160.000	T 16950.000	T 17190.000	T 5.857
2	20:45:13	104.3%	0.023	5.845	6.374	T 2729.000	T 16630.000	T 16440.000	T 16200.000	T 5.950
3	20:45:40	105.7%	0.009	5.624	6.490	T 2658.000	T 16870.000	T 16980.000	T 16550.000	12.110
x		103.0%	0.016	5.868	6.546	T 2726.000	T 16890.000	T 16790.000	T 16640.000	T 7.972
σ		3.4%	0.007	0.255	0.207	T 67.020	T 269.700	T 301.600	T 502.600	T 3.583
%RSD		3.3	45.190	4.350	3.154	T 2.459	T 1.597	T 1.797	T 3.020	T 44.950

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	T 3063.000	T 42600.000	T 4305.000	38560.000	T 38250.000	T 97.6%	0.700	-0.021	0.897
2	20:45:13	T 2990.000	T 42200.000	T 4274.000	37950.000	T 37860.000	98.0%	0.601	0.257	0.958
3	20:45:40	T 3042.000	T 44420.000	T 4450.000	39600.000	T 39830.000	T 95.5%	0.762	-0.037	0.976
x		T 3032.000	T 43070.000	T 4343.000	38710.000	T 38650.000	T 97.0%	0.688	0.066	0.944
σ		T 37.730	T 1187.000	T 94.120	832.500	T 1041.000	T 1.4%	0.081	0.166	0.042
%RSD		T 1.245	T 2.756	T 2.167	2.151	T 2.693	T 1.4	11.780	249.600	4.405

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	5.057	TM 4305.000	141.800	319.600	7.400	3.846	0.713	1.027	3.567
2	20:45:13	4.654	TM 4358.000	138.000	305.800	7.229	3.561	0.765	0.982	3.574
3	20:45:40	4.947	TM 4489.000	146.200	312.600	7.456	3.738	0.780	0.931	3.608
x		4.886	TM 4384.000	142.000	312.700	7.362	3.715	0.753	0.980	3.583
σ		0.208	TM 94.980	4.070	6.916	0.118	0.144	0.035	0.048	0.022
%RSD		4.263	TM 2.167	2.866	2.212	1.605	3.874	4.650	4.901	0.621

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	0.436	0.072	4.033	3.045	0.067	-1.255	93.9%	-0.262	-0.191
2	20:45:13	0.497	-0.006	3.213	1.933	-0.064	0.369	94.9%	-0.192	-0.102
3	20:45:40	0.430	-0.034	3.553	3.029	-0.141	-0.638	94.0%	-0.204	-0.122
x		0.455	0.011	3.600	2.669	-0.046	-0.508	94.3%	-0.220	-0.138
σ		0.037	0.055	0.412	0.637	0.105	0.820	0.6%	0.037	0.046
%RSD		8.192	509.000	11.450	23.870	228.100	161.400	0.6	16.980	33.570

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	-0.222	8.093	0.028	-3.029	0.030	0.096	0.088	90.7%	0.065
2	20:45:13	-0.195	7.594	0.037	-2.887	0.030	0.097	0.082	92.2%	0.064
3	20:45:40	-0.196	7.766	0.040	-2.937	0.029	0.131	0.089	90.9%	0.065
x		-0.204	7.818	0.035	-2.951	0.030	0.108	0.086	91.3%	0.064
σ		0.015	0.254	0.007	0.072	0.001	0.020	0.004	0.8%	0.001
%RSD		7.543	3.246	18.560	2.445	2.222	18.100	4.492	0.9	1.177

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	1.143	0.052	0.040	124.500	123.200	92.2%	0.024	0.025	0.029
2	20:45:13	1.079	0.052	0.042	126.000	124.000	94.1%	0.021	0.032	0.039
3	20:45:40	1.107	0.083	0.061	130.800	128.600	93.4%	0.025	0.027	0.023
x		1.109	0.062	0.048	127.100	125.300	93.3%	0.024	0.028	0.030
σ		0.032	0.018	0.011	3.281	2.944	0.9%	0.002	0.003	0.008
%RSD		2.874	29.020	23.900	2.581	2.350	1.0	7.820	12.160	27.650

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:44:48	0.033	0.029	89.8%
2	20:45:13	0.030	0.020	91.7%
3	20:45:40	0.019	0.026	91.7%
x		0.027	0.025	91.0%
σ		0.007	0.004	1.1%
%RSD		26.850	17.940	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-001 5/19/2017 20:49:44

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	99.0%	0.007	12.000	9.117	┬4293.000	┬17640.000	┬17640.000	┬17790.000	2.929
2	20:50:34	102.8%	0.031	8.804	8.496	┬4212.000	┬17570.000	┬17530.000	┬17520.000	3.251
3	20:51:00	101.9%	-0.000	10.010	9.793	┬4280.000	┬17820.000	┬17660.000	┬17580.000	3.222
x		101.2%	0.013	10.270	9.135	┬4262.000	┬17680.000	┬17610.000	┬17630.000	3.134
σ		2.0%	0.016	1.616	0.649	┬43.860	┬132.500	┬69.950	┬138.200	0.178
%RSD		1.9	128.000	15.730	7.103	┬1.029	┬0.750	┬0.397	┬0.784	5.691

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	┬5957.000	┬42260.000	┬3323.000	69500.000	┬69520.000	96.9%	0.529	0.129	0.620
2	20:50:34	┬5888.000	┬42120.000	┬3329.000	69810.000	┬70500.000	┬96.7%	0.559	0.011	0.550
3	20:51:00	┬6009.000	┬44490.000	┬3508.000	72750.000	┬72570.000	┬94.7%	0.558	0.099	0.604
x		┬5951.000	┬42960.000	┬3387.000	70690.000	┬70860.000	┬96.1%	0.549	0.080	0.592
σ		┬60.680	┬1330.000	┬105.200	1792.000	┬1555.000	┬1.2%	0.017	0.061	0.037
%RSD		┬1.020	┬3.095	┬3.107	2.535	┬2.194	┬1.2	3.086	76.470	6.191

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	6.414	0.827	2.871	330.200	-1.349	1.182	0.124	0.308	1.420
2	20:50:34	6.565	0.790	2.645	312.700	-1.350	1.019	0.119	0.320	1.702
3	20:51:00	6.770	0.818	4.768	309.800	-1.410	1.023	0.138	0.220	1.672
x		6.583	0.812	3.428	317.600	-1.370	1.075	0.127	0.283	1.598
σ		0.179	0.019	1.166	11.040	0.035	0.093	0.010	0.055	0.155
%RSD		2.716	2.377	34.020	3.477	2.544	8.627	7.803	19.290	9.678

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	0.180	-0.375	2.729	2.740	0.093	-0.375	90.8%	-0.090	-0.028
2	20:50:34	-0.118	-0.115	2.728	1.952	-0.199	-1.229	93.2%	-0.060	-0.047
3	20:51:00	-0.110	-0.114	3.524	2.150	-0.153	0.409	91.1%	-0.134	0.033
x		-0.016	-0.201	2.993	2.280	-0.086	-0.399	91.7%	-0.095	-0.014
σ		0.170	0.151	0.459	0.410	0.157	0.820	1.3%	0.037	0.042
%RSD		1058.000	74.810	15.340	17.980	181.700	205.700	1.4	39.470	297.200

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	-0.088	2.131	0.002	-0.819	-0.003	0.006	-0.009	89.0%	0.032
2	20:50:34	-0.132	1.598	-0.001	-0.600	-0.005	0.009	0.002	90.8%	0.031
3	20:51:00	-0.108	1.800	-0.002	-0.691	-0.005	0.006	0.002	90.3%	0.043
x		-0.109	1.843	-0.000	-0.703	-0.004	0.007	-0.002	90.0%	0.035
σ		0.022	0.269	0.002	0.110	0.001	0.002	0.007	0.9%	0.007
%RSD		20.220	14.590	552.500	15.640	18.570	24.250	362.900	1.0	20.120

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	0.362	0.006	0.005	190.200	189.200	91.5%	0.007	-0.001	0.008
2	20:50:34	0.255	0.017	0.011	189.900	188.700	92.9%	-0.001	-0.001	0.017
3	20:51:00	0.299	0.014	0.013	196.000	193.900	92.6%	0.004	-0.001	0.024
x		0.305	0.013	0.010	192.000	190.600	92.3%	0.003	-0.001	0.016
σ		0.054	0.006	0.004	3.478	2.887	0.8%	0.004	0.000	0.008
%RSD		17.670	44.080	44.140	1.811	1.515	0.8	118.600	14.240	48.460

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:50:09	0.010	0.009	87.9%
2	20:50:34	0.017	0.011	90.1%
3	20:51:00	0.020	0.009	89.4%
x		0.016	0.010	89.1%
σ		0.005	0.001	1.1%
%RSD		32.280	8.797	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-002 5/19/2017 20:55:04

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	103.4%	0.010	2.227	2.307	384.500	T 14510.000	T 14390.000	T 14210.000	6.000
2	20:55:55	105.2%	-0.011	2.086	2.190	373.800	T 14140.000	T 14020.000	T 13750.000	6.331
3	20:56:21	106.5%	-0.008	1.457	2.454	366.200	T 13950.000	T 13990.000	T 13570.000	6.297
x		105.0%	-0.003	1.923	2.317	374.800	T 14200.000	T 14130.000	T 13840.000	6.209
σ		1.6%	0.011	0.410	0.132	9.181	T 282.500	T 224.700	T 330.900	0.182
%RSD		1.5	364.300	21.310	5.713	2.449	T 1.989	T 1.590	T 2.391	2.933

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	T 3764.000	T 44220.000	956.100	16660.000	T 16700.000	T 96.7%	0.434	0.235	1.386
2	20:55:55	T 3756.000	T 45550.000	T 983.300	16800.000	T 16800.000	T 96.5%	0.457	0.068	1.471
3	20:56:21	T 3725.000	T 45410.000	T 975.400	16700.000	T 16760.000	T 95.6%	0.521	-0.039	1.435
x		T 3748.000	T 45060.000	T 971.600	16720.000	T 16750.000	T 96.3%	0.471	0.088	1.431
σ		T 20.510	T 731.400	T 13.990	71.100	T 52.170	T 0.6%	0.045	0.138	0.042
%RSD		T 0.547	T 1.623	T 1.440	0.425	T 0.311	T 0.6	9.604	156.900	2.962

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	8.965	0.790	4.685	83.110	-0.317	0.277	0.105	0.303	1.918
2	20:55:55	8.989	0.851	3.376	80.140	-0.320	0.296	0.120	0.341	1.948
3	20:56:21	9.149	0.795	3.808	76.490	-0.310	0.250	0.125	0.347	1.945
x		9.034	0.812	3.957	79.920	-0.316	0.274	0.116	0.331	1.937
σ		0.100	0.034	0.667	3.315	0.005	0.024	0.010	0.024	0.017
%RSD		1.110	4.132	16.870	4.147	1.669	8.586	8.875	7.193	0.854

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	0.200	-0.125	3.126	2.775	-0.279	-0.729	92.0%	-0.181	-0.110
2	20:55:55	0.270	-0.697	3.067	2.714	0.141	-0.135	92.6%	-0.106	0.041
3	20:56:21	-0.099	0.143	3.395	2.296	-0.135	-1.117	94.6%	-0.130	-0.055
x		0.124	-0.226	3.196	2.595	-0.091	-0.660	93.1%	-0.139	-0.041
σ		0.196	0.429	0.175	0.261	0.213	0.495	1.4%	0.038	0.076
%RSD		158.800	189.700	5.460	10.040	234.400	74.930	1.5	27.590	184.300

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	-0.190	0.385	-0.003	-0.152	-0.005	-0.006	0.007	91.3%	0.014
2	20:55:55	-0.073	1.788	-0.004	-0.652	-0.004	0.003	-0.014	93.7%	0.012
3	20:56:21	-0.069	1.281	-0.000	-0.477	-0.005	-0.003	-0.002	94.5%	0.003
x		-0.111	1.151	-0.002	-0.427	-0.005	-0.002	-0.003	93.1%	0.010
σ		0.069	0.711	0.002	0.254	0.001	0.004	0.010	1.7%	0.006
%RSD		62.040	61.730	75.440	59.380	19.590	201.300	318.100	1.8	59.890

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	0.080	0.006	-0.023	M 667.700	M 665.700	92.7%	-0.002	-0.006	0.014
2	20:55:55	0.359	0.002	-0.024	M 660.100	M 663.900	94.7%	-0.003	-0.007	0.029
3	20:56:21	0.170	0.002	-0.010	M 664.300	M 663.700	95.7%	-0.013	-0.010	0.022
x		0.203	0.003	-0.019	M 664.000	M 664.400	94.4%	-0.006	-0.007	0.022
σ		0.142	0.003	0.008	M 3.811	M 1.111	1.5%	0.006	0.002	0.008
%RSD		70.020	87.260	42.670	M 0.574	M 0.167	1.6	103.700	28.930	36.080

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:55:30	0.015	0.015	90.4%
2	20:55:55	0.034	0.013	92.9%
3	20:56:21	0.022	0.020	94.8%
x		0.024	0.016	92.7%
σ		0.009	0.003	2.2%
%RSD		40.230	21.170	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-003 5/19/2017 21:00:25

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	99.8%	-0.003	20.420	20.180	┬2240.000	┬22630.000	┬22550.000	┬22430.000	12.310
2	21:01:16	102.2%	0.021	21.540	20.260	┬2193.000	┬22230.000	┬22390.000	┬22080.000	12.380
3	21:01:42	102.9%	-0.007	20.430	20.290	┬2215.000	┬22890.000	┬22750.000	┬22270.000	12.680
x		101.6%	0.003	20.800	20.240	┬2216.000	┬22580.000	┬22560.000	┬22260.000	12.450
σ		1.6%	0.015	0.641	0.059	┬23.460	┬329.200	┬177.600	┬172.600	0.200
%RSD		1.6	468.700	3.083	0.290	┬1.058	┬1.458	┬0.787	┬0.775	1.605
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	┬4703.000	┬42690.000	┬1582.000	58510.000	┬58120.000	┬94.7%	0.581	0.245	0.671
2	21:01:16	┬4658.000	┬42100.000	┬1561.000	58660.000	┬58500.000	┬96.0%	0.602	0.257	0.640
3	21:01:42	┬4624.000	┬42740.000	┬1569.000	58840.000	┬58630.000	┬93.3%	0.614	0.274	0.637
x		┬4662.000	┬42510.000	┬1571.000	58670.000	┬58420.000	┬94.7%	0.599	0.259	0.649
σ		┬39.650	┬356.700	┬10.750	168.900	┬268.500	┬1.3%	0.017	0.015	0.019
%RSD		┬0.851	┬0.839	┬0.685	0.288	┬0.460	┬1.4	2.776	5.721	2.902
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	7.583	0.964	30.910	297.000	-1.118	1.532	0.420	0.554	2.612
2	21:01:16	7.668	0.952	27.500	276.700	-1.124	1.360	0.445	0.618	2.577
3	21:01:42	7.513	1.013	30.860	274.900	-1.119	1.371	0.481	0.611	2.561
x		7.588	0.976	29.760	282.900	-1.120	1.421	0.449	0.595	2.583
σ		0.078	0.032	1.953	12.280	0.003	0.096	0.030	0.036	0.026
%RSD		1.025	3.299	6.563	4.340	0.309	6.773	6.768	5.979	1.021
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	0.078	0.369	7.544	6.915	0.699	-0.373	91.1%	1.107	1.122
2	21:01:16	-0.068	0.490	7.025	7.488	0.130	-0.389	91.3%	1.029	1.186
3	21:01:42	0.191	0.180	8.215	7.196	0.090	-1.799	91.9%	1.211	1.525
x		0.067	0.346	7.595	7.200	0.306	-0.853	91.4%	1.115	1.278
σ		0.130	0.156	0.597	0.287	0.341	0.819	0.4%	0.091	0.217
%RSD		193.800	45.160	7.858	3.983	111.200	95.940	0.5	8.191	16.960
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	1.130	2.419	-0.004	-0.929	-0.008	-0.005	-0.009	89.0%	0.004
2	21:01:16	1.244	2.804	-0.001	-0.974	-0.005	-0.005	-0.010	89.8%	0.015
3	21:01:42	1.222	2.649	-0.002	-0.999	-0.005	-0.008	-0.009	90.4%	0.011
x		1.199	2.624	-0.002	-0.967	-0.006	-0.006	-0.009	89.7%	0.010
σ		0.061	0.194	0.002	0.036	0.001	0.002	0.001	0.7%	0.005
%RSD		5.071	7.389	81.290	3.683	23.620	29.620	6.755	0.8	53.010
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	0.294	-0.032	-0.015	149.500	147.300	91.4%	0.012	0.010	0.034
2	21:01:16	0.338	-0.014	-0.018	149.600	148.500	93.0%	0.014	0.010	0.032
3	21:01:42	0.358	0.007	-0.011	152.600	149.900	94.6%	0.021	0.012	0.037
x		0.330	-0.013	-0.015	150.600	148.600	93.0%	0.016	0.011	0.034
σ		0.033	0.020	0.003	1.743	1.320	1.6%	0.004	0.001	0.002
%RSD		10.030	152.300	23.650	1.158	0.889	1.7	28.370	13.000	6.276
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	21:00:51	0.041	0.024	88.3%						
2	21:01:16	0.034	0.029	90.2%						
3	21:01:42	0.038	0.031	90.4%						
x		0.038	0.028	89.6%						
σ		0.003	0.004	1.2%						
%RSD		8.346	13.810	1.3						

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-004 5/19/2017 21:05:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	100.7%	-0.004	5.993	6.208	496.100	T 20360.000	T 20120.000	T 20170.000	3.259
2	21:06:37	103.7%	-0.004	6.028	6.001	T 494.200	T 20100.000	T 19760.000	T 19450.000	3.879
3	21:07:03	105.5%	0.002	6.760	6.206	T 487.200	T 19790.000	T 19640.000	T 18990.000	T -2.366
x		103.3%	-0.002	6.260	6.139	T 492.500	T 20080.000	T 19840.000	T 19530.000	T 1.591
σ		2.4%	0.004	0.434	0.119	T 4.702	T 282.300	T 248.500	T 597.100	T 3.440
%RSD		2.3	209.400	6.925	1.939	T 0.955	T 1.405	T 1.253	T 3.057	T 216.300

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	T 3578.000	T 43270.000	T 1211.000	23570.000	T 23410.000	T 96.3%	0.384	0.238	0.001
2	21:06:37	T 3519.000	T 44010.000	T 1221.000	23410.000	T 23330.000	T 95.1%	0.420	-0.035	-0.020
3	21:07:03	T 3540.000	T 45020.000	T 1266.000	23700.000	T 23710.000	T 93.8%	0.457	0.149	0.007
x		T 3546.000	T 44100.000	T 1233.000	23560.000	T 23480.000	T 95.1%	0.420	0.118	-0.004
σ		T 29.610	T 877.200	T 29.230	143.600	T 201.600	T 1.2%	0.037	0.139	0.014
%RSD		T 0.835	T 1.989	T 2.371	0.610	T 0.858	T 1.3	8.701	118.200	332.200

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	9.024	2.877	11.270	116.900	-0.334	0.511	0.196	0.392	2.145
2	21:06:37	9.302	2.945	10.950	113.200	-0.300	0.476	0.228	0.358	2.157
3	21:07:03	9.248	2.936	11.960	112.300	-0.332	0.443	0.218	0.296	2.035
x		9.191	2.919	11.390	114.100	-0.322	0.477	0.214	0.349	2.112
σ		0.148	0.037	0.518	2.446	0.019	0.034	0.016	0.049	0.067
%RSD		1.607	1.262	4.542	2.143	5.825	7.147	7.636	14.020	3.181

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	0.147	-0.249	2.247	1.469	-0.200	-0.742	92.4%	1.692	1.818
2	21:06:37	0.578	0.017	1.716	1.376	-0.481	-1.060	92.9%	1.868	2.215
3	21:07:03	0.331	-0.096	2.195	0.831	-0.449	-1.210	93.0%	1.930	2.124
x		0.352	-0.109	2.053	1.225	-0.376	-1.004	92.8%	1.830	2.052
σ		0.216	0.133	0.293	0.345	0.154	0.239	0.3%	0.123	0.208
%RSD		61.380	121.800	14.250	28.120	40.780	23.820	0.3	6.737	10.120

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	1.699	2.178	-0.006	-0.837	-0.005	0.008	-0.006	90.4%	0.012
2	21:06:37	1.928	2.658	-0.007	-0.987	-0.006	-0.002	-0.016	90.8%	0.007
3	21:07:03	1.971	1.297	-0.000	-0.466	-0.006	-0.005	-0.011	92.8%	0.003
x		1.866	2.045	-0.004	-0.763	-0.006	0.001	-0.011	91.3%	0.007
σ		0.146	0.690	0.004	0.268	0.000	0.007	0.005	1.3%	0.005
%RSD		7.834	33.760	80.890	35.100	6.815	1173.000	43.170	1.4	62.840

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	0.316	-0.017	-0.015	101.100	100.900	92.8%	-0.010	-0.010	0.014
2	21:06:37	0.350	0.004	0.009	102.200	101.000	93.8%	-0.013	-0.011	0.019
3	21:07:03	0.191	0.007	-0.005	101.600	101.800	95.0%	-0.013	-0.012	0.016
x		0.286	-0.002	-0.004	101.600	101.200	93.9%	-0.012	-0.011	0.016
σ		0.084	0.013	0.012	0.590	0.509	1.1%	0.002	0.001	0.002
%RSD		29.330	716.400	314.900	0.581	0.503	1.2	15.870	8.642	13.540

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:06:12	0.026	0.016	90.3%
2	21:06:37	0.022	0.017	92.8%
3	21:07:03	0.019	0.018	93.7%
x		0.023	0.017	92.3%
σ		0.004	0.001	1.8%
%RSD		16.160	6.768	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-005 5/19/2017 21:11:07

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	99.1%	-0.011	28.680	26.990	┬4325.000	┬20670.000	┬20450.000	┬20600.000	28.730
2	21:11:59	97.5%	0.001	28.810	27.080	┬4327.000	┬20690.000	┬20760.000	┬20860.000	┬26.740
3	21:12:24	98.8%	-0.007	28.100	27.410	┬4350.000	┬20920.000	┬20730.000	┬20360.000	29.030
x		98.4%	-0.006	28.530	27.160	┬4334.000	┬20760.000	┬20650.000	┬20610.000	┬28.170
σ		0.9%	0.006	0.374	0.222	┬14.230	┬139.600	┬169.300	┬248.900	┬1.247
%RSD		0.9	101.200	1.312	0.818	┬0.328	┬0.672	┬0.820	┬1.208	┬4.426

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	┬5467.000	┬45050.000	┬2346.000	66910.000	┬66560.000	94.2%	1.209	0.284	0.520
2	21:11:59	┬5458.000	┬45940.000	┬2392.000	68230.000	┬67510.000	┬94.6%	1.445	0.412	0.524
3	21:12:24	┬5457.000	┬45790.000	┬2359.000	66910.000	┬66880.000	┬91.6%	1.384	0.394	0.547
x		┬5461.000	┬45590.000	┬2365.000	67350.000	┬66980.000	┬93.4%	1.346	0.363	0.530
σ		┬5.233	┬472.900	┬23.830	761.400	┬488.500	┬1.6%	0.123	0.069	0.015
%RSD		┬0.096	┬1.037	┬1.008	1.131	┬0.729	┬1.7	9.115	19.100	2.813

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	8.375	8.954	74.930	374.900	-1.288	1.020	0.158	0.336	3.470
2	21:11:59	8.149	8.922	┬74.310	368.900	-1.300	1.005	0.130	0.318	3.114
3	21:12:24	8.054	9.170	77.660	352.400	-1.266	0.896	0.152	0.319	3.350
x		8.193	9.015	┬75.630	365.400	-1.285	0.974	0.147	0.324	3.311
σ		0.165	0.135	┬1.781	11.650	0.017	0.068	0.015	0.010	0.182
%RSD		2.013	1.498	┬2.355	3.187	1.335	6.969	9.986	3.174	5.481

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	0.288	0.145	4.562	3.523	0.218	-0.152	89.6%	0.064	0.201
2	21:11:59	0.489	0.216	4.571	3.780	0.302	0.440	90.5%	0.190	0.162
3	21:12:24	0.360	0.145	4.459	4.335	-0.084	0.621	90.4%	0.053	0.193
x		0.379	0.169	4.531	3.879	0.145	0.303	90.2%	0.102	0.186
σ		0.102	0.041	0.062	0.415	0.203	0.404	0.5%	0.076	0.020
%RSD		26.960	24.470	1.377	10.690	139.600	133.400	0.5	74.640	11.010

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	0.182	2.568	-0.006	-0.865	-0.007	-0.001	-0.006	88.8%	-0.005
2	21:11:59	0.163	2.875	-0.004	-1.067	-0.001	-0.004	-0.009	89.5%	0.011
3	21:12:24	0.142	1.827	-0.004	-0.651	-0.006	0.008	-0.014	89.7%	0.002
x		0.162	2.423	-0.004	-0.861	-0.005	0.001	-0.010	89.3%	0.002
σ		0.020	0.539	0.001	0.208	0.003	0.006	0.004	0.5%	0.008
%RSD		12.460	22.240	23.920	24.190	62.250	596.600	38.190	0.5	348.600

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	0.334	-0.036	-0.047	184.800	183.300	90.6%	-0.006	-0.004	0.032
2	21:11:59	0.349	-0.028	-0.051	184.900	184.400	91.8%	-0.010	-0.006	0.032
3	21:12:24	0.237	-0.022	-0.036	183.400	182.600	93.7%	-0.005	-0.008	0.042
x		0.307	-0.029	-0.045	184.400	183.500	92.0%	-0.007	-0.006	0.035
σ		0.061	0.007	0.008	0.837	0.919	1.6%	0.003	0.002	0.006
%RSD		19.930	25.050	17.110	0.454	0.501	1.7	36.840	33.940	16.870

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:11:33	0.023	0.025	87.2%
2	21:11:59	0.023	0.037	89.4%
3	21:12:24	0.027	0.028	89.8%
x		0.024	0.030	88.8%
σ		0.002	0.006	1.4%
%RSD		9.385	21.590	1.5

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV Co 4ppb MW9459 5/19/2017 21:16:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	101.3%	3.557	3.124	3.027	T 682.400	T 680.100	633.300	616.300	1.962
2	21:17:21	106.1%	3.763	2.639	2.802	T 651.600	T 657.400	613.000	597.700	1.838
3	21:17:47	107.1%	3.641	3.174	2.735	T 656.600	T 655.200	609.800	592.400	1.909
x		104.8%	3.653	2.979	2.855	T 663.500	T 664.200	618.700	602.200	1.903
σ		3.1%	0.104	0.296	0.153	T 16.550	T 13.810	12.750	12.560	0.062
%RSD		3.0	2.835	9.933	5.349	T 2.494	T 2.079	2.061	2.086	3.277

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	42.460	265.100	774.500	735.300	634.800	98.3%	3.279	1.926	3.436
2	21:17:21	41.710	268.400	771.900	715.100	631.400	98.3%	3.502	2.077	3.528
3	21:17:47	41.070	277.800	785.800	729.000	645.400	98.4%	3.717	2.116	3.339
x		41.750	270.400	777.400	726.400	637.200	98.3%	3.499	2.040	3.435
σ		0.698	6.554	7.419	10.340	7.278	0.1%	0.219	0.101	0.094
%RSD		1.673	2.423	0.954	1.424	1.142	0.1	6.250	4.928	2.746

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	0.306	3.442	T 546.800	587.300	3.577	3.734	3.472	3.657	3.853
2	21:17:21	0.218	3.505	T 544.600	588.900	3.534	3.544	3.415	3.592	3.877
3	21:17:47	0.372	3.489	T 562.000	590.200	3.501	3.837	3.603	3.558	3.837
x		0.298	3.479	T 551.100	588.800	3.537	3.705	3.497	3.602	3.856
σ		0.077	0.033	T 9.461	1.422	0.038	0.149	0.097	0.051	0.020
%RSD		25.870	0.936	T 1.717	0.241	1.068	4.017	2.761	1.407	0.526

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	3.993	4.139	0.074	-0.571	4.097	-1.417	94.1%	0.363	0.478
2	21:17:21	3.886	4.174	0.013	-0.774	3.531	-0.002	96.6%	0.451	0.432
3	21:17:47	3.732	4.972	-0.290	-1.266	3.567	0.326	95.8%	0.465	0.586
x		3.871	4.428	-0.067	-0.870	3.732	-0.364	95.5%	0.427	0.499
σ		0.132	0.471	0.195	0.358	0.317	0.926	1.3%	0.055	0.079
%RSD		3.398	10.640	289.500	41.110	8.489	254.300	1.3	12.880	15.820

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	0.381	3.882	3.330	0.081	3.185	3.883	3.682	94.1%	2.048
2	21:17:21	0.411	3.974	3.366	-0.049	3.256	3.682	3.709	95.7%	2.049
3	21:17:47	0.434	3.867	3.417	-0.151	3.238	3.654	3.668	96.3%	2.006
x		0.409	3.908	3.371	-0.040	3.226	3.740	3.686	95.4%	2.034
σ		0.026	0.058	0.044	0.116	0.037	0.125	0.021	1.1%	0.025
%RSD		6.385	1.480	1.295	292.100	1.144	3.340	0.559	1.2	1.221

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	1.137	2.648	2.681	3.624	3.533	94.7%	3.348	3.545	3.375
2	21:17:21	1.155	2.678	2.729	3.515	3.580	95.8%	3.398	3.543	3.484
3	21:17:47	1.088	2.866	2.894	3.813	3.540	96.4%	3.458	3.617	3.487
x		1.127	2.730	2.768	3.651	3.551	95.6%	3.402	3.569	3.449
σ		0.035	0.118	0.112	0.151	0.025	0.9%	0.055	0.042	0.064
%RSD		3.082	4.331	4.039	4.131	0.712	0.9	1.625	1.180	1.858

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:16:55	3.265	3.271	94.4%
2	21:17:21	3.420	3.353	95.7%
3	21:17:47	3.563	3.517	97.9%
x		3.416	3.380	96.0%
σ		0.149	0.125	1.8%
%RSD		4.356	3.711	1.9

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV MW9444 5/19/2017 21:21:54 QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	106.3%	0.373	23.880	23.080	156.300	39.100	38.270	36.340	35.280
2	21:22:46	108.1%	0.304	22.930	22.780	152.800	38.540	37.540	35.470	34.940
3	21:23:12	111.6%	0.340	23.860	23.210	150.800	37.330	36.730	33.900	34.960
x		108.7%	84.764%	94.226%	92.090%	76.647%	38.320	37.510	70.466%	87.656%
σ		2.7%	n/a	n/a	n/a	n/a	0.906	0.770	n/a	n/a
%RSD		2.4	10.200	2.306	0.960	1.813	2.364	2.051	3.508	0.547

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	T 83.330	185.400	189.000	190.400	159.800	98.6%	4.398	4.297	0.862
2	21:22:46	87.870	199.500	192.200	209.500	167.100	99.0%	4.412	4.352	0.878
3	21:23:12	T 82.580	212.400	191.700	186.400	167.300	98.5%	4.586	4.256	0.872
x		T 84.595%	199.100	95.469%	195.400	82.357%	98.7%	89.306%	86.029%	87.064%
σ		T n/a	13.500	n/a	12.360	n/a	0.2%	n/a	n/a	n/a
%RSD		T 3.378	6.782	0.886	6.324	2.601	0.2	2.351	1.125	0.967

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	0.222	4.344	14.470	15.790	4.334	4.634	1.158	1.173	9.616
2	21:22:46	0.186	4.274	12.140	14.780	4.295	4.665	1.145	1.246	9.487
3	21:23:12	0.215	4.345	12.130	14.510	4.406	4.573	1.089	1.204	9.360
x		0.208	86.412%	12.910	75.151%	86.901%	92.485%	1.131	120.788%	94.877%
σ		0.019	n/a	1.348	n/a	n/a	n/a	0.037	n/a	n/a
%RSD		9.231	0.943	10.440	4.491	1.304	1.018	3.236	3.026	1.352

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	0.846	0.937	0.081	-0.666	0.902	-0.997	95.2%	8.258	7.956
2	21:22:46	0.773	0.527	-0.147	-0.837	0.791	0.164	96.1%	8.855	8.647
3	21:23:12	0.805	0.366	-0.008	-1.358	0.750	-1.590	95.0%	9.004	8.777
x		80.818%	0.610	-0.025	-0.954	81.421%	-0.808	95.4%	8.706	84.596%
σ		n/a	0.294	0.115	0.360	n/a	0.893	0.6%	0.395	n/a
%RSD		4.499	48.250	465.200	37.760	9.635	110.500	0.6	4.536	5.216

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	8.062	0.751	0.857	-0.260	0.810	0.080	0.077	93.6%	3.047
2	21:22:46	8.342	1.002	0.862	-0.292	0.844	0.077	0.074	95.5%	3.069
3	21:23:12	8.663	0.487	0.852	-0.159	0.844	0.080	0.103	94.7%	3.194
x		8.356	0.747	85.721%	-0.237	0.833	0.079	84.628%	94.6%	3.103
σ		0.300	0.257	n/a	0.069	0.020	0.001	n/a	0.9%	0.079
%RSD		3.596	34.450	0.605	29.330	2.355	1.887	18.950	1.0	2.561

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	3.825	0.817	0.886	4.597	4.473	94.9%	0.395	0.410	0.960
2	21:22:46	4.038	0.824	0.798	4.500	4.372	96.5%	0.408	0.421	1.037
3	21:23:12	4.089	0.790	0.846	4.734	4.509	96.0%	0.409	0.420	1.028
x		79.682%	0.810	84.329%	92.209%	4.451	95.8%	0.404	83.427%	1.008
σ		n/a	0.018	n/a	n/a	0.071	0.8%	0.008	n/a	0.042
%RSD		3.512	2.243	5.187	2.547	1.591	0.8	1.985	1.426	4.194

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:22:20	0.988	1.002	95.3%
2	21:22:46	0.923	0.976	97.5%
3	21:23:12	1.063	0.989	97.7%
x		0.991	98.894%	96.8%
σ		0.070	n/a	1.3%
%RSD		7.074	1.336	1.3

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV2 MW9445 5/19/2017 21:27:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	105.1%	1.723	121.300	117.800	T 803.400	194.600	184.400	179.800	178.000
2	21:28:09	105.9%	1.782	123.700	117.100	T 806.500	196.900	186.700	179.300	182.600
3	21:28:35	106.9%	1.672	115.600	116.600	T 788.800	195.000	182.000	177.500	184.800
x		105.9%	1.726	120.200	117.200	T 799.600	195.500	184.400	178.800	181.800
σ		0.9%	0.055	4.203	0.579	T 9.472	1.251	2.312	1.194	3.453
%RSD		0.8	3.181	3.496	0.494	T 1.185	0.640	1.254	0.668	1.899

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	418.000	158.400	952.000	868.000	785.000	99.5%	21.400	20.990	4.219
2	21:28:09	T 426.800	174.800	974.800	920.100	812.600	97.2%	21.990	21.310	4.323
3	21:28:35	413.600	186.400	T 979.700	937.800	798.900	95.4%	22.370	21.380	4.300
x		T 419.500	173.200	T 968.800	908.600	798.800	97.4%	21.920	21.230	4.281
σ		T 6.721	14.060	T 14.790	36.250	13.800	2.0%	0.486	0.205	0.054
%RSD		T 1.602	8.116	T 1.526	3.990	1.728	2.1	2.219	0.965	1.272

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	0.070	21.250	83.190	87.940	21.220	23.120	4.326	4.637	45.810
2	21:28:09	0.255	21.500	86.190	87.250	21.730	22.960	4.156	4.645	45.300
3	21:28:35	0.254	21.770	88.700	86.440	21.810	22.380	4.249	4.424	44.000
x		0.193	21.510	86.030	87.210	21.590	22.820	4.244	4.569	45.040
σ		0.107	0.257	2.758	0.750	0.324	0.391	0.085	0.126	0.935
%RSD		55.160	1.195	3.206	0.860	1.499	1.713	2.006	2.750	2.076

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	4.529	4.320	0.098	-1.957	4.151	-0.697	95.0%	44.090	43.220
2	21:28:09	4.476	4.478	0.093	-1.049	4.470	-1.268	94.4%	46.220	46.390
3	21:28:35	4.776	4.731	-0.195	-0.977	3.683	-1.759	96.2%	48.050	47.030
x		4.594	4.510	-0.001	-1.328	4.101	-1.241	95.2%	46.120	45.550
σ		0.160	0.208	0.168	0.546	0.396	0.532	0.9%	1.978	2.041
%RSD		3.489	4.604	16730.000	41.120	9.660	42.850	1.0	4.289	4.480

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	42.410	3.797	4.273	-0.951	4.037	0.271	0.452	92.6%	15.720
2	21:28:09	44.840	1.980	4.257	-0.388	4.131	0.362	0.475	93.8%	16.090
3	21:28:35	46.760	2.443	4.140	-0.491	3.950	0.384	0.464	94.9%	15.690
x		44.670	2.740	4.223	-0.610	4.039	0.339	0.464	93.8%	15.830
σ		2.179	0.944	0.073	0.299	0.091	0.060	0.012	1.1%	0.222
%RSD		4.879	34.460	1.722	49.110	2.246	17.660	2.513	1.2	1.400

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	20.560	3.866	4.048	22.640	22.010	93.7%	2.041	2.192	4.331
2	21:28:09	20.570	4.136	4.131	22.650	22.110	95.4%	2.067	2.222	4.356
3	21:28:35	20.840	4.027	4.254	21.950	22.000	97.5%	2.102	2.164	4.348
x		20.650	4.010	4.144	22.410	22.040	95.5%	2.070	2.193	4.345
σ		0.160	0.136	0.104	0.404	0.064	1.9%	0.031	0.029	0.012
%RSD		0.773	3.386	2.500	1.801	0.289	2.0	1.484	1.319	0.288

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:27:44	4.262	4.208	94.8%
2	21:28:09	4.237	4.331	96.7%
3	21:28:35	4.288	4.319	98.3%
x		4.262	4.286	96.6%
σ		0.025	0.068	1.8%
%RSD		0.595	1.588	1.8

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 21:32:42 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	87.5%	279.200	286.000	271.400	T 52060.000	T 49680.000	T 50420.000	T 52870.000	280.400
2	21:33:33	89.4%	270.000	278.300	270.700	T 52110.000	T 50400.000	T 50410.000	T 52120.000	277.200
3	21:33:59	90.2%	264.100	278.500	270.200	T 52470.000	T 51060.000	T 50750.000	T 52490.000	285.100
x		89.0%	90.365%	93.633%	90.259%	T 87.019%	T 50380.000	T 50530.000	T 87.485%	93.634%
σ		1.4%	n/a	n/a	n/a	T n/a	T 688.000	T 191.900	T n/a	n/a
%RSD		1.5	2.798	1.563	0.220	T 0.428	T 1.366	T 0.380	T 0.720	1.405

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	T 2771.000	142.400	T 59800.000	53150.000	T 53280.000	T 90.9%	269.600	274.500	264.100
2	21:33:33	T 2746.000	156.100	T 61360.000	53230.000	T 53310.000	91.2%	269.200	279.500	272.400
3	21:33:59	T 2784.000	172.600	T 62010.000	53670.000	T 53840.000	90.6%	277.100	284.800	276.900
x		T 92.243%	157.100	T 101.760%	53350.000	T 89.133%	T 90.9%	90.658%	93.203%	90.384%
σ		T n/a	15.130	T n/a	277.400	T n/a	T 0.3%	n/a	n/a	n/a
%RSD		T 0.697	9.632	T 1.864	0.520	T 0.591	T 0.3	1.642	1.852	2.385

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	-4.815	T 265.300	T 50590.000	T 57940.000	269.400	266.400	247.600	273.400	261.100
2	21:33:33	-6.330	T 269.500	T 51390.000	T 58220.000	268.600	261.300	249.500	266.700	257.500
3	21:33:59	-7.197	T 274.400	T 52040.000	T 59080.000	271.200	264.600	253.700	269.100	260.600
x		-6.114	T 89.915%	T 85.567%	T 97.353%	89.918%	88.044%	250.200	89.908%	86.573%
σ		1.206	T n/a	T n/a	T n/a	n/a	n/a	3.124	n/a	n/a
%RSD		19.720	T 1.688	T 1.421	T 1.011	0.491	0.985	1.249	1.262	0.742

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	266.800	251.600	0.696	-1.093	269.900	-1.335	87.1%	273.400	271.800
2	21:33:33	266.300	249.100	1.008	-0.817	262.900	-1.538	88.4%	284.800	285.100
3	21:33:59	270.700	253.600	0.793	-0.911	264.700	2.340	88.5%	303.200	305.200
x		89.305%	251.400	0.833	-0.941	88.603%	-0.178	88.0%	95.713%	95.791%
σ		n/a	2.231	0.160	0.140	n/a	2.183	0.8%	n/a	n/a
%RSD		0.898	0.887	19.210	14.930	1.369	1227.000	0.9	5.240	5.841

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	271.000	257.900	268.200	0.661	243.900	253.300	263.800	85.4%	282.100
2	21:33:33	281.800	259.700	265.000	-4.423	242.800	254.500	263.100	87.7%	287.100
3	21:33:59	298.800	257.400	267.700	-0.410	248.200	260.400	264.200	87.0%	290.100
x		94.626%	258.300	88.991%	-1.391	245.000	256.100	87.900%	86.7%	95.485%
σ		n/a	1.196	n/a	2.681	2.898	3.807	n/a	1.2%	n/a
%RSD		4.940	0.463	0.646	192.800	1.183	1.487	0.229	1.4	1.413

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	271.900	253.800	260.900	269.600	267.500	88.9%	269.600	T 270.500	T 276.300
2	21:33:33	275.400	257.100	264.300	269.400	268.100	90.5%	269.700	T 274.900	T 277.900
3	21:33:59	279.200	263.900	273.300	275.100	273.700	91.6%	273.600	T 279.100	T 283.400
x		91.825%	86.086%	88.727%	90.457%	89.913%	90.3%	90.323%	T 91.615%	T 93.066%
σ		n/a	n/a	n/a	n/a	n/a	1.4%	n/a	T n/a	T n/a
%RSD		1.321	2.005	2.415	1.188	1.261	1.5	0.845	T 1.562	T 1.333

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:33:07	273.100	263.500	83.3%
2	21:33:33	271.400	268.700	85.9%
3	21:33:59	278.900	273.800	86.9%
x		91.481%	89.552%	85.4%
σ		n/a	n/a	1.8%
%RSD		1.443	1.912	2.2

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 21:38:03 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	101.9%	0.010	1.142	1.433	-0.173	0.771	0.933	0.876	-1.198
2	21:38:55	103.1%	0.038	1.162	1.088	-0.197	1.077	1.004	0.493	-1.030
3	21:39:20	106.9%	0.016	0.585	T -22.020	-1.071	0.553	0.215	0.556	-1.074
x		104.0%	0.021	0.963	T -6.500	-0.480	0.800	0.717	0.642	-1.101
σ		2.6%	0.015	0.328	T 13.440	0.511	0.263	0.437	0.205	0.087
%RSD		2.5	68.890	34.050	T 206.800	106.500	32.900	60.870	31.980	7.920
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	7.261	113.900	2.414	5.080	-1.580	97.8%	-0.019	0.083	-0.016
2	21:38:55	T -2.002	120.000	2.862	2.935	-1.640	96.8%	-0.055	0.107	0.000
3	21:39:20	6.930	132.700	1.666	0.367	-2.084	96.1%	-0.040	0.112	-0.017
x		T 4.063	122.200	2.314	2.794	-1.768	96.9%	-0.038	0.100	-0.011
σ		T 5.255	9.567	0.604	2.360	0.275	0.9%	0.018	0.015	0.009
%RSD		T 129.300	7.828	26.110	84.460	15.570	0.9	47.630	15.140	87.300
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	0.033	0.018	-4.310	2.144	0.017	-0.020	-0.019	0.004	-0.019
2	21:38:55	0.016	0.021	-3.666	1.286	0.011	-0.013	-0.017	-0.018	0.002
3	21:39:20	0.009	0.019	-3.493	1.125	0.013	-0.013	-0.011	-0.020	-0.012
x		0.019	0.019	-3.823	1.518	0.013	-0.016	-0.016	-0.011	-0.010
σ		0.012	0.001	0.430	0.548	0.003	0.004	0.004	0.013	0.011
%RSD		63.290	7.667	11.260	36.080	22.440	26.250	25.960	119.500	111.500
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	-0.029	0.044	0.256	-1.416	-0.234	-0.671	94.6%	0.375	0.514
2	21:38:55	0.036	-0.101	0.098	-1.259	0.030	-1.104	94.0%	0.409	0.677
3	21:39:20	-0.003	0.272	0.179	-0.751	-0.232	-1.141	95.4%	0.378	0.617
x		0.001	0.072	0.178	-1.142	-0.145	-0.972	94.7%	0.387	0.602
σ		0.032	0.188	0.079	0.348	0.152	0.261	0.7%	0.019	0.082
%RSD		2324.000	262.500	44.390	30.450	104.300	26.850	0.7	4.856	13.700
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	0.446	0.177	0.016	-0.073	0.001	0.015	0.005	94.2%	0.131
2	21:38:55	0.570	0.006	0.015	-0.006	0.005	0.033	0.011	95.4%	0.142
3	21:39:20	0.547	-0.162	0.018	0.088	0.006	0.011	0.010	95.8%	0.145
x		0.521	0.007	0.016	0.003	0.004	0.020	0.009	95.1%	0.139
σ		0.066	0.170	0.002	0.081	0.003	0.012	0.003	0.8%	0.007
%RSD		12.710	2345.000	9.657	2659.000	74.470	60.570	34.750	0.8	5.381
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	0.221	0.290	0.293	0.002	0.015	94.4%	0.024	0.024	0.014
2	21:38:55	0.207	0.316	0.342	0.011	0.017	94.7%	0.020	0.033	0.015
3	21:39:20	0.120	0.308	0.341	0.002	0.001	96.1%	0.020	0.027	0.007
x		0.183	0.304	0.325	0.005	0.011	95.1%	0.021	0.028	0.012
σ		0.055	0.013	0.028	0.005	0.008	0.9%	0.002	0.005	0.004
%RSD		29.920	4.393	8.636	103.700	75.350	1.0	10.160	17.020	35.620
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	21:38:29	0.016	0.014	94.6%						
2	21:38:55	0.012	0.007	96.7%						
3	21:39:20	0.004	0.009	98.3%						
x		0.010	0.010	96.5%						
σ		0.006	0.004	1.9%						
%RSD		59.880	37.200	1.9						

PDF created with pdfFactory trial version www.pdffactory.com

LR MW9413 5/19/2017 21:43:23 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	72.9%	M 1006.000	M 1878.000	TM 1880.000	TM 116500.000	TM 108500.000	TM 110700.000	TM 120700.000	TM 113200.000
2	21:44:15	72.4%	M 986.500	M 1809.000	TM 1844.000	TM 113700.000	TM 109600.000	TM 110500.000	TM 120200.000	TM 112400.000
3	21:44:41	73.8%	M 984.600	M 1836.000	TM 1842.000	TM 109100.000	TM 104400.000	TM 104600.000	TM 116200.000	TM 109600.000
x		73.0%	M 99.238%	M 1841.000	TM 1855.000	TM 94.226%	TM 107500.000	TM 108600.000	TM 99.207%	TM 93.134%
σ		0.7%	M n/a	M 34.400	TM 21.560	TM n/a	TM 2713.000	TM 3482.000	TM n/a	TM n/a
%RSD		1.0	M 1.201	M 1.868	TM 1.162	TM 3.303	TM 2.524	TM 3.207	TM 2.062	TM 1.690

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	19.780	3284.000	TM 126300.000	M 114500.000	TM 114100.000	83.8%	M 1950.000	TM 1996.000	TM 1903.000
2	21:44:15	20.090	3343.000	TM 128700.000	M 113900.000	TM 113300.000	83.4%	M 1945.000	TM 1996.000	TM 1908.000
3	21:44:41	17.440	3329.000	TM 125300.000	M 112300.000	TM 111200.000	T 85.1%	M 1889.000	TM 1923.000	TM 1854.000
x		19.110	3319.000	TM 105.623%	M 113600.000	TM 94.050%	T 84.1%	M 1928.000	TM 98.592%	TM 94.413%
σ		1.449	30.830	TM n/a	M 1126.000	TM n/a	T 0.9%	M 33.700	TM n/a	TM n/a
%RSD		7.585	0.929	TM 1.375	M 0.992	TM 1.353	T 1.1	M 1.748	TM 2.124	TM 1.568

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	-37.060	TM 1868.000	TM 103700.000	TM 121700.000	TM 1927.000	TM 1977.000	TM 1756.000	TM 1981.000	M 1752.000
2	21:44:15	-37.130	TM 1887.000	TM 105100.000	TM 122100.000	TM 1936.000	TM 1947.000	TM 1747.000	M 1910.000	M 1726.000
3	21:44:41	-35.100	TM 1866.000	TM 103300.000	TM 120500.000	TM 1887.000	TM 1894.000	TM 1702.000	TM 1878.000	M 1691.000
x		-36.430	TM 93.675%	TM 104100.000	TM 101.167%	TM 95.830%	TM 96.979%	TM 1735.000	TM 96.139%	M 86.155%
σ		1.156	TM n/a	TM 971.000	TM n/a	TM n/a	TM n/a	TM 28.870	TM n/a	M n/a
%RSD		3.174	TM 0.632	TM 0.933	TM 0.679	TM 1.358	TM 2.184	TM 1.664	TM 2.738	M 1.768

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	M 1819.000	M 1625.000	3.771	0.412	M 1708.000	3.721	78.3%	TM 2336.000	M 2242.000
2	21:44:15	M 1799.000	M 1617.000	3.893	0.044	M 1638.000	2.398	79.1%	TM 2396.000	M 2297.000
3	21:44:41	M 1781.000	M 1608.000	2.373	0.314	M 1616.000	5.225	79.3%	TM 2360.000	M 2277.000
x		M 89.982%	M 1617.000	3.346	0.257	M 82.709%	3.782	78.9%	TM 2364.000	M 113.587%
σ		M n/a	M 8.494	0.844	0.191	M n/a	1.414	0.5%	TM 30.040	M n/a
%RSD		M 1.062	M 0.525	25.240	74.270	M 2.915	37.400	0.7	TM 1.271	M 1.209

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	TM 2293.000	M 1720.000	31.050	-12.010	28.800	M 1778.000	TM 1885.000	78.8%	TM 2127.000
2	21:44:15	TM 2344.000	M 1733.000	30.710	-16.530	28.640	M 1779.000	TM 1862.000	80.3%	TM 2142.000
3	21:44:41	TM 2330.000	M 1704.000	30.290	-10.150	28.330	M 1767.000	TM 1839.000	81.2%	TM 2149.000
x		TM 2322.000	M 1719.000	10.227%	-12.900	28.590	M 1774.000	TM 93.100%	80.1%	TM 2139.000
σ		TM 26.160	M 14.470	n/a	3.283	0.238	M 6.683	TM n/a	1.2%	TM 11.240
%RSD		TM 1.126	M 0.842	1.241	25.460	0.831	M 0.377	TM 1.216	1.5	TM 0.525

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	TM 2021.000	TM 928.800	M 957.700	TM 10840.000	TM 10500.000	80.5%	TM 976.300	TM 964.700	TM 1961.000
2	21:44:15	TM 2049.000	TM 934.100	TM 971.100	TM 10870.000	TM 10490.000	82.0%	TM 968.300	TM 975.400	TM 1957.000
3	21:44:41	TM 2051.000	TM 927.400	M 954.000	TM 10730.000	TM 10340.000	83.7%	TM 969.500	TM 965.200	TM 1945.000
x		TM 102.020%	TM 930.100	TM 96.093%	TM 108.161%	TM 10440.000	82.1%	TM 971.400	TM 96.842%	TM 1954.000
σ		TM n/a	TM 3.558	TM n/a	TM n/a	TM 86.660	1.6%	TM 4.288	TM n/a	TM 8.363
%RSD		TM 0.813	TM 0.383	TM 0.937	TM 0.680	TM 0.830	1.9	TM 0.441	TM 0.624	TM 0.428

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:43:49	TM 2047.000	TM 1883.000	76.8%
2	21:44:15	TM 2036.000	TM 1895.000	79.4%
3	21:44:41	TM 2021.000	TM 1881.000	80.8%
x		TM 2035.000	TM 94.306%	79.0%
σ		TM 13.040	TM n/a	2.1%
%RSD		TM 0.641	TM 0.403	2.6

PDF created with pdfFactory trial version www.pdffactory.com

IS MW9458 5/19/2017 21:48:47

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	101.7%	0.070	9.395	9.793	21.570	8.754	8.520	8.502	4.475
2	21:49:39	105.0%	0.115	12.870	9.051	17.750	7.234	6.434	6.775	3.688
3	21:50:05	106.9%	0.069	8.085	8.621	13.400	5.482	5.352	5.670	2.797
x		104.6%	0.085	10.120	9.155	17.570	7.157	6.769	6.983	3.653
σ		2.6%	0.026	2.475	0.593	4.091	1.637	1.610	1.427	0.840
%RSD		2.5	31.000	24.460	6.477	23.280	22.880	23.790	20.440	22.980

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	7.708	94.960	10.400	14.470	13.140	100.6%	0.185	0.202	0.097
2	21:49:39	T -1.453	100.000	7.687	15.630	10.080	100.9%	0.205	0.167	0.068
3	21:50:05	T -1.483	103.800	5.193	17.450	5.639	99.8%	0.065	0.169	0.053
x		T 1.591	99.600	7.760	15.850	9.622	100.4%	0.152	0.179	0.073
σ		T 5.298	4.455	2.603	1.500	3.774	0.5%	0.076	0.020	0.023
%RSD		T 333.000	4.473	33.550	9.462	39.220	0.5	49.960	10.930	31.180

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	0.030	0.182	4.918	9.317	0.080	0.129	0.158	0.109	0.184
2	21:49:39	0.056	0.159	1.850	7.033	0.076	0.105	0.118	0.117	0.142
3	21:50:05	0.042	0.119	1.403	4.859	0.057	0.078	0.101	0.096	0.099
x		0.043	0.153	2.724	7.069	0.071	0.104	0.126	0.107	0.141
σ		0.013	0.032	1.914	2.229	0.012	0.025	0.029	0.010	0.043
%RSD		29.850	20.910	70.260	31.540	17.230	24.380	23.390	9.606	30.220

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	0.048	0.166	0.116	-1.031	-0.146	-1.638	96.5%	2.268	2.359
2	21:49:39	0.141	0.096	0.262	-0.682	0.106	0.077	97.9%	2.453	2.673
3	21:50:05	0.096	0.039	0.065	-0.462	0.188	-0.514	98.3%	2.256	2.602
x		0.095	0.101	0.148	-0.725	0.050	-0.691	97.6%	2.326	2.545
σ		0.046	0.063	0.102	0.287	0.174	0.871	0.9%	0.111	0.165
%RSD		48.910	62.950	69.230	39.570	352.200	126.000	1.0	4.754	6.464

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	2.210	-0.053	0.495	0.078	0.430	0.060	0.092	96.0%	2.003
2	21:49:39	2.509	0.177	0.493	-0.073	0.488	0.055	0.064	97.6%	1.899
3	21:50:05	2.354	-0.725	0.449	0.348	0.460	0.069	0.050	98.1%	1.813
x		2.358	-0.200	0.479	0.118	0.459	0.061	0.069	97.2%	1.905
σ		0.150	0.469	0.026	0.213	0.029	0.007	0.022	1.1%	0.095
%RSD		6.360	233.900	5.444	181.100	6.273	11.420	31.620	1.1	4.982

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	2.476	0.204	0.165	0.306	0.332	95.8%	0.270	0.274	0.098
2	21:49:39	2.610	0.202	0.203	0.309	0.254	97.4%	0.238	0.234	0.090
3	21:50:05	2.256	0.183	0.158	0.302	0.237	98.8%	0.240	0.252	0.089
x		2.447	0.196	0.176	0.306	0.274	97.3%	0.250	0.253	0.092
σ		0.178	0.011	0.024	0.004	0.051	1.5%	0.018	0.020	0.005
%RSD		7.289	5.794	13.920	1.228	18.550	1.5	7.137	7.884	5.692

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:49:13	0.096	0.104	96.5%
2	21:49:39	0.112	0.090	99.1%
3	21:50:05	0.082	0.079	100.7%
x		0.097	0.091	98.8%
σ		0.015	0.013	2.1%
%RSD		15.460	13.840	2.1

PDF created with pdfFactory trial version www.pdffactory.com

rinse 5/19/2017 21:54:11

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	108.1%	0.061	2.872	2.863	7.512	3.707	4.401	3.703	1.702
2	21:55:04	110.9%	0.040	2.645	2.738	8.060	4.328	4.423	3.651	2.092
3	21:55:30	109.0%	0.061	2.387	2.590	8.619	5.055	5.087	4.743	2.524
x		109.3%	0.054	2.635	2.731	8.064	4.364	4.637	4.032	2.106
σ		1.5%	0.012	0.243	0.137	0.554	0.675	0.390	0.616	0.411
%RSD		1.3	22.480	9.213	5.000	6.865	15.470	8.403	15.280	19.530

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	T 1.386	79.890	3.425	8.914	3.925	101.3%	-0.050	0.168	0.070
2	21:55:04	6.563	84.920	3.195	6.484	5.643	100.7%	0.064	0.129	0.040
3	21:55:30	5.261	92.110	2.735	14.880	6.108	99.9%	-0.028	0.165	0.038
x		T 4.403	85.640	3.118	10.090	5.225	100.6%	-0.005	0.154	0.049
σ		T 2.693	6.141	0.351	4.322	1.150	0.7%	0.060	0.022	0.018
%RSD		T 61.160	7.170	11.270	42.820	22.000	0.7	1206.000	14.170	36.400

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	0.006	0.095	-1.489	3.363	0.053	0.077	0.067	0.053	0.080
2	21:55:04	0.034	0.093	0.288	2.367	0.057	0.078	0.064	0.063	0.088
3	21:55:30	0.029	0.103	1.390	3.176	0.063	0.093	0.066	0.088	0.095
x		0.023	0.097	0.063	2.969	0.058	0.083	0.066	0.068	0.088
σ		0.015	0.006	1.453	0.529	0.005	0.009	0.002	0.018	0.007
%RSD		65.710	5.714	2305.000	17.830	9.061	11.070	2.504	26.840	8.351

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	-0.011	0.431	0.089	-1.352	-0.120	-0.044	97.2%	0.232	0.355
2	21:55:04	0.018	0.252	0.102	-0.943	-0.310	-0.358	97.9%	0.296	0.348
3	21:55:30	0.060	0.065	0.251	-0.738	-0.128	-0.879	96.0%	0.353	0.427
x		0.022	0.249	0.147	-1.011	-0.186	-0.427	97.0%	0.293	0.376
σ		0.035	0.183	0.090	0.313	0.108	0.422	0.9%	0.060	0.044
%RSD		156.800	73.370	61.030	30.950	58.040	98.800	1.0	20.530	11.580

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	0.168	-0.367	0.272	0.197	0.260	0.051	0.042	96.4%	0.639
2	21:55:04	0.334	-0.458	0.291	0.216	0.225	0.073	0.053	98.3%	0.752
3	21:55:30	0.367	-0.061	0.280	0.050	0.255	0.042	0.043	96.4%	0.678
x		0.290	-0.295	0.281	0.154	0.247	0.055	0.046	97.0%	0.690
σ		0.106	0.208	0.010	0.091	0.019	0.016	0.006	1.1%	0.057
%RSD		36.690	70.460	3.385	58.930	7.706	29.400	13.110	1.1	8.324

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	0.718	0.037	0.015	0.234	0.197	97.3%	0.118	0.132	0.058
2	21:55:04	0.769	0.044	0.081	0.204	0.165	99.0%	0.132	0.136	0.059
3	21:55:30	0.893	0.046	0.073	0.225	0.224	97.5%	0.133	0.151	0.068
x		0.793	0.043	0.056	0.221	0.195	97.9%	0.128	0.140	0.062
σ		0.090	0.005	0.036	0.016	0.030	0.9%	0.008	0.010	0.006
%RSD		11.300	11.820	63.880	7.071	15.170	1.0	6.398	7.118	9.047

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:54:37	0.054	0.055	97.6%
2	21:55:04	0.059	0.054	99.6%
3	21:55:30	0.077	0.072	98.3%
x		0.063	0.060	98.5%
σ		0.012	0.010	1.0%
%RSD		19.550	16.190	1.0

PDF created with pdfFactory trial version www.pdffactory.com

rinse 5/19/2017 21:59:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	111.5%	0.033	1.557	1.355	4.791	3.040	2.893	2.556	1.336
2	22:00:27	113.0%	0.065	0.782	1.069	4.939	3.372	3.291	2.755	1.459
3	22:00:53	114.5%	0.035	0.547	1.067	4.469	2.935	3.194	2.746	1.270
x		113.0%	0.044	0.962	1.164	4.733	3.116	3.126	2.686	1.355
σ		1.5%	0.018	0.528	0.166	0.241	0.228	0.208	0.112	0.096
%RSD		1.3	39.560	54.930	14.250	5.082	7.321	6.646	4.175	7.084
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	T -0.566	65.600	1.706	11.670	1.795	101.4%	-0.044	0.138	0.039
2	22:00:27	T -1.639	68.700	1.900	13.010	2.658	101.0%	-0.001	0.129	0.035
3	22:00:53	T 2.118	70.870	-0.397	11.850	1.550	103.4%	-0.052	0.134	0.039
x		T -0.029	68.390	1.069	12.180	2.001	101.9%	-0.032	0.134	0.038
σ		T 1.935	2.647	1.274	0.725	0.582	1.3%	0.027	0.004	0.002
%RSD		T 6653.000	3.871	119.100	5.954	29.070	1.3	85.380	3.357	5.627
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	0.008	0.075	-0.363	2.614	0.038	0.043	0.029	0.047	0.029
2	22:00:27	0.032	0.078	-0.386	0.263	0.046	0.055	0.032	0.048	0.061
3	22:00:53	0.017	0.072	-3.474	1.679	0.036	0.055	0.046	0.053	0.006
x		0.019	0.075	-1.407	1.519	0.040	0.051	0.036	0.049	0.032
σ		0.012	0.003	1.789	1.183	0.005	0.007	0.009	0.004	0.027
%RSD		65.390	4.018	127.200	77.930	13.710	13.900	26.470	7.120	85.070
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	0.061	-0.235	0.149	-1.208	0.326	-0.959	98.3%	-0.162	0.065
2	22:00:27	0.006	-0.301	-0.149	-0.563	-0.278	-0.151	100.1%	-0.125	0.018
3	22:00:53	0.055	-0.267	-0.117	-1.427	-0.222	-0.583	99.8%	0.021	0.048
x		0.041	-0.268	-0.039	-1.066	-0.058	-0.564	99.4%	-0.089	0.044
σ		0.030	0.033	0.163	0.449	0.333	0.404	0.9%	0.097	0.024
%RSD		73.770	12.250	419.700	42.150	577.700	71.630	1.0	109.000	54.730
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	-0.107	0.314	0.109	-0.110	0.110	0.054	0.045	97.9%	0.292
2	22:00:27	-0.074	-0.159	0.100	0.070	0.104	0.053	0.060	98.9%	0.349
3	22:00:53	-0.036	0.344	0.099	-0.105	0.092	0.049	0.052	100.4%	0.436
x		-0.072	0.167	0.103	-0.048	0.102	0.052	0.052	99.1%	0.359
σ		0.036	0.282	0.005	0.102	0.009	0.002	0.007	1.3%	0.072
%RSD		49.490	169.400	5.185	211.800	8.933	4.409	14.330	1.3	20.090
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	0.505	0.011	-0.016	0.168	0.148	97.0%	0.095	0.090	0.042
2	22:00:27	0.529	0.020	-0.026	0.182	0.166	99.3%	0.096	0.102	0.053
3	22:00:53	0.554	0.026	-0.022	0.137	0.170	100.8%	0.091	0.096	0.049
x		0.529	0.019	-0.021	0.162	0.161	99.0%	0.094	0.096	0.048
σ		0.024	0.007	0.005	0.023	0.012	1.9%	0.003	0.006	0.006
%RSD		4.616	38.300	24.250	14.190	7.330	2.0	2.824	6.094	11.900
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	22:00:01	0.036	0.047	98.1%						
2	22:00:27	0.035	0.037	99.7%						
3	22:00:53	0.051	0.044	101.3%						
x		0.041	0.042	99.7%						
σ		0.009	0.005	1.6%						
%RSD		22.300	12.090	1.6						

Performance Report

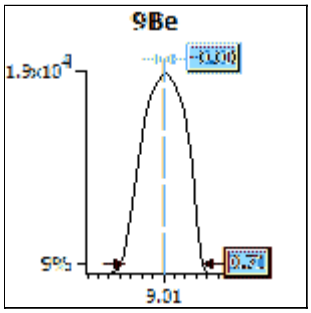
PDF created with pdfFactory trial version www.pdffactory.com

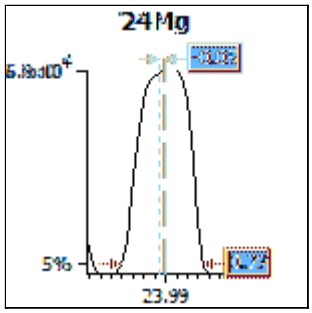
Performance Report

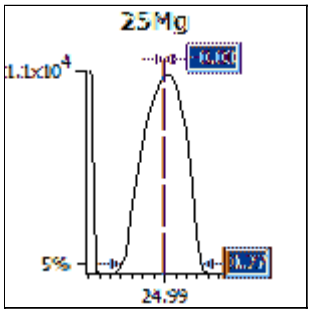
Sample details
Acquired at : 6/6/2017 11:21:05
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

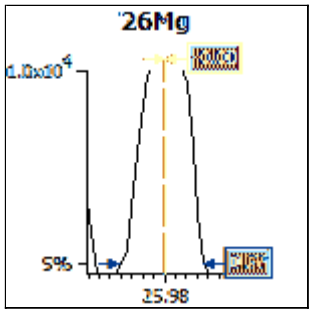
Mass Calibration verification

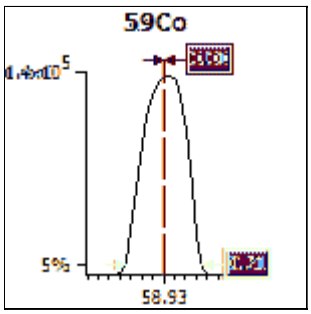
Acquisition parameters
Sweeps : 10
Dwell : 10.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum

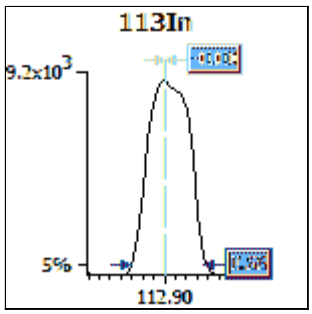


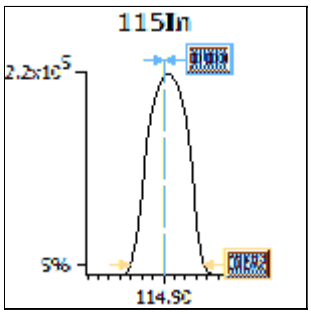


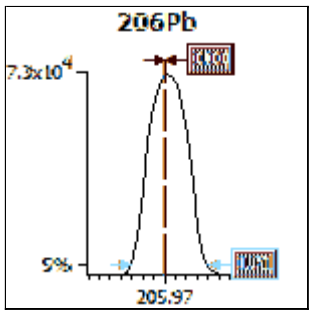


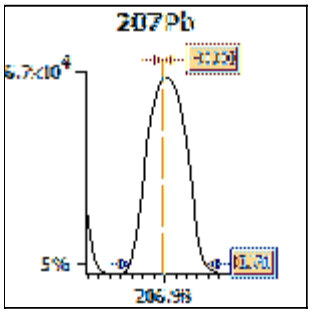


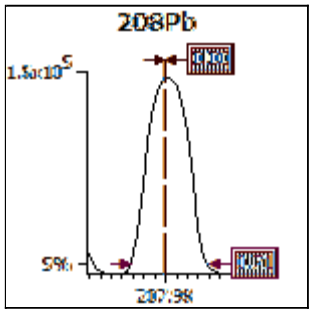












Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
9Be	0.85	0.65	0.10	0.71	-0.00
24Mg	0.85	0.65	0.10	0.77	-0.05
25Mg	0.85	0.65	0.10	0.77	-0.00
26Mg	0.85	0.65	0.10	0.77	-0.00
59Co	0.85	0.65	0.10	0.71	0.00
113In	0.85	0.65	0.10	0.66	-0.00
115In	0.85	0.65	0.10	0.66	0.00
206Pb	0.85	0.65	0.10	0.71	0.00
207Pb	0.85	0.65	0.10	0.71	-0.00
208Pb	0.85	0.65	0.10	0.71	0.00

PDF created with pdfFactory trial version www.pdffactory.com

Sample details
Acquired at : 6/6/2017 11:21:05
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

Tune conditions

Major	
Extraction	-98.0
Lens 1	-1043
Lens 2	-82.4
Focus	17.1
D1	-38.4
D2	-144
Pole Bias	1.0
Hexapole Bias	-4.0
Nebuliser	0.65

Minor	
Lens 3	-197.6
Forward power	1404
Horizontal	119
Vertical	645
DA	-58.8
Cool	13.0
Auxiliary	0.80
Sampling Depth	170

Global	
Standard resolution	100
High resolution	115
Analogue Detector	2300
PC Detector	3625

Add. Gases

Sensitivity and stability results

Acquisition parameters
Sweeps : 130

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	56Ar O	59Co	136Ba++	101Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	-	5.0%	-	-
	Countrate	-	>5000	>1000	>1000	>1000	-	>10000	-	-
1	11:21:41	0.000	18367.865	75313.196	10104.733	11994.534	257062.44	133879.26	415.397	0.000
2	11:22:13	0.000	17952.210	74879.506	9862.091	11768.009	253312.24	132419.73	412.319	0.000
3	11:22:45	0.000	18000.021	76374.215	9910.619	11809.615	254523.60	132925.79	387.703	0.769
4	11:23:16	0.000	17894.375	75059.041	10068.528	12039.994	253034.32	132079.76	392.318	0.000
5	11:23:48	0.000	18008.503	75865.839	10023.081	12043.847	251786.58	132719.76	410.781	0.000
x		0.000	18044.595	75498.359	9993.810	11931.200	253943.84	132804.86	403.704	0.154
σ		0.00	186.34	614.90	103.70	132.24	1996.35	680.13	12.72	0.34
%RSD		0.000	1.033	0.814	1.038	1.108	0.786	0.512	3.150	223.607

Run	Time	113In	115In	138Ba	140Ce	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	5.0%	5.0%	-	-	-	5.0%	5.0%	5.0%	-
	Countrate	>1000	>10000	-	-	-	>10000	>10000	>10000	<2
1	11:21:41	9387.615	219803.84	1473.996	218379.43	4071.913	75055.932	65373.561	160782.61	0.000
2	11:22:13	9473.111	219150.65	1403.213	218233.59	4061.907	74563.192	65694.133	160923.38	0.000
3	11:22:45	9559.378	220290.60	1420.139	218749.57	4061.138	75287.547	65795.043	160866.76	0.000
4	11:23:16	9225.099	219041.27	1346.279	217672.47	4025.733	75177.957	65725.182	160162.96	0.000
5	11:23:48	9359.887	218606.90	1380.901	217875.36	4066.525	74854.635	65494.647	159922.35	0.000
x		9401.018	219378.65	1404.906	218182.08	4057.443	74987.853	65616.513	160531.61	0.000
σ		125.59	665.93	47.49	423.51	18.24	286.65	175.77	457.14	0.00
%RSD		1.336	0.304	3.380	0.194	0.450	0.382	0.268	0.285	0.000

Ratio results

Run	Time	56Ar O/59Co	136Ba++/138Ba	115In/101Bkg	156Ce O/140Ce
Ratio limits		-	-	-	-
1	11:21:41	1.920	0.282	INF	0.019
2	11:22:13	1.913	0.294	INF	0.019
3	11:22:45	1.915	0.273	286377.77	0.019
4	11:23:16	1.916	0.291	INF	0.018
5	11:23:48	1.897	0.297	INF	0.019
x		1.9121	0.2875	286377.77	0.0186
σ		0.01	0.01	0.00	0.00
%RSD		0.4601	3.4668	0.0000	0.3679

Result : The performance report passed.

PDF created with pdfFactory trial version www.pdffactory.com

FORM 11-IN

ICP-MS INTERNAL STANDARD ASSOCIATION

Lab Name: Shealy Environmental Services, I **Contract:**

Lab Code: Shealy **Case No.:** **MA No.:** **SDG No.:**

Instrument ID: ICPMS2

Run Batch: MS2060617A 6020A 6020B, gen **Date:** 06/06/2017

Analyte	Assoc. Internal Standard 1	Assoc. Internal Standard 2
Aluminum	45Sc	
Antimony	115In	159Tb
Arsenic	45Sc	89Y
Barium	115In	159Tb
Beryllium	6Li	45Sc
Boron	45Sc	
Cadmium	209Bi	
Calcium	6Li	45Sc
Chromium	45Sc	89Y
Cobalt	45Sc	89Y
Copper	209Bi	
Iron	45Sc	
Lead	159Tb	
Magnesium	6Li	45Sc
Manganese	45Sc	89Y
Molybdenum	45Sc	
Nickel	115In	
Potassium	45Sc	
Selenium	209Bi	
Silicon	6Li	
Silver	209Bi	
Sodium	45Sc	
Thallium	159Tb	
Tin	115In	159Tb
Titanium	45Sc	89Y
Vanadium	45Sc	89Y
Zinc	209Bi	

Experiment Details

Description	PlasmaLab Template BlankExperiment
Template Filename	C:\Program Files\Thermo Fisher\PlasmaLab\data\MS2013017C 6020A.tee
Created By User	DemoX
Analyte Database	200_8.tea
Creation Timestamp	12/1/2004 11:33:01
Last Edited By	EQI.IM
Last Edit Timestamp	6/7/2017 08:18:20
Instrument Detector	Simultaneous
Database Version	3.51
Acquisition Mode	Unknown

Numerical Results report key (text indicates meaning)

Blue text indicates that cell is a statistic.
Underlining indicates that a data warning flag is set.

Column headings
- No flag
- Semi Quant
- Standard Addition
- Multi Element

Result cells
- Internal Standard
- Excluded
- QC Warning
- QC Failure

Transient TRA only:
- Peak Not Found
- Manually Edited
- Merged Peak

Data warning flags
I - Invalid calibration
T - Tripped
F - Interference correction failed
M - Result over max
V - Valley integration failed
D - Different method used

Fully Quantitative Concentrations

Id	Label	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al	28Si
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	0.400	25.000	25.000	200.000				40.000	100.000
4	cal2 MW9462	2.000	125.000	125.000	1000.000				200.000	
5	cal3 MW9463	250.000	250.000	250.000		250.000	250.000	250.000	250.000	
6	cal4 MW9464	500.000	500.000	500.000		500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471				50000.000	50000.000	50000.000	50000.000		5000.000
8	cal6 MW9472				100000.000	100000.000	100000.000	100000.000		10000.000
Id	**Label**	**39K**	**43Ca**	**44Ca**	**47Ti**	**51V**	**52Cr**	**55Mn**	**54Fe**	**56Fe**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	200.000	200.000	200.000	5.000	5.000	1.000	5.000	20.000	20.000
4	cal2 MW9462	1000.000	1000.000	1000.000	25.000	25.000	5.000	25.000	100.000	100.000
5	cal3 MW9463				250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9464				500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471	50000.000	50000.000	50000.000					50000.000	50000.000
8	cal6 MW9472	100000.000	100000.000	100000.000					100000.000	100000.000
Id	**Label**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	20.000	5.000	5.000	5.000	1.000	1.000	10.000	10.000	10.000
4	cal2 MW9462	100.000	25.000	25.000	25.000	5.000	5.000	50.000	50.000	50.000
5	cal3 MW9463	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9464	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471	50000.000								
8	cal6 MW9472	100000.000								
Id	**Label**	**75As**	**78Se**	**82Se**	**86Sr**	**95Mo**	**97Mo**	**98Mo**	**107Ag**	**109Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	1.000	1.000	1.000	10.000	10.000	10.000	10.000	1.000	1.000
4	cal2 MW9462	5.000	5.000	5.000	50.000	50.000	50.000	50.000	5.000	5.000
5	cal3 MW9463	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9464	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471									
8	cal6 MW9472									
Id	**Label**	**106Cd**	**111Cd**	**114Cd**	**116Sn**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	0.100	0.100	0.100	5.000	5.000	1.000	1.000	5.000	5.000
4	cal2 MW9462	0.500	0.500	0.500	25.000	25.000	5.000	5.000	25.000	25.000
5	cal3 MW9463	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9464	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471									

PDF created with pdfFactory trial version www.pdffactory.com

8	cal6 MW9472							
Id	**Label**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**232Th**	**238U**
		ppb	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**
3	cal1 MW9461	0.500	0.500	1.000	1.000	1.000		50.000
4	cal2 MW9462	2.500	2.500	5.000	5.000	5.000		250.000
5	cal3 MW9463	250.000	250.000	250.000	250.000	250.000		
6	cal4 MW9464	500.000	500.000	500.000	500.000	500.000		500.000
7	cal5 MW9471							
8	cal6 MW9472							

Sample List

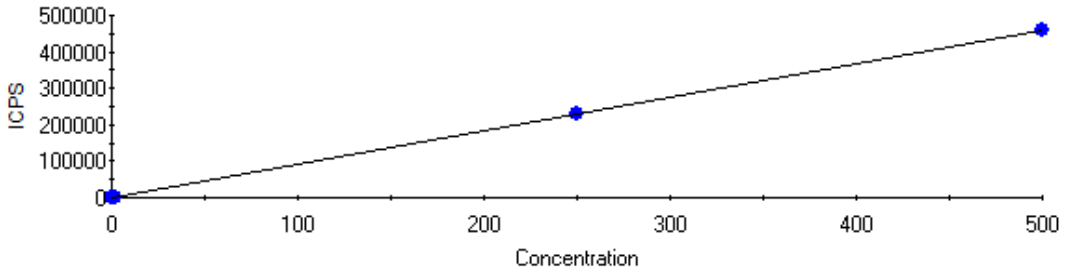
No	Label	Type	Weight	Rack	Row	Col	Height
1	TUNE MW9396	Unknown	1.000	0	1	10	144
2	BLANK IM7804-01	Blank	1.000	0	1	1	144
3	cal1 MW9461	Fully Quant Standard	1.000	0	1	2	144
4	cal2 MW9462	Fully Quant Standard	1.000	0	1	3	144
5	cal3 MW9463	Fully Quant Standard	1.000	0	1	4	144
6	cal4 MW9464	Fully Quant Standard	1.000	0	1	5	144
7	cal5 MW9471	Fully Quant Standard	1.000	0	1	6	144
8	cal6 MW9472	Fully Quant Standard	1.000	0	1	7	144
9	ICV MW-9475 PREP 6/6/17	QC Sample	1.000	4	5	11	144
10	ICB IM7804-01	QC Sample	1.000	0	1	1	144
11	Co 4ppb MW-9483	Unknown	1.000	4	5	2	144
12	LLICV MW9461	QC Sample	1.000	0	1	2	144
13	LLICV2 MW9462	Unknown	1.000	0	1	3	144
14	ICSA MW9430	QC Sample	1.000	4	5	12	144
15	ICSAB MW9460	QC Sample	1.000	4	5	1	144
16	CCV MW9474	QC Sample	1.000	0	1	9	144
17	CCB IM7804-01	QC Sample	1.000	0	1	1	144
18	SQ42715-001	QC Sample	1.000	4	1	1	144
19	SQ42715-002	Unknown	1.000	4	1	2	144
20	SE18011-006	Unknown	1.000	4	1	3	144
21	SE18011-006SD(5)	Unknown	1.000	4	1	4	144
22	SE18011-006PS	Unknown	1.000	4	1	5	144
23	SQ42482-001	QC Sample	1.000	4	1	6	144
24	SQ42482-002	Unknown	1.000	4	1	7	144
25	SE18010-001	Unknown	1.000	4	1	8	144
26	SE18010-002	Unknown	1.000	4	1	9	144
27	SE18010-003	Unknown	1.000	4	1	10	144
28	CCV MW9475	QC Sample	1.000	0	1	9	144
29	CCB IM7804-01	QC Sample	1.000	0	1	1	144
30	SE18010-004	Unknown	1.000	4	2	1	144
31	SE18010-004MS	Unknown	1.000	4	2	2	144
32	SE18010-004MD	Unknown	1.000	4	2	3	144
33	SE18010-004SD(5)	Unknown	1.000	4	2	4	144
34	SE18010-004PS	Unknown	1.000	4	2	5	144
35	SE18010-005	Unknown	1.000	4	2	6	144
36	SE18010-006	Unknown	1.000	4	2	7	144
37	SE19003-001	Unknown	1.000	4	2	8	144
38	SE19003-002	Unknown	1.000	4	2	9	144
39	SE19003-003	Unknown	1.000	4	2	10	144
40	CCV MW9475	QC Sample	1.000	0	1	9	144
41	CCB IM7804-01	QC Sample	1.000	0	1	1	144
42	SE19003-004	Unknown	1.000	4	3	1	144
43	SE19003-005	Unknown	1.000	4	3	2	144
44	Co 4ppb MW-9473	Unknown	1.000	4	5	2	144
45	LLCCV MW9461	QC Sample	1.000	0	1	2	144
46	LLCCV2 MW9462	Unknown	1.000	0	1	3	144
47	CCV MW9475	QC Sample	1.000	0	1	9	144
48	CCB IM7804-01	QC Sample	1.000	0	1	1	144
49	SE23022-009(50)	Unknown	1.000	4	4	1	144
50	SE27003-001(50)	Unknown	1.000	4	4	2	144
51	SE27003-001S(50)	Unknown	1.000	4	4	3	144
52	SE27003-001SD(50)	Unknown	1.000	4	4	4	144
53	SE27003-001L(250)	Unknown	1.000	4	4	5	144
54	SE27003-001A(50)	Unknown	1.000	4	4	6	144
55	SE27003-002(5)	Unknown	1.000	4	4	7	144
56	SE27003-003(5)	Unknown	1.000	4	4	8	144
57	SE27003-004(5)	Unknown	1.000	4	4	9	144
58	SE27003-010(5)	Unknown	1.000	4	4	10	144
59	CCV MW9474	QC Sample	1.000	0	1	9	144
60	CCB IM7804-01	QC Sample	1.000	0	1	1	144
61	LR ISM1406	QC Sample	1.000	4	5	10	144
62	IS MW9476	Unknown	1.000	2	5	10	144

PDF created with pdfFactory trial version www.pdffactory.com

63	rinse	Unknown	1.000	2	5	11	144
64	rinse	Unknown	1.000	2	5	12	144

Fully Quant Calibration

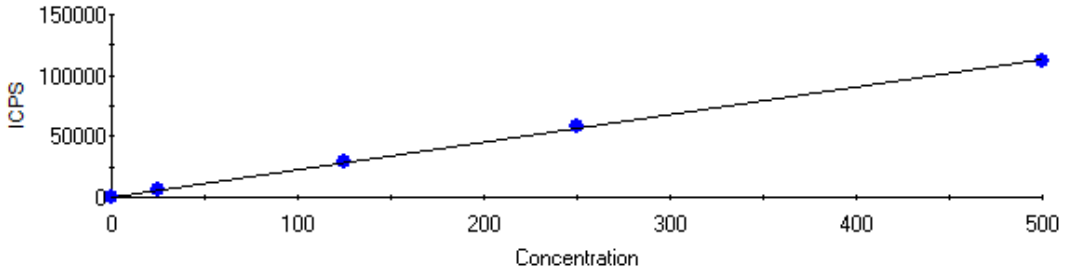
9Be FQ Block 1



Intercept CPS=40.110308 Intercept Conc=0.043840
Sensitivity=914.916821 Correlation Coeff=0.999998

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	40.11	0.00
cal1 MW9461	0.400	0.422	0.022	426.14	5.48
cal2 MW9462	2.000	1.991	0.009	1861.56	0.46
cal3 MW9463	250.000	249.271	0.729	228102.46	0.29
cal4 MW9464	500.000	500.364	0.364	457831.97	0.07

10B FQ Block 1

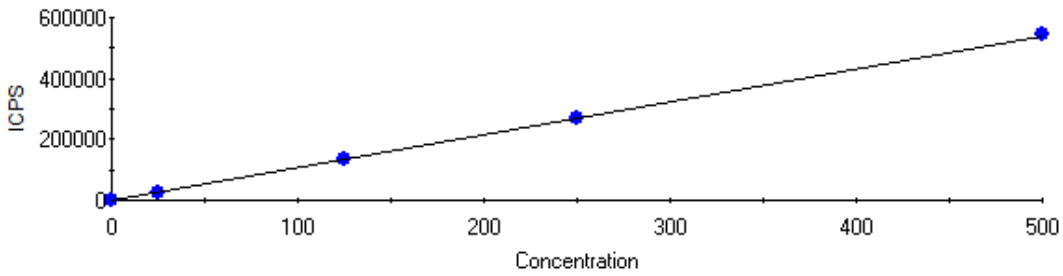


Intercept CPS=243.994922 Intercept Conc=1.073996
Sensitivity=227.184218 Correlation Coeff=0.999918

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	243.99	0.00
cal1 MW9461	25.000	24.873	0.127	5894.64	0.51
cal2 MW9462	125.000	125.901	0.901	28846.75	0.72
cal3 MW9463	250.000	252.826	2.826	57682.10	1.13
cal4 MW9464	500.000	493.640	6.360	112391.19	1.27

PDF created with pdfFactory trial version www.pdffactory.com

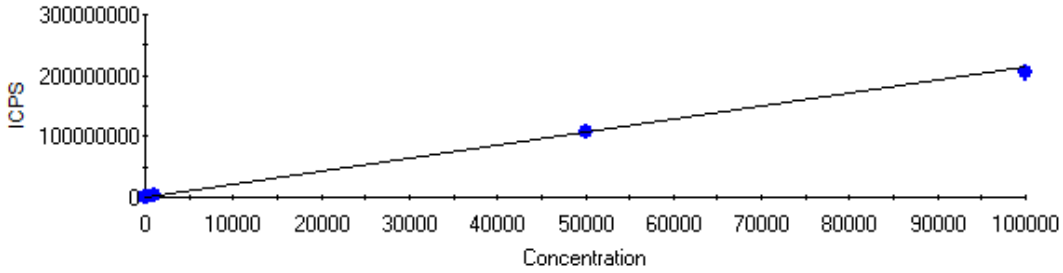
11B FQ Block 1



Intercept CPS=1342.831489 Intercept Conc=1.244912
Sensitivity=1078.655977 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1342.83	0.00
cal1 MW9461	25.000	23.856	1.144	27075.78	4.57
cal2 MW9462	125.000	124.939	0.061	136109.42	0.05
cal3 MW9463	250.000	250.855	0.855	271929.17	0.34
cal4 MW9464	500.000	503.193	3.193	544114.67	0.64

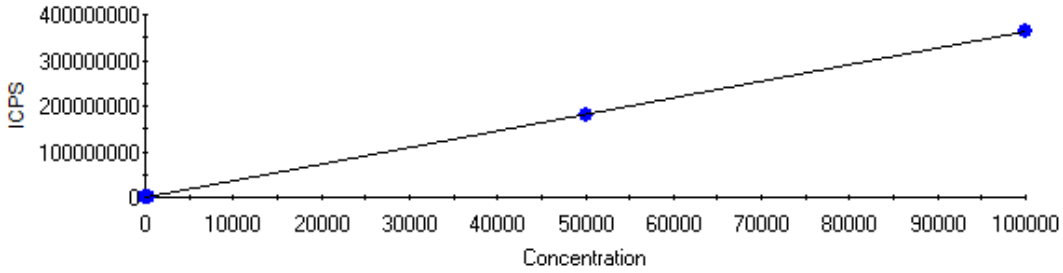
23Na FQ Block 1



Intercept CPS=9110.464914 Intercept Conc=4.277556
Sensitivity=2129.829445 Correlation Coeff=0.999728

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	9110.46	0.00
cal1 MW9461	200.000	200.017	0.017	435111.84	0.01
cal2 MW9462	1000.000	990.008	9.992	2117657.81	1.00
cal5 MW9471	50000.000	50347.377	347.377	107240435.48	0.69
cal6 MW9472	100000.000	96053.387	3946.613	204586442.65	3.95

24Mg FQ Block 1



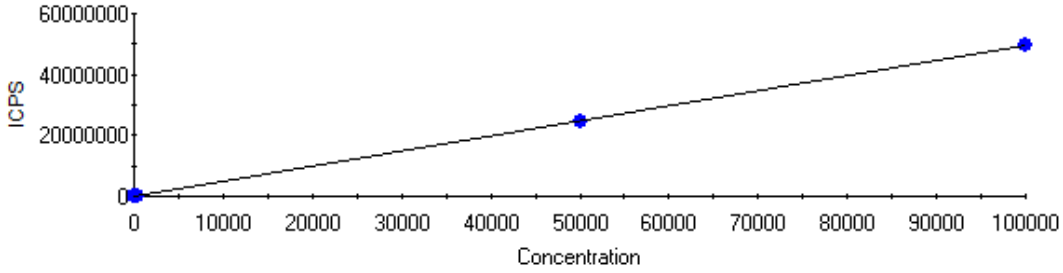
Intercept CPS=7698.211335 Intercept Conc=2.123670
Sensitivity=3624.957104 Correlation Coeff=0.999938

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	7698.21	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal3 MW9463	250.000	242.204	7.796	885676.63	3.12
cal4 MW9464	500.000	489.152	10.848	1780853.81	2.17
cal5 MW9471	50000.000	49078.778	921.222	177916163.78	1.84
cal6 MW9472	100000.000	100460.685	460.685	364173370.72	0.46

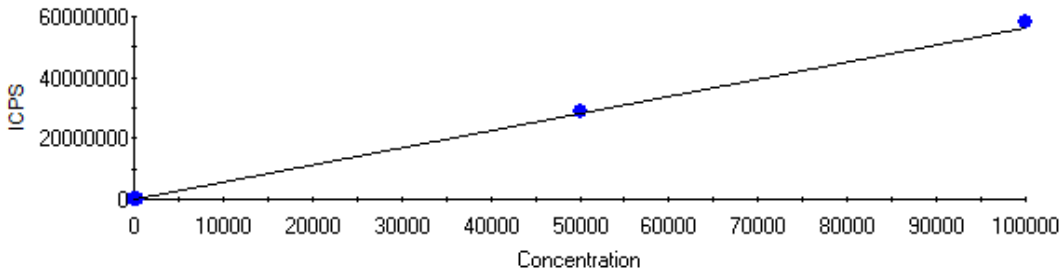
25Mg FQ Block 1



Intercept CPS=1085.165331 Intercept Conc=2.186578
Sensitivity=496.284799 Correlation Coeff=0.999950

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1085.17	0.00
cal3 MW9463	250.000	232.472	17.528	116457.41	7.01
cal4 MW9464	500.000	470.172	29.828	234424.27	5.97
cal5 MW9471	50000.000	49165.716	834.284	24401282.82	1.67
cal6 MW9472	100000.000	100417.335	417.335	49836682.00	0.42

26Mg FQ Block 1

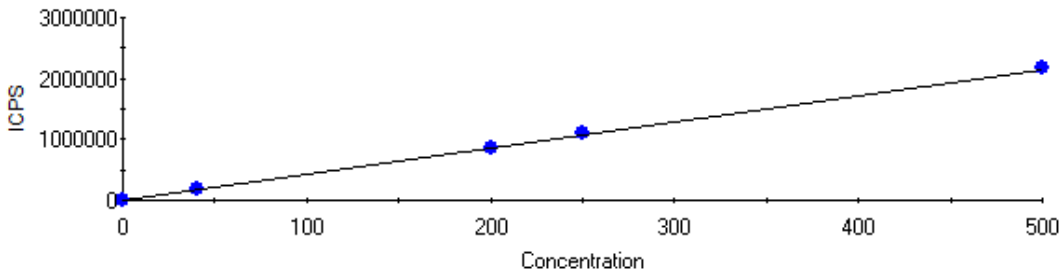


Intercept CPS=1304.502970 Intercept Conc=2.304603
Sensitivity=566.042265 Correlation Coeff=0.999975

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1304.50	0.00
cal3 MW9463	250.000	239.687	10.313	136977.20	4.13
cal4 MW9464	500.000	493.558	6.442	280678.92	1.29
cal5 MW9471	50000.000	50455.272	455.272	28561120.78	0.91
cal6 MW9472	100000.000	102397.725	2397.725	57962744.79	2.40

PDF created with pdfFactory trial version www.pdffactory.com

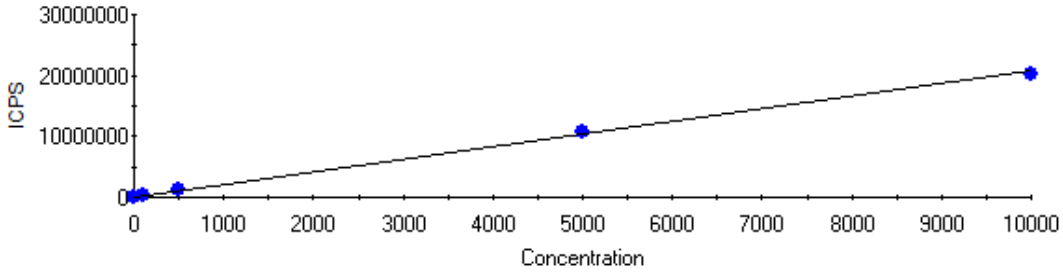
27Al FQ Block 1



Intercept CPS=9159.651017 Intercept Conc=2.161169
Sensitivity=4238.285074 Correlation Coeff=0.999922

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	9159.65	0.00
cal1 MW9461	40.000	39.453	0.547	176371.92	1.37
cal2 MW9462	200.000	202.678	2.678	868166.24	1.34
cal3 MW9463	250.000	259.946	9.946	1110886.62	3.98
cal4 MW9464	500.000	509.872	9.872	2170142.72	1.97

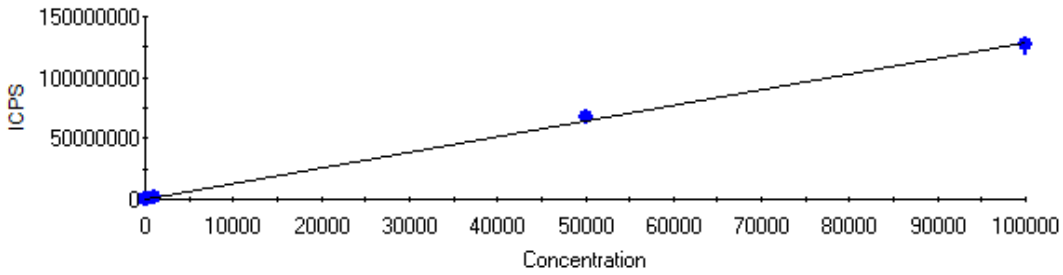
28Si FQ Block 1



Intercept CPS=55603.199034 Intercept Conc=26.638597
Sensitivity=2087.317114 Correlation Coeff=0.999626

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	55603.20	0.00
cal1 MW9461	100.000	99.584	0.416	263466.83	0.42
cal4 MW9464	500.000	515.441	15.441	1131491.62	3.09
cal5 MW9471	5000.000	5126.827	126.827	10756917.40	2.54
cal6 MW9472	10000.000	9706.763	293.237	20316695.87	2.93

39K FQ Block 1



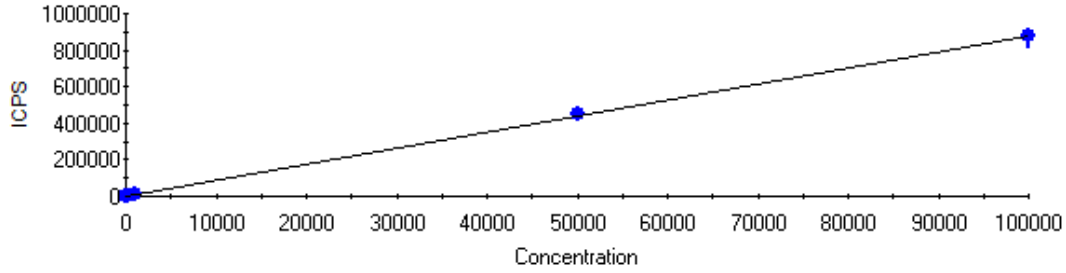
Intercept CPS=64781.087539 Intercept Conc=50.412323
Sensitivity=1285.024833 Correlation Coeff=0.999649

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	64781.09	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	200.000	206.604	6.604	330271.74	3.30
cal2 MW9462	1000.000	1051.839	51.839	1416419.82	5.18
cal5 MW9471	50000.000	52176.785	2176.785	67113246.12	4.35
cal6 MW9472	100000.000	98911.076	1088.924	127167969.54	1.09

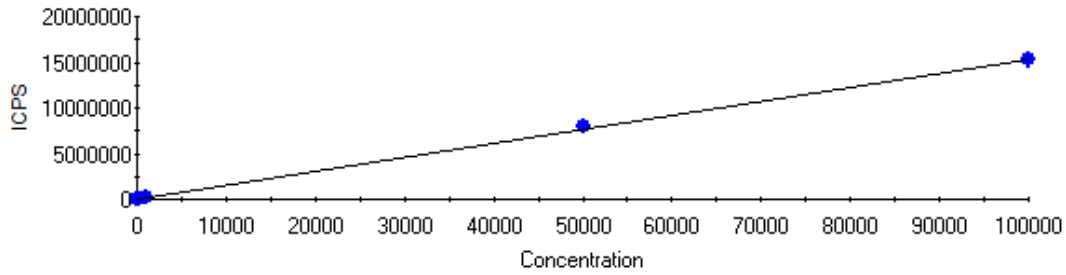
43Ca FQ Block 1



Intercept CPS=73.332736 Intercept Conc=8.367976
Sensitivity=8.763497 Correlation Coeff=0.999952

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	73.33	0.00
cal1 MW9461	200.000	206.574	6.574	1883.64	3.29
cal2 MW9462	1000.000	1075.074	75.074	9494.74	7.51
cal5 MW9471	50000.000	50813.253	813.253	445375.13	1.63
cal6 MW9472	100000.000	99592.610	407.390	872852.88	0.41

44Ca FQ Block 1

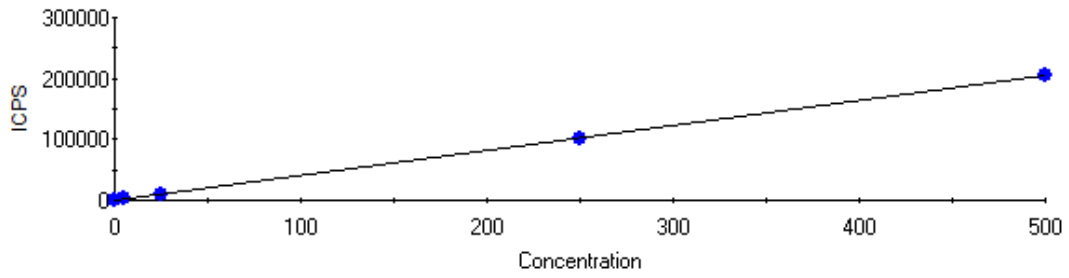


Intercept CPS=1662.911901 Intercept Conc=10.794365
Sensitivity=154.053701 Correlation Coeff=0.999912

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1662.91	0.00
cal1 MW9461	200.000	187.989	12.011	30623.37	6.01
cal2 MW9462	1000.000	958.242	41.758	149283.56	4.18
cal5 MW9471	50000.000	51085.102	1085.102	7871511.98	2.17
cal6 MW9472	100000.000	99457.890	542.110	15323519.00	0.54

PDF created with pdfFactory trial version www.pdffactory.com

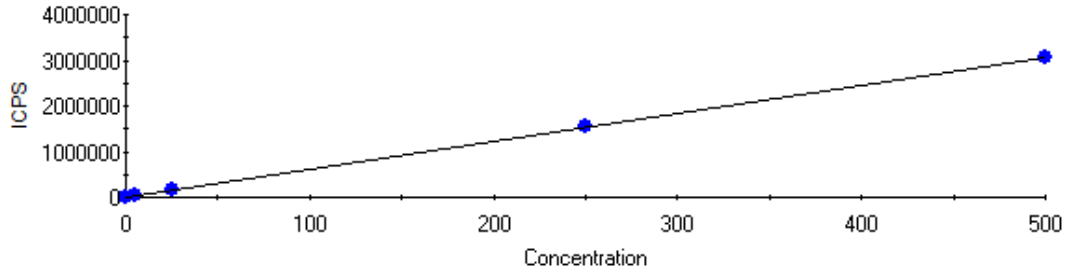
47Ti FQ Block 1



Intercept CPS=38.672851 Intercept Conc=0.094939
Sensitivity=407.342666 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	38.67	0.00
cal1 MW9461	5.000	5.120	0.120	2124.27	2.40
cal2 MW9462	25.000	24.420	0.580	9985.86	2.32
cal3 MW9463	250.000	250.161	0.161	101939.87	0.06
cal4 MW9464	500.000	500.021	0.021	203718.46	0.00

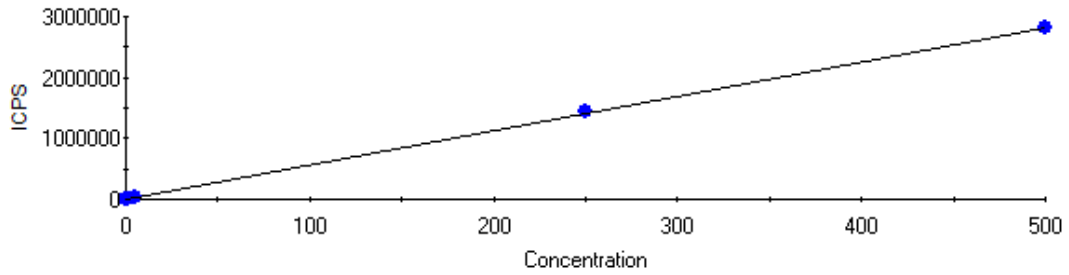
51V FQ Block 1



Intercept CPS=0.000000 Intercept Conc=0.000000
Sensitivity=6100.142389 Correlation Coeff=0.999975

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.067	0.067	408.41	0.00
cal1 MW9461	5.000	4.882	0.118	29778.46	2.37
cal2 MW9462	25.000	23.723	1.277	144715.55	5.11
cal3 MW9463	250.000	252.548	2.548	1540578.47	1.02
cal4 MW9464	500.000	498.791	1.209	3042696.38	0.24

52Cr FQ Block 1



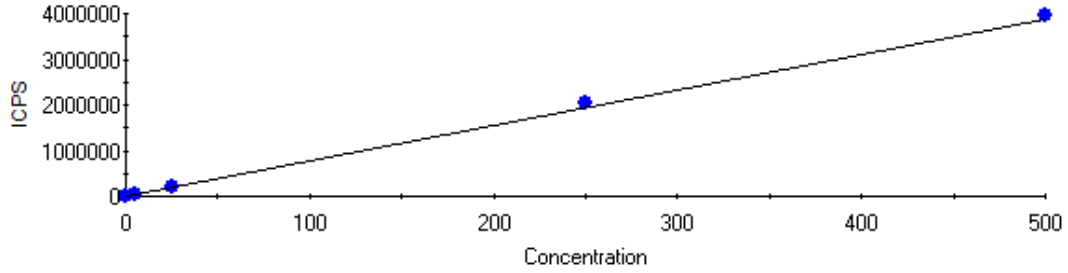
Intercept CPS=936.690656 Intercept Conc=0.165533
Sensitivity=5658.621455 Correlation Coeff=0.999992

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	936.69	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	1.000	0.993	0.007	6555.01	0.71
cal2 MW9462	5.000	4.786	0.214	28021.40	4.27
cal3 MW9463	250.000	251.563	1.563	1424436.42	0.63
cal4 MW9464	500.000	499.221	0.779	2825837.40	0.16

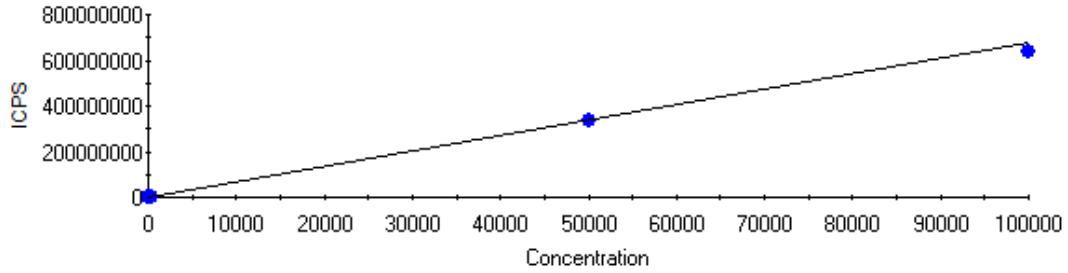
55Mn FQ Block 1



Intercept CPS=405.379439 Intercept Conc=0.052174
Sensitivity=7769.816107 Correlation Coeff=0.999892

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	405.38	0.00
cal1 MW9461	5.000	5.019	0.019	39398.44	0.37
cal2 MW9462	25.000	24.411	0.589	190071.97	2.36
cal3 MW9463	250.000	261.681	11.681	2033619.51	4.67
cal4 MW9464	500.000	508.712	8.712	3953001.77	1.74

56Fe FQ Block 1

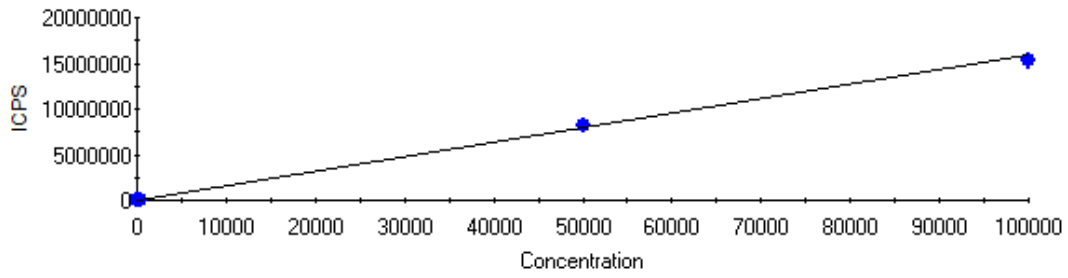


Intercept CPS=241289.488666 Intercept Conc=35.515972
Sensitivity=6793.830393 Correlation Coeff=0.999732

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	241289.49	0.00
cal1 MW9461	20.000	18.421	1.579	366436.12	7.90
cal2 MW9462	100.000	96.813	3.187	899021.58	3.19
cal3 MW9463	250.000	259.410	9.410	2003680.26	3.76
cal4 MW9464	500.000	498.599	1.401	3628689.59	0.28
cal5 MW9471	50000.000	49218.646	781.354	334624423.01	1.56
cal6 MW9472	100000.000	93637.889	6362.111	636401223.46	6.36

PDF created with pdfFactory trial version www.pdffactory.com

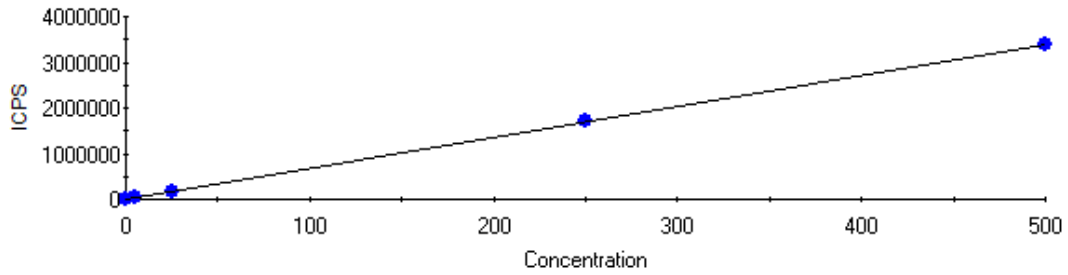
57Fe FQ Block 1



Intercept CPS=4230.533658 Intercept Conc=26.593456
Sensitivity=159.081754 Correlation Coeff=0.999705

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	4230.53	0.00
cal1 MW9461	20.000	20.132	0.132	7433.11	0.66
cal2 MW9462	100.000	98.428	1.572	19888.58	1.57
cal3 MW9463	250.000	250.387	0.387	44062.60	0.15
cal4 MW9464	500.000	494.728	5.272	82932.76	1.05
cal5 MW9471	50000.000	50956.682	956.682	8110508.90	1.91
cal6 MW9472	100000.000	96713.670	3286.330	15389610.81	3.29

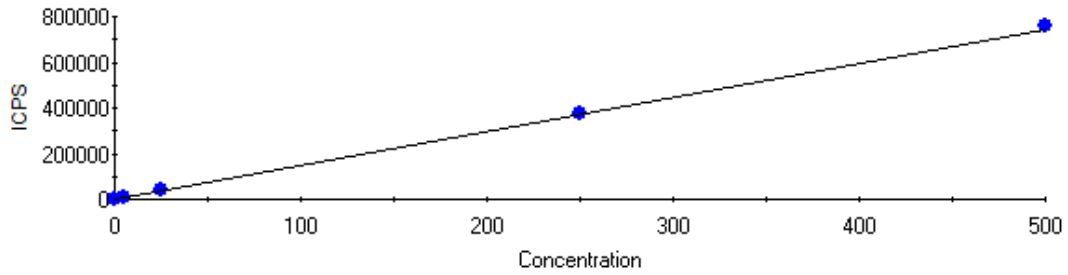
59Co FQ Block 1



Intercept CPS=148.224843 Intercept Conc=0.021901
Sensitivity=6767.919164 Correlation Coeff=0.999927

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	148.22	0.00
cal1 MW9461	5.000	4.773	0.227	32451.33	4.54
cal2 MW9462	25.000	23.796	1.204	161198.23	4.82
cal3 MW9463	250.000	254.654	4.654	1723626.94	1.86
cal4 MW9464	500.000	497.735	2.265	3368781.11	0.45

60Ni FQ Block 1

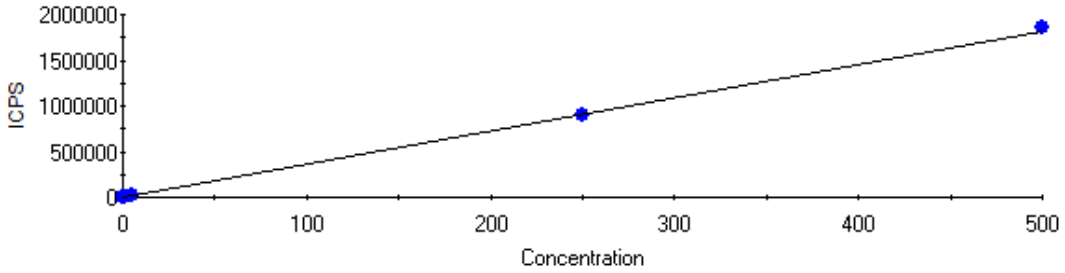


Intercept CPS=374.719952 Intercept Conc=0.252646
Sensitivity=1483.183805 Correlation Coeff=0.999964

PDF created with pdfFactory trial version www.pdffactory.com

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	374.72	0.00
cal1 MW9461	5.000	4.825	0.175	7531.69	3.49
cal2 MW9462	25.000	24.964	0.036	37400.76	0.14
cal3 MW9463	250.000	250.180	0.180	371437.09	0.07
cal4 MW9464	500.000	509.273	9.273	755720.41	1.85

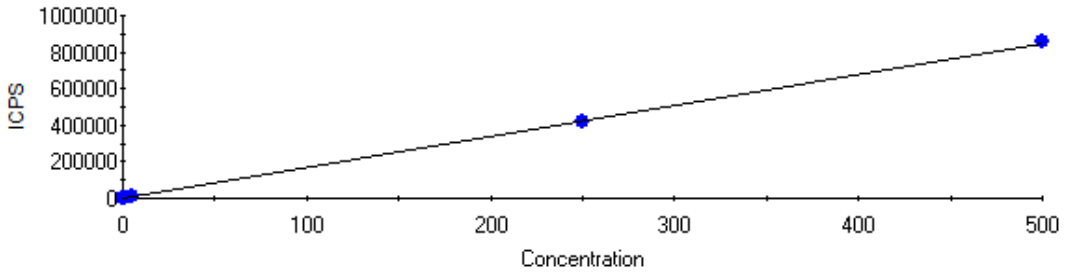
63Cu FQ Block 1



Intercept CPS=466.340282 Intercept Conc=0.127774
Sensitivity=3649.727572 Correlation Coeff=0.999934

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	466.34	0.00
cal1 MW9461	1.000	0.974	0.026	4021.15	2.60
cal2 MW9462	5.000	4.704	0.296	17634.67	5.92
cal3 MW9463	250.000	248.199	1.801	906325.89	0.72
cal4 MW9464	500.000	508.523	8.523	1856438.20	1.70

65Cu FQ Block 1

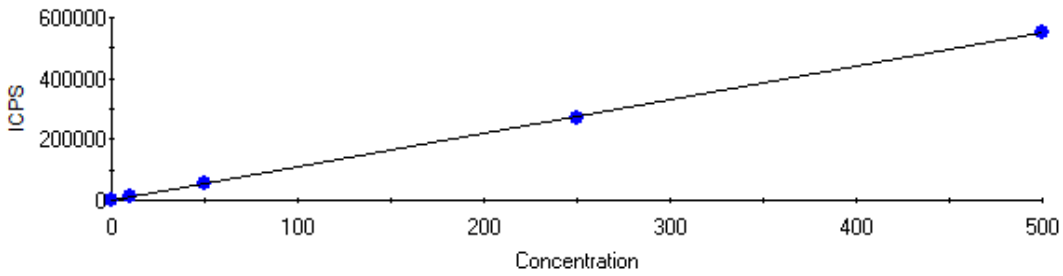


Intercept CPS=221.496921 Intercept Conc=0.130482
Sensitivity=1697.532598 Correlation Coeff=0.999947

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	221.50	0.00
cal1 MW9461	1.000	0.936	0.064	1811.08	6.36
cal2 MW9462	5.000	4.884	0.116	8512.58	2.32
cal3 MW9463	250.000	245.746	4.254	417383.20	1.70
cal4 MW9464	500.000	502.128	2.128	852600.70	0.43

PDF created with pdfFactory trial version www.pdffactory.com

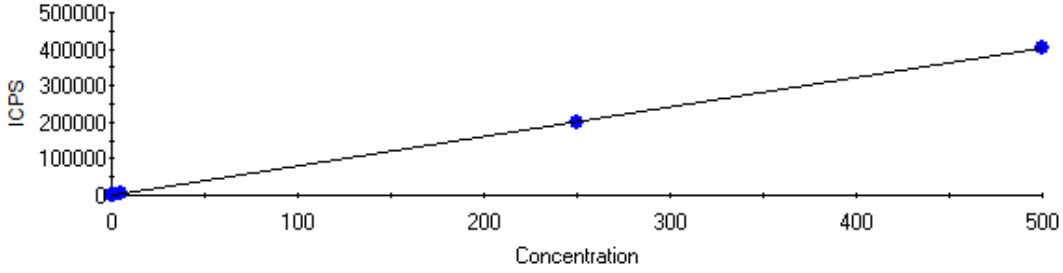
66Zn FQ Block 1



Intercept CPS=307.602299 Intercept Conc=0.280592
Sensitivity=1096.263153 Correlation Coeff=0.999951

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	307.60	0.00
cal1 MW9461	10.000	9.931	0.069	11194.48	0.69
cal2 MW9462	50.000	49.233	0.767	54279.87	1.53
cal3 MW9463	250.000	246.023	3.977	270013.92	1.59
cal4 MW9464	500.000	502.066	2.066	550704.52	0.41

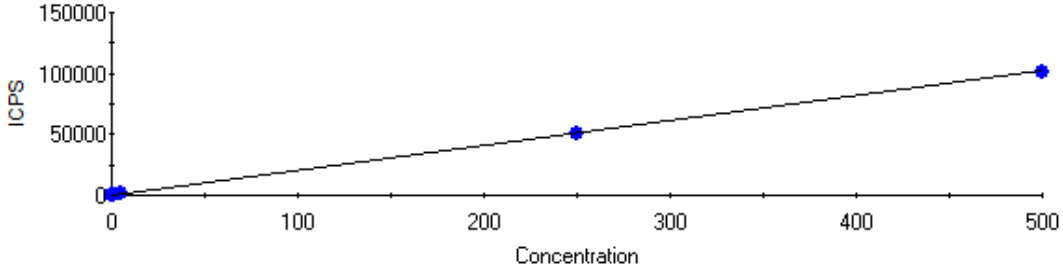
75As FQ Block 1



Intercept CPS=215.111786 Intercept Conc=0.267347
Sensitivity=804.617431 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	215.11	0.00
cal1 MW9461	1.000	0.943	0.057	973.54	5.74
cal2 MW9462	5.000	4.679	0.321	3979.95	6.42
cal3 MW9463	250.000	249.704	0.296	201131.69	0.12
cal4 MW9464	500.000	502.056	2.056	404178.16	0.41

78Se FQ Block 1



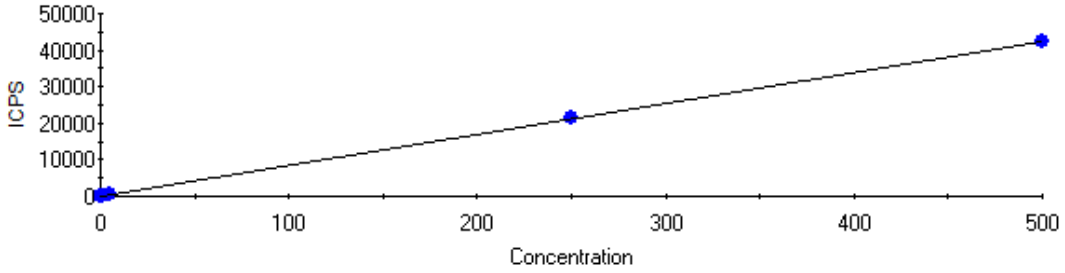
Intercept CPS=345.311400 Intercept Conc=1.701757
Sensitivity=202.914598 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	345.31	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	1.000	0.967	0.033	541.54	3.30
cal2 MW9462	5.000	4.850	0.150	1329.40	3.00
cal3 MW9463	250.000	250.477	0.477	51170.76	0.19
cal4 MW9464	500.000	499.763	0.237	101754.53	0.05

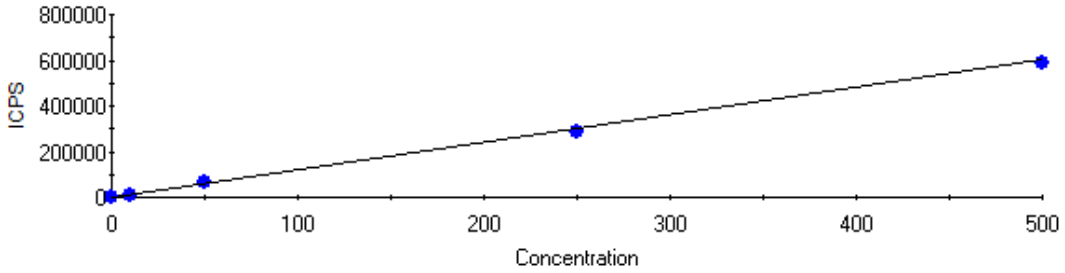
82Se FQ Block 1



Intercept CPS=89.119146 Intercept Conc=1.051773
Sensitivity=84.732336 Correlation Coeff=0.999998

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	89.12	0.00
cal1 MW9461	1.000	0.830	0.170	159.47	16.97
cal2 MW9462	5.000	4.470	0.530	467.87	10.60
cal3 MW9463	250.000	250.684	0.684	21330.14	0.27
cal4 MW9464	500.000	500.051	0.051	42459.63	0.01

95Mo FQ Block 1

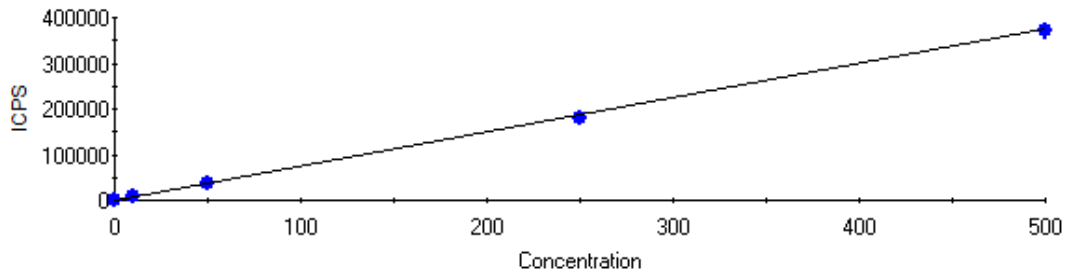


Intercept CPS=572.204751 Intercept Conc=0.470974
Sensitivity=1214.940101 Correlation Coeff=0.999927

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	572.20	0.00
cal1 MW9461	10.000	9.283	0.717	11850.71	7.17
cal2 MW9462	50.000	50.193	0.193	61554.10	0.39
cal3 MW9463	250.000	237.864	12.136	289563.24	4.85
cal4 MW9464	500.000	486.305	13.695	591404.17	2.74

PDF created with pdfFactory trial version www.pdffactory.com

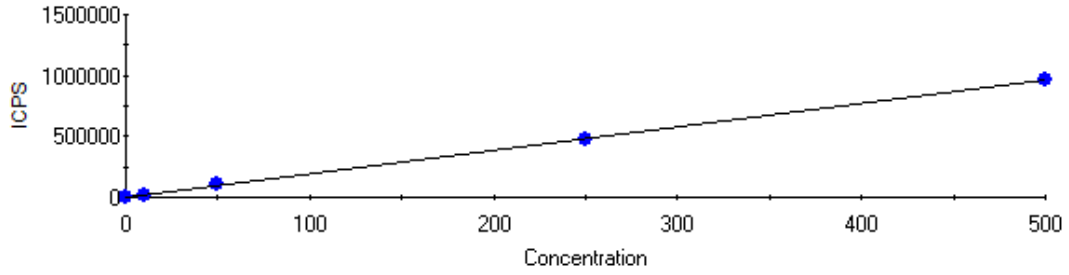
97Mo FQ Block 1



Intercept CPS=409.721147 Intercept Conc=0.545460
Sensitivity=751.148246 Correlation Coeff=0.999912

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	409.72	0.00
cal1 MW9461	10.000	9.686	0.314	7685.20	3.14
cal2 MW9462	50.000	50.976	0.976	38700.26	1.95
cal3 MW9463	250.000	239.870	10.130	180587.94	4.05
cal4 MW9464	500.000	491.350	8.650	369486.20	1.73

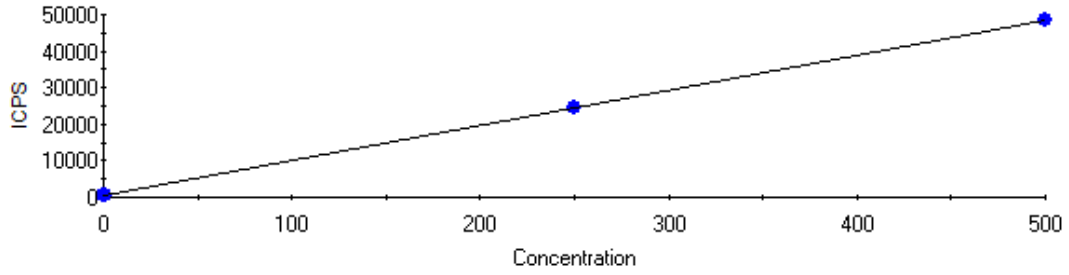
98Mo FQ Block 1



Intercept CPS=974.886612 Intercept Conc=0.506751
Sensitivity=1923.798486 Correlation Coeff=0.999886

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	974.89	0.00
cal1 MW9461	10.000	9.551	0.449	19349.79	4.49
cal2 MW9462	50.000	51.539	1.539	100125.66	3.08
cal3 MW9463	250.000	244.239	5.761	470840.58	2.30
cal4 MW9464	500.000	502.736	2.736	968137.27	0.55

106Cd FQ Block 1



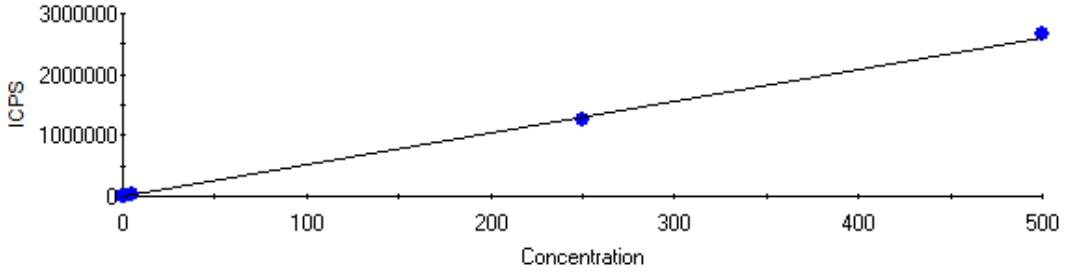
Intercept CPS=277.358838 Intercept Conc=2.882365
Sensitivity=96.226148 Correlation Coeff=0.999983

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	277.36	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	0.100	0.538	0.438	329.11	437.78
cal2 MW9462	0.500	2.165	1.665	485.64	332.90
cal3 MW9463	250.000	252.366	2.366	24561.53	0.95
cal4 MW9464	500.000	498.815	1.185	48276.45	0.24

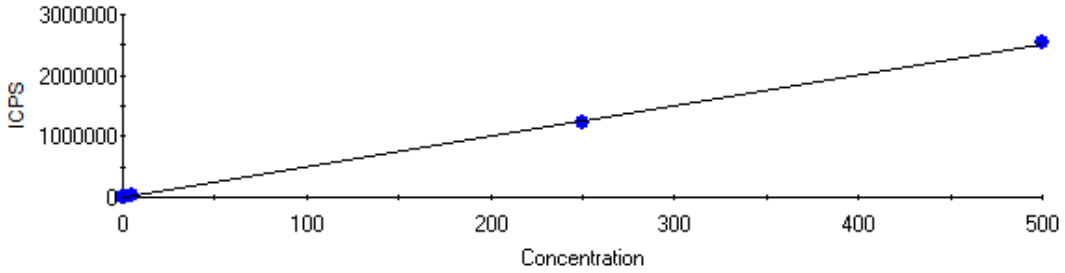
107Ag FQ Block 1



Intercept CPS=52.334709 Intercept Conc=0.010058
Sensitivity=5203.261905 Correlation Coeff=0.999696

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	52.33	0.00
cal1 MW9461	1.000	0.910	0.090	4786.71	9.01
cal2 MW9462	5.000	4.515	0.485	23547.31	9.69
cal3 MW9463	250.000	242.192	7.808	1260240.76	3.12
cal4 MW9464	500.000	510.298	10.298	2655264.09	2.06

109Ag FQ Block 1

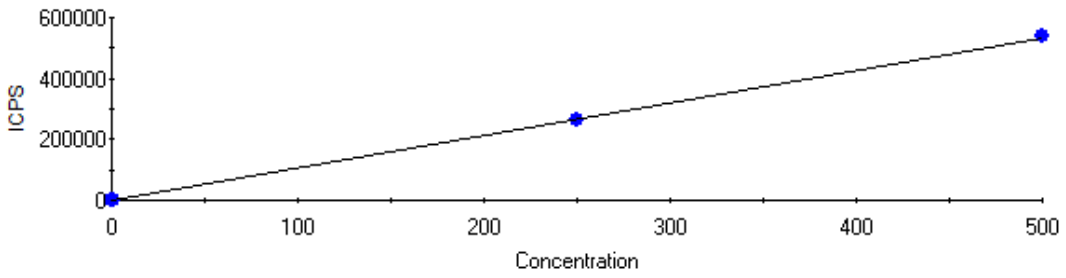


Intercept CPS=24.068814 Intercept Conc=0.004780
Sensitivity=5035.459615 Correlation Coeff=0.999729

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	24.07	0.00
cal1 MW9461	1.000	0.913	0.087	4623.91	8.65
cal2 MW9462	5.000	4.591	0.409	23141.82	8.18
cal3 MW9463	250.000	240.314	9.686	1210113.62	3.87
cal4 MW9464	500.000	504.847	4.847	2542163.02	0.97

PDF created with pdfFactory trial version www.pdffactory.com

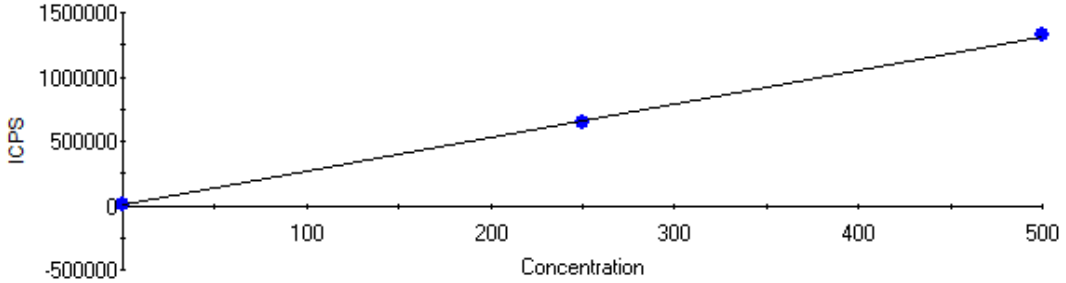
111Cd FQ Block 1



Intercept CPS=18.110203 Intercept Conc=0.016904
Sensitivity=1071.373739 Correlation Coeff=0.999988

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	18.11	0.00
cal1 MW9461	0.100	0.078	0.022	102.11	21.59
cal2 MW9462	0.500	0.335	0.165	377.35	32.94
cal3 MW9463	250.000	247.976	2.024	265692.74	0.81
cal4 MW9464	500.000	501.012	1.012	536789.56	0.20

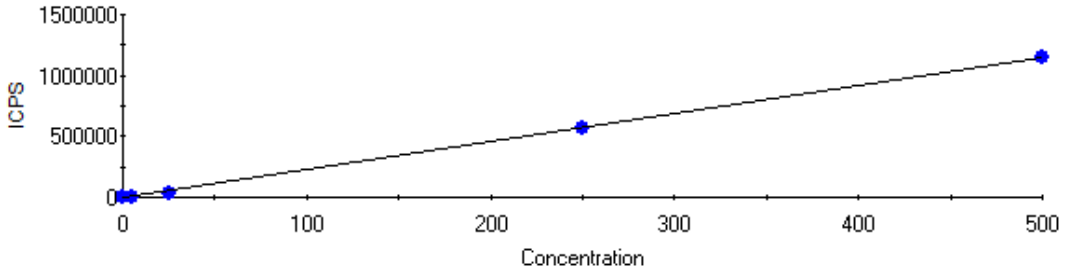
114Cd FQ Block 1



Intercept CPS=4.947223 Intercept Conc=0.001878
Sensitivity=2634.548311 Correlation Coeff=0.999865

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	4.95	0.00
cal1 MW9461	0.100	0.105	0.005	281.26	4.88
cal2 MW9462	0.500	0.510	0.010	1349.82	2.10
cal3 MW9463	250.000	242.986	7.014	640162.28	2.81
cal4 MW9464	500.000	502.945	2.945	1325036.70	0.59

116Sn FQ Block 1



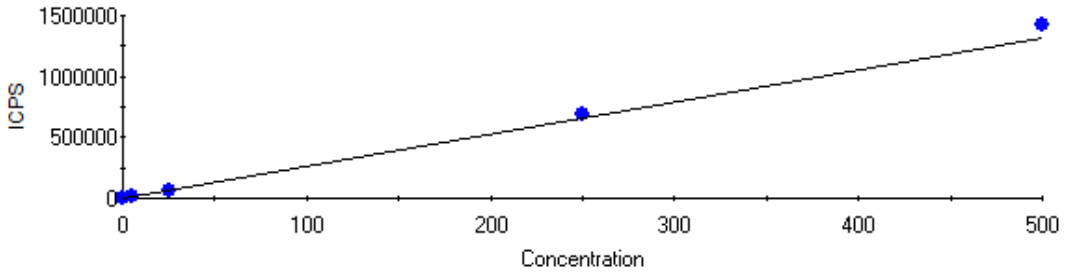
Intercept CPS=108.027737 Intercept Conc=0.047301
Sensitivity=2283.814697 Correlation Coeff=0.999843

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	108.03	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	5.000	2.994	2.006	6946.51	40.11
cal2 MW9462	25.000	16.411	8.589	37586.98	34.36
cal3 MW9463	250.000	244.745	5.255	559060.38	2.10
cal4 MW9464	500.000	503.077	3.077	1149042.66	0.62

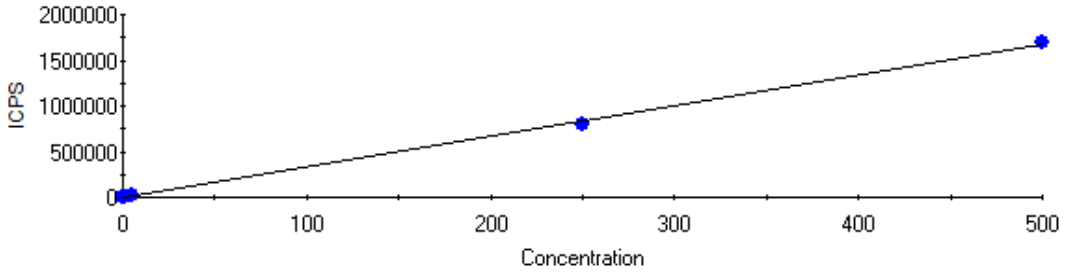
118Sn FQ Block 1



Intercept CPS=725.439287 Intercept Conc=0.275261
Sensitivity=2635.454983 Correlation Coeff=0.999871

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	725.44	0.00
cal1 MW9461	5.000	4.376	0.624	12257.83	12.48
cal2 MW9462	25.000	23.961	1.039	63874.41	4.15
cal3 MW9463	250.000	259.546	9.546	684747.89	3.82
cal4 MW9464	500.000	537.110	37.110	1416253.68	7.42

121Sb FQ Block 1

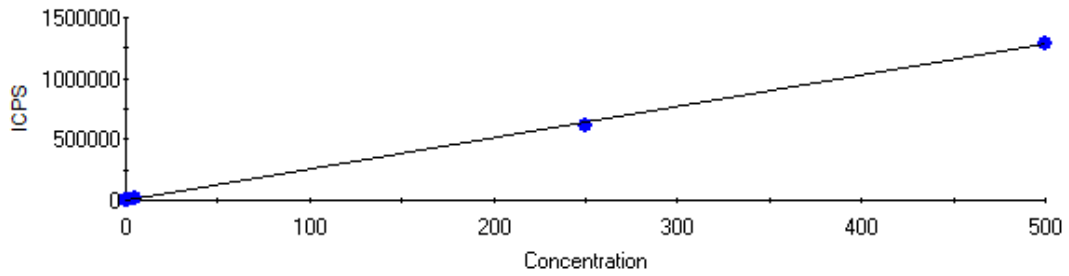


Intercept CPS=210.588206 Intercept Conc=0.062883
Sensitivity=3348.887196 Correlation Coeff=0.999643

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	210.59	0.00
cal1 MW9461	1.000	0.902	0.098	3230.70	9.82
cal2 MW9462	5.000	4.585	0.415	15565.30	8.30
cal3 MW9463	250.000	238.892	11.108	800232.69	4.44
cal4 MW9464	500.000	505.558	5.558	1693268.59	1.11

PDF created with pdfFactory trial version www.pdffactory.com

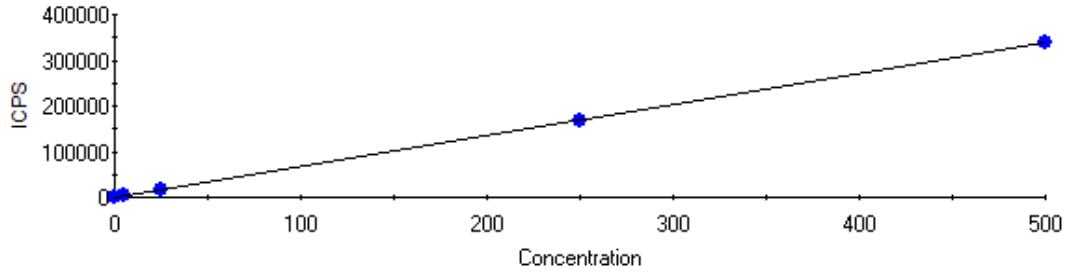
123Sb FQ Block 1



Intercept CPS=155.857291 Intercept Conc=0.060925
Sensitivity=2558.168711 Correlation Coeff=0.999707

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	155.86	0.00
cal1 MW9461	1.000	0.926	0.074	2524.27	7.42
cal2 MW9462	5.000	4.723	0.277	12239.11	5.53
cal3 MW9463	250.000	239.949	10.051	613986.91	4.02
cal4 MW9464	500.000	505.028	5.028	1292103.23	1.01

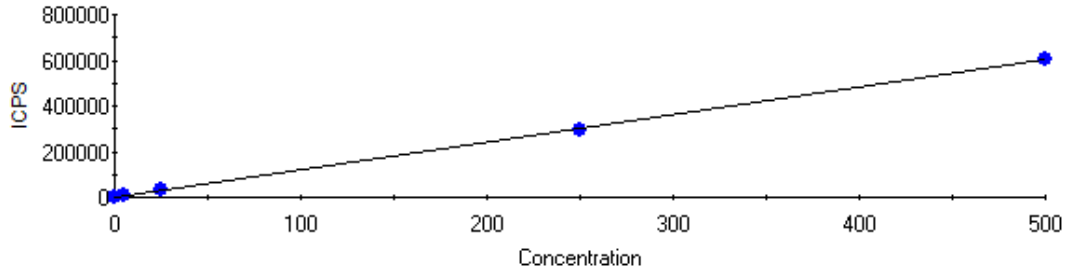
135Ba FQ Block 1



Intercept CPS=23.980701 Intercept Conc=0.035319
Sensitivity=678.966796 Correlation Coeff=0.999990

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	23.98	0.00
cal1 MW9461	5.000	4.849	0.151	3316.10	3.03
cal2 MW9462	25.000	24.752	0.248	16829.64	0.99
cal3 MW9463	250.000	248.171	1.829	168523.92	0.73
cal4 MW9464	500.000	500.928	0.928	340137.71	0.19

137Ba FQ Block 1



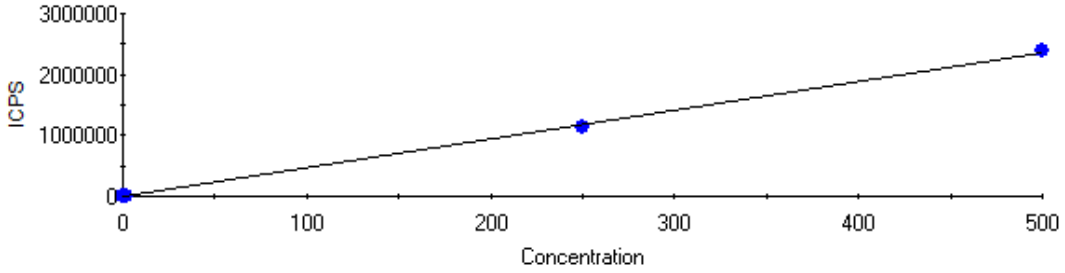
Intercept CPS=50.633505 Intercept Conc=0.042035
Sensitivity=1204.567827 Correlation Coeff=0.999970

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	50.63	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	5.000	4.823	0.177	5860.39	3.54
cal2 MW9462	25.000	24.359	0.641	29392.76	2.56
cal3 MW9463	250.000	246.810	3.190	297350.50	1.28
cal4 MW9464	500.000	501.629	1.629	604296.33	0.33

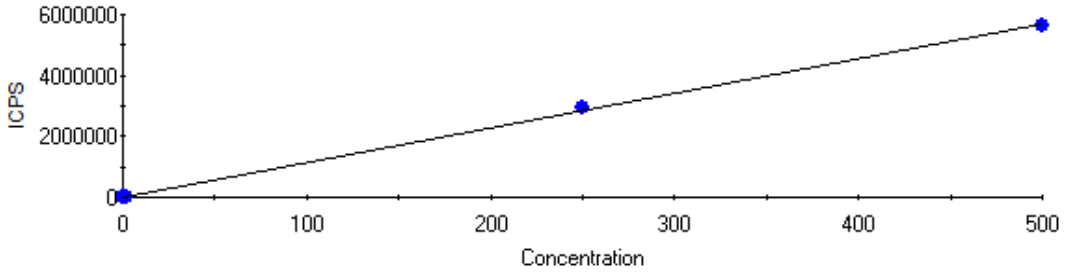
203TI FQ Block 1



Intercept CPS=56.256339 Intercept Conc=0.011885
Sensitivity=4733.527264 Correlation Coeff=0.999819

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	56.26	0.00
cal1 MW9461	0.500	0.470	0.030	2279.50	6.06
cal2 MW9462	2.500	2.352	0.148	11189.17	5.92
cal3 MW9463	250.000	242.102	7.898	1146052.04	3.16
cal4 MW9464	500.000	503.950	3.950	2385516.55	0.79

205TI FQ Block 1

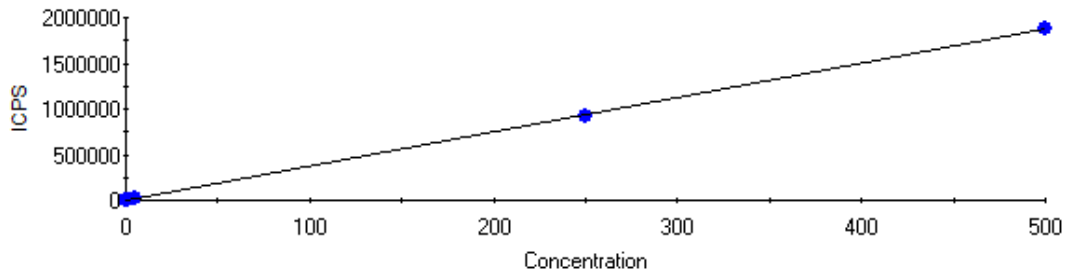


Intercept CPS=171.624809 Intercept Conc=0.015123
Sensitivity=11348.610563 Correlation Coeff=0.999773

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	171.62	0.00
cal1 MW9461	0.500	0.455	0.045	5338.57	8.94
cal2 MW9462	2.500	2.335	0.165	26668.34	6.61
cal3 MW9463	250.000	258.739	8.739	2936496.37	3.50
cal4 MW9464	500.000	495.632	4.368	5624900.73	0.87

PDF created with pdfFactory trial version www.pdffactory.com

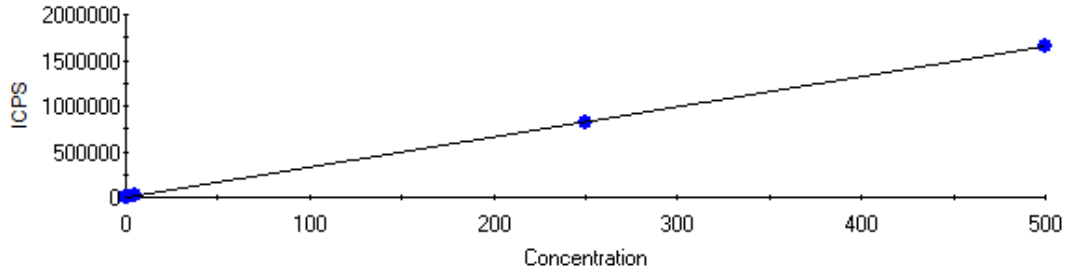
206Pb FQ Block 1



Intercept CPS=72.046957 Intercept Conc=0.019262
Sensitivity=3740.448767 Correlation Coeff=0.999964

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	72.05	0.00
cal1 MW9461	1.000	0.948	0.052	3617.05	5.23
cal2 MW9462	5.000	4.787	0.213	17978.10	4.26
cal3 MW9463	250.000	246.458	3.542	921936.73	1.42
cal4 MW9464	500.000	501.773	1.773	1876928.54	0.35

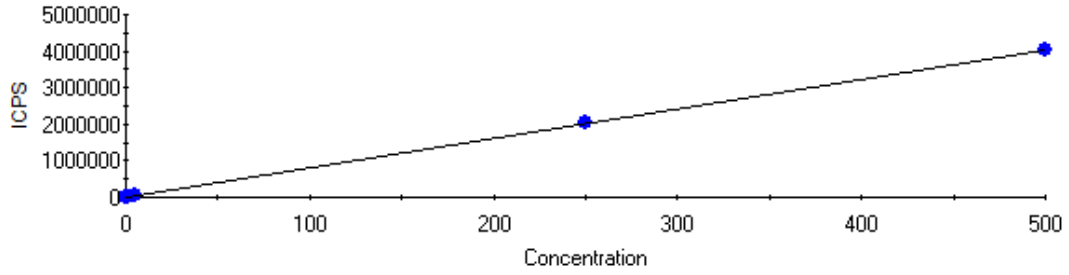
207Pb FQ Block 1



Intercept CPS=77.156983 Intercept Conc=0.023338
Sensitivity=3306.118263 Correlation Coeff=0.999896

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	77.16	0.00
cal1 MW9461	1.000	0.910	0.090	3086.30	8.98
cal2 MW9462	5.000	4.699	0.301	15611.64	6.03
cal3 MW9463	250.000	244.004	5.996	806782.03	2.40
cal4 MW9464	500.000	503.001	3.001	1663059.19	0.60

208Pb FQ Block 1



Intercept CPS=165.599603 Intercept Conc=0.020436
Sensitivity=8103.142851 Correlation Coeff=0.999939

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	165.60	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	1.000	0.945	0.055	7822.99	5.50
cal2 MW9462	5.000	4.752	0.248	38674.27	4.95
cal3 MW9463	250.000	254.481	4.481	2062262.06	1.79
cal4 MW9464	500.000	497.762	2.238	4033602.61	0.45

PDF created with pdfFactory trial version www.pdffactory.com

Dilution Corrected Concentrations

TUNE MW9396 6/6/2017 11:29:21

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	99.1%	0.040	0.489	0.462	7.278	2.165	1.959	2.148	0.463
2	11:30:13	100.9%	0.026	0.511	0.407	7.747	2.139	1.994	2.319	0.509
3	11:30:39	100.0%	0.009	0.639	0.296	7.660	2.113	2.040	2.491	0.523
x		100.0%	0.025	0.547	0.388	7.562	2.139	1.998	2.319	0.498
σ		0.9%	0.016	0.081	0.084	0.249	0.026	0.040	0.172	0.032
%RSD		0.9	63.120	14.810	21.720	3.296	1.232	2.026	7.407	6.370

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	0.195	21.780	1.320	1.447	1.429	102.5%	0.049	0.069	0.009
2	11:30:13	1.683	23.030	3.619	0.857	3.384	98.9%	0.004	0.086	0.027
3	11:30:39	0.588	22.290	3.085	2.728	2.572	98.7%	0.024	0.085	0.022
x		0.822	22.370	2.675	1.677	2.462	100.0%	0.026	0.080	0.019
σ		0.772	0.631	1.203	0.956	0.982	2.2%	0.022	0.009	0.009
%RSD		93.870	2.821	44.980	57.000	39.890	2.2	86.250	11.470	47.050

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	-0.020	0.008	2.464	-0.236	0.020	-0.061	0.026	0.007	0.014
2	11:30:13	-0.028	0.025	3.017	0.809	0.006	-0.005	0.020	0.020	0.103
3	11:30:39	-0.046	0.012	2.603	3.235	0.016	0.006	0.043	0.012	0.085
x		-0.031	0.015	2.695	1.269	0.014	-0.020	0.030	0.013	0.067
σ		0.013	0.009	0.288	1.780	0.007	0.036	0.012	0.007	0.047
%RSD		41.930	57.970	10.680	140.300	51.540	182.600	40.670	50.150	69.890

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	-0.195	-0.170	1.347	5.432	-0.486	2.601	99.7%	0.458	0.478
2	11:30:13	-0.005	-0.020	1.405	5.702	-0.068	1.606	99.9%	0.658	0.629
3	11:30:39	-0.101	-0.025	1.352	5.005	-0.307	3.802	100.3%	0.677	0.599
x		-0.101	-0.072	1.368	5.380	-0.287	2.670	100.0%	0.598	0.569
σ		0.095	0.085	0.032	0.352	0.210	1.099	0.3%	0.122	0.080
%RSD		94.740	119.000	2.357	6.534	73.040	41.190	0.3	20.360	14.030

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	0.575	-0.053	0.009	-1.046	0.021	0.002	0.016	100.0%	0.035
2	11:30:13	0.768	-0.346	0.010	-0.895	0.007	0.001	0.013	100.0%	0.016
3	11:30:39	0.745	-0.225	0.008	-0.983	0.011	-0.002	0.015	100.0%	0.010
x		0.696	-0.208	0.009	-0.975	0.013	0.000	0.014	100.0%	0.020
σ		0.106	0.148	0.001	0.076	0.007	0.002	0.002	0.0%	0.013
%RSD		15.180	70.940	10.090	7.754	53.640	1467.000	11.170	0.0	63.350

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	0.033	0.051	0.017	0.006	0.025	99.1%	0.017	0.012	0.021
2	11:30:13	-0.036	0.028	0.038	0.006	0.014	100.1%	0.013	0.010	0.022
3	11:30:39	-0.008	0.037	0.037	0.006	-0.009	100.8%	0.028	0.011	0.003
x		-0.004	0.039	0.031	0.006	0.010	100.0%	0.019	0.011	0.015
σ		0.035	0.011	0.012	0.000	0.017	0.8%	0.008	0.001	0.011
%RSD		852.900	29.730	37.690	2.687	171.700	0.8	40.020	12.610	69.910

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:29:47	0.004	0.018	99.1%
2	11:30:13	-0.003	0.025	100.0%
3	11:30:39	0.014	0.006	100.9%
x		0.005	0.016	100.0%
σ		0.008	0.010	0.9%
%RSD		172.500	61.390	0.9

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01 6/6/2017 11:34:42

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	97.4%	-0.004	0.013	0.121	0.081	0.040	0.235	0.024	0.030
2	11:35:34	99.6%	0.018	-0.000	-0.081	0.007	0.043	-0.023	0.017	0.049
3	11:36:00	103.0%	-0.014	-0.012	-0.040	-0.088	-0.083	-0.212	-0.041	-0.078
x		100.0%	-0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000
σ		2.8%	0.016	0.012	0.107	0.084	0.072	0.225	0.036	0.069
%RSD		2.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	0.626	-0.528	-0.168	0.278	-0.163	100.5%	-0.007	0.080	0.011
2	11:35:34	-0.728	1.144	-0.044	-0.154	0.186	100.0%	0.003	0.049	-0.005
3	11:36:00	0.103	-0.616	0.212	-0.124	-0.023	99.5%	0.004	0.072	-0.006
x		-0.000	0.000	0.000	0.000	0.000	100.0%	-0.000	0.067	0.000
σ		0.683	0.992	0.194	0.241	0.176	0.5%	0.006	0.016	0.009
%RSD		0.000	0.000	0.000	0.000	0.000	0.5	0.000	23.830	0.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	-0.016	-0.001	0.440	0.193	0.003	0.012	0.014	0.028	-0.058
2	11:35:34	0.013	-0.002	-0.456	-0.222	0.002	-0.012	-0.005	-0.030	0.079
3	11:36:00	0.003	0.003	0.016	0.029	-0.004	0.001	-0.008	0.002	-0.021
x		0.000	-0.000	-0.000	0.000	-0.000	0.000	0.000	-0.000	-0.000
σ		0.015	0.003	0.448	0.209	0.004	0.012	0.012	0.029	0.071
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	0.021	-0.055	0.279	0.490	0.193	-0.644	99.0%	-0.081	-0.153
2	11:35:34	-0.015	0.010	-0.199	-0.043	-0.163	0.130	100.2%	0.062	0.003
3	11:36:00	-0.006	0.045	-0.080	-0.446	-0.030	0.514	100.8%	0.019	0.150
x		-0.000	-0.000	0.000	0.000	0.000	-0.000	100.0%	0.000	-0.000
σ		0.018	0.051	0.249	0.470	0.180	0.590	0.9%	0.073	0.152
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.9	0.000	0.000

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	-0.025	-0.027	0.007	0.003	0.002	-0.007	-0.002	99.0%	-0.010
2	11:35:34	0.000	0.111	-0.004	-0.027	-0.001	0.004	0.006	99.8%	0.019
3	11:36:00	0.024	-0.084	-0.003	0.024	-0.002	0.003	-0.004	101.1%	-0.009
x		0.000	0.000	0.000	0.000	0.000	-0.000	-0.000	100.0%	-0.000
σ		0.024	0.101	0.006	0.026	0.002	0.006	0.005	1.1%	0.017
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.1	0.000

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	0.009	-0.001	-0.002	0.000	-0.002	98.4%	0.004	-0.003	0.003
2	11:35:34	0.017	-0.003	-0.008	-0.006	-0.002	99.7%	0.002	0.001	-0.004
3	11:36:00	-0.026	0.004	0.010	0.005	0.004	101.9%	-0.006	0.003	0.002
x		0.000	-0.000	-0.000	0.000	-0.000	100.0%	-0.000	0.000	-0.000
σ		0.023	0.004	0.009	0.006	0.003	1.8%	0.005	0.003	0.004
%RSD		0.000	0.000	0.000	0.000	0.000	1.8	0.000	0.000	0.000

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:35:08	-0.005	0.003	98.2%
2	11:35:34	-0.000	-0.001	100.4%
3	11:36:00	0.005	-0.003	101.4%
x		0.000	0.000	100.0%
σ		0.005	0.003	1.6%
%RSD		0.000	0.000	1.6

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461 6/6/2017 11:40:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	99.0%	0.402	25.390	24.250	201.300	46.740	46.520	46.860	39.180
2	11:40:54	99.7%	0.434	24.140	24.420	199.700	45.770	44.210	47.140	39.540
3	11:41:20	103.7%	0.430	25.090	22.900	199.000	44.680	45.430	47.060	39.640
x		100.8%	0.422	24.870	23.860	200.000	45.730	45.380	47.020	39.450
σ		2.5%	0.018	0.651	0.836	1.158	1.027	1.158	0.142	0.243
%RSD		2.5	4.170	2.617	3.503	0.579	2.246	2.551	0.302	0.615
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	99.630	-0.607	206.500	197.000	185.700	100.6%	5.338	4.840	1.006
2	11:40:54	99.690	-2.243	207.300	207.700	191.000	100.4%	4.745	4.916	0.992
3	11:41:20	99.430	-1.979	206.100	215.000	187.200	99.5%	5.276	4.889	0.980
x		99.580	-1.610	206.600	206.600	188.000	100.2%	5.120	4.882	0.993
σ		0.135	0.878	0.598	9.093	2.749	0.6%	0.326	0.038	0.013
%RSD		0.136	54.570	0.289	4.402	1.462	0.6	6.363	0.784	1.313
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	-0.004	4.965	19.030	20.280	4.741	4.701	1.002	0.920	10.280
2	11:40:54	-0.016	5.111	18.130	18.120	4.813	4.864	0.995	0.958	9.699
3	11:41:20	-0.026	4.980	18.090	22.000	4.765	4.912	0.925	0.931	9.816
x		-0.015	5.019	18.420	20.130	4.773	4.825	0.974	0.936	9.931
σ		0.011	0.080	0.531	1.944	0.036	0.111	0.043	0.020	0.306
%RSD		72.570	1.597	2.884	9.658	0.763	2.295	4.379	2.089	3.087
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	0.902	0.636	-0.390	-0.397	0.565	-0.647	99.1%	8.991	9.308
2	11:40:54	1.029	1.159	-0.452	-0.146	1.315	-0.702	101.6%	9.048	9.662
3	11:41:20	0.896	1.105	-0.625	-0.437	0.611	-0.329	102.6%	9.811	10.090
x		0.943	0.967	-0.489	-0.327	0.830	-0.559	101.1%	9.283	9.686
σ		0.075	0.288	0.122	0.158	0.421	0.202	1.8%	0.458	0.391
%RSD		7.967	29.740	24.920	48.400	50.690	36.050	1.8	4.930	4.033
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	9.175	0.963	0.918	-0.235	0.911	0.070	0.089	99.4%	2.984
2	11:40:54	9.655	0.591	0.907	-0.185	0.912	0.111	0.121	101.2%	3.038
3	11:41:20	9.825	0.060	0.905	0.053	0.917	0.054	0.105	102.9%	2.960
x		9.551	0.538	0.910	-0.122	0.914	0.078	0.105	101.1%	2.994
σ		0.337	0.454	0.007	0.154	0.003	0.029	0.016	1.8%	0.040
%RSD		3.529	84.390	0.751	125.900	0.358	37.370	14.920	1.7	1.339
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	4.562	0.909	0.919	4.780	4.816	99.1%	0.430	0.467	1.008
2	11:40:54	4.262	0.894	0.978	5.056	5.028	100.4%	0.479	0.441	0.860
3	11:41:20	4.304	0.903	0.881	4.709	4.625	101.4%	0.500	0.458	0.975
x		4.376	0.902	0.926	4.849	4.823	100.3%	0.470	0.455	0.948
σ		0.163	0.008	0.049	0.183	0.202	1.2%	0.036	0.013	0.078
%RSD		3.716	0.862	5.278	3.779	4.184	1.2	7.619	2.961	8.183
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	11:40:28	0.925	0.933	99.0%						
2	11:40:54	0.909	0.951	101.5%						
3	11:41:20	0.896	0.951	102.0%						
x		0.910	0.945	100.8%						
σ		0.014	0.011	1.6%						
%RSD		1.559	1.131	1.6						

PDF created with pdfFactory trial version www.pdffactory.com

cal2 MW9462 6/6/2017 11:45:22

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	96.9%	2.116	124.700	126.500	T 986.700	240.600	232.800	243.000	202.300
2	11:46:14	101.0%	1.912	126.900	124.500	T 1008.000	239.600	230.000	241.200	207.100
3	11:46:40	101.4%	1.945	126.200	123.700	T 975.500	233.100	221.800	232.800	198.600
x		99.8%	1.991	125.900	124.900	T 990.000	237.800	228.200	239.000	202.700
σ		2.5%	0.109	1.142	1.448	T 16.390	4.048	5.733	5.410	4.264
%RSD		2.5	5.491	0.907	1.159	T 1.656	1.703	2.512	2.264	2.104

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	504.000	-2.530	1044.000	1079.000	962.900	101.3%	24.070	24.110	4.854
2	11:46:14	511.300	-2.841	1063.000	1084.000	958.200	101.5%	24.310	23.580	4.810
3	11:46:40	496.700	-3.278	1048.000	1062.000	953.700	103.5%	24.870	23.490	4.696
x		504.000	-2.883	1052.000	1075.000	958.200	102.1%	24.420	23.720	4.786
σ		7.283	0.376	9.972	11.380	4.617	1.2%	0.409	0.336	0.081
%RSD		1.445	13.040	0.948	1.058	0.482	1.2	1.676	1.417	1.699

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	-0.052	24.310	95.540	99.440	23.890	25.040	4.703	5.049	49.650
2	11:46:14	-0.091	24.520	97.820	99.550	23.820	24.770	4.608	4.869	48.940
3	11:46:40	0.101	24.400	97.080	96.290	23.680	25.080	4.801	4.735	49.110
x		-0.014	24.410	96.810	98.430	23.800	24.960	4.704	4.884	49.230
σ		0.102	0.107	1.159	1.850	0.103	0.167	0.096	0.158	0.375
%RSD		717.200	0.439	1.197	1.879	0.434	0.669	2.050	3.224	0.761

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	4.880	4.620	0.284	0.297	4.973	-0.482	100.5%	49.860	50.780
2	11:46:14	4.663	4.785	0.095	-0.110	4.343	-0.329	102.3%	50.510	51.130
3	11:46:40	4.494	5.144	0.287	1.035	4.094	0.657	101.8%	50.210	51.010
x		4.679	4.850	0.222	0.407	4.470	-0.052	101.6%	50.190	50.980
σ		0.194	0.268	0.110	0.580	0.453	0.618	0.9%	0.326	0.177
%RSD		4.142	5.523	49.440	142.500	10.130	1200.000	0.9	0.649	0.347

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	51.290	2.566	4.638	-0.535	4.565	0.345	0.472	99.0%	16.250
2	11:46:14	51.380	2.034	4.430	-0.036	4.617	0.375	0.543	101.6%	16.830
3	11:46:40	51.950	1.894	4.479	-0.376	4.591	0.286	0.516	101.5%	16.150
x		51.540	2.165	4.515	-0.316	4.591	0.335	0.511	100.7%	16.410
σ		0.355	0.355	0.109	0.255	0.026	0.045	0.036	1.5%	0.368
%RSD		0.689	16.400	2.413	80.710	0.556	13.490	7.018	1.5	2.242

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	23.950	4.558	4.630	24.450	24.080	99.0%	2.362	2.295	4.814
2	11:46:14	24.070	4.652	4.722	25.010	24.430	99.9%	2.324	2.331	4.679
3	11:46:40	23.860	4.545	4.818	24.790	24.570	100.7%	2.370	2.378	4.869
x		23.960	4.585	4.723	24.750	24.360	99.9%	2.352	2.335	4.787
σ		0.101	0.059	0.094	0.281	0.254	0.8%	0.025	0.041	0.098
%RSD		0.420	1.278	1.991	1.136	1.041	0.8	1.047	1.776	2.048

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:45:48	4.650	4.777	98.7%
2	11:46:14	4.807	4.708	101.4%
3	11:46:40	4.640	4.772	102.7%
x		4.699	4.752	100.9%
σ		0.094	0.038	2.0%
%RSD		1.992	0.806	2.0

PDF created with pdfFactory trial version www.pdffactory.com

cal3 MW9463 6/6/2017 11:50:42

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	98.1%	251.500	252.300	254.000	261.000	247.300	236.800	244.400	261.100
2	11:51:33	100.1%	249.700	250.800	251.100	257.000	242.000	234.700	238.800	264.400
3	11:51:59	101.3%	246.600	255.400	247.400	252.500	237.300	225.900	235.900	254.300
x		99.8%	249.300	252.800	250.900	256.800	242.200	232.500	239.700	259.900
σ		1.6%	2.508	2.341	3.318	4.222	5.008	5.807	4.361	5.140
%RSD		1.6	1.006	0.926	1.323	1.644	2.068	2.498	1.819	1.977

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	269.400	-1.671	260.200	482.300	364.800	101.6%	249.600	254.200	251.600
2	11:51:33	275.700	-1.815	269.200	523.500	369.100	100.1%	251.100	253.400	253.700
3	11:51:59	T 265.500	-3.600	261.800	518.400	353.900	101.5%	249.800	250.000	249.400
x		T 270.200	-2.362	263.700	508.100	362.600	101.1%	250.200	252.500	251.600
σ		T 5.161	1.075	4.827	22.410	7.850	0.8%	0.813	2.228	2.132
%RSD		T 1.910	45.500	1.830	4.410	2.165	0.8	0.325	0.882	0.847

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	-5.849	259.900	258.800	250.400	254.000	254.000	249.600	250.100	250.000
2	11:51:33	-3.733	264.200	261.600	249.800	257.800	248.700	248.500	245.000	245.900
3	11:51:59	-4.260	261.000	257.800	251.000	252.200	247.800	246.500	242.200	242.100
x		-4.614	261.700	259.400	250.400	254.700	250.200	248.200	245.700	246.000
σ		1.102	2.222	1.985	0.615	2.831	3.374	1.558	4.027	3.952
%RSD		23.880	0.849	0.765	0.246	1.112	1.349	0.628	1.639	1.606

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	250.700	246.200	-0.645	-0.485	254.900	-0.488	100.7%	228.600	230.800
2	11:51:33	249.600	252.300	-0.306	-0.383	249.500	0.485	101.6%	239.600	241.300
3	11:51:59	248.800	252.900	-0.269	-0.104	247.700	-0.537	102.8%	245.400	247.500
x		249.700	250.500	-0.407	-0.324	250.700	-0.180	101.7%	237.900	239.900
σ		0.951	3.699	0.207	0.197	3.743	0.576	1.0%	8.503	8.449
%RSD		0.381	1.477	50.880	60.830	1.493	320.200	1.0	3.575	3.522

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	234.900	252.500	246.000	-0.130	240.900	247.900	244.500	100.5%	243.300
2	11:51:33	246.400	252.100	240.700	-2.014	241.100	249.100	244.100	101.5%	246.600
3	11:51:59	251.400	252.400	239.800	0.837	238.900	246.900	240.400	102.7%	244.300
x		244.200	252.400	242.200	-0.436	240.300	248.000	243.000	101.6%	244.700
σ		8.475	0.206	3.352	1.450	1.258	1.106	2.273	1.1%	1.690
%RSD		3.470	0.082	1.384	332.900	0.523	0.446	0.935	1.1	0.691

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	257.800	237.700	237.600	249.300	247.800	99.0%	240.900	257.600	247.300
2	11:51:33	260.800	238.500	240.300	248.400	247.200	101.1%	244.100	259.600	247.400
3	11:51:59	260.000	240.500	242.000	246.800	245.400	101.9%	241.400	259.100	244.700
x		259.500	238.900	239.900	248.200	246.800	100.6%	242.100	258.700	246.500
σ		1.568	1.473	2.222	1.242	1.258	1.5%	1.732	1.046	1.551
%RSD		0.604	0.617	0.926	0.500	0.510	1.5	0.716	0.404	0.629

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:51:07	244.900	255.300	99.7%
2	11:51:33	244.700	253.600	101.4%
3	11:51:59	242.500	254.500	103.5%
x		244.000	254.500	101.5%
σ		1.335	0.853	1.9%
%RSD		0.547	0.335	1.9

PDF created with pdfFactory trial version www.pdffactory.com

cal4 MW9464 6/6/2017 11:56:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	98.8%	M 504.400	M 502.900	M 511.900	526.300	T 484.500	467.300	490.800	TM 504.700
2	11:56:53	99.5%	499.900	485.000	M 501.500	521.800	501.100	473.600	499.900	TM 512.500
3	11:57:19	101.3%	496.800	493.000	496.200	521.000	T 481.800	469.600	490.000	TM 512.400
x		99.9%	M 500.400	M 493.600	M 503.200	523.000	T 489.200	470.200	493.600	TM 509.900
σ		1.3%	M 3.813	M 8.958	M 7.971	2.850	T 10.450	3.193	5.498	TM 4.461
%RSD		1.3	M 0.762	M 1.815	M 1.584	0.545	T 2.137	0.679	1.114	TM 0.875

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	517.900	-3.677	520.100	962.500	725.600	103.0%	499.400	T 498.500	T 495.200
2	11:56:53	515.100	-3.666	508.900	945.700	713.700	102.3%	M 500.800	TM 500.100	TM 502.500
3	11:57:19	513.300	-4.519	509.700	970.100	706.400	103.0%	499.800	T 497.800	T 500.000
x		515.400	-3.954	512.900	959.500	715.300	102.7%	M 500.000	TM 498.800	TM 499.200
σ		2.323	0.489	6.246	12.510	9.719	0.4%	M 0.719	TM 1.174	TM 3.675
%RSD		0.451	12.380	1.218	1.303	1.359	0.4	M 0.144	TM 0.235	TM 0.736

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	-5.707	TM 508.600	T 501.400	497.100	TM 500.900	M 516.600	M 506.900	M 506.700	M 506.500
2	11:56:53	-7.707	TM 506.200	T 496.500	491.500	T 497.000	M 508.200	M 512.500	M 502.900	M 501.900
3	11:57:19	-8.256	TM 511.300	T 497.900	495.600	T 495.400	M 503.100	M 506.200	496.800	497.800
x		-7.224	TM 508.700	T 498.600	494.700	TM 497.700	M 509.300	M 508.500	M 502.100	M 502.100
σ		1.342	TM 2.535	T 2.534	2.893	TM 2.829	M 6.824	M 3.445	M 5.007	M 4.339
%RSD		18.570	TM 0.498	T 0.508	0.585	TM 0.568	M 1.340	M 0.677	M 0.997	M 0.864

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	M 502.300	497.000	-0.212	-0.341	M 504.600	0.091	101.1%	465.000	469.300
2	11:56:53	M 504.700	M 502.700	-0.313	-0.413	497.700	0.855	102.0%	485.800	490.600
3	11:57:19	499.200	499.600	-0.374	-0.346	497.900	1.553	104.0%	M 508.100	M 514.200
x		M 502.100	M 499.800	-0.300	-0.366	M 500.100	0.833	102.4%	M 486.300	M 491.300
σ		M 2.763	M 2.826	0.082	0.040	M 3.897	0.732	1.5%	M 21.510	M 22.430
%RSD		M 0.550	M 0.565	27.360	10.950	M 0.779	87.830	1.4	M 4.423	M 4.565

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	484.700	M 507.100	M 511.700	-4.186	M 503.200	500.000	M 505.300	100.2%	M 504.100
2	11:56:53	M 500.200	492.200	M 510.400	4.521	M 504.700	M 501.700	M 502.300	101.9%	M 501.300
3	11:57:19	M 523.400	497.100	M 508.800	0.258	M 506.700	M 501.400	M 501.200	102.9%	M 503.800
x		M 502.700	M 498.800	M 510.300	0.198	M 504.800	M 501.000	M 502.900	101.7%	M 503.100
σ		M 19.460	M 7.622	M 1.494	4.354	M 1.752	M 0.897	M 2.102	1.4%	M 1.530
%RSD		M 3.871	M 1.528	M 0.293	2203.000	M 0.347	M 0.179	M 0.418	1.4	M 0.304

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	M 540.900	M 503.000	M 501.900	M 502.500	M 502.700	99.3%	M 504.800	T 497.700	TM 505.800
2	11:56:53	M 534.700	M 504.500	M 505.300	M 501.100	M 500.000	101.6%	M 502.500	T 492.600	T 500.000
3	11:57:19	M 535.700	M 509.200	M 508.000	499.200	M 502.200	102.4%	M 504.600	T 496.600	T 499.500
x		M 537.100	M 505.600	M 505.000	M 500.900	M 501.600	101.1%	M 503.900	T 495.600	TM 501.800
σ		M 3.292	M 3.253	M 3.068	M 1.663	M 1.433	1.6%	M 1.242	T 2.680	TM 3.526
%RSD		M 0.613	M 0.644	M 0.608	M 0.332	M 0.286	1.6	M 0.247	T 0.541	TM 0.703

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:56:28	M 505.100	TM 501.300	99.4%
2	11:56:53	M 501.200	T 492.800	101.4%
3	11:57:19	M 502.700	T 499.200	102.8%
x		M 503.000	TM 497.800	101.2%
σ		M 1.994	TM 4.396	1.7%
%RSD		M 0.396	TM 0.883	1.7

PDF created with pdfFactory trial version www.pdffactory.com

cal5 MW9471 6/6/2017 12:01:22

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	87.6%	0.015	4.655	4.673	┬50350.000	┬49950.000	┬49750.000	┬50690.000	-1.030
2	12:02:13	91.6%	0.065	4.026	4.066	┬50970.000	┬49010.000	┬49230.000	┬50600.000	-0.960
3	12:02:39	92.4%	0.003	3.171	3.576	┬49720.000	┬48280.000	┬48520.000	┬50080.000	-1.009
x		90.5%	0.028	3.951	4.105	┬50350.000	┬49080.000	┬49170.000	┬50460.000	-1.000
σ		2.6%	0.033	0.745	0.550	┬625.800	┬836.000	┬615.200	┬327.300	0.036
%RSD		2.8	117.600	18.850	13.390	┬1.243	┬1.703	┬1.251	┬0.649	3.589

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	┬5133.000	-1.170	┬51910.000	50960.000	┬51050.000	99.9%	1.007	0.179	0.553
2	12:02:13	┬5150.000	-3.024	┬52660.000	50810.000	┬51290.000	99.4%	0.942	0.167	0.555
3	12:02:39	┬5097.000	-3.028	┬51960.000	50670.000	┬50920.000	101.6%	0.824	0.119	0.554
x		┬5127.000	-2.407	┬52180.000	50810.000	┬51090.000	100.3%	0.924	0.155	0.554
σ		┬27.320	1.072	┬417.800	144.500	┬187.000	1.2%	0.093	0.032	0.001
%RSD		┬0.533	44.520	┬0.801	0.284	┬0.366	1.2	10.060	20.420	0.153

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	-0.036	0.360	┬48510.000	┬50260.000	-0.132	0.690	0.290	0.242	0.563
2	12:02:13	0.001	0.357	┬49590.000	┬51550.000	-0.144	0.653	0.252	0.223	0.647
3	12:02:39	0.018	0.361	┬49560.000	┬51060.000	-0.135	0.548	0.239	0.212	0.524
x		-0.006	0.359	┬49220.000	┬50960.000	-0.137	0.630	0.260	0.226	0.578
σ		0.028	0.002	┬615.500	┬651.100	0.007	0.073	0.026	0.015	0.063
%RSD		490.600	0.569	┬1.251	┬1.278	4.764	11.640	10.170	6.629	10.900

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	-0.095	0.231	0.484	-0.374	-0.476	-0.025	98.6%	1.715	1.566
2	12:02:13	0.054	-0.129	0.192	-0.511	0.419	-0.476	100.5%	1.788	1.672
3	12:02:39	-0.118	0.193	0.208	-0.172	-0.551	1.299	100.7%	1.849	1.546
x		-0.053	0.098	0.294	-0.352	-0.203	0.266	100.0%	1.784	1.595
σ		0.094	0.198	0.164	0.170	0.540	0.923	1.2%	0.067	0.068
%RSD		175.600	201.200	55.760	48.360	266.300	346.600	1.2	3.777	4.260

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	1.586	-0.166	0.188	0.183	0.199	0.011	0.025	95.3%	0.190
2	12:02:13	1.715	0.868	0.183	-0.310	0.184	-0.013	0.027	97.4%	0.224
3	12:02:39	1.718	0.091	0.188	-0.021	0.183	0.028	0.018	98.3%	0.216
x		1.673	0.264	0.186	-0.049	0.189	0.009	0.023	97.0%	0.210
σ		0.075	0.539	0.003	0.248	0.009	0.021	0.004	1.5%	0.018
%RSD		4.510	203.800	1.511	501.500	4.629	241.500	18.680	1.6	8.604

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	0.191	0.888	0.867	0.259	0.200	96.8%	0.026	0.019	0.128
2	12:02:13	0.437	0.937	0.869	0.128	0.257	98.1%	0.025	0.010	0.130
3	12:02:39	0.303	0.800	0.914	0.244	0.253	99.9%	0.026	0.010	0.110
x		0.311	0.875	0.884	0.210	0.237	98.3%	0.026	0.013	0.123
σ		0.123	0.069	0.027	0.072	0.032	1.6%	0.001	0.005	0.011
%RSD		39.650	7.921	3.027	34.300	13.420	1.6	2.497	38.140	8.974

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:01:47	0.111	0.106	89.5%
2	12:02:13	0.117	0.104	92.8%
3	12:02:39	0.127	0.097	93.9%
x		0.119	0.102	92.1%
σ		0.008	0.005	2.3%
%RSD		6.678	4.661	2.5

PDF created with pdfFactory trial version www.pdffactory.com

cal6 MW9472 6/6/2017 12:06:43

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	79.5%	0.026	1.865	1.931	T 98900.000	TM 103700.000	TM 103300.000	TM 105300.000	0.830
2	12:07:35	82.1%	0.014	1.184	2.104	T 88730.000	T 97750.000	T 97190.000	T 99610.000	0.526
3	12:08:01	84.1%	-0.013	1.410	1.804	TM 100500.000	T 99980.000	TM 100800.000	TM 102300.000	0.816
x		81.9%	0.009	1.486	1.946	TM 96050.000	TM 100500.000	TM 100400.000	TM 102400.000	0.724
σ		2.3%	0.020	0.347	0.150	TM 6396.000	TM 2978.000	TM 3065.000	TM 2844.000	0.171
%RSD		2.8	224.800	23.340	7.732	TM 6.659	TM 2.965	TM 3.052	TM 2.777	23.670

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	T 9962.000	-0.418	TM 101300.000	M 102700.000	TM 101900.000	100.7%	1.614	0.122	1.020
2	12:07:35	T 9082.000	-2.978	T 91390.000	92420.000	T 92480.000	T 112.3%	1.304	0.104	0.939
3	12:08:01	TM 10080.000	-3.573	TM 104000.000	M 103600.000	TM 104000.000	101.4%	1.620	0.105	1.003
x		TM 9707.000	-2.323	TM 98910.000	M 99590.000	TM 99460.000	T 104.8%	1.513	0.110	0.987
σ		TM 544.200	1.676	TM 6659.000	M 6231.000	TM 6140.000	T 6.5%	0.181	0.010	0.043
%RSD		TM 5.607	72.160	TM 6.732	M 6.256	TM 6.174	T 6.2	11.970	8.827	4.340

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	0.025	0.503	T 96020.000	T 99750.000	-0.359	1.318	0.456	0.573	1.309
2	12:07:35	0.026	0.495	T 88760.000	T 89630.000	-0.390	1.429	0.423	0.582	1.612
3	12:08:01	0.042	0.569	T 96130.000	TM 100800.000	-0.374	1.191	0.503	0.433	1.315
x		0.031	0.522	T 93640.000	TM 96710.000	-0.375	1.313	0.461	0.529	1.412
σ		0.009	0.041	T 4221.000	TM 6158.000	0.016	0.119	0.040	0.083	0.173
%RSD		30.500	7.808	T 4.508	TM 6.367	4.176	9.061	8.741	15.770	12.260

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	-0.036	0.152	1.454	-0.050	-0.132	-0.427	98.4%	0.272	-0.090
2	12:07:35	-0.125	0.013	1.180	-0.416	-0.362	-0.690	99.4%	0.115	0.005
3	12:08:01	-0.001	0.190	1.567	-1.190	-0.161	0.299	101.0%	0.244	0.180
x		-0.054	0.118	1.400	-0.552	-0.218	-0.273	99.6%	0.210	0.031
σ		0.064	0.093	0.199	0.582	0.125	0.512	1.3%	0.083	0.137
%RSD		118.500	79.010	14.220	105.500	57.370	188.000	1.3	39.620	438.900

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	0.072	0.905	0.346	-0.280	0.325	0.009	0.015	93.7%	0.110
2	12:07:35	0.010	0.882	0.363	-0.316	0.302	0.020	0.006	95.6%	0.090
3	12:08:01	0.205	-0.530	0.334	0.208	0.336	0.034	0.011	97.5%	0.129
x		0.095	0.419	0.348	-0.129	0.321	0.021	0.011	95.6%	0.109
σ		0.100	0.822	0.015	0.293	0.017	0.013	0.004	1.9%	0.019
%RSD		104.400	196.200	4.270	226.500	5.354	60.750	39.740	2.0	17.630

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	0.242	0.350	0.338	0.470	0.534	95.3%	0.003	0.002	0.198
2	12:07:35	0.289	0.345	0.427	0.461	0.493	96.8%	-0.005	0.001	0.224
3	12:08:01	0.027	0.403	0.393	0.498	0.498	99.5%	0.008	-0.003	0.171
x		0.186	0.366	0.386	0.476	0.508	97.2%	0.002	-0.000	0.198
σ		0.139	0.032	0.045	0.019	0.023	2.1%	0.006	0.002	0.026
%RSD		74.880	8.692	11.600	4.000	4.451	2.2	394.300	713.300	13.370

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:07:09	0.223	0.198	86.8%
2	12:07:35	0.212	0.191	88.3%
3	12:08:01	0.187	0.171	89.9%
x		0.207	0.186	88.3%
σ		0.018	0.014	1.6%
%RSD		8.738	7.535	1.8

PDF created with pdfFactory trial version www.pdffactory.com

ICV MW-9475 PREP 6/6/17 6/6/2017 12:12:06 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	88.9%	220.400	201.300	220.600	┬40540.000	┬40710.000	┬40330.000	┬41330.000	202.500
2	12:12:57	91.9%	214.900	199.600	212.800	┬39840.000	┬39170.000	┬39140.000	┬39900.000	200.900
3	12:13:23	93.2%	206.100	195.700	204.200	┬39390.000	┬38580.000	┬38700.000	┬39570.000	199.600
x		91.3%	106.903%	99.435%	106.271%	┬99.809%	┬39490.000	┬39390.000	┬100.662%	100.508%
σ		2.2%	n/a	n/a	n/a	┬n/a	┬1098.000	┬842.900	┬n/a	n/a
%RSD		2.4	3.364	1.443	3.867	┬1.461	┬2.780	┬2.140	┬2.326	0.720

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	┬2004.000	-3.184	┬40020.000	40990.000	┬41200.000	105.2%	204.100	201.700	194.100
2	12:12:57	┬2043.000	-2.341	┬40420.000	40550.000	┬40490.000	103.6%	200.600	197.600	189.600
3	12:13:23	┬2003.000	-3.457	┬40190.000	40150.000	┬40160.000	104.4%	196.500	195.600	189.900
x		┬100.828%	-2.994	┬100.522%	40560.000	┬101.539%	104.4%	100.201%	99.150%	95.601%
σ		┬n/a	0.582	┬n/a	422.300	┬n/a	0.8%	n/a	n/a	n/a
%RSD		┬1.157	19.430	┬0.504	1.041	┬1.312	0.8	1.897	1.582	1.296

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	-3.962	198.100	┬39040.000	┬39920.000	196.100	201.800	185.200	208.600	205.400
2	12:12:57	-3.566	197.000	┬38780.000	┬40080.000	191.800	189.100	181.200	200.500	198.100
3	12:13:23	-2.426	196.000	┬38390.000	┬39820.000	191.000	188.400	180.300	198.300	196.200
x		-3.318	98.515%	┬96.839%	┬99.851%	96.471%	96.546%	182.200	101.241%	99.961%
σ		0.797	n/a	┬n/a	┬n/a	n/a	n/a	2.616	n/a	n/a
%RSD		24.030	0.521	┬0.841	┬0.323	1.417	3.888	1.435	2.655	2.427

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	198.900	191.700	0.603	-0.021	212.700	-0.509	101.0%	190.700	194.800
2	12:12:57	194.800	185.300	0.207	-0.018	195.100	-1.124	102.6%	197.800	199.600
3	12:13:23	193.200	184.400	0.286	0.583	203.200	-1.149	103.9%	201.300	206.700
x		97.820%	187.100	0.365	0.182	101.838%	-0.927	102.5%	98.289%	100.172%
σ		n/a	3.998	0.210	0.348	n/a	0.363	1.4%	n/a	n/a
%RSD		1.496	2.136	57.490	191.500	4.302	39.110	1.4	2.759	3.002

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	197.900	199.300	186.700	-3.604	170.800	192.400	202.600	98.4%	195.100
2	12:12:57	202.600	188.200	178.400	-1.643	166.000	186.600	196.900	100.8%	190.000
3	12:13:23	208.200	191.500	177.400	0.133	164.900	185.100	194.300	101.4%	189.000
x		101.441%	193.000	90.430%	-1.705	167.200	94.020%	98.962%	100.2%	95.699%
σ		n/a	5.708	n/a	1.870	3.151	n/a	n/a	1.6%	n/a
%RSD		2.526	2.958	2.812	109.700	1.884	2.068	2.154	1.6	1.709

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	209.500	197.200	199.000	200.600	199.400	99.1%	197.400	193.400	200.300
2	12:12:57	203.100	190.300	192.700	193.200	191.500	100.4%	191.200	189.600	194.100
3	12:13:23	202.700	192.300	193.300	193.500	192.500	101.8%	191.700	190.000	194.500
x		102.566%	96.628%	97.500%	97.883%	97.235%	100.4%	193.400	95.509%	196.300
σ		n/a	n/a	n/a	n/a	n/a	1.3%	3.435	n/a	3.473
%RSD		1.848	1.823	1.786	2.135	2.224	1.3	1.776	1.100	1.769

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:12:31	199.300	189.400	91.8%
2	12:12:57	191.500	184.700	94.1%
3	12:13:23	191.600	184.800	95.3%
x		194.100	93.170%	93.8%
σ		4.479	n/a	1.8%
%RSD		2.308	1.444	1.9

PDF created with pdfFactory trial version www.pdffactory.com

ICB IM7804-01 6/6/2017 12:17:27 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	98.4%	0.014	1.512	1.400	2.384	1.715	1.609	1.740	0.165
2	12:18:18	98.9%	0.044	1.223	1.310	2.535	1.802	1.516	1.953	0.295
3	12:18:44	101.2%	0.047	1.604	1.073	2.377	1.557	1.220	1.614	0.160
x		99.5%	0.035	1.446	1.261	2.432	1.691	1.448	1.769	0.207
σ		1.5%	0.018	0.199	0.169	0.090	0.124	0.203	0.171	0.076
%RSD		1.5	52.950	13.750	13.390	3.682	7.341	14.030	9.687	37.020

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	2.616	-0.878	0.097	1.497	-0.251	106.9%	-0.021	0.076	0.025
2	12:18:18	2.773	-2.381	0.879	3.485	-0.244	104.3%	0.009	0.072	0.002
3	12:18:44	1.975	-3.665	0.684	3.734	0.601	105.9%	-0.002	0.063	0.005
x		2.455	-2.308	0.553	2.905	0.035	105.7%	-0.005	0.070	0.010
σ		0.423	1.395	0.407	1.226	0.490	1.3%	0.015	0.007	0.012
%RSD		17.220	60.450	73.590	42.190	1384.000	1.3	308.000	9.601	117.300

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	-0.006	0.006	2.969	4.070	-0.001	-0.097	0.019	-0.012	0.013
2	12:18:18	0.011	0.006	4.953	4.191	-0.005	-0.094	-0.048	-0.009	0.017
3	12:18:44	0.018	0.008	3.926	4.367	0.002	-0.095	0.006	-0.002	-0.050
x		0.007	0.007	3.949	4.209	-0.001	-0.095	-0.008	-0.008	-0.007
σ		0.013	0.001	0.993	0.149	0.004	0.002	0.035	0.005	0.038
%RSD		169.600	20.400	25.130	3.547	280.000	1.701	457.600	64.940	571.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	-0.138	-0.074	-0.187	0.236	-0.390	1.559	103.2%	0.429	0.431
2	12:18:18	-0.199	-0.071	-0.163	0.305	-0.680	0.394	103.8%	0.641	0.522
3	12:18:44	-0.037	-0.115	-0.085	0.548	0.091	0.147	105.5%	0.717	0.491
x		-0.125	-0.086	-0.145	0.363	-0.327	0.700	104.2%	0.596	0.481
σ		0.082	0.025	0.053	0.164	0.389	0.754	1.2%	0.150	0.046
%RSD		65.730	28.660	36.740	45.230	119.200	107.700	1.1	25.120	9.609

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	0.503	0.156	0.012	-0.065	0.010	-0.006	0.008	102.3%	0.042
2	12:18:18	0.566	0.121	0.010	-0.011	0.014	0.005	0.005	103.8%	0.025
3	12:18:44	0.658	0.457	0.006	-0.097	0.010	-0.010	0.012	104.1%	0.047
x		0.576	0.245	0.009	-0.058	0.011	-0.004	0.009	103.4%	0.038
σ		0.078	0.185	0.003	0.043	0.002	0.008	0.004	0.9%	0.011
%RSD		13.550	75.510	28.530	74.680	19.750	198.400	42.090	0.9	29.750

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	0.076	0.215	0.193	-0.000	-0.006	98.6%	0.009	0.002	0.008
2	12:18:18	0.067	0.213	0.234	0.011	-0.019	101.1%	0.011	0.005	0.011
3	12:18:44	0.122	0.241	0.283	0.028	0.006	102.0%	0.005	-0.001	0.010
x		0.088	0.223	0.237	0.013	-0.006	100.6%	0.008	0.002	0.009
σ		0.030	0.015	0.045	0.014	0.013	1.7%	0.003	0.003	0.002
%RSD		33.620	6.936	19.020	110.300	206.100	1.7	33.080	155.700	16.340

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:17:53	-0.005	0.007	99.5%
2	12:18:18	0.007	0.003	100.4%
3	12:18:44	0.000	0.008	102.9%
x		0.001	0.006	100.9%
σ		0.006	0.002	1.7%
%RSD		946.000	42.250	1.7

PDF created with pdfFactory trial version www.pdffactory.com

Co 4ppb MW-9483 6/6/2017 12:22:48

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	96.5%	4.129	4.272	3.962	T 785.500	T 756.600	753.500	779.400	2.769
2	12:23:40	99.2%	4.102	3.850	3.878	T 781.200	T 743.900	728.500	752.700	2.599
3	12:24:06	102.8%	4.050	4.362	3.585	T 759.900	T 704.700	693.100	732.600	2.795
x		99.5%	4.094	4.161	3.808	T 775.500	T 735.100	725.000	754.900	2.721
σ		3.2%	0.040	0.274	0.198	T 13.700	T 27.030	30.360	23.480	0.106
%RSD		3.2	0.981	6.572	5.194	T 1.766	T 3.678	4.187	3.110	3.908

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	39.680	-5.860	807.900	797.300	738.200	102.8%	3.931	2.323	3.743
2	12:23:40	38.100	-6.459	801.100	770.700	726.100	102.6%	3.725	2.505	3.651
3	12:24:06	40.690	-7.535	810.100	795.600	715.800	100.4%	3.500	2.451	3.675
x		39.490	-6.618	806.400	787.900	726.700	101.9%	3.718	2.426	3.689
σ		1.308	0.849	4.713	14.870	11.240	1.3%	0.216	0.094	0.048
%RSD		3.313	12.820	0.584	1.887	1.547	1.3	5.807	3.856	1.302

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	0.005	3.797	T 616.900	616.300	3.734	3.784	3.753	4.053	4.266
2	12:23:40	-0.073	3.670	T 588.900	599.300	3.644	3.772	3.792	4.029	4.106
3	12:24:06	0.041	3.805	T 597.500	614.400	3.699	3.570	3.718	3.718	3.937
x		-0.009	3.758	T 601.100	610.000	3.692	3.709	3.755	3.934	4.103
σ		0.058	0.076	T 14.350	9.283	0.046	0.121	0.037	0.187	0.165
%RSD		642.500	2.012	T 2.388	1.522	1.238	3.250	0.990	4.743	4.016

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	4.244	4.495	-0.405	-0.457	4.747	-0.500	101.1%	0.631	0.683
2	12:23:40	4.096	4.374	-0.239	-0.357	3.546	0.274	101.6%	0.549	0.622
3	12:24:06	3.820	4.432	-0.485	-0.253	4.514	-2.100	103.3%	0.562	0.669
x		4.054	4.434	-0.376	-0.356	4.269	-0.776	102.0%	0.581	0.658
σ		0.215	0.061	0.126	0.102	0.637	1.211	1.1%	0.044	0.032
%RSD		5.313	1.369	33.330	28.710	14.910	156.100	1.1	7.600	4.841

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	0.525	3.953	3.600	0.202	3.448	4.073	3.984	100.7%	2.366
2	12:23:40	0.474	4.415	3.445	-0.127	3.329	4.037	3.849	101.6%	2.500
3	12:24:06	0.603	3.428	3.483	0.262	3.372	4.018	3.789	102.4%	2.274
x		0.534	3.932	3.509	0.113	3.383	4.043	3.874	101.6%	2.380
σ		0.065	0.494	0.081	0.210	0.060	0.028	0.100	0.9%	0.114
%RSD		12.200	12.550	2.296	186.300	1.783	0.689	2.587	0.9	4.776

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	2.054	2.860	2.828	3.628	3.693	98.9%	3.752	3.645	3.843
2	12:23:40	1.949	2.905	3.065	3.525	3.579	100.2%	3.696	3.658	3.851
3	12:24:06	1.742	3.099	3.155	3.883	3.519	102.4%	3.610	3.591	3.540
x		1.915	2.955	3.016	3.679	3.597	100.5%	3.686	3.631	3.745
σ		0.159	0.127	0.169	0.185	0.088	1.7%	0.072	0.036	0.177
%RSD		8.286	4.295	5.596	5.015	2.445	1.7	1.943	0.988	4.737

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:23:14	3.802	3.695	96.8%
2	12:23:40	3.689	3.754	99.5%
3	12:24:06	3.571	3.548	100.8%
x		3.687	3.666	99.1%
σ		0.115	0.106	2.0%
%RSD		3.128	2.894	2.1

PDF created with pdfFactory trial version www.pdffactory.com

LLICV MW9461 6/6/2017 12:28:08 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	97.9%	0.321	25.510	24.690	195.700	46.100	46.190	46.610	38.370
2	12:28:59	98.5%	0.346	24.850	24.310	195.800	45.360	44.920	46.690	38.470
3	12:29:25	104.7%	0.375	25.230	23.450	197.300	44.270	43.510	46.500	39.220
x		100.4%	86.852%	100.786%	96.611%	98.143%	45.240	44.870	93.203%	96.718%
σ		3.8%	n/a	n/a	n/a	n/a	0.922	1.339	n/a	n/a
%RSD		3.8	7.763	1.313	2.626	0.464	2.038	2.983	0.201	1.197
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	95.770	-4.150	193.300	215.300	182.600	102.3%	4.557	4.698	0.952
2	12:28:59	96.650	-5.418	194.600	186.300	185.500	101.7%	4.822	4.633	0.947
3	12:29:25	99.610	-3.453	200.600	202.800	187.600	100.3%	5.264	4.923	1.026
x		97.343%	-4.341	98.086%	201.400	92.634%	101.4%	97.619%	95.033%	97.494%
σ		n/a	0.996	n/a	14.530	n/a	1.0%	n/a	n/a	n/a
%RSD		2.065	22.950	1.994	7.212	1.355	1.0	7.317	3.205	4.501
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	-0.002	4.775	19.180	21.310	4.674	4.659	1.001	0.916	9.769
2	12:28:59	0.011	4.717	18.710	23.450	4.617	4.918	0.963	0.949	9.853
3	12:29:25	-0.091	4.895	19.840	20.450	4.748	4.621	1.001	0.905	9.771
x		-0.028	95.920%	19.240	108.680%	93.593%	94.653%	0.988	92.296%	97.979%
σ		0.056	n/a	0.571	n/a	n/a	n/a	0.021	n/a	n/a
%RSD		201.000	1.896	2.967	7.104	1.410	3.415	2.173	2.481	0.488
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	0.850	0.929	-0.201	-0.190	0.595	1.133	99.8%	8.799	8.470
2	12:28:59	0.744	0.658	-0.353	0.183	0.454	-1.285	100.9%	9.070	8.868
3	12:29:25	0.795	0.789	-0.338	-1.112	0.389	0.253	102.7%	9.145	9.029
x		79.612%	0.792	-0.297	-0.373	47.934%	0.034	101.1%	9.005	87.890%
σ		n/a	0.136	0.084	0.667	n/a	1.224	1.5%	0.182	n/a
%RSD		6.660	17.120	28.270	178.700	22.000	3640.000	1.5	2.024	3.278
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	8.885	0.192	0.904	0.006	0.862	0.085	0.054	99.7%	2.909
2	12:28:59	8.757	-0.028	0.865	0.150	0.889	0.048	0.118	99.9%	3.064
3	12:29:25	9.660	0.933	0.955	-0.291	0.850	0.081	0.114	101.7%	2.932
x		9.101	0.366	90.804%	-0.045	0.867	0.071	95.412%	100.4%	2.969
σ		0.488	0.504	n/a	0.225	0.020	0.020	n/a	1.1%	0.083
%RSD		5.366	137.800	4.959	500.100	2.354	28.490	37.900	1.1	2.809
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	4.297	0.864	1.010	4.603	4.529	97.9%	0.436	0.471	0.917
2	12:28:59	4.375	0.986	0.945	4.955	4.876	99.1%	0.417	0.466	0.941
3	12:29:25	4.496	1.022	0.952	4.812	4.786	101.0%	0.508	0.443	0.940
x		87.788%	0.957	96.906%	95.797%	4.730	99.3%	0.454	92.002%	0.933
σ		n/a	0.083	n/a	n/a	0.180	1.6%	0.048	n/a	0.014
%RSD		2.283	8.685	3.645	3.703	3.808	1.6	10.600	3.346	1.449
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	12:28:34	0.904	0.857	97.3%						
2	12:28:59	0.930	0.928	100.0%						
3	12:29:25	0.911	0.925	101.4%						
x		0.915	90.311%	99.6%						
σ		0.013	n/a	2.1%						
%RSD		1.446	4.431	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

LLICV2 MW9462 6/6/2017 12:33:27

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	98.9%	1.974	124.700	119.300	T991.600	235.100	225.600	237.000	201.600
2	12:34:18	99.5%	1.896	122.200	120.300	T980.000	238.700	229.100	235.100	196.900
3	12:34:44	100.4%	1.913	118.600	117.400	T974.500	234.500	225.400	233.500	197.200
x		99.6%	1.928	121.800	119.000	T982.000	236.100	226.700	235.200	198.500
σ		0.8%	0.041	3.098	1.456	T8.756	2.280	2.095	1.729	2.685
%RSD		0.8	2.111	2.543	1.223	T0.892	0.966	0.924	0.735	1.352

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	502.500	-3.328	1013.000	1071.000	931.300	101.1%	24.810	23.370	4.847
2	12:34:18	484.000	-3.833	1002.000	1008.000	928.900	101.7%	24.790	23.340	4.827
3	12:34:44	482.600	-3.932	1014.000	1023.000	931.700	101.9%	23.880	23.220	4.616
x		489.700	-3.698	1010.000	1034.000	930.600	101.6%	24.500	23.310	4.763
σ		11.100	0.324	6.524	32.710	1.535	0.4%	0.534	0.075	0.128
%RSD		2.267	8.761	0.646	3.164	0.165	0.4	2.180	0.323	2.695

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	0.050	23.910	96.820	104.200	23.350	24.050	4.571	4.992	48.630
2	12:34:18	-0.068	23.820	95.450	99.230	22.900	23.930	4.543	4.780	48.890
3	12:34:44	-0.107	23.950	96.940	97.800	23.010	23.410	4.530	4.573	47.700
x		-0.042	23.890	96.410	100.400	23.080	23.800	4.548	4.782	48.410
σ		0.082	0.066	0.826	3.361	0.237	0.340	0.021	0.210	0.624
%RSD		196.700	0.278	0.857	3.347	1.025	1.429	0.467	4.382	1.289

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	4.873	4.594	-0.276	0.137	4.540	0.321	100.3%	47.960	48.910
2	12:34:18	4.460	3.898	-0.093	-0.640	4.643	-1.103	101.7%	48.010	48.040
3	12:34:44	4.339	4.408	-0.113	-0.164	4.528	-0.894	101.1%	48.790	49.650
x		4.557	4.300	-0.161	-0.222	4.570	-0.559	101.1%	48.250	48.870
σ		0.280	0.360	0.100	0.392	0.064	0.769	0.7%	0.464	0.809
%RSD		6.144	8.376	62.450	176.200	1.391	137.600	0.7	0.962	1.656

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	48.370	2.083	4.461	-0.063	4.402	0.333	0.481	100.3%	15.660
2	12:34:18	48.790	2.374	4.464	-0.490	4.456	0.373	0.490	100.6%	16.120
3	12:34:44	49.400	0.143	4.567	0.605	4.407	0.320	0.487	101.4%	16.000
x		48.850	1.533	4.497	0.017	4.421	0.342	0.486	100.8%	15.930
σ		0.516	1.213	0.060	0.552	0.030	0.028	0.005	0.6%	0.235
%RSD		1.056	79.090	1.345	3202.000	0.671	8.050	0.939	0.6	1.473

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	22.560	4.492	4.509	24.290	23.810	97.8%	2.268	2.255	4.594
2	12:34:18	23.410	4.498	4.730	24.160	24.560	100.1%	2.312	2.277	4.584
3	12:34:44	23.370	4.730	4.664	24.140	24.110	101.3%	2.317	2.288	4.681
x		23.110	4.574	4.635	24.200	24.160	99.7%	2.299	2.274	4.620
σ		0.480	0.136	0.114	0.080	0.379	1.7%	0.027	0.017	0.053
%RSD		2.076	2.966	2.450	0.332	1.567	1.8	1.187	0.756	1.150

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:33:52	4.659	4.612	98.7%
2	12:34:18	4.601	4.690	100.2%
3	12:34:44	4.711	4.648	100.6%
x		4.657	4.650	99.8%
σ		0.055	0.039	1.0%
%RSD		1.182	0.835	1.0

PDF created with pdfFactory trial version www.pdffactory.com

ICSA MW9430 6/6/2017 12:38:48 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	81.0%	0.042	29.040	31.100	T 101400.000	T 100100.000	T 99410.000	T 102600.000	T 100100.000
2	12:39:39	82.2%	0.051	28.240	31.630	T 100000.000	T 100100.000	T 99460.000	T 103000.000	T 100900.000
3	12:40:05	83.2%	0.071	26.960	31.460	T 99580.000	T 99870.000	T 98580.000	T 101400.000	T 98150.000
x		82.1%	1.#IO%	28.080	1.#IO%	T 100.326%	T 100000.000	T 99150.000	T 102.299%	T 99.713%
σ		1.1%	n/a	1.053	n/a	T n/a	T 123.300	T 498.700	T n/a	T n/a
%RSD		1.3	27.170	3.750	0.868	T 0.918	T 0.123	T 0.503	T 0.829	T 1.416

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	T 734.800	T 14830.000	T 103200.000	M 103000.000	T 102800.000	92.6%	M 2261.000	0.234	1.138
2	12:39:39	T 762.700	T 15870.000	T 108000.000	M 103700.000	T 104700.000	92.7%	M 2233.000	0.031	1.027
3	12:40:05	T 728.500	T 15410.000	T 104300.000	M 101500.000	T 102700.000	95.1%	M 2224.000	-0.024	0.996
x		T 1.#IO%	T 15370.000	T 105.175%	M 102700.000	T 103.414%	93.5%	M 111.966%	1.#IO%	1.#IO%
σ		T n/a	T 518.800	T n/a	M 1131.000	T n/a	1.4%	M n/a	n/a	n/a
%RSD		T 2.454	T 3.376	T 2.358	M 1.101	T 1.104	1.5	M 0.876	169.500	7.106

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	1.444	0.736	T 98150.000	T 102600.000	-0.661	1.207	-0.337	-0.047	4.268
2	12:39:39	1.483	0.750	T 101400.000	T 105600.000	-0.676	1.163	-0.225	-0.015	4.043
3	12:40:05	1.509	0.700	T 99300.000	T 103900.000	-0.693	1.205	-0.165	-0.061	3.919
x		1.479	1.#IO%	T 99620.000	T 104.039%	-1.#IO%	1.#IO%	-1.#IO%	-1.#IO%	1.#IO%
σ		0.033	n/a	T 1664.000	T n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.204	3.505	T 1.670	T 1.431	2.333	2.092	35.900	58.140	4.349

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	0.182	0.820	2.315	1.100	-0.193	2.493	90.0%	T 2652.000	M 2412.000
2	12:39:39	0.282	0.874	3.286	2.237	-0.121	0.880	91.6%	T 2734.000	M 2488.000
3	12:40:05	0.003	0.861	3.245	2.066	-0.029	4.002	93.4%	T 2694.000	M 2469.000
x		1.#IO%	0.852	2.949	1.801	-1.#IO%	2.458	91.7%	T 2693.000	M 122.811%
σ		n/a	0.028	0.549	0.613	n/a	1.561	1.7%	T 40.890	M n/a
%RSD		90.710	3.260	18.610	34.040	71.820	63.510	1.9	T 1.518	M 1.611

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	T 2417.000	-1.115	0.187	13.250	0.181	-5.356	0.148	93.9%	0.855
2	12:39:39	T 2511.000	-0.907	0.166	12.780	0.193	-5.800	0.064	95.7%	0.969
3	12:40:05	T 2484.000	0.709	0.189	11.070	0.183	-6.285	-0.114	96.8%	0.852
x		T 2471.000	-0.438	1.#IO%	12.370	0.186	-5.813	1.#IO%	95.4%	1.#IO%
σ		T 48.150	0.999	n/a	1.150	0.007	0.465	n/a	1.5%	n/a
%RSD		T 1.949	228.000	7.226	9.299	3.588	7.992	411.900	1.6	7.500

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	-0.136	0.080	0.071	0.948	0.946	91.8%	0.001	0.002	0.206
2	12:39:39	-0.075	0.088	0.086	0.828	1.091	95.4%	-0.001	-0.004	0.238
3	12:40:05	0.117	0.106	0.054	0.996	0.977	97.4%	0.005	-0.002	0.244
x		-1.#IO%	0.091	1.#IO%	0.924	1.#IO%	94.9%	0.001	-1.#IO%	0.229
σ		n/a	0.013	n/a	0.087	n/a	2.8%	0.003	n/a	0.020
%RSD		422.000	14.490	23.210	9.374	7.637	3.0	189.700	213.000	8.896

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:39:13	0.206	0.205	87.6%
2	12:39:39	0.192	0.198	90.7%
3	12:40:05	0.187	0.204	92.0%
x		0.195	1.#IO%	90.1%
σ		0.010	n/a	2.3%
%RSD		4.981	1.820	2.5

PDF created with pdfFactory trial version www.pdffactory.com

ICSAB MW9460 6/6/2017 12:44:12 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	83.0%	103.000	4.038	5.422	T 90130.000	T 96540.000	T 94830.000	T 97400.000	TM 89690.000
2	12:45:03	83.0%	101.600	4.628	5.332	T 99680.000	TM 100800.000	TM 100300.000	TM 103300.000	TM 99350.000
3	12:45:29	83.0%	102.400	4.874	5.027	T 98690.000	T 99750.000	T 99780.000	TM 103700.000	TM 101100.000
x		83.0%	102.321%	4.513	5.260%	T 96.167%	TM 99040.000	TM 98310.000	TM 101.478%	TM 96.715%
σ		0.0%	n/a	0.430	n/a	T n/a	TM 2234.000	TM 3021.000	TM n/a	TM n/a
%RSD		0.1	0.708	9.524	3.933	T 5.462	TM 2.256	TM 3.073	TM 3.489	TM 6.354
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	34.160	T 14540.000	T 94480.000	92550.000	T 92060.000	T 108.2%	M 2003.000	89.370	89.040
2	12:45:03	39.980	T 15700.000	TM 104800.000	M 102200.000	TM 102000.000	97.9%	M 2209.000	98.070	97.970
3	12:45:29	40.910	T 15950.000	TM 106400.000	M 101700.000	TM 101900.000	96.2%	M 2187.000	96.300	97.490
x		38.350%	T 15400.000	TM 101.908%	M 98830.000	TM 98.649%	T 100.8%	M 106.643%	94.580%	94.832%
σ		n/a	T 751.000	TM n/a	M 5443.000	TM n/a	T 6.5%	M n/a	n/a	n/a
%RSD		9.533	T 4.877	TM 6.365	M 5.508	TM 5.789	T 6.4	M 5.285	4.858	5.297
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	0.765	92.030	T 91410.000	T 92290.000	86.590	90.940	80.220	90.890	92.620
2	12:45:03	0.481	99.370	T 99200.000	TM 103100.000	92.330	88.380	85.120	89.420	91.310
3	12:45:29	1.677	101.500	TM 100700.000	TM 105100.000	93.040	86.550	85.200	87.090	89.150
x		0.975	97.620%	TM 97110.000	TM 100.160%	90.656%	88.622%	83.514%	89.136%	91.024%
σ		0.625	n/a	TM 4988.000	TM n/a	n/a	n/a	n/a	n/a	n/a
%RSD		64.090	5.070	TM 5.137	TM 6.873	3.901	2.489	3.412	2.150	1.927
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	91.270	89.280	4.396	1.852	93.890	1.310	94.6%	TM 2360.000	M 2176.000
2	12:45:03	93.490	87.480	3.571	3.218	90.530	2.575	95.7%	TM 2645.000	M 2430.000
3	12:45:29	92.170	88.540	3.172	2.619	88.770	-0.137	95.9%	TM 2734.000	M 2503.000
x		92.309%	88.430	3.713	2.563	91.063%	1.249	95.4%	TM 2580.000	M 2370.000
σ		n/a	0.903	0.624	0.685	n/a	1.357	0.7%	TM 195.400	M 171.700
%RSD		1.210	1.021	16.820	26.720	2.852	108.600	0.7	TM 7.573	M 7.245
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	TM 2182.000	87.790	58.480	10.410	54.620	82.620	92.180	98.2%	27.400
2	12:45:03	TM 2441.000	90.210	57.880	10.190	54.400	81.150	91.170	100.5%	26.730
3	12:45:29	TM 2507.000	84.520	56.620	11.200	54.260	81.310	90.610	101.1%	27.250
x		TM 118.836%	87.500	57.663%	10.600	54.420	81.690	91.320%	99.9%	27.125%
σ		TM n/a	2.856	n/a	0.531	0.181	0.806	n/a	1.6%	n/a
%RSD		TM 7.215	3.264	1.648	5.007	0.333	0.986	0.871	1.6	1.301
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	1.963	91.740	93.560	97.850	96.430	97.1%	93.410	90.890	97.210
2	12:45:03	2.874	92.050	92.960	95.360	95.980	98.5%	93.470	91.450	96.930
3	12:45:29	2.025	93.670	93.500	97.800	95.690	100.7%	93.620	91.390	96.770
x		2.287%	92.490	93.340%	97.000	96.033%	98.8%	93.500	91.244%	96.970
σ		n/a	1.039	n/a	1.420	n/a	1.8%	0.108	n/a	0.224
%RSD		22.250	1.123	0.353	1.463	0.392	1.9	0.115	0.335	0.231
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	12:44:37	95.520	90.620	90.8%						
2	12:45:03	95.600	91.560	93.0%						
3	12:45:29	95.230	90.690	95.0%						
x		95.450	90.956%	92.9%						
σ		0.196	n/a	2.1%						
%RSD		0.205	0.575	2.2						

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9474 6/6/2017 12:49:34 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	86.3%	328.200	286.400	333.600	┬57920.000	┬58780.000	┬58350.000	┬60000.000	298.300
2	12:50:26	87.3%	322.700	286.100	327.400	┬59050.000	┬59500.000	┬58520.000	┬59790.000	292.600
3	12:50:52	88.3%	320.300	255.200	320.100	┬52380.000	┬56080.000	┬55380.000	┬57010.000	269.900
x		87.3%	107.912%	91.961%	109.013%	┬94.085%	┬58120.000	┬57420.000	┬98.217%	95.637%
σ		1.0%	n/a	n/a	n/a	┬n/a	┬1804.000	┬1765.000	┬n/a	n/a
%RSD		1.1	1.255	6.499	2.053	┬6.321	┬3.104	┬3.074	┬2.833	5.237
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	┬2975.000	63.010	┬60090.000	59230.000	┬59260.000	104.4%	287.000	297.500	286.400
2	12:50:26	┬2953.000	62.370	┬59820.000	59360.000	┬59260.000	103.7%	288.900	299.900	290.300
3	12:50:52	┬2705.000	58.170	┬55280.000	54350.000	┬53970.000	┬113.6%	266.800	272.300	267.000
x		┬95.916%	61.180	┬97.332%	57640.000	┬95.831%	┬107.3%	93.630%	96.621%	93.744%
σ		┬n/a	2.629	┬n/a	2858.000	┬n/a	┬5.5%	n/a	n/a	n/a
%RSD		┬5.215	4.296	┬4.625	4.957	┬5.315	┬5.2	4.347	5.277	4.434
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	-5.614	┬296.600	┬57630.000	┬59500.000	291.000	284.400	263.500	284.200	283.500
2	12:50:26	-7.299	┬297.200	┬57430.000	┬59390.000	282.600	274.900	261.500	279.000	275.800
3	12:50:52	-5.384	280.200	┬53920.000	┬54870.000	265.800	271.800	246.900	274.800	274.900
x		-6.099	┬97.110%	┬93.876%	┬96.527%	93.264%	92.352%	257.300	93.108%	92.687%
σ		1.046	┬n/a	┬n/a	┬n/a	n/a	n/a	9.036	n/a	n/a
%RSD		17.140	┬3.305	┬3.710	┬4.560	4.583	2.377	3.512	1.685	1.695
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	275.400	270.900	0.738	0.283	293.300	-0.136	102.0%	290.600	295.500
2	12:50:26	271.100	266.300	1.103	-0.188	284.100	0.564	104.7%	302.100	304.700
3	12:50:52	268.400	257.800	0.528	0.406	281.500	-0.617	104.6%	285.500	289.900
x		90.541%	265.000	0.790	0.167	95.423%	-0.063	103.7%	97.577%	98.898%
σ		n/a	6.658	0.291	0.313	n/a	0.594	1.5%	n/a	n/a
%RSD		1.298	2.513	36.840	188.100	2.163	940.200	1.5	2.906	2.512
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	300.700	278.200	281.900	-2.366	264.100	277.500	289.000	100.2%	283.900
2	12:50:26	314.000	273.700	274.400	0.411	260.300	271.400	282.500	102.3%	281.300
3	12:50:52	294.500	277.100	274.500	-2.289	259.700	275.200	284.900	103.2%	281.500
x		101.020%	276.300	92.306%	-1.415	261.300	274.700	95.160%	101.9%	94.074%
σ		n/a	2.297	n/a	1.581	2.387	3.072	n/a	1.6%	n/a
%RSD		3.282	0.831	1.563	111.800	0.913	1.118	1.160	1.5	0.519
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	306.300	279.100	280.500	287.900	283.500	104.0%	293.600	288.100	297.300
2	12:50:26	304.300	279.300	279.900	288.000	286.400	105.7%	290.100	290.800	294.000
3	12:50:52	302.900	280.400	281.900	283.800	283.300	106.5%	290.200	289.400	293.900
x		101.497%	93.199%	93.588%	95.530%	94.807%	105.4%	97.097%	96.476%	98.352%
σ		n/a	n/a	n/a	n/a	n/a	1.3%	n/a	n/a	n/a
%RSD		0.561	0.245	0.364	0.832	0.618	1.2	0.685	0.469	0.645
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	12:50:00	292.600	277.600	94.5%						
2	12:50:26	291.600	281.100	97.8%						
3	12:50:52	290.900	280.200	98.3%						
x		97.227%	93.213%	96.9%						
σ		n/a	n/a	2.1%						
%RSD		0.286	0.639	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 12:54:54 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	96.3%	0.010	2.170	2.725	5.666	4.443	4.337	4.841	1.821
2	12:55:46	99.5%	0.022	2.038	2.105	4.466	3.886	3.540	3.777	1.778
3	12:56:12	101.5%	-0.005	1.971	2.027	4.524	3.739	3.840	3.641	1.548
x		99.1%	0.009	2.060	2.286	4.885	4.023	3.905	4.086	1.716
σ		2.6%	0.014	0.102	0.383	0.677	0.372	0.403	0.657	0.147
%RSD		2.7	150.300	4.926	16.740	13.860	9.239	10.310	16.080	8.544

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	0.259	27.660	2.079	0.780	2.903	105.3%	0.045	0.086	0.010
2	12:55:46	0.720	30.860	2.339	2.458	1.314	101.3%	0.012	0.112	0.043
3	12:56:12	-0.191	29.270	0.915	1.839	2.633	102.9%	0.086	0.073	0.032
x		0.263	29.260	1.778	1.692	2.283	103.2%	0.048	0.090	0.029
σ		0.455	1.602	0.758	0.849	0.850	2.0%	0.037	0.020	0.017
%RSD		173.200	5.474	42.650	50.160	37.250	2.0	78.510	21.990	59.660

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	0.002	0.007	6.073	3.867	0.011	-0.068	-0.012	-0.021	0.055
2	12:55:46	-0.013	0.023	6.739	1.023	-0.004	-0.125	0.010	-0.010	-0.019
3	12:56:12	0.017	0.007	5.070	1.655	0.005	-0.097	-0.012	0.010	-0.014
x		0.002	0.012	5.960	2.182	0.004	-0.097	-0.004	-0.007	0.007
σ		0.015	0.009	0.840	1.493	0.008	0.028	0.012	0.016	0.041
%RSD		661.300	74.280	14.100	68.430	189.500	29.380	277.300	226.700	561.100

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	-0.095	-0.450	-0.210	-0.018	-0.279	-0.758	103.5%	1.568	1.346
2	12:55:46	-0.131	-0.126	-0.163	-0.450	-0.253	-0.578	104.7%	1.942	1.931
3	12:56:12	-0.124	-0.020	-0.073	0.440	-0.394	-0.012	104.8%	1.865	2.011
x		-0.116	-0.199	-0.148	-0.009	-0.309	-0.450	104.3%	1.791	1.763
σ		0.019	0.224	0.069	0.445	0.075	0.389	0.7%	0.197	0.363
%RSD		16.400	112.700	46.800	4822.000	24.350	86.610	0.7	11.000	20.580

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	1.581	-0.198	0.017	0.066	0.024	-0.010	0.017	103.9%	0.076
2	12:55:46	1.900	-0.200	0.013	0.087	0.026	-0.011	0.018	105.7%	0.089
3	12:56:12	1.872	0.041	0.005	-0.002	0.025	0.004	0.018	105.4%	0.077
x		1.784	-0.119	0.012	0.051	0.025	-0.006	0.018	105.0%	0.081
σ		0.177	0.139	0.006	0.047	0.001	0.008	0.000	1.0%	0.007
%RSD		9.890	116.900	51.500	92.170	3.571	141.200	1.973	0.9	8.664

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	0.127	0.344	0.427	0.010	0.009	103.5%	0.022	0.017	0.011
2	12:55:46	0.090	0.413	0.398	-0.019	0.018	105.0%	0.020	0.011	0.016
3	12:56:12	0.118	0.403	0.445	-0.007	0.005	105.8%	0.019	0.017	0.007
x		0.111	0.387	0.423	-0.005	0.011	104.7%	0.021	0.015	0.011
σ		0.019	0.037	0.023	0.014	0.006	1.2%	0.002	0.003	0.005
%RSD		17.210	9.578	5.545	274.000	60.410	1.1	8.752	23.040	41.870

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:55:20	0.017	0.013	103.2%
2	12:55:46	0.018	0.005	105.8%
3	12:56:12	0.017	0.018	106.9%
x		0.017	0.012	105.3%
σ		0.001	0.007	1.9%
%RSD		3.915	55.730	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SQ42715-001 6/6/2017 13:00:14 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	98.0%	0.014	0.861	0.975	3.068	1.378	0.958	1.142	0.600
2	13:01:06	102.8%	-0.010	1.016	0.881	2.992	1.121	1.194	1.017	0.576
3	13:01:32	104.5%	-0.023	0.736	0.760	2.834	1.194	1.004	1.318	0.630
x		101.8%	-0.006	0.871	0.872	2.965	1.231	1.052	1.159	0.602
σ		3.3%	0.019	0.140	0.108	0.120	0.132	0.125	0.151	0.027
%RSD		3.3	297.200	16.100	12.360	4.032	10.760	11.870	13.060	4.547

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	2.054	T 9092.000	-0.613	-2.190	-1.368	103.7%	0.038	0.116	-0.005
2	13:01:06	2.312	T 9182.000	-0.188	-1.707	-1.800	102.8%	0.067	0.080	-0.005
3	13:01:32	1.802	T 9120.000	-1.003	-0.405	-0.976	103.1%	-0.009	0.120	-0.028
x		2.056	T 9131.000	-0.601	-1.434	-1.381	103.2%	0.032	0.106	-0.013
σ		0.255	T 46.430	0.407	0.923	0.412	0.5%	0.039	0.022	0.013
%RSD		12.400	T 0.508	67.730	64.370	29.850	0.5	121.300	20.740	103.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	0.893	0.505	1.479	-0.942	-0.006	-0.115	0.039	0.020	0.241
2	13:01:06	0.982	0.461	0.821	-0.458	-0.008	-0.093	0.034	0.005	0.348
3	13:01:32	0.877	0.489	-0.302	-2.225	-0.012	-0.097	0.039	0.031	0.253
x		0.917	0.485	0.666	-1.209	-0.009	-0.102	0.037	0.018	0.281
σ		0.057	0.022	0.901	0.913	0.003	0.011	0.003	0.013	0.058
%RSD		6.176	4.570	135.300	75.530	40.870	11.200	7.618	71.390	20.820

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	-0.079	-0.168	1.605	1.249	-0.283	-0.193	104.3%	0.215	0.199
2	13:01:06	-0.027	-0.418	1.313	1.248	-0.245	-0.208	105.0%	0.362	0.325
3	13:01:32	-0.101	-0.328	1.213	2.252	-0.219	0.357	105.3%	0.334	0.395
x		-0.069	-0.305	1.377	1.583	-0.249	-0.015	104.8%	0.303	0.306
σ		0.038	0.127	0.204	0.579	0.032	0.322	0.5%	0.078	0.099
%RSD		55.700	41.550	14.790	36.600	12.910	2209.000	0.5	25.780	32.400

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	0.265	0.156	-0.003	-0.045	0.001	-0.009	0.002	103.7%	0.022
2	13:01:06	0.396	-0.351	-0.003	0.123	0.003	-0.016	-0.001	104.9%	0.050
3	13:01:32	0.379	-0.406	-0.004	0.143	0.006	-0.016	-0.002	106.0%	0.052
x		0.346	-0.200	-0.004	0.074	0.003	-0.014	-0.000	104.9%	0.041
σ		0.071	0.310	0.001	0.103	0.003	0.004	0.002	1.2%	0.017
%RSD		20.500	154.700	13.920	140.000	85.230	31.780	1351.000	1.1	40.420

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	0.071	0.143	0.111	0.027	-0.004	103.7%	0.027	0.012	0.003
2	13:01:06	0.055	0.134	0.113	-0.007	-0.010	105.4%	0.016	0.017	0.010
3	13:01:32	0.048	0.126	0.162	-0.002	-0.001	106.7%	0.013	0.010	0.002
x		0.058	0.135	0.129	0.006	-0.005	105.3%	0.019	0.013	0.005
σ		0.012	0.009	0.029	0.019	0.005	1.5%	0.008	0.004	0.005
%RSD		20.060	6.366	22.180	313.000	91.040	1.5	41.870	27.550	87.440

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:00:40	-0.001	-0.002	103.5%
2	13:01:06	0.001	-0.001	104.5%
3	13:01:32	0.000	-0.001	106.7%
x		0.000	-0.001	104.9%
σ		0.001	0.001	1.7%
%RSD		1026.000	47.570	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SQ42715-002 6/6/2017 13:05:37

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	101.3%	101.000	105.100	99.570	┬964.400	┬911.000	921.400	947.200	99.280
2	13:06:28	103.4%	97.380	98.600	94.620	┬954.900	┬903.500	889.100	915.600	99.430
3	13:06:54	103.1%	96.970	102.700	99.840	┬944.100	┬897.500	875.700	909.300	98.480
x		102.6%	98.460	102.100	98.010	┬954.500	┬904.000	895.400	924.000	99.060
σ		1.2%	2.229	3.272	2.941	┬10.160	┬6.794	23.500	20.340	0.512
%RSD		1.1	2.264	3.204	3.001	┬1.065	┬0.752	2.624	2.201	0.517

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	987.000	┬21890.000	1022.000	1032.000	951.600	102.7%	95.420	95.000	94.580
2	13:06:28	┬921.500	┬21690.000	1002.000	1009.000	926.300	102.2%	98.360	95.170	93.660
3	13:06:54	┬915.100	┬21780.000	1012.000	1025.000	936.300	102.0%	96.710	93.810	92.830
x		┬941.200	┬21790.000	1012.000	1022.000	938.000	102.3%	96.830	94.660	93.690
σ		┬39.790	┬102.200	9.947	11.580	12.730	0.4%	1.474	0.744	0.876
%RSD		┬4.227	┬0.469	0.983	1.133	1.357	0.4	1.522	0.786	0.935

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	1.389	97.370	┬959.800	976.600	96.510	96.370	97.340	95.900	95.760
2	13:06:28	2.176	97.270	┬954.900	971.500	94.660	93.450	95.090	94.470	95.530
3	13:06:54	0.760	97.630	┬969.100	969.800	96.740	94.650	95.030	93.010	94.010
x		1.442	97.420	┬961.300	972.600	95.970	94.820	95.820	94.460	95.100
σ		0.709	0.189	┬7.198	3.525	1.140	1.465	1.316	1.448	0.948
%RSD		49.200	0.194	┬0.749	0.362	1.188	1.545	1.374	1.533	0.997

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	96.210	98.920	2.278	2.432	95.890	-0.703	101.3%	94.500	95.340
2	13:06:28	98.330	95.310	2.169	2.654	95.000	-0.541	102.9%	96.300	97.370
3	13:06:54	95.050	95.840	2.777	2.460	91.050	0.418	103.4%	98.560	100.800
x		96.530	96.690	2.408	2.515	93.980	-0.275	102.5%	96.450	97.850
σ		1.666	1.950	0.324	0.121	2.574	0.606	1.1%	2.037	2.768
%RSD		1.725	2.017	13.450	4.819	2.739	219.900	1.1	2.112	2.829

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	96.590	96.440	85.170	-0.478	85.240	95.670	93.370	102.1%	94.570
2	13:06:28	99.120	98.810	83.400	-0.371	85.060	96.870	93.530	103.1%	94.860
3	13:06:54	100.700	95.390	83.340	-0.085	84.650	96.450	93.060	104.2%	94.300
x		98.810	96.880	83.970	-0.312	84.980	96.330	93.320	103.1%	94.580
σ		2.078	1.753	1.041	0.203	0.301	0.611	0.243	1.0%	0.279
%RSD		2.103	1.809	1.240	65.180	0.354	0.634	0.260	1.0	0.295

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	99.620	89.470	90.410	95.550	94.170	101.2%	90.850	94.880	93.540
2	13:06:28	99.890	91.140	90.610	93.440	93.620	103.4%	90.950	93.730	92.250
3	13:06:54	99.960	91.260	92.870	94.120	93.050	104.6%	91.010	94.190	93.280
x		99.830	90.620	91.300	94.370	93.620	103.1%	90.940	94.270	93.020
σ		0.183	1.000	1.365	1.077	0.562	1.7%	0.084	0.579	0.680
%RSD		0.183	1.104	1.495	1.141	0.600	1.7	0.092	0.614	0.731

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:06:02	92.220	94.280	102.0%
2	13:06:28	91.980	93.700	104.6%
3	13:06:54	91.880	94.350	105.3%
x		92.030	94.110	104.0%
σ		0.174	0.356	1.7%
%RSD		0.189	0.378	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-006 6/6/2017 13:11:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	100.6%	0.025	10.780	10.800	┬10920.000	┬13620.000	┬13360.000	┬13720.000	4.860
2	13:11:51	102.9%	0.015	10.880	10.630	┬11160.000	┬13480.000	┬13170.000	┬13460.000	4.855
3	13:12:17	106.0%	0.018	10.090	10.130	┬10980.000	┬13270.000	┬13050.000	┬13400.000	5.186
x		103.2%	0.020	10.580	10.520	┬11020.000	┬13450.000	┬13190.000	┬13530.000	4.967
σ		2.7%	0.005	0.432	0.347	┬124.800	┬176.200	┬157.700	┬171.500	0.190
%RSD		2.6	26.410	4.084	3.299	┬1.132	┬1.310	┬1.196	┬1.268	3.817
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	┬8869.000	┬9262.000	259.800	99260.000	┬96490.000	107.9%	0.908	0.181	0.306
2	13:11:51	┬8740.000	┬9346.000	255.700	98520.000	┬96840.000	108.4%	1.166	0.169	0.279
3	13:12:17	┬8835.000	┬9441.000	265.600	98530.000	┬96970.000	107.6%	1.028	0.102	0.284
x		┬8815.000	┬9350.000	260.300	98770.000	┬96760.000	108.0%	1.034	0.150	0.289
σ		┬66.970	┬89.650	4.975	420.900	┬247.600	0.4%	0.129	0.043	0.014
%RSD		┬0.760	┬0.959	1.911	0.426	┬0.256	0.4	12.490	28.280	4.885
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	0.985	18.960	222.700	630.300	-1.745	1.244	0.145	0.310	1.110
2	13:11:51	0.937	19.380	223.500	614.600	-1.757	1.108	0.081	0.334	0.991
3	13:12:17	0.989	19.730	228.200	605.800	-1.739	0.987	0.102	0.260	1.016
x		0.970	19.360	224.800	616.900	-1.747	1.113	0.109	0.301	1.039
σ		0.029	0.386	2.974	12.430	0.009	0.129	0.032	0.038	0.063
%RSD		2.971	1.992	1.323	2.015	0.531	11.570	29.720	12.530	6.060
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	0.847	-0.188	3.880	3.936	-0.097	-0.410	104.7%	0.680	0.392
2	13:11:51	0.948	-0.056	3.111	3.450	0.028	0.122	106.0%	0.738	0.801
3	13:12:17	0.990	-0.116	2.982	3.556	-0.133	0.482	106.7%	0.833	0.642
x		0.928	-0.120	3.324	3.647	-0.067	0.064	105.8%	0.750	0.612
σ		0.074	0.066	0.486	0.255	0.084	0.449	1.0%	0.077	0.206
%RSD		7.937	55.000	14.610	6.994	125.600	696.700	1.0	10.290	33.650
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	0.526	40.280	0.003	-14.840	0.006	0.012	-0.135	102.9%	0.063
2	13:11:51	0.733	43.900	0.005	-16.220	0.004	0.004	-0.145	104.3%	0.057
3	13:12:17	0.682	38.640	-0.000	-14.300	0.003	0.011	-0.115	106.2%	0.060
x		0.647	40.940	0.002	-15.120	0.005	0.009	-0.132	104.4%	0.060
σ		0.108	2.692	0.002	0.991	0.001	0.004	0.016	1.7%	0.003
%RSD		16.610	6.576	104.900	6.555	28.190	50.530	11.810	1.6	5.430
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	5.761	0.221	0.188	57.090	56.430	103.3%	0.010	0.012	0.034
2	13:11:51	6.262	0.189	0.225	57.520	55.510	105.3%	0.020	0.010	0.031
3	13:12:17	5.490	0.246	0.201	56.690	56.360	106.9%	0.010	0.008	0.037
x		5.838	0.219	0.205	57.100	56.100	105.2%	0.013	0.010	0.034
σ		0.392	0.029	0.019	0.415	0.513	1.8%	0.006	0.002	0.003
%RSD		6.709	13.150	9.152	0.726	0.915	1.7	43.620	20.790	9.293
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:11:25	0.014	0.020	97.6%						
2	13:11:51	0.023	0.027	99.6%						
3	13:12:17	0.019	0.021	101.6%						
x		0.019	0.023	99.6%						
σ		0.005	0.004	2.0%						
%RSD		24.300	17.710	2.0						

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-006SD(5) 6/6/2017 13:16:21

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	101.6%	0.020	2.126	2.242	┬2127.000	┬2691.000	2741.000	2899.000	0.580
2	13:17:13	101.9%	0.020	2.490	2.199	┬2160.000	┬2777.000	2781.000	2836.000	0.510
3	13:17:39	105.6%	-0.019	2.001	1.918	┬2242.000	┬2764.000	2799.000	2921.000	0.739
x		103.0%	0.007	2.206	2.120	┬2176.000	┬2744.000	2774.000	2885.000	0.610
σ		2.2%	0.023	0.254	0.176	┬58.960	┬46.000	29.510	44.020	0.117
%RSD		2.1	317.800	11.510	8.304	┬2.709	┬1.677	1.064	1.526	19.230

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	┬1707.000	1645.000	46.390	19290.000	┬18960.000	┬112.2%	0.248	0.032	0.036
2	13:17:13	┬1699.000	1683.000	45.970	19280.000	┬19000.000	┬112.7%	0.220	0.063	0.045
3	13:17:39	┬1841.000	1769.000	50.970	20290.000	┬19980.000	103.6%	0.274	0.049	0.038
x		┬1749.000	1699.000	47.780	19620.000	┬19310.000	┬109.5%	0.247	0.048	0.040
σ		┬79.720	63.720	2.778	581.900	┬576.800	┬5.1%	0.027	0.015	0.004
%RSD		┬4.558	3.751	5.815	2.966	┬2.987	┬4.6	10.990	32.030	10.860

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	0.254	3.872	33.600	117.200	-0.358	0.204	-0.027	-0.014	0.146
2	13:17:13	0.218	3.808	30.540	107.700	-0.351	0.113	-0.031	0.025	0.188
3	13:17:39	0.244	4.129	34.840	116.600	-0.355	0.101	-0.022	-0.007	0.158
x		0.239	3.937	32.990	113.900	-0.355	0.139	-0.027	0.001	0.164
σ		0.018	0.170	2.217	5.350	0.004	0.056	0.004	0.021	0.021
%RSD		7.735	4.310	6.720	4.699	1.025	40.410	16.290	1918.000	12.980

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	0.192	0.053	0.196	0.482	-0.029	-1.546	103.6%	-0.157	-0.171
2	13:17:13	0.005	-0.092	0.393	0.367	-0.368	0.523	104.6%	-0.147	-0.167
3	13:17:39	0.089	0.194	0.318	0.870	-0.292	-0.033	105.5%	-0.020	-0.201
x		0.095	0.052	0.302	0.573	-0.230	-0.352	104.5%	-0.108	-0.180
σ		0.094	0.143	0.099	0.264	0.178	1.071	1.0%	0.076	0.019
%RSD		98.040	275.300	32.770	45.990	77.350	304.400	0.9	70.830	10.390

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	-0.161	8.760	-0.007	-3.244	0.002	-0.004	-0.028	103.9%	0.002
2	13:17:13	-0.132	9.076	-0.003	-3.339	0.001	-0.004	-0.030	105.5%	-0.002
3	13:17:39	-0.059	8.589	-0.006	-3.179	-0.002	-0.004	-0.021	106.7%	-0.008
x		-0.117	8.808	-0.005	-3.254	0.000	-0.004	-0.026	105.4%	-0.003
σ		0.052	0.247	0.002	0.081	0.002	0.000	0.004	1.4%	0.005
%RSD		44.520	2.802	34.870	2.486	723.800	6.954	17.090	1.3	162.400

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	1.190	0.043	0.042	11.760	11.470	103.2%	-0.005	-0.003	0.011
2	13:17:13	1.260	0.084	0.052	12.050	11.930	105.3%	-0.002	-0.003	0.005
3	13:17:39	1.154	0.020	0.056	11.150	11.580	106.6%	0.000	-0.002	0.011
x		1.201	0.049	0.050	11.650	11.660	105.0%	-0.002	-0.003	0.009
σ		0.054	0.033	0.008	0.461	0.239	1.7%	0.003	0.000	0.004
%RSD		4.506	66.500	15.190	3.955	2.047	1.7	114.800	15.950	42.820

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:16:47	-0.001	0.009	100.9%
2	13:17:13	-0.006	0.007	102.9%
3	13:17:39	-0.000	0.005	104.8%
x		-0.002	0.007	102.9%
σ		0.003	0.002	2.0%
%RSD		140.200	26.730	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-006PS 6/6/2017 13:21:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	99.9%	95.100	101.600	111.200	┬11330.000	┬14140.000	┬13900.000	┬14220.000	┬94.580
2	13:22:36	101.6%	95.760	102.700	112.600	┬11100.000	┬13710.000	┬13570.000	┬14100.000	94.830
3	13:23:02	103.8%	92.680	106.500	108.700	┬11890.000	┬14260.000	┬14120.000	┬14440.000	98.840
x		101.8%	94.510	103.600	110.900	┬11440.000	┬14040.000	┬13860.000	┬14250.000	┬96.080
σ		2.0%	1.618	2.541	1.972	┬407.300	┬289.700	┬279.300	┬171.000	┬2.391
%RSD		1.9	1.712	2.452	1.779	┬3.560	┬2.064	┬2.015	┬1.200	┬2.488

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	┬9039.000	┬8648.000	┬1131.000	94970.000	┬91520.000	┬112.7%	88.340	86.520	85.890
2	13:22:36	┬9108.000	┬8807.000	┬1154.000	94320.000	┬91450.000	┬112.8%	87.030	85.000	84.980
3	13:23:02	┬9493.000	┬9135.000	┬1217.000	99170.000	┬97220.000	107.0%	94.500	90.800	90.050
x		┬9213.000	┬8864.000	┬1168.000	96160.000	┬93400.000	┬110.8%	89.960	87.440	86.970
σ		┬244.900	┬248.600	┬44.340	2635.000	┬3310.000	┬3.3%	3.991	3.011	2.706
%RSD		┬2.659	┬2.805	┬3.798	2.740	┬3.544	┬3.0	4.436	3.443	3.111

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	0.768	107.100	┬1086.000	1474.000	84.870	91.520	83.420	94.840	93.410
2	13:22:36	0.221	107.400	┬1087.000	1472.000	84.380	91.880	83.640	93.370	92.060
3	13:23:02	0.368	111.200	┬1141.000	1536.000	88.250	90.130	86.530	91.470	91.550
x		0.452	108.600	┬1105.000	1494.000	85.840	91.170	84.530	93.230	92.340
σ		0.283	2.257	┬31.510	36.340	2.105	0.925	1.736	1.692	0.962
%RSD		62.580	2.079	┬2.852	2.433	2.452	1.015	2.054	1.815	1.042

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	90.120	86.320	3.128	3.970	90.170	-0.961	102.9%	87.080	89.060
2	13:22:36	90.890	87.570	2.780	2.973	87.840	-0.609	104.3%	89.780	91.950
3	13:23:02	92.620	89.000	3.054	3.517	93.230	-0.060	106.0%	97.790	98.340
x		91.210	87.630	2.987	3.487	90.410	-0.543	104.4%	91.550	93.120
σ		1.281	1.338	0.184	0.499	2.704	0.454	1.6%	5.567	4.749
%RSD		1.404	1.527	6.142	14.310	2.990	83.510	1.5	6.081	5.100

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	89.750	136.100	85.420	-17.170	81.000	90.000	93.340	102.2%	90.280
2	13:22:36	91.960	133.400	80.720	-17.680	┬78.480	89.460	92.030	103.4%	89.990
3	13:23:02	99.740	129.700	78.030	-16.390	┬80.730	88.840	91.340	105.3%	89.620
x		93.820	133.100	81.390	-17.080	┬80.070	89.440	92.240	103.6%	89.960
σ		5.244	3.214	3.740	0.652	┬1.381	0.577	1.018	1.5%	0.335
%RSD		5.589	2.416	4.595	3.817	┬1.724	0.646	1.103	1.5	0.372

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	103.600	85.570	86.070	149.300	146.900	102.4%	91.630	88.810	92.410
2	13:22:36	103.500	86.270	87.420	147.700	148.100	104.3%	91.670	90.060	92.810
3	13:23:02	101.000	86.580	87.550	148.600	146.200	106.6%	91.490	89.140	92.000
x		102.700	86.140	87.010	148.500	147.100	104.4%	91.590	89.340	92.410
σ		1.440	0.516	0.818	0.772	0.921	2.1%	0.096	0.652	0.406
%RSD		1.402	0.600	0.941	0.520	0.627	2.0	0.104	0.730	0.439

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:22:10	91.290	87.090	96.2%
2	13:22:36	91.160	87.570	98.7%
3	13:23:02	91.310	86.900	100.3%
x		91.250	87.190	98.4%
σ		0.082	0.346	2.1%
%RSD		0.090	0.397	2.1

PDF created with pdfFactory trial version www.pdffactory.com

SQ42482-001 6/6/2017 13:27:09 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	107.3%	0.046	0.335	0.267	26.640	2.500	2.358	2.687	1.995
2	13:28:00	109.5%	-0.032	0.385	0.190	25.900	2.221	1.961	1.892	1.969
3	13:28:26	108.6%	-0.008	0.731	0.380	26.340	2.458	2.040	2.270	2.003
x		108.5%	0.002	0.484	0.279	26.290	2.393	2.120	2.283	1.989
σ		1.1%	0.040	0.216	0.096	0.371	0.150	0.210	0.398	0.018
%RSD		1.0	1836.000	44.600	34.290	1.412	6.272	9.914	17.420	0.892
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	27.710	T 35250.000	7.867	42.310	36.270	106.2%	0.081	-0.236	0.039
2	13:28:00	27.060	T 35780.000	7.752	32.840	34.530	106.2%	0.007	-0.046	0.061
3	13:28:26	24.520	T 34690.000	7.235	40.520	33.860	105.3%	0.017	-0.286	0.035
x		26.430	T 35240.000	7.618	38.560	34.890	105.9%	0.035	-0.189	0.045
σ		1.684	T 544.000	0.337	5.033	1.245	0.5%	0.040	0.127	0.014
%RSD		6.371	T 1.544	4.418	13.050	3.567	0.5	115.200	67.050	31.240
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	4.483	0.507	9.394	5.539	0.002	-0.086	0.109	0.161	0.958
2	13:28:00	4.276	0.522	8.819	5.056	-0.009	-0.113	0.113	0.088	0.833
3	13:28:26	4.345	0.490	7.569	2.324	-0.010	-0.101	0.127	0.123	0.844
x		4.368	0.506	8.594	4.306	-0.006	-0.100	0.116	0.124	0.878
σ		0.105	0.016	0.933	1.734	0.007	0.014	0.009	0.037	0.069
%RSD		2.407	3.231	10.860	40.260	110.200	13.490	7.957	29.720	7.853
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	-0.028	-0.049	2.917	3.082	-0.408	-1.571	106.2%	0.152	0.262
2	13:28:00	-0.157	0.156	2.086	2.422	-0.512	0.695	106.1%	0.317	0.162
3	13:28:26	-0.307	-0.070	2.080	2.496	-0.699	1.436	106.6%	0.279	0.233
x		-0.164	0.012	2.361	2.667	-0.540	0.187	106.3%	0.249	0.219
σ		0.140	0.125	0.482	0.361	0.148	1.567	0.3%	0.086	0.051
%RSD		85.070	1017.000	20.400	13.550	27.340	838.800	0.3	34.620	23.520
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	0.176	-0.006	0.008	-0.005	0.007	-0.016	-0.005	105.2%	0.056
2	13:28:00	0.255	-0.493	0.003	0.255	0.005	-0.009	0.010	106.1%	0.053
3	13:28:26	0.234	-0.443	-0.003	0.156	0.005	-0.005	0.003	105.2%	0.058
x		0.222	-0.314	0.003	0.135	0.005	-0.010	0.002	105.5%	0.056
σ		0.041	0.268	0.006	0.131	0.001	0.005	0.008	0.5%	0.002
%RSD		18.340	85.210	187.500	97.210	16.240	53.160	306.400	0.5	3.812
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	0.071	0.274	0.211	0.163	0.121	102.2%	0.006	0.002	0.018
2	13:28:00	-0.013	0.255	0.270	0.194	0.157	104.6%	0.001	0.005	0.019
3	13:28:26	0.032	0.276	0.290	0.144	0.154	105.1%	0.004	-0.001	0.022
x		0.030	0.268	0.257	0.167	0.144	104.0%	0.004	0.002	0.020
σ		0.042	0.011	0.041	0.025	0.020	1.6%	0.002	0.003	0.002
%RSD		141.500	4.188	15.950	15.050	13.600	1.5	62.810	158.000	12.220
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:27:34	0.003	0.025	100.8%						
2	13:28:00	0.018	0.011	103.6%						
3	13:28:26	0.031	0.017	105.1%						
x		0.017	0.018	103.2%						
σ		0.014	0.007	2.2%						
%RSD		80.960	41.590	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

SQ42482-002 6/6/2017 13:32:31

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	103.7%	89.580	89.850	92.040	T 923.100	T 834.600	829.500	841.900	95.940
2	13:33:23	106.8%	86.220	90.250	88.670	T 896.400	T 805.600	794.600	811.600	92.370
3	13:33:49	109.6%	84.090	90.710	81.970	T 883.200	T 782.200	780.800	807.900	96.290
x		106.7%	86.630	90.270	87.560	T 900.900	T 807.500	801.600	820.400	94.870
σ		3.0%	2.767	0.429	5.128	T 20.320	T 26.230	25.120	18.640	2.168
%RSD		2.8	3.193	0.475	5.857	T 2.256	T 3.248	3.134	2.272	2.286

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	T 857.300	T 34070.000	911.200	985.200	875.300	104.3%	85.830	83.960	84.400
2	13:33:23	878.300	T 33780.000	908.400	960.000	875.200	104.9%	85.120	84.210	83.620
3	13:33:49	T 860.300	T 34400.000	917.900	992.200	873.300	102.3%	87.180	84.880	84.890
x		T 865.300	T 34080.000	912.500	979.100	874.600	103.8%	86.050	84.350	84.300
σ		T 11.360	T 308.900	4.901	16.960	1.154	1.4%	1.045	0.475	0.643
%RSD		T 1.313	T 0.906	0.537	1.732	0.132	1.4	1.215	0.563	0.763

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	2.946	86.890	T 866.900	856.100	87.020	87.450	86.230	90.300	88.250
2	13:33:23	3.245	85.970	T 852.800	872.200	86.330	87.690	85.010	88.080	87.330
3	13:33:49	4.094	88.460	T 881.200	896.200	86.240	84.240	86.470	86.620	86.480
x		3.428	87.110	T 867.000	874.800	86.530	86.460	85.900	88.330	87.350
σ		0.596	1.256	T 14.210	20.180	0.424	1.928	0.785	1.854	0.882
%RSD		17.370	1.442	T 1.638	2.307	0.490	2.230	0.914	2.099	1.010

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	89.890	88.320	1.864	1.398	88.140	-0.724	102.0%	85.220	85.880
2	13:33:23	89.020	88.020	1.565	1.504	86.860	-0.952	103.5%	85.440	85.840
3	13:33:49	87.820	88.080	1.708	2.291	81.720	-0.573	104.3%	90.870	91.190
x		88.910	88.140	1.712	1.731	85.570	-0.750	103.3%	87.180	87.640
σ		1.037	0.159	0.150	0.488	3.397	0.191	1.2%	3.199	3.078
%RSD		1.167	0.180	8.736	28.180	3.969	25.420	1.1	3.669	3.512

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	86.100	89.190	83.040	0.075	80.230	86.460	86.370	101.4%	84.710
2	13:33:23	88.280	87.960	81.800	-0.250	81.070	87.090	83.910	102.5%	84.770
3	13:33:49	91.980	84.900	80.600	-0.875	81.000	85.350	83.790	104.7%	84.750
x		88.790	87.350	81.810	-0.350	80.770	86.300	84.690	102.9%	84.750
σ		2.974	2.209	1.218	0.483	0.468	0.883	1.456	1.7%	0.030
%RSD		3.350	2.529	1.488	138.000	0.579	1.023	1.719	1.6	0.035

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	89.670	82.190	83.510	84.640	85.150	100.4%	82.020	83.980	84.630
2	13:33:23	89.730	83.500	83.930	85.600	85.630	102.9%	82.560	84.360	84.550
3	13:33:49	88.860	82.750	83.670	85.390	84.200	103.2%	82.010	84.510	83.320
x		89.420	82.810	83.700	85.210	84.990	102.2%	82.200	84.280	84.170
σ		0.488	0.653	0.208	0.503	0.729	1.5%	0.314	0.275	0.735
%RSD		0.545	0.789	0.249	0.590	0.858	1.5	0.383	0.326	0.873

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:32:57	83.420	83.470	99.4%
2	13:33:23	83.120	83.730	102.0%
3	13:33:49	82.920	84.410	103.8%
x		83.150	83.870	101.8%
σ		0.249	0.481	2.2%
%RSD		0.299	0.573	2.2

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-001 6/6/2017 13:37:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	102.6%	0.007	4.680	4.834	┬4594.000	┬28070.000	┬28110.000	┬28840.000	6.631
2	13:38:46	103.3%	-0.002	3.808	4.406	┬4228.000	┬27380.000	┬27130.000	┬27580.000	5.739
3	13:39:12	105.3%	0.006	4.012	4.498	┬4581.000	┬28250.000	┬28130.000	┬28830.000	6.498
x		103.8%	0.004	4.167	4.579	┬4468.000	┬27900.000	┬27790.000	┬28410.000	6.290
σ		1.4%	0.005	0.456	0.225	┬207.900	┬462.300	┬572.900	┬720.300	0.481
%RSD		1.3	130.500	10.950	4.922	┬4.653	┬1.657	┬2.062	┬2.535	7.651
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	┬7964.000	┬38740.000	┬3457.000	92930.000	┬90940.000	104.3%	1.271	0.178	0.158
2	13:38:46	┬7198.000	┬36260.000	┬3137.000	84150.000	┬83210.000	┬115.0%	0.917	0.102	0.104
3	13:39:12	┬8005.000	┬39220.000	┬3482.000	92590.000	┬91150.000	105.2%	0.959	0.087	0.093
x		┬7723.000	┬38070.000	┬3359.000	89890.000	┬88430.000	┬108.2%	1.049	0.123	0.118
σ		┬454.300	┬1591.000	┬192.600	4974.000	┬4526.000	┬5.9%	0.193	0.049	0.035
%RSD		┬5.883	┬4.178	┬5.734	5.534	┬5.118	┬5.5	18.420	39.630	29.670
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	4.522	60.530	15.090	442.600	-1.391	4.548	0.163	0.312	12.960
2	13:38:46	4.280	55.840	10.500	365.600	-1.318	4.299	0.182	0.374	12.960
3	13:39:12	4.603	60.360	14.170	408.700	-1.414	4.411	0.203	0.263	12.740
x		4.468	58.910	13.250	405.700	-1.374	4.419	0.183	0.317	12.890
σ		0.168	2.657	2.426	38.620	0.050	0.125	0.020	0.056	0.128
%RSD		3.761	4.510	18.300	9.520	3.639	2.830	11.080	17.560	0.989
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	-0.070	-0.304	7.799	9.860	-0.411	-0.734	102.5%	0.226	0.230
2	13:38:46	-0.045	0.018	9.423	7.896	0.221	-0.610	104.1%	0.328	0.292
3	13:39:12	-0.114	0.234	9.030	9.269	-0.296	-0.434	106.1%	0.364	0.259
x		-0.076	-0.017	8.750	9.008	-0.162	-0.593	104.2%	0.306	0.261
σ		0.035	0.271	0.847	1.008	0.336	0.151	1.8%	0.071	0.031
%RSD		45.390	1558.000	9.681	11.180	207.600	25.440	1.7	23.340	11.930
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	0.249	0.335	-0.004	-0.092	0.007	0.029	0.041	98.6%	0.061
2	13:38:46	0.214	1.393	-0.004	-0.443	0.009	0.013	0.010	100.9%	0.109
3	13:39:12	0.349	0.778	0.007	-0.217	0.004	0.005	0.024	102.5%	0.091
x		0.271	0.835	-0.000	-0.251	0.007	0.016	0.025	100.7%	0.087
σ		0.070	0.531	0.007	0.178	0.002	0.012	0.015	2.0%	0.024
%RSD		25.810	63.630	4303.000	70.990	30.840	75.470	61.170	1.9	27.780
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	0.129	0.087	0.096	177.000	175.000	98.9%	0.015	0.009	0.079
2	13:38:46	0.263	0.144	0.134	176.800	174.100	101.4%	0.011	0.007	0.102
3	13:39:12	0.204	0.112	0.175	175.000	173.100	103.7%	0.009	0.010	0.065
x		0.199	0.114	0.135	176.300	174.100	101.4%	0.012	0.008	0.082
σ		0.067	0.029	0.040	1.130	0.907	2.4%	0.003	0.001	0.019
%RSD		33.780	24.930	29.270	0.641	0.521	2.4	28.280	17.660	22.650
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:38:21	0.063	0.059	92.2%						
2	13:38:46	0.067	0.060	94.9%						
3	13:39:12	0.064	0.053	97.2%						
x		0.065	0.057	94.8%						
σ		0.002	0.004	2.5%						
%RSD		3.259	6.862	2.6						

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-002 6/6/2017 13:43:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	105.2%	0.247	2.720	2.450	┬5130.000	┬4654.000	┬4565.000	┬4713.000	37.860
2	13:44:09	105.0%	0.235	2.594	2.457	┬5152.000	┬4689.000	┬4585.000	┬4666.000	36.270
3	13:44:35	110.3%	0.323	3.218	2.166	┬5164.000	┬4512.000	┬4436.000	┬4563.000	38.050
x		106.8%	0.268	2.844	2.358	┬5149.000	┬4618.000	┬4529.000	┬4647.000	37.390
σ		3.0%	0.048	0.330	0.166	┬17.370	┬93.490	┬81.150	┬76.400	0.980
%RSD		2.8	17.730	11.610	7.033	┬0.337	┬2.024	┬1.792	┬1.644	2.619

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	┬6421.000	┬36400.000	┬3689.000	8963.000	8569.000	106.3%	0.857	0.049	0.146
2	13:44:09	┬6313.000	┬36190.000	┬3688.000	8868.000	8577.000	105.6%	1.039	0.234	0.193
3	13:44:35	┬6494.000	┬37210.000	┬3792.000	8859.000	8580.000	103.4%	1.052	-0.170	0.209
x		┬6409.000	┬36600.000	┬3723.000	8897.000	8576.000	105.1%	0.983	0.037	0.182
σ		┬90.790	┬536.500	┬60.100	57.990	5.677	1.5%	0.109	0.202	0.033
%RSD		┬1.417	┬1.466	┬1.614	0.652	0.066	1.4	11.090	540.800	18.070

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	4.943	┬380.400	60.010	97.080	0.758	3.737	5.600	6.157	32.790
2	13:44:09	4.530	┬381.100	59.510	96.820	0.778	3.320	5.726	6.198	32.610
3	13:44:35	5.060	┬386.800	┬69.900	95.090	0.750	3.490	5.768	6.028	31.670
x		4.844	┬382.800	┬63.140	96.330	0.762	3.516	5.698	6.128	32.360
σ		0.278	┬3.543	┬5.860	1.083	0.015	0.210	0.087	0.089	0.600
%RSD		5.739	┬0.926	┬9.281	1.124	1.921	5.968	1.534	1.446	1.855

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	0.057	-0.172	7.427	7.035	0.002	-0.234	105.5%	-0.127	-0.195
2	13:44:09	-0.124	-0.518	6.385	7.199	-0.404	-0.828	106.8%	-0.047	-0.127
3	13:44:35	0.009	0.014	7.093	7.342	-0.224	0.648	108.0%	-0.079	-0.061
x		-0.019	-0.225	6.968	7.192	-0.209	-0.138	106.8%	-0.084	-0.128
σ		0.093	0.270	0.532	0.154	0.204	0.743	1.3%	0.040	0.067
%RSD		489.300	119.800	7.633	2.136	97.610	539.400	1.2	47.750	52.290

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	-0.166	2.293	0.020	-0.780	0.024	0.253	0.225	99.8%	0.130
2	13:44:09	-0.137	2.113	0.023	-0.693	0.028	0.181	0.224	102.3%	0.073
3	13:44:35	-0.052	-0.134	0.013	0.140	0.020	0.196	0.244	103.6%	0.124
x		-0.119	1.424	0.019	-0.444	0.024	0.210	0.231	101.9%	0.109
σ		0.059	1.352	0.005	0.508	0.004	0.038	0.011	1.9%	0.031
%RSD		50.030	94.960	28.370	114.300	18.470	17.900	4.963	1.9	28.890

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	0.402	0.047	0.041	129.200	127.800	99.5%	0.037	0.044	0.276
2	13:44:09	0.405	0.070	0.049	128.300	125.600	101.7%	0.041	0.039	0.268
3	13:44:35	0.015	0.070	0.080	127.300	126.400	103.0%	0.050	0.041	0.266
x		0.274	0.062	0.057	128.300	126.600	101.4%	0.043	0.042	0.270
σ		0.225	0.013	0.020	0.936	1.110	1.8%	0.007	0.003	0.005
%RSD		81.960	21.100	35.920	0.729	0.877	1.7	16.090	6.601	1.895

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:43:43	0.257	0.234	96.9%
2	13:44:09	0.271	0.262	99.2%
3	13:44:35	0.275	0.228	100.6%
x		0.268	0.241	98.9%
σ		0.009	0.018	1.8%
%RSD		3.475	7.538	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-003 6/6/2017 13:48:41

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	100.5%	-0.014	6.382	6.853	T 4179.000	T 37180.000	T 36610.000	T 37890.000	4.371
2	13:49:31	105.7%	-0.007	7.358	6.791	T 4463.000	T 37900.000	T 37650.000	T 38960.000	5.081
3	13:49:57	106.9%	-0.015	6.751	6.699	T 4463.000	T 37670.000	T 37540.000	T 38720.000	5.093
x		104.4%	-0.012	6.830	6.781	T 4368.000	T 37590.000	T 37270.000	T 38520.000	4.848
σ		3.4%	0.005	0.493	0.078	T 164.200	T 367.700	T 571.500	T 561.500	0.413
%RSD		3.3	38.590	7.214	1.145	T 3.759	T 0.978	T 1.534	T 1.458	8.525
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	T 8683.000	T 36090.000	T 3437.000	M 118700.000	TM 113900.000	T 115.2%	1.122	0.041	0.174
2	13:49:31	T 9461.000	T 38730.000	T 3748.000	M 125400.000	TM 123300.000	107.8%	1.200	-0.095	0.155
3	13:49:57	T 9410.000	T 38160.000	T 3725.000	M 124600.000	TM 123300.000	108.2%	1.140	-0.017	0.199
x		T 9184.000	T 37660.000	T 3637.000	M 122900.000	TM 120200.000	T 110.4%	1.154	-0.024	0.176
σ		T 435.100	T 1391.000	T 173.400	M 3649.000	TM 5415.000	T 4.2%	0.041	0.068	0.022
%RSD		T 4.737	T 3.695	T 4.766	M 2.968	TM 4.506	T 3.8	3.561	288.600	12.690
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	4.127	T 367.600	T 1424.000	1922.000	2.646	15.740	0.057	0.455	1.785
2	13:49:31	4.647	T 398.100	T 1512.000	2061.000	2.737	15.100	0.109	0.477	1.651
3	13:49:57	4.548	T 403.800	T 1541.000	2064.000	2.698	14.820	0.098	0.379	1.974
x		4.441	T 389.800	T 1492.000	2016.000	2.694	15.220	0.088	0.437	1.803
σ		0.276	T 19.460	T 61.190	81.420	0.046	0.469	0.027	0.052	0.162
%RSD		6.211	T 4.992	T 4.101	4.040	1.698	3.084	31.100	11.830	8.985
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	1.346	-0.014	10.820	10.360	0.073	-0.179	102.1%	-0.242	-0.347
2	13:49:31	1.718	-0.251	10.300	10.640	-0.229	-0.427	105.4%	-0.138	-0.190
3	13:49:57	1.105	-0.247	11.080	12.520	0.140	0.291	106.7%	-0.173	-0.275
x		1.390	-0.171	10.740	11.170	-0.005	-0.105	104.7%	-0.184	-0.270
σ		0.309	0.136	0.396	1.177	0.197	0.365	2.4%	0.053	0.079
%RSD		22.210	79.640	3.689	10.530	3647.000	347.300	2.3	28.840	29.080
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	-0.288	2.146	0.019	-0.804	0.012	0.008	0.008	99.4%	0.027
2	13:49:31	-0.198	2.562	0.009	-0.960	0.012	-0.003	0.008	101.8%	0.052
3	13:49:57	-0.184	2.561	0.020	-0.960	0.014	-0.004	0.003	102.4%	0.026
x		-0.224	2.423	0.016	-0.908	0.013	0.000	0.006	101.2%	0.035
σ		0.057	0.240	0.006	0.090	0.001	0.007	0.003	1.6%	0.015
%RSD		25.310	9.906	39.750	9.901	10.660	1445.000	45.590	1.6	42.780
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	0.320	0.048	0.056	M 526.700	M 526.000	98.1%	0.034	0.039	0.017
2	13:49:31	0.425	0.049	0.070	M 522.000	M 523.400	101.1%	0.033	0.035	0.013
3	13:49:57	0.416	0.045	0.052	M 530.800	M 528.700	103.7%	0.044	0.036	0.014
x		0.387	0.047	0.059	M 526.500	M 526.000	101.0%	0.037	0.036	0.015
σ		0.058	0.002	0.009	M 4.382	M 2.658	2.8%	0.006	0.002	0.002
%RSD		15.040	3.628	16.010	M 0.832	M 0.505	2.8	15.100	5.717	14.550
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:49:06	0.013	0.012	90.3%						
2	13:49:31	0.006	0.011	94.6%						
3	13:49:57	0.004	0.014	96.8%						
x		0.008	0.012	93.9%						
σ		0.005	0.002	3.3%						
%RSD		59.750	12.950	3.5						

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9475 6/6/2017 13:54:03 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	92.4%	311.000	282.300	305.400	┬58520.000	┬57420.000	┬57830.000	┬59040.000	300.100
2	13:54:55	93.8%	305.400	283.000	306.800	┬57750.000	┬56880.000	┬56820.000	┬57880.000	298.500
3	13:55:21	96.0%	298.100	276.800	303.200	┬58040.000	┬56980.000	┬56410.000	┬58310.000	293.500
x		94.1%	101.613%	93.568%	101.709%	┬96.844%	┬57090.000	┬57020.000	┬97.346%	99.128%
σ		1.8%	n/a	n/a	n/a	┬n/a	┬290.500	┬733.200	┬n/a	n/a
%RSD		1.9	2.127	1.208	0.592	┬0.671	┬0.509	┬1.286	┬1.003	1.147
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	┬3055.000	277.400	┬59620.000	60010.000	┬58920.000	103.7%	286.700	298.500	291.100
2	13:54:55	┬3004.000	278.000	┬59460.000	58940.000	┬59240.000	106.1%	285.900	296.600	287.700
3	13:55:21	┬3018.000	283.500	┬59000.000	59100.000	┬59030.000	106.3%	289.200	296.100	289.000
x		┬100.856%	279.600	┬98.934%	59350.000	┬98.444%	105.4%	95.752%	99.018%	96.414%
σ		┬n/a	3.345	┬n/a	577.000	┬n/a	1.4%	n/a	n/a	n/a
%RSD		┬0.862	1.196	┬0.542	0.972	┬0.275	1.4	0.598	0.423	0.590
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	-6.698	┬292.600	┬56760.000	┬58540.000	286.300	288.200	261.100	298.900	289.300
2	13:54:55	-4.882	┬297.800	┬57440.000	┬59010.000	284.900	285.500	261.500	294.100	289.400
3	13:55:21	-5.545	┬294.500	┬56890.000	┬58870.000	283.200	282.900	261.400	292.100	285.600
x		-5.708	┬98.318%	┬95.047%	┬98.011%	94.935%	95.176%	261.300	98.335%	96.023%
σ		0.919	┬n/a	┬n/a	┬n/a	n/a	n/a	0.206	n/a	n/a
%RSD		16.100	┬0.881	┬0.628	┬0.404	0.538	0.931	0.079	1.187	0.754
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	273.100	270.600	1.244	0.532	299.900	-0.099	100.7%	280.200	284.300
2	13:54:55	275.400	262.500	0.681	0.050	292.500	0.439	102.1%	287.700	292.600
3	13:55:21	273.100	265.300	0.756	0.885	280.500	0.202	103.5%	300.900	304.100
x		91.286%	266.100	0.894	0.489	96.997%	0.181	102.1%	96.532%	97.885%
σ		n/a	4.117	0.306	0.419	n/a	0.270	1.4%	n/a	n/a
%RSD		0.487	1.547	34.190	85.640	3.357	149.200	1.4	3.605	3.380
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	288.100	279.300	285.800	0.686	263.100	274.500	291.100	96.8%	284.000
2	13:54:55	294.200	275.100	284.400	1.376	261.400	276.600	290.400	99.5%	280.300
3	13:55:21	308.600	273.800	282.500	-0.505	261.100	272.800	289.300	100.5%	282.900
x		98.991%	276.000	94.744%	0.519	261.900	274.600	96.750%	98.9%	94.143%
σ		n/a	2.870	n/a	0.952	1.109	1.882	n/a	1.9%	n/a
%RSD		3.553	1.040	0.577	183.400	0.423	0.685	0.314	1.9	0.671
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	304.900	277.400	278.800	288.200	286.800	97.1%	287.800	288.900	292.200
2	13:54:55	302.500	275.400	279.200	288.200	285.500	100.4%	289.000	286.400	293.400
3	13:55:21	302.200	281.400	280.400	288.700	288.500	102.1%	288.500	287.600	294.200
x		101.067%	92.682%	93.162%	96.127%	95.653%	99.9%	96.139%	95.882%	97.761%
σ		n/a	n/a	n/a	n/a	n/a	2.6%	n/a	n/a	n/a
%RSD		0.486	1.097	0.303	0.098	0.526	2.6	0.217	0.435	0.336
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:54:29	290.700	279.900	90.0%						
2	13:54:55	289.900	276.800	92.0%						
3	13:55:21	290.500	278.900	94.1%						
x		96.794%	92.853%	92.0%						
σ		n/a	n/a	2.0%						
%RSD		0.133	0.575	2.2						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 13:59:24 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	102.7%	0.015	2.466	2.416	2.543	3.036	3.166	2.615	0.716
2	14:00:16	108.1%	0.029	2.497	2.032	2.585	2.971	2.741	2.975	0.655
3	14:00:42	112.1%	-0.001	2.201	1.811	2.255	2.812	2.674	2.422	0.573
x		107.6%	0.014	2.388	2.086	2.461	2.940	2.861	2.670	0.648
σ		4.7%	0.015	0.163	0.306	0.180	0.115	0.267	0.281	0.072
%RSD		4.4	103.200	6.827	14.670	7.292	3.908	9.333	10.510	11.090

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	0.860	153.800	0.131	1.015	0.760	112.4%	0.045	0.054	0.010
2	14:00:16	0.189	166.600	0.523	3.169	2.043	110.9%	-0.006	0.097	0.015
3	14:00:42	-0.418	174.000	-0.202	6.869	0.830	110.8%	0.065	0.051	0.018
x		0.210	164.800	0.150	3.684	1.211	111.4%	0.035	0.067	0.014
σ		0.640	10.240	0.363	2.961	0.722	0.9%	0.037	0.026	0.004
%RSD		304.200	6.211	241.000	80.360	59.570	0.8	106.300	37.830	30.760

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	0.056	-0.003	4.993	2.783	-0.000	-0.122	-0.041	0.004	-0.000
2	14:00:16	0.028	0.011	5.250	-0.246	-0.004	-0.115	-0.034	-0.021	0.029
3	14:00:42	0.057	0.003	4.581	1.291	0.001	-0.098	-0.030	-0.022	-0.068
x		0.047	0.004	4.941	1.276	-0.001	-0.112	-0.035	-0.013	-0.013
σ		0.017	0.007	0.338	1.515	0.003	0.013	0.006	0.015	0.050
%RSD		35.870	173.000	6.829	118.700	317.300	11.320	16.450	112.100	385.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	-0.104	0.373	-0.475	0.656	-0.454	-0.852	107.0%	0.686	0.705
2	14:00:16	-0.098	-0.108	-0.230	0.398	-0.191	0.606	108.2%	0.826	0.823
3	14:00:42	-0.111	0.040	-0.092	0.138	-0.198	-0.311	108.0%	0.807	0.676
x		-0.105	0.101	-0.266	0.398	-0.281	-0.186	107.7%	0.773	0.735
σ		0.007	0.246	0.194	0.259	0.150	0.737	0.6%	0.076	0.078
%RSD		6.482	242.900	72.870	65.180	53.350	396.900	0.6	9.844	10.600

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	0.587	-0.173	0.013	0.076	0.009	0.018	0.014	105.3%	0.051
2	14:00:16	0.896	-0.536	0.010	0.191	0.023	-0.008	0.009	108.0%	0.102
3	14:00:42	0.753	0.432	0.005	-0.167	0.014	0.003	0.012	107.8%	0.091
x		0.745	-0.092	0.009	0.033	0.015	0.004	0.012	107.0%	0.081
σ		0.155	0.489	0.004	0.183	0.007	0.013	0.002	1.5%	0.027
%RSD		20.770	529.200	47.210	549.100	48.240	302.500	21.240	1.4	33.040

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	0.022	0.422	0.428	0.044	0.025	101.8%	0.007	0.010	0.012
2	14:00:16	0.063	0.467	0.437	0.015	0.011	103.1%	0.020	0.011	0.013
3	14:00:42	0.153	0.463	0.488	0.020	0.002	105.6%	0.012	0.011	0.010
x		0.079	0.451	0.451	0.026	0.013	103.5%	0.013	0.011	0.012
σ		0.067	0.025	0.032	0.016	0.012	1.9%	0.006	0.001	0.001
%RSD		84.570	5.553	7.191	59.790	93.460	1.9	48.460	6.704	10.590

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:59:50	0.006	0.007	101.5%
2	14:00:16	0.004	0.007	103.6%
3	14:00:42	0.006	0.011	104.5%
x		0.005	0.008	103.2%
σ		0.002	0.003	1.5%
%RSD		29.010	29.730	1.5

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004 6/6/2017 14:04:47

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	105.5%	0.014	7.510	7.983	┬5060.000	┬31860.000	┬31640.000	┬32980.000	7.337
2	14:05:38	109.3%	0.000	7.272	7.375	┬5013.000	┬31610.000	┬31360.000	┬32300.000	7.311
3	14:06:04	107.5%	0.001	7.621	7.623	┬4955.000	┬31470.000	┬31450.000	┬32320.000	7.156
x		107.4%	0.005	7.468	7.660	┬5009.000	┬31650.000	┬31480.000	┬32530.000	7.268
σ		1.9%	0.008	0.178	0.306	┬52.640	┬201.900	┬140.900	┬386.700	0.098
%RSD		1.7	155.900	2.388	3.990	┬1.051	┬0.638	┬0.448	┬1.189	1.346

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	┬7474.000	┬36470.000	┬2751.000	95250.000	┬93350.000	110.8%	1.087	0.002	0.241
2	14:05:38	┬7489.000	┬36460.000	┬2779.000	93750.000	┬92930.000	110.3%	0.948	-0.054	0.207
3	14:06:04	┬7531.000	┬36980.000	┬2806.000	94050.000	┬93650.000	108.6%	0.828	-0.091	0.213
x		┬7498.000	┬36640.000	┬2778.000	94350.000	┬93310.000	109.9%	0.955	-0.048	0.220
σ		┬29.570	┬299.500	┬27.590	788.900	┬358.100	1.2%	0.129	0.047	0.018
%RSD		┬0.394	┬0.818	┬0.993	0.836	┬0.384	1.1	13.560	98.320	8.203

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	4.290	™1852.000	┬1614.000	2029.000	6.213	10.440	9.674	11.510	16.120
2	14:05:38	4.368	™1882.000	┬1644.000	2035.000	6.529	9.684	9.651	11.400	15.680
3	14:06:04	4.142	™1916.000	┬1659.000	2047.000	6.599	9.693	9.643	11.310	15.650
x		4.267	™1883.000	┬1639.000	2037.000	6.447	9.938	9.656	11.410	15.810
σ		0.115	™31.770	┬22.410	9.397	0.206	0.433	0.016	0.099	0.260
%RSD		2.692	™1.687	┬1.367	0.461	3.190	4.358	0.164	0.867	1.646

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	0.930	-0.092	7.595	7.682	-0.250	-0.244	105.2%	0.100	-0.065
2	14:05:38	0.612	0.159	6.797	8.212	-0.180	0.116	105.9%	0.165	0.082
3	14:06:04	0.986	0.171	8.069	7.464	0.054	-1.027	107.0%	0.309	0.127
x		0.843	0.079	7.487	7.786	-0.125	-0.385	106.1%	0.191	0.048
σ		0.202	0.148	0.643	0.385	0.159	0.584	0.9%	0.107	0.100
%RSD		23.920	187.900	8.588	4.941	127.300	151.700	0.8	55.980	208.800

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	0.051	3.281	0.003	-1.228	0.007	-0.012	-0.007	100.8%	0.107
2	14:05:38	0.170	3.086	0.006	-1.153	0.007	-0.016	-0.008	102.8%	0.125
3	14:06:04	0.191	2.136	0.000	-0.802	0.007	-0.005	-0.001	103.0%	0.124
x		0.137	2.834	0.003	-1.061	0.007	-0.011	-0.005	102.2%	0.119
σ		0.075	0.612	0.003	0.227	0.000	0.005	0.004	1.2%	0.010
%RSD		55.040	21.600	89.240	21.410	5.271	50.370	73.380	1.2	8.366

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	0.666	0.223	0.200	275.300	274.000	99.5%	0.051	0.048	0.428
2	14:05:38	0.641	0.237	0.267	272.400	270.500	102.2%	0.043	0.040	0.372
3	14:06:04	0.432	0.241	0.257	271.900	271.500	103.7%	0.056	0.042	0.448
x		0.580	0.234	0.241	273.200	272.000	101.8%	0.050	0.044	0.416
σ		0.129	0.009	0.036	1.839	1.814	2.2%	0.007	0.004	0.039
%RSD		22.180	3.940	14.860	0.673	0.667	2.1	13.420	9.613	9.455

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:05:12	0.380	0.401	91.9%
2	14:05:38	0.417	0.374	95.3%
3	14:06:04	0.362	0.361	96.4%
x		0.386	0.379	94.5%
σ		0.028	0.020	2.3%
%RSD		7.325	5.276	2.5

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004MS 6/6/2017 14:10:11

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	105.6%	93.120	98.950	100.000	T 6018.000	T 32700.000	T 32760.000	T 33970.000	95.500
2	14:11:03	106.6%	91.150	90.260	97.510	T 5405.000	T 30900.000	T 30940.000	T 31870.000	88.410
3	14:11:30	108.1%	90.550	98.200	95.860	T 5886.000	T 31780.000	T 31690.000	T 32510.000	96.070
x		106.8%	91.610	95.800	97.800	T 5770.000	T 31790.000	T 31800.000	T 32790.000	93.330
σ		1.3%	1.343	4.816	2.101	T 322.400	T 897.000	T 918.700	T 1078.000	4.269
%RSD		1.2	1.466	5.027	2.148	T 5.588	T 2.822	T 2.889	T 3.289	4.574

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	T 8333.000	T 35800.000	T 3663.000	95700.000	T 93800.000	109.3%	91.360	87.520	87.590
2	14:11:03	T 7693.000	T 34370.000	T 3473.000	88650.000	T 87170.000	T 117.3%	86.220	83.240	82.670
3	14:11:30	T 8258.000	T 36220.000	T 3740.000	94880.000	T 94360.000	107.5%	90.680	88.560	87.740
x		T 8095.000	T 35460.000	T 3625.000	93080.000	T 91780.000	T 111.4%	89.420	86.440	86.000
σ		T 349.600	T 966.800	T 137.500	3852.000	T 3999.000	T 5.2%	2.791	2.821	2.884
%RSD		T 4.319	T 2.726	T 3.792	4.139	T 4.358	T 4.7	3.121	3.264	3.353

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	3.553	TM 1967.000	T 2544.000	2978.000	93.800	102.200	85.130	100.800	103.500
2	14:11:03	3.070	TM 1876.000	T 2428.000	2748.000	89.200	100.400	80.490	95.920	100.400
3	14:11:30	3.145	TM 2004.000	T 2550.000	2945.000	93.520	97.140	83.360	93.490	97.500
x		3.256	TM 1949.000	T 2507.000	2890.000	92.170	99.890	83.000	96.730	100.500
σ		0.260	TM 65.710	T 68.710	124.800	2.577	2.547	2.343	3.706	2.983
%RSD		7.980	TM 3.371	T 2.740	4.319	2.796	2.549	2.823	3.831	2.969

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	88.970	84.930	10.540	10.240	93.010	-0.199	103.6%	91.460	92.500
2	14:11:03	88.780	81.660	10.370	9.977	94.060	0.306	104.9%	86.160	88.160
3	14:11:30	90.790	83.510	10.280	10.690	91.430	-1.007	106.1%	96.950	97.840
x		89.510	83.370	10.390	10.300	92.830	-0.300	104.9%	91.520	92.840
σ		1.108	1.640	0.131	0.359	1.325	0.662	1.2%	5.396	4.847
%RSD		1.237	1.967	1.259	3.484	1.427	221.000	1.2	5.896	5.221

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	93.700	91.620	89.930	-3.047	82.280	86.720	92.660	99.8%	88.130
2	14:11:03	88.600	90.320	87.280	-2.432	81.090	84.950	90.760	101.8%	87.680
3	14:11:30	99.130	90.940	86.910	-0.208	81.440	85.190	90.790	102.9%	87.950
x		93.810	90.960	88.040	-1.896	81.610	85.620	91.400	101.5%	87.920
σ		5.268	0.651	1.648	1.494	0.611	0.962	1.088	1.6%	0.230
%RSD		5.615	0.715	1.872	78.770	0.748	1.124	1.190	1.5	0.261

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	94.250	86.500	87.310	366.800	365.600	98.9%	88.280	85.050	89.930
2	14:11:03	94.180	88.240	88.520	365.800	361.200	100.7%	88.610	85.910	90.480
3	14:11:30	94.880	87.390	89.100	362.000	361.500	102.5%	87.970	85.770	89.040
x		94.440	87.380	88.310	364.900	362.800	100.7%	88.280	85.580	89.810
σ		0.387	0.868	0.911	2.538	2.469	1.8%	0.322	0.465	0.725
%RSD		0.409	0.993	1.032	0.696	0.681	1.8	0.365	0.543	0.807

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:10:37	89.630	83.370	91.5%
2	14:11:03	89.100	84.680	94.8%
3	14:11:30	87.670	84.560	96.8%
x		88.800	84.200	94.4%
σ		1.013	0.725	2.7%
%RSD		1.141	0.861	2.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004MD 6/6/2017 14:15:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	104.0%	83.580	87.680	90.100	T 5379.000	T 31380.000	T 30980.000	T 31720.000	82.700
2	14:16:26	103.9%	82.220	83.570	91.030	T 5269.000	T 30620.000	T 30190.000	T 31180.000	79.680
3	14:16:51	107.8%	80.570	92.690	89.930	T 5849.000	T 31650.000	T 31240.000	T 31980.000	86.870
x		105.3%	82.120	87.980	90.360	T 5499.000	T 31220.000	T 30800.000	T 31630.000	83.080
σ		2.2%	1.507	4.568	0.593	T 307.800	T 536.400	T 548.700	T 403.800	3.608
%RSD		2.1	1.835	5.192	0.656	T 5.597	T 1.718	T 1.781	T 1.277	4.343

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	T 7667.000	T 34880.000	T 3415.000	89750.000	T 86960.000	T 114.5%	74.930	75.090	74.200
2	14:16:26	T 7427.000	T 34180.000	T 3343.000	88010.000	T 85980.000	T 116.8%	74.910	72.490	71.640
3	14:16:51	T 7949.000	T 35840.000	T 3657.000	94550.000	T 93600.000	106.9%	81.960	78.530	77.900
x		T 7681.000	T 34960.000	T 3472.000	90770.000	T 88850.000	T 112.7%	77.270	75.370	74.580
σ		T 261.100	T 834.500	T 164.500	3389.000	T 4147.000	T 5.2%	4.062	3.030	3.149
%RSD		T 3.400	T 2.387	T 4.738	3.733	T 4.668	T 4.6	5.257	4.020	4.223

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	3.504	TM 1864.000	T 2319.000	2680.000	80.920	93.190	72.510	87.660	91.330
2	14:16:26	3.402	TM 1834.000	T 2289.000	2635.000	80.740	91.870	71.380	84.410	89.700
3	14:16:51	3.534	TM 1950.000	T 2447.000	2853.000	85.120	90.820	75.430	83.690	90.310
x		3.480	TM 1883.000	T 2352.000	2723.000	82.260	91.960	73.110	85.250	90.450
σ		0.070	TM 60.170	T 83.820	115.100	2.479	1.191	2.091	2.114	0.823
%RSD		1.997	TM 3.196	T 3.564	4.225	3.013	1.295	2.860	2.480	0.910

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	79.550	75.930	9.170	9.238	85.190	0.007	102.5%	76.940	77.100
2	14:16:26	77.670	75.520	10.230	9.195	80.720	0.543	103.5%	76.580	78.140
3	14:16:51	78.350	75.750	8.505	10.090	80.980	0.342	105.2%	84.890	86.560
x		78.530	75.730	9.301	9.509	82.300	0.297	103.7%	79.470	80.600
σ		0.954	0.206	0.869	0.506	2.511	0.271	1.4%	4.698	5.187
%RSD		1.215	0.272	9.342	5.321	3.051	91.040	1.3	5.911	6.436

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	78.670	82.850	78.990	-1.781	73.240	77.450	81.420	97.9%	79.160
2	14:16:26	78.920	80.400	79.210	-1.434	72.790	77.510	80.600	100.9%	78.260
3	14:16:51	87.360	81.740	77.630	-0.974	72.360	77.120	80.380	101.4%	78.550
x		81.650	81.670	78.610	-1.396	72.800	77.360	80.800	100.1%	78.660
σ		4.949	1.227	0.856	0.405	0.442	0.208	0.549	1.9%	0.461
%RSD		6.061	1.502	1.089	28.990	0.608	0.269	0.679	1.9	0.586

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	84.650	78.070	78.380	352.400	349.400	97.6%	79.230	76.850	80.690
2	14:16:26	83.820	77.520	78.800	349.000	346.700	100.9%	79.410	75.790	80.610
3	14:16:51	84.570	77.880	78.020	349.600	348.400	101.7%	79.630	76.950	80.310
x		84.350	77.820	78.400	350.300	348.200	100.1%	79.430	76.530	80.540
σ		0.460	0.278	0.388	1.817	1.356	2.2%	0.201	0.645	0.201
%RSD		0.545	0.357	0.495	0.519	0.389	2.2	0.253	0.843	0.249

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:16:01	79.310	75.450	91.6%
2	14:16:26	79.390	74.600	94.0%
3	14:16:51	79.650	75.690	95.5%
x		79.450	75.240	93.7%
σ		0.175	0.568	2.0%
%RSD		0.221	0.755	2.1

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004SD(5) 6/6/2017 14:20:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	101.8%	0.003	2.360	1.893	┬1032.000	┬6661.000	┬6549.000	┬6705.000	0.887
2	14:21:48	105.9%	-0.019	1.870	1.970	┬1027.000	┬6608.000	┬6415.000	┬6639.000	0.833
3	14:22:13	106.4%	-0.015	2.301	1.635	┬1016.000	┬6465.000	┬6383.000	┬6528.000	0.764
x		104.7%	-0.010	2.177	1.833	┬1025.000	┬6578.000	┬6449.000	┬6624.000	0.828
σ		2.5%	0.012	0.268	0.176	┬8.176	┬101.400	┬87.850	┬89.610	0.062
%RSD		2.4	115.500	12.290	9.573	┬0.798	┬1.542	┬1.362	┬1.353	7.488

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	┬1534.000	┬7511.000	578.000	19430.000	┬19220.000	106.1%	0.174	0.097	0.030
2	14:21:48	┬1541.000	┬7609.000	583.000	19340.000	┬19280.000	104.1%	0.113	0.043	0.024
3	14:22:13	┬1512.000	┬7454.000	576.200	19210.000	┬19270.000	105.4%	0.213	0.044	0.026
x		┬1529.000	┬7525.000	579.100	19320.000	┬19260.000	105.2%	0.166	0.062	0.026
σ		┬15.330	┬78.530	3.520	110.800	┬33.080	1.0%	0.050	0.031	0.003
%RSD		┬1.003	┬1.044	0.608	0.573	┬0.172	1.0	30.250	49.710	12.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	0.847	┬389.800	┬304.900	383.600	1.340	1.978	1.089	1.247	2.943
2	14:21:48	0.921	┬403.500	┬303.100	384.800	1.415	2.001	1.115	1.179	2.918
3	14:22:13	1.006	┬396.000	322.400	381.000	1.347	1.874	1.072	1.194	2.671
x		0.925	┬396.400	┬310.100	383.100	1.368	1.951	1.092	1.206	2.844
σ		0.080	┬6.859	┬10.710	1.942	0.041	0.067	0.021	0.036	0.150
%RSD		8.645	┬1.730	┬3.453	0.507	3.019	3.459	1.968	2.968	5.273

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	-0.014	-0.185	0.880	1.209	-0.668	-0.917	101.6%	-0.083	-0.094
2	14:21:48	-0.160	0.016	1.199	1.843	-0.301	-0.746	103.1%	0.070	-0.008
3	14:22:13	0.076	-0.094	1.478	1.315	-0.122	0.341	105.4%	-0.043	-0.040
x		-0.033	-0.088	1.186	1.456	-0.364	-0.441	103.4%	-0.019	-0.047
σ		0.119	0.101	0.299	0.340	0.278	0.682	1.9%	0.079	0.043
%RSD		364.700	114.500	25.240	23.350	76.500	154.800	1.9	424.700	91.390

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	-0.115	1.097	0.002	-0.414	0.005	-0.007	-0.012	100.6%	0.052
2	14:21:48	-0.056	0.043	-0.003	-0.023	0.001	-0.008	-0.003	102.8%	0.014
3	14:22:13	-0.088	1.630	-0.002	-0.612	0.001	-0.015	-0.013	103.2%	0.034
x		-0.086	0.924	-0.001	-0.350	0.002	-0.010	-0.009	102.2%	0.033
σ		0.030	0.808	0.003	0.300	0.002	0.004	0.006	1.4%	0.019
%RSD		34.460	87.460	223.200	85.710	97.690	43.270	62.880	1.4	56.810

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	0.173	-0.002	-0.003	56.330	55.800	98.5%	0.029	0.030	0.079
2	14:21:48	0.036	0.020	0.022	55.370	55.440	100.3%	0.031	0.023	0.078
3	14:22:13	0.279	0.012	-0.016	56.190	54.920	103.4%	0.022	0.023	0.086
x		0.163	0.010	0.001	55.960	55.380	100.7%	0.027	0.025	0.081
σ		0.122	0.011	0.019	0.519	0.442	2.5%	0.005	0.004	0.004
%RSD		74.890	111.900	1969.000	0.927	0.798	2.5	18.920	16.550	4.753

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:21:22	0.052	0.072	96.5%
2	14:21:48	0.071	0.061	99.5%
3	14:22:13	0.059	0.071	100.9%
x		0.061	0.068	99.0%
σ		0.010	0.006	2.3%
%RSD		16.260	9.119	2.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004PS 6/6/2017 14:26:19

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	102.8%	94.490	108.200	107.700	T 5798.000	T 31690.000	T 31780.000	T 32750.000	102.100
2	14:27:10	104.0%	93.540	109.500	106.800	T 5850.000	T 32020.000	T 31690.000	T 32560.000	99.970
3	14:27:36	107.6%	90.690	99.220	104.700	T 5352.000	T 30280.000	T 29990.000	T 30340.000	93.280
x		104.8%	92.910	105.600	106.400	T 5667.000	T 31330.000	T 31150.000	T 31880.000	98.440
σ		2.5%	1.978	5.585	1.536	T 273.900	T 923.200	T 1009.000	T 1342.000	4.590
%RSD		2.3	2.129	5.287	1.444	T 4.833	T 2.947	T 3.240	T 4.209	4.662

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	T 8212.000	T 35920.000	T 3665.000	94070.000	T 91840.000	106.3%	94.090	89.490	88.950
2	14:27:10	T 8123.000	T 36190.000	T 3678.000	94530.000	T 92580.000	106.0%	95.980	91.130	90.660
3	14:27:36	T 7493.000	T 33740.000	T 3399.000	86270.000	T 86120.000	T 115.0%	86.150	85.450	83.730
x		T 7942.000	T 35280.000	T 3581.000	91620.000	T 90180.000	T 109.1%	92.070	88.690	87.780
σ		T 392.200	T 1341.000	T 157.400	4640.000	T 3533.000	T 5.2%	5.218	2.924	3.610
%RSD		T 4.938	T 3.800	T 4.396	5.064	T 3.917	T 4.7	5.667	3.297	4.112

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	4.161	TM 1942.000	T 2503.000	2939.000	95.040	102.800	94.670	110.400	110.300
2	14:27:10	2.600	TM 1944.000	T 2523.000	2923.000	96.170	102.700	96.690	108.800	107.000
3	14:27:36	2.871	TM 1814.000	T 2392.000	2713.000	91.420	101.300	92.520	106.500	103.100
x		3.211	TM 1900.000	T 2473.000	2858.000	94.210	102.300	94.630	108.600	106.800
σ		0.834	TM 74.840	T 70.370	125.900	2.481	0.825	2.086	1.993	3.616
%RSD		25.970	TM 3.939	T 2.846	4.406	2.634	0.806	2.205	1.836	3.386

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	89.550	82.530	7.280	7.411	97.730	0.045	102.2%	94.280	94.160
2	14:27:10	88.590	84.110	7.556	8.211	93.200	-0.341	102.1%	96.590	97.700
3	14:27:36	87.710	82.430	7.711	8.410	94.630	0.539	103.8%	90.030	92.290
x		88.620	83.020	7.516	8.010	95.190	0.081	102.7%	93.630	94.710
σ		0.920	0.945	0.218	0.529	2.313	0.441	0.9%	3.324	2.748
%RSD		1.038	1.138	2.904	6.599	2.430	544.000	0.9	3.550	2.901

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	97.080	98.210	91.510	-2.223	83.060	87.900	93.740	97.9%	89.870
2	14:27:10	97.940	93.770	89.620	-0.578	83.560	87.720	92.640	99.8%	89.380
3	14:27:36	92.870	92.380	88.150	-0.580	82.730	88.660	91.470	101.1%	89.790
x		95.960	94.790	89.760	-1.127	83.120	88.100	92.620	99.6%	89.680
σ		2.712	3.046	1.687	0.950	0.414	0.499	1.136	1.6%	0.262
%RSD		2.826	3.213	1.879	84.240	0.498	0.567	1.227	1.6	0.292

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	97.980	77.590	79.390	360.700	355.100	97.0%	90.320	87.820	92.120
2	14:27:10	96.570	78.410	79.640	357.200	356.700	99.9%	90.510	87.680	92.330
3	14:27:36	97.850	78.270	79.300	359.700	356.900	101.4%	89.290	87.710	91.430
x		97.470	78.090	79.440	359.200	356.200	99.4%	90.040	87.740	91.960
σ		0.781	0.437	0.179	1.791	0.952	2.3%	0.657	0.078	0.472
%RSD		0.801	0.559	0.225	0.499	0.267	2.3	0.730	0.089	0.513

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:26:44	91.130	86.430	90.7%
2	14:27:10	90.840	86.330	93.3%
3	14:27:36	90.260	86.780	96.0%
x		90.740	86.510	93.4%
σ		0.441	0.233	2.7%
%RSD		0.486	0.269	2.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-005 6/6/2017 14:31:41

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	104.4%	0.027	6.577	6.673	T 4534.000	T 29920.000	T 29340.000	T 30410.000	3.965
2	14:32:33	104.6%	-0.010	7.121	6.939	T 5018.000	T 31760.000	T 31490.000	T 32330.000	4.587
3	14:32:59	107.5%	-0.011	6.731	6.346	T 4813.000	T 30650.000	T 30310.000	T 31120.000	4.694
x		105.5%	0.002	6.810	6.653	T 4788.000	T 30780.000	T 30380.000	T 31290.000	4.416
σ		1.7%	0.022	0.281	0.297	T 243.100	T 927.500	T 1076.000	T 968.200	0.394
%RSD		1.6	1282.000	4.121	4.460	T 5.078	T 3.014	T 3.542	T 3.095	8.911

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	T 6847.000	T 35740.000	T 2508.000	87110.000	T 85000.000	T 115.3%	0.959	-0.001	0.186
2	14:32:33	T 7341.000	T 37390.000	T 2713.000	92970.000	T 92180.000	106.8%	1.102	0.169	0.218
3	14:32:59	T 7297.000	T 37480.000	T 2776.000	93160.000	T 91690.000	107.6%	0.974	-0.057	0.218
x		T 7162.000	T 36870.000	T 2665.000	91080.000	T 89620.000	T 109.9%	1.012	0.037	0.207
σ		T 273.300	T 978.400	T 140.400	3439.000	T 4012.000	T 4.7%	0.079	0.117	0.018
%RSD		T 3.816	T 2.653	T 5.267	3.775	T 4.476	T 4.3	7.762	316.800	8.875

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	4.298	TM 1736.000	T 1501.000	1845.000	5.870	10.110	0.208	0.554	9.618
2	14:32:33	4.415	TM 1832.000	T 1583.000	1988.000	6.167	9.363	0.219	0.605	9.510
3	14:32:59	4.332	TM 1865.000	T 1608.000	1987.000	6.210	9.919	0.209	0.467	9.186
x		4.348	TM 1811.000	T 1564.000	1940.000	6.083	9.798	0.212	0.542	9.438
σ		0.060	TM 66.550	T 55.940	82.230	0.185	0.389	0.006	0.070	0.225
%RSD		1.383	TM 3.675	T 3.576	4.239	3.046	3.969	2.991	12.890	2.383

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	0.826	-0.284	7.659	8.769	-0.180	-1.320	101.1%	0.192	0.147
2	14:32:33	0.760	0.057	7.503	7.638	-0.206	-0.569	103.4%	0.383	0.297
3	14:32:59	0.622	0.010	7.975	7.972	-0.526	0.186	103.9%	0.416	0.321
x		0.736	-0.072	7.712	8.127	-0.304	-0.568	102.8%	0.330	0.255
σ		0.104	0.185	0.241	0.581	0.192	0.753	1.5%	0.121	0.094
%RSD		14.170	256.200	3.119	7.153	63.330	132.700	1.5	36.740	36.870

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	0.166	1.739	-0.005	-0.633	0.007	-0.012	-0.003	97.5%	0.037
2	14:32:33	0.274	4.156	-0.003	-1.488	0.002	-0.016	-0.020	99.8%	0.060
3	14:32:59	0.398	2.433	-0.003	-0.911	-0.004	-0.002	-0.018	100.7%	0.043
x		0.279	2.776	-0.004	-1.011	0.001	-0.010	-0.014	99.3%	0.047
σ		0.116	1.244	0.001	0.436	0.005	0.007	0.009	1.7%	0.012
%RSD		41.520	44.830	29.330	43.130	387.900	74.310	66.590	1.7	25.030

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	0.314	0.326	0.339	266.400	264.200	97.3%	0.052	0.039	0.001
2	14:32:33	0.623	0.360	0.387	267.600	266.400	99.6%	0.041	0.036	0.003
3	14:32:59	0.425	0.334	0.370	267.100	265.600	100.3%	0.056	0.038	0.006
x		0.454	0.340	0.365	267.000	265.400	99.1%	0.049	0.038	0.003
σ		0.157	0.018	0.025	0.623	1.103	1.5%	0.008	0.002	0.003
%RSD		34.470	5.229	6.736	0.233	0.416	1.6	16.150	3.980	85.970

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:32:07	0.004	-0.001	89.6%
2	14:32:33	-0.001	-0.000	92.7%
3	14:32:59	-0.001	0.003	95.2%
x		0.001	0.001	92.5%
σ		0.003	0.002	2.8%
%RSD		420.600	258.000	3.0

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-006 6/6/2017 14:37:05

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	105.6%	0.010	6.336	5.485	T 3135.000	T 18300.000	T 18060.000	T 18480.000	9.437
2	14:37:58	108.1%	-0.011	6.067	5.191	T 3186.000	T 18300.000	T 18150.000	T 18720.000	9.607
3	14:38:23	107.7%	0.009	6.211	5.465	T 3155.000	T 18210.000	T 17810.000	T 17970.000	9.305
x		107.1%	0.003	6.205	5.380	T 3158.000	T 18270.000	T 18000.000	T 18390.000	9.450
σ		1.3%	0.012	0.135	0.164	T 25.530	T 52.290	T 177.800	T 384.300	0.152
%RSD		1.2	472.500	2.172	3.055	T 0.808	T 0.286	T 0.987	T 2.090	1.604
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	T 3307.000	T 35430.000	T 4155.000	41580.000	T 40810.000	104.8%	0.618	-0.027	1.083
2	14:37:58	T 3369.000	T 36200.000	T 4177.000	42200.000	T 42050.000	103.6%	0.721	-0.179	1.013
3	14:38:23	T 3283.000	T 35880.000	T 4175.000	41360.000	T 41560.000	105.1%	0.438	0.043	1.058
x		T 3320.000	T 35840.000	T 4169.000	41720.000	T 41470.000	104.5%	0.592	-0.054	1.051
σ		T 44.420	T 386.700	T 12.400	433.200	T 623.100	0.8%	0.143	0.113	0.035
%RSD		T 1.338	T 1.079	T 0.297	1.038	T 1.502	0.8	24.200	208.800	3.367
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	4.349	TM 4690.000	147.400	341.300	7.597	3.593	0.778	1.048	4.015
2	14:37:58	4.380	TM 4677.000	147.100	326.500	7.596	3.380	0.827	0.957	3.794
3	14:38:23	4.049	TM 4663.000	147.900	318.300	7.470	3.242	0.762	1.011	4.156
x		4.259	TM 4677.000	147.500	328.700	7.554	3.405	0.789	1.005	3.989
σ		0.183	TM 13.600	0.379	11.670	0.073	0.177	0.034	0.046	0.182
%RSD		4.290	TM 0.291	0.257	3.551	0.972	5.190	4.274	4.566	4.571
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	0.283	-0.490	3.641	3.708	0.330	0.651	101.8%	-0.144	-0.159
2	14:37:58	0.330	-0.119	3.550	3.198	-0.212	-0.169	103.4%	-0.115	-0.288
3	14:38:23	0.141	0.295	3.425	3.061	-0.369	-0.395	104.5%	-0.136	-0.231
x		0.251	-0.105	3.538	3.322	-0.084	0.029	103.2%	-0.132	-0.226
σ		0.098	0.393	0.109	0.341	0.367	0.551	1.3%	0.015	0.065
%RSD		39.070	375.100	3.069	10.260	438.600	1886.000	1.3	11.470	28.580
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	-0.223	5.670	0.033	-2.093	0.025	0.074	0.101	97.3%	0.041
2	14:37:58	-0.206	4.267	0.024	-1.550	0.034	0.112	0.090	99.8%	0.053
3	14:38:23	-0.192	5.005	0.033	-1.846	0.035	0.097	0.086	100.1%	0.044
x		-0.207	4.981	0.030	-1.830	0.031	0.094	0.092	99.1%	0.046
σ		0.015	0.702	0.005	0.272	0.006	0.020	0.008	1.5%	0.006
%RSD		7.442	14.090	16.600	14.860	17.580	20.700	8.587	1.5	13.490
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	0.887	0.110	0.136	128.300	129.700	96.4%	0.019	0.015	0.017
2	14:37:58	0.638	0.121	0.140	130.100	128.500	98.8%	0.017	0.015	0.028
3	14:38:23	0.724	0.151	0.127	129.400	129.100	100.5%	0.017	0.018	0.025
x		0.750	0.127	0.134	129.300	129.100	98.6%	0.018	0.016	0.024
σ		0.127	0.021	0.007	0.904	0.608	2.1%	0.001	0.002	0.006
%RSD		16.920	16.480	5.134	0.699	0.471	2.1	8.083	11.080	25.170
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	14:37:32	0.003	0.015	91.5%						
2	14:37:58	0.016	0.022	94.4%						
3	14:38:23	0.012	0.022	95.3%						
x		0.011	0.020	93.8%						
σ		0.007	0.004	2.0%						
%RSD		64.600	21.230	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-001 6/6/2017 14:42:29

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	105.9%	0.002	10.780	9.710	┬5055.000	┬19440.000	┬19240.000	┬19440.000	8.900
2	14:43:21	108.5%	-0.008	11.050	10.040	┬4921.000	┬19060.000	┬18780.000	┬19250.000	9.005
3	14:43:47	108.4%	-0.008	9.030	9.636	┬4541.000	┬18330.000	┬18040.000	┬18430.000	8.074
x		107.6%	-0.005	10.290	9.795	┬4839.000	┬18940.000	┬18690.000	┬19040.000	8.660
σ		1.4%	0.005	1.097	0.215	┬266.900	┬561.900	┬608.800	┬538.200	0.510
%RSD		1.3	115.300	10.670	2.190	┬5.515	┬2.967	┬3.258	┬2.827	5.886

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	┬6451.000	┬35140.000	┬3234.000	76850.000	┬75330.000	107.3%	0.988	0.144	0.767
2	14:43:21	┬6472.000	┬34780.000	┬3213.000	76760.000	┬76690.000	105.8%	0.816	0.149	0.797
3	14:43:47	┬5886.000	┬33000.000	┬2973.000	70370.000	┬69750.000	┬115.6%	0.623	-0.007	0.750
x		┬6270.000	┬34310.000	┬3140.000	74660.000	┬73920.000	┬109.6%	0.809	0.095	0.771
σ		┬332.400	┬1144.000	┬144.800	3716.000	┬3677.000	┬5.2%	0.183	0.089	0.024
%RSD		┬5.301	┬3.334	┬4.611	4.977	┬4.974	┬4.8	22.580	93.310	3.145

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	4.373	0.890	10.150	373.200	-1.432	0.777	0.179	0.295	1.699
2	14:43:21	4.220	0.861	9.083	354.900	-1.430	0.890	0.120	0.340	1.687
3	14:43:47	4.190	0.810	6.126	320.200	-1.361	0.847	0.120	0.294	1.895
x		4.261	0.854	8.453	349.400	-1.408	0.838	0.140	0.310	1.760
σ		0.098	0.040	2.084	26.920	0.040	0.057	0.034	0.027	0.117
%RSD		2.303	4.728	24.660	7.705	2.841	6.785	24.470	8.631	6.647

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	-0.382	-0.449	3.102	2.720	-0.533	0.675	100.7%	-0.118	-0.158
2	14:43:21	-0.015	-0.038	3.043	3.193	-0.290	0.633	102.2%	0.008	-0.244
3	14:43:47	-0.045	-0.187	3.308	2.131	-0.047	-0.574	102.4%	-0.121	-0.158
x		-0.147	-0.225	3.151	2.681	-0.290	0.245	101.8%	-0.077	-0.187
σ		0.204	0.208	0.139	0.532	0.243	0.709	0.9%	0.074	0.049
%RSD		138.100	92.620	4.407	19.850	83.780	289.500	0.9	95.700	26.350

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	-0.123	1.515	-0.008	-0.550	-0.003	-0.003	-0.007	97.2%	0.018
2	14:43:21	-0.102	1.210	-0.004	-0.458	0.000	-0.011	-0.010	98.9%	0.036
3	14:43:47	-0.102	1.726	-0.004	-0.649	0.002	-0.004	-0.001	99.6%	-0.005
x		-0.109	1.484	-0.006	-0.552	-0.001	-0.006	-0.006	98.6%	0.016
σ		0.012	0.259	0.002	0.095	0.002	0.004	0.005	1.2%	0.021
%RSD		11.080	17.460	42.260	17.250	452.400	74.940	81.610	1.3	127.200

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	0.281	0.076	0.073	198.700	197.500	95.5%	0.005	-0.003	0.007
2	14:43:21	0.208	0.087	0.082	198.500	196.900	97.0%	0.000	-0.005	0.010
3	14:43:47	0.276	0.055	0.079	198.300	197.100	98.8%	0.004	-0.004	0.016
x		0.255	0.073	0.078	198.500	197.100	97.1%	0.003	-0.004	0.011
σ		0.041	0.017	0.004	0.185	0.330	1.6%	0.003	0.001	0.005
%RSD		15.970	22.680	5.753	0.093	0.167	1.7	87.120	19.750	43.340

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:42:55	0.008	0.011	89.4%
2	14:43:21	0.016	0.012	91.8%
3	14:43:47	-0.005	0.010	93.1%
x		0.006	0.011	91.4%
σ		0.011	0.001	1.9%
%RSD		172.700	7.423	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-002 6/6/2017 14:47:53

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	109.2%	-0.012	3.568	2.976	468.700	T 15250.000	T 15130.000	T 15490.000	10.810
2	14:48:45	113.1%	-0.017	3.422	2.869	459.900	T 14960.000	T 14800.000	T 15280.000	10.760
3	14:49:11	116.9%	-0.010	3.165	2.742	461.000	T 14880.000	T 14700.000	T 15060.000	11.060
x		113.1%	-0.013	3.385	2.862	463.200	T 15030.000	T 14870.000	T 15280.000	10.880
σ		3.9%	0.003	0.204	0.117	4.784	T 194.300	T 224.200	T 216.200	0.164
%RSD		3.4	27.300	6.022	4.095	1.033	T 1.293	T 1.508	T 1.415	1.504

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	T 4123.000	T 36100.000	941.200	17890.000	T 17830.000	107.0%	0.512	0.178	1.740
2	14:48:45	T 4149.000	T 36660.000	941.900	17850.000	T 17910.000	108.5%	0.622	0.119	1.748
3	14:49:11	T 4138.000	T 36420.000	942.700	17590.000	T 17670.000	107.2%	0.685	-0.032	1.721
x		T 4137.000	T 36390.000	941.900	17780.000	T 17800.000	107.5%	0.606	0.088	1.737
σ		T 12.980	T 282.300	0.775	163.200	T 120.300	0.8%	0.087	0.108	0.014
%RSD		T 0.314	T 0.776	0.082	0.918	T 0.676	0.8	14.370	122.500	0.795

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	4.952	0.890	14.320	100.400	-0.333	0.131	0.123	0.351	2.443
2	14:48:45	4.824	0.875	12.800	94.390	-0.336	0.151	0.139	0.405	2.504
3	14:49:11	5.000	0.898	12.710	90.140	-0.326	0.112	0.113	0.331	2.687
x		4.925	0.887	13.280	94.980	-0.331	0.131	0.125	0.362	2.545
σ		0.091	0.011	0.909	5.163	0.005	0.020	0.013	0.038	0.127
%RSD		1.848	1.273	6.848	5.436	1.572	15.090	10.370	10.530	4.991

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	0.035	-0.436	2.769	2.678	-0.248	-1.113	101.5%	-0.105	-0.177
2	14:48:45	-0.160	-0.536	3.514	4.834	-0.319	-0.196	103.7%	-0.083	-0.226
3	14:49:11	-0.086	-0.043	2.586	3.603	-0.143	-1.372	105.3%	-0.032	-0.039
x		-0.070	-0.338	2.956	3.705	-0.237	-0.894	103.5%	-0.073	-0.147
σ		0.099	0.261	0.492	1.082	0.089	0.618	1.9%	0.037	0.097
%RSD		140.000	76.970	16.630	29.200	37.570	69.130	1.9	51.370	66.090

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	-0.184	1.858	-0.005	-0.676	-0.001	-0.018	-0.012	99.3%	0.020
2	14:48:45	-0.127	0.438	-0.008	-0.150	-0.002	-0.004	-0.004	101.5%	0.017
3	14:49:11	-0.115	1.194	-0.006	-0.391	-0.003	-0.011	-0.007	102.2%	0.014
x		-0.142	1.163	-0.007	-0.406	-0.002	-0.011	-0.008	101.0%	0.017
σ		0.037	0.711	0.002	0.263	0.001	0.007	0.004	1.5%	0.003
%RSD		25.990	61.100	26.270	64.890	57.570	66.320	51.480	1.5	15.890

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	0.337	0.041	0.058	M 678.900	M 684.400	97.0%	-0.004	-0.006	0.021
2	14:48:45	0.160	0.043	0.047	M 681.400	M 680.400	99.7%	-0.006	-0.008	0.023
3	14:49:11	0.198	0.058	0.057	M 682.200	M 685.200	100.6%	-0.008	-0.009	0.039
x		0.232	0.047	0.054	M 680.800	M 683.300	99.1%	-0.006	-0.008	0.028
σ		0.093	0.009	0.006	M 1.722	M 2.586	1.8%	0.002	0.001	0.010
%RSD		40.150	19.300	10.920	M 0.253	M 0.379	1.9	39.680	18.550	34.930

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:48:19	0.017	0.028	92.7%
2	14:48:45	0.045	0.040	94.9%
3	14:49:11	0.030	0.028	97.3%
x		0.031	0.032	95.0%
σ		0.014	0.007	2.3%
%RSD		46.020	22.140	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-003 6/6/2017 14:53:17

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	108.7%	-0.016	23.630	21.810	┬2566.000	┬24100.000	┬23580.000	┬24340.000	16.030
2	14:54:08	111.7%	-0.016	22.500	20.970	┬2571.000	┬23750.000	┬23190.000	┬24020.000	15.840
3	14:54:34	113.8%	-0.036	22.370	20.750	┬2563.000	┬23890.000	┬23520.000	┬24110.000	16.050
x		111.4%	-0.023	22.830	21.170	┬2567.000	┬23910.000	┬23430.000	┬24160.000	15.970
σ		2.5%	0.012	0.693	0.561	┬4.173	┬176.700	┬207.900	┬167.700	0.118
%RSD		2.3	51.070	3.037	2.649	┬0.163	┬0.739	┬0.887	┬0.694	0.740

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	┬5076.000	┬33730.000	┬1480.000	62580.000	┬61550.000	108.7%	0.756	0.165	0.736
2	14:54:08	┬5121.000	┬34790.000	┬1517.000	63070.000	┬62250.000	108.4%	0.731	0.230	0.852
3	14:54:34	┬5011.000	┬34060.000	┬1484.000	61400.000	┬61470.000	109.9%	0.577	0.334	0.771
x		┬5069.000	┬34200.000	┬1494.000	62350.000	┬61760.000	109.0%	0.688	0.243	0.786
σ		┬55.150	┬544.100	┬20.140	860.800	┬428.800	0.8%	0.097	0.085	0.060
%RSD		┬1.088	┬1.591	┬1.348	1.381	┬0.694	0.7	14.140	34.960	7.575

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	4.747	0.984	38.010	333.200	-1.149	1.207	0.443	0.704	2.711
2	14:54:08	4.475	1.034	38.910	334.900	-1.141	1.091	0.434	0.674	2.709
3	14:54:34	4.533	1.015	36.730	312.400	-1.117	1.173	0.429	0.617	2.893
x		4.585	1.011	37.880	326.800	-1.136	1.157	0.435	0.665	2.771
σ		0.143	0.026	1.093	12.550	0.017	0.060	0.007	0.044	0.106
%RSD		3.128	2.528	2.886	3.841	1.457	5.146	1.573	6.655	3.810

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	-0.272	0.518	6.399	7.959	0.264	-0.552	102.4%	1.098	1.262
2	14:54:08	-0.049	0.194	6.644	6.974	0.439	-0.011	103.9%	1.154	1.208
3	14:54:34	-0.052	0.104	7.007	7.553	0.063	-0.825	106.0%	1.256	1.103
x		-0.125	0.272	6.683	7.495	0.255	-0.462	104.1%	1.169	1.191
σ		0.128	0.218	0.306	0.495	0.188	0.414	1.8%	0.080	0.081
%RSD		102.700	79.940	4.573	6.604	73.700	89.570	1.8	6.844	6.794

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	1.037	2.100	-0.002	-0.788	-0.002	-0.019	-0.015	99.4%	0.030
2	14:54:08	1.214	1.352	-0.000	-0.510	-0.002	-0.023	-0.006	101.0%	0.020
3	14:54:34	1.184	1.127	-0.005	-0.427	-0.002	-0.023	-0.006	102.6%	0.009
x		1.145	1.526	-0.002	-0.575	-0.002	-0.022	-0.009	101.0%	0.020
σ		0.095	0.509	0.003	0.189	0.000	0.002	0.005	1.6%	0.011
%RSD		8.288	33.370	107.900	32.790	22.600	11.220	61.070	1.6	53.290

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	0.230	0.045	0.048	156.600	154.500	96.4%	0.018	0.012	0.040
2	14:54:08	0.187	0.026	0.046	153.200	152.600	99.9%	0.015	0.016	0.025
3	14:54:34	0.166	0.032	0.019	157.600	153.900	100.9%	0.032	0.004	0.040
x		0.194	0.034	0.038	155.800	153.600	99.1%	0.022	0.011	0.035
σ		0.032	0.009	0.017	2.299	0.983	2.4%	0.009	0.006	0.009
%RSD		16.670	27.870	43.940	1.476	0.640	2.4	41.590	55.790	24.580

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:53:43	0.050	0.035	91.9%
2	14:54:08	0.027	0.027	93.9%
3	14:54:34	0.037	0.025	95.7%
x		0.038	0.029	93.8%
σ		0.012	0.006	1.9%
%RSD		30.870	19.550	2.0

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9475 6/6/2017 14:58:40 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	96.5%	306.500	288.500	307.600	┬59510.000	┬56680.000	┬55500.000	┬57420.000	298.200
2	14:59:30	97.1%	301.600	280.900	301.800	┬59050.000	┬56890.000	┬56390.000	┬57740.000	292.200
3	14:59:56	100.6%	296.500	290.100	295.100	┬59160.000	┬55360.000	┬54920.000	┬56890.000	302.400
x		98.1%	301.500	286.500	301.500	┬59240.000	┬56310.000	┬55600.000	┬57350.000	297.600
σ		2.2%	4.996	4.898	6.242	┬240.700	┬829.800	┬740.500	┬426.900	5.105
%RSD		2.3	1.657	1.709	2.071	┬0.406	┬1.474	┬1.332	┬0.744	1.716

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	┬3064.000	331.600	┬58120.000	60010.000	┬59270.000	104.8%	289.800	297.200	289.300
2	14:59:30	┬3006.000	341.100	┬57910.000	59460.000	┬59330.000	106.2%	286.000	296.600	285.300
3	14:59:56	┬3092.000	349.400	┬59380.000	59660.000	┬59450.000	105.1%	289.300	299.000	289.500
x		┬3054.000	340.700	┬58470.000	59710.000	┬59350.000	105.4%	288.400	297.600	288.000
σ		┬44.230	8.889	┬794.300	278.400	┬90.210	0.7%	2.039	1.258	2.412
%RSD		┬1.448	2.609	┬1.359	0.466	┬0.152	0.7	0.707	0.423	0.837

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	-6.232	┬292.900	┬56850.000	┬58480.000	287.700	294.800	265.500	310.300	303.100
2	14:59:30	-6.625	┬290.900	┬56350.000	┬57770.000	281.500	291.800	261.500	309.000	297.100
3	14:59:56	-5.812	┬295.600	┬57820.000	┬59600.000	285.500	292.700	264.700	301.700	294.800
x		-6.223	┬293.200	┬57010.000	┬58620.000	284.900	293.100	263.900	307.000	298.300
σ		0.406	┬2.360	┬750.900	┬920.400	3.109	1.547	2.102	4.657	4.267
%RSD		6.527	┬0.805	┬1.317	┬1.570	1.091	0.528	0.796	1.517	1.430

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	279.600	274.400	0.600	0.713	315.100	-0.075	99.7%	276.300	279.400
2	14:59:30	275.400	265.300	0.448	0.707	302.000	-0.135	101.7%	282.600	283.800
3	14:59:56	275.300	274.100	0.700	0.718	297.600	-1.131	102.7%	298.800	303.600
x		276.800	271.300	0.583	0.712	304.900	-0.447	101.4%	285.900	288.900
σ		2.452	5.179	0.127	0.006	9.134	0.593	1.6%	11.580	12.890
%RSD		0.886	1.909	21.820	0.776	2.996	132.700	1.6	4.050	4.462

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	284.400	276.900	294.200	-1.315	260.900	271.400	296.000	95.9%	277.300
2	14:59:30	291.000	273.700	293.100	-1.959	262.200	272.300	296.400	97.2%	279.800
3	14:59:56	310.700	272.500	286.500	2.124	262.100	271.500	292.400	98.3%	282.600
x		295.300	274.400	291.200	-0.384	261.800	271.800	294.900	97.1%	279.900
σ		13.700	2.297	4.172	2.195	0.724	0.473	2.200	1.2%	2.643
%RSD		4.637	0.837	1.433	572.400	0.277	0.174	0.746	1.2	0.944

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	300.500	274.800	276.600	290.200	289.800	95.2%	291.700	284.600	294.600
2	14:59:30	302.500	277.800	278.400	289.800	286.500	97.0%	289.100	285.000	293.300
3	14:59:56	304.100	280.500	281.300	289.400	288.400	98.1%	288.000	285.900	291.800
x		302.400	277.700	278.800	289.800	288.200	96.8%	289.600	285.200	293.200
σ		1.791	2.881	2.399	0.378	1.655	1.5%	1.913	0.710	1.397
%RSD		0.592	1.037	0.861	0.130	0.574	1.6	0.661	0.249	0.477

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:59:05	292.700	274.800	86.4%
2	14:59:30	290.600	276.800	88.9%
3	14:59:56	287.300	278.400	90.9%
x		290.200	276.700	88.7%
σ		2.701	1.804	2.2%
%RSD		0.931	0.652	2.5

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 15:04:00 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	107.3%	0.009	3.060	2.310	2.624	3.372	3.180	2.882	0.516
2	15:04:52	112.9%	0.014	2.036	2.121	2.226	2.847	3.143	2.937	0.697
3	15:05:17	113.0%	0.026	2.575	1.841	1.790	2.393	2.631	2.677	0.508
x		111.1%	0.016	2.557	2.091	2.213	2.870	2.985	2.832	0.573
σ		3.2%	0.009	0.512	0.236	0.417	0.490	0.307	0.137	0.107
%RSD		2.9	52.830	20.030	11.270	18.830	17.070	10.280	4.842	18.610

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	0.787	195.400	-1.181	5.822	3.350	112.9%	-0.043	0.075	0.017
2	15:04:52	0.890	206.500	-1.666	0.221	2.101	111.5%	-0.007	0.085	0.039
3	15:05:17	-0.390	221.600	-3.188	0.526	1.787	112.9%	0.010	0.084	0.037
x		0.429	207.800	-2.012	2.190	2.413	112.4%	-0.013	0.081	0.031
σ		0.711	13.140	1.047	3.150	0.827	0.8%	0.027	0.006	0.012
%RSD		165.700	6.324	52.040	143.800	34.280	0.7	202.100	6.828	38.420

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	0.037	0.033	5.745	3.445	-0.002	-0.101	-0.029	-0.032	0.025
2	15:04:52	0.057	0.031	4.751	3.109	0.001	-0.109	-0.029	-0.032	-0.019
3	15:05:17	0.035	0.028	3.349	1.455	-0.004	-0.110	-0.037	-0.066	-0.018
x		0.043	0.031	4.615	2.670	-0.002	-0.107	-0.032	-0.043	-0.004
σ		0.012	0.002	1.204	1.065	0.003	0.005	0.005	0.019	0.025
%RSD		28.610	7.577	26.080	39.900	143.000	4.452	14.520	45.180	688.400

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	-0.192	-0.024	-0.097	0.049	-0.622	0.129	105.1%	0.603	0.370
2	15:04:52	-0.052	-0.228	0.229	0.114	-0.117	-1.226	107.3%	0.828	0.696
3	15:05:17	-0.098	-0.002	-0.073	-0.115	-0.218	-0.128	107.8%	0.783	0.747
x		-0.114	-0.085	0.020	0.016	-0.319	-0.408	106.7%	0.738	0.604
σ		0.071	0.124	0.182	0.118	0.267	0.720	1.4%	0.119	0.205
%RSD		62.120	147.100	915.700	756.500	83.810	176.200	1.3	16.180	33.870

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	0.503	-0.323	0.004	0.192	0.014	-0.003	0.015	103.4%	0.075
2	15:04:52	0.750	0.060	0.008	0.049	0.016	-0.007	0.016	105.3%	0.089
3	15:05:17	0.792	-0.345	0.014	0.139	0.016	0.003	0.015	105.8%	0.143
x		0.681	-0.203	0.009	0.127	0.016	-0.002	0.016	104.8%	0.102
σ		0.156	0.228	0.005	0.073	0.001	0.005	0.001	1.3%	0.036
%RSD		22.920	112.400	59.610	57.300	6.852	223.900	3.905	1.2	35.190

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	0.053	0.402	0.438	0.023	-0.006	99.1%	0.011	0.018	0.014
2	15:04:52	0.154	0.454	0.493	0.033	0.019	100.6%	0.008	0.011	0.008
3	15:05:17	0.064	0.514	0.498	0.027	0.022	103.0%	0.013	0.007	0.010
x		0.090	0.457	0.476	0.028	0.012	100.9%	0.011	0.012	0.011
σ		0.055	0.056	0.033	0.005	0.015	2.0%	0.002	0.006	0.003
%RSD		61.300	12.250	7.020	19.150	131.100	2.0	22.350	46.550	23.980

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:04:26	-0.001	0.010	97.8%
2	15:04:52	0.004	0.004	100.3%
3	15:05:17	-0.004	0.011	101.3%
x		-0.000	0.008	99.8%
σ		0.004	0.004	1.8%
%RSD		1419.000	43.910	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-004 6/6/2017 15:09:21

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	110.2%	-0.012	7.565	7.674	┬589.800	┬21970.000	┬21550.000	┬21970.000	5.955
2	15:10:12	116.5%	-0.006	7.590	6.882	604.900	┬21490.000	┬21230.000	┬21820.000	6.096
3	15:10:38	115.9%	-0.017	7.220	7.091	593.400	┬21260.000	┬20970.000	┬21400.000	5.785
x		114.2%	-0.012	7.458	7.216	┬596.000	┬21570.000	┬21250.000	┬21730.000	5.945
σ		3.5%	0.006	0.207	0.411	┬7.917	┬362.600	┬287.600	┬299.100	0.156
%RSD		3.0	47.110	2.769	5.689	┬1.328	┬1.681	┬1.353	┬1.376	2.619

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	┬3851.000	┬35450.000	┬1172.000	25200.000	┬25060.000	111.1%	0.863	-0.090	0.091
2	15:10:12	┬3936.000	┬35290.000	┬1176.000	24800.000	┬24860.000	110.0%	0.817	-0.059	0.112
3	15:10:38	┬3846.000	┬35580.000	┬1179.000	24950.000	┬25020.000	110.6%	0.901	0.281	0.130
x		┬3878.000	┬35440.000	┬1176.000	24980.000	┬24980.000	110.6%	0.860	0.044	0.111
σ		┬50.260	┬146.900	┬3.917	205.700	┬107.000	0.6%	0.042	0.206	0.020
%RSD		┬1.296	┬0.415	┬0.333	0.823	┬0.428	0.5	4.896	464.500	17.720

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	4.390	3.057	18.290	137.300	-0.320	0.326	0.348	0.515	2.366
2	15:10:12	4.431	3.036	18.600	135.000	-0.319	0.241	0.302	0.501	2.695
3	15:10:38	3.990	3.038	17.410	125.800	-0.327	0.195	0.308	0.480	2.493
x		4.270	3.043	18.100	132.700	-0.322	0.254	0.319	0.499	2.518
σ		0.243	0.012	0.620	6.071	0.004	0.066	0.025	0.017	0.166
%RSD		5.699	0.388	3.428	4.575	1.235	26.040	7.769	3.506	6.599

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	0.123	-0.123	1.697	2.452	-0.101	-1.558	104.5%	1.948	2.039
2	15:10:12	0.158	0.187	2.161	1.417	-0.330	-0.090	106.7%	2.296	2.264
3	15:10:38	0.246	0.085	2.429	2.451	-0.189	-0.260	105.9%	2.301	1.973
x		0.176	0.050	2.096	2.106	-0.207	-0.636	105.7%	2.182	2.092
σ		0.063	0.158	0.371	0.597	0.116	0.803	1.1%	0.202	0.153
%RSD		36.120	316.500	17.690	28.350	55.940	126.300	1.0	9.279	7.295

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	2.060	1.764	0.001	-0.623	0.009	-0.008	-0.011	100.8%	0.036
2	15:10:12	2.351	2.519	-0.004	-0.903	0.004	-0.013	-0.003	103.2%	0.075
3	15:10:38	2.086	1.591	0.007	-0.599	0.003	-0.016	0.001	103.0%	0.053
x		2.166	1.958	0.001	-0.708	0.005	-0.012	-0.004	102.3%	0.055
σ		0.161	0.493	0.005	0.169	0.003	0.004	0.006	1.4%	0.019
%RSD		7.439	25.200	359.100	23.890	55.380	31.060	148.500	1.3	35.530

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	0.349	0.237	0.209	106.900	107.100	98.9%	-0.001	0.005	0.039
2	15:10:12	0.440	0.237	0.250	108.500	106.600	100.8%	0.002	-0.005	0.026
3	15:10:38	0.298	0.231	0.290	108.800	106.900	102.2%	0.006	-0.006	0.021
x		0.362	0.235	0.249	108.100	106.800	100.6%	0.002	-0.002	0.029
σ		0.072	0.003	0.041	1.049	0.248	1.7%	0.004	0.006	0.009
%RSD		19.820	1.431	16.400	0.971	0.232	1.7	154.700	290.400	32.220

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:09:47	0.008	0.021	93.2%
2	15:10:12	0.019	0.026	97.1%
3	15:10:38	0.024	0.011	97.4%
x		0.017	0.019	95.9%
σ		0.008	0.007	2.3%
%RSD		48.920	38.200	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-005 6/6/2017 15:14:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	107.7%	0.005	28.710	27.860	┬4922.000	┬22380.000	┬22530.000	┬23090.000	30.790
2	15:15:37	109.1%	-0.016	28.560	28.300	┬4928.000	┬22430.000	┬22340.000	┬22850.000	30.930
3	15:16:03	111.8%	-0.001	29.250	27.260	┬4917.000	┬22100.000	┬21820.000	┬22480.000	30.590
x		109.5%	-0.004	28.840	27.810	┬4922.000	┬22300.000	┬22230.000	┬22800.000	30.770
σ		2.1%	0.011	0.364	0.523	┬5.766	┬175.900	┬368.000	┬306.400	0.171
%RSD		1.9	275.900	1.263	1.880	┬0.117	┬0.789	┬1.655	┬1.344	0.555

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	┬6041.000	┬37930.000	┬2274.000	73070.000	┬71140.000	107.5%	1.205	0.060	0.732
2	15:15:37	┬5974.000	┬37340.000	┬2243.000	72070.000	┬71720.000	108.3%	1.376	0.327	0.719
3	15:16:03	┬5953.000	┬37730.000	┬2276.000	71540.000	┬71080.000	108.9%	1.287	0.301	0.703
x		┬5989.000	┬37670.000	┬2264.000	72230.000	┬71310.000	108.2%	1.290	0.229	0.718
σ		┬46.090	┬301.000	┬18.350	777.700	┬353.200	0.7%	0.085	0.147	0.015
%RSD		┬0.770	┬0.799	┬0.811	1.077	┬0.495	0.7	6.629	64.180	2.056

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	4.922	9.554	80.430	422.500	-1.337	0.700	0.124	0.379	4.365
2	15:15:37	4.575	9.414	77.260	407.500	-1.318	0.625	0.151	0.335	4.230
3	15:16:03	4.573	9.485	76.480	387.600	-1.317	0.691	0.127	0.248	4.098
x		4.690	9.484	78.060	405.900	-1.324	0.672	0.134	0.321	4.231
σ		0.201	0.070	2.092	17.530	0.012	0.041	0.015	0.067	0.133
%RSD		4.293	0.737	2.680	4.319	0.876	6.057	11.140	20.800	3.150

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	0.123	-0.315	5.077	4.953	0.555	-0.941	102.6%	0.228	0.064
2	15:15:37	0.147	0.210	4.784	4.613	0.054	-0.782	104.2%	0.201	0.182
3	15:16:03	-0.154	0.016	5.461	4.856	-0.367	0.353	104.5%	0.197	0.159
x		0.039	-0.030	5.107	4.808	0.081	-0.457	103.8%	0.209	0.135
σ		0.167	0.266	0.340	0.175	0.462	0.706	1.0%	0.017	0.062
%RSD		433.300	892.700	6.647	3.648	572.800	154.400	1.0	7.991	46.320

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	0.238	3.454	0.005	-1.289	0.004	-0.016	-0.003	99.4%	0.039
2	15:15:37	0.225	2.897	-0.003	-1.064	0.002	-0.020	-0.008	99.5%	0.037
3	15:16:03	0.265	0.415	-0.001	-0.164	0.005	-0.005	-0.009	101.1%	0.043
x		0.242	2.255	0.001	-0.839	0.004	-0.014	-0.007	100.0%	0.040
σ		0.020	1.617	0.004	0.596	0.002	0.008	0.003	1.0%	0.003
%RSD		8.360	71.720	806.500	70.990	39.060	56.050	47.990	1.0	7.173

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	0.602	0.123	0.104	192.400	189.400	96.3%	0.004	-0.003	0.054
2	15:15:37	0.431	0.107	0.103	193.600	194.100	98.6%	0.003	-0.002	0.040
3	15:16:03	0.151	0.128	0.113	192.900	194.000	99.8%	-0.003	-0.002	0.034
x		0.395	0.119	0.106	193.000	192.500	98.2%	0.001	-0.002	0.043
σ		0.228	0.011	0.005	0.619	2.709	1.8%	0.004	0.001	0.010
%RSD		57.690	9.300	5.169	0.321	1.407	1.8	315.700	33.850	24.200

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:15:11	0.033	0.042	90.2%
2	15:15:37	0.022	0.029	92.7%
3	15:16:03	0.037	0.050	94.7%
x		0.031	0.041	92.5%
σ		0.007	0.011	2.3%
%RSD		24.420	26.370	2.4

PDF created with pdfFactory trial version www.pdffactory.com

Co 4ppb MW-9473 6/6/2017 15:20:09

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	105.5%	4.229	3.633	4.024	T 797.800	T 770.600	753.300	771.700	2.877
2	15:21:01	108.6%	3.984	3.966	4.020	T 797.000	T 744.600	735.200	752.400	3.031
3	15:21:26	113.2%	4.125	4.363	3.537	T 773.400	T 713.000	702.900	733.400	3.056
x		109.1%	4.113	3.987	3.860	T 789.400	T 742.700	730.500	752.500	2.988
σ		3.9%	0.123	0.365	0.280	T 13.880	T 28.840	25.530	19.160	0.097
%RSD		3.6	2.982	9.167	7.253	T 1.759	T 3.883	3.495	2.547	3.238

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	41.090	221.100	787.000	812.300	735.600	108.9%	4.011	2.084	3.801
2	15:21:01	40.800	238.100	791.200	821.800	737.000	106.9%	3.849	2.295	3.745
3	15:21:26	39.920	246.600	794.500	764.100	734.800	106.9%	3.867	2.308	3.741
x		40.600	235.300	790.900	799.400	735.800	107.5%	3.909	2.229	3.762
σ		0.608	12.970	3.724	30.930	1.110	1.1%	0.089	0.126	0.034
%RSD		1.496	5.515	0.471	3.869	0.151	1.1	2.267	5.646	0.900

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	0.042	3.865	T 585.000	566.400	3.875	3.960	3.802	4.188	4.408
2	15:21:01	0.056	3.732	T 577.400	569.300	3.725	3.711	3.817	4.071	4.510
3	15:21:26	0.012	3.746	T 595.700	597.900	3.708	3.756	3.755	4.056	4.158
x		0.037	3.781	T 586.000	577.800	3.769	3.809	3.791	4.105	4.359
σ		0.023	0.073	T 9.181	17.390	0.092	0.133	0.032	0.072	0.182
%RSD		61.830	1.943	T 1.567	3.009	2.448	3.478	0.849	1.759	4.164

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	3.990	4.380	-0.451	-0.135	5.183	0.195	103.4%	0.418	0.487
2	15:21:01	3.650	3.795	-0.083	-0.431	3.139	-0.984	105.0%	0.296	0.381
3	15:21:26	3.675	4.216	-0.485	-0.193	3.314	1.447	106.1%	0.305	0.352
x		3.771	4.131	-0.340	-0.253	3.879	0.219	104.8%	0.340	0.406
σ		0.190	0.302	0.223	0.157	1.133	1.216	1.3%	0.068	0.071
%RSD		5.029	7.304	65.560	61.930	29.220	554.800	1.3	20.030	17.500

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	0.374	3.871	3.765	0.077	3.473	4.200	4.151	102.4%	2.398
2	15:21:01	0.304	4.287	3.663	0.304	3.489	4.019	4.112	104.1%	2.402
3	15:21:26	0.451	3.934	3.531	0.024	3.389	4.185	3.920	104.0%	2.332
x		0.376	4.031	3.653	0.135	3.450	4.135	4.061	103.5%	2.377
σ		0.073	0.224	0.118	0.148	0.054	0.100	0.124	1.0%	0.039
%RSD		19.440	5.561	3.217	109.700	1.560	2.426	3.051	0.9	1.660

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	1.755	2.743	2.744	3.930	3.741	97.9%	3.753	3.699	3.679
2	15:21:01	1.811	2.885	3.037	3.825	3.680	99.5%	3.619	3.680	3.747
3	15:21:26	1.774	3.005	2.992	3.759	3.578	101.7%	3.751	3.658	3.697
x		1.780	2.878	2.925	3.838	3.666	99.7%	3.708	3.679	3.708
σ		0.028	0.131	0.158	0.086	0.082	1.9%	0.077	0.020	0.035
%RSD		1.598	4.558	5.396	2.253	2.249	1.9	2.070	0.546	0.943

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:20:35	3.642	3.610	94.6%
2	15:21:01	3.795	3.620	97.9%
3	15:21:26	3.762	3.515	99.4%
x		3.733	3.582	97.3%
σ		0.080	0.058	2.5%
%RSD		2.155	1.623	2.5

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV MW9461 6/6/2017 15:25:30 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	107.4%	0.404	23.360	24.520	197.000	46.240	44.910	46.840	36.740
2	15:26:22	112.3%	0.351	24.350	22.270	193.100	44.970	42.970	45.980	37.830
3	15:26:48	113.4%	0.297	24.340	23.740	190.200	43.450	42.940	44.340	36.890
x		111.0%	87.607%	96.061%	94.026%	96.698%	44.890	43.610	91.438%	92.884%
σ		3.2%	n/a	n/a	n/a	n/a	1.394	1.128	n/a	n/a
%RSD		2.9	15.290	2.359	4.865	1.761	3.106	2.586	2.775	1.578

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	94.680	153.400	185.800	206.700	178.800	108.1%	4.815	4.501	0.910
2	15:26:22	96.170	160.100	187.000	212.000	183.800	107.3%	4.543	4.546	0.962
3	15:26:48	93.200	177.100	185.100	211.900	184.600	107.9%	4.770	4.580	0.913
x		94.684%	163.500	92.982%	210.200	91.202%	107.7%	94.185%	90.847%	92.829%
σ		n/a	12.240	n/a	3.006	n/a	0.4%	n/a	n/a	n/a
%RSD		1.571	7.483	0.513	1.430	1.709	0.4	3.093	0.877	3.110

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	0.013	4.563	20.420	19.880	4.518	4.661	0.918	0.941	9.642
2	15:26:22	0.092	4.641	19.460	18.180	4.537	4.699	0.838	0.995	9.995
3	15:26:48	0.081	4.586	19.070	19.070	4.626	4.764	0.887	0.971	9.742
x		0.062	91.939%	19.650	95.219%	91.211%	94.159%	0.881	96.931%	97.929%
σ		0.043	n/a	0.692	n/a	n/a	n/a	0.040	n/a	n/a
%RSD		69.580	0.867	3.520	4.466	1.259	1.114	4.554	2.784	1.858

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	0.933	1.173	-0.448	0.118	0.742	-0.950	103.0%	7.740	7.940
2	15:26:22	0.757	0.732	-0.292	-0.193	0.952	-0.217	104.7%	8.105	8.698
3	15:26:48	1.050	0.788	-0.414	-0.204	1.143	-0.430	105.5%	8.258	9.018
x		91.337%	0.898	-0.385	-0.093	94.550%	-0.532	104.4%	8.035	85.519%
σ		n/a	0.240	0.082	0.183	n/a	0.377	1.3%	0.266	n/a
%RSD		16.160	26.770	21.320	196.400	21.240	70.840	1.2	3.309	6.472

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	8.088	1.104	1.003	-0.272	0.867	0.077	0.089	101.2%	2.750
2	15:26:22	8.695	0.155	0.935	-0.005	0.830	0.056	0.111	102.6%	2.868
3	15:26:48	8.751	-0.061	0.899	0.075	0.825	0.047	0.085	103.7%	2.956
x		8.511	0.399	94.540%	-0.067	0.841	0.060	95.034%	102.5%	2.858
σ		0.368	0.620	n/a	0.182	0.023	0.015	n/a	1.3%	0.103
%RSD		4.323	155.200	5.617	269.700	2.719	25.580	15.060	1.2	3.601

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	4.323	0.948	0.991	4.824	4.798	98.4%	0.484	0.433	0.934
2	15:26:22	3.924	1.026	0.921	4.880	4.755	100.0%	0.444	0.422	0.895
3	15:26:48	4.239	0.965	0.989	4.939	4.652	101.5%	0.455	0.438	0.929
x		83.238%	0.980	96.684%	97.613%	4.735	100.0%	0.461	86.186%	0.920
σ		n/a	0.041	n/a	n/a	0.075	1.5%	0.021	n/a	0.021
%RSD		5.045	4.194	4.145	1.179	1.578	1.5	4.563	1.882	2.306

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:25:56	0.874	0.925	97.1%
2	15:26:22	0.872	0.883	98.8%
3	15:26:48	0.841	0.864	100.9%
x		0.862	89.070%	98.9%
σ		0.018	n/a	1.9%
%RSD		2.109	3.506	1.9

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV2 MW9462 6/6/2017 15:30:50

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	107.3%	1.882	125.500	116.800	T966.400	231.300	226.900	227.800	199.600
2	15:31:41	107.8%	1.766	120.200	118.600	T957.400	227.400	222.300	229.600	198.300
3	15:32:07	111.4%	1.845	123.800	114.500	T958.600	227.900	222.400	226.700	201.200
x		108.8%	1.831	123.200	116.600	T960.800	228.900	223.900	228.000	199.700
σ		2.2%	0.059	2.705	2.055	T4.839	2.102	2.594	1.475	1.437
%RSD		2.0	3.239	2.196	1.762	T0.504	0.919	1.159	0.647	0.720

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	501.000	131.900	984.900	991.800	923.700	105.3%	23.990	23.140	4.627
2	15:31:41	T477.200	139.500	962.600	981.400	894.900	107.2%	24.420	22.700	4.619
3	15:32:07	500.200	151.000	987.500	995.300	906.800	105.4%	24.250	23.290	4.700
x		T492.800	140.800	978.300	989.500	908.400	105.9%	24.220	23.040	4.648
σ		T13.520	9.598	13.680	7.228	14.480	1.1%	0.219	0.304	0.045
%RSD		T2.743	6.817	1.398	0.731	1.594	1.0	0.904	1.321	0.960

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	0.097	23.940	97.170	97.650	23.130	24.750	4.747	5.235	50.480
2	15:31:41	0.112	23.330	92.790	94.150	22.860	24.100	4.694	4.820	49.790
3	15:32:07	0.038	23.740	95.150	95.240	23.150	23.770	4.607	4.638	48.320
x		0.082	23.670	95.030	95.680	23.040	24.200	4.683	4.898	49.530
σ		0.039	0.310	2.195	1.786	0.164	0.497	0.071	0.306	1.104
%RSD		47.760	1.311	2.309	1.867	0.712	2.054	1.513	6.244	2.229

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	4.650	4.290	-0.081	0.501	4.929	-0.537	102.3%	46.020	46.500
2	15:31:41	4.709	4.808	-0.076	-0.076	4.025	2.485	104.0%	45.370	46.300
3	15:32:07	4.524	4.365	-0.122	-0.099	5.315	1.906	104.4%	47.960	47.850
x		4.628	4.488	-0.093	0.109	4.756	1.284	103.6%	46.450	46.890
σ		0.095	0.280	0.025	0.340	0.662	1.604	1.1%	1.352	0.844
%RSD		2.048	6.238	26.940	312.700	13.920	124.900	1.1	2.910	1.799

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	47.210	2.485	4.623	-0.533	4.434	0.327	0.472	100.8%	15.580
2	15:31:41	47.310	1.596	4.419	-0.067	4.306	0.333	0.537	102.3%	15.370
3	15:32:07	48.310	2.338	4.546	-0.384	4.318	0.386	0.502	102.7%	15.510
x		47.610	2.140	4.529	-0.328	4.353	0.349	0.504	101.9%	15.490
σ		0.613	0.477	0.103	0.238	0.071	0.032	0.032	1.0%	0.106
%RSD		1.288	22.270	2.278	72.660	1.622	9.181	6.430	1.0	0.682

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	22.510	4.466	4.334	23.100	23.590	98.3%	2.215	2.215	4.573
2	15:31:41	21.930	4.488	4.474	23.770	23.300	100.5%	2.122	2.164	4.395
3	15:32:07	22.820	4.472	4.386	23.230	23.220	101.6%	2.186	2.224	4.612
x		22.420	4.475	4.398	23.370	23.370	100.1%	2.174	2.201	4.526
σ		0.449	0.011	0.071	0.357	0.191	1.7%	0.048	0.032	0.116
%RSD		2.001	0.250	1.606	1.527	0.815	1.7	2.193	1.473	2.557

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:31:16	4.623	4.324	96.2%
2	15:31:41	4.485	4.410	99.5%
3	15:32:07	4.491	4.439	100.8%
x		4.533	4.391	98.8%
σ		0.078	0.060	2.4%
%RSD		1.714	1.363	2.4

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9475 6/6/2017 15:36:12 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	93.8%	292.200	254.700	292.500	┬53300.000	┬53760.000	┬53410.000	┬54720.000	267.100
2	15:37:03	95.8%	290.900	283.000	289.500	┬57470.000	┬54500.000	┬54460.000	┬55290.000	283.800
3	15:37:29	96.7%	289.900	279.600	286.600	┬58130.000	┬55290.000	┬55010.000	┬56090.000	292.900
x		95.5%	97.001%	90.801%	96.518%	┬93.835%	┬54520.000	┬54300.000	┬92.272%	93.750%
σ		1.5%	n/a	n/a	n/a	┬n/a	┬765.800	┬815.200	┬n/a	n/a
%RSD		1.6	0.390	5.669	1.026	┬4.647	┬1.405	┬1.501	┬1.241	4.664

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	┬2709.000	107.800	┬51760.000	53230.000	┬52860.000	┬111.4%	264.900	271.100	263.800
2	15:37:03	┬2944.000	125.600	┬57350.000	57920.000	┬57660.000	103.0%	284.100	290.200	279.800
3	15:37:29	┬2993.000	135.700	┬58560.000	58740.000	┬58800.000	102.2%	287.000	292.600	284.200
x		┬96.061%	123.000	┬93.151%	56630.000	┬94.070%	┬105.5%	92.885%	94.873%	91.968%
σ		┬n/a	14.140	┬n/a	2974.000	┬n/a	┬5.1%	n/a	n/a	n/a
%RSD		┬5.276	11.490	┬6.489	5.252	┬5.587	┬4.8	4.322	4.125	3.888

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	-5.289	┬264.600	┬51410.000	┬52030.000	260.500	282.000	244.500	299.100	290.500
2	15:37:03	-5.240	┬285.600	┬55400.000	┬56960.000	276.700	279.700	254.100	286.500	282.100
3	15:37:29	-4.778	┬294.200	┬56460.000	┬58420.000	278.800	274.200	257.400	287.700	287.500
x		-5.102	┬93.826%	┬90.708%	┬93.003%	90.663%	92.875%	252.000	97.032%	95.562%
σ		0.282	┬n/a	┬n/a	┬n/a	n/a	n/a	6.674	n/a	n/a
%RSD		5.526	┬5.406	┬4.889	┬6.000	3.691	1.435	2.649	2.392	1.486

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	263.500	258.400	0.655	-0.051	295.000	-1.251	97.6%	246.600	247.300
2	15:37:03	273.800	267.500	0.680	0.028	288.500	1.735	99.6%	280.400	283.700
3	15:37:29	270.600	259.400	0.595	0.089	283.200	-0.291	100.7%	294.400	297.800
x		89.771%	261.800	0.644	0.022	96.289%	0.065	99.3%	91.273%	92.082%
σ		n/a	5.009	0.044	0.070	n/a	1.525	1.6%	n/a	n/a
%RSD		1.963	1.914	6.807	314.800	2.052	2362.000	1.6	8.974	9.436

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	255.700	279.100	284.100	-5.285	255.500	266.000	288.500	94.7%	274.500
2	15:37:03	288.300	272.600	276.600	-2.937	255.100	268.400	285.200	96.1%	274.500
3	15:37:29	304.400	264.600	279.700	2.008	251.800	266.800	288.600	99.3%	270.700
x		94.255%	272.100	93.375%	-2.071	254.200	267.100	95.819%	96.7%	91.087%
σ		n/a	7.239	n/a	3.723	2.051	1.216	n/a	2.3%	n/a
%RSD		8.771	2.660	1.351	179.700	0.807	0.455	0.669	2.4	0.802

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	295.500	271.000	272.600	283.400	281.900	94.1%	283.700	276.300	287.400
2	15:37:03	294.600	270.900	273.500	282.000	282.000	96.2%	280.200	281.600	284.000
3	15:37:29	292.200	270.700	271.700	279.200	278.700	98.5%	286.200	280.900	291.500
x		98.041%	90.276%	90.871%	93.846%	93.623%	96.3%	94.448%	93.195%	95.881%
σ		n/a	n/a	n/a	n/a	n/a	2.2%	n/a	n/a	n/a
%RSD		0.594	0.057	0.337	0.769	0.663	2.3	1.072	1.035	1.293

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:36:37	283.500	270.100	86.1%
2	15:37:03	284.800	274.400	89.6%
3	15:37:29	285.000	270.700	89.7%
x		94.805%	90.585%	88.5%
σ		n/a	n/a	2.1%
%RSD		0.289	0.857	2.3

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 15:41:33 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	106.0%	0.010	2.916	2.650	2.889	3.070	2.385	2.831	0.495
2	15:42:24	108.0%	0.013	2.447	2.194	2.593	2.663	2.663	3.006	0.456
3	15:42:51	111.5%	0.003	2.183	1.926	2.274	2.439	2.543	2.265	0.406
x		108.5%	0.009	2.515	2.257	2.585	2.724	2.530	2.701	0.452
σ		2.8%	0.005	0.372	0.366	0.307	0.320	0.139	0.387	0.045
%RSD		2.5	56.300	14.770	16.220	11.890	11.750	5.507	14.330	9.846

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	0.441	98.170	0.895	4.732	2.206	108.1%	-0.040	0.093	0.025
2	15:42:24	0.290	105.000	-0.111	2.382	0.560	110.5%	-0.006	0.093	0.014
3	15:42:51	-0.547	108.700	-0.513	5.344	1.338	109.8%	0.004	0.100	0.015
x		0.061	104.000	0.090	4.153	1.368	109.5%	-0.014	0.095	0.018
σ		0.532	5.323	0.725	1.564	0.824	1.2%	0.023	0.004	0.006
%RSD		866.400	5.121	802.600	37.660	60.190	1.1	162.300	4.153	34.460

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	0.014	0.022	4.711	3.487	0.008	-0.097	-0.025	-0.034	0.036
2	15:42:24	0.015	0.017	4.608	3.559	-0.002	-0.092	-0.015	-0.026	-0.050
3	15:42:51	-0.003	0.018	3.520	1.914	-0.003	-0.091	-0.039	-0.063	-0.011
x		0.009	0.019	4.280	2.987	0.001	-0.093	-0.026	-0.041	-0.008
σ		0.010	0.002	0.660	0.929	0.006	0.003	0.012	0.020	0.043
%RSD		119.000	13.050	15.410	31.120	580.400	3.441	46.420	47.800	527.700

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	-0.099	-0.258	-0.009	0.699	-0.432	-0.590	104.2%	0.674	0.745
2	15:42:24	-0.132	0.065	-0.169	-0.242	-0.356	-0.451	106.0%	0.995	0.919
3	15:42:51	-0.159	-0.058	-0.040	-0.733	-0.310	0.265	107.4%	0.879	0.876
x		-0.130	-0.084	-0.073	-0.092	-0.366	-0.259	105.9%	0.849	0.847
σ		0.030	0.163	0.084	0.728	0.062	0.459	1.6%	0.162	0.091
%RSD		23.100	194.500	116.200	794.700	16.890	177.500	1.5	19.120	10.710

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	0.745	-0.134	0.006	0.041	0.015	-0.007	0.005	102.2%	0.098
2	15:42:24	1.030	-0.023	0.017	0.020	0.011	0.010	0.013	104.0%	0.126
3	15:42:51	0.808	0.258	0.008	-0.084	0.010	-0.000	0.014	105.1%	0.116
x		0.861	0.034	0.010	-0.008	0.012	0.001	0.011	103.8%	0.114
σ		0.150	0.202	0.005	0.067	0.003	0.008	0.005	1.5%	0.014
%RSD		17.390	601.700	52.310	868.900	24.990	969.100	46.990	1.4	12.410

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	0.145	0.469	0.541	-0.012	0.007	99.2%	0.020	0.013	0.010
2	15:42:24	0.156	0.499	0.488	0.034	0.023	100.9%	0.012	0.010	0.005
3	15:42:51	0.181	0.524	0.498	-0.007	0.003	102.6%	0.022	0.014	0.006
x		0.161	0.497	0.509	0.005	0.011	100.9%	0.018	0.013	0.007
σ		0.019	0.028	0.028	0.025	0.011	1.7%	0.006	0.002	0.003
%RSD		11.530	5.575	5.493	510.400	95.590	1.7	31.520	15.450	38.290

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:41:58	0.001	0.014	98.0%
2	15:42:24	0.003	0.006	101.1%
3	15:42:51	0.008	0.009	101.4%
x		0.004	0.010	100.2%
σ		0.003	0.004	1.9%
%RSD		82.000	40.870	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE23022-009(50) 6/6/2017 15:46:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	109.4%	0.016	2.515	1.938	532.000	169.800	162.300	166.200	TM 694.600
2	15:47:48	112.2%	-0.005	2.583	1.880	522.900	162.900	159.800	163.900	TM 691.500
3	15:48:13	113.2%	-0.005	1.792	1.951	517.100	163.000	155.300	164.900	TM 682.200
x		111.6%	0.002	2.297	1.923	524.000	165.300	159.200	165.000	TM 689.400
σ		2.0%	0.012	0.438	0.038	7.522	3.959	3.540	1.155	TM 6.481
%RSD		1.8	588.700	19.090	1.959	1.436	2.395	2.224	0.700	TM 0.940

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	T 305.200	T 18570.000	36.750	644.300	585.500	110.4%	13.380	1.125	1.204
2	15:47:48	T 328.400	T 19040.000	37.430	645.400	582.100	108.3%	14.620	1.241	1.194
3	15:48:13	T 272.000	T 18870.000	36.660	646.900	581.400	109.4%	10.610	1.292	1.299
x		T 301.900	T 18830.000	36.950	645.500	583.000	109.4%	12.870	1.220	1.232
σ		T 28.320	T 238.700	0.423	1.271	2.214	1.0%	2.056	0.085	0.058
%RSD		T 9.380	T 1.268	1.144	0.197	0.380	0.9	15.980	7.004	4.696

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	2.186	T 421.800	T 5043.000	5075.000	0.276	0.775	0.937	0.932	18.360
2	15:47:48	1.904	T 429.300	T 5149.000	5221.000	0.281	0.545	0.905	1.028	18.190
3	15:48:13	1.852	T 425.100	T 5119.000	5252.000	0.268	0.650	0.896	1.017	17.510
x		1.981	T 425.400	T 5104.000	5182.000	0.275	0.657	0.913	0.992	18.020
σ		0.180	T 3.729	T 54.650	94.540	0.006	0.115	0.022	0.052	0.448
%RSD		9.072	T 0.877	T 1.071	1.824	2.322	17.490	2.383	5.273	2.488

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	1.504	-0.053	4.715	5.792	-0.250	-0.620	105.2%	-0.059	-0.082
2	15:47:48	1.601	0.170	5.319	5.057	-0.219	-0.655	107.1%	0.046	-0.049
3	15:48:13	1.340	-0.014	5.115	6.696	-0.283	-0.652	106.8%	0.044	-0.088
x		1.482	0.034	5.049	5.848	-0.250	-0.642	106.4%	0.010	-0.073
σ		0.132	0.119	0.307	0.821	0.032	0.020	1.0%	0.060	0.021
%RSD		8.912	347.600	6.084	14.040	12.900	3.044	1.0	598.000	28.700

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	-0.040	1.397	0.055	-0.140	0.048	1.142	1.160	102.9%	0.682
2	15:47:48	-0.021	1.585	0.063	0.027	0.060	1.231	1.110	103.8%	0.642
3	15:48:13	0.031	0.725	0.049	0.201	0.062	1.162	1.165	105.4%	0.682
x		-0.010	1.236	0.055	0.029	0.057	1.178	1.145	104.0%	0.669
σ		0.037	0.452	0.007	0.171	0.007	0.047	0.031	1.3%	0.023
%RSD		375.300	36.590	12.770	583.000	13.110	3.969	2.668	1.2	3.475

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	0.668	0.270	0.290	1.357	1.435	99.1%	0.012	0.004	10.680
2	15:47:48	0.652	0.309	0.299	1.447	1.436	101.2%	-0.000	0.007	10.450
3	15:48:13	0.525	0.269	0.279	1.444	1.436	103.0%	0.005	0.006	10.850
x		0.615	0.283	0.289	1.416	1.436	101.1%	0.006	0.006	10.660
σ		0.078	0.023	0.010	0.051	0.001	2.0%	0.006	0.002	0.203
%RSD		12.760	8.133	3.597	3.619	0.070	1.9	111.100	31.480	1.905

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:47:22	10.390	10.220	98.1%
2	15:47:48	10.590	10.250	100.3%
3	15:48:13	10.360	10.220	102.2%
x		10.450	10.230	100.2%
σ		0.124	0.016	2.0%
%RSD		1.182	0.158	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001(50) 6/6/2017 15:52:21

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	109.0%	0.108	0.243	0.132	9.507	T 730.000	718.600	742.300	TM 3326.000
2	15:53:12	110.4%	0.142	0.192	-0.023	9.174	T 725.900	705.200	716.500	TM 3257.000
3	15:53:38	114.8%	0.139	-0.004	-0.107	8.591	T 709.300	699.700	718.300	TM 3326.000
x		111.4%	0.130	0.144	0.000	9.090	T 721.700	707.800	725.700	TM 3303.000
σ		3.1%	0.019	0.130	0.121	0.464	T 10.950	9.700	14.380	TM 39.840
%RSD		2.7	14.460	90.650	31190.000	5.100	T 1.517	1.370	1.981	TM 1.206

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	53.250	2931.000	757.800	116.600	109.500	112.3%	191.500	7.833	6.289
2	15:53:12	51.730	3019.000	767.300	134.000	105.400	111.3%	194.300	8.094	6.304
3	15:53:38	50.360	2916.000	759.900	116.700	106.100	111.9%	196.200	8.205	6.442
x		51.780	2956.000	761.700	122.500	107.000	111.8%	194.000	8.044	6.345
σ		1.448	55.730	4.997	10.020	2.214	0.5%	2.380	0.191	0.084
%RSD		2.796	1.886	0.656	8.178	2.069	0.5	1.227	2.378	1.331

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	0.449	58.580	T 3738.000	3911.000	2.633	3.833	3.289	3.944	13.130
2	15:53:12	0.507	58.120	T 3717.000	3893.000	2.660	3.842	3.288	3.923	13.080
3	15:53:38	0.405	58.650	T 3772.000	3988.000	2.608	3.896	3.155	3.952	13.090
x		0.454	58.450	T 3742.000	3931.000	2.634	3.857	3.244	3.939	13.100
σ		0.051	0.288	T 27.660	50.210	0.026	0.034	0.077	0.015	0.030
%RSD		11.240	0.493	T 0.739	1.277	0.985	0.889	2.378	0.380	0.231

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	-0.152	0.130	-0.191	0.073	-0.332	-0.280	122.0%	-0.327	-0.399
2	15:53:12	-0.185	-0.200	0.158	0.211	-0.210	-1.279	122.4%	-0.311	-0.373
3	15:53:38	-0.033	-0.260	-0.218	-0.508	0.110	-0.471	123.4%	-0.300	-0.355
x		-0.123	-0.110	-0.084	-0.075	-0.144	-0.676	122.6%	-0.313	-0.376
σ		0.080	0.210	0.210	0.381	0.228	0.530	0.7%	0.014	0.022
%RSD		64.810	191.000	250.400	510.200	158.100	78.390	0.6	4.345	5.803

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	-0.364	0.122	-0.005	0.012	0.002	-0.010	0.010	103.4%	0.075
2	15:53:12	-0.339	0.822	0.001	-0.326	-0.001	-0.011	-0.001	105.6%	0.049
3	15:53:38	-0.325	0.276	-0.005	-0.103	0.001	-0.004	-0.003	106.5%	0.050
x		-0.343	0.407	-0.003	-0.139	0.001	-0.008	0.002	105.2%	0.058
σ		0.020	0.368	0.003	0.172	0.002	0.004	0.007	1.6%	0.015
%RSD		5.859	90.490	106.200	123.800	266.800	46.620	359.100	1.5	25.320

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	0.051	0.161	0.184	29.910	29.350	101.2%	0.015	0.007	0.751
2	15:53:12	0.221	0.178	0.155	29.600	29.990	103.2%	0.015	0.014	0.769
3	15:53:38	0.145	0.181	0.157	29.750	29.410	104.7%	0.013	0.005	0.767
x		0.139	0.173	0.165	29.750	29.590	103.0%	0.014	0.009	0.763
σ		0.085	0.011	0.016	0.157	0.354	1.7%	0.001	0.005	0.010
%RSD		61.410	6.318	9.678	0.528	1.198	1.7	7.581	52.870	1.288

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:52:46	0.738	0.795	97.7%
2	15:53:12	0.781	0.798	100.1%
3	15:53:38	0.787	0.835	101.2%
x		0.769	0.809	99.7%
σ		0.027	0.022	1.8%
%RSD		3.512	2.754	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001S(50) 6/6/2017 15:57:43

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	109.8%	4.257	4.184	3.688	55.070	T 626.200	611.100	619.900	TM 4860.000
2	15:58:35	111.5%	4.109	3.612	3.803	53.980	T 607.800	593.700	615.300	TM 4898.000
3	15:59:01	116.0%	4.103	3.819	3.618	55.180	T 608.000	585.100	600.700	TM 4831.000
x		112.5%	4.156	3.872	3.703	54.750	T 614.000	596.600	612.000	TM 4863.000
σ		3.2%	0.087	0.290	0.094	0.664	T 10.550	13.270	10.050	TM 33.280
%RSD		2.8	2.094	7.477	2.526	1.212	T 1.718	2.224	1.642	TM 0.684

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	64.060	3211.000	592.200	233.400	201.200	113.9%	175.800	10.830	9.754
2	15:58:35	T 64.580	3276.000	595.700	217.400	197.500	113.1%	176.400	11.180	9.855
3	15:59:01	66.550	3332.000	610.700	238.200	205.900	113.3%	172.700	11.030	9.805
x		T 65.060	3273.000	599.500	229.700	201.500	113.4%	175.000	11.010	9.805
σ		T 1.313	60.440	9.864	10.900	4.222	0.4%	2.028	0.174	0.051
%RSD		T 2.017	1.847	1.645	4.746	2.095	0.3	1.159	1.583	0.517

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	0.474	48.110	T 3537.000	3650.000	5.783	7.957	6.840	8.216	13.190
2	15:58:35	0.428	47.790	T 3571.000	3690.000	5.800	7.788	6.939	8.062	12.760
3	15:59:01	0.557	48.320	T 3614.000	3759.000	5.746	7.904	6.807	7.752	12.670
x		0.486	48.070	T 3574.000	3700.000	5.776	7.883	6.862	8.010	12.870
σ		0.066	0.269	T 38.490	55.040	0.028	0.087	0.068	0.236	0.278
%RSD		13.480	0.560	T 1.077	1.488	0.485	1.100	0.997	2.947	2.162

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	3.181	4.132	-0.001	-0.041	3.642	0.745	120.7%	0.313	0.376
2	15:58:35	3.289	3.750	0.102	0.118	3.741	-0.930	121.1%	0.379	0.302
3	15:59:01	3.620	3.886	-0.198	0.201	4.970	-1.290	122.8%	0.412	0.488
x		3.363	3.923	-0.032	0.092	4.118	-0.492	121.6%	0.368	0.389
σ		0.229	0.194	0.152	0.123	0.740	1.086	1.1%	0.051	0.094
%RSD		6.799	4.943	475.100	132.800	17.970	220.900	0.9	13.770	24.110

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	0.392	4.805	3.944	-0.301	3.568	3.801	4.224	104.6%	2.591
2	15:58:35	0.389	4.046	3.837	0.074	3.546	3.801	4.170	107.0%	2.355
3	15:59:01	0.513	3.568	3.766	-0.292	3.495	4.093	4.136	107.9%	2.539
x		0.431	4.139	3.849	-0.173	3.536	3.899	4.177	106.5%	2.495
σ		0.071	0.624	0.089	0.214	0.038	0.168	0.044	1.7%	0.124
%RSD		16.450	15.070	2.322	123.800	1.064	4.321	1.065	1.6	4.980

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	2.118	1.012	1.016	27.940	27.830	101.3%	0.903	0.881	4.601
2	15:58:35	1.954	1.031	1.063	27.800	27.240	103.4%	0.881	0.925	4.295
3	15:59:01	1.978	1.070	1.068	27.860	27.620	105.6%	0.916	0.919	4.418
x		2.017	1.038	1.049	27.860	27.560	103.5%	0.900	0.908	4.438
σ		0.088	0.030	0.029	0.071	0.299	2.1%	0.018	0.024	0.154
%RSD		4.385	2.859	2.753	0.255	1.085	2.1	1.965	2.628	3.462

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:58:09	4.442	4.388	97.5%
2	15:58:35	4.273	4.283	101.3%
3	15:59:01	4.369	4.232	102.6%
x		4.361	4.301	100.5%
σ		0.085	0.079	2.7%
%RSD		1.948	1.848	2.6

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001SD(50) 6/6/2017 16:03:07

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	110.3%	4.327	3.859	3.408	45.620	T 538.800	519.600	536.600	TM 4964.000
2	16:03:59	117.3%	3.703	3.560	3.306	44.270	T 520.800	505.700	518.000	TM 4995.000
3	16:04:25	117.9%	3.925	3.608	3.162	44.500	T 506.100	497.300	509.300	TM 4972.000
x		115.2%	3.985	3.676	3.292	44.790	T 521.900	507.500	521.300	TM 4977.000
σ		4.2%	0.316	0.161	0.123	0.726	T 16.370	11.270	13.980	TM 16.440
%RSD		3.7	7.928	4.366	3.744	1.620	T 3.136	2.220	2.682	TM 0.330

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	58.460	3244.000	516.500	181.200	136.900	113.9%	163.300	11.740	9.240
2	16:03:59	T 59.920	3231.000	512.600	165.100	140.300	115.1%	163.800	11.810	8.929
3	16:04:25	54.670	3226.000	518.400	159.300	136.100	114.7%	161.100	12.030	9.119
x		T 57.680	3234.000	515.800	168.500	137.800	114.6%	162.700	11.860	9.096
σ		T 2.712	9.275	2.959	11.300	2.226	0.6%	1.425	0.152	0.157
%RSD		T 4.701	0.287	0.574	6.707	1.616	0.6	0.876	1.285	1.723

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	0.200	48.240	T 3728.000	3858.000	6.036	7.212	6.908	8.590	12.830
2	16:03:59	0.450	47.780	T 3724.000	3830.000	5.967	7.398	6.748	8.348	12.430
3	16:04:25	0.317	48.780	T 3829.000	3942.000	5.955	6.835	6.786	7.792	12.300
x		0.322	48.270	T 3760.000	3877.000	5.986	7.148	6.814	8.244	12.520
σ		0.125	0.501	T 59.310	57.870	0.044	0.287	0.084	0.409	0.275
%RSD		38.770	1.038	T 1.577	1.493	0.728	4.012	1.226	4.962	2.198

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	3.725	3.558	0.230	0.067	4.054	-1.734	118.0%	0.475	0.432
2	16:03:59	3.385	3.986	0.409	0.236	3.817	-0.930	120.7%	0.364	0.375
3	16:04:25	3.306	3.387	0.254	0.518	3.816	-0.620	122.0%	0.396	0.281
x		3.472	3.643	0.297	0.274	3.896	-1.094	120.2%	0.412	0.363
σ		0.222	0.309	0.097	0.228	0.137	0.575	2.0%	0.057	0.076
%RSD		6.402	8.468	32.620	83.110	3.515	52.540	1.7	13.820	21.030

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	0.467	3.598	3.585	0.047	3.190	3.706	4.129	104.5%	2.557
2	16:03:59	0.398	3.306	3.623	0.247	3.462	3.734	3.922	106.0%	2.569
3	16:04:25	0.505	4.159	3.593	-0.512	3.249	3.626	3.848	108.2%	2.507
x		0.457	3.688	3.600	-0.073	3.301	3.689	3.966	106.2%	2.544
σ		0.054	0.434	0.020	0.393	0.143	0.056	0.146	1.9%	0.033
%RSD		11.860	11.760	0.556	541.300	4.329	1.523	3.672	1.8	1.292

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	2.107	1.059	1.065	24.800	25.390	100.5%	0.998	0.948	4.275
2	16:03:59	1.833	1.024	1.129	25.130	25.090	103.0%	1.069	1.005	4.287
3	16:04:25	2.078	1.004	1.048	25.630	25.110	105.0%	1.075	1.042	4.113
x		2.006	1.029	1.081	25.190	25.200	102.8%	1.047	0.998	4.225
σ		0.150	0.028	0.042	0.418	0.168	2.3%	0.043	0.048	0.097
%RSD		7.505	2.729	3.916	1.660	0.667	2.2	4.117	4.779	2.295

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:03:34	4.287	4.180	96.0%
2	16:03:59	4.111	4.114	100.7%
3	16:04:25	4.280	4.079	101.7%
x		4.226	4.124	99.5%
σ		0.100	0.051	3.0%
%RSD		2.360	1.244	3.0

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001L(250) 6/6/2017 16:08:33

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	112.0%	0.026	0.010	-0.301	0.366	160.500	154.000	157.800	TM 720.400
2	16:09:24	118.1%	0.057	-0.308	-0.478	0.105	149.600	143.700	150.700	TM 721.100
3	16:09:50	119.4%	0.022	-0.137	-0.476	0.107	147.700	145.800	148.200	TM 705.100
x		116.5%	0.035	-0.145	-0.419	0.193	152.600	147.800	152.200	TM 715.500
σ		4.0%	0.019	0.159	0.102	0.150	6.889	5.418	5.028	TM 9.015
%RSD		3.4	53.150	110.000	24.290	77.830	4.514	3.665	3.303	TM 1.260

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	10.260	634.200	156.000	20.970	19.140	112.0%	35.090	0.936	1.450
2	16:09:24	9.791	655.700	160.800	22.140	18.090	110.3%	34.580	0.907	1.468
3	16:09:50	9.839	657.100	162.100	17.890	18.210	110.9%	35.180	0.844	1.347
x		9.963	649.000	159.600	20.330	18.480	111.1%	34.950	0.896	1.422
σ		0.258	12.840	3.235	2.197	0.573	0.9%	0.320	0.047	0.065
%RSD		2.587	1.979	2.026	10.810	3.101	0.8	0.916	5.252	4.580

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	0.044	12.960	T 562.000	547.100	0.570	0.772	0.592	0.704	2.819
2	16:09:24	0.115	13.010	T 561.200	555.400	0.558	0.734	0.687	0.712	2.727
3	16:09:50	0.153	12.950	T 550.200	547.800	0.569	0.637	0.647	0.663	2.607
x		0.104	12.980	T 557.800	550.100	0.566	0.714	0.642	0.693	2.718
σ		0.055	0.033	T 6.590	4.607	0.006	0.070	0.048	0.026	0.106
%RSD		53.190	0.257	T 1.181	0.838	1.146	9.763	7.416	3.730	3.895

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	-0.133	-0.182	-0.098	0.225	-0.292	-1.472	111.4%	-0.400	-0.484
2	16:09:24	-0.173	-0.102	0.071	-0.653	-0.444	-0.595	112.7%	-0.376	-0.473
3	16:09:50	-0.107	-0.166	-0.177	0.584	0.038	0.268	113.7%	-0.379	-0.502
x		-0.137	-0.150	-0.068	0.052	-0.233	-0.600	112.6%	-0.385	-0.486
σ		0.033	0.042	0.127	0.636	0.246	0.870	1.1%	0.014	0.015
%RSD		24.080	28.350	186.100	1224.000	105.800	145.000	1.0	3.516	3.035

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	-0.436	-0.231	-0.005	0.075	-0.001	-0.017	0.001	106.6%	-0.006
2	16:09:24	-0.437	-0.455	-0.008	0.197	0.001	-0.014	-0.004	108.0%	-0.003
3	16:09:50	-0.413	-0.286	-0.009	0.095	-0.003	-0.017	-0.001	108.8%	-0.012
x		-0.429	-0.324	-0.007	0.122	-0.001	-0.016	-0.001	107.8%	-0.007
σ		0.014	0.116	0.002	0.065	0.002	0.002	0.003	1.1%	0.004
%RSD		3.187	35.940	22.980	53.130	207.800	12.540	230.100	1.1	59.770

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	-0.050	0.057	0.069	6.367	6.404	101.9%	-0.001	-0.001	0.142
2	16:09:24	-0.092	0.056	0.073	6.020	6.575	104.3%	0.002	-0.005	0.159
3	16:09:50	-0.041	0.057	0.095	6.034	6.092	105.9%	0.000	-0.007	0.126
x		-0.061	0.057	0.079	6.140	6.357	104.0%	0.001	-0.004	0.142
σ		0.027	0.001	0.014	0.196	0.245	2.0%	0.002	0.003	0.016
%RSD		44.420	1.013	17.540	3.195	3.850	1.9	247.500	69.350	11.330

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:08:58	0.141	0.145	98.4%
2	16:09:24	0.153	0.159	100.2%
3	16:09:50	0.124	0.150	103.5%
x		0.139	0.151	100.7%
σ		0.014	0.007	2.6%
%RSD		10.410	4.418	2.5

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001A(50) 6/6/2017 16:13:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	115.4%	5.675	6.015	5.081	62.540	T 788.800	774.400	808.900	TM 3392.000
2	16:14:47	117.5%	6.218	5.461	5.189	63.930	T 779.300	765.500	794.500	TM 3381.000
3	16:15:13	119.1%	5.269	6.010	5.082	65.960	T 791.400	760.900	783.200	TM 3395.000
x		117.3%	5.720	5.829	5.117	64.140	T 786.500	766.900	795.600	TM 3389.000
σ		1.9%	0.476	0.318	0.062	1.719	T 6.368	6.843	12.880	TM 7.388
%RSD		1.6	8.322	5.462	1.219	2.680	T 0.810	0.892	1.618	TM 0.218

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	85.500	3076.000	887.000	162.100	160.600	114.0%	201.800	13.100	11.820
2	16:14:47	T 87.030	3171.000	921.200	189.400	160.000	112.6%	205.300	13.620	11.830
3	16:15:13	85.970	3170.000	922.800	199.900	156.800	112.1%	207.500	14.150	11.890
x		T 86.170	3139.000	910.300	183.800	159.100	112.9%	204.900	13.620	11.850
σ		T 0.787	54.220	20.190	19.520	2.038	1.0%	2.848	0.526	0.036
%RSD		T 0.913	1.727	2.218	10.620	1.280	0.9	1.390	3.859	0.302

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	0.341	65.940	T 4136.000	4328.000	7.805	9.668	8.432	10.020	19.880
2	16:14:47	0.375	67.140	T 4161.000	4406.000	7.950	9.282	8.383	9.428	19.390
3	16:15:13	0.058	66.940	T 4226.000	4473.000	8.076	9.587	8.804	9.585	19.370
x		0.258	66.670	T 4174.000	4402.000	7.944	9.513	8.540	9.677	19.540
σ		0.174	0.640	T 46.620	72.820	0.136	0.204	0.230	0.305	0.289
%RSD		67.390	0.960	T 1.117	1.654	1.708	2.141	2.696	3.151	1.478

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	5.153	4.898	-0.595	-0.877	6.100	-1.005	125.6%	1.042	0.935
2	16:14:47	5.187	5.305	-0.253	0.079	6.262	-1.649	125.6%	1.216	1.086
3	16:15:13	5.360	4.963	-0.296	-0.214	6.884	-0.205	126.4%	0.992	0.837
x		5.233	5.055	-0.381	-0.338	6.415	-0.953	125.9%	1.083	0.953
σ		0.111	0.219	0.187	0.490	0.414	0.724	0.4%	0.118	0.125
%RSD		2.120	4.327	48.990	145.000	6.454	75.920	0.3	10.850	13.160

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	1.005	6.435	5.267	-0.263	4.735	5.695	5.631	107.6%	3.909
2	16:14:47	0.972	5.073	5.181	0.328	4.820	5.558	5.753	109.9%	3.843
3	16:15:13	1.202	5.409	5.133	0.143	4.733	5.168	5.598	109.9%	3.878
x		1.060	5.639	5.194	0.069	4.762	5.474	5.661	109.1%	3.876
σ		0.124	0.710	0.068	0.302	0.050	0.274	0.082	1.3%	0.033
%RSD		11.710	12.590	1.310	435.400	1.044	4.996	1.443	1.2	0.853

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	3.446	5.240	5.568	36.780	35.220	105.8%	1.084	1.119	6.091
2	16:14:47	3.192	5.328	5.376	36.380	36.020	107.6%	1.115	1.087	6.020
3	16:15:13	3.344	5.279	5.369	35.750	35.990	109.4%	1.150	1.118	6.101
x		3.327	5.282	5.438	36.300	35.740	107.6%	1.116	1.108	6.071
σ		0.128	0.044	0.113	0.520	0.452	1.8%	0.033	0.018	0.044
%RSD		3.844	0.834	2.081	1.433	1.264	1.7	2.935	1.658	0.730

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:14:21	6.102	6.030	102.9%
2	16:14:47	6.040	6.075	105.1%
3	16:15:13	6.128	6.050	105.8%
x		6.090	6.052	104.6%
σ		0.045	0.023	1.5%
%RSD		0.746	0.374	1.5

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-002(5) 6/6/2017 16:19:19

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	119.4%	0.625	-0.165	-0.352	25.510	T 2982.000	3000.000	T 3026.000	TM 12350.000
2	16:20:10	122.0%	0.539	-0.007	-0.409	25.310	T 2951.000	2984.000	T 2986.000	TM 12100.000
3	16:20:36	122.2%	0.625	-0.112	-0.480	24.370	T 2967.000	2987.000	T 3006.000	TM 12160.000
x		121.2%	0.596	-0.095	-0.414	25.060	T 2966.000	2990.000	T 3006.000	TM 12200.000
σ		1.5%	0.049	0.080	0.064	0.611	T 15.360	8.885	T 19.730	TM 132.300
%RSD		1.3	8.277	84.740	15.590	2.439	T 0.518	0.297	T 0.656	TM 1.084
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	T 434.000	T 40290.000	T 4128.000	379.800	357.700	114.3%	M 738.400	20.940	21.000
2	16:20:10	T 425.800	T 40470.000	T 4123.000	401.500	357.500	115.5%	M 736.500	20.560	20.460
3	16:20:36	T 427.300	T 40410.000	T 4101.000	383.300	358.400	115.3%	M 729.600	20.900	20.690
x		T 429.000	T 40390.000	T 4117.000	388.200	357.900	115.1%	M 734.800	20.800	20.720
σ		T 4.338	T 95.770	T 14.320	11.650	0.465	0.6%	M 4.633	0.211	0.267
%RSD		T 1.011	T 0.237	T 0.348	3.001	0.130	0.6	M 0.630	1.015	1.290
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	4.169	T 390.100	T 12330.000	T 12900.000	6.143	15.860	10.240	11.570	36.130
2	16:20:10	4.092	T 388.600	T 12270.000	T 12930.000	6.237	15.360	10.230	11.690	35.390
3	16:20:36	3.745	T 387.500	T 12280.000	T 12830.000	6.067	15.170	10.150	11.230	35.230
x		4.002	T 388.700	T 12290.000	T 12890.000	6.149	15.460	10.210	11.500	35.580
σ		0.226	T 1.280	T 34.640	T 48.670	0.085	0.354	0.050	0.241	0.483
%RSD		5.637	T 0.329	T 0.282	T 0.378	1.381	2.288	0.487	2.100	1.356
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	-0.010	0.118	5.393	5.975	-0.305	-0.162	123.9%	-0.393	-0.452
2	16:20:10	-0.112	-0.122	5.337	5.508	-0.015	0.422	126.4%	-0.374	-0.421
3	16:20:36	-0.108	-0.075	5.621	5.273	-0.464	-0.891	128.3%	-0.348	-0.467
x		-0.077	-0.026	5.450	5.585	-0.261	-0.210	126.2%	-0.372	-0.447
σ		0.058	0.127	0.150	0.357	0.228	0.658	2.2%	0.023	0.023
%RSD		75.410	484.000	2.757	6.393	87.170	313.000	1.8	6.078	5.251
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	-0.430	0.808	0.003	-0.225	0.010	-0.004	0.035	110.0%	0.719
2	16:20:10	-0.384	-0.444	-0.003	0.222	0.006	0.029	0.051	110.9%	0.719
3	16:20:36	-0.402	0.108	0.003	-0.022	0.012	0.022	0.024	112.9%	0.740
x		-0.406	0.157	0.001	-0.008	0.009	0.016	0.037	111.2%	0.726
σ		0.023	0.628	0.003	0.224	0.003	0.017	0.013	1.5%	0.012
%RSD		5.716	399.300	362.600	2711.000	33.930	110.300	36.370	1.3	1.622
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	1.023	-0.017	0.006	87.920	87.390	107.4%	0.140	0.146	5.927
2	16:20:10	0.901	-0.008	0.028	87.370	86.680	110.5%	0.148	0.143	5.890
3	16:20:36	0.963	-0.004	0.013	86.850	87.000	111.7%	0.133	0.137	5.890
x		0.962	-0.010	0.016	87.380	87.020	109.9%	0.140	0.142	5.902
σ		0.061	0.007	0.011	0.535	0.357	2.2%	0.007	0.005	0.022
%RSD		6.336	72.670	71.780	0.612	0.410	2.0	5.299	3.293	0.367
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	16:19:44	5.945	6.022	105.1%						
2	16:20:10	5.852	6.090	107.7%						
3	16:20:36	5.832	6.032	109.5%						
x		5.876	6.048	107.5%						
σ		0.060	0.037	2.2%						
%RSD		1.025	0.609	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-003(5) 6/6/2017 16:24:42

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	119.1%	0.891	-0.021	-0.379	183.600	T 3816.000	T 3776.000	T 3905.000	TM 16580.000
2	16:25:34	122.8%	0.761	-0.315	-0.472	181.300	T 3655.000	T 3570.000	T 3735.000	TM 16250.000
3	16:26:00	124.5%	0.842	-0.226	-0.437	182.700	T 3742.000	T 3692.000	T 3819.000	TM 16520.000
x		122.2%	0.831	-0.188	-0.429	182.500	T 3738.000	T 3679.000	T 3820.000	TM 16450.000
σ		2.8%	0.066	0.151	0.047	1.166	T 80.230	T 103.500	T 85.110	TM 173.200
%RSD		2.3	7.908	80.320	10.970	0.639	T 2.147	T 2.813	T 2.228	TM 1.053

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	T 527.200	T 44440.000	T 5374.000	1626.000	1481.000	115.4%	M 1125.000	17.190	8.662
2	16:25:34	T 510.700	T 44420.000	T 5363.000	1593.000	1439.000	116.0%	M 1102.000	17.110	8.709
3	16:26:00	T 506.700	T 44200.000	T 5329.000	1555.000	1469.000	116.3%	M 1098.000	17.590	8.826
x		T 514.800	T 44350.000	T 5356.000	1591.000	1463.000	115.9%	M 1108.000	17.290	8.732
σ		T 10.860	T 135.500	T 23.500	35.220	21.920	0.4%	M 14.790	0.256	0.084
%RSD		T 2.110	T 0.305	T 0.439	2.213	1.498	0.4	M 1.334	1.477	0.966

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	4.634	T 256.100	T 13850.000	T 14560.000	5.618	12.160	15.210	17.460	35.100
2	16:25:34	4.238	T 256.600	T 13710.000	T 14590.000	5.489	11.610	15.090	16.790	33.490
3	16:26:00	4.194	T 255.600	T 13700.000	T 14420.000	5.462	11.380	14.880	16.570	33.640
x		4.355	T 256.100	T 13750.000	T 14520.000	5.523	11.720	15.060	16.940	34.080
σ		0.242	T 0.498	T 81.910	T 89.950	0.083	0.402	0.170	0.466	0.885
%RSD		5.565	T 0.194	T 0.596	T 0.619	1.504	3.427	1.127	2.750	2.597

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	-0.253	-0.018	7.218	8.217	-0.362	-0.270	128.9%	-0.408	-0.472
2	16:25:34	0.094	0.059	8.411	8.176	-0.041	-0.771	130.5%	-0.392	-0.403
3	16:26:00	-0.214	-0.327	7.366	7.735	0.290	-0.023	132.0%	-0.400	-0.454
x		-0.124	-0.096	7.665	8.043	-0.038	-0.355	130.5%	-0.400	-0.443
σ		0.190	0.204	0.650	0.267	0.326	0.381	1.5%	0.008	0.036
%RSD		153.100	213.700	8.480	3.319	856.700	107.500	1.2	2.089	8.022

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	-0.415	0.368	-0.002	-0.157	0.004	0.016	0.040	110.5%	0.542
2	16:25:34	-0.424	0.402	-0.005	-0.115	0.002	0.028	0.027	113.2%	0.519
3	16:26:00	-0.405	0.018	-0.000	0.010	0.001	0.040	0.041	114.4%	0.497
x		-0.415	0.263	-0.003	-0.087	0.003	0.028	0.036	112.7%	0.519
σ		0.010	0.212	0.002	0.087	0.002	0.012	0.008	2.0%	0.023
%RSD		2.349	80.820	95.680	99.690	61.470	43.670	22.350	1.7	4.406

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	0.744	-0.018	-0.013	105.600	104.200	108.9%	0.082	0.079	3.378
2	16:25:34	0.701	-0.010	-0.022	104.300	104.000	112.1%	0.092	0.085	3.389
3	16:26:00	0.696	-0.007	-0.002	105.500	103.100	113.0%	0.082	0.082	3.450
x		0.714	-0.012	-0.012	105.200	103.800	111.3%	0.085	0.082	3.405
σ		0.027	0.006	0.010	0.715	0.628	2.1%	0.006	0.003	0.039
%RSD		3.731	48.190	82.140	0.679	0.605	1.9	6.899	3.559	1.137

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:25:08	3.459	3.632	106.2%
2	16:25:34	3.456	3.554	109.8%
3	16:26:00	3.480	3.574	111.0%
x		3.465	3.587	109.0%
σ		0.013	0.040	2.5%
%RSD		0.382	1.128	2.3

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-004(5) 6/6/2017 16:30:06

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	119.7%	0.427	-0.411	-0.442	135.000	T 4431.000	T 4360.000	T 4537.000	TM 13920.000
2	16:30:57	122.5%	0.307	-0.087	-0.518	133.600	T 4391.000	T 4332.000	T 4504.000	TM 14070.000
3	16:31:23	122.7%	0.317	-0.312	-0.443	134.400	T 4372.000	T 4293.000	T 4394.000	TM 13820.000
x		121.6%	0.351	-0.270	-0.468	134.300	T 4398.000	T 4328.000	T 4479.000	TM 13940.000
σ		1.7%	0.067	0.166	0.043	0.673	T 30.390	T 33.610	T 74.620	TM 129.300
%RSD		1.4	19.050	61.570	9.277	0.501	T 0.691	T 0.777	T 1.666	TM 0.928

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	452.800	T 34260.000	T 3695.000	2154.000	1984.000	119.5%	M 815.300	23.410	46.740
2	16:30:57	T 460.600	T 35520.000	T 3784.000	2155.000	1983.000	117.7%	M 812.400	23.690	46.760
3	16:31:23	456.100	T 34780.000	T 3759.000	2217.000	1990.000	117.8%	M 803.500	24.240	46.570
x		T 456.500	T 34850.000	T 3746.000	2175.000	1986.000	118.3%	M 810.400	23.780	46.690
σ		T 3.909	T 635.200	T 46.150	36.330	4.136	1.0%	M 6.146	0.423	0.103
%RSD		T 0.856	T 1.822	T 1.232	1.670	0.208	0.9	M 0.758	1.779	0.220

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	3.693	T 283.200	T 14900.000	T 15900.000	5.990	16.900	8.438	9.563	43.750
2	16:30:57	3.576	T 288.000	T 15140.000	T 16120.000	5.889	16.080	8.302	9.362	43.440
3	16:31:23	2.875	T 284.100	T 15080.000	T 16000.000	6.029	16.530	8.396	9.582	43.520
x		3.381	T 285.100	T 15040.000	T 16010.000	5.969	16.500	8.379	9.503	43.570
σ		0.443	T 2.560	T 124.900	T 112.200	0.072	0.407	0.069	0.122	0.162
%RSD		13.090	T 0.898	T 0.831	T 0.701	1.212	2.466	0.829	1.282	0.372

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	-0.015	-0.183	2.395	2.814	0.056	-0.409	135.5%	-0.427	-0.479
2	16:30:57	-0.196	-0.265	2.209	2.109	0.449	1.810	137.1%	-0.435	-0.487
3	16:31:23	0.191	-0.160	2.245	2.052	0.419	0.464	137.1%	-0.424	-0.514
x		-0.007	-0.203	2.283	2.325	0.308	0.622	136.6%	-0.428	-0.493
σ		0.194	0.055	0.098	0.424	0.219	1.118	0.9%	0.006	0.018
%RSD		2840.000	27.030	4.299	18.250	71.010	179.800	0.7	1.334	3.741

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	-0.463	0.080	0.002	0.020	0.004	0.009	0.016	111.8%	0.791
2	16:30:57	-0.450	-0.056	-0.001	-0.001	0.002	0.005	0.028	113.0%	0.787
3	16:31:23	-0.464	0.244	-0.002	-0.007	0.001	0.028	0.023	113.8%	0.760
x		-0.459	0.089	-0.001	0.004	0.002	0.014	0.022	112.9%	0.779
σ		0.008	0.150	0.002	0.014	0.002	0.012	0.006	1.0%	0.017
%RSD		1.713	168.300	420.800	380.600	79.660	85.550	26.550	0.9	2.173

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	0.650	-0.035	-0.005	77.100	76.510	111.0%	0.047	0.040	1.409
2	16:30:57	0.721	-0.012	-0.022	76.070	75.110	112.4%	0.043	0.042	1.491
3	16:31:23	0.707	-0.026	-0.021	74.920	75.680	113.5%	0.048	0.049	1.458
x		0.692	-0.024	-0.016	76.030	75.770	112.3%	0.046	0.044	1.452
σ		0.037	0.012	0.010	1.090	0.701	1.2%	0.002	0.004	0.041
%RSD		5.408	47.350	60.100	1.434	0.925	1.1	5.126	10.020	2.841

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:30:32	1.463	1.765	109.7%
2	16:30:57	1.527	1.842	109.6%
3	16:31:23	1.479	1.831	111.7%
x		1.490	1.813	110.3%
σ		0.033	0.042	1.2%
%RSD		2.213	2.310	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-010(5) 6/6/2017 16:35:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	120.9%	0.827	-0.088	-0.468	54.140	T 8747.000	T 8719.000	T 8979.000	TM 25140.000
2	16:36:21	123.6%	0.707	-0.283	-0.512	53.810	T 8679.000	T 8546.000	T 8878.000	TM 25170.000
3	16:36:47	122.6%	0.773	-0.210	-0.459	51.820	T 8637.000	T 8460.000	T 8793.000	TM 24790.000
x		122.3%	0.769	-0.194	-0.480	53.260	T 8688.000	T 8575.000	T 8883.000	TM 25030.000
σ		1.4%	0.060	0.099	0.029	1.254	T 55.650	T 131.700	T 93.250	TM 213.700
%RSD		1.1	7.843	50.920	5.978	2.355	T 0.641	T 1.535	T 1.050	TM 0.854

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	T 422.400	T 45000.000	T 12580.000	841.900	741.100	116.1%	M 2057.000	40.180	30.800
2	16:36:21	T 429.500	T 46150.000	T 12690.000	847.500	747.300	115.7%	M 2062.000	40.450	30.710
3	16:36:47	T 420.200	T 45940.000	T 12870.000	886.900	752.100	116.1%	M 2047.000	39.570	29.950
x		T 424.000	T 45700.000	T 12720.000	858.800	746.800	116.0%	M 2055.000	40.070	30.490
σ		T 4.865	T 617.000	T 144.800	24.560	5.503	0.2%	M 7.585	0.453	0.467
%RSD		T 1.147	T 1.350	T 1.138	2.860	0.737	0.2	M 0.369	1.129	1.532

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	3.735	T 371.500	T 24030.000	T 25430.000	10.250	19.360	10.650	12.320	62.970
2	16:36:21	3.453	T 373.700	T 24050.000	T 25470.000	10.380	18.860	10.710	12.420	62.500
3	16:36:47	3.559	T 372.900	T 24030.000	T 25730.000	10.500	19.120	10.470	12.030	61.010
x		3.582	T 372.700	T 24030.000	T 25540.000	10.380	19.110	10.610	12.250	62.160
σ		0.143	T 1.130	T 13.580	T 165.500	0.124	0.250	0.124	0.204	1.021
%RSD		3.977	T 0.303	T 0.057	T 0.648	1.198	1.307	1.171	1.663	1.642

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	-0.248	0.201	2.607	2.820	0.176	-0.534	134.7%	-0.372	-0.454
2	16:36:21	-0.007	-0.324	2.735	2.476	0.018	0.353	135.9%	-0.400	-0.467
3	16:36:47	-0.144	0.053	2.526	2.049	-0.248	0.502	135.9%	-0.369	-0.490
x		-0.133	-0.023	2.623	2.448	-0.018	0.107	135.5%	-0.380	-0.471
σ		0.121	0.271	0.106	0.386	0.214	0.560	0.7%	0.017	0.019
%RSD		91.050	1153.000	4.024	15.780	1168.000	523.300	0.5	4.503	3.951

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	-0.432	-0.466	-0.002	0.152	0.006	0.009	0.034	110.8%	0.612
2	16:36:21	-0.443	-0.090	-0.002	0.030	0.002	0.022	0.013	113.0%	0.562
3	16:36:47	-0.421	0.531	-0.004	-0.185	-0.000	0.005	0.006	113.5%	0.637
x		-0.432	-0.008	-0.003	-0.001	0.002	0.012	0.018	112.4%	0.604
σ		0.011	0.504	0.001	0.171	0.003	0.008	0.015	1.4%	0.038
%RSD		2.533	6099.000	33.030	18810.000	114.200	71.200	81.890	1.3	6.285

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	0.529	-0.025	-0.017	261.700	258.100	109.6%	0.107	0.110	2.950
2	16:36:21	0.649	-0.027	-0.021	259.300	258.500	111.5%	0.134	0.110	2.895
3	16:36:47	0.694	-0.004	-0.022	260.000	259.200	112.6%	0.134	0.134	2.893
x		0.624	-0.019	-0.020	260.300	258.600	111.3%	0.125	0.118	2.913
σ		0.085	0.013	0.003	1.233	0.536	1.5%	0.015	0.014	0.032
%RSD		13.680	68.700	13.330	0.474	0.207	1.4	12.240	11.830	1.110

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:35:55	2.999	3.102	106.7%
2	16:36:21	2.884	3.117	109.4%
3	16:36:47	2.894	3.144	110.5%
x		2.926	3.121	108.9%
σ		0.064	0.021	1.9%
%RSD		2.171	0.681	1.8

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9474 6/6/2017 16:40:54 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	100.7%	281.700	266.500	282.400	┬57190.000	┬54340.000	┬53330.000	┬54570.000	279.600
2	16:41:46	104.0%	277.800	253.400	277.900	┬51920.000	┬50860.000	┬50340.000	┬51800.000	258.100
3	16:42:12	102.7%	279.100	272.100	282.300	┬57640.000	┬53830.000	┬53720.000	┬55240.000	281.500
x		102.4%	93.172%	88.010%	93.617%	┬92.633%	┬53010.000	┬52460.000	┬89.786%	91.018%
σ		1.7%	n/a	n/a	n/a	┬n/a	┬1878.000	┬1854.000	┬n/a	n/a
%RSD		1.6	0.722	3.630	0.915	┬5.720	┬3.543	┬3.535	┬3.386	4.771

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	┬2868.000	240.600	┬62820.000	55840.000	┬56390.000	110.3%	280.000	288.400	278.000
2	16:41:46	┬2655.000	237.100	┬59250.000	52670.000	┬51680.000	┬118.8%	256.100	266.100	┬257.800
3	16:42:12	┬2867.000	239.900	┬63710.000	57160.000	┬56590.000	109.7%	277.400	288.800	278.700
x		┬93.216%	239.200	┬103.211%	55220.000	┬91.478%	┬112.9%	90.382%	93.710%	┬90.494%
σ		┬n/a	1.847	┬n/a	2310.000	┬n/a	┬5.1%	n/a	n/a	┬n/a
%RSD		┬4.395	0.772	┬3.807	4.182	┬5.060	┬4.5	4.843	4.619	┬4.369

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	-6.469	┬279.400	┬54560.000	┬55680.000	271.300	273.100	255.000	279.800	270.100
2	16:41:46	-5.997	┬266.100	┬51690.000	┬52610.000	258.700	268.600	240.600	266.000	265.900
3	16:42:12	-7.562	┬284.200	┬54650.000	┬57090.000	273.600	264.400	252.000	268.800	264.300
x		-6.676	┬92.191%	┬89.387%	┬91.877%	89.283%	89.567%	249.200	90.511%	88.922%
σ		0.802	┬n/a	┬n/a	┬n/a	n/a	n/a	7.622	n/a	n/a
%RSD		12.020	┬3.384	┬3.130	┬4.158	3.001	1.623	3.058	2.692	1.135

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	264.100	253.600	0.759	0.445	274.600	-0.847	107.1%	264.200	263.300
2	16:41:46	258.600	255.400	0.675	0.223	267.900	-0.515	107.7%	253.100	259.400
3	16:42:12	262.600	253.100	0.355	0.697	263.300	0.409	108.8%	284.300	287.800
x		87.258%	254.000	0.596	0.455	89.526%	-0.318	107.9%	89.058%	90.057%
σ		n/a	1.175	0.213	0.237	n/a	0.651	0.8%	n/a	n/a
%RSD		1.081	0.463	35.770	52.150	2.115	204.900	0.8	5.914	5.709

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	271.200	267.100	269.300	-2.701	254.800	263.000	275.000	104.2%	269.500
2	16:41:46	263.700	268.300	262.100	0.340	252.300	260.600	268.300	106.7%	267.700
3	16:42:12	295.600	260.400	266.000	-0.347	252.200	260.400	268.700	106.9%	269.500
x		92.270%	265.300	88.599%	-0.903	253.100	261.300	90.212%	105.9%	89.632%
σ		n/a	4.258	n/a	1.595	1.473	1.443	n/a	1.5%	n/a
%RSD		6.016	1.605	1.347	176.700	0.582	0.552	1.397	1.4	0.383

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	290.700	263.400	262.800	277.100	273.300	106.1%	279.700	283.700	286.000
2	16:41:46	289.700	263.300	266.300	272.700	273.500	108.0%	276.600	283.400	279.900
3	16:42:12	290.700	267.900	269.000	274.600	275.800	108.5%	278.600	285.200	283.500
x		96.799%	88.274%	88.676%	91.604%	91.397%	107.5%	92.764%	94.696%	94.371%
σ		n/a	n/a	n/a	n/a	n/a	1.3%	n/a	n/a	n/a
%RSD		0.195	0.990	1.174	0.807	0.517	1.2	0.573	0.331	1.084

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:41:20	282.300	274.200	98.7%
2	16:41:46	276.800	273.900	102.3%
3	16:42:12	279.800	276.800	102.4%
x		93.211%	91.655%	101.1%
σ		n/a	n/a	2.1%
%RSD		0.980	0.575	2.1

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 16:46:16 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	114.7%	0.002	1.746	1.555	2.016	2.089	1.781	1.938	0.664
2	16:47:08	118.5%	-0.022	1.768	1.278	1.613	1.791	1.814	1.746	0.455
3	16:47:33	119.7%	0.004	1.648	1.357	1.680	1.820	1.682	1.642	0.541
x		117.6%	-0.005	1.721	1.397	1.770	1.900	1.759	1.775	0.553
σ		2.6%	0.014	0.064	0.143	0.216	0.165	0.069	0.150	0.105
%RSD		2.2	265.900	3.712	10.240	12.210	8.661	3.914	8.443	19.030

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	T 3.296	124.900	4.232	2.360	0.373	114.9%	-0.027	0.082	0.030
2	16:47:08	-0.712	123.500	2.623	-0.928	-0.742	116.5%	0.065	0.070	0.009
3	16:47:33	-1.425	129.800	2.552	1.472	0.972	115.8%	0.024	0.063	0.009
x		T 0.386	126.000	3.135	0.968	0.201	115.7%	0.021	0.072	0.016
σ		T 2.545	3.282	0.950	1.701	0.870	0.8%	0.046	0.009	0.012
%RSD		T 658.800	2.603	30.300	175.700	433.600	0.7	220.000	13.180	74.020

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	0.013	0.016	6.698	-0.211	-0.003	-0.061	-0.038	-0.031	0.033
2	16:47:08	0.038	0.008	6.512	-0.655	0.005	-0.110	-0.055	-0.037	-0.040
3	16:47:33	0.040	0.008	6.739	0.955	-0.004	-0.093	-0.046	-0.026	-0.018
x		0.030	0.011	6.650	0.030	-0.001	-0.088	-0.046	-0.032	-0.008
σ		0.015	0.004	0.121	0.831	0.005	0.025	0.008	0.006	0.037
%RSD		50.220	41.830	1.820	2807.000	717.800	27.940	18.280	17.600	453.500

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	-0.046	-0.253	0.156	0.660	-0.044	-0.288	114.1%	0.888	0.660
2	16:47:08	-0.055	0.314	0.004	1.084	-0.061	0.065	113.8%	0.940	0.895
3	16:47:33	-0.074	0.460	-0.164	-0.005	-0.032	-0.980	113.4%	0.988	0.917
x		-0.058	0.173	-0.001	0.580	-0.045	-0.401	113.8%	0.939	0.824
σ		0.014	0.376	0.160	0.549	0.015	0.531	0.3%	0.050	0.143
%RSD		24.490	217.200	11950.000	94.650	31.990	132.600	0.3	5.354	17.320

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	0.913	0.896	0.005	-0.339	0.012	-0.012	0.003	112.8%	0.093
2	16:47:08	0.986	0.051	0.009	-0.006	0.007	0.004	0.018	115.1%	0.079
3	16:47:33	1.013	-0.556	0.014	0.199	0.008	-0.003	0.014	114.8%	0.092
x		0.971	0.130	0.009	-0.049	0.009	-0.004	0.012	114.2%	0.088
σ		0.052	0.729	0.004	0.272	0.003	0.008	0.008	1.3%	0.008
%RSD		5.361	559.500	48.040	556.000	28.750	225.500	64.080	1.1	8.587

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	0.236	0.440	0.467	0.012	0.015	110.4%	0.006	0.014	0.008
2	16:47:08	0.075	0.499	0.491	0.011	0.014	111.9%	0.015	0.007	0.001
3	16:47:33	-0.015	0.508	0.525	-0.009	-0.013	112.9%	0.015	0.009	-0.002
x		0.099	0.482	0.494	0.005	0.005	111.8%	0.012	0.010	0.002
σ		0.127	0.037	0.029	0.012	0.016	1.2%	0.005	0.003	0.005
%RSD		128.400	7.657	5.953	262.400	307.100	1.1	45.690	34.240	221.700

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:46:42	0.004	0.005	111.8%
2	16:47:08	0.000	0.005	113.6%
3	16:47:33	0.003	0.009	115.1%
x		0.002	0.006	113.5%
σ		0.002	0.002	1.7%
%RSD		84.580	37.230	1.5

PDF created with pdfFactory trial version www.pdffactory.com

LR ISM1406 6/6/2017 16:51:39 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	84.8%	M 991.600	0.632	0.887	TM 105100.000	TM 107500.000	TM 106500.000	TM 109100.000	TM 100800.000
2	16:52:30	86.7%	M 990.800	1.089	0.632	TM 116100.000	TM 111700.000	TM 111600.000	TM 115000.000	TM 114500.000
3	16:52:56	85.5%	M 982.900	0.616	0.720	TM 116600.000	TM 113500.000	TM 111900.000	TM 114600.000	TM 112000.000
x		85.7%	M 98.842%	0.779	0.746	TM 93.849%	TM 110900.000	TM 110000.000	TM 94.076%	TM 90.923%
σ		0.9%	M n/a	0.269	0.129	TM n/a	TM 3062.000	TM 3076.000	TM n/a	TM n/a
%RSD		1.1	M 0.487	34.500	17.330	TM 5.787	TM 2.761	TM 2.796	TM 2.880	TM 6.681

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	3.346	96.020	TM 117000.000	M 108800.000	TM 108400.000	T 109.4%	M 1765.000	TM 1770.000	TM 1726.000
2	16:52:30	6.712	114.400	TM 132600.000	M 121300.000	TM 120500.000	97.7%	M 1943.000	TM 1967.000	TM 1912.000
3	16:52:56	6.039	117.900	TM 130800.000	M 119600.000	TM 119400.000	99.0%	M 1956.000	TM 1957.000	TM 1886.000
x		5.366	109.400	TM 105.683%	M 116600.000	TM 96.753%	T 102.0%	M 1888.000	TM 94.896%	TM 92.069%
σ		1.781	11.730	TM n/a	M 6804.000	TM n/a	T 6.4%	M 106.400	TM n/a	TM n/a
%RSD		33.200	10.720	TM 6.713	M 5.837	TM 5.762	T 6.3	M 5.638	TM 5.841	TM 5.460

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	-24.150	TM 1784.000	TM 103500.000	TM 104000.000	TM 1747.000	TM 1689.000	TM 1567.000	M 1880.000	M 1765.000
2	16:52:30	-25.040	TM 1957.000	TM 113100.000	TM 118500.000	TM 1885.000	TM 1678.000	TM 1684.000	M 1866.000	M 1755.000
3	16:52:56	-26.930	TM 1932.000	TM 111600.000	TM 116800.000	TM 1862.000	TM 1669.000	TM 1671.000	TM 1625.000	M 1736.000
x		-25.370	TM 94.558%	TM 109400.000	TM 94.252%	TM 91.561%	TM 83.930%	TM 1641.000	TM 89.500%	M 87.618%
σ		1.423	TM n/a	TM 5176.000	TM n/a	TM n/a	TM n/a	TM 64.280	TM n/a	M n/a
%RSD		5.608	TM 4.932	TM 4.731	TM 6.994	TM 4.053	TM 0.580	TM 3.918	TM 8.016	M 0.848

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	M 1735.000	M 1610.000	2.609	0.220	M 1712.000	3.774	95.0%	TM 2223.000	M 2031.000
2	16:52:30	M 1789.000	M 1652.000	1.920	0.481	M 1698.000	4.406	96.4%	TM 2537.000	M 2318.000
3	16:52:56	M 1803.000	M 1627.000	2.801	0.750	M 1664.000	2.742	96.3%	TM 2516.000	M 2299.000
x		M 88.777%	M 1630.000	2.443	0.484	M 84.574%	3.640	95.9%	TM 2425.000	M 110.805%
σ		M n/a	M 21.510	0.463	0.265	M n/a	0.840	0.8%	TM 175.300	M n/a
%RSD		M 2.028	M 1.320	18.970	54.750	M 1.442	23.080	0.8	TM 7.228	M 7.236

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	TM 2051.000	M 1687.000	260.000	15.550	241.900	M 1778.000	TM 1826.000	96.9%	M 524.000
2	16:52:30	TM 2335.000	M 1681.000	255.600	13.660	242.100	M 1787.000	TM 1812.000	98.0%	M 526.100
3	16:52:56	TM 2323.000	M 1696.000	254.100	5.893	242.300	M 1785.000	TM 1798.000	98.5%	M 527.900
x		TM 2236.000	M 1688.000	85.530%	11.700	242.100	M 1783.000	TM 90.588%	97.8%	M 526.000
σ		TM 160.700	M 7.422	n/a	5.118	0.234	M 4.982	TM n/a	0.9%	M 1.997
%RSD		TM 7.184	M 0.440	1.194	43.740	0.097	M 0.279	TM 0.774	0.9	M 0.380

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	46.670	M 942.300	M 930.700	TM 10300.000	TM 10200.000	95.5%	TM 956.400	TM 938.300	TM 1915.000
2	16:52:30	46.200	M 951.900	M 944.100	TM 10330.000	TM 10250.000	96.6%	TM 951.400	TM 944.800	TM 1905.000
3	16:52:56	51.240	M 960.100	M 947.800	TM 10380.000	TM 10290.000	97.8%	TM 952.400	TM 945.500	TM 1901.000
x		2.402%	M 951.500	M 94.087%	TM 103.341%	TM 10250.000	96.6%	TM 953.400	TM 94.285%	TM 1907.000
σ		n/a	M 8.927	M n/a	TM n/a	TM 48.930	1.2%	TM 2.689	TM n/a	TM 7.563
%RSD		5.792	M 0.938	M 0.961	TM 0.379	TM 0.478	1.2	TM 0.282	TM 0.422	TM 0.397

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:52:04	TM 1980.000	TM 1860.000	90.5%
2	16:52:30	TM 1972.000	TM 1875.000	92.7%
3	16:52:56	TM 1966.000	TM 1875.000	93.9%
x		TM 1973.000	TM 93.512%	92.4%
σ		TM 6.745	TM n/a	1.7%
%RSD		TM 0.342	TM 0.456	1.8

PDF created with pdfFactory trial version www.pdffactory.com

IS MW9476 6/6/2017 16:57:03

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	134.9%	0.041	0.233	-0.217	3.917	3.843	3.775	3.832	2.363
2	16:57:55	139.9%	0.028	0.034	-0.152	3.894	3.968	3.741	4.031	2.457
3	16:58:21	144.0%	0.002	0.037	-0.259	3.766	3.749	3.513	3.682	2.416
x		139.6%	0.024	0.101	-0.209	3.859	3.853	3.676	3.848	2.412
σ		4.5%	0.020	0.114	0.054	0.082	0.110	0.143	0.175	0.047
%RSD		3.3	83.220	112.800	25.810	2.118	2.843	3.884	4.546	1.956

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	14.100	237.800	-7.504	5.795	7.554	132.0%	0.233	0.301	0.108
2	16:57:55	13.990	262.500	-8.074	8.881	6.387	131.9%	0.442	0.352	0.112
3	16:58:21	13.430	282.900	-9.189	7.522	7.408	131.5%	0.227	0.307	0.110
x		13.840	261.100	-8.256	7.400	7.116	131.8%	0.301	0.320	0.110
σ		0.361	22.570	0.857	1.547	0.636	0.2%	0.123	0.028	0.002
%RSD		2.610	8.644	10.380	20.900	8.939	0.2	40.760	8.784	2.018

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	0.028	0.043	97.790	79.180	0.014	-0.039	0.105	0.185	0.590
2	16:57:55	0.013	0.052	115.700	97.670	0.021	-0.049	0.097	0.171	0.500
3	16:58:21	0.011	0.060	104.200	84.020	0.020	-0.022	0.096	0.122	0.451
x		0.017	0.051	105.900	86.960	0.018	-0.036	0.099	0.159	0.514
σ		0.010	0.009	9.070	9.586	0.004	0.014	0.005	0.033	0.071
%RSD		55.570	16.680	8.564	11.020	19.890	37.550	5.100	20.780	13.770

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	-0.049	0.001	0.482	1.255	-0.012	-0.552	124.4%	7.084	7.443
2	16:57:55	0.029	0.370	0.774	1.189	0.049	-0.268	126.1%	6.957	6.542
3	16:58:21	-0.042	-0.055	0.207	0.263	-0.179	-1.071	127.0%	5.063	5.351
x		-0.021	0.105	0.488	0.902	-0.047	-0.631	125.8%	6.368	6.445
σ		0.043	0.231	0.283	0.555	0.118	0.407	1.3%	1.132	1.050
%RSD		206.600	219.200	58.080	61.470	250.100	64.530	1.1	17.770	16.280

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	7.385	-0.295	0.011	0.169	0.010	0.003	0.015	120.9%	0.148
2	16:57:55	7.117	-0.337	0.012	0.218	0.005	0.010	0.014	123.1%	0.162
3	16:58:21	5.363	-0.689	0.010	0.280	0.011	-0.020	0.034	123.8%	0.151
x		6.622	-0.440	0.011	0.222	0.009	-0.002	0.021	122.6%	0.154
σ		1.098	0.216	0.001	0.056	0.003	0.016	0.011	1.5%	0.007
%RSD		16.590	49.150	8.757	24.990	31.380	639.100	54.540	1.2	4.738

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	0.143	1.163	1.075	0.107	0.104	119.7%	0.114	0.087	0.067
2	16:57:55	0.120	1.150	1.201	0.118	0.158	122.1%	0.087	0.069	0.057
3	16:58:21	0.108	0.991	1.090	0.102	0.113	125.0%	0.076	0.064	0.071
x		0.124	1.101	1.122	0.109	0.125	122.3%	0.092	0.074	0.065
σ		0.017	0.096	0.069	0.008	0.029	2.7%	0.020	0.012	0.008
%RSD		14.110	8.682	6.134	7.736	23.270	2.2	21.480	16.280	11.670

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:57:29	0.046	0.058	108.1%
2	16:57:55	0.065	0.055	110.8%
3	16:58:21	0.045	0.046	112.7%
x		0.052	0.053	110.5%
σ		0.011	0.006	2.3%
%RSD		21.570	11.740	2.1

PDF created with pdfFactory trial version www.pdffactory.com

rinse 6/6/2017 17:02:23

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	140.6%	-0.010	-0.390	-0.212	1.351	4.011	4.219	4.093	2.394
2	17:03:15	143.3%	0.014	-0.106	-0.291	1.222	3.907	3.552	3.774	2.219
3	17:03:41	150.7%	-0.006	-0.152	-0.415	1.081	3.797	3.870	3.442	2.471
x		144.9%	-0.000	-0.216	-0.306	1.218	3.905	3.880	3.770	2.361
σ		5.2%	0.013	0.152	0.103	0.135	0.107	0.334	0.326	0.130
%RSD		3.6	5210.000	70.600	33.500	11.070	2.739	8.608	8.640	5.486

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	14.370	187.800	-9.557	8.652	5.456	133.8%	0.097	0.171	0.060
2	17:03:15	13.890	215.300	-9.556	8.759	5.394	132.7%	0.053	0.203	0.108
3	17:03:41	13.850	225.700	-9.697	7.123	5.731	131.7%	0.122	0.234	0.125
x		14.040	209.600	-9.604	8.178	5.527	132.7%	0.091	0.203	0.097
σ		0.292	19.600	0.081	0.916	0.180	1.0%	0.034	0.032	0.034
%RSD		2.079	9.350	0.844	11.190	3.250	0.8	38.090	15.710	34.510

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	0.017	0.055	47.320	33.630	0.011	-0.035	0.022	0.070	-0.013
2	17:03:15	0.028	0.054	59.850	44.000	0.006	-0.022	0.031	0.067	-0.033
3	17:03:41	-0.009	0.051	57.460	38.990	0.007	-0.068	0.039	0.069	-0.069
x		0.012	0.053	54.880	38.870	0.008	-0.042	0.031	0.069	-0.039
σ		0.019	0.002	6.656	5.183	0.003	0.024	0.009	0.001	0.028
%RSD		157.100	3.540	12.130	13.330	33.630	57.290	27.750	2.115	73.390

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	-0.119	-0.071	0.241	0.764	-0.491	-1.042	124.8%	0.950	0.948
2	17:03:15	-0.146	-0.115	-0.010	0.481	-0.461	-0.563	124.8%	1.283	1.120
3	17:03:41	-0.070	-0.101	0.150	0.247	-0.259	-0.598	126.9%	1.251	1.217
x		-0.111	-0.095	0.127	0.497	-0.404	-0.734	125.5%	1.161	1.095
σ		0.039	0.022	0.127	0.259	0.126	0.267	1.2%	0.184	0.136
%RSD		34.740	23.540	99.860	52.020	31.210	36.390	1.0	15.850	12.460

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	0.905	-0.744	0.008	0.283	0.005	0.002	0.024	121.3%	0.078
2	17:03:15	1.102	-0.358	0.002	0.124	0.006	-0.002	0.003	122.8%	0.087
3	17:03:41	1.083	-1.388	0.004	0.505	0.006	-0.005	0.017	124.4%	0.071
x		1.030	-0.830	0.005	0.304	0.006	-0.001	0.014	122.8%	0.079
σ		0.109	0.521	0.003	0.192	0.001	0.004	0.011	1.6%	0.008
%RSD		10.560	62.720	60.510	62.910	11.350	267.400	75.260	1.3	10.000

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	-0.025	0.289	0.278	0.077	0.090	119.9%	0.022	0.021	0.030
2	17:03:15	0.111	0.371	0.386	0.085	0.077	122.9%	0.027	0.021	0.032
3	17:03:41	-0.067	0.311	0.338	0.149	0.073	124.7%	0.028	0.021	0.034
x		0.006	0.324	0.334	0.104	0.080	122.5%	0.026	0.021	0.032
σ		0.093	0.042	0.054	0.040	0.009	2.4%	0.003	0.000	0.002
%RSD		1441.000	13.060	16.250	38.330	11.430	2.0	11.830	1.723	5.881

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:02:49	0.028	0.022	107.9%
2	17:03:15	0.020	0.033	110.7%
3	17:03:41	0.031	0.026	112.3%
x		0.027	0.027	110.3%
σ		0.006	0.005	2.3%
%RSD		21.600	20.010	2.0

PDF created with pdfFactory trial version www.pdffactory.com

rinse 6/6/2017 17:07:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	144.7%	-0.004	-0.302	-0.407	-0.516	2.762	2.566	2.865	1.131
2	17:08:37	150.6%	-0.026	-0.289	-0.450	-0.617	2.833	2.762	2.913	1.176
3	17:09:03	148.4%	-0.002	-0.212	-0.394	-0.638	2.667	2.589	2.549	1.095
x		147.9%	-0.011	-0.268	-0.417	-0.590	2.754	2.639	2.776	1.134
σ		3.0%	0.013	0.049	0.029	0.065	0.084	0.107	0.198	0.041
%RSD		2.0	121.700	18.110	7.060	11.030	3.034	4.047	7.131	3.590

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	14.740	145.300	-11.200	4.336	2.989	132.4%	0.032	0.145	0.080
2	17:08:37	15.020	159.500	-11.520	1.918	3.216	132.3%	0.061	0.156	0.048
3	17:09:03	13.250	164.400	-13.330	3.084	2.153	134.9%	0.044	0.165	0.057
x		14.330	156.400	-12.010	3.113	2.786	133.2%	0.046	0.155	0.062
σ		0.953	9.962	1.146	1.209	0.560	1.5%	0.015	0.010	0.017
%RSD		6.645	6.370	9.542	38.860	20.100	1.1	32.800	6.410	27.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	-0.004	0.035	30.500	18.540	-0.013	-0.055	-0.017	-0.013	-0.028
2	17:08:37	0.025	0.031	39.540	25.860	-0.011	-0.030	-0.022	-0.017	-0.095
3	17:09:03	0.007	0.040	36.580	20.870	-0.011	-0.061	-0.017	0.015	-0.049
x		0.009	0.036	35.540	21.750	-0.011	-0.049	-0.018	-0.005	-0.057
σ		0.014	0.005	4.605	3.744	0.001	0.017	0.003	0.018	0.034
%RSD		152.500	13.120	12.960	17.210	8.843	34.100	15.170	345.600	59.520

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	-0.085	-0.132	0.357	0.338	-0.189	-1.521	125.1%	0.283	0.296
2	17:08:37	-0.093	-0.393	-0.003	0.477	-0.257	-0.911	126.7%	0.564	0.344
3	17:09:03	-0.135	-0.164	0.360	0.916	-0.434	-0.593	126.1%	0.479	0.442
x		-0.105	-0.230	0.238	0.577	-0.293	-1.008	126.0%	0.442	0.360
σ		0.027	0.142	0.209	0.302	0.126	0.471	0.8%	0.144	0.074
%RSD		25.920	61.910	87.830	52.320	43.100	46.740	0.6	32.660	20.660

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	0.277	-0.478	-0.009	0.185	-0.003	-0.014	-0.003	121.6%	0.051
2	17:08:37	0.493	-0.211	-0.007	0.069	-0.002	-0.018	0.000	123.4%	0.039
3	17:09:03	0.474	-1.092	-0.004	0.430	0.000	-0.021	0.004	125.0%	0.061
x		0.415	-0.594	-0.006	0.228	-0.002	-0.017	0.000	123.3%	0.050
σ		0.119	0.452	0.002	0.184	0.002	0.003	0.003	1.7%	0.011
%RSD		28.800	76.070	36.770	80.800	118.700	19.830	750.000	1.4	21.210

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	-0.016	0.164	0.185	-0.011	0.005	120.7%	0.005	0.000	0.004
2	17:08:37	0.102	0.233	0.209	0.012	0.004	123.3%	0.003	-0.000	-0.003
3	17:09:03	-0.067	0.197	0.188	0.002	0.009	124.7%	-0.002	0.001	0.004
x		0.006	0.198	0.194	0.001	0.006	122.9%	0.002	0.000	0.002
σ		0.087	0.035	0.013	0.012	0.003	2.0%	0.003	0.000	0.004
%RSD		1361.000	17.430	6.735	911.900	45.350	1.6	154.900	180.000	236.400

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:08:11	0.004	-0.000	108.5%
2	17:08:37	0.006	-0.001	111.9%
3	17:09:03	-0.003	-0.003	113.2%
x		0.002	-0.002	111.2%
σ		0.005	0.001	2.5%
%RSD		202.500	86.960	2.2

Performance Report

PDF created with pdfFactory trial version www.pdffactory.com

Raw Supportive Data

Analyst: SLS
Status: Level 2 review released
Matrix: Aqueous

Printed: 06/06/17 0827

Prep Batch: 42482
3005A Draper 2 - Total Recoverable Acid Digestion (ICP-MS)

Start Date: 05/18/2017 1549
End Date: 05/18/2017 2149
Level 2 Analyst: BNW
Digestion Cup ID: 1612138
Ext Solvent: 1:1 HNO3/1:1 HCl
Reagents Vol. (mL): 1.0, 0.5
Chem ID: IM7757-01 (6/17), IM7757-02 (6/17)
Hot Block ID: Hot Block # 8
Filter Paper Lot Num: 61202753
Digestion Temperature (°C): 93

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SQ42482-001	MB		1	6020A	50		0.0	50			LCS/MS/MSD pipette 274
SQ42482-002	LCS		1	6020A	50	16-1141C (9/17)	0.5	50			Original Batch 42389
SE18010-001	Sample	16C1	1	6020A	50		0.0	50	11/13/2017 1035	06/02/2017	
SE18010-002	Sample	16MW8	1	6020A	50		0.0	50	11/11/2017 1220	06/02/2017	
SE18010-003	Sample	16MW9	1	6020A	50		0.0	50	11/12/2017 1140	06/02/2017	
SE18010-004	Sample	16WC1A	1	6020A	50		0.0	50	11/12/2017 1015	06/02/2017	
SE18010-004MS	MS		1	6020A	50	16-1141C (9/17)	0.5	50			
SE18010-004MD	MSD		1	6020A	50	16-1141C (9/17)	0.5	50			
SE18010-005	Sample	16WDUP	1	6020A	50		0.0	50	11/12/2017 1030	06/02/2017	
SE18010-006	Sample	16WC1B	1	6020A	50		0.0	50	11/11/2017 1540	06/02/2017	
SE19003-001	Sample	16-2	1	6020A	50		0.0	50	11/11/2017 1330	06/02/2017	
SE19003-002	Sample	16-3	1	6020A	50		0.0	50	11/11/2017 1430	06/02/2017	
SE19003-003	Sample	16-5	1	6020A	50		0.0	50	11/11/2017 0955	06/02/2017	
SE19003-004	Sample	16WC2B	1	6020A	50		0.0	50	11/11/2017 1125	06/02/2017	
SE19003-005	Sample	16SPRING	1	6020A	50		0.0	50	11/11/2017 1010	06/02/2017	

(end of report) **Total Samples: 11**

Cyanide

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-001**

Description: **16C1** Matrix: **Aqueous**

Date Sampled: **05/17/2017 1035** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1652	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-002**

Description: **16MW8** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1220** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1653	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-003**

Description: **16MW9** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1140** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1654	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-004**

Description: **16WC1A** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1015** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1658	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-005**

Description: **16WDUP** Matrix: **Aqueous**

Date Sampled: **05/16/2017 1030** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1701	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Inorganic non-metals

Client: **Draper Aden Associates** Laboratory ID: **SE18010-006**

Description: **16WC1B** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1540** Project Name: **RAAP HWMU16**

Date Received: **05/18/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	9012B	(Cyanide - To) 9012B	1	05/24/2017 1702	HKL	05/24/2017 1208	42781

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Cyanide - Total	57-12-5	9012B	20	U	20	5.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

Inorganic non-metals - MB

Sample ID: SQ42781-001
Batch: 42781
Analytical Method: 9012B
Matrix: Aqueous
Prep Method: 9012B
Prep Date: 05/24/2017 1208

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Cyanide - Total	20	U	1	20	5.0	ug/L	05/24/2017 1647

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Inorganic non-metals - LCS

Sample ID: SQ42781-002
Batch: 42781
Analytical Method: 9012B
Matrix: Aqueous
Prep Method: 9012B
Prep Date: 05/24/2017 1208

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Cyanide - Total	100	110		1	105	90-110	05/24/2017 1648

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Inorganic non-metals - MS

Sample ID: SE18010-004MS
Batch: 42781
Analytical Method: 9012B
Matrix: Aqueous
Prep Method: 9012B
Prep Date: 05/24/2017 1208

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Cyanide - Total	0.0	100	98		1	98	70-130	05/24/2017 1659

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Inorganic non-metals - MSD

Sample ID: SE18010-004MD
Batch: 42781
Analytical Method: 9012B
Matrix: Aqueous
Prep Method: 9012B
Prep Date: 05/24/2017 1208

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Cyanide - Total	0.0	100	100		1	100	2.3	70-130	20	05/24/2017 1700

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Cyanide Analysis Cover Sheet

Prep Method: 335.4/9012B-A/SM4500 CN C-2011
Analysis Method: Aquakem Cyanide 335.4/9012B-A/SM4500 CN E-2011/ SM4500 CN G-2011
Lachat Quickchem Automated Flow-Injection Ion Analyzer
Serial Number A83000-1090 (AA2)

Prep Information		Analysis Information	
Prep Analyst:	KWP	Analyst:	HKB
Prep Batch:	42781, 42697, 42699	Analytical Batch:	42826, 42828, 42829
Prep Date:	5/24/2017, 5/23/2017	Analyst Date:	05/24/17
Start Time:	1203/1305/1630	Start Time:	1647/1626/1534
End Time:	1233/1435/1700	End Time:	1702/1635/1604
Pipette ID's:	237, 242, 244, 263		

Filter Wavelength: 580 nm
Sample Loop Length: 150 cm
Pump Speed: 35

Cycle Period: 45 s
Inject to Peak Start: 24.0 s

Reagents:

Chloramine T:	CNR17-200	Expires:	05/25/17
Potassium Phosphate Buffer:	CNR17-201	Expires:	06/24/17
Pyridine-Barbituric Acid:	CNR17-188	Expires:	11/15/17
0.25 N Sodium hydroxide:	CNR17-191	Expires:	11/18/17

Standard IDs:	Concentration:	Reference ID:		
ICAL	0.2 mg/L	CN17-792		
ICAL	0.1 mg/L	CN17-793		
ICAL	0.08 mg/L	CN17-794		
ICAL	0.05 mg/L	CN17-795		
ICAL	0.02 mg/L	CN17-796		
ICAL	0.01 mg/L	CN17-797		
ICAL	0.005 mg/L	CN17-798	Standards Expire:	05/25/17
			LCR Expires:	11/11/17
ICV	0.08 mg/L	CNR17-799	ICV Expires:	05/25/17
CCV	0.1 mg/L	CNR17-793	CCV Expires:	05/25/17

---

*All other variables are the same as those listed in the Lachat Quikchem technical bulletin.

Analyst: HKL
Status: Open

Cyanide Analytical Batch: 42826

9012B - Cyanide - Total

Printed: 5/24/2017 5:33:50 PM

Start Date: 05/24/2017 1727 **End Date:** 05/24/2017 1727

Sample ID	Method	QC Code	Run	Matrix	Cup	%S	Dil	Instrument Reading	Final Result (ug/L)	Reported Result (ug/L)	%Rec	RPD / PD	PQL	Qualifiers	Analysis Date	Initial Weight (g)	Initial Volume (mL)	Final Volume (mL)
SQ42781-001	9012B	MB	1	Aqueous	34	100	1	0.555	0.555	0.56			20		05/24/2017 1647	0	50	50
SQ42781-002	9012B	LCS	1	Aqueous	35	100	1	105	105	110	105	0.00	20		05/24/2017 1648	0	50	50
SQ42781-004	9012B	Standard	1	Aqueous	36	100	1	47.5	47.5	48	95.00				05/24/2017 1650	0	50	50
SQ42781-104	9012B	Standard	1	Aqueous	37	100	1	207	207	210	103.50				05/24/2017 1651	0	50	50
SE18010-001	9012B	Sample	1	Aqueous	38	100	1	0.221	0.221	ND			20		05/24/2017 1652	0	50	50
SE18010-002	9012B	Sample	1	Aqueous	39	100	1	0.0842	0.0842	ND			20		05/24/2017 1653	0	50	50
SE18010-003	9012B	Sample	1	Aqueous	40	100	1	0.424	0.424	ND			20		05/24/2017 1654	0	50	50
SE18010-004	9012B	Sample	1	Aqueous	41	100	1	0.461	0.461	ND			20		05/24/2017 1658	0	50	50
SE18010-004MS	9012B	MS	1	Aqueous	42	100	1	97.5	97.5	98	98	2.3	20		05/24/2017 1659	0	50	50
SE18010-004MD	9012B	MSD	1	Aqueous	43	100	1	99.8	99.8	100	100	2.3	20		05/24/2017 1700	0	50	50
SE18010-005	9012B	Sample	1	Aqueous	44	100	1	0.747	0.747	ND			20		05/24/2017 1701	0	50	50
SE18010-006	9012B	Sample	1	Aqueous	45	100	1	0.58	0.58	ND			20		05/24/2017 1702	0	50	50

Total Items: 12 (6 samples)

(end of report)

Analyst: KWP
Status: Level 1 review released
Matrix: Aqueous

Prep Batch: 42781
9012B-Draper - Cyanide distillation

Printed: 05/25/17 1834

Start Date: 05/24/2017 1208
End Date: 05/24/2017 1338

Level 2 Analyst: N/A

Thermometer ID: 326364
Temperature:

Ext Solvent: NaOH/N-H2SO3H/H2SO4/MgCl2.6H20/Ca(OCl)2/NaAsO2

Reagents Vol. (mL): 50ml, 0.2, 5ml, 2ml

Chem ID: CNR17-198 Exp 5/23/17 / 17-442 Exp 3/9/19 / CNR17-133 Exp 9/22/17 / 17-500 Exp 12/31/18

Hot Block ID: Hot Block #3

Digestion Temperature (°C): 125

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SQ42781-001	MB		1	9012B	50		0.0	50.0			
SQ42781-002	LCS		1	9012B	50	CN17-788	0.5	50.0			Exp 5/25/17 / Pipette 237
SQ42781-004	Standard	Conc = 0.0 mg/L	1	9012B	50	CN17-789	0.5	50.0			Exp 5/25/17 / Pipette 237
SQ42781-104	Standard	Conc = 0.0 mg/L	1	9012B	50	CN17-787	1.0	50.0			Exp 5/25/17 / Pipette 242
SE18010-001	Sample	16C1	1	9012B	50		0.0	50.0	05/31/2017 1035	06/02/2017	
SE18010-002	Sample	16MW8	1	9012B	50		0.0	50.0	05/29/2017 1220	06/02/2017	
SE18010-003	Sample	16MW9	1	9012B	50		0.0	50.0	05/30/2017 1140	06/02/2017	
SE18010-004	Sample	16WC1A	1	9012B	50		0.0	50.0	05/30/2017 1015	06/02/2017	
SE18010-004MS	MS		1	9012B	50	CN17-17-788	0.5	50.0			Exp 5/25/17 / Pipette 237
SE18010-004MD	MSD		1	9012B	50	CN17-17-788	0.5	50.0			Exp 5/25/17 / Pipette 237
SE18010-005	Sample	16WDUP	1	9012B	50		0.0	50.0	05/30/2017 1030	06/02/2017	
SE18010-006	Sample	16WC1B	1	9012B	50		0.0	50.0	05/29/2017 1540	06/02/2017	

(end of report) **Total Samples: 6**

Original Run Filename: OM_5-24-2017_15-21-04.OMN created 5/24/2017 15:21:04
Original Run Author's Signature: [Omnion User]
Current Run Filename: OM_5-24-2017_15-21-04.OMN last modified 5/24/2017 17:14:21
Current Run Author's Signature: [Omnion User]
Description: Default New Run

Sample	Cup No.	Channel 2 Cyanide Conc.	Channel 2 Cyanide Area (V.s)	Detection Time	MDF	Description
ICAL 0.200MG/L	S1	0.200	3.88	5/24/2017@15:21:53		
ICAL 0.10MG/L	S2	0.100	1.97	5/24/2017@15:23:03		
ICAL 0.080MG/L	S3	0.0800	1.62	5/24/2017@15:24:13		
ICAL 0.050MG/L	S4	0.0500	0.982	5/24/2017@15:25:23		
ICAL 0.020MG/L	S5	0.0200	0.428	5/24/2017@15:26:34		
ICAL 0.010MG/L	S6	0.0100	0.200	5/24/2017@15:27:45		
ICAL 0.005MG/L	S7	5.00e-3	0.0995	5/24/2017@15:28:57		
ICAL 0.00MG/L	S8	0.00	-3.57e-3	5/24/2017@15:30:09		
ICV 0.08MG/L	S9	0.0810	1.59	5/24/2017@15:31:19	101%	
Known Conc:		0.0800				
Calibration:		Table/Fig. 1				
ICB	S11	-6.49e-4	3.93e-3	5/24/2017@15:32:29	PASS	
Known Conc:		0.00				
PQL CHECK 0.01 MG/L	S6	9.15e-3	0.195	5/24/2017@15:33:40	92%	
Known Conc:		100				
SQ42697-001	1	-6.01e-5	0.0154	5/24/2017@15:34:51	PASS	
SQ42697-002	2	-5.62e-4	5.62e-3	5/24/2017@15:36:02	0%	
SQ42697-003	3	2.59e-5	0.0171	5/24/2017@15:37:13	0%	
SE04089-001 DIS 001 (3)	4	0.575	11.2	5/24/2017@15:38:24		
SE04089-002 DIS 001 (4)	5	0.582	11.3	5/24/2017@15:39:34		
SE10052-001 (1)	6	0.880	17.1	5/24/2017@15:40:45		
SE10052-002 (2)	7	0.847	16.5	5/24/2017@15:41:55		
SE10056-001 (1)	8	0.483	9.41	5/24/2017@15:43:05		
SE10056-002 (2)	9	0.480	9.36	5/24/2017@15:44:15		
CCV	S10	0.101	1.98	5/24/2017@15:45:25	101%	
Known Conc:		100				
CCB	S11	-9.05e-4	-1.06e-3	5/24/2017@15:46:35	PASS	
Known Conc:		100				
SE10060-002 DISCHARGE 001	10	0.332	6.48	5/24/2017@15:47:44		
SE12045-002 DIS. 001	11	0.330	6.44	5/24/2017@15:48:55		
SE12046-002 DIS. 001	12	0.114	2.24	5/24/2017@15:50:04		

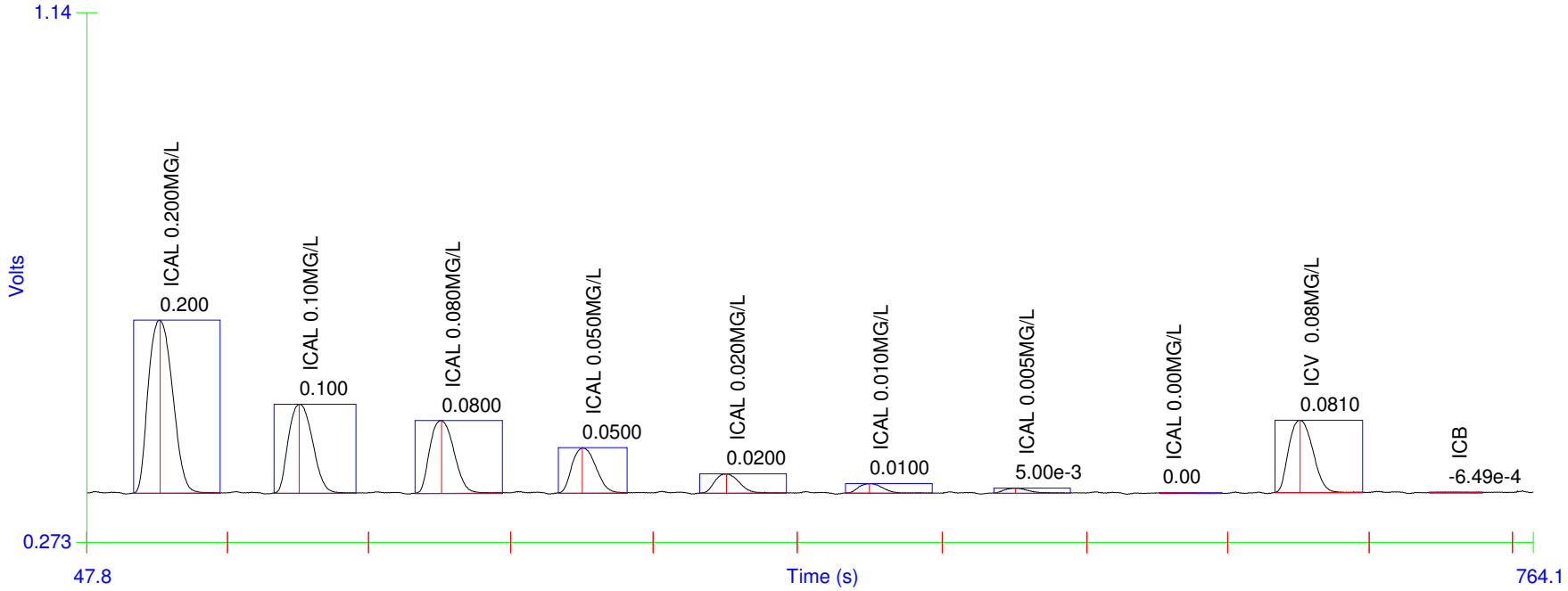
SE12047-001 DIS. 001 (3)	13	0.328	6.41	5/24/2017@15:51:13		
SE12047-002 DIS. 001 (4)	14	0.332	6.48	5/24/2017@15:52:23		
SE12060-002 051017-PG-2	15	0.127	2.48	5/24/2017@15:53:31		
SE17088-001 DIS 001	16	0.273	5.33	5/24/2017@15:54:42		
SE17088-002 DIS 001	17	0.309	6.03	5/24/2017@15:55:54		
SE19070-001 Dis.001 (1)	18	0.245	4.79	5/24/2017@15:57:05		
SE19070-001DU	19	0.238	4.65	5/24/2017@15:58:15		
CCV	S10	0.102	1.99	5/24/2017@15:59:25	102%	
Known Conc:		100				
CCB	S11	-1.76e-4	0.0131	5/24/2017@16:00:36	PASS	
Known Conc:		100				
SE19070-002 Dis.001 (2)	20	0.252	4.92	5/24/2017@16:01:46		
SE19070-002DU	21	0.239	4.67	5/24/2017@16:02:57		
SE19071-001 Dis.001	22	0.0445	0.883	5/24/2017@16:04:07		
SE04089-001 DIS 001 (3)	76	0.665	2.60	5/24/2017@16:05:19	5.00	
SE04089-002 DIS 001 (4)	77	0.686	2.69	5/24/2017@16:06:31	5.00	
SE10052-001 (1)	78	1.26	2.47	5/24/2017@16:07:43	10.00	
SE10052-002 (2)	79	1.22	2.39	5/24/2017@16:08:55	10.00	
SE10056-001 (1)	80	0.535	2.10	5/24/2017@16:10:06	5.00	
SE10056-002 (2)	81	0.537	2.10	5/24/2017@16:11:17	5.00	
SE10060-002 DISCHARGE 001	82	0.335	1.32	5/24/2017@16:12:28	5.00	
CCV	S10	0.0997	1.96	5/24/2017@16:13:38	100%	
Known Conc:		100				
CCB	S11	-2.93e-4	0.0109	5/24/2017@16:14:49	PASS	
Known Conc:		100				
SE12045-002 DIS. 001	83	0.355	1.40	5/24/2017@16:16:00	5.00	
SE12047-001 DIS. 001 (3)	84	0.345	1.36	5/24/2017@16:17:10	5.00	
SE12047-002 DIS. 001 (4)	85	0.354	1.39	5/24/2017@16:18:21	5.00	
SE17088-001 DIS 001	86	0.288	1.14	5/24/2017@16:19:32	5.00	
SE17088-002 DIS 001	87	0.329	1.30	5/24/2017@16:20:41	5.00	
SE19070-001 Dis.001 (1)	88	0.255	1.01	5/24/2017@16:21:52	5.00	
SE19070-001DU	89	0.244	0.967	5/24/2017@16:23:02	5.00	
SE19070-002 Dis.001 (2)	52	0.264	1.04	5/24/2017@16:24:12	5.00	
SE19070-002DU	53	0.249	0.984	5/24/2017@16:25:24	5.00	
SQ42699-001	23	4.72e-5	0.0175	5/24/2017@16:26:34		PASS
CCV	S10	0.101	1.98	5/24/2017@16:27:43	101%	
Known Conc:		100				
CCB	S11	-7.09e-4	2.77e-3	5/24/2017@16:28:54	PASS	
Known Conc:		100				
SQ42699-002	24	0.103	2.01	5/24/2017@16:30:04		103%
SQ42699-004	25	0.0468	0.927	5/24/2017@16:31:14		94%

SQ42699-104	26	0.211	4.11	5/24/2017@16:32:24	106%	
SE12051-002 DIS.001	27	7.10e-4	0.0304	5/24/2017@16:33:34		
SE12051-002MS	28	0.105	2.06	5/24/2017@16:34:43		
SE12051-002MD	29	0.102	2.01	5/24/2017@16:35:53		
SQ42702-001	30	-2.50e-4	0.0117	5/24/2017@16:37:02		
SQ42702-002	31	0.101	1.98	5/24/2017@16:38:14		
SQ42702-003	32	0.0997	1.96	5/24/2017@16:39:25		
SQ42702-004	61	0.0477	0.944	5/24/2017@16:40:37		
CCV	S10	0.101	1.99	5/24/2017@16:41:47	101%	
Known Conc:		100				
CCB	S11	-1.63e-4	0.0134	5/24/2017@16:42:57	PASS	
Known Conc:		100				
SQ42702-104	62	0.200	3.90	5/24/2017@16:44:09		
SD26069-001 Cyanide	33	0.842	16.4	5/24/2017@16:45:20		
SD26069-001G0.5	63	0.734	14.3	5/24/2017@16:46:32		
SQ42781-001	34	5.55e-4	0.0274	5/24/2017@16:47:43		
SQ42781-002	35	0.105	2.05	5/24/2017@16:48:54		
SQ42781-004	36	0.0475	0.940	5/24/2017@16:50:04		
SQ42781-104	37	0.207	4.04	5/24/2017@16:51:15		
SE18010-001 16C1	38	2.21e-4	0.0209	5/24/2017@16:52:25		
SE18010-002 16MW8	39	8.42e-5	0.0182	5/24/2017@16:53:36		
SE18010-003 16MW9	40	4.24e-4	0.0248	5/24/2017@16:54:46		
CCV	S10	0.101	1.99	5/24/2017@16:55:56	101%	
Known Conc:		100				
CCB	S11	-8.74e-4	-4.52e-4	5/24/2017@16:57:06	PASS	
Known Conc:		100				
SE18010-004 16WC1A	41	4.61e-4	0.0255	5/24/2017@16:58:16		
SE18010-004MS	42	0.0975	1.91	5/24/2017@16:59:26		
SE18010-004MD	43	0.0998	1.96	5/24/2017@17:00:36		
SE18010-005 16WDUP	44	7.47e-4	0.0311	5/24/2017@17:01:45		
SE18010-006 16WC1B	45	5.80e-4	0.0278	5/24/2017@17:02:55		
SD26069-001 Cyanide	49	1.35	1.77	5/24/2017@17:04:06	15.00	
SD26069-001G0.5	50	1.03	2.03	5/24/2017@17:05:17	10.00	
MB-SUL	46	-4.09e-5	0.0158	5/24/2017@17:06:29	PASS	
LCS-SUL	47	0.101	1.99	5/24/2017@17:07:41	101%	
SE12046-002 SUL	48	-1.73e-4	0.0132	5/24/2017@17:08:52		
CCV	S10	0.101	1.98	5/24/2017@17:11:26	101%	
Known Conc:		100				
CCB	S11	-9.06e-4	-1.08e-3	5/24/2017@17:12:36	PASS	
Known Conc:		100				

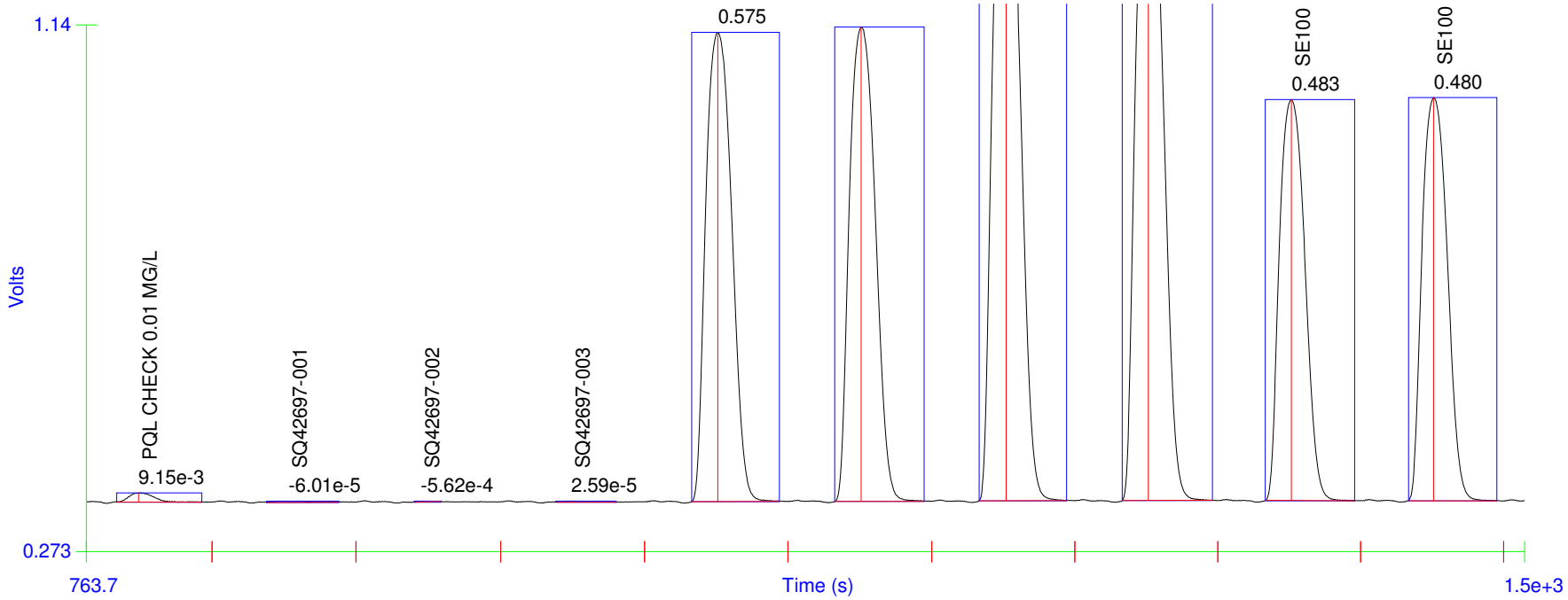
Analyte Properties Table for OM_5-24-2017_15-21-04.OMN

Property	Channel 2
	Cyanide
Concentration Units	
Callibration Fit Type	First Order
Clear Calibration	True
Force Through Zero	False
Calibration Weighting	None
Auto Dilution Trigger	False
% of High Standard	110
Quik Chem Method	
Chemistry	Direct/Bipolar
Calibration by Height	False
Inject to Peak Start	23
Peak Base Width	45

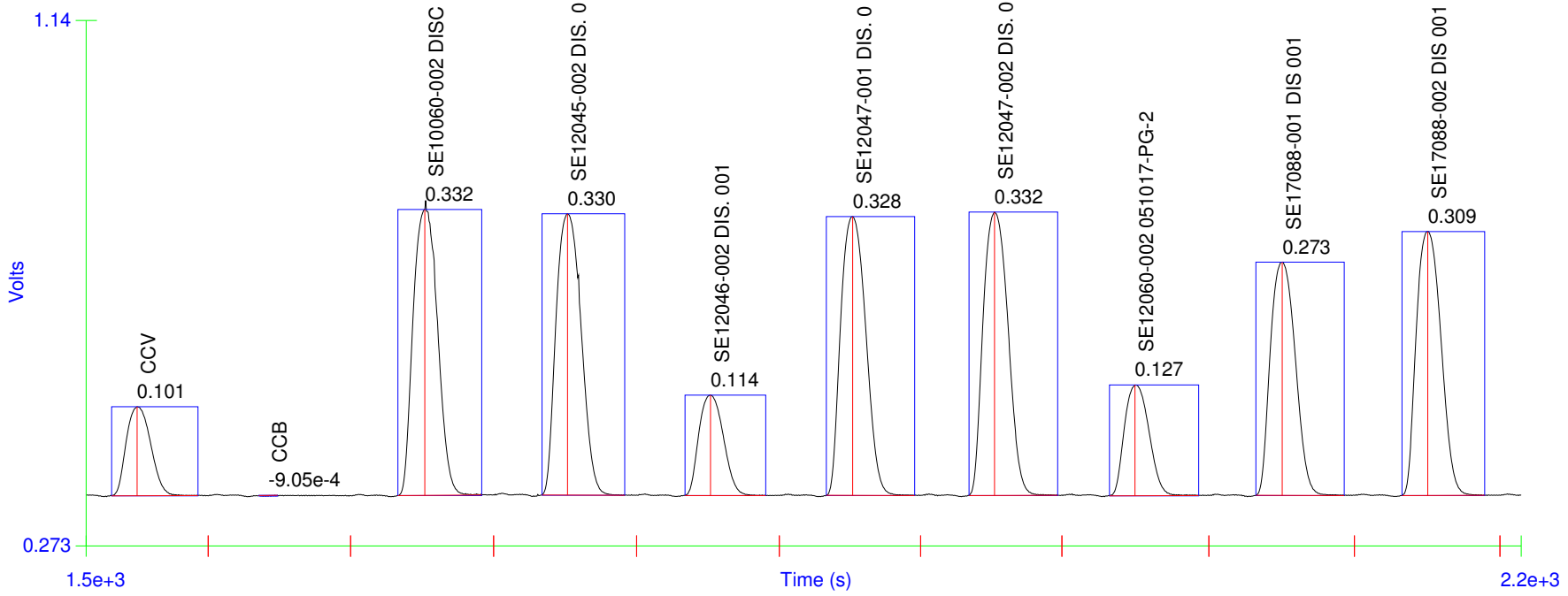
Channel 2: Set 1 of 10



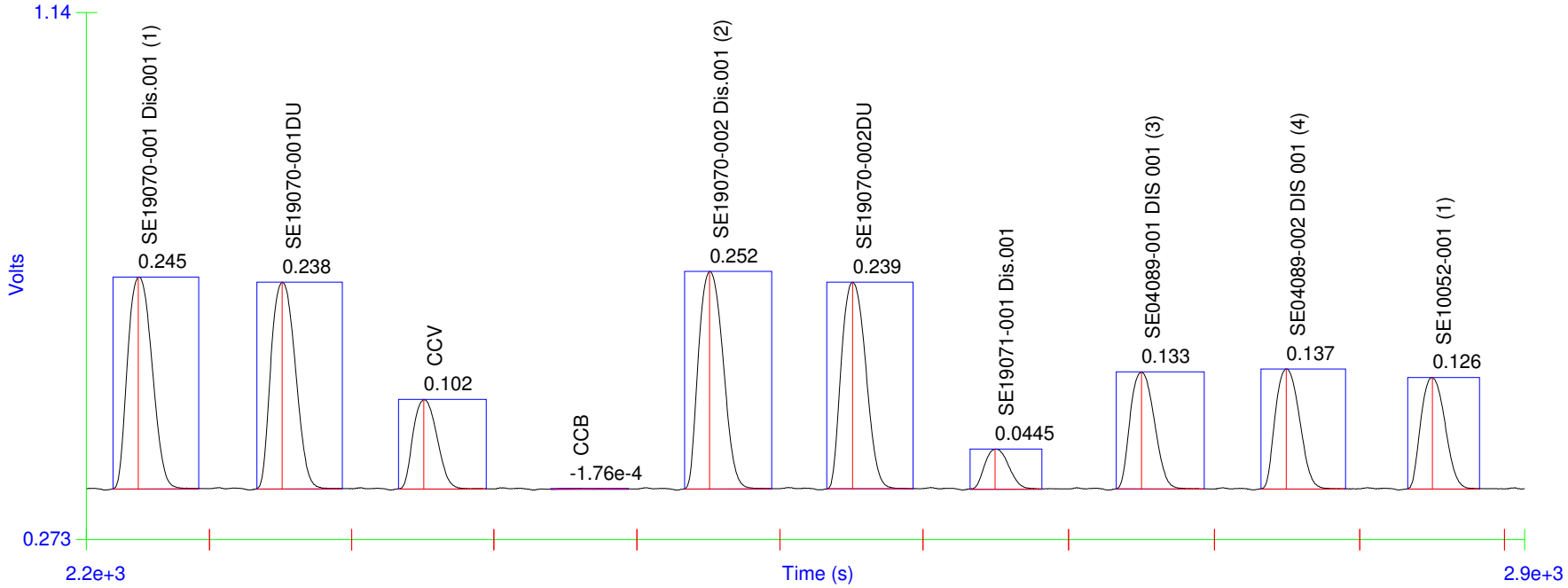
Channel 2: Set 2 of 10



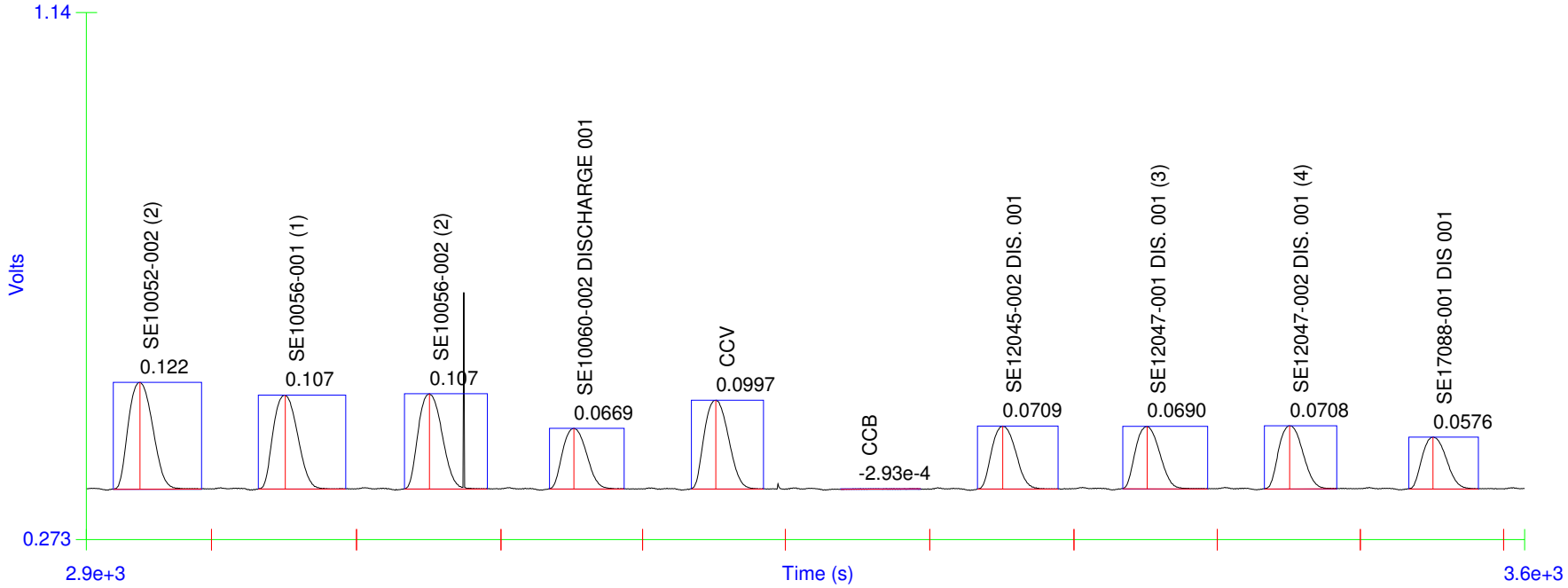
Channel 2: Set 3 of 10



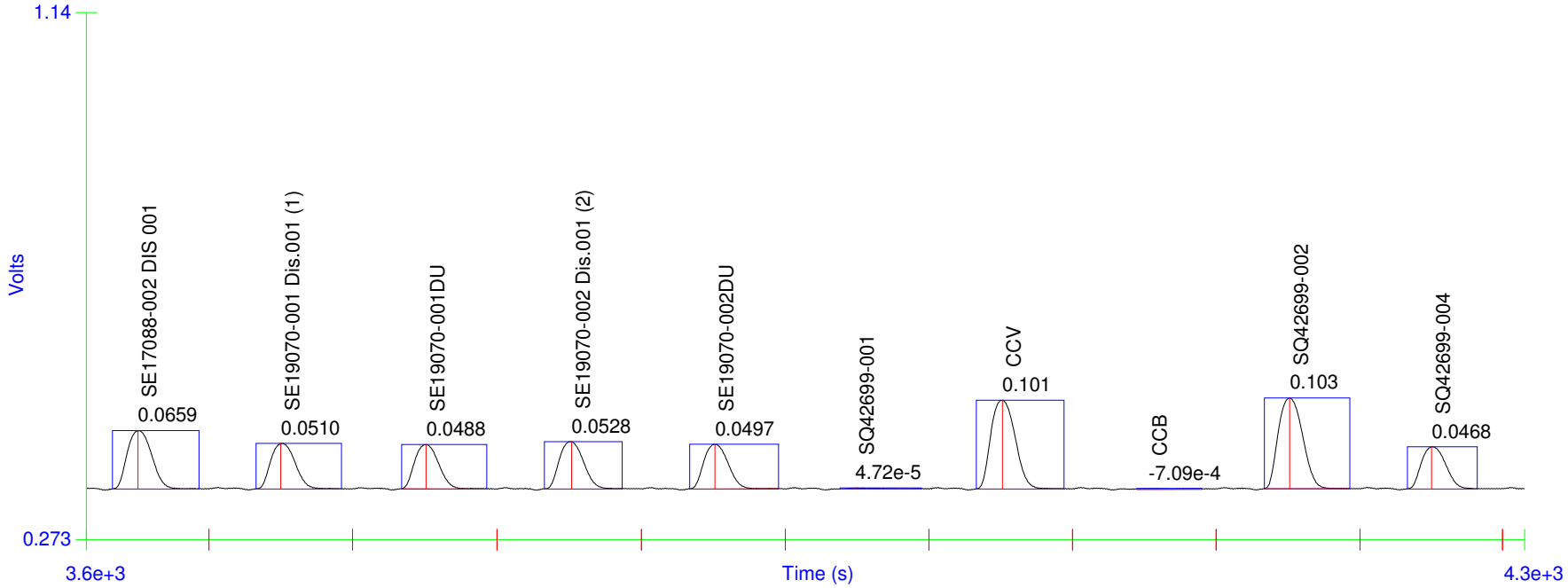
Channel 2: Set 4 of 10



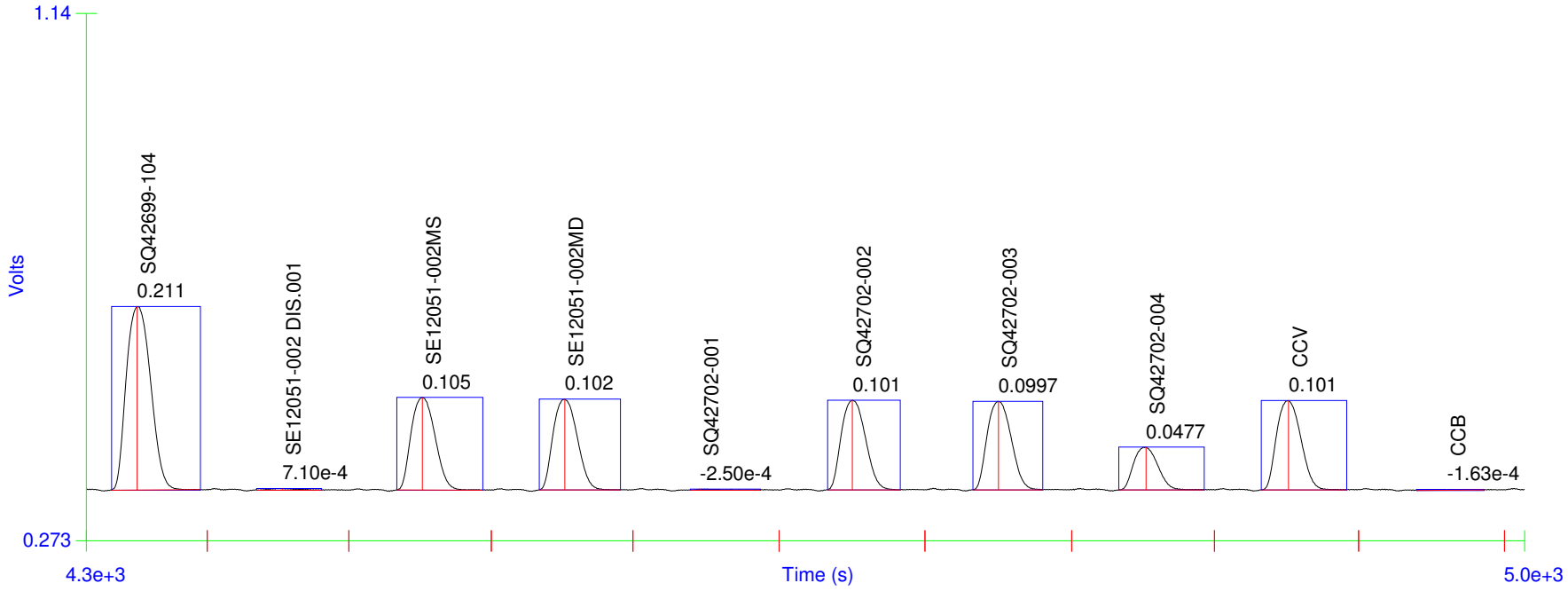
Channel 2: Set 5 of 10



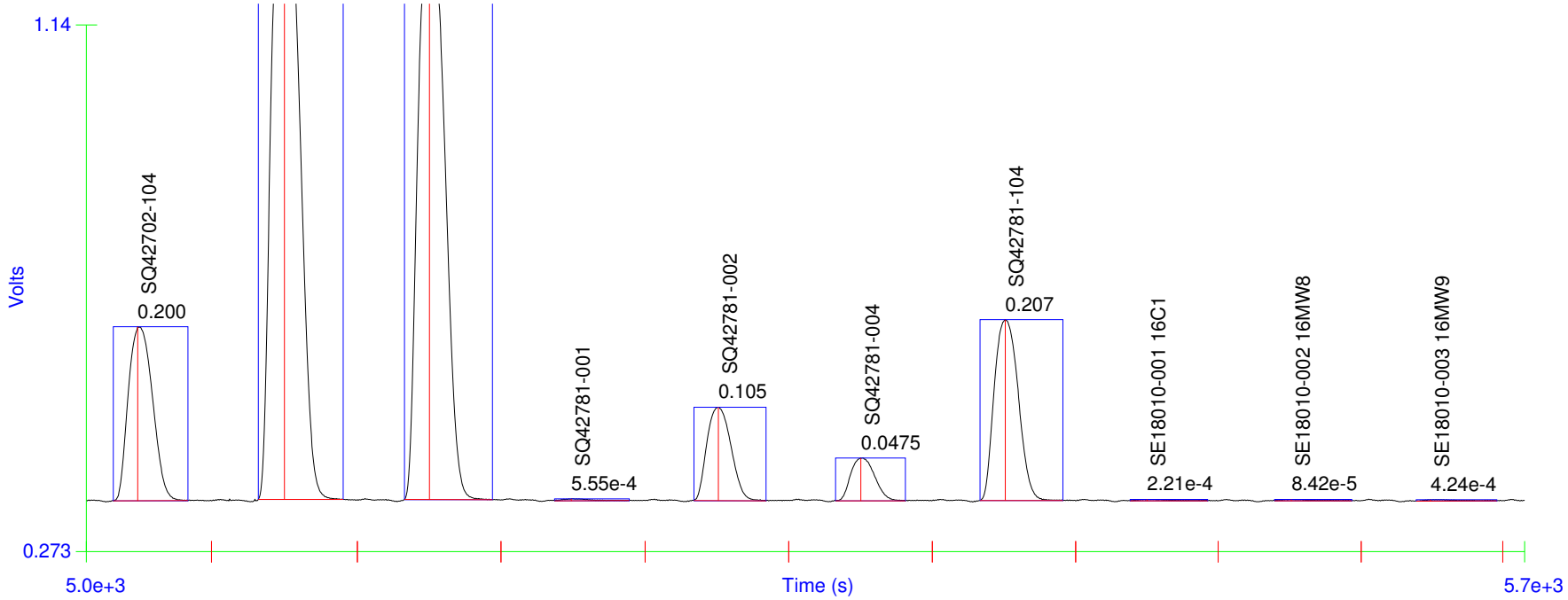
Channel 2: Set 6 of 10



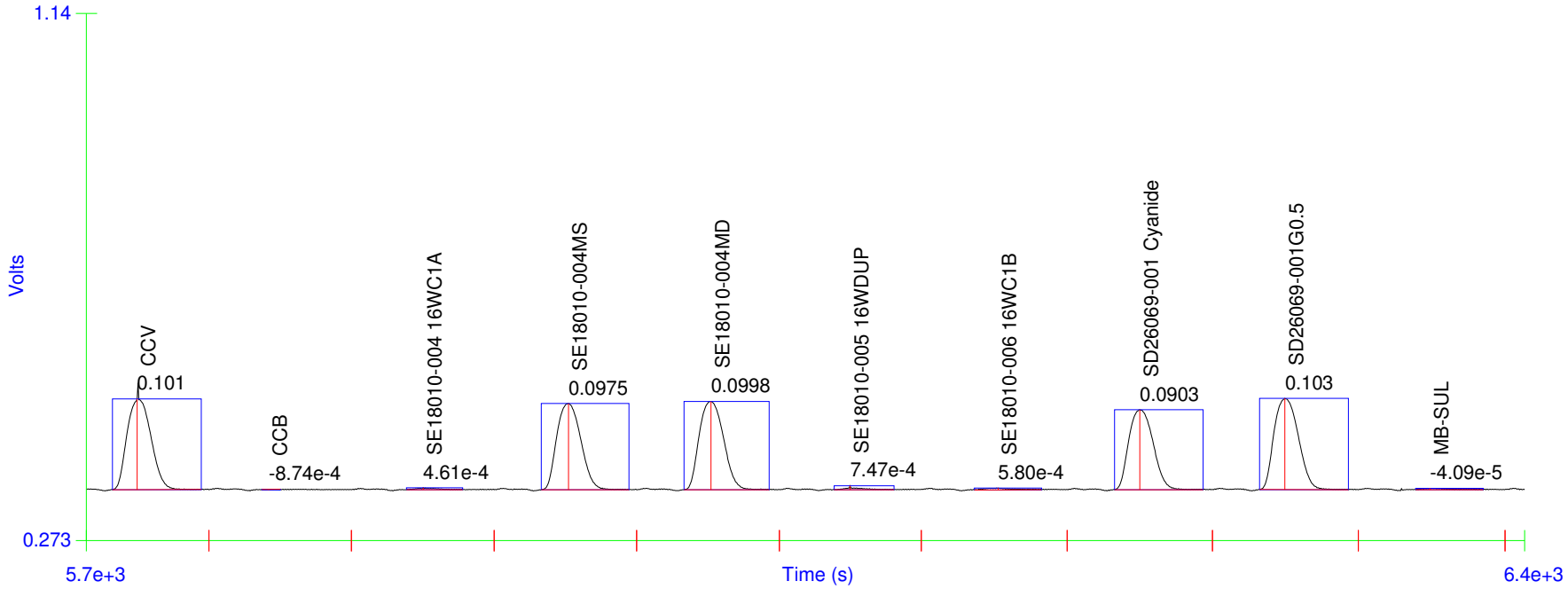
Channel 2: Set 7 of 10



Channel 2: Set 8 of 10



Channel 2: Set 9 of 10



Channel 2: Set 10 of 10

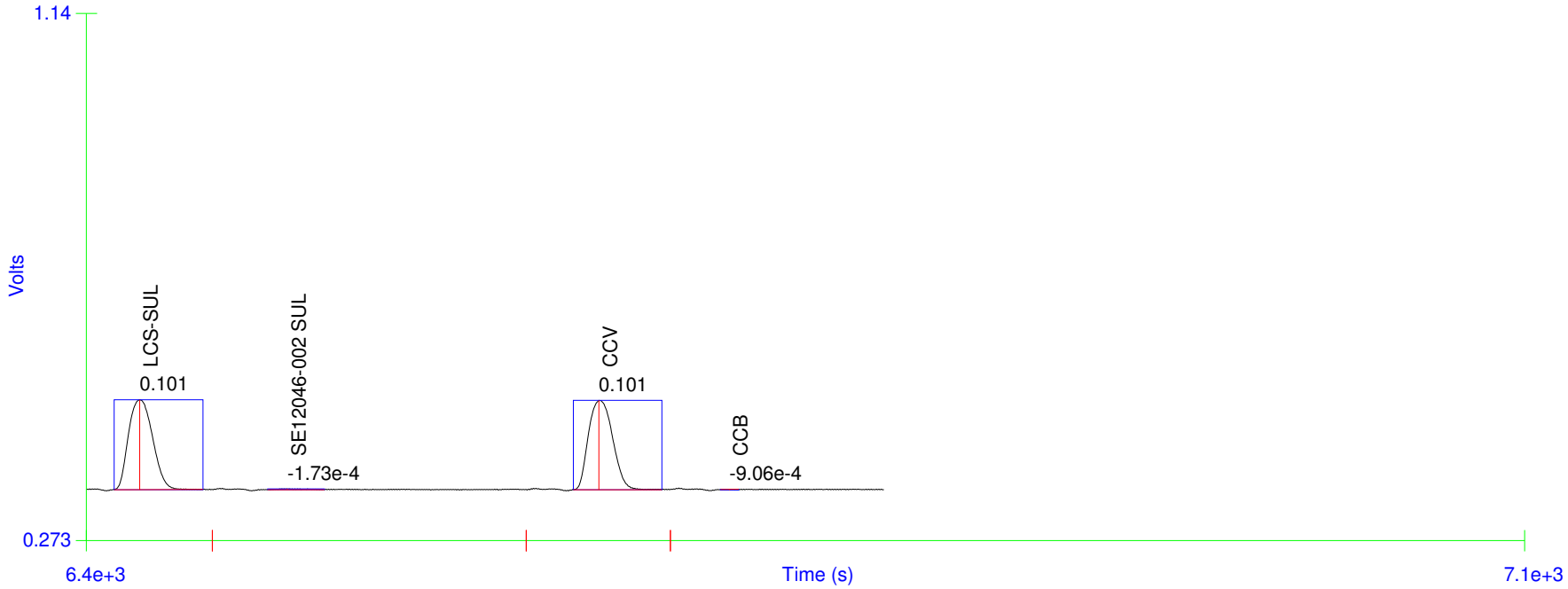
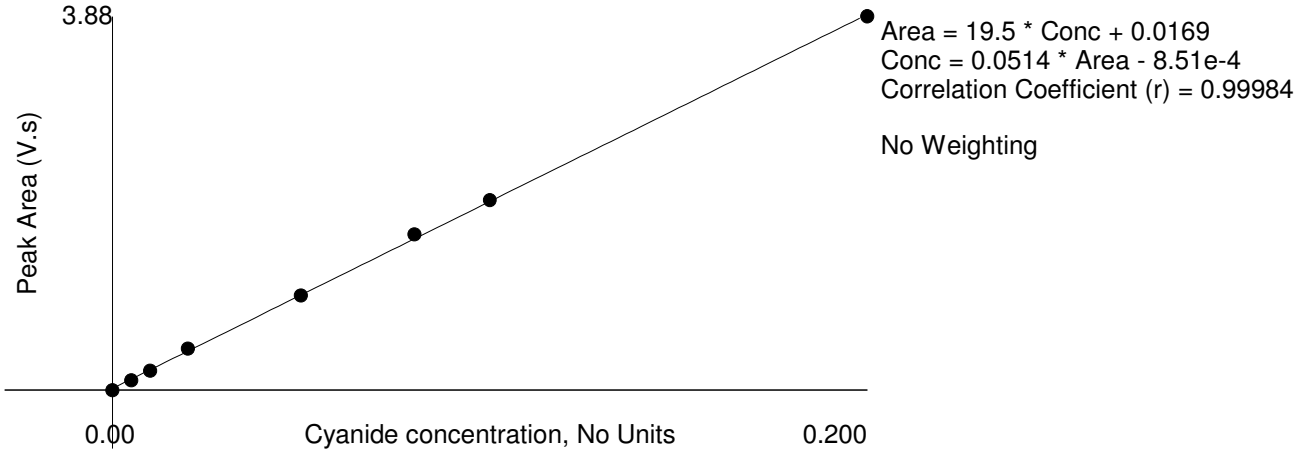


Table 1: Cyanide

	Known Conc. ()	Rep	Peak Area (V.s)	Peak Height (V)	% RSD	% Residual	Det. Conc. ()	Detection Date	Detection Time
1	0.200	1	3.88	0.282	0.0	0.6	0.199	5/24/2017	15:21:53
2	0.100	1	1.97	0.145	0.0	-0.5	0.101	5/24/2017	15:23:03
3	0.0800	1	1.62	0.119	0.0	-2.8	0.0823	5/24/2017	15:24:13
4	0.0500	1	0.982	0.0742	0.0	0.8	0.0496	5/24/2017	15:25:23
5	0.0200	1	0.428	0.0315	0.0	-5.4	0.0211	5/24/2017	15:26:34
6	0.0100	1	0.200	0.0156	0.0	5.5	9.42e-3	5/24/2017	15:27:45
7	5.00e-3	1	0.0995	8.43e-3	0.0	12.8	4.26e-3	5/24/2017	15:28:57
8	0.00	1	-3.57e-3	-1.08e-3			-1.03e-3	5/24/2017	15:30:09

Figure 1: Cyanide



SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Draper Aden Associates
2206 South Main Street
Blacksburg, VA 24060
Attention: Janet Frazier

Project Name: **RAAP HWMU16-for non-J samples**

Project Number: **B03204-17A**

Lot Number: **SE19003**

Date Completed: **06/12/2017**

Catherine S. Dover
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
Draper Aden Associates
Lot Number: SE19003
Project Name: RAAP HWMU16-for non-J samples
Project Number: B03204-17A

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Metals 6020A
Per client request, the metals 6020A samples were re-analyzed to report both an ICSA and an ICSAB at the beginning of the analytical run.

Sample Summary
Draper Aden Associates
Lot Number: SE19003
Project Name: RAAP HWMU16-for non-J samples
Project Number: B03204-17A

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	16-2	Aqueous	05/15/2017 1330	05/18/2017
002	16-3	Aqueous	05/15/2017 1430	05/18/2017
003	16-5	Aqueous	05/15/2017 0955	05/18/2017
004	16WC2B	Aqueous	05/15/2017 1125	05/18/2017
005	16SPRING	Aqueous	05/15/2017 1010	05/18/2017

(5 samples)

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-001**

Description: **16-2** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1330** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2049	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1442	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**190**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-002**

Description: **16-3** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1430** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2055	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1447	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**660**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-003**

Description: **16-5** Matrix: **Aqueous**

Date Sampled: **05/15/2017 0955** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2100	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1453	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**150**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-004**

Description: **16WC2B** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1125** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2105	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1509	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**100**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-005**

Description: **16SPRING** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1010** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2111	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1514	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**180**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

ICP-MS - MB

Sample ID: SQ42482-001
Batch: 42482
Analytical Method: 6020A
Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Arsenic	10	U	1	10	ug/L	05/19/2017 1934
Barium	10	U	1	10	ug/L	05/19/2017 1934
Beryllium	1.0	U	1	1.0	ug/L	05/19/2017 1934
Cadmium	1.0	U	1	1.0	ug/L	05/19/2017 1934
Chromium	5.0	U	1	5.0	ug/L	05/19/2017 1934
Cobalt	5.0	U	1	5.0	ug/L	05/19/2017 1934
Copper	5.0	U	1	5.0	ug/L	05/19/2017 1934
Lead	2.0	U	1	2.0	ug/L	05/19/2017 1934
Nickel	10	U	1	10	ug/L	05/19/2017 1934
Vanadium	10	U	1	10	ug/L	05/19/2017 1934
Zinc	30	U	1	30	ug/L	06/06/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - LCS

Sample ID: SQ42482-002
Batch: 42482
Analytical Method: 6020A
Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Arsenic	100	86		1	86	80-120	05/19/2017 1940
Barium	100	84		1	84	80-120	05/19/2017 1940
Beryllium	100	82		1	82	80-120	05/19/2017 1940
Cadmium	100	82		1	82	80-120	05/19/2017 1940
Chromium	100	82		1	82	80-120	05/19/2017 1940
Cobalt	100	85		1	85	80-120	05/19/2017 1940
Copper	100	88		1	88	80-120	05/19/2017 1940
Lead	100	82		1	82	80-120	05/19/2017 1940
Nickel	100	85		1	85	80-120	05/19/2017 1940
Vanadium	100	82		1	82	80-120	05/19/2017 1940
Zinc	100	87		1	87	80-120	06/06/2017 1332

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

CHAIN OF CUSTODY RECORD

19841 / 19967

Laboratory: Shealy Environmental - 106 Vantage Point Dr. West Columbia, SC 29172 803-227-3180 PM Cathy Dover cell 919-616-1180

SHEALY 4-17-17

Client: 0 Attn: 0 Addres 0 0 Phone: 0 Fax: 0 Fax: 0	Consultant: Draper Aden Associates Attn: Jarel C. Frazier Address: 2206 South Main Street Blacksburg, Virginia 24060 Phone: (540) 552-0444 Fax: (540) 552-0291	Sample Site: RFAAP, Radford, Virginia Location: HWMU16 Event: 2Q 2017 Annual Groundwater Monitoring Event DAA JN: 80320M-17A Lab JN:	Project Specific (PS) or Batch (B) QC: Sample Collection for Project Complete? YES UPS: 1Z 237 301 01 9346 1934 Carrier: Tracking Number:

Box 1: Matrix
SW Surface Water T Trip Blank
GW Groundwater E Equipment Blk
L Leachate P Product
S Soil O Other

Box 2: Preservative
A HCL E NaOH
B HNO_3 F ZnAc
C H_2SO_4 G Other (Specify)
D $Na_2S_2O_3$ H None

Box 3: Filtered/Unfiltered
F Filtered
U Unfiltered

Box 4: Sample Type
G Grab
C Composite

Box 5: Sample Container Type
P Plastic V VOA
AG Amber Glass CG Clear Glass

Invoice:
Copy to Consultant: YES
Bill: CLIENT OTHER
Preserved and shipped on ice: YE

SE18010

SE19003

Box 4 - Sample Type						G	G	G						
Box 3 - Filtered/Unfiltered						U	U	U						
Required pH of Sample						<2	<2	>12						
Box 2 - Preservative						B	B	E						
Box 5 - Sample Container Type						1-500 mL P		1-500 mL P						
Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles		ICP/MS 6020A/3005A (Metals-Total)	7470A (Mercury-Total)	9012B(Cyanide)	Metals diss	CN diss				
16C1	5/17	1035	GW	2		X	X	X	<2	>12				
16MW8	5/15	1220	GW	2		X	X	X						
16MW9	5/16	1140	GW	2		X	X	X						
16WC1A	5/16	1015	GW	6		X	X	X						
16WDUP	5/16	1030	GW	2		X	X	X						
16WC1B	5/15	1500	GW	2		X	X	X						
16-2	5/15	1350	GW	1		X	X							
16-3	5/15	1430	GW	1		X	X							
16-5	5/15	0955	GW	1		X	X							
16WC2B	5/15	1125	GW	1		X	X							
16SPRING	5/15	1010	GW			X	X							

GENERAL NOTES:
1. Report results to detection limit, with J flags, for italiciz
Report to at or above QL for other locations
2. VELAP accreditation required.
3. Full Deliverable with EDD.
4. Metals -see attached list

USE FOR QC

Client Special Instructions:
Received by lab in Good Condition ✓ Yes ___ No Custody Seal Intact ✓ Yes ___ No Temperature upon arrival 2.8°C Received on Ice ✓ Yes ___ No
Describe problems, if any:

Sampler Name (Print): Ken Coddington	Date: 5-15-17	#1 Relinquished by (Signature):	Date: 5/17/17	#2 Relinquished by (Signature): UPS	Date: 5/18/17	Sample Storage Time Requested:
Sampler Signature:	Time: 0800	Company Name: DAA	Time: 1700	Company Name:	Time: 0912	
Sampler Name (Print): Will Mason-Dover	Date: 5-16-17	#1 Received by (Signature):	Date:	#2 Received by (Signature): S Elliott	Date: 5/18/17	30 DYS ORGS 6 MTHS INORG
Sampler Signature:	Time: 0800	Company Name:	Time:	Company Name: SESI	Time: 0912	

T=2.8°C

SHEALY 4-17-17

1/5

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

2/5

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

INORGANICS

THIS APPLIES TO WELLS 16C1, 16MW8, 16MW9,16WC1A, 16WDUP, 16WC1B & QC

HWMU 16

Analyte	Method Ref	LOQ	LOD	CAS#	Units
ANTIMONY	6020A	2	0.4	7440-36-0	UG/L
ARSENIC	6020A	10	2	7440-38-2	UG/L
BARIUM	6020A	10	1	7440-39-3	UG/L
BERYLLIUM	6020A	1	0.2	7440-41-7	UG/L
CADMIUM	6020A	1	0.2	7440-43-9	UG/L
CHROMIUM	6020A	5	1	7440-47-3	UG/L
COBALT	6020A	5	1	7440-48-4	UG/L
COPPER	6020A	5	1	7440-50-8	UG/L
LEAD	6020A	2	0.2	7439-92-1	UG/L
NICKEL	6020A	10	2	7440-02-0	UG/L
SELENIUM	6020A	10	3	7782-49-2	UG/L
SILVER	6020A	2	0.2	7440-22-4	UG/L
THALLIUM	6020A	1	0.2	7440-28-0	UG/L
VANADIUM	6020A	10	1	7440-62-2	UG/L
ZINC	6020A	30	7.3	7440-66-6	UG/L

* report results to MDL w/ "J" flag for above noted wells.
JLR
4/19/11

15 analytes

These are Appendix IX wells. Report estimated results.

Rev 12/2016 per class 1 permit mod

C:\environmental\bhg\databases\raap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analyte list-annual rev 10 - 2014.doc

11/5

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

ANALYTICAL METHOD: SEE BELOW
TYPE METHOD: SEE BELOW
CLASS: TOTAL

Method SW 846-6020A/3005A (ICP/MS)

THIS APPLIES TO WELLS 16-2, 16-3,16-5, 16WC2B, 16SPRING

No.	PARAMETER	CAS RN	Required QL/ LOQ (µg/l)
1.	Arsenic	7440-38-2	10
2.	Barium	7440-39-3	10
3.	Beryllium	7440-41-7	1
4.	Cadmium	7440-43-9	1
5.	Chromium	7440-47-3	5
6.	Cobalt	7440-48-4	5
7.	Copper	7440-50-8	5
8.	Lead	7440-92-1	2
9.	Nickel	7440-02-0	10
10.	Vanadium	7440-62-2	10
11.	Zinc	7440-66-6	30

* report results for wells above to at or above QL.
Jur 9/12/17

Report to at or above the QL.

Updated 4/8/2013 jcf
Zinc QL updated 10 2015 - JCF

t:\environmental\bbg\databases\rcap\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

4/5

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

ANALYTICAL METHOD: 7470A

THIS APPLIES TO ALL WELLS AND QC

	Method SW 7470A/CVAA	CAS#	Required LOQ
1	Mercury	7439-97-6	2 / 0.2 ug/l

'\\environmental\hbg\databases\map\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analyte list-annual rev 10 - 2014.doc

HWMU16
Radford Army Ammunition Plant
Annual Appendix IX Groundwater Monitoring Event
DAA JN: B03204-17A

* Report to MDL w/ J flag.

ANALYTICAL METHOD: 9012B
TYPE METHOD: CLO
CLASS: CYANIDE

THIS APPLIES TO 16C1, 16MW8, 16MW9,16WC1A, 16WDUP, 16WC1B AND QC

No.	PARAMETER	CAS RN	Required LOQ/DL (µg/l)
1	Cyanide	57-12-5	20 / 5

These are Appendix IX wells. Report estimated results.

LOD revised 4Q2016 class 1 permit mod

f:\environmental\bbg\databases\map\sample event set up\semi-annual events\hwmu-16\2q 2016 annual list - jul 2014 permit mod\hwmu16-target analtye list-annual rev 10 - 2014.doc

Shealy Environmental Services, Inc
Document Number: ME0018C-08

Page 1 of 1
Effective Date: 03/07/2017
Expiry Date: 03/07/2022

Sample Receipt Checklist (SRC)

Client: Draper Cooler Inspected by/date: SBE 15/18/17 Lot #: SE18010

Means of receipt: ☐ SESI ☐ Client ☑ UPS ☐ FedEx ☐ Other

Yes ☑	No ☐		1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?

pH strip ID: 15-1449 Cl strip ID: 17-822

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:
12.8 / 12.8 °C ___ / ___ / ___ °C ___ / ___ / ___ °C ___ / ___ / ___ °C

Method: ☐ Temperature Blank ☑ Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐		6. Were sample IDs listed on the COC?
Yes ☑	No ☐		7. Were sample IDs listed on all sample containers?
Yes ☑	No ☐		8. Was collection date & time listed on the COC?
Yes ☑	No ☐		9. Was collection date & time listed on all sample containers?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with the COC?
Yes ☑	No ☐		11. Were tests to be performed listed on the COC?
Yes ☑	No ☐		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		13. Was adequate sample volume available?
Yes ☐	No ☑		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes ☐	No ☐	NA ☑	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes ☑	No ☐	NA ☐	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
Yes ☑	No ☐	NA ☐	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (< 0.5mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☑	No ☐	NA ☐	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☑		22. Was the quote number used taken from the container label?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) ___ were received incorrectly preserved and were adjusted accordingly in sample receiving with ___ (H_2SO_4, HNO_3, HCl, NaOH) using SR # ___.

Sample(s) ___ were received with bubbles >6 mm in diameter.

Samples(s) ___ were received with TRC > 0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: ___.

SC Drinking Water Project Sample(s) pH verified to be < 2 by ___ Date: ___

Sample(s) ___ were Not received at a pH of < 2 and were adjusted accordingly using SR# ___

Sample labels applied by: SBE Verified by: ___ Date: 5/18/17

Comments: ___

Metals

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-001**

Description: **16-2** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1330** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2049	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1442	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**190**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-002**

Description: **16-3** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1430** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2055	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1447	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**660**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-003**

Description: **16-5** Matrix: **Aqueous**

Date Sampled: **05/15/2017 0955** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2100	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1453	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**150**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-004**

Description: **16WC2B** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1125** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2105	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1509	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**100**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

ICP-MS

Client: **Draper Aden Associates** Laboratory ID: **SE19003-005**

Description: **16SPRING** Matrix: **Aqueous**

Date Sampled: **05/15/2017 1010** Project Name: **RAAP HWMU16-for non-J**

Date Received: **05/18/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	05/19/2017 2111	BNW	05/18/2017 1549	42482
3	3005A	6020A	1	06/06/2017 1514	BNW	05/18/2017 1549	42482

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Arsenic	7440-38-2	6020A	10	U	10	ug/L	3
Barium	**7440-39-3**	**6020A**	**180**		**10**	**ug/L**	**1**
Beryllium	7440-41-7	6020A	1.0	U	1.0	ug/L	1
Cadmium	7440-43-9	6020A	1.0	U	1.0	ug/L	3
Chromium	7440-47-3	6020A	5.0	U	5.0	ug/L	1
Cobalt	7440-48-4	6020A	5.0	U	5.0	ug/L	1
Copper	7440-50-8	6020A	5.0	U	5.0	ug/L	1
Lead	7439-92-1	6020A	2.0	U	2.0	ug/L	1
Nickel	7440-02-0	6020A	10	U	10	ug/L	3
Vanadium	7440-62-2	6020A	10	U	10	ug/L	1
Zinc	7440-66-6	6020A	30	U	30	ug/L	3

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

ICP-MS - MB

Sample ID: SQ42482-001
Batch: 42482
Analytical Method: 6020A
Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Arsenic	10	U	1	10	ug/L	05/19/2017 1934
Barium	10	U	1	10	ug/L	05/19/2017 1934
Beryllium	1.0	U	1	1.0	ug/L	05/19/2017 1934
Cadmium	1.0	U	1	1.0	ug/L	05/19/2017 1934
Chromium	5.0	U	1	5.0	ug/L	05/19/2017 1934
Cobalt	5.0	U	1	5.0	ug/L	05/19/2017 1934
Copper	5.0	U	1	5.0	ug/L	05/19/2017 1934
Lead	2.0	U	1	2.0	ug/L	05/19/2017 1934
Nickel	10	U	1	10	ug/L	05/19/2017 1934
Vanadium	10	U	1	10	ug/L	05/19/2017 1934
Zinc	30	U	1	30	ug/L	06/06/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - LCS

Sample ID: SQ42482-002
Batch: 42482
Analytical Method: 6020A

Matrix: Aqueous
Prep Method: 3005A
Prep Date: 05/18/2017 1549

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Arsenic	100	86		1	86	80-120	05/19/2017 1940
Barium	100	84		1	84	80-120	05/19/2017 1940
Beryllium	100	82		1	82	80-120	05/19/2017 1940
Cadmium	100	82		1	82	80-120	05/19/2017 1940
Chromium	100	82		1	82	80-120	05/19/2017 1940
Cobalt	100	85		1	85	80-120	05/19/2017 1940
Copper	100	88		1	88	80-120	05/19/2017 1940
Lead	100	82		1	82	80-120	05/19/2017 1940
Nickel	100	85		1	85	80-120	05/19/2017 1940
Vanadium	100	82		1	82	80-120	05/19/2017 1940
Zinc	100	87		1	87	80-120	06/06/2017 1332

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS Metals

- COVER PAGE -
INORGANIC ANALYSIS DATA PACKAGE

Client: Draper Aden Associates

SDG No.: SE19003 **Method Type:** ICP-MS **SOW No.:**

Contract: RAAP HWMU16-for non- **Lab Code:** Shealy **Case No.:** **SAS No.:**

Lab Sample ID	Client Sample ID	QC Description
SE19003-001	16-2	
SE19003-002	16-3	
SE19003-003	16-5	
SE19003-004	16WC2B	
SE19003-005	16SPRING	

Were ICP interelement corrections applied?	Yes/No	Yes	
Were ICP background corrections applied?	Yes/No	Yes	
If yes - were raw data generated before applications of background corrections?	Yes/No	No	

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name:

Date: Title:

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1									
	Arsenic	209.60	200.0	105	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Barium	207.20	200.0	104	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Beryllium	215.03	200.0	108	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Cadmium	207.23	200.0	104	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Chromium	201.20	200.0	101	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Cobalt	203.27	200.0	102	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Copper	213.37	200.0	107	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Lead	195.80	200.0	98	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Nickel	200.20	200.0	100	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Vanadium	207.50	200.0	104	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
	Zinc	205.33	200.0	103	90.0 - 110.0	MS	5/19/2017	13:15	MS2051917B 6020A 6020B, g
CCV1									
	Arsenic	307.80	300.0	103	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Barium	320.90	300.0	107	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Beryllium	351.80	300.0	117	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Cadmium	315.80	300.0	105	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Chromium	327.20	300.0	109	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Cobalt	326.20	300.0	109	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Copper	312.40	300.0	104	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Lead	319.80	300.0	107	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Nickel	303.20	300.0	101	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Vanadium	335.20	300.0	112	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
	Zinc	303.60	300.0	101	90.0 - 110.0	MS	5/19/2017	13:52	MS2051917B 6020A 6020B, g
CCV2									
	Arsenic	284.00	300.0	95	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Barium	295.80	300.0	99	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Beryllium	323.90	300.0	108	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Cadmium	288.53	300.0	96	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Chromium	296.20	300.0	99	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Cobalt	294.27	300.0	98	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Copper	283.67	300.0	95	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Lead	292.63	300.0	98	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Nickel	278.97	300.0	93	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Vanadium	304.93	300.0	102	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g
	Zinc	278.47	300.0	93	90.0 - 110.0	MS	5/19/2017	14:00	MS2051917B 6020A 6020B, g

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV3									
	Arsenic	281.93	300.0	94	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Barium	287.63	300.0	96	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Beryllium	291.27	300.0	97	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Cadmium	278.07	300.0	93	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Chromium	284.77	300.0	95	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Cobalt	285.17	300.0	95	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Copper	285.13	300.0	95	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Lead	282.60	300.0	94	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Nickel	283.33	300.0	94	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Vanadium	294.37	300.0	98	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
	Zinc	274.90	300.0	92	90.0 - 110.0	MS	5/19/2017	19:23	MS2051917B 6020A 6020B, g
CCV4									
	Arsenic	272.27	300.0	91	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Barium	275.23	300.0	92	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Beryllium	280.53	300.0	94	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Cadmium	269.07	300.0	90	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Chromium	268.53	300.0	90	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Cobalt	272.13	300.0	91	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Copper	278.40	300.0	93	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Lead	268.53	300.0	90	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Nickel	269.93	300.0	90	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Vanadium	279.47	300.0	93	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
	Zinc	266.93	300.0	89	90.0 - 110.0	MS	5/19/2017	20:28	MS2051917B 6020A 6020B, g
CCV5									
	Arsenic	267.93	300.0	89	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Barium	271.37	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Beryllium	271.10	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Cadmium	263.70	300.0	88	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Chromium	271.13	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Cobalt	269.73	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Copper	269.73	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Lead	268.67	300.0	90	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Nickel	264.10	300.0	88	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Vanadium	279.60	300.0	93	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g
	Zinc	259.73	300.0	87	90.0 - 110.0	MS	5/19/2017	21:32	MS2051917B 6020A 6020B, g

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1									
	Arsenic	195.63	200.0	98	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Barium	195.77	200.0	98	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Beryllium	213.80	200.0	107	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Cadmium	197.93	200.0	99	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Chromium	191.20	200.0	96	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Cobalt	192.97	200.0	96	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Copper	202.47	200.0	101	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Lead	186.30	200.0	93	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Nickel	193.10	200.0	97	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Vanadium	198.30	200.0	99	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
	Zinc	199.90	200.0	100	90.0 - 110.0	MS	6/6/2017	12:12	MS2060617A 6020A 6020B, g
CCV1									
	Arsenic	271.63	300.0	91	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Barium	286.57	300.0	96	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Beryllium	323.73	300.0	108	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Cadmium	285.47	300.0	95	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Chromium	281.23	300.0	94	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Cobalt	279.80	300.0	93	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Copper	279.33	300.0	93	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Lead	279.63	300.0	93	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Nickel	277.03	300.0	92	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Vanadium	289.90	300.0	97	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
	Zinc	278.07	300.0	93	90.0 - 110.0	MS	6/6/2017	12:49	MS2060617A 6020A 6020B, g
CCV2									
	Arsenic	273.87	300.0	91	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Barium	288.37	300.0	96	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Beryllium	304.83	300.0	102	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Cadmium	290.27	300.0	97	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Chromium	289.27	300.0	96	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Cobalt	284.80	300.0	95	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Copper	295.03	300.0	98	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Lead	278.53	300.0	93	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Nickel	285.53	300.0	95	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Vanadium	297.07	300.0	99	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g
	Zinc	288.10	300.0	96	90.0 - 110.0	MS	6/6/2017	13:54	MS2060617A 6020A 6020B, g

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
CCV3									
	Arsenic	276.80	300.0	92	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Barium	289.80	300.0	97	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Beryllium	301.50	300.0	101	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Cadmium	294.90	300.0	98	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Chromium	288.00	300.0	96	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Cobalt	284.90	300.0	95	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Copper	307.00	300.0	102	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Lead	276.70	300.0	92	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Nickel	293.10	300.0	98	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Vanadium	297.60	300.0	99	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
	Zinc	298.30	300.0	99	90.0 - 110.0	MS	6/6/2017	14:58	MS2060617A 6020A 6020B, g
CCV4									
	Arsenic	269.30	300.0	90	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Barium	281.53	300.0	94	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Beryllium	291.00	300.0	97	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Cadmium	287.43	300.0	96	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Chromium	275.93	300.0	92	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Cobalt	272.00	300.0	91	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Copper	291.10	300.0	97	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Lead	271.73	300.0	91	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Nickel	278.63	300.0	93	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Vanadium	284.63	300.0	95	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g
	Zinc	286.70	300.0	96	90.0 - 110.0	MS	6/6/2017	15:36	MS2060617A 6020A 6020B, g

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No:** **SAS No.:**

AA CRDL Standard Source:

ICP CRDL Standard Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV									
	Arsenic	1.06	1.0	106	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Barium	5.08	5.0	102	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Beryllium	0.39	0.4	98	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Cadmium	0.11	0.1	110	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Chromium	0.95	1.0	95	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Cobalt	4.80	5.0	96	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Copper	1.05	1.0	105	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Lead	0.98	1.0	98	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Nickel	4.91	5.0	98	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Vanadium	4.73	5.0	95	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
	Zinc	10.41	10.0	104	70 - 130	MS	5/19/2017	13:31	MS2051917B 6020A 6020B,
LLCCV									
	Arsenic	0.81	1.0	81	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Barium	4.61	5.0	92	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Beryllium	0.34	0.4	85	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Cadmium	0.08	0.1	80	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Chromium	0.87	1.0	87	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Cobalt	4.35	5.0	87	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Copper	1.21	1.0	121	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Lead	0.99	1.0	99	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Nickel	4.62	5.0	92	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Vanadium	4.30	5.0	86	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,
	Zinc	9.49	10.0	95	70 - 130	MS	5/19/2017	21:21	MS2051917B 6020A 6020B,

- 2b -
CRDL STANDARD FOR AA & ICP

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No:** **SAS No.:**

AA CRDL Standard Source:

ICP CRDL Standard Source:

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Advisory Limits (%R)	M	Analysis Date	Analysis Time	Run Number
LLICV									
	Arsenic	0.80	1.0	80	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Barium	4.79	5.0	96	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Beryllium	0.35	0.4	88	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Cadmium	0.10	0.1	100	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Chromium	0.98	1.0	98	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Cobalt	4.68	5.0	94	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Copper	0.92	1.0	92	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Lead	0.90	1.0	90	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Nickel	4.73	5.0	95	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Vanadium	4.75	5.0	95	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
	Zinc	9.80	10.0	98	70 - 130	MS	6/6/2017	12:28	MS2060617A 6020A 6020B,
LLCCV									
	Arsenic	0.91	1.0	91	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Barium	4.88	5.0	98	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Beryllium	0.35	0.4	88	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Cadmium	0.10	0.1	100	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Chromium	0.93	1.0	93	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Cobalt	4.56	5.0	91	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Copper	0.97	1.0	97	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Lead	0.89	1.0	89	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Nickel	4.71	5.0	94	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Vanadium	4.54	5.0	91	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,
	Zinc	9.79	10.0	98	70 - 130	MS	6/6/2017	15:25	MS2060617A 6020A 6020B,

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
ICB1										
	Arsenic	-0.010	+/-1.000	U	1.000	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Barium	0.006	+/-5.000	U	5.000	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Beryllium	0.010	+/-0.400	U	0.400	0.400	MS	5/19/2017	13:20	MS2051917B 6
	Cadmium	0.005	+/-0.100	U	0.100	0.100	MS	5/19/2017	13:20	MS2051917B 6
	Chromium	0.002	+/-5.000	U	5.000	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Cobalt	0.007	+/-5.000	U	5.000	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Copper	0.002	+/-1.000	U	1.000	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Lead	0.001	+/-1.000	U	1.000	1.000	MS	5/19/2017	13:20	MS2051917B 6
	Nickel	0.009	+/-5.000	U	5.000	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Vanadium	0.098	+/-5.000	U	5.000	5.000	MS	5/19/2017	13:20	MS2051917B 6
	Zinc	0.018	+/-10.000	U	10.000	10.000	MS	5/19/2017	13:20	MS2051917B 6
CCB1										
	Arsenic	0.063	+/-1.000	U	1.000	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Barium	-0.003	+/-5.000	U	5.000	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Beryllium	0.022	+/-0.400	U	0.400	0.400	MS	5/19/2017	14:06	MS2051917B 6
	Cadmium	0.010	+/-0.100	U	0.100	0.100	MS	5/19/2017	14:06	MS2051917B 6
	Chromium	0.005	+/-5.000	U	5.000	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Cobalt	0.012	+/-5.000	U	5.000	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Copper	0.009	+/-1.000	U	1.000	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Lead	0.008	+/-1.000	U	1.000	1.000	MS	5/19/2017	14:06	MS2051917B 6
	Nickel	-0.002	+/-5.000	U	5.000	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Vanadium	0.104	+/-5.000	U	5.000	5.000	MS	5/19/2017	14:06	MS2051917B 6
	Zinc	-0.001	+/-10.000	U	10.000	10.000	MS	5/19/2017	14:06	MS2051917B 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
CCB2										
	Arsenic	-0.024	+/-1.000	U	1.000	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Barium	-0.004	+/-5.000	U	5.000	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Beryllium	0.012	+/-0.400	U	0.400	0.400	MS	5/19/2017	19:29	MS2051917B 6
	Cadmium	0.006	+/-0.100	U	0.100	0.100	MS	5/19/2017	19:29	MS2051917B 6
	Chromium	-0.003	+/-5.000	U	5.000	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Cobalt	0.008	+/-5.000	U	5.000	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Copper	-0.014	+/-1.000	U	1.000	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Lead	0.005	+/-1.000	U	1.000	1.000	MS	5/19/2017	19:29	MS2051917B 6
	Nickel	-0.004	+/-5.000	U	5.000	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Vanadium	0.093	+/-5.000	U	5.000	5.000	MS	5/19/2017	19:29	MS2051917B 6
	Zinc	-0.014	+/-10.000	U	10.000	10.000	MS	5/19/2017	19:29	MS2051917B 6
CCB3										
	Arsenic	-0.016	+/-1.000	U	1.000	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Barium	0.001	+/-5.000	U	5.000	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Beryllium	0.031	+/-0.400	U	0.400	0.400	MS	5/19/2017	20:33	MS2051917B 6
	Cadmium	0.011	+/-0.100	U	0.100	0.100	MS	5/19/2017	20:33	MS2051917B 6
	Chromium	-0.007	+/-5.000	U	5.000	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Cobalt	0.015	+/-5.000	U	5.000	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Copper	0.000	+/-1.000	U	1.000	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Lead	0.010	+/-1.000	U	1.000	1.000	MS	5/19/2017	20:33	MS2051917B 6
	Nickel	0.023	+/-5.000	U	5.000	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Vanadium	0.106	+/-5.000	U	5.000	5.000	MS	5/19/2017	20:33	MS2051917B 6
	Zinc	-0.023	+/-10.000	U	10.000	10.000	MS	5/19/2017	20:33	MS2051917B 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
CCB4										
	Arsenic	0.001	+/-1.000	U	1.000	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Barium	0.005	+/-5.000	U	5.000	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Beryllium	0.021	+/-0.400	U	0.400	0.400	MS	5/19/2017	21:38	MS2051917B 6
	Cadmium	0.009	+/-0.100	U	0.100	0.100	MS	5/19/2017	21:38	MS2051917B 6
	Chromium	-0.011	+/-5.000	U	5.000	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Cobalt	0.013	+/-5.000	U	5.000	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Copper	-0.011	+/-1.000	U	1.000	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Lead	0.010	+/-1.000	U	1.000	1.000	MS	5/19/2017	21:38	MS2051917B 6
	Nickel	-0.016	+/-5.000	U	5.000	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Vanadium	0.100	+/-5.000	U	5.000	5.000	MS	5/19/2017	21:38	MS2051917B 6
	Zinc	-0.010	+/-10.000	U	10.000	10.000	MS	5/19/2017	21:38	MS2051917B 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
ICB1										
	Arsenic	-0.125	+/-1.000	U	1.000	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Barium	0.013	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Beryllium	0.035	+/-0.400	U	0.400	0.400	MS	6/6/2017	12:17	MS2060617A 6
	Cadmium	0.009	+/-0.100	U	0.100	0.100	MS	6/6/2017	12:17	MS2060617A 6
	Chromium	0.010	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Cobalt	-0.001	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Copper	-0.008	+/-1.000	U	1.000	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Lead	0.006	+/-1.000	U	1.000	1.000	MS	6/6/2017	12:17	MS2060617A 6
	Nickel	-0.095	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Vanadium	0.070	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:17	MS2060617A 6
	Zinc	-0.007	+/-10.000	U	10.000	10.000	MS	6/6/2017	12:17	MS2060617A 6
CCB1										
	Arsenic	-0.116	+/-1.000	U	1.000	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Barium	-0.005	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Beryllium	0.009	+/-0.400	U	0.400	0.400	MS	6/6/2017	12:54	MS2060617A 6
	Cadmium	0.018	+/-0.100	U	0.100	0.100	MS	6/6/2017	12:54	MS2060617A 6
	Chromium	0.029	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Cobalt	0.004	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Copper	-0.007	+/-1.000	U	1.000	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Lead	0.012	+/-1.000	U	1.000	1.000	MS	6/6/2017	12:54	MS2060617A 6
	Nickel	-0.097	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Vanadium	0.090	+/-5.000	U	5.000	5.000	MS	6/6/2017	12:54	MS2060617A 6
	Zinc	0.007	+/-10.000	U	10.000	10.000	MS	6/6/2017	12:54	MS2060617A 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
CCB2										
	Arsenic	-0.105	+/-1.000	U	1.000	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Barium	0.026	+/-5.000	U	5.000	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Beryllium	0.014	+/-0.400	U	0.400	0.400	MS	6/6/2017	13:59	MS2060617A 6
	Cadmium	0.012	+/-0.100	U	0.100	0.100	MS	6/6/2017	13:59	MS2060617A 6
	Chromium	0.014	+/-5.000	U	5.000	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Cobalt	-0.001	+/-5.000	U	5.000	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Copper	-0.013	+/-1.000	U	1.000	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Lead	0.008	+/-1.000	U	1.000	1.000	MS	6/6/2017	13:59	MS2060617A 6
	Nickel	-0.112	+/-5.000	U	5.000	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Vanadium	0.067	+/-5.000	U	5.000	5.000	MS	6/6/2017	13:59	MS2060617A 6
	Zinc	-0.013	+/-10.000	U	10.000	10.000	MS	6/6/2017	13:59	MS2060617A 6
CCB3										
	Arsenic	-0.114	+/-1.000	U	1.000	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Barium	0.028	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Beryllium	0.016	+/-0.400	U	0.400	0.400	MS	6/6/2017	15:04	MS2060617A 6
	Cadmium	0.016	+/-0.100	U	0.100	0.100	MS	6/6/2017	15:04	MS2060617A 6
	Chromium	0.031	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Cobalt	-0.002	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Copper	-0.043	+/-1.000	U	1.000	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Lead	0.008	+/-1.000	U	1.000	1.000	MS	6/6/2017	15:04	MS2060617A 6
	Nickel	-0.107	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Vanadium	0.081	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:04	MS2060617A 6
	Zinc	-0.004	+/-10.000	U	10.000	10.000	MS	6/6/2017	15:04	MS2060617A 6

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result ug/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
CCB4										
	Arsenic	-0.130	+/-1.000	U	1.000	1.000	MS	6/6/2017	15:41	MS2060617A 6
	Barium	0.005	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:41	MS2060617A 6
	Beryllium	0.009	+/-0.400	U	0.400	0.400	MS	6/6/2017	15:41	MS2060617A 6
	Cadmium	0.011	+/-0.100	U	0.100	0.100	MS	6/6/2017	15:41	MS2060617A 6
	Chromium	0.018	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:41	MS2060617A 6
	Cobalt	0.001	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:41	MS2060617A 6
	Copper	-0.041	+/-1.000	U	1.000	1.000	MS	6/6/2017	15:41	MS2060617A 6
	Lead	0.010	+/-1.000	U	1.000	1.000	MS	6/6/2017	15:41	MS2060617A 6
	Nickel	-0.093	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:41	MS2060617A 6
	Vanadium	0.095	+/-5.000	U	5.000	5.000	MS	6/6/2017	15:41	MS2060617A 6
	Zinc	-0.008	+/-10.000	U	10.000	10.000	MS	6/6/2017	15:41	MS2060617A 6

- 4 -

INTERFERENCE CHECK SAMPLE

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

ICS Source: High Purity **Instrument ID:** ICPMS2

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window	Analysis Date	Analysis Time	Run Number
ICSA								
	Arsenic	0.19			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Barium	1.0			-10.0 to 10.0	5/19/2017	13:42	MS2051917B 6
	Beryllium	0.076			-0.800 to 0.800	5/19/2017	13:42	MS2051917B 6
	Cadmium	-0.23			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Chromium	1.1			-10.0 to 10.0	5/19/2017	13:42	MS2051917B 6
	Cobalt	-0.73			-8.00 to 8.00	5/19/2017	13:42	MS2051917B 6
	Copper	-0.33			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Lead	0.20			-2.00 to 2.00	5/19/2017	13:42	MS2051917B 6
	Nickel	1.5			-10.0 to 10.0	5/19/2017	13:42	MS2051917B 6
	Vanadium	0.11			-10.00 to 10.00	5/19/2017	13:42	MS2051917B 6
	Zinc	4.0			-10.0 to 10.0	5/19/2017	13:42	MS2051917B 6
ICSAB								
	Arsenic	94.3	100	94	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Barium	101	100	101	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Beryllium	106	100	106	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Cadmium	92.5	100	93	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Chromium	99.8	100	100	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Cobalt	96.2	100	96	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Copper	93.3	100	93	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Lead	93.7	100	94	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Nickel	91.8	100	92	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Vanadium	99.5	100	100	50 - 150%	5/19/2017	13:47	MS2051917B 6
	Zinc	91.7	100	92	50 - 150%	5/19/2017	13:47	MS2051917B 6

- 4 -

INTERFERENCE CHECK SAMPLE

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

ICS Source: High Purity **Instrument ID:** ICPMS2

Sample ID	Analyte	Result ug/L	True Value ug/L	% Recovery	Acceptance Window	Analysis Date	Analysis Time	Run Number
ICSA								
	Arsenic	0.16			-2.00 to 2.00	6/6/2017	12:38	MS2060617A 6
	Barium	0.92			-10.00 to 10.00	6/6/2017	12:38	MS2060617A 6
	Beryllium	0.055			-0.800 to 0.800	6/6/2017	12:38	MS2060617A 6
	Cadmium	0.033			-2.000 to 2.000	6/6/2017	12:38	MS2060617A 6
	Chromium	1.1			-10.0 to 10.0	6/6/2017	12:38	MS2060617A 6
	Cobalt	-0.68			-8.00 to 8.00	6/6/2017	12:38	MS2060617A 6
	Copper	-0.041			-2.000 to 2.000	6/6/2017	12:38	MS2060617A 6
	Lead	0.20			-2.00 to 2.00	6/6/2017	12:38	MS2060617A 6
	Nickel	1.2			-10.0 to 10.0	6/6/2017	12:38	MS2060617A 6
	Vanadium	0.080			-10.000 to 10.000	6/6/2017	12:38	MS2060617A 6
	Zinc	4.1			-10.0 to 10.0	6/6/2017	12:38	MS2060617A 6
ICSAB								
	Arsenic	92.3	100	92	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Barium	97.0	100	97	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Beryllium	102	100	102	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Cadmium	91.3	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Chromium	94.8	100	95	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Cobalt	90.7	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Copper	89.1	100	89	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Lead	91.0	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Nickel	88.6	100	89	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Vanadium	94.6	100	95	50 - 150%	6/6/2017	12:44	MS2060617A 6
	Zinc	91.0	100	91	50 - 150%	6/6/2017	12:44	MS2060617A 6

- 12 -
LINEAR RANGES

Client: Draper Aden Associates **SDG No.:** SE19003

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Instrument ID: ICPMS2 **Date:** 4/7/2017

Analyte	Integration Time (sec)	LDR ug/L
Arsenic	0.10	2000
Barium	0.10	10000
Beryllium	0.10	1000
Cadmium	0.10	2000
Chromium	0.10	2000
Cobalt	0.10	2000
Copper	0.10	2000
Lead	0.10	2000
Nickel	0.10	2000
Vanadium	0.10	2000
Zinc	0.10	2000

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE19003

Instrument ID Number: ICPMS2 Run Number: MS2051917B 6020A 6020B, generate

Start Date: 5/19/2017 End Date: 5/19/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1232																								
BLANK	1.00	1237				X	X	X	X		X	X	X		X				X						X	X	
CAL1	1.00	1243				X	X	X	X		X	X	X		X				X						X	X	
CAL2	1.00	1248				X	X	X	X		X	X	X		X				X						X	X	
CAL3	1.00	1253				X	X	X	X		X	X	X		X				X						X	X	
CAL4	1.00	1259				X	X	X	X		X	X	X		X				X						X	X	
CAL5	1.00	1304				X	X	X	X		X	X	X		X				X						X	X	
CAL6	1.00	1309				X	X	X	X		X	X	X		X				X						X	X	
ICV1	1.00	1315				X	X	X	X		X	X	X		X				X						X	X	
ICB1	1.00	1320				X	X	X	X		X	X	X		X				X						X	X	
ZZZZZZ	1.00	1326																									
LLICV	1.00	1331				X	X	X	X		X	X	X		X				X						X	X	
ZZZZZZ	1.00	1336																									
ICSA	1.00	1342				X	X	X	X		X	X	X		X				X						X	X	
ICSAB	1.00	1347				X	X	X	X		X	X	X		X				X						X	X	
CCV1	1.00	1352				X	X	X	X		X	X	X		X				X						X	X	
CCV2	1.00	1400				X	X	X	X		X	X	X		X				X						X	X	
CCB1	1.00	1406				X	X	X	X		X	X	X		X				X						X	X	
ZZZZZZ	1.00	1411																									
ZZZZZZ	1.00	1417																									
ZZZZZZ	1.00	1422																									
ZZZZZZ	1.00	1427																									
ZZZZZZ	1.00	1433																									
ZZZZZZ	1.00	1438																									
ZZZZZZ	1.00	1443																									
ZZZZZZ	1.00	1449																									
ZZZZZZ	5.00	1454																									
ZZZZZZ	1.00	1500																									
ZZZZZZ	1.00	1505																									
ZZZZZZ	1.00	1510																									
ZZZZZZ	1.00	1516																									
ZZZZZZ	1.00	1521																									
ZZZZZZ	1.00	1527																									
ZZZZZZ	1.00	1532																									
ZZZZZZ	1.00	1537																									
ZZZZZZ	1.00	1543																									
ZZZZZZ	1.00	1548																									

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE19003

Instrument ID Number: ICPMS2 Run Number: MS2051917B 6020A 6020B, generate

Start Date: 5/19/2017 End Date: 5/19/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1553																								
ZZZZZZ	1.00	1559																								
ZZZZZZ	1.00	1604																								
ZZZZZZ	1.00	1610																								
ZZZZZZ	1.00	1615																								
ZZZZZZ	1.00	1620																								
ZZZZZZ	1.00	1626																								
ZZZZZZ	1.00	1631																								
ZZZZZZ	1.00	1637																								
ZZZZZZ	1.00	1642																								
ZZZZZZ	1.00	1647																								
ZZZZZZ	5.00	1653																								
ZZZZZZ	1.00	1658																								
ZZZZZZ	1.00	1704																								
ZZZZZZ	1.00	1709																								
ZZZZZZ	1.00	1714																								
ZZZZZZ	1.00	1720																								
ZZZZZZ	1.00	1725																								
ZZZZZZ	1.00	1730																								
ZZZZZZ	1.00	1736																								
ZZZZZZ	1.00	1741																								
ZZZZZZ	1.00	1747																								
ZZZZZZ	1.00	1752																								
ZZZZZZ	1.00	1757																								
ZZZZZZ	1.00	1803																								
ZZZZZZ	1.00	1808																								
ZZZZZZ	1.00	1814																								
ZZZZZZ	1.00	1819																								
ZZZZZZ	1.00	1824																								
ZZZZZZ	5.00	1830																								
ZZZZZZ	1.00	1835																								
ZZZZZZ	1.00	1840																								
ZZZZZZ	1.00	1846																								
ZZZZZZ	1.00	1851																								
ZZZZZZ	1.00	1857																								
ZZZZZZ	1.00	1902																								
ZZZZZZ	1.00	1907																								

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE19003

Instrument ID Number: ICPMS2 Run Number: MS2051917B 6020A 6020B, generate

Start Date: 5/19/2017 End Date: 5/19/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	5.00	1913																										
ZZZZZZ	1.00	1918																										
CCV3	1.00	1923				X	X	X	X		X	X	X		X				X						X	X		
CCB2	1.00	1929				X	X	X	X		X	X	X		X				X						X	X		
SO42482-001	1.00	1934				X	X	X	X		X	X	X		X				X						X			
SO42482-002	1.00	1940				X	X	X	X		X	X	X		X				X						X			
ZZZZZZ	1.00	1945																										
ZZZZZZ	1.00	1950																										
ZZZZZZ	1.00	1956																										
ZZZZZZ	1.00	2001																										
ZZZZZZ	1.00	2006																										
ZZZZZZ	1.00	2012																										
ZZZZZZ	5.00	2017																										
ZZZZZZ	1.00	2022																										
CCV4	1.00	2028				X	X	X	X		X	X	X		X				X						X	X		
CCB3	1.00	2033				X	X	X	X		X	X	X		X				X						X	X		
ZZZZZZ	1.00	2039																										
ZZZZZZ	1.00	2044																										
SE19003-001	1.00	2049					X	X			X	X	X		X										X			
SE19003-002	1.00	2055					X	X			X	X	X		X										X			
SE19003-003	1.00	2100					X	X			X	X	X		X										X			
SE19003-004	1.00	2105					X	X			X	X	X		X										X			
SE19003-005	1.00	2111					X	X			X	X	X		X										X			
ZZZZZZ	1.00	2116																										
LLCCV	1.00	2121				X	X	X	X		X	X	X		X				X						X	X		
ZZZZZZ	1.00	2127																										
CCV5	1.00	2132				X	X	X	X		X	X	X		X				X						X	X		
CCB4	1.00	2138				X	X	X	X		X	X	X		X				X						X	X		
ZZZZZZ	1.00	2143																										
ZZZZZZ	1.00	2148																										
ZZZZZZ	1.00	2154																										
ZZZZZZ	1.00	2159																										

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE19003

Instrument ID Number: ICPMS2 Run Number: MS2060617A 6020A 6020B, generate

Start Date: 6/6/2017 End Date: 6/6/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1129																								
BLANK	1.00	1134				X	X	X	X		X	X	X		X				X						X	X	
CAL1	1.00	1140				X	X	X	X		X	X	X		X				X						X	X	
CAL2	1.00	1145				X	X	X	X		X	X	X		X				X						X	X	
CAL3	1.00	1150				X	X	X	X		X	X	X		X				X						X	X	
CAL4	1.00	1156				X	X	X	X		X	X	X		X				X						X	X	
CAL5	1.00	1201				X	X	X	X		X	X	X		X				X						X	X	
CAL6	1.00	1206				X	X	X	X		X	X	X		X				X						X	X	
ICV1	1.00	1212				X	X	X	X		X	X	X		X				X						X	X	
ICB1	1.00	1217				X	X	X	X		X	X	X		X				X						X	X	
ZZZZZZ	1.00	1222																									
LLICV	1.00	1228				X	X	X	X		X	X	X		X				X						X	X	
ZZZZZZ	1.00	1233																									
ICSA	1.00	1238				X	X	X	X		X	X	X		X				X						X	X	
ICSAB	1.00	1244				X	X	X	X		X	X	X		X				X						X	X	
CCV1	1.00	1249				X	X	X	X		X	X	X		X				X						X	X	
CCB1	1.00	1254				X	X	X	X		X	X	X		X				X						X	X	
ZZZZZZ	1.00	1300																									
ZZZZZZ	1.00	1305																									
ZZZZZZ	1.00	1311																									
ZZZZZZ	5.00	1316																									
ZZZZZZ	1.00	1321																									
SO42482-001	1.00	1327																								X	
SO42482-002	1.00	1332																								X	
ZZZZZZ	1.00	1337																									
ZZZZZZ	1.00	1343																									
ZZZZZZ	1.00	1348																									
CCV2	1.00	1354				X	X	X	X		X	X	X		X				X						X	X	
CCB2	1.00	1359				X	X	X	X		X	X	X		X				X						X	X	
ZZZZZZ	1.00	1404																									
ZZZZZZ	1.00	1410																									
ZZZZZZ	1.00	1415																									
ZZZZZZ	5.00	1420																									
ZZZZZZ	1.00	1426																									
ZZZZZZ	1.00	1431																									
ZZZZZZ	1.00	1437																									
SE19003-001	1.00	1442				X			X										X							X	

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: SAS No.: SDG No.: SE19003

Instrument ID Number: ICPMS2 Run Number: MS2060617A 6020A 6020B, generate

Start Date: 6/6/2017 End Date: 6/6/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
SE19003-002	1.00	1447				X			X										X						X	
SE19003-003	1.00	1453				X			X										X						X	
CCV3	1.00	1458				X	X	X	X		X	X	X		X				X					X	X	
CCB3	1.00	1504				X	X	X	X		X	X	X		X				X					X	X	
SE19003-004	1.00	1509				X			X										X						X	
SE19003-005	1.00	1514				X			X										X						X	
ZZZZZZ	1.00	1520																								
LLCCV	1.00	1525				X	X	X	X		X	X	X		X				X					X	X	
ZZZZZZ	1.00	1530																								
CCV4	1.00	1536				X	X	X	X		X	X	X		X				X					X	X	
CCB4	1.00	1541				X	X	X	X		X	X	X		X				X					X	X	
ZZZZZZ	50.00	1546																								
ZZZZZZ	50.00	1552																								
ZZZZZZ	50.00	1557																								
ZZZZZZ	50.00	1603																								
ZZZZZZ	250.00	1608																								
ZZZZZZ	50.00	1613																								
ZZZZZZ	5.00	1619																								
ZZZZZZ	5.00	1624																								
ZZZZZZ	5.00	1630																								
ZZZZZZ	5.00	1635																								
ZZZZZZ	1.00	1640																								
ZZZZZZ	1.00	1646																								
ZZZZZZ	1.00	1651																								
ZZZZZZ	1.00	1657																								
ZZZZZZ	1.00	1702																								
ZZZZZZ	1.00	1707																								

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE19003

ICP-MS Instrument ID: ICPMS2 Start Date: 05/19/2017 End Date: 05/19/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
TUNE	ZZZZZZ	1232	0											
BLANK	BLANK IM7804-01	1237	100		100		100		100		100		100	
CAL1	CAL1 MW9444	1243	100		99		101		100		100		100	
CAL2	CAL2 MW9445	1248	98		97		97		98		99		98	
CAL3	CAL3 MW9403	1253	98		96		93		96		97		95	
CAL4	CAL4 MW9404	1259	98		95		94		94		97		95	
CAL5	CAL5 MW9446	1304	88		90		83		92		93		91	
CAL6	CAL6 MW9447	1309	84		88		74		91		91		89	
ICV1	ICV1	1315	91		94		88		99		96		96	
ICB1	ICB1	1320	100		101		101		105		100		102	
LLICV	ZZZZZZ	1326	0											
LLICV	LLICV	1331	100		101		103		104		100		102	
LLICV2	ZZZZZZ	1336	0											
ICSA	ICSA	1342	86		90		75		88		90		85	
ICSAB	ICSAB	1347	88		92		75		92		93		88	
CCV1	CCV1	1352	90		93		79		93		97		93	
CCV2	CCV2	1400	91		92		79		94		97		93	
CCB1	CCB1	1406	100		99		97		98		100		98	
SQ42373-001	ZZZZZZ	1411	0											
SQ42373-002	ZZZZZZ	1417	0											
SE17006-001	ZZZZZZ	1422	0											
SE17006-002	ZZZZZZ	1427	0											
SE17006-003	ZZZZZZ	1433	0											
SE17006-004	ZZZZZZ	1438	0											
SE17006-004	ZZZZZZ	1443	0											
SE17006-004	ZZZZZZ	1449	0											
SE17006-004	ZZZZZZ	1454	0											
SE17006-004	ZZZZZZ	1500	0											

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE19003

ICP-MS Instrument ID: ICPMS2 Start Date: 05/19/2017 End Date: 05/19/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
CCV	ZZZZZZ	1505	0											
CCB	ZZZZZZ	1510	0											
SE17006-005	ZZZZZZ	1516	0											
SE17006-006	ZZZZZZ	1521	0											
SE13002-001	ZZZZZZ	1527	0											
SE13002-002	ZZZZZZ	1532	0											
SE13002-003	ZZZZZZ	1537	0											
SE13002-004	ZZZZZZ	1543	0											
SE17066-001	ZZZZZZ	1548	0											
SE17066-002	ZZZZZZ	1553	0											
SE17066-003	ZZZZZZ	1559	0											
SE17066-004	ZZZZZZ	1604	0											
CCV	ZZZZZZ	1610	0											
CCB	ZZZZZZ	1615	0											
SE17066-005	ZZZZZZ	1620	0											
SQ42388-001	ZZZZZZ	1626	0											
SQ42388-002	ZZZZZZ	1631	0											
SE16002-001	ZZZZZZ	1637	0											
SE16002-001	ZZZZZZ	1642	0											
SE16002-001	ZZZZZZ	1647	0											
SE16002-001	ZZZZZZ	1653	0											
SE16002-001	ZZZZZZ	1658	0											
SE16002-002	ZZZZZZ	1704	0											
SE16002-003	ZZZZZZ	1709	0											
CCV	ZZZZZZ	1714	0											
CCB	ZZZZZZ	1720	0											
SE16002-004	ZZZZZZ	1725	0											
SE16002-005	ZZZZZZ	1730	0											
SE16002-006	ZZZZZZ	1736	0											

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE19003

ICP-MS Instrument ID: ICPMS2 Start Date: 05/19/2017 End Date: 05/19/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
SE16002-007	ZZZZZZ	1741	0											
SE18011-001	ZZZZZZ	1747	0											
SE18011-002	ZZZZZZ	1752	0											
SE18011-003	ZZZZZZ	1757	0											
SE18011-004	ZZZZZZ	1803	0											
SE18011-004	ZZZZZZ	1808	0											
SE18011-004	ZZZZZZ	1814	0											
CCV	ZZZZZZ	1819	0											
CCB	ZZZZZZ	1824	0											
SE18011-004	ZZZZZZ	1830	0											
SE18011-004	ZZZZZZ	1835	0											
SE18011-005	ZZZZZZ	1840	0											
SE18011-007	ZZZZZZ	1846	0											
SE18011-008	ZZZZZZ	1851	0											
SE18011-009	ZZZZZZ	1857	0											
SE18011-010	ZZZZZZ	1902	0											
SE18011-011	ZZZZZZ	1907	0											
SE17006-002	ZZZZZZ	1913	0											
SQ42373-001	ZZZZZZ	1918	0											
CCV3	CCV3	1923	83		85		86		90		88		86	
CCB2	CCB2	1929	97		96		105		100		97		97	
SQ42482-001	SQ42482-001MB	1934	95		93		105		97		94		94	
SQ42482-002	LCS	1940	92		90		102		93		92		91	
SE18010-001	ZZZZZZ	1945	0											
SE18010-002	ZZZZZZ	1950	0											
SE18010-003	ZZZZZZ	1956	0											
SE18010-004	ZZZZZZ	2001	0											
SE18010-004	ZZZZZZ	2006	0											

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE19003

ICP-MS Instrument ID: ICPMS2 Start Date: 05/19/2017 End Date: 05/19/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
SE18010-004	ZZZZZZ	2012	0											
SE18010-004	ZZZZZZ	2017	0											
SE18010-004	ZZZZZZ	2022	0											
CCV4	CCV4	2028	85		88		87		94		90		90	
CCB3	CCB3	2033	99		98		107		102		99		100	
SE18010-005	ZZZZZZ	2039	0											
SE18010-006	ZZZZZZ	2044	0											
SE19003-001	16-2	2049	89		90		101		96		92		92	
SE19003-002	16-3	2055	93		93		105		96		94		93	
SE19003-003	16-5	2100	90		90		102		95		93		91	
SE19003-004	16WC2B	2105	92		91		103		95		94		93	
SE19003-005	16SPRING	2111	89		89		98		93		92		90	
LLCCV	ZZZZZZ	2116	0											
LLCCV	LLCCV	2121	97		95		109		99		96		95	
LLCCV2	ZZZZZZ	2127	0											
CCV5	CCV5	2132	85		87		89		91		90		88	
CCB4	CCB4	2138	97		95		104		97		95		95	
LR	ZZZZZZ	2143	0											
IS	ZZZZZZ	2148	0											
RINSE	ZZZZZZ	2154	0											
RINSE	ZZZZZZ	2159	0											

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE19003

ICP-MS Instrument ID: ICPMS2 Start Date: 06/06/2017 End Date: 06/06/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
TUNE	ZZZZZZ	1129	0											
BLANK	BLANK IM7804-01	1134	100		100		100		100		100		100	
CAL1	CAL1 MW9461	1140	101		101		101		100		100		101	
CAL2	CAL2 MW9462	1145	101		101		100		102		100		102	
CAL3	CAL3 MW9463	1150	102		102		100		101		101		102	
CAL4	CAL4 MW9464	1156	101		102		100		103		101		102	
CAL5	CAL5 MW9471	1201	92		97		91		100		98		100	
CAL6	CAL6 MW9472	1206	88		96		82		105		97		100	
ICV1	ICV1	1212	94		100		91		104		100		103	
ICB1	ICB1	1217	101		103		100		106		101		104	
CO	ZZZZZZ	1222	0											
LLICV	LLICV	1228	100		100		100		101		99		101	
LLICV2	ZZZZZZ	1233	0											
ICSA	ICSA	1238	90		95		82		94		95		92	
ICSAB	ICSAB	1244	93		100		83		101		99		95	
CCV1	CCV1	1249	97		102		87		107		105		104	
CCB1	CCB1	1254	105		105		99		103		105		104	
SQ42715-001	ZZZZZZ	1300	0											
SQ42715-002	ZZZZZZ	1305	0											
SE18011-006	ZZZZZZ	1311	0											
SE18011-006	ZZZZZZ	1316	0											
SE18011-006	ZZZZZZ	1321	0											
SQ42482-001	SQ42482-001MB	1327	103		106		109		106		104		106	
SQ42482-002	LCS	1332	102		103		107		104		102		103	
SE18010-001	ZZZZZZ	1337	0											
SE18010-002	ZZZZZZ	1343	0											
SE18010-003	ZZZZZZ	1348	0											
CCV2	CCV2	1354	92		99		94		105		100		102	

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: _____ NRAS No.: _____ SDG NO.: SE19003

ICP-MS Instrument ID: ICPMS2 Start Date: 06/06/2017 End Date: 06/06/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
CCB2	CCB2	1359	103		107		108		111		104		108	
SE18010-004	ZZZZZZ	1404	0											
SE18010-004	ZZZZZZ	1410	0											
SE18010-004	ZZZZZZ	1415	0											
SE18010-004	ZZZZZZ	1420	0											
SE18010-004	ZZZZZZ	1426	0											
SE18010-005	ZZZZZZ	1431	0											
SE18010-006	ZZZZZZ	1437	0											
SE19003-001	16-2	1442	91		99		108		110		97		102	
SE19003-002	16-3	1447	95		101		113		108		99		104	
SE19003-003	16-5	1453	94		101		111		109		99		104	
CCV3	CCV3	1458	89		97		98		105		97		101	
CCB3	CCB3	1504	100		105		111		112		101		107	
SE19003-004	16WC2B	1509	96		102		114		111		101		106	
SE19003-005	16SPRING	1514	93		100		110		108		98		104	
CO	ZZZZZZ	1520	0											
LLCCV	LLCCV	1525	99		103		111		108		100		104	
LLCCV2	ZZZZZZ	1530	0											
CCV4	CCV4	1536	89		97		96		106		96		99	
CCB4	CCB4	1541	100		104		109		110		101		106	
SE23022-009	ZZZZZZ	1546	0											
SE27003-001	ZZZZZZ	1552	0											
SE27003-001	ZZZZZZ	1557	0											
SE27003-001	ZZZZZZ	1603	0											
SE27003-001	ZZZZZZ	1608	0											
SE27003-001	ZZZZZZ	1613	0											
SE27003-002	ZZZZZZ	1619	0											
SE27003-003	ZZZZZZ	1624	0											
SE27003-004	ZZZZZZ	1630	0											

15-IN

ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY

Lab Name: Shealy Environmental Services, In Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: NRAS No.: SDG NO.: SE19003

ICP-MS Instrument ID: ICPMS2 Start Date: 06/06/2017 End Date: 06/06/2017

EPA Sample No.	Client ID	Time	Internal Standards %RI For:											
			Element Bi	Q	Element In	Q	Element Li	Q	Element Sc	Q	Element Tb	Q	Element Y	Q
SE27003-010	ZZZZZZ	1635	0											
CCV	ZZZZZZ	1640	0											
CCB	ZZZZZZ	1646	0											
LR	ZZZZZZ	1651	0											
IS	ZZZZZZ	1657	0											
RINSE	ZZZZZZ	1702	0											
RINSE	ZZZZZZ	1707	0											

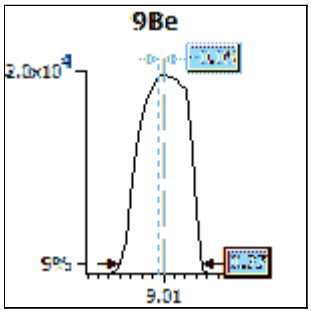
Raw Sample Data

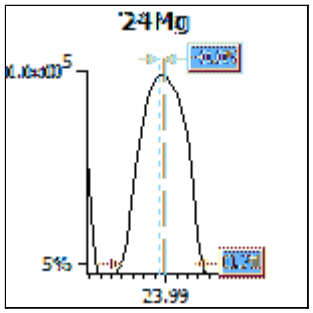
Performance Report

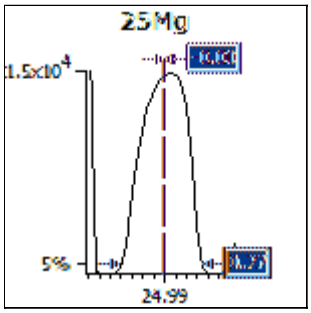
Sample details
Acquired at : 5/19/2017 10:08:22
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

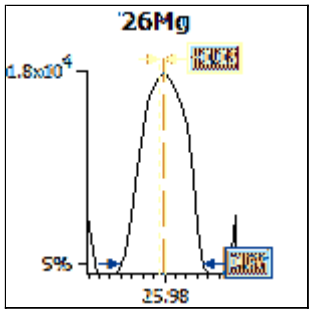
Mass Calibration verification

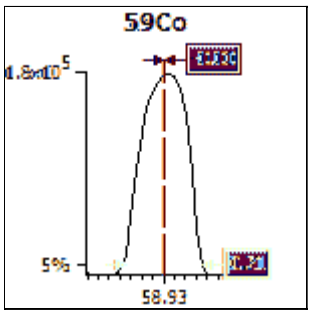
Acquisition parameters
Sweeps : 10
Dwell : 10.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum

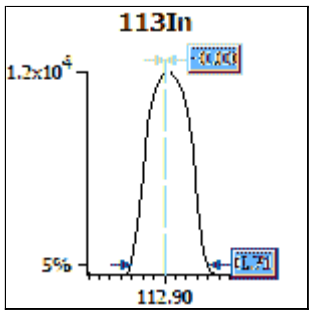


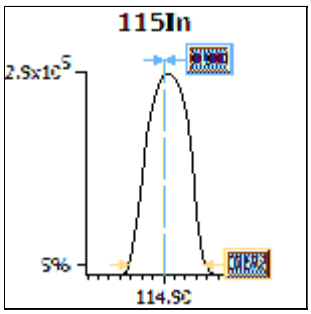


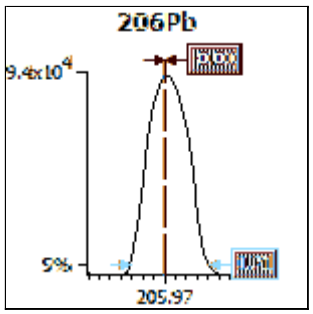


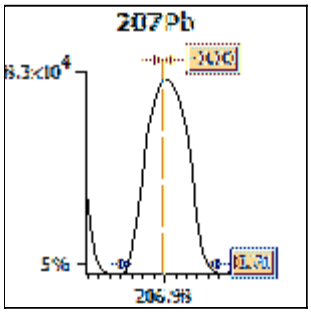


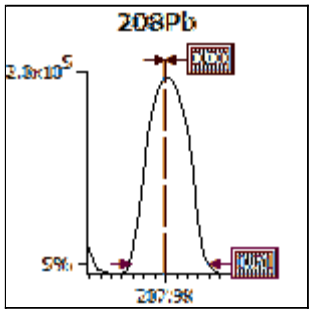












Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
9Be	0.85	0.65	0.10	0.77	-0.05
24Mg	0.85	0.65	0.10	0.71	-0.05
25Mg	0.85	0.65	0.10	0.77	-0.00
26Mg	0.85	0.65	0.10	0.77	-0.05
59Co	0.85	0.65	0.10	0.71	-0.00
113In	0.85	0.65	0.10	0.71	-0.00
115In	0.85	0.65	0.10	0.66	0.00
206Pb	0.85	0.65	0.10	0.71	-0.00
207Pb	0.85	0.65	0.10	0.71	-0.00
208Pb	0.85	0.65	0.10	0.71	0.00

PDF created with pdfFactory trial version www.pdffactory.com

Sample details
Acquired at : 5/19/2017 10:08:22
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

Tune conditions

Major	
Extraction	-98.0
Lens 1	-1043
Lens 2	-82.4
Focus	17.1
D1	-38.4
D2	-144
Pole Bias	1.0
Hexapole Bias	-4.0
Nebuliser	0.65

Minor	
Lens 3	-197.6
Forward power	1404
Horizontal	119
Vertical	645
DA	-58.8
Cool	13.0
Auxiliary	0.80
Sampling Depth	170

Global	
Standard resolution	100
High resolution	115
Analogue Detector	2225
PC Detector	3549

Add. Gases

Sensitivity and stability results

Acquisition parameters

Sweeps : 130

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	56Ar O	59Co	136Ba++	101Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	-	5.0%	-	-
	Countrate	-	>5000	>1000	>1000	>1000	-	>10000	-	-
1	10:08:59	0.769	21531.171	110418.75	14455.173	17414.747	526755.61	177931.09	3775.599	0.000
2	10:09:31	0.000	21393.842	110376.58	14340.329	17196.534	526758.91	177488.11	3871.803	0.000
3	10:10:03	0.000	21322.093	108942.04	14432.050	17080.877	524119.78	175699.93	3763.285	0.000
4	10:10:35	0.000	21560.489	108596.13	14233.195	16907.394	526364.84	176961.62	3657.076	0.769
5	10:11:06	0.000	21666.960	108928.76	14172.307	16831.062	527043.95	175529.73	3659.385	0.000
x		0.154	21494.911	109452.45	14326.611	17086.123	526208.62	176722.10	3745.430	0.154
σ		0.34	137.20	874.04	122.85	233.03	1192.42	1069.15	90.01	0.34
%RSD		223.607	0.638	0.799	0.858	1.364	0.227	0.605	2.403	223.607

Run	Time	113In	115In	138Ba	140Ce	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	5.0%	5.0%	-	-	-	5.0%	5.0%	5.0%	-
	Countrate	>1000	>10000	-	-	-	>10000	>10000	>10000	<2
1	10:08:59	12568.583	289954.21	2451.953	292454.02	4981.712	93367.659	81815.431	198864.11	0.000
2	10:09:31	12506.938	288592.19	2500.431	293334.72	5047.911	92684.355	81048.422	198362.96	0.000
3	10:10:03	12316.612	285834.51	2468.882	290552.87	5040.984	92483.350	80860.961	197516.46	0.000
4	10:10:35	12233.394	286012.89	2395.781	290363.98	5054.839	92251.967	80618.279	196685.85	0.000
5	10:11:06	12429.882	285049.08	2401.167	290161.49	5134.896	91922.434	80669.615	196233.84	0.000
x		12411.082	287088.58	2443.643	291373.42	5052.068	92541.953	81002.542	197532.64	0.000
σ		136.79	2083.39	44.79	1429.64	54.68	541.62	485.14	1103.00	0.00
%RSD		1.102	0.726	1.833	0.491	1.082	0.585	0.599	0.558	0.000

Ratio results

Run	Time	56Ar O/59Co	136Ba++/138Ba	115In/101Bkg	156Ce O/140Ce
Ratio limits		-	-	-	-
1	10:08:59	2.960	1.540	INF	0.017
2	10:09:31	2.968	1.548	INF	0.017
3	10:10:03	2.983	1.524	INF	0.017
4	10:10:35	2.974	1.526	371816.74	0.017
5	10:11:06	3.003	1.524	INF	0.018
x		2.9777	1.5326	371816.74	0.0173
σ		0.02	0.01	0.00	0.00
%RSD		0.5449	0.7180	0.0000	1.4209

Result : The performance report passed.

PDF created with pdfFactory trial version www.pdffactory.com

FORM 11-IN

ICP-MS INTERNAL STANDARD ASSOCIATION

Lab Name: Shealy Environmental Services, I **Contract:**

Lab Code: Shealy **Case No.:** **MA No.:** **SDG No.:**

Instrument ID: ICPMS2

Run Batch: MS2051917B 6020A 6020B, gen **Date:** 05/19/2017

Analyte	Assoc. Internal Standard 1	Assoc. Internal Standard 2
Aluminum	45Sc	
Antimony	115In	
Arsenic	115In	
Barium	115In	159Tb
Beryllium	6Li	45Sc
Boron	45Sc	
Cadmium	209Bi	
Calcium	45Sc	
Chromium	45Sc	89Y
Cobalt	45Sc	89Y
Copper	209Bi	
Iron	45Sc	
Lead	159Tb	
Magnesium	6Li	
Manganese	45Sc	89Y
Molybdenum	45Sc	
Nickel	115In	
Potassium	6Li	45Sc
Selenium	209Bi	
Silicon	6Li	
Silver	209Bi	
Sodium	6Li	45Sc
Thallium	159Tb	
Tin	89Y	
Titanium	45Sc	89Y
Vanadium	45Sc	89Y
Zinc	209Bi	

Experiment Details

Description	PlasmaLab Template BlankExperiment
Template Filename	C:\Program Files\Thermo Fisher\PlasmaLab\data\MS2013017C 6020A.tee
Created By User	DemoX
Analyte Database	200_8.tea
Creation Timestamp	12/1/2004 11:33:01
Last Edited By	eqi.im
Last Edit Timestamp	5/22/2017 11:37:11
Instrument Detector	Simultaneous
Database Version	3.51
Acquisition Mode	Unknown

Numerical Results report key (text indicates meaning)

Blue text indicates that cell is a statistic.
Underlining indicates that a data warning flag is set.

Column headings
- No flag
- Semi Quant
- Standard Addition
- Multi Element

Result cells
- Internal Standard
- Excluded
- QC Warning
- QC Failure

Transient TRA only:
- Peak Not Found
- Manually Edited
- Merged Peak

Data warning flags
I - Invalid calibration
T - Tripped
F - Interference correction failed
M - Result over max
V - Valley integration failed
D - Different method used

Fully Quantitative Concentrations

Id	Label	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al	28Si
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444	0.400	25.000	25.000					40.000	100.000
4	cal2 MW9445	2.000	125.000	125.000					200.000	
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9446				50000.000	50000.000	50000.000	50000.000		5000.000
8	cal6 MW9447				100000.000	100000.000	100000.000	100000.000		10000.000
Id	**Label**	**39K**	**43Ca**	**44Ca**	**47Ti**	**51V**	**52Cr**	**55Mn**	**54Fe**	**56Fe**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444			200.000	5.000	5.000	1.000	5.000	20.000	20.000
4	cal2 MW9445				25.000	25.000	5.000	25.000	100.000	100.000
5	cal3 MW9403	250.000	250.000		250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9446	50000.000	50000.000	50000.000					50000.000	50000.000
8	cal6 MW9447	100000.000	100000.000	100000.000					100000.000	100000.000
Id	**Label**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444	20.000	5.000	5.000	5.000	1.000	1.000	10.000	10.000	10.000
4	cal2 MW9445	100.000	25.000	25.000	25.000	5.000	5.000	50.000	50.000	50.000
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9446	50000.000								
8	cal6 MW9447	100000.000								
Id	**Label**	**75As**	**78Se**	**82Se**	**86Sr**	**95Mo**	**97Mo**	**98Mo**	**107Ag**	**109Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444	1.000	1.000	1.000	10.000	10.000	10.000	10.000	1.000	1.000
4	cal2 MW9445	5.000	5.000	5.000	50.000	50.000	50.000	50.000	5.000	5.000
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9446									
8	cal6 MW9447									
Id	**Label**	**106Cd**	**111Cd**	**114Cd**	**116Sn**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9444	0.100	0.100	0.100	5.000	5.000	1.000	1.000	5.000	5.000
4	cal2 MW9445	0.500	0.500	0.500	25.000	25.000	5.000	5.000	25.000	25.000
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000

PDF created with pdfFactory trial version www.pdffactory.com

7	cal5 MW9446							
8	cal6 MW9447							
Id	**Label**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**232Th**	**238U**
		ppb	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**
3	cal1 MW9444	0.500	0.500	1.000	1.000	1.000		50.000
4	cal2 MW9445	2.500	2.500	5.000	5.000	5.000		250.000
5	cal3 MW9403	250.000	250.000	250.000	250.000	250.000		
6	cal4 MW9404	500.000	500.000	500.000	500.000	500.000		500.000
7	cal5 MW9446							
8	cal6 MW9447							

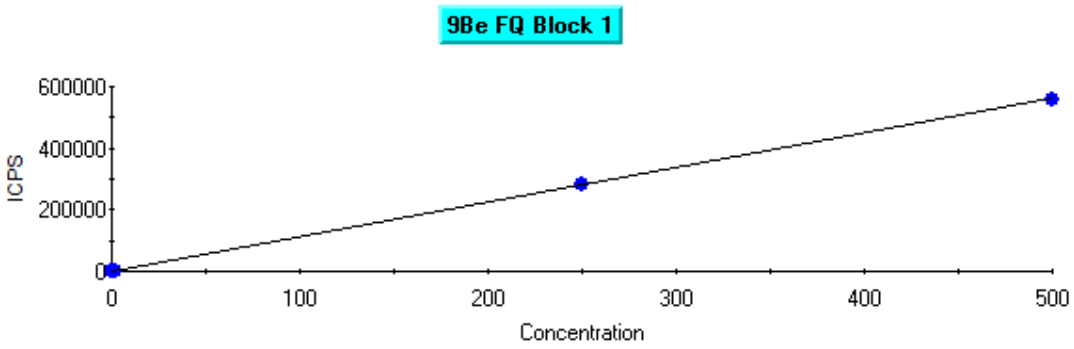
Sample List

No	Label	Type	Weight	Rack	Row	Col	Height
1	TUNE MW9396	Unknown	1.000	0	1	10	144
2	BLANK IM7804-01	Blank	1.000	0	1	1	144
3	cal1 MW9444	Fully Quant Standard	1.000	0	1	2	144
4	cal2 MW9445	Fully Quant Standard	1.000	0	1	3	144
5	cal3 MW9403	Fully Quant Standard	1.000	0	1	4	144
6	cal4 MW9404	Fully Quant Standard	1.000	0	1	5	144
7	cal5 MW9446	Fully Quant Standard	1.000	0	1	6	144
8	cal6 MW9447	Fully Quant Standard	1.000	0	1	7	144
9	ICV MW-9397 PREP 5/19/17	QC Sample	1.000	4	5	11	144
10	ICB IM7804-01	QC Sample	1.000	0	1	1	144
11	LLICV Co 4ppb MW9459	Unknown	1.000	4	5	2	144
12	LLICV MW9444	QC Sample	1.000	0	1	2	144
13	LLICV2 MW9445	Unknown	1.000	0	1	3	144
14	ICSA MW9430	QC Sample	1.000	4	5	12	144
15	ICSAB MW9460	Unknown	1.000	4	5	1	144
16	CCV MW9450	Unknown	1.000	0	1	9	144
17	CCV MW9450	QC Sample	1.000	0	1	9	144
18	CCB IM7804-01	QC Sample	1.000	0	1	1	144
19	SQ42373-001	QC Sample	1.000	4	1	1	144
20	SQ42373-002	Unknown	1.000	4	1	2	144
21	SE17006-001DIS	Unknown	1.000	4	1	3	144
22	SE17006-002DIS	Unknown	1.000	4	1	4	144
23	SE17006-003DIS	Unknown	1.000	4	1	5	144
24	SE17006-004DIS	Unknown	1.000	4	1	6	144
25	SE17006-004MSDIS	Unknown	1.000	4	1	7	144
26	SE17006-004MDDIS	Unknown	1.000	4	1	8	144
27	SE17006-004SDDIS(5)	Unknown	1.000	4	1	9	144
28	SE17006-004PSDIS	Unknown	1.000	4	1	10	144
29	CCV MW9450	QC Sample	1.000	0	1	9	144
30	CCB IM7804-01	QC Sample	1.000	0	1	1	144
31	SE17006-005DIS	Unknown	1.000	4	2	1	144
32	SE17006-006DIS	Unknown	1.000	4	2	2	144
33	SE13002-001	Unknown	1.000	4	2	3	144
34	SE13002-002	Unknown	1.000	4	2	4	144
35	SE13002-003	Unknown	1.000	4	2	5	144
36	SE13002-004	Unknown	1.000	4	2	6	144
37	SE17066-001	Unknown	1.000	4	2	7	144
38	SE17066-002	Unknown	1.000	4	2	8	144
39	SE17066-003	Unknown	1.000	4	2	9	144
40	SE17066-004	Unknown	1.000	4	2	10	144
41	CCV MW9450	QC Sample	1.000	0	1	9	144
42	CCB IM7804-01	QC Sample	1.000	0	1	1	144
43	SE17066-005	Unknown	1.000	4	3	1	144
44	SQ42388-001	QC Sample	1.000	4	3	2	144
45	SQ42388-002	Unknown	1.000	4	3	3	144
46	SE16002-001	Unknown	1.000	4	3	4	144
47	SE16002-001MS	Unknown	1.000	4	3	5	144
48	SE16002-001MD	Unknown	1.000	4	3	6	144
49	SE16002-001SD(5)	Unknown	1.000	4	3	7	144
50	SE16002-001PS	Unknown	1.000	4	3	8	144
51	SE16002-002	Unknown	1.000	4	3	9	144
52	SE16002-003	Unknown	1.000	4	3	10	144
53	CCV MW9450	QC Sample	1.000	0	1	9	144
54	CCB IM7804-01	QC Sample	1.000	0	1	1	144
55	SE16002-004	Unknown	1.000	4	4	1	144
56	SE16002-005	Unknown	1.000	4	4	2	144
57	SE16002-006	Unknown	1.000	4	4	3	144
58	SE16002-007	Unknown	1.000	4	4	4	144
59	SE18011-001	Unknown	1.000	4	4	5	144
60	SE18011-002	Unknown	1.000	4	4	6	144

PDF created with pdfFactory trial version www.pdffactory.com

61	SE18011-003	Unknown	1.000	4	4	7	144
62	SE18011-004	Unknown	1.000	4	4	8	144
63	SE18011-004MS	Unknown	1.000	4	4	9	144
64	SE18011-004MD	Unknown	1.000	4	4	10	144
65	CCV MW9450	QC Sample	1.000	0	1	9	144
66	CCB IM7804-01	QC Sample	1.000	0	1	1	144
67	SE18011-004SD(5)	Unknown	1.000	4	5	1	144
68	SE18011-004PS	Unknown	1.000	4	5	2	144
69	SE18011-005	Unknown	1.000	4	5	3	144
70	SE18011-007	Unknown	1.000	4	5	4	144
71	SE18011-008	Unknown	1.000	4	5	5	144
72	SE18011-009	Unknown	1.000	4	5	6	144
73	SE18011-010	Unknown	1.000	4	5	7	144
74	SE18011-011	Unknown	1.000	4	5	8	144
75	SE17006-002DIS(5)	Unknown	1.000	3	5	1	144
76	SQ42373-001	QC Sample	1.000	4	1	1	144
77	CCV MW9450	QC Sample	1.000	0	1	9	144
78	CCB IM7804-01	QC Sample	1.000	0	1	1	144
79	SQ42482-001	QC Sample	1.000	3	1	1	144
80	SQ42482-002	Unknown	1.000	3	1	2	144
81	SE18010-001	Unknown	1.000	3	1	3	144
82	SE18010-002	Unknown	1.000	3	1	4	144
83	SE18010-003	Unknown	1.000	3	1	5	144
84	SE18010-004	Unknown	1.000	3	1	6	144
85	SE18010-004MS	Unknown	1.000	3	1	7	144
86	SE18010-004MD	Unknown	1.000	3	1	8	144
87	SE18010-004SD(5)	Unknown	1.000	3	1	9	144
88	SE18010-004PS	Unknown	1.000	3	1	10	144
89	CCV MW9450	QC Sample	1.000	0	1	9	144
90	CCB IM7804-01	QC Sample	1.000	0	1	1	144
91	SE18010-005	Unknown	1.000	3	2	1	144
92	SE18010-006	Unknown	1.000	3	2	2	144
93	SE19003-001	Unknown	1.000	3	2	3	144
94	SE19003-002	Unknown	1.000	3	2	4	144
95	SE19003-003	Unknown	1.000	3	2	5	144
96	SE19003-004	Unknown	1.000	3	2	6	144
97	SE19003-005	Unknown	1.000	3	2	7	144
98	LLCCV Co 4ppb MW9459	Unknown	1.000	4	5	9	144
99	LLCCV MW9444	QC Sample	1.000	4	5	10	144
100	LLCCV2 MW9445	Unknown	1.000	4	5	11	144
101	CCV MW9450	QC Sample	1.000	0	1	9	144
102	CCB IM7804-01	QC Sample	1.000	0	1	1	144
103	LR MW9413	QC Sample	1.000	4	5	12	144
104	IS MW9458	Unknown	1.000	0	1	10	144
105	rinse	Unknown	1.000	0	1	10	144
106	rinse	Unknown	1.000	0	1	10	144

Fully Quant Calibration

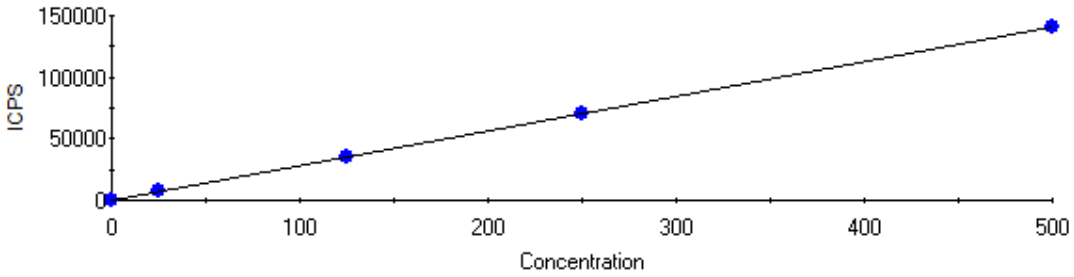


Intercept CPS=24.023643 Intercept Conc=0.021408
Sensitivity=1122.195968 Correlation Coeff=0.999984

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	24.02	0.00
cal1 MW9444	0.400	0.412	0.012	486.47	3.02
cal2 MW9445	2.000	2.102	0.102	2383.26	5.12
cal3 MW9403	250.000	252.367	2.367	283229.75	0.95
cal4 MW9404	500.000	498.816	1.184	559793.17	0.24

PDF created with pdfFactory trial version www.pdffactory.com

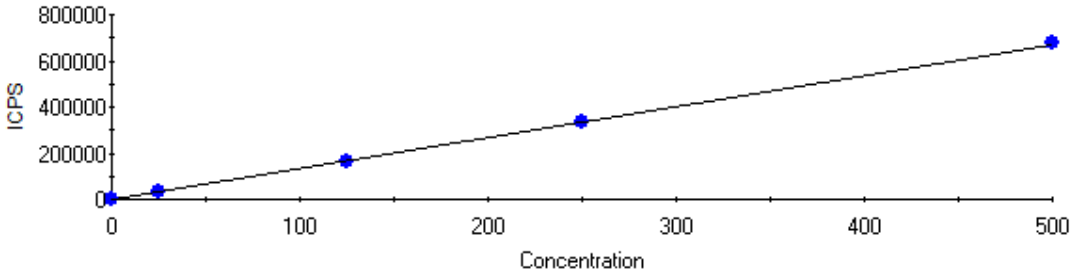
10B FQ Block 1



Intercept CPS=709.467946 Intercept Conc=2.544133
Sensitivity=278.864382 Correlation Coeff=0.999982

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	709.47	0.00
cal1 MW9444	25.000	25.058	0.058	7697.17	0.23
cal2 MW9445	125.000	125.816	0.816	35795.11	0.65
cal3 MW9403	250.000	248.232	1.768	69932.52	0.71
cal4 MW9404	500.000	501.918	1.918	140676.49	0.38

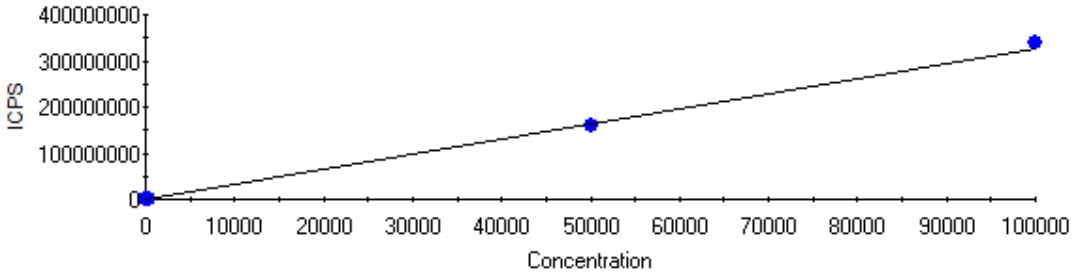
11B FQ Block 1



Intercept CPS=2924.055942 Intercept Conc=2.189821
Sensitivity=1335.294251 Correlation Coeff=0.999933

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	2924.06	0.00
cal1 MW9444	25.000	23.786	1.214	34685.76	4.85
cal2 MW9445	125.000	121.843	3.157	165620.57	2.53
cal3 MW9403	250.000	246.105	3.895	331546.03	1.56
cal4 MW9404	500.000	502.798	2.798	674306.82	0.56

23Na FQ Block 1



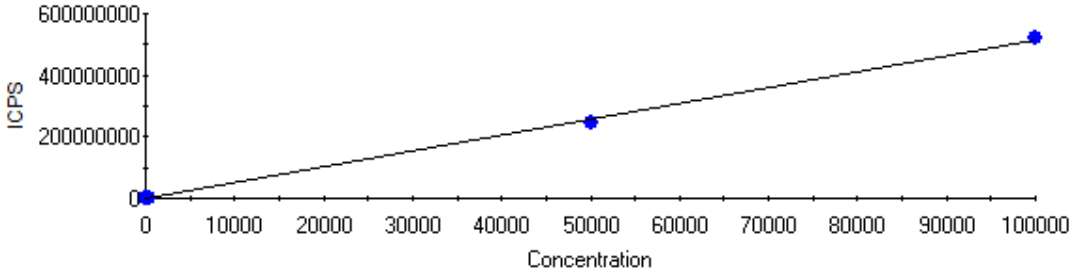
Intercept CPS=32978.986540 Intercept Conc=10.076543
Sensitivity=3272.847159 Correlation Coeff=0.999628

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	0.000	0.000	32978.99	0.00
cal3 MW9403	250.000	218.538	31.462	748221.97	12.58
cal4 MW9404	500.000	449.013	50.987	1502530.14	10.20
cal5 MW9446	50000.000	48941.204	1058.796	160210060.09	2.12
cal6 MW9447	100000.000	103709.522	3709.522	339458395.00	3.71

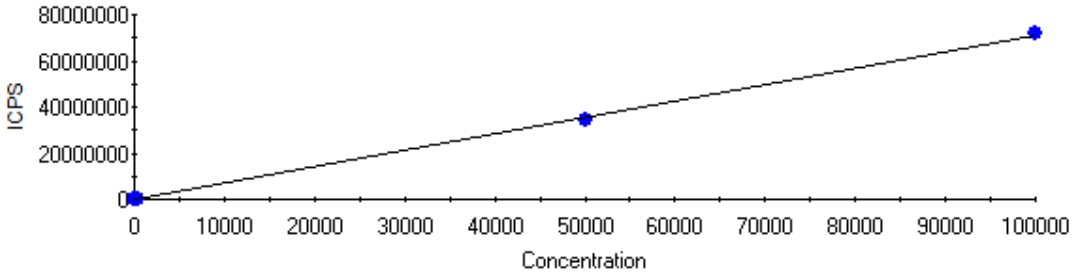
24Mg FQ Block 1



Intercept CPS=18780.456786 Intercept Conc=3.660692
Sensitivity=5130.302545 Correlation Coeff=0.999770

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	18780.46	0.00
cal3 MW9403	250.000	222.277	27.723	1159128.59	11.09
cal4 MW9404	500.000	455.382	44.618	2355026.03	8.92
cal5 MW9446	50000.000	48217.700	1782.300	247390167.17	3.56
cal6 MW9447	100000.000	100891.443	891.443	517622405.28	0.89

25Mg FQ Block 1

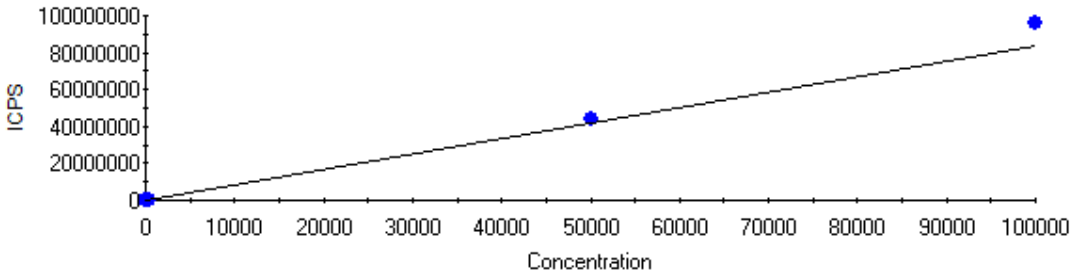


Intercept CPS=2554.019071 Intercept Conc=3.576122
Sensitivity=714.186734 Correlation Coeff=0.999716

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	2554.02	0.00
cal3 MW9403	250.000	209.465	40.535	152151.28	16.21
cal4 MW9404	500.000	424.329	75.671	305604.47	15.13
cal5 MW9446	50000.000	48014.044	1985.956	34293547.23	3.97
cal6 MW9447	100000.000	100993.458	993.458	72130741.78	0.99

PDF created with pdfFactory trial version www.pdffactory.com

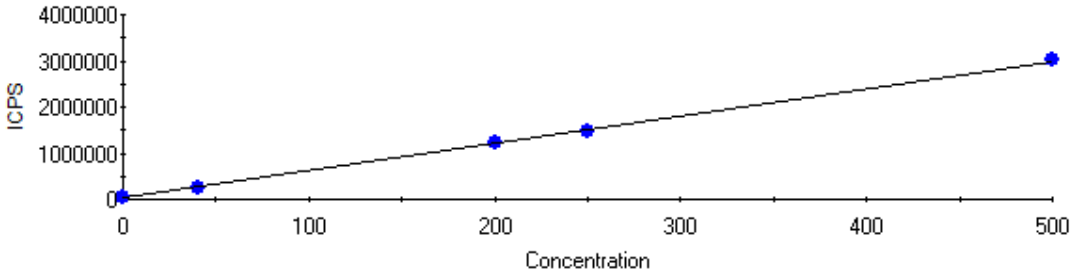
26Mg FQ Block 1



Intercept CPS=2939.566935 Intercept Conc=3.502683
Sensitivity=839.233051 Correlation Coeff=0.998981

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	2939.57	0.00
cal3 MW9403	250.000	215.966	34.034	184185.32	13.61
cal4 MW9404	500.000	430.503	69.497	364231.58	13.90
cal5 MW9446	50000.000	51814.839	1814.839	43487665.28	3.63
cal6 MW9447	100000.000	114206.176	14206.176	95848537.43	14.21

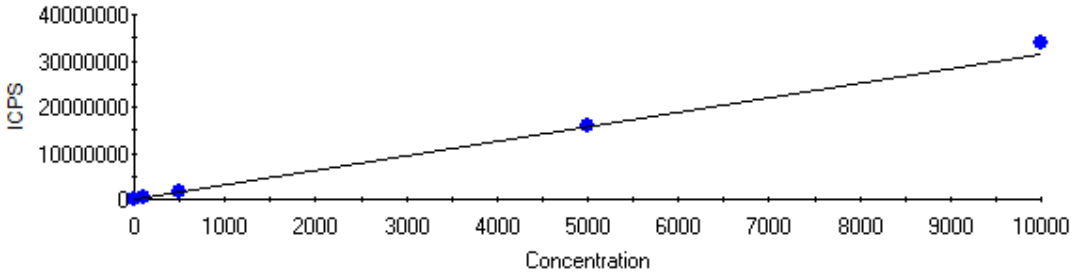
27Al FQ Block 1



Intercept CPS=22679.023090 Intercept Conc=3.817038
Sensitivity=5941.524303 Correlation Coeff=0.999892

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	22679.02	0.00
cal1 MW9444	40.000	37.862	2.138	247635.76	5.35
cal2 MW9445	200.000	200.176	0.176	1212031.67	0.09
cal3 MW9403	250.000	244.418	5.582	1474892.96	2.23
cal4 MW9404	500.000	502.892	2.892	3010621.97	0.58

28Si FQ Block 1



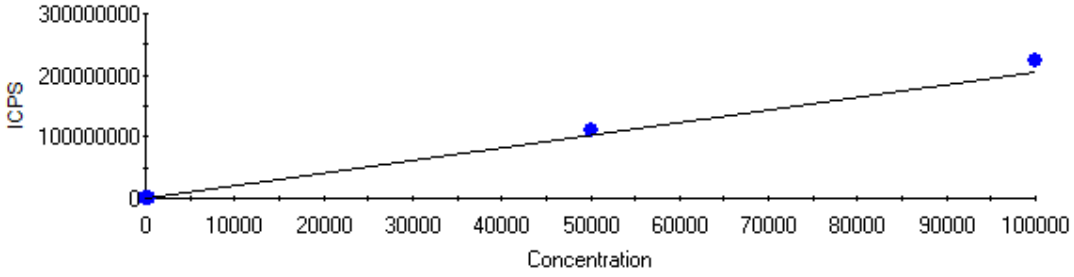
Intercept CPS=54844.229559 Intercept Conc=17.480573
Sensitivity=3137.438926 Correlation Coeff=0.999679

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	0.000	0.000	54844.23	0.00
cal1 MW9444	100.000	94.031	5.969	349861.96	5.97
cal4 MW9404	500.000	503.796	3.796	1635473.63	0.76
cal5 MW9446	5000.000	5118.691	118.691	16114423.06	2.37
cal6 MW9447	10000.000	10801.103	801.103	33942644.43	8.01

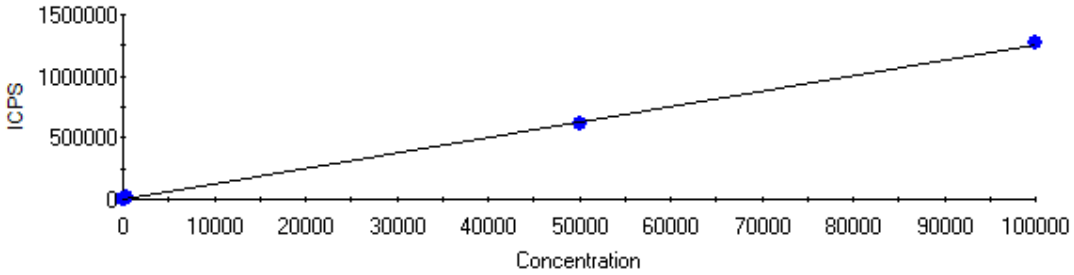
39K FQ Block 1



Intercept CPS=113752.082953 Intercept Conc=55.759759
Sensitivity=2040.038985 Correlation Coeff=0.999961

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	113752.08	0.00
cal3 MW9403	250.000	246.103	3.897	615812.61	1.56
cal4 MW9404	500.000	505.475	5.475	1144941.16	1.10
cal5 MW9446	50000.000	53812.688	3812.688	109893733.70	7.63
cal6 MW9447	100000.000	109631.682	9631.682	223766657.81	9.63

43Ca FQ Block 1

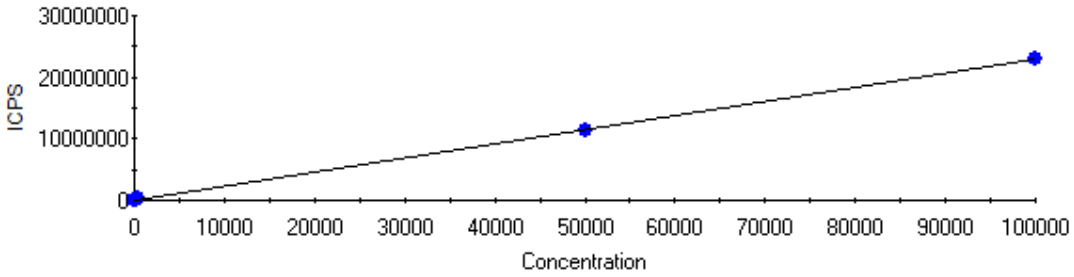


Intercept CPS=131.969293 Intercept Conc=10.497792
Sensitivity=12.571147 Correlation Coeff=0.999859

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	131.97	0.00
cal3 MW9403	250.000	479.577	229.577	6160.80	91.83
cal4 MW9404	500.000	926.631	426.631	11780.78	85.33
cal5 MW9446	50000.000	48733.394	1266.606	612766.64	2.53
cal6 MW9447	100000.000	100630.596	630.596	1265174.00	0.63

PDF created with pdfFactory trial version www.pdffactory.com

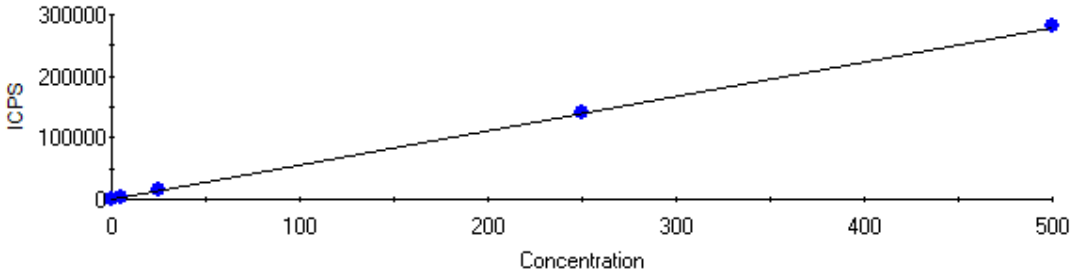
44Ca FQ Block 1



Intercept CPS=3739.071155 Intercept Conc=16.341819
Sensitivity=228.803852 Correlation Coeff=0.999963

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	3739.07	0.00
cal1 MW9444	200.000	174.011	25.989	43553.39	12.99
cal4 MW9404	500.000	653.061	153.061	153161.84	30.61
cal5 MW9446	50000.000	49318.294	681.706	11287954.71	1.36
cal6 MW9447	100000.000	100340.140	340.140	22961949.50	0.34

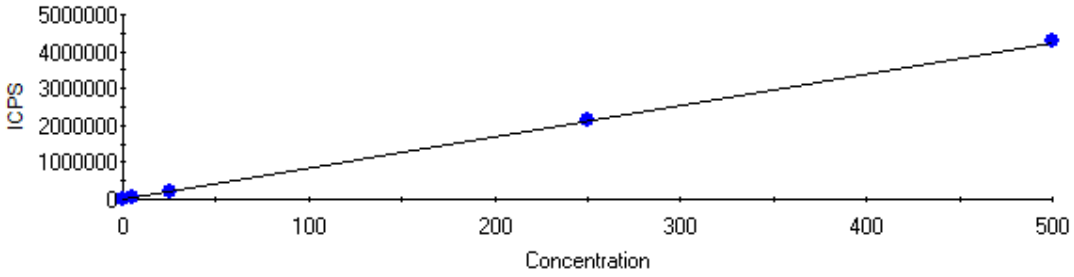
47Ti FQ Block 1



Intercept CPS=63.867137 Intercept Conc=0.114047
Sensitivity=560.005007 Correlation Coeff=0.999987

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	63.87	0.00
cal1 MW9444	5.000	5.038	0.038	2885.41	0.77
cal2 MW9445	25.000	24.817	0.183	13961.43	0.73
cal3 MW9403	250.000	249.986	0.014	140057.46	0.01
cal4 MW9404	500.000	505.192	5.192	282973.87	1.04

51V FQ Block 1



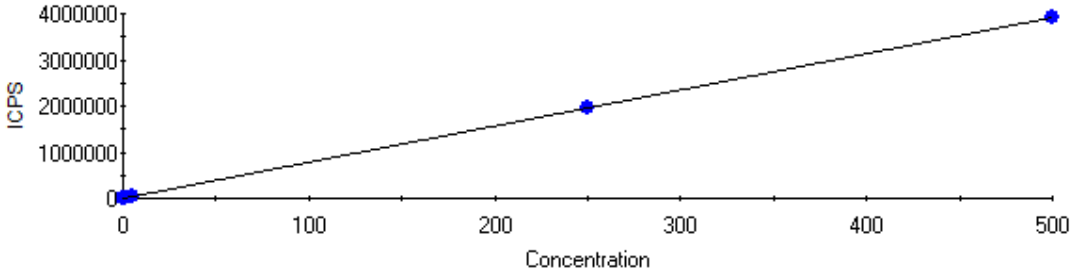
Intercept CPS=0.000000 Intercept Conc=0.000000
Sensitivity=8465.513604 Correlation Coeff=0.999988

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	0.077	0.077	650.14	0.00
cal1 MW9444	5.000	4.764	0.236	40328.86	4.72
cal2 MW9445	25.000	24.330	0.670	205961.94	2.68
cal3 MW9403	250.000	254.568	4.568	2155052.14	1.83
cal4 MW9404	500.000	504.766	4.766	4273100.70	0.95

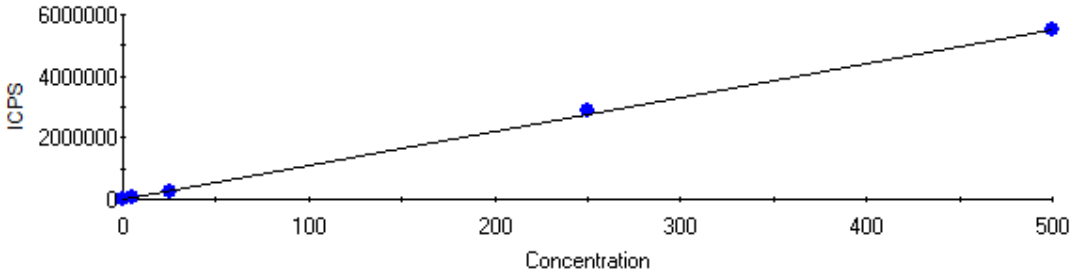
52Cr FQ Block 1



Intercept CPS=2008.328938 Intercept Conc=0.257046
Sensitivity=7813.117377 Correlation Coeff=0.999994

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	2008.33	0.00
cal1 MW9444	1.000	0.987	0.013	9716.97	1.34
cal2 MW9445	5.000	4.834	0.166	39775.03	3.32
cal3 MW9403	250.000	248.585	1.415	1944233.74	0.57
cal4 MW9404	500.000	500.709	0.709	3914107.18	0.14

55Mn FQ Block 1

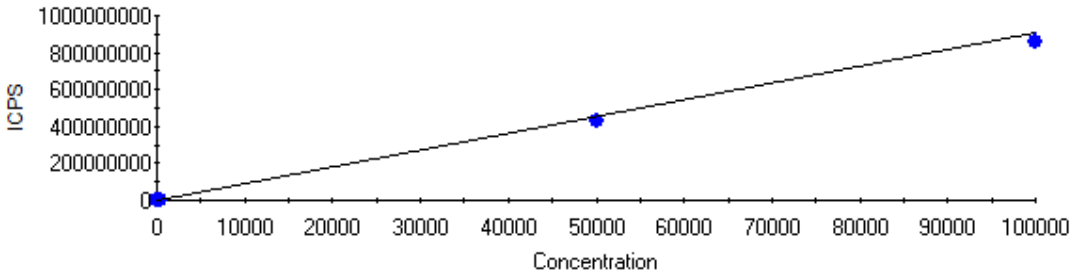


Intercept CPS=476.098234 Intercept Conc=0.042973
Sensitivity=11079.034563 Correlation Coeff=0.999785

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	476.10	0.00
cal1 MW9444	5.000	4.807	0.193	53731.97	3.86
cal2 MW9445	25.000	24.060	0.940	267037.77	3.76
cal3 MW9403	250.000	259.012	9.012	2870078.67	3.60
cal4 MW9404	500.000	497.491	2.509	5512196.92	0.50

PDF created with pdfFactory trial version www.pdffactory.com

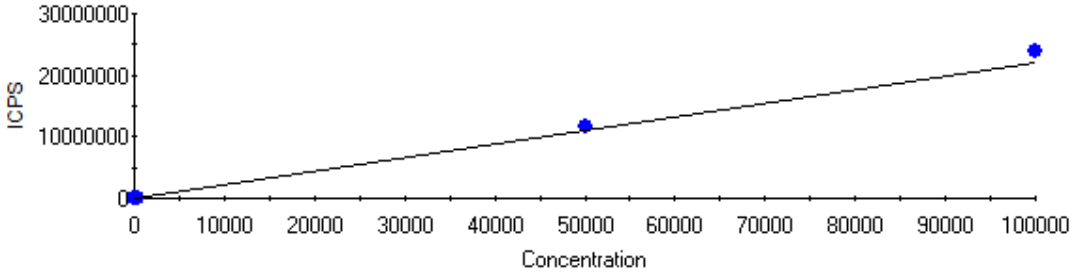
56Fe FQ Block 1



Intercept CPS=546460.360348 Intercept Conc=60.375410
Sensitivity=9051.041808 Correlation Coeff=0.999986

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	546460.36	0.00
cal1 MW9444	20.000	18.365	1.635	712678.22	8.18
cal2 MW9445	100.000	103.187	3.187	1480405.91	3.19
cal3 MW9403	250.000	269.062	19.062	2981751.35	7.62
cal4 MW9404	500.000	467.771	32.229	4780278.88	6.45
cal5 MW9446	50000.000	46731.169	3268.831	423512225.47	6.54
cal6 MW9447	100000.000	94530.262	5469.738	856143816.92	5.47

57Fe FQ Block 1

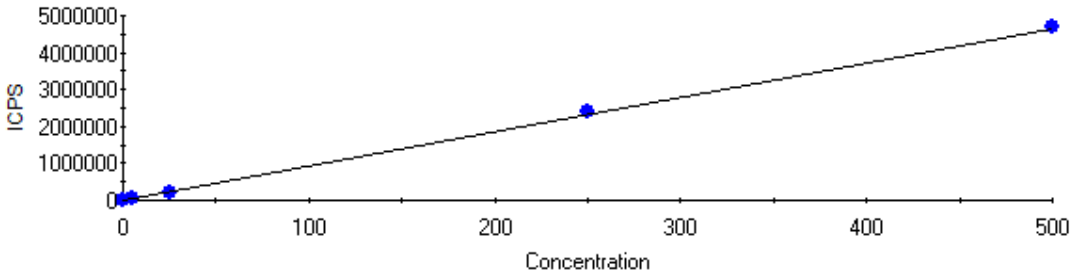


Intercept CPS=5397.251180 Intercept Conc=24.656929
Sensitivity=218.893898 Correlation Coeff=0.999937

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	5397.25	0.00
cal1 MW9444	20.000	19.970	0.030	9768.47	0.15
cal2 MW9445	100.000	102.173	2.173	27762.39	2.17
cal3 MW9403	250.000	244.840	5.160	58991.21	2.06
cal4 MW9404	500.000	497.584	2.416	114315.34	0.48
cal5 MW9446	50000.000	53124.368	3124.368	11633997.21	6.25
cal6 MW9447	100000.000	108942.387	8942.387	23852220.91	8.94

PDF created with pdfFactory trial version www.pdffactory.com

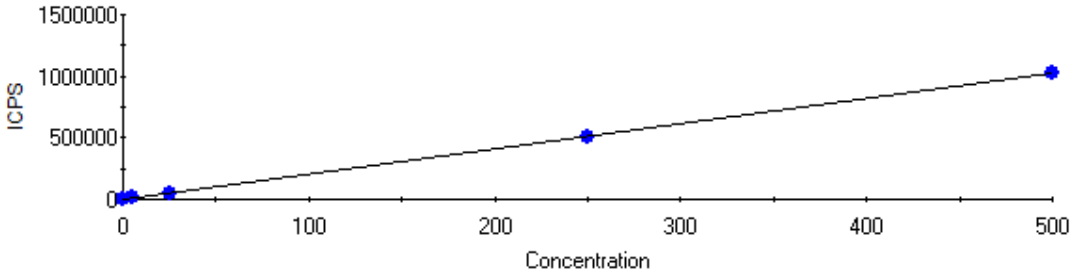
59Co FQ Block 1



Intercept CPS=79.297754 Intercept Conc=0.008547
Sensitivity=9277.634252 Correlation Coeff=0.999969

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	79.30	0.00
cal1 MW9444	5.000	4.819	0.181	44787.91	3.62
cal2 MW9445	25.000	24.287	0.713	225403.37	2.85
cal3 MW9403	250.000	257.049	7.049	2384889.30	2.82
cal4 MW9404	500.000	506.709	6.709	4701142.57	1.34

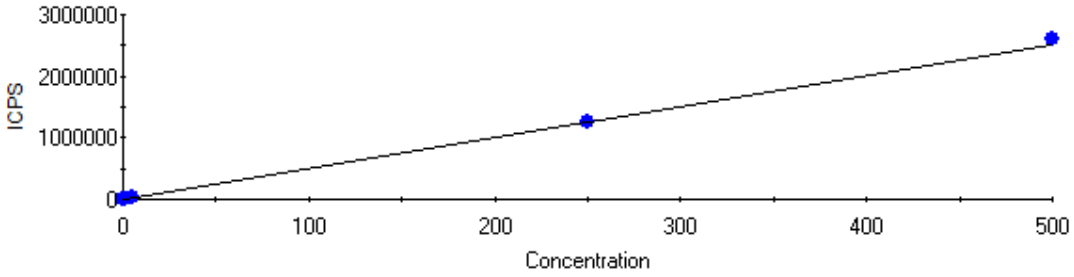
60Ni FQ Block 1



Intercept CPS=194.702993 Intercept Conc=0.094856
Sensitivity=2052.622369 Correlation Coeff=0.999896

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	194.70	0.00
cal1 MW9444	5.000	5.055	0.055	10570.71	1.10
cal2 MW9445	25.000	25.024	0.024	51559.51	0.10
cal3 MW9403	250.000	244.162	5.838	501367.95	2.34
cal4 MW9404	500.000	502.917	2.917	1032493.47	0.58

63Cu FQ Block 1



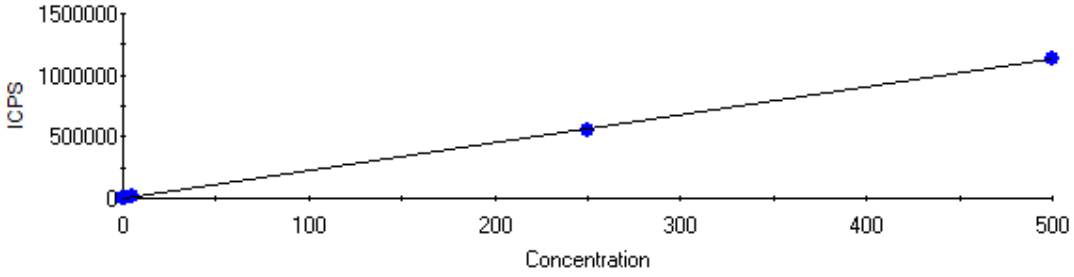
Intercept CPS=473.810767 Intercept Conc=0.094731
Sensitivity=5001.664811 Correlation Coeff=0.999742

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	-0.000	0.000	473.81	0.00
cal1 MW9444	1.000	0.989	0.011	5420.41	1.10
cal2 MW9445	5.000	4.892	0.108	24944.35	2.15
cal3 MW9403	250.000	248.152	1.848	1241646.88	0.74
cal4 MW9404	500.000	520.607	20.607	2604375.36	4.12

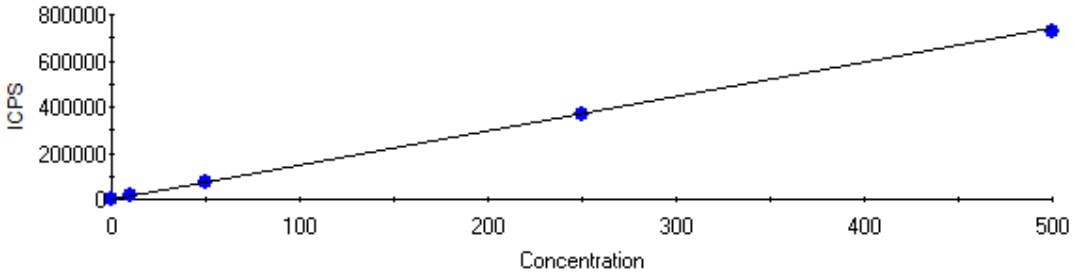
65Cu FQ Block 1



Intercept CPS=163.703351 Intercept Conc=0.072606
Sensitivity=2254.684078 Correlation Coeff=0.999981

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	163.70	0.00
cal1 MW9444	1.000	1.077	0.077	2592.11	7.71
cal2 MW9445	5.000	5.212	0.212	11915.50	4.24
cal3 MW9403	250.000	247.495	2.505	558185.89	1.00
cal4 MW9404	500.000	501.250	1.250	1130325.03	0.25

66Zn FQ Block 1

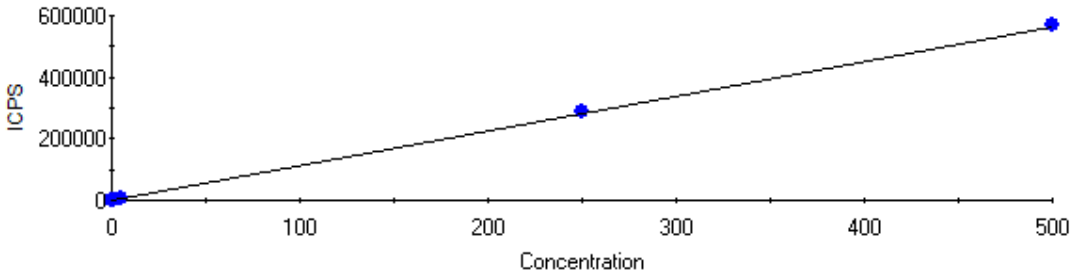


Intercept CPS=290.653703 Intercept Conc=0.195899
Sensitivity=1483.689514 Correlation Coeff=0.999968

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	290.65	0.00
cal1 MW9444	10.000	10.575	0.575	15980.93	5.75
cal2 MW9445	50.000	50.938	0.938	75866.19	1.88
cal3 MW9403	250.000	249.042	0.958	369792.04	0.38
cal4 MW9404	500.000	490.040	9.960	727358.53	1.99

PDF created with pdfFactory trial version www.pdffactory.com

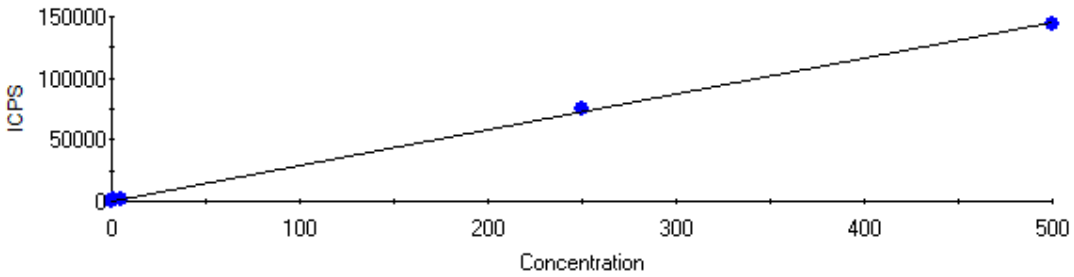
75As FQ Block 1



Intercept CPS=218.667593 Intercept Conc=0.193346
Sensitivity=1130.964226 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	218.67	0.00
cal1 MW9444	1.000	0.931	0.069	1272.01	6.86
cal2 MW9445	5.000	5.138	0.138	6029.05	2.75
cal3 MW9403	250.000	253.289	3.289	286678.99	1.32
cal4 MW9404	500.000	503.875	3.875	570083.66	0.78

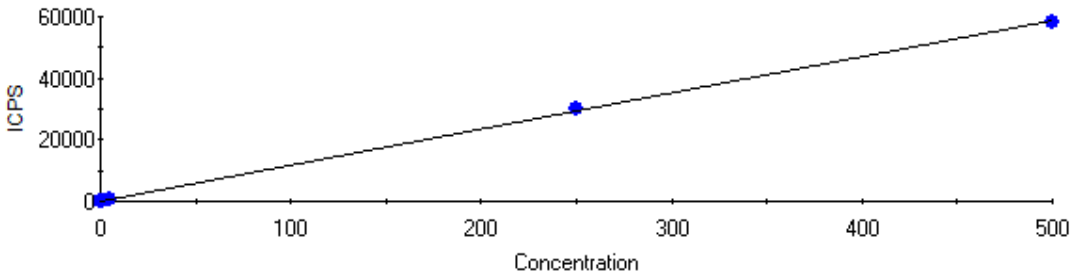
78Se FQ Block 1



Intercept CPS=637.365748 Intercept Conc=2.206243
Sensitivity=288.891911 Correlation Coeff=0.999887

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	637.37	0.00
cal1 MW9444	1.000	1.027	0.027	933.93	2.66
cal2 MW9445	5.000	4.840	0.160	2035.56	3.20
cal3 MW9403	250.000	256.166	6.166	74641.55	2.47
cal4 MW9404	500.000	496.919	3.081	144193.16	0.62

82Se FQ Block 1



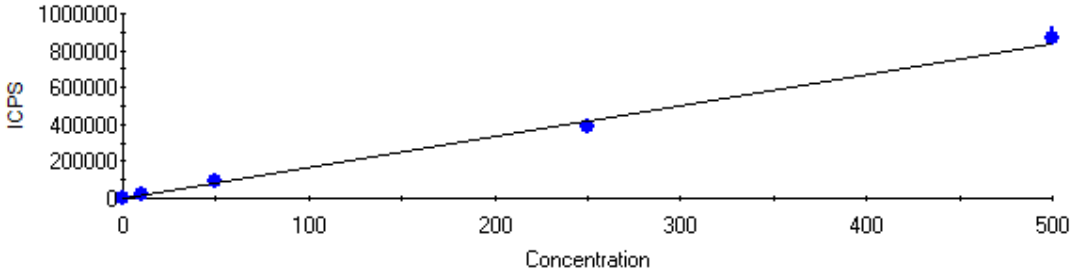
Intercept CPS=123.824947 Intercept Conc=1.054729
Sensitivity=117.399763 Correlation Coeff=0.999862

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	-0.000	0.000	123.82	0.00
cal1 MW9444	1.000	1.106	0.106	253.68	10.61
cal2 MW9445	5.000	4.828	0.172	690.68	3.43
cal3 MW9403	250.000	256.807	6.807	30272.87	2.72
cal4 MW9404	500.000	496.598	3.402	58424.33	0.68

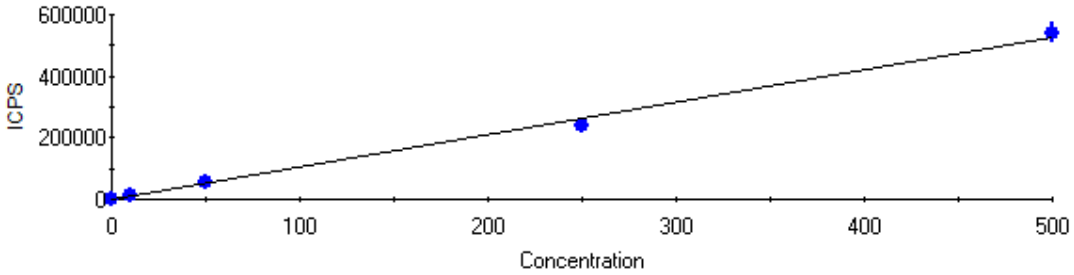
95Mo FQ Block 1



Intercept CPS=819.838500 Intercept Conc=0.489702
Sensitivity=1674.158106 Correlation Coeff=0.998084

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	819.84	0.00
cal1 MW9444	10.000	10.036	0.036	17621.79	0.36
cal2 MW9445	50.000	53.476	3.476	90347.25	6.95
cal3 MW9403	250.000	228.682	21.318	383669.21	8.53
cal4 MW9404	500.000	519.281	19.281	870177.82	3.86

97Mo FQ Block 1

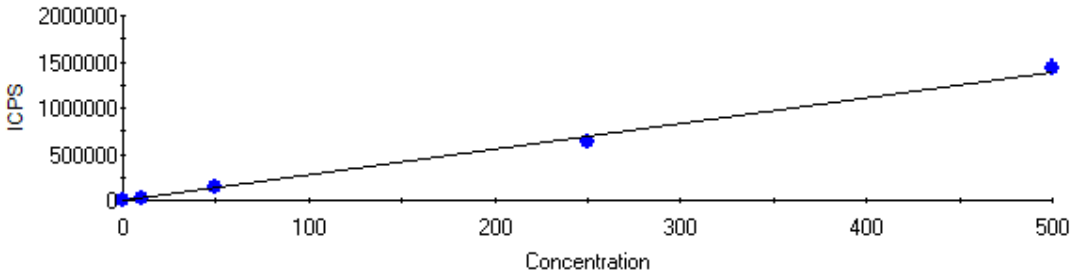


Intercept CPS=413.282622 Intercept Conc=0.393543
Sensitivity=1050.159284 Correlation Coeff=0.998323

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	413.28	0.00
cal1 MW9444	10.000	10.167	0.167	11090.04	1.67
cal2 MW9445	50.000	52.977	2.977	56047.57	5.95
cal3 MW9403	250.000	228.151	21.849	240008.25	8.74
cal4 MW9404	500.000	513.437	13.437	539604.29	2.69

PDF created with pdfFactory trial version www.pdffactory.com

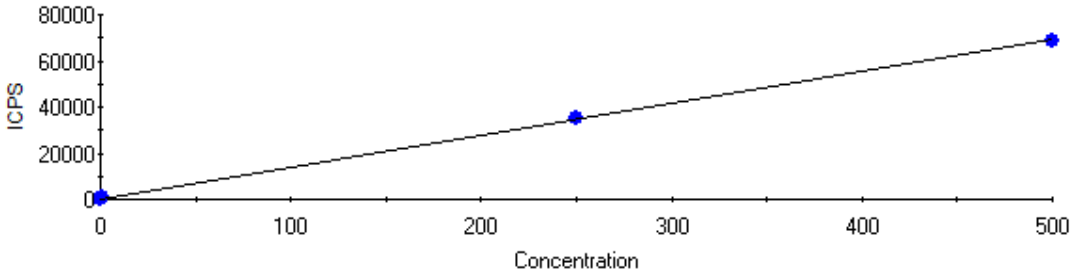
98Mo FQ Block 1



Intercept CPS=1263.245337 Intercept Conc=0.456098
Sensitivity=2769.679032 Correlation Coeff=0.997871

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1263.25	0.00
cal1 MW9444	10.000	9.693	0.307	28110.90	3.07
cal2 MW9445	50.000	52.101	2.101	145566.22	4.20
cal3 MW9403	250.000	225.694	24.306	626362.31	9.72
cal4 MW9404	500.000	517.015	17.015	1433228.66	3.40

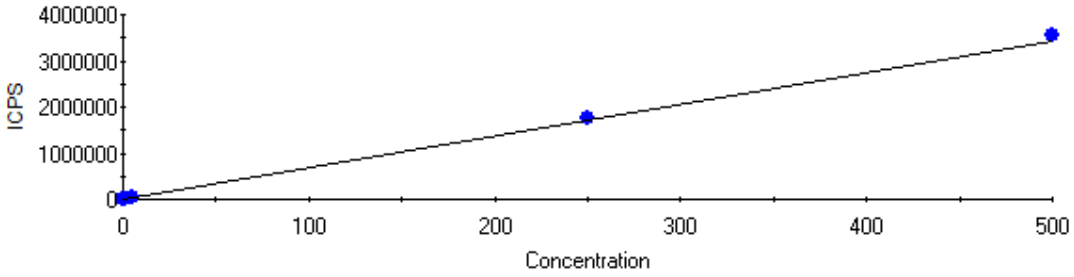
106Cd FQ Block 1



Intercept CPS=335.959951 Intercept Conc=2.444039
Sensitivity=137.460949 Correlation Coeff=0.999987

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	335.96	0.00
cal1 MW9444	0.100	0.478	0.378	401.67	377.99
cal2 MW9445	0.500	2.212	1.712	639.99	342.36
cal3 MW9403	250.000	252.015	2.015	34978.16	0.81
cal4 MW9404	500.000	498.991	1.009	68927.71	0.20

107Ag FQ Block 1



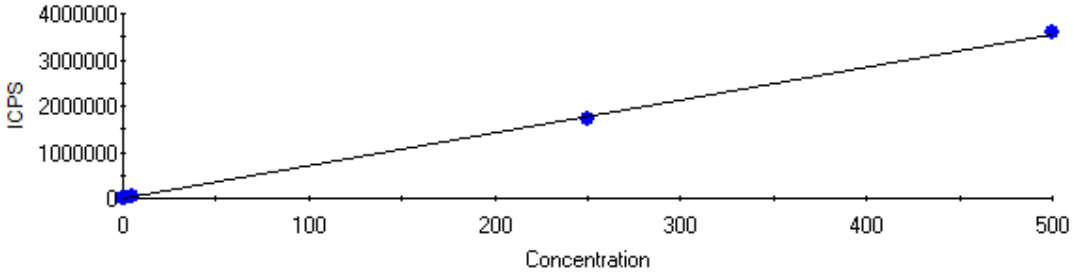
Intercept CPS=66.578934 Intercept Conc=0.009671
Sensitivity=6884.498152 Correlation Coeff=0.999967

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	-0.000	0.000	66.58	0.00
cal1 MW9444	1.000	0.969	0.031	6740.68	3.06
cal2 MW9445	5.000	4.765	0.235	32873.04	4.69
cal3 MW9403	250.000	252.332	2.332	1737242.83	0.93
cal4 MW9404	500.000	513.404	13.404	3534592.98	2.68

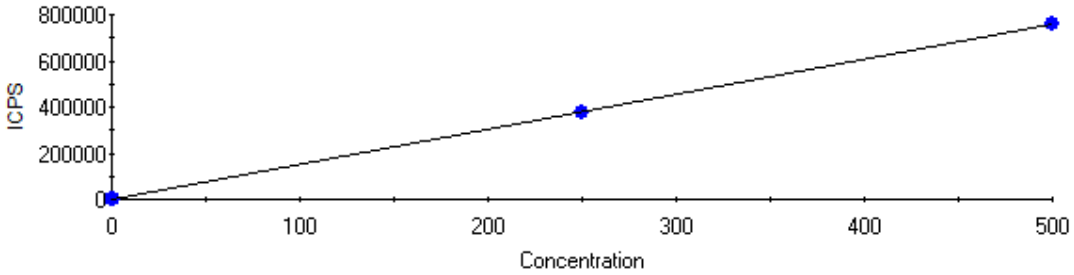
109Ag FQ Block 1



Intercept CPS=68.014831 Intercept Conc=0.009574
Sensitivity=7104.167405 Correlation Coeff=0.999803

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	68.01	0.00
cal1 MW9444	1.000	0.901	0.099	6472.05	9.86
cal2 MW9445	5.000	4.547	0.453	32369.14	9.06
cal3 MW9403	250.000	241.744	8.256	1717461.32	3.30
cal4 MW9404	500.000	504.132	4.132	3581509.59	0.83

111Cd FQ Block 1

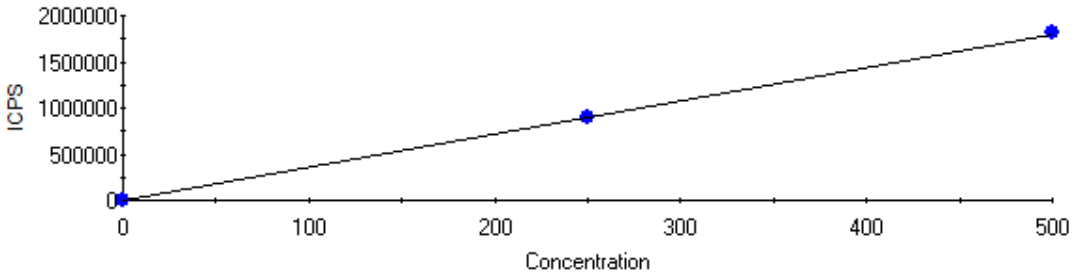


Intercept CPS=6.934427 Intercept Conc=0.004586
Sensitivity=1511.948344 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	6.93	0.00
cal1 MW9444	0.100	0.073	0.027	116.69	27.41
cal2 MW9445	0.500	0.371	0.129	567.55	25.84
cal3 MW9403	250.000	249.042	0.958	376545.69	0.38
cal4 MW9404	500.000	500.479	0.479	756705.48	0.10

PDF created with pdfFactory trial version www.pdffactory.com

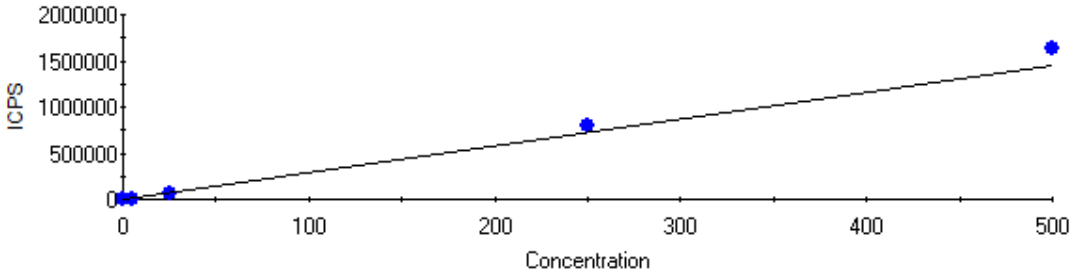
114Cd FQ Block 1



Intercept CPS=17.133462 Intercept Conc=0.004746
Sensitivity=3610.243736 Correlation Coeff=0.999981

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	17.13	0.00
cal1 MW9444	0.100	0.104	0.004	391.25	3.63
cal2 MW9445	0.500	0.455	0.045	1660.08	8.98
cal3 MW9403	250.000	247.304	2.696	892845.92	1.08
cal4 MW9404	500.000	500.970	0.970	1808641.99	0.19

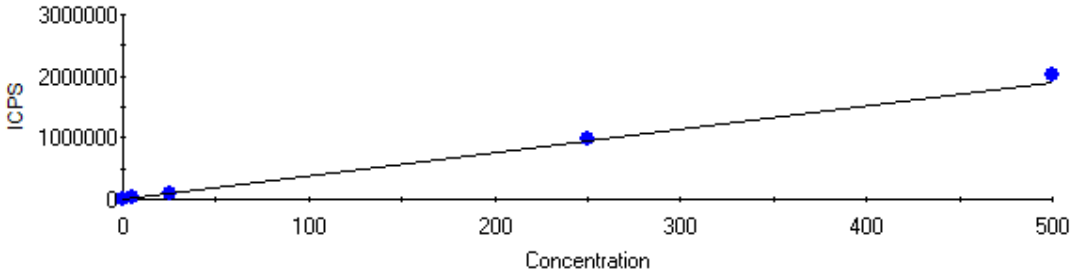
116Sn FQ Block 1



Intercept CPS=185.431641 Intercept Conc=0.063587
Sensitivity=2916.207765 Correlation Coeff=0.999795

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	185.43	0.00
cal1 MW9444	5.000	3.331	1.669	9900.70	33.37
cal2 MW9445	25.000	18.144	6.856	53098.47	27.42
cal3 MW9403	250.000	270.353	20.353	788591.38	8.14
cal4 MW9404	500.000	560.232	60.232	1633939.15	12.05

118Sn FQ Block 1



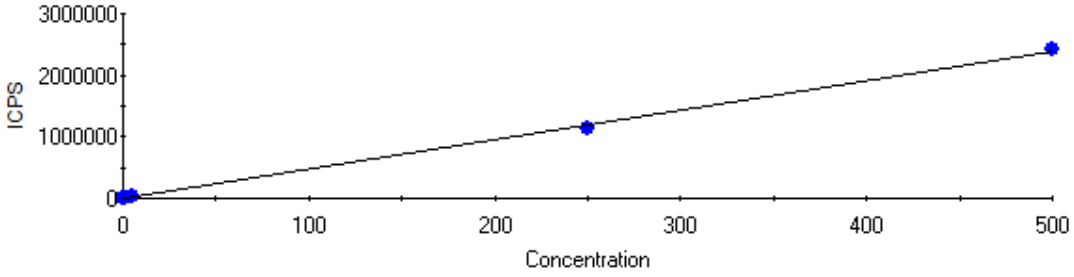
Intercept CPS=655.050425 Intercept Conc=0.172489
Sensitivity=3797.629130 Correlation Coeff=0.999766

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	-0.000	0.000	655.05	0.00
cal1 MW9444	5.000	4.274	0.726	16887.23	14.51
cal2 MW9445	25.000	23.789	1.211	90997.88	4.84
cal3 MW9403	250.000	254.075	4.075	965536.53	1.63
cal4 MW9404	500.000	532.146	32.146	2021546.66	6.43

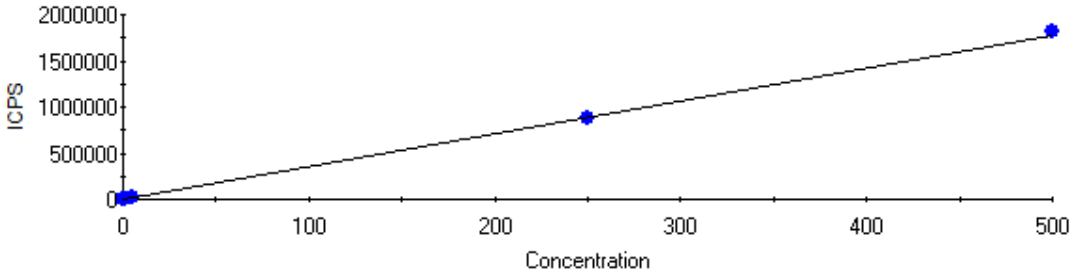
121Sb FQ Block 1



Intercept CPS=513.344597 Intercept Conc=0.107756
Sensitivity=4763.973881 Correlation Coeff=0.999670

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	513.34	0.00
cal1 MW9444	1.000	0.900	0.100	4800.63	10.01
cal2 MW9445	5.000	4.540	0.460	22142.34	9.20
cal3 MW9403	250.000	239.315	10.685	1140602.78	4.27
cal4 MW9404	500.000	505.347	5.347	2407975.16	1.07

123Sb FQ Block 1

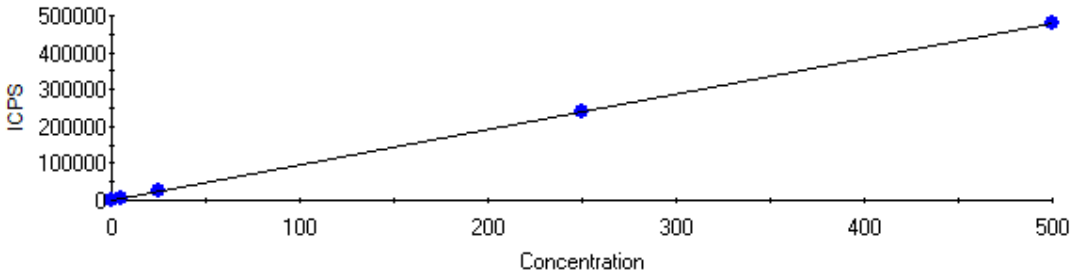


Intercept CPS=432.007309 Intercept Conc=0.122027
Sensitivity=3540.250748 Correlation Coeff=0.999774

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	432.01	0.00
cal1 MW9444	1.000	0.912	0.088	3662.31	8.75
cal2 MW9445	5.000	4.719	0.281	17137.40	5.63
cal3 MW9403	250.000	246.325	3.675	872482.76	1.47
cal4 MW9404	500.000	515.241	15.241	1824512.65	3.05

PDF created with pdfFactory trial version www.pdffactory.com

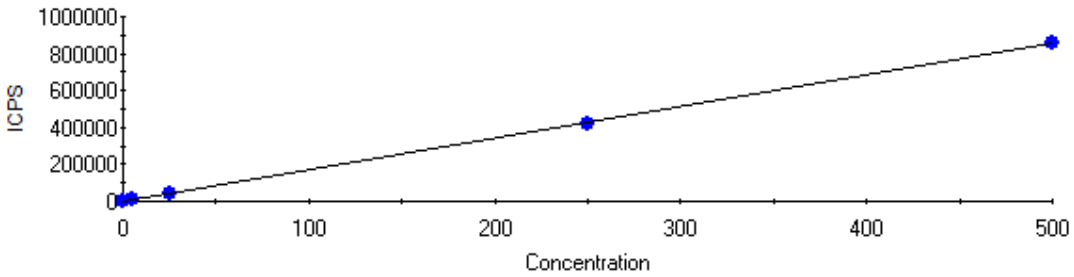
135Ba FQ Block 1



Intercept CPS=35.959484 Intercept Conc=0.037515
Sensitivity=958.531645 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	35.96	0.00
cal1 MW9444	5.000	5.193	0.193	5013.88	3.87
cal2 MW9445	25.000	25.018	0.018	24016.51	0.07
cal3 MW9403	250.000	249.576	0.424	239262.53	0.17
cal4 MW9404	500.000	500.209	0.209	479502.24	0.04

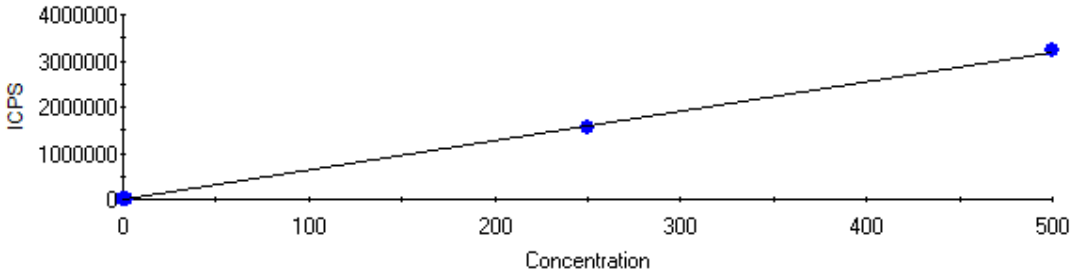
137Ba FQ Block 1



Intercept CPS=59.997950 Intercept Conc=0.035196
Sensitivity=1704.657693 Correlation Coeff=0.999968

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	60.00	0.00
cal1 MW9444	5.000	4.899	0.101	8411.03	2.02
cal2 MW9445	25.000	24.978	0.022	42639.33	0.09
cal3 MW9403	250.000	246.743	3.257	420671.53	1.30
cal4 MW9404	500.000	501.631	1.631	855168.87	0.33

203Tl FQ Block 1



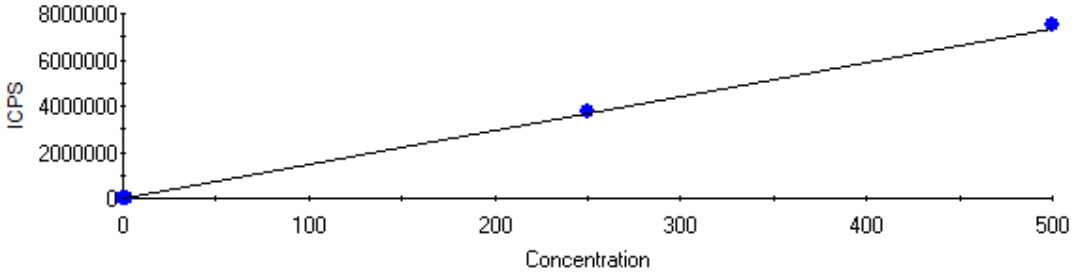
Intercept CPS=106.644512 Intercept Conc=0.016714
Sensitivity=6380.564287 Correlation Coeff=0.999770

Label	Defined	Measured	Error	Mean CPS	% Error

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01	0.000	0.000	0.000	106.64	0.00
cal1 MW9444	0.500	0.451	0.049	2984.41	9.80
cal2 MW9445	2.500	2.319	0.181	14903.85	7.24
cal3 MW9403	250.000	241.090	8.910	1538398.67	3.56
cal4 MW9404	500.000	504.456	4.456	3218819.39	0.89

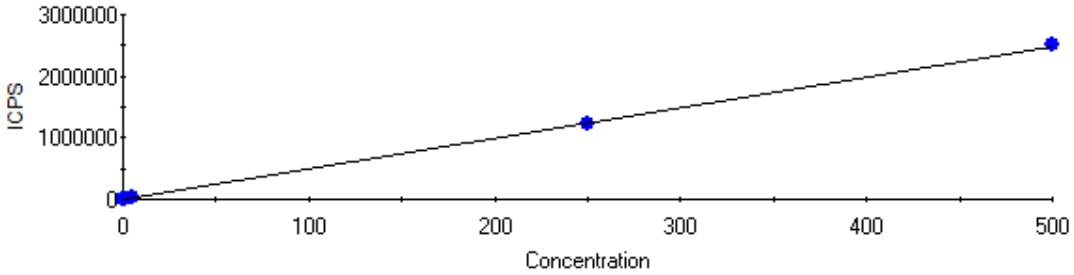
205Tl FQ Block 1



Intercept CPS=253.382772 Intercept Conc=0.017159
Sensitivity=14767.133030 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	253.38	0.00
cal1 MW9444	0.500	0.472	0.028	7223.03	5.61
cal2 MW9445	2.500	2.412	0.088	35874.56	3.51
cal3 MW9403	250.000	253.137	3.137	3738367.98	1.25
cal4 MW9404	500.000	507.605	7.605	7496126.57	1.52

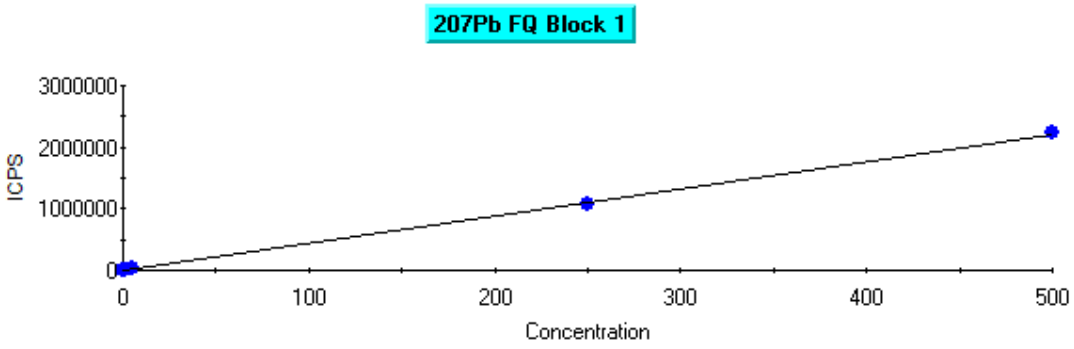
206Pb FQ Block 1



Intercept CPS=82.691235 Intercept Conc=0.016605
Sensitivity=4979.764306 Correlation Coeff=0.999922

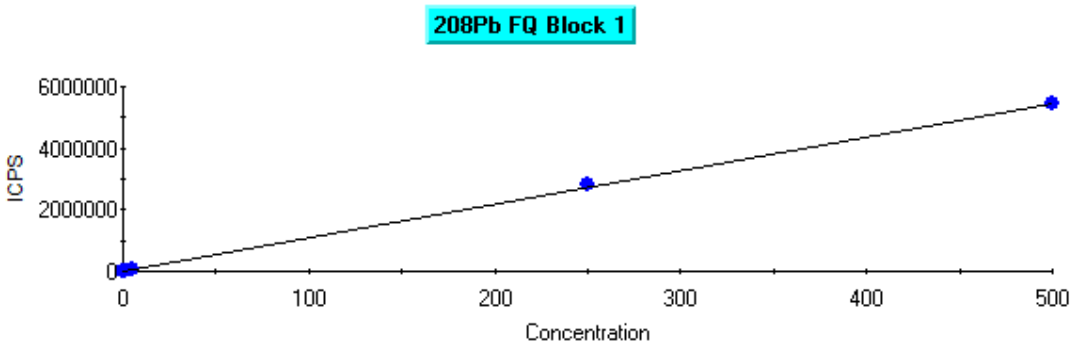
Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	82.69	0.00
cal1 MW9444	1.000	1.019	0.019	5156.18	1.88
cal2 MW9445	5.000	4.816	0.184	24063.27	3.69
cal3 MW9403	250.000	244.833	5.167	1219291.87	2.07
cal4 MW9404	500.000	502.585	2.585	2502839.79	0.52

PDF created with pdfFactory trial version www.pdffactory.com



Intercept CPS=69.341425 Intercept Conc=0.015704
Sensitivity=4415.620611 Correlation Coeff=0.999919

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	69.34	0.00
cal1 MW9444	1.000	1.032	0.032	4626.42	3.20
cal2 MW9445	5.000	4.766	0.234	21114.01	4.68
cal3 MW9403	250.000	244.728	5.272	1080696.77	2.11
cal4 MW9404	500.000	502.638	2.638	2219528.56	0.53



Intercept CPS=198.589551 Intercept Conc=0.018133
Sensitivity=10951.977807 Correlation Coeff=0.999921

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	198.59	0.00
cal1 MW9444	1.000	0.951	0.049	10610.28	4.93
cal2 MW9445	5.000	4.688	0.312	51540.61	6.24
cal3 MW9403	250.000	255.099	5.099	2794035.37	2.04
cal4 MW9404	500.000	497.454	2.546	5448301.59	0.51

PDF created with pdfFactory trial version www.pdffactory.com

Dilution Corrected Concentrations

TUNE MW9396 5/19/2017 12:32:33

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	97.8%	0.070	0.213	0.735	14.590	9.080	8.829	8.986	2.408
2	12:33:26	99.2%	0.058	0.237	0.948	13.970	8.602	7.723	8.822	2.388
3	12:33:51	102.9%	0.062	0.124	0.665	13.950	8.897	8.942	8.286	2.418
x		100.0%	0.063	0.191	0.783	14.170	8.860	8.498	8.698	2.405
σ		2.6%	0.006	0.059	0.148	0.366	0.241	0.673	0.366	0.015
%RSD		2.6	9.645	31.020	18.850	2.586	2.722	7.924	4.213	0.632

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	6.770	68.180	10.240	17.710	13.990	99.4%	0.102	0.113	0.059
2	12:33:26	T -2.439	69.060	9.823	16.540	14.190	100.1%	0.086	0.138	0.070
3	12:33:51	T -3.149	67.690	9.076	15.420	12.510	100.6%	0.085	0.144	0.074
x		T 0.394	68.310	9.714	16.550	13.560	100.0%	0.091	0.132	0.068
σ		T 5.533	0.693	0.592	1.144	0.916	0.6%	0.009	0.017	0.008
%RSD		T 1405.000	1.014	6.090	6.909	6.755	0.6	10.380	12.680	11.590

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	-0.032	0.074	10.720	9.493	0.059	0.050	0.075	0.055	0.089
2	12:33:26	-0.047	0.072	10.800	10.710	0.042	0.077	0.103	0.083	0.141
3	12:33:51	-0.069	0.071	10.290	9.077	0.044	0.081	0.064	0.098	0.226
x		-0.049	0.072	10.600	9.759	0.048	0.069	0.081	0.079	0.152
σ		0.019	0.001	0.274	0.848	0.009	0.017	0.020	0.022	0.069
%RSD		38.070	1.921	2.581	8.686	19.290	24.260	25.020	27.950	45.630

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	-0.024	0.121	1.327	8.543	-0.234	4.763	99.4%	0.299	0.389
2	12:33:26	0.023	0.016	1.164	8.309	-0.178	3.599	99.6%	0.363	0.379
3	12:33:51	0.065	0.071	1.515	7.976	-0.024	3.834	101.1%	0.454	0.383
x		0.022	0.069	1.335	8.276	-0.145	4.065	100.0%	0.372	0.384
σ		0.045	0.052	0.176	0.285	0.109	0.616	0.9%	0.078	0.005
%RSD		208.200	75.590	13.150	3.442	75.010	15.140	0.9	20.900	1.227

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	0.255	-0.142	0.049	-0.846	0.032	0.044	0.056	98.2%	0.091
2	12:33:26	0.440	0.457	0.050	-1.088	0.032	0.042	0.043	100.7%	0.084
3	12:33:51	0.308	-0.114	0.048	-0.842	0.042	0.043	0.054	101.1%	0.087
x		0.334	0.067	0.049	-0.925	0.036	0.043	0.051	100.0%	0.087
σ		0.096	0.338	0.001	0.141	0.006	0.001	0.007	1.6%	0.004
%RSD		28.570	506.700	2.758	15.240	16.080	2.164	13.740	1.6	4.122

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:00	0.053	0.154	0.155	0.085	0.053	98.8%	0.043	0.048	0.059
2	12:33:26	0.136	0.129	0.163	0.046	0.058	99.7%	0.043	0.053	0.050
3	12:33:51	0.069	0.144	0.153	0.131	0.053	101.5%	0.053	0.054	0.062
x		0.086	0.142	0.157	0.088	0.055	100.0%	0.046	0.052	0.057
σ		0.044	0.013	0.005	0.043	0.003	1.4%	0.006	0.003	0.006
%RSD		51.470	8.792	3.319	49.000	5.894	1.4	12.530	5.831	11.170

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:33:00	0.058	0.050	98.5%
2	12:33:26	0.048	0.046	99.9%
3	12:33:51	0.046	0.050	101.6%
x		0.050	0.048	100.0%
σ		0.006	0.002	1.5%
%RSD		12.750	5.143	1.5

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01 5/19/2017 12:37:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	97.6%	-0.003	0.294	0.022	0.335	0.112	0.143	-0.004	0.014
2	12:38:48	99.5%	0.007	-0.404	-0.195	0.142	0.084	0.235	0.177	0.108
3	12:39:14	102.9%	-0.004	0.111	0.173	-0.477	-0.197	-0.378	-0.173	-0.122
x		100.0%	0.000	-0.000	0.000	0.000	0.000	0.000	-0.000	0.000
σ		2.7%	0.006	0.362	0.185	0.424	0.171	0.330	0.175	0.116
%RSD		2.7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	6.297	-0.221	0.490	0.672	-0.436	99.8%	0.008	0.073	0.003
2	12:38:48	T -2.514	-1.158	-0.539	0.184	0.460	101.4%	0.027	0.082	-0.010
3	12:39:14	T -3.783	1.379	0.049	-0.856	-0.023	98.8%	-0.035	0.076	0.006
x		T 0.000	-0.000	-0.000	-0.000	0.000	100.0%	0.000	0.077	0.000
σ		T 5.490	1.283	0.516	0.780	0.448	1.3%	0.031	0.005	0.008
%RSD		T 0.000	0.000	0.000	0.000	0.000	1.3	0.000	5.862	0.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	0.002	0.004	0.704	0.171	-0.001	0.007	-0.006	0.001	-0.001
2	12:38:48	-0.004	-0.002	-0.861	-0.286	0.001	-0.013	0.014	-0.002	-0.000
3	12:39:14	0.001	-0.003	0.157	0.116	-0.000	0.006	-0.008	0.001	0.002
x		0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000
σ		0.003	0.004	0.794	0.249	0.001	0.011	0.012	0.002	0.002
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	-0.069	-0.016	-0.156	-0.271	-0.510	0.181	99.1%	-0.030	0.034
2	12:38:48	0.113	-0.038	0.080	0.624	0.527	-0.577	99.9%	0.026	-0.007
3	12:39:14	-0.044	0.054	0.076	-0.353	-0.017	0.395	101.0%	0.004	-0.027
x		0.000	-0.000	0.000	0.000	-0.000	0.000	100.0%	-0.000	0.000
σ		0.099	0.048	0.135	0.542	0.519	0.511	1.0%	0.028	0.031
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	1.0	0.000	0.000

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	-0.060	-0.211	-0.001	0.091	-0.001	-0.001	0.001	99.0%	0.003
2	12:38:48	0.004	0.348	-0.000	-0.137	0.003	0.002	0.000	100.2%	0.004
3	12:39:14	0.056	-0.136	0.002	0.047	-0.002	-0.001	-0.001	100.8%	-0.007
x		0.000	0.000	-0.000	-0.000	-0.000	-0.000	0.000	100.0%	0.000
σ		0.058	0.303	0.002	0.121	0.003	0.002	0.001	0.9%	0.006
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.9	0.000

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:38:22	-0.032	-0.000	-0.003	-0.004	0.000	98.5%	-0.001	0.000	0.001
2	12:38:48	0.053	-0.000	0.009	-0.008	-0.002	100.5%	0.002	-0.000	0.000
3	12:39:14	-0.021	0.001	-0.005	0.012	0.002	101.0%	-0.001	-0.000	-0.001
x		-0.000	0.000	0.000	0.000	0.000	100.0%	0.000	0.000	-0.000
σ		0.047	0.001	0.008	0.011	0.002	1.4%	0.002	0.000	0.001
%RSD		0.000	0.000	0.000	0.000	0.000	1.4	0.000	0.000	0.000

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:38:22	-0.000	-0.000	98.4%
2	12:38:48	0.001	-0.003	100.5%
3	12:39:14	-0.001	0.003	101.0%
x		-0.000	0.000	100.0%
σ		0.001	0.003	1.4%
%RSD		0.000	0.000	1.4

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9444 5/19/2017 12:43:15

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	96.9%	0.474	25.800	23.860	180.700	42.610	40.370	42.530	37.200
2	12:44:07	101.3%	0.401	23.870	23.880	169.700	42.180	40.730	39.900	37.000
3	12:44:33	103.6%	0.362	25.500	23.620	173.400	41.900	40.390	40.030	39.390
x		100.6%	0.412	25.060	23.790	174.600	42.230	40.500	40.820	37.860
σ		3.4%	0.057	1.038	0.144	5.551	0.361	0.206	1.483	1.330
%RSD		3.4	13.760	4.144	0.607	3.179	0.855	0.507	3.634	3.512

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	T 96.140	-1.495	207.100	205.000	174.000	101.2%	4.881	4.763	0.959
2	12:44:07	93.250	-0.150	206.900	196.400	171.100	100.9%	5.178	4.667	0.975
3	12:44:33	T 92.700	0.847	211.000	205.000	176.900	99.2%	5.056	4.861	1.026
x		T 94.030	-0.266	208.300	202.200	174.000	100.4%	5.038	4.764	0.987
σ		T 1.846	1.175	2.319	4.945	2.921	1.1%	0.149	0.097	0.035
%RSD		T 1.963	441.700	1.113	2.446	1.679	1.1	2.963	2.037	3.511

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	0.004	4.739	18.430	20.510	4.825	5.069	1.003	1.017	10.620
2	12:44:07	0.010	4.766	17.290	18.930	4.723	5.081	0.975	1.096	10.690
3	12:44:33	0.012	4.916	19.370	20.470	4.909	5.014	0.990	1.119	10.410
x		0.009	4.807	18.360	19.970	4.819	5.055	0.989	1.077	10.580
σ		0.004	0.095	1.037	0.903	0.093	0.036	0.014	0.053	0.147
%RSD		44.320	1.986	5.647	4.523	1.929	0.705	1.420	4.954	1.387

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	0.923	0.796	-0.208	-0.058	1.260	-0.528	98.5%	9.467	9.640
2	12:44:07	0.924	1.307	-0.274	-0.636	1.012	-0.020	100.4%	10.000	9.829
3	12:44:33	0.947	0.977	-0.182	-0.173	1.046	-0.581	100.3%	10.640	11.030
x		0.931	1.027	-0.221	-0.289	1.106	-0.377	99.7%	10.040	10.170
σ		0.014	0.259	0.047	0.306	0.135	0.310	1.1%	0.587	0.754
%RSD		1.466	25.220	21.420	105.900	12.190	82.210	1.1	5.846	7.420

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	9.244	0.660	0.985	-0.195	0.891	0.090	0.075	97.7%	3.213
2	12:44:07	9.785	0.651	0.984	-0.178	0.902	0.079	0.132	99.8%	3.293
3	12:44:33	10.050	0.123	0.939	0.069	0.911	0.049	0.104	100.5%	3.489
x		9.693	0.478	0.969	-0.101	0.901	0.073	0.104	99.3%	3.331
σ		0.412	0.308	0.026	0.148	0.010	0.021	0.029	1.5%	0.142
%RSD		4.249	64.410	2.712	146.100	1.108	29.450	27.590	1.5	4.264

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:43:41	4.105	0.950	0.876	5.164	4.933	97.9%	0.447	0.470	1.007
2	12:44:07	4.381	0.910	0.957	5.198	4.913	100.7%	0.472	0.468	1.022
3	12:44:33	4.336	0.840	0.905	5.218	4.850	101.4%	0.434	0.478	1.027
x		4.274	0.900	0.913	5.193	4.899	100.0%	0.451	0.472	1.019
σ		0.148	0.056	0.041	0.028	0.043	1.9%	0.019	0.005	0.010
%RSD		3.467	6.228	4.501	0.530	0.882	1.9	4.244	1.053	1.007

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:43:41	1.052	0.941	98.2%
2	12:44:07	1.012	0.973	100.2%
3	12:44:33	1.032	0.938	101.7%
x		1.032	0.951	100.0%
σ		0.020	0.019	1.8%
%RSD		1.971	2.034	1.8

PDF created with pdfFactory trial version www.pdffactory.com

cal2 MW9445 5/19/2017 12:48:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	95.8%	2.101	127.400	122.000	T 928.500	226.400	212.200	216.900	195.500
2	12:49:27	97.5%	2.089	122.200	120.000	T 900.200	226.000	213.400	218.300	200.500
3	12:49:53	97.0%	2.117	127.900	123.500	T 918.000	229.400	217.900	217.500	204.500
x		96.8%	2.102	125.800	121.800	T 915.600	227.300	214.500	217.600	200.200
σ		0.9%	0.014	3.143	1.749	T 14.310	1.823	3.025	0.686	4.501
%RSD		0.9	0.672	2.498	1.436	T 1.563	0.802	1.410	0.315	2.248

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	T 475.900	-0.497	T 1043.000	1052.000	882.000	99.5%	24.570	23.840	4.699
2	12:49:27	T 468.800	2.256	T 1057.000	1005.000	881.400	98.9%	24.600	23.910	4.869
3	12:49:53	T 483.000	2.098	T 1089.000	1020.000	927.500	96.8%	25.280	25.230	4.934
x		T 475.900	1.285	T 1063.000	1026.000	897.000	98.4%	24.820	24.330	4.834
σ		T 7.125	1.546	T 23.420	23.740	26.400	1.4%	0.400	0.784	0.122
%RSD		T 1.497	120.200	T 2.204	2.314	2.944	1.4	1.611	3.223	2.513

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	0.098	23.550	100.700	100.900	24.210	24.920	4.777	4.929	50.600
2	12:49:27	-0.052	24.080	102.800	101.200	24.020	24.610	4.934	5.338	50.180
3	12:49:53	0.010	24.550	106.000	104.500	24.630	25.540	4.966	5.370	52.040
x		0.018	24.060	103.200	102.200	24.290	25.020	4.892	5.212	50.940
σ		0.075	0.499	2.665	1.988	0.309	0.477	0.101	0.246	0.975
%RSD		412.700	2.074	2.583	1.946	1.273	1.905	2.069	4.720	1.913

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	5.146	4.686	0.324	-0.819	4.674	-1.660	97.6%	51.570	50.790
2	12:49:27	5.030	4.873	-0.057	-0.410	5.066	-0.507	98.2%	52.290	52.050
3	12:49:53	5.236	4.960	0.031	-0.298	4.745	-2.081	97.1%	56.570	56.100
x		5.138	4.840	0.099	-0.509	4.828	-1.416	97.6%	53.480	52.980
σ		0.103	0.140	0.199	0.274	0.209	0.815	0.6%	2.706	2.775
%RSD		2.009	2.900	201.200	53.810	4.324	57.540	0.6	5.061	5.239

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	50.660	1.871	4.683	-0.013	4.423	0.324	0.468	96.4%	17.610
2	12:49:27	50.960	2.808	4.745	-0.442	4.488	0.396	0.431	98.6%	17.790
3	12:49:53	54.680	1.957	4.868	-0.297	4.729	0.392	0.466	97.2%	19.030
x		52.100	2.212	4.765	-0.250	4.547	0.371	0.455	97.4%	18.140
σ		2.240	0.518	0.094	0.218	0.161	0.040	0.021	1.1%	0.774
%RSD		4.300	23.410	1.978	87.110	3.543	10.850	4.634	1.2	4.264

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:49:01	23.030	4.458	4.577	24.350	24.850	97.4%	2.240	2.360	4.721
2	12:49:27	23.760	4.374	4.747	24.940	24.370	99.2%	2.393	2.404	4.807
3	12:49:53	24.580	4.788	4.833	25.760	25.720	98.9%	2.325	2.473	4.918
x		23.790	4.540	4.719	25.020	24.980	98.5%	2.319	2.412	4.816
σ		0.778	0.219	0.130	0.712	0.685	1.0%	0.077	0.057	0.099
%RSD		3.270	4.823	2.762	2.848	2.743	1.0	3.313	2.377	2.052

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:49:01	4.696	4.674	97.4%
2	12:49:27	4.678	4.670	98.9%
3	12:49:53	4.924	4.719	98.5%
x		4.766	4.688	98.3%
σ		0.137	0.027	0.8%
%RSD		2.877	0.574	0.8

PDF created with pdfFactory trial version www.pdffactory.com

cal3 MW9403 5/19/2017 12:53:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	91.4%	254.800	245.900	238.800	219.300	224.000	213.300	221.300	244.900
2	12:54:46	94.1%	253.500	251.700	247.400	217.900	222.100	206.600	212.800	238.800
3	12:55:12	94.3%	248.800	247.000	252.100	218.300	220.800	208.400	213.800	249.600
x		93.3%	252.400	248.200	246.100	218.500	222.300	209.500	216.000	244.400
σ		1.6%	3.168	3.075	6.750	0.719	1.585	3.471	4.611	5.440
%RSD		1.8	1.255	1.239	2.743	0.329	0.713	1.657	2.135	2.226

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	251.800	1.411	246.000	501.600	324.700	95.8%	249.400	255.400	255.400
2	12:54:46	T 242.000	1.043	243.900	468.700	322.600	96.8%	249.700	250.800	T 241.000
3	12:55:12	246.200	0.139	248.500	468.400	317.100	94.1%	250.800	257.500	T 249.300
x		T 246.700	0.864	246.100	479.600	321.500	95.6%	250.000	254.600	T 248.600
σ		T 4.941	0.655	2.328	19.080	3.928	1.4%	0.737	3.462	T 7.236
%RSD		T 2.003	75.760	0.946	3.978	1.222	1.4	0.295	1.360	T 2.911

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	-5.995	257.600	268.200	238.500	255.400	247.000	245.500	251.000	251.100
2	12:54:46	-2.700	256.700	265.200	244.300	254.500	243.100	245.900	242.600	246.000
3	12:55:12	-3.837	262.700	273.800	251.800	261.300	242.400	253.100	248.900	250.000
x		-4.177	259.000	269.100	244.800	257.000	244.200	248.200	247.500	249.000
σ		1.674	3.211	4.360	6.675	3.685	2.466	4.265	4.356	2.691
%RSD		40.070	1.240	1.620	2.726	1.434	1.010	1.719	1.760	1.080

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	255.500	255.700	0.037	-0.714	261.100	-1.578	94.9%	220.200	218.400
2	12:54:46	251.100	255.900	-0.099	-0.741	251.900	0.808	95.4%	223.000	224.200
3	12:55:12	253.300	256.900	0.049	-0.692	257.400	0.197	96.0%	242.900	241.800
x		253.300	256.200	-0.004	-0.716	256.800	-0.191	95.4%	228.700	228.200
σ		2.168	0.660	0.082	0.025	4.658	1.239	0.6%	12.350	12.200
%RSD		0.856	0.258	1860.000	3.471	1.814	648.200	0.6	5.401	5.349

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	216.900	251.800	251.900	-2.113	239.900	246.400	247.300	94.7%	266.400
2	12:54:46	221.300	250.300	250.600	-2.958	241.000	248.500	243.800	96.3%	269.800
3	12:55:12	238.800	254.000	254.500	0.335	244.400	252.300	250.700	97.0%	274.800
x		225.700	252.000	252.300	-1.578	241.700	249.000	247.300	96.0%	270.400
σ		11.570	1.832	1.983	1.710	2.334	2.998	3.452	1.2%	4.224
%RSD		5.128	0.727	0.786	108.400	0.965	1.204	1.396	1.2	1.562

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:54:20	249.700	236.400	243.700	248.400	244.900	95.8%	239.300	T 251.200	T 241.000
2	12:54:46	254.100	239.200	245.700	250.200	246.200	97.6%	239.500	T 251.200	246.000
3	12:55:12	258.500	242.400	249.600	250.200	249.200	97.5%	244.500	T 257.000	T 247.500
x		254.100	239.300	246.300	249.600	246.700	97.0%	241.100	T 253.100	T 244.800
σ		4.390	2.966	2.998	1.031	2.215	1.0%	2.967	T 3.351	T 3.396
%RSD		1.728	1.239	1.217	0.413	0.898	1.1	1.230	T 1.324	T 1.387

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:54:20	242.900	250.200	96.1%
2	12:54:46	241.700	253.500	98.5%
3	12:55:12	249.500	261.500	98.8%
x		244.700	255.100	97.8%
σ		4.194	5.794	1.5%
%RSD		1.714	2.271	1.5

PDF created with pdfFactory trial version www.pdffactory.com

cal4 MW9404 5/19/2017 12:59:15

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	92.0%	M 510.200	M 510.800	M 502.100	458.100	T 460.500	424.600	440.600	T 495.100
2	13:00:06	93.6%	494.400	492.100	491.900	442.800	T 451.200	424.200	426.600	T 498.600
3	13:00:32	95.1%	491.800	M 502.900	M 514.400	446.100	T 454.400	424.300	424.400	TM 515.000
x		93.6%	M 498.800	M 501.900	M 502.800	449.000	T 455.400	424.300	430.500	TM 502.900
σ		1.6%	M 9.964	M 9.387	M 11.280	8.041	T 4.769	0.198	8.808	TM 10.600
%RSD		1.7	M 1.997	M 1.870	M 2.244	1.791	T 1.047	0.047	2.046	TM 2.109

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	T 513.200	-0.903	500.300	937.800	647.700	95.5%	M 500.400	T 499.900	T 491.600
2	13:00:06	497.600	0.637	503.100	920.700	657.600	95.2%	498.500	TM 502.400	T 499.500
3	13:00:32	500.600	2.356	513.100	921.400	653.900	92.5%	M 516.600	TM 512.100	TM 511.000
x		T 503.800	0.697	505.500	926.600	653.100	94.4%	M 505.200	TM 504.800	TM 500.700
σ		T 8.316	1.630	6.760	9.645	5.016	1.6%	M 9.933	TM 6.444	TM 9.778
%RSD		T 1.651	234.000	1.337	1.041	0.768	1.7	M 1.966	TM 1.277	TM 1.953

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	-6.614	T 490.600	T 462.300	495.500	TM 505.600	M 511.700	M 517.900	M 504.000	494.900
2	13:00:06	-8.880	T 495.200	T 462.300	495.600	TM 502.800	M 501.100	M 513.500	M 501.000	487.200
3	13:00:32	-8.157	TM 506.700	T 478.700	501.700	TM 511.700	495.900	M 530.400	498.700	488.000
x		-7.883	TM 497.500	T 467.800	497.600	TM 506.700	M 502.900	M 520.600	M 501.300	490.000
σ		1.157	TM 8.324	T 9.451	3.579	TM 4.560	M 8.068	M 8.781	M 2.663	4.190
%RSD		14.680	TM 1.673	T 2.021	0.719	TM 0.900	M 1.604	M 1.687	M 0.531	0.855

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	M 508.200	M 500.300	0.164	-0.057	M 501.300	-0.622	93.5%	491.500	485.000
2	13:00:06	M 500.700	491.900	-0.021	-0.335	M 502.500	1.271	95.4%	M 514.000	M 509.000
3	13:00:32	M 502.700	498.500	0.197	-0.512	486.000	-0.348	94.8%	M 552.400	M 546.300
x		M 503.900	M 496.900	0.113	-0.301	M 496.600	0.100	94.6%	M 519.300	M 513.400
σ		M 3.881	M 4.403	0.118	0.229	M 9.234	1.023	1.0%	M 30.800	M 30.880
%RSD		M 0.770	M 0.886	103.900	76.060	M 1.859	1022.000	1.0	M 5.932	M 6.014

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	487.800	M 503.500	M 531.000	-9.152	M 513.100	499.900	499.400	93.2%	M 555.900
2	13:00:06	M 512.500	491.900	TM 507.100	T -249.600	M 507.400	496.000	M 500.100	94.7%	M 554.700
3	13:00:32	M 550.700	M 501.500	TM 502.100	1.067	T 491.900	M 505.500	M 503.400	95.8%	M 570.100
x		M 517.000	M 499.000	TM 513.400	T -85.890	TM 504.100	M 500.500	M 501.000	94.6%	M 560.200
σ		M 31.720	M 6.190	TM 15.460	T 141.900	TM 11.000	M 4.774	M 2.133	1.3%	M 8.523
%RSD		M 6.135	M 1.240	TM 3.011	T 165.200	TM 2.181	M 0.954	M 0.426	1.4	M 1.521

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:59:40	M 525.300	M 501.700	M 509.900	M 502.200	M 502.200	95.6%	M 502.800	TM 505.200	T 499.500
2	13:00:06	M 527.600	M 504.400	M 514.700	499.200	M 501.500	97.2%	M 505.500	TM 507.300	TM 503.700
3	13:00:32	M 543.600	M 509.900	M 521.200	499.200	M 501.200	97.9%	M 505.200	TM 510.300	TM 504.600
x		M 532.100	M 505.300	M 515.200	M 500.200	M 501.600	96.9%	M 504.500	TM 507.600	TM 502.600
σ		M 9.948	M 4.144	M 5.671	M 1.743	M 0.486	1.2%	M 1.483	TM 2.596	TM 2.709
%RSD		M 1.869	M 0.820	M 1.101	M 0.348	M 0.097	1.2	M 0.294	TM 0.511	TM 0.539

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:59:40	M 500.500	T 493.900	95.9%
2	13:00:06	M 504.400	T 493.700	97.6%
3	13:00:32	M 503.100	TM 504.800	99.7%
x		M 502.600	TM 497.500	97.7%
σ		M 1.969	TM 6.360	1.9%
%RSD		M 0.392	TM 1.278	2.0

PDF created with pdfFactory trial version www.pdffactory.com

cal5 MW9446 5/19/2017 13:04:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	82.4%	0.043	3.112	2.664	T 48790.000	T 47510.000	T 47580.000	T 51550.000	-2.158
2	13:05:26	82.2%	0.052	2.192	2.611	T 48810.000	T 47930.000	T 47500.000	T 51520.000	-2.205
3	13:05:52	82.9%	0.030	2.343	2.584	T 49230.000	T 49210.000	T 48970.000	T 52380.000	-2.219
x		82.5%	0.041	2.549	2.620	T 48940.000	T 48220.000	T 48010.000	T 51810.000	-2.194
σ		0.3%	0.011	0.494	0.041	T 248.700	T 887.200	T 827.100	T 485.500	0.032
%RSD		0.4	26.410	19.370	1.561	T 0.508	T 1.840	T 1.723	T 0.937	1.449

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	T 5081.000	-9.288	T 53000.000	47780.000	T 48260.000	T 92.3%	0.761	0.167	0.522
2	13:05:26	T 5037.000	-10.730	T 52790.000	47900.000	T 48590.000	93.2%	0.553	0.126	0.492
3	13:05:52	T 5238.000	-10.230	T 55650.000	50520.000	T 51100.000	90.8%	0.822	0.150	0.538
x		T 5119.000	-10.080	T 53810.000	48730.000	T 49320.000	T 92.1%	0.712	0.148	0.517
σ		T 105.500	0.732	T 1591.000	1546.000	T 1555.000	T 1.2%	0.141	0.021	0.023
%RSD		T 2.061	7.258	T 2.956	3.172	T 3.152	T 1.3	19.810	14.070	4.522

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	-0.020	0.304	T 45860.000	T 51770.000	-0.145	0.799	0.346	0.257	0.619
2	13:05:26	0.039	0.274	T 45680.000	T 52150.000	-0.137	0.778	0.344	0.269	0.495
3	13:05:52	-0.026	0.288	T 48650.000	T 55450.000	-0.123	0.815	0.357	0.296	0.573
x		-0.002	0.289	T 46730.000	T 53120.000	-0.135	0.797	0.349	0.274	0.562
σ		0.036	0.015	T 1665.000	T 2027.000	0.012	0.019	0.007	0.020	0.063
%RSD		1501.000	5.155	T 3.563	T 3.815	8.565	2.326	2.021	7.213	11.190

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	0.017	0.320	0.866	-1.098	-0.156	-0.654	90.5%	1.602	1.608
2	13:05:26	0.103	0.304	0.993	-0.853	-0.032	-2.107	91.8%	1.639	1.605
3	13:05:52	0.142	0.465	0.890	-1.316	0.250	0.614	90.7%	1.635	1.709
x		0.088	0.363	0.917	-1.089	0.021	-0.716	91.0%	1.625	1.641
σ		0.064	0.089	0.067	0.232	0.208	1.361	0.7%	0.020	0.059
%RSD		73.210	24.420	7.343	21.270	1008.000	190.200	0.7	1.227	3.597

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	1.496	0.288	0.190	-0.082	0.153	0.018	0.035	88.9%	0.259
2	13:05:26	1.697	0.141	0.216	-0.010	0.167	0.014	0.034	90.9%	0.288
3	13:05:52	1.670	-0.305	0.190	0.212	0.184	0.003	0.018	89.3%	0.253
x		1.621	0.041	0.198	0.040	0.168	0.012	0.029	89.7%	0.266
σ		0.109	0.309	0.015	0.153	0.015	0.008	0.010	1.0%	0.019
%RSD		6.745	748.000	7.738	383.400	9.186	68.860	33.440	1.2	7.008

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:05:01	0.392	0.707	0.629	0.156	0.172	92.4%	0.018	0.015	0.114
2	13:05:26	0.359	0.697	0.785	0.175	0.280	93.9%	0.011	0.015	0.132
3	13:05:52	0.286	0.693	0.813	0.200	0.219	93.9%	0.007	0.010	0.126
x		0.345	0.699	0.742	0.177	0.224	93.4%	0.012	0.013	0.124
σ		0.054	0.007	0.099	0.022	0.054	0.9%	0.006	0.003	0.009
%RSD		15.680	1.040	13.330	12.410	24.200	0.9	47.830	19.390	7.281

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:05:01	0.114	0.100	86.4%
2	13:05:26	0.136	0.106	89.0%
3	13:05:52	0.144	0.106	88.3%
x		0.131	0.104	87.9%
σ		0.015	0.003	1.4%
%RSD		11.740	3.356	1.6

PDF created with pdfFactory trial version www.pdffactory.com

cal6 MW9447 5/19/2017 13:09:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	72.4%	-0.002	0.725	T -23.550	TM 104300.000	TM 100400.000	TM 100400.000	TM 114000.000	-0.598
2	13:10:48	74.3%	0.054	0.119	0.828	TM 102100.000	T 99010.000	T 99100.000	TM 112600.000	-0.541
3	13:11:14	74.3%	0.040	0.563	0.737	TM 104800.000	TM 103200.000	TM 103400.000	TM 116100.000	-0.403
x		73.6%	0.031	0.469	T -7.329	TM 103700.000	TM 100900.000	TM 101000.000	TM 114200.000	-0.514
σ		1.1%	0.029	0.314	T 14.050	TM 1394.000	TM 2143.000	TM 2220.000	TM 1751.000	0.100
%RSD		1.5	95.070	66.970	T 191.700	TM 1.345	TM 2.124	TM 2.198	TM 1.533	19.490

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	TM 10650.000	-10.670	TM 106600.000	98250.000	T 97620.000	91.1%	1.307	0.120	1.008
2	13:10:48	TM 10620.000	-11.340	TM 107300.000	98720.000	T 98350.000	92.2%	1.436	0.222	0.962
3	13:11:14	TM 11140.000	-9.686	TM 115000.000	M 104900.000	TM 105100.000	89.6%	1.569	0.168	1.059
x		TM 10800.000	-10.560	TM 109600.000	M 100600.000	TM 100300.000	91.0%	1.438	0.170	1.010
σ		TM 291.400	0.830	TM 4650.000	M 3720.000	TM 4098.000	1.3%	0.131	0.051	0.049
%RSD		TM 2.697	7.854	TM 4.241	M 3.697	TM 4.084	1.5	9.117	30.170	4.825

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	0.035	0.503	T 91660.000	TM 105300.000	-0.311	1.466	0.607	0.569	1.323
2	13:10:48	-0.080	0.540	T 92090.000	TM 106500.000	-0.315	1.505	0.606	0.468	1.212
3	13:11:14	-0.013	0.572	T 99840.000	TM 115100.000	-0.349	1.491	0.578	0.503	1.342
x		-0.019	0.538	T 94530.000	TM 108900.000	-0.325	1.487	0.597	0.514	1.292
σ		0.057	0.035	T 4602.000	TM 5371.000	0.021	0.020	0.017	0.052	0.070
%RSD		296.600	6.448	T 4.868	TM 4.930	6.367	1.318	2.787	10.030	5.429

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	0.092	0.370	1.675	0.048	-0.078	0.390	88.6%	0.114	0.171
2	13:10:48	0.104	0.413	1.467	-1.822	-0.014	0.454	90.5%	0.192	0.214
3	13:11:14	0.125	0.271	2.141	-0.944	0.087	1.210	88.6%	0.321	0.351
x		0.107	0.351	1.761	-0.906	-0.002	0.685	89.3%	0.209	0.245
σ		0.016	0.073	0.346	0.936	0.083	0.456	1.1%	0.105	0.094
%RSD		15.380	20.660	19.610	103.200	4520.000	66.570	1.2	50.190	38.290

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	0.099	0.382	0.357	-0.083	0.342	0.024	0.019	86.7%	0.158
2	13:10:48	0.237	0.540	0.352	-0.144	0.305	0.020	0.003	89.1%	0.117
3	13:11:14	0.280	0.367	0.406	-0.094	0.308	0.023	0.009	87.0%	0.145
x		0.206	0.430	0.372	-0.107	0.318	0.022	0.010	87.6%	0.140
σ		0.095	0.096	0.030	0.033	0.021	0.002	0.008	1.3%	0.021
%RSD		46.100	22.220	8.072	30.370	6.478	10.210	80.990	1.5	15.000

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:10:23	0.159	0.280	0.265	0.370	0.404	89.6%	-0.002	-0.003	0.210
2	13:10:48	0.202	0.287	0.286	0.461	0.471	91.9%	-0.001	-0.002	0.253
3	13:11:14	0.214	0.365	0.366	0.461	0.456	90.9%	-0.003	-0.004	0.219
x		0.192	0.311	0.306	0.431	0.444	90.8%	-0.002	-0.003	0.227
σ		0.029	0.047	0.053	0.052	0.035	1.1%	0.001	0.001	0.022
%RSD		15.180	15.210	17.420	12.170	7.862	1.2	65.840	45.800	9.864

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:10:23	0.208	0.180	82.9%
2	13:10:48	0.213	0.192	84.6%
3	13:11:14	0.226	0.201	83.1%
x		0.215	0.191	83.5%
σ		0.009	0.011	1.0%
%RSD		4.267	5.629	1.1

PDF created with pdfFactory trial version www.pdffactory.com

ICV MW-9397 PREP 5/19/17 5/19/2017 13:15:22 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	85.6%	221.500	212.800	196.700	T 40550.000	T 39600.000	T 39840.000	T 43740.000	199.500
2	13:16:13	87.6%	216.100	205.600	194.800	T 40190.000	T 39550.000	T 39360.000	T 42780.000	201.000
3	13:16:39	90.0%	207.500	201.900	195.600	T 39510.000	T 38960.000	T 39260.000	T 41890.000	199.500
x		87.7%	107.496%	103.377%	97.848%	T 100.212%	T 39370.000	T 39480.000	T 107.005%	99.990%
σ		2.2%	n/a	n/a	n/a	T n/a	T 356.100	T 308.900	T n/a	n/a
%RSD		2.5	3.284	2.669	0.493	T 1.316	T 0.904	T 0.782	T 2.156	0.435

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	T 2193.000	-10.320	T 43360.000	40800.000	T 40280.000	T 99.1%	205.300	206.600	199.700
2	13:16:13	T 2191.000	-9.656	T 43840.000	40460.000	T 40100.000	T 98.9%	208.500	208.200	201.200
3	13:16:39	T 2145.000	-8.299	T 43710.000	39880.000	T 40210.000	98.9%	205.900	207.700	202.700
x		T 108.814%	-9.427	T 109.093%	40380.000	T 100.495%	T 98.9%	103.288%	103.749%	100.606%
σ		T n/a	1.032	T n/a	467.200	T n/a	T 0.1%	n/a	n/a	n/a
%RSD		T 1.257	10.950	T 0.564	1.157	T 0.231	T 0.1	0.833	0.405	0.747

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	-2.865	201.500	T 38210.000	T 43380.000	202.900	203.000	191.500	216.400	207.700
2	13:16:13	-4.147	203.500	T 38990.000	T 43950.000	204.800	199.900	194.900	214.000	203.800
3	13:16:39	-4.233	203.400	T 38350.000	T 43340.000	202.100	197.700	192.900	209.700	204.500
x		-3.748	101.408%	T 96.290%	T 108.893%	101.638%	100.102%	193.100	106.696%	102.654%
σ		0.766	n/a	T n/a	T n/a	n/a	n/a	1.708	n/a	n/a
%RSD		20.440	0.543	T 1.086	T 0.778	0.690	1.348	0.885	1.585	1.020

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	212.000	194.500	0.772	-0.052	207.500	-0.408	95.4%	210.900	210.200
2	13:16:13	208.200	194.400	0.559	-0.167	211.300	-0.883	96.3%	217.700	218.000
3	13:16:39	208.600	191.700	0.458	-0.508	204.800	-0.318	97.0%	223.000	222.300
x		104.782%	193.500	0.597	-0.242	103.930%	-0.536	96.2%	108.583%	108.433%
σ		n/a	1.554	0.160	0.237	n/a	0.304	0.8%	n/a	n/a
%RSD		0.995	0.803	26.840	97.770	1.568	56.620	0.9	2.792	2.827

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	208.300	201.800	198.400	-4.417	177.400	196.400	207.900	92.7%	215.000
2	13:16:13	216.500	202.100	197.700	-3.771	177.100	197.500	208.800	95.4%	218.300
3	13:16:39	219.400	197.400	195.800	-1.570	177.400	198.000	205.000	94.9%	220.300
x		107.354%	200.400	98.638%	-3.253	177.300	98.652%	103.612%	94.3%	108.925%
σ		n/a	2.633	n/a	1.493	0.154	n/a	n/a	1.4%	n/a
%RSD		2.674	1.314	0.685	45.900	0.087	0.402	0.975	1.5	1.236

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:47	206.600	200.300	206.900	207.800	204.800	94.3%	200.900	209.900	206.000
2	13:16:13	210.000	199.600	205.100	206.200	204.500	96.3%	203.200	211.200	206.900
3	13:16:39	209.500	204.300	210.600	207.600	204.400	98.4%	202.800	211.200	206.400
x		104.346%	100.696%	103.780%	103.603%	102.298%	96.3%	202.300	105.384%	206.400
σ		n/a	n/a	n/a	n/a	n/a	2.1%	1.235	n/a	0.490
%RSD		0.882	1.251	1.341	0.424	0.104	2.2	0.610	0.362	0.237

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:15:47	201.600	195.400	88.8%
2	13:16:13	201.100	196.200	91.2%
3	13:16:39	202.800	195.800	92.6%
x		201.900	97.898%	90.9%
σ		0.879	n/a	1.9%
%RSD		0.435	0.214	2.1

PDF created with pdfFactory trial version www.pdffactory.com

ICB IM7804-01 5/19/2017 13:20:43 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	99.3%	0.007	0.957	1.084	7.112	0.712	0.543	0.716	-0.758
2	13:21:35	101.5%	0.017	0.557	0.817	5.966	0.572	0.569	0.584	-0.511
3	13:22:01	101.5%	0.007	0.044	1.072	5.217	0.403	0.274	0.236	-0.668
x		100.8%	0.010	0.519	0.991	6.098	0.562	0.462	0.512	-0.646
σ		1.2%	0.006	0.458	0.150	0.954	0.155	0.163	0.248	0.125
%RSD		1.2	57.330	88.180	15.190	15.640	27.560	35.330	48.480	19.370

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	10.760	-13.930	2.621	0.720	-1.109	105.3%	0.008	0.097	-0.010
2	13:21:35	9.015	-14.370	2.192	-1.055	-0.397	104.6%	0.016	0.099	0.007
3	13:22:01	T 0.116	-14.120	2.056	-0.363	-0.646	103.7%	-0.059	0.097	0.009
x		T 6.630	-14.140	2.290	-0.233	-0.718	104.5%	-0.012	0.098	0.002
σ		T 5.709	0.220	0.295	0.895	0.361	0.8%	0.041	0.001	0.010
%RSD		T 86.100	1.553	12.880	384.700	50.330	0.7	354.700	0.963	546.500

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	-0.015	0.006	4.661	6.387	0.006	0.017	0.008	0.012	0.002
2	13:21:35	-0.017	0.004	4.002	5.501	0.008	0.022	0.017	0.004	0.001
3	13:22:01	-0.009	0.001	5.039	6.687	0.006	-0.013	0.022	-0.011	0.050
x		-0.013	0.004	4.567	6.191	0.007	0.009	0.016	0.002	0.018
σ		0.004	0.002	0.525	0.616	0.001	0.019	0.007	0.012	0.028
%RSD		31.710	62.550	11.490	9.955	16.250	216.100	45.370	702.800	155.700

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	-0.047	0.233	0.039	-0.507	-0.125	-1.203	101.2%	0.498	0.526
2	13:21:35	-0.002	0.285	-0.225	-0.330	0.061	-1.229	102.2%	0.488	0.582
3	13:22:01	0.018	0.119	0.019	-1.065	0.053	-0.798	102.0%	0.469	0.631
x		-0.010	0.212	-0.056	-0.634	-0.004	-1.077	101.8%	0.485	0.580
σ		0.033	0.085	0.147	0.384	0.105	0.242	0.5%	0.015	0.053
%RSD		320.700	39.910	264.600	60.520	2740.000	22.470	0.5	3.049	9.109

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	0.393	0.262	0.012	-0.106	0.002	0.003	0.004	99.4%	0.045
2	13:21:35	0.461	0.096	0.013	-0.042	0.006	-0.003	0.009	101.8%	0.060
3	13:22:01	0.456	0.179	0.005	-0.058	0.006	0.008	0.002	102.1%	0.060
x		0.437	0.179	0.010	-0.069	0.005	0.003	0.005	101.1%	0.055
σ		0.038	0.083	0.004	0.033	0.002	0.005	0.003	1.5%	0.009
%RSD		8.617	46.350	41.600	48.540	47.580	195.800	66.580	1.5	15.910

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:21:09	0.061	0.136	0.122	-0.016	-0.002	97.8%	0.003	0.001	0.002
2	13:21:35	0.028	0.159	0.156	0.004	-0.003	101.3%	0.000	0.002	0.013
3	13:22:01	0.068	0.154	0.164	0.032	0.018	101.3%	0.003	0.003	0.002
x		0.052	0.150	0.147	0.006	0.004	100.1%	0.002	0.002	0.006
σ		0.022	0.012	0.022	0.024	0.012	2.0%	0.002	0.001	0.006
%RSD		41.360	7.806	14.790	377.300	266.600	2.0	79.470	49.500	112.600

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:21:09	0.005	-0.000	97.8%
2	13:21:35	0.007	0.000	99.9%
3	13:22:01	0.009	0.002	100.7%
x		0.007	0.001	99.5%
σ		0.002	0.001	1.5%
%RSD		29.160	170.000	1.5

PDF created with pdfFactory trial version www.pdffactory.com

LLICV Co 4ppb MW9459 5/19/2017 13:26:05

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	100.9%	4.308	3.252	3.597	T 758.600	T 755.000	713.600	736.700	2.045
2	13:26:57	105.3%	4.101	3.143	3.349	T 732.300	T 747.400	700.900	713.700	2.198
3	13:27:23	105.5%	4.088	3.545	3.637	T 759.900	T 760.000	706.600	714.100	2.220
x		103.9%	4.166	3.313	3.527	T 750.300	T 754.100	707.100	721.500	2.155
σ		2.6%	0.124	0.208	0.156	T 15.550	T 6.373	6.355	13.150	0.096
%RSD		2.5	2.965	6.270	4.415	T 2.073	T 0.845	0.899	1.822	4.442

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	46.260	-17.980	832.000	804.000	709.500	105.8%	3.491	2.319	3.929
2	13:26:57	46.220	-16.960	T 868.600	775.300	711.100	104.5%	4.015	2.561	3.937
3	13:27:23	44.340	-16.370	T 858.000	808.300	713.900	106.1%	4.242	2.557	3.879
x		45.610	-17.100	T 852.900	795.900	711.500	105.5%	3.916	2.479	3.915
σ		1.097	0.817	T 18.840	17.950	2.201	0.8%	0.385	0.139	0.031
%RSD		2.406	4.776	T 2.209	2.255	0.309	0.8	9.836	5.600	0.801

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	-0.104	3.732	T 640.900	682.900	3.954	4.099	3.929	4.351	4.408
2	13:26:57	-0.108	3.843	T 655.800	703.100	4.083	4.179	4.043	4.343	4.429
3	13:27:23	-0.047	3.900	T 663.200	706.500	4.065	4.288	4.079	4.460	4.550
x		-0.086	3.825	T 653.300	697.500	4.034	4.188	4.017	4.385	4.462
σ		0.034	0.086	T 11.360	12.760	0.070	0.095	0.078	0.066	0.077
%RSD		39.270	2.238	T 1.740	1.830	1.731	2.261	1.950	1.494	1.721

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	4.442	4.647	-0.333	-0.208	5.199	-0.273	102.7%	0.710	0.773
2	13:26:57	4.699	4.791	0.018	-0.875	4.756	0.114	103.7%	0.777	0.791
3	13:27:23	4.445	4.978	-0.085	-0.244	4.558	-0.853	103.4%	0.812	0.964
x		4.529	4.806	-0.133	-0.442	4.837	-0.337	103.3%	0.766	0.843
σ		0.148	0.166	0.181	0.375	0.328	0.487	0.5%	0.052	0.105
%RSD		3.261	3.458	135.700	84.840	6.786	144.200	0.5	6.783	12.500

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	0.738	4.529	3.997	-0.077	3.625	3.989	4.367	100.0%	2.487
2	13:26:57	0.750	4.973	3.941	-0.336	3.609	4.088	4.370	102.5%	2.445
3	13:27:23	0.839	4.724	3.996	-0.013	3.622	4.165	4.195	103.4%	2.371
x		0.776	4.742	3.978	-0.142	3.619	4.081	4.311	102.0%	2.434
σ		0.055	0.223	0.032	0.171	0.009	0.088	0.101	1.8%	0.059
%RSD		7.127	4.697	0.808	120.100	0.239	2.161	2.331	1.7	2.414

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:26:31	1.552	3.271	3.307	4.268	4.006	99.2%	3.878	3.831	3.797
2	13:26:57	1.559	3.350	3.290	4.209	4.115	102.0%	3.837	3.910	3.839
3	13:27:23	1.486	3.421	3.604	4.163	4.384	103.0%	3.861	3.954	3.877
x		1.532	3.347	3.401	4.213	4.168	101.4%	3.859	3.898	3.838
σ		0.041	0.075	0.177	0.053	0.195	2.0%	0.021	0.062	0.040
%RSD		2.650	2.246	5.189	1.248	4.666	1.9	0.531	1.602	1.043

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:26:31	3.739	3.734	97.4%
2	13:26:57	3.826	3.724	99.6%
3	13:27:23	3.900	3.884	102.4%
x		3.822	3.781	99.8%
σ		0.081	0.089	2.5%
%RSD		2.108	2.364	2.5

PDF created with pdfFactory trial version www.pdffactory.com

LLICV MW9444 5/19/2017 13:31:27 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	99.3%	0.394	25.420	23.230	182.300	44.100	41.820	43.420	36.790
2	13:32:19	102.6%	0.343	23.870	23.640	171.100	41.880	40.990	42.060	37.670
3	13:32:44	107.0%	0.429	23.520	22.570	166.900	40.530	39.160	38.470	36.970
x		102.9%	97.182%	97.087%	92.585%	86.732%	42.170	40.660	82.634%	92.862%
σ		3.9%	n/a	n/a	n/a	n/a	1.802	1.363	n/a	n/a
%RSD		3.8	11.140	4.169	2.337	4.597	4.274	3.352	6.197	1.247

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	T 91.630	-15.280	207.500	198.300	171.700	104.5%	4.749	4.701	0.959
2	13:32:19	96.650	-12.440	207.000	211.000	172.800	103.7%	4.817	4.804	0.951
3	13:32:44	91.130	-13.560	202.900	204.200	172.400	103.7%	4.749	4.680	0.927
x		T 93.137%	-13.760	102.895%	204.500	86.148%	104.0%	95.435%	94.563%	94.562%
σ		T n/a	1.431	n/a	6.336	n/a	0.5%	n/a	n/a	n/a
%RSD		T 3.275	10.400	1.235	3.098	0.318	0.5	0.826	1.405	1.731

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	-0.042	4.673	19.410	21.470	4.814	5.090	1.020	1.146	10.730
2	13:32:19	0.000	4.806	21.580	21.390	4.761	4.963	0.969	1.054	10.410
3	13:32:44	0.003	4.620	20.330	20.390	4.828	4.674	0.963	0.964	10.100
x		-0.013	93.996%	20.440	105.425%	96.017%	98.183%	0.984	105.475%	104.122%
σ		0.025	n/a	1.093	n/a	n/a	n/a	0.032	n/a	n/a
%RSD		196.700	2.035	5.347	2.855	0.742	4.340	3.201	8.607	3.037

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	1.063	1.131	-0.311	-0.863	1.296	-1.872	99.7%	9.280	9.449
2	13:32:19	0.970	1.241	-0.153	-0.982	0.480	0.604	102.0%	9.669	9.903
3	13:32:44	1.154	1.016	0.022	-1.006	1.224	0.679	103.5%	9.585	10.090
x		106.251%	1.129	-0.147	-0.950	99.995%	-0.196	101.7%	9.511	98.128%
σ		n/a	0.113	0.166	0.076	n/a	1.452	1.9%	0.205	n/a
%RSD		8.641	9.983	113.000	8.046	45.210	739.400	1.9	2.154	3.347

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	9.222	0.622	0.960	-0.150	0.946	0.098	0.122	99.3%	3.385
2	13:32:19	9.711	0.783	0.965	-0.154	0.938	0.074	0.082	101.1%	3.390
3	13:32:44	9.599	0.130	0.971	0.004	0.865	0.078	0.123	103.2%	3.547
x		9.511	0.512	96.499%	-0.100	0.916	0.084	109.215%	101.2%	3.441
σ		0.257	0.341	n/a	0.090	0.045	0.013	n/a	2.0%	0.092
%RSD		2.697	66.550	0.542	90.130	4.871	15.600	21.640	2.0	2.676

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:31:53	4.457	0.874	0.917	5.232	5.059	97.5%	0.454	0.483	0.984
2	13:32:19	4.422	0.911	0.892	5.114	5.028	101.0%	0.454	0.472	1.016
3	13:32:44	4.271	0.944	0.916	4.889	5.018	102.6%	0.423	0.455	1.001
x		87.668%	0.910	90.824%	101.562%	5.035	100.4%	0.444	94.028%	1.001
σ		n/a	0.035	n/a	n/a	0.022	2.6%	0.018	n/a	0.016
%RSD		2.265	3.838	1.568	3.428	0.432	2.6	4.006	2.945	1.608

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:31:53	0.963	0.993	96.7%
2	13:32:19	0.942	0.965	99.5%
3	13:32:44	0.988	0.987	102.8%
x		0.965	98.156%	99.7%
σ		0.023	n/a	3.1%
%RSD		2.385	1.493	3.1

PDF created with pdfFactory trial version www.pdffactory.com

LLICV2 MW9445 5/19/2017 13:36:47

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	99.1%	1.994	128.300	121.900	T 921.000	225.300	210.000	215.900	195.200
2	13:37:38	102.4%	1.893	128.300	124.700	T 911.300	225.900	215.800	211.900	205.200
3	13:38:04	104.4%	1.740	125.500	121.900	T 880.000	219.300	205.100	202.700	195.800
x		102.0%	1.876	127.400	122.800	T 904.100	223.500	210.300	210.200	198.700
σ		2.6%	0.128	1.585	1.609	T 21.400	3.651	5.338	6.768	5.641
%RSD		2.6	6.798	1.244	1.310	T 2.367	1.634	2.538	3.220	2.838

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	T 473.600	-16.620	T 1015.000	976.600	871.700	103.2%	23.750	23.870	4.722
2	13:37:38	T 491.400	-15.930	T 1070.000	1032.000	928.700	101.0%	25.430	24.420	4.934
3	13:38:04	457.400	-15.580	T 1014.000	1051.000	884.100	102.2%	25.360	23.540	4.732
x		T 474.100	-16.040	T 1033.000	1020.000	894.900	102.1%	24.850	23.950	4.796
σ		T 17.000	0.531	T 32.050	38.470	29.990	1.1%	0.946	0.443	0.120
%RSD		T 3.586	3.308	T 3.103	3.772	3.352	1.1	3.808	1.851	2.498

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	-0.050	23.360	102.800	103.600	24.300	25.690	4.882	5.295	51.300
2	13:37:38	0.048	24.710	108.300	107.000	25.240	25.390	4.915	5.312	51.640
3	13:38:04	0.123	23.670	104.000	99.150	23.750	24.490	4.825	5.194	49.870
x		0.040	23.910	105.000	103.300	24.430	25.190	4.874	5.267	50.940
σ		0.087	0.705	2.878	3.955	0.752	0.627	0.045	0.064	0.940
%RSD		214.700	2.948	2.740	3.830	3.077	2.488	0.933	1.208	1.845

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	4.753	5.128	0.023	-0.283	4.647	-0.155	99.8%	49.590	49.790
2	13:37:38	5.393	5.152	-0.143	-0.620	5.445	0.020	99.3%	53.450	53.750
3	13:38:04	5.439	4.490	-0.166	-0.680	5.781	-1.068	101.9%	51.970	52.720
x		5.195	4.924	-0.095	-0.528	5.291	-0.401	100.3%	51.670	52.090
σ		0.384	0.376	0.103	0.214	0.583	0.585	1.3%	1.951	2.053
%RSD		7.384	7.629	108.300	40.480	11.010	145.800	1.3	3.776	3.941

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	48.790	2.991	4.807	-0.733	4.369	0.373	0.519	99.5%	18.350
2	13:37:38	52.340	1.495	4.950	-0.101	4.631	0.333	0.510	99.4%	18.360
3	13:38:04	51.580	2.049	4.876	-0.233	4.319	0.352	0.530	101.5%	18.180
x		50.900	2.178	4.877	-0.355	4.440	0.353	0.519	100.2%	18.300
σ		1.869	0.756	0.071	0.333	0.168	0.020	0.010	1.2%	0.100
%RSD		3.672	34.720	1.462	93.760	3.774	5.678	1.916	1.2	0.546

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:37:12	22.990	4.241	4.360	24.350	24.190	98.7%	2.234	2.358	4.745
2	13:37:38	24.220	4.540	4.654	25.090	24.930	98.9%	2.400	2.506	4.851
3	13:38:04	23.130	4.551	4.519	24.750	24.180	102.7%	2.247	2.349	4.868
x		23.450	4.444	4.511	24.730	24.430	100.1%	2.294	2.404	4.821
σ		0.675	0.176	0.147	0.370	0.430	2.3%	0.092	0.088	0.067
%RSD		2.880	3.961	3.261	1.495	1.762	2.3	4.020	3.668	1.386

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:37:12	4.710	4.553	97.9%
2	13:37:38	4.937	4.693	98.4%
3	13:38:04	4.715	4.569	100.6%
x		4.787	4.605	98.9%
σ		0.130	0.076	1.4%
%RSD		2.704	1.660	1.4

PDF created with pdfFactory trial version www.pdffactory.com

ICSA MW9430 5/19/2017 13:42:08 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	73.2%	0.060	28.720	27.260	TM 106000.000	TM 102900.000	TM 102900.000	TM 114000.000	TM 102400.000
2	13:43:00	74.8%	0.054	26.480	27.260	TM 105600.000	TM 103800.000	TM 103700.000	TM 114000.000	TM 104700.000
3	13:43:26	75.8%	0.113	27.100	28.320	TM 103600.000	TM 102000.000	TM 102700.000	TM 114900.000	TM 104100.000
x		74.6%	1.#IO%	27.430	1.#IO%	TM 105.089%	TM 102900.000	TM 103100.000	TM 114.289%	TM 103.716%
σ		1.3%	n/a	1.157	n/a	TM n/a	TM 925.000	TM 510.200	TM n/a	TM n/a
%RSD		1.8	42.970	4.216	2.205	TM 1.224	TM 0.899	TM 0.495	TM 0.431	TM 1.125

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	T 793.200	T 18580.000	TM 114700.000	M 102300.000	TM 102000.000	87.0%	M 2322.000	0.186	1.131
2	13:43:00	T 796.500	T 18870.000	TM 114800.000	M 102500.000	TM 103500.000	87.5%	M 2330.000	0.194	1.068
3	13:43:26	T 785.500	T 18970.000	TM 115800.000	M 103600.000	TM 103400.000	88.4%	M 2307.000	-0.048	1.060
x		T 1.#IO%	T 18800.000	TM 115.106%	M 102800.000	TM 102.948%	87.7%	M 115.995%	1.#IO%	1.#IO%
σ		T n/a	T 202.600	TM n/a	M 678.900	TM n/a	0.7%	M n/a	n/a	n/a
%RSD		T 0.718	T 1.078	TM 0.511	M 0.660	TM 0.797	0.8	M 0.503	124.400	3.594

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	1.575	0.691	T 96940.000	TM 113100.000	-0.715	1.585	-0.183	-0.242	4.056
2	13:43:00	1.552	0.696	T 98860.000	TM 113800.000	-0.724	1.533	-0.126	-0.255	3.882
3	13:43:26	1.755	0.727	T 99800.000	TM 114700.000	-0.742	1.476	-0.039	-0.495	4.023
x		1.627	1.#IO%	T 98530.000	TM 113.869%	-1.#IO%	1.#IO%	-1.#IO%	-1.#IO%	1.#IO%
σ		0.111	n/a	T 1460.000	TM n/a	n/a	n/a	n/a	n/a	n/a
%RSD		6.825	2.806	T 1.481	TM 0.683	1.935	3.569	62.570	43.120	2.313

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	0.204	0.594	5.913	4.264	0.032	2.878	83.8%	TM 2670.000	M 2585.000
2	13:43:00	0.305	0.983	6.387	4.243	0.240	4.418	85.5%	TM 2745.000	M 2670.000
3	13:43:26	0.072	0.911	5.865	4.273	0.240	1.700	86.0%	TM 2766.000	M 2692.000
x		1.#IO%	0.829	6.055	4.260	1.#IO%	2.998	85.1%	TM 2727.000	M 132.449%
σ		n/a	0.207	0.289	0.016	n/a	1.363	1.2%	TM 50.700	M n/a
%RSD		60.200	24.970	4.768	0.365	70.220	45.460	1.4	TM 1.859	M 2.138

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	TM 2607.000	0.780	0.195	11.890	0.185	-6.485	-0.106	87.4%	1.086
2	13:43:00	TM 2682.000	0.664	0.181	11.790	0.175	-6.828	-0.256	89.6%	0.912
3	13:43:26	TM 2716.000	-0.795	0.189	10.850	0.168	-6.878	-0.330	91.8%	0.941
x		TM 2668.000	0.216	1.#IO%	11.510	0.176	-6.730	-1.#IO%	89.6%	1.#IO%
σ		TM 55.520	0.878	n/a	0.576	0.009	0.214	n/a	2.2%	n/a
%RSD		TM 2.081	405.800	3.757	5.008	4.904	3.182	49.630	2.5	9.512

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:42:34	0.162	0.026	-0.013	0.971	0.992	87.2%	0.006	0.017	0.223
2	13:43:00	0.120	0.024	0.009	0.964	0.987	90.5%	0.011	0.008	0.228
3	13:43:26	-0.055	0.039	0.001	1.137	0.957	92.3%	0.010	0.013	0.198
x		1.#IO%	0.029	-1.#IO%	1.024	1.#IO%	90.0%	0.009	1.#IO%	0.216
σ		n/a	0.008	n/a	0.098	n/a	2.6%	0.003	n/a	0.016
%RSD		152.700	27.630	1076.000	9.549	1.945	2.8	31.350	37.150	7.461

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:42:34	0.205	0.190	83.6%
2	13:43:00	0.200	0.185	86.1%
3	13:43:26	0.198	0.212	88.5%
x		0.201	1.#IO%	86.1%
σ		0.004	n/a	2.5%
%RSD		1.860	7.390	2.9

PDF created with pdfFactory trial version www.pdffactory.com

ICSAB MW9460 5/19/2017 13:47:32

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	73.6%	107.700	4.976	4.359	TM 104000.000	TM 101800.000	TM 102300.000	TM 116600.000	TM 100300.000
2	13:48:23	74.5%	105.500	3.577	4.100	TM 104300.000	TM 101600.000	TM 101300.000	TM 114000.000	TM 100800.000
3	13:48:48	75.8%	104.700	4.988	3.793	TM 102400.000	TM 100500.000	T 99940.000	TM 112500.000	TM 99660.000
x		74.6%	106.000	4.513	4.084	TM 103600.000	TM 101300.000	TM 101200.000	TM 114400.000	TM 100300.000
σ		1.1%	1.577	0.811	0.284	TM 1003.000	TM 717.100	TM 1173.000	TM 2063.000	TM 580.300
%RSD		1.5	1.488	17.980	6.941	TM 0.968	TM 0.708	TM 1.159	TM 1.804	TM 0.579

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	52.640	T 18560.000	TM 113200.000	M 100500.000	T 98580.000	T 92.0%	M 2238.000	99.970	99.840
2	13:48:23	49.940	T 18990.000	TM 113500.000	M 100300.000	TM 100800.000	90.5%	M 2263.000	99.920	100.900
3	13:48:48	T 51.220	T 19210.000	TM 115000.000	M 101300.000	TM 100300.000	T 92.4%	M 2248.000	98.550	98.830
x		T 51.270	T 18920.000	TM 113900.000	M 100700.000	TM 99910.000	T 91.6%	M 2250.000	99.480	99.840
σ		T 1.355	T 330.600	TM 956.500	M 538.600	TM 1166.000	T 1.0%	M 12.760	0.806	1.009
%RSD		T 2.642	T 1.747	TM 0.840	M 0.535	TM 1.167	T 1.1	M 0.567	0.811	1.011

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	0.796	98.960	T 94810.000	TM 109800.000	95.690	93.030	89.170	95.540	93.630
2	13:48:23	0.734	98.840	T 96000.000	TM 111400.000	96.540	91.210	89.450	92.600	90.920
3	13:48:48	1.243	99.010	T 95760.000	TM 111900.000	96.450	90.990	88.050	91.690	90.490
x		0.924	98.940	T 95520.000	TM 111000.000	96.230	91.750	88.890	93.270	91.680
σ		0.278	0.088	T 627.100	TM 1104.000	0.462	1.119	0.740	2.013	1.704
%RSD		30.070	0.089	T 0.657	TM 0.994	0.481	1.220	0.833	2.158	1.858

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	94.710	91.250	4.276	2.901	95.100	2.277	86.8%	TM 2570.000	M 2507.000
2	13:48:23	93.420	88.930	3.973	1.926	89.910	2.365	88.1%	TM 2666.000	M 2601.000
3	13:48:48	94.710	89.100	3.950	2.762	90.720	3.605	88.6%	TM 2642.000	M 2581.000
x		94.280	89.760	4.066	2.529	91.910	2.749	87.8%	TM 2626.000	M 2563.000
σ		0.745	1.295	0.182	0.528	2.794	0.743	0.9%	TM 49.860	M 49.160
%RSD		0.790	1.443	4.479	20.860	3.040	27.030	1.0	TM 1.899	M 1.918

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	TM 2513.000	86.710	91.540	11.630	T 88.300	82.980	93.030	90.6%	31.800
2	13:48:23	TM 2619.000	89.090	90.620	10.270	82.620	82.280	92.360	92.0%	32.160
3	13:48:48	TM 2597.000	87.090	89.860	12.120	82.610	82.990	91.970	93.1%	32.030
x		TM 2576.000	87.630	90.670	11.340	T 84.510	82.750	92.460	91.9%	32.000
σ		TM 55.500	1.276	0.843	0.957	T 3.283	0.406	0.537	1.3%	0.180
%RSD		TM 2.154	1.456	0.930	8.438	T 3.885	0.491	0.581	1.4	0.563

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:47:57	2.219	89.770	92.210	101.100	99.460	90.6%	97.090	99.440	100.000
2	13:48:23	2.589	91.000	94.370	98.840	98.810	93.1%	96.440	98.950	99.280
3	13:48:48	2.319	91.110	93.850	101.700	98.720	93.9%	97.190	99.740	99.090
x		2.376	90.630	93.480	100.500	99.000	92.5%	96.910	99.370	99.470
σ		0.191	0.744	1.127	1.501	0.407	1.7%	0.405	0.396	0.504
%RSD		8.055	0.821	1.206	1.493	0.411	1.8	0.418	0.399	0.507

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:47:57	97.560	93.160	85.9%
2	13:48:23	98.490	93.220	88.6%
3	13:48:48	97.690	94.570	90.0%
x		97.910	93.650	88.2%
σ		0.500	0.798	2.1%
%RSD		0.511	0.852	2.4

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 13:52:54

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	76.6%	363.700	317.400	308.200	T 66630.000	T 65130.000	T 65640.000	T 73770.000	349.300
2	13:53:46	79.6%	347.800	300.600	301.700	T 64230.000	T 63200.000	T 62450.000	T 69250.000	337.000
3	13:54:12	82.2%	343.700	315.600	312.400	T 63070.000	T 61800.000	T 61990.000	T 67400.000	339.500
x		79.4%	351.800	311.200	307.400	T 64650.000	T 63380.000	T 63360.000	T 70140.000	341.900
σ		2.8%	10.550	9.217	5.382	T 1815.000	T 1672.000	T 1986.000	T 3277.000	6.487
%RSD		3.5	3.001	2.962	1.751	T 2.807	T 2.639	T 3.135	T 4.672	1.897

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	T 3561.000	72.290	T 72260.000	65290.000	T 64300.000	93.0%	329.400	343.300	334.000
2	13:53:46	T 3378.000	70.960	T 70720.000	62910.000	T 63200.000	93.6%	320.400	T 333.200	324.100
3	13:54:12	T 3317.000	71.480	T 71440.000	63880.000	T 64110.000	93.1%	319.600	T 329.100	323.400
x		T 3418.000	71.580	T 71470.000	64020.000	T 63870.000	93.2%	323.100	T 335.200	327.200
σ		T 126.700	0.669	T 773.700	1194.000	T 586.300	0.3%	5.440	T 7.315	5.916
%RSD		T 3.708	0.935	T 1.083	1.865	T 0.918	0.4	1.684	T 2.182	1.808

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	-8.429	T 326.700	T 62790.000	T 71500.000	333.200	317.000	304.300	327.900	312.600
2	13:53:46	-8.201	T 320.800	T 61480.000	T 70040.000	323.200	297.700	294.100	309.200	302.000
3	13:54:12	-8.064	T 326.600	T 62520.000	T 70090.000	322.300	294.900	292.600	300.100	296.100
x		-8.231	T 324.700	T 62260.000	T 70540.000	326.200	303.200	297.000	312.400	303.600
σ		0.184	T 3.351	T 689.700	T 827.900	6.071	12.040	6.364	14.160	8.372
%RSD		2.238	T 1.032	T 1.108	T 1.174	1.861	3.971	2.143	4.533	2.758

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	313.800	290.300	1.600	-0.355	311.400	1.314	92.0%	354.800	350.000
2	13:53:46	305.700	291.000	1.527	-0.798	300.100	-0.146	93.4%	359.100	357.300
3	13:54:12	303.800	289.000	1.990	-0.203	303.700	0.725	94.5%	371.300	373.000
x		307.800	290.100	1.706	-0.452	305.100	0.631	93.3%	361.700	360.100
σ		5.321	0.998	0.249	0.309	5.769	0.734	1.2%	8.562	11.770
%RSD		1.729	0.344	14.600	68.370	1.891	116.400	1.3	2.367	3.268

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	351.600	301.900	327.100	-1.516	295.000	307.900	322.800	90.7%	346.000
2	13:53:46	358.300	298.300	317.800	0.193	289.300	300.300	314.000	93.4%	343.800
3	13:54:12	368.200	302.300	310.900	-3.227	288.800	296.900	310.600	94.4%	343.300
x		359.400	300.800	318.600	-1.516	291.000	301.700	315.800	92.8%	344.400
σ		8.329	2.212	8.112	1.710	3.438	5.633	6.336	1.9%	1.432
%RSD		2.318	0.735	2.546	112.700	1.182	1.867	2.007	2.0	0.416

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:20	333.500	315.200	323.500	325.400	325.300	95.0%	332.500	T 326.300	340.600
2	13:53:46	333.500	307.500	317.100	320.200	317.000	97.6%	321.700	T 320.300	330.400
3	13:54:12	332.300	309.800	317.100	317.000	315.500	98.9%	321.400	T 321.100	330.500
x		333.100	310.800	319.200	320.900	319.200	97.2%	325.200	T 322.600	333.800
σ		0.686	3.983	3.690	4.222	5.276	2.0%	6.351	T 3.245	5.889
%RSD		0.206	1.281	1.156	1.316	1.653	2.0	1.953	T 1.006	1.764

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:53:20	334.800	323.700	87.4%
2	13:53:46	324.700	317.500	90.9%
3	13:54:12	323.600	318.000	92.7%
x		327.700	319.800	90.3%
σ		6.169	3.462	2.7%
%RSD		1.882	1.083	3.0

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 14:00:56 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	77.0%	335.400	289.300	282.100	T 60980.000	T 59690.000	T 58650.000	T 65830.000	302.500
2	14:01:47	79.3%	319.200	283.900	279.700	T 59300.000	T 58120.000	T 58160.000	T 64260.000	298.200
3	14:02:13	81.4%	317.100	280.900	286.100	T 57610.000	T 56870.000	T 56700.000	T 62710.000	301.600
x		79.2%	107.966%	94.897%	94.212%	T 98.822%	T 58220.000	T 57840.000	T 107.104%	100.245%
σ		2.2%	n/a	n/a	n/a	T n/a	T 1409.000	T 1016.000	T n/a	n/a
%RSD		2.7	3.089	1.496	1.151	T 2.842	T 2.419	T 1.756	T 2.427	0.748

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	T 3164.000	18.680	T 65380.000	58670.000	T 57350.000	T 93.7%	293.200	T 303.700	295.800
2	14:01:47	T 3077.000	16.880	T 64890.000	57780.000	T 57830.000	T 94.2%	291.500	T 306.100	296.700
3	14:02:13	T 3101.000	17.120	T 65330.000	57660.000	T 57880.000	93.3%	290.900	305.000	296.100
x		T 103.804%	17.560	T 108.661%	58030.000	T 96.145%	T 93.7%	97.280%	T 101.645%	98.724%
σ		T n/a	0.975	T n/a	552.700	T n/a	T 0.4%	n/a	T n/a	n/a
%RSD		T 1.449	5.552	T 0.414	0.952	T 0.504	T 0.5	0.414	T 0.396	0.154

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	-7.859	T 291.600	T 56130.000	T 63450.000	294.800	282.000	268.400	286.200	282.000
2	14:01:47	-7.917	T 292.000	T 55480.000	T 63440.000	293.500	277.100	273.900	283.600	277.200
3	14:02:13	-6.307	T 298.000	T 57030.000	T 64170.000	294.500	277.800	273.200	281.200	276.200
x		-7.361	T 97.958%	T 93.686%	T 106.147%	98.100%	93.003%	271.800	94.555%	92.818%
σ		0.913	T n/a	T n/a	T n/a	n/a	n/a	2.980	n/a	n/a
%RSD		12.400	T 1.230	T 1.392	T 0.661	0.233	0.949	1.096	0.889	1.132

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	286.000	271.300	1.148	-1.001	282.200	1.438	92.5%	309.000	310.800
2	14:01:47	280.800	275.700	1.761	-0.697	276.700	-1.517	92.9%	319.400	317.800
3	14:02:13	285.200	272.700	1.251	-1.044	278.900	1.050	94.0%	333.500	334.100
x		94.662%	273.200	1.387	-0.914	93.082%	0.324	93.1%	106.884%	106.967%
σ		n/a	2.262	0.328	0.189	n/a	1.605	0.8%	n/a	n/a
%RSD		0.985	0.828	23.660	20.680	0.983	496.100	0.9	3.838	3.728

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	306.500	278.700	289.900	-0.760	266.600	279.000	288.800	90.8%	313.700
2	14:01:47	316.100	281.000	289.600	0.379	267.800	280.400	289.900	92.6%	318.100
3	14:02:13	332.800	282.600	286.500	-2.510	268.300	281.700	286.900	92.9%	319.300
x		106.156%	280.800	96.222%	-0.964	267.600	280.400	96.174%	92.1%	105.683%
σ		n/a	1.970	n/a	1.455	0.847	1.353	n/a	1.1%	n/a
%RSD		4.173	0.702	0.646	151.000	0.316	0.483	0.533	1.2	0.947

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:01:21	301.800	286.300	294.400	295.500	295.800	96.0%	297.300	T 295.100	304.000
2	14:01:47	306.400	288.600	297.700	296.200	293.200	97.4%	293.200	T 295.700	302.800
3	14:02:13	308.400	291.400	298.200	295.700	294.500	97.9%	295.000	T 297.400	303.400
x		101.835%	96.254%	98.918%	98.602%	98.164%	97.1%	98.396%	T 98.681%	101.127%
σ		n/a	n/a	n/a	n/a	n/a	0.9%	n/a	T n/a	n/a
%RSD		1.104	0.890	0.678	0.118	0.439	1.0	0.706	T 0.397	0.210

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:01:21	299.000	290.000	89.7%
2	14:01:47	296.900	292.200	91.4%
3	14:02:13	297.400	295.700	92.9%
x		99.257%	97.548%	91.3%
σ		n/a	n/a	1.6%
%RSD		0.362	0.980	1.8

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 14:06:15 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	93.6%	0.028	2.334	2.369	6.190	2.253	2.269	2.110	0.151
2	14:07:08	97.7%	0.004	1.958	2.128	5.131	2.010	2.000	2.198	0.309
3	14:07:35	98.5%	0.033	1.491	1.883	4.089	1.616	1.571	2.058	0.053
x		96.6%	0.022	1.928	2.127	5.137	1.959	1.947	2.122	0.171
σ		2.6%	0.015	0.422	0.243	1.050	0.322	0.352	0.071	0.130
%RSD		2.7	70.860	21.910	11.440	20.450	16.420	18.080	3.338	75.650

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	T -2.472	0.345	5.008	3.950	2.120	97.1%	0.041	0.113	0.016
2	14:07:08	7.398	2.368	5.846	1.986	2.047	96.8%	0.048	0.097	0.011
3	14:07:35	6.718	3.117	1.728	0.887	1.209	100.7%	0.028	0.104	-0.012
x		T 3.881	1.943	4.194	2.274	1.792	98.2%	0.039	0.104	0.005
σ		T 5.513	1.434	2.176	1.552	0.507	2.2%	0.010	0.008	0.015
%RSD		T 142.000	73.800	51.890	68.240	28.260	2.2	26.570	7.659	288.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	-0.016	0.007	4.388	7.096	0.009	-0.006	0.025	0.006	0.021
2	14:07:08	0.004	0.017	4.562	5.735	0.018	0.004	0.030	0.018	-0.016
3	14:07:35	0.003	0.014	0.453	2.492	0.007	-0.003	0.024	0.004	-0.007
x		-0.003	0.013	3.134	5.107	0.012	-0.002	0.027	0.009	-0.001
σ		0.011	0.005	2.323	2.365	0.006	0.005	0.003	0.007	0.019
%RSD		377.800	38.390	74.130	46.310	51.020	292.200	12.180	81.100	3391.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	0.018	0.334	0.173	-0.524	-0.082	-1.451	95.6%	0.795	1.035
2	14:07:08	0.095	0.347	-0.043	-0.414	0.331	-0.754	97.2%	1.179	1.263
3	14:07:35	0.076	0.139	0.183	-0.624	0.116	-0.300	100.3%	1.055	0.945
x		0.063	0.273	0.105	-0.521	0.121	-0.835	97.7%	1.010	1.081
σ		0.040	0.116	0.128	0.105	0.206	0.580	2.4%	0.196	0.164
%RSD		63.110	42.610	121.900	20.200	170.100	69.440	2.4	19.400	15.170

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	0.880	-0.019	0.018	0.034	0.013	-0.004	0.010	96.2%	0.202
2	14:07:08	1.169	0.102	0.027	-0.043	0.020	0.017	0.013	98.9%	0.158
3	14:07:35	1.022	-0.116	0.020	0.055	0.009	0.019	0.006	101.8%	0.147
x		1.024	-0.011	0.022	0.015	0.014	0.011	0.010	98.9%	0.169
σ		0.145	0.109	0.005	0.051	0.005	0.013	0.003	2.8%	0.029
%RSD		14.110	1026.000	21.990	334.600	38.540	117.900	33.640	2.8	17.160

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:06:42	0.193	0.380	0.407	0.001	-0.004	97.1%	0.028	0.035	0.021
2	14:07:08	0.187	0.416	0.392	-0.016	0.003	99.5%	0.018	0.028	0.014
3	14:07:35	0.196	0.383	0.359	0.007	-0.015	103.6%	0.037	0.028	0.008
x		0.192	0.393	0.386	-0.003	-0.005	100.0%	0.028	0.030	0.014
σ		0.004	0.020	0.025	0.012	0.009	3.3%	0.009	0.004	0.006
%RSD		2.207	5.091	6.358	470.200	168.400	3.3	33.500	12.770	44.160

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:06:42	0.015	0.007	97.1%
2	14:07:08	0.018	0.014	100.2%
3	14:07:35	0.013	0.003	104.1%
x		0.015	0.008	100.4%
σ		0.002	0.005	3.5%
%RSD		15.540	67.060	3.5

PDF created with pdfFactory trial version www.pdffactory.com

SQ42373-001 5/19/2017 14:11:46 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	99.9%	0.014	-0.034	0.112	21.460	1.498	1.300	1.449	0.196
2	14:12:38	103.3%	0.006	0.214	0.278	19.900	1.137	1.205	1.053	0.090
3	14:13:03	103.8%	0.006	-0.188	-0.022	18.940	1.226	1.132	1.419	0.323
x		102.4%	0.009	-0.002	0.122	20.100	1.287	1.212	1.307	0.203
σ		2.1%	0.005	0.203	0.150	1.269	0.188	0.085	0.220	0.117
%RSD		2.1	52.020	8228.000	122.500	6.311	14.590	6.978	16.860	57.500

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	11.340	T 37210.000	8.863	30.980	30.500	99.7%	0.044	0.064	-0.071
2	14:12:38	10.830	T 37510.000	8.032	29.890	29.370	98.2%	0.031	-0.033	-0.072
3	14:13:03	T -1.142	T 37450.000	7.083	35.820	31.930	98.7%	0.002	0.180	-0.081
x		T 7.011	T 37390.000	7.993	32.230	30.600	98.9%	0.026	0.070	-0.075
σ		T 7.065	T 158.400	0.891	3.156	1.285	0.8%	0.022	0.107	0.006
%RSD		T 100.800	T 0.424	11.140	9.792	4.199	0.8	84.290	151.500	7.845

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	3.988	0.469	1.402	5.054	0.004	-0.018	0.156	0.156	0.520
2	14:12:38	3.955	0.475	1.796	5.350	0.002	0.009	0.150	0.131	0.518
3	14:13:03	3.753	0.469	0.950	3.719	-0.001	0.021	0.122	0.146	0.502
x		3.899	0.471	1.383	4.708	0.002	0.004	0.143	0.144	0.513
σ		0.127	0.003	0.424	0.869	0.002	0.020	0.018	0.013	0.010
%RSD		3.269	0.719	30.640	18.460	128.200	482.400	12.740	8.839	1.903

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	-0.124	-0.295	8.696	8.815	-0.403	-1.209	97.1%	0.013	0.088
2	14:12:38	0.068	0.264	9.206	8.357	-0.183	-0.669	98.8%	0.150	0.320
3	14:13:03	-0.022	0.267	8.842	7.863	-0.224	-0.251	99.2%	0.133	0.301
x		-0.026	0.079	8.914	8.345	-0.270	-0.710	98.4%	0.099	0.236
σ		0.096	0.323	0.263	0.476	0.117	0.480	1.1%	0.074	0.129
%RSD		369.400	410.200	2.946	5.705	43.310	67.680	1.1	75.290	54.580

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	0.103	0.281	0.005	-0.080	0.008	0.004	-0.000	98.8%	0.127
2	14:12:38	0.161	-0.490	0.005	0.197	0.011	0.001	-0.000	99.3%	0.141
3	14:13:03	0.147	-0.005	0.009	0.013	0.001	-0.001	0.005	100.6%	0.145
x		0.137	-0.071	0.006	0.043	0.006	0.001	0.001	99.6%	0.138
σ		0.030	0.390	0.003	0.141	0.005	0.003	0.003	0.9%	0.009
%RSD		22.060	547.000	40.200	325.200	83.430	204.200	204.500	0.9	6.840

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:12	0.246	0.149	0.090	0.013	0.017	100.0%	0.424	0.438	0.011
2	14:12:38	0.055	0.115	0.135	0.008	0.014	101.9%	0.273	0.270	0.011
3	14:13:03	0.159	0.128	0.157	0.016	0.020	102.8%	0.186	0.173	0.022
x		0.153	0.131	0.127	0.012	0.017	101.6%	0.294	0.294	0.014
σ		0.096	0.017	0.034	0.004	0.003	1.4%	0.120	0.134	0.007
%RSD		62.410	12.900	26.930	31.530	18.890	1.4	40.810	45.790	45.510

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:12:12	0.015	0.005	100.6%
2	14:12:38	0.006	0.012	102.7%
3	14:13:03	0.009	0.015	103.9%
x		0.010	0.010	102.4%
σ		0.004	0.005	1.7%
%RSD		44.250	47.970	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SQ42373-002 5/19/2017 14:17:07

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	97.1%	97.190	99.070	97.930	T 884.800	T 879.100	831.500	840.300	98.400
2	14:17:59	97.0%	98.210	103.000	104.400	T 925.700	T 907.400	843.400	833.300	99.710
3	14:18:25	99.7%	93.110	97.640	100.600	T 879.100	T 878.700	817.400	803.700	98.740
x		97.9%	96.170	99.890	101.000	T 896.500	T 888.400	830.800	825.800	98.950
σ		1.6%	2.698	2.751	3.265	T 25.440	T 16.470	13.020	19.410	0.681
%RSD		1.6	2.805	2.754	3.233	T 2.837	T 1.853	1.567	2.351	0.688

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	T 928.200	T 26560.000	T 1042.000	1091.000	925.400	95.6%	98.340	96.510	96.590
2	14:17:59	T 938.300	T 27360.000	T 1071.000	1063.000	953.200	94.0%	101.000	99.010	99.190
3	14:18:25	T 889.800	T 26470.000	T 1027.000	1061.000	920.800	94.2%	98.840	96.830	96.720
x		T 918.800	T 26800.000	T 1047.000	1072.000	933.100	94.6%	99.380	97.450	97.500
σ		T 25.590	T 493.600	T 22.110	16.520	17.500	0.9%	1.399	1.357	1.465
%RSD		T 2.785	T 1.842	T 2.112	1.542	1.876	0.9	1.407	1.393	1.502

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	1.803	97.720	T 931.800	989.700	98.830	96.900	97.400	98.010	96.070
2	14:17:59	2.009	100.600	T 967.200	1033.000	102.000	98.500	101.400	98.510	96.780
3	14:18:25	2.276	97.650	T 949.500	1017.000	99.760	94.730	99.630	96.240	95.730
x		2.029	98.660	T 949.500	1013.000	100.200	96.710	99.480	97.590	96.190
σ		0.238	1.677	T 17.680	21.960	1.640	1.893	2.006	1.190	0.535
%RSD		11.700	1.699	T 1.862	2.167	1.637	1.957	2.017	1.219	0.556

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	95.160	97.320	6.538	6.080	97.350	-1.272	94.8%	100.400	102.100
2	14:17:59	94.700	100.200	6.499	5.972	95.370	-0.177	94.1%	107.600	108.500
3	14:18:25	92.100	99.130	6.126	5.032	94.560	-0.687	95.6%	107.000	108.400
x		93.990	98.900	6.388	5.695	95.760	-0.712	94.8%	105.000	106.300
σ		1.647	1.479	0.228	0.576	1.433	0.548	0.8%	3.987	3.697
%RSD		1.753	1.495	3.562	10.120	1.496	76.940	0.8	3.798	3.477

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	100.500	101.900	95.230	-1.859	92.560	96.310	94.750	95.3%	106.800
2	14:17:59	105.700	102.400	97.460	-0.521	93.710	100.100	97.520	96.0%	110.900
3	14:18:25	105.800	101.300	93.140	-0.954	91.460	95.810	94.610	98.1%	109.100
x		104.000	101.800	95.280	-1.111	92.580	97.390	95.630	96.5%	109.000
σ		3.061	0.543	2.161	0.683	1.129	2.326	1.638	1.5%	2.024
%RSD		2.944	0.533	2.268	61.470	1.219	2.388	1.713	1.5	1.858

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:17:34	100.800	91.300	94.380	96.800	95.350	97.6%	92.690	99.790	96.140
2	14:17:59	105.700	92.500	95.500	99.420	98.740	98.0%	95.440	103.600	99.660
3	14:18:25	102.100	90.630	94.370	97.660	96.090	101.7%	94.040	99.720	97.070
x		102.900	91.480	94.750	97.960	96.730	99.1%	94.060	101.000	97.620
σ		2.503	0.947	0.652	1.334	1.784	2.3%	1.370	2.234	1.824
%RSD		2.432	1.035	0.688	1.362	1.844	2.3	1.457	2.211	1.868

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:17:34	94.970	95.420	98.2%
2	14:17:59	97.820	98.850	98.5%
3	14:18:25	95.240	94.690	100.9%
x		96.010	96.320	99.2%
σ		1.574	2.219	1.5%
%RSD		1.639	2.304	1.5

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-001DIS 5/19/2017 14:22:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	96.2%	0.016	139.700	137.100	┬64310.000	┬24090.000	┬23970.000	┬24560.000	┬4.733
2	14:23:21	96.4%	-0.003	141.500	141.700	┬65530.000	┬24000.000	┬24020.000	┬24930.000	┬4.889
3	14:23:47	99.4%	0.000	143.100	141.600	┬64810.000	┬23730.000	┬23480.000	┬24090.000	┬7.831
x		97.3%	0.004	141.400	140.100	┬64880.000	┬23940.000	┬23820.000	┬24530.000	┬5.817
σ		1.8%	0.010	1.704	2.610	┬616.200	┬190.300	┬298.800	┬420.200	┬1.745
%RSD		1.9	232.200	1.205	1.862	┬0.950	┬0.795	┬1.255	┬1.713	┬30.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	┬7837.000	┬43290.000	┬1775.000	73640.000	┬72410.000	┬96.7%	1.032	0.652	0.052
2	14:23:21	┬7784.000	┬44110.000	┬1774.000	73410.000	┬72520.000	┬97.9%	1.209	0.892	0.078
3	14:23:47	┬7803.000	┬44200.000	┬1807.000	73870.000	┬74350.000	┬96.7%	1.143	0.699	0.051
x		┬7808.000	┬43870.000	┬1785.000	73640.000	┬73090.000	┬97.1%	1.128	0.748	0.060
σ		┬26.760	┬500.400	┬18.710	228.900	┬1089.000	┬0.7%	0.089	0.127	0.016
%RSD		┬0.343	┬1.141	┬1.048	0.311	┬1.490	┬0.7	7.923	17.040	25.770

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	5.569	1.798	48.480	375.100	-1.390	0.994	0.799	0.833	1.854
2	14:23:21	5.257	1.800	┬50.380	362.200	-1.387	1.034	0.767	0.773	1.784
3	14:23:47	5.715	1.860	┬52.040	345.900	-1.413	1.001	0.790	0.784	1.781
x		5.514	1.819	┬50.300	361.100	-1.397	1.010	0.785	0.796	1.806
σ		0.234	0.035	┬1.779	14.650	0.014	0.022	0.017	0.032	0.041
%RSD		4.238	1.947	┬3.537	4.059	1.023	2.143	2.125	4.024	2.286

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	0.271	0.104	63.680	62.550	0.006	0.080	94.8%	0.948	1.040
2	14:23:21	0.185	0.214	63.590	65.100	-0.300	-0.406	95.5%	0.951	1.117
3	14:23:47	0.079	0.413	63.200	63.960	-0.050	-0.393	95.4%	0.890	1.104
x		0.178	0.244	63.490	63.870	-0.115	-0.240	95.2%	0.930	1.087
σ		0.096	0.156	0.253	1.280	0.163	0.277	0.4%	0.035	0.041
%RSD		53.990	64.080	0.398	2.005	141.800	115.500	0.4	3.729	3.774

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	0.972	10.890	0.016	-4.141	0.011	-0.001	-0.033	92.7%	0.097
2	14:23:21	1.045	11.630	0.016	-4.381	0.008	0.012	-0.031	95.6%	0.084
3	14:23:47	1.005	9.928	0.014	-3.752	0.018	0.001	-0.016	95.3%	0.100
x		1.007	10.810	0.015	-4.091	0.012	0.004	-0.027	94.6%	0.094
σ		0.037	0.851	0.001	0.318	0.005	0.007	0.009	1.6%	0.008
%RSD		3.644	7.871	5.162	7.766	44.590	173.200	34.330	1.7	9.018

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:22:55	1.585	0.286	0.264	102.600	101.700	96.4%	0.024	0.028	0.121
2	14:23:21	1.729	0.286	0.285	102.800	101.200	98.4%	0.020	0.020	0.119
3	14:23:47	1.448	0.235	0.257	103.200	102.800	99.4%	0.010	0.013	0.108
x		1.588	0.269	0.269	102.900	101.900	98.1%	0.018	0.020	0.116
σ		0.141	0.029	0.014	0.315	0.779	1.6%	0.007	0.008	0.007
%RSD		8.858	10.950	5.261	0.306	0.765	1.6	41.330	39.020	6.019

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:22:55	0.102	0.094	89.2%
2	14:23:21	0.106	0.095	93.0%
3	14:23:47	0.104	0.104	93.9%
x		0.104	0.098	92.0%
σ		0.002	0.006	2.5%
%RSD		1.929	5.819	2.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-002DIS 5/19/2017 14:27:51

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	94.0%	0.013	51.970	48.820	T 22100.000	T 25220.000	T 25300.000	T 26150.000	T -5.975
2	14:28:43	93.7%	0.017	49.510	T 30.200	T 22550.000	T 25300.000	T 25090.000	T 26040.000	T -5.547
3	14:29:08	95.4%	0.016	48.630	47.960	T 22010.000	T 25150.000	T 25080.000	T 25680.000	1.129
x		94.4%	0.015	50.040	T 42.330	T 22220.000	T 25220.000	T 25160.000	T 25960.000	T -3.464
σ		0.9%	0.002	1.729	T 10.510	T 290.600	T 76.040	T 121.600	T 243.700	T 3.984
%RSD		1.0	13.790	3.455	T 24.830	T 1.308	T 0.301	T 0.484	T 0.939	T 115.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	T 9147.000	T 42450.000	483.300	77140.000	T 76690.000	T 95.7%	1.067	0.060	-0.000
2	14:28:43	T 9069.000	T 42220.000	479.100	76910.000	T 76760.000	T 97.0%	1.185	0.196	-0.003
3	14:29:08	T 9144.000	T 42900.000	487.800	77760.000	T 77570.000	T 94.7%	0.904	-0.126	0.004
x		T 9120.000	T 42530.000	483.400	77270.000	T 77000.000	T 95.8%	1.052	0.044	0.000
σ		T 44.410	T 345.800	4.394	439.100	T 488.800	T 1.1%	0.141	0.162	0.004
%RSD		T 0.487	T 0.813	0.909	0.568	T 0.635	T 1.2	13.390	371.500	1535.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	6.079	TM 791.000	12.670	363.600	-1.270	1.555	0.278	0.399	1.017
2	14:28:43	5.964	TM 786.700	9.704	338.400	-1.284	1.294	0.309	0.406	0.945
3	14:29:08	6.198	TM 810.600	11.380	336.200	-1.276	1.361	0.258	0.411	0.962
x		6.080	TM 796.100	11.250	346.100	-1.277	1.403	0.282	0.405	0.975
σ		0.117	TM 12.790	1.488	15.220	0.007	0.135	0.026	0.006	0.037
%RSD		1.925	TM 1.606	13.230	4.398	0.529	9.646	9.111	1.566	3.846

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	0.212	-0.184	160.800	162.800	0.331	0.421	94.1%	0.287	0.375
2	14:28:43	0.397	-0.037	155.800	160.300	0.049	-0.483	93.7%	0.311	0.400
3	14:29:08	0.352	0.381	158.600	158.500	0.399	-0.056	94.7%	0.315	0.507
x		0.320	0.053	158.400	160.500	0.260	-0.039	94.2%	0.304	0.427
σ		0.097	0.293	2.514	2.162	0.185	0.452	0.5%	0.015	0.070
%RSD		30.200	548.700	1.587	1.346	71.310	1151.000	0.6	4.987	16.450

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	0.341	9.517	-0.002	-3.600	-0.001	0.015	-0.024	92.6%	0.055
2	14:28:43	0.325	9.023	-0.003	-3.420	0.001	0.026	-0.019	94.4%	0.074
3	14:29:08	0.291	8.701	-0.002	-3.284	0.001	0.018	-0.009	94.8%	0.103
x		0.319	9.080	-0.002	-3.435	0.000	0.020	-0.017	94.0%	0.077
σ		0.025	0.411	0.001	0.158	0.001	0.006	0.007	1.2%	0.024
%RSD		7.974	4.527	27.050	4.610	576.500	28.780	42.820	1.2	31.560

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:28:16	1.395	0.085	0.088	49.450	48.250	95.8%	0.011	0.001	0.016
2	14:28:43	1.341	0.083	0.097	49.270	48.900	98.1%	-0.002	0.002	0.005
3	14:29:08	1.218	0.104	0.081	48.580	48.430	99.8%	0.002	0.002	0.018
x		1.318	0.091	0.088	49.100	48.520	97.9%	0.004	0.002	0.013
σ		0.091	0.012	0.008	0.459	0.335	2.0%	0.007	0.000	0.007
%RSD		6.869	12.830	9.278	0.934	0.690	2.0	172.800	19.270	54.690

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:28:16	0.006	-0.001	91.2%
2	14:28:43	0.011	0.004	93.1%
3	14:29:08	0.009	0.005	94.3%
x		0.009	0.003	92.9%
σ		0.002	0.003	1.6%
%RSD		26.220	105.600	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-003DIS 5/19/2017 14:33:13

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	103.8%	0.020	0.353	0.350	2.322	0.198	-0.021	0.293	-0.505
2	14:34:04	104.9%	0.002	-0.338	0.600	2.864	0.540	0.544	0.639	-0.451
3	14:34:30	106.1%	-0.005	-0.515	0.758	3.244	0.942	1.010	0.814	-0.263
x		104.9%	0.006	-0.167	0.570	2.810	0.560	0.511	0.582	-0.406
σ		1.2%	0.013	0.459	0.206	0.463	0.372	0.516	0.266	0.127
%RSD		1.1	211.500	274.700	36.120	16.480	66.460	101.000	45.620	31.370

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	15.350	T 35250.000	-1.220	4.821	3.213	101.7%	0.083	0.027	-0.002
2	14:34:04	15.530	T 35620.000	-0.471	3.027	3.680	101.0%	0.020	-0.017	-0.057
3	14:34:30	T 8.739	T 36130.000	0.225	3.638	5.154	98.7%	0.016	0.137	-0.031
x		T 13.210	T 35670.000	-0.489	3.829	4.016	100.4%	0.040	0.049	-0.030
σ		T 3.869	T 442.800	0.723	0.912	1.013	1.6%	0.037	0.079	0.028
%RSD		T 29.300	T 1.242	147.900	23.810	25.220	1.6	93.670	161.300	92.800

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	6.539	0.471	3.350	1.004	-0.001	0.024	0.275	0.307	0.313
2	14:34:04	6.525	0.519	3.051	-0.790	0.001	0.039	0.299	0.273	0.377
3	14:34:30	6.383	0.544	3.396	-1.217	0.000	0.036	0.272	0.281	0.299
x		6.482	0.512	3.265	-0.334	0.000	0.033	0.282	0.287	0.330
σ		0.086	0.037	0.187	1.179	0.001	0.008	0.015	0.018	0.042
%RSD		1.330	7.228	5.736	352.700	575.600	24.750	5.220	6.206	12.610

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	0.251	-0.373	12.320	11.730	0.229	-0.370	98.0%	-0.191	-0.101
2	14:34:04	0.193	0.054	12.400	12.310	0.228	-0.562	99.5%	-0.196	-0.111
3	14:34:30	0.145	0.116	12.670	12.790	0.266	-1.383	98.3%	-0.146	-0.123
x		0.196	-0.068	12.460	12.280	0.241	-0.772	98.6%	-0.178	-0.112
σ		0.053	0.266	0.184	0.530	0.022	0.538	0.8%	0.028	0.011
%RSD		27.100	393.400	1.477	4.318	9.034	69.750	0.8	15.610	9.891

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	-0.208	0.094	-0.001	-0.025	-0.003	0.003	-0.000	98.6%	0.036
2	14:34:04	-0.180	0.200	-0.003	-0.081	-0.001	-0.003	-0.003	100.3%	0.047
3	14:34:30	-0.169	-0.225	0.000	0.081	-0.004	0.008	0.005	98.4%	0.052
x		-0.186	0.023	-0.001	-0.008	-0.003	0.003	0.000	99.1%	0.045
σ		0.020	0.221	0.002	0.082	0.001	0.005	0.004	1.1%	0.008
%RSD		10.700	958.800	133.200	977.400	52.960	214.900	1304.000	1.1	18.700

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:33:38	0.084	0.018	-0.002	0.001	-0.007	98.7%	-0.003	-0.005	0.016
2	14:34:04	0.062	0.034	0.009	-0.017	-0.014	101.0%	-0.006	-0.002	0.019
3	14:34:30	0.010	0.013	0.057	0.000	0.007	100.6%	-0.006	-0.005	0.010
x		0.052	0.022	0.021	-0.005	-0.005	100.1%	-0.005	-0.004	0.015
σ		0.038	0.011	0.031	0.010	0.011	1.2%	0.002	0.001	0.005
%RSD		73.510	50.030	147.400	186.800	240.200	1.2	37.940	35.740	32.090

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:33:38	0.023	0.008	98.6%
2	14:34:04	0.013	0.016	101.2%
3	14:34:30	0.012	0.008	100.8%
x		0.016	0.011	100.2%
σ		0.006	0.004	1.4%
%RSD		37.350	42.160	1.4

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004DIS 5/19/2017 14:38:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	89.7%	0.014	33.670	32.980	T 17930.000	T 45770.000	T 45320.000	T 47960.000	T 31.720
2	14:39:27	91.4%	0.025	31.790	33.970	T 18150.000	T 45360.000	T 45430.000	T 47850.000	T 32.630
3	14:39:53	93.1%	0.017	33.830	34.410	T 18140.000	T 45600.000	T 45670.000	T 46510.000	T 33.550
x		91.4%	0.019	33.100	33.790	T 18070.000	T 45580.000	T 45470.000	T 47440.000	T 32.630
σ		1.7%	0.006	1.133	0.731	T 126.400	T 202.800	T 181.300	T 810.100	T 0.913
%RSD		1.9	30.710	3.424	2.162	T 0.700	T 0.445	T 0.399	T 1.708	T 2.796

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	T 7780.000	T 43910.000	569.400	M 119200.000	TM 115300.000	T 95.4%	1.792	0.380	0.054
2	14:39:27	T 7885.000	T 44970.000	578.300	M 119900.000	TM 117900.000	T 95.1%	1.465	0.228	0.085
3	14:39:53	T 7788.000	T 45010.000	580.800	M 119000.000	TM 118000.000	T 94.0%	4.616	0.495	0.087
x		T 7817.000	T 44630.000	576.200	M 119400.000	TM 117100.000	T 94.8%	2.625	0.368	0.076
σ		T 58.340	T 621.800	5.995	M 461.800	TM 1513.000	T 0.7%	1.732	0.134	0.018
%RSD		T 0.746	T 1.393	1.040	M 0.387	TM 1.292	T 0.8	66.010	36.380	24.230

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	7.638	16.050	T 93.400	630.800	-2.257	2.319	0.512	0.783	1.309
2	14:39:27	7.606	16.140	T 94.800	600.300	-2.255	2.309	0.494	0.771	1.249
3	14:39:53	7.349	16.190	T 94.300	566.800	-2.248	2.261	0.544	0.744	1.147
x		7.531	16.130	T 94.160	599.300	-2.253	2.297	0.516	0.766	1.235
σ		0.159	0.073	T 0.709	32.010	0.005	0.031	0.025	0.020	0.082
%RSD		2.104	0.453	T 0.753	5.342	0.207	1.351	4.907	2.611	6.608

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	0.978	0.023	389.500	398.200	0.792	0.847	91.6%	0.493	0.765
2	14:39:27	0.447	-0.316	392.200	391.700	0.447	-0.614	93.3%	0.548	0.729
3	14:39:53	0.457	0.185	399.300	399.900	0.604	1.254	93.0%	0.609	0.778
x		0.627	-0.036	393.700	396.600	0.614	0.496	92.6%	0.550	0.757
σ		0.304	0.256	5.060	4.322	0.173	0.982	0.9%	0.058	0.026
%RSD		48.460	713.700	1.285	1.090	28.160	198.200	1.0	10.540	3.373

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	0.556	10.530	-0.003	-3.951	-0.003	0.033	-0.001	90.3%	0.059
2	14:39:27	0.564	10.000	0.000	-3.799	-0.005	0.049	0.006	92.1%	0.083
3	14:39:53	0.566	7.590	0.001	-2.813	-0.003	0.038	0.014	92.5%	0.035
x		0.562	9.373	-0.001	-3.521	-0.004	0.040	0.006	91.6%	0.059
σ		0.005	1.567	0.002	0.618	0.001	0.008	0.008	1.2%	0.024
%RSD		0.937	16.710	381.600	17.540	25.790	21.240	122.400	1.3	40.580

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:39:01	1.460	0.009	0.036	112.000	110.800	93.4%	-0.002	-0.004	0.055
2	14:39:27	1.447	0.041	0.014	112.600	112.100	95.7%	0.010	0.000	0.044
3	14:39:53	1.041	0.051	0.042	113.700	110.700	96.9%	-0.004	-0.003	0.053
x		1.316	0.034	0.030	112.800	111.200	95.3%	0.001	-0.002	0.051
σ		0.239	0.022	0.014	0.865	0.773	1.8%	0.008	0.002	0.006
%RSD		18.130	64.220	47.510	0.767	0.695	1.9	551.000	104.800	11.110

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:39:01	0.044	0.037	87.4%
2	14:39:27	0.035	0.049	89.4%
3	14:39:53	0.058	0.044	90.7%
x		0.046	0.043	89.2%
σ		0.012	0.006	1.6%
%RSD		25.480	14.090	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004MSDIS 5/19/2017 14:43:58

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	91.5%	96.570	135.800	124.600	T 18510.000	T 45020.000	T 44490.000	T 46930.000	141.700
2	14:44:50	90.5%	96.880	130.300	127.500	T 18840.000	T 45980.000	T 45880.000	T 48450.000	T 153.200
3	14:45:16	89.3%	92.680	122.600	126.600	T 18430.000	T 44860.000	T 44330.000	T 46270.000	T 151.800
x		90.4%	95.380	129.600	126.200	T 18590.000	T 45290.000	T 44900.000	T 47220.000	T 148.900
σ		1.1%	2.341	6.647	1.487	T 217.000	T 608.800	T 853.500	T 1119.000	T 6.243
%RSD		1.2	2.454	5.129	1.178	T 1.167	T 1.344	T 1.901	T 2.369	T 4.193

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	T 8376.000	T 37190.000	T 1580.000	M 116600.000	TM 113800.000	97.1%	94.440	90.960	88.250
2	14:44:50	T 8634.000	T 38200.000	T 1633.000	M 119200.000	TM 117100.000	T 94.4%	97.530	94.210	92.680
3	14:45:16	T 8198.000	T 37410.000	T 1583.000	M 115600.000	TM 114100.000	91.6%	95.020	92.330	90.440
x		T 8403.000	T 37600.000	T 1599.000	M 117200.000	TM 115000.000	T 94.4%	95.660	92.500	90.460
σ		T 218.900	T 533.800	T 29.810	M 1874.000	TM 1830.000	T 2.7%	1.643	1.634	2.212
%RSD		T 2.605	T 1.420	T 1.865	M 1.600	TM 1.591	T 2.9	1.717	1.767	2.445

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	5.345	105.500	T 966.800	1529.000	87.180	93.250	89.530	99.220	92.280
2	14:44:50	5.645	109.500	T 998.900	1518.000	89.980	92.950	91.720	99.510	94.030
3	14:45:16	5.578	107.700	T 985.600	1463.000	87.270	86.650	89.960	94.190	88.950
x		5.523	107.500	T 983.800	1503.000	88.140	90.950	90.400	97.640	91.750
σ		0.158	2.001	T 16.160	35.160	1.593	3.727	1.160	2.992	2.577
%RSD		2.853	1.860	T 1.642	2.338	1.807	4.097	1.284	3.064	2.809

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	96.250	85.800	393.900	408.300	93.120	-0.764	92.9%	99.870	101.100
2	14:44:50	96.330	84.720	400.900	412.100	90.380	-0.140	93.1%	106.400	106.900
3	14:45:16	91.830	85.710	395.900	399.500	89.780	-0.440	93.3%	108.200	109.200
x		94.800	85.410	396.900	406.600	91.100	-0.448	93.1%	104.800	105.800
σ		2.577	0.602	3.605	6.474	1.783	0.312	0.2%	4.400	4.169
%RSD		2.718	0.705	0.908	1.592	1.957	69.690	0.2	4.197	3.943

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	98.360	97.970	89.990	-2.650	82.050	86.950	91.080	92.1%	98.350
2	14:44:50	105.000	99.820	91.480	-5.166	84.490	90.430	92.180	91.4%	100.500
3	14:45:16	107.100	94.920	86.790	-3.344	81.160	87.970	89.250	94.1%	100.200
x		103.500	97.570	89.420	-3.720	82.570	88.450	90.840	92.5%	99.680
σ		4.546	2.473	2.393	1.300	1.722	1.789	1.479	1.4%	1.166
%RSD		4.394	2.534	2.676	34.930	2.085	2.022	1.629	1.5	1.169

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:44:24	95.450	87.030	90.220	199.900	198.000	96.4%	90.940	90.890	93.310
2	14:44:50	97.900	89.380	92.410	207.800	202.800	96.1%	93.620	94.940	96.850
3	14:45:16	96.560	87.730	89.820	199.000	195.200	99.5%	90.380	90.070	93.460
x		96.640	88.050	90.820	202.200	198.700	97.3%	91.650	91.960	94.540
σ		1.226	1.207	1.393	4.840	3.869	1.9%	1.736	2.609	2.000
%RSD		1.268	1.371	1.534	2.393	1.948	2.0	1.894	2.836	2.116

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:44:24	91.590	85.780	89.3%
2	14:44:50	95.210	89.470	90.1%
3	14:45:16	91.590	85.340	92.5%
x		92.800	86.860	90.6%
σ		2.088	2.267	1.7%
%RSD		2.250	2.610	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004MDDIS 5/19/2017 14:49:22

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	91.0%	95.290	135.700	127.100	T 18600.000	T 44720.000	T 44470.000	T 46640.000	T 145.600
2	14:50:13	90.8%	94.360	128.100	124.700	T 18340.000	T 44790.000	T 44510.000	T 47700.000	T 148.600
3	14:50:39	90.0%	93.690	126.600	127.500	T 19010.000	T 47160.000	T 47150.000	T 49730.000	T 154.100
x		90.6%	94.450	130.100	126.400	T 18650.000	T 45560.000	T 45380.000	T 48020.000	T 149.400
σ		0.5%	0.801	4.871	1.515	T 335.700	T 1392.000	T 1533.000	T 1570.000	T 4.343
%RSD		0.6	0.848	3.743	1.198	T 1.801	T 3.056	T 3.379	T 3.269	T 2.907

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	T 8309.000	T 40800.000	T 1578.000	M 115200.000	TM 113200.000	T 95.8%	95.610	91.070	87.740
2	14:50:13	T 8401.000	T 42620.000	T 1617.000	M 116700.000	TM 113900.000	T 95.5%	93.390	90.380	87.870
3	14:50:39	T 8565.000	T 43640.000	T 1638.000	M 119200.000	TM 118200.000	T 93.8%	93.800	93.750	91.580
x		T 8425.000	T 42350.000	T 1611.000	M 117000.000	TM 115100.000	T 95.1%	94.270	91.730	89.060
σ		T 129.800	T 1439.000	T 30.510	M 2051.000	TM 2687.000	T 1.1%	1.182	1.780	2.179
%RSD		T 1.541	T 3.398	T 1.894	M 1.753	TM 2.335	T 1.1	1.253	1.941	2.447

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	6.051	103.600	T 950.400	1486.000	85.840	90.730	84.520	94.160	88.170
2	14:50:13	6.738	106.000	T 957.400	1486.000	87.060	90.680	85.600	91.720	86.410
3	14:50:39	6.120	108.400	T 996.000	1521.000	88.740	91.510	87.410	94.870	88.030
x		6.303	106.000	T 967.900	1497.000	87.210	90.970	85.840	93.590	87.530
σ		0.378	2.400	T 24.590	20.470	1.453	0.466	1.459	1.652	0.980
%RSD		6.001	2.265	T 2.541	1.367	1.667	0.512	1.699	1.765	1.120

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	93.250	83.980	412.800	417.200	89.730	0.480	92.8%	101.700	100.500
2	14:50:13	93.300	84.560	407.900	413.100	85.980	-0.451	93.0%	102.000	103.100
3	14:50:39	94.130	82.910	414.000	418.800	87.850	0.147	93.7%	108.700	107.800
x		93.560	83.820	411.600	416.300	87.850	0.059	93.1%	104.100	103.800
σ		0.494	0.842	3.215	2.914	1.876	0.471	0.5%	3.957	3.694
%RSD		0.528	1.004	0.781	0.700	2.135	804.100	0.5	3.800	3.560

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	99.320	96.790	89.290	-3.760	81.430	86.520	90.090	91.0%	96.370
2	14:50:13	102.300	96.010	87.570	-2.694	81.450	87.340	88.720	92.3%	98.290
3	14:50:39	106.700	97.150	90.610	-2.738	83.840	89.610	91.690	91.8%	100.400
x		102.800	96.650	89.150	-3.064	82.240	87.820	90.170	91.7%	98.350
σ		3.740	0.587	1.524	0.603	1.384	1.599	1.486	0.6%	2.011
%RSD		3.639	0.608	1.709	19.690	1.683	1.820	1.649	0.7	2.044

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:49:48	93.120	87.010	89.140	199.300	198.000	94.7%	90.150	90.970	92.870
2	14:50:13	95.060	87.090	90.250	198.600	198.900	97.9%	90.290	90.280	92.540
3	14:50:39	97.280	89.970	93.160	207.100	204.400	97.6%	93.240	93.450	96.530
x		95.150	88.030	90.850	201.600	200.400	96.7%	91.230	91.570	93.980
σ		2.083	1.688	2.078	4.696	3.476	1.8%	1.746	1.664	2.212
%RSD		2.189	1.917	2.288	2.329	1.734	1.8	1.914	1.817	2.353

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:49:48	90.930	86.350	88.7%
2	14:50:13	90.300	85.280	91.4%
3	14:50:39	94.640	88.590	90.6%
x		91.960	86.740	90.2%
σ		2.346	1.693	1.4%
%RSD		2.551	1.952	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004SDDIS(5) 5/19/2017 14:54:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	92.9%	0.009	6.377	6.861	T 3417.000	T 8720.000	T 8488.000	T 8822.000	4.836
2	14:55:39	93.5%	0.001	6.264	7.426	T 3358.000	T 8619.000	T 8535.000	T 8727.000	T -0.718
3	14:56:05	95.3%	0.035	5.951	7.478	T 3586.000	T 9256.000	T 9061.000	T 9266.000	6.119
x		93.9%	0.015	6.198	7.255	T 3454.000	T 8865.000	T 8694.000	T 8938.000	T 3.413
σ		1.2%	0.017	0.221	0.342	T 118.400	T 342.400	T 318.000	T 287.500	T 3.634
%RSD		1.3	114.900	3.558	4.714	T 3.428	T 3.862	T 3.658	T 3.217	T 106.500

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	T 1451.000	T 8115.000	107.100	22000.000	T 21910.000	T 94.2%	0.166	0.213	0.019
2	14:55:39	T 1440.000	T 8398.000	109.500	22220.000	T 22080.000	T 92.1%	0.180	0.194	-0.003
3	14:56:05	T 1537.000	T 8930.000	115.200	23950.000	T 23730.000	T 92.4%	0.288	0.229	0.005
x		T 1476.000	T 8481.000	110.600	22720.000	T 22570.000	T 92.9%	0.212	0.212	0.007
σ		T 53.000	T 413.400	4.193	1072.000	T 1004.000	T 1.2%	0.067	0.017	0.011
%RSD		T 3.590	T 4.875	3.791	4.719	T 4.446	T 1.3	31.520	8.246	154.400

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	1.900	3.185	T 20.370	112.600	-0.406	0.442	0.086	0.127	0.258
2	14:55:39	1.952	3.243	T 18.010	103.300	-0.415	0.374	0.098	0.127	0.276
3	14:56:05	2.060	3.400	17.100	115.600	-0.442	0.466	0.093	0.139	0.385
x		1.970	3.276	T 18.490	110.500	-0.421	0.427	0.092	0.131	0.306
σ		0.082	0.111	T 1.684	6.418	0.019	0.047	0.006	0.007	0.069
%RSD		4.144	3.390	T 9.107	5.807	4.516	11.090	6.742	5.107	22.470

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	-0.013	0.320	73.630	76.250	0.052	-0.971	95.0%	0.015	0.055
2	14:55:39	0.165	0.312	75.280	75.620	-0.005	-0.973	95.4%	0.055	0.190
3	14:56:05	0.054	0.039	79.050	79.400	-0.227	-1.500	92.5%	0.092	0.163
x		0.069	0.224	75.990	77.090	-0.060	-1.148	94.3%	0.054	0.136
σ		0.090	0.160	2.776	2.026	0.147	0.305	1.6%	0.039	0.071
%RSD		131.000	71.380	3.653	2.628	245.800	26.590	1.7	71.640	52.400

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	0.076	1.908	0.003	-0.716	0.003	0.008	0.004	94.8%	0.022
2	14:55:39	0.088	1.420	0.005	-0.545	0.001	0.016	0.012	95.5%	0.054
3	14:56:05	0.140	1.196	-0.002	-0.459	-0.001	0.010	0.000	93.8%	0.016
x		0.101	1.508	0.002	-0.573	0.001	0.011	0.005	94.7%	0.031
σ		0.034	0.364	0.003	0.131	0.002	0.004	0.006	0.8%	0.021
%RSD		33.560	24.170	165.000	22.810	217.800	37.370	111.500	0.9	66.680

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:55:12	0.227	0.014	0.027	21.310	20.900	96.3%	0.028	0.017	0.009
2	14:55:39	0.194	0.020	0.026	20.990	20.980	99.4%	0.013	0.016	0.014
3	14:56:05	0.171	0.015	0.015	23.380	22.500	97.2%	0.012	0.019	0.008
x		0.198	0.016	0.023	21.890	21.460	97.6%	0.017	0.017	0.010
σ		0.028	0.003	0.006	1.299	0.901	1.6%	0.009	0.001	0.003
%RSD		14.200	17.990	28.480	5.932	4.197	1.7	51.900	7.934	29.190

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:55:12	0.012	0.014	95.7%
2	14:55:39	0.010	0.011	97.8%
3	14:56:05	0.011	0.007	94.7%
x		0.011	0.010	96.1%
σ		0.001	0.003	1.5%
%RSD		6.891	32.000	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-004PSDIS 5/19/2017 15:00:10

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	90.3%	95.110	133.100	132.800	T 18540.000	T 44930.000	T 44880.000	T 46740.000	T 140.800
2	15:01:02	91.4%	93.930	134.200	133.300	T 18050.000	T 44070.000	T 43770.000	T 45750.000	T 133.000
3	15:01:27	93.7%	92.430	129.600	129.700	T 17950.000	T 44730.000	T 44160.000	T 45820.000	T 136.700
x		91.8%	93.830	132.300	131.900	T 18180.000	T 44580.000	T 44270.000	T 46100.000	T 136.800
σ		1.8%	1.343	2.391	1.955	T 316.600	T 454.200	T 561.000	T 549.800	T 3.919
%RSD		1.9	1.431	1.807	1.482	T 1.741	T 1.019	T 1.267	T 1.193	T 2.864

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	T 8327.000	T 41140.000	T 1575.000	M 115400.000	TM 111600.000	T 93.2%	93.720	91.240	89.720
2	15:01:02	T 8235.000	T 41730.000	T 1553.000	M 114400.000	TM 112900.000	T 94.5%	95.380	91.090	88.960
3	15:01:27	T 8329.000	T 42300.000	T 1566.000	M 114500.000	TM 114000.000	93.8%	95.100	92.460	90.960
x		T 8297.000	T 41720.000	T 1564.000	M 114700.000	TM 112800.000	T 93.8%	94.730	91.590	89.880
σ		T 53.670	T 578.000	T 11.050	M 554.500	TM 1226.000	T 0.6%	0.886	0.751	1.008
%RSD		T 0.647	T 1.385	T 0.706	M 0.483	TM 1.087	T 0.7	0.936	0.819	1.121

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	6.464	104.000	T 959.200	1502.000	88.080	89.850	86.700	92.650	87.910
2	15:01:02	6.475	105.000	T 968.300	1472.000	87.270	90.880	86.260	91.160	87.720
3	15:01:27	6.696	107.700	T 988.200	1473.000	89.530	90.100	87.430	92.470	88.170
x		6.545	105.600	T 971.900	1483.000	88.290	90.280	86.800	92.090	87.930
σ		0.131	1.938	T 14.820	16.810	1.149	0.541	0.592	0.814	0.227
%RSD		1.999	1.836	T 1.525	1.134	1.301	0.599	0.682	0.884	0.258

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	90.270	84.720	385.200	388.300	90.720	0.260	91.1%	103.000	103.200
2	15:01:02	90.950	85.010	377.100	378.100	88.700	-0.465	93.5%	104.200	103.300
3	15:01:27	92.190	85.210	381.900	385.200	91.660	-0.135	93.1%	108.000	109.000
x		91.140	84.980	381.400	383.800	90.360	-0.113	92.6%	105.100	105.200
σ		0.971	0.248	4.067	5.218	1.513	0.363	1.3%	2.609	3.307
%RSD		1.066	0.292	1.066	1.360	1.674	321.200	1.4	2.482	3.144

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	100.400	95.330	89.130	-3.821	82.130	86.850	90.340	90.8%	98.020
2	15:01:02	102.600	99.890	89.840	-3.861	82.110	86.640	90.080	92.0%	98.040
3	15:01:27	106.300	100.300	87.880	-3.859	83.380	90.120	89.750	92.0%	101.000
x		103.100	98.510	88.950	-3.847	82.540	87.870	90.060	91.6%	99.020
σ		2.941	2.758	0.996	0.022	0.728	1.954	0.296	0.7%	1.720
%RSD		2.853	2.800	1.119	0.583	0.881	2.224	0.328	0.7	1.737

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:00:36	95.610	79.020	82.320	200.100	197.900	95.0%	90.810	91.590	93.420
2	15:01:02	95.440	79.980	82.360	200.300	198.400	97.1%	91.590	91.660	93.720
3	15:01:27	97.660	81.520	84.560	205.200	199.000	98.2%	92.680	93.130	94.470
x		96.230	80.170	83.080	201.800	198.400	96.8%	91.690	92.130	93.870
σ		1.235	1.260	1.282	2.892	0.576	1.6%	0.940	0.873	0.540
%RSD		1.283	1.571	1.543	1.433	0.291	1.7	1.025	0.948	0.576

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:00:36	91.920	86.810	88.8%
2	15:01:02	92.260	86.380	90.4%
3	15:01:27	92.980	88.100	92.3%
x		92.390	87.100	90.5%
σ		0.544	0.896	1.8%
%RSD		0.589	1.029	1.9

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 15:05:34 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	84.3%	306.600	303.100	284.600	┬57460.000	┬55720.000	┬54650.000	┬59390.000	┬297.800
2	15:06:25	84.2%	299.600	285.600	282.000	┬57100.000	┬55940.000	┬56190.000	┬60520.000	295.700
3	15:06:52	84.4%	308.300	299.600	288.600	┬58370.000	┬57100.000	┬56420.000	┬60520.000	301.200
x		84.3%	101.614%	98.704%	95.024%	┬96.074%	┬56250.000	┬55750.000	┬100.236%	┬99.409%
σ		0.1%	n/a	n/a	n/a	┬n/a	┬743.800	┬962.800	┬n/a	┬n/a
%RSD		0.1	1.518	3.122	1.176	┬1.135	┬1.322	┬1.727	┬1.088	┬0.943

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	┬2990.000	202.300	┬63230.000	57290.000	┬57040.000	┬94.4%	286.400	299.900	┬287.600
2	15:06:25	┬3000.000	223.200	┬63930.000	57120.000	┬57570.000	┬94.0%	286.200	┬301.000	288.100
3	15:06:52	┬3037.000	240.400	┬66380.000	58470.000	┬58670.000	92.7%	300.100	311.000	296.800
x		┬100.291%	222.000	┬107.521%	57630.000	┬96.267%	┬93.7%	96.969%	┬101.309%	┬96.949%
σ		┬n/a	19.110	┬n/a	735.600	┬n/a	┬0.9%	n/a	┬n/a	┬n/a
%RSD		┬0.825	8.608	┬2.565	1.276	┬1.433	┬1.0	2.729	┬2.017	┬1.786

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	-6.820	┬281.100	┬53950.000	┬62580.000	294.000	284.800	267.000	288.400	280.000
2	15:06:25	-6.744	┬287.600	┬55040.000	┬62590.000	290.600	277.200	267.600	284.400	277.400
3	15:06:52	-7.644	┬296.700	┬56480.000	┬64490.000	299.900	281.200	276.100	287.300	280.000
x		-7.069	┬96.149%	┬91.925%	┬105.370%	98.277%	93.686%	270.200	95.571%	93.038%
σ		0.499	┬n/a	┬n/a	┬n/a	n/a	n/a	5.058	n/a	n/a
%RSD		7.061	┬2.715	┬2.304	┬1.734	1.602	1.351	1.872	0.731	0.545

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	283.200	271.500	5.435	4.773	278.000	-1.265	89.6%	294.700	291.900
2	15:06:25	277.400	266.700	5.399	3.115	277.900	-0.390	91.6%	309.400	306.100
3	15:06:52	286.800	275.300	5.084	3.447	284.500	-1.294	90.8%	327.100	324.400
x		94.157%	271.100	5.306	3.778	93.378%	-0.983	90.6%	103.471%	102.493%
σ		n/a	4.333	0.193	0.878	n/a	0.514	1.0%	n/a	n/a
%RSD		1.681	1.598	3.639	23.220	1.346	52.250	1.1	5.216	5.305

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	290.800	278.400	288.000	-0.005	265.700	275.300	284.600	88.4%	308.200
2	15:06:25	306.200	283.500	287.900	-7.311	262.800	273.700	284.500	91.4%	310.000
3	15:06:52	324.500	277.900	289.900	-1.256	269.200	280.800	288.200	91.3%	323.800
x		102.392%	279.900	96.198%	-2.857	265.900	276.600	95.266%	90.4%	104.663%
σ		n/a	3.120	n/a	3.907	3.166	3.746	n/a	1.7%	n/a
%RSD		5.489	1.115	0.392	136.800	1.191	1.354	0.736	1.9	2.722

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:05:59	295.700	276.700	284.400	293.300	288.700	92.4%	290.200	┬293.100	298.800
2	15:06:25	298.900	277.700	284.300	290.500	288.100	94.6%	290.700	┬292.900	297.800
3	15:06:52	309.400	287.600	295.000	294.200	290.400	95.4%	293.700	┬296.500	302.100
x		100.444%	93.568%	95.960%	97.548%	96.358%	94.1%	97.181%	┬98.054%	99.849%
σ		n/a	n/a	n/a	n/a	n/a	1.5%	n/a	┬n/a	n/a
%RSD		2.380	2.146	2.140	0.667	0.406	1.6	0.645	┬0.684	0.747

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:05:59	293.800	287.500	87.0%
2	15:06:25	290.400	287.100	89.1%
3	15:06:52	296.900	291.900	89.9%
x		97.904%	96.279%	88.7%
σ		n/a	n/a	1.5%
%RSD		1.107	0.912	1.7

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 15:10:55 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	99.0%	0.040	1.288	1.657	1.795	2.030	1.753	2.288	-0.679
2	15:11:47	102.3%	0.031	1.180	1.651	1.720	1.870	1.994	1.962	-0.572
3	15:12:13	105.0%	0.033	1.841	1.420	1.126	1.496	1.657	1.528	-0.566
x		102.1%	0.035	1.436	1.576	1.547	1.799	1.801	1.926	-0.606
σ		3.0%	0.005	0.354	0.135	0.366	0.274	0.174	0.382	0.063
%RSD		3.0	13.150	24.670	8.576	23.690	15.230	9.641	19.810	10.470

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	T -0.709	136.000	1.855	0.801	1.901	101.5%	0.006	0.088	-0.013
2	15:11:47	8.691	153.100	0.990	6.939	2.546	100.3%	0.007	0.109	-0.019
3	15:12:13	7.425	165.200	1.002	4.878	2.462	99.0%	-0.027	0.094	-0.019
x		T 5.136	151.400	1.282	4.206	2.303	100.3%	-0.005	0.097	-0.017
σ		T 5.101	14.670	0.496	3.123	0.351	1.2%	0.020	0.011	0.003
%RSD		T 99.320	9.687	38.670	74.260	15.220	1.2	402.200	11.160	19.930

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	0.040	0.016	-1.218	4.318	0.008	0.070	-0.001	0.006	-0.025
2	15:11:47	0.023	0.009	-0.556	2.341	0.014	0.035	-0.002	-0.009	0.036
3	15:12:13	0.040	0.002	-0.205	1.557	0.015	0.016	0.019	0.008	-0.025
x		0.034	0.009	-0.660	2.739	0.012	0.041	0.006	0.002	-0.005
σ		0.010	0.007	0.514	1.423	0.004	0.027	0.012	0.009	0.035
%RSD		27.640	76.500	77.920	51.940	33.720	67.670	213.200	531.800	775.500

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	-0.030	0.063	2.159	1.159	-0.109	-2.421	98.8%	0.565	0.766
2	15:11:47	-0.047	0.129	1.854	2.517	-0.182	-0.237	98.6%	0.585	0.837
3	15:12:13	-0.027	0.068	1.813	1.212	-0.190	-1.826	98.5%	0.630	0.837
x		-0.035	0.087	1.942	1.629	-0.160	-1.495	98.6%	0.593	0.814
σ		0.011	0.037	0.189	0.769	0.045	1.129	0.2%	0.033	0.041
%RSD		31.530	42.470	9.747	47.200	27.800	75.530	0.2	5.597	5.060

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	0.531	-0.133	0.020	0.091	0.014	0.003	0.028	97.9%	0.166
2	15:11:47	0.701	0.938	0.014	-0.346	0.012	0.015	0.006	99.1%	0.202
3	15:12:13	0.579	0.660	0.009	-0.240	0.011	0.016	0.007	99.9%	0.161
x		0.604	0.488	0.015	-0.165	0.012	0.011	0.013	99.0%	0.176
σ		0.087	0.556	0.005	0.228	0.002	0.007	0.012	1.0%	0.023
%RSD		14.450	113.800	37.190	138.300	13.010	66.230	92.040	1.0	12.870

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:11:21	0.181	0.306	0.379	0.009	0.036	98.9%	0.022	0.026	0.006
2	15:11:47	0.297	0.346	0.391	0.021	0.017	100.3%	0.034	0.029	0.015
3	15:12:13	0.236	0.367	0.419	-0.004	0.005	100.7%	0.027	0.025	0.011
x		0.238	0.340	0.396	0.009	0.019	99.9%	0.028	0.027	0.011
σ		0.058	0.031	0.020	0.013	0.016	0.9%	0.006	0.002	0.004
%RSD		24.480	9.223	5.169	145.800	83.660	0.9	22.170	7.341	41.040

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:11:21	0.005	0.014	99.4%
2	15:11:47	0.009	0.010	99.9%
3	15:12:13	0.012	0.015	100.8%
x		0.009	0.013	100.0%
σ		0.003	0.003	0.7%
%RSD		39.410	19.570	0.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-005DIS 5/19/2017 15:16:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	93.4%	0.017	108.600	109.500	T 30100.000	T 56530.000	T 56090.000	T 59150.000	10.890
2	15:17:09	95.9%	0.008	106.300	108.500	T 28930.000	T 55080.000	T 56220.000	T 58060.000	T 6.519
3	15:17:34	93.4%	0.001	110.600	117.100	T 31940.000	T 59840.000	T 60260.000	T 61420.000	11.440
x		94.2%	0.009	108.500	111.700	T 30320.000	T 57150.000	T 57520.000	T 59540.000	T 9.616
σ		1.4%	0.008	2.178	4.689	T 1516.000	T 2441.000	T 2369.000	T 1711.000	T 2.696
%RSD		1.5	86.230	2.007	4.199	T 5.001	T 4.272	T 4.118	T 2.874	T 28.040

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	T 7889.000	T 37370.000	520.200	M 101000.000	T 98470.000	T 98.4%	1.282	0.139	0.040
2	15:17:09	T 7805.000	T 37680.000	520.900	98490.000	T 98540.000	T 98.7%	0.981	0.129	0.065
3	15:17:34	T 8437.000	T 40410.000	555.800	M 107700.000	TM 107000.000	T 93.6%	0.993	0.104	0.005
x		T 8044.000	T 38490.000	532.300	M 102400.000	TM 101300.000	T 96.9%	1.085	0.124	0.037
σ		T 343.300	T 1670.000	20.330	M 4760.000	TM 4912.000	T 2.9%	0.171	0.018	0.030
%RSD		T 4.268	T 4.338	3.818	M 4.649	TM 4.847	T 3.0	15.720	14.310	81.790

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	5.348	26.270	T 57.070	493.300	-1.844	2.113	0.988	1.415	1.961
2	15:17:09	5.484	26.870	54.360	473.300	-1.804	2.084	1.091	1.373	2.064
3	15:17:34	6.121	28.910	T 64.830	491.600	-1.960	2.038	1.142	1.463	2.015
x		5.651	27.350	T 58.750	486.100	-1.870	2.079	1.074	1.417	2.013
σ		0.412	1.386	T 5.434	11.080	0.081	0.038	0.079	0.045	0.051
%RSD		7.299	5.069	T 9.249	2.280	4.334	1.814	7.314	3.185	2.552

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	0.379	0.251	328.400	333.800	1.140	-1.116	94.2%	1.746	1.793
2	15:17:09	0.313	0.566	329.000	333.300	0.367	-1.142	95.0%	1.585	1.957
3	15:17:34	0.219	0.728	343.600	352.900	0.632	-0.121	92.7%	1.934	2.118
x		0.303	0.515	333.700	340.000	0.713	-0.793	94.0%	1.755	1.956
σ		0.080	0.243	8.628	11.180	0.393	0.582	1.1%	0.174	0.162
%RSD		26.470	47.120	2.586	3.290	55.080	73.390	1.2	9.935	8.301

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	1.702	6.902	0.003	-2.603	-0.000	0.047	0.013	92.7%	0.199
2	15:17:09	1.675	9.053	0.003	-3.420	0.002	0.030	-0.003	94.4%	0.115
3	15:17:34	1.836	8.168	0.004	-3.083	-0.001	0.005	0.005	91.9%	0.112
x		1.738	8.041	0.003	-3.036	0.000	0.027	0.005	93.0%	0.142
σ		0.086	1.081	0.001	0.411	0.001	0.021	0.008	1.2%	0.049
%RSD		4.977	13.450	21.740	13.530	1900.000	79.030	162.600	1.3	34.370

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:16:43	1.028	0.156	0.195	74.470	72.380	96.2%	0.130	0.125	0.055
2	15:17:09	1.308	0.202	0.200	74.540	74.530	98.4%	0.092	0.086	0.038
3	15:17:34	1.176	0.229	0.212	79.160	78.180	97.8%	0.055	0.057	0.054
x		1.171	0.196	0.202	76.060	75.030	97.5%	0.092	0.089	0.049
σ		0.140	0.037	0.009	2.689	2.935	1.1%	0.037	0.034	0.009
%RSD		11.950	18.970	4.419	3.535	3.911	1.2	40.700	37.970	19.030

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:16:43	0.028	0.022	88.3%
2	15:17:09	0.033	0.038	90.5%
3	15:17:34	0.045	0.031	87.6%
x		0.036	0.030	88.8%
σ		0.009	0.008	1.5%
%RSD		24.290	24.930	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-006DIS 5/19/2017 15:21:40

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	104.0%	0.013	0.029	0.715	7.248	0.880	1.037	1.090	-0.878
2	15:22:32	107.5%	0.022	-0.399	0.842	7.125	0.758	0.528	0.410	-0.994
3	15:22:58	109.7%	0.021	-0.139	0.180	6.223	0.289	0.574	0.213	-0.869
x		107.1%	0.019	-0.169	0.579	6.865	0.642	0.713	0.571	-0.914
σ		2.9%	0.005	0.216	0.351	0.560	0.312	0.281	0.460	0.070
%RSD		2.7	26.710	127.500	60.680	8.152	48.550	39.460	80.510	7.620

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	12.240	T 39760.000	-2.692	1.354	2.481	101.9%	0.974	0.043	0.073
2	15:22:32	11.960	T 39880.000	-2.636	2.645	2.906	101.4%	0.048	-0.008	0.087
3	15:22:58	10.410	T 39510.000	-3.919	-0.459	2.891	101.0%	-0.001	0.024	0.098
x		11.540	T 39720.000	-3.082	1.180	2.760	101.4%	0.341	0.020	0.086
σ		0.988	T 187.700	0.725	1.559	0.241	0.5%	0.549	0.025	0.012
%RSD		8.561	T 0.473	23.520	132.200	8.735	0.4	161.300	130.300	14.360

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	8.085	0.551	4.288	-0.911	0.001	0.065	1.571	1.618	1.537
2	15:22:32	8.086	0.516	4.486	-0.581	-0.004	0.074	1.618	1.634	1.364
3	15:22:58	7.746	0.508	3.210	-0.666	-0.003	0.042	1.604	1.617	1.512
x		7.972	0.525	3.995	-0.719	-0.002	0.060	1.598	1.623	1.471
σ		0.196	0.023	0.687	0.171	0.002	0.016	0.024	0.010	0.093
%RSD		2.459	4.325	17.200	23.780	117.000	26.770	1.512	0.596	6.352

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	0.099	0.269	14.800	13.120	0.214	-0.082	98.1%	-0.213	-0.147
2	15:22:32	0.084	-0.081	14.470	14.090	-0.407	0.349	98.3%	-0.205	-0.067
3	15:22:58	0.219	-0.087	13.050	12.300	-0.194	-0.483	101.4%	-0.178	-0.084
x		0.134	0.033	14.110	13.170	-0.129	-0.072	99.3%	-0.198	-0.099
σ		0.074	0.204	0.926	0.895	0.316	0.416	1.8%	0.019	0.042
%RSD		55.000	610.700	6.567	6.794	244.100	578.400	1.8	9.366	42.420

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	-0.178	-0.039	0.005	0.025	0.002	0.003	0.009	97.8%	0.062
2	15:22:32	-0.181	-0.075	-0.001	0.023	-0.002	-0.006	-0.001	98.2%	0.061
3	15:22:58	-0.182	0.667	-0.002	-0.245	-0.005	-0.006	-0.006	100.8%	0.072
x		-0.180	0.184	0.001	-0.065	-0.001	-0.003	0.001	99.0%	0.065
σ		0.002	0.419	0.004	0.155	0.003	0.005	0.008	1.6%	0.006
%RSD		0.981	227.000	546.300	237.400	233.300	162.700	1536.000	1.6	9.249

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:06	0.034	0.058	0.039	0.001	0.025	98.7%	0.010	0.003	0.031
2	15:22:32	0.066	0.086	0.090	0.005	0.015	99.1%	0.003	0.003	0.048
3	15:22:58	0.171	0.076	0.058	0.004	0.025	102.1%	-0.000	-0.001	0.034
x		0.090	0.074	0.062	0.003	0.021	100.0%	0.004	0.001	0.037
σ		0.072	0.014	0.026	0.002	0.006	1.9%	0.006	0.002	0.009
%RSD		79.360	19.560	41.390	68.720	26.950	1.9	129.300	161.100	24.010

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:22:06	0.036	0.037	96.9%
2	15:22:32	0.041	0.029	100.2%
3	15:22:58	0.037	0.037	103.3%
x		0.038	0.034	100.1%
σ		0.003	0.004	3.2%
%RSD		7.711	12.750	3.2

PDF created with pdfFactory trial version www.pdffactory.com

SE13002-001 5/19/2017 15:27:01

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	96.6%	0.148	79.180	79.790	T 10800.000	T 4057.000	T 3983.000	T 4093.000	TM 2255.000
2	15:27:53	97.1%	0.133	75.540	80.250	T 10750.000	T 4073.000	T 4003.000	T 4054.000	TM 2226.000
3	15:28:19	95.9%	0.139	76.300	83.240	T 11060.000	T 4199.000	T 4146.000	T 4214.000	TM 2341.000
x		96.5%	0.140	77.010	81.090	T 10870.000	T 4110.000	T 4044.000	T 4121.000	TM 2274.000
σ		0.6%	0.008	1.922	1.873	T 167.600	T 77.920	T 88.830	T 83.550	TM 59.670
%RSD		0.6	5.560	2.496	2.310	T 1.541	T 1.896	T 2.196	T 2.028	TM 2.624

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	T 4831.000	T 38310.000	T 28280.000	58570.000	T 57920.000	95.9%	15.740	3.140	2.929
2	15:27:53	T 4788.000	T 38100.000	T 28330.000	58420.000	T 58530.000	95.7%	16.210	3.573	3.003
3	15:28:19	T 5071.000	T 40490.000	T 29620.000	60470.000	T 60260.000	93.7%	15.210	3.506	3.041
x		T 4897.000	T 38970.000	T 28750.000	59150.000	T 58900.000	95.1%	15.720	3.407	2.991
σ		T 152.600	T 1323.000	T 757.000	1141.000	T 1214.000	1.2%	0.503	0.233	0.057
%RSD		T 3.116	T 3.395	T 2.634	1.928	T 2.061	1.3	3.199	6.843	1.911

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	4.811	42.070	T 3769.000	4255.000	-0.252	1.613	0.877	0.979	2.538
2	15:27:53	4.463	42.000	T 3774.000	4313.000	-0.229	1.445	0.865	1.088	2.529
3	15:28:19	4.618	44.000	T 3987.000	4474.000	-0.265	1.632	0.946	1.067	2.809
x		4.631	42.690	T 3843.000	4347.000	-0.249	1.563	0.896	1.045	2.626
σ		0.174	1.139	T 124.300	113.200	0.018	0.103	0.044	0.058	0.159
%RSD		3.763	2.669	T 3.235	2.604	7.392	6.579	4.866	5.535	6.068

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	1.347	0.184	121.400	124.400	0.967	-0.745	97.0%	0.482	0.488
2	15:27:53	1.562	0.662	121.300	124.500	0.594	-0.169	97.5%	0.584	0.705
3	15:28:19	1.615	0.296	123.300	124.300	0.805	-0.738	97.2%	0.742	0.781
x		1.508	0.381	122.000	124.400	0.789	-0.550	97.2%	0.603	0.658
σ		0.142	0.250	1.119	0.110	0.187	0.331	0.2%	0.131	0.152
%RSD		9.409	65.720	0.918	0.089	23.710	60.080	0.2	21.760	23.110

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	0.619	13.610	-0.000	-5.180	-0.003	0.009	-0.020	90.8%	0.103
2	15:27:53	0.610	10.590	0.000	-4.024	0.000	0.009	-0.029	92.6%	0.119
3	15:28:19	0.628	13.030	0.003	-4.922	0.003	0.034	-0.025	92.2%	0.110
x		0.619	12.410	0.001	-4.709	0.000	0.017	-0.025	91.9%	0.111
σ		0.009	1.598	0.002	0.607	0.003	0.015	0.004	0.9%	0.008
%RSD		1.409	12.880	147.100	12.890	3205.000	85.730	17.800	1.0	7.309

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:27:27	1.863	0.081	0.087	47.970	45.990	93.9%	0.013	0.010	1.191
2	15:27:53	1.446	0.117	0.128	47.690	47.460	95.5%	0.025	0.014	1.260
3	15:28:19	1.814	0.123	0.116	49.320	48.990	95.9%	0.020	0.016	1.255
x		1.707	0.107	0.110	48.330	47.480	95.1%	0.019	0.013	1.236
σ		0.228	0.023	0.021	0.876	1.502	1.0%	0.006	0.003	0.038
%RSD		13.360	21.250	19.120	1.814	3.163	1.1	31.910	24.190	3.110

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:27:27	1.142	1.115	90.5%
2	15:27:53	1.195	1.094	92.3%
3	15:28:19	1.254	1.138	91.1%
x		1.197	1.116	91.3%
σ		0.056	0.022	0.9%
%RSD		4.712	1.974	1.0

PDF created with pdfFactory trial version www.pdffactory.com

SE13002-002 5/19/2017 15:32:25

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	93.2%	0.009	157.200	152.500	T 10430.000	T 5070.000	T 5014.000	T 5158.000	T 64.830
2	15:33:17	95.2%	0.027	157.200	154.400	T 10580.000	T 5148.000	T 5033.000	T 5228.000	T 64.580
3	15:33:44	95.6%	0.020	155.300	159.900	T 10630.000	T 5181.000	T 5201.000	T 5258.000	T 70.310
x		94.7%	0.019	156.600	155.600	T 10550.000	T 5133.000	T 5083.000	T 5215.000	T 66.580
σ		1.3%	0.009	1.104	3.812	T 99.700	T 56.640	T 103.000	T 51.340	T 3.235
%RSD		1.4	48.700	0.705	2.450	T 0.945	T 1.103	T 2.026	T 0.985	T 4.859

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	T 5981.000	T 39030.000	T 14930.000	98810.000	T 96410.000	T 94.8%	2.354	0.482	0.616
2	15:33:17	T 5996.000	T 39980.000	T 14950.000	97430.000	T 94930.000	95.1%	3.817	0.525	0.636
3	15:33:44	T 6106.000	T 41290.000	T 15380.000	M 100500.000	TM 100400.000	T 92.7%	2.732	0.340	0.676
x		T 6028.000	T 40100.000	T 15090.000	M 98920.000	TM 97230.000	T 94.2%	2.968	0.449	0.642
σ		T 68.670	T 1134.000	T 253.700	M 1539.000	TM 2806.000	T 1.3%	0.759	0.097	0.031
%RSD		T 1.139	T 2.828	T 1.682	M 1.556	TM 2.886	T 1.4	25.590	21.580	4.762

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	4.751	179.700	T 3196.000	3901.000	-1.753	1.570	0.687	0.975	11.260
2	15:33:17	4.293	179.800	T 3207.000	3842.000	-1.731	1.404	0.728	0.955	10.610
3	15:33:44	4.698	191.100	T 3413.000	4052.000	-1.798	1.418	0.760	1.012	11.460
x		4.581	183.500	T 3272.000	3932.000	-1.761	1.464	0.725	0.981	11.110
σ		0.250	6.542	T 122.700	108.500	0.034	0.092	0.036	0.029	0.443
%RSD		5.466	3.565	T 3.750	2.759	1.937	6.280	5.027	2.954	3.983

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	0.548	0.559	123.800	126.700	-0.103	0.059	91.9%	-0.102	-0.072
2	15:33:17	0.651	-0.009	119.400	122.000	0.471	1.065	93.5%	-0.063	-0.009
3	15:33:44	0.812	0.260	125.000	125.800	0.540	-0.393	91.9%	-0.054	0.030
x		0.670	0.270	122.700	124.800	0.303	0.244	92.4%	-0.073	-0.017
σ		0.133	0.284	2.974	2.501	0.353	0.746	0.9%	0.025	0.051
%RSD		19.870	105.200	2.423	2.004	116.600	306.400	1.0	34.860	300.900

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	-0.078	17.590	-0.001	-6.642	-0.006	0.012	-0.038	90.3%	0.120
2	15:33:17	-0.114	15.650	-0.005	-5.972	-0.007	0.009	-0.042	91.7%	0.121
3	15:33:44	0.005	15.860	-0.003	-6.038	-0.005	0.034	-0.033	92.1%	0.132
x		-0.062	16.370	-0.003	-6.217	-0.006	0.018	-0.038	91.4%	0.124
σ		0.061	1.064	0.002	0.370	0.001	0.014	0.004	1.0%	0.007
%RSD		97.770	6.501	57.180	5.942	20.770	77.050	11.920	1.1	5.277

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:32:51	2.475	0.029	0.081	69.470	67.650	93.3%	-0.001	-0.005	3.395
2	15:33:17	2.271	0.077	0.027	70.720	67.830	95.2%	-0.006	-0.007	3.301
3	15:33:44	2.317	0.083	0.083	72.230	71.780	94.4%	-0.009	-0.006	3.448
x		2.354	0.063	0.064	70.800	69.090	94.3%	-0.005	-0.006	3.381
σ		0.107	0.030	0.032	1.379	2.336	1.0%	0.004	0.001	0.074
%RSD		4.539	46.990	49.690	1.947	3.382	1.0	82.450	20.690	2.190

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:32:51	3.206	2.971	89.1%
2	15:33:17	3.162	3.020	91.7%
3	15:33:44	3.475	3.141	89.6%
x		3.281	3.044	90.1%
σ		0.169	0.087	1.4%
%RSD		5.160	2.870	1.5

PDF created with pdfFactory trial version www.pdffactory.com

SE13002-003 5/19/2017 15:37:49

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	93.4%	0.150	177.000	189.400	T 19840.000	T 6694.000	T 6569.000	T 6816.000	TM 2520.000
2	15:38:41	92.9%	0.231	180.400	193.000	T 19840.000	T 6679.000	T 6560.000	T 6826.000	TM 2522.000
3	15:39:07	94.3%	0.179	176.800	191.800	T 19430.000	T 6634.000	T 6461.000	T 6831.000	TM 2611.000
x		93.5%	0.187	178.100	191.400	T 19700.000	T 6669.000	T 6530.000	T 6824.000	TM 2551.000
σ		0.7%	0.041	2.031	1.808	T 237.700	T 31.210	T 60.040	T 7.720	TM 51.970
%RSD		0.8	22.070	1.141	0.944	T 1.206	T 0.468	T 0.920	T 0.113	TM 2.038

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	T 7441.000	T 39030.000	T 24620.000	M 125900.000	TM 122900.000	T 96.7%	T -41.160	3.861	6.569
2	15:38:41	T 7630.000	T 40160.000	T 25200.000	M 129700.000	TM 125400.000	T 97.2%	T -39.050	4.159	6.549
3	15:39:07	T 7600.000	T 40900.000	T 25530.000	M 130600.000	TM 127600.000	T 95.9%	T -46.600	3.921	6.791
x		T 7557.000	T 40030.000	T 25110.000	M 128700.000	TM 125300.000	T 96.6%	T -42.270	3.980	6.636
σ		T 101.200	T 939.400	T 458.700	M 2493.000	TM 2353.000	T 0.6%	T 3.891	0.157	0.134
%RSD		T 1.339	T 2.347	T 1.826	M 1.937	TM 1.878	T 0.7	T 9.205	3.949	2.024

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	4.737	142.400	T 6133.000	7171.000	-1.145	3.528	1.637	2.061	4.253
2	15:38:41	4.254	143.500	T 6246.000	T 7425.000	-1.191	3.614	1.525	1.954	4.306
3	15:39:07	4.517	147.300	T 6460.000	T 7776.000	-1.165	3.514	1.662	2.081	4.461
x		4.503	144.400	T 6280.000	T 7457.000	-1.167	3.552	1.608	2.032	4.340
σ		0.242	2.569	T 166.500	T 304.000	0.023	0.054	0.073	0.068	0.108
%RSD		5.363	1.779	T 2.651	T 4.076	1.987	1.522	4.538	3.367	2.494

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	4.259	-0.239	187.400	191.400	0.549	-0.272	100.1%	1.451	1.474
2	15:38:41	4.385	0.166	188.900	192.600	0.526	-0.725	100.7%	1.488	1.751
3	15:39:07	4.515	-0.099	189.300	191.300	0.870	-0.308	101.3%	1.626	1.700
x		4.387	-0.057	188.600	191.800	0.648	-0.435	100.7%	1.522	1.642
σ		0.128	0.206	0.996	0.737	0.192	0.252	0.6%	0.093	0.147
%RSD		2.919	360.000	0.528	0.384	29.630	57.900	0.6	6.087	8.980

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	1.485	27.440	0.005	-10.540	0.005	-0.000	-0.098	90.3%	0.090
2	15:38:41	1.498	26.440	0.004	-10.060	0.002	0.017	-0.097	92.1%	0.103
3	15:39:07	1.727	25.100	0.003	-9.581	-0.001	-0.007	-0.085	92.6%	0.119
x		1.570	26.330	0.004	-10.060	0.002	0.003	-0.093	91.7%	0.104
σ		0.136	1.175	0.001	0.478	0.003	0.012	0.008	1.2%	0.015
%RSD		8.687	4.462	21.770	4.752	137.400	369.800	8.074	1.3	14.190

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:38:15	3.684	0.072	0.057	56.210	56.930	92.8%	0.009	0.008	1.241
2	15:38:41	3.513	0.088	0.089	56.220	56.330	95.4%	0.013	0.007	1.231
3	15:39:07	3.357	0.114	0.073	57.780	57.640	96.5%	0.020	0.011	1.290
x		3.518	0.091	0.073	56.740	56.970	94.9%	0.014	0.009	1.254
σ		0.164	0.021	0.016	0.903	0.656	1.9%	0.005	0.002	0.032
%RSD		4.657	23.170	21.980	1.591	1.151	2.0	39.650	24.570	2.515

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:38:15	1.165	1.121	87.5%
2	15:38:41	1.106	1.115	90.6%
3	15:39:07	1.237	1.098	90.5%
x		1.169	1.111	89.6%
σ		0.066	0.012	1.8%
%RSD		5.604	1.048	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SE13002-004 5/19/2017 15:43:13

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	94.6%	0.076	119.300	122.600	T 10340.000	T 2312.000	2191.000	2241.000	T 284.000
2	15:44:04	98.1%	0.051	122.400	124.100	T 10230.000	T 2270.000	2143.000	2170.000	T 281.500
3	15:44:29	98.3%	0.037	120.700	125.800	T 10190.000	T 2272.000	2123.000	2085.000	T 285.000
x		97.0%	0.055	120.800	124.200	T 10250.000	T 2285.000	2152.000	2165.000	T 283.500
σ		2.1%	0.020	1.562	1.599	T 78.860	T 23.780	34.860	78.210	T 1.821
%RSD		2.1	36.460	1.293	1.288	T 0.769	T 1.041	1.620	3.612	T 0.642

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	T 4168.000	T 39940.000	T 3852.000	66910.000	T 66060.000	T 96.4%	4.178	1.121	0.994
2	15:44:04	T 4151.000	T 39920.000	T 3867.000	67140.000	T 65920.000	T 95.6%	3.209	1.129	1.050
3	15:44:29	T 4093.000	T 40220.000	T 3909.000	67010.000	T 66210.000	T 93.6%	3.860	1.294	1.038
x		T 4137.000	T 40030.000	T 3876.000	67020.000	T 66060.000	T 95.2%	3.749	1.181	1.027
σ		T 39.080	T 166.900	T 29.420	115.900	T 147.900	T 1.5%	0.494	0.098	0.030
%RSD		T 0.945	T 0.417	T 0.759	0.173	T 0.224	T 1.5	13.170	8.296	2.894

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	5.122	46.370	T 1374.000	1773.000	-1.048	1.261	0.483	0.654	1.676
2	15:44:04	5.009	46.410	T 1395.000	1747.000	-1.026	1.225	0.437	0.571	1.531
3	15:44:29	4.871	47.550	T 1434.000	1788.000	-1.045	1.150	0.508	0.647	1.506
x		5.001	46.780	T 1401.000	1769.000	-1.040	1.212	0.476	0.624	1.571
σ		0.125	0.667	T 30.390	20.930	0.012	0.057	0.036	0.046	0.092
%RSD		2.508	1.425	T 2.169	1.183	1.123	4.695	7.494	7.414	5.826

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	1.406	0.310	88.320	90.660	0.761	-1.148	95.6%	0.356	0.405
2	15:44:04	0.917	-0.231	87.370	86.740	-0.074	-0.715	96.2%	0.307	0.411
3	15:44:29	1.102	0.234	85.740	85.020	-0.268	0.054	95.9%	0.292	0.376
x		1.141	0.104	87.150	87.470	0.139	-0.603	95.9%	0.318	0.397
σ		0.247	0.293	1.305	2.891	0.547	0.609	0.3%	0.033	0.019
%RSD		21.640	281.400	1.497	3.305	392.400	101.000	0.3	10.430	4.706

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	0.318	13.020	-0.004	-4.978	-0.008	-0.007	-0.049	91.4%	0.053
2	15:44:04	0.305	14.270	-0.007	-5.453	-0.001	-0.002	-0.055	92.9%	0.031
3	15:44:29	0.381	10.460	-0.006	-3.995	-0.005	-0.002	-0.037	93.3%	0.031
x		0.335	12.580	-0.006	-4.809	-0.005	-0.004	-0.047	92.6%	0.038
σ		0.040	1.944	0.002	0.744	0.003	0.003	0.009	1.0%	0.013
%RSD		12.060	15.450	28.910	15.460	70.120	90.180	19.660	1.1	33.470

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:43:39	1.729	0.017	0.003	21.220	20.580	93.6%	-0.011	-0.008	0.300
2	15:44:04	2.004	0.024	0.019	20.680	20.510	96.5%	-0.008	-0.008	0.291
3	15:44:29	1.451	0.037	0.003	21.620	21.310	97.0%	-0.002	-0.009	0.275
x		1.728	0.026	0.008	21.170	20.800	95.7%	-0.007	-0.008	0.289
σ		0.277	0.010	0.009	0.468	0.444	1.8%	0.005	0.001	0.012
%RSD		16.030	38.620	115.300	2.209	2.134	1.9	65.310	8.086	4.276

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:43:39	0.287	0.237	90.8%
2	15:44:04	0.252	0.254	92.3%
3	15:44:29	0.253	0.256	93.9%
x		0.264	0.249	92.3%
σ		0.020	0.011	1.6%
%RSD		7.636	4.344	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-001 5/19/2017 15:48:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	91.5%	0.037	3.334	3.888	T 5689.000	T 24800.000	T 24870.000	T 26490.000	6.195
2	15:49:26	93.7%	0.032	3.516	3.585	T 5661.000	T 25370.000	T 24870.000	T 26100.000	5.870
3	15:49:52	91.6%	0.010	4.237	3.513	T 5930.000	T 25910.000	T 26100.000	T 27470.000	T 1.302
x		92.2%	0.026	3.695	3.662	T 5760.000	T 25360.000	T 25280.000	T 26690.000	T 4.456
σ		1.2%	0.014	0.478	0.199	T 148.000	T 553.200	T 708.000	T 704.400	T 2.736
%RSD		1.4	55.570	12.920	5.434	T 2.569	T 2.182	T 2.801	T 2.639	T 61.410

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	TM 17070.000	T 39410.000	T 1747.000	45000.000	T 44820.000	T 98.3%	3.593	1.211	0.141
2	15:49:26	TM 16960.000	T 39700.000	T 1741.000	43960.000	T 44840.000	T 98.9%	4.162	1.364	0.132
3	15:49:52	TM 17530.000	T 40590.000	T 1806.000	46140.000	T 47010.000	98.1%	4.088	1.532	0.135
x		TM 17190.000	T 39900.000	T 1764.000	45030.000	T 45560.000	T 98.5%	3.948	1.369	0.136
σ		TM 303.800	T 613.200	T 35.860	1090.000	T 1257.000	T 0.4%	0.309	0.160	0.004
%RSD		TM 1.767	T 1.537	T 2.032	2.420	T 2.759	T 0.4	7.836	11.710	3.066

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	4.052	TM 9706.000	T 78420.000	T 91310.000	122.100	10.580	0.245	0.319	17.550
2	15:49:26	3.700	TM 9820.000	T 79690.000	T 91770.000	121.900	10.780	0.239	0.398	18.120
3	15:49:52	3.770	TM 10090.000	T 81950.000	T 94820.000	125.300	11.160	0.246	0.359	18.150
x		3.841	TM 9873.000	T 80020.000	T 92630.000	123.100	10.840	0.243	0.359	17.940
σ		0.186	TM 198.600	T 1785.000	T 1910.000	1.904	0.295	0.004	0.039	0.339
%RSD		4.849	TM 2.012	T 2.231	T 2.062	1.547	2.721	1.499	10.910	1.892

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	1.736	0.095	37.810	38.280	0.069	-1.696	93.2%	-0.179	-0.049
2	15:49:26	1.690	-0.141	38.240	37.510	-0.025	-0.539	94.9%	-0.183	-0.051
3	15:49:52	2.015	-0.168	38.100	38.400	-0.202	-0.052	94.1%	-0.146	-0.025
x		1.813	-0.071	38.050	38.060	-0.053	-0.763	94.1%	-0.169	-0.041
σ		0.176	0.145	0.223	0.485	0.138	0.845	0.8%	0.020	0.015
%RSD		9.688	203.000	0.585	1.275	260.800	110.700	0.9	11.830	35.030

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	-0.137	2.118	-0.007	-0.813	-0.005	0.049	0.033	92.1%	0.047
2	15:49:26	-0.182	0.935	-0.003	-0.330	-0.001	0.026	0.057	93.3%	0.049
3	15:49:52	-0.110	1.012	-0.000	-0.359	-0.004	0.065	0.041	93.1%	0.073
x		-0.143	1.355	-0.004	-0.501	-0.003	0.046	0.044	92.8%	0.056
σ		0.037	0.662	0.003	0.271	0.002	0.020	0.012	0.6%	0.015
%RSD		25.560	48.870	98.000	54.090	62.400	42.810	27.260	0.7	26.110

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:49:00	0.314	0.084	0.079	20.580	20.250	93.9%	-0.008	-0.006	6.152
2	15:49:26	0.165	0.102	0.096	20.180	20.410	95.9%	-0.005	-0.006	6.251
3	15:49:52	0.212	0.106	0.123	21.980	21.000	96.0%	-0.002	-0.009	6.383
x		0.230	0.097	0.099	20.910	20.560	95.3%	-0.005	-0.007	6.262
σ		0.076	0.012	0.022	0.946	0.397	1.2%	0.003	0.002	0.116
%RSD		33.100	12.240	22.340	4.522	1.933	1.2	61.550	25.010	1.851

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:49:00	5.742	5.595	90.6%
2	15:49:26	5.776	5.555	92.4%
3	15:49:52	5.901	5.754	91.6%
x		5.806	5.635	91.5%
σ		0.084	0.105	0.9%
%RSD		1.444	1.865	0.9

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-002 5/19/2017 15:53:57

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	88.4%	0.043	314.200	324.100	T 22110.000	TM 119000.000	TM 119600.000	TM 128400.000	T 242.400
2	15:54:48	86.5%	0.023	319.000	327.300	T 22430.000	TM 121800.000	TM 121600.000	TM 132300.000	T 242.500
3	15:55:14	88.3%	0.015	321.000	329.900	T 21700.000	TM 119400.000	TM 120000.000	TM 129700.000	T 246.000
x		87.7%	0.027	318.100	327.100	T 22080.000	TM 120100.000	TM 120400.000	TM 130100.000	T 243.600
σ		1.1%	0.014	3.481	2.893	T 366.800	TM 1508.000	TM 1083.000	TM 1965.000	T 2.074
%RSD		1.2	53.110	1.095	0.885	T 1.661	TM 1.256	TM 0.899	TM 1.510	T 0.851

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	TM 15720.000	T 48010.000	T 3671.000	TM 230000.000	TM 220100.000	T 97.8%	26.560	3.984	0.898
2	15:54:48	TM 16020.000	T 48990.000	T 3713.000	TM 230400.000	TM 222500.000	T 98.8%	27.560	4.374	0.961
3	15:55:14	TM 15920.000	T 49250.000	T 3698.000	TM 232500.000	TM 223600.000	T 96.9%	26.130	4.142	0.955
x		TM 15880.000	T 48750.000	T 3694.000	TM 231000.000	TM 222100.000	T 97.8%	26.750	4.167	0.938
σ		TM 154.400	T 652.400	T 21.430	TM 1351.000	TM 1775.000	T 1.0%	0.734	0.197	0.035
%RSD		TM 0.972	T 1.338	T 0.580	TM 0.585	TM 0.799	T 1.0	2.745	4.717	3.729

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	5.592	TM 2272.000	T 5421.000	6821.000	16.640	53.800	0.855	1.285	2.896
2	15:54:48	5.247	TM 2273.000	T 5448.000	6855.000	16.720	53.820	0.811	1.322	3.002
3	15:55:14	5.397	TM 2328.000	T 5523.000	6850.000	16.510	52.840	0.828	1.234	2.717
x		5.412	TM 2291.000	T 5464.000	6842.000	16.620	53.490	0.831	1.280	2.871
σ		0.173	TM 31.850	T 52.600	18.170	0.108	0.561	0.022	0.044	0.144
%RSD		3.192	TM 1.390	T 0.963	0.266	0.647	1.049	2.646	3.462	5.016

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	0.796	-0.112	1066.000	1084.000	2.250	-0.753	97.0%	-0.074	0.031
2	15:54:48	0.855	0.153	1078.000	1105.000	1.799	-0.052	97.8%	-0.125	0.011
3	15:55:14	0.243	0.150	1077.000	1093.000	1.169	-1.259	99.3%	-0.048	0.011
x		0.631	0.064	1074.000	1094.000	1.739	-0.688	98.0%	-0.082	0.018
σ		0.338	0.152	6.315	10.530	0.543	0.606	1.2%	0.039	0.011
%RSD		53.500	238.600	0.588	0.963	31.230	88.130	1.2	47.050	63.610

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	-0.112	52.780	0.014	-20.220	0.007	0.047	-0.179	89.2%	0.515
2	15:54:48	-0.081	54.410	0.021	-20.810	0.008	0.041	-0.175	89.5%	0.552
3	15:55:14	-0.081	51.270	0.016	-19.640	0.008	0.037	-0.179	90.9%	0.493
x		-0.091	52.820	0.017	-20.220	0.007	0.042	-0.178	89.8%	0.520
σ		0.018	1.569	0.004	0.583	0.001	0.005	0.002	0.9%	0.030
%RSD		19.740	2.970	21.800	2.884	10.590	11.850	1.264	1.0	5.776

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:54:22	7.549	0.095	0.163	167.700	163.900	91.3%	0.031	0.031	0.118
2	15:54:48	7.690	0.140	0.132	171.800	168.100	92.8%	0.027	0.030	0.104
3	15:55:14	7.307	0.162	0.157	168.600	165.300	94.6%	0.028	0.024	0.119
x		7.515	0.132	0.150	169.300	165.800	92.9%	0.029	0.028	0.114
σ		0.194	0.034	0.017	2.182	2.139	1.6%	0.002	0.004	0.008
%RSD		2.576	25.960	11.020	1.288	1.290	1.8	7.629	14.550	7.418

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:54:22	0.107	0.074	82.5%
2	15:54:48	0.100	0.084	84.3%
3	15:55:14	0.090	0.094	86.8%
x		0.099	0.084	84.5%
σ		0.008	0.010	2.1%
%RSD		8.276	11.680	2.5

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-003 5/19/2017 15:59:20

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	93.7%	0.198	12.780	12.070	T 5698.000	T 10170.000	T 10030.000	T 10500.000	TM 3235.000
2	16:00:12	98.2%	0.182	11.200	12.910	T 5647.000	T 10030.000	T 9924.000	T 10030.000	TM 3326.000
3	16:00:38	97.9%	0.161	11.030	12.650	T 5663.000	T 10110.000	T 10010.000	T 10120.000	TM 3439.000
x		96.6%	0.181	11.670	12.550	T 5669.000	T 10100.000	T 9989.000	T 10220.000	TM 3333.000
σ		2.5%	0.019	0.967	0.429	T 26.120	T 68.290	T 57.330	T 251.500	TM 102.300
%RSD		2.6	10.350	8.286	3.423	T 0.461	T 0.676	T 0.574	T 2.461	TM 3.069

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	T 9701.000	T 35730.000	T 9433.000	17320.000	T 17460.000	T 98.5%	249.900	13.910	5.278
2	16:00:12	T 9550.000	T 36060.000	T 9416.000	17440.000	T 17560.000	96.8%	251.300	14.000	5.158
3	16:00:38	T 9797.000	T 36890.000	T 9694.000	17770.000	T 17970.000	T 94.9%	253.600	14.030	5.289
x		T 9683.000	T 36230.000	T 9514.000	17510.000	T 17670.000	T 96.7%	251.600	13.980	5.242
σ		T 124.500	T 597.900	T 155.600	231.100	T 271.700	T 1.8%	1.866	0.066	0.073
%RSD		T 1.286	T 1.650	T 1.635	1.320	T 1.538	T 1.9	0.742	0.469	1.386

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	4.712	T 281.400	T 4386.000	4810.000	132.200	15.830	8.711	9.380	8.488
2	16:00:12	4.568	T 286.500	T 4516.000	4895.000	130.700	14.860	8.446	9.506	8.055
3	16:00:38	4.613	T 292.700	T 4595.000	4937.000	133.900	15.090	8.581	9.445	8.073
x		4.631	T 286.900	T 4499.000	4881.000	132.200	15.260	8.579	9.443	8.205
σ		0.074	T 5.648	T 105.100	64.440	1.594	0.511	0.132	0.063	0.245
%RSD		1.589	T 1.969	T 2.337	1.320	1.206	3.348	1.542	0.667	2.987

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	0.214	-0.096	155.000	157.300	-0.164	-1.612	95.8%	-0.272	-0.193
2	16:00:12	0.431	0.200	154.700	156.200	0.652	-1.811	98.2%	-0.258	-0.209
3	16:00:38	0.335	0.376	151.400	152.800	0.409	0.676	98.5%	-0.233	-0.117
x		0.327	0.160	153.700	155.400	0.299	-0.915	97.5%	-0.254	-0.173
σ		0.109	0.239	1.979	2.350	0.419	1.382	1.5%	0.020	0.049
%RSD		33.290	149.000	1.288	1.512	140.000	151.000	1.5	7.717	28.510

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	-0.239	3.792	0.077	-1.373	0.082	0.174	0.161	92.5%	0.274
2	16:00:12	-0.240	3.805	0.079	-1.381	0.074	0.176	0.142	94.4%	0.237
3	16:00:38	-0.161	3.025	0.073	-1.036	0.060	0.173	0.181	94.3%	0.269
x		-0.213	3.541	0.076	-1.263	0.072	0.174	0.161	93.7%	0.260
σ		0.045	0.447	0.003	0.197	0.011	0.001	0.020	1.1%	0.020
%RSD		21.170	12.620	4.118	15.590	15.080	0.843	12.210	1.1	7.815

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:59:46	0.711	-0.023	-0.039	91.420	89.550	93.9%	0.147	0.154	2.846
2	16:00:12	0.679	-0.040	-0.031	91.890	90.470	96.9%	0.140	0.140	2.813
3	16:00:38	0.586	-0.009	-0.035	92.070	91.070	97.4%	0.149	0.146	2.946
x		0.659	-0.024	-0.035	91.790	90.360	96.0%	0.146	0.147	2.868
σ		0.065	0.016	0.004	0.337	0.765	1.9%	0.005	0.007	0.069
%RSD		9.838	64.910	11.330	0.367	0.846	2.0	3.218	5.041	2.411

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:59:46	2.638	2.633	92.2%
2	16:00:12	2.625	2.549	93.9%
3	16:00:38	2.656	2.566	96.1%
x		2.640	2.583	94.0%
σ		0.016	0.044	1.9%
%RSD		0.603	1.722	2.1

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-004 5/19/2017 16:04:44

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	97.4%	0.128	2.141	2.042	T 3984.000	T 3135.000	T 3058.000	T 3175.000	32.140
2	16:05:36	103.3%	0.092	2.125	2.249	T 3843.000	T 2996.000	2864.000	T 2981.000	32.100
3	16:06:02	104.4%	0.136	1.640	2.058	T 3829.000	T 3017.000	T 2902.000	T 2968.000	T 28.000
x		101.7%	0.119	1.969	2.116	T 3885.000	T 3049.000	T 2942.000	T 3041.000	T 30.750
σ		3.8%	0.023	0.285	0.115	T 85.650	T 75.110	T 103.000	T 115.700	T 2.380
%RSD		3.7	19.460	14.470	5.442	T 2.204	T 2.463	T 3.500	T 3.805	T 7.742

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	T 7126.000	T 32100.000	T 1635.000	4696.000	4335.000	101.5%	3.575	0.944	0.481
2	16:05:36	T 6874.000	T 31940.000	T 1618.000	4527.000	4290.000	103.2%	4.066	0.855	0.486
3	16:06:02	T 6838.000	T 32110.000	T 1624.000	4576.000	4274.000	103.4%	3.850	1.001	0.497
x		T 6946.000	T 32050.000	T 1626.000	4600.000	4300.000	102.7%	3.830	0.933	0.488
σ		T 156.900	T 95.600	T 8.652	86.900	31.700	1.0%	0.246	0.074	0.008
%RSD		T 2.259	T 0.298	T 0.532	1.889	0.737	1.0	6.428	7.906	1.684

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	3.510	TM 3669.000	T 40430.000	T 45820.000	127.900	2.342	1.928	2.243	2.906
2	16:05:36	3.401	TM 3650.000	T 40370.000	T 45140.000	126.200	2.280	1.892	2.070	2.955
3	16:06:02	3.168	TM 3586.000	T 40030.000	T 45670.000	124.900	2.375	1.843	1.943	2.925
x		3.360	TM 3635.000	T 40280.000	T 45540.000	126.300	2.333	1.888	2.085	2.928
σ		0.175	TM 43.470	T 216.000	T 358.200	1.500	0.048	0.042	0.150	0.025
%RSD		5.203	TM 1.196	T 0.536	T 0.786	1.188	2.070	2.244	7.219	0.843

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	1.712	0.243	77.890	77.450	0.430	-0.198	97.4%	0.497	0.556
2	16:05:36	1.636	0.007	72.920	76.440	0.705	-0.616	100.8%	0.553	0.504
3	16:06:02	1.489	0.578	75.100	74.620	0.217	-0.922	101.5%	0.491	0.594
x		1.612	0.276	75.300	76.170	0.451	-0.578	99.9%	0.513	0.551
σ		0.113	0.287	2.490	1.435	0.245	0.363	2.2%	0.034	0.045
%RSD		7.028	104.000	3.307	1.883	54.370	62.850	2.2	6.652	8.236

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	0.473	1.482	-0.000	-0.539	-0.001	0.033	0.069	96.0%	0.039
2	16:05:36	0.455	0.569	-0.000	-0.178	-0.005	0.084	0.064	97.1%	0.052
3	16:06:02	0.554	1.608	-0.000	-0.559	-0.002	0.053	0.078	99.2%	0.039
x		0.494	1.220	-0.000	-0.426	-0.003	0.057	0.070	97.4%	0.044
σ		0.053	0.567	0.000	0.214	0.002	0.026	0.007	1.6%	0.007
%RSD		10.670	46.500	78.350	50.350	79.370	45.240	10.160	1.7	17.130

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:05:10	0.167	-0.051	-0.038	68.760	68.270	95.2%	0.025	0.023	0.110
2	16:05:36	0.096	-0.033	-0.037	68.150	67.690	98.1%	0.022	0.032	0.116
3	16:06:02	0.171	-0.040	-0.055	67.260	66.600	100.4%	0.023	0.023	0.107
x		0.145	-0.041	-0.043	68.050	67.520	97.9%	0.023	0.026	0.111
σ		0.042	0.009	0.010	0.752	0.845	2.6%	0.002	0.005	0.005
%RSD		29.260	22.450	22.730	1.105	1.251	2.7	6.822	20.920	4.067

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:05:10	0.098	0.083	93.9%
2	16:05:36	0.104	0.083	96.5%
3	16:06:02	0.105	0.097	98.9%
x		0.102	0.088	96.4%
σ		0.004	0.008	2.5%
%RSD		3.628	9.379	2.6

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 16:10:08 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	87.9%	300.100	299.000	┬285.500	┬57330.000	┬54990.000	┬54730.000	┬58980.000	289.300
2	16:11:01	89.1%	297.100	285.600	278.800	┬56770.000	┬55060.000	┬55740.000	┬59350.000	302.700
3	16:11:27	90.6%	287.000	277.500	272.800	┬54590.000	┬53160.000	┬53070.000	┬55540.000	287.600
x		89.2%	98.236%	95.801%	┬93.010%	┬93.718%	┬54400.000	┬54510.000	┬96.595%	97.737%
σ		1.4%	n/a	n/a	┬n/a	┬n/a	┬1078.000	┬1348.000	┬n/a	n/a
%RSD		1.5	2.334	3.779	┬2.273	┬2.582	┬1.981	┬2.472	┬3.626	2.811
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	┬2983.000	274.000	┬62220.000	56350.000	┬55860.000	┬98.4%	284.700	┬295.800	285.600
2	16:11:01	┬3063.000	295.600	┬63770.000	57060.000	┬57640.000	┬96.6%	291.400	┬302.300	292.300
3	16:11:27	┬2903.000	305.600	┬63190.000	55700.000	┬55670.000	┬97.6%	286.200	┬297.200	285.900
x		┬99.442%	291.700	┬105.103%	56370.000	┬93.982%	┬97.5%	95.811%	┬99.482%	95.985%
σ		┬n/a	16.150	┬n/a	676.100	┬n/a	┬0.9%	n/a	┬n/a	n/a
%RSD		┬2.687	5.537	┬1.245	1.199	┬1.923	┬0.9	1.217	┬1.137	1.313
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	-7.774	┬279.000	┬52900.000	┬61070.000	286.500	286.500	263.000	299.500	285.800
2	16:11:01	-5.499	┬289.900	┬55210.000	┬63450.000	296.100	289.900	270.100	300.900	290.400
3	16:11:27	-9.284	┬284.300	┬53970.000	┬61620.000	287.900	279.500	263.200	293.000	281.400
x		-7.519	┬94.804%	┬90.044%	┬103.411%	96.713%	95.103%	265.400	99.271%	95.284%
σ		1.906	┬n/a	┬n/a	┬n/a	n/a	n/a	4.019	n/a	n/a
%RSD		25.350	┬1.922	┬2.144	┬2.004	1.783	1.856	1.514	1.422	1.567
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	285.900	264.000	4.045	2.969	292.800	-0.786	93.4%	288.900	284.300
2	16:11:01	284.800	263.300	3.421	2.008	289.200	-1.076	93.2%	309.300	308.500
3	16:11:27	281.900	260.800	3.401	1.533	287.600	-1.448	95.4%	311.300	311.700
x		94.737%	262.700	3.622	2.170	96.628%	-1.104	94.0%	101.054%	100.505%
σ		n/a	1.667	0.366	0.732	n/a	0.332	1.2%	n/a	n/a
%RSD		0.715	0.635	10.120	33.710	0.912	30.070	1.3	4.093	4.961
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	281.700	272.000	294.400	-2.873	259.800	269.100	288.400	90.9%	298.700
2	16:11:01	306.000	273.800	301.400	-2.872	266.400	273.700	293.900	91.0%	308.000
3	16:11:27	311.900	268.100	290.600	-1.618	259.500	269.400	284.700	93.4%	300.100
x		99.956%	271.300	98.493%	-2.454	261.900	270.800	96.329%	91.8%	100.758%
σ		n/a	2.912	n/a	0.724	3.913	2.549	n/a	1.4%	n/a
%RSD		5.344	1.073	1.862	29.490	1.494	0.941	1.598	1.5	1.671
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:10:34	285.200	270.400	277.700	285.000	284.700	93.2%	285.000	┬281.700	292.000
2	16:11:01	294.800	277.400	286.600	293.900	293.000	93.7%	297.000	┬292.300	303.100
3	16:11:27	290.000	272.300	279.500	282.700	281.500	96.3%	286.100	┬285.200	295.300
x		96.661%	91.119%	93.742%	95.737%	95.469%	94.4%	96.443%	┬95.465%	98.938%
σ		n/a	n/a	n/a	n/a	n/a	1.6%	n/a	┬n/a	n/a
%RSD		1.652	1.331	1.677	2.067	2.078	1.7	2.292	┬1.881	1.913
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	16:10:34	287.200	276.200	86.2%						
2	16:11:01	296.300	282.800	86.1%						
3	16:11:27	290.300	279.700	89.2%						
x		97.083%	93.181%	87.2%						
σ		n/a	n/a	1.8%						
%RSD		1.592	1.171	2.0						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 16:15:32 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	105.5%	0.019	1.164	1.720	0.878	2.312	2.397	2.290	-0.711
2	16:16:25	109.7%	0.001	1.642	1.747	0.387	2.225	1.779	2.188	-0.696
3	16:16:51	109.9%	0.040	1.242	1.730	0.490	2.364	2.353	2.089	-0.727
x		108.4%	0.020	1.349	1.732	0.585	2.300	2.176	2.189	-0.712
σ		2.5%	0.020	0.256	0.014	0.259	0.070	0.345	0.101	0.016
%RSD		2.3	96.090	18.980	0.805	44.210	3.045	15.850	4.607	2.209
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	9.246	181.300	3.598	4.355	1.989	104.9%	0.009	0.087	0.003
2	16:16:25	T 3.452	192.200	2.821	7.106	3.189	104.6%	-0.018	0.120	-0.006
3	16:16:51	8.107	207.800	2.934	3.581	3.059	103.7%	0.024	0.100	0.014
x		T 6.935	193.800	3.118	5.014	2.745	104.4%	0.005	0.102	0.004
σ		T 3.070	13.350	0.420	1.853	0.659	0.7%	0.021	0.017	0.010
%RSD		T 44.260	6.891	13.470	36.950	23.990	0.6	450.000	16.570	275.700
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	0.030	0.107	4.166	4.785	0.014	0.014	-0.005	-0.012	0.049
2	16:16:25	0.028	0.092	4.049	3.671	0.018	0.009	-0.031	0.000	0.096
3	16:16:51	0.033	0.098	3.751	2.781	0.023	0.019	-0.030	-0.004	0.043
x		0.030	0.099	3.989	3.746	0.018	0.014	-0.022	-0.005	0.063
σ		0.003	0.007	0.214	1.004	0.004	0.005	0.015	0.006	0.029
%RSD		9.654	7.388	5.364	26.810	23.470	35.390	66.800	122.100	45.950
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	-0.024	0.158	1.769	1.481	-0.294	-1.478	101.0%	0.417	0.572
2	16:16:25	-0.026	0.166	1.882	0.764	-0.314	-0.806	102.1%	0.566	0.601
3	16:16:51	-0.027	0.209	2.160	1.710	-0.218	-0.080	101.5%	0.504	0.580
x		-0.026	0.177	1.937	1.318	-0.275	-0.788	101.5%	0.495	0.584
σ		0.002	0.027	0.201	0.494	0.051	0.699	0.6%	0.075	0.015
%RSD		6.589	15.380	10.390	37.440	18.490	88.740	0.6	15.140	2.537
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	0.477	0.428	0.017	-0.155	0.013	0.011	0.010	98.4%	0.133
2	16:16:25	0.562	0.277	0.015	-0.096	0.018	0.002	0.010	101.3%	0.126
3	16:16:51	0.544	0.372	0.011	-0.132	0.012	0.005	0.014	101.1%	0.081
x		0.528	0.359	0.014	-0.128	0.014	0.006	0.011	100.3%	0.113
σ		0.045	0.077	0.003	0.030	0.003	0.004	0.002	1.6%	0.028
%RSD		8.473	21.360	23.920	23.240	22.140	73.210	21.540	1.6	25.010
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:15:58	0.170	0.295	0.281	0.009	0.008	97.8%	0.030	0.029	0.007
2	16:16:25	0.176	0.333	0.350	0.008	0.025	99.8%	0.021	0.018	0.005
3	16:16:51	0.170	0.336	0.318	0.008	0.004	100.5%	0.019	0.024	0.006
x		0.172	0.321	0.316	0.008	0.013	99.4%	0.023	0.024	0.006
σ		0.003	0.023	0.034	0.001	0.011	1.4%	0.006	0.005	0.001
%RSD		1.974	7.108	10.870	8.220	90.050	1.4	25.030	22.130	19.310
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	16:15:58	0.016	0.010	96.7%						
2	16:16:25	0.020	0.014	99.6%						
3	16:16:51	0.020	0.011	100.3%						
x		0.018	0.012	98.9%						
σ		0.002	0.002	1.9%						
%RSD		10.990	18.220	1.9						

PDF created with pdfFactory trial version www.pdffactory.com

SE17066-005 5/19/2017 16:20:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	105.6%	0.171	1.968	2.687	T 2522.000	T 4284.000	T 4191.000	T 4280.000	TM 2070.000
2	16:21:48	108.2%	0.164	2.540	2.644	T 2532.000	T 4323.000	T 4272.000	T 4240.000	TM 2065.000
3	16:22:13	111.9%	0.174	2.346	2.844	T 2480.000	T 4224.000	T 4202.000	T 4134.000	TM 2027.000
x		108.5%	0.170	2.285	2.725	T 2511.000	T 4277.000	T 4222.000	T 4218.000	TM 2054.000
σ		3.2%	0.005	0.291	0.105	T 27.540	T 49.720	T 44.260	T 75.280	TM 23.540
%RSD		2.9	3.125	12.730	3.850	T 1.097	T 1.162	T 1.048	T 1.785	TM 1.146

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	TM 14160.000	T 25080.000	T 1611.000	7493.000	7186.000	105.2%	288.000	16.990	6.053
2	16:21:48	TM 14310.000	T 25900.000	T 1661.000	7711.000	7230.000	104.4%	290.100	16.920	6.400
3	16:22:13	TM 13440.000	T 24690.000	T 1594.000	7440.000	7167.000	106.3%	289.200	16.960	6.201
x		TM 13970.000	T 25230.000	T 1622.000	7548.000	7194.000	105.3%	289.100	16.960	6.218
σ		TM 464.600	T 616.700	T 35.070	143.800	32.500	1.0%	1.071	0.037	0.174
%RSD		TM 3.325	T 2.445	T 2.162	1.905	0.452	0.9	0.370	0.218	2.803

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	3.606	78.640	T 4288.000	4614.000	3.043	2.266	2.659	3.251	19.930
2	16:21:48	3.734	80.160	T 4426.000	4704.000	3.067	2.485	2.761	3.198	19.740
3	16:22:13	3.453	78.230	T 4350.000	4614.000	3.080	2.314	2.672	3.077	18.990
x		3.598	79.010	T 4355.000	4644.000	3.063	2.355	2.697	3.175	19.550
σ		0.141	1.018	T 68.930	51.480	0.019	0.115	0.055	0.089	0.498
%RSD		3.908	1.288	T 1.583	1.109	0.607	4.896	2.054	2.798	2.548

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	0.021	-0.271	41.870	43.330	-0.083	-1.141	109.0%	-0.101	0.005
2	16:21:48	0.061	-0.213	43.220	40.790	-0.095	1.212	109.8%	0.032	0.092
3	16:22:13	0.073	-0.310	40.760	41.650	0.104	-1.879	112.7%	0.014	0.212
x		0.052	-0.265	41.950	41.920	-0.025	-0.603	110.5%	-0.019	0.103
σ		0.027	0.049	1.231	1.292	0.111	1.614	1.9%	0.072	0.104
%RSD		53.260	18.490	2.934	3.081	451.000	267.900	1.7	390.000	101.200

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	-0.057	2.400	0.024	-0.903	0.017	0.045	0.037	97.8%	0.202
2	16:21:48	0.009	1.474	0.015	-0.563	0.024	0.038	0.034	99.0%	0.221
3	16:22:13	0.004	1.321	0.019	-0.505	0.010	0.053	0.035	101.4%	0.196
x		-0.015	1.731	0.019	-0.657	0.017	0.045	0.035	99.4%	0.206
σ		0.036	0.584	0.005	0.215	0.007	0.007	0.002	1.9%	0.013
%RSD		249.800	33.710	23.730	32.780	40.600	15.920	4.309	1.9	6.480

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:21:22	0.563	0.120	0.138	68.360	66.100	98.5%	0.078	0.094	0.812
2	16:21:48	0.438	0.147	0.125	68.110	67.510	99.7%	0.070	0.069	0.843
3	16:22:13	0.417	0.129	0.130	68.320	66.460	103.1%	0.049	0.047	0.831
x		0.473	0.132	0.131	68.260	66.690	100.4%	0.066	0.070	0.829
σ		0.079	0.014	0.007	0.136	0.736	2.4%	0.015	0.023	0.016
%RSD		16.640	10.370	5.185	0.199	1.103	2.4	22.800	33.470	1.892

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:21:22	0.786	0.750	95.8%
2	16:21:48	0.842	0.790	97.7%
3	16:22:13	0.744	0.897	100.9%
x		0.791	0.812	98.1%
σ		0.049	0.076	2.6%
%RSD		6.228	9.336	2.6

PDF created with pdfFactory trial version www.pdffactory.com

SQ42388-001 5/19/2017 16:26:20 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	106.8%	0.005	-0.385	-0.398	5.375	-0.559	-0.717	-0.730	-0.739
2	16:27:12	107.8%	0.002	-0.600	-0.332	5.042	-0.666	-0.668	-0.749	-0.837
3	16:27:38	110.7%	-0.005	-0.779	-0.280	4.870	-0.627	-0.802	-0.841	-0.692
x		108.4%	0.001	-0.588	-0.337	5.096	-0.617	-0.729	-0.773	-0.756
σ		2.0%	0.005	0.197	0.059	0.257	0.054	0.068	0.059	0.074
%RSD		1.9	757.800	33.580	17.670	5.041	8.763	9.324	7.671	9.785
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	T 2.997	T 40680.000	0.553	14.200	10.670	100.2%	0.043	-0.002	-0.168
2	16:27:12	9.278	T 39960.000	-1.723	9.982	11.760	100.6%	-0.043	-0.017	-0.130
3	16:27:38	T -0.619	T 40900.000	-1.193	9.907	12.110	99.3%	-0.013	0.036	-0.135
x		T 3.885	T 40510.000	-0.788	11.360	11.510	100.0%	-0.004	0.006	-0.144
σ		T 5.008	T 492.300	1.191	2.458	0.751	0.7%	0.044	0.027	0.021
%RSD		T 128.900	T 1.215	151.100	21.630	6.524	0.7	993.300	473.100	14.520
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	5.517	0.466	-0.339	-0.729	0.004	-0.035	0.059	0.100	1.171
2	16:27:12	5.539	0.463	-1.100	-1.349	-0.004	-0.006	0.044	0.080	1.128
3	16:27:38	5.380	0.489	-1.483	-2.425	-0.004	-0.008	0.043	0.048	1.174
x		5.479	0.473	-0.974	-1.501	-0.001	-0.016	0.049	0.076	1.158
σ		0.086	0.014	0.582	0.858	0.004	0.016	0.009	0.026	0.026
%RSD		1.569	2.988	59.770	57.140	298.600	100.200	18.410	34.430	2.223
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	0.038	0.200	3.901	3.093	-0.152	0.886	96.3%	-0.342	-0.257
2	16:27:12	-0.092	-0.212	4.024	3.748	-0.174	-0.394	98.9%	-0.314	-0.208
3	16:27:38	0.032	0.055	4.242	2.943	-0.081	-0.686	99.1%	-0.264	-0.179
x		-0.007	0.014	4.056	3.261	-0.136	-0.064	98.1%	-0.306	-0.215
σ		0.073	0.209	0.172	0.428	0.048	0.836	1.6%	0.040	0.039
%RSD		984.000	1462.000	4.249	13.120	35.620	1298.000	1.6	12.960	18.360
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	-0.306	0.075	-0.004	-0.002	-0.002	0.000	-0.003	97.3%	0.053
2	16:27:12	-0.278	-0.142	-0.002	0.049	-0.004	0.000	-0.005	98.4%	0.043
3	16:27:38	-0.280	0.031	-0.002	-0.017	-0.003	0.003	-0.005	98.6%	0.025
x		-0.288	-0.012	-0.003	0.010	-0.003	0.001	-0.004	98.1%	0.040
σ		0.016	0.115	0.001	0.034	0.001	0.002	0.001	0.7%	0.014
%RSD		5.427	947.000	45.210	346.800	36.880	136.200	32.240	0.7	35.390
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:26:46	0.002	0.029	0.010	0.018	0.003	96.9%	-0.002	0.005	0.001
2	16:27:12	0.032	0.014	0.019	-0.012	0.015	99.0%	0.004	0.002	-0.004
3	16:27:38	0.001	0.033	0.029	0.009	0.010	100.2%	-0.009	-0.004	-0.001
x		0.012	0.026	0.020	0.005	0.009	98.7%	-0.002	0.001	-0.001
σ		0.018	0.010	0.009	0.016	0.006	1.7%	0.007	0.005	0.002
%RSD		145.400	38.860	48.210	313.800	60.680	1.7	271.200	578.700	162.500
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	16:26:46	-0.004	0.004	96.7%						
2	16:27:12	0.008	-0.003	98.8%						
3	16:27:38	0.002	-0.001	100.0%						
x		0.002	0.000	98.5%						
σ		0.006	0.004	1.7%						
%RSD		364.300	14530.000	1.7						

PDF created with pdfFactory trial version www.pdffactory.com

SQ42388-002 5/19/2017 16:31:44

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	106.1%	86.860	96.430	92.100	T 792.600	T 777.300	725.000	722.600	90.730
2	16:32:36	106.6%	85.460	98.690	93.810	T 805.800	T 789.200	748.300	726.100	96.350
3	16:33:02	109.3%	83.760	97.890	94.200	T 790.200	T 787.400	728.000	704.700	93.270
x		107.4%	85.360	97.670	93.370	T 796.200	T 784.600	733.800	717.800	93.450
σ		1.7%	1.555	1.145	1.118	T 8.404	T 6.424	12.690	11.480	2.815
%RSD		1.6	1.822	1.173	1.198	T 1.056	T 0.819	1.730	1.600	3.013

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	T 816.300	T 40660.000	T 924.800	963.100	809.600	101.1%	87.950	85.860	84.710
2	16:32:36	T 839.500	T 42000.000	T 950.100	998.200	863.000	97.3%	92.430	88.630	88.700
3	16:33:02	T 817.900	T 42280.000	T 955.600	968.200	861.300	97.8%	90.820	89.620	89.300
x		T 824.600	T 41650.000	T 943.500	976.500	844.600	98.7%	90.400	88.040	87.570
σ		T 12.970	T 866.800	T 16.430	18.960	30.370	2.1%	2.270	1.950	2.498
%RSD		T 1.573	T 2.081	T 1.741	1.942	3.596	2.1	2.512	2.215	2.852

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	4.626	84.470	T 823.100	882.100	87.680	90.540	88.480	94.370	90.930
2	16:32:36	4.036	89.340	T 871.300	930.600	92.560	91.770	91.840	94.480	92.610
3	16:33:02	4.324	89.370	T 871.200	918.400	91.870	91.500	91.310	93.550	92.320
x		4.329	87.730	T 855.200	910.300	90.700	91.270	90.540	94.130	91.960
σ		0.295	2.817	T 27.790	25.220	2.641	0.648	1.810	0.505	0.896
%RSD		6.811	3.211	T 3.249	2.770	2.911	0.710	1.999	0.537	0.974

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	89.860	89.080	5.194	4.480	93.060	-0.437	95.9%	88.440	89.040
2	16:32:36	92.000	93.640	6.069	4.523	94.260	-0.372	94.7%	94.510	95.900
3	16:33:02	91.760	91.440	4.425	4.389	90.860	0.630	95.8%	96.600	98.000
x		91.210	91.390	5.229	4.464	92.730	-0.060	95.5%	93.180	94.310
σ		1.175	2.277	0.822	0.069	1.721	0.598	0.7%	4.240	4.686
%RSD		1.289	2.491	15.720	1.536	1.856	1001.000	0.7	4.551	4.968

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	87.270	88.000	88.050	-0.063	82.920	85.920	87.350	95.8%	94.710
2	16:32:36	93.710	91.150	90.070	-0.194	86.120	89.360	89.110	95.2%	99.240
3	16:33:02	94.560	87.000	88.610	1.286	84.300	89.820	89.240	96.0%	98.530
x		91.840	88.720	88.910	0.343	84.450	88.360	88.570	95.7%	97.490
σ		3.987	2.169	1.043	0.819	1.602	2.134	1.053	0.4%	2.437
%RSD		4.341	2.444	1.173	238.900	1.898	2.415	1.189	0.4	2.500

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:32:10	89.060	81.000	84.450	88.620	86.980	95.8%	83.930	88.320	86.630
2	16:32:36	92.610	83.980	87.170	89.680	89.670	96.2%	86.270	91.820	88.970
3	16:33:02	92.850	86.470	88.580	90.400	89.650	98.0%	85.530	90.300	88.170
x		91.500	83.820	86.740	89.570	88.770	96.7%	85.240	90.140	87.930
σ		2.122	2.738	2.100	0.896	1.550	1.2%	1.197	1.754	1.191
%RSD		2.319	3.267	2.421	1.000	1.746	1.2	1.404	1.946	1.354

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:32:10	85.180	83.990	95.2%
2	16:32:36	87.710	88.010	96.3%
3	16:33:02	87.080	87.260	97.3%
x		86.660	86.420	96.2%
σ		1.317	2.136	1.1%
%RSD		1.520	2.472	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001 5/19/2017 16:37:08

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	103.0%	0.038	48.250	48.090	┬15610.000	┬11310.000	┬11250.000	┬11290.000	┬50.330
2	16:37:59	104.9%	0.037	47.900	47.700	┬15500.000	┬11240.000	┬11050.000	┬11130.000	┬53.190
3	16:38:25	103.5%	0.006	48.250	49.180	┬15630.000	┬11380.000	┬11230.000	┬11110.000	┬53.370
x		103.8%	0.027	48.130	48.320	┬15580.000	┬11310.000	┬11180.000	┬11180.000	┬52.300
σ		1.0%	0.018	0.200	0.766	┬67.040	┬70.140	┬112.100	┬97.980	┬1.707
%RSD		1.0	66.350	0.415	1.586	┬0.430	┬0.620	┬1.003	┬0.877	┬3.263

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	┬8639.000	┬42740.000	710.900	55050.000	┬53280.000	┬96.6%	1.226	-0.062	0.094
2	16:37:59	┬8495.000	┬42280.000	694.300	53030.000	┬52560.000	┬98.8%	1.537	0.207	0.153
3	16:38:25	┬8694.000	┬44330.000	┬750.200	54950.000	┬54360.000	┬97.1%	1.336	0.066	0.104
x		┬8609.000	┬43120.000	┬718.500	54340.000	┬53400.000	┬97.5%	1.366	0.070	0.117
σ		┬103.000	┬1075.000	┬28.680	1138.000	┬906.800	┬1.2%	0.158	0.134	0.031
%RSD		┬1.197	┬2.492	┬3.992	2.095	┬1.698	┬1.2	11.540	191.800	26.830

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	6.132	50.220	214.100	423.200	-0.986	0.949	0.247	0.389	2.362
2	16:37:59	5.665	50.190	211.000	421.300	-0.954	0.911	0.263	0.405	2.345
3	16:38:25	6.137	51.540	┬192.300	417.500	-1.001	0.827	0.274	0.349	2.465
x		5.978	50.650	┬205.800	420.700	-0.980	0.896	0.261	0.381	2.391
σ		0.271	0.773	┬11.770	2.862	0.024	0.062	0.013	0.028	0.065
%RSD		4.539	1.525	┬5.720	0.680	2.487	6.952	5.135	7.450	2.701

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	1.117	-0.377	10.590	9.102	0.276	-0.797	94.0%	0.148	0.300
2	16:37:59	1.328	-0.303	9.500	9.090	-0.274	-0.846	95.1%	0.253	0.319
3	16:38:25	1.481	-0.014	9.610	8.577	0.498	-0.826	94.8%	0.214	0.324
x		1.309	-0.231	9.899	8.923	0.167	-0.823	94.6%	0.205	0.315
σ		0.183	0.192	0.599	0.299	0.397	0.025	0.6%	0.053	0.013
%RSD		13.950	83.020	6.047	3.355	238.500	3.032	0.6	25.700	3.998

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	0.214	132.500	0.005	-50.490	-0.002	0.024	-0.484	92.2%	0.167
2	16:37:59	0.256	121.100	-0.004	-46.140	-0.007	0.004	-0.442	93.8%	0.144
3	16:38:25	0.310	114.900	0.005	-43.730	-0.001	0.015	-0.406	94.0%	0.148
x		0.260	122.900	0.002	-46.790	-0.003	0.015	-0.444	93.3%	0.153
σ		0.048	8.944	0.005	3.423	0.003	0.010	0.039	1.0%	0.012
%RSD		18.540	7.280	249.800	7.317	101.800	70.100	8.828	1.1	8.082

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:33	18.310	0.101	0.132	95.200	93.970	94.8%	0.043	0.039	0.094
2	16:37:59	16.790	0.096	0.162	94.670	93.850	96.2%	0.019	0.027	0.096
3	16:38:25	15.980	0.117	0.127	98.220	96.130	96.7%	0.017	0.021	0.102
x		17.030	0.105	0.140	96.030	94.650	95.9%	0.026	0.029	0.097
σ		1.183	0.011	0.019	1.917	1.281	1.0%	0.015	0.009	0.004
%RSD		6.950	10.500	13.790	1.996	1.353	1.0	55.750	30.880	4.060

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:37:33	0.089	0.084	90.3%
2	16:37:59	0.099	0.089	92.8%
3	16:38:25	0.112	0.100	92.8%
x		0.100	0.091	92.0%
σ		0.011	0.008	1.4%
%RSD		11.270	8.907	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001MS 5/19/2017 16:42:32

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	96.7%	82.710	138.700	132.600	┬17260.000	┬12670.000	┬12480.000	┬12820.000	┬182.900
2	16:43:23	98.6%	79.620	138.400	133.700	┬17400.000	┬12750.000	┬12620.000	┬12750.000	┬183.400
3	16:43:49	100.6%	76.930	132.400	134.900	┬17080.000	┬12670.000	┬12570.000	┬12410.000	┬192.600
x		98.6%	79.760	136.500	133.700	┬17250.000	┬12700.000	┬12560.000	┬12660.000	┬186.300
σ		2.0%	2.895	3.528	1.117	┬161.200	┬45.300	┬74.290	┬223.300	┬5.443
%RSD		2.0	3.630	2.585	0.836	┬0.935	┬0.357	┬0.592	┬1.763	┬2.922

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	┬9846.000	┬43300.000	┬1662.000	57260.000	┬55600.000	┬96.0%	85.450	78.850	78.310
2	16:43:23	┬9904.000	┬43020.000	┬1659.000	56100.000	┬56010.000	┬96.3%	84.180	80.890	78.950
3	16:43:49	┬9723.000	┬43780.000	┬1675.000	56730.000	┬56480.000	┬93.6%	85.110	82.810	81.200
x		┬9824.000	┬43370.000	┬1665.000	56700.000	┬56030.000	┬95.3%	84.920	80.850	79.490
σ		┬92.780	┬385.300	┬8.294	578.700	┬444.100	┬1.5%	0.660	1.979	1.516
%RSD		┬0.944	┬0.889	┬0.498	1.021	┬0.793	┬1.6	0.777	2.448	1.907

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	5.479	134.000	┬971.400	1284.000	80.230	82.320	78.780	84.590	81.620
2	16:43:23	5.178	133.900	┬977.900	1263.000	79.340	82.160	77.450	84.900	80.470
3	16:43:49	5.458	136.400	┬1010.000	1300.000	81.200	82.830	79.870	84.320	79.730
x		5.372	134.800	┬986.300	1282.000	80.260	82.440	78.700	84.610	80.610
σ		0.168	1.418	┬20.490	18.430	0.930	0.351	1.211	0.290	0.954
%RSD		3.128	1.052	┬2.078	1.438	1.159	0.426	1.539	0.343	1.183

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	86.610	76.230	8.869	9.773	79.240	-0.904	92.7%	88.690	88.110
2	16:43:23	84.200	77.650	9.870	9.601	79.950	-1.545	93.6%	89.550	90.850
3	16:43:49	86.850	77.680	9.338	8.218	81.040	-2.009	94.3%	95.570	94.350
x		85.890	77.190	9.359	9.197	80.080	-1.486	93.5%	91.270	91.100
σ		1.466	0.829	0.501	0.852	0.903	0.555	0.8%	3.747	3.128
%RSD		1.707	1.074	5.354	9.266	1.128	37.360	0.8	4.105	3.434

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	87.380	217.800	80.520	-53.430	73.790	77.230	79.510	91.9%	86.470
2	16:43:23	88.790	195.100	79.390	-45.380	74.300	78.080	79.480	92.5%	87.540
3	16:43:49	93.060	199.900	79.870	-46.250	74.650	79.530	79.850	92.4%	86.850
x		89.740	204.300	79.930	-48.350	74.250	78.280	79.610	92.3%	86.960
σ		2.954	11.960	0.564	4.418	0.437	1.162	0.205	0.3%	0.543
%RSD		3.292	5.856	0.706	9.137	0.588	1.484	0.257	0.3	0.625

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:57	101.400	76.490	78.910	180.800	177.800	93.7%	78.440	80.970	81.560
2	16:43:23	99.240	77.780	80.700	182.200	179.500	95.8%	79.520	80.970	81.820
3	16:43:49	100.500	78.710	81.740	180.600	180.400	97.2%	80.590	81.390	83.440
x		100.400	77.660	80.450	181.200	179.300	95.6%	79.510	81.110	82.270
σ		1.084	1.111	1.431	0.910	1.323	1.7%	1.075	0.240	1.017
%RSD		1.080	1.431	1.778	0.502	0.738	1.8	1.353	0.295	1.237

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:42:57	79.670	76.870	90.2%
2	16:43:23	80.970	77.170	91.8%
3	16:43:49	81.400	77.980	92.3%
x		80.680	77.340	91.4%
σ		0.900	0.571	1.1%
%RSD		1.115	0.739	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001MD 5/19/2017 16:47:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	98.5%	86.300	145.200	138.200	T 16770.000	T 12280.000	T 12010.000	T 12230.000	T 194.400
2	16:48:47	99.2%	85.510	147.100	140.100	T 16730.000	T 12280.000	T 12130.000	T 12200.000	T 211.000
3	16:49:12	101.4%	83.550	141.800	139.900	T 16370.000	T 12040.000	T 12040.000	T 11930.000	T 203.300
x		99.7%	85.120	144.700	139.400	T 16620.000	T 12200.000	T 12060.000	T 12120.000	T 202.900
σ		1.5%	1.418	2.697	1.045	T 219.400	T 140.900	T 62.020	T 163.400	T 8.322
%RSD		1.5	1.665	1.864	0.749	T 1.320	T 1.155	T 0.514	T 1.348	T 4.101

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	T 9285.000	T 42110.000	T 1664.000	53960.000	T 53040.000	T 96.7%	86.210	85.250	83.750
2	16:48:47	T 9509.000	T 43300.000	T 1694.000	55080.000	T 54330.000	96.4%	88.190	85.670	84.010
3	16:49:12	T 9505.000	T 43650.000	T 1703.000	54850.000	T 54440.000	T 94.9%	87.560	85.280	83.810
x		T 9433.000	T 43020.000	T 1687.000	54630.000	T 53940.000	T 96.0%	87.320	85.400	83.860
σ		T 128.100	T 807.800	T 19.990	589.900	T 780.100	T 1.0%	1.011	0.235	0.139
%RSD		T 1.358	T 1.878	T 1.185	1.080	T 1.446	T 1.0	1.158	0.275	0.165

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	4.796	134.800	T 999.600	1292.000	84.090	88.530	82.010	88.180	84.260
2	16:48:47	5.165	137.700	T 1018.000	1299.000	85.080	87.770	83.300	89.640	85.750
3	16:49:12	4.900	138.300	T 1038.000	1310.000	84.350	85.830	82.560	86.540	84.160
x		4.954	136.900	T 1018.000	1300.000	84.510	87.380	82.620	88.120	84.720
σ		0.191	1.854	T 19.090	9.219	0.511	1.394	0.647	1.552	0.885
%RSD		3.848	1.354	T 1.875	0.709	0.604	1.596	0.783	1.762	1.045

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	90.850	81.290	6.616	7.087	87.920	-0.743	92.4%	92.730	91.920
2	16:48:47	90.920	82.520	7.811	7.193	82.270	-1.667	92.4%	95.460	96.120
3	16:49:12	88.320	80.150	7.877	5.698	85.790	-0.033	94.2%	98.190	99.620
x		90.030	81.320	7.434	6.659	85.330	-0.814	93.0%	95.460	95.880
σ		1.479	1.185	0.710	0.834	2.850	0.819	1.0%	2.727	3.855
%RSD		1.643	1.457	9.549	12.530	3.340	100.600	1.1	2.856	4.020

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	90.560	209.400	83.890	-49.140	78.490	82.530	82.770	90.7%	91.690
2	16:48:47	94.350	206.400	85.330	-45.980	79.550	85.770	84.850	91.8%	92.790
3	16:49:12	97.720	200.800	83.610	-44.640	78.610	82.550	83.850	93.2%	92.330
x		94.210	205.500	84.280	-46.590	78.880	83.620	83.820	91.9%	92.270
σ		3.583	4.384	0.926	2.312	0.585	1.865	1.041	1.2%	0.550
%RSD		3.803	2.133	1.098	4.963	0.742	2.230	1.242	1.4	0.597

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:48:21	103.000	81.360	85.230	183.000	180.300	93.3%	82.320	85.050	84.830
2	16:48:47	106.500	82.920	85.270	185.200	182.500	94.4%	84.580	87.960	88.450
3	16:49:12	103.800	81.770	85.100	183.300	181.000	96.3%	84.150	86.300	87.050
x		104.400	82.020	85.200	183.800	181.300	94.7%	83.690	86.440	86.780
σ		1.819	0.809	0.088	1.208	1.104	1.5%	1.201	1.460	1.824
%RSD		1.742	0.987	0.104	0.657	0.609	1.6	1.435	1.689	2.102

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:48:21	84.090	81.340	90.5%
2	16:48:47	86.520	83.660	91.0%
3	16:49:12	85.550	81.690	92.5%
x		85.390	82.230	91.4%
σ		1.224	1.251	1.0%
%RSD		1.433	1.521	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001SD(5) 5/19/2017 16:53:17

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	103.3%	0.038	10.220	10.060	T 3203.000	T 2387.000	2307.000	2266.000	9.115
2	16:54:08	105.9%	0.002	10.780	10.070	T 3199.000	T 2331.000	2242.000	2208.000	8.981
3	16:54:34	104.7%	0.003	9.572	10.290	T 3251.000	T 2376.000	2264.000	2200.000	T 2.914
x		104.7%	0.014	10.190	10.140	T 3218.000	T 2365.000	2271.000	2225.000	T 7.003
σ		1.3%	0.020	0.605	0.132	T 28.930	T 29.790	33.070	35.650	T 3.542
%RSD		1.3	143.500	5.939	1.300	T 0.899	T 1.260	1.456	1.602	T 50.580

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	T 1805.000	T 8861.000	143.400	11310.000	T 10970.000	T 97.4%	0.158	0.027	-0.009
2	16:54:08	T 1749.000	T 8746.000	136.200	10980.000	10130.000	99.4%	0.116	0.010	0.007
3	16:54:34	T 1790.000	T 9024.000	144.400	11530.000	10700.000	96.1%	0.220	0.157	0.012
x		T 1781.000	T 8877.000	141.400	11270.000	T 10600.000	T 97.6%	0.165	0.065	0.003
σ		T 28.830	T 139.600	4.512	281.100	T 429.000	T 1.6%	0.053	0.080	0.011
%RSD		T 1.618	T 1.573	3.192	2.494	T 4.048	T 1.7	31.910	123.700	331.600

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	1.697	10.570	37.820	85.340	-0.204	0.197	0.032	0.108	0.687
2	16:54:08	1.814	10.330	32.300	78.990	-0.195	0.221	0.019	0.076	0.488
3	16:54:34	1.637	10.820	35.640	82.100	-0.209	0.163	0.031	0.074	0.564
x		1.716	10.570	35.250	82.140	-0.203	0.194	0.027	0.086	0.580
σ		0.090	0.242	2.779	3.173	0.007	0.029	0.007	0.019	0.100
%RSD		5.239	2.284	7.882	3.863	3.439	15.010	26.510	22.240	17.240

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	0.375	-0.178	2.197	1.622	-0.243	-0.565	95.9%	-0.190	0.048
2	16:54:08	0.321	-0.391	2.462	1.697	0.120	1.538	98.1%	-0.086	-0.007
3	16:54:34	0.333	-0.204	2.115	2.835	0.307	-1.287	95.2%	-0.077	-0.017
x		0.343	-0.258	2.258	2.051	0.061	-0.104	96.4%	-0.118	0.008
σ		0.029	0.116	0.182	0.680	0.280	1.468	1.5%	0.063	0.035
%RSD		8.414	45.170	8.037	33.140	455.500	1405.000	1.6	53.460	426.500

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	-0.075	26.840	-0.004	-10.220	-0.003	0.005	-0.090	95.4%	0.025
2	16:54:08	-0.100	26.100	0.002	-9.881	-0.000	-0.006	-0.089	97.4%	0.054
3	16:54:34	-0.063	28.630	-0.007	-10.890	-0.004	0.011	-0.099	95.9%	0.029
x		-0.079	27.190	-0.003	-10.330	-0.002	0.003	-0.093	96.2%	0.036
σ		0.019	1.302	0.004	0.516	0.002	0.008	0.005	1.1%	0.016
%RSD		24.200	4.788	138.600	4.990	75.240	253.800	5.908	1.1	43.750

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:53:43	3.732	-0.021	-0.020	19.610	19.030	96.4%	0.107	0.111	0.011
2	16:54:08	3.658	-0.013	-0.028	19.780	19.420	97.9%	0.086	0.100	0.030
3	16:54:34	4.024	-0.023	-0.018	19.850	20.150	97.2%	0.075	0.073	0.015
x		3.805	-0.019	-0.022	19.750	19.540	97.2%	0.089	0.095	0.019
σ		0.194	0.005	0.005	0.124	0.570	0.8%	0.016	0.019	0.010
%RSD		5.090	27.540	23.430	0.626	2.918	0.8	18.010	20.460	53.350

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:53:43	0.032	0.014	95.0%
2	16:54:08	0.011	0.009	97.7%
3	16:54:34	0.027	0.013	96.5%
x		0.023	0.012	96.4%
σ		0.011	0.002	1.3%
%RSD		46.380	18.870	1.4

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-001PS 5/19/2017 16:58:40

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	98.3%	90.380	149.500	147.900	┬16500.000	┬12310.000	┬11950.000	┬12070.000	┬149.100
2	16:59:30	97.5%	91.180	145.400	147.400	┬16870.000	┬12310.000	┬12240.000	┬12200.000	┬149.500
3	16:59:56	98.5%	89.570	143.200	144.600	┬16410.000	┬12120.000	┬11890.000	┬11980.000	┬146.600
x		98.1%	90.380	146.000	146.600	┬16600.000	┬12250.000	┬12030.000	┬12080.000	┬148.400
σ		0.6%	0.805	3.205	1.817	┬243.100	┬110.400	┬188.300	┬107.500	┬1.571
%RSD		0.6	0.891	2.195	1.239	┬1.465	┬0.901	┬1.565	┬0.890	┬1.059

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	┬9377.000	┬41600.000	┬1682.000	54040.000	┬52720.000	┬95.4%	94.620	89.700	88.580
2	16:59:30	┬9369.000	┬42220.000	┬1687.000	53220.000	┬53300.000	┬93.2%	93.660	90.750	89.090
3	16:59:56	┬9230.000	┬42250.000	┬1709.000	53860.000	┬53240.000	┬94.6%	94.100	89.010	87.970
x		┬9325.000	┬42020.000	┬1693.000	53710.000	┬53090.000	┬94.4%	94.130	89.820	88.550
σ		┬82.430	┬364.700	┬14.360	429.200	┬320.700	┬1.1%	0.481	0.879	0.561
%RSD		┬0.884	┬0.868	┬0.849	0.799	┬0.604	┬1.1	0.512	0.979	0.633

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	6.026	140.100	┬1053.000	1335.000	89.330	92.370	89.100	96.200	91.470
2	16:59:30	5.005	142.200	┬1067.000	1346.000	89.240	90.300	88.470	93.490	90.380
3	16:59:56	5.129	141.400	┬1068.000	1343.000	89.490	90.810	86.950	91.540	88.850
x		5.387	141.200	┬1063.000	1342.000	89.350	91.160	88.170	93.740	90.230
σ		0.557	1.055	┬8.469	5.838	0.124	1.080	1.104	2.344	1.318
%RSD		10.340	0.747	┬0.797	0.435	0.139	1.185	1.252	2.501	1.461

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	92.960	89.130	9.394	9.863	89.700	-1.499	92.0%	98.660	100.400
2	16:59:30	90.860	86.310	10.440	8.527	89.760	-0.428	92.7%	102.800	102.300
3	16:59:56	89.350	86.790	10.130	8.801	86.280	-0.472	93.7%	101.800	102.700
x		91.060	87.410	9.988	9.064	88.580	-0.800	92.8%	101.100	101.800
σ		1.813	1.509	0.539	0.706	1.992	0.606	0.8%	2.162	1.234
%RSD		1.991	1.726	5.393	7.786	2.249	75.780	0.9	2.138	1.212

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	97.720	214.000	89.610	-49.170	82.930	87.200	88.810	90.6%	96.840
2	16:59:30	101.500	211.000	88.940	-46.070	83.560	88.450	88.780	92.1%	98.480
3	16:59:56	101.400	199.500	88.540	-42.350	83.050	87.970	88.290	92.2%	97.970
x		100.200	208.200	89.030	-45.860	83.180	87.880	88.630	91.6%	97.760
σ		2.154	7.664	0.539	3.411	0.336	0.632	0.291	0.9%	0.841
%RSD		2.150	3.681	0.606	7.438	0.403	0.719	0.329	1.0	0.860

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:59:05	109.400	80.680	83.180	185.900	182.800	93.5%	88.110	90.700	90.470
2	16:59:30	111.000	80.350	83.650	185.500	184.000	94.4%	88.490	92.660	91.510
3	16:59:56	107.900	81.250	84.400	186.200	182.500	97.2%	88.730	90.770	91.920
x		109.400	80.760	83.740	185.900	183.100	95.0%	88.440	91.380	91.300
σ		1.537	0.454	0.616	0.318	0.759	1.9%	0.315	1.111	0.744
%RSD		1.404	0.562	0.735	0.171	0.414	2.0	0.356	1.216	0.814

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:59:05	89.880	86.010	89.7%
2	16:59:30	89.470	87.510	91.8%
3	16:59:56	90.090	85.810	92.6%
x		89.810	86.440	91.4%
σ		0.314	0.927	1.5%
%RSD		0.350	1.072	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-002 5/19/2017 17:04:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	97.6%	0.019	25.680	26.260	T 19720.000	T 17360.000	T 17350.000	T 17340.000	T 33.360
2	17:04:54	100.2%	0.011	27.250	27.120	T 19430.000	T 17020.000	T 16770.000	T 16940.000	T 32.820
3	17:05:20	100.1%	0.004	28.040	26.750	T 19280.000	T 17030.000	T 16780.000	T 17080.000	T 40.380
x		99.3%	0.011	26.990	26.710	T 19480.000	T 17140.000	T 16970.000	T 17120.000	T 35.520
σ		1.5%	0.008	1.199	0.428	T 224.600	T 190.300	T 331.600	T 204.900	T 4.218
%RSD		1.5	69.110	4.444	1.603	T 1.153	T 1.111	T 1.954	T 1.197	T 11.880
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	T 5974.000	T 47300.000	T 14640.000	M 124800.000	TM 120200.000	T 94.9%	1.220	0.256	0.929
2	17:04:54	T 5863.000	T 47290.000	T 14840.000	M 124300.000	TM 119700.000	96.3%	1.676	0.190	0.957
3	17:05:20	T 5936.000	T 48050.000	T 14890.000	M 125500.000	TM 121800.000	T 95.8%	1.154	0.075	0.960
x		T 5924.000	T 47540.000	T 14790.000	M 124800.000	TM 120600.000	T 95.7%	1.350	0.174	0.949
σ		T 56.410	T 436.500	T 129.400	M 576.400	TM 1075.000	T 0.7%	0.284	0.092	0.017
%RSD		T 0.952	T 0.918	T 0.875	M 0.462	TM 0.892	T 0.8	21.040	52.720	1.809
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	6.546	161.200	T 244.700	800.800	10.320	15.570	1.209	1.435	6.421
2	17:04:54	6.511	162.600	T 242.700	772.600	10.170	14.920	1.200	1.707	6.330
3	17:05:20	6.688	162.200	T 242.500	770.200	10.310	15.110	1.204	1.595	6.073
x		6.581	162.000	T 243.300	781.200	10.270	15.200	1.205	1.579	6.275
σ		0.094	0.708	T 1.228	17.040	0.082	0.336	0.005	0.137	0.181
%RSD		1.421	0.437	T 0.505	2.182	0.798	2.208	0.381	8.653	2.880
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	1.222	-0.017	85.680	90.870	-0.448	-0.113	92.3%	0.747	0.947
2	17:04:54	0.995	0.247	86.050	87.750	-0.113	-1.680	92.9%	0.788	0.796
3	17:05:20	0.998	-0.253	87.160	88.690	0.395	-0.633	93.8%	0.799	0.890
x		1.072	-0.008	86.300	89.110	-0.055	-0.809	93.0%	0.778	0.878
σ		0.130	0.250	0.774	1.601	0.425	0.798	0.7%	0.028	0.076
%RSD		12.170	3250.000	0.896	1.797	765.300	98.690	0.8	3.552	8.664
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	0.649	64.830	0.021	-24.690	0.019	0.070	-0.174	90.2%	0.109
2	17:04:54	0.722	65.730	0.030	-24.970	0.020	0.057	-0.194	92.0%	0.130
3	17:05:20	0.795	63.990	0.030	-24.280	0.022	0.048	-0.199	92.0%	0.198
x		0.722	64.850	0.027	-24.650	0.020	0.059	-0.189	91.4%	0.146
σ		0.073	0.869	0.005	0.347	0.002	0.011	0.013	1.0%	0.047
%RSD		10.100	1.340	18.990	1.409	7.694	18.910	6.960	1.1	32.130
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:04:28	8.981	0.376	0.433	46.710	45.580	93.6%	0.009	0.009	0.124
2	17:04:54	9.147	0.416	0.386	45.760	45.910	95.3%	0.006	0.006	0.116
3	17:05:20	8.900	0.412	0.430	47.060	45.750	95.4%	0.014	0.012	0.134
x		9.009	0.401	0.416	46.510	45.750	94.7%	0.010	0.009	0.124
σ		0.126	0.022	0.026	0.676	0.167	1.0%	0.004	0.003	0.009
%RSD		1.397	5.457	6.234	1.453	0.366	1.1	37.930	33.540	7.307
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	17:04:28	0.126	0.110	87.2%						
2	17:04:54	0.103	0.095	89.0%						
3	17:05:20	0.098	0.109	90.6%						
x		0.109	0.105	88.9%						
σ		0.015	0.009	1.7%						
%RSD		13.770	8.216	1.9						

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-003 5/19/2017 17:09:26

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	92.0%	0.060	11.510	11.480	T 7677.000	T 14210.000	T 14000.000	T 14510.000	TM 649.000
2	17:10:18	95.6%	0.102	10.940	10.430	T 7341.000	T 13870.000	T 13710.000	T 14060.000	TM 624.200
3	17:10:44	95.7%	0.050	11.910	11.320	T 7157.000	T 13570.000	T 13440.000	T 13820.000	TM 601.400
x		94.4%	0.070	11.450	11.080	T 7392.000	T 13880.000	T 13720.000	T 14130.000	TM 624.900
σ		2.1%	0.028	0.484	0.569	T 264.000	T 319.700	T 278.700	T 349.500	TM 23.800
%RSD		2.2	39.290	4.225	5.140	T 3.571	T 2.302	T 2.032	T 2.473	TM 3.809

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	T 5959.000	T 46150.000	T 3111.000	M 132900.000	TM 129200.000	T 93.7%	T -52.950	0.791	3.451
2	17:10:18	T 5756.000	T 45690.000	T 3070.000	M 129200.000	TM 127700.000	T 94.6%	23.710	14.040	4.073
3	17:10:44	T 5701.000	T 47060.000	T 3135.000	M 131700.000	TM 127700.000	T 93.0%	T -56.660	-0.542	T -1.597
x		T 5805.000	T 46300.000	T 3106.000	M 131200.000	TM 128200.000	T 93.8%	T -28.630	4.762	T 1.976
σ		T 135.600	T 694.400	T 32.950	M 1903.000	TM 850.100	T 0.8%	T 45.370	8.060	T 3.109
%RSD		T 2.335	T 1.500	T 1.061	M 1.450	TM 0.663	T 0.8	T 158.400	169.300	T 157.400

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	7.966	81.450	T 418.500	1007.000	13.360	6.155	3.277	4.026	5.782
2	17:10:18	T -9.383	79.160	T 395.100	951.900	13.270	5.710	3.118	3.912	5.754
3	17:10:44	9.337	81.200	T 407.500	941.000	13.130	T -21.890	3.237	3.758	5.336
x		T 2.640	80.600	T 407.000	966.500	13.250	T -3.340	3.211	3.899	5.624
σ		T 10.430	1.252	T 11.720	35.180	0.118	T 16.060	0.083	0.135	0.250
%RSD		T 395.200	1.553	T 2.879	3.640	0.888	T 480.900	2.572	3.451	4.438

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	0.323	0.307	8.893	7.570	0.802	1.180	91.5%	0.521	0.481
2	17:10:18	0.760	0.111	8.556	6.818	0.784	-0.899	92.8%	0.455	0.569
3	17:10:44	0.066	0.312	9.144	7.138	0.222	-0.919	93.6%	0.523	0.729
x		0.383	0.244	8.864	7.176	0.603	-0.213	92.6%	0.499	0.593
σ		0.351	0.114	0.295	0.377	0.330	1.206	1.1%	0.038	0.126
%RSD		91.570	47.010	3.326	5.260	54.750	567.300	1.2	7.686	21.180

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	0.426	53.190	0.041	-20.150	0.026	0.007	-0.187	89.2%	0.089
2	17:10:18	0.379	45.870	0.027	-17.440	0.027	0.042	-0.151	89.5%	0.040
3	17:10:44	0.803	43.370	0.031	-16.430	0.027	0.034	-0.131	91.3%	0.108
x		0.536	47.480	0.033	-18.010	0.027	0.028	-0.157	90.0%	0.079
σ		0.233	5.103	0.007	1.925	0.001	0.019	0.028	1.1%	0.035
%RSD		43.370	10.750	21.660	10.690	1.920	66.520	18.170	1.3	44.410

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:09:53	7.287	0.201	0.197	61.160	59.730	92.1%	0.001	0.004	0.466
2	17:10:18	6.223	0.274	0.253	61.680	59.530	94.3%	-0.001	0.002	0.498
3	17:10:44	5.952	0.201	0.236	58.900	58.690	96.2%	0.002	0.001	0.468
x		6.487	0.226	0.229	60.580	59.320	94.2%	0.001	0.002	0.477
σ		0.706	0.042	0.029	1.477	0.555	2.1%	0.001	0.002	0.018
%RSD		10.880	18.700	12.500	2.438	0.935	2.2	181.400	69.370	3.720

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:09:53	0.430	0.411	87.0%
2	17:10:18	0.466	0.414	89.7%
3	17:10:44	0.450	0.397	91.8%
x		0.449	0.408	89.5%
σ		0.018	0.009	2.4%
%RSD		4.069	2.253	2.6

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 17:14:50 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	84.7%	291.900	298.100	279.500	┬56020.000	┬53090.000	┬53200.000	┬57440.000	287.900
2	17:15:42	85.3%	299.000	300.000	278.000	┬56370.000	┬54580.000	┬54600.000	┬58440.000	290.900
3	17:16:08	88.7%	290.400	289.600	285.800	┬54900.000	┬53430.000	┬52810.000	┬55890.000	292.600
x		86.2%	97.932%	98.631%	93.695%	┬92.936%	┬53700.000	┬53540.000	┬95.433%	96.821%
σ		2.2%	n/a	n/a	n/a	┬n/a	┬779.300	┬940.900	┬n/a	n/a
%RSD		2.5	1.561	1.868	1.479	┬1.379	┬1.451	┬1.758	┬2.241	0.809

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	┬2904.000	319.800	┬60910.000	54260.000	┬54490.000	94.4%	278.200	290.600	279.500
2	17:15:42	┬2971.000	342.600	┬63570.000	56320.000	┬56530.000	┬93.5%	286.000	294.700	283.100
3	17:16:08	┬2908.000	360.000	┬63010.000	56300.000	┬56830.000	94.0%	283.500	293.600	282.600
x		┬97.589%	340.800	┬104.164%	55630.000	┬93.253%	┬94.0%	94.203%	97.653%	93.900%
σ		┬n/a	20.150	┬n/a	1184.000	┬n/a	┬0.4%	n/a	n/a	n/a
%RSD		┬1.297	5.911	┬2.241	2.129	┬2.271	┬0.5	1.408	0.720	0.691

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	-8.282	┬270.300	┬51370.000	┬59500.000	279.900	277.000	256.500	286.900	278.000
2	17:15:42	-5.435	┬285.900	┬54230.000	┬62230.000	284.600	282.100	262.600	289.600	279.500
3	17:16:08	-6.767	┬282.300	┬54240.000	┬61490.000	283.500	273.500	261.700	282.600	274.300
x		-6.828	┬93.167%	┬88.805%	┬101.797%	94.221%	92.503%	260.300	95.453%	92.420%
σ		1.425	┬n/a	┬n/a	┬n/a	n/a	n/a	3.315	n/a	n/a
%RSD		20.870	┬2.927	┬3.102	┬2.311	0.862	1.565	1.274	1.238	0.974

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	282.300	263.300	1.942	1.029	283.600	-0.601	88.8%	279.500	277.800
2	17:15:42	281.300	264.000	2.217	0.835	283.400	-0.627	89.6%	303.800	301.700
3	17:16:08	277.300	256.100	2.115	-0.273	280.800	-0.237	91.7%	313.000	310.400
x		93.430%	261.100	2.092	0.530	94.207%	-0.488	90.0%	99.590%	98.871%
σ		n/a	4.403	0.139	0.703	n/a	0.218	1.5%	n/a	n/a
%RSD		0.949	1.686	6.643	132.500	0.550	44.680	1.7	5.785	5.685

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	277.500	270.200	281.400	-4.399	256.500	266.100	277.600	86.7%	293.600
2	17:15:42	301.200	273.800	289.100	-3.256	261.500	272.800	286.000	87.7%	305.400
3	17:16:08	309.000	267.200	283.900	-3.125	256.500	264.400	280.000	90.0%	299.500
x		98.637%	270.400	94.927%	-3.593	258.200	267.700	93.739%	88.1%	99.834%
σ		n/a	3.303	n/a	0.701	2.923	4.433	n/a	1.7%	n/a
%RSD		5.558	1.221	1.378	19.500	1.132	1.656	1.539	1.9	1.967

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:15:16	283.000	266.900	273.000	283.500	278.100	90.7%	281.000	┬279.700	287.700
2	17:15:42	291.500	276.900	284.900	287.700	285.300	91.4%	286.600	┬288.300	297.100
3	17:16:08	287.100	271.300	277.500	285.100	282.800	93.3%	285.000	┬285.700	293.500
x		95.727%	90.561%	92.822%	95.143%	94.020%	91.8%	94.728%	┬94.854%	97.599%
σ		n/a	n/a	n/a	n/a	n/a	1.3%	n/a	┬n/a	n/a
%RSD		1.468	1.846	2.161	0.755	1.302	1.5	1.008	┬1.540	1.618

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:15:16	281.800	272.900	84.3%
2	17:15:42	290.400	281.500	85.3%
3	17:16:08	288.400	280.500	87.3%
x		95.616%	92.761%	85.6%
σ		n/a	n/a	1.5%
%RSD		1.575	1.694	1.8

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 17:20:12 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	103.0%	0.024	1.408	1.777	-1.265	-0.064	-0.092	-0.097	-1.128
2	17:21:03	104.7%	0.023	1.172	1.578	-1.702	-0.102	-0.117	0.068	-1.118
3	17:21:28	109.5%	0.024	1.098	1.256	-2.242	-0.233	-0.326	-0.430	-0.965
x		105.8%	0.024	1.226	1.537	-1.736	-0.133	-0.178	-0.153	-1.070
σ		3.4%	0.001	0.162	0.263	0.489	0.089	0.129	0.254	0.091
%RSD		3.2	3.118	13.230	17.090	28.190	66.610	72.170	165.500	8.520

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	T 1.877	204.900	0.603	2.003	2.047	101.8%	-0.009	0.097	-0.022
2	17:21:03	8.236	219.500	-0.389	3.670	0.529	103.2%	-0.072	0.105	0.005
3	17:21:28	T -0.509	238.800	-2.727	4.921	0.523	102.9%	-0.017	0.080	-0.016
x		T 3.201	221.100	-0.838	3.531	1.033	102.6%	-0.033	0.094	-0.011
σ		T 4.520	17.040	1.709	1.464	0.879	0.8%	0.035	0.013	0.014
%RSD		T 141.200	7.709	204.100	41.460	85.070	0.8	106.700	13.620	128.800

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	0.047	0.007	-0.640	1.856	0.005	0.035	-0.019	0.013	-0.057
2	17:21:03	0.038	0.012	-3.391	-0.372	0.011	-0.008	-0.015	-0.011	-0.017
3	17:21:28	0.062	0.004	-3.288	-0.338	0.005	0.017	-0.007	-0.006	-0.005
x		0.049	0.007	-2.440	0.382	0.007	0.015	-0.013	-0.001	-0.026
σ		0.012	0.004	1.559	1.277	0.004	0.022	0.006	0.013	0.027
%RSD		25.090	52.040	63.920	333.900	49.370	147.300	46.380	971.200	102.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	-0.045	0.083	0.467	0.365	-0.187	-1.978	98.4%	0.370	0.426
2	17:21:03	-0.016	-0.002	0.971	0.078	-0.228	0.713	99.6%	0.450	0.507
3	17:21:28	-0.075	0.144	0.633	0.553	-0.240	-0.447	100.0%	0.414	0.429
x		-0.045	0.075	0.690	0.332	-0.219	-0.571	99.3%	0.411	0.454
σ		0.030	0.073	0.257	0.240	0.028	1.350	0.9%	0.040	0.046
%RSD		65.410	97.170	37.220	72.140	12.860	236.500	0.9	9.768	10.090

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	0.426	0.053	0.012	-0.026	0.008	0.006	-0.003	97.6%	0.147
2	17:21:03	0.462	0.258	0.006	-0.073	0.006	-0.003	0.002	98.8%	0.121
3	17:21:28	0.408	0.277	0.001	-0.096	0.009	0.003	0.002	99.1%	0.138
x		0.432	0.196	0.006	-0.065	0.008	0.002	0.000	98.5%	0.135
σ		0.028	0.124	0.006	0.036	0.001	0.004	0.003	0.8%	0.013
%RSD		6.399	63.350	86.510	55.080	14.790	207.000	1783.000	0.8	9.769

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:20:37	0.170	0.290	0.295	-0.012	0.001	96.6%	0.026	0.021	0.007
2	17:21:03	0.197	0.341	0.363	0.026	0.005	98.5%	0.022	0.024	0.007
3	17:21:28	0.182	0.314	0.372	0.000	-0.019	99.8%	0.022	0.022	0.004
x		0.183	0.315	0.343	0.005	-0.004	98.3%	0.024	0.022	0.006
σ		0.014	0.026	0.042	0.019	0.013	1.6%	0.002	0.001	0.002
%RSD		7.392	8.153	12.280	400.500	308.700	1.6	8.961	6.051	26.050

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:20:37	0.011	0.011	96.7%
2	17:21:03	0.000	0.004	97.9%
3	17:21:28	0.005	0.003	99.1%
x		0.006	0.006	97.9%
σ		0.006	0.004	1.2%
%RSD		102.200	70.130	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-004 5/19/2017 17:25:33

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	95.9%	0.027	6.193	T -18.450	T 9251.000	T 17330.000	T 17090.000	T 17440.000	2.155
2	17:26:24	98.5%	0.018	5.761	5.686	T 9417.000	T 17000.000	T 16700.000	T 17010.000	2.489
3	17:26:49	96.8%	0.030	5.956	5.675	T 9174.000	T 17140.000	T 17080.000	T 17560.000	2.578
x		97.1%	0.025	5.970	T -2.362	T 9281.000	T 17150.000	T 16960.000	T 17340.000	2.407
σ		1.3%	0.006	0.217	T 13.930	T 123.900	T 164.900	T 224.300	T 292.800	0.223
%RSD		1.3	24.040	3.630	T 589.800	T 1.335	T 0.961	T 1.323	T 1.689	9.263
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	T 6643.000	T 44710.000	T 1822.000	M 130800.000	TM 127200.000	T 96.7%	0.663	0.171	0.055
2	17:26:24	T 6565.000	T 44680.000	T 1818.000	M 130600.000	TM 126400.000	96.5%	0.709	0.005	0.068
3	17:26:49	T 6770.000	T 46610.000	T 1868.000	M 134700.000	TM 130900.000	T 94.4%	0.643	-0.027	0.080
x		T 6659.000	T 45330.000	T 1836.000	M 132000.000	TM 128200.000	T 95.9%	0.672	0.049	0.068
σ		T 103.400	T 1106.000	T 27.990	M 2348.000	TM 2385.000	T 1.3%	0.034	0.106	0.012
%RSD		T 1.552	T 2.439	T 1.525	M 1.778	TM 1.861	T 1.3	5.025	215.000	18.320
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	6.288	21.580	21.780	615.300	1.608	2.152	0.274	0.647	1.406
2	17:26:24	6.649	21.740	19.190	567.400	1.529	1.983	0.245	0.564	1.310
3	17:26:49	6.909	22.500	19.710	571.200	1.508	2.095	0.234	0.578	1.321
x		6.616	21.940	20.230	584.600	1.548	2.077	0.251	0.596	1.345
σ		0.312	0.489	1.368	26.610	0.052	0.086	0.020	0.044	0.052
%RSD		4.714	2.229	6.765	4.552	3.386	4.149	8.076	7.438	3.890
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	0.213	0.401	5.238	4.485	0.656	-0.282	92.4%	-0.099	0.115
2	17:26:24	0.256	0.023	5.458	4.023	0.519	-0.914	92.9%	0.070	0.068
3	17:26:49	0.154	0.283	4.519	4.122	0.037	-0.297	93.2%	0.055	0.038
x		0.207	0.236	5.072	4.210	0.404	-0.498	92.8%	0.008	0.074
σ		0.051	0.194	0.491	0.243	0.325	0.361	0.4%	0.094	0.038
%RSD		24.650	82.150	9.690	5.772	80.400	72.520	0.4	1112.000	52.070
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	0.004	54.460	0.006	-20.780	0.007	-0.006	-0.205	89.9%	0.098
2	17:26:24	0.011	50.780	0.005	-19.330	0.006	0.002	-0.195	91.7%	0.103
3	17:26:49	-0.006	52.710	0.010	-20.070	0.009	-0.000	-0.199	90.8%	0.088
x		0.003	52.650	0.007	-20.060	0.007	-0.001	-0.200	90.8%	0.096
σ		0.009	1.843	0.003	0.723	0.002	0.004	0.005	0.9%	0.008
%RSD		296.600	3.500	41.760	3.603	23.300	303.600	2.701	1.0	7.988
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:25:58	7.468	0.134	0.114	11.700	11.560	92.3%	0.120	0.118	0.021
2	17:26:24	7.114	0.161	0.181	11.720	11.570	94.4%	0.071	0.074	0.025
3	17:26:49	7.225	0.180	0.182	12.400	11.500	94.9%	0.045	0.040	0.006
x		7.269	0.159	0.159	11.940	11.540	93.9%	0.079	0.077	0.017
σ		0.181	0.023	0.039	0.399	0.038	1.4%	0.038	0.039	0.010
%RSD		2.491	14.480	24.310	3.343	0.328	1.5	48.110	50.650	58.680
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	17:25:58	0.016	0.004	86.7%						
2	17:26:24	0.008	0.020	89.9%						
3	17:26:49	0.015	0.014	89.1%						
x		0.013	0.013	88.6%						
σ		0.004	0.008	1.6%						
%RSD		30.190	63.510	1.9						

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-005 5/19/2017 17:30:54

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	91.1%	0.115	39.110	41.280	T 29010.000	T 27200.000	T 26920.000	T 28160.000	2.214
2	17:31:47	94.2%	0.123	41.010	41.490	T 28880.000	T 27050.000	T 26850.000	T 27160.000	2.084
3	17:32:13	93.7%	0.108	39.870	41.640	T 27980.000	T 26710.000	T 26780.000	T 27310.000	2.229
x		93.0%	0.115	40.000	41.470	T 28620.000	T 26990.000	T 26850.000	T 27540.000	2.176
σ		1.7%	0.007	0.960	0.181	T 556.800	T 247.400	T 73.810	T 536.400	0.080
%RSD		1.8	6.181	2.400	0.437	T 1.946	T 0.917	T 0.275	T 1.947	3.678

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	TM 14790.000	T 48870.000	603.400	M 201900.000	TM 191100.000	T 92.7%	1.738	-0.271	0.086
2	17:31:47	TM 14660.000	T 50020.000	615.900	TM 199400.000	TM 193600.000	T 93.0%	1.493	0.096	0.112
3	17:32:13	TM 14800.000	T 50990.000	622.300	TM 200600.000	TM 193400.000	91.1%	1.501	0.144	0.121
x		TM 14750.000	T 49960.000	613.900	TM 200600.000	TM 192700.000	T 92.3%	1.577	-0.011	0.106
σ		TM 77.560	T 1058.000	9.633	TM 1269.000	TM 1356.000	T 1.0%	0.140	0.227	0.018
%RSD		TM 0.526	T 2.118	1.569	TM 0.633	TM 0.704	T 1.1	8.840	2153.000	17.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	6.544	TM 1077.000	T 3422.000	4507.000	-3.809	6.385	0.310	0.707	1.645
2	17:31:47	5.847	TM 1076.000	T 3436.000	4471.000	-3.752	6.221	0.281	0.677	1.460
3	17:32:13	5.791	TM 1109.000	T 3536.000	4584.000	-3.771	6.091	0.326	0.622	1.631
x		6.061	TM 1087.000	T 3465.000	4521.000	-3.777	6.232	0.306	0.669	1.578
σ		0.420	TM 18.510	T 61.810	57.620	0.029	0.147	0.023	0.043	0.103
%RSD		6.921	TM 1.702	T 1.784	1.274	0.759	2.365	7.509	6.486	6.528

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	0.339	0.086	292.400	296.800	0.098	0.835	89.2%	-0.160	-0.118
2	17:31:47	0.519	-0.237	295.700	288.400	0.184	-0.828	90.9%	-0.179	-0.160
3	17:32:13	0.060	-0.079	297.800	298.700	-0.157	-0.637	90.3%	-0.225	-0.122
x		0.306	-0.077	295.300	294.600	0.042	-0.210	90.1%	-0.188	-0.133
σ		0.231	0.161	2.715	5.506	0.177	0.910	0.9%	0.033	0.023
%RSD		75.650	210.100	0.920	1.869	424.700	433.000	1.0	17.800	17.400

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	-0.219	79.250	0.005	-30.210	-0.004	-0.002	-0.299	87.4%	0.044
2	17:31:47	-0.175	78.140	-0.004	-29.800	-0.003	0.006	-0.300	88.7%	0.081
3	17:32:13	-0.176	72.420	-0.002	-27.550	-0.004	-0.003	-0.266	90.2%	0.052
x		-0.190	76.600	-0.000	-29.190	-0.004	0.000	-0.288	88.8%	0.059
σ		0.025	3.663	0.005	1.432	0.001	0.005	0.019	1.4%	0.020
%RSD		13.320	4.782	1121.000	4.908	25.470	1279.000	6.593	1.6	33.180

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:31:20	10.890	0.045	0.042	197.800	193.900	90.5%	-0.003	-0.002	0.047
2	17:31:47	10.720	0.065	0.069	195.300	193.000	92.6%	-0.004	-0.005	0.048
3	17:32:13	10.090	0.085	0.034	197.700	193.800	93.8%	0.011	-0.004	0.034
x		10.570	0.065	0.049	196.900	193.500	92.3%	0.001	-0.004	0.043
σ		0.419	0.020	0.018	1.423	0.499	1.7%	0.008	0.002	0.008
%RSD		3.965	30.590	37.260	0.723	0.258	1.8	562.100	47.730	17.800

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:31:20	0.057	0.044	84.1%
2	17:31:47	0.052	0.047	86.8%
3	17:32:13	0.043	0.042	88.1%
x		0.051	0.044	86.3%
σ		0.007	0.003	2.1%
%RSD		14.560	6.267	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-006 5/19/2017 17:36:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	90.2%	0.180	156.700	154.400	T 77860.000	T 32450.000	T 31990.000	T 33440.000	6.904
2	17:37:10	91.2%	0.158	151.200	152.500	T 77520.000	T 32030.000	T 31990.000	T 32840.000	T 0.158
3	17:37:36	92.9%	0.132	148.500	150.000	T 75460.000	T 31580.000	T 31660.000	T 32870.000	6.701
x		91.4%	0.157	152.200	152.300	T 76950.000	T 32020.000	T 31880.000	T 33050.000	T 4.588
σ		1.4%	0.024	4.183	2.217	T 1298.000	T 433.500	T 192.500	T 339.200	T 3.838
%RSD		1.5	15.250	2.749	1.455	T 1.686	T 1.354	T 0.604	T 1.026	T 83.660

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	TM 11400.000	T 53370.000	T 713.200	TM 215500.000	TM 204400.000	T 94.2%	1.117	-0.059	0.202
2	17:37:10	TM 11410.000	T 54810.000	694.300	TM 213100.000	TM 205300.000	T 92.9%	1.094	0.033	0.187
3	17:37:36	TM 11190.000	T 54050.000	678.500	TM 210400.000	TM 203200.000	95.1%	1.316	0.057	0.178
x		TM 11330.000	T 54080.000	T 695.300	TM 213000.000	TM 204300.000	T 94.1%	1.176	0.010	0.189
σ		TM 123.100	T 717.100	T 17.380	TM 2557.000	TM 1034.000	T 1.1%	0.122	0.061	0.012
%RSD		TM 1.086	T 1.326	T 2.499	TM 1.200	TM 0.506	T 1.1	10.370	595.800	6.400

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	6.681	TM 837.200	T 1428.000	2427.000	-2.123	14.620	0.246	0.476	1.981
2	17:37:10	6.462	TM 845.400	T 1450.000	2391.000	-2.029	13.830	0.231	0.369	1.931
3	17:37:36	6.374	TM 836.100	T 1427.000	2322.000	-2.082	13.130	0.241	0.425	1.808
x		6.505	TM 839.600	T 1435.000	2380.000	-2.078	13.860	0.239	0.423	1.907
σ		0.158	TM 5.055	T 13.170	53.600	0.047	0.746	0.008	0.054	0.089
%RSD		2.431	TM 0.602	T 0.917	2.252	2.260	5.384	3.170	12.640	4.655

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	6.471	-0.034	491.700	497.200	0.373	-0.301	T 89.3%	-0.026	0.011
2	17:37:10	6.835	-0.352	496.000	504.100	0.923	-0.657	90.5%	-0.017	0.135
3	17:37:36	6.470	-0.242	482.800	492.300	1.091	-0.857	T 91.4%	-0.057	0.063
x		6.592	-0.209	490.200	497.900	0.796	-0.605	T 90.4%	-0.033	0.070
σ		0.210	0.162	6.763	5.918	0.375	0.282	T 1.1%	0.021	0.062
%RSD		3.188	77.300	1.380	1.189	47.180	46.530	T 1.2	64.770	89.550

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	-0.022	162.600	-0.004	-62.000	-0.006	-0.003	-0.636	86.5%	0.376
2	17:37:10	0.016	142.800	0.000	-54.420	-0.005	0.006	-0.558	87.7%	0.471
3	17:37:36	-0.016	141.000	0.001	-53.680	-0.003	-0.000	-0.552	90.0%	0.394
x		-0.007	148.800	-0.001	-56.700	-0.005	0.001	-0.582	88.1%	0.414
σ		0.021	11.980	0.003	4.605	0.002	0.005	0.047	1.8%	0.051
%RSD		291.700	8.049	287.100	8.121	35.040	625.000	8.080	2.0	12.280

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:36:44	22.580	0.008	0.036	209.200	206.200	90.1%	-0.005	-0.008	0.007
2	17:37:10	19.890	0.031	0.055	209.400	207.300	92.7%	-0.003	-0.008	0.025
3	17:37:36	19.860	0.024	0.044	205.400	202.500	94.5%	-0.009	-0.007	0.010
x		20.770	0.021	0.045	208.000	205.400	92.4%	-0.006	-0.008	0.014
σ		1.560	0.012	0.009	2.273	2.508	2.2%	0.004	0.001	0.010
%RSD		7.508	57.330	20.840	1.093	1.221	2.4	62.600	8.421	69.020

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:36:44	0.018	0.015	81.9%
2	17:37:10	0.009	0.016	84.1%
3	17:37:36	0.008	0.012	85.8%
x		0.012	0.014	83.9%
σ		0.006	0.002	2.0%
%RSD		46.940	14.030	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE16002-007 5/19/2017 17:41:42

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	90.6%	0.049	187.600	178.600	T 64220.000	T 20000.000	T 19680.000	T 20760.000	1.818
2	17:42:32	92.0%	0.029	192.200	189.400	T 63980.000	T 20140.000	T 20200.000	T 20830.000	2.229
3	17:42:58	94.7%	0.039	186.600	183.700	T 62260.000	T 19970.000	T 19860.000	T 20030.000	2.068
x		92.4%	0.039	188.800	183.900	T 63490.000	T 20040.000	T 19910.000	T 20540.000	2.038
σ		2.1%	0.010	2.974	5.405	T 1068.000	T 94.130	T 263.300	T 443.600	0.207
%RSD		2.3	25.920	1.575	2.938	T 1.683	T 0.470	T 1.322	T 2.159	10.160

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	T 8179.000	T 47750.000	701.000	M 108600.000	TM 105900.000	T 95.4%	0.900	-0.010	-0.093
2	17:42:32	T 8336.000	T 49640.000	734.000	M 112700.000	TM 109400.000	92.2%	0.755	0.256	-0.068
3	17:42:58	T 8195.000	T 50210.000	741.200	M 114100.000	TM 111300.000	T 91.9%	0.882	0.237	-0.093
x		T 8237.000	T 49200.000	725.400	M 111800.000	TM 108900.000	T 93.2%	0.845	0.161	-0.085
σ		T 86.670	T 1289.000	21.400	M 2834.000	TM 2744.000	T 1.9%	0.079	0.149	0.014
%RSD		T 1.052	T 2.620	2.950	M 2.535	TM 2.521	T 2.1	9.332	92.270	16.690

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	7.336	89.250	T 253.700	737.900	-2.100	1.619	0.276	0.492	4.790
2	17:42:32	7.305	94.580	T 270.000	730.000	-2.180	1.569	0.298	0.438	4.547
3	17:42:58	7.165	95.640	T 273.200	719.700	-2.183	1.431	0.354	0.434	4.630
x		7.269	93.160	T 265.600	729.200	-2.155	1.540	0.309	0.454	4.656
σ		0.091	3.424	T 10.470	9.125	0.047	0.097	0.041	0.032	0.123
%RSD		1.251	3.675	T 3.941	1.251	2.185	6.322	13.100	7.112	2.649

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	1.736	-0.207	14.770	16.960	-0.212	-0.814	90.1%	-0.234	-0.118
2	17:42:32	1.556	-0.123	15.750	16.540	-0.260	-1.104	89.8%	-0.199	-0.129
3	17:42:58	1.673	0.066	14.780	14.220	0.027	-0.648	90.4%	-0.170	-0.079
x		1.655	-0.088	15.100	15.910	-0.148	-0.856	90.1%	-0.201	-0.109
σ		0.091	0.140	0.564	1.475	0.154	0.231	0.3%	0.032	0.027
%RSD		5.513	158.600	3.736	9.273	104.000	26.980	0.3	16.000	24.490

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	-0.191	237.200	0.003	-90.440	-0.004	-0.003	-0.904	87.9%	0.060
2	17:42:32	-0.195	229.900	-0.004	-87.640	-0.004	-0.003	-0.856	87.7%	0.085
3	17:42:58	-0.139	215.000	-0.007	-81.980	-0.006	0.000	-0.819	88.4%	0.050
x		-0.175	227.400	-0.003	-86.690	-0.005	-0.002	-0.860	88.0%	0.065
σ		0.031	11.300	0.005	4.313	0.001	0.002	0.043	0.3%	0.018
%RSD		17.720	4.970	175.100	4.976	27.240	99.130	4.954	0.4	27.410

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:07	32.350	-0.028	0.028	28.080	26.860	91.7%	-0.007	-0.012	0.008
2	17:42:32	31.390	-0.008	0.027	29.440	27.930	91.4%	-0.012	-0.010	0.025
3	17:42:58	29.330	0.010	0.026	29.290	29.110	92.8%	-0.009	-0.007	0.024
x		31.020	-0.009	0.027	28.940	27.970	92.0%	-0.009	-0.010	0.019
σ		1.540	0.019	0.001	0.745	1.125	0.8%	0.002	0.002	0.009
%RSD		4.964	216.500	3.827	2.575	4.024	0.8	23.650	23.940	49.880

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:42:07	0.018	0.011	84.7%
2	17:42:32	0.027	0.023	85.6%
3	17:42:58	0.026	0.019	85.3%
x		0.024	0.018	85.2%
σ		0.004	0.006	0.5%
%RSD		18.800	32.660	0.6

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-001 5/19/2017 17:47:03

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	93.2%	0.040	124.500	115.100	┬19270.000	┬24970.000	┬24960.000	┬25530.000	┬8.169
2	17:47:54	96.2%	-0.003	117.900	112.200	┬18640.000	┬24310.000	┬24430.000	┬24760.000	13.570
3	17:48:20	97.0%	0.027	120.600	118.100	┬18490.000	┬24540.000	┬24400.000	┬24430.000	┬7.925
x		95.4%	0.021	121.000	115.100	┬18800.000	┬24610.000	┬24600.000	┬24910.000	┬9.888
σ		2.0%	0.022	3.332	2.961	┬414.600	┬333.000	┬312.300	┬564.900	┬3.191
%RSD		2.1	103.200	2.753	2.573	┬2.205	┬1.353	┬1.270	┬2.268	┬32.270

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	┬8940.000	┬45680.000	516.400	87530.000	┬86110.000	┬94.8%	0.996	0.365	0.241
2	17:47:54	┬8707.000	┬44610.000	507.300	86970.000	┬85110.000	┬95.4%	2.175	0.236	0.265
3	17:48:20	┬8664.000	┬45230.000	517.900	87650.000	┬87030.000	93.2%	1.191	-0.107	0.208
x		┬8770.000	┬45180.000	513.900	87390.000	┬86080.000	┬94.4%	1.454	0.165	0.238
σ		┬148.600	┬538.200	5.772	365.200	┬962.400	┬1.1%	0.632	0.244	0.029
%RSD		┬1.695	┬1.191	1.123	0.418	┬1.118	┬1.2	43.480	148.100	12.060

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	7.392	52.250	179.200	539.600	1.593	2.624	0.249	0.443	2.657
2	17:47:54	7.422	51.980	178.300	525.200	1.594	2.807	0.263	0.472	2.474
3	17:48:20	7.688	54.090	184.100	530.000	1.620	2.579	0.251	0.406	2.748
x		7.501	52.770	180.500	531.600	1.602	2.670	0.255	0.440	2.626
σ		0.163	1.148	3.160	7.333	0.016	0.121	0.008	0.033	0.139
%RSD		2.176	2.176	1.751	1.379	0.972	4.531	2.985	7.532	5.305

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	0.101	0.021	9.680	8.414	-0.295	-0.344	90.3%	0.307	0.310
2	17:47:54	0.569	0.031	9.527	9.113	-0.164	-0.850	91.2%	0.310	0.337
3	17:48:20	0.545	-0.227	8.336	7.877	-0.507	-0.682	91.2%	0.367	0.363
x		0.405	-0.058	9.181	8.468	-0.322	-0.625	90.9%	0.328	0.337
σ		0.264	0.147	0.736	0.620	0.174	0.258	0.5%	0.034	0.027
%RSD		65.140	251.000	8.014	7.321	53.910	41.270	0.6	10.380	7.925

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	0.327	167.800	0.001	-63.910	-0.006	0.087	-0.582	89.2%	0.041
2	17:47:54	0.301	171.600	-0.002	-65.340	-0.003	0.049	-0.576	89.6%	0.054
3	17:48:20	0.378	157.400	-0.002	-59.950	-0.006	0.063	-0.537	90.1%	0.069
x		0.336	165.600	-0.001	-63.060	-0.005	0.066	-0.565	89.6%	0.055
σ		0.039	7.335	0.002	2.792	0.002	0.020	0.024	0.5%	0.014
%RSD		11.670	4.429	170.300	4.428	31.920	29.570	4.266	0.5	25.300

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:28	23.030	0.060	0.069	92.620	90.580	91.5%	-0.007	-0.011	0.052
2	17:47:54	23.490	0.038	0.055	91.690	90.870	93.0%	-0.012	-0.013	0.044
3	17:48:20	21.660	0.067	0.040	91.270	90.950	94.4%	-0.009	-0.011	0.069
x		22.730	0.055	0.055	91.860	90.800	93.0%	-0.009	-0.012	0.055
σ		0.952	0.015	0.015	0.692	0.192	1.4%	0.002	0.001	0.013
%RSD		4.187	26.700	27.080	0.754	0.211	1.6	23.780	9.747	23.950

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:47:28	0.042	0.039	86.8%
2	17:47:54	0.041	0.043	89.1%
3	17:48:20	0.053	0.054	89.4%
x		0.045	0.045	88.4%
σ		0.007	0.008	1.4%
%RSD		14.890	17.780	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-002 5/19/2017 17:52:26

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	93.7%	0.005	6.917	7.698	T 8822.000	T 11670.000	T 11470.000	T 11750.000	T 28.670
2	17:53:17	94.3%	0.009	7.769	7.292	T 8591.000	T 11480.000	T 11470.000	T 11680.000	T 29.230
3	17:53:43	93.1%	0.025	7.737	8.134	T 8992.000	T 11920.000	T 11840.000	T 12080.000	T 28.760
x		93.7%	0.013	7.475	7.708	T 8802.000	T 11690.000	T 11590.000	T 11840.000	T 28.890
σ		0.6%	0.010	0.483	0.421	T 201.400	T 220.500	T 212.600	T 210.100	T 0.300
%RSD		0.6	79.990	6.459	5.463	T 2.288	T 1.886	T 1.834	T 1.775	T 1.040

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	T 7190.000	T 42630.000	270.900	M 122700.000	TM 120000.000	T 94.2%	1.126	0.085	0.407
2	17:53:17	T 7140.000	T 43120.000	274.700	M 122700.000	TM 119400.000	T 93.3%	1.105	0.225	0.430
3	17:53:43	T 7493.000	T 46070.000	288.900	M 130500.000	TM 127000.000	T 90.8%	1.886	0.251	0.468
x		T 7274.000	T 43940.000	278.200	M 125300.000	TM 122100.000	T 92.8%	1.372	0.187	0.435
σ		T 191.400	T 1860.000	9.486	M 4503.000	TM 4196.000	T 1.7%	0.445	0.089	0.031
%RSD		T 2.631	T 4.234	3.410	M 3.594	TM 3.436	T 1.9	32.440	47.660	7.039

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	7.172	1.852	48.350	592.900	-2.149	2.228	0.265	0.590	2.939
2	17:53:17	7.001	1.864	48.130	556.600	-2.137	2.200	0.295	0.532	2.876
3	17:53:43	7.019	2.047	T 56.870	606.900	-2.258	2.290	0.345	0.492	3.133
x		7.064	1.921	T 51.120	585.400	-2.181	2.239	0.302	0.538	2.983
σ		0.094	0.109	T 4.983	25.950	0.067	0.046	0.041	0.049	0.134
%RSD		1.330	5.684	T 9.747	4.433	3.051	2.062	13.440	9.129	4.495

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	-0.008	-0.324	23.650	23.900	-0.118	-1.097	89.3%	-0.195	-0.139
2	17:53:17	-0.012	0.320	23.560	22.530	0.284	-0.675	91.0%	-0.159	-0.096
3	17:53:43	0.273	-0.473	24.640	25.580	0.304	1.499	89.0%	-0.135	-0.029
x		0.084	-0.159	23.950	24.000	0.157	-0.091	89.8%	-0.163	-0.088
σ		0.163	0.421	0.600	1.528	0.238	1.393	1.1%	0.031	0.055
%RSD		193.700	264.900	2.506	6.364	152.200	1527.000	1.2	18.750	63.270

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	-0.109	51.080	-0.002	-19.430	-0.003	-0.006	-0.197	88.1%	0.033
2	17:53:17	-0.133	54.070	-0.001	-20.600	-0.006	-0.006	-0.198	89.1%	0.036
3	17:53:43	-0.125	49.190	-0.003	-18.720	0.001	-0.003	-0.183	88.1%	0.060
x		-0.122	51.450	-0.002	-19.580	-0.002	-0.005	-0.193	88.4%	0.043
σ		0.012	2.464	0.001	0.949	0.004	0.002	0.008	0.6%	0.015
%RSD		9.682	4.789	44.460	4.844	149.300	36.610	4.354	0.6	33.950

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:51	7.083	-0.026	-0.017	36.230	35.470	91.0%	-0.012	-0.013	0.030
2	17:53:17	7.328	-0.012	-0.038	36.820	35.930	92.5%	-0.007	-0.010	0.031
3	17:53:43	6.860	-0.001	-0.052	37.950	36.890	91.4%	-0.011	-0.010	0.028
x		7.091	-0.013	-0.036	37.000	36.100	91.6%	-0.010	-0.011	0.029
σ		0.234	0.012	0.017	0.871	0.720	0.8%	0.003	0.002	0.002
%RSD		3.302	96.980	49.090	2.353	1.995	0.9	28.650	13.400	5.264

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:52:51	0.023	0.024	86.0%
2	17:53:17	0.033	0.024	88.3%
3	17:53:43	0.025	0.026	86.9%
x		0.027	0.025	87.1%
σ		0.006	0.001	1.2%
%RSD		20.270	4.200	1.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-003 5/19/2017 17:57:50

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	92.3%	0.009	1.676	2.262	T 5177.000	T 8142.000	T 8027.000	T 8333.000	4.504
2	17:58:42	93.1%	0.009	1.873	2.372	T 5179.000	T 8220.000	T 8133.000	T 8251.000	4.410
3	17:59:07	94.4%	-0.002	2.656	2.057	T 5171.000	T 8242.000	T 8179.000	T 8169.000	4.525
x		93.3%	0.005	2.068	2.230	T 5175.000	T 8201.000	T 8113.000	T 8251.000	4.480
σ		1.0%	0.007	0.519	0.160	T 3.785	T 52.390	T 78.020	T 82.200	0.062
%RSD		1.1	125.600	25.070	7.178	T 0.073	T 0.639	T 0.962	T 0.996	1.374

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	T 7042.000	T 41610.000	228.100	M 133500.000	TM 128200.000	92.5%	0.737	-0.046	0.004
2	17:58:42	T 7132.000	T 43480.000	235.000	M 137700.000	TM 133300.000	T 90.4%	0.724	0.170	0.065
3	17:59:07	T 7138.000	T 43710.000	237.900	M 138100.000	TM 134400.000	T 89.7%	0.826	0.329	0.079
x		T 7104.000	T 42930.000	233.700	M 136400.000	TM 132000.000	T 90.9%	0.762	0.151	0.050
σ		T 54.270	T 1151.000	5.062	M 2500.000	TM 3325.000	T 1.5%	0.055	0.188	0.040
%RSD		T 0.764	T 2.682	2.166	M 1.832	TM 2.519	T 1.6	7.267	124.900	80.210

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	7.313	0.865	10.220	589.200	-2.553	2.028	0.268	0.433	1.241
2	17:58:42	7.076	0.921	11.920	601.300	-2.600	1.982	0.227	0.511	1.286
3	17:59:07	6.767	0.906	11.430	587.200	-2.613	1.786	0.225	0.471	1.251
x		7.052	0.898	11.190	592.600	-2.589	1.932	0.240	0.472	1.259
σ		0.274	0.029	0.876	7.606	0.032	0.128	0.024	0.039	0.024
%RSD		3.884	3.235	7.832	1.284	1.222	6.629	9.947	8.357	1.898

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	-0.140	-0.090	12.580	11.600	-0.493	0.698	88.7%	-0.327	-0.250
2	17:58:42	0.089	-0.177	13.210	12.170	0.240	-1.100	90.0%	-0.321	-0.246
3	17:59:07	0.378	0.084	13.890	12.460	-0.234	0.169	90.2%	-0.357	-0.224
x		0.109	-0.061	13.220	12.080	-0.162	-0.078	89.6%	-0.335	-0.240
σ		0.259	0.133	0.653	0.438	0.372	0.924	0.8%	0.019	0.014
%RSD		238.200	218.100	4.937	3.629	228.900	1186.000	0.9	5.726	5.848

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	-0.320	37.520	-0.007	-14.310	-0.006	-0.005	-0.146	86.8%	0.034
2	17:58:42	-0.284	30.910	-0.003	-11.740	-0.006	-0.002	-0.117	88.1%	0.037
3	17:59:07	-0.273	35.500	-0.004	-13.540	-0.004	0.001	-0.133	88.2%	0.040
x		-0.292	34.640	-0.005	-13.190	-0.005	-0.002	-0.132	87.7%	0.037
σ		0.025	3.384	0.002	1.319	0.001	0.003	0.015	0.8%	0.003
%RSD		8.529	9.769	46.250	9.998	24.460	133.700	11.110	0.9	8.133

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:58:16	5.157	-0.055	-0.039	25.250	24.970	90.2%	-0.010	-0.010	0.012
2	17:58:42	4.285	-0.048	-0.040	25.810	24.930	91.9%	-0.009	-0.012	0.012
3	17:59:07	4.858	-0.044	-0.035	25.460	25.470	93.0%	-0.012	-0.011	0.022
x		4.767	-0.049	-0.038	25.510	25.130	91.7%	-0.010	-0.011	0.015
σ		0.443	0.005	0.003	0.283	0.302	1.4%	0.002	0.001	0.006
%RSD		9.301	11.020	6.999	1.109	1.201	1.5	15.140	9.949	36.710

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:58:16	0.013	0.012	86.5%
2	17:58:42	0.014	0.009	87.3%
3	17:59:07	0.015	0.011	88.0%
x		0.014	0.011	87.3%
σ		0.001	0.001	0.7%
%RSD		9.519	13.860	0.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004 5/19/2017 18:03:14

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	90.0%	0.089	23.400	22.930	T 15060.000	T 17010.000	T 16830.000	T 17240.000	3.075
2	18:04:06	91.7%	0.076	23.300	23.060	T 14710.000	T 16970.000	T 16600.000	T 17050.000	2.969
3	18:04:32	87.4%	0.068	23.030	22.670	T 14890.000	T 17240.000	T 17000.000	T 17380.000	3.278
x		89.7%	0.078	23.240	22.880	T 14890.000	T 17070.000	T 16810.000	T 17230.000	3.107
σ		2.2%	0.011	0.193	0.196	T 176.400	T 147.200	T 203.000	T 165.300	0.157
%RSD		2.4	13.580	0.828	0.856	T 1.185	T 0.862	T 1.207	T 0.959	5.049

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	T 7331.000	T 42830.000	323.300	M 155100.000	TM 149600.000	92.7%	0.782	-0.124	0.080
2	18:04:06	T 7141.000	T 43200.000	328.500	M 157500.000	TM 150800.000	91.7%	0.798	0.227	0.102
3	18:04:32	T 7344.000	T 45310.000	342.300	M 163300.000	TM 157700.000	87.0%	0.799	0.190	0.106
x		T 7272.000	T 43780.000	331.400	M 158600.000	TM 152700.000	90.5%	0.793	0.098	0.096
σ		T 114.000	T 1340.000	9.819	M 4235.000	TM 4392.000	3.1%	0.010	0.193	0.014
%RSD		T 1.568	T 3.060	2.963	M 2.670	TM 2.876	3.4	1.200	197.500	14.650

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	7.618	48.320	T 471.300	1167.000	-1.577	2.446	0.084	0.420	2.550
2	18:04:06	7.091	49.240	T 489.400	1152.000	-1.579	2.333	0.097	0.393	2.499
3	18:04:32	7.139	51.650	T 507.800	1148.000	-1.647	2.258	0.106	0.441	2.625
x		7.283	49.740	T 489.500	1156.000	-1.601	2.346	0.096	0.418	2.558
σ		0.292	1.721	T 18.280	9.896	0.040	0.094	0.011	0.024	0.063
%RSD		4.003	3.459	T 3.734	0.856	2.483	4.020	11.570	5.718	2.481

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	1.255	-0.145	21.460	20.580	-0.017	-1.189	87.4%	-0.284	-0.196
2	18:04:06	1.062	-0.341	20.970	21.220	0.256	-1.243	89.2%	-0.250	-0.107
3	18:04:32	1.494	0.043	22.460	22.880	0.168	0.930	85.1%	-0.248	-0.026
x		1.270	-0.148	21.630	21.560	0.136	-0.501	87.3%	-0.261	-0.110
σ		0.217	0.192	0.761	1.186	0.139	1.239	2.1%	0.020	0.085
%RSD		17.060	129.900	3.516	5.503	102.600	247.400	2.4	7.679	77.920

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	-0.238	101.900	-0.004	-38.770	-0.005	0.001	-0.381	86.9%	0.059
2	18:04:06	-0.193	97.290	-0.002	-37.060	-0.008	-0.003	-0.359	87.8%	0.038
3	18:04:32	-0.209	86.930	-0.005	-33.040	-0.004	0.007	-0.323	86.7%	0.035
x		-0.213	95.390	-0.004	-36.290	-0.006	0.002	-0.354	87.1%	0.044
σ		0.023	7.687	0.001	2.940	0.002	0.005	0.029	0.6%	0.013
%RSD		10.760	8.059	34.100	8.103	30.660	287.200	8.201	0.7	29.950

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:03:40	14.080	-0.039	-0.049	70.350	69.690	89.8%	-0.015	-0.010	0.028
2	18:04:06	13.380	-0.035	-0.023	70.120	68.930	92.1%	-0.012	-0.014	0.042
3	18:04:32	12.190	-0.021	-0.048	71.100	70.810	92.1%	-0.016	-0.012	0.040
x		13.220	-0.032	-0.040	70.520	69.810	91.3%	-0.014	-0.012	0.037
σ		0.958	0.010	0.015	0.512	0.944	1.3%	0.002	0.002	0.008
%RSD		7.251	30.940	36.870	0.725	1.352	1.4	15.310	15.440	20.980

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:03:40	0.027	0.023	84.8%
2	18:04:06	0.036	0.027	87.8%
3	18:04:32	0.015	0.030	85.8%
x		0.026	0.027	86.1%
σ		0.011	0.003	1.5%
%RSD		40.760	12.160	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004MS 5/19/2017 18:08:38

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	90.0%	79.130	110.000	100.900	T 15630.000	T 17480.000	T 17300.000	T 18360.000	76.340
2	18:09:29	89.9%	80.420	105.400	101.300	T 15630.000	T 17860.000	T 17580.000	T 18110.000	79.110
3	18:09:55	91.2%	76.890	98.450	100.800	T 15260.000	T 17620.000	T 17590.000	T 18130.000	77.540
x		90.4%	78.810	104.600	101.000	T 15510.000	T 17650.000	T 17490.000	T 18200.000	77.660
σ		0.7%	1.788	5.822	0.297	T 211.500	T 191.600	T 164.900	T 138.700	1.387
%RSD		0.8	2.269	5.564	0.294	T 1.364	T 1.085	T 0.943	T 0.762	1.786

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	T 7922.000	T 41190.000	T 1137.000	M 157100.000	TM 151000.000	T 94.2%	77.310	74.700	72.520
2	18:09:29	T 8046.000	T 41860.000	T 1167.000	M 160800.000	TM 154700.000	T 91.1%	79.030	75.810	74.910
3	18:09:55	T 7758.000	T 41020.000	T 1146.000	M 155800.000	TM 149000.000	T 92.0%	74.680	72.760	72.260
x		T 7909.000	T 41350.000	T 1150.000	M 157900.000	TM 151600.000	T 92.4%	77.000	74.420	73.230
σ		T 144.200	T 446.300	T 15.170	M 2581.000	TM 2885.000	T 1.6%	2.191	1.543	1.464
%RSD		T 1.823	T 1.079	T 1.319	M 1.634	TM 1.904	T 1.7	2.845	2.073	1.999

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	5.783	121.700	T 1174.000	1925.000	71.150	76.840	69.870	79.870	75.980
2	18:09:29	5.876	127.600	T 1237.000	1996.000	73.860	79.320	71.930	78.700	75.130
3	18:09:55	6.392	122.200	T 1186.000	1854.000	70.890	74.450	70.070	75.780	72.510
x		6.017	123.800	T 1199.000	1925.000	71.960	76.870	70.620	78.120	74.540
σ		0.328	3.293	T 33.310	70.650	1.647	2.436	1.137	2.109	1.808
%RSD		5.456	2.659	T 2.778	3.670	2.288	3.169	1.610	2.700	2.425

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	79.390	70.090	34.080	33.830	76.480	-0.288	89.0%	79.990	80.140
2	18:09:29	82.480	70.680	34.140	33.980	75.810	1.958	89.3%	85.660	86.080
3	18:09:55	77.840	69.590	32.500	32.090	73.640	-0.371	91.4%	84.010	83.620
x		79.900	70.120	33.570	33.300	75.310	0.433	89.9%	83.220	83.280
σ		2.360	0.543	0.932	1.053	1.484	1.321	1.3%	2.917	2.987
%RSD		2.954	0.774	2.775	3.162	1.970	305.100	1.5	3.506	3.587

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	78.240	174.400	73.430	-41.090	66.380	71.940	73.870	87.2%	78.480
2	18:09:29	83.550	168.800	73.930	-36.120	68.380	74.230	73.640	86.2%	80.580
3	18:09:55	82.350	161.000	71.120	-35.560	66.250	70.330	72.270	89.2%	78.990
x		81.380	168.100	72.830	-37.590	67.010	72.170	73.260	87.5%	79.350
σ		2.787	6.742	1.501	3.044	1.191	1.960	0.864	1.5%	1.092
%RSD		3.425	4.011	2.061	8.099	1.778	2.716	1.179	1.8	1.376

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:09:03	89.020	70.710	73.540	144.000	142.400	89.5%	74.150	74.300	76.560
2	18:09:29	89.500	73.530	76.060	147.800	145.400	92.3%	75.500	75.480	77.830
3	18:09:55	87.540	72.140	74.270	144.000	142.800	94.7%	73.140	73.340	75.120
x		88.690	72.120	74.620	145.300	143.500	92.2%	74.260	74.370	76.500
σ		1.022	1.411	1.293	2.224	1.657	2.6%	1.183	1.070	1.359
%RSD		1.152	1.957	1.733	1.531	1.154	2.8	1.593	1.439	1.776

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:09:03	75.030	71.110	84.6%
2	18:09:29	76.410	71.080	86.0%
3	18:09:55	73.840	69.400	88.5%
x		75.100	70.530	86.3%
σ		1.285	0.982	2.0%
%RSD		1.712	1.392	2.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004MD 5/19/2017 18:14:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	92.0%	82.050	110.700	105.600	T 15390.000	T 17510.000	T 17450.000	T 17750.000	78.930
2	18:14:52	90.1%	82.190	108.000	107.000	T 16000.000	T 18360.000	T 18040.000	T 18430.000	83.410
3	18:15:18	91.6%	79.810	107.100	107.000	T 15340.000	T 17790.000	T 17810.000	T 18060.000	82.090
x		91.2%	81.350	108.600	106.500	T 15580.000	T 17890.000	T 17770.000	T 18080.000	81.480
σ		1.0%	1.334	1.838	0.836	T 368.700	T 433.100	T 297.400	T 342.700	2.304
%RSD		1.1	1.640	1.692	0.785	T 2.367	T 2.421	T 1.674	T 1.896	2.827

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	T 7867.000	T 42280.000	T 1191.000	TM 156000.000	TM 150000.000	T 92.6%	80.400	76.460	75.080
2	18:14:52	T 8060.000	T 44060.000	T 1221.000	M 160900.000	TM 158300.000	T 90.1%	82.960	79.800	78.270
3	18:15:18	T 8052.000	T 44190.000	T 1236.000	M 160900.000	TM 155300.000	90.2%	81.410	79.540	78.380
x		T 7993.000	T 43510.000	T 1216.000	TM 159300.000	TM 154500.000	T 91.0%	81.590	78.600	77.240
σ		T 109.400	T 1066.000	T 23.260	TM 2824.000	TM 4232.000	T 1.4%	1.287	1.861	1.871
%RSD		T 1.368	T 2.450	T 1.913	TM 1.773	TM 2.738	T 1.5	1.577	2.368	2.423

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	6.506	125.000	T 1208.000	1968.000	75.000	82.400	73.430	81.510	78.340
2	18:14:52	7.034	131.500	T 1269.000	1996.000	77.080	82.610	76.070	83.920	82.160
3	18:15:18	5.939	131.500	T 1272.000	1997.000	77.560	79.270	73.580	79.490	78.430
x		6.493	129.300	T 1250.000	1987.000	76.550	81.430	74.360	81.640	79.640
σ		0.548	3.778	T 35.730	16.120	1.359	1.870	1.487	2.219	2.178
%RSD		8.433	2.921	T 2.859	0.811	1.776	2.297	1.999	2.718	2.734

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	81.820	70.950	24.270	24.170	78.800	1.010	88.9%	84.030	85.160
2	18:14:52	86.640	77.180	24.500	23.570	84.200	-0.223	88.0%	88.810	91.530
3	18:15:18	85.090	73.020	25.130	22.790	79.070	1.286	90.1%	91.250	92.360
x		84.520	73.720	24.630	23.510	80.690	0.691	89.0%	88.030	89.680
σ		2.462	3.178	0.448	0.691	3.044	0.803	1.0%	3.675	3.943
%RSD		2.913	4.311	1.819	2.940	3.773	116.200	1.1	4.174	4.396

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	83.470	178.300	76.760	-39.930	70.680	74.610	76.080	86.6%	81.880
2	18:14:52	88.870	179.200	79.380	-39.410	73.470	78.540	79.910	85.3%	86.010
3	18:15:18	90.460	168.700	76.510	-36.380	70.720	76.280	77.300	88.3%	85.200
x		87.600	175.400	77.550	-38.570	71.620	76.480	77.760	86.7%	84.370
σ		3.664	5.801	1.589	1.917	1.601	1.973	1.958	1.5%	2.191
%RSD		4.182	3.308	2.049	4.969	2.236	2.579	2.518	1.8	2.597

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:14:27	93.190	74.030	77.230	150.500	146.600	90.0%	77.250	77.500	79.290
2	18:14:52	95.130	78.780	81.280	155.300	152.500	90.6%	80.530	80.450	82.870
3	18:15:18	93.620	77.000	80.300	149.700	148.200	92.9%	78.550	78.230	80.790
x		93.980	76.600	79.600	151.800	149.100	91.2%	78.780	78.730	80.990
σ		1.018	2.397	2.109	2.991	3.047	1.5%	1.651	1.536	1.797
%RSD		1.083	3.129	2.649	1.970	2.043	1.7	2.095	1.951	2.219

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:14:27	77.430	73.160	84.7%
2	18:14:52	82.250	76.030	84.1%
3	18:15:18	78.850	74.560	86.8%
x		79.510	74.580	85.2%
σ		2.477	1.435	1.4%
%RSD		3.115	1.924	1.7

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 18:19:23 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	84.6%	292.000	292.000	269.100	┬53710.000	┬51730.000	┬51950.000	┬56480.000	279.100
2	18:20:14	85.0%	291.100	286.100	271.200	┬54600.000	┬53180.000	┬52830.000	┬56180.000	275.800
3	18:20:39	85.3%	287.200	287.600	280.900	┬55280.000	┬54320.000	┬54200.000	┬56900.000	290.300
x		85.0%	96.706%	96.189%	91.240%	┬90.886%	┬53080.000	┬52990.000	┬94.200%	93.910%
σ		0.4%	n/a	n/a	n/a	┬n/a	┬1299.000	┬1137.000	┬n/a	n/a
%RSD		0.4	0.872	1.050	2.310	┬1.444	┬2.448	┬2.145	┬0.645	2.686
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	┬2823.000	344.100	┬59910.000	53740.000	┬53870.000	┬93.3%	271.200	279.200	271.100
2	18:20:14	┬2855.000	365.400	┬59220.000	53360.000	┬53790.000	┬93.6%	273.100	┬283.000	274.100
3	18:20:39	┬2906.000	393.300	┬62590.000	55620.000	┬55790.000	91.1%	284.700	290.800	283.800
x		┬95.382%	367.600	┬100.954%	54240.000	┬90.807%	┬92.7%	92.111%	┬94.772%	92.109%
σ		┬n/a	24.680	┬n/a	1209.000	┬n/a	┬1.4%	n/a	┬n/a	n/a
%RSD		┬1.454	6.713	┬2.936	2.229	┬2.084	┬1.5	2.641	┬2.066	2.415
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	-6.047	┬267.600	┬50510.000	┬58490.000	273.400	276.400	252.500	280.300	270.200
2	18:20:14	-6.689	┬270.700	┬51330.000	┬59230.000	276.100	269.100	254.300	277.800	269.500
3	18:20:39	-5.945	┬283.700	┬53960.000	┬61240.000	282.800	274.700	262.400	282.700	275.700
x		-6.227	┬91.334%	┬86.554%	┬99.424%	92.471%	91.131%	256.400	93.423%	90.605%
σ		0.404	┬n/a	┬n/a	┬n/a	n/a	n/a	5.286	n/a	n/a
%RSD		6.480	┬3.105	┬3.468	┬2.385	1.735	1.383	2.062	0.881	1.248
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	276.700	254.500	2.498	0.516	282.400	-0.088	88.2%	276.500	275.900
2	18:20:14	270.800	256.300	2.949	0.559	273.000	-1.092	89.2%	288.900	288.300
3	18:20:39	279.600	265.200	2.161	1.277	280.300	-1.229	88.9%	314.600	312.200
x		91.904%	258.600	2.536	0.784	92.859%	-0.803	88.8%	97.781%	97.387%
σ		n/a	5.755	0.395	0.428	n/a	0.623	0.5%	n/a	n/a
%RSD		1.639	2.225	15.590	54.550	1.760	77.600	0.6	6.613	6.319
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	271.600	264.700	276.200	-2.594	251.000	259.900	273.100	85.3%	286.900
2	18:20:14	286.600	258.100	276.200	1.727	251.200	260.900	272.500	87.8%	290.000
3	18:20:39	310.700	268.000	283.600	-3.065	256.500	265.900	278.000	87.1%	299.800
x		96.554%	263.600	92.878%	-1.311	252.900	262.200	91.499%	86.7%	97.405%
σ		n/a	5.065	n/a	2.641	3.129	3.241	n/a	1.3%	n/a
%RSD		6.807	1.921	1.539	201.500	1.237	1.236	1.097	1.5	2.303
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:19:48	274.900	262.700	269.500	276.500	274.000	89.2%	273.500	┬273.300	280.400
2	18:20:14	277.600	262.600	270.700	275.100	275.500	90.4%	273.800	┬279.200	┬283.000
3	18:20:39	287.300	275.600	283.300	283.500	282.400	92.1%	284.100	┬281.400	┬293.700
x		93.310%	88.982%	91.508%	92.787%	92.432%	90.6%	92.368%	┬92.657%	┬95.237%
σ		n/a	n/a	n/a	n/a	n/a	1.5%	n/a	┬n/a	┬n/a
%RSD		2.330	2.792	2.791	1.620	1.609	1.6	2.184	┬1.510	┬2.466
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	18:19:48	276.000	266.600	83.2%						
2	18:20:14	280.300	273.400	85.5%						
3	18:20:39	288.500	274.900	84.8%						
x		93.869%	90.549%	84.5%						
σ		n/a	n/a	1.2%						
%RSD		2.267	1.645	1.4						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 18:24:44 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	101.2%	0.028	1.414	1.859	0.399	0.740	0.547	0.878	-1.052
2	18:25:35	102.8%	0.027	1.635	1.938	0.706	0.825	0.555	0.871	-1.059
3	18:26:00	105.9%	0.016	1.404	1.684	-0.652	0.375	0.342	0.605	-1.039
x		103.3%	0.024	1.484	1.827	0.151	0.646	0.482	0.785	-1.050
σ		2.4%	0.007	0.131	0.130	0.712	0.239	0.121	0.156	0.011
%RSD		2.3	28.780	8.799	7.126	470.800	37.000	25.040	19.860	1.007

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	8.850	221.800	0.679	8.641	4.248	97.9%	-0.056	0.084	-0.031
2	18:25:35	8.628	239.500	1.170	8.908	4.986	98.2%	-0.056	0.093	-0.023
3	18:26:00	6.078	250.700	-0.189	9.860	3.606	98.1%	-0.056	0.098	-0.018
x		7.852	237.300	0.553	9.137	4.280	98.1%	-0.056	0.091	-0.024
σ		1.541	14.570	0.688	0.641	0.690	0.1%	0.000	0.007	0.007
%RSD		19.620	6.142	124.400	7.015	16.120	0.1	0.149	7.756	28.810

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	0.085	0.018	-2.171	0.601	0.010	0.046	-0.011	0.006	0.066
2	18:25:35	0.074	0.023	-0.412	1.508	0.004	0.013	-0.008	-0.012	-0.025
3	18:26:00	0.073	0.013	-2.358	-1.018	0.003	0.022	-0.038	-0.029	0.015
x		0.077	0.018	-1.647	0.364	0.006	0.027	-0.019	-0.012	0.019
σ		0.007	0.005	1.074	1.280	0.004	0.017	0.017	0.017	0.046
%RSD		8.472	25.640	65.200	352.000	61.540	62.130	85.670	150.600	245.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	0.029	0.132	1.200	0.517	-0.069	1.551	95.3%	0.450	0.614
2	18:25:35	0.034	0.171	1.142	1.683	-0.077	-0.853	95.4%	0.509	0.534
3	18:26:00	0.034	-0.035	1.052	-0.198	0.022	-0.032	97.4%	0.453	0.639
x		0.032	0.089	1.131	0.667	-0.041	0.222	96.0%	0.470	0.596
σ		0.003	0.109	0.075	0.950	0.055	1.222	1.2%	0.033	0.055
%RSD		9.035	122.300	6.613	142.300	133.300	549.900	1.2	7.017	9.229

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	0.507	0.140	0.009	-0.059	0.008	0.020	0.013	94.2%	0.155
2	18:25:35	0.487	-0.341	0.011	0.125	0.009	-0.002	0.011	95.5%	0.155
3	18:26:00	0.510	0.379	0.010	-0.150	0.010	0.011	0.003	96.6%	0.138
x		0.501	0.059	0.010	-0.028	0.009	0.010	0.009	95.5%	0.149
σ		0.012	0.367	0.001	0.140	0.001	0.011	0.005	1.2%	0.010
%RSD		2.461	618.100	11.280	496.600	10.220	117.900	55.840	1.3	6.651

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:09	0.165	0.290	0.285	-0.002	0.027	93.0%	0.031	0.033	0.014
2	18:25:35	0.122	0.297	0.309	-0.029	0.019	95.5%	0.031	0.026	0.011
3	18:26:00	0.229	0.309	0.308	0.010	-0.001	96.9%	0.045	0.035	0.014
x		0.172	0.299	0.300	-0.007	0.015	95.1%	0.036	0.031	0.013
σ		0.054	0.010	0.014	0.020	0.015	2.0%	0.008	0.005	0.002
%RSD		31.260	3.321	4.590	287.000	98.120	2.1	21.750	14.920	13.080

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:25:09	0.012	0.009	92.5%
2	18:25:35	0.002	0.009	96.2%
3	18:26:00	0.006	0.004	97.3%
x		0.007	0.007	95.3%
σ		0.005	0.003	2.5%
%RSD		73.660	42.990	2.6

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004SD(5) 5/19/2017 18:30:04

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	102.2%	0.035	4.440	4.671	T 2829.000	T 3293.000	T 3243.000	T 3260.000	-0.006
2	18:30:55	102.9%	0.034	6.092	4.848	T 2883.000	T 3335.000	T 3258.000	T 3221.000	0.039
3	18:31:21	102.6%	0.010	5.066	5.656	T 2905.000	T 3479.000	T 3427.000	T 3334.000	0.258
x		102.5%	0.026	5.199	5.058	T 2872.000	T 3369.000	T 3309.000	T 3272.000	0.097
σ		0.3%	0.014	0.834	0.525	T 39.120	T 97.610	T 101.800	T 57.390	0.141
%RSD		0.3	53.410	16.030	10.380	T 1.362	T 2.897	T 3.075	T 1.754	145.700

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	T 1408.000	T 8077.000	60.840	30200.000	T 29900.000	98.1%	0.141	0.092	-0.023
2	18:30:55	T 1400.000	T 8250.000	61.580	30670.000	T 30470.000	T 98.6%	0.227	0.100	-0.001
3	18:31:21	T 1465.000	T 8531.000	65.880	31960.000	T 31900.000	T 94.6%	0.097	0.024	-0.027
x		T 1425.000	T 8286.000	62.770	30940.000	T 30760.000	T 97.1%	0.155	0.072	-0.017
σ		T 35.580	T 229.100	2.718	912.100	T 1032.000	T 2.2%	0.066	0.042	0.014
%RSD		T 2.497	T 2.764	4.331	2.948	T 3.357	T 2.2	42.550	58.210	84.070

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	1.098	9.790	101.500	245.000	-0.285	0.498	0.005	0.073	0.518
2	18:30:55	1.134	9.789	98.780	233.300	-0.288	0.441	0.014	0.110	0.443
3	18:31:21	1.239	10.180	107.300	240.600	-0.309	0.419	0.014	0.087	0.612
x		1.157	9.919	102.500	239.600	-0.294	0.453	0.011	0.090	0.524
σ		0.073	0.225	4.380	5.921	0.013	0.041	0.005	0.018	0.085
%RSD		6.336	2.269	4.272	2.471	4.456	9.019	47.630	20.420	16.190

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	0.193	-0.238	4.886	3.864	-0.074	-0.082	94.9%	-0.258	-0.025
2	18:30:55	0.298	-0.014	4.480	4.820	0.085	-0.997	95.2%	-0.143	-0.023
3	18:31:21	0.268	0.066	4.809	4.040	-0.020	0.982	95.2%	-0.101	-0.023
x		0.253	-0.062	4.725	4.241	-0.003	-0.032	95.1%	-0.168	-0.024
σ		0.054	0.158	0.216	0.509	0.080	0.990	0.2%	0.082	0.001
%RSD		21.470	253.800	4.567	12.000	2792.000	3055.000	0.2	48.670	4.596

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	-0.154	19.680	0.001	-7.503	-0.001	0.006	-0.073	93.4%	0.056
2	18:30:55	-0.112	17.540	0.004	-6.656	0.001	0.005	-0.066	93.5%	0.050
3	18:31:21	-0.087	15.840	0.003	-6.036	0.002	-0.006	-0.055	94.5%	0.059
x		-0.118	17.680	0.003	-6.732	0.000	0.002	-0.065	93.8%	0.055
σ		0.034	1.924	0.002	0.737	0.001	0.007	0.009	0.6%	0.004
%RSD		29.040	10.880	54.950	10.940	368.900	381.000	13.930	0.6	8.053

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:30	2.786	0.043	0.043	13.990	13.830	93.9%	0.082	0.090	0.005
2	18:30:55	2.459	0.052	0.065	13.610	13.640	95.9%	0.056	0.068	0.010
3	18:31:21	2.242	0.066	0.035	14.430	14.290	95.6%	0.043	0.036	0.008
x		2.496	0.054	0.047	14.010	13.920	95.1%	0.060	0.065	0.008
σ		0.274	0.012	0.016	0.407	0.333	1.1%	0.020	0.028	0.002
%RSD		10.980	21.680	33.400	2.908	2.395	1.2	32.640	42.720	30.720

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:30:30	0.012	0.005	92.2%
2	18:30:55	0.006	-0.001	94.1%
3	18:31:21	0.020	0.005	94.1%
x		0.013	0.003	93.5%
σ		0.007	0.003	1.1%
%RSD		53.440	103.000	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-004PS 5/19/2017 18:35:27

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	96.6%	86.290	119.700	115.800	T 14970.000	T 16870.000	T 16790.000	T 17160.000	89.500
2	18:36:18	93.9%	87.160	116.200	114.100	T 15370.000	T 17390.000	T 17140.000	T 17590.000	90.650
3	18:36:44	98.4%	83.220	119.700	116.000	T 14590.000	T 16510.000	T 16390.000	T 16580.000	88.250
x		96.3%	85.550	118.600	115.300	T 14980.000	T 16920.000	T 16770.000	T 17110.000	89.470
σ		2.3%	2.073	2.000	1.066	T 391.800	T 442.000	T 372.200	T 508.400	1.202
%RSD		2.3	2.423	1.687	0.924	T 2.616	T 2.612	T 2.219	T 2.971	1.343

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	T 7986.000	T 40860.000	T 1226.000	M 155900.000	TM 148200.000	94.5%	87.180	84.780	84.390
2	18:36:18	T 7997.000	T 41850.000	T 1267.000	M 157000.000	TM 150600.000	T 91.7%	87.440	86.010	85.010
3	18:36:44	T 7849.000	T 41940.000	T 1254.000	M 154400.000	TM 147700.000	T 93.4%	86.990	83.730	82.840
x		T 7944.000	T 41550.000	T 1249.000	M 155700.000	TM 148800.000	T 93.2%	87.200	84.840	84.080
σ		T 82.370	T 597.300	T 21.280	M 1294.000	TM 1582.000	T 1.4%	0.223	1.137	1.117
%RSD		T 1.037	T 1.438	T 1.704	M 0.831	TM 1.063	T 1.5	0.256	1.340	1.328

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	5.020	133.200	T 1277.000	2082.000	83.100	89.140	79.570	90.680	85.730
2	18:36:18	5.586	134.700	T 1305.000	2035.000	83.680	88.420	81.110	88.320	85.640
3	18:36:44	5.313	133.900	T 1292.000	2001.000	82.070	85.830	79.490	86.440	83.360
x		5.306	133.900	T 1291.000	2039.000	82.950	87.800	80.050	88.480	84.910
σ		0.283	0.755	T 14.130	41.030	0.813	1.744	0.912	2.122	1.342
%RSD		5.336	0.564	T 1.094	2.012	0.980	1.987	1.140	2.398	1.581

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	91.110	80.250	18.240	19.900	88.500	-0.655	90.2%	92.650	91.620
2	18:36:18	87.480	80.010	18.500	20.310	87.520	-0.819	90.8%	97.590	98.030
3	18:36:44	84.620	78.690	20.000	17.860	82.250	0.562	91.4%	96.280	97.620
x		87.730	79.650	18.910	19.360	86.090	-0.304	90.8%	95.510	95.760
σ		3.254	0.842	0.947	1.315	3.362	0.754	0.6%	2.561	3.591
%RSD		3.709	1.057	5.008	6.794	3.905	248.200	0.6	2.682	3.750

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	90.730	180.100	84.770	-36.850	76.980	81.350	84.310	87.3%	89.000
2	18:36:18	96.280	164.100	84.360	-31.050	77.040	81.760	84.220	88.2%	90.690
3	18:36:44	95.440	170.100	82.320	-33.500	75.940	81.980	83.050	89.8%	91.500
x		94.150	171.400	83.820	-33.800	76.650	81.690	83.860	88.5%	90.400
σ		2.992	8.059	1.314	2.912	0.622	0.320	0.706	1.3%	1.276
%RSD		3.178	4.701	1.568	8.614	0.811	0.392	0.841	1.4	1.411

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:52	99.940	74.160	76.320	154.800	153.200	90.3%	84.490	85.480	86.940
2	18:36:18	98.060	75.160	77.920	156.300	154.800	92.5%	86.000	86.320	88.390
3	18:36:44	99.410	74.590	77.900	155.200	152.700	93.3%	84.840	86.210	86.350
x		99.140	74.640	77.380	155.400	153.500	92.0%	85.110	86.000	87.230
σ		0.965	0.502	0.917	0.814	1.096	1.5%	0.790	0.455	1.052
%RSD		0.974	0.672	1.185	0.524	0.714	1.7	0.928	0.529	1.206

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:35:52	85.390	80.270	85.0%
2	18:36:18	86.210	81.030	86.6%
3	18:36:44	85.490	80.800	88.8%
x		85.690	80.700	86.8%
σ		0.450	0.392	1.9%
%RSD		0.525	0.486	2.2

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-005 5/19/2017 18:40:51

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	85.3%	0.020	28.810	28.230	T 77600.000	T 21760.000	T 21830.000	T 23090.000	T 3.515
2	18:41:42	85.2%	0.020	29.000	29.650	T 77870.000	T 22370.000	T 22310.000	T 23320.000	10.630
3	18:42:08	85.8%	0.012	29.610	29.050	T 76790.000	T 21920.000	T 22020.000	T 22890.000	10.640
x		85.4%	0.017	29.140	28.980	T 77420.000	T 22020.000	T 22050.000	T 23100.000	T 8.263
σ		0.3%	0.005	0.420	0.709	T 562.200	T 319.200	T 240.400	T 211.300	T 4.112
%RSD		0.4	28.310	1.442	2.447	T 0.726	T 1.450	T 1.090	T 0.915	T 49.770

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	T 6585.000	T 44100.000	482.400	TM 221100.000	TM 216600.000	90.3%	0.806	0.230	0.304
2	18:41:42	T 6786.000	T 46130.000	510.600	TM 232600.000	TM 226400.000	T 87.2%	0.780	0.127	0.297
3	18:42:08	T 6655.000	T 45650.000	508.100	TM 230000.000	TM 222300.000	T 89.1%	0.890	0.165	0.305
x		T 6675.000	T 45290.000	500.400	TM 227900.000	TM 221700.000	T 88.9%	0.825	0.174	0.302
σ		T 102.500	T 1058.000	15.630	TM 6047.000	TM 4915.000	T 1.5%	0.057	0.052	0.005
%RSD		T 1.536	T 2.336	3.124	TM 2.653	TM 2.216	T 1.7	6.964	29.930	1.530

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	6.571	3.482	24.210	976.700	-4.264	4.375	0.759	1.591	2.305
2	18:41:42	6.753	3.671	25.100	963.400	-4.461	4.212	0.709	1.592	2.380
3	18:42:08	6.632	3.668	24.210	927.100	-4.435	4.228	0.709	1.496	2.092
x		6.652	3.607	24.510	955.700	-4.387	4.272	0.726	1.560	2.259
σ		0.092	0.108	0.518	25.670	0.107	0.090	0.029	0.055	0.149
%RSD		1.389	2.998	2.112	2.686	2.439	2.100	3.974	3.556	6.612

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	0.360	1.136	12.840	10.740	0.691	-1.131	86.0%	0.085	0.193
2	18:41:42	-0.111	0.722	11.120	12.590	1.243	-0.271	85.7%	0.253	0.257
3	18:42:08	-0.290	0.846	12.500	11.250	1.263	0.181	86.4%	0.221	0.321
x		-0.014	0.902	12.150	11.530	1.065	-0.407	86.0%	0.186	0.257
σ		0.336	0.213	0.908	0.955	0.325	0.666	0.4%	0.089	0.064
%RSD		2465.000	23.560	7.475	8.288	30.490	163.700	0.5	47.980	24.810

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	0.216	95.480	0.008	-36.410	0.004	0.015	-0.352	83.9%	0.094
2	18:41:42	0.271	111.400	0.013	-42.500	0.001	0.021	-0.421	83.2%	0.098
3	18:42:08	0.277	102.000	0.006	-38.880	-0.001	0.008	-0.373	84.2%	0.095
x		0.255	103.000	0.009	-39.260	0.001	0.015	-0.382	83.8%	0.096
σ		0.034	8.023	0.004	3.061	0.003	0.006	0.036	0.5%	0.002
%RSD		13.190	7.790	44.710	7.797	207.500	43.450	9.319	0.6	2.061

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:41:16	13.000	0.241	0.287	14.680	14.410	87.8%	0.008	0.010	0.012
2	18:41:42	15.150	0.302	0.335	14.990	14.780	87.9%	0.005	0.011	0.019
3	18:42:08	13.880	0.289	0.366	15.290	15.060	90.2%	0.001	0.004	0.018
x		14.010	0.278	0.329	14.990	14.750	88.7%	0.005	0.008	0.017
σ		1.080	0.032	0.040	0.305	0.325	1.3%	0.003	0.003	0.004
%RSD		7.712	11.530	12.090	2.032	2.206	1.5	70.720	40.020	22.960

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:41:16	0.008	0.016	80.6%
2	18:41:42	0.018	0.011	80.4%
3	18:42:08	0.018	0.011	82.7%
x		0.015	0.012	81.2%
σ		0.006	0.003	1.3%
%RSD		40.290	22.430	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-007 5/19/2017 18:46:13

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	91.7%	0.052	22.710	23.400	T 12340.000	T 14510.000	T 14480.000	T 14860.000	2.253
2	18:47:05	93.3%	0.070	23.900	23.330	T 12070.000	T 14350.000	T 14100.000	T 14400.000	2.425
3	18:47:31	93.4%	0.059	23.760	23.830	T 12300.000	T 14650.000	T 14470.000	T 14590.000	2.501
x		92.8%	0.061	23.460	23.520	T 12240.000	T 14500.000	T 14350.000	T 14610.000	2.393
σ		0.9%	0.009	0.655	0.268	T 146.700	T 149.100	T 218.500	T 231.000	0.127
%RSD		1.0	15.030	2.794	1.141	T 1.198	T 1.028	T 1.523	T 1.581	5.313

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	TM 10960.000	T 42010.000	296.500	M 113300.000	TM 109600.000	92.9%	1.150	0.192	0.082
2	18:47:05	TM 10740.000	T 42030.000	292.300	M 111500.000	TM 109700.000	93.6%	1.255	0.170	0.062
3	18:47:31	TM 10910.000	T 43260.000	305.200	M 113400.000	TM 111000.000	T 91.9%	0.945	-0.021	0.066
x		TM 10870.000	T 42430.000	298.000	M 112800.000	TM 110100.000	T 92.8%	1.117	0.114	0.070
σ		TM 115.600	T 715.000	6.552	M 1049.000	TM 810.600	T 0.9%	0.158	0.117	0.011
%RSD		TM 1.064	T 1.685	2.199	M 0.930	TM 0.736	T 0.9	14.120	103.200	15.560

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	7.043	31.180	T 558.000	1092.000	-2.201	1.535	0.083	0.306	1.374
2	18:47:05	6.672	31.250	T 560.700	1054.000	-2.174	1.512	0.073	0.358	1.219
3	18:47:31	6.860	32.370	T 578.400	1076.000	-2.193	1.479	0.096	0.311	1.015
x		6.858	31.600	T 565.700	1074.000	-2.189	1.509	0.084	0.325	1.203
σ		0.186	0.668	T 11.100	19.070	0.014	0.028	0.012	0.028	0.180
%RSD		2.708	2.114	T 1.961	1.775	0.638	1.858	14.290	8.731	14.970

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	0.440	-0.419	4.027	3.028	-0.359	-0.115	88.9%	-0.091	0.029
2	18:47:05	0.403	-0.311	3.266	2.606	0.054	-1.423	89.6%	-0.104	0.071
3	18:47:31	0.895	-0.307	4.174	3.101	-0.135	0.049	89.0%	0.031	0.108
x		0.580	-0.346	3.822	2.911	-0.146	-0.497	89.2%	-0.055	0.069
σ		0.274	0.063	0.487	0.267	0.207	0.807	0.4%	0.074	0.040
%RSD		47.260	18.370	12.750	9.170	141.100	162.400	0.5	135.400	57.450

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	-0.015	82.410	-0.004	-31.410	-0.003	-0.003	-0.298	87.3%	0.114
2	18:47:05	-0.066	80.280	-0.000	-30.590	-0.003	-0.000	-0.291	87.8%	0.100
3	18:47:31	0.019	74.290	0.003	-28.300	-0.003	0.006	-0.271	87.9%	0.123
x		-0.020	78.990	-0.001	-30.100	-0.003	0.001	-0.287	87.7%	0.112
σ		0.042	4.211	0.004	1.611	0.000	0.005	0.014	0.3%	0.011
%RSD		207.700	5.331	622.000	5.351	13.780	544.500	4.853	0.4	10.230

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:46:39	11.440	0.084	0.054	85.200	82.410	90.0%	-0.001	-0.003	0.008
2	18:47:05	11.090	0.074	0.080	85.060	84.070	92.1%	-0.006	-0.009	0.009
3	18:47:31	10.350	0.077	0.084	87.170	85.350	92.3%	-0.006	-0.000	0.011
x		10.960	0.078	0.073	85.810	83.940	91.4%	-0.004	-0.004	0.009
σ		0.557	0.005	0.016	1.183	1.475	1.3%	0.003	0.004	0.001
%RSD		5.085	6.462	22.260	1.378	1.758	1.4	70.580	101.000	13.320

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:46:39	0.013	0.006	86.2%
2	18:47:05	0.008	0.005	87.8%
3	18:47:31	0.018	0.014	87.5%
x		0.013	0.009	87.2%
σ		0.005	0.005	0.9%
%RSD		40.160	57.770	1.0

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-008 5/19/2017 18:51:37

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	91.3%	0.002	8.301	8.528	T 20710.000	T 11430.000	T 11240.000	T 11590.000	2.328
2	18:52:28	97.7%	0.012	7.730	8.120	T 19750.000	T 10910.000	T 10720.000	T 10640.000	2.342
3	18:52:54	96.8%	0.008	8.275	8.233	T 19220.000	T 10910.000	T 10830.000	T 10800.000	2.450
x		95.3%	0.007	8.102	8.294	T 19900.000	T 11080.000	T 10930.000	T 11010.000	2.373
σ		3.5%	0.005	0.323	0.211	T 754.500	T 302.100	T 274.600	T 505.800	0.067
%RSD		3.6	67.140	3.981	2.541	T 3.792	T 2.726	T 2.512	T 4.594	2.811

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	T 7275.000	T 42470.000	329.500	M 120100.000	TM 116000.000	92.5%	0.783	-0.111	0.000
2	18:52:28	T 7058.000	T 42810.000	328.200	M 118400.000	TM 117100.000	T 90.9%	0.900	-0.052	0.025
3	18:52:54	T 7090.000	T 42520.000	323.100	M 118200.000	TM 117800.000	T 91.6%	0.690	-0.056	0.063
x		T 7141.000	T 42600.000	326.900	M 118900.000	TM 117000.000	T 91.7%	0.791	-0.073	0.029
σ		T 116.900	T 181.200	3.404	M 1007.000	TM 916.200	T 0.8%	0.105	0.033	0.031
%RSD		T 1.638	T 0.425	1.041	M 0.847	TM 0.783	T 0.9	13.300	45.710	107.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	6.984	1.510	17.940	556.600	-2.295	2.048	0.160	0.378	1.499
2	18:52:28	6.617	1.550	15.150	516.100	-2.248	2.002	0.161	0.295	1.375
3	18:52:54	6.736	1.617	13.310	499.200	-2.259	1.958	0.129	0.427	1.449
x		6.779	1.559	15.460	523.900	-2.267	2.003	0.150	0.366	1.441
σ		0.187	0.054	2.328	29.510	0.025	0.045	0.019	0.067	0.062
%RSD		2.765	3.471	15.060	5.631	1.082	2.242	12.450	18.250	4.318

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	0.178	-0.197	11.180	10.470	0.078	-2.998	88.6%	-0.231	-0.052
2	18:52:28	0.254	-0.214	10.960	10.620	-0.033	-1.239	89.2%	-0.156	0.025
3	18:52:54	-0.131	0.289	10.830	10.450	0.120	0.033	89.4%	-0.122	-0.011
x		0.101	-0.041	10.990	10.510	0.055	-1.402	89.1%	-0.170	-0.012
σ		0.204	0.285	0.174	0.091	0.079	1.522	0.4%	0.056	0.039
%RSD		202.900	702.300	1.585	0.869	144.300	108.600	0.4	33.080	312.200

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	-0.144	56.690	-0.006	-21.590	-0.006	0.009	-0.216	87.0%	0.020
2	18:52:28	-0.092	51.760	-0.006	-19.710	-0.003	-0.003	-0.192	87.9%	0.027
3	18:52:54	-0.090	53.170	-0.000	-20.230	-0.005	0.003	-0.198	88.9%	0.041
x		-0.109	53.880	-0.004	-20.510	-0.004	0.003	-0.202	87.9%	0.029
σ		0.030	2.537	0.003	0.972	0.002	0.006	0.012	1.0%	0.011
%RSD		27.970	4.710	77.460	4.739	42.530	193.200	6.177	1.1	36.080

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:52:02	7.744	0.009	0.018	47.830	47.960	90.0%	-0.007	-0.008	0.008
2	18:52:28	7.133	0.027	0.005	48.200	47.840	91.7%	-0.010	-0.007	0.005
3	18:52:54	7.331	0.008	0.004	49.000	48.170	92.5%	-0.005	-0.006	0.006
x		7.403	0.015	0.009	48.340	47.990	91.4%	-0.007	-0.007	0.006
σ		0.312	0.011	0.008	0.599	0.167	1.3%	0.003	0.001	0.001
%RSD		4.216	70.980	87.000	1.239	0.349	1.4	38.360	10.830	20.250

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:52:02	0.009	0.005	84.8%
2	18:52:28	0.017	0.006	87.5%
3	18:52:54	0.016	0.001	87.8%
x		0.014	0.004	86.7%
σ		0.005	0.003	1.7%
%RSD		32.840	69.280	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-009 5/19/2017 18:57:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	90.9%	0.010	31.170	29.190	T 14270.000	T 13770.000	T 13610.000	T 13900.000	3.359
2	18:57:52	91.8%	0.029	29.670	30.200	T 14440.000	T 13950.000	T 13760.000	T 13690.000	3.441
3	18:58:17	94.1%	0.024	30.800	29.660	T 14150.000	T 13560.000	T 13520.000	T 13480.000	3.610
x		92.3%	0.021	30.550	29.680	T 14290.000	T 13760.000	T 13630.000	T 13690.000	3.470
σ		1.6%	0.010	0.783	0.503	T 146.900	T 197.000	T 119.300	T 206.100	0.128
%RSD		1.8	47.190	2.564	1.696	T 1.028	T 1.431	T 0.875	T 1.505	3.695

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	T 8626.000	T 43630.000	324.000	M 139700.000	TM 134200.000	T 90.6%	0.975	-0.109	-0.033
2	18:57:52	T 8518.000	T 43920.000	324.600	M 138200.000	TM 135900.000	T 90.3%	0.844	-0.079	-0.086
3	18:58:17	T 8545.000	T 44770.000	326.100	M 137800.000	TM 134200.000	90.5%	0.984	0.032	-0.067
x		T 8563.000	T 44110.000	324.900	M 138600.000	TM 134700.000	T 90.5%	0.934	-0.052	-0.062
σ		T 56.040	T 592.700	1.069	M 1007.000	TM 993.600	T 0.2%	0.078	0.074	0.027
%RSD		T 0.655	T 1.344	0.329	M 0.727	TM 0.737	T 0.2	8.393	142.100	43.310

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	6.507	TM 685.100	T 278.600	910.700	-1.515	5.060	0.070	0.413	1.674
2	18:57:52	6.646	TM 694.800	T 279.600	873.800	-1.385	4.808	0.118	0.368	1.670
3	18:58:17	6.483	TM 704.100	T 284.900	860.100	-1.458	4.931	0.100	0.377	1.491
x		6.545	TM 694.600	T 281.000	881.500	-1.453	4.933	0.096	0.386	1.612
σ		0.088	TM 9.480	T 3.385	26.200	0.065	0.126	0.024	0.024	0.104
%RSD		1.345	TM 1.365	T 1.204	2.972	4.494	2.556	25.040	6.174	6.467

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	0.039	-0.097	16.890	15.300	-0.363	-0.873	87.9%	-0.060	0.064
2	18:57:52	0.744	0.226	15.580	15.970	0.103	-0.884	88.3%	-0.019	0.091
3	18:58:17	0.672	-0.161	18.070	16.330	-0.075	-0.587	89.0%	0.033	0.040
x		0.485	-0.011	16.850	15.870	-0.112	-0.781	88.4%	-0.015	0.065
σ		0.388	0.208	1.245	0.518	0.235	0.168	0.5%	0.047	0.026
%RSD		80.070	1975.000	7.393	3.266	210.700	21.520	0.6	304.600	39.440

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	-0.058	91.210	-0.001	-34.750	-0.006	0.000	-0.343	86.2%	0.046
2	18:57:52	0.022	75.700	-0.003	-28.810	-0.001	-0.006	-0.290	87.1%	0.019
3	18:58:17	-0.048	76.590	-0.006	-29.200	-0.004	0.000	-0.285	86.6%	0.030
x		-0.028	81.170	-0.003	-30.920	-0.004	-0.002	-0.306	86.7%	0.032
σ		0.043	8.709	0.002	3.324	0.002	0.004	0.032	0.4%	0.013
%RSD		155.900	10.730	81.170	10.750	61.450	177.200	10.450	0.5	42.620

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:57:26	12.480	-0.002	-0.016	83.670	84.140	88.8%	0.009	0.009	0.013
2	18:57:52	10.360	-0.010	0.017	84.560	84.170	90.0%	0.015	0.012	0.003
3	18:58:17	10.410	-0.000	0.018	86.910	85.180	91.9%	0.013	0.015	0.005
x		11.080	-0.004	0.006	85.050	84.500	90.2%	0.012	0.012	0.007
σ		1.211	0.005	0.019	1.675	0.590	1.6%	0.003	0.003	0.005
%RSD		10.930	135.500	310.900	1.970	0.699	1.7	22.560	27.000	77.290

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	18:57:26	0.019	0.007	84.1%
2	18:57:52	0.013	0.002	85.4%
3	18:58:17	0.019	0.009	86.9%
x		0.017	0.006	85.5%
σ		0.003	0.004	1.4%
%RSD		19.970	64.430	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-010 5/19/2017 19:02:24

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	92.8%	0.025	11.870	10.760	T 7051.000	T 4463.000	T 4342.000	T 4417.000	5.081
2	19:03:14	92.8%	0.006	11.230	11.210	T 7099.000	T 4422.000	T 4321.000	T 4439.000	6.486
3	19:03:40	94.6%	0.020	10.150	10.430	T 7018.000	T 4486.000	T 4416.000	T 4404.000	5.355
x		93.4%	0.017	11.080	10.800	T 7056.000	T 4457.000	T 4360.000	T 4420.000	5.641
σ		1.0%	0.010	0.871	0.392	T 40.770	T 32.340	T 49.990	T 17.450	0.745
%RSD		1.1	59.750	7.862	3.624	T 0.578	T 0.726	T 1.147	T 0.395	13.200

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	T 5810.000	T 42180.000	302.800	M 132400.000	TM 128800.000	93.0%	0.686	-0.066	-0.016
2	19:03:14	T 5941.000	T 43690.000	309.000	M 136000.000	TM 131200.000	T 91.0%	0.475	0.086	0.007
3	19:03:40	T 5850.000	T 43230.000	302.700	M 133500.000	TM 130600.000	T 92.7%	0.642	0.204	0.041
x		T 5867.000	T 43030.000	304.800	M 133900.000	TM 130200.000	T 92.2%	0.601	0.075	0.010
σ		T 67.120	T 777.400	3.584	M 1863.000	TM 1252.000	T 1.1%	0.112	0.135	0.028
%RSD		T 1.144	T 1.806	1.176	M 1.391	TM 0.962	T 1.1	18.560	180.800	272.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	6.731	1.057	13.170	576.100	-2.536	2.257	0.234	0.503	1.076
2	19:03:14	6.400	1.067	13.810	580.600	-2.595	2.241	0.239	0.517	1.181
3	19:03:40	6.284	1.061	12.060	545.000	-2.544	2.126	0.245	0.526	1.136
x		6.472	1.062	13.010	567.200	-2.558	2.208	0.239	0.516	1.131
σ		0.232	0.005	0.884	19.360	0.032	0.071	0.006	0.012	0.053
%RSD		3.585	0.468	6.794	3.413	1.267	3.216	2.421	2.308	4.657

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	0.306	-0.192	22.910	22.590	0.801	0.516	89.1%	-0.310	-0.164
2	19:03:14	0.526	-0.068	24.310	21.610	0.095	0.184	89.7%	-0.282	-0.256
3	19:03:40	0.066	-0.190	23.220	22.640	0.048	-0.953	90.0%	-0.278	-0.250
x		0.299	-0.150	23.480	22.280	0.315	-0.084	89.6%	-0.290	-0.223
σ		0.230	0.071	0.735	0.579	0.422	0.771	0.5%	0.017	0.051
%RSD		76.830	47.450	3.132	2.598	134.200	912.100	0.5	5.919	22.910

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	-0.271	46.370	-0.003	-17.670	-0.005	0.013	-0.167	87.0%	0.037
2	19:03:14	-0.252	37.760	-0.002	-14.370	-0.007	0.019	-0.131	88.5%	0.019
3	19:03:40	-0.271	42.380	-0.001	-16.140	-0.004	0.012	-0.152	89.3%	-0.009
x		-0.265	42.170	-0.002	-16.060	-0.005	0.015	-0.150	88.3%	0.016
σ		0.011	4.308	0.001	1.648	0.002	0.003	0.018	1.2%	0.023
%RSD		4.209	10.220	69.630	10.260	29.590	23.130	12.240	1.3	146.100

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:02:49	6.341	-0.013	-0.039	20.790	20.430	90.8%	-0.009	-0.010	0.020
2	19:03:14	5.194	-0.020	-0.029	20.810	20.590	92.0%	-0.012	-0.012	0.014
3	19:03:40	5.864	-0.034	-0.018	21.380	20.730	93.3%	-0.007	-0.011	0.014
x		5.800	-0.022	-0.029	21.000	20.580	92.0%	-0.009	-0.011	0.016
σ		0.576	0.010	0.010	0.335	0.151	1.3%	0.002	0.001	0.003
%RSD		9.934	45.940	35.960	1.593	0.732	1.4	27.050	8.772	20.170

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:02:49	0.011	0.012	85.8%
2	19:03:14	0.021	0.004	88.3%
3	19:03:40	0.012	0.006	88.7%
x		0.015	0.008	87.6%
σ		0.006	0.004	1.6%
%RSD		39.740	54.580	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-011 5/19/2017 19:07:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	96.6%	-0.003	3.726	3.421	T 3222.000	T 9925.000	T 9726.000	T 9704.000	2.608
2	19:08:38	93.2%	0.025	3.804	3.393	T 3295.000	T 10160.000	T 9968.000	T 10200.000	2.685
3	19:09:04	95.3%	0.005	3.063	3.258	T 3261.000	T 10050.000	T 9926.000	T 9911.000	2.719
x		95.0%	0.009	3.531	3.357	T 3259.000	T 10050.000	T 9874.000	T 9937.000	2.670
σ		1.7%	0.014	0.407	0.087	T 36.340	T 118.800	T 129.400	T 246.800	0.057
%RSD		1.8	159.600	11.530	2.596	T 1.115	T 1.183	T 1.311	T 2.484	2.138

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	T 4981.000	T 42810.000	378.400	M 123800.000	TM 120200.000	T 91.2%	0.514	-0.087	0.069
2	19:08:38	T 5065.000	T 43520.000	375.400	M 125000.000	TM 120700.000	T 91.8%	0.626	-0.038	0.101
3	19:09:04	T 5041.000	T 44730.000	384.400	M 126500.000	TM 123600.000	90.1%	0.441	0.086	0.104
x		T 5029.000	T 43690.000	379.400	M 125100.000	TM 121500.000	T 91.0%	0.527	-0.013	0.091
σ		T 43.280	T 969.300	4.570	M 1376.000	TM 1829.000	T 0.9%	0.093	0.089	0.020
%RSD		T 0.861	T 2.219	1.205	M 1.100	TM 1.505	T 0.9	17.700	691.900	21.650

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	7.262	4.445	19.410	564.600	-2.122	2.747	0.190	0.544	1.633
2	19:08:38	7.002	4.446	17.350	522.400	-2.175	2.679	0.214	0.472	1.585
3	19:09:04	6.992	4.587	19.360	525.500	-2.213	2.629	0.215	0.459	1.541
x		7.085	4.493	18.710	537.500	-2.170	2.685	0.206	0.492	1.586
σ		0.153	0.082	1.179	23.490	0.045	0.059	0.014	0.046	0.046
%RSD		2.160	1.816	6.301	4.369	2.097	2.204	6.873	9.398	2.903

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	-0.191	-0.169	6.269	5.498	-0.051	0.890	88.3%	-0.254	-0.222
2	19:08:38	0.123	0.510	5.956	4.863	0.163	-1.558	89.0%	-0.276	-0.178
3	19:09:04	0.086	0.192	6.678	5.811	0.085	-1.719	89.3%	-0.219	-0.178
x		0.006	0.178	6.301	5.390	0.066	-0.796	88.9%	-0.250	-0.193
σ		0.171	0.340	0.362	0.483	0.108	1.462	0.5%	0.029	0.026
%RSD		2859.000	190.900	5.745	8.960	165.000	183.800	0.6	11.500	13.300

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	-0.217	53.870	0.035	-20.530	0.041	-0.002	-0.203	87.1%	-0.005
2	19:08:38	-0.217	56.290	0.046	-21.440	0.022	-0.002	-0.205	88.2%	0.001
3	19:09:04	-0.160	48.530	0.031	-18.500	0.028	0.003	-0.176	87.8%	-0.005
x		-0.198	52.900	0.037	-20.160	0.030	-0.001	-0.195	87.7%	-0.003
σ		0.033	3.971	0.008	1.507	0.009	0.003	0.017	0.6%	0.003
%RSD		16.740	7.507	20.370	7.477	30.990	667.100	8.483	0.6	120.600

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:12	7.371	-0.040	-0.057	23.750	23.520	90.2%	-0.010	-0.006	0.012
2	19:08:38	7.655	-0.016	-0.046	24.610	24.060	92.3%	-0.006	-0.006	0.013
3	19:09:04	6.606	-0.024	-0.027	25.030	23.840	93.3%	-0.007	-0.010	0.017
x		7.211	-0.027	-0.043	24.470	23.800	91.9%	-0.007	-0.007	0.014
σ		0.542	0.012	0.015	0.652	0.272	1.6%	0.002	0.002	0.003
%RSD		7.523	45.830	35.420	2.664	1.142	1.7	24.100	30.330	18.250

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:08:12	0.005	0.004	86.7%
2	19:08:38	0.008	0.006	88.1%
3	19:09:04	0.016	0.019	88.0%
x		0.010	0.010	87.6%
σ		0.006	0.008	0.8%
%RSD		58.670	84.110	0.9

PDF created with pdfFactory trial version www.pdffactory.com

SE17006-002DIS(5) 5/19/2017 19:13:11

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	100.3%	0.011	10.020	9.747	T 4466.000	T 5057.000	T 4881.000	T 4781.000	-0.591
2	19:14:03	101.6%	-0.014	9.458	10.020	T 4504.000	T 5161.000	T 5102.000	T 4901.000	-0.422
3	19:14:29	106.4%	-0.008	9.251	9.344	T 4082.000	T 4647.000	T 4600.000	T 4560.000	T -6.896
x		102.7%	-0.004	9.577	9.705	T 4350.000	T 4955.000	T 4861.000	T 4747.000	T -2.637
σ		3.2%	0.013	0.398	0.343	T 233.400	T 271.900	T 251.400	T 173.000	T 3.690
%RSD		3.1	339.300	4.158	3.529	T 5.366	T 5.486	T 5.173	T 3.644	T 140.000

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	T 1813.000	T 8449.000	89.460	15410.000	T 15540.000	T 95.0%	0.074	0.117	-0.030
2	19:14:03	T 1837.000	T 8698.000	90.540	15680.000	T 15740.000	T 93.0%	0.124	0.088	-0.025
3	19:14:29	T 1696.000	T 8240.000	83.810	14640.000	T 14570.000	T 95.7%	0.140	0.115	-0.025
x		T 1782.000	T 8462.000	87.940	15240.000	T 15290.000	T 94.6%	0.113	0.107	-0.027
σ		T 75.310	T 229.100	3.616	540.500	T 624.500	T 1.4%	0.034	0.016	0.003
%RSD		T 4.226	T 2.708	4.111	3.546	T 4.085	T 1.5	30.410	14.860	9.528

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	1.907	157.700	-2.920	70.230	-0.255	0.289	0.001	0.047	0.140
2	19:14:03	2.017	163.000	-3.754	68.310	-0.262	0.323	-0.003	0.023	0.152
3	19:14:29	1.845	152.400	-5.690	59.650	-0.250	0.259	0.013	0.037	0.147
x		1.923	157.700	-4.121	66.060	-0.256	0.290	0.004	0.036	0.146
σ		0.087	5.285	1.421	5.636	0.006	0.032	0.008	0.012	0.006
%RSD		4.531	3.351	34.480	8.532	2.294	11.130	213.000	33.750	3.946

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	-0.056	-0.309	29.510	29.230	-0.273	-1.650	91.9%	-0.356	-0.285
2	19:14:03	0.051	0.099	31.670	30.950	0.285	-1.610	90.7%	-0.372	-0.209
3	19:14:29	-0.019	-0.072	29.760	30.250	0.226	0.520	95.2%	-0.350	-0.211
x		-0.008	-0.094	30.310	30.140	0.079	-0.913	92.6%	-0.359	-0.235
σ		0.055	0.205	1.182	0.864	0.306	1.242	2.3%	0.011	0.044
%RSD		665.300	218.800	3.898	2.867	388.200	136.000	2.5	3.087	18.540

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	-0.318	1.718	-0.008	-0.660	-0.009	0.006	-0.009	91.4%	-0.019
2	19:14:03	-0.285	1.317	-0.002	-0.506	-0.008	0.004	-0.010	90.9%	-0.029
3	19:14:29	-0.313	-0.451	-0.005	0.167	-0.006	0.003	-0.000	95.4%	-0.023
x		-0.305	0.862	-0.005	-0.333	-0.008	0.004	-0.006	92.6%	-0.024
σ		0.018	1.154	0.003	0.440	0.001	0.002	0.005	2.5%	0.005
%RSD		5.732	133.900	59.120	131.900	19.410	40.580	82.750	2.6	21.190

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:37	0.230	-0.057	-0.086	10.010	9.886	92.8%	-0.011	-0.011	-0.004
2	19:14:03	0.152	-0.066	-0.076	9.769	10.230	93.4%	-0.012	-0.010	-0.008
3	19:14:29	-0.083	-0.062	-0.063	9.318	9.195	97.4%	-0.013	-0.014	-0.008
x		0.100	-0.062	-0.075	9.698	9.771	94.5%	-0.012	-0.012	-0.007
σ		0.163	0.004	0.012	0.349	0.529	2.5%	0.001	0.002	0.003
%RSD		163.600	7.249	15.620	3.603	5.410	2.7	6.262	16.420	38.900

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:13:37	0.001	-0.004	93.1%
2	19:14:03	-0.007	-0.006	92.3%
3	19:14:29	-0.001	-0.006	96.6%
x		-0.002	-0.005	94.0%
σ		0.004	0.001	2.3%
%RSD		181.800	26.240	2.5

PDF created with pdfFactory trial version www.pdffactory.com

SQ42373-001 5/19/2017 19:18:34 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	105.1%	-0.008	-0.947	-0.792	13.750	-0.234	-0.369	-0.235	-0.422
2	19:19:25	105.8%	-0.008	-0.433	-0.572	14.510	-0.053	0.105	-0.046	-0.473
3	19:19:51	111.6%	-0.005	-0.934	-0.702	12.980	-0.343	-0.443	-0.546	-0.494
x		107.5%	-0.007	-0.771	-0.689	13.750	-0.210	-0.236	-0.276	-0.463
σ		3.6%	0.001	0.293	0.111	0.767	0.147	0.297	0.252	0.037
%RSD		3.3	21.160	38.030	16.050	5.579	69.880	126.000	91.480	8.072

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	T 5.156	T 35770.000	1.717	33.800	29.570	97.3%	-0.048	0.014	-0.078
2	19:19:25	11.360	T 36980.000	2.096	43.630	30.350	95.9%	-0.017	-0.022	-0.100
3	19:19:51	11.580	T 35640.000	0.704	29.310	30.260	96.9%	-0.040	-0.127	-0.104
x		T 9.366	T 36130.000	1.506	35.580	30.060	96.7%	-0.035	-0.045	-0.094
σ		T 3.647	T 739.100	0.720	7.325	0.431	0.7%	0.016	0.073	0.014
%RSD		T 38.940	T 2.046	47.790	20.590	1.433	0.7	45.580	162.400	15.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	6.278	0.416	-0.411	0.580	-0.004	0.004	0.046	0.048	0.418
2	19:19:25	6.331	0.463	0.228	-1.418	-0.004	0.017	0.030	0.085	0.519
3	19:19:51	6.217	0.426	-0.070	-3.406	-0.007	0.013	0.046	0.066	0.494
x		6.275	0.435	-0.084	-1.415	-0.005	0.011	0.041	0.066	0.477
σ		0.057	0.025	0.320	1.993	0.002	0.007	0.009	0.019	0.053
%RSD		0.903	5.689	379.300	140.800	37.090	61.410	23.090	28.480	11.010

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	0.000	-0.254	9.129	7.835	-0.321	-1.114	94.3%	-0.421	-0.347
2	19:19:25	0.058	-0.092	8.743	8.382	-0.187	-1.243	93.8%	-0.437	-0.350
3	19:19:51	0.092	-0.569	8.177	8.430	0.112	-0.425	96.2%	-0.408	-0.307
x		0.050	-0.305	8.683	8.216	-0.132	-0.927	94.8%	-0.422	-0.335
σ		0.046	0.242	0.479	0.330	0.221	0.440	1.3%	0.015	0.024
%RSD		92.490	79.560	5.512	4.021	167.800	47.430	1.4	3.457	7.129

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	-0.386	0.415	-0.005	-0.148	-0.005	-0.005	-0.005	93.0%	0.014
2	19:19:25	-0.387	0.347	-0.008	-0.105	-0.007	-0.002	-0.011	93.9%	0.004
3	19:19:51	-0.379	-0.467	-0.005	0.172	-0.008	-0.002	-0.003	95.4%	0.012
x		-0.384	0.098	-0.006	-0.027	-0.007	-0.003	-0.006	94.1%	0.010
σ		0.005	0.491	0.002	0.174	0.001	0.002	0.004	1.2%	0.005
%RSD		1.212	499.300	26.820	646.900	18.830	53.990	68.990	1.3	54.100

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:19:00	0.092	-0.055	-0.080	0.012	0.007	93.9%	-0.013	-0.014	-0.005
2	19:19:25	0.084	-0.050	-0.050	0.038	0.020	94.7%	-0.012	-0.014	0.002
3	19:19:51	0.025	-0.049	-0.050	-0.029	0.006	96.9%	-0.015	-0.012	-0.004
x		0.067	-0.051	-0.060	0.007	0.011	95.2%	-0.013	-0.013	-0.002
σ		0.037	0.004	0.017	0.034	0.007	1.6%	0.001	0.001	0.004
%RSD		54.860	7.013	28.720	489.600	66.020	1.7	10.590	8.372	158.600

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:19:00	0.001	-0.003	94.4%
2	19:19:25	-0.012	-0.006	95.4%
3	19:19:51	0.001	-0.002	97.3%
x		-0.003	-0.004	95.7%
σ		0.007	0.002	1.5%
%RSD		215.700	54.260	1.6

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 19:23:57 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	85.2%	294.000	301.000	284.000	┬55730.000	┬53810.000	┬53470.000	┬56100.000	┬299.500
2	19:24:48	86.0%	286.800	296.200	276.000	┬54780.000	┬53460.000	┬53100.000	┬55450.000	287.800
3	19:25:14	85.4%	293.000	292.300	281.800	┬55930.000	┬54040.000	┬53570.000	┬56170.000	287.900
x		85.5%	97.087%	98.834%	93.541%	┬92.466%	┬53770.000	┬53380.000	┬93.179%	┬97.251%
σ		0.4%	n/a	n/a	n/a	┬n/a	┬293.200	┬247.500	┬n/a	┬n/a
%RSD		0.4	1.346	1.477	1.471	┬1.109	┬0.545	┬0.464	┬0.707	┬2.295

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	┬2902.000	297.900	┬62100.000	55940.000	┬56510.000	88.9%	285.400	295.400	286.400
2	19:24:48	┬2856.000	318.300	┬62080.000	55170.000	┬56110.000	┬90.6%	281.300	291.200	283.200
3	19:25:14	┬2909.000	337.800	┬63330.000	56470.000	┬56390.000	┬90.4%	290.200	296.500	284.700
x		┬96.302%	318.000	┬104.170%	55860.000	┬93.899%	┬90.0%	95.213%	98.131%	94.923%
σ		┬n/a	19.940	┬n/a	651.000	┬n/a	┬0.9%	n/a	n/a	n/a
%RSD		┬0.993	6.272	┬1.144	1.165	┬0.365	┬1.0	1.574	0.952	0.575

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	-5.712	286.700	┬53170.000	┬60830.000	286.400	287.500	264.000	289.700	280.200
2	19:24:48	-6.730	┬279.800	┬53040.000	┬61100.000	281.600	284.700	263.600	286.600	273.600
3	19:25:14	-7.598	┬281.900	┬53950.000	┬62080.000	287.500	277.800	264.300	279.100	270.900
x		-6.680	┬94.273%	┬88.981%	┬102.225%	95.060%	94.438%	264.000	95.037%	91.632%
σ		0.944	┬n/a	┬n/a	┬n/a	n/a	n/a	0.385	n/a	n/a
%RSD		14.130	┬1.255	┬0.925	┬1.070	1.097	1.762	0.146	1.905	1.736

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	285.700	269.500	1.681	0.198	294.600	-0.592	85.1%	292.000	288.500
2	19:24:48	280.900	258.800	1.741	-0.446	279.700	-1.637	86.2%	300.500	298.000
3	19:25:14	279.200	263.700	1.970	0.196	277.700	-0.854	87.4%	311.600	311.700
x		93.973%	264.000	1.797	-0.017	94.664%	-1.027	86.3%	100.460%	99.806%
σ		n/a	5.377	0.153	0.372	n/a	0.544	1.2%	n/a	n/a
%RSD		1.202	2.037	8.488	2144.000	3.244	52.930	1.4	3.260	3.900

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	290.300	267.600	285.600	-0.794	258.700	271.500	280.900	83.2%	300.800
2	19:24:48	295.100	277.200	282.200	-2.532	260.900	271.800	276.100	83.8%	299.600
3	19:25:14	310.500	270.900	282.000	-1.650	257.500	269.600	277.200	86.5%	303.600
x		99.544%	271.900	94.418%	-1.658	259.100	270.900	92.686%	84.5%	100.449%
σ		n/a	4.891	n/a	0.869	1.731	1.204	n/a	1.8%	n/a
%RSD		3.536	1.799	0.714	52.390	0.668	0.445	0.897	2.1	0.684

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:24:22	285.300	268.000	276.800	287.300	282.700	86.0%	285.900	┬287.800	┬295.000
2	19:24:48	290.600	275.500	282.900	290.800	286.200	88.3%	283.600	┬288.300	┬291.800
3	19:25:14	290.700	273.500	282.000	284.800	283.400	90.3%	283.500	┬287.900	291.800
x		96.288%	90.772%	93.530%	95.875%	94.698%	88.2%	94.770%	┬95.998%	┬97.613%
σ		n/a	n/a	n/a	n/a	n/a	2.1%	n/a	┬n/a	┬n/a
%RSD		1.073	1.411	1.179	1.057	0.654	2.4	0.474	┬0.101	┬0.631

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:24:22	291.300	283.500	80.8%
2	19:24:48	288.800	281.800	83.4%
3	19:25:14	289.700	282.500	85.1%
x		96.656%	94.210%	83.1%
σ		n/a	n/a	2.2%
%RSD		0.433	0.306	2.6

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 19:29:18 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	102.1%	0.014	1.097	1.702	-0.287	0.280	0.143	0.243	-1.182
2	19:30:10	104.5%	0.006	1.488	1.035	-0.560	0.396	0.255	0.428	-1.275
3	19:30:36	107.3%	0.015	1.596	1.295	-1.090	0.096	0.321	0.144	-1.156
x		104.7%	0.012	1.394	1.344	-0.646	0.257	0.239	0.271	-1.204
σ		2.6%	0.005	0.263	0.336	0.408	0.151	0.090	0.144	0.062
%RSD		2.5	42.900	18.840	25.000	63.240	58.810	37.400	53.210	5.176

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	T -0.637	195.900	1.056	3.006	0.986	98.8%	-0.063	0.106	-0.003
2	19:30:10	7.844	207.000	0.164	3.766	-0.142	100.2%	-0.021	0.098	-0.007
3	19:30:36	7.380	214.000	-1.555	3.841	0.585	99.5%	-0.042	0.074	0.000
x		T 4.863	205.700	-0.112	3.538	0.476	99.5%	-0.042	0.093	-0.003
σ		T 4.768	9.127	1.327	0.462	0.572	0.7%	0.021	0.016	0.004
%RSD		T 98.060	4.438	1189.000	13.050	120.000	0.7	49.920	17.490	108.900

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	0.034	0.002	-3.197	1.380	0.004	-0.004	0.006	-0.017	-0.049
2	19:30:10	0.051	0.011	-3.946	1.165	0.006	-0.012	-0.005	-0.018	0.029
3	19:30:36	0.080	-0.004	-5.304	-0.226	0.013	0.003	-0.012	-0.008	-0.022
x		0.055	0.003	-4.149	0.773	0.008	-0.004	-0.004	-0.014	-0.014
σ		0.023	0.008	1.068	0.872	0.005	0.008	0.009	0.005	0.039
%RSD		42.070	259.400	25.750	112.700	60.600	179.900	252.800	37.120	284.200

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	0.064	0.291	0.841	-0.018	0.043	-1.910	95.7%	0.458	0.401
2	19:30:10	-0.061	-0.186	0.354	0.199	-0.294	-1.190	96.4%	0.453	0.565
3	19:30:36	-0.075	0.277	0.555	0.416	-0.549	-0.199	97.7%	0.442	0.606
x		-0.024	0.127	0.583	0.199	-0.267	-1.099	96.6%	0.451	0.524
σ		0.077	0.271	0.245	0.217	0.297	0.859	1.0%	0.008	0.109
%RSD		321.000	213.000	41.980	108.900	111.300	78.110	1.0	1.810	20.730

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	0.351	0.166	0.012	-0.037	0.006	0.004	0.006	94.3%	0.091
2	19:30:10	0.520	0.300	0.006	-0.103	0.011	0.006	0.008	96.6%	0.130
3	19:30:36	0.457	-0.325	-0.000	0.134	0.008	0.017	0.006	97.4%	0.112
x		0.443	0.047	0.006	-0.002	0.008	0.009	0.006	96.1%	0.111
σ		0.086	0.329	0.006	0.122	0.002	0.007	0.001	1.6%	0.019
%RSD		19.320	697.900	104.000	5215.000	30.560	80.940	17.480	1.7	17.470

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:29:44	0.120	0.305	0.315	0.002	0.005	94.5%	0.031	0.022	0.017
2	19:30:10	0.242	0.300	0.350	-0.012	0.011	96.5%	0.019	0.024	0.018
3	19:30:36	0.079	0.323	0.313	-0.003	0.020	98.4%	0.026	0.021	0.010
x		0.147	0.309	0.326	-0.004	0.012	96.5%	0.025	0.022	0.015
σ		0.085	0.012	0.020	0.007	0.008	2.0%	0.006	0.001	0.004
%RSD		57.840	3.854	6.253	164.700	65.160	2.0	23.900	5.462	28.670

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:29:44	0.011	0.004	95.2%
2	19:30:10	0.009	0.005	97.2%
3	19:30:36	0.014	0.005	99.1%
x		0.011	0.005	97.1%
σ		0.003	0.001	1.9%
%RSD		26.400	11.670	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SQ42482-001 5/19/2017 19:34:40 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	102.2%	0.003	-0.095	-0.225	10.890	-0.521	-0.620	-0.662	-1.250
2	19:35:31	105.7%	-0.004	-0.577	-0.008	10.170	-0.546	-0.768	-0.882	-1.243
3	19:35:56	106.7%	0.009	-0.320	-0.334	10.130	-0.734	-0.700	-0.866	-1.352
x		104.9%	0.003	-0.331	-0.189	10.400	-0.601	-0.696	-0.804	-1.282
σ		2.3%	0.007	0.241	0.166	0.429	0.116	0.074	0.123	0.061
%RSD		2.2	263.600	72.880	87.690	4.130	19.390	10.620	15.240	4.773

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	9.757	T 39460.000	3.202	21.290	16.120	97.9%	-0.019	0.051	-0.110
2	19:35:31	10.020	T 40990.000	3.139	22.190	17.870	94.9%	-0.031	0.077	-0.112
3	19:35:56	9.446	T 40260.000	1.624	26.770	18.720	96.9%	0.004	0.134	-0.106
x		9.743	T 40240.000	2.655	23.420	17.570	96.6%	-0.015	0.087	-0.109
σ		0.290	T 767.800	0.893	2.942	1.326	1.5%	0.018	0.042	0.003
%RSD		2.974	T 1.908	33.650	12.570	7.549	1.6	116.700	48.570	2.924

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	4.842	0.419	-4.832	1.992	0.000	0.022	0.039	0.046	0.561
2	19:35:31	4.751	0.439	-2.886	-0.484	-0.002	-0.026	0.047	0.060	0.598
3	19:35:56	4.299	0.424	-5.329	-1.037	-0.003	0.000	0.042	0.070	0.587
x		4.631	0.427	-4.349	0.157	-0.002	-0.001	0.043	0.059	0.582
σ		0.291	0.010	1.291	1.613	0.002	0.024	0.004	0.012	0.019
%RSD		6.273	2.410	29.690	1026.000	98.960	1865.000	9.790	21.220	3.268

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	0.008	-0.111	3.095	1.429	-0.151	-0.139	92.5%	-0.221	-0.133
2	19:35:31	-0.087	-0.180	3.368	1.700	-0.171	0.426	94.1%	-0.147	-0.032
3	19:35:56	0.098	-0.308	2.917	1.984	-0.117	-0.198	94.2%	-0.144	-0.063
x		0.007	-0.200	3.126	1.704	-0.146	0.030	93.6%	-0.171	-0.076
σ		0.092	0.100	0.227	0.278	0.027	0.345	0.9%	0.044	0.052
%RSD		1418.000	50.230	7.269	16.300	18.790	1159.000	1.0	25.470	67.640

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	-0.183	0.117	-0.002	-0.050	0.001	0.000	0.005	91.8%	0.070
2	19:35:31	-0.157	-0.237	0.003	0.085	-0.001	-0.003	-0.002	93.1%	0.088
3	19:35:56	-0.137	0.793	0.001	-0.307	-0.003	-0.003	-0.011	94.5%	0.059
x		-0.159	0.224	0.001	-0.091	-0.001	-0.002	-0.003	93.1%	0.072
σ		0.023	0.524	0.002	0.199	0.002	0.002	0.008	1.3%	0.015
%RSD		14.570	233.600	482.100	219.000	216.700	94.050	314.100	1.4	20.480

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:35:05	0.115	0.104	0.074	0.058	0.067	91.7%	0.245	0.247	0.005
2	19:35:31	0.080	0.081	0.104	0.034	0.037	94.3%	0.145	0.159	0.001
3	19:35:56	0.244	0.111	0.108	0.042	0.054	95.2%	0.074	0.081	0.004
x		0.146	0.098	0.095	0.045	0.053	93.7%	0.155	0.162	0.003
σ		0.086	0.016	0.019	0.012	0.015	1.8%	0.086	0.083	0.002
%RSD		58.990	15.950	19.530	27.730	28.150	1.9	55.400	51.380	59.250

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:35:05	0.011	0.005	93.0%
2	19:35:31	0.002	0.006	95.1%
3	19:35:56	0.014	-0.002	96.8%
x		0.009	0.003	95.0%
σ		0.006	0.005	1.9%
%RSD		66.900	158.700	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SQ42482-002 5/19/2017 19:40:01

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	101.2%	83.570	92.920	88.690	T 760.900	T 752.200	699.200	677.200	83.970
2	19:40:54	101.3%	83.030	95.110	90.710	T 780.600	T 757.400	708.500	687.900	87.160
3	19:41:20	103.0%	80.010	92.540	90.040	T 757.500	T 741.800	687.900	660.500	86.210
x		101.8%	82.200	93.520	89.810	T 766.300	T 750.500	698.500	675.200	85.780
σ		1.0%	1.919	1.387	1.029	T 12.460	T 7.949	10.310	13.800	1.638
%RSD		1.0	2.335	1.483	1.146	T 1.626	T 1.059	1.476	2.044	1.909

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	791.000	T 40150.000	877.500	913.000	777.600	94.3%	81.280	80.210	79.820
2	19:40:54	T 796.300	T 41060.000	T 906.500	946.200	800.100	92.3%	87.950	83.410	83.560
3	19:41:20	T 774.000	T 40620.000	T 912.600	893.000	800.300	91.6%	83.990	82.460	81.970
x		T 787.100	T 40610.000	T 898.900	917.400	792.700	92.7%	84.410	82.030	81.790
σ		T 11.690	T 452.100	T 18.730	26.880	13.010	1.4%	3.354	1.647	1.877
%RSD		T 1.485	T 1.113	T 2.084	2.930	1.641	1.5	3.974	2.008	2.295

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	4.272	80.410	T 779.900	824.900	82.330	84.630	82.600	87.700	84.350
2	19:40:54	4.518	83.720	T 810.200	869.500	85.590	85.480	86.930	89.440	85.820
3	19:41:20	3.884	82.890	T 813.900	866.000	85.930	85.770	85.210	86.300	86.290
x		4.225	82.340	T 801.300	853.500	84.610	85.300	84.910	87.810	85.490
σ		0.320	1.721	T 18.660	24.790	1.989	0.591	2.181	1.572	1.013
%RSD		7.565	2.090	T 2.329	2.904	2.350	0.693	2.568	1.791	1.185

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	86.640	82.320	1.816	1.052	82.300	-0.695	91.4%	84.470	83.530
2	19:40:54	87.000	85.380	1.748	1.779	87.340	-0.638	90.1%	89.190	89.690
3	19:41:20	85.670	85.420	1.500	1.637	84.520	-0.192	90.9%	91.970	93.020
x		86.440	84.370	1.688	1.489	84.720	-0.508	90.8%	88.540	88.750
σ		0.685	1.776	0.167	0.385	2.523	0.276	0.7%	3.789	4.814
%RSD		0.792	2.104	9.866	25.870	2.979	54.220	0.7	4.279	5.425

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	81.770	84.090	81.500	-0.080	77.210	81.230	79.740	90.1%	88.060
2	19:40:54	87.220	83.040	83.740	1.811	80.670	84.750	82.530	90.3%	92.170
3	19:41:20	90.080	85.060	82.030	0.804	79.510	83.830	82.720	90.8%	92.200
x		86.360	84.060	82.420	0.845	79.130	83.270	81.670	90.4%	90.810
σ		4.218	1.011	1.171	0.946	1.761	1.830	1.666	0.3%	2.382
%RSD		4.885	1.202	1.421	112.000	2.226	2.198	2.040	0.4	2.623

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:40:27	82.600	76.350	79.200	81.640	80.710	91.0%	77.600	82.930	80.760
2	19:40:54	86.660	80.240	82.840	84.570	83.870	91.4%	80.020	86.270	83.030
3	19:41:20	86.630	80.520	83.480	84.820	83.640	92.3%	80.280	86.140	83.540
x		85.300	79.040	81.840	83.680	82.740	91.6%	79.300	85.110	82.440
σ		2.339	2.327	2.312	1.764	1.763	0.7%	1.478	1.891	1.483
%RSD		2.742	2.944	2.825	2.108	2.130	0.7	1.864	2.222	1.799

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:40:27	79.240	79.640	91.3%
2	19:40:54	82.180	83.290	92.3%
3	19:41:20	82.490	83.120	93.2%
x		81.300	82.020	92.3%
σ		1.795	2.060	1.0%
%RSD		2.207	2.511	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-001 5/19/2017 19:45:23

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	99.6%	0.011	4.557	3.929	┬4001.000	┬25410.000	┬25640.000	┬25410.000	2.956
2	19:46:15	102.9%	0.020	3.550	4.051	┬3906.000	┬25260.000	┬25500.000	┬24920.000	2.961
3	19:46:41	102.1%	0.017	3.440	3.317	┬3852.000	┬24980.000	┬24970.000	┬25010.000	2.732
x		101.5%	0.016	3.849	3.766	┬3920.000	┬25220.000	┬25370.000	┬25110.000	2.883
σ		1.7%	0.005	0.616	0.393	┬75.450	┬222.000	┬350.100	┬259.300	0.131
%RSD		1.7	29.870	16.000	10.440	┬1.925	┬0.880	┬1.380	┬1.032	4.534

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	┬7227.000	┬44370.000	┬3409.000	84290.000	┬83570.000	┬94.8%	0.845	0.322	0.020
2	19:46:15	┬7193.000	┬45580.000	┬3494.000	85300.000	┬85380.000	┬94.8%	0.762	0.009	0.019
3	19:46:41	┬6960.000	┬44520.000	┬3377.000	81960.000	┬82170.000	┬96.9%	0.964	0.236	0.080
x		┬7126.000	┬44820.000	┬3427.000	83850.000	┬83700.000	┬95.5%	0.857	0.189	0.040
σ		┬145.300	┬662.100	┬60.650	1712.000	┬1610.000	┬1.2%	0.102	0.162	0.035
%RSD		┬2.039	┬1.477	┬1.770	2.042	┬1.924	┬1.3	11.880	85.500	87.940

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	6.002	55.090	5.692	392.900	-1.347	4.699	0.137	0.365	11.680
2	19:46:15	6.504	55.860	5.165	375.100	-1.375	4.706	0.178	0.343	11.640
3	19:46:41	6.092	53.640	2.555	354.900	-1.320	4.453	0.140	0.297	10.630
x		6.199	54.860	4.470	374.300	-1.347	4.619	0.152	0.335	11.310
σ		0.267	1.126	1.680	19.030	0.027	0.144	0.023	0.035	0.595
%RSD		4.311	2.052	37.580	5.083	2.014	3.119	15.140	10.450	5.257

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	-0.054	-0.111	9.241	9.214	0.153	0.417	90.9%	-0.013	0.141
2	19:46:15	0.047	-0.381	9.467	9.262	0.267	-0.401	91.8%	0.110	0.161
3	19:46:41	0.391	0.192	9.819	7.491	-0.035	-1.406	94.0%	0.028	0.165
x		0.128	-0.100	9.509	8.656	0.128	-0.463	92.2%	0.042	0.156
σ		0.233	0.287	0.291	1.009	0.153	0.913	1.6%	0.063	0.013
%RSD		182.400	287.200	3.065	11.660	119.000	197.100	1.7	151.100	8.357

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	0.115	1.511	0.001	-0.549	-0.003	0.029	0.014	88.4%	0.089
2	19:46:15	0.128	2.177	0.001	-0.819	-0.005	0.037	0.019	90.0%	0.077
3	19:46:41	0.130	1.498	0.002	-0.479	-0.002	0.031	0.023	91.7%	0.063
x		0.124	1.728	0.001	-0.616	-0.003	0.032	0.019	90.0%	0.076
σ		0.008	0.388	0.000	0.180	0.002	0.004	0.005	1.7%	0.013
%RSD		6.425	22.460	37.190	29.140	51.130	13.410	24.160	1.8	16.650

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:45:49	0.299	0.049	0.052	166.700	165.300	90.2%	0.065	0.071	0.045
2	19:46:15	0.409	0.073	0.055	167.000	166.900	92.2%	0.047	0.048	0.030
3	19:46:41	0.265	0.046	0.033	165.800	161.800	95.0%	0.034	0.023	0.047
x		0.324	0.056	0.047	166.500	164.700	92.5%	0.048	0.048	0.040
σ		0.075	0.015	0.012	0.602	2.593	2.4%	0.016	0.024	0.009
%RSD		23.190	26.500	25.160	0.362	1.574	2.6	32.080	50.610	23.240

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:45:49	0.023	0.022	85.6%
2	19:46:15	0.027	0.031	88.4%
3	19:46:41	0.042	0.028	91.4%
x		0.031	0.027	88.5%
σ		0.010	0.004	2.9%
%RSD		31.420	16.090	3.2

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-002 5/19/2017 19:50:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	99.6%	0.187	1.394	1.996	┬4467.000	┬4219.000	┬4114.000	┬4080.000	31.520
2	19:51:39	100.1%	0.215	1.303	1.602	┬4329.000	┬4137.000	┬4019.000	┬3957.000	31.170
3	19:52:05	101.2%	0.241	1.053	1.857	┬4257.000	┬4148.000	┬4032.000	┬3947.000	30.940
x		100.3%	0.214	1.250	1.818	┬4351.000	┬4168.000	┬4055.000	┬3995.000	31.210
σ		0.8%	0.027	0.176	0.200	┬106.800	┬44.640	┬51.570	┬74.130	0.293
%RSD		0.8	12.560	14.100	10.990	┬2.454	┬1.071	┬1.272	┬1.856	0.938

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	┬5730.000	┬41780.000	┬3701.000	8111.000	7575.000	93.4%	0.865	0.199	0.058
2	19:51:39	┬5627.000	┬41860.000	┬3659.000	8077.000	7537.000	93.9%	0.830	0.019	0.067
3	19:52:05	┬5655.000	┬42630.000	┬3713.000	7973.000	7540.000	93.2%	0.713	-0.105	0.030
x		┬5671.000	┬42090.000	┬3691.000	8054.000	7551.000	93.5%	0.802	0.037	0.052
σ		┬53.320	┬467.600	┬28.290	71.730	21.020	0.3%	0.079	0.153	0.020
%RSD		┬0.940	┬1.111	┬0.767	0.891	0.278	0.4	9.888	408.800	37.850

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	8.405	┬349.800	47.430	86.760	0.730	3.326	5.331	5.741	29.290
2	19:51:39	8.307	┬349.200	47.190	78.040	0.688	3.529	5.255	5.638	28.940
3	19:52:05	8.214	┬353.000	48.300	82.690	0.760	3.258	5.232	5.544	28.890
x		8.309	┬350.700	47.640	82.500	0.726	3.371	5.273	5.641	29.040
σ		0.095	┬2.045	0.584	4.367	0.036	0.141	0.052	0.099	0.220
%RSD		1.147	┬0.583	1.225	5.293	4.998	4.177	0.983	1.750	0.756

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	0.126	-0.569	7.645	6.870	0.087	-1.515	92.9%	-0.185	-0.112
2	19:51:39	0.354	0.100	7.866	6.262	0.095	-0.463	93.6%	-0.279	-0.142
3	19:52:05	0.271	-0.245	8.161	6.917	0.120	-1.699	94.1%	-0.226	-0.144
x		0.250	-0.238	7.891	6.683	0.101	-1.226	93.5%	-0.230	-0.133
σ		0.116	0.335	0.259	0.366	0.017	0.667	0.6%	0.047	0.018
%RSD		46.210	140.600	3.279	5.474	17.100	54.400	0.7	20.310	13.460

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	-0.234	1.730	0.013	-0.551	0.014	0.181	0.194	88.7%	0.089
2	19:51:39	-0.193	1.907	0.018	-0.686	0.022	0.282	0.217	89.7%	0.111
3	19:52:05	-0.193	1.552	0.018	-0.550	0.013	0.227	0.211	90.4%	0.098
x		-0.206	1.729	0.016	-0.596	0.016	0.230	0.207	89.6%	0.099
σ		0.023	0.178	0.003	0.078	0.005	0.050	0.012	0.8%	0.011
%RSD		11.360	10.270	16.090	13.110	32.210	21.850	5.823	0.9	11.290

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:13	0.311	0.022	0.004	119.900	119.800	91.2%	0.047	0.051	0.258
2	19:51:39	0.267	-0.000	0.003	120.100	119.600	92.4%	0.049	0.043	0.272
3	19:52:05	0.265	0.017	-0.003	121.900	121.000	93.8%	0.045	0.045	0.227
x		0.281	0.013	0.001	120.600	120.100	92.5%	0.047	0.046	0.252
σ		0.026	0.012	0.004	1.077	0.718	1.3%	0.002	0.004	0.023
%RSD		9.281	89.880	336.800	0.893	0.598	1.4	4.151	9.319	9.303

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:51:13	0.251	0.231	90.6%
2	19:51:39	0.254	0.240	93.2%
3	19:52:05	0.274	0.242	93.8%
x		0.260	0.238	92.5%
σ		0.012	0.006	1.7%
%RSD		4.804	2.481	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-003 5/19/2017 19:56:07

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	98.2%	-0.003	6.075	5.896	T 4034.000	T 35400.000	T 35190.000	T 35230.000	2.053
2	19:57:01	97.5%	0.015	5.977	7.153	T 4063.000	T 36300.000	T 35910.000	T 35560.000	2.221
3	19:57:27	99.4%	-0.011	6.261	6.093	T 3984.000	T 35780.000	T 35600.000	T 35740.000	2.176
x		98.4%	0.000	6.104	6.380	T 4027.000	T 35830.000	T 35570.000	T 35510.000	2.150
σ		1.0%	0.013	0.144	0.676	T 40.130	T 449.300	T 361.400	T 260.700	0.087
%RSD		1.0	2778.000	2.362	10.600	T 0.997	T 1.254	T 1.016	T 0.734	4.041

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	T 8742.000	T 44230.000	T 3737.000	M 116000.000	TM 114500.000	T 94.5%	1.060	0.058	-0.017
2	19:57:01	T 8800.000	T 45370.000	T 3927.000	M 120900.000	TM 119600.000	T 93.7%	0.803	-0.129	-0.009
3	19:57:27	T 8831.000	T 46800.000	T 3926.000	M 121600.000	TM 118500.000	T 94.0%	1.036	-0.079	0.023
x		T 8791.000	T 45470.000	T 3863.000	M 119500.000	TM 117500.000	T 94.1%	0.966	-0.050	-0.001
σ		T 45.390	T 1288.000	T 109.500	M 3079.000	TM 2685.000	T 0.4%	0.142	0.097	0.021
%RSD		T 0.516	T 2.833	T 2.835	M 2.577	TM 2.286	T 0.4	14.710	194.900	1690.000

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	6.841	T 369.700	T 1366.000	1994.000	2.680	15.360	0.062	0.351	1.289
2	19:57:01	6.987	T 382.500	T 1414.000	2050.000	2.793	15.780	0.062	0.338	1.348
3	19:57:27	6.791	T 388.600	T 1446.000	2043.000	2.715	15.030	0.072	0.349	1.350
x		6.873	T 380.300	T 1409.000	2029.000	2.729	15.390	0.065	0.346	1.329
σ		0.102	T 9.634	T 40.660	30.690	0.058	0.377	0.005	0.007	0.035
%RSD		1.479	T 2.534	T 2.887	1.513	2.129	2.451	8.376	2.093	2.617

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	1.243	0.061	10.770	11.870	0.196	-0.642	89.9%	-0.298	-0.244
2	19:57:01	1.531	0.088	12.190	10.190	-0.160	-0.274	88.7%	-0.319	-0.182
3	19:57:27	1.203	-0.313	12.720	10.460	0.014	-0.822	90.6%	-0.309	-0.187
x		1.326	-0.055	11.890	10.840	0.017	-0.579	89.7%	-0.309	-0.205
σ		0.179	0.224	1.006	0.899	0.178	0.280	0.9%	0.011	0.035
%RSD		13.500	410.800	8.457	8.295	1060.000	48.290	1.1	3.467	16.950

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	-0.288	2.168	0.009	-0.816	0.003	0.004	-0.006	88.2%	0.023
2	19:57:01	-0.270	4.469	0.013	-1.708	0.017	0.013	-0.012	87.7%	0.037
3	19:57:27	-0.243	2.845	0.016	-1.056	0.009	0.003	-0.005	89.8%	0.056
x		-0.267	3.161	0.013	-1.193	0.010	0.007	-0.008	88.6%	0.039
σ		0.023	1.182	0.004	0.462	0.007	0.005	0.004	1.1%	0.016
%RSD		8.484	37.410	30.060	38.700	70.070	79.370	48.930	1.2	42.290

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:56:34	0.287	-0.037	-0.017	M 510.500	M 506.800	90.3%	0.029	0.033	0.005
2	19:57:01	0.602	0.021	-0.007	M 534.700	M 530.900	90.9%	0.031	0.029	0.021
3	19:57:27	0.435	0.007	-0.005	M 525.700	M 525.800	92.4%	0.028	0.033	0.009
x		0.441	-0.003	-0.010	M 523.700	M 521.200	91.2%	0.029	0.032	0.012
σ		0.158	0.030	0.006	M 12.250	M 12.680	1.1%	0.002	0.002	0.008
%RSD		35.780	957.800	64.840	M 2.339	M 2.433	1.2	5.445	6.911	70.660

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	19:56:34	0.011	0.013	85.0%
2	19:57:01	0.006	0.011	84.9%
3	19:57:27	-0.000	0.008	86.8%
x		0.005	0.011	85.6%
σ		0.005	0.003	1.1%
%RSD		100.600	25.320	1.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004 5/19/2017 20:01:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	97.1%	0.012	6.383	6.249	T 4416.000	T 29060.000	T 29370.000	T 29470.000	3.410
2	20:02:22	96.8%	0.034	5.783	6.111	T 4470.000	T 29280.000	T 29150.000	T 29470.000	3.529
3	20:02:48	99.1%	0.044	6.010	6.828	T 4459.000	T 29900.000	T 29750.000	T 29610.000	3.713
x		97.7%	0.030	6.059	6.396	T 4448.000	T 29420.000	T 29420.000	T 29520.000	3.551
σ		1.3%	0.016	0.303	0.381	T 28.610	T 432.300	T 302.800	T 75.900	0.153
%RSD		1.3	54.980	5.003	5.948	T 0.643	T 1.470	T 1.029	T 0.257	4.312

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	T 6988.000	T 44000.000	T 2897.000	88400.000	T 86740.000	T 94.2%	0.774	-0.139	0.041
2	20:02:22	T 7004.000	T 43920.000	T 2887.000	87660.000	T 87170.000	T 94.9%	0.866	-0.073	0.056
3	20:02:48	T 7114.000	T 45430.000	T 3004.000	92440.000	T 91660.000	T 93.2%	0.899	0.077	0.111
x		T 7035.000	T 44450.000	T 2929.000	89500.000	T 88520.000	T 94.1%	0.847	-0.045	0.070
σ		T 68.860	T 848.800	T 64.780	2574.000	T 2725.000	T 0.9%	0.065	0.111	0.037
%RSD		T 0.979	T 1.910	T 2.211	2.876	T 3.079	T 0.9	7.635	246.300	53.010

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	6.218	TM 1783.000	T 1498.000	2029.000	6.290	9.900	4.846	6.127	11.840
2	20:02:22	5.845	TM 1777.000	T 1504.000	1977.000	6.357	9.723	4.882	5.473	11.340
3	20:02:48	5.737	TM 1869.000	T 1582.000	2043.000	6.470	10.110	5.081	5.699	11.860
x		5.933	TM 1809.000	T 1528.000	2016.000	6.372	9.910	4.936	5.766	11.680
σ		0.252	TM 51.580	T 46.600	34.830	0.091	0.193	0.126	0.332	0.291
%RSD		4.251	TM 2.851	T 3.050	1.727	1.423	1.943	2.558	5.753	2.493

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	0.864	-0.237	8.138	6.478	-0.048	-1.766	90.5%	-0.234	-0.151
2	20:02:22	0.837	-0.025	8.659	7.173	0.159	-1.132	90.3%	-0.193	-0.133
3	20:02:48	0.820	-0.084	8.945	8.068	-0.021	-1.270	89.9%	-0.185	-0.087
x		0.840	-0.115	8.580	7.240	0.030	-1.389	90.2%	-0.204	-0.124
σ		0.022	0.109	0.409	0.797	0.112	0.333	0.3%	0.026	0.033
%RSD		2.649	94.830	4.768	11.010	373.100	23.980	0.3	12.880	26.650

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	-0.203	4.191	-0.004	-1.605	-0.003	0.003	-0.019	88.2%	0.073
2	20:02:22	-0.152	2.747	-0.007	-1.036	-0.002	0.003	-0.006	88.6%	0.072
3	20:02:48	-0.125	4.065	-0.005	-1.504	-0.004	0.000	-0.018	88.6%	0.077
x		-0.160	3.668	-0.005	-1.382	-0.003	0.002	-0.014	88.5%	0.074
σ		0.040	0.800	0.002	0.303	0.001	0.002	0.007	0.2%	0.003
%RSD		24.910	21.800	33.340	21.950	31.790	80.560	49.760	0.3	3.651

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:01:56	0.711	-0.028	-0.048	260.300	257.000	89.9%	0.036	0.036	0.383
2	20:02:22	0.478	-0.035	-0.015	264.000	261.900	92.0%	0.036	0.033	0.374
3	20:02:48	0.682	-0.016	-0.010	273.600	269.700	91.0%	0.044	0.034	0.349
x		0.624	-0.026	-0.024	266.000	262.900	91.0%	0.039	0.034	0.369
σ		0.127	0.010	0.021	6.826	6.373	1.1%	0.004	0.002	0.018
%RSD		20.350	36.710	85.320	2.566	2.425	1.2	11.500	4.388	4.862

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:01:56	0.331	0.322	85.9%
2	20:02:22	0.352	0.333	88.1%
3	20:02:48	0.395	0.353	86.8%
x		0.359	0.336	87.0%
σ		0.033	0.015	1.1%
%RSD		9.107	4.566	1.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004MS 5/19/2017 20:06:51

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	96.4%	88.370	99.490	96.110	T 5279.000	T 30350.000	T 30010.000	T 30490.000	85.920
2	20:07:43	98.2%	87.730	103.500	97.460	T 5190.000	T 29920.000	T 29700.000	T 30110.000	86.680
3	20:08:09	99.4%	85.910	101.000	97.270	T 5092.000	T 29770.000	T 29480.000	T 29330.000	87.260
x		98.0%	87.340	101.300	96.950	T 5187.000	T 30010.000	T 29730.000	T 29980.000	86.620
σ		1.5%	1.276	2.001	0.730	T 93.890	T 303.600	T 263.000	T 589.800	0.675
%RSD		1.5	1.461	1.975	0.753	T 1.810	T 1.011	T 0.885	T 1.968	0.779

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	T 7708.000	T 42050.000	T 3831.000	89860.000	T 87780.000	T 94.4%	87.130	84.270	82.960
2	20:07:43	T 7688.000	T 42230.000	T 3825.000	89300.000	T 87930.000	95.5%	88.500	84.830	83.420
3	20:08:09	T 7600.000	T 42880.000	T 3905.000	89910.000	T 88610.000	T 94.4%	86.490	84.040	82.880
x		T 7665.000	T 42380.000	T 3854.000	89690.000	T 88110.000	T 94.7%	87.370	84.380	83.080
σ		T 57.180	T 436.100	T 44.860	340.200	T 439.000	T 0.7%	1.025	0.406	0.291
%RSD		T 0.746	T 1.029	T 1.164	0.379	T 0.498	T 0.7	1.173	0.481	0.350

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	5.121	TM 1873.000	T 2318.000	2848.000	90.610	95.930	82.110	91.280	93.080
2	20:07:43	4.735	TM 1871.000	T 2330.000	2855.000	91.600	97.150	81.970	90.430	92.000
3	20:08:09	4.946	TM 1903.000	T 2371.000	2884.000	91.490	94.940	81.420	87.670	89.650
x		4.934	TM 1883.000	T 2340.000	2862.000	91.230	96.000	81.830	89.790	91.580
σ		0.193	TM 17.830	T 27.760	19.250	0.544	1.105	0.363	1.888	1.753
%RSD		3.921	TM 0.947	T 1.186	0.672	0.596	1.151	0.443	2.103	1.914

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	89.120	81.150	11.530	9.826	84.230	-0.826	90.6%	92.230	92.490
2	20:07:43	91.200	80.850	10.570	10.870	87.340	-0.109	92.2%	94.290	94.860
3	20:08:09	89.150	80.420	10.550	9.063	86.350	-1.509	92.6%	95.980	98.060
x		89.820	80.810	10.880	9.920	85.970	-0.815	91.8%	94.160	95.140
σ		1.194	0.371	0.558	0.908	1.587	0.700	1.0%	1.876	2.799
%RSD		1.329	0.459	5.131	9.153	1.846	85.950	1.1	1.992	2.942

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	90.560	85.990	85.460	-1.064	78.050	81.840	84.230	88.1%	88.950
2	20:07:43	92.630	89.420	85.840	-2.922	78.320	83.350	84.530	88.9%	90.110
3	20:08:09	94.600	88.220	83.650	-3.102	77.000	82.000	83.640	91.0%	91.270
x		92.600	87.880	84.980	-2.363	77.790	82.400	84.130	89.3%	90.110
σ		2.023	1.740	1.169	1.128	0.695	0.826	0.452	1.5%	1.160
%RSD		2.185	1.980	1.376	47.760	0.894	1.003	0.537	1.6	1.288

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:07:17	85.610	82.030	84.070	352.000	347.900	90.0%	83.960	85.900	86.230
2	20:07:43	87.160	82.770	86.340	355.100	350.000	93.0%	85.390	86.500	87.400
3	20:08:09	87.740	81.580	83.840	349.000	345.400	94.0%	83.740	86.610	87.000
x		86.840	82.130	84.750	352.100	347.700	92.3%	84.360	86.330	86.880
σ		1.103	0.601	1.384	3.081	2.303	2.1%	0.895	0.381	0.592
%RSD		1.271	0.732	1.633	0.875	0.662	2.2	1.061	0.441	0.682

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:07:17	84.330	81.380	86.1%
2	20:07:43	85.630	81.780	88.1%
3	20:08:09	84.880	81.530	90.3%
x		84.950	81.570	88.2%
σ		0.655	0.202	2.1%
%RSD		0.771	0.247	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004MD 5/19/2017 20:12:12

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	96.4%	79.480	95.440	88.340	T 5233.000	T 29850.000	T 29660.000	T 30170.000	78.640
2	20:13:03	96.9%	78.080	92.480	88.600	T 5172.000	T 30410.000	T 30370.000	T 30870.000	79.920
3	20:13:29	100.9%	73.000	87.600	83.780	T 4929.000	T 28470.000	T 27950.000	T 28200.000	74.790
x		98.1%	76.850	91.840	86.900	T 5111.000	T 29570.000	T 29330.000	T 29750.000	77.780
σ		2.5%	3.410	3.963	2.712	T 160.800	T 999.000	T 1243.000	T 1382.000	2.670
%RSD		2.5	4.437	4.315	3.121	T 3.147	T 3.378	T 4.239	T 4.645	3.432

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	T 7625.000	T 42630.000	T 3726.000	88530.000	T 87560.000	T 94.6%	79.380	76.160	75.130
2	20:13:03	T 7662.000	T 42370.000	T 3747.000	88890.000	T 88800.000	T 94.8%	78.780	76.210	74.810
3	20:13:29	T 7200.000	T 40630.000	T 3543.000	84010.000	T 84810.000	T 98.3%	75.240	73.410	71.580
x		T 7496.000	T 41880.000	T 3672.000	87140.000	T 87060.000	T 95.9%	77.800	75.260	73.840
σ		T 256.500	T 1087.000	T 112.400	2719.000	T 2045.000	T 2.1%	2.240	1.601	1.962
%RSD		T 3.422	T 2.595	T 3.060	3.120	T 2.350	T 2.2	2.879	2.128	2.656

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	5.101	TM 1839.000	T 2216.000	2792.000	82.830	89.560	74.410	83.400	83.980
2	20:13:03	5.635	TM 1878.000	T 2256.000	2769.000	83.330	87.970	73.120	82.000	83.960
3	20:13:29	4.794	TM 1811.000	T 2163.000	2677.000	80.480	85.910	70.650	78.070	79.310
x		5.177	TM 1843.000	T 2212.000	2746.000	82.210	87.810	72.730	81.160	82.420
σ		0.426	TM 33.760	T 46.720	60.700	1.524	1.833	1.909	2.762	2.688
%RSD		8.219	TM 1.832	T 2.112	2.211	1.854	2.087	2.625	3.403	3.261

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	81.150	75.080	10.230	9.286	79.470	-0.627	89.5%	81.660	82.360
2	20:13:03	81.860	72.730	10.540	9.651	79.070	-1.287	90.2%	85.320	84.950
3	20:13:29	77.120	68.300	9.610	9.170	71.090	0.164	92.6%	81.540	81.840
x		80.040	72.040	10.130	9.369	76.540	-0.584	90.8%	82.840	83.050
σ		2.559	3.441	0.472	0.251	4.727	0.727	1.6%	2.148	1.664
%RSD		3.197	4.777	4.665	2.681	6.175	124.500	1.8	2.592	2.004

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	81.210	78.960	77.320	-2.344	69.640	73.780	76.000	88.3%	82.000
2	20:13:03	83.360	81.170	76.180	-2.248	70.960	75.630	76.200	88.5%	83.660
3	20:13:29	80.220	73.970	73.560	0.643	67.850	72.370	72.620	90.8%	79.280
x		81.590	78.030	75.680	-1.317	69.480	73.930	74.940	89.2%	81.640
σ		1.610	3.687	1.928	1.697	1.560	1.636	2.012	1.4%	2.210
%RSD		1.973	4.725	2.548	128.900	2.245	2.213	2.685	1.6	2.707

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:12:38	78.100	72.310	75.260	338.800	336.600	90.0%	75.630	77.090	77.620
2	20:13:03	79.590	74.740	76.520	346.200	341.900	91.4%	75.580	78.020	77.620
3	20:13:29	76.560	71.100	74.170	329.500	327.900	94.6%	72.960	75.230	74.870
x		78.080	72.720	75.320	338.200	335.500	92.0%	74.720	76.780	76.710
σ		1.514	1.850	1.176	8.357	7.075	2.4%	1.528	1.421	1.588
%RSD		1.938	2.544	1.561	2.471	2.109	2.6	2.044	1.850	2.070

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:12:38	76.630	73.050	85.8%
2	20:13:03	76.600	74.140	88.3%
3	20:13:29	74.410	70.490	90.9%
x		75.880	72.560	88.3%
σ		1.269	1.872	2.6%
%RSD		1.673	2.580	2.9

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004SD(5) 5/19/2017 20:17:34

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	102.5%	0.017	0.599	1.431	T 914.500	T 6045.000	T 5963.000	T 5985.000	-1.086
2	20:18:26	102.1%	0.021	0.464	0.822	T 880.100	T 6031.000	T 5940.000	T 5914.000	-1.189
3	20:18:51	101.9%	0.014	0.966	1.335	T 926.200	T 6360.000	T 6169.000	T 5972.000	-0.916
x		102.2%	0.017	0.676	1.196	T 906.900	T 6145.000	T 6024.000	T 5957.000	-1.064
σ		0.3%	0.003	0.260	0.328	T 23.940	T 186.200	T 126.500	T 37.660	0.138
%RSD		0.3	19.900	38.420	27.400	T 2.640	T 3.029	T 2.101	T 0.632	12.940

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	T 1423.000	T 8803.000	569.700	18100.000	T 17940.000	T 97.2%	0.070	0.087	-0.006
2	20:18:26	T 1391.000	T 8923.000	572.900	18130.000	T 18170.000	T 95.9%	0.072	0.078	-0.009
3	20:18:51	T 1466.000	T 9569.000	602.900	19220.000	T 19000.000	T 91.9%	0.205	0.134	0.001
x		T 1427.000	T 9098.000	581.800	18480.000	T 18370.000	T 95.0%	0.116	0.099	-0.005
σ		T 37.870	T 411.700	18.290	636.400	T 555.300	T 2.7%	0.077	0.030	0.005
%RSD		T 2.655	T 4.525	3.143	3.443	T 3.023	T 2.9	66.640	30.050	117.600

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	1.452	T 367.700	T 279.500	374.300	1.340	2.072	1.056	1.184	2.407
2	20:18:26	1.352	T 367.900	T 280.600	375.600	1.316	2.181	0.990	1.057	2.545
3	20:18:51	1.440	T 392.800	T 311.500	402.200	1.427	2.041	1.102	1.164	2.711
x		1.415	T 376.100	T 290.600	384.100	1.361	2.098	1.049	1.135	2.554
σ		0.054	T 14.440	T 18.180	15.710	0.058	0.073	0.056	0.068	0.152
%RSD		3.848	T 3.839	T 6.256	4.092	4.290	3.498	5.352	6.001	5.947

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	0.188	-0.489	1.775	0.705	0.216	-1.573	94.5%	-0.195	-0.143
2	20:18:26	0.104	-0.183	1.867	1.079	-0.124	0.233	94.9%	-0.163	-0.120
3	20:18:51	0.165	-0.351	1.609	1.636	-0.075	-0.885	92.8%	-0.204	-0.054
x		0.152	-0.341	1.750	1.140	0.006	-0.742	94.0%	-0.187	-0.105
σ		0.043	0.153	0.131	0.469	0.184	0.911	1.1%	0.021	0.046
%RSD		28.290	44.880	7.469	41.110	3330.000	122.900	1.2	11.300	43.830

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	-0.138	0.415	0.000	-0.165	-0.001	0.006	-0.009	92.1%	0.012
2	20:18:26	-0.120	0.481	0.000	-0.190	0.002	-0.006	-0.003	93.0%	0.014
3	20:18:51	-0.117	0.973	0.001	-0.360	-0.002	0.009	-0.001	91.9%	0.003
x		-0.125	0.623	0.001	-0.238	-0.000	0.003	-0.005	92.4%	0.010
σ		0.011	0.305	0.000	0.106	0.002	0.008	0.004	0.6%	0.006
%RSD		9.032	48.910	81.590	44.460	3078.000	268.200	85.430	0.6	61.840

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:18:00	0.117	-0.062	-0.080	54.080	52.890	93.1%	0.106	0.095	0.065
2	20:18:26	0.082	-0.051	-0.066	53.890	53.270	94.8%	0.081	0.084	0.074
3	20:18:51	0.191	-0.053	-0.067	56.350	55.570	93.4%	0.070	0.080	0.083
x		0.130	-0.055	-0.071	54.770	53.910	93.8%	0.086	0.086	0.074
σ		0.056	0.006	0.008	1.368	1.448	0.9%	0.018	0.008	0.009
%RSD		43.020	10.880	11.300	2.497	2.686	1.0	21.420	9.178	12.440

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:18:00	0.047	0.074	92.9%
2	20:18:26	0.055	0.079	94.1%
3	20:18:51	0.089	0.060	92.7%
x		0.063	0.071	93.2%
σ		0.022	0.010	0.7%
%RSD		35.370	13.850	0.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004PS 5/19/2017 20:22:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	97.2%	87.800	106.200	99.880	T 5177.000	T 29320.000	T 29270.000	T 29680.000	90.090
2	20:23:48	96.9%	85.630	103.200	101.000	T 5119.000	T 29590.000	T 29430.000	T 29310.000	90.180
3	20:24:14	97.5%	87.230	103.500	99.150	T 5281.000	T 30200.000	T 30180.000	T 30270.000	91.510
x		97.2%	86.890	104.300	100.000	T 5192.000	T 29710.000	T 29630.000	T 29760.000	90.590
σ		0.3%	1.129	1.663	0.933	T 82.290	T 450.300	T 489.900	T 483.800	0.795
%RSD		0.3	1.299	1.595	0.933	T 1.585	T 1.516	T 1.653	T 1.626	0.878

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	T 7590.000	T 43390.000	T 3807.000	88940.000	T 86940.000	T 94.6%	87.490	83.260	82.180
2	20:23:48	T 7668.000	T 44060.000	T 3875.000	87900.000	T 87650.000	T 93.6%	88.030	84.720	83.300
3	20:24:14	T 7709.000	T 44790.000	T 3892.000	90590.000	T 90260.000	T 93.7%	91.840	87.750	85.220
x		T 7656.000	T 44080.000	T 3858.000	89140.000	T 88290.000	T 94.0%	89.120	85.240	83.570
σ		T 60.330	T 697.200	T 45.030	1358.000	T 1749.000	T 0.5%	2.371	2.291	1.540
%RSD		T 0.788	T 1.582	T 1.167	1.523	T 1.981	T 0.6	2.660	2.688	1.843

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	4.841	TM 1828.000	T 2295.000	2827.000	90.260	95.560	86.250	95.580	95.290
2	20:23:48	4.408	TM 1868.000	T 2321.000	2850.000	91.550	96.240	86.850	94.540	95.120
3	20:24:14	4.654	TM 1925.000	T 2393.000	2930.000	94.170	98.170	88.740	97.600	96.210
x		4.634	TM 1874.000	T 2336.000	2869.000	91.990	96.650	87.280	95.910	95.540
σ		0.217	TM 48.600	T 50.420	54.250	1.993	1.354	1.300	1.555	0.584
%RSD		4.690	TM 2.594	T 2.158	1.891	2.167	1.400	1.489	1.622	0.611

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	86.120	79.640	7.631	7.351	84.290	0.730	91.0%	91.610	91.160
2	20:23:48	87.560	82.110	8.178	6.752	85.700	-0.368	91.1%	95.300	95.620
3	20:24:14	88.380	85.100	8.594	7.583	89.720	-0.028	90.5%	98.300	96.960
x		87.350	82.280	8.134	7.229	86.570	0.111	90.8%	95.070	94.580
σ		1.145	2.732	0.483	0.429	2.821	0.562	0.3%	3.348	3.034
%RSD		1.310	3.321	5.933	5.937	3.259	504.500	0.4	3.522	3.208

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	89.270	92.410	85.230	-4.184	77.050	81.530	84.360	88.7%	90.040
2	20:23:48	93.560	90.800	84.500	-3.180	78.250	83.930	84.090	88.9%	92.520
3	20:24:14	96.340	87.900	86.860	-2.101	79.750	84.010	86.890	88.9%	93.920
x		93.060	90.370	85.530	-3.155	78.350	83.160	85.120	88.8%	92.160
σ		3.560	2.285	1.208	1.042	1.352	1.407	1.544	0.1%	1.968
%RSD		3.826	2.529	1.412	33.030	1.726	1.692	1.814	0.1	2.136

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:23:22	87.250	73.320	75.300	342.500	341.500	90.2%	84.110	85.960	86.430
2	20:23:48	88.060	74.610	76.990	347.000	342.000	92.4%	83.840	86.650	86.980
3	20:24:14	90.550	76.630	79.030	355.900	351.500	92.8%	87.310	88.280	90.240
x		88.620	74.850	77.110	348.500	345.000	91.8%	85.080	86.960	87.890
σ		1.720	1.666	1.869	6.819	5.650	1.4%	1.931	1.196	2.060
%RSD		1.940	2.225	2.424	1.957	1.637	1.5	2.269	1.375	2.344

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:23:22	85.120	81.400	86.5%
2	20:23:48	85.920	82.340	88.4%
3	20:24:14	88.210	84.180	87.7%
x		86.420	82.640	87.5%
σ		1.602	1.415	1.0%
%RSD		1.854	1.712	1.1

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 20:28:19 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	86.4%	281.500	290.500	272.200	┬54700.000	┬51710.000	┬51230.000	┬55060.000	278.600
2	20:29:09	87.3%	281.300	283.000	266.900	┬54640.000	┬52540.000	┬52130.000	┬55450.000	282.500
3	20:29:35	87.4%	278.800	280.800	270.800	┬53660.000	┬51700.000	┬51480.000	┬54850.000	277.600
x		87.0%	93.514%	94.907%	89.985%	┬90.557%	┬51980.000	┬51620.000	┬91.867%	93.183%
σ		0.6%	n/a	n/a	n/a	┬n/a	┬481.300	┬465.200	┬n/a	n/a
%RSD		0.6	0.531	1.785	1.022	┬1.070	┬0.926	┬0.901	┬0.558	0.923
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	┬2837.000	282.100	┬59540.000	53210.000	┬53250.000	┬94.8%	269.000	274.700	265.400
2	20:29:09	┬2832.000	300.600	┬60940.000	53620.000	┬54070.000	┬93.9%	273.000	282.500	271.700
3	20:29:35	┬2831.000	313.600	┬61150.000	53690.000	┬54440.000	94.2%	273.500	281.200	268.500
x		┬94.448%	298.800	┬100.905%	53500.000	┬89.868%	┬94.3%	90.608%	93.158%	89.521%
σ		┬n/a	15.800	┬n/a	257.500	┬n/a	┬0.5%	n/a	n/a	n/a
%RSD		┬0.107	5.290	┬1.442	0.481	┬1.125	┬0.5	0.910	1.509	1.173
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	-5.092	┬261.500	┬50060.000	┬57700.000	272.200	271.400	247.100	278.500	266.900
2	20:29:09	-6.693	┬265.600	┬50780.000	┬58250.000	272.500	269.800	253.200	281.500	269.200
3	20:29:35	-6.272	┬269.700	┬51660.000	┬59000.000	271.700	268.600	251.200	275.200	264.700
x		-6.019	┬88.531%	┬84.721%	┬97.197%	90.708%	89.985%	250.500	92.802%	88.986%
σ		0.830	┬n/a	┬n/a	┬n/a	n/a	n/a	3.139	n/a	n/a
%RSD		13.790	┬1.533	┬1.577	┬1.118	0.147	0.521	1.253	1.128	0.850
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	271.800	254.900	1.194	0.098	274.200	-0.449	89.0%	269.900	270.800
2	20:29:09	273.700	255.800	1.002	-0.552	280.500	-0.171	90.1%	286.700	287.700
3	20:29:35	271.300	249.200	1.395	-1.033	265.200	-1.454	90.6%	293.800	293.100
x		90.746%	253.300	1.197	-0.495	91.093%	-0.691	89.9%	94.479%	94.617%
σ		n/a	3.604	0.196	0.567	n/a	0.675	0.8%	n/a	n/a
%RSD		0.463	1.423	16.400	114.500	2.811	97.640	0.9	4.327	4.096
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	268.100	255.500	275.000	-0.928	246.500	253.700	268.500	86.6%	281.200
2	20:29:09	285.800	256.000	276.300	-2.724	249.600	256.700	270.900	87.6%	287.200
3	20:29:35	290.500	260.100	271.600	-0.788	247.100	257.700	267.800	88.2%	287.600
x		93.827%	257.200	91.432%	-1.480	247.700	256.000	89.697%	87.5%	95.106%
σ		n/a	2.532	n/a	1.080	1.624	2.108	n/a	0.8%	n/a
%RSD		4.194	0.984	0.888	72.950	0.656	0.823	0.612	1.0	1.242
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:44	269.700	257.300	264.600	275.800	270.100	88.5%	269.800	┬273.500	277.700
2	20:29:09	273.300	261.800	268.900	275.500	273.400	90.3%	272.900	┬276.600	282.900
3	20:29:35	276.100	261.400	270.000	274.400	272.300	92.1%	272.600	┬276.200	281.700
x		91.017%	86.718%	89.280%	91.738%	90.654%	90.3%	90.593%	┬91.812%	93.583%
σ		n/a	n/a	n/a	n/a	n/a	1.8%	n/a	┬n/a	n/a
%RSD		1.185	0.967	1.055	0.261	0.616	2.0	0.624	┬0.608	0.973
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	20:28:44	273.400	266.700	83.5%						
2	20:29:09	278.500	271.500	84.9%						
3	20:29:35	276.400	267.400	86.3%						
x		92.024%	89.512%	84.9%						
σ		n/a	n/a	1.4%						
%RSD		0.937	0.951	1.6						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 20:33:40 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	104.0%	0.040	1.851	1.259	-0.192	1.554	1.691	1.397	-1.241
2	20:34:31	110.0%	0.024	0.971	1.190	-0.223	1.501	1.270	1.297	-1.137
3	20:34:57	108.0%	0.028	0.882	0.890	-1.014	1.123	0.806	1.124	-1.154
x		107.3%	0.031	1.235	1.113	-0.476	1.392	1.255	1.272	-1.177
σ		3.0%	0.008	0.535	0.196	0.466	0.235	0.443	0.138	0.056
%RSD		2.8	26.940	43.360	17.630	97.870	16.870	35.260	10.830	4.756

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	T -0.574	140.000	0.678	10.420	1.470	103.4%	-0.066	0.117	0.009
2	20:34:31	7.501	148.600	0.017	4.774	0.904	101.7%	-0.065	0.114	-0.004
3	20:34:57	7.274	156.300	-0.779	5.373	-0.323	102.0%	-0.044	0.087	-0.024
x		T 4.734	148.300	-0.028	6.857	0.684	102.3%	-0.058	0.106	-0.007
σ		T 4.598	8.130	0.730	3.104	0.917	0.9%	0.012	0.017	0.017
%RSD		T 97.130	5.483	2599.000	45.270	134.100	0.9	21.170	15.920	246.900

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	0.002	0.054	-2.626	-0.939	0.017	0.012	-0.018	-0.014	-0.028
2	20:34:31	0.020	0.062	-1.819	-1.397	0.015	0.034	-0.012	0.004	-0.000
3	20:34:57	0.035	0.057	-1.943	-1.562	0.014	0.023	-0.005	0.011	-0.040
x		0.019	0.058	-2.130	-1.299	0.015	0.023	-0.012	0.000	-0.023
σ		0.017	0.004	0.435	0.323	0.002	0.011	0.007	0.013	0.020
%RSD		87.280	6.811	20.410	24.880	11.470	47.070	54.180	4344.000	88.470

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	-0.045	-0.018	0.260	-0.485	-0.181	0.023	98.9%	0.435	0.587
2	20:34:31	-0.041	-0.179	0.131	-0.794	-0.103	-0.725	100.0%	0.568	0.524
3	20:34:57	0.038	0.018	0.239	-0.863	-0.043	-0.428	99.6%	0.502	0.537
x		-0.016	-0.060	0.210	-0.714	-0.109	-0.377	99.5%	0.501	0.549
σ		0.047	0.105	0.069	0.201	0.069	0.377	0.6%	0.066	0.033
%RSD		296.700	176.200	33.100	28.160	63.210	99.970	0.6	13.240	6.015

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	0.383	-0.059	0.013	0.047	0.010	0.014	0.026	96.5%	0.135
2	20:34:31	0.554	-0.177	0.017	0.107	0.013	0.003	0.000	98.3%	0.115
3	20:34:57	0.495	0.050	0.011	-0.025	0.009	0.013	0.007	98.9%	0.148
x		0.477	-0.062	0.013	0.043	0.011	0.010	0.011	97.9%	0.133
σ		0.087	0.114	0.003	0.066	0.002	0.006	0.014	1.3%	0.017
%RSD		18.130	183.700	20.980	153.300	16.960	64.880	123.600	1.3	12.760

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:34:05	0.142	0.301	0.321	-0.016	0.006	96.9%	0.030	0.036	0.012
2	20:34:31	0.163	0.326	0.281	0.026	0.017	99.0%	0.026	0.034	0.018
3	20:34:57	0.126	0.325	0.306	-0.008	0.010	100.2%	0.028	0.027	0.017
x		0.144	0.318	0.302	0.001	0.011	98.7%	0.028	0.032	0.016
σ		0.019	0.014	0.020	0.022	0.006	1.6%	0.002	0.005	0.003
%RSD		13.040	4.437	6.749	3561.000	51.800	1.7	8.014	14.400	22.170

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:34:05	0.023	0.009	96.5%
2	20:34:31	0.013	0.012	99.3%
3	20:34:57	-0.002	0.008	100.2%
x		0.011	0.010	98.7%
σ		0.013	0.002	1.9%
%RSD		110.800	23.010	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-005 5/19/2017 20:39:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	98.1%	0.015	6.774	6.387	T 4447.000	T 29190.000	T 28990.000	T 29370.000	2.458
2	20:39:51	101.1%	0.018	6.309	6.605	T 4317.000	T 28740.000	T 28630.000	T 28940.000	2.324
3	20:40:17	101.4%	0.007	6.805	6.668	T 4369.000	T 29000.000	T 28660.000	T 28760.000	2.644
x		100.2%	0.013	6.629	6.553	T 4378.000	T 28980.000	T 28760.000	T 29030.000	2.475
σ		1.8%	0.006	0.278	0.148	T 65.260	T 225.100	T 200.000	T 316.100	0.161
%RSD		1.8	42.520	4.195	2.254	T 1.491	T 0.777	T 0.695	T 1.089	6.485

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	T 6843.000	T 45430.000	T 2861.000	88430.000	T 87160.000	97.3%	0.710	0.198	0.121
2	20:39:51	T 6862.000	T 45530.000	T 2898.000	88270.000	T 87680.000	T 95.9%	0.804	-0.022	0.139
3	20:40:17	T 6856.000	T 46550.000	T 2963.000	90000.000	T 88900.000	T 95.2%	0.863	0.095	0.090
x		T 6854.000	T 45840.000	T 2907.000	88900.000	T 87920.000	T 96.1%	0.792	0.090	0.116
σ		T 9.520	T 622.900	T 51.520	957.800	T 893.200	T 1.1%	0.077	0.110	0.025
%RSD		T 0.139	T 1.359	T 1.772	1.077	T 1.016	T 1.1	9.734	121.900	21.110

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	4.952	TM 1741.000	T 1450.000	1943.000	6.243	9.897	0.231	0.477	8.490
2	20:39:51	5.387	TM 1790.000	T 1492.000	1983.000	6.183	9.373	0.269	0.478	8.536
3	20:40:17	5.038	TM 1827.000	T 1519.000	1968.000	6.162	9.667	0.253	0.458	8.553
x		5.126	TM 1786.000	T 1487.000	1964.000	6.196	9.646	0.251	0.471	8.526
σ		0.231	TM 43.210	T 34.700	20.350	0.042	0.262	0.019	0.011	0.032
%RSD		4.496	TM 2.419	T 2.334	1.036	0.679	2.719	7.558	2.417	0.380

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	0.964	-0.243	7.687	6.126	-0.491	0.982	91.8%	0.011	0.049
2	20:39:51	0.887	-0.043	7.985	6.639	-0.047	-0.595	92.7%	0.093	0.115
3	20:40:17	0.782	-0.038	8.091	7.747	-0.048	0.375	91.8%	0.201	0.255
x		0.878	-0.108	7.921	6.837	-0.195	0.254	92.1%	0.102	0.139
σ		0.091	0.117	0.210	0.829	0.256	0.795	0.5%	0.095	0.105
%RSD		10.400	108.000	2.648	12.120	131.100	313.300	0.6	93.480	75.450

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	-0.001	4.076	0.006	-1.526	-0.002	0.017	0.003	90.0%	0.095
2	20:39:51	0.118	3.778	0.005	-1.430	0.006	0.005	-0.004	90.7%	0.107
3	20:40:17	0.093	4.919	0.000	-1.881	0.002	-0.001	-0.017	90.1%	0.074
x		0.070	4.258	0.004	-1.612	0.002	0.007	-0.006	90.3%	0.092
σ		0.062	0.592	0.003	0.238	0.004	0.009	0.010	0.4%	0.017
%RSD		89.130	13.910	87.480	14.730	194.100	128.500	169.500	0.4	18.020

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:39:26	0.645	0.196	0.163	260.100	259.000	91.1%	0.202	0.188	0.025
2	20:39:51	0.631	0.184	0.168	265.100	258.300	93.0%	0.135	0.136	0.004
3	20:40:17	0.804	0.199	0.174	267.700	264.900	93.9%	0.097	0.118	0.016
x		0.693	0.193	0.168	264.300	260.700	92.7%	0.145	0.147	0.015
σ		0.096	0.008	0.006	3.839	3.656	1.4%	0.053	0.037	0.011
%RSD		13.820	4.189	3.320	1.452	1.402	1.5	36.760	24.910	71.270

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:39:26	0.012	0.010	87.6%
2	20:39:51	0.014	0.011	89.3%
3	20:40:17	0.021	0.018	89.4%
x		0.016	0.013	88.8%
σ		0.005	0.004	1.0%
%RSD		29.410	30.250	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-006 5/19/2017 20:44:23

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	99.1%	0.015	6.133	6.775	T 2792.000	T 17160.000	T 16950.000	T 17190.000	T 5.857
2	20:45:13	104.3%	0.023	5.845	6.374	T 2729.000	T 16630.000	T 16440.000	T 16200.000	T 5.950
3	20:45:40	105.7%	0.009	5.624	6.490	T 2658.000	T 16870.000	T 16980.000	T 16550.000	12.110
x		103.0%	0.016	5.868	6.546	T 2726.000	T 16890.000	T 16790.000	T 16640.000	T 7.972
σ		3.4%	0.007	0.255	0.207	T 67.020	T 269.700	T 301.600	T 502.600	T 3.583
%RSD		3.3	45.190	4.350	3.154	T 2.459	T 1.597	T 1.797	T 3.020	T 44.950

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	T 3063.000	T 42600.000	T 4305.000	38560.000	T 38250.000	T 97.6%	0.700	-0.021	0.897
2	20:45:13	T 2990.000	T 42200.000	T 4274.000	37950.000	T 37860.000	98.0%	0.601	0.257	0.958
3	20:45:40	T 3042.000	T 44420.000	T 4450.000	39600.000	T 39830.000	T 95.5%	0.762	-0.037	0.976
x		T 3032.000	T 43070.000	T 4343.000	38710.000	T 38650.000	T 97.0%	0.688	0.066	0.944
σ		T 37.730	T 1187.000	T 94.120	832.500	T 1041.000	T 1.4%	0.081	0.166	0.042
%RSD		T 1.245	T 2.756	T 2.167	2.151	T 2.693	T 1.4	11.780	249.600	4.405

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	5.057	TM 4305.000	141.800	319.600	7.400	3.846	0.713	1.027	3.567
2	20:45:13	4.654	TM 4358.000	138.000	305.800	7.229	3.561	0.765	0.982	3.574
3	20:45:40	4.947	TM 4489.000	146.200	312.600	7.456	3.738	0.780	0.931	3.608
x		4.886	TM 4384.000	142.000	312.700	7.362	3.715	0.753	0.980	3.583
σ		0.208	TM 94.980	4.070	6.916	0.118	0.144	0.035	0.048	0.022
%RSD		4.263	TM 2.167	2.866	2.212	1.605	3.874	4.650	4.901	0.621

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	0.436	0.072	4.033	3.045	0.067	-1.255	93.9%	-0.262	-0.191
2	20:45:13	0.497	-0.006	3.213	1.933	-0.064	0.369	94.9%	-0.192	-0.102
3	20:45:40	0.430	-0.034	3.553	3.029	-0.141	-0.638	94.0%	-0.204	-0.122
x		0.455	0.011	3.600	2.669	-0.046	-0.508	94.3%	-0.220	-0.138
σ		0.037	0.055	0.412	0.637	0.105	0.820	0.6%	0.037	0.046
%RSD		8.192	509.000	11.450	23.870	228.100	161.400	0.6	16.980	33.570

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	-0.222	8.093	0.028	-3.029	0.030	0.096	0.088	90.7%	0.065
2	20:45:13	-0.195	7.594	0.037	-2.887	0.030	0.097	0.082	92.2%	0.064
3	20:45:40	-0.196	7.766	0.040	-2.937	0.029	0.131	0.089	90.9%	0.065
x		-0.204	7.818	0.035	-2.951	0.030	0.108	0.086	91.3%	0.064
σ		0.015	0.254	0.007	0.072	0.001	0.020	0.004	0.8%	0.001
%RSD		7.543	3.246	18.560	2.445	2.222	18.100	4.492	0.9	1.177

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:44:48	1.143	0.052	0.040	124.500	123.200	92.2%	0.024	0.025	0.029
2	20:45:13	1.079	0.052	0.042	126.000	124.000	94.1%	0.021	0.032	0.039
3	20:45:40	1.107	0.083	0.061	130.800	128.600	93.4%	0.025	0.027	0.023
x		1.109	0.062	0.048	127.100	125.300	93.3%	0.024	0.028	0.030
σ		0.032	0.018	0.011	3.281	2.944	0.9%	0.002	0.003	0.008
%RSD		2.874	29.020	23.900	2.581	2.350	1.0	7.820	12.160	27.650

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:44:48	0.033	0.029	89.8%
2	20:45:13	0.030	0.020	91.7%
3	20:45:40	0.019	0.026	91.7%
x		0.027	0.025	91.0%
σ		0.007	0.004	1.1%
%RSD		26.850	17.940	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-001 5/19/2017 20:49:44

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	99.0%	0.007	12.000	9.117	┬4293.000	┬17640.000	┬17640.000	┬17790.000	2.929
2	20:50:34	102.8%	0.031	8.804	8.496	┬4212.000	┬17570.000	┬17530.000	┬17520.000	3.251
3	20:51:00	101.9%	-0.000	10.010	9.793	┬4280.000	┬17820.000	┬17660.000	┬17580.000	3.222
x		101.2%	0.013	10.270	9.135	┬4262.000	┬17680.000	┬17610.000	┬17630.000	3.134
σ		2.0%	0.016	1.616	0.649	┬43.860	┬132.500	┬69.950	┬138.200	0.178
%RSD		1.9	128.000	15.730	7.103	┬1.029	┬0.750	┬0.397	┬0.784	5.691

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	┬5957.000	┬42260.000	┬3323.000	69500.000	┬69520.000	96.9%	0.529	0.129	0.620
2	20:50:34	┬5888.000	┬42120.000	┬3329.000	69810.000	┬70500.000	┬96.7%	0.559	0.011	0.550
3	20:51:00	┬6009.000	┬44490.000	┬3508.000	72750.000	┬72570.000	┬94.7%	0.558	0.099	0.604
x		┬5951.000	┬42960.000	┬3387.000	70690.000	┬70860.000	┬96.1%	0.549	0.080	0.592
σ		┬60.680	┬1330.000	┬105.200	1792.000	┬1555.000	┬1.2%	0.017	0.061	0.037
%RSD		┬1.020	┬3.095	┬3.107	2.535	┬2.194	┬1.2	3.086	76.470	6.191

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	6.414	0.827	2.871	330.200	-1.349	1.182	0.124	0.308	1.420
2	20:50:34	6.565	0.790	2.645	312.700	-1.350	1.019	0.119	0.320	1.702
3	20:51:00	6.770	0.818	4.768	309.800	-1.410	1.023	0.138	0.220	1.672
x		6.583	0.812	3.428	317.600	-1.370	1.075	0.127	0.283	1.598
σ		0.179	0.019	1.166	11.040	0.035	0.093	0.010	0.055	0.155
%RSD		2.716	2.377	34.020	3.477	2.544	8.627	7.803	19.290	9.678

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	0.180	-0.375	2.729	2.740	0.093	-0.375	90.8%	-0.090	-0.028
2	20:50:34	-0.118	-0.115	2.728	1.952	-0.199	-1.229	93.2%	-0.060	-0.047
3	20:51:00	-0.110	-0.114	3.524	2.150	-0.153	0.409	91.1%	-0.134	0.033
x		-0.016	-0.201	2.993	2.280	-0.086	-0.399	91.7%	-0.095	-0.014
σ		0.170	0.151	0.459	0.410	0.157	0.820	1.3%	0.037	0.042
%RSD		1058.000	74.810	15.340	17.980	181.700	205.700	1.4	39.470	297.200

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	-0.088	2.131	0.002	-0.819	-0.003	0.006	-0.009	89.0%	0.032
2	20:50:34	-0.132	1.598	-0.001	-0.600	-0.005	0.009	0.002	90.8%	0.031
3	20:51:00	-0.108	1.800	-0.002	-0.691	-0.005	0.006	0.002	90.3%	0.043
x		-0.109	1.843	-0.000	-0.703	-0.004	0.007	-0.002	90.0%	0.035
σ		0.022	0.269	0.002	0.110	0.001	0.002	0.007	0.9%	0.007
%RSD		20.220	14.590	552.500	15.640	18.570	24.250	362.900	1.0	20.120

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:50:09	0.362	0.006	0.005	190.200	189.200	91.5%	0.007	-0.001	0.008
2	20:50:34	0.255	0.017	0.011	189.900	188.700	92.9%	-0.001	-0.001	0.017
3	20:51:00	0.299	0.014	0.013	196.000	193.900	92.6%	0.004	-0.001	0.024
x		0.305	0.013	0.010	192.000	190.600	92.3%	0.003	-0.001	0.016
σ		0.054	0.006	0.004	3.478	2.887	0.8%	0.004	0.000	0.008
%RSD		17.670	44.080	44.140	1.811	1.515	0.8	118.600	14.240	48.460

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:50:09	0.010	0.009	87.9%
2	20:50:34	0.017	0.011	90.1%
3	20:51:00	0.020	0.009	89.4%
x		0.016	0.010	89.1%
σ		0.005	0.001	1.1%
%RSD		32.280	8.797	1.2

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-002 5/19/2017 20:55:04

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	103.4%	0.010	2.227	2.307	384.500	T 14510.000	T 14390.000	T 14210.000	6.000
2	20:55:55	105.2%	-0.011	2.086	2.190	373.800	T 14140.000	T 14020.000	T 13750.000	6.331
3	20:56:21	106.5%	-0.008	1.457	2.454	366.200	T 13950.000	T 13990.000	T 13570.000	6.297
x		105.0%	-0.003	1.923	2.317	374.800	T 14200.000	T 14130.000	T 13840.000	6.209
σ		1.6%	0.011	0.410	0.132	9.181	T 282.500	T 224.700	T 330.900	0.182
%RSD		1.5	364.300	21.310	5.713	2.449	T 1.989	T 1.590	T 2.391	2.933

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	T 3764.000	T 44220.000	956.100	16660.000	T 16700.000	T 96.7%	0.434	0.235	1.386
2	20:55:55	T 3756.000	T 45550.000	T 983.300	16800.000	T 16800.000	T 96.5%	0.457	0.068	1.471
3	20:56:21	T 3725.000	T 45410.000	T 975.400	16700.000	T 16760.000	T 95.6%	0.521	-0.039	1.435
x		T 3748.000	T 45060.000	T 971.600	16720.000	T 16750.000	T 96.3%	0.471	0.088	1.431
σ		T 20.510	T 731.400	T 13.990	71.100	T 52.170	T 0.6%	0.045	0.138	0.042
%RSD		T 0.547	T 1.623	T 1.440	0.425	T 0.311	T 0.6	9.604	156.900	2.962

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	8.965	0.790	4.685	83.110	-0.317	0.277	0.105	0.303	1.918
2	20:55:55	8.989	0.851	3.376	80.140	-0.320	0.296	0.120	0.341	1.948
3	20:56:21	9.149	0.795	3.808	76.490	-0.310	0.250	0.125	0.347	1.945
x		9.034	0.812	3.957	79.920	-0.316	0.274	0.116	0.331	1.937
σ		0.100	0.034	0.667	3.315	0.005	0.024	0.010	0.024	0.017
%RSD		1.110	4.132	16.870	4.147	1.669	8.586	8.875	7.193	0.854

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	0.200	-0.125	3.126	2.775	-0.279	-0.729	92.0%	-0.181	-0.110
2	20:55:55	0.270	-0.697	3.067	2.714	0.141	-0.135	92.6%	-0.106	0.041
3	20:56:21	-0.099	0.143	3.395	2.296	-0.135	-1.117	94.6%	-0.130	-0.055
x		0.124	-0.226	3.196	2.595	-0.091	-0.660	93.1%	-0.139	-0.041
σ		0.196	0.429	0.175	0.261	0.213	0.495	1.4%	0.038	0.076
%RSD		158.800	189.700	5.460	10.040	234.400	74.930	1.5	27.590	184.300

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	-0.190	0.385	-0.003	-0.152	-0.005	-0.006	0.007	91.3%	0.014
2	20:55:55	-0.073	1.788	-0.004	-0.652	-0.004	0.003	-0.014	93.7%	0.012
3	20:56:21	-0.069	1.281	-0.000	-0.477	-0.005	-0.003	-0.002	94.5%	0.003
x		-0.111	1.151	-0.002	-0.427	-0.005	-0.002	-0.003	93.1%	0.010
σ		0.069	0.711	0.002	0.254	0.001	0.004	0.010	1.7%	0.006
%RSD		62.040	61.730	75.440	59.380	19.590	201.300	318.100	1.8	59.890

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:55:30	0.080	0.006	-0.023	M 667.700	M 665.700	92.7%	-0.002	-0.006	0.014
2	20:55:55	0.359	0.002	-0.024	M 660.100	M 663.900	94.7%	-0.003	-0.007	0.029
3	20:56:21	0.170	0.002	-0.010	M 664.300	M 663.700	95.7%	-0.013	-0.010	0.022
x		0.203	0.003	-0.019	M 664.000	M 664.400	94.4%	-0.006	-0.007	0.022
σ		0.142	0.003	0.008	M 3.811	M 1.111	1.5%	0.006	0.002	0.008
%RSD		70.020	87.260	42.670	M 0.574	M 0.167	1.6	103.700	28.930	36.080

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	20:55:30	0.015	0.015	90.4%
2	20:55:55	0.034	0.013	92.9%
3	20:56:21	0.022	0.020	94.8%
x		0.024	0.016	92.7%
σ		0.009	0.003	2.2%
%RSD		40.230	21.170	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-003 5/19/2017 21:00:25

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	99.8%	-0.003	20.420	20.180	┬2240.000	┬22630.000	┬22550.000	┬22430.000	12.310
2	21:01:16	102.2%	0.021	21.540	20.260	┬2193.000	┬22230.000	┬22390.000	┬22080.000	12.380
3	21:01:42	102.9%	-0.007	20.430	20.290	┬2215.000	┬22890.000	┬22750.000	┬22270.000	12.680
x		101.6%	0.003	20.800	20.240	┬2216.000	┬22580.000	┬22560.000	┬22260.000	12.450
σ		1.6%	0.015	0.641	0.059	┬23.460	┬329.200	┬177.600	┬172.600	0.200
%RSD		1.6	468.700	3.083	0.290	┬1.058	┬1.458	┬0.787	┬0.775	1.605
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	┬4703.000	┬42690.000	┬1582.000	58510.000	┬58120.000	┬94.7%	0.581	0.245	0.671
2	21:01:16	┬4658.000	┬42100.000	┬1561.000	58660.000	┬58500.000	┬96.0%	0.602	0.257	0.640
3	21:01:42	┬4624.000	┬42740.000	┬1569.000	58840.000	┬58630.000	┬93.3%	0.614	0.274	0.637
x		┬4662.000	┬42510.000	┬1571.000	58670.000	┬58420.000	┬94.7%	0.599	0.259	0.649
σ		┬39.650	┬356.700	┬10.750	168.900	┬268.500	┬1.3%	0.017	0.015	0.019
%RSD		┬0.851	┬0.839	┬0.685	0.288	┬0.460	┬1.4	2.776	5.721	2.902
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	7.583	0.964	30.910	297.000	-1.118	1.532	0.420	0.554	2.612
2	21:01:16	7.668	0.952	27.500	276.700	-1.124	1.360	0.445	0.618	2.577
3	21:01:42	7.513	1.013	30.860	274.900	-1.119	1.371	0.481	0.611	2.561
x		7.588	0.976	29.760	282.900	-1.120	1.421	0.449	0.595	2.583
σ		0.078	0.032	1.953	12.280	0.003	0.096	0.030	0.036	0.026
%RSD		1.025	3.299	6.563	4.340	0.309	6.773	6.768	5.979	1.021
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	0.078	0.369	7.544	6.915	0.699	-0.373	91.1%	1.107	1.122
2	21:01:16	-0.068	0.490	7.025	7.488	0.130	-0.389	91.3%	1.029	1.186
3	21:01:42	0.191	0.180	8.215	7.196	0.090	-1.799	91.9%	1.211	1.525
x		0.067	0.346	7.595	7.200	0.306	-0.853	91.4%	1.115	1.278
σ		0.130	0.156	0.597	0.287	0.341	0.819	0.4%	0.091	0.217
%RSD		193.800	45.160	7.858	3.983	111.200	95.940	0.5	8.191	16.960
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	1.130	2.419	-0.004	-0.929	-0.008	-0.005	-0.009	89.0%	0.004
2	21:01:16	1.244	2.804	-0.001	-0.974	-0.005	-0.005	-0.010	89.8%	0.015
3	21:01:42	1.222	2.649	-0.002	-0.999	-0.005	-0.008	-0.009	90.4%	0.011
x		1.199	2.624	-0.002	-0.967	-0.006	-0.006	-0.009	89.7%	0.010
σ		0.061	0.194	0.002	0.036	0.001	0.002	0.001	0.7%	0.005
%RSD		5.071	7.389	81.290	3.683	23.620	29.620	6.755	0.8	53.010
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:00:51	0.294	-0.032	-0.015	149.500	147.300	91.4%	0.012	0.010	0.034
2	21:01:16	0.338	-0.014	-0.018	149.600	148.500	93.0%	0.014	0.010	0.032
3	21:01:42	0.358	0.007	-0.011	152.600	149.900	94.6%	0.021	0.012	0.037
x		0.330	-0.013	-0.015	150.600	148.600	93.0%	0.016	0.011	0.034
σ		0.033	0.020	0.003	1.743	1.320	1.6%	0.004	0.001	0.002
%RSD		10.030	152.300	23.650	1.158	0.889	1.7	28.370	13.000	6.276
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	21:00:51	0.041	0.024	88.3%						
2	21:01:16	0.034	0.029	90.2%						
3	21:01:42	0.038	0.031	90.4%						
x		0.038	0.028	89.6%						
σ		0.003	0.004	1.2%						
%RSD		8.346	13.810	1.3						

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-004 5/19/2017 21:05:46

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	100.7%	-0.004	5.993	6.208	496.100	T 20360.000	T 20120.000	T 20170.000	3.259
2	21:06:37	103.7%	-0.004	6.028	6.001	T 494.200	T 20100.000	T 19760.000	T 19450.000	3.879
3	21:07:03	105.5%	0.002	6.760	6.206	T 487.200	T 19790.000	T 19640.000	T 18990.000	T -2.366
x		103.3%	-0.002	6.260	6.139	T 492.500	T 20080.000	T 19840.000	T 19530.000	T 1.591
σ		2.4%	0.004	0.434	0.119	T 4.702	T 282.300	T 248.500	T 597.100	T 3.440
%RSD		2.3	209.400	6.925	1.939	T 0.955	T 1.405	T 1.253	T 3.057	T 216.300

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	T 3578.000	T 43270.000	T 1211.000	23570.000	T 23410.000	T 96.3%	0.384	0.238	0.001
2	21:06:37	T 3519.000	T 44010.000	T 1221.000	23410.000	T 23330.000	T 95.1%	0.420	-0.035	-0.020
3	21:07:03	T 3540.000	T 45020.000	T 1266.000	23700.000	T 23710.000	T 93.8%	0.457	0.149	0.007
x		T 3546.000	T 44100.000	T 1233.000	23560.000	T 23480.000	T 95.1%	0.420	0.118	-0.004
σ		T 29.610	T 877.200	T 29.230	143.600	T 201.600	T 1.2%	0.037	0.139	0.014
%RSD		T 0.835	T 1.989	T 2.371	0.610	T 0.858	T 1.3	8.701	118.200	332.200

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	9.024	2.877	11.270	116.900	-0.334	0.511	0.196	0.392	2.145
2	21:06:37	9.302	2.945	10.950	113.200	-0.300	0.476	0.228	0.358	2.157
3	21:07:03	9.248	2.936	11.960	112.300	-0.332	0.443	0.218	0.296	2.035
x		9.191	2.919	11.390	114.100	-0.322	0.477	0.214	0.349	2.112
σ		0.148	0.037	0.518	2.446	0.019	0.034	0.016	0.049	0.067
%RSD		1.607	1.262	4.542	2.143	5.825	7.147	7.636	14.020	3.181

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	0.147	-0.249	2.247	1.469	-0.200	-0.742	92.4%	1.692	1.818
2	21:06:37	0.578	0.017	1.716	1.376	-0.481	-1.060	92.9%	1.868	2.215
3	21:07:03	0.331	-0.096	2.195	0.831	-0.449	-1.210	93.0%	1.930	2.124
x		0.352	-0.109	2.053	1.225	-0.376	-1.004	92.8%	1.830	2.052
σ		0.216	0.133	0.293	0.345	0.154	0.239	0.3%	0.123	0.208
%RSD		61.380	121.800	14.250	28.120	40.780	23.820	0.3	6.737	10.120

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	1.699	2.178	-0.006	-0.837	-0.005	0.008	-0.006	90.4%	0.012
2	21:06:37	1.928	2.658	-0.007	-0.987	-0.006	-0.002	-0.016	90.8%	0.007
3	21:07:03	1.971	1.297	-0.000	-0.466	-0.006	-0.005	-0.011	92.8%	0.003
x		1.866	2.045	-0.004	-0.763	-0.006	0.001	-0.011	91.3%	0.007
σ		0.146	0.690	0.004	0.268	0.000	0.007	0.005	1.3%	0.005
%RSD		7.834	33.760	80.890	35.100	6.815	1173.000	43.170	1.4	62.840

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:06:12	0.316	-0.017	-0.015	101.100	100.900	92.8%	-0.010	-0.010	0.014
2	21:06:37	0.350	0.004	0.009	102.200	101.000	93.8%	-0.013	-0.011	0.019
3	21:07:03	0.191	0.007	-0.005	101.600	101.800	95.0%	-0.013	-0.012	0.016
x		0.286	-0.002	-0.004	101.600	101.200	93.9%	-0.012	-0.011	0.016
σ		0.084	0.013	0.012	0.590	0.509	1.1%	0.002	0.001	0.002
%RSD		29.330	716.400	314.900	0.581	0.503	1.2	15.870	8.642	13.540

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:06:12	0.026	0.016	90.3%
2	21:06:37	0.022	0.017	92.8%
3	21:07:03	0.019	0.018	93.7%
x		0.023	0.017	92.3%
σ		0.004	0.001	1.8%
%RSD		16.160	6.768	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-005 5/19/2017 21:11:07

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	99.1%	-0.011	28.680	26.990	┬4325.000	┬20670.000	┬20450.000	┬20600.000	28.730
2	21:11:59	97.5%	0.001	28.810	27.080	┬4327.000	┬20690.000	┬20760.000	┬20860.000	┬26.740
3	21:12:24	98.8%	-0.007	28.100	27.410	┬4350.000	┬20920.000	┬20730.000	┬20360.000	29.030
x		98.4%	-0.006	28.530	27.160	┬4334.000	┬20760.000	┬20650.000	┬20610.000	┬28.170
σ		0.9%	0.006	0.374	0.222	┬14.230	┬139.600	┬169.300	┬248.900	┬1.247
%RSD		0.9	101.200	1.312	0.818	┬0.328	┬0.672	┬0.820	┬1.208	┬4.426
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	┬5467.000	┬45050.000	┬2346.000	66910.000	┬66560.000	94.2%	1.209	0.284	0.520
2	21:11:59	┬5458.000	┬45940.000	┬2392.000	68230.000	┬67510.000	┬94.6%	1.445	0.412	0.524
3	21:12:24	┬5457.000	┬45790.000	┬2359.000	66910.000	┬66880.000	┬91.6%	1.384	0.394	0.547
x		┬5461.000	┬45590.000	┬2365.000	67350.000	┬66980.000	┬93.4%	1.346	0.363	0.530
σ		┬5.233	┬472.900	┬23.830	761.400	┬488.500	┬1.6%	0.123	0.069	0.015
%RSD		┬0.096	┬1.037	┬1.008	1.131	┬0.729	┬1.7	9.115	19.100	2.813
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	8.375	8.954	74.930	374.900	-1.288	1.020	0.158	0.336	3.470
2	21:11:59	8.149	8.922	┬74.310	368.900	-1.300	1.005	0.130	0.318	3.114
3	21:12:24	8.054	9.170	77.660	352.400	-1.266	0.896	0.152	0.319	3.350
x		8.193	9.015	┬75.630	365.400	-1.285	0.974	0.147	0.324	3.311
σ		0.165	0.135	┬1.781	11.650	0.017	0.068	0.015	0.010	0.182
%RSD		2.013	1.498	┬2.355	3.187	1.335	6.969	9.986	3.174	5.481
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	0.288	0.145	4.562	3.523	0.218	-0.152	89.6%	0.064	0.201
2	21:11:59	0.489	0.216	4.571	3.780	0.302	0.440	90.5%	0.190	0.162
3	21:12:24	0.360	0.145	4.459	4.335	-0.084	0.621	90.4%	0.053	0.193
x		0.379	0.169	4.531	3.879	0.145	0.303	90.2%	0.102	0.186
σ		0.102	0.041	0.062	0.415	0.203	0.404	0.5%	0.076	0.020
%RSD		26.960	24.470	1.377	10.690	139.600	133.400	0.5	74.640	11.010
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	0.182	2.568	-0.006	-0.865	-0.007	-0.001	-0.006	88.8%	-0.005
2	21:11:59	0.163	2.875	-0.004	-1.067	-0.001	-0.004	-0.009	89.5%	0.011
3	21:12:24	0.142	1.827	-0.004	-0.651	-0.006	0.008	-0.014	89.7%	0.002
x		0.162	2.423	-0.004	-0.861	-0.005	0.001	-0.010	89.3%	0.002
σ		0.020	0.539	0.001	0.208	0.003	0.006	0.004	0.5%	0.008
%RSD		12.460	22.240	23.920	24.190	62.250	596.600	38.190	0.5	348.600
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:11:33	0.334	-0.036	-0.047	184.800	183.300	90.6%	-0.006	-0.004	0.032
2	21:11:59	0.349	-0.028	-0.051	184.900	184.400	91.8%	-0.010	-0.006	0.032
3	21:12:24	0.237	-0.022	-0.036	183.400	182.600	93.7%	-0.005	-0.008	0.042
x		0.307	-0.029	-0.045	184.400	183.500	92.0%	-0.007	-0.006	0.035
σ		0.061	0.007	0.008	0.837	0.919	1.6%	0.003	0.002	0.006
%RSD		19.930	25.050	17.110	0.454	0.501	1.7	36.840	33.940	16.870
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	21:11:33	0.023	0.025	87.2%						
2	21:11:59	0.023	0.037	89.4%						
3	21:12:24	0.027	0.028	89.8%						
x		0.024	0.030	88.8%						
σ		0.002	0.006	1.4%						
%RSD		9.385	21.590	1.5						

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV Co 4ppb MW9459 5/19/2017 21:16:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	101.3%	3.557	3.124	3.027	T 682.400	T 680.100	633.300	616.300	1.962
2	21:17:21	106.1%	3.763	2.639	2.802	T 651.600	T 657.400	613.000	597.700	1.838
3	21:17:47	107.1%	3.641	3.174	2.735	T 656.600	T 655.200	609.800	592.400	1.909
x		104.8%	3.653	2.979	2.855	T 663.500	T 664.200	618.700	602.200	1.903
σ		3.1%	0.104	0.296	0.153	T 16.550	T 13.810	12.750	12.560	0.062
%RSD		3.0	2.835	9.933	5.349	T 2.494	T 2.079	2.061	2.086	3.277

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	42.460	265.100	774.500	735.300	634.800	98.3%	3.279	1.926	3.436
2	21:17:21	41.710	268.400	771.900	715.100	631.400	98.3%	3.502	2.077	3.528
3	21:17:47	41.070	277.800	785.800	729.000	645.400	98.4%	3.717	2.116	3.339
x		41.750	270.400	777.400	726.400	637.200	98.3%	3.499	2.040	3.435
σ		0.698	6.554	7.419	10.340	7.278	0.1%	0.219	0.101	0.094
%RSD		1.673	2.423	0.954	1.424	1.142	0.1	6.250	4.928	2.746

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	0.306	3.442	T 546.800	587.300	3.577	3.734	3.472	3.657	3.853
2	21:17:21	0.218	3.505	T 544.600	588.900	3.534	3.544	3.415	3.592	3.877
3	21:17:47	0.372	3.489	T 562.000	590.200	3.501	3.837	3.603	3.558	3.837
x		0.298	3.479	T 551.100	588.800	3.537	3.705	3.497	3.602	3.856
σ		0.077	0.033	T 9.461	1.422	0.038	0.149	0.097	0.051	0.020
%RSD		25.870	0.936	T 1.717	0.241	1.068	4.017	2.761	1.407	0.526

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	3.993	4.139	0.074	-0.571	4.097	-1.417	94.1%	0.363	0.478
2	21:17:21	3.886	4.174	0.013	-0.774	3.531	-0.002	96.6%	0.451	0.432
3	21:17:47	3.732	4.972	-0.290	-1.266	3.567	0.326	95.8%	0.465	0.586
x		3.871	4.428	-0.067	-0.870	3.732	-0.364	95.5%	0.427	0.499
σ		0.132	0.471	0.195	0.358	0.317	0.926	1.3%	0.055	0.079
%RSD		3.398	10.640	289.500	41.110	8.489	254.300	1.3	12.880	15.820

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	0.381	3.882	3.330	0.081	3.185	3.883	3.682	94.1%	2.048
2	21:17:21	0.411	3.974	3.366	-0.049	3.256	3.682	3.709	95.7%	2.049
3	21:17:47	0.434	3.867	3.417	-0.151	3.238	3.654	3.668	96.3%	2.006
x		0.409	3.908	3.371	-0.040	3.226	3.740	3.686	95.4%	2.034
σ		0.026	0.058	0.044	0.116	0.037	0.125	0.021	1.1%	0.025
%RSD		6.385	1.480	1.295	292.100	1.144	3.340	0.559	1.2	1.221

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:16:55	1.137	2.648	2.681	3.624	3.533	94.7%	3.348	3.545	3.375
2	21:17:21	1.155	2.678	2.729	3.515	3.580	95.8%	3.398	3.543	3.484
3	21:17:47	1.088	2.866	2.894	3.813	3.540	96.4%	3.458	3.617	3.487
x		1.127	2.730	2.768	3.651	3.551	95.6%	3.402	3.569	3.449
σ		0.035	0.118	0.112	0.151	0.025	0.9%	0.055	0.042	0.064
%RSD		3.082	4.331	4.039	4.131	0.712	0.9	1.625	1.180	1.858

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:16:55	3.265	3.271	94.4%
2	21:17:21	3.420	3.353	95.7%
3	21:17:47	3.563	3.517	97.9%
x		3.416	3.380	96.0%
σ		0.149	0.125	1.8%
%RSD		4.356	3.711	1.9

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV MW9444 5/19/2017 21:21:54 QC Status: WARNING (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	106.3%	0.373	23.880	23.080	156.300	39.100	38.270	36.340	35.280
2	21:22:46	108.1%	0.304	22.930	22.780	152.800	38.540	37.540	35.470	34.940
3	21:23:12	111.6%	0.340	23.860	23.210	150.800	37.330	36.730	33.900	34.960
x		108.7%	84.764%	94.226%	92.090%	76.647%	38.320	37.510	70.466%	87.656%
σ		2.7%	n/a	n/a	n/a	n/a	0.906	0.770	n/a	n/a
%RSD		2.4	10.200	2.306	0.960	1.813	2.364	2.051	3.508	0.547

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	T 83.330	185.400	189.000	190.400	159.800	98.6%	4.398	4.297	0.862
2	21:22:46	87.870	199.500	192.200	209.500	167.100	99.0%	4.412	4.352	0.878
3	21:23:12	T 82.580	212.400	191.700	186.400	167.300	98.5%	4.586	4.256	0.872
x		T 84.595%	199.100	95.469%	195.400	82.357%	98.7%	89.306%	86.029%	87.064%
σ		T n/a	13.500	n/a	12.360	n/a	0.2%	n/a	n/a	n/a
%RSD		T 3.378	6.782	0.886	6.324	2.601	0.2	2.351	1.125	0.967

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	0.222	4.344	14.470	15.790	4.334	4.634	1.158	1.173	9.616
2	21:22:46	0.186	4.274	12.140	14.780	4.295	4.665	1.145	1.246	9.487
3	21:23:12	0.215	4.345	12.130	14.510	4.406	4.573	1.089	1.204	9.360
x		0.208	86.412%	12.910	75.151%	86.901%	92.485%	1.131	120.788%	94.877%
σ		0.019	n/a	1.348	n/a	n/a	n/a	0.037	n/a	n/a
%RSD		9.231	0.943	10.440	4.491	1.304	1.018	3.236	3.026	1.352

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	0.846	0.937	0.081	-0.666	0.902	-0.997	95.2%	8.258	7.956
2	21:22:46	0.773	0.527	-0.147	-0.837	0.791	0.164	96.1%	8.855	8.647
3	21:23:12	0.805	0.366	-0.008	-1.358	0.750	-1.590	95.0%	9.004	8.777
x		80.818%	0.610	-0.025	-0.954	81.421%	-0.808	95.4%	8.706	84.596%
σ		n/a	0.294	0.115	0.360	n/a	0.893	0.6%	0.395	n/a
%RSD		4.499	48.250	465.200	37.760	9.635	110.500	0.6	4.536	5.216

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	8.062	0.751	0.857	-0.260	0.810	0.080	0.077	93.6%	3.047
2	21:22:46	8.342	1.002	0.862	-0.292	0.844	0.077	0.074	95.5%	3.069
3	21:23:12	8.663	0.487	0.852	-0.159	0.844	0.080	0.103	94.7%	3.194
x		8.356	0.747	85.721%	-0.237	0.833	0.079	84.628%	94.6%	3.103
σ		0.300	0.257	n/a	0.069	0.020	0.001	n/a	0.9%	0.079
%RSD		3.596	34.450	0.605	29.330	2.355	1.887	18.950	1.0	2.561

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:22:20	3.825	0.817	0.886	4.597	4.473	94.9%	0.395	0.410	0.960
2	21:22:46	4.038	0.824	0.798	4.500	4.372	96.5%	0.408	0.421	1.037
3	21:23:12	4.089	0.790	0.846	4.734	4.509	96.0%	0.409	0.420	1.028
x		79.682%	0.810	84.329%	92.209%	4.451	95.8%	0.404	83.427%	1.008
σ		n/a	0.018	n/a	n/a	0.071	0.8%	0.008	n/a	0.042
%RSD		3.512	2.243	5.187	2.547	1.591	0.8	1.985	1.426	4.194

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:22:20	0.988	1.002	95.3%
2	21:22:46	0.923	0.976	97.5%
3	21:23:12	1.063	0.989	97.7%
x		0.991	98.894%	96.8%
σ		0.070	n/a	1.3%
%RSD		7.074	1.336	1.3

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV2 MW9445 5/19/2017 21:27:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	105.1%	1.723	121.300	117.800	T 803.400	194.600	184.400	179.800	178.000
2	21:28:09	105.9%	1.782	123.700	117.100	T 806.500	196.900	186.700	179.300	182.600
3	21:28:35	106.9%	1.672	115.600	116.600	T 788.800	195.000	182.000	177.500	184.800
x		105.9%	1.726	120.200	117.200	T 799.600	195.500	184.400	178.800	181.800
σ		0.9%	0.055	4.203	0.579	T 9.472	1.251	2.312	1.194	3.453
%RSD		0.8	3.181	3.496	0.494	T 1.185	0.640	1.254	0.668	1.899

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	418.000	158.400	952.000	868.000	785.000	99.5%	21.400	20.990	4.219
2	21:28:09	T 426.800	174.800	974.800	920.100	812.600	97.2%	21.990	21.310	4.323
3	21:28:35	413.600	186.400	T 979.700	937.800	798.900	95.4%	22.370	21.380	4.300
x		T 419.500	173.200	T 968.800	908.600	798.800	97.4%	21.920	21.230	4.281
σ		T 6.721	14.060	T 14.790	36.250	13.800	2.0%	0.486	0.205	0.054
%RSD		T 1.602	8.116	T 1.526	3.990	1.728	2.1	2.219	0.965	1.272

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	0.070	21.250	83.190	87.940	21.220	23.120	4.326	4.637	45.810
2	21:28:09	0.255	21.500	86.190	87.250	21.730	22.960	4.156	4.645	45.300
3	21:28:35	0.254	21.770	88.700	86.440	21.810	22.380	4.249	4.424	44.000
x		0.193	21.510	86.030	87.210	21.590	22.820	4.244	4.569	45.040
σ		0.107	0.257	2.758	0.750	0.324	0.391	0.085	0.126	0.935
%RSD		55.160	1.195	3.206	0.860	1.499	1.713	2.006	2.750	2.076

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	4.529	4.320	0.098	-1.957	4.151	-0.697	95.0%	44.090	43.220
2	21:28:09	4.476	4.478	0.093	-1.049	4.470	-1.268	94.4%	46.220	46.390
3	21:28:35	4.776	4.731	-0.195	-0.977	3.683	-1.759	96.2%	48.050	47.030
x		4.594	4.510	-0.001	-1.328	4.101	-1.241	95.2%	46.120	45.550
σ		0.160	0.208	0.168	0.546	0.396	0.532	0.9%	1.978	2.041
%RSD		3.489	4.604	16730.000	41.120	9.660	42.850	1.0	4.289	4.480

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	42.410	3.797	4.273	-0.951	4.037	0.271	0.452	92.6%	15.720
2	21:28:09	44.840	1.980	4.257	-0.388	4.131	0.362	0.475	93.8%	16.090
3	21:28:35	46.760	2.443	4.140	-0.491	3.950	0.384	0.464	94.9%	15.690
x		44.670	2.740	4.223	-0.610	4.039	0.339	0.464	93.8%	15.830
σ		2.179	0.944	0.073	0.299	0.091	0.060	0.012	1.1%	0.222
%RSD		4.879	34.460	1.722	49.110	2.246	17.660	2.513	1.2	1.400

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:27:44	20.560	3.866	4.048	22.640	22.010	93.7%	2.041	2.192	4.331
2	21:28:09	20.570	4.136	4.131	22.650	22.110	95.4%	2.067	2.222	4.356
3	21:28:35	20.840	4.027	4.254	21.950	22.000	97.5%	2.102	2.164	4.348
x		20.650	4.010	4.144	22.410	22.040	95.5%	2.070	2.193	4.345
σ		0.160	0.136	0.104	0.404	0.064	1.9%	0.031	0.029	0.012
%RSD		0.773	3.386	2.500	1.801	0.289	2.0	1.484	1.319	0.288

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:27:44	4.262	4.208	94.8%
2	21:28:09	4.237	4.331	96.7%
3	21:28:35	4.288	4.319	98.3%
x		4.262	4.286	96.6%
σ		0.025	0.068	1.8%
%RSD		0.595	1.588	1.8

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9450 5/19/2017 21:32:42 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	87.5%	279.200	286.000	271.400	T 52060.000	T 49680.000	T 50420.000	T 52870.000	280.400
2	21:33:33	89.4%	270.000	278.300	270.700	T 52110.000	T 50400.000	T 50410.000	T 52120.000	277.200
3	21:33:59	90.2%	264.100	278.500	270.200	T 52470.000	T 51060.000	T 50750.000	T 52490.000	285.100
x		89.0%	90.365%	93.633%	90.259%	T 87.019%	T 50380.000	T 50530.000	T 87.485%	93.634%
σ		1.4%	n/a	n/a	n/a	T n/a	T 688.000	T 191.900	T n/a	n/a
%RSD		1.5	2.798	1.563	0.220	T 0.428	T 1.366	T 0.380	T 0.720	1.405

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	T 2771.000	142.400	T 59800.000	53150.000	T 53280.000	T 90.9%	269.600	274.500	264.100
2	21:33:33	T 2746.000	156.100	T 61360.000	53230.000	T 53310.000	91.2%	269.200	279.500	272.400
3	21:33:59	T 2784.000	172.600	T 62010.000	53670.000	T 53840.000	90.6%	277.100	284.800	276.900
x		T 92.243%	157.100	T 101.760%	53350.000	T 89.133%	T 90.9%	90.658%	93.203%	90.384%
σ		T n/a	15.130	T n/a	277.400	T n/a	T 0.3%	n/a	n/a	n/a
%RSD		T 0.697	9.632	T 1.864	0.520	T 0.591	T 0.3	1.642	1.852	2.385

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	-4.815	T 265.300	T 50590.000	T 57940.000	269.400	266.400	247.600	273.400	261.100
2	21:33:33	-6.330	T 269.500	T 51390.000	T 58220.000	268.600	261.300	249.500	266.700	257.500
3	21:33:59	-7.197	T 274.400	T 52040.000	T 59080.000	271.200	264.600	253.700	269.100	260.600
x		-6.114	T 89.915%	T 85.567%	T 97.353%	89.918%	88.044%	250.200	89.908%	86.573%
σ		1.206	T n/a	T n/a	T n/a	n/a	n/a	3.124	n/a	n/a
%RSD		19.720	T 1.688	T 1.421	T 1.011	0.491	0.985	1.249	1.262	0.742

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	266.800	251.600	0.696	-1.093	269.900	-1.335	87.1%	273.400	271.800
2	21:33:33	266.300	249.100	1.008	-0.817	262.900	-1.538	88.4%	284.800	285.100
3	21:33:59	270.700	253.600	0.793	-0.911	264.700	2.340	88.5%	303.200	305.200
x		89.305%	251.400	0.833	-0.941	88.603%	-0.178	88.0%	95.713%	95.791%
σ		n/a	2.231	0.160	0.140	n/a	2.183	0.8%	n/a	n/a
%RSD		0.898	0.887	19.210	14.930	1.369	1227.000	0.9	5.240	5.841

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	271.000	257.900	268.200	0.661	243.900	253.300	263.800	85.4%	282.100
2	21:33:33	281.800	259.700	265.000	-4.423	242.800	254.500	263.100	87.7%	287.100
3	21:33:59	298.800	257.400	267.700	-0.410	248.200	260.400	264.200	87.0%	290.100
x		94.626%	258.300	88.991%	-1.391	245.000	256.100	87.900%	86.7%	95.485%
σ		n/a	1.196	n/a	2.681	2.898	3.807	n/a	1.2%	n/a
%RSD		4.940	0.463	0.646	192.800	1.183	1.487	0.229	1.4	1.413

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:33:07	271.900	253.800	260.900	269.600	267.500	88.9%	269.600	T 270.500	T 276.300
2	21:33:33	275.400	257.100	264.300	269.400	268.100	90.5%	269.700	T 274.900	T 277.900
3	21:33:59	279.200	263.900	273.300	275.100	273.700	91.6%	273.600	T 279.100	T 283.400
x		91.825%	86.086%	88.727%	90.457%	89.913%	90.3%	90.323%	T 91.615%	T 93.066%
σ		n/a	n/a	n/a	n/a	n/a	1.4%	n/a	T n/a	T n/a
%RSD		1.321	2.005	2.415	1.188	1.261	1.5	0.845	T 1.562	T 1.333

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:33:07	273.100	263.500	83.3%
2	21:33:33	271.400	268.700	85.9%
3	21:33:59	278.900	273.800	86.9%
x		91.481%	89.552%	85.4%
σ		n/a	n/a	1.8%
%RSD		1.443	1.912	2.2

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 5/19/2017 21:38:03 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	101.9%	0.010	1.142	1.433	-0.173	0.771	0.933	0.876	-1.198
2	21:38:55	103.1%	0.038	1.162	1.088	-0.197	1.077	1.004	0.493	-1.030
3	21:39:20	106.9%	0.016	0.585	T -22.020	-1.071	0.553	0.215	0.556	-1.074
x		104.0%	0.021	0.963	T -6.500	-0.480	0.800	0.717	0.642	-1.101
σ		2.6%	0.015	0.328	T 13.440	0.511	0.263	0.437	0.205	0.087
%RSD		2.5	68.890	34.050	T 206.800	106.500	32.900	60.870	31.980	7.920
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	7.261	113.900	2.414	5.080	-1.580	97.8%	-0.019	0.083	-0.016
2	21:38:55	T -2.002	120.000	2.862	2.935	-1.640	96.8%	-0.055	0.107	0.000
3	21:39:20	6.930	132.700	1.666	0.367	-2.084	96.1%	-0.040	0.112	-0.017
x		T 4.063	122.200	2.314	2.794	-1.768	96.9%	-0.038	0.100	-0.011
σ		T 5.255	9.567	0.604	2.360	0.275	0.9%	0.018	0.015	0.009
%RSD		T 129.300	7.828	26.110	84.460	15.570	0.9	47.630	15.140	87.300
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	0.033	0.018	-4.310	2.144	0.017	-0.020	-0.019	0.004	-0.019
2	21:38:55	0.016	0.021	-3.666	1.286	0.011	-0.013	-0.017	-0.018	0.002
3	21:39:20	0.009	0.019	-3.493	1.125	0.013	-0.013	-0.011	-0.020	-0.012
x		0.019	0.019	-3.823	1.518	0.013	-0.016	-0.016	-0.011	-0.010
σ		0.012	0.001	0.430	0.548	0.003	0.004	0.004	0.013	0.011
%RSD		63.290	7.667	11.260	36.080	22.440	26.250	25.960	119.500	111.500
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	-0.029	0.044	0.256	-1.416	-0.234	-0.671	94.6%	0.375	0.514
2	21:38:55	0.036	-0.101	0.098	-1.259	0.030	-1.104	94.0%	0.409	0.677
3	21:39:20	-0.003	0.272	0.179	-0.751	-0.232	-1.141	95.4%	0.378	0.617
x		0.001	0.072	0.178	-1.142	-0.145	-0.972	94.7%	0.387	0.602
σ		0.032	0.188	0.079	0.348	0.152	0.261	0.7%	0.019	0.082
%RSD		2324.000	262.500	44.390	30.450	104.300	26.850	0.7	4.856	13.700
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	0.446	0.177	0.016	-0.073	0.001	0.015	0.005	94.2%	0.131
2	21:38:55	0.570	0.006	0.015	-0.006	0.005	0.033	0.011	95.4%	0.142
3	21:39:20	0.547	-0.162	0.018	0.088	0.006	0.011	0.010	95.8%	0.145
x		0.521	0.007	0.016	0.003	0.004	0.020	0.009	95.1%	0.139
σ		0.066	0.170	0.002	0.081	0.003	0.012	0.003	0.8%	0.007
%RSD		12.710	2345.000	9.657	2659.000	74.470	60.570	34.750	0.8	5.381
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:38:29	0.221	0.290	0.293	0.002	0.015	94.4%	0.024	0.024	0.014
2	21:38:55	0.207	0.316	0.342	0.011	0.017	94.7%	0.020	0.033	0.015
3	21:39:20	0.120	0.308	0.341	0.002	0.001	96.1%	0.020	0.027	0.007
x		0.183	0.304	0.325	0.005	0.011	95.1%	0.021	0.028	0.012
σ		0.055	0.013	0.028	0.005	0.008	0.9%	0.002	0.005	0.004
%RSD		29.920	4.393	8.636	103.700	75.350	1.0	10.160	17.020	35.620
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	21:38:29	0.016	0.014	94.6%						
2	21:38:55	0.012	0.007	96.7%						
3	21:39:20	0.004	0.009	98.3%						
x		0.010	0.010	96.5%						
σ		0.006	0.004	1.9%						
%RSD		59.880	37.200	1.9						

PDF created with pdfFactory trial version www.pdffactory.com

LR MW9413 5/19/2017 21:43:23 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	72.9%	M 1006.000	M 1878.000	TM 1880.000	TM 116500.000	TM 108500.000	TM 110700.000	TM 120700.000	TM 113200.000
2	21:44:15	72.4%	M 986.500	M 1809.000	TM 1844.000	TM 113700.000	TM 109600.000	TM 110500.000	TM 120200.000	TM 112400.000
3	21:44:41	73.8%	M 984.600	M 1836.000	TM 1842.000	TM 109100.000	TM 104400.000	TM 104600.000	TM 116200.000	TM 109600.000
x		73.0%	M 99.238%	M 1841.000	TM 1855.000	TM 94.226%	TM 107500.000	TM 108600.000	TM 99.207%	TM 93.134%
σ		0.7%	M n/a	M 34.400	TM 21.560	TM n/a	TM 2713.000	TM 3482.000	TM n/a	TM n/a
%RSD		1.0	M 1.201	M 1.868	TM 1.162	TM 3.303	TM 2.524	TM 3.207	TM 2.062	TM 1.690

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	19.780	3284.000	TM 126300.000	M 114500.000	TM 114100.000	83.8%	M 1950.000	TM 1996.000	TM 1903.000
2	21:44:15	20.090	3343.000	TM 128700.000	M 113900.000	TM 113300.000	83.4%	M 1945.000	TM 1996.000	TM 1908.000
3	21:44:41	17.440	3329.000	TM 125300.000	M 112300.000	TM 111200.000	T 85.1%	M 1889.000	TM 1923.000	TM 1854.000
x		19.110	3319.000	TM 105.623%	M 113600.000	TM 94.050%	T 84.1%	M 1928.000	TM 98.592%	TM 94.413%
σ		1.449	30.830	TM n/a	M 1126.000	TM n/a	T 0.9%	M 33.700	TM n/a	TM n/a
%RSD		7.585	0.929	TM 1.375	M 0.992	TM 1.353	T 1.1	M 1.748	TM 2.124	TM 1.568

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	-37.060	TM 1868.000	TM 103700.000	TM 121700.000	TM 1927.000	TM 1977.000	TM 1756.000	TM 1981.000	M 1752.000
2	21:44:15	-37.130	TM 1887.000	TM 105100.000	TM 122100.000	TM 1936.000	TM 1947.000	TM 1747.000	M 1910.000	M 1726.000
3	21:44:41	-35.100	TM 1866.000	TM 103300.000	TM 120500.000	TM 1887.000	TM 1894.000	TM 1702.000	TM 1878.000	M 1691.000
x		-36.430	TM 93.675%	TM 104100.000	TM 101.167%	TM 95.830%	TM 96.979%	TM 1735.000	TM 96.139%	M 86.155%
σ		1.156	TM n/a	TM 971.000	TM n/a	TM n/a	TM n/a	TM 28.870	TM n/a	M n/a
%RSD		3.174	TM 0.632	TM 0.933	TM 0.679	TM 1.358	TM 2.184	TM 1.664	TM 2.738	M 1.768

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	M 1819.000	M 1625.000	3.771	0.412	M 1708.000	3.721	78.3%	TM 2336.000	M 2242.000
2	21:44:15	M 1799.000	M 1617.000	3.893	0.044	M 1638.000	2.398	79.1%	TM 2396.000	M 2297.000
3	21:44:41	M 1781.000	M 1608.000	2.373	0.314	M 1616.000	5.225	79.3%	TM 2360.000	M 2277.000
x		M 89.982%	M 1617.000	3.346	0.257	M 82.709%	3.782	78.9%	TM 2364.000	M 113.587%
σ		M n/a	M 8.494	0.844	0.191	M n/a	1.414	0.5%	TM 30.040	M n/a
%RSD		M 1.062	M 0.525	25.240	74.270	M 2.915	37.400	0.7	TM 1.271	M 1.209

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	TM 2293.000	M 1720.000	31.050	-12.010	28.800	M 1778.000	TM 1885.000	78.8%	TM 2127.000
2	21:44:15	TM 2344.000	M 1733.000	30.710	-16.530	28.640	M 1779.000	TM 1862.000	80.3%	TM 2142.000
3	21:44:41	TM 2330.000	M 1704.000	30.290	-10.150	28.330	M 1767.000	TM 1839.000	81.2%	TM 2149.000
x		TM 2322.000	M 1719.000	10.227%	-12.900	28.590	M 1774.000	TM 93.100%	80.1%	TM 2139.000
σ		TM 26.160	M 14.470	n/a	3.283	0.238	M 6.683	TM n/a	1.2%	TM 11.240
%RSD		TM 1.126	M 0.842	1.241	25.460	0.831	M 0.377	TM 1.216	1.5	TM 0.525

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:43:49	TM 2021.000	TM 928.800	M 957.700	TM 10840.000	TM 10500.000	80.5%	TM 976.300	TM 964.700	TM 1961.000
2	21:44:15	TM 2049.000	TM 934.100	TM 971.100	TM 10870.000	TM 10490.000	82.0%	TM 968.300	TM 975.400	TM 1957.000
3	21:44:41	TM 2051.000	TM 927.400	M 954.000	TM 10730.000	TM 10340.000	83.7%	TM 969.500	TM 965.200	TM 1945.000
x		TM 102.020%	TM 930.100	TM 96.093%	TM 108.161%	TM 10440.000	82.1%	TM 971.400	TM 96.842%	TM 1954.000
σ		TM n/a	TM 3.558	TM n/a	TM n/a	TM 86.660	1.6%	TM 4.288	TM n/a	TM 8.363
%RSD		TM 0.813	TM 0.383	TM 0.937	TM 0.680	TM 0.830	1.9	TM 0.441	TM 0.624	TM 0.428

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:43:49	TM 2047.000	TM 1883.000	76.8%
2	21:44:15	TM 2036.000	TM 1895.000	79.4%
3	21:44:41	TM 2021.000	TM 1881.000	80.8%
x		TM 2035.000	TM 94.306%	79.0%
σ		TM 13.040	TM n/a	2.1%
%RSD		TM 0.641	TM 0.403	2.6

PDF created with pdfFactory trial version www.pdffactory.com

IS MW9458 5/19/2017 21:48:47

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	101.7%	0.070	9.395	9.793	21.570	8.754	8.520	8.502	4.475
2	21:49:39	105.0%	0.115	12.870	9.051	17.750	7.234	6.434	6.775	3.688
3	21:50:05	106.9%	0.069	8.085	8.621	13.400	5.482	5.352	5.670	2.797
x		104.6%	0.085	10.120	9.155	17.570	7.157	6.769	6.983	3.653
σ		2.6%	0.026	2.475	0.593	4.091	1.637	1.610	1.427	0.840
%RSD		2.5	31.000	24.460	6.477	23.280	22.880	23.790	20.440	22.980

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	7.708	94.960	10.400	14.470	13.140	100.6%	0.185	0.202	0.097
2	21:49:39	T -1.453	100.000	7.687	15.630	10.080	100.9%	0.205	0.167	0.068
3	21:50:05	T -1.483	103.800	5.193	17.450	5.639	99.8%	0.065	0.169	0.053
x		T 1.591	99.600	7.760	15.850	9.622	100.4%	0.152	0.179	0.073
σ		T 5.298	4.455	2.603	1.500	3.774	0.5%	0.076	0.020	0.023
%RSD		T 333.000	4.473	33.550	9.462	39.220	0.5	49.960	10.930	31.180

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	0.030	0.182	4.918	9.317	0.080	0.129	0.158	0.109	0.184
2	21:49:39	0.056	0.159	1.850	7.033	0.076	0.105	0.118	0.117	0.142
3	21:50:05	0.042	0.119	1.403	4.859	0.057	0.078	0.101	0.096	0.099
x		0.043	0.153	2.724	7.069	0.071	0.104	0.126	0.107	0.141
σ		0.013	0.032	1.914	2.229	0.012	0.025	0.029	0.010	0.043
%RSD		29.850	20.910	70.260	31.540	17.230	24.380	23.390	9.606	30.220

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	0.048	0.166	0.116	-1.031	-0.146	-1.638	96.5%	2.268	2.359
2	21:49:39	0.141	0.096	0.262	-0.682	0.106	0.077	97.9%	2.453	2.673
3	21:50:05	0.096	0.039	0.065	-0.462	0.188	-0.514	98.3%	2.256	2.602
x		0.095	0.101	0.148	-0.725	0.050	-0.691	97.6%	2.326	2.545
σ		0.046	0.063	0.102	0.287	0.174	0.871	0.9%	0.111	0.165
%RSD		48.910	62.950	69.230	39.570	352.200	126.000	1.0	4.754	6.464

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	2.210	-0.053	0.495	0.078	0.430	0.060	0.092	96.0%	2.003
2	21:49:39	2.509	0.177	0.493	-0.073	0.488	0.055	0.064	97.6%	1.899
3	21:50:05	2.354	-0.725	0.449	0.348	0.460	0.069	0.050	98.1%	1.813
x		2.358	-0.200	0.479	0.118	0.459	0.061	0.069	97.2%	1.905
σ		0.150	0.469	0.026	0.213	0.029	0.007	0.022	1.1%	0.095
%RSD		6.360	233.900	5.444	181.100	6.273	11.420	31.620	1.1	4.982

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:49:13	2.476	0.204	0.165	0.306	0.332	95.8%	0.270	0.274	0.098
2	21:49:39	2.610	0.202	0.203	0.309	0.254	97.4%	0.238	0.234	0.090
3	21:50:05	2.256	0.183	0.158	0.302	0.237	98.8%	0.240	0.252	0.089
x		2.447	0.196	0.176	0.306	0.274	97.3%	0.250	0.253	0.092
σ		0.178	0.011	0.024	0.004	0.051	1.5%	0.018	0.020	0.005
%RSD		7.289	5.794	13.920	1.228	18.550	1.5	7.137	7.884	5.692

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:49:13	0.096	0.104	96.5%
2	21:49:39	0.112	0.090	99.1%
3	21:50:05	0.082	0.079	100.7%
x		0.097	0.091	98.8%
σ		0.015	0.013	2.1%
%RSD		15.460	13.840	2.1

PDF created with pdfFactory trial version www.pdffactory.com

rinse 5/19/2017 21:54:11

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	108.1%	0.061	2.872	2.863	7.512	3.707	4.401	3.703	1.702
2	21:55:04	110.9%	0.040	2.645	2.738	8.060	4.328	4.423	3.651	2.092
3	21:55:30	109.0%	0.061	2.387	2.590	8.619	5.055	5.087	4.743	2.524
x		109.3%	0.054	2.635	2.731	8.064	4.364	4.637	4.032	2.106
σ		1.5%	0.012	0.243	0.137	0.554	0.675	0.390	0.616	0.411
%RSD		1.3	22.480	9.213	5.000	6.865	15.470	8.403	15.280	19.530

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	T 1.386	79.890	3.425	8.914	3.925	101.3%	-0.050	0.168	0.070
2	21:55:04	6.563	84.920	3.195	6.484	5.643	100.7%	0.064	0.129	0.040
3	21:55:30	5.261	92.110	2.735	14.880	6.108	99.9%	-0.028	0.165	0.038
x		T 4.403	85.640	3.118	10.090	5.225	100.6%	-0.005	0.154	0.049
σ		T 2.693	6.141	0.351	4.322	1.150	0.7%	0.060	0.022	0.018
%RSD		T 61.160	7.170	11.270	42.820	22.000	0.7	1206.000	14.170	36.400

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	0.006	0.095	-1.489	3.363	0.053	0.077	0.067	0.053	0.080
2	21:55:04	0.034	0.093	0.288	2.367	0.057	0.078	0.064	0.063	0.088
3	21:55:30	0.029	0.103	1.390	3.176	0.063	0.093	0.066	0.088	0.095
x		0.023	0.097	0.063	2.969	0.058	0.083	0.066	0.068	0.088
σ		0.015	0.006	1.453	0.529	0.005	0.009	0.002	0.018	0.007
%RSD		65.710	5.714	2305.000	17.830	9.061	11.070	2.504	26.840	8.351

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	-0.011	0.431	0.089	-1.352	-0.120	-0.044	97.2%	0.232	0.355
2	21:55:04	0.018	0.252	0.102	-0.943	-0.310	-0.358	97.9%	0.296	0.348
3	21:55:30	0.060	0.065	0.251	-0.738	-0.128	-0.879	96.0%	0.353	0.427
x		0.022	0.249	0.147	-1.011	-0.186	-0.427	97.0%	0.293	0.376
σ		0.035	0.183	0.090	0.313	0.108	0.422	0.9%	0.060	0.044
%RSD		156.800	73.370	61.030	30.950	58.040	98.800	1.0	20.530	11.580

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	0.168	-0.367	0.272	0.197	0.260	0.051	0.042	96.4%	0.639
2	21:55:04	0.334	-0.458	0.291	0.216	0.225	0.073	0.053	98.3%	0.752
3	21:55:30	0.367	-0.061	0.280	0.050	0.255	0.042	0.043	96.4%	0.678
x		0.290	-0.295	0.281	0.154	0.247	0.055	0.046	97.0%	0.690
σ		0.106	0.208	0.010	0.091	0.019	0.016	0.006	1.1%	0.057
%RSD		36.690	70.460	3.385	58.930	7.706	29.400	13.110	1.1	8.324

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	21:54:37	0.718	0.037	0.015	0.234	0.197	97.3%	0.118	0.132	0.058
2	21:55:04	0.769	0.044	0.081	0.204	0.165	99.0%	0.132	0.136	0.059
3	21:55:30	0.893	0.046	0.073	0.225	0.224	97.5%	0.133	0.151	0.068
x		0.793	0.043	0.056	0.221	0.195	97.9%	0.128	0.140	0.062
σ		0.090	0.005	0.036	0.016	0.030	0.9%	0.008	0.010	0.006
%RSD		11.300	11.820	63.880	7.071	15.170	1.0	6.398	7.118	9.047

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	21:54:37	0.054	0.055	97.6%
2	21:55:04	0.059	0.054	99.6%
3	21:55:30	0.077	0.072	98.3%
x		0.063	0.060	98.5%
σ		0.012	0.010	1.0%
%RSD		19.550	16.190	1.0

PDF created with pdfFactory trial version www.pdffactory.com

rinse 5/19/2017 21:59:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	111.5%	0.033	1.557	1.355	4.791	3.040	2.893	2.556	1.336
2	22:00:27	113.0%	0.065	0.782	1.069	4.939	3.372	3.291	2.755	1.459
3	22:00:53	114.5%	0.035	0.547	1.067	4.469	2.935	3.194	2.746	1.270
x		113.0%	0.044	0.962	1.164	4.733	3.116	3.126	2.686	1.355
σ		1.5%	0.018	0.528	0.166	0.241	0.228	0.208	0.112	0.096
%RSD		1.3	39.560	54.930	14.250	5.082	7.321	6.646	4.175	7.084

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	T -0.566	65.600	1.706	11.670	1.795	101.4%	-0.044	0.138	0.039
2	22:00:27	T -1.639	68.700	1.900	13.010	2.658	101.0%	-0.001	0.129	0.035
3	22:00:53	T 2.118	70.870	-0.397	11.850	1.550	103.4%	-0.052	0.134	0.039
x		T -0.029	68.390	1.069	12.180	2.001	101.9%	-0.032	0.134	0.038
σ		T 1.935	2.647	1.274	0.725	0.582	1.3%	0.027	0.004	0.002
%RSD		T 6653.000	3.871	119.100	5.954	29.070	1.3	85.380	3.357	5.627

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	0.008	0.075	-0.363	2.614	0.038	0.043	0.029	0.047	0.029
2	22:00:27	0.032	0.078	-0.386	0.263	0.046	0.055	0.032	0.048	0.061
3	22:00:53	0.017	0.072	-3.474	1.679	0.036	0.055	0.046	0.053	0.006
x		0.019	0.075	-1.407	1.519	0.040	0.051	0.036	0.049	0.032
σ		0.012	0.003	1.789	1.183	0.005	0.007	0.009	0.004	0.027
%RSD		65.390	4.018	127.200	77.930	13.710	13.900	26.470	7.120	85.070

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	0.061	-0.235	0.149	-1.208	0.326	-0.959	98.3%	-0.162	0.065
2	22:00:27	0.006	-0.301	-0.149	-0.563	-0.278	-0.151	100.1%	-0.125	0.018
3	22:00:53	0.055	-0.267	-0.117	-1.427	-0.222	-0.583	99.8%	0.021	0.048
x		0.041	-0.268	-0.039	-1.066	-0.058	-0.564	99.4%	-0.089	0.044
σ		0.030	0.033	0.163	0.449	0.333	0.404	0.9%	0.097	0.024
%RSD		73.770	12.250	419.700	42.150	577.700	71.630	1.0	109.000	54.730

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	-0.107	0.314	0.109	-0.110	0.110	0.054	0.045	97.9%	0.292
2	22:00:27	-0.074	-0.159	0.100	0.070	0.104	0.053	0.060	98.9%	0.349
3	22:00:53	-0.036	0.344	0.099	-0.105	0.092	0.049	0.052	100.4%	0.436
x		-0.072	0.167	0.103	-0.048	0.102	0.052	0.052	99.1%	0.359
σ		0.036	0.282	0.005	0.102	0.009	0.002	0.007	1.3%	0.072
%RSD		49.490	169.400	5.185	211.800	8.933	4.409	14.330	1.3	20.090

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	22:00:01	0.505	0.011	-0.016	0.168	0.148	97.0%	0.095	0.090	0.042
2	22:00:27	0.529	0.020	-0.026	0.182	0.166	99.3%	0.096	0.102	0.053
3	22:00:53	0.554	0.026	-0.022	0.137	0.170	100.8%	0.091	0.096	0.049
x		0.529	0.019	-0.021	0.162	0.161	99.0%	0.094	0.096	0.048
σ		0.024	0.007	0.005	0.023	0.012	1.9%	0.003	0.006	0.006
%RSD		4.616	38.300	24.250	14.190	7.330	2.0	2.824	6.094	11.900

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	22:00:01	0.036	0.047	98.1%
2	22:00:27	0.035	0.037	99.7%
3	22:00:53	0.051	0.044	101.3%
x		0.041	0.042	99.7%
σ		0.009	0.005	1.6%
%RSD		22.300	12.090	1.6

Performance Report

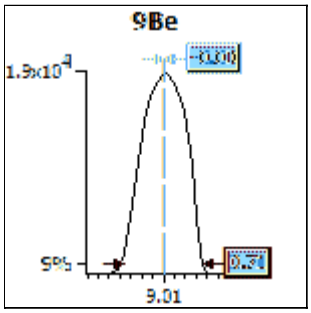
PDF created with pdfFactory trial version www.pdffactory.com

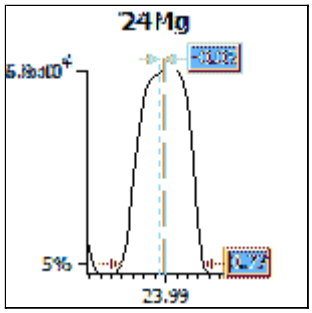
Performance Report

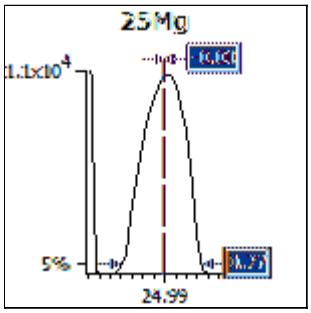
Sample details
Acquired at : 6/6/2017 11:21:05
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

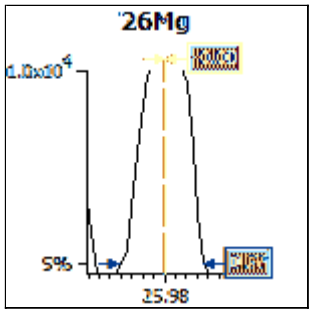
Mass Calibration verification

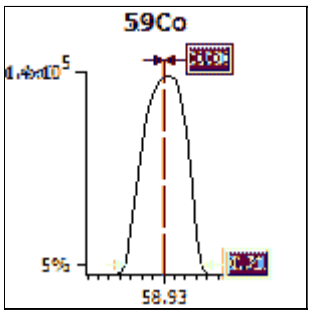
Acquisition parameters
Sweeps : 10
Dwell : 10.0 mSecs
Point spacing : 0.05 amu
Peak width measured at 5% of the peak maximum

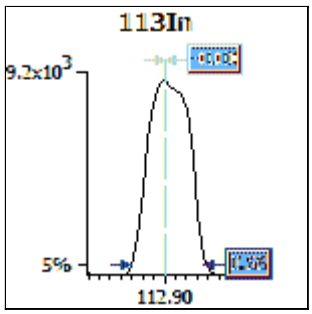


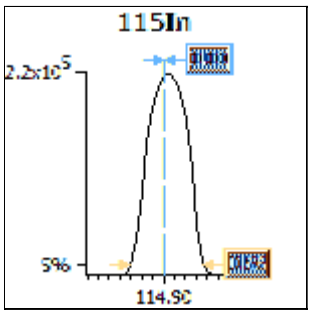


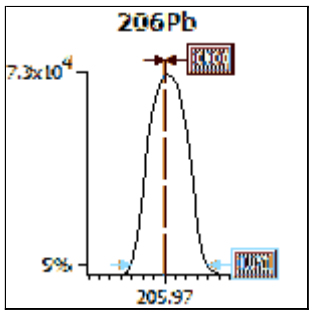


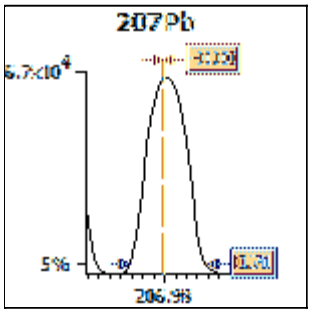


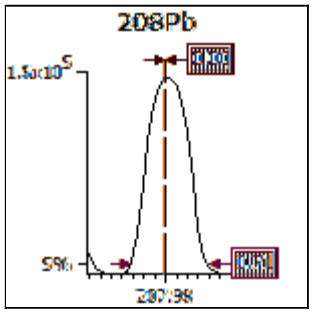












Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
9Be	0.85	0.65	0.10	0.71	-0.00
24Mg	0.85	0.65	0.10	0.77	-0.05
25Mg	0.85	0.65	0.10	0.77	-0.00
26Mg	0.85	0.65	0.10	0.77	-0.00
59Co	0.85	0.65	0.10	0.71	0.00
113In	0.85	0.65	0.10	0.66	-0.00
115In	0.85	0.65	0.10	0.66	0.00
206Pb	0.85	0.65	0.10	0.71	0.00
207Pb	0.85	0.65	0.10	0.71	-0.00
208Pb	0.85	0.65	0.10	0.71	0.00

PDF created with pdfFactory trial version www.pdffactory.com

Sample details
Acquired at : 6/6/2017 11:21:05
Report name : Shealy Performance Report ICPMS2 [11/14/2016 11:21:19]

Tune conditions

Major	
Extraction	-98.0
Lens 1	-1043
Lens 2	-82.4
Focus	17.1
D1	-38.4
D2	-144
Pole Bias	1.0
Hexapole Bias	-4.0
Nebuliser	0.65

Minor	
Lens 3	-197.6
Forward power	1404
Horizontal	119
Vertical	645
DA	-58.8
Cool	13.0
Auxiliary	0.80
Sampling Depth	170

Global	
Standard resolution	100
High resolution	115
Analogue Detector	2300
PC Detector	3625

Add. Gases

Sensitivity and stability results

Acquisition parameters

Sweeps : 130

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	56Ar O	59Co	136Ba++	101Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	-	5.0%	-	-
	Countrate	-	>5000	>1000	>1000	>1000	-	>10000	-	-
1	11:21:41	0.000	18367.865	75313.196	10104.733	11994.534	257062.44	133879.26	415.397	0.000
2	11:22:13	0.000	17952.210	74879.506	9862.091	11768.009	253312.24	132419.73	412.319	0.000
3	11:22:45	0.000	18000.021	76374.215	9910.619	11809.615	254523.60	132925.79	387.703	0.769
4	11:23:16	0.000	17894.375	75059.041	10068.528	12039.994	253034.32	132079.76	392.318	0.000
5	11:23:48	0.000	18008.503	75865.839	10023.081	12043.847	251786.58	132719.76	410.781	0.000
x		0.000	18044.595	75498.359	9993.810	11931.200	253943.84	132804.86	403.704	0.154
σ		0.00	186.34	614.90	103.70	132.24	1996.35	680.13	12.72	0.34
%RSD		0.000	1.033	0.814	1.038	1.108	0.786	0.512	3.150	223.607

Run	Time	113In	115In	138Ba	140Ce	156Ce O	206Pb	207Pb	208Pb	220Bkg
Dwell (mSecs)		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Limits	%RSD	5.0%	5.0%	-	-	-	5.0%	5.0%	5.0%	-
	Countrate	>1000	>10000	-	-	-	>10000	>10000	>10000	<2
1	11:21:41	9387.615	219803.84	1473.996	218379.43	4071.913	75055.932	65373.561	160782.61	0.000
2	11:22:13	9473.111	219150.65	1403.213	218233.59	4061.907	74563.192	65694.133	160923.38	0.000
3	11:22:45	9559.378	220290.60	1420.139	218749.57	4061.138	75287.547	65795.043	160866.76	0.000
4	11:23:16	9225.099	219041.27	1346.279	217672.47	4025.733	75177.957	65725.182	160162.96	0.000
5	11:23:48	9359.887	218606.90	1380.901	217875.36	4066.525	74854.635	65494.647	159922.35	0.000
x		9401.018	219378.65	1404.906	218182.08	4057.443	74987.853	65616.513	160531.61	0.000
σ		125.59	665.93	47.49	423.51	18.24	286.65	175.77	457.14	0.00
%RSD		1.336	0.304	3.380	0.194	0.450	0.382	0.268	0.285	0.000

Ratio results

Run	Time	56Ar O/59Co	136Ba++/138Ba	115In/101Bkg	156Ce O/140Ce
Ratio limits		-	-	-	-
1	11:21:41	1.920	0.282	INF	0.019
2	11:22:13	1.913	0.294	INF	0.019
3	11:22:45	1.915	0.273	286377.77	0.019
4	11:23:16	1.916	0.291	INF	0.018
5	11:23:48	1.897	0.297	INF	0.019
x		1.9121	0.2875	286377.77	0.0186
σ		0.01	0.01	0.00	0.00
%RSD		0.4601	3.4668	0.0000	0.3679

Result : The performance report passed.

PDF created with pdfFactory trial version www.pdffactory.com

FORM 11-IN

ICP-MS INTERNAL STANDARD ASSOCIATION

Lab Name: Shealy Environmental Services, I **Contract:**

Lab Code: Shealy **Case No.:** **MA No.:** **SDG No.:**

Instrument ID: ICPMS2

Run Batch: MS2060617A 6020A 6020B, gen **Date:** 06/06/2017

Analyte	Assoc. Internal Standard 1	Assoc. Internal Standard 2
Aluminum	45Sc	
Antimony	115In	159Tb
Arsenic	45Sc	89Y
Barium	115In	159Tb
Beryllium	6Li	45Sc
Boron	45Sc	
Cadmium	209Bi	
Calcium	6Li	45Sc
Chromium	45Sc	89Y
Cobalt	45Sc	89Y
Copper	209Bi	
Iron	45Sc	
Lead	159Tb	
Magnesium	6Li	45Sc
Manganese	45Sc	89Y
Molybdenum	45Sc	
Nickel	115In	
Potassium	45Sc	
Selenium	209Bi	
Silicon	6Li	
Silver	209Bi	
Sodium	45Sc	
Thallium	159Tb	
Tin	115In	159Tb
Titanium	45Sc	89Y
Vanadium	45Sc	89Y
Zinc	209Bi	

Experiment Details

Description	PlasmaLab Template BlankExperiment
Template Filename	C:\Program Files\Thermo Fisher\PlasmaLab\data\MS2013017C 6020A.tee
Created By User	DemoX
Analyte Database	200_8.tea
Creation Timestamp	12/1/2004 11:33:01
Last Edited By	EQI.IM
Last Edit Timestamp	6/7/2017 08:18:20
Instrument Detector	Simultaneous
Database Version	3.51
Acquisition Mode	Unknown

Numerical Results report key (text indicates meaning)

Blue text indicates that cell is a statistic.
Underlining indicates that a data warning flag is set.

Column headings
- No flag
- Semi Quant
- Standard Addition
- Multi Element

Result cells
- Internal Standard
- Excluded
- QC Warning
- QC Failure

Transient TRA only:
- Peak Not Found
- Manually Edited
- Merged Peak

Data warning flags
I - Invalid calibration
T - Tripped
F - Interference correction failed
M - Result over max
V - Valley integration failed
D - Different method used

Fully Quantitative Concentrations

Id	Label	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al	28Si
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	0.400	25.000	25.000	200.000				40.000	100.000
4	cal2 MW9462	2.000	125.000	125.000	1000.000				200.000	
5	cal3 MW9463	250.000	250.000	250.000		250.000	250.000	250.000	250.000	
6	cal4 MW9464	500.000	500.000	500.000		500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471				50000.000	50000.000	50000.000	50000.000		5000.000
8	cal6 MW9472				100000.000	100000.000	100000.000	100000.000		10000.000
Id	**Label**	**39K**	**43Ca**	**44Ca**	**47Ti**	**51V**	**52Cr**	**55Mn**	**54Fe**	**56Fe**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	200.000	200.000	200.000	5.000	5.000	1.000	5.000	20.000	20.000
4	cal2 MW9462	1000.000	1000.000	1000.000	25.000	25.000	5.000	25.000	100.000	100.000
5	cal3 MW9463				250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9464				500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471	50000.000	50000.000	50000.000					50000.000	50000.000
8	cal6 MW9472	100000.000	100000.000	100000.000					100000.000	100000.000
Id	**Label**	**57Fe**	**59Co**	**60Ni**	**62Ni**	**63Cu**	**65Cu**	**66Zn**	**67Zn**	**68Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	20.000	5.000	5.000	5.000	1.000	1.000	10.000	10.000	10.000
4	cal2 MW9462	100.000	25.000	25.000	25.000	5.000	5.000	50.000	50.000	50.000
5	cal3 MW9463	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9464	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471	50000.000								
8	cal6 MW9472	100000.000								
Id	**Label**	**75As**	**78Se**	**82Se**	**86Sr**	**95Mo**	**97Mo**	**98Mo**	**107Ag**	**109Ag**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	1.000	1.000	1.000	10.000	10.000	10.000	10.000	1.000	1.000
4	cal2 MW9462	5.000	5.000	5.000	50.000	50.000	50.000	50.000	5.000	5.000
5	cal3 MW9463	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9464	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471									
8	cal6 MW9472									
Id	**Label**	**106Cd**	**111Cd**	**114Cd**	**116Sn**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
3	cal1 MW9461	0.100	0.100	0.100	5.000	5.000	1.000	1.000	5.000	5.000
4	cal2 MW9462	0.500	0.500	0.500	25.000	25.000	5.000	5.000	25.000	25.000
5	cal3 MW9463	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000	250.000
6	cal4 MW9464	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
7	cal5 MW9471									

PDF created with pdfFactory trial version www.pdffactory.com

8	cal6 MW9472							
Id	**Label**	**203Tl**	**205Tl**	**206Pb**	**207Pb**	**208Pb**	**232Th**	**238U**
		ppb	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**
3	cal1 MW9461	0.500	0.500	1.000	1.000	1.000		50.000
4	cal2 MW9462	2.500	2.500	5.000	5.000	5.000		250.000
5	cal3 MW9463	250.000	250.000	250.000	250.000	250.000		
6	cal4 MW9464	500.000	500.000	500.000	500.000	500.000		500.000
7	cal5 MW9471							
8	cal6 MW9472							

Sample List

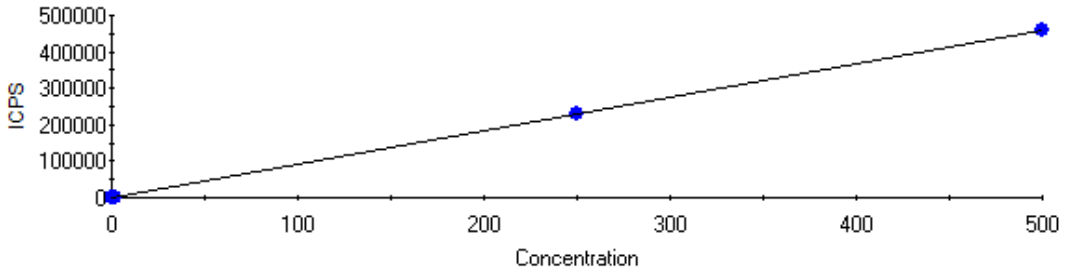
No	Label	Type	Weight	Rack	Row	Col	Height
1	TUNE MW9396	Unknown	1.000	0	1	10	144
2	BLANK IM7804-01	Blank	1.000	0	1	1	144
3	cal1 MW9461	Fully Quant Standard	1.000	0	1	2	144
4	cal2 MW9462	Fully Quant Standard	1.000	0	1	3	144
5	cal3 MW9463	Fully Quant Standard	1.000	0	1	4	144
6	cal4 MW9464	Fully Quant Standard	1.000	0	1	5	144
7	cal5 MW9471	Fully Quant Standard	1.000	0	1	6	144
8	cal6 MW9472	Fully Quant Standard	1.000	0	1	7	144
9	ICV MW-9475 PREP 6/6/17	QC Sample	1.000	4	5	11	144
10	ICB IM7804-01	QC Sample	1.000	0	1	1	144
11	Co 4ppb MW-9483	Unknown	1.000	4	5	2	144
12	LLICV MW9461	QC Sample	1.000	0	1	2	144
13	LLICV2 MW9462	Unknown	1.000	0	1	3	144
14	ICSA MW9430	QC Sample	1.000	4	5	12	144
15	ICSAB MW9460	QC Sample	1.000	4	5	1	144
16	CCV MW9474	QC Sample	1.000	0	1	9	144
17	CCB IM7804-01	QC Sample	1.000	0	1	1	144
18	SQ42715-001	QC Sample	1.000	4	1	1	144
19	SQ42715-002	Unknown	1.000	4	1	2	144
20	SE18011-006	Unknown	1.000	4	1	3	144
21	SE18011-006SD(5)	Unknown	1.000	4	1	4	144
22	SE18011-006PS	Unknown	1.000	4	1	5	144
23	SQ42482-001	QC Sample	1.000	4	1	6	144
24	SQ42482-002	Unknown	1.000	4	1	7	144
25	SE18010-001	Unknown	1.000	4	1	8	144
26	SE18010-002	Unknown	1.000	4	1	9	144
27	SE18010-003	Unknown	1.000	4	1	10	144
28	CCV MW9475	QC Sample	1.000	0	1	9	144
29	CCB IM7804-01	QC Sample	1.000	0	1	1	144
30	SE18010-004	Unknown	1.000	4	2	1	144
31	SE18010-004MS	Unknown	1.000	4	2	2	144
32	SE18010-004MD	Unknown	1.000	4	2	3	144
33	SE18010-004SD(5)	Unknown	1.000	4	2	4	144
34	SE18010-004PS	Unknown	1.000	4	2	5	144
35	SE18010-005	Unknown	1.000	4	2	6	144
36	SE18010-006	Unknown	1.000	4	2	7	144
37	SE19003-001	Unknown	1.000	4	2	8	144
38	SE19003-002	Unknown	1.000	4	2	9	144
39	SE19003-003	Unknown	1.000	4	2	10	144
40	CCV MW9475	QC Sample	1.000	0	1	9	144
41	CCB IM7804-01	QC Sample	1.000	0	1	1	144
42	SE19003-004	Unknown	1.000	4	3	1	144
43	SE19003-005	Unknown	1.000	4	3	2	144
44	Co 4ppb MW-9473	Unknown	1.000	4	5	2	144
45	LLCCV MW9461	QC Sample	1.000	0	1	2	144
46	LLCCV2 MW9462	Unknown	1.000	0	1	3	144
47	CCV MW9475	QC Sample	1.000	0	1	9	144
48	CCB IM7804-01	QC Sample	1.000	0	1	1	144
49	SE23022-009(50)	Unknown	1.000	4	4	1	144
50	SE27003-001(50)	Unknown	1.000	4	4	2	144
51	SE27003-001S(50)	Unknown	1.000	4	4	3	144
52	SE27003-001SD(50)	Unknown	1.000	4	4	4	144
53	SE27003-001L(250)	Unknown	1.000	4	4	5	144
54	SE27003-001A(50)	Unknown	1.000	4	4	6	144
55	SE27003-002(5)	Unknown	1.000	4	4	7	144
56	SE27003-003(5)	Unknown	1.000	4	4	8	144
57	SE27003-004(5)	Unknown	1.000	4	4	9	144
58	SE27003-010(5)	Unknown	1.000	4	4	10	144
59	CCV MW9474	QC Sample	1.000	0	1	9	144
60	CCB IM7804-01	QC Sample	1.000	0	1	1	144
61	LR ISM1406	QC Sample	1.000	4	5	10	144
62	IS MW9476	Unknown	1.000	2	5	10	144

PDF created with pdfFactory trial version www.pdffactory.com

63	rinse	Unknown	1.000	2	5	11	144
64	rinse	Unknown	1.000	2	5	12	144

Fully Quant Calibration

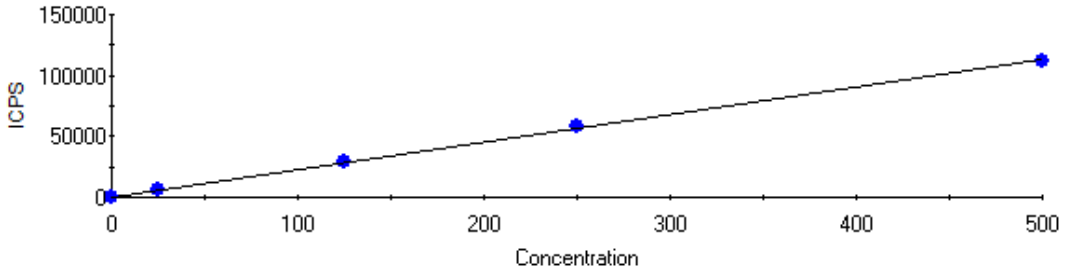
9Be FQ Block 1



Intercept CPS=40.110308 Intercept Conc=0.043840
Sensitivity=914.916821 Correlation Coeff=0.999998

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	40.11	0.00
cal1 MW9461	0.400	0.422	0.022	426.14	5.48
cal2 MW9462	2.000	1.991	0.009	1861.56	0.46
cal3 MW9463	250.000	249.271	0.729	228102.46	0.29
cal4 MW9464	500.000	500.364	0.364	457831.97	0.07

10B FQ Block 1

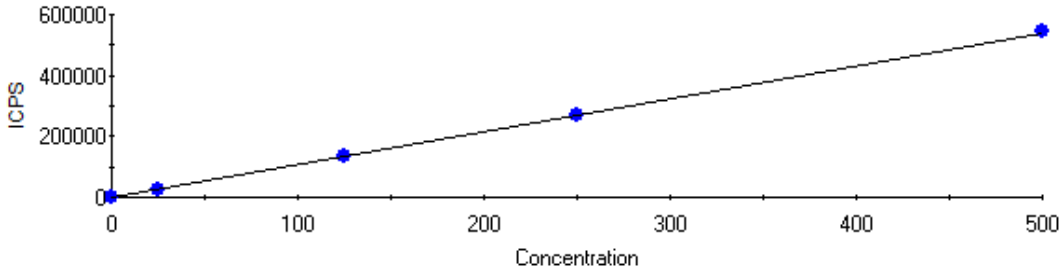


Intercept CPS=243.994922 Intercept Conc=1.073996
Sensitivity=227.184218 Correlation Coeff=0.999918

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	243.99	0.00
cal1 MW9461	25.000	24.873	0.127	5894.64	0.51
cal2 MW9462	125.000	125.901	0.901	28846.75	0.72
cal3 MW9463	250.000	252.826	2.826	57682.10	1.13
cal4 MW9464	500.000	493.640	6.360	112391.19	1.27

PDF created with pdfFactory trial version www.pdffactory.com

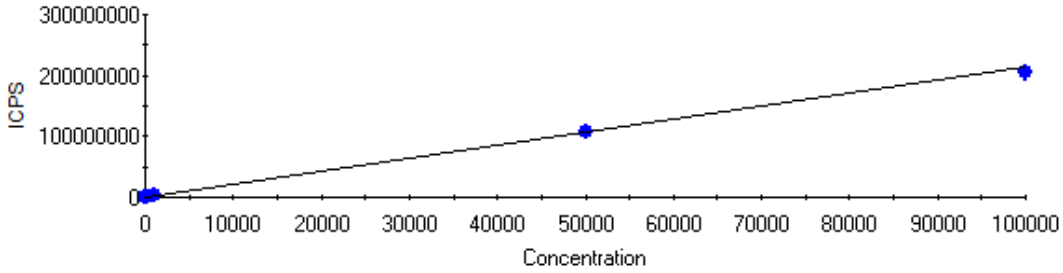
11B FQ Block 1



Intercept CPS=1342.831489 Intercept Conc=1.244912
Sensitivity=1078.655977 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1342.83	0.00
cal1 MW9461	25.000	23.856	1.144	27075.78	4.57
cal2 MW9462	125.000	124.939	0.061	136109.42	0.05
cal3 MW9463	250.000	250.855	0.855	271929.17	0.34
cal4 MW9464	500.000	503.193	3.193	544114.67	0.64

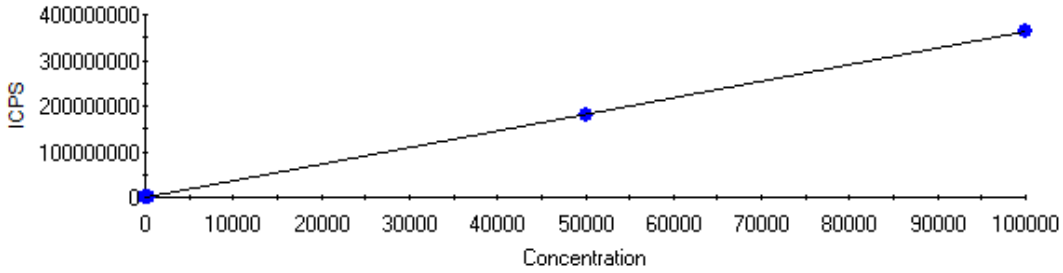
23Na FQ Block 1



Intercept CPS=9110.464914 Intercept Conc=4.277556
Sensitivity=2129.829445 Correlation Coeff=0.999728

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	9110.46	0.00
cal1 MW9461	200.000	200.017	0.017	435111.84	0.01
cal2 MW9462	1000.000	990.008	9.992	2117657.81	1.00
cal5 MW9471	50000.000	50347.377	347.377	107240435.48	0.69
cal6 MW9472	100000.000	96053.387	3946.613	204586442.65	3.95

24Mg FQ Block 1



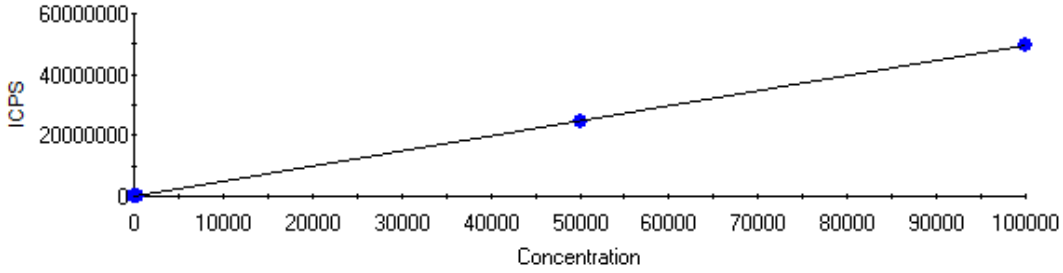
Intercept CPS=7698.211335 Intercept Conc=2.123670
Sensitivity=3624.957104 Correlation Coeff=0.999938

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	7698.21	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal3 MW9463	250.000	242.204	7.796	885676.63	3.12
cal4 MW9464	500.000	489.152	10.848	1780853.81	2.17
cal5 MW9471	50000.000	49078.778	921.222	177916163.78	1.84
cal6 MW9472	100000.000	100460.685	460.685	364173370.72	0.46

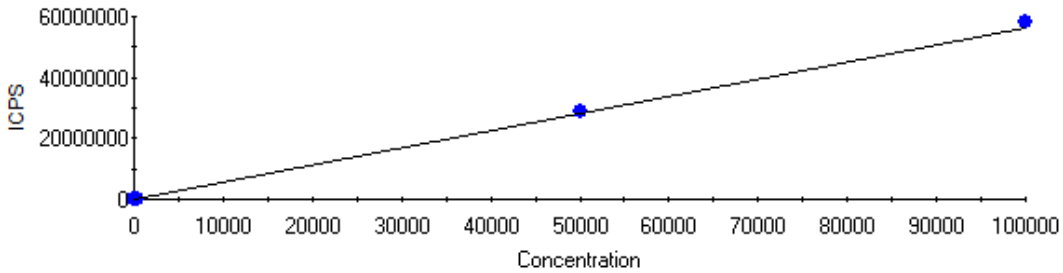
25Mg FQ Block 1



Intercept CPS=1085.165331 Intercept Conc=2.186578
Sensitivity=496.284799 Correlation Coeff=0.999950

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1085.17	0.00
cal3 MW9463	250.000	232.472	17.528	116457.41	7.01
cal4 MW9464	500.000	470.172	29.828	234424.27	5.97
cal5 MW9471	50000.000	49165.716	834.284	24401282.82	1.67
cal6 MW9472	100000.000	100417.335	417.335	49836682.00	0.42

26Mg FQ Block 1

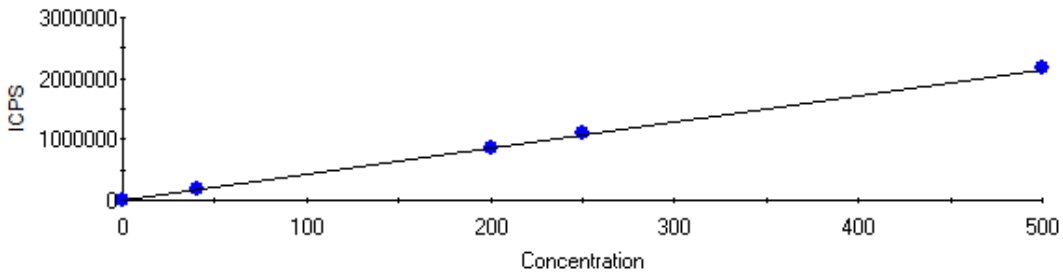


Intercept CPS=1304.502970 Intercept Conc=2.304603
Sensitivity=566.042265 Correlation Coeff=0.999975

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1304.50	0.00
cal3 MW9463	250.000	239.687	10.313	136977.20	4.13
cal4 MW9464	500.000	493.558	6.442	280678.92	1.29
cal5 MW9471	50000.000	50455.272	455.272	28561120.78	0.91
cal6 MW9472	100000.000	102397.725	2397.725	57962744.79	2.40

PDF created with pdfFactory trial version www.pdffactory.com

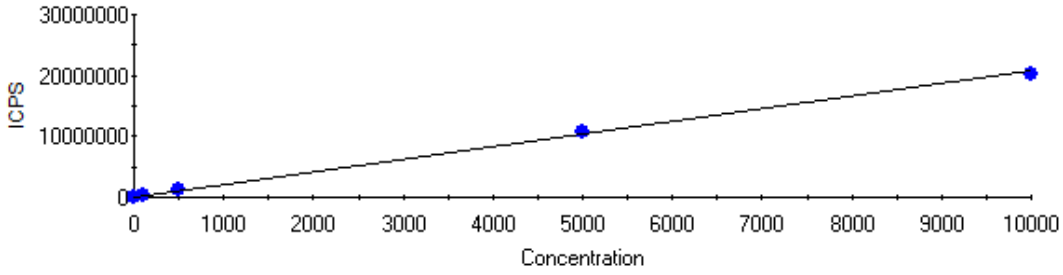
27Al FQ Block 1



Intercept CPS=9159.651017 Intercept Conc=2.161169
Sensitivity=4238.285074 Correlation Coeff=0.999922

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	9159.65	0.00
cal1 MW9461	40.000	39.453	0.547	176371.92	1.37
cal2 MW9462	200.000	202.678	2.678	868166.24	1.34
cal3 MW9463	250.000	259.946	9.946	1110886.62	3.98
cal4 MW9464	500.000	509.872	9.872	2170142.72	1.97

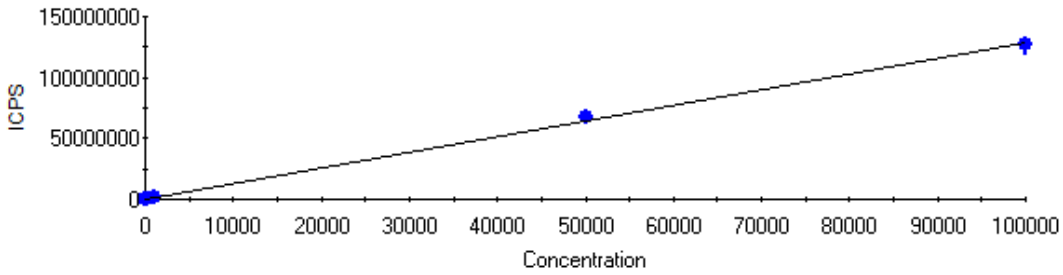
28Si FQ Block 1



Intercept CPS=55603.199034 Intercept Conc=26.638597
Sensitivity=2087.317114 Correlation Coeff=0.999626

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	55603.20	0.00
cal1 MW9461	100.000	99.584	0.416	263466.83	0.42
cal4 MW9464	500.000	515.441	15.441	1131491.62	3.09
cal5 MW9471	5000.000	5126.827	126.827	10756917.40	2.54
cal6 MW9472	10000.000	9706.763	293.237	20316695.87	2.93

39K FQ Block 1



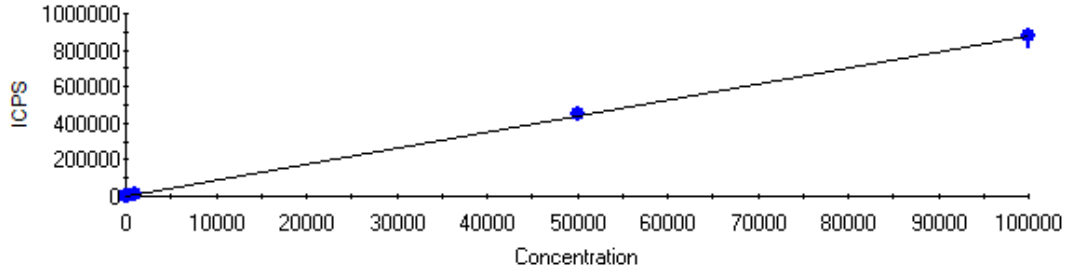
Intercept CPS=64781.087539 Intercept Conc=50.412323
Sensitivity=1285.024833 Correlation Coeff=0.999649

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	64781.09	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	200.000	206.604	6.604	330271.74	3.30
cal2 MW9462	1000.000	1051.839	51.839	1416419.82	5.18
cal5 MW9471	50000.000	52176.785	2176.785	67113246.12	4.35
cal6 MW9472	100000.000	98911.076	1088.924	127167969.54	1.09

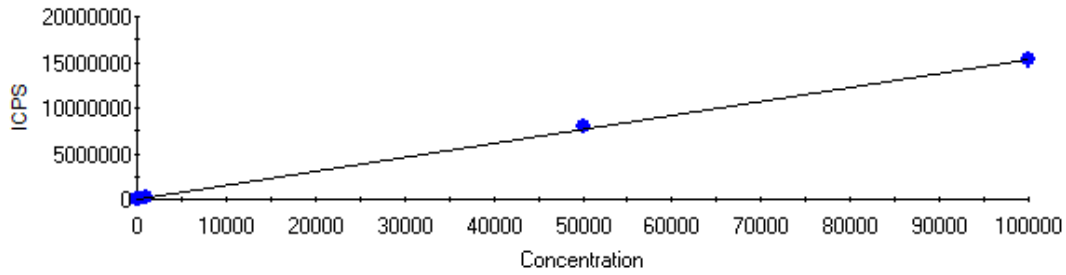
43Ca FQ Block 1



Intercept CPS=73.332736 Intercept Conc=8.367976
Sensitivity=8.763497 Correlation Coeff=0.999952

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	73.33	0.00
cal1 MW9461	200.000	206.574	6.574	1883.64	3.29
cal2 MW9462	1000.000	1075.074	75.074	9494.74	7.51
cal5 MW9471	50000.000	50813.253	813.253	445375.13	1.63
cal6 MW9472	100000.000	99592.610	407.390	872852.88	0.41

44Ca FQ Block 1

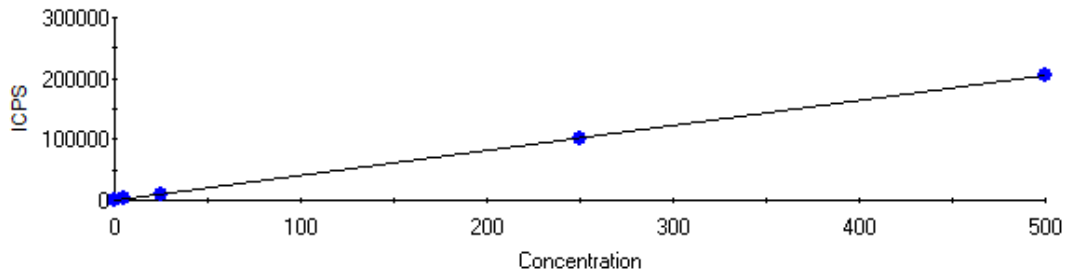


Intercept CPS=1662.911901 Intercept Conc=10.794365
Sensitivity=154.053701 Correlation Coeff=0.999912

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	1662.91	0.00
cal1 MW9461	200.000	187.989	12.011	30623.37	6.01
cal2 MW9462	1000.000	958.242	41.758	149283.56	4.18
cal5 MW9471	50000.000	51085.102	1085.102	7871511.98	2.17
cal6 MW9472	100000.000	99457.890	542.110	15323519.00	0.54

PDF created with pdfFactory trial version www.pdffactory.com

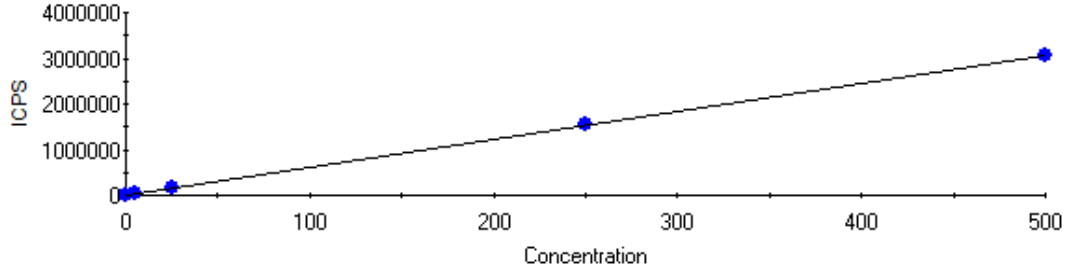
47Ti FQ Block 1



Intercept CPS=38.672851 Intercept Conc=0.094939
Sensitivity=407.342666 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	38.67	0.00
cal1 MW9461	5.000	5.120	0.120	2124.27	2.40
cal2 MW9462	25.000	24.420	0.580	9985.86	2.32
cal3 MW9463	250.000	250.161	0.161	101939.87	0.06
cal4 MW9464	500.000	500.021	0.021	203718.46	0.00

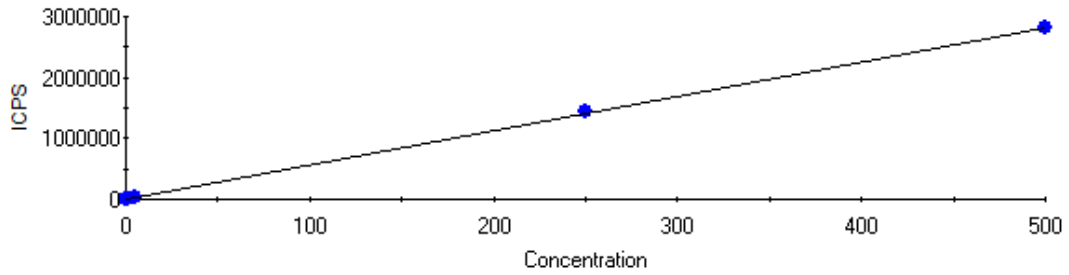
51V FQ Block 1



Intercept CPS=0.000000 Intercept Conc=0.000000
Sensitivity=6100.142389 Correlation Coeff=0.999975

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.067	0.067	408.41	0.00
cal1 MW9461	5.000	4.882	0.118	29778.46	2.37
cal2 MW9462	25.000	23.723	1.277	144715.55	5.11
cal3 MW9463	250.000	252.548	2.548	1540578.47	1.02
cal4 MW9464	500.000	498.791	1.209	3042696.38	0.24

52Cr FQ Block 1



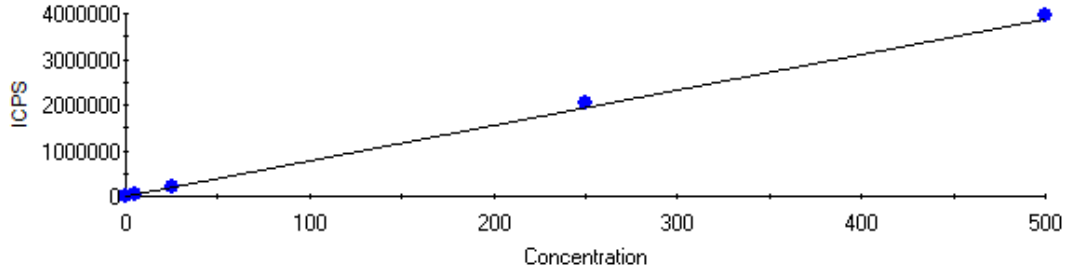
Intercept CPS=936.690656 Intercept Conc=0.165533
Sensitivity=5658.621455 Correlation Coeff=0.999992

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	936.69	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	1.000	0.993	0.007	6555.01	0.71
cal2 MW9462	5.000	4.786	0.214	28021.40	4.27
cal3 MW9463	250.000	251.563	1.563	1424436.42	0.63
cal4 MW9464	500.000	499.221	0.779	2825837.40	0.16

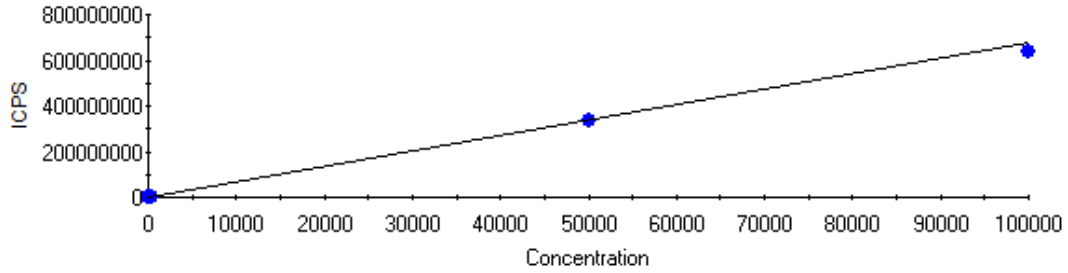
55Mn FQ Block 1



Intercept CPS=405.379439 Intercept Conc=0.052174
Sensitivity=7769.816107 Correlation Coeff=0.999892

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	405.38	0.00
cal1 MW9461	5.000	5.019	0.019	39398.44	0.37
cal2 MW9462	25.000	24.411	0.589	190071.97	2.36
cal3 MW9463	250.000	261.681	11.681	2033619.51	4.67
cal4 MW9464	500.000	508.712	8.712	3953001.77	1.74

56Fe FQ Block 1

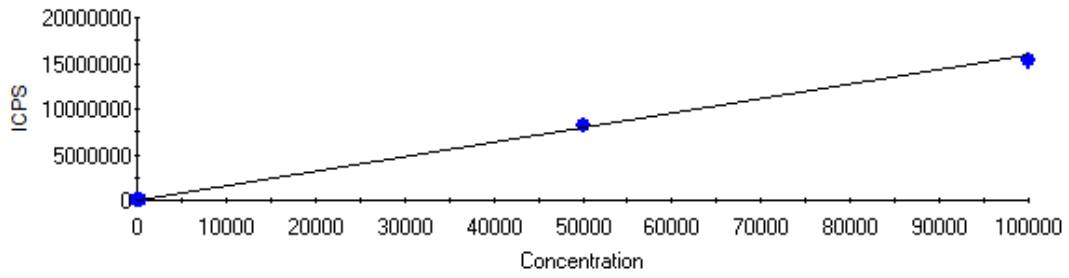


Intercept CPS=241289.488666 Intercept Conc=35.515972
Sensitivity=6793.830393 Correlation Coeff=0.999732

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	241289.49	0.00
cal1 MW9461	20.000	18.421	1.579	366436.12	7.90
cal2 MW9462	100.000	96.813	3.187	899021.58	3.19
cal3 MW9463	250.000	259.410	9.410	2003680.26	3.76
cal4 MW9464	500.000	498.599	1.401	3628689.59	0.28
cal5 MW9471	50000.000	49218.646	781.354	334624423.01	1.56
cal6 MW9472	100000.000	93637.889	6362.111	636401223.46	6.36

PDF created with pdfFactory trial version www.pdffactory.com

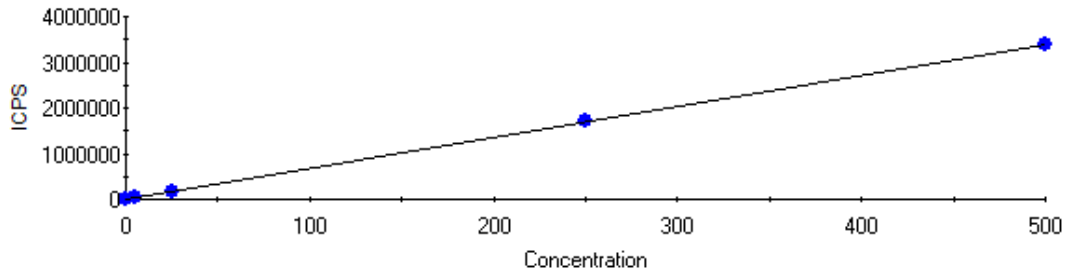
57Fe FQ Block 1



Intercept CPS=4230.533658 Intercept Conc=26.593456
Sensitivity=159.081754 Correlation Coeff=0.999705

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	4230.53	0.00
cal1 MW9461	20.000	20.132	0.132	7433.11	0.66
cal2 MW9462	100.000	98.428	1.572	19888.58	1.57
cal3 MW9463	250.000	250.387	0.387	44062.60	0.15
cal4 MW9464	500.000	494.728	5.272	82932.76	1.05
cal5 MW9471	50000.000	50956.682	956.682	8110508.90	1.91
cal6 MW9472	100000.000	96713.670	3286.330	15389610.81	3.29

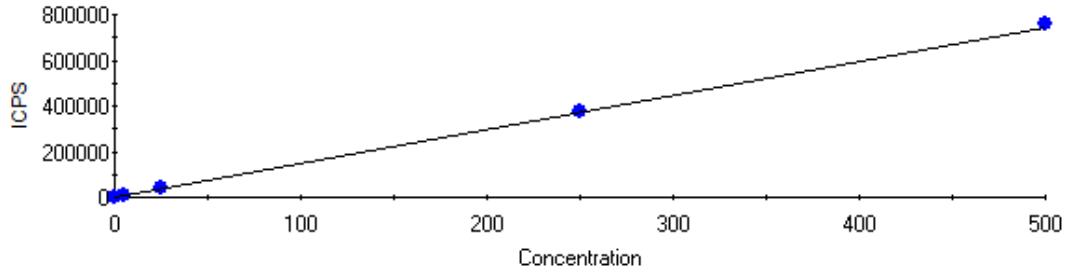
59Co FQ Block 1



Intercept CPS=148.224843 Intercept Conc=0.021901
Sensitivity=6767.919164 Correlation Coeff=0.999927

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	148.22	0.00
cal1 MW9461	5.000	4.773	0.227	32451.33	4.54
cal2 MW9462	25.000	23.796	1.204	161198.23	4.82
cal3 MW9463	250.000	254.654	4.654	1723626.94	1.86
cal4 MW9464	500.000	497.735	2.265	3368781.11	0.45

60Ni FQ Block 1

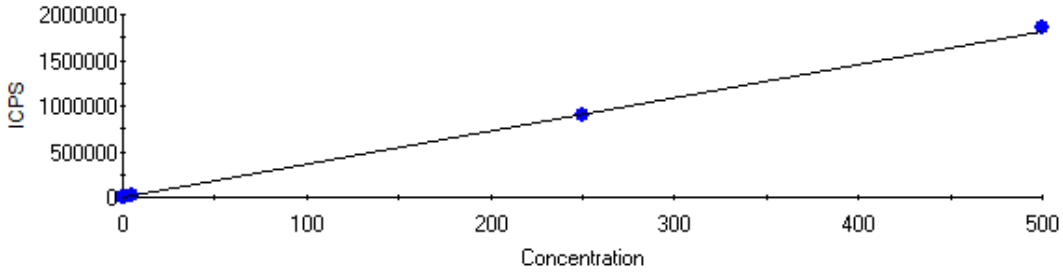


Intercept CPS=374.719952 Intercept Conc=0.252646
Sensitivity=1483.183805 Correlation Coeff=0.999964

PDF created with pdfFactory trial version www.pdffactory.com

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	374.72	0.00
cal1 MW9461	5.000	4.825	0.175	7531.69	3.49
cal2 MW9462	25.000	24.964	0.036	37400.76	0.14
cal3 MW9463	250.000	250.180	0.180	371437.09	0.07
cal4 MW9464	500.000	509.273	9.273	755720.41	1.85

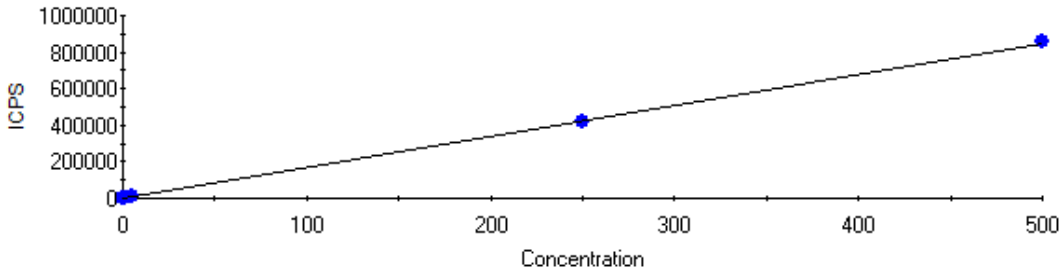
63Cu FQ Block 1



Intercept CPS=466.340282 Intercept Conc=0.127774
Sensitivity=3649.727572 Correlation Coeff=0.999934

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	466.34	0.00
cal1 MW9461	1.000	0.974	0.026	4021.15	2.60
cal2 MW9462	5.000	4.704	0.296	17634.67	5.92
cal3 MW9463	250.000	248.199	1.801	906325.89	0.72
cal4 MW9464	500.000	508.523	8.523	1856438.20	1.70

65Cu FQ Block 1

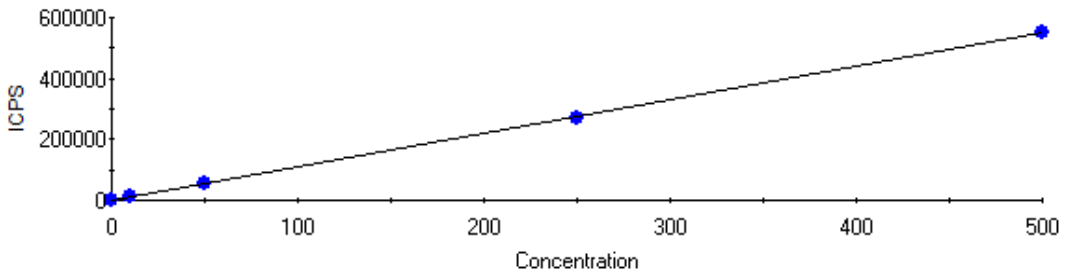


Intercept CPS=221.496921 Intercept Conc=0.130482
Sensitivity=1697.532598 Correlation Coeff=0.999947

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	221.50	0.00
cal1 MW9461	1.000	0.936	0.064	1811.08	6.36
cal2 MW9462	5.000	4.884	0.116	8512.58	2.32
cal3 MW9463	250.000	245.746	4.254	417383.20	1.70
cal4 MW9464	500.000	502.128	2.128	852600.70	0.43

PDF created with pdfFactory trial version www.pdffactory.com

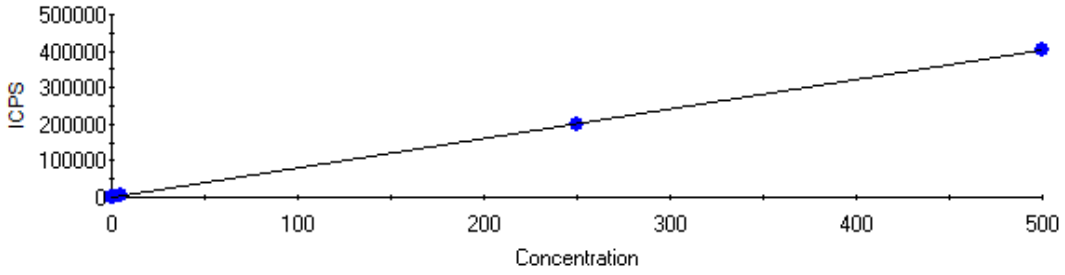
66Zn FQ Block 1



Intercept CPS=307.602299 Intercept Conc=0.280592
Sensitivity=1096.263153 Correlation Coeff=0.999951

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	307.60	0.00
cal1 MW9461	10.000	9.931	0.069	11194.48	0.69
cal2 MW9462	50.000	49.233	0.767	54279.87	1.53
cal3 MW9463	250.000	246.023	3.977	270013.92	1.59
cal4 MW9464	500.000	502.066	2.066	550704.52	0.41

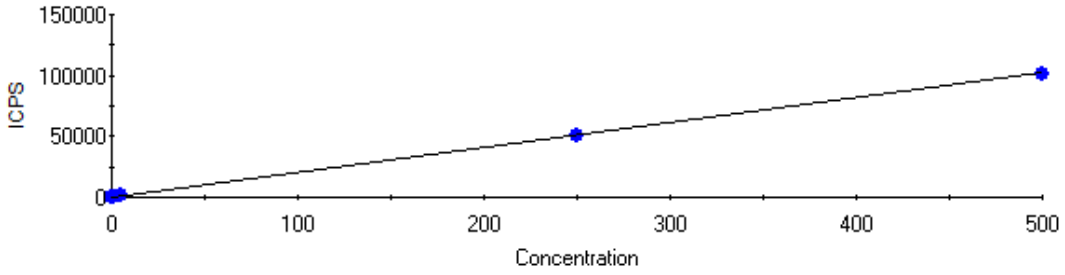
75As FQ Block 1



Intercept CPS=215.111786 Intercept Conc=0.267347
Sensitivity=804.617431 Correlation Coeff=0.999997

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	215.11	0.00
cal1 MW9461	1.000	0.943	0.057	973.54	5.74
cal2 MW9462	5.000	4.679	0.321	3979.95	6.42
cal3 MW9463	250.000	249.704	0.296	201131.69	0.12
cal4 MW9464	500.000	502.056	2.056	404178.16	0.41

78Se FQ Block 1



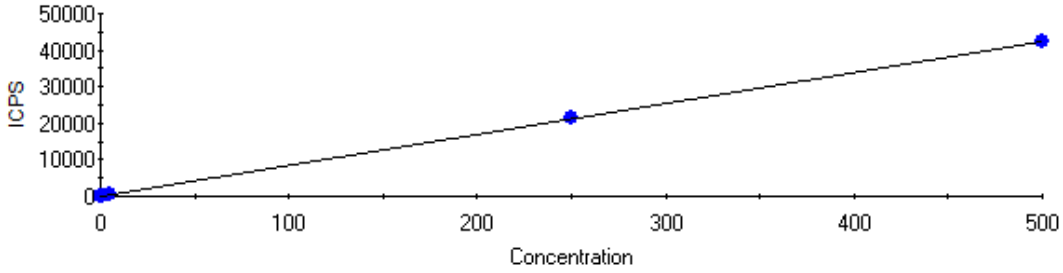
Intercept CPS=345.311400 Intercept Conc=1.701757
Sensitivity=202.914598 Correlation Coeff=0.999999

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	345.31	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	1.000	0.967	0.033	541.54	3.30
cal2 MW9462	5.000	4.850	0.150	1329.40	3.00
cal3 MW9463	250.000	250.477	0.477	51170.76	0.19
cal4 MW9464	500.000	499.763	0.237	101754.53	0.05

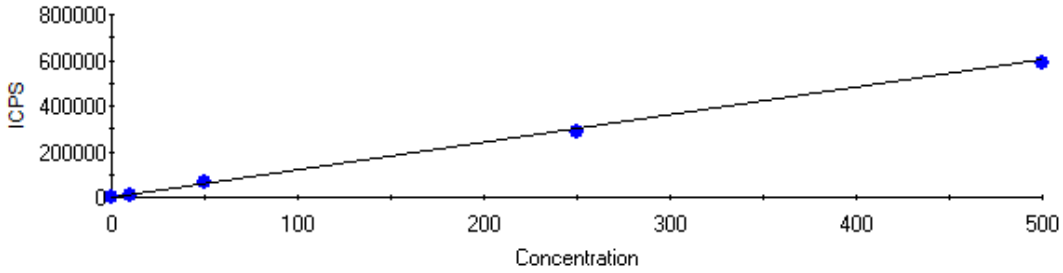
82Se FQ Block 1



Intercept CPS=89.119146 Intercept Conc=1.051773
Sensitivity=84.732336 Correlation Coeff=0.999998

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	89.12	0.00
cal1 MW9461	1.000	0.830	0.170	159.47	16.97
cal2 MW9462	5.000	4.470	0.530	467.87	10.60
cal3 MW9463	250.000	250.684	0.684	21330.14	0.27
cal4 MW9464	500.000	500.051	0.051	42459.63	0.01

95Mo FQ Block 1

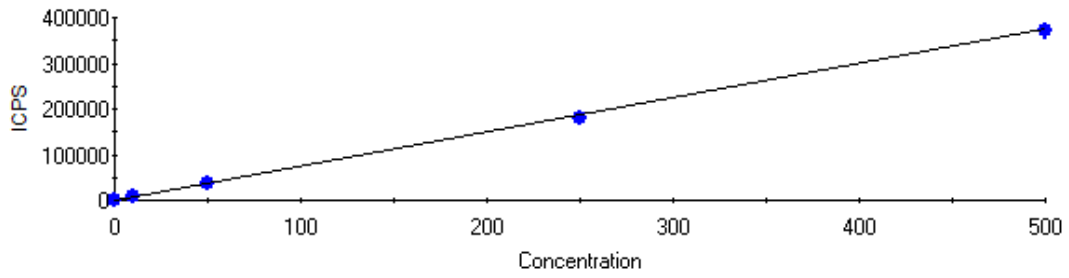


Intercept CPS=572.204751 Intercept Conc=0.470974
Sensitivity=1214.940101 Correlation Coeff=0.999927

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	572.20	0.00
cal1 MW9461	10.000	9.283	0.717	11850.71	7.17
cal2 MW9462	50.000	50.193	0.193	61554.10	0.39
cal3 MW9463	250.000	237.864	12.136	289563.24	4.85
cal4 MW9464	500.000	486.305	13.695	591404.17	2.74

PDF created with pdfFactory trial version www.pdffactory.com

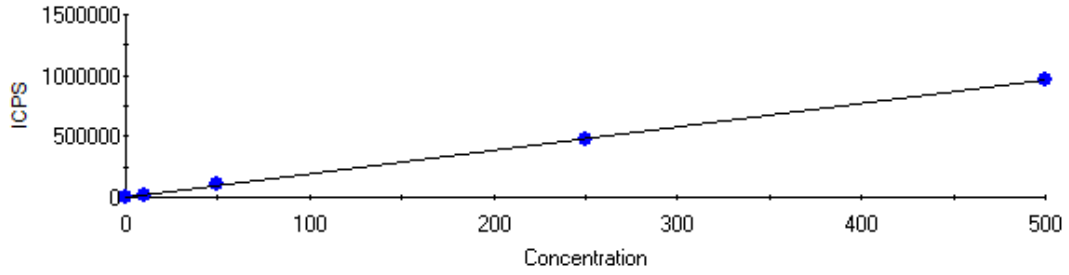
97Mo FQ Block 1



Intercept CPS=409.721147 Intercept Conc=0.545460
Sensitivity=751.148246 Correlation Coeff=0.999912

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	409.72	0.00
cal1 MW9461	10.000	9.686	0.314	7685.20	3.14
cal2 MW9462	50.000	50.976	0.976	38700.26	1.95
cal3 MW9463	250.000	239.870	10.130	180587.94	4.05
cal4 MW9464	500.000	491.350	8.650	369486.20	1.73

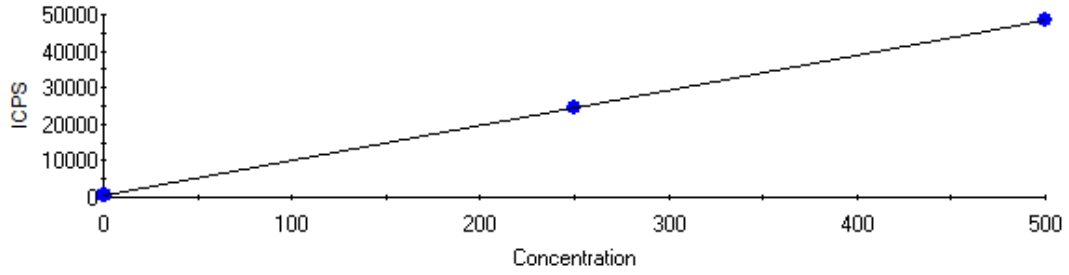
98Mo FQ Block 1



Intercept CPS=974.886612 Intercept Conc=0.506751
Sensitivity=1923.798486 Correlation Coeff=0.999886

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	974.89	0.00
cal1 MW9461	10.000	9.551	0.449	19349.79	4.49
cal2 MW9462	50.000	51.539	1.539	100125.66	3.08
cal3 MW9463	250.000	244.239	5.761	470840.58	2.30
cal4 MW9464	500.000	502.736	2.736	968137.27	0.55

106Cd FQ Block 1



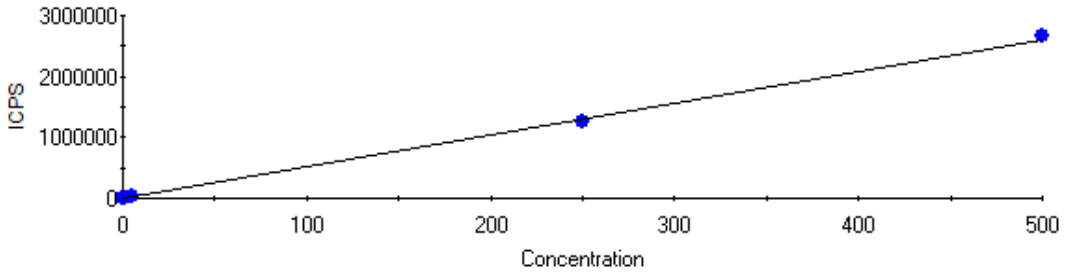
Intercept CPS=277.358838 Intercept Conc=2.882365
Sensitivity=96.226148 Correlation Coeff=0.999983

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	277.36	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	0.100	0.538	0.438	329.11	437.78
cal2 MW9462	0.500	2.165	1.665	485.64	332.90
cal3 MW9463	250.000	252.366	2.366	24561.53	0.95
cal4 MW9464	500.000	498.815	1.185	48276.45	0.24

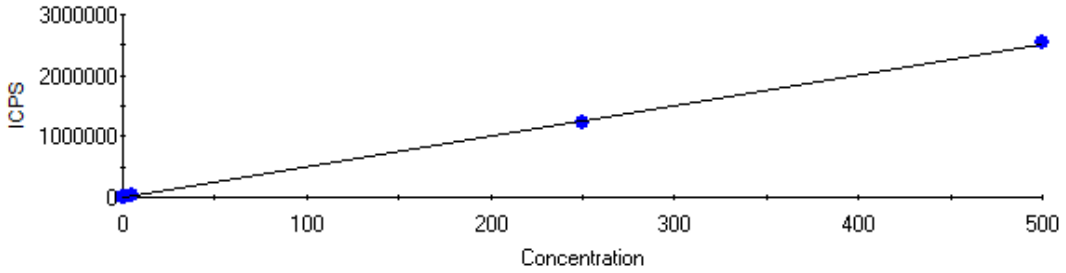
107Ag FQ Block 1



Intercept CPS=52.334709 Intercept Conc=0.010058
Sensitivity=5203.261905 Correlation Coeff=0.999696

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	52.33	0.00
cal1 MW9461	1.000	0.910	0.090	4786.71	9.01
cal2 MW9462	5.000	4.515	0.485	23547.31	9.69
cal3 MW9463	250.000	242.192	7.808	1260240.76	3.12
cal4 MW9464	500.000	510.298	10.298	2655264.09	2.06

109Ag FQ Block 1

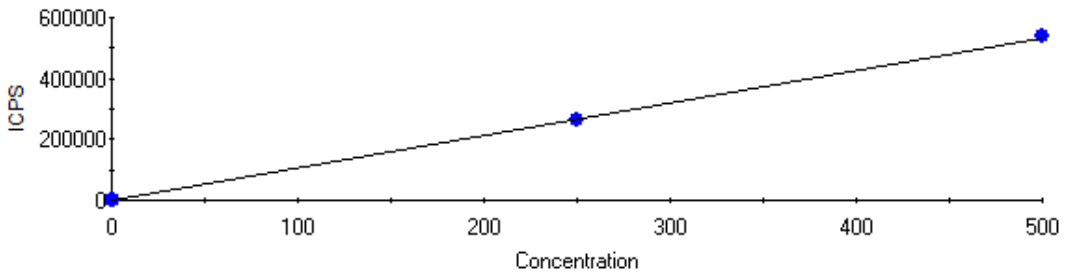


Intercept CPS=24.068814 Intercept Conc=0.004780
Sensitivity=5035.459615 Correlation Coeff=0.999729

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	24.07	0.00
cal1 MW9461	1.000	0.913	0.087	4623.91	8.65
cal2 MW9462	5.000	4.591	0.409	23141.82	8.18
cal3 MW9463	250.000	240.314	9.686	1210113.62	3.87
cal4 MW9464	500.000	504.847	4.847	2542163.02	0.97

PDF created with pdfFactory trial version www.pdffactory.com

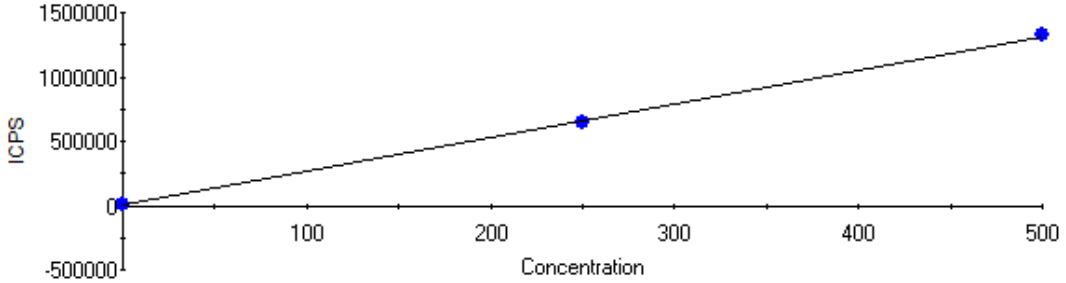
111Cd FQ Block 1



Intercept CPS=18.110203 Intercept Conc=0.016904
Sensitivity=1071.373739 Correlation Coeff=0.999988

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	18.11	0.00
cal1 MW9461	0.100	0.078	0.022	102.11	21.59
cal2 MW9462	0.500	0.335	0.165	377.35	32.94
cal3 MW9463	250.000	247.976	2.024	265692.74	0.81
cal4 MW9464	500.000	501.012	1.012	536789.56	0.20

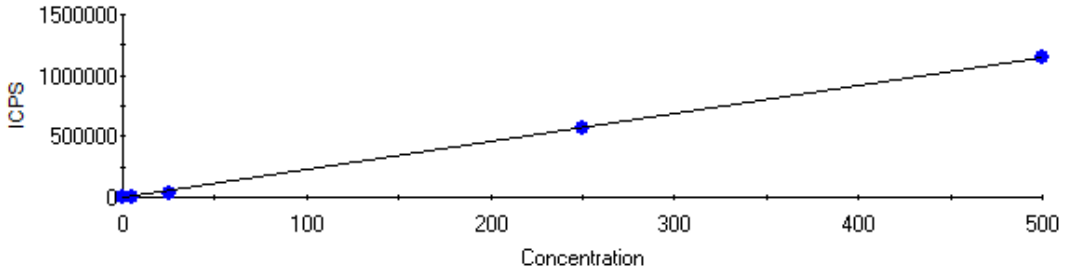
114Cd FQ Block 1



Intercept CPS=4.947223 Intercept Conc=0.001878
Sensitivity=2634.548311 Correlation Coeff=0.999865

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	4.95	0.00
cal1 MW9461	0.100	0.105	0.005	281.26	4.88
cal2 MW9462	0.500	0.510	0.010	1349.82	2.10
cal3 MW9463	250.000	242.986	7.014	640162.28	2.81
cal4 MW9464	500.000	502.945	2.945	1325036.70	0.59

116Sn FQ Block 1



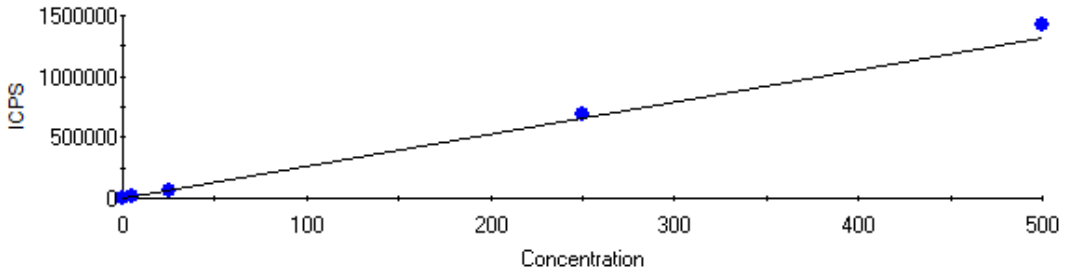
Intercept CPS=108.027737 Intercept Conc=0.047301
Sensitivity=2283.814697 Correlation Coeff=0.999843

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	108.03	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	5.000	2.994	2.006	6946.51	40.11
cal2 MW9462	25.000	16.411	8.589	37586.98	34.36
cal3 MW9463	250.000	244.745	5.255	559060.38	2.10
cal4 MW9464	500.000	503.077	3.077	1149042.66	0.62

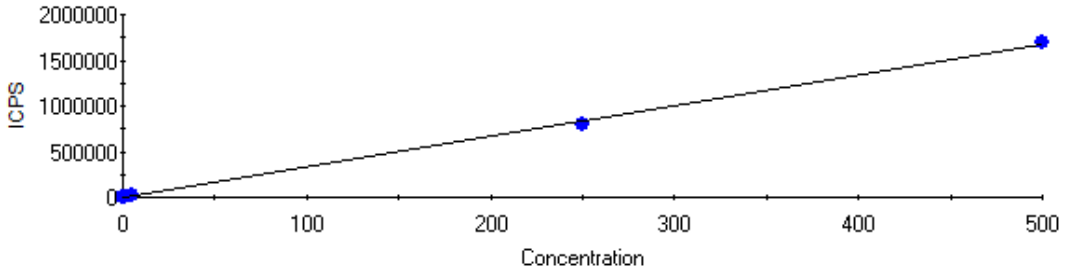
118Sn FQ Block 1



Intercept CPS=725.439287 Intercept Conc=0.275261
Sensitivity=2635.454983 Correlation Coeff=0.999871

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	725.44	0.00
cal1 MW9461	5.000	4.376	0.624	12257.83	12.48
cal2 MW9462	25.000	23.961	1.039	63874.41	4.15
cal3 MW9463	250.000	259.546	9.546	684747.89	3.82
cal4 MW9464	500.000	537.110	37.110	1416253.68	7.42

121Sb FQ Block 1

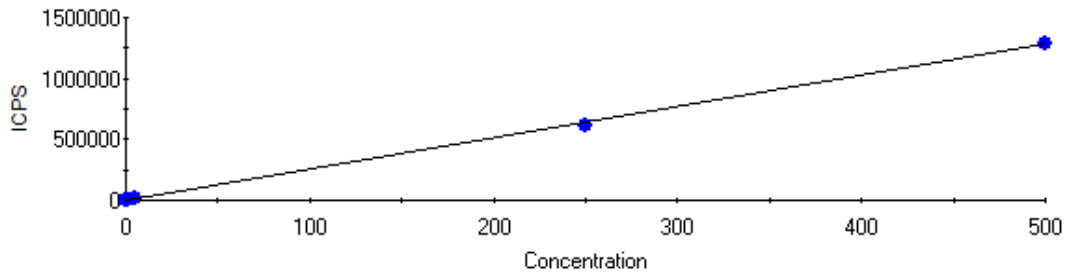


Intercept CPS=210.588206 Intercept Conc=0.062883
Sensitivity=3348.887196 Correlation Coeff=0.999643

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	210.59	0.00
cal1 MW9461	1.000	0.902	0.098	3230.70	9.82
cal2 MW9462	5.000	4.585	0.415	15565.30	8.30
cal3 MW9463	250.000	238.892	11.108	800232.69	4.44
cal4 MW9464	500.000	505.558	5.558	1693268.59	1.11

PDF created with pdfFactory trial version www.pdffactory.com

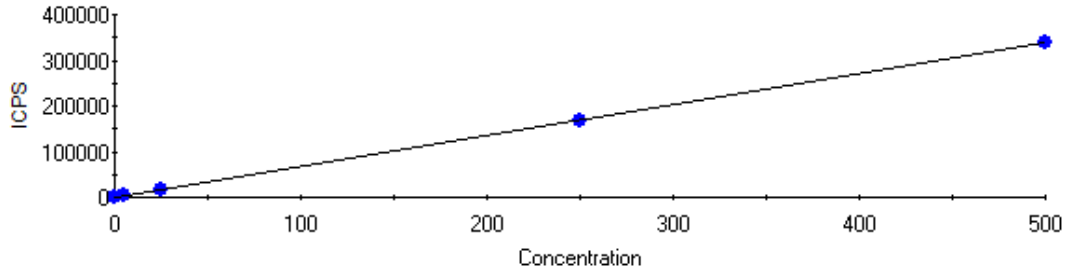
123Sb FQ Block 1



Intercept CPS=155.857291 Intercept Conc=0.060925
Sensitivity=2558.168711 Correlation Coeff=0.999707

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	155.86	0.00
cal1 MW9461	1.000	0.926	0.074	2524.27	7.42
cal2 MW9462	5.000	4.723	0.277	12239.11	5.53
cal3 MW9463	250.000	239.949	10.051	613986.91	4.02
cal4 MW9464	500.000	505.028	5.028	1292103.23	1.01

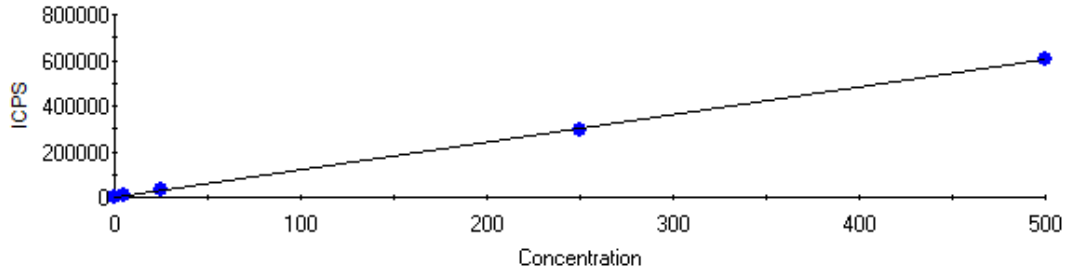
135Ba FQ Block 1



Intercept CPS=23.980701 Intercept Conc=0.035319
Sensitivity=678.966796 Correlation Coeff=0.999990

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	23.98	0.00
cal1 MW9461	5.000	4.849	0.151	3316.10	3.03
cal2 MW9462	25.000	24.752	0.248	16829.64	0.99
cal3 MW9463	250.000	248.171	1.829	168523.92	0.73
cal4 MW9464	500.000	500.928	0.928	340137.71	0.19

137Ba FQ Block 1



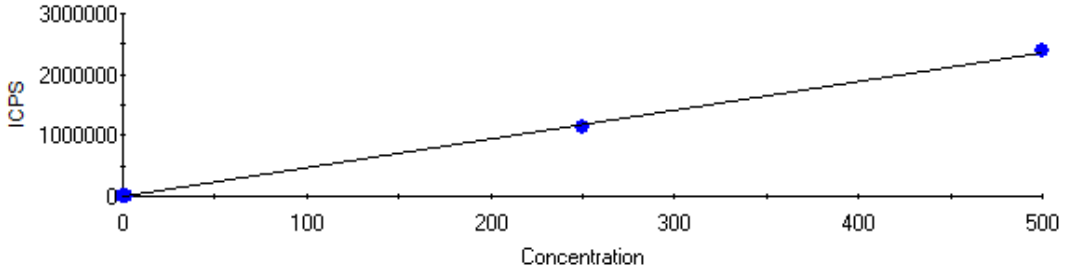
Intercept CPS=50.633505 Intercept Conc=0.042035
Sensitivity=1204.567827 Correlation Coeff=0.999970

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	50.63	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	5.000	4.823	0.177	5860.39	3.54
cal2 MW9462	25.000	24.359	0.641	29392.76	2.56
cal3 MW9463	250.000	246.810	3.190	297350.50	1.28
cal4 MW9464	500.000	501.629	1.629	604296.33	0.33

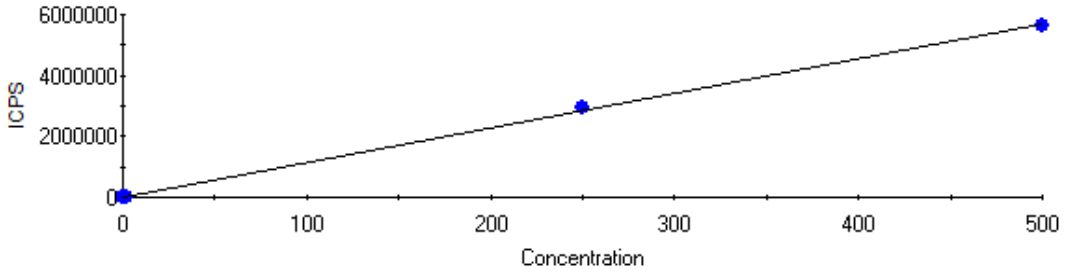
203TI FQ Block 1



Intercept CPS=56.256339 Intercept Conc=0.011885
Sensitivity=4733.527264 Correlation Coeff=0.999819

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	56.26	0.00
cal1 MW9461	0.500	0.470	0.030	2279.50	6.06
cal2 MW9462	2.500	2.352	0.148	11189.17	5.92
cal3 MW9463	250.000	242.102	7.898	1146052.04	3.16
cal4 MW9464	500.000	503.950	3.950	2385516.55	0.79

205TI FQ Block 1

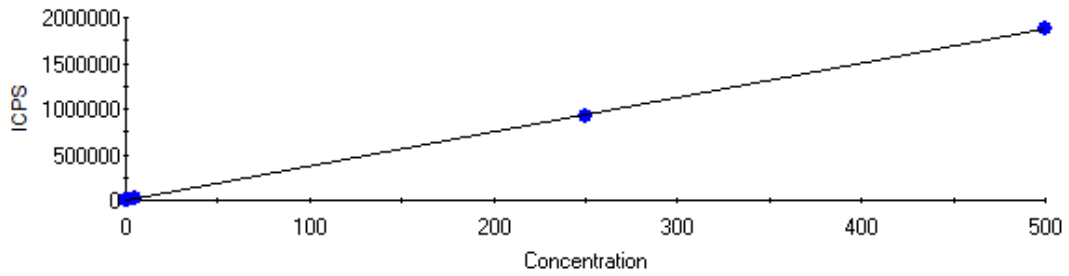


Intercept CPS=171.624809 Intercept Conc=0.015123
Sensitivity=11348.610563 Correlation Coeff=0.999773

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	171.62	0.00
cal1 MW9461	0.500	0.455	0.045	5338.57	8.94
cal2 MW9462	2.500	2.335	0.165	26668.34	6.61
cal3 MW9463	250.000	258.739	8.739	2936496.37	3.50
cal4 MW9464	500.000	495.632	4.368	5624900.73	0.87

PDF created with pdfFactory trial version www.pdffactory.com

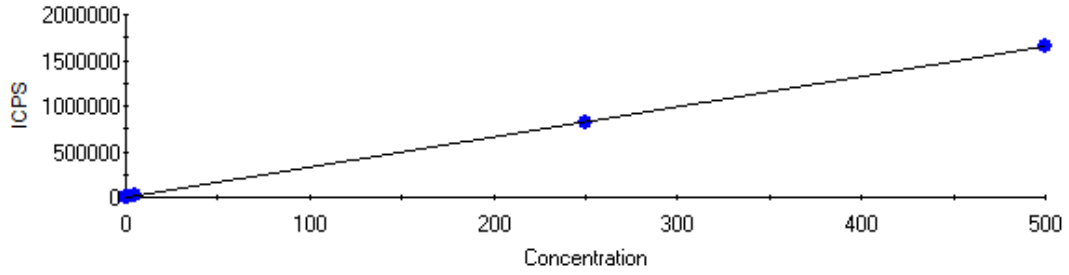
206Pb FQ Block 1



Intercept CPS=72.046957 Intercept Conc=0.019262
Sensitivity=3740.448767 Correlation Coeff=0.999964

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	-0.000	0.000	72.05	0.00
cal1 MW9461	1.000	0.948	0.052	3617.05	5.23
cal2 MW9462	5.000	4.787	0.213	17978.10	4.26
cal3 MW9463	250.000	246.458	3.542	921936.73	1.42
cal4 MW9464	500.000	501.773	1.773	1876928.54	0.35

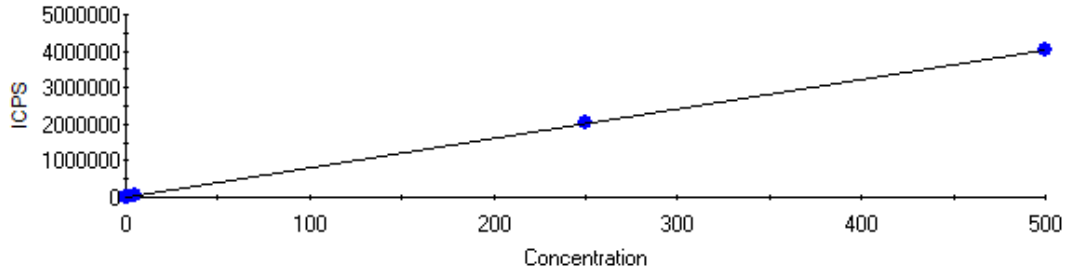
207Pb FQ Block 1



Intercept CPS=77.156983 Intercept Conc=0.023338
Sensitivity=3306.118263 Correlation Coeff=0.999896

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	77.16	0.00
cal1 MW9461	1.000	0.910	0.090	3086.30	8.98
cal2 MW9462	5.000	4.699	0.301	15611.64	6.03
cal3 MW9463	250.000	244.004	5.996	806782.03	2.40
cal4 MW9464	500.000	503.001	3.001	1663059.19	0.60

208Pb FQ Block 1



Intercept CPS=165.599603 Intercept Conc=0.020436
Sensitivity=8103.142851 Correlation Coeff=0.999939

Label	Defined	Measured	Error	Mean CPS	% Error
BLANK IM7804-01	0.000	0.000	0.000	165.60	0.00

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461	1.000	0.945	0.055	7822.99	5.50
cal2 MW9462	5.000	4.752	0.248	38674.27	4.95
cal3 MW9463	250.000	254.481	4.481	2062262.06	1.79
cal4 MW9464	500.000	497.762	2.238	4033602.61	0.45

PDF created with pdfFactory trial version www.pdffactory.com

Dilution Corrected Concentrations

TUNE MW9396 6/6/2017 11:29:21

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	99.1%	0.040	0.489	0.462	7.278	2.165	1.959	2.148	0.463
2	11:30:13	100.9%	0.026	0.511	0.407	7.747	2.139	1.994	2.319	0.509
3	11:30:39	100.0%	0.009	0.639	0.296	7.660	2.113	2.040	2.491	0.523
x		100.0%	0.025	0.547	0.388	7.562	2.139	1.998	2.319	0.498
σ		0.9%	0.016	0.081	0.084	0.249	0.026	0.040	0.172	0.032
%RSD		0.9	63.120	14.810	21.720	3.296	1.232	2.026	7.407	6.370

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	0.195	21.780	1.320	1.447	1.429	102.5%	0.049	0.069	0.009
2	11:30:13	1.683	23.030	3.619	0.857	3.384	98.9%	0.004	0.086	0.027
3	11:30:39	0.588	22.290	3.085	2.728	2.572	98.7%	0.024	0.085	0.022
x		0.822	22.370	2.675	1.677	2.462	100.0%	0.026	0.080	0.019
σ		0.772	0.631	1.203	0.956	0.982	2.2%	0.022	0.009	0.009
%RSD		93.870	2.821	44.980	57.000	39.890	2.2	86.250	11.470	47.050

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	-0.020	0.008	2.464	-0.236	0.020	-0.061	0.026	0.007	0.014
2	11:30:13	-0.028	0.025	3.017	0.809	0.006	-0.005	0.020	0.020	0.103
3	11:30:39	-0.046	0.012	2.603	3.235	0.016	0.006	0.043	0.012	0.085
x		-0.031	0.015	2.695	1.269	0.014	-0.020	0.030	0.013	0.067
σ		0.013	0.009	0.288	1.780	0.007	0.036	0.012	0.007	0.047
%RSD		41.930	57.970	10.680	140.300	51.540	182.600	40.670	50.150	69.890

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	-0.195	-0.170	1.347	5.432	-0.486	2.601	99.7%	0.458	0.478
2	11:30:13	-0.005	-0.020	1.405	5.702	-0.068	1.606	99.9%	0.658	0.629
3	11:30:39	-0.101	-0.025	1.352	5.005	-0.307	3.802	100.3%	0.677	0.599
x		-0.101	-0.072	1.368	5.380	-0.287	2.670	100.0%	0.598	0.569
σ		0.095	0.085	0.032	0.352	0.210	1.099	0.3%	0.122	0.080
%RSD		94.740	119.000	2.357	6.534	73.040	41.190	0.3	20.360	14.030

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	0.575	-0.053	0.009	-1.046	0.021	0.002	0.016	100.0%	0.035
2	11:30:13	0.768	-0.346	0.010	-0.895	0.007	0.001	0.013	100.0%	0.016
3	11:30:39	0.745	-0.225	0.008	-0.983	0.011	-0.002	0.015	100.0%	0.010
x		0.696	-0.208	0.009	-0.975	0.013	0.000	0.014	100.0%	0.020
σ		0.106	0.148	0.001	0.076	0.007	0.002	0.002	0.0%	0.013
%RSD		15.180	70.940	10.090	7.754	53.640	1467.000	11.170	0.0	63.350

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:29:47	0.033	0.051	0.017	0.006	0.025	99.1%	0.017	0.012	0.021
2	11:30:13	-0.036	0.028	0.038	0.006	0.014	100.1%	0.013	0.010	0.022
3	11:30:39	-0.008	0.037	0.037	0.006	-0.009	100.8%	0.028	0.011	0.003
x		-0.004	0.039	0.031	0.006	0.010	100.0%	0.019	0.011	0.015
σ		0.035	0.011	0.012	0.000	0.017	0.8%	0.008	0.001	0.011
%RSD		852.900	29.730	37.690	2.687	171.700	0.8	40.020	12.610	69.910

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:29:47	0.004	0.018	99.1%
2	11:30:13	-0.003	0.025	100.0%
3	11:30:39	0.014	0.006	100.9%
x		0.005	0.016	100.0%
σ		0.008	0.010	0.9%
%RSD		172.500	61.390	0.9

PDF created with pdfFactory trial version www.pdffactory.com

BLANK IM7804-01 6/6/2017 11:34:42

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	97.4%	-0.004	0.013	0.121	0.081	0.040	0.235	0.024	0.030
2	11:35:34	99.6%	0.018	-0.000	-0.081	0.007	0.043	-0.023	0.017	0.049
3	11:36:00	103.0%	-0.014	-0.012	-0.040	-0.088	-0.083	-0.212	-0.041	-0.078
x		100.0%	-0.000	-0.000	0.000	0.000	0.000	0.000	0.000	0.000
σ		2.8%	0.016	0.012	0.107	0.084	0.072	0.225	0.036	0.069
%RSD		2.8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	0.626	-0.528	-0.168	0.278	-0.163	100.5%	-0.007	0.080	0.011
2	11:35:34	-0.728	1.144	-0.044	-0.154	0.186	100.0%	0.003	0.049	-0.005
3	11:36:00	0.103	-0.616	0.212	-0.124	-0.023	99.5%	0.004	0.072	-0.006
x		-0.000	0.000	0.000	0.000	0.000	100.0%	-0.000	0.067	0.000
σ		0.683	0.992	0.194	0.241	0.176	0.5%	0.006	0.016	0.009
%RSD		0.000	0.000	0.000	0.000	0.000	0.5	0.000	23.830	0.000
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	-0.016	-0.001	0.440	0.193	0.003	0.012	0.014	0.028	-0.058
2	11:35:34	0.013	-0.002	-0.456	-0.222	0.002	-0.012	-0.005	-0.030	0.079
3	11:36:00	0.003	0.003	0.016	0.029	-0.004	0.001	-0.008	0.002	-0.021
x		0.000	-0.000	-0.000	0.000	-0.000	0.000	0.000	-0.000	-0.000
σ		0.015	0.003	0.448	0.209	0.004	0.012	0.012	0.029	0.071
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	0.021	-0.055	0.279	0.490	0.193	-0.644	99.0%	-0.081	-0.153
2	11:35:34	-0.015	0.010	-0.199	-0.043	-0.163	0.130	100.2%	0.062	0.003
3	11:36:00	-0.006	0.045	-0.080	-0.446	-0.030	0.514	100.8%	0.019	0.150
x		-0.000	-0.000	0.000	0.000	0.000	-0.000	100.0%	0.000	-0.000
σ		0.018	0.051	0.249	0.470	0.180	0.590	0.9%	0.073	0.152
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.9	0.000	0.000
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	-0.025	-0.027	0.007	0.003	0.002	-0.007	-0.002	99.0%	-0.010
2	11:35:34	0.000	0.111	-0.004	-0.027	-0.001	0.004	0.006	99.8%	0.019
3	11:36:00	0.024	-0.084	-0.003	0.024	-0.002	0.003	-0.004	101.1%	-0.009
x		0.000	0.000	0.000	0.000	0.000	-0.000	-0.000	100.0%	-0.000
σ		0.024	0.101	0.006	0.026	0.002	0.006	0.005	1.1%	0.017
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.1	0.000
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:35:08	0.009	-0.001	-0.002	0.000	-0.002	98.4%	0.004	-0.003	0.003
2	11:35:34	0.017	-0.003	-0.008	-0.006	-0.002	99.7%	0.002	0.001	-0.004
3	11:36:00	-0.026	0.004	0.010	0.005	0.004	101.9%	-0.006	0.003	0.002
x		0.000	-0.000	-0.000	0.000	-0.000	100.0%	-0.000	0.000	-0.000
σ		0.023	0.004	0.009	0.006	0.003	1.8%	0.005	0.003	0.004
%RSD		0.000	0.000	0.000	0.000	0.000	1.8	0.000	0.000	0.000
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	11:35:08	-0.005	0.003	98.2%						
2	11:35:34	-0.000	-0.001	100.4%						
3	11:36:00	0.005	-0.003	101.4%						
x		0.000	0.000	100.0%						
σ		0.005	0.003	1.6%						
%RSD		0.000	0.000	1.6						

PDF created with pdfFactory trial version www.pdffactory.com

cal1 MW9461 6/6/2017 11:40:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	99.0%	0.402	25.390	24.250	201.300	46.740	46.520	46.860	39.180
2	11:40:54	99.7%	0.434	24.140	24.420	199.700	45.770	44.210	47.140	39.540
3	11:41:20	103.7%	0.430	25.090	22.900	199.000	44.680	45.430	47.060	39.640
x		100.8%	0.422	24.870	23.860	200.000	45.730	45.380	47.020	39.450
σ		2.5%	0.018	0.651	0.836	1.158	1.027	1.158	0.142	0.243
%RSD		2.5	4.170	2.617	3.503	0.579	2.246	2.551	0.302	0.615
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	99.630	-0.607	206.500	197.000	185.700	100.6%	5.338	4.840	1.006
2	11:40:54	99.690	-2.243	207.300	207.700	191.000	100.4%	4.745	4.916	0.992
3	11:41:20	99.430	-1.979	206.100	215.000	187.200	99.5%	5.276	4.889	0.980
x		99.580	-1.610	206.600	206.600	188.000	100.2%	5.120	4.882	0.993
σ		0.135	0.878	0.598	9.093	2.749	0.6%	0.326	0.038	0.013
%RSD		0.136	54.570	0.289	4.402	1.462	0.6	6.363	0.784	1.313
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	-0.004	4.965	19.030	20.280	4.741	4.701	1.002	0.920	10.280
2	11:40:54	-0.016	5.111	18.130	18.120	4.813	4.864	0.995	0.958	9.699
3	11:41:20	-0.026	4.980	18.090	22.000	4.765	4.912	0.925	0.931	9.816
x		-0.015	5.019	18.420	20.130	4.773	4.825	0.974	0.936	9.931
σ		0.011	0.080	0.531	1.944	0.036	0.111	0.043	0.020	0.306
%RSD		72.570	1.597	2.884	9.658	0.763	2.295	4.379	2.089	3.087
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	0.902	0.636	-0.390	-0.397	0.565	-0.647	99.1%	8.991	9.308
2	11:40:54	1.029	1.159	-0.452	-0.146	1.315	-0.702	101.6%	9.048	9.662
3	11:41:20	0.896	1.105	-0.625	-0.437	0.611	-0.329	102.6%	9.811	10.090
x		0.943	0.967	-0.489	-0.327	0.830	-0.559	101.1%	9.283	9.686
σ		0.075	0.288	0.122	0.158	0.421	0.202	1.8%	0.458	0.391
%RSD		7.967	29.740	24.920	48.400	50.690	36.050	1.8	4.930	4.033
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	9.175	0.963	0.918	-0.235	0.911	0.070	0.089	99.4%	2.984
2	11:40:54	9.655	0.591	0.907	-0.185	0.912	0.111	0.121	101.2%	3.038
3	11:41:20	9.825	0.060	0.905	0.053	0.917	0.054	0.105	102.9%	2.960
x		9.551	0.538	0.910	-0.122	0.914	0.078	0.105	101.1%	2.994
σ		0.337	0.454	0.007	0.154	0.003	0.029	0.016	1.8%	0.040
%RSD		3.529	84.390	0.751	125.900	0.358	37.370	14.920	1.7	1.339
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:40:28	4.562	0.909	0.919	4.780	4.816	99.1%	0.430	0.467	1.008
2	11:40:54	4.262	0.894	0.978	5.056	5.028	100.4%	0.479	0.441	0.860
3	11:41:20	4.304	0.903	0.881	4.709	4.625	101.4%	0.500	0.458	0.975
x		4.376	0.902	0.926	4.849	4.823	100.3%	0.470	0.455	0.948
σ		0.163	0.008	0.049	0.183	0.202	1.2%	0.036	0.013	0.078
%RSD		3.716	0.862	5.278	3.779	4.184	1.2	7.619	2.961	8.183
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	11:40:28	0.925	0.933	99.0%						
2	11:40:54	0.909	0.951	101.5%						
3	11:41:20	0.896	0.951	102.0%						
x		0.910	0.945	100.8%						
σ		0.014	0.011	1.6%						
%RSD		1.559	1.131	1.6						

PDF created with pdfFactory trial version www.pdffactory.com

cal2 MW9462 6/6/2017 11:45:22

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	96.9%	2.116	124.700	126.500	T 986.700	240.600	232.800	243.000	202.300
2	11:46:14	101.0%	1.912	126.900	124.500	T 1008.000	239.600	230.000	241.200	207.100
3	11:46:40	101.4%	1.945	126.200	123.700	T 975.500	233.100	221.800	232.800	198.600
x		99.8%	1.991	125.900	124.900	T 990.000	237.800	228.200	239.000	202.700
σ		2.5%	0.109	1.142	1.448	T 16.390	4.048	5.733	5.410	4.264
%RSD		2.5	5.491	0.907	1.159	T 1.656	1.703	2.512	2.264	2.104

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	504.000	-2.530	1044.000	1079.000	962.900	101.3%	24.070	24.110	4.854
2	11:46:14	511.300	-2.841	1063.000	1084.000	958.200	101.5%	24.310	23.580	4.810
3	11:46:40	496.700	-3.278	1048.000	1062.000	953.700	103.5%	24.870	23.490	4.696
x		504.000	-2.883	1052.000	1075.000	958.200	102.1%	24.420	23.720	4.786
σ		7.283	0.376	9.972	11.380	4.617	1.2%	0.409	0.336	0.081
%RSD		1.445	13.040	0.948	1.058	0.482	1.2	1.676	1.417	1.699

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	-0.052	24.310	95.540	99.440	23.890	25.040	4.703	5.049	49.650
2	11:46:14	-0.091	24.520	97.820	99.550	23.820	24.770	4.608	4.869	48.940
3	11:46:40	0.101	24.400	97.080	96.290	23.680	25.080	4.801	4.735	49.110
x		-0.014	24.410	96.810	98.430	23.800	24.960	4.704	4.884	49.230
σ		0.102	0.107	1.159	1.850	0.103	0.167	0.096	0.158	0.375
%RSD		717.200	0.439	1.197	1.879	0.434	0.669	2.050	3.224	0.761

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	4.880	4.620	0.284	0.297	4.973	-0.482	100.5%	49.860	50.780
2	11:46:14	4.663	4.785	0.095	-0.110	4.343	-0.329	102.3%	50.510	51.130
3	11:46:40	4.494	5.144	0.287	1.035	4.094	0.657	101.8%	50.210	51.010
x		4.679	4.850	0.222	0.407	4.470	-0.052	101.6%	50.190	50.980
σ		0.194	0.268	0.110	0.580	0.453	0.618	0.9%	0.326	0.177
%RSD		4.142	5.523	49.440	142.500	10.130	1200.000	0.9	0.649	0.347

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	51.290	2.566	4.638	-0.535	4.565	0.345	0.472	99.0%	16.250
2	11:46:14	51.380	2.034	4.430	-0.036	4.617	0.375	0.543	101.6%	16.830
3	11:46:40	51.950	1.894	4.479	-0.376	4.591	0.286	0.516	101.5%	16.150
x		51.540	2.165	4.515	-0.316	4.591	0.335	0.511	100.7%	16.410
σ		0.355	0.355	0.109	0.255	0.026	0.045	0.036	1.5%	0.368
%RSD		0.689	16.400	2.413	80.710	0.556	13.490	7.018	1.5	2.242

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:45:48	23.950	4.558	4.630	24.450	24.080	99.0%	2.362	2.295	4.814
2	11:46:14	24.070	4.652	4.722	25.010	24.430	99.9%	2.324	2.331	4.679
3	11:46:40	23.860	4.545	4.818	24.790	24.570	100.7%	2.370	2.378	4.869
x		23.960	4.585	4.723	24.750	24.360	99.9%	2.352	2.335	4.787
σ		0.101	0.059	0.094	0.281	0.254	0.8%	0.025	0.041	0.098
%RSD		0.420	1.278	1.991	1.136	1.041	0.8	1.047	1.776	2.048

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:45:48	4.650	4.777	98.7%
2	11:46:14	4.807	4.708	101.4%
3	11:46:40	4.640	4.772	102.7%
x		4.699	4.752	100.9%
σ		0.094	0.038	2.0%
%RSD		1.992	0.806	2.0

PDF created with pdfFactory trial version www.pdffactory.com

cal3 MW9463 6/6/2017 11:50:42

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	98.1%	251.500	252.300	254.000	261.000	247.300	236.800	244.400	261.100
2	11:51:33	100.1%	249.700	250.800	251.100	257.000	242.000	234.700	238.800	264.400
3	11:51:59	101.3%	246.600	255.400	247.400	252.500	237.300	225.900	235.900	254.300
x		99.8%	249.300	252.800	250.900	256.800	242.200	232.500	239.700	259.900
σ		1.6%	2.508	2.341	3.318	4.222	5.008	5.807	4.361	5.140
%RSD		1.6	1.006	0.926	1.323	1.644	2.068	2.498	1.819	1.977

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	269.400	-1.671	260.200	482.300	364.800	101.6%	249.600	254.200	251.600
2	11:51:33	275.700	-1.815	269.200	523.500	369.100	100.1%	251.100	253.400	253.700
3	11:51:59	T 265.500	-3.600	261.800	518.400	353.900	101.5%	249.800	250.000	249.400
x		T 270.200	-2.362	263.700	508.100	362.600	101.1%	250.200	252.500	251.600
σ		T 5.161	1.075	4.827	22.410	7.850	0.8%	0.813	2.228	2.132
%RSD		T 1.910	45.500	1.830	4.410	2.165	0.8	0.325	0.882	0.847

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	-5.849	259.900	258.800	250.400	254.000	254.000	249.600	250.100	250.000
2	11:51:33	-3.733	264.200	261.600	249.800	257.800	248.700	248.500	245.000	245.900
3	11:51:59	-4.260	261.000	257.800	251.000	252.200	247.800	246.500	242.200	242.100
x		-4.614	261.700	259.400	250.400	254.700	250.200	248.200	245.700	246.000
σ		1.102	2.222	1.985	0.615	2.831	3.374	1.558	4.027	3.952
%RSD		23.880	0.849	0.765	0.246	1.112	1.349	0.628	1.639	1.606

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	250.700	246.200	-0.645	-0.485	254.900	-0.488	100.7%	228.600	230.800
2	11:51:33	249.600	252.300	-0.306	-0.383	249.500	0.485	101.6%	239.600	241.300
3	11:51:59	248.800	252.900	-0.269	-0.104	247.700	-0.537	102.8%	245.400	247.500
x		249.700	250.500	-0.407	-0.324	250.700	-0.180	101.7%	237.900	239.900
σ		0.951	3.699	0.207	0.197	3.743	0.576	1.0%	8.503	8.449
%RSD		0.381	1.477	50.880	60.830	1.493	320.200	1.0	3.575	3.522

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	234.900	252.500	246.000	-0.130	240.900	247.900	244.500	100.5%	243.300
2	11:51:33	246.400	252.100	240.700	-2.014	241.100	249.100	244.100	101.5%	246.600
3	11:51:59	251.400	252.400	239.800	0.837	238.900	246.900	240.400	102.7%	244.300
x		244.200	252.400	242.200	-0.436	240.300	248.000	243.000	101.6%	244.700
σ		8.475	0.206	3.352	1.450	1.258	1.106	2.273	1.1%	1.690
%RSD		3.470	0.082	1.384	332.900	0.523	0.446	0.935	1.1	0.691

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:51:07	257.800	237.700	237.600	249.300	247.800	99.0%	240.900	257.600	247.300
2	11:51:33	260.800	238.500	240.300	248.400	247.200	101.1%	244.100	259.600	247.400
3	11:51:59	260.000	240.500	242.000	246.800	245.400	101.9%	241.400	259.100	244.700
x		259.500	238.900	239.900	248.200	246.800	100.6%	242.100	258.700	246.500
σ		1.568	1.473	2.222	1.242	1.258	1.5%	1.732	1.046	1.551
%RSD		0.604	0.617	0.926	0.500	0.510	1.5	0.716	0.404	0.629

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:51:07	244.900	255.300	99.7%
2	11:51:33	244.700	253.600	101.4%
3	11:51:59	242.500	254.500	103.5%
x		244.000	254.500	101.5%
σ		1.335	0.853	1.9%
%RSD		0.547	0.335	1.9

PDF created with pdfFactory trial version www.pdffactory.com

cal4 MW9464 6/6/2017 11:56:02

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	98.8%	M 504.400	M 502.900	M 511.900	526.300	T 484.500	467.300	490.800	TM 504.700
2	11:56:53	99.5%	499.900	485.000	M 501.500	521.800	501.100	473.600	499.900	TM 512.500
3	11:57:19	101.3%	496.800	493.000	496.200	521.000	T 481.800	469.600	490.000	TM 512.400
x		99.9%	M 500.400	M 493.600	M 503.200	523.000	T 489.200	470.200	493.600	TM 509.900
σ		1.3%	M 3.813	M 8.958	M 7.971	2.850	T 10.450	3.193	5.498	TM 4.461
%RSD		1.3	M 0.762	M 1.815	M 1.584	0.545	T 2.137	0.679	1.114	TM 0.875

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	517.900	-3.677	520.100	962.500	725.600	103.0%	499.400	T 498.500	T 495.200
2	11:56:53	515.100	-3.666	508.900	945.700	713.700	102.3%	M 500.800	TM 500.100	TM 502.500
3	11:57:19	513.300	-4.519	509.700	970.100	706.400	103.0%	499.800	T 497.800	T 500.000
x		515.400	-3.954	512.900	959.500	715.300	102.7%	M 500.000	TM 498.800	TM 499.200
σ		2.323	0.489	6.246	12.510	9.719	0.4%	M 0.719	TM 1.174	TM 3.675
%RSD		0.451	12.380	1.218	1.303	1.359	0.4	M 0.144	TM 0.235	TM 0.736

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	-5.707	TM 508.600	T 501.400	497.100	TM 500.900	M 516.600	M 506.900	M 506.700	M 506.500
2	11:56:53	-7.707	TM 506.200	T 496.500	491.500	T 497.000	M 508.200	M 512.500	M 502.900	M 501.900
3	11:57:19	-8.256	TM 511.300	T 497.900	495.600	T 495.400	M 503.100	M 506.200	496.800	497.800
x		-7.224	TM 508.700	T 498.600	494.700	TM 497.700	M 509.300	M 508.500	M 502.100	M 502.100
σ		1.342	TM 2.535	T 2.534	2.893	TM 2.829	M 6.824	M 3.445	M 5.007	M 4.339
%RSD		18.570	TM 0.498	T 0.508	0.585	TM 0.568	M 1.340	M 0.677	M 0.997	M 0.864

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	M 502.300	497.000	-0.212	-0.341	M 504.600	0.091	101.1%	465.000	469.300
2	11:56:53	M 504.700	M 502.700	-0.313	-0.413	497.700	0.855	102.0%	485.800	490.600
3	11:57:19	499.200	499.600	-0.374	-0.346	497.900	1.553	104.0%	M 508.100	M 514.200
x		M 502.100	M 499.800	-0.300	-0.366	M 500.100	0.833	102.4%	M 486.300	M 491.300
σ		M 2.763	M 2.826	0.082	0.040	M 3.897	0.732	1.5%	M 21.510	M 22.430
%RSD		M 0.550	M 0.565	27.360	10.950	M 0.779	87.830	1.4	M 4.423	M 4.565

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	484.700	M 507.100	M 511.700	-4.186	M 503.200	500.000	M 505.300	100.2%	M 504.100
2	11:56:53	M 500.200	492.200	M 510.400	4.521	M 504.700	M 501.700	M 502.300	101.9%	M 501.300
3	11:57:19	M 523.400	497.100	M 508.800	0.258	M 506.700	M 501.400	M 501.200	102.9%	M 503.800
x		M 502.700	M 498.800	M 510.300	0.198	M 504.800	M 501.000	M 502.900	101.7%	M 503.100
σ		M 19.460	M 7.622	M 1.494	4.354	M 1.752	M 0.897	M 2.102	1.4%	M 1.530
%RSD		M 3.871	M 1.528	M 0.293	2203.000	M 0.347	M 0.179	M 0.418	1.4	M 0.304

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	11:56:28	M 540.900	M 503.000	M 501.900	M 502.500	M 502.700	99.3%	M 504.800	T 497.700	TM 505.800
2	11:56:53	M 534.700	M 504.500	M 505.300	M 501.100	M 500.000	101.6%	M 502.500	T 492.600	T 500.000
3	11:57:19	M 535.700	M 509.200	M 508.000	499.200	M 502.200	102.4%	M 504.600	T 496.600	T 499.500
x		M 537.100	M 505.600	M 505.000	M 500.900	M 501.600	101.1%	M 503.900	T 495.600	TM 501.800
σ		M 3.292	M 3.253	M 3.068	M 1.663	M 1.433	1.6%	M 1.242	T 2.680	TM 3.526
%RSD		M 0.613	M 0.644	M 0.608	M 0.332	M 0.286	1.6	M 0.247	T 0.541	TM 0.703

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	11:56:28	M 505.100	TM 501.300	99.4%
2	11:56:53	M 501.200	T 492.800	101.4%
3	11:57:19	M 502.700	T 499.200	102.8%
x		M 503.000	TM 497.800	101.2%
σ		M 1.994	TM 4.396	1.7%
%RSD		M 0.396	TM 0.883	1.7

PDF created with pdfFactory trial version www.pdffactory.com

cal5 MW9471 6/6/2017 12:01:22

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	87.6%	0.015	4.655	4.673	┬50350.000	┬49950.000	┬49750.000	┬50690.000	-1.030
2	12:02:13	91.6%	0.065	4.026	4.066	┬50970.000	┬49010.000	┬49230.000	┬50600.000	-0.960
3	12:02:39	92.4%	0.003	3.171	3.576	┬49720.000	┬48280.000	┬48520.000	┬50080.000	-1.009
x		90.5%	0.028	3.951	4.105	┬50350.000	┬49080.000	┬49170.000	┬50460.000	-1.000
σ		2.6%	0.033	0.745	0.550	┬625.800	┬836.000	┬615.200	┬327.300	0.036
%RSD		2.8	117.600	18.850	13.390	┬1.243	┬1.703	┬1.251	┬0.649	3.589

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	┬5133.000	-1.170	┬51910.000	50960.000	┬51050.000	99.9%	1.007	0.179	0.553
2	12:02:13	┬5150.000	-3.024	┬52660.000	50810.000	┬51290.000	99.4%	0.942	0.167	0.555
3	12:02:39	┬5097.000	-3.028	┬51960.000	50670.000	┬50920.000	101.6%	0.824	0.119	0.554
x		┬5127.000	-2.407	┬52180.000	50810.000	┬51090.000	100.3%	0.924	0.155	0.554
σ		┬27.320	1.072	┬417.800	144.500	┬187.000	1.2%	0.093	0.032	0.001
%RSD		┬0.533	44.520	┬0.801	0.284	┬0.366	1.2	10.060	20.420	0.153

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	-0.036	0.360	┬48510.000	┬50260.000	-0.132	0.690	0.290	0.242	0.563
2	12:02:13	0.001	0.357	┬49590.000	┬51550.000	-0.144	0.653	0.252	0.223	0.647
3	12:02:39	0.018	0.361	┬49560.000	┬51060.000	-0.135	0.548	0.239	0.212	0.524
x		-0.006	0.359	┬49220.000	┬50960.000	-0.137	0.630	0.260	0.226	0.578
σ		0.028	0.002	┬615.500	┬651.100	0.007	0.073	0.026	0.015	0.063
%RSD		490.600	0.569	┬1.251	┬1.278	4.764	11.640	10.170	6.629	10.900

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	-0.095	0.231	0.484	-0.374	-0.476	-0.025	98.6%	1.715	1.566
2	12:02:13	0.054	-0.129	0.192	-0.511	0.419	-0.476	100.5%	1.788	1.672
3	12:02:39	-0.118	0.193	0.208	-0.172	-0.551	1.299	100.7%	1.849	1.546
x		-0.053	0.098	0.294	-0.352	-0.203	0.266	100.0%	1.784	1.595
σ		0.094	0.198	0.164	0.170	0.540	0.923	1.2%	0.067	0.068
%RSD		175.600	201.200	55.760	48.360	266.300	346.600	1.2	3.777	4.260

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	1.586	-0.166	0.188	0.183	0.199	0.011	0.025	95.3%	0.190
2	12:02:13	1.715	0.868	0.183	-0.310	0.184	-0.013	0.027	97.4%	0.224
3	12:02:39	1.718	0.091	0.188	-0.021	0.183	0.028	0.018	98.3%	0.216
x		1.673	0.264	0.186	-0.049	0.189	0.009	0.023	97.0%	0.210
σ		0.075	0.539	0.003	0.248	0.009	0.021	0.004	1.5%	0.018
%RSD		4.510	203.800	1.511	501.500	4.629	241.500	18.680	1.6	8.604

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:01:47	0.191	0.888	0.867	0.259	0.200	96.8%	0.026	0.019	0.128
2	12:02:13	0.437	0.937	0.869	0.128	0.257	98.1%	0.025	0.010	0.130
3	12:02:39	0.303	0.800	0.914	0.244	0.253	99.9%	0.026	0.010	0.110
x		0.311	0.875	0.884	0.210	0.237	98.3%	0.026	0.013	0.123
σ		0.123	0.069	0.027	0.072	0.032	1.6%	0.001	0.005	0.011
%RSD		39.650	7.921	3.027	34.300	13.420	1.6	2.497	38.140	8.974

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:01:47	0.111	0.106	89.5%
2	12:02:13	0.117	0.104	92.8%
3	12:02:39	0.127	0.097	93.9%
x		0.119	0.102	92.1%
σ		0.008	0.005	2.3%
%RSD		6.678	4.661	2.5

PDF created with pdfFactory trial version www.pdffactory.com

cal6 MW9472 6/6/2017 12:06:43

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	79.5%	0.026	1.865	1.931	T 98900.000	TM 103700.000	TM 103300.000	TM 105300.000	0.830
2	12:07:35	82.1%	0.014	1.184	2.104	T 88730.000	T 97750.000	T 97190.000	T 99610.000	0.526
3	12:08:01	84.1%	-0.013	1.410	1.804	TM 100500.000	T 99980.000	TM 100800.000	TM 102300.000	0.816
x		81.9%	0.009	1.486	1.946	TM 96050.000	TM 100500.000	TM 100400.000	TM 102400.000	0.724
σ		2.3%	0.020	0.347	0.150	TM 6396.000	TM 2978.000	TM 3065.000	TM 2844.000	0.171
%RSD		2.8	224.800	23.340	7.732	TM 6.659	TM 2.965	TM 3.052	TM 2.777	23.670

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	T 9962.000	-0.418	TM 101300.000	M 102700.000	TM 101900.000	100.7%	1.614	0.122	1.020
2	12:07:35	T 9082.000	-2.978	T 91390.000	92420.000	T 92480.000	T 112.3%	1.304	0.104	0.939
3	12:08:01	TM 10080.000	-3.573	TM 104000.000	M 103600.000	TM 104000.000	101.4%	1.620	0.105	1.003
x		TM 9707.000	-2.323	TM 98910.000	M 99590.000	TM 99460.000	T 104.8%	1.513	0.110	0.987
σ		TM 544.200	1.676	TM 6659.000	M 6231.000	TM 6140.000	T 6.5%	0.181	0.010	0.043
%RSD		TM 5.607	72.160	TM 6.732	M 6.256	TM 6.174	T 6.2	11.970	8.827	4.340

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	0.025	0.503	T 96020.000	T 99750.000	-0.359	1.318	0.456	0.573	1.309
2	12:07:35	0.026	0.495	T 88760.000	T 89630.000	-0.390	1.429	0.423	0.582	1.612
3	12:08:01	0.042	0.569	T 96130.000	TM 100800.000	-0.374	1.191	0.503	0.433	1.315
x		0.031	0.522	T 93640.000	TM 96710.000	-0.375	1.313	0.461	0.529	1.412
σ		0.009	0.041	T 4221.000	TM 6158.000	0.016	0.119	0.040	0.083	0.173
%RSD		30.500	7.808	T 4.508	TM 6.367	4.176	9.061	8.741	15.770	12.260

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	-0.036	0.152	1.454	-0.050	-0.132	-0.427	98.4%	0.272	-0.090
2	12:07:35	-0.125	0.013	1.180	-0.416	-0.362	-0.690	99.4%	0.115	0.005
3	12:08:01	-0.001	0.190	1.567	-1.190	-0.161	0.299	101.0%	0.244	0.180
x		-0.054	0.118	1.400	-0.552	-0.218	-0.273	99.6%	0.210	0.031
σ		0.064	0.093	0.199	0.582	0.125	0.512	1.3%	0.083	0.137
%RSD		118.500	79.010	14.220	105.500	57.370	188.000	1.3	39.620	438.900

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	0.072	0.905	0.346	-0.280	0.325	0.009	0.015	93.7%	0.110
2	12:07:35	0.010	0.882	0.363	-0.316	0.302	0.020	0.006	95.6%	0.090
3	12:08:01	0.205	-0.530	0.334	0.208	0.336	0.034	0.011	97.5%	0.129
x		0.095	0.419	0.348	-0.129	0.321	0.021	0.011	95.6%	0.109
σ		0.100	0.822	0.015	0.293	0.017	0.013	0.004	1.9%	0.019
%RSD		104.400	196.200	4.270	226.500	5.354	60.750	39.740	2.0	17.630

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:07:09	0.242	0.350	0.338	0.470	0.534	95.3%	0.003	0.002	0.198
2	12:07:35	0.289	0.345	0.427	0.461	0.493	96.8%	-0.005	0.001	0.224
3	12:08:01	0.027	0.403	0.393	0.498	0.498	99.5%	0.008	-0.003	0.171
x		0.186	0.366	0.386	0.476	0.508	97.2%	0.002	-0.000	0.198
σ		0.139	0.032	0.045	0.019	0.023	2.1%	0.006	0.002	0.026
%RSD		74.880	8.692	11.600	4.000	4.451	2.2	394.300	713.300	13.370

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:07:09	0.223	0.198	86.8%
2	12:07:35	0.212	0.191	88.3%
3	12:08:01	0.187	0.171	89.9%
x		0.207	0.186	88.3%
σ		0.018	0.014	1.6%
%RSD		8.738	7.535	1.8

PDF created with pdfFactory trial version www.pdffactory.com

ICV MW-9475 PREP 6/6/17 6/6/2017 12:12:06 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	88.9%	220.400	201.300	220.600	┬40540.000	┬40710.000	┬40330.000	┬41330.000	202.500
2	12:12:57	91.9%	214.900	199.600	212.800	┬39840.000	┬39170.000	┬39140.000	┬39900.000	200.900
3	12:13:23	93.2%	206.100	195.700	204.200	┬39390.000	┬38580.000	┬38700.000	┬39570.000	199.600
x		91.3%	106.903%	99.435%	106.271%	┬99.809%	┬39490.000	┬39390.000	┬100.662%	100.508%
σ		2.2%	n/a	n/a	n/a	┬n/a	┬1098.000	┬842.900	┬n/a	n/a
%RSD		2.4	3.364	1.443	3.867	┬1.461	┬2.780	┬2.140	┬2.326	0.720
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	┬2004.000	-3.184	┬40020.000	40990.000	┬41200.000	105.2%	204.100	201.700	194.100
2	12:12:57	┬2043.000	-2.341	┬40420.000	40550.000	┬40490.000	103.6%	200.600	197.600	189.600
3	12:13:23	┬2003.000	-3.457	┬40190.000	40150.000	┬40160.000	104.4%	196.500	195.600	189.900
x		┬100.828%	-2.994	┬100.522%	40560.000	┬101.539%	104.4%	100.201%	99.150%	95.601%
σ		┬n/a	0.582	┬n/a	422.300	┬n/a	0.8%	n/a	n/a	n/a
%RSD		┬1.157	19.430	┬0.504	1.041	┬1.312	0.8	1.897	1.582	1.296
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	-3.962	198.100	┬39040.000	┬39920.000	196.100	201.800	185.200	208.600	205.400
2	12:12:57	-3.566	197.000	┬38780.000	┬40080.000	191.800	189.100	181.200	200.500	198.100
3	12:13:23	-2.426	196.000	┬38390.000	┬39820.000	191.000	188.400	180.300	198.300	196.200
x		-3.318	98.515%	┬96.839%	┬99.851%	96.471%	96.546%	182.200	101.241%	99.961%
σ		0.797	n/a	┬n/a	┬n/a	n/a	n/a	2.616	n/a	n/a
%RSD		24.030	0.521	┬0.841	┬0.323	1.417	3.888	1.435	2.655	2.427
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	198.900	191.700	0.603	-0.021	212.700	-0.509	101.0%	190.700	194.800
2	12:12:57	194.800	185.300	0.207	-0.018	195.100	-1.124	102.6%	197.800	199.600
3	12:13:23	193.200	184.400	0.286	0.583	203.200	-1.149	103.9%	201.300	206.700
x		97.820%	187.100	0.365	0.182	101.838%	-0.927	102.5%	98.289%	100.172%
σ		n/a	3.998	0.210	0.348	n/a	0.363	1.4%	n/a	n/a
%RSD		1.496	2.136	57.490	191.500	4.302	39.110	1.4	2.759	3.002
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	197.900	199.300	186.700	-3.604	170.800	192.400	202.600	98.4%	195.100
2	12:12:57	202.600	188.200	178.400	-1.643	166.000	186.600	196.900	100.8%	190.000
3	12:13:23	208.200	191.500	177.400	0.133	164.900	185.100	194.300	101.4%	189.000
x		101.441%	193.000	90.430%	-1.705	167.200	94.020%	98.962%	100.2%	95.699%
σ		n/a	5.708	n/a	1.870	3.151	n/a	n/a	1.6%	n/a
%RSD		2.526	2.958	2.812	109.700	1.884	2.068	2.154	1.6	1.709
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:12:31	209.500	197.200	199.000	200.600	199.400	99.1%	197.400	193.400	200.300
2	12:12:57	203.100	190.300	192.700	193.200	191.500	100.4%	191.200	189.600	194.100
3	12:13:23	202.700	192.300	193.300	193.500	192.500	101.8%	191.700	190.000	194.500
x		102.566%	96.628%	97.500%	97.883%	97.235%	100.4%	193.400	95.509%	196.300
σ		n/a	n/a	n/a	n/a	n/a	1.3%	3.435	n/a	3.473
%RSD		1.848	1.823	1.786	2.135	2.224	1.3	1.776	1.100	1.769
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	12:12:31	199.300	189.400	91.8%						
2	12:12:57	191.500	184.700	94.1%						
3	12:13:23	191.600	184.800	95.3%						
x		194.100	93.170%	93.8%						
σ		4.479	n/a	1.8%						
%RSD		2.308	1.444	1.9						

PDF created with pdfFactory trial version www.pdffactory.com

ICB IM7804-01 6/6/2017 12:17:27 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	98.4%	0.014	1.512	1.400	2.384	1.715	1.609	1.740	0.165
2	12:18:18	98.9%	0.044	1.223	1.310	2.535	1.802	1.516	1.953	0.295
3	12:18:44	101.2%	0.047	1.604	1.073	2.377	1.557	1.220	1.614	0.160
x		99.5%	0.035	1.446	1.261	2.432	1.691	1.448	1.769	0.207
σ		1.5%	0.018	0.199	0.169	0.090	0.124	0.203	0.171	0.076
%RSD		1.5	52.950	13.750	13.390	3.682	7.341	14.030	9.687	37.020

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	2.616	-0.878	0.097	1.497	-0.251	106.9%	-0.021	0.076	0.025
2	12:18:18	2.773	-2.381	0.879	3.485	-0.244	104.3%	0.009	0.072	0.002
3	12:18:44	1.975	-3.665	0.684	3.734	0.601	105.9%	-0.002	0.063	0.005
x		2.455	-2.308	0.553	2.905	0.035	105.7%	-0.005	0.070	0.010
σ		0.423	1.395	0.407	1.226	0.490	1.3%	0.015	0.007	0.012
%RSD		17.220	60.450	73.590	42.190	1384.000	1.3	308.000	9.601	117.300

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	-0.006	0.006	2.969	4.070	-0.001	-0.097	0.019	-0.012	0.013
2	12:18:18	0.011	0.006	4.953	4.191	-0.005	-0.094	-0.048	-0.009	0.017
3	12:18:44	0.018	0.008	3.926	4.367	0.002	-0.095	0.006	-0.002	-0.050
x		0.007	0.007	3.949	4.209	-0.001	-0.095	-0.008	-0.008	-0.007
σ		0.013	0.001	0.993	0.149	0.004	0.002	0.035	0.005	0.038
%RSD		169.600	20.400	25.130	3.547	280.000	1.701	457.600	64.940	571.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	-0.138	-0.074	-0.187	0.236	-0.390	1.559	103.2%	0.429	0.431
2	12:18:18	-0.199	-0.071	-0.163	0.305	-0.680	0.394	103.8%	0.641	0.522
3	12:18:44	-0.037	-0.115	-0.085	0.548	0.091	0.147	105.5%	0.717	0.491
x		-0.125	-0.086	-0.145	0.363	-0.327	0.700	104.2%	0.596	0.481
σ		0.082	0.025	0.053	0.164	0.389	0.754	1.2%	0.150	0.046
%RSD		65.730	28.660	36.740	45.230	119.200	107.700	1.1	25.120	9.609

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	0.503	0.156	0.012	-0.065	0.010	-0.006	0.008	102.3%	0.042
2	12:18:18	0.566	0.121	0.010	-0.011	0.014	0.005	0.005	103.8%	0.025
3	12:18:44	0.658	0.457	0.006	-0.097	0.010	-0.010	0.012	104.1%	0.047
x		0.576	0.245	0.009	-0.058	0.011	-0.004	0.009	103.4%	0.038
σ		0.078	0.185	0.003	0.043	0.002	0.008	0.004	0.9%	0.011
%RSD		13.550	75.510	28.530	74.680	19.750	198.400	42.090	0.9	29.750

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:17:53	0.076	0.215	0.193	-0.000	-0.006	98.6%	0.009	0.002	0.008
2	12:18:18	0.067	0.213	0.234	0.011	-0.019	101.1%	0.011	0.005	0.011
3	12:18:44	0.122	0.241	0.283	0.028	0.006	102.0%	0.005	-0.001	0.010
x		0.088	0.223	0.237	0.013	-0.006	100.6%	0.008	0.002	0.009
σ		0.030	0.015	0.045	0.014	0.013	1.7%	0.003	0.003	0.002
%RSD		33.620	6.936	19.020	110.300	206.100	1.7	33.080	155.700	16.340

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:17:53	-0.005	0.007	99.5%
2	12:18:18	0.007	0.003	100.4%
3	12:18:44	0.000	0.008	102.9%
x		0.001	0.006	100.9%
σ		0.006	0.002	1.7%
%RSD		946.000	42.250	1.7

PDF created with pdfFactory trial version www.pdffactory.com

Co 4ppb MW-9483 6/6/2017 12:22:48

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	96.5%	4.129	4.272	3.962	T 785.500	T 756.600	753.500	779.400	2.769
2	12:23:40	99.2%	4.102	3.850	3.878	T 781.200	T 743.900	728.500	752.700	2.599
3	12:24:06	102.8%	4.050	4.362	3.585	T 759.900	T 704.700	693.100	732.600	2.795
x		99.5%	4.094	4.161	3.808	T 775.500	T 735.100	725.000	754.900	2.721
σ		3.2%	0.040	0.274	0.198	T 13.700	T 27.030	30.360	23.480	0.106
%RSD		3.2	0.981	6.572	5.194	T 1.766	T 3.678	4.187	3.110	3.908

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	39.680	-5.860	807.900	797.300	738.200	102.8%	3.931	2.323	3.743
2	12:23:40	38.100	-6.459	801.100	770.700	726.100	102.6%	3.725	2.505	3.651
3	12:24:06	40.690	-7.535	810.100	795.600	715.800	100.4%	3.500	2.451	3.675
x		39.490	-6.618	806.400	787.900	726.700	101.9%	3.718	2.426	3.689
σ		1.308	0.849	4.713	14.870	11.240	1.3%	0.216	0.094	0.048
%RSD		3.313	12.820	0.584	1.887	1.547	1.3	5.807	3.856	1.302

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	0.005	3.797	T 616.900	616.300	3.734	3.784	3.753	4.053	4.266
2	12:23:40	-0.073	3.670	T 588.900	599.300	3.644	3.772	3.792	4.029	4.106
3	12:24:06	0.041	3.805	T 597.500	614.400	3.699	3.570	3.718	3.718	3.937
x		-0.009	3.758	T 601.100	610.000	3.692	3.709	3.755	3.934	4.103
σ		0.058	0.076	T 14.350	9.283	0.046	0.121	0.037	0.187	0.165
%RSD		642.500	2.012	T 2.388	1.522	1.238	3.250	0.990	4.743	4.016

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	4.244	4.495	-0.405	-0.457	4.747	-0.500	101.1%	0.631	0.683
2	12:23:40	4.096	4.374	-0.239	-0.357	3.546	0.274	101.6%	0.549	0.622
3	12:24:06	3.820	4.432	-0.485	-0.253	4.514	-2.100	103.3%	0.562	0.669
x		4.054	4.434	-0.376	-0.356	4.269	-0.776	102.0%	0.581	0.658
σ		0.215	0.061	0.126	0.102	0.637	1.211	1.1%	0.044	0.032
%RSD		5.313	1.369	33.330	28.710	14.910	156.100	1.1	7.600	4.841

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	0.525	3.953	3.600	0.202	3.448	4.073	3.984	100.7%	2.366
2	12:23:40	0.474	4.415	3.445	-0.127	3.329	4.037	3.849	101.6%	2.500
3	12:24:06	0.603	3.428	3.483	0.262	3.372	4.018	3.789	102.4%	2.274
x		0.534	3.932	3.509	0.113	3.383	4.043	3.874	101.6%	2.380
σ		0.065	0.494	0.081	0.210	0.060	0.028	0.100	0.9%	0.114
%RSD		12.200	12.550	2.296	186.300	1.783	0.689	2.587	0.9	4.776

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:23:14	2.054	2.860	2.828	3.628	3.693	98.9%	3.752	3.645	3.843
2	12:23:40	1.949	2.905	3.065	3.525	3.579	100.2%	3.696	3.658	3.851
3	12:24:06	1.742	3.099	3.155	3.883	3.519	102.4%	3.610	3.591	3.540
x		1.915	2.955	3.016	3.679	3.597	100.5%	3.686	3.631	3.745
σ		0.159	0.127	0.169	0.185	0.088	1.7%	0.072	0.036	0.177
%RSD		8.286	4.295	5.596	5.015	2.445	1.7	1.943	0.988	4.737

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:23:14	3.802	3.695	96.8%
2	12:23:40	3.689	3.754	99.5%
3	12:24:06	3.571	3.548	100.8%
x		3.687	3.666	99.1%
σ		0.115	0.106	2.0%
%RSD		3.128	2.894	2.1

PDF created with pdfFactory trial version www.pdffactory.com

LLICV MW9461 6/6/2017 12:28:08 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	97.9%	0.321	25.510	24.690	195.700	46.100	46.190	46.610	38.370
2	12:28:59	98.5%	0.346	24.850	24.310	195.800	45.360	44.920	46.690	38.470
3	12:29:25	104.7%	0.375	25.230	23.450	197.300	44.270	43.510	46.500	39.220
x		100.4%	86.852%	100.786%	96.611%	98.143%	45.240	44.870	93.203%	96.718%
σ		3.8%	n/a	n/a	n/a	n/a	0.922	1.339	n/a	n/a
%RSD		3.8	7.763	1.313	2.626	0.464	2.038	2.983	0.201	1.197
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	95.770	-4.150	193.300	215.300	182.600	102.3%	4.557	4.698	0.952
2	12:28:59	96.650	-5.418	194.600	186.300	185.500	101.7%	4.822	4.633	0.947
3	12:29:25	99.610	-3.453	200.600	202.800	187.600	100.3%	5.264	4.923	1.026
x		97.343%	-4.341	98.086%	201.400	92.634%	101.4%	97.619%	95.033%	97.494%
σ		n/a	0.996	n/a	14.530	n/a	1.0%	n/a	n/a	n/a
%RSD		2.065	22.950	1.994	7.212	1.355	1.0	7.317	3.205	4.501
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	-0.002	4.775	19.180	21.310	4.674	4.659	1.001	0.916	9.769
2	12:28:59	0.011	4.717	18.710	23.450	4.617	4.918	0.963	0.949	9.853
3	12:29:25	-0.091	4.895	19.840	20.450	4.748	4.621	1.001	0.905	9.771
x		-0.028	95.920%	19.240	108.680%	93.593%	94.653%	0.988	92.296%	97.979%
σ		0.056	n/a	0.571	n/a	n/a	n/a	0.021	n/a	n/a
%RSD		201.000	1.896	2.967	7.104	1.410	3.415	2.173	2.481	0.488
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	0.850	0.929	-0.201	-0.190	0.595	1.133	99.8%	8.799	8.470
2	12:28:59	0.744	0.658	-0.353	0.183	0.454	-1.285	100.9%	9.070	8.868
3	12:29:25	0.795	0.789	-0.338	-1.112	0.389	0.253	102.7%	9.145	9.029
x		79.612%	0.792	-0.297	-0.373	47.934%	0.034	101.1%	9.005	87.890%
σ		n/a	0.136	0.084	0.667	n/a	1.224	1.5%	0.182	n/a
%RSD		6.660	17.120	28.270	178.700	22.000	3640.000	1.5	2.024	3.278
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	8.885	0.192	0.904	0.006	0.862	0.085	0.054	99.7%	2.909
2	12:28:59	8.757	-0.028	0.865	0.150	0.889	0.048	0.118	99.9%	3.064
3	12:29:25	9.660	0.933	0.955	-0.291	0.850	0.081	0.114	101.7%	2.932
x		9.101	0.366	90.804%	-0.045	0.867	0.071	95.412%	100.4%	2.969
σ		0.488	0.504	n/a	0.225	0.020	0.020	n/a	1.1%	0.083
%RSD		5.366	137.800	4.959	500.100	2.354	28.490	37.900	1.1	2.809
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:28:34	4.297	0.864	1.010	4.603	4.529	97.9%	0.436	0.471	0.917
2	12:28:59	4.375	0.986	0.945	4.955	4.876	99.1%	0.417	0.466	0.941
3	12:29:25	4.496	1.022	0.952	4.812	4.786	101.0%	0.508	0.443	0.940
x		87.788%	0.957	96.906%	95.797%	4.730	99.3%	0.454	92.002%	0.933
σ		n/a	0.083	n/a	n/a	0.180	1.6%	0.048	n/a	0.014
%RSD		2.283	8.685	3.645	3.703	3.808	1.6	10.600	3.346	1.449
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	12:28:34	0.904	0.857	97.3%						
2	12:28:59	0.930	0.928	100.0%						
3	12:29:25	0.911	0.925	101.4%						
x		0.915	90.311%	99.6%						
σ		0.013	n/a	2.1%						
%RSD		1.446	4.431	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

LLICV2 MW9462 6/6/2017 12:33:27

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	98.9%	1.974	124.700	119.300	T991.600	235.100	225.600	237.000	201.600
2	12:34:18	99.5%	1.896	122.200	120.300	T980.000	238.700	229.100	235.100	196.900
3	12:34:44	100.4%	1.913	118.600	117.400	T974.500	234.500	225.400	233.500	197.200
x		99.6%	1.928	121.800	119.000	T982.000	236.100	226.700	235.200	198.500
σ		0.8%	0.041	3.098	1.456	T8.756	2.280	2.095	1.729	2.685
%RSD		0.8	2.111	2.543	1.223	T0.892	0.966	0.924	0.735	1.352

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	502.500	-3.328	1013.000	1071.000	931.300	101.1%	24.810	23.370	4.847
2	12:34:18	484.000	-3.833	1002.000	1008.000	928.900	101.7%	24.790	23.340	4.827
3	12:34:44	482.600	-3.932	1014.000	1023.000	931.700	101.9%	23.880	23.220	4.616
x		489.700	-3.698	1010.000	1034.000	930.600	101.6%	24.500	23.310	4.763
σ		11.100	0.324	6.524	32.710	1.535	0.4%	0.534	0.075	0.128
%RSD		2.267	8.761	0.646	3.164	0.165	0.4	2.180	0.323	2.695

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	0.050	23.910	96.820	104.200	23.350	24.050	4.571	4.992	48.630
2	12:34:18	-0.068	23.820	95.450	99.230	22.900	23.930	4.543	4.780	48.890
3	12:34:44	-0.107	23.950	96.940	97.800	23.010	23.410	4.530	4.573	47.700
x		-0.042	23.890	96.410	100.400	23.080	23.800	4.548	4.782	48.410
σ		0.082	0.066	0.826	3.361	0.237	0.340	0.021	0.210	0.624
%RSD		196.700	0.278	0.857	3.347	1.025	1.429	0.467	4.382	1.289

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	4.873	4.594	-0.276	0.137	4.540	0.321	100.3%	47.960	48.910
2	12:34:18	4.460	3.898	-0.093	-0.640	4.643	-1.103	101.7%	48.010	48.040
3	12:34:44	4.339	4.408	-0.113	-0.164	4.528	-0.894	101.1%	48.790	49.650
x		4.557	4.300	-0.161	-0.222	4.570	-0.559	101.1%	48.250	48.870
σ		0.280	0.360	0.100	0.392	0.064	0.769	0.7%	0.464	0.809
%RSD		6.144	8.376	62.450	176.200	1.391	137.600	0.7	0.962	1.656

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	48.370	2.083	4.461	-0.063	4.402	0.333	0.481	100.3%	15.660
2	12:34:18	48.790	2.374	4.464	-0.490	4.456	0.373	0.490	100.6%	16.120
3	12:34:44	49.400	0.143	4.567	0.605	4.407	0.320	0.487	101.4%	16.000
x		48.850	1.533	4.497	0.017	4.421	0.342	0.486	100.8%	15.930
σ		0.516	1.213	0.060	0.552	0.030	0.028	0.005	0.6%	0.235
%RSD		1.056	79.090	1.345	3202.000	0.671	8.050	0.939	0.6	1.473

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:33:52	22.560	4.492	4.509	24.290	23.810	97.8%	2.268	2.255	4.594
2	12:34:18	23.410	4.498	4.730	24.160	24.560	100.1%	2.312	2.277	4.584
3	12:34:44	23.370	4.730	4.664	24.140	24.110	101.3%	2.317	2.288	4.681
x		23.110	4.574	4.635	24.200	24.160	99.7%	2.299	2.274	4.620
σ		0.480	0.136	0.114	0.080	0.379	1.7%	0.027	0.017	0.053
%RSD		2.076	2.966	2.450	0.332	1.567	1.8	1.187	0.756	1.150

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:33:52	4.659	4.612	98.7%
2	12:34:18	4.601	4.690	100.2%
3	12:34:44	4.711	4.648	100.6%
x		4.657	4.650	99.8%
σ		0.055	0.039	1.0%
%RSD		1.182	0.835	1.0

PDF created with pdfFactory trial version www.pdffactory.com

ICSA MW9430 6/6/2017 12:38:48 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	81.0%	0.042	29.040	31.100	T 101400.000	T 100100.000	T 99410.000	T 102600.000	T 100100.000
2	12:39:39	82.2%	0.051	28.240	31.630	T 100000.000	T 100100.000	T 99460.000	T 103000.000	T 100900.000
3	12:40:05	83.2%	0.071	26.960	31.460	T 99580.000	T 99870.000	T 98580.000	T 101400.000	T 98150.000
x		82.1%	1.#IO%	28.080	1.#IO%	T 100.326%	T 100000.000	T 99150.000	T 102.299%	T 99.713%
σ		1.1%	n/a	1.053	n/a	T n/a	T 123.300	T 498.700	T n/a	T n/a
%RSD		1.3	27.170	3.750	0.868	T 0.918	T 0.123	T 0.503	T 0.829	T 1.416

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	T 734.800	T 14830.000	T 103200.000	M 103000.000	T 102800.000	92.6%	M 2261.000	0.234	1.138
2	12:39:39	T 762.700	T 15870.000	T 108000.000	M 103700.000	T 104700.000	92.7%	M 2233.000	0.031	1.027
3	12:40:05	T 728.500	T 15410.000	T 104300.000	M 101500.000	T 102700.000	95.1%	M 2224.000	-0.024	0.996
x		T 1.#IO%	T 15370.000	T 105.175%	M 102700.000	T 103.414%	93.5%	M 111.966%	1.#IO%	1.#IO%
σ		T n/a	T 518.800	T n/a	M 1131.000	T n/a	1.4%	M n/a	n/a	n/a
%RSD		T 2.454	T 3.376	T 2.358	M 1.101	T 1.104	1.5	M 0.876	169.500	7.106

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	1.444	0.736	T 98150.000	T 102600.000	-0.661	1.207	-0.337	-0.047	4.268
2	12:39:39	1.483	0.750	T 101400.000	T 105600.000	-0.676	1.163	-0.225	-0.015	4.043
3	12:40:05	1.509	0.700	T 99300.000	T 103900.000	-0.693	1.205	-0.165	-0.061	3.919
x		1.479	1.#IO%	T 99620.000	T 104.039%	-1.#IO%	1.#IO%	-1.#IO%	-1.#IO%	1.#IO%
σ		0.033	n/a	T 1664.000	T n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.204	3.505	T 1.670	T 1.431	2.333	2.092	35.900	58.140	4.349

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	0.182	0.820	2.315	1.100	-0.193	2.493	90.0%	T 2652.000	M 2412.000
2	12:39:39	0.282	0.874	3.286	2.237	-0.121	0.880	91.6%	T 2734.000	M 2488.000
3	12:40:05	0.003	0.861	3.245	2.066	-0.029	4.002	93.4%	T 2694.000	M 2469.000
x		1.#IO%	0.852	2.949	1.801	-1.#IO%	2.458	91.7%	T 2693.000	M 122.811%
σ		n/a	0.028	0.549	0.613	n/a	1.561	1.7%	T 40.890	M n/a
%RSD		90.710	3.260	18.610	34.040	71.820	63.510	1.9	T 1.518	M 1.611

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	T 2417.000	-1.115	0.187	13.250	0.181	-5.356	0.148	93.9%	0.855
2	12:39:39	T 2511.000	-0.907	0.166	12.780	0.193	-5.800	0.064	95.7%	0.969
3	12:40:05	T 2484.000	0.709	0.189	11.070	0.183	-6.285	-0.114	96.8%	0.852
x		T 2471.000	-0.438	1.#IO%	12.370	0.186	-5.813	1.#IO%	95.4%	1.#IO%
σ		T 48.150	0.999	n/a	1.150	0.007	0.465	n/a	1.5%	n/a
%RSD		T 1.949	228.000	7.226	9.299	3.588	7.992	411.900	1.6	7.500

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:39:13	-0.136	0.080	0.071	0.948	0.946	91.8%	0.001	0.002	0.206
2	12:39:39	-0.075	0.088	0.086	0.828	1.091	95.4%	-0.001	-0.004	0.238
3	12:40:05	0.117	0.106	0.054	0.996	0.977	97.4%	0.005	-0.002	0.244
x		-1.#IO%	0.091	1.#IO%	0.924	1.#IO%	94.9%	0.001	-1.#IO%	0.229
σ		n/a	0.013	n/a	0.087	n/a	2.8%	0.003	n/a	0.020
%RSD		422.000	14.490	23.210	9.374	7.637	3.0	189.700	213.000	8.896

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:39:13	0.206	0.205	87.6%
2	12:39:39	0.192	0.198	90.7%
3	12:40:05	0.187	0.204	92.0%
x		0.195	1.#IO%	90.1%
σ		0.010	n/a	2.3%
%RSD		4.981	1.820	2.5

PDF created with pdfFactory trial version www.pdffactory.com

ICSAB MW9460 6/6/2017 12:44:12 QC Status: FAIL (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	83.0%	103.000	4.038	5.422	T 90130.000	T 96540.000	T 94830.000	T 97400.000	TM 89690.000
2	12:45:03	83.0%	101.600	4.628	5.332	T 99680.000	TM 100800.000	TM 100300.000	TM 103300.000	TM 99350.000
3	12:45:29	83.0%	102.400	4.874	5.027	T 98690.000	T 99750.000	T 99780.000	TM 103700.000	TM 101100.000
x		83.0%	102.321%	4.513	5.260%	T 96.167%	TM 99040.000	TM 98310.000	TM 101.478%	TM 96.715%
σ		0.0%	n/a	0.430	n/a	T n/a	TM 2234.000	TM 3021.000	TM n/a	TM n/a
%RSD		0.1	0.708	9.524	3.933	T 5.462	TM 2.256	TM 3.073	TM 3.489	TM 6.354
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	34.160	T 14540.000	T 94480.000	92550.000	T 92060.000	T 108.2%	M 2003.000	89.370	89.040
2	12:45:03	39.980	T 15700.000	TM 104800.000	M 102200.000	TM 102000.000	97.9%	M 2209.000	98.070	97.970
3	12:45:29	40.910	T 15950.000	TM 106400.000	M 101700.000	TM 101900.000	96.2%	M 2187.000	96.300	97.490
x		38.350%	T 15400.000	TM 101.908%	M 98830.000	TM 98.649%	T 100.8%	M 106.643%	94.580%	94.832%
σ		n/a	T 751.000	TM n/a	M 5443.000	TM n/a	T 6.5%	M n/a	n/a	n/a
%RSD		9.533	T 4.877	TM 6.365	M 5.508	TM 5.789	T 6.4	M 5.285	4.858	5.297
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	0.765	92.030	T 91410.000	T 92290.000	86.590	90.940	80.220	90.890	92.620
2	12:45:03	0.481	99.370	T 99200.000	TM 103100.000	92.330	88.380	85.120	89.420	91.310
3	12:45:29	1.677	101.500	TM 100700.000	TM 105100.000	93.040	86.550	85.200	87.090	89.150
x		0.975	97.620%	TM 97110.000	TM 100.160%	90.656%	88.622%	83.514%	89.136%	91.024%
σ		0.625	n/a	TM 4988.000	TM n/a	n/a	n/a	n/a	n/a	n/a
%RSD		64.090	5.070	TM 5.137	TM 6.873	3.901	2.489	3.412	2.150	1.927
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	91.270	89.280	4.396	1.852	93.890	1.310	94.6%	TM 2360.000	M 2176.000
2	12:45:03	93.490	87.480	3.571	3.218	90.530	2.575	95.7%	TM 2645.000	M 2430.000
3	12:45:29	92.170	88.540	3.172	2.619	88.770	-0.137	95.9%	TM 2734.000	M 2503.000
x		92.309%	88.430	3.713	2.563	91.063%	1.249	95.4%	TM 2580.000	M 2370.000
σ		n/a	0.903	0.624	0.685	n/a	1.357	0.7%	TM 195.400	M 171.700
%RSD		1.210	1.021	16.820	26.720	2.852	108.600	0.7	TM 7.573	M 7.245
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	TM 2182.000	87.790	58.480	10.410	54.620	82.620	92.180	98.2%	27.400
2	12:45:03	TM 2441.000	90.210	57.880	10.190	54.400	81.150	91.170	100.5%	26.730
3	12:45:29	TM 2507.000	84.520	56.620	11.200	54.260	81.310	90.610	101.1%	27.250
x		TM 118.836%	87.500	57.663%	10.600	54.420	81.690	91.320%	99.9%	27.125%
σ		TM n/a	2.856	n/a	0.531	0.181	0.806	n/a	1.6%	n/a
%RSD		TM 7.215	3.264	1.648	5.007	0.333	0.986	0.871	1.6	1.301
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:44:37	1.963	91.740	93.560	97.850	96.430	97.1%	93.410	90.890	97.210
2	12:45:03	2.874	92.050	92.960	95.360	95.980	98.5%	93.470	91.450	96.930
3	12:45:29	2.025	93.670	93.500	97.800	95.690	100.7%	93.620	91.390	96.770
x		2.287%	92.490	93.340%	97.000	96.033%	98.8%	93.500	91.244%	96.970
σ		n/a	1.039	n/a	1.420	n/a	1.8%	0.108	n/a	0.224
%RSD		22.250	1.123	0.353	1.463	0.392	1.9	0.115	0.335	0.231
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	12:44:37	95.520	90.620	90.8%						
2	12:45:03	95.600	91.560	93.0%						
3	12:45:29	95.230	90.690	95.0%						
x		95.450	90.956%	92.9%						
σ		0.196	n/a	2.1%						
%RSD		0.205	0.575	2.2						

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9474 6/6/2017 12:49:34 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	86.3%	328.200	286.400	333.600	┬57920.000	┬58780.000	┬58350.000	┬60000.000	298.300
2	12:50:26	87.3%	322.700	286.100	327.400	┬59050.000	┬59500.000	┬58520.000	┬59790.000	292.600
3	12:50:52	88.3%	320.300	255.200	320.100	┬52380.000	┬56080.000	┬55380.000	┬57010.000	269.900
x		87.3%	107.912%	91.961%	109.013%	┬94.085%	┬58120.000	┬57420.000	┬98.217%	95.637%
σ		1.0%	n/a	n/a	n/a	┬n/a	┬1804.000	┬1765.000	┬n/a	n/a
%RSD		1.1	1.255	6.499	2.053	┬6.321	┬3.104	┬3.074	┬2.833	5.237

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	┬2975.000	63.010	┬60090.000	59230.000	┬59260.000	104.4%	287.000	297.500	286.400
2	12:50:26	┬2953.000	62.370	┬59820.000	59360.000	┬59260.000	103.7%	288.900	299.900	290.300
3	12:50:52	┬2705.000	58.170	┬55280.000	54350.000	┬53970.000	┬113.6%	266.800	272.300	267.000
x		┬95.916%	61.180	┬97.332%	57640.000	┬95.831%	┬107.3%	93.630%	96.621%	93.744%
σ		┬n/a	2.629	┬n/a	2858.000	┬n/a	┬5.5%	n/a	n/a	n/a
%RSD		┬5.215	4.296	┬4.625	4.957	┬5.315	┬5.2	4.347	5.277	4.434

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	-5.614	┬296.600	┬57630.000	┬59500.000	291.000	284.400	263.500	284.200	283.500
2	12:50:26	-7.299	┬297.200	┬57430.000	┬59390.000	282.600	274.900	261.500	279.000	275.800
3	12:50:52	-5.384	280.200	┬53920.000	┬54870.000	265.800	271.800	246.900	274.800	274.900
x		-6.099	┬97.110%	┬93.876%	┬96.527%	93.264%	92.352%	257.300	93.108%	92.687%
σ		1.046	┬n/a	┬n/a	┬n/a	n/a	n/a	9.036	n/a	n/a
%RSD		17.140	┬3.305	┬3.710	┬4.560	4.583	2.377	3.512	1.685	1.695

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	275.400	270.900	0.738	0.283	293.300	-0.136	102.0%	290.600	295.500
2	12:50:26	271.100	266.300	1.103	-0.188	284.100	0.564	104.7%	302.100	304.700
3	12:50:52	268.400	257.800	0.528	0.406	281.500	-0.617	104.6%	285.500	289.900
x		90.541%	265.000	0.790	0.167	95.423%	-0.063	103.7%	97.577%	98.898%
σ		n/a	6.658	0.291	0.313	n/a	0.594	1.5%	n/a	n/a
%RSD		1.298	2.513	36.840	188.100	2.163	940.200	1.5	2.906	2.512

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	300.700	278.200	281.900	-2.366	264.100	277.500	289.000	100.2%	283.900
2	12:50:26	314.000	273.700	274.400	0.411	260.300	271.400	282.500	102.3%	281.300
3	12:50:52	294.500	277.100	274.500	-2.289	259.700	275.200	284.900	103.2%	281.500
x		101.020%	276.300	92.306%	-1.415	261.300	274.700	95.160%	101.9%	94.074%
σ		n/a	2.297	n/a	1.581	2.387	3.072	n/a	1.6%	n/a
%RSD		3.282	0.831	1.563	111.800	0.913	1.118	1.160	1.5	0.519

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:50:00	306.300	279.100	280.500	287.900	283.500	104.0%	293.600	288.100	297.300
2	12:50:26	304.300	279.300	279.900	288.000	286.400	105.7%	290.100	290.800	294.000
3	12:50:52	302.900	280.400	281.900	283.800	283.300	106.5%	290.200	289.400	293.900
x		101.497%	93.199%	93.588%	95.530%	94.807%	105.4%	97.097%	96.476%	98.352%
σ		n/a	n/a	n/a	n/a	n/a	1.3%	n/a	n/a	n/a
%RSD		0.561	0.245	0.364	0.832	0.618	1.2	0.685	0.469	0.645

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:50:00	292.600	277.600	94.5%
2	12:50:26	291.600	281.100	97.8%
3	12:50:52	290.900	280.200	98.3%
x		97.227%	93.213%	96.9%
σ		n/a	n/a	2.1%
%RSD		0.286	0.639	2.1

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 12:54:54 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	96.3%	0.010	2.170	2.725	5.666	4.443	4.337	4.841	1.821
2	12:55:46	99.5%	0.022	2.038	2.105	4.466	3.886	3.540	3.777	1.778
3	12:56:12	101.5%	-0.005	1.971	2.027	4.524	3.739	3.840	3.641	1.548
x		99.1%	0.009	2.060	2.286	4.885	4.023	3.905	4.086	1.716
σ		2.6%	0.014	0.102	0.383	0.677	0.372	0.403	0.657	0.147
%RSD		2.7	150.300	4.926	16.740	13.860	9.239	10.310	16.080	8.544

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	0.259	27.660	2.079	0.780	2.903	105.3%	0.045	0.086	0.010
2	12:55:46	0.720	30.860	2.339	2.458	1.314	101.3%	0.012	0.112	0.043
3	12:56:12	-0.191	29.270	0.915	1.839	2.633	102.9%	0.086	0.073	0.032
x		0.263	29.260	1.778	1.692	2.283	103.2%	0.048	0.090	0.029
σ		0.455	1.602	0.758	0.849	0.850	2.0%	0.037	0.020	0.017
%RSD		173.200	5.474	42.650	50.160	37.250	2.0	78.510	21.990	59.660

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	0.002	0.007	6.073	3.867	0.011	-0.068	-0.012	-0.021	0.055
2	12:55:46	-0.013	0.023	6.739	1.023	-0.004	-0.125	0.010	-0.010	-0.019
3	12:56:12	0.017	0.007	5.070	1.655	0.005	-0.097	-0.012	0.010	-0.014
x		0.002	0.012	5.960	2.182	0.004	-0.097	-0.004	-0.007	0.007
σ		0.015	0.009	0.840	1.493	0.008	0.028	0.012	0.016	0.041
%RSD		661.300	74.280	14.100	68.430	189.500	29.380	277.300	226.700	561.100

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	-0.095	-0.450	-0.210	-0.018	-0.279	-0.758	103.5%	1.568	1.346
2	12:55:46	-0.131	-0.126	-0.163	-0.450	-0.253	-0.578	104.7%	1.942	1.931
3	12:56:12	-0.124	-0.020	-0.073	0.440	-0.394	-0.012	104.8%	1.865	2.011
x		-0.116	-0.199	-0.148	-0.009	-0.309	-0.450	104.3%	1.791	1.763
σ		0.019	0.224	0.069	0.445	0.075	0.389	0.7%	0.197	0.363
%RSD		16.400	112.700	46.800	4822.000	24.350	86.610	0.7	11.000	20.580

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	1.581	-0.198	0.017	0.066	0.024	-0.010	0.017	103.9%	0.076
2	12:55:46	1.900	-0.200	0.013	0.087	0.026	-0.011	0.018	105.7%	0.089
3	12:56:12	1.872	0.041	0.005	-0.002	0.025	0.004	0.018	105.4%	0.077
x		1.784	-0.119	0.012	0.051	0.025	-0.006	0.018	105.0%	0.081
σ		0.177	0.139	0.006	0.047	0.001	0.008	0.000	1.0%	0.007
%RSD		9.890	116.900	51.500	92.170	3.571	141.200	1.973	0.9	8.664

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	12:55:20	0.127	0.344	0.427	0.010	0.009	103.5%	0.022	0.017	0.011
2	12:55:46	0.090	0.413	0.398	-0.019	0.018	105.0%	0.020	0.011	0.016
3	12:56:12	0.118	0.403	0.445	-0.007	0.005	105.8%	0.019	0.017	0.007
x		0.111	0.387	0.423	-0.005	0.011	104.7%	0.021	0.015	0.011
σ		0.019	0.037	0.023	0.014	0.006	1.2%	0.002	0.003	0.005
%RSD		17.210	9.578	5.545	274.000	60.410	1.1	8.752	23.040	41.870

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	12:55:20	0.017	0.013	103.2%
2	12:55:46	0.018	0.005	105.8%
3	12:56:12	0.017	0.018	106.9%
x		0.017	0.012	105.3%
σ		0.001	0.007	1.9%
%RSD		3.915	55.730	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SQ42715-001 6/6/2017 13:00:14 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	98.0%	0.014	0.861	0.975	3.068	1.378	0.958	1.142	0.600
2	13:01:06	102.8%	-0.010	1.016	0.881	2.992	1.121	1.194	1.017	0.576
3	13:01:32	104.5%	-0.023	0.736	0.760	2.834	1.194	1.004	1.318	0.630
x		101.8%	-0.006	0.871	0.872	2.965	1.231	1.052	1.159	0.602
σ		3.3%	0.019	0.140	0.108	0.120	0.132	0.125	0.151	0.027
%RSD		3.3	297.200	16.100	12.360	4.032	10.760	11.870	13.060	4.547

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	2.054	T 9092.000	-0.613	-2.190	-1.368	103.7%	0.038	0.116	-0.005
2	13:01:06	2.312	T 9182.000	-0.188	-1.707	-1.800	102.8%	0.067	0.080	-0.005
3	13:01:32	1.802	T 9120.000	-1.003	-0.405	-0.976	103.1%	-0.009	0.120	-0.028
x		2.056	T 9131.000	-0.601	-1.434	-1.381	103.2%	0.032	0.106	-0.013
σ		0.255	T 46.430	0.407	0.923	0.412	0.5%	0.039	0.022	0.013
%RSD		12.400	T 0.508	67.730	64.370	29.850	0.5	121.300	20.740	103.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	0.893	0.505	1.479	-0.942	-0.006	-0.115	0.039	0.020	0.241
2	13:01:06	0.982	0.461	0.821	-0.458	-0.008	-0.093	0.034	0.005	0.348
3	13:01:32	0.877	0.489	-0.302	-2.225	-0.012	-0.097	0.039	0.031	0.253
x		0.917	0.485	0.666	-1.209	-0.009	-0.102	0.037	0.018	0.281
σ		0.057	0.022	0.901	0.913	0.003	0.011	0.003	0.013	0.058
%RSD		6.176	4.570	135.300	75.530	40.870	11.200	7.618	71.390	20.820

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	-0.079	-0.168	1.605	1.249	-0.283	-0.193	104.3%	0.215	0.199
2	13:01:06	-0.027	-0.418	1.313	1.248	-0.245	-0.208	105.0%	0.362	0.325
3	13:01:32	-0.101	-0.328	1.213	2.252	-0.219	0.357	105.3%	0.334	0.395
x		-0.069	-0.305	1.377	1.583	-0.249	-0.015	104.8%	0.303	0.306
σ		0.038	0.127	0.204	0.579	0.032	0.322	0.5%	0.078	0.099
%RSD		55.700	41.550	14.790	36.600	12.910	2209.000	0.5	25.780	32.400

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	0.265	0.156	-0.003	-0.045	0.001	-0.009	0.002	103.7%	0.022
2	13:01:06	0.396	-0.351	-0.003	0.123	0.003	-0.016	-0.001	104.9%	0.050
3	13:01:32	0.379	-0.406	-0.004	0.143	0.006	-0.016	-0.002	106.0%	0.052
x		0.346	-0.200	-0.004	0.074	0.003	-0.014	-0.000	104.9%	0.041
σ		0.071	0.310	0.001	0.103	0.003	0.004	0.002	1.2%	0.017
%RSD		20.500	154.700	13.920	140.000	85.230	31.780	1351.000	1.1	40.420

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:00:40	0.071	0.143	0.111	0.027	-0.004	103.7%	0.027	0.012	0.003
2	13:01:06	0.055	0.134	0.113	-0.007	-0.010	105.4%	0.016	0.017	0.010
3	13:01:32	0.048	0.126	0.162	-0.002	-0.001	106.7%	0.013	0.010	0.002
x		0.058	0.135	0.129	0.006	-0.005	105.3%	0.019	0.013	0.005
σ		0.012	0.009	0.029	0.019	0.005	1.5%	0.008	0.004	0.005
%RSD		20.060	6.366	22.180	313.000	91.040	1.5	41.870	27.550	87.440

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:00:40	-0.001	-0.002	103.5%
2	13:01:06	0.001	-0.001	104.5%
3	13:01:32	0.000	-0.001	106.7%
x		0.000	-0.001	104.9%
σ		0.001	0.001	1.7%
%RSD		1026.000	47.570	1.6

PDF created with pdfFactory trial version www.pdffactory.com

SQ42715-002 6/6/2017 13:05:37

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	101.3%	101.000	105.100	99.570	┬964.400	┬911.000	921.400	947.200	99.280
2	13:06:28	103.4%	97.380	98.600	94.620	┬954.900	┬903.500	889.100	915.600	99.430
3	13:06:54	103.1%	96.970	102.700	99.840	┬944.100	┬897.500	875.700	909.300	98.480
x		102.6%	98.460	102.100	98.010	┬954.500	┬904.000	895.400	924.000	99.060
σ		1.2%	2.229	3.272	2.941	┬10.160	┬6.794	23.500	20.340	0.512
%RSD		1.1	2.264	3.204	3.001	┬1.065	┬0.752	2.624	2.201	0.517

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	987.000	┬21890.000	1022.000	1032.000	951.600	102.7%	95.420	95.000	94.580
2	13:06:28	┬921.500	┬21690.000	1002.000	1009.000	926.300	102.2%	98.360	95.170	93.660
3	13:06:54	┬915.100	┬21780.000	1012.000	1025.000	936.300	102.0%	96.710	93.810	92.830
x		┬941.200	┬21790.000	1012.000	1022.000	938.000	102.3%	96.830	94.660	93.690
σ		┬39.790	┬102.200	9.947	11.580	12.730	0.4%	1.474	0.744	0.876
%RSD		┬4.227	┬0.469	0.983	1.133	1.357	0.4	1.522	0.786	0.935

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	1.389	97.370	┬959.800	976.600	96.510	96.370	97.340	95.900	95.760
2	13:06:28	2.176	97.270	┬954.900	971.500	94.660	93.450	95.090	94.470	95.530
3	13:06:54	0.760	97.630	┬969.100	969.800	96.740	94.650	95.030	93.010	94.010
x		1.442	97.420	┬961.300	972.600	95.970	94.820	95.820	94.460	95.100
σ		0.709	0.189	┬7.198	3.525	1.140	1.465	1.316	1.448	0.948
%RSD		49.200	0.194	┬0.749	0.362	1.188	1.545	1.374	1.533	0.997

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	96.210	98.920	2.278	2.432	95.890	-0.703	101.3%	94.500	95.340
2	13:06:28	98.330	95.310	2.169	2.654	95.000	-0.541	102.9%	96.300	97.370
3	13:06:54	95.050	95.840	2.777	2.460	91.050	0.418	103.4%	98.560	100.800
x		96.530	96.690	2.408	2.515	93.980	-0.275	102.5%	96.450	97.850
σ		1.666	1.950	0.324	0.121	2.574	0.606	1.1%	2.037	2.768
%RSD		1.725	2.017	13.450	4.819	2.739	219.900	1.1	2.112	2.829

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	96.590	96.440	85.170	-0.478	85.240	95.670	93.370	102.1%	94.570
2	13:06:28	99.120	98.810	83.400	-0.371	85.060	96.870	93.530	103.1%	94.860
3	13:06:54	100.700	95.390	83.340	-0.085	84.650	96.450	93.060	104.2%	94.300
x		98.810	96.880	83.970	-0.312	84.980	96.330	93.320	103.1%	94.580
σ		2.078	1.753	1.041	0.203	0.301	0.611	0.243	1.0%	0.279
%RSD		2.103	1.809	1.240	65.180	0.354	0.634	0.260	1.0	0.295

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:06:02	99.620	89.470	90.410	95.550	94.170	101.2%	90.850	94.880	93.540
2	13:06:28	99.890	91.140	90.610	93.440	93.620	103.4%	90.950	93.730	92.250
3	13:06:54	99.960	91.260	92.870	94.120	93.050	104.6%	91.010	94.190	93.280
x		99.830	90.620	91.300	94.370	93.620	103.1%	90.940	94.270	93.020
σ		0.183	1.000	1.365	1.077	0.562	1.7%	0.084	0.579	0.680
%RSD		0.183	1.104	1.495	1.141	0.600	1.7	0.092	0.614	0.731

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:06:02	92.220	94.280	102.0%
2	13:06:28	91.980	93.700	104.6%
3	13:06:54	91.880	94.350	105.3%
x		92.030	94.110	104.0%
σ		0.174	0.356	1.7%
%RSD		0.189	0.378	1.7

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-006 6/6/2017 13:11:00

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	100.6%	0.025	10.780	10.800	┬10920.000	┬13620.000	┬13360.000	┬13720.000	4.860
2	13:11:51	102.9%	0.015	10.880	10.630	┬11160.000	┬13480.000	┬13170.000	┬13460.000	4.855
3	13:12:17	106.0%	0.018	10.090	10.130	┬10980.000	┬13270.000	┬13050.000	┬13400.000	5.186
x		103.2%	0.020	10.580	10.520	┬11020.000	┬13450.000	┬13190.000	┬13530.000	4.967
σ		2.7%	0.005	0.432	0.347	┬124.800	┬176.200	┬157.700	┬171.500	0.190
%RSD		2.6	26.410	4.084	3.299	┬1.132	┬1.310	┬1.196	┬1.268	3.817
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	┬8869.000	┬9262.000	259.800	99260.000	┬96490.000	107.9%	0.908	0.181	0.306
2	13:11:51	┬8740.000	┬9346.000	255.700	98520.000	┬96840.000	108.4%	1.166	0.169	0.279
3	13:12:17	┬8835.000	┬9441.000	265.600	98530.000	┬96970.000	107.6%	1.028	0.102	0.284
x		┬8815.000	┬9350.000	260.300	98770.000	┬96760.000	108.0%	1.034	0.150	0.289
σ		┬66.970	┬89.650	4.975	420.900	┬247.600	0.4%	0.129	0.043	0.014
%RSD		┬0.760	┬0.959	1.911	0.426	┬0.256	0.4	12.490	28.280	4.885
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	0.985	18.960	222.700	630.300	-1.745	1.244	0.145	0.310	1.110
2	13:11:51	0.937	19.380	223.500	614.600	-1.757	1.108	0.081	0.334	0.991
3	13:12:17	0.989	19.730	228.200	605.800	-1.739	0.987	0.102	0.260	1.016
x		0.970	19.360	224.800	616.900	-1.747	1.113	0.109	0.301	1.039
σ		0.029	0.386	2.974	12.430	0.009	0.129	0.032	0.038	0.063
%RSD		2.971	1.992	1.323	2.015	0.531	11.570	29.720	12.530	6.060
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	0.847	-0.188	3.880	3.936	-0.097	-0.410	104.7%	0.680	0.392
2	13:11:51	0.948	-0.056	3.111	3.450	0.028	0.122	106.0%	0.738	0.801
3	13:12:17	0.990	-0.116	2.982	3.556	-0.133	0.482	106.7%	0.833	0.642
x		0.928	-0.120	3.324	3.647	-0.067	0.064	105.8%	0.750	0.612
σ		0.074	0.066	0.486	0.255	0.084	0.449	1.0%	0.077	0.206
%RSD		7.937	55.000	14.610	6.994	125.600	696.700	1.0	10.290	33.650
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	0.526	40.280	0.003	-14.840	0.006	0.012	-0.135	102.9%	0.063
2	13:11:51	0.733	43.900	0.005	-16.220	0.004	0.004	-0.145	104.3%	0.057
3	13:12:17	0.682	38.640	-0.000	-14.300	0.003	0.011	-0.115	106.2%	0.060
x		0.647	40.940	0.002	-15.120	0.005	0.009	-0.132	104.4%	0.060
σ		0.108	2.692	0.002	0.991	0.001	0.004	0.016	1.7%	0.003
%RSD		16.610	6.576	104.900	6.555	28.190	50.530	11.810	1.6	5.430
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:11:25	5.761	0.221	0.188	57.090	56.430	103.3%	0.010	0.012	0.034
2	13:11:51	6.262	0.189	0.225	57.520	55.510	105.3%	0.020	0.010	0.031
3	13:12:17	5.490	0.246	0.201	56.690	56.360	106.9%	0.010	0.008	0.037
x		5.838	0.219	0.205	57.100	56.100	105.2%	0.013	0.010	0.034
σ		0.392	0.029	0.019	0.415	0.513	1.8%	0.006	0.002	0.003
%RSD		6.709	13.150	9.152	0.726	0.915	1.7	43.620	20.790	9.293
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:11:25	0.014	0.020	97.6%						
2	13:11:51	0.023	0.027	99.6%						
3	13:12:17	0.019	0.021	101.6%						
x		0.019	0.023	99.6%						
σ		0.005	0.004	2.0%						
%RSD		24.300	17.710	2.0						

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-006SD(5) 6/6/2017 13:16:21

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	101.6%	0.020	2.126	2.242	┬2127.000	┬2691.000	2741.000	2899.000	0.580
2	13:17:13	101.9%	0.020	2.490	2.199	┬2160.000	┬2777.000	2781.000	2836.000	0.510
3	13:17:39	105.6%	-0.019	2.001	1.918	┬2242.000	┬2764.000	2799.000	2921.000	0.739
x		103.0%	0.007	2.206	2.120	┬2176.000	┬2744.000	2774.000	2885.000	0.610
σ		2.2%	0.023	0.254	0.176	┬58.960	┬46.000	29.510	44.020	0.117
%RSD		2.1	317.800	11.510	8.304	┬2.709	┬1.677	1.064	1.526	19.230

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	┬1707.000	1645.000	46.390	19290.000	┬18960.000	┬112.2%	0.248	0.032	0.036
2	13:17:13	┬1699.000	1683.000	45.970	19280.000	┬19000.000	┬112.7%	0.220	0.063	0.045
3	13:17:39	┬1841.000	1769.000	50.970	20290.000	┬19980.000	103.6%	0.274	0.049	0.038
x		┬1749.000	1699.000	47.780	19620.000	┬19310.000	┬109.5%	0.247	0.048	0.040
σ		┬79.720	63.720	2.778	581.900	┬576.800	┬5.1%	0.027	0.015	0.004
%RSD		┬4.558	3.751	5.815	2.966	┬2.987	┬4.6	10.990	32.030	10.860

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	0.254	3.872	33.600	117.200	-0.358	0.204	-0.027	-0.014	0.146
2	13:17:13	0.218	3.808	30.540	107.700	-0.351	0.113	-0.031	0.025	0.188
3	13:17:39	0.244	4.129	34.840	116.600	-0.355	0.101	-0.022	-0.007	0.158
x		0.239	3.937	32.990	113.900	-0.355	0.139	-0.027	0.001	0.164
σ		0.018	0.170	2.217	5.350	0.004	0.056	0.004	0.021	0.021
%RSD		7.735	4.310	6.720	4.699	1.025	40.410	16.290	1918.000	12.980

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	0.192	0.053	0.196	0.482	-0.029	-1.546	103.6%	-0.157	-0.171
2	13:17:13	0.005	-0.092	0.393	0.367	-0.368	0.523	104.6%	-0.147	-0.167
3	13:17:39	0.089	0.194	0.318	0.870	-0.292	-0.033	105.5%	-0.020	-0.201
x		0.095	0.052	0.302	0.573	-0.230	-0.352	104.5%	-0.108	-0.180
σ		0.094	0.143	0.099	0.264	0.178	1.071	1.0%	0.076	0.019
%RSD		98.040	275.300	32.770	45.990	77.350	304.400	0.9	70.830	10.390

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	-0.161	8.760	-0.007	-3.244	0.002	-0.004	-0.028	103.9%	0.002
2	13:17:13	-0.132	9.076	-0.003	-3.339	0.001	-0.004	-0.030	105.5%	-0.002
3	13:17:39	-0.059	8.589	-0.006	-3.179	-0.002	-0.004	-0.021	106.7%	-0.008
x		-0.117	8.808	-0.005	-3.254	0.000	-0.004	-0.026	105.4%	-0.003
σ		0.052	0.247	0.002	0.081	0.002	0.000	0.004	1.4%	0.005
%RSD		44.520	2.802	34.870	2.486	723.800	6.954	17.090	1.3	162.400

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:16:47	1.190	0.043	0.042	11.760	11.470	103.2%	-0.005	-0.003	0.011
2	13:17:13	1.260	0.084	0.052	12.050	11.930	105.3%	-0.002	-0.003	0.005
3	13:17:39	1.154	0.020	0.056	11.150	11.580	106.6%	0.000	-0.002	0.011
x		1.201	0.049	0.050	11.650	11.660	105.0%	-0.002	-0.003	0.009
σ		0.054	0.033	0.008	0.461	0.239	1.7%	0.003	0.000	0.004
%RSD		4.506	66.500	15.190	3.955	2.047	1.7	114.800	15.950	42.820

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:16:47	-0.001	0.009	100.9%
2	13:17:13	-0.006	0.007	102.9%
3	13:17:39	-0.000	0.005	104.8%
x		-0.002	0.007	102.9%
σ		0.003	0.002	2.0%
%RSD		140.200	26.730	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE18011-006PS 6/6/2017 13:21:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	99.9%	95.100	101.600	111.200	┬11330.000	┬14140.000	┬13900.000	┬14220.000	┬94.580
2	13:22:36	101.6%	95.760	102.700	112.600	┬11100.000	┬13710.000	┬13570.000	┬14100.000	94.830
3	13:23:02	103.8%	92.680	106.500	108.700	┬11890.000	┬14260.000	┬14120.000	┬14440.000	98.840
x		101.8%	94.510	103.600	110.900	┬11440.000	┬14040.000	┬13860.000	┬14250.000	┬96.080
σ		2.0%	1.618	2.541	1.972	┬407.300	┬289.700	┬279.300	┬171.000	┬2.391
%RSD		1.9	1.712	2.452	1.779	┬3.560	┬2.064	┬2.015	┬1.200	┬2.488

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	┬9039.000	┬8648.000	┬1131.000	94970.000	┬91520.000	┬112.7%	88.340	86.520	85.890
2	13:22:36	┬9108.000	┬8807.000	┬1154.000	94320.000	┬91450.000	┬112.8%	87.030	85.000	84.980
3	13:23:02	┬9493.000	┬9135.000	┬1217.000	99170.000	┬97220.000	107.0%	94.500	90.800	90.050
x		┬9213.000	┬8864.000	┬1168.000	96160.000	┬93400.000	┬110.8%	89.960	87.440	86.970
σ		┬244.900	┬248.600	┬44.340	2635.000	┬3310.000	┬3.3%	3.991	3.011	2.706
%RSD		┬2.659	┬2.805	┬3.798	2.740	┬3.544	┬3.0	4.436	3.443	3.111

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	0.768	107.100	┬1086.000	1474.000	84.870	91.520	83.420	94.840	93.410
2	13:22:36	0.221	107.400	┬1087.000	1472.000	84.380	91.880	83.640	93.370	92.060
3	13:23:02	0.368	111.200	┬1141.000	1536.000	88.250	90.130	86.530	91.470	91.550
x		0.452	108.600	┬1105.000	1494.000	85.840	91.170	84.530	93.230	92.340
σ		0.283	2.257	┬31.510	36.340	2.105	0.925	1.736	1.692	0.962
%RSD		62.580	2.079	┬2.852	2.433	2.452	1.015	2.054	1.815	1.042

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	90.120	86.320	3.128	3.970	90.170	-0.961	102.9%	87.080	89.060
2	13:22:36	90.890	87.570	2.780	2.973	87.840	-0.609	104.3%	89.780	91.950
3	13:23:02	92.620	89.000	3.054	3.517	93.230	-0.060	106.0%	97.790	98.340
x		91.210	87.630	2.987	3.487	90.410	-0.543	104.4%	91.550	93.120
σ		1.281	1.338	0.184	0.499	2.704	0.454	1.6%	5.567	4.749
%RSD		1.404	1.527	6.142	14.310	2.990	83.510	1.5	6.081	5.100

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	89.750	136.100	85.420	-17.170	81.000	90.000	93.340	102.2%	90.280
2	13:22:36	91.960	133.400	80.720	-17.680	┬78.480	89.460	92.030	103.4%	89.990
3	13:23:02	99.740	129.700	78.030	-16.390	┬80.730	88.840	91.340	105.3%	89.620
x		93.820	133.100	81.390	-17.080	┬80.070	89.440	92.240	103.6%	89.960
σ		5.244	3.214	3.740	0.652	┬1.381	0.577	1.018	1.5%	0.335
%RSD		5.589	2.416	4.595	3.817	┬1.724	0.646	1.103	1.5	0.372

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:22:10	103.600	85.570	86.070	149.300	146.900	102.4%	91.630	88.810	92.410
2	13:22:36	103.500	86.270	87.420	147.700	148.100	104.3%	91.670	90.060	92.810
3	13:23:02	101.000	86.580	87.550	148.600	146.200	106.6%	91.490	89.140	92.000
x		102.700	86.140	87.010	148.500	147.100	104.4%	91.590	89.340	92.410
σ		1.440	0.516	0.818	0.772	0.921	2.1%	0.096	0.652	0.406
%RSD		1.402	0.600	0.941	0.520	0.627	2.0	0.104	0.730	0.439

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:22:10	91.290	87.090	96.2%
2	13:22:36	91.160	87.570	98.7%
3	13:23:02	91.310	86.900	100.3%
x		91.250	87.190	98.4%
σ		0.082	0.346	2.1%
%RSD		0.090	0.397	2.1

PDF created with pdfFactory trial version www.pdffactory.com

SQ42482-001 6/6/2017 13:27:09 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	107.3%	0.046	0.335	0.267	26.640	2.500	2.358	2.687	1.995
2	13:28:00	109.5%	-0.032	0.385	0.190	25.900	2.221	1.961	1.892	1.969
3	13:28:26	108.6%	-0.008	0.731	0.380	26.340	2.458	2.040	2.270	2.003
x		108.5%	0.002	0.484	0.279	26.290	2.393	2.120	2.283	1.989
σ		1.1%	0.040	0.216	0.096	0.371	0.150	0.210	0.398	0.018
%RSD		1.0	1836.000	44.600	34.290	1.412	6.272	9.914	17.420	0.892
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	27.710	T 35250.000	7.867	42.310	36.270	106.2%	0.081	-0.236	0.039
2	13:28:00	27.060	T 35780.000	7.752	32.840	34.530	106.2%	0.007	-0.046	0.061
3	13:28:26	24.520	T 34690.000	7.235	40.520	33.860	105.3%	0.017	-0.286	0.035
x		26.430	T 35240.000	7.618	38.560	34.890	105.9%	0.035	-0.189	0.045
σ		1.684	T 544.000	0.337	5.033	1.245	0.5%	0.040	0.127	0.014
%RSD		6.371	T 1.544	4.418	13.050	3.567	0.5	115.200	67.050	31.240
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	4.483	0.507	9.394	5.539	0.002	-0.086	0.109	0.161	0.958
2	13:28:00	4.276	0.522	8.819	5.056	-0.009	-0.113	0.113	0.088	0.833
3	13:28:26	4.345	0.490	7.569	2.324	-0.010	-0.101	0.127	0.123	0.844
x		4.368	0.506	8.594	4.306	-0.006	-0.100	0.116	0.124	0.878
σ		0.105	0.016	0.933	1.734	0.007	0.014	0.009	0.037	0.069
%RSD		2.407	3.231	10.860	40.260	110.200	13.490	7.957	29.720	7.853
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	-0.028	-0.049	2.917	3.082	-0.408	-1.571	106.2%	0.152	0.262
2	13:28:00	-0.157	0.156	2.086	2.422	-0.512	0.695	106.1%	0.317	0.162
3	13:28:26	-0.307	-0.070	2.080	2.496	-0.699	1.436	106.6%	0.279	0.233
x		-0.164	0.012	2.361	2.667	-0.540	0.187	106.3%	0.249	0.219
σ		0.140	0.125	0.482	0.361	0.148	1.567	0.3%	0.086	0.051
%RSD		85.070	1017.000	20.400	13.550	27.340	838.800	0.3	34.620	23.520
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	0.176	-0.006	0.008	-0.005	0.007	-0.016	-0.005	105.2%	0.056
2	13:28:00	0.255	-0.493	0.003	0.255	0.005	-0.009	0.010	106.1%	0.053
3	13:28:26	0.234	-0.443	-0.003	0.156	0.005	-0.005	0.003	105.2%	0.058
x		0.222	-0.314	0.003	0.135	0.005	-0.010	0.002	105.5%	0.056
σ		0.041	0.268	0.006	0.131	0.001	0.005	0.008	0.5%	0.002
%RSD		18.340	85.210	187.500	97.210	16.240	53.160	306.400	0.5	3.812
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:27:34	0.071	0.274	0.211	0.163	0.121	102.2%	0.006	0.002	0.018
2	13:28:00	-0.013	0.255	0.270	0.194	0.157	104.6%	0.001	0.005	0.019
3	13:28:26	0.032	0.276	0.290	0.144	0.154	105.1%	0.004	-0.001	0.022
x		0.030	0.268	0.257	0.167	0.144	104.0%	0.004	0.002	0.020
σ		0.042	0.011	0.041	0.025	0.020	1.6%	0.002	0.003	0.002
%RSD		141.500	4.188	15.950	15.050	13.600	1.5	62.810	158.000	12.220
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:27:34	0.003	0.025	100.8%						
2	13:28:00	0.018	0.011	103.6%						
3	13:28:26	0.031	0.017	105.1%						
x		0.017	0.018	103.2%						
σ		0.014	0.007	2.2%						
%RSD		80.960	41.590	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

SQ42482-002 6/6/2017 13:32:31

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	103.7%	89.580	89.850	92.040	T 923.100	T 834.600	829.500	841.900	95.940
2	13:33:23	106.8%	86.220	90.250	88.670	T 896.400	T 805.600	794.600	811.600	92.370
3	13:33:49	109.6%	84.090	90.710	81.970	T 883.200	T 782.200	780.800	807.900	96.290
x		106.7%	86.630	90.270	87.560	T 900.900	T 807.500	801.600	820.400	94.870
σ		3.0%	2.767	0.429	5.128	T 20.320	T 26.230	25.120	18.640	2.168
%RSD		2.8	3.193	0.475	5.857	T 2.256	T 3.248	3.134	2.272	2.286

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	T 857.300	T 34070.000	911.200	985.200	875.300	104.3%	85.830	83.960	84.400
2	13:33:23	878.300	T 33780.000	908.400	960.000	875.200	104.9%	85.120	84.210	83.620
3	13:33:49	T 860.300	T 34400.000	917.900	992.200	873.300	102.3%	87.180	84.880	84.890
x		T 865.300	T 34080.000	912.500	979.100	874.600	103.8%	86.050	84.350	84.300
σ		T 11.360	T 308.900	4.901	16.960	1.154	1.4%	1.045	0.475	0.643
%RSD		T 1.313	T 0.906	0.537	1.732	0.132	1.4	1.215	0.563	0.763

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	2.946	86.890	T 866.900	856.100	87.020	87.450	86.230	90.300	88.250
2	13:33:23	3.245	85.970	T 852.800	872.200	86.330	87.690	85.010	88.080	87.330
3	13:33:49	4.094	88.460	T 881.200	896.200	86.240	84.240	86.470	86.620	86.480
x		3.428	87.110	T 867.000	874.800	86.530	86.460	85.900	88.330	87.350
σ		0.596	1.256	T 14.210	20.180	0.424	1.928	0.785	1.854	0.882
%RSD		17.370	1.442	T 1.638	2.307	0.490	2.230	0.914	2.099	1.010

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	89.890	88.320	1.864	1.398	88.140	-0.724	102.0%	85.220	85.880
2	13:33:23	89.020	88.020	1.565	1.504	86.860	-0.952	103.5%	85.440	85.840
3	13:33:49	87.820	88.080	1.708	2.291	81.720	-0.573	104.3%	90.870	91.190
x		88.910	88.140	1.712	1.731	85.570	-0.750	103.3%	87.180	87.640
σ		1.037	0.159	0.150	0.488	3.397	0.191	1.2%	3.199	3.078
%RSD		1.167	0.180	8.736	28.180	3.969	25.420	1.1	3.669	3.512

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	86.100	89.190	83.040	0.075	80.230	86.460	86.370	101.4%	84.710
2	13:33:23	88.280	87.960	81.800	-0.250	81.070	87.090	83.910	102.5%	84.770
3	13:33:49	91.980	84.900	80.600	-0.875	81.000	85.350	83.790	104.7%	84.750
x		88.790	87.350	81.810	-0.350	80.770	86.300	84.690	102.9%	84.750
σ		2.974	2.209	1.218	0.483	0.468	0.883	1.456	1.7%	0.030
%RSD		3.350	2.529	1.488	138.000	0.579	1.023	1.719	1.6	0.035

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:32:57	89.670	82.190	83.510	84.640	85.150	100.4%	82.020	83.980	84.630
2	13:33:23	89.730	83.500	83.930	85.600	85.630	102.9%	82.560	84.360	84.550
3	13:33:49	88.860	82.750	83.670	85.390	84.200	103.2%	82.010	84.510	83.320
x		89.420	82.810	83.700	85.210	84.990	102.2%	82.200	84.280	84.170
σ		0.488	0.653	0.208	0.503	0.729	1.5%	0.314	0.275	0.735
%RSD		0.545	0.789	0.249	0.590	0.858	1.5	0.383	0.326	0.873

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:32:57	83.420	83.470	99.4%
2	13:33:23	83.120	83.730	102.0%
3	13:33:49	82.920	84.410	103.8%
x		83.150	83.870	101.8%
σ		0.249	0.481	2.2%
%RSD		0.299	0.573	2.2

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-001 6/6/2017 13:37:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	102.6%	0.007	4.680	4.834	┬4594.000	┬28070.000	┬28110.000	┬28840.000	6.631
2	13:38:46	103.3%	-0.002	3.808	4.406	┬4228.000	┬27380.000	┬27130.000	┬27580.000	5.739
3	13:39:12	105.3%	0.006	4.012	4.498	┬4581.000	┬28250.000	┬28130.000	┬28830.000	6.498
x		103.8%	0.004	4.167	4.579	┬4468.000	┬27900.000	┬27790.000	┬28410.000	6.290
σ		1.4%	0.005	0.456	0.225	┬207.900	┬462.300	┬572.900	┬720.300	0.481
%RSD		1.3	130.500	10.950	4.922	┬4.653	┬1.657	┬2.062	┬2.535	7.651
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	┬7964.000	┬38740.000	┬3457.000	92930.000	┬90940.000	104.3%	1.271	0.178	0.158
2	13:38:46	┬7198.000	┬36260.000	┬3137.000	84150.000	┬83210.000	┬115.0%	0.917	0.102	0.104
3	13:39:12	┬8005.000	┬39220.000	┬3482.000	92590.000	┬91150.000	105.2%	0.959	0.087	0.093
x		┬7723.000	┬38070.000	┬3359.000	89890.000	┬88430.000	┬108.2%	1.049	0.123	0.118
σ		┬454.300	┬1591.000	┬192.600	4974.000	┬4526.000	┬5.9%	0.193	0.049	0.035
%RSD		┬5.883	┬4.178	┬5.734	5.534	┬5.118	┬5.5	18.420	39.630	29.670
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	4.522	60.530	15.090	442.600	-1.391	4.548	0.163	0.312	12.960
2	13:38:46	4.280	55.840	10.500	365.600	-1.318	4.299	0.182	0.374	12.960
3	13:39:12	4.603	60.360	14.170	408.700	-1.414	4.411	0.203	0.263	12.740
x		4.468	58.910	13.250	405.700	-1.374	4.419	0.183	0.317	12.890
σ		0.168	2.657	2.426	38.620	0.050	0.125	0.020	0.056	0.128
%RSD		3.761	4.510	18.300	9.520	3.639	2.830	11.080	17.560	0.989
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	-0.070	-0.304	7.799	9.860	-0.411	-0.734	102.5%	0.226	0.230
2	13:38:46	-0.045	0.018	9.423	7.896	0.221	-0.610	104.1%	0.328	0.292
3	13:39:12	-0.114	0.234	9.030	9.269	-0.296	-0.434	106.1%	0.364	0.259
x		-0.076	-0.017	8.750	9.008	-0.162	-0.593	104.2%	0.306	0.261
σ		0.035	0.271	0.847	1.008	0.336	0.151	1.8%	0.071	0.031
%RSD		45.390	1558.000	9.681	11.180	207.600	25.440	1.7	23.340	11.930
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	0.249	0.335	-0.004	-0.092	0.007	0.029	0.041	98.6%	0.061
2	13:38:46	0.214	1.393	-0.004	-0.443	0.009	0.013	0.010	100.9%	0.109
3	13:39:12	0.349	0.778	0.007	-0.217	0.004	0.005	0.024	102.5%	0.091
x		0.271	0.835	-0.000	-0.251	0.007	0.016	0.025	100.7%	0.087
σ		0.070	0.531	0.007	0.178	0.002	0.012	0.015	2.0%	0.024
%RSD		25.810	63.630	4303.000	70.990	30.840	75.470	61.170	1.9	27.780
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:21	0.129	0.087	0.096	177.000	175.000	98.9%	0.015	0.009	0.079
2	13:38:46	0.263	0.144	0.134	176.800	174.100	101.4%	0.011	0.007	0.102
3	13:39:12	0.204	0.112	0.175	175.000	173.100	103.7%	0.009	0.010	0.065
x		0.199	0.114	0.135	176.300	174.100	101.4%	0.012	0.008	0.082
σ		0.067	0.029	0.040	1.130	0.907	2.4%	0.003	0.001	0.019
%RSD		33.780	24.930	29.270	0.641	0.521	2.4	28.280	17.660	22.650
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:38:21	0.063	0.059	92.2%						
2	13:38:46	0.067	0.060	94.9%						
3	13:39:12	0.064	0.053	97.2%						
x		0.065	0.057	94.8%						
σ		0.002	0.004	2.5%						
%RSD		3.259	6.862	2.6						

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-002 6/6/2017 13:43:18

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	105.2%	0.247	2.720	2.450	┬5130.000	┬4654.000	┬4565.000	┬4713.000	37.860
2	13:44:09	105.0%	0.235	2.594	2.457	┬5152.000	┬4689.000	┬4585.000	┬4666.000	36.270
3	13:44:35	110.3%	0.323	3.218	2.166	┬5164.000	┬4512.000	┬4436.000	┬4563.000	38.050
x		106.8%	0.268	2.844	2.358	┬5149.000	┬4618.000	┬4529.000	┬4647.000	37.390
σ		3.0%	0.048	0.330	0.166	┬17.370	┬93.490	┬81.150	┬76.400	0.980
%RSD		2.8	17.730	11.610	7.033	┬0.337	┬2.024	┬1.792	┬1.644	2.619

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	┬6421.000	┬36400.000	┬3689.000	8963.000	8569.000	106.3%	0.857	0.049	0.146
2	13:44:09	┬6313.000	┬36190.000	┬3688.000	8868.000	8577.000	105.6%	1.039	0.234	0.193
3	13:44:35	┬6494.000	┬37210.000	┬3792.000	8859.000	8580.000	103.4%	1.052	-0.170	0.209
x		┬6409.000	┬36600.000	┬3723.000	8897.000	8576.000	105.1%	0.983	0.037	0.182
σ		┬90.790	┬536.500	┬60.100	57.990	5.677	1.5%	0.109	0.202	0.033
%RSD		┬1.417	┬1.466	┬1.614	0.652	0.066	1.4	11.090	540.800	18.070

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	4.943	┬380.400	60.010	97.080	0.758	3.737	5.600	6.157	32.790
2	13:44:09	4.530	┬381.100	59.510	96.820	0.778	3.320	5.726	6.198	32.610
3	13:44:35	5.060	┬386.800	┬69.900	95.090	0.750	3.490	5.768	6.028	31.670
x		4.844	┬382.800	┬63.140	96.330	0.762	3.516	5.698	6.128	32.360
σ		0.278	┬3.543	┬5.860	1.083	0.015	0.210	0.087	0.089	0.600
%RSD		5.739	┬0.926	┬9.281	1.124	1.921	5.968	1.534	1.446	1.855

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	0.057	-0.172	7.427	7.035	0.002	-0.234	105.5%	-0.127	-0.195
2	13:44:09	-0.124	-0.518	6.385	7.199	-0.404	-0.828	106.8%	-0.047	-0.127
3	13:44:35	0.009	0.014	7.093	7.342	-0.224	0.648	108.0%	-0.079	-0.061
x		-0.019	-0.225	6.968	7.192	-0.209	-0.138	106.8%	-0.084	-0.128
σ		0.093	0.270	0.532	0.154	0.204	0.743	1.3%	0.040	0.067
%RSD		489.300	119.800	7.633	2.136	97.610	539.400	1.2	47.750	52.290

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	-0.166	2.293	0.020	-0.780	0.024	0.253	0.225	99.8%	0.130
2	13:44:09	-0.137	2.113	0.023	-0.693	0.028	0.181	0.224	102.3%	0.073
3	13:44:35	-0.052	-0.134	0.013	0.140	0.020	0.196	0.244	103.6%	0.124
x		-0.119	1.424	0.019	-0.444	0.024	0.210	0.231	101.9%	0.109
σ		0.059	1.352	0.005	0.508	0.004	0.038	0.011	1.9%	0.031
%RSD		50.030	94.960	28.370	114.300	18.470	17.900	4.963	1.9	28.890

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:43	0.402	0.047	0.041	129.200	127.800	99.5%	0.037	0.044	0.276
2	13:44:09	0.405	0.070	0.049	128.300	125.600	101.7%	0.041	0.039	0.268
3	13:44:35	0.015	0.070	0.080	127.300	126.400	103.0%	0.050	0.041	0.266
x		0.274	0.062	0.057	128.300	126.600	101.4%	0.043	0.042	0.270
σ		0.225	0.013	0.020	0.936	1.110	1.8%	0.007	0.003	0.005
%RSD		81.960	21.100	35.920	0.729	0.877	1.7	16.090	6.601	1.895

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:43:43	0.257	0.234	96.9%
2	13:44:09	0.271	0.262	99.2%
3	13:44:35	0.275	0.228	100.6%
x		0.268	0.241	98.9%
σ		0.009	0.018	1.8%
%RSD		3.475	7.538	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-003 6/6/2017 13:48:41

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	100.5%	-0.014	6.382	6.853	T 4179.000	T 37180.000	T 36610.000	T 37890.000	4.371
2	13:49:31	105.7%	-0.007	7.358	6.791	T 4463.000	T 37900.000	T 37650.000	T 38960.000	5.081
3	13:49:57	106.9%	-0.015	6.751	6.699	T 4463.000	T 37670.000	T 37540.000	T 38720.000	5.093
x		104.4%	-0.012	6.830	6.781	T 4368.000	T 37590.000	T 37270.000	T 38520.000	4.848
σ		3.4%	0.005	0.493	0.078	T 164.200	T 367.700	T 571.500	T 561.500	0.413
%RSD		3.3	38.590	7.214	1.145	T 3.759	T 0.978	T 1.534	T 1.458	8.525
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	T 8683.000	T 36090.000	T 3437.000	M 118700.000	TM 113900.000	T 115.2%	1.122	0.041	0.174
2	13:49:31	T 9461.000	T 38730.000	T 3748.000	M 125400.000	TM 123300.000	107.8%	1.200	-0.095	0.155
3	13:49:57	T 9410.000	T 38160.000	T 3725.000	M 124600.000	TM 123300.000	108.2%	1.140	-0.017	0.199
x		T 9184.000	T 37660.000	T 3637.000	M 122900.000	TM 120200.000	T 110.4%	1.154	-0.024	0.176
σ		T 435.100	T 1391.000	T 173.400	M 3649.000	TM 5415.000	T 4.2%	0.041	0.068	0.022
%RSD		T 4.737	T 3.695	T 4.766	M 2.968	TM 4.506	T 3.8	3.561	288.600	12.690
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	4.127	T 367.600	T 1424.000	1922.000	2.646	15.740	0.057	0.455	1.785
2	13:49:31	4.647	T 398.100	T 1512.000	2061.000	2.737	15.100	0.109	0.477	1.651
3	13:49:57	4.548	T 403.800	T 1541.000	2064.000	2.698	14.820	0.098	0.379	1.974
x		4.441	T 389.800	T 1492.000	2016.000	2.694	15.220	0.088	0.437	1.803
σ		0.276	T 19.460	T 61.190	81.420	0.046	0.469	0.027	0.052	0.162
%RSD		6.211	T 4.992	T 4.101	4.040	1.698	3.084	31.100	11.830	8.985
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	1.346	-0.014	10.820	10.360	0.073	-0.179	102.1%	-0.242	-0.347
2	13:49:31	1.718	-0.251	10.300	10.640	-0.229	-0.427	105.4%	-0.138	-0.190
3	13:49:57	1.105	-0.247	11.080	12.520	0.140	0.291	106.7%	-0.173	-0.275
x		1.390	-0.171	10.740	11.170	-0.005	-0.105	104.7%	-0.184	-0.270
σ		0.309	0.136	0.396	1.177	0.197	0.365	2.4%	0.053	0.079
%RSD		22.210	79.640	3.689	10.530	3647.000	347.300	2.3	28.840	29.080
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	-0.288	2.146	0.019	-0.804	0.012	0.008	0.008	99.4%	0.027
2	13:49:31	-0.198	2.562	0.009	-0.960	0.012	-0.003	0.008	101.8%	0.052
3	13:49:57	-0.184	2.561	0.020	-0.960	0.014	-0.004	0.003	102.4%	0.026
x		-0.224	2.423	0.016	-0.908	0.013	0.000	0.006	101.2%	0.035
σ		0.057	0.240	0.006	0.090	0.001	0.007	0.003	1.6%	0.015
%RSD		25.310	9.906	39.750	9.901	10.660	1445.000	45.590	1.6	42.780
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:49:06	0.320	0.048	0.056	M 526.700	M 526.000	98.1%	0.034	0.039	0.017
2	13:49:31	0.425	0.049	0.070	M 522.000	M 523.400	101.1%	0.033	0.035	0.013
3	13:49:57	0.416	0.045	0.052	M 530.800	M 528.700	103.7%	0.044	0.036	0.014
x		0.387	0.047	0.059	M 526.500	M 526.000	101.0%	0.037	0.036	0.015
σ		0.058	0.002	0.009	M 4.382	M 2.658	2.8%	0.006	0.002	0.002
%RSD		15.040	3.628	16.010	M 0.832	M 0.505	2.8	15.100	5.717	14.550
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:49:06	0.013	0.012	90.3%						
2	13:49:31	0.006	0.011	94.6%						
3	13:49:57	0.004	0.014	96.8%						
x		0.008	0.012	93.9%						
σ		0.005	0.002	3.3%						
%RSD		59.750	12.950	3.5						

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9475 6/6/2017 13:54:03 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	92.4%	311.000	282.300	305.400	┬58520.000	┬57420.000	┬57830.000	┬59040.000	300.100
2	13:54:55	93.8%	305.400	283.000	306.800	┬57750.000	┬56880.000	┬56820.000	┬57880.000	298.500
3	13:55:21	96.0%	298.100	276.800	303.200	┬58040.000	┬56980.000	┬56410.000	┬58310.000	293.500
x		94.1%	101.613%	93.568%	101.709%	┬96.844%	┬57090.000	┬57020.000	┬97.346%	99.128%
σ		1.8%	n/a	n/a	n/a	┬n/a	┬290.500	┬733.200	┬n/a	n/a
%RSD		1.9	2.127	1.208	0.592	┬0.671	┬0.509	┬1.286	┬1.003	1.147
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	┬3055.000	277.400	┬59620.000	60010.000	┬58920.000	103.7%	286.700	298.500	291.100
2	13:54:55	┬3004.000	278.000	┬59460.000	58940.000	┬59240.000	106.1%	285.900	296.600	287.700
3	13:55:21	┬3018.000	283.500	┬59000.000	59100.000	┬59030.000	106.3%	289.200	296.100	289.000
x		┬100.856%	279.600	┬98.934%	59350.000	┬98.444%	105.4%	95.752%	99.018%	96.414%
σ		┬n/a	3.345	┬n/a	577.000	┬n/a	1.4%	n/a	n/a	n/a
%RSD		┬0.862	1.196	┬0.542	0.972	┬0.275	1.4	0.598	0.423	0.590
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	-6.698	┬292.600	┬56760.000	┬58540.000	286.300	288.200	261.100	298.900	289.300
2	13:54:55	-4.882	┬297.800	┬57440.000	┬59010.000	284.900	285.500	261.500	294.100	289.400
3	13:55:21	-5.545	┬294.500	┬56890.000	┬58870.000	283.200	282.900	261.400	292.100	285.600
x		-5.708	┬98.318%	┬95.047%	┬98.011%	94.935%	95.176%	261.300	98.335%	96.023%
σ		0.919	┬n/a	┬n/a	┬n/a	n/a	n/a	0.206	n/a	n/a
%RSD		16.100	┬0.881	┬0.628	┬0.404	0.538	0.931	0.079	1.187	0.754
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	273.100	270.600	1.244	0.532	299.900	-0.099	100.7%	280.200	284.300
2	13:54:55	275.400	262.500	0.681	0.050	292.500	0.439	102.1%	287.700	292.600
3	13:55:21	273.100	265.300	0.756	0.885	280.500	0.202	103.5%	300.900	304.100
x		91.286%	266.100	0.894	0.489	96.997%	0.181	102.1%	96.532%	97.885%
σ		n/a	4.117	0.306	0.419	n/a	0.270	1.4%	n/a	n/a
%RSD		0.487	1.547	34.190	85.640	3.357	149.200	1.4	3.605	3.380
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	288.100	279.300	285.800	0.686	263.100	274.500	291.100	96.8%	284.000
2	13:54:55	294.200	275.100	284.400	1.376	261.400	276.600	290.400	99.5%	280.300
3	13:55:21	308.600	273.800	282.500	-0.505	261.100	272.800	289.300	100.5%	282.900
x		98.991%	276.000	94.744%	0.519	261.900	274.600	96.750%	98.9%	94.143%
σ		n/a	2.870	n/a	0.952	1.109	1.882	n/a	1.9%	n/a
%RSD		3.553	1.040	0.577	183.400	0.423	0.685	0.314	1.9	0.671
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:54:29	304.900	277.400	278.800	288.200	286.800	97.1%	287.800	288.900	292.200
2	13:54:55	302.500	275.400	279.200	288.200	285.500	100.4%	289.000	286.400	293.400
3	13:55:21	302.200	281.400	280.400	288.700	288.500	102.1%	288.500	287.600	294.200
x		101.067%	92.682%	93.162%	96.127%	95.653%	99.9%	96.139%	95.882%	97.761%
σ		n/a	n/a	n/a	n/a	n/a	2.6%	n/a	n/a	n/a
%RSD		0.486	1.097	0.303	0.098	0.526	2.6	0.217	0.435	0.336
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	13:54:29	290.700	279.900	90.0%						
2	13:54:55	289.900	276.800	92.0%						
3	13:55:21	290.500	278.900	94.1%						
x		96.794%	92.853%	92.0%						
σ		n/a	n/a	2.0%						
%RSD		0.133	0.575	2.2						

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 13:59:24 QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	102.7%	0.015	2.466	2.416	2.543	3.036	3.166	2.615	0.716
2	14:00:16	108.1%	0.029	2.497	2.032	2.585	2.971	2.741	2.975	0.655
3	14:00:42	112.1%	-0.001	2.201	1.811	2.255	2.812	2.674	2.422	0.573
x		107.6%	0.014	2.388	2.086	2.461	2.940	2.861	2.670	0.648
σ		4.7%	0.015	0.163	0.306	0.180	0.115	0.267	0.281	0.072
%RSD		4.4	103.200	6.827	14.670	7.292	3.908	9.333	10.510	11.090

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	0.860	153.800	0.131	1.015	0.760	112.4%	0.045	0.054	0.010
2	14:00:16	0.189	166.600	0.523	3.169	2.043	110.9%	-0.006	0.097	0.015
3	14:00:42	-0.418	174.000	-0.202	6.869	0.830	110.8%	0.065	0.051	0.018
x		0.210	164.800	0.150	3.684	1.211	111.4%	0.035	0.067	0.014
σ		0.640	10.240	0.363	2.961	0.722	0.9%	0.037	0.026	0.004
%RSD		304.200	6.211	241.000	80.360	59.570	0.8	106.300	37.830	30.760

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	0.056	-0.003	4.993	2.783	-0.000	-0.122	-0.041	0.004	-0.000
2	14:00:16	0.028	0.011	5.250	-0.246	-0.004	-0.115	-0.034	-0.021	0.029
3	14:00:42	0.057	0.003	4.581	1.291	0.001	-0.098	-0.030	-0.022	-0.068
x		0.047	0.004	4.941	1.276	-0.001	-0.112	-0.035	-0.013	-0.013
σ		0.017	0.007	0.338	1.515	0.003	0.013	0.006	0.015	0.050
%RSD		35.870	173.000	6.829	118.700	317.300	11.320	16.450	112.100	385.000

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	-0.104	0.373	-0.475	0.656	-0.454	-0.852	107.0%	0.686	0.705
2	14:00:16	-0.098	-0.108	-0.230	0.398	-0.191	0.606	108.2%	0.826	0.823
3	14:00:42	-0.111	0.040	-0.092	0.138	-0.198	-0.311	108.0%	0.807	0.676
x		-0.105	0.101	-0.266	0.398	-0.281	-0.186	107.7%	0.773	0.735
σ		0.007	0.246	0.194	0.259	0.150	0.737	0.6%	0.076	0.078
%RSD		6.482	242.900	72.870	65.180	53.350	396.900	0.6	9.844	10.600

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	0.587	-0.173	0.013	0.076	0.009	0.018	0.014	105.3%	0.051
2	14:00:16	0.896	-0.536	0.010	0.191	0.023	-0.008	0.009	108.0%	0.102
3	14:00:42	0.753	0.432	0.005	-0.167	0.014	0.003	0.012	107.8%	0.091
x		0.745	-0.092	0.009	0.033	0.015	0.004	0.012	107.0%	0.081
σ		0.155	0.489	0.004	0.183	0.007	0.013	0.002	1.5%	0.027
%RSD		20.770	529.200	47.210	549.100	48.240	302.500	21.240	1.4	33.040

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:59:50	0.022	0.422	0.428	0.044	0.025	101.8%	0.007	0.010	0.012
2	14:00:16	0.063	0.467	0.437	0.015	0.011	103.1%	0.020	0.011	0.013
3	14:00:42	0.153	0.463	0.488	0.020	0.002	105.6%	0.012	0.011	0.010
x		0.079	0.451	0.451	0.026	0.013	103.5%	0.013	0.011	0.012
σ		0.067	0.025	0.032	0.016	0.012	1.9%	0.006	0.001	0.001
%RSD		84.570	5.553	7.191	59.790	93.460	1.9	48.460	6.704	10.590

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	13:59:50	0.006	0.007	101.5%
2	14:00:16	0.004	0.007	103.6%
3	14:00:42	0.006	0.011	104.5%
x		0.005	0.008	103.2%
σ		0.002	0.003	1.5%
%RSD		29.010	29.730	1.5

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004 6/6/2017 14:04:47

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	105.5%	0.014	7.510	7.983	T 5060.000	T 31860.000	T 31640.000	T 32980.000	7.337
2	14:05:38	109.3%	0.000	7.272	7.375	T 5013.000	T 31610.000	T 31360.000	T 32300.000	7.311
3	14:06:04	107.5%	0.001	7.621	7.623	T 4955.000	T 31470.000	T 31450.000	T 32320.000	7.156
x		107.4%	0.005	7.468	7.660	T 5009.000	T 31650.000	T 31480.000	T 32530.000	7.268
σ		1.9%	0.008	0.178	0.306	T 52.640	T 201.900	T 140.900	T 386.700	0.098
%RSD		1.7	155.900	2.388	3.990	T 1.051	T 0.638	T 0.448	T 1.189	1.346

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	T 7474.000	T 36470.000	T 2751.000	95250.000	T 93350.000	110.8%	1.087	0.002	0.241
2	14:05:38	T 7489.000	T 36460.000	T 2779.000	93750.000	T 92930.000	110.3%	0.948	-0.054	0.207
3	14:06:04	T 7531.000	T 36980.000	T 2806.000	94050.000	T 93650.000	108.6%	0.828	-0.091	0.213
x		T 7498.000	T 36640.000	T 2778.000	94350.000	T 93310.000	109.9%	0.955	-0.048	0.220
σ		T 29.570	T 299.500	T 27.590	788.900	T 358.100	1.2%	0.129	0.047	0.018
%RSD		T 0.394	T 0.818	T 0.993	0.836	T 0.384	1.1	13.560	98.320	8.203

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	4.290	TM 1852.000	T 1614.000	2029.000	6.213	10.440	9.674	11.510	16.120
2	14:05:38	4.368	TM 1882.000	T 1644.000	2035.000	6.529	9.684	9.651	11.400	15.680
3	14:06:04	4.142	TM 1916.000	T 1659.000	2047.000	6.599	9.693	9.643	11.310	15.650
x		4.267	TM 1883.000	T 1639.000	2037.000	6.447	9.938	9.656	11.410	15.810
σ		0.115	TM 31.770	T 22.410	9.397	0.206	0.433	0.016	0.099	0.260
%RSD		2.692	TM 1.687	T 1.367	0.461	3.190	4.358	0.164	0.867	1.646

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	0.930	-0.092	7.595	7.682	-0.250	-0.244	105.2%	0.100	-0.065
2	14:05:38	0.612	0.159	6.797	8.212	-0.180	0.116	105.9%	0.165	0.082
3	14:06:04	0.986	0.171	8.069	7.464	0.054	-1.027	107.0%	0.309	0.127
x		0.843	0.079	7.487	7.786	-0.125	-0.385	106.1%	0.191	0.048
σ		0.202	0.148	0.643	0.385	0.159	0.584	0.9%	0.107	0.100
%RSD		23.920	187.900	8.588	4.941	127.300	151.700	0.8	55.980	208.800

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	0.051	3.281	0.003	-1.228	0.007	-0.012	-0.007	100.8%	0.107
2	14:05:38	0.170	3.086	0.006	-1.153	0.007	-0.016	-0.008	102.8%	0.125
3	14:06:04	0.191	2.136	0.000	-0.802	0.007	-0.005	-0.001	103.0%	0.124
x		0.137	2.834	0.003	-1.061	0.007	-0.011	-0.005	102.2%	0.119
σ		0.075	0.612	0.003	0.227	0.000	0.005	0.004	1.2%	0.010
%RSD		55.040	21.600	89.240	21.410	5.271	50.370	73.380	1.2	8.366

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:05:12	0.666	0.223	0.200	275.300	274.000	99.5%	0.051	0.048	0.428
2	14:05:38	0.641	0.237	0.267	272.400	270.500	102.2%	0.043	0.040	0.372
3	14:06:04	0.432	0.241	0.257	271.900	271.500	103.7%	0.056	0.042	0.448
x		0.580	0.234	0.241	273.200	272.000	101.8%	0.050	0.044	0.416
σ		0.129	0.009	0.036	1.839	1.814	2.2%	0.007	0.004	0.039
%RSD		22.180	3.940	14.860	0.673	0.667	2.1	13.420	9.613	9.455

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:05:12	0.380	0.401	91.9%
2	14:05:38	0.417	0.374	95.3%
3	14:06:04	0.362	0.361	96.4%
x		0.386	0.379	94.5%
σ		0.028	0.020	2.3%
%RSD		7.325	5.276	2.5

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004MS 6/6/2017 14:10:11

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	105.6%	93.120	98.950	100.000	T 6018.000	T 32700.000	T 32760.000	T 33970.000	95.500
2	14:11:03	106.6%	91.150	90.260	97.510	T 5405.000	T 30900.000	T 30940.000	T 31870.000	88.410
3	14:11:30	108.1%	90.550	98.200	95.860	T 5886.000	T 31780.000	T 31690.000	T 32510.000	96.070
x		106.8%	91.610	95.800	97.800	T 5770.000	T 31790.000	T 31800.000	T 32790.000	93.330
σ		1.3%	1.343	4.816	2.101	T 322.400	T 897.000	T 918.700	T 1078.000	4.269
%RSD		1.2	1.466	5.027	2.148	T 5.588	T 2.822	T 2.889	T 3.289	4.574
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	T 8333.000	T 35800.000	T 3663.000	95700.000	T 93800.000	109.3%	91.360	87.520	87.590
2	14:11:03	T 7693.000	T 34370.000	T 3473.000	88650.000	T 87170.000	T 117.3%	86.220	83.240	82.670
3	14:11:30	T 8258.000	T 36220.000	T 3740.000	94880.000	T 94360.000	107.5%	90.680	88.560	87.740
x		T 8095.000	T 35460.000	T 3625.000	93080.000	T 91780.000	T 111.4%	89.420	86.440	86.000
σ		T 349.600	T 966.800	T 137.500	3852.000	T 3999.000	T 5.2%	2.791	2.821	2.884
%RSD		T 4.319	T 2.726	T 3.792	4.139	T 4.358	T 4.7	3.121	3.264	3.353
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	3.553	TM 1967.000	T 2544.000	2978.000	93.800	102.200	85.130	100.800	103.500
2	14:11:03	3.070	TM 1876.000	T 2428.000	2748.000	89.200	100.400	80.490	95.920	100.400
3	14:11:30	3.145	TM 2004.000	T 2550.000	2945.000	93.520	97.140	83.360	93.490	97.500
x		3.256	TM 1949.000	T 2507.000	2890.000	92.170	99.890	83.000	96.730	100.500
σ		0.260	TM 65.710	T 68.710	124.800	2.577	2.547	2.343	3.706	2.983
%RSD		7.980	TM 3.371	T 2.740	4.319	2.796	2.549	2.823	3.831	2.969
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	88.970	84.930	10.540	10.240	93.010	-0.199	103.6%	91.460	92.500
2	14:11:03	88.780	81.660	10.370	9.977	94.060	0.306	104.9%	86.160	88.160
3	14:11:30	90.790	83.510	10.280	10.690	91.430	-1.007	106.1%	96.950	97.840
x		89.510	83.370	10.390	10.300	92.830	-0.300	104.9%	91.520	92.840
σ		1.108	1.640	0.131	0.359	1.325	0.662	1.2%	5.396	4.847
%RSD		1.237	1.967	1.259	3.484	1.427	221.000	1.2	5.896	5.221
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	93.700	91.620	89.930	-3.047	82.280	86.720	92.660	99.8%	88.130
2	14:11:03	88.600	90.320	87.280	-2.432	81.090	84.950	90.760	101.8%	87.680
3	14:11:30	99.130	90.940	86.910	-0.208	81.440	85.190	90.790	102.9%	87.950
x		93.810	90.960	88.040	-1.896	81.610	85.620	91.400	101.5%	87.920
σ		5.268	0.651	1.648	1.494	0.611	0.962	1.088	1.6%	0.230
%RSD		5.615	0.715	1.872	78.770	0.748	1.124	1.190	1.5	0.261
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:10:37	94.250	86.500	87.310	366.800	365.600	98.9%	88.280	85.050	89.930
2	14:11:03	94.180	88.240	88.520	365.800	361.200	100.7%	88.610	85.910	90.480
3	14:11:30	94.880	87.390	89.100	362.000	361.500	102.5%	87.970	85.770	89.040
x		94.440	87.380	88.310	364.900	362.800	100.7%	88.280	85.580	89.810
σ		0.387	0.868	0.911	2.538	2.469	1.8%	0.322	0.465	0.725
%RSD		0.409	0.993	1.032	0.696	0.681	1.8	0.365	0.543	0.807
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	14:10:37	89.630	83.370	91.5%						
2	14:11:03	89.100	84.680	94.8%						
3	14:11:30	87.670	84.560	96.8%						
x		88.800	84.200	94.4%						
σ		1.013	0.725	2.7%						
%RSD		1.141	0.861	2.8						

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004MD 6/6/2017 14:15:35

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	104.0%	83.580	87.680	90.100	T 5379.000	T 31380.000	T 30980.000	T 31720.000	82.700
2	14:16:26	103.9%	82.220	83.570	91.030	T 5269.000	T 30620.000	T 30190.000	T 31180.000	79.680
3	14:16:51	107.8%	80.570	92.690	89.930	T 5849.000	T 31650.000	T 31240.000	T 31980.000	86.870
x		105.3%	82.120	87.980	90.360	T 5499.000	T 31220.000	T 30800.000	T 31630.000	83.080
σ		2.2%	1.507	4.568	0.593	T 307.800	T 536.400	T 548.700	T 403.800	3.608
%RSD		2.1	1.835	5.192	0.656	T 5.597	T 1.718	T 1.781	T 1.277	4.343

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	T 7667.000	T 34880.000	T 3415.000	89750.000	T 86960.000	T 114.5%	74.930	75.090	74.200
2	14:16:26	T 7427.000	T 34180.000	T 3343.000	88010.000	T 85980.000	T 116.8%	74.910	72.490	71.640
3	14:16:51	T 7949.000	T 35840.000	T 3657.000	94550.000	T 93600.000	106.9%	81.960	78.530	77.900
x		T 7681.000	T 34960.000	T 3472.000	90770.000	T 88850.000	T 112.7%	77.270	75.370	74.580
σ		T 261.100	T 834.500	T 164.500	3389.000	T 4147.000	T 5.2%	4.062	3.030	3.149
%RSD		T 3.400	T 2.387	T 4.738	3.733	T 4.668	T 4.6	5.257	4.020	4.223

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	3.504	TM 1864.000	T 2319.000	2680.000	80.920	93.190	72.510	87.660	91.330
2	14:16:26	3.402	TM 1834.000	T 2289.000	2635.000	80.740	91.870	71.380	84.410	89.700
3	14:16:51	3.534	TM 1950.000	T 2447.000	2853.000	85.120	90.820	75.430	83.690	90.310
x		3.480	TM 1883.000	T 2352.000	2723.000	82.260	91.960	73.110	85.250	90.450
σ		0.070	TM 60.170	T 83.820	115.100	2.479	1.191	2.091	2.114	0.823
%RSD		1.997	TM 3.196	T 3.564	4.225	3.013	1.295	2.860	2.480	0.910

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	79.550	75.930	9.170	9.238	85.190	0.007	102.5%	76.940	77.100
2	14:16:26	77.670	75.520	10.230	9.195	80.720	0.543	103.5%	76.580	78.140
3	14:16:51	78.350	75.750	8.505	10.090	80.980	0.342	105.2%	84.890	86.560
x		78.530	75.730	9.301	9.509	82.300	0.297	103.7%	79.470	80.600
σ		0.954	0.206	0.869	0.506	2.511	0.271	1.4%	4.698	5.187
%RSD		1.215	0.272	9.342	5.321	3.051	91.040	1.3	5.911	6.436

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	78.670	82.850	78.990	-1.781	73.240	77.450	81.420	97.9%	79.160
2	14:16:26	78.920	80.400	79.210	-1.434	72.790	77.510	80.600	100.9%	78.260
3	14:16:51	87.360	81.740	77.630	-0.974	72.360	77.120	80.380	101.4%	78.550
x		81.650	81.670	78.610	-1.396	72.800	77.360	80.800	100.1%	78.660
σ		4.949	1.227	0.856	0.405	0.442	0.208	0.549	1.9%	0.461
%RSD		6.061	1.502	1.089	28.990	0.608	0.269	0.679	1.9	0.586

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:01	84.650	78.070	78.380	352.400	349.400	97.6%	79.230	76.850	80.690
2	14:16:26	83.820	77.520	78.800	349.000	346.700	100.9%	79.410	75.790	80.610
3	14:16:51	84.570	77.880	78.020	349.600	348.400	101.7%	79.630	76.950	80.310
x		84.350	77.820	78.400	350.300	348.200	100.1%	79.430	76.530	80.540
σ		0.460	0.278	0.388	1.817	1.356	2.2%	0.201	0.645	0.201
%RSD		0.545	0.357	0.495	0.519	0.389	2.2	0.253	0.843	0.249

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:16:01	79.310	75.450	91.6%
2	14:16:26	79.390	74.600	94.0%
3	14:16:51	79.650	75.690	95.5%
x		79.450	75.240	93.7%
σ		0.175	0.568	2.0%
%RSD		0.221	0.755	2.1

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004SD(5) 6/6/2017 14:20:56

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	101.8%	0.003	2.360	1.893	┬1032.000	┬6661.000	┬6549.000	┬6705.000	0.887
2	14:21:48	105.9%	-0.019	1.870	1.970	┬1027.000	┬6608.000	┬6415.000	┬6639.000	0.833
3	14:22:13	106.4%	-0.015	2.301	1.635	┬1016.000	┬6465.000	┬6383.000	┬6528.000	0.764
x		104.7%	-0.010	2.177	1.833	┬1025.000	┬6578.000	┬6449.000	┬6624.000	0.828
σ		2.5%	0.012	0.268	0.176	┬8.176	┬101.400	┬87.850	┬89.610	0.062
%RSD		2.4	115.500	12.290	9.573	┬0.798	┬1.542	┬1.362	┬1.353	7.488

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	┬1534.000	┬7511.000	578.000	19430.000	┬19220.000	106.1%	0.174	0.097	0.030
2	14:21:48	┬1541.000	┬7609.000	583.000	19340.000	┬19280.000	104.1%	0.113	0.043	0.024
3	14:22:13	┬1512.000	┬7454.000	576.200	19210.000	┬19270.000	105.4%	0.213	0.044	0.026
x		┬1529.000	┬7525.000	579.100	19320.000	┬19260.000	105.2%	0.166	0.062	0.026
σ		┬15.330	┬78.530	3.520	110.800	┬33.080	1.0%	0.050	0.031	0.003
%RSD		┬1.003	┬1.044	0.608	0.573	┬0.172	1.0	30.250	49.710	12.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	0.847	┬389.800	┬304.900	383.600	1.340	1.978	1.089	1.247	2.943
2	14:21:48	0.921	┬403.500	┬303.100	384.800	1.415	2.001	1.115	1.179	2.918
3	14:22:13	1.006	┬396.000	322.400	381.000	1.347	1.874	1.072	1.194	2.671
x		0.925	┬396.400	┬310.100	383.100	1.368	1.951	1.092	1.206	2.844
σ		0.080	┬6.859	┬10.710	1.942	0.041	0.067	0.021	0.036	0.150
%RSD		8.645	┬1.730	┬3.453	0.507	3.019	3.459	1.968	2.968	5.273

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	-0.014	-0.185	0.880	1.209	-0.668	-0.917	101.6%	-0.083	-0.094
2	14:21:48	-0.160	0.016	1.199	1.843	-0.301	-0.746	103.1%	0.070	-0.008
3	14:22:13	0.076	-0.094	1.478	1.315	-0.122	0.341	105.4%	-0.043	-0.040
x		-0.033	-0.088	1.186	1.456	-0.364	-0.441	103.4%	-0.019	-0.047
σ		0.119	0.101	0.299	0.340	0.278	0.682	1.9%	0.079	0.043
%RSD		364.700	114.500	25.240	23.350	76.500	154.800	1.9	424.700	91.390

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	-0.115	1.097	0.002	-0.414	0.005	-0.007	-0.012	100.6%	0.052
2	14:21:48	-0.056	0.043	-0.003	-0.023	0.001	-0.008	-0.003	102.8%	0.014
3	14:22:13	-0.088	1.630	-0.002	-0.612	0.001	-0.015	-0.013	103.2%	0.034
x		-0.086	0.924	-0.001	-0.350	0.002	-0.010	-0.009	102.2%	0.033
σ		0.030	0.808	0.003	0.300	0.002	0.004	0.006	1.4%	0.019
%RSD		34.460	87.460	223.200	85.710	97.690	43.270	62.880	1.4	56.810

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:22	0.173	-0.002	-0.003	56.330	55.800	98.5%	0.029	0.030	0.079
2	14:21:48	0.036	0.020	0.022	55.370	55.440	100.3%	0.031	0.023	0.078
3	14:22:13	0.279	0.012	-0.016	56.190	54.920	103.4%	0.022	0.023	0.086
x		0.163	0.010	0.001	55.960	55.380	100.7%	0.027	0.025	0.081
σ		0.122	0.011	0.019	0.519	0.442	2.5%	0.005	0.004	0.004
%RSD		74.890	111.900	1969.000	0.927	0.798	2.5	18.920	16.550	4.753

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:21:22	0.052	0.072	96.5%
2	14:21:48	0.071	0.061	99.5%
3	14:22:13	0.059	0.071	100.9%
x		0.061	0.068	99.0%
σ		0.010	0.006	2.3%
%RSD		16.260	9.119	2.3

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-004PS 6/6/2017 14:26:19

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	102.8%	94.490	108.200	107.700	T 5798.000	T 31690.000	T 31780.000	T 32750.000	102.100
2	14:27:10	104.0%	93.540	109.500	106.800	T 5850.000	T 32020.000	T 31690.000	T 32560.000	99.970
3	14:27:36	107.6%	90.690	99.220	104.700	T 5352.000	T 30280.000	T 29990.000	T 30340.000	93.280
x		104.8%	92.910	105.600	106.400	T 5667.000	T 31330.000	T 31150.000	T 31880.000	98.440
σ		2.5%	1.978	5.585	1.536	T 273.900	T 923.200	T 1009.000	T 1342.000	4.590
%RSD		2.3	2.129	5.287	1.444	T 4.833	T 2.947	T 3.240	T 4.209	4.662

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	T 8212.000	T 35920.000	T 3665.000	94070.000	T 91840.000	106.3%	94.090	89.490	88.950
2	14:27:10	T 8123.000	T 36190.000	T 3678.000	94530.000	T 92580.000	106.0%	95.980	91.130	90.660
3	14:27:36	T 7493.000	T 33740.000	T 3399.000	86270.000	T 86120.000	T 115.0%	86.150	85.450	83.730
x		T 7942.000	T 35280.000	T 3581.000	91620.000	T 90180.000	T 109.1%	92.070	88.690	87.780
σ		T 392.200	T 1341.000	T 157.400	4640.000	T 3533.000	T 5.2%	5.218	2.924	3.610
%RSD		T 4.938	T 3.800	T 4.396	5.064	T 3.917	T 4.7	5.667	3.297	4.112

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	4.161	TM 1942.000	T 2503.000	2939.000	95.040	102.800	94.670	110.400	110.300
2	14:27:10	2.600	TM 1944.000	T 2523.000	2923.000	96.170	102.700	96.690	108.800	107.000
3	14:27:36	2.871	TM 1814.000	T 2392.000	2713.000	91.420	101.300	92.520	106.500	103.100
x		3.211	TM 1900.000	T 2473.000	2858.000	94.210	102.300	94.630	108.600	106.800
σ		0.834	TM 74.840	T 70.370	125.900	2.481	0.825	2.086	1.993	3.616
%RSD		25.970	TM 3.939	T 2.846	4.406	2.634	0.806	2.205	1.836	3.386

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	89.550	82.530	7.280	7.411	97.730	0.045	102.2%	94.280	94.160
2	14:27:10	88.590	84.110	7.556	8.211	93.200	-0.341	102.1%	96.590	97.700
3	14:27:36	87.710	82.430	7.711	8.410	94.630	0.539	103.8%	90.030	92.290
x		88.620	83.020	7.516	8.010	95.190	0.081	102.7%	93.630	94.710
σ		0.920	0.945	0.218	0.529	2.313	0.441	0.9%	3.324	2.748
%RSD		1.038	1.138	2.904	6.599	2.430	544.000	0.9	3.550	2.901

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	97.080	98.210	91.510	-2.223	83.060	87.900	93.740	97.9%	89.870
2	14:27:10	97.940	93.770	89.620	-0.578	83.560	87.720	92.640	99.8%	89.380
3	14:27:36	92.870	92.380	88.150	-0.580	82.730	88.660	91.470	101.1%	89.790
x		95.960	94.790	89.760	-1.127	83.120	88.100	92.620	99.6%	89.680
σ		2.712	3.046	1.687	0.950	0.414	0.499	1.136	1.6%	0.262
%RSD		2.826	3.213	1.879	84.240	0.498	0.567	1.227	1.6	0.292

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:44	97.980	77.590	79.390	360.700	355.100	97.0%	90.320	87.820	92.120
2	14:27:10	96.570	78.410	79.640	357.200	356.700	99.9%	90.510	87.680	92.330
3	14:27:36	97.850	78.270	79.300	359.700	356.900	101.4%	89.290	87.710	91.430
x		97.470	78.090	79.440	359.200	356.200	99.4%	90.040	87.740	91.960
σ		0.781	0.437	0.179	1.791	0.952	2.3%	0.657	0.078	0.472
%RSD		0.801	0.559	0.225	0.499	0.267	2.3	0.730	0.089	0.513

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:26:44	91.130	86.430	90.7%
2	14:27:10	90.840	86.330	93.3%
3	14:27:36	90.260	86.780	96.0%
x		90.740	86.510	93.4%
σ		0.441	0.233	2.7%
%RSD		0.486	0.269	2.8

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-005 6/6/2017 14:31:41

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	104.4%	0.027	6.577	6.673	T 4534.000	T 29920.000	T 29340.000	T 30410.000	3.965
2	14:32:33	104.6%	-0.010	7.121	6.939	T 5018.000	T 31760.000	T 31490.000	T 32330.000	4.587
3	14:32:59	107.5%	-0.011	6.731	6.346	T 4813.000	T 30650.000	T 30310.000	T 31120.000	4.694
x		105.5%	0.002	6.810	6.653	T 4788.000	T 30780.000	T 30380.000	T 31290.000	4.416
σ		1.7%	0.022	0.281	0.297	T 243.100	T 927.500	T 1076.000	T 968.200	0.394
%RSD		1.6	1282.000	4.121	4.460	T 5.078	T 3.014	T 3.542	T 3.095	8.911

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	T 6847.000	T 35740.000	T 2508.000	87110.000	T 85000.000	T 115.3%	0.959	-0.001	0.186
2	14:32:33	T 7341.000	T 37390.000	T 2713.000	92970.000	T 92180.000	106.8%	1.102	0.169	0.218
3	14:32:59	T 7297.000	T 37480.000	T 2776.000	93160.000	T 91690.000	107.6%	0.974	-0.057	0.218
x		T 7162.000	T 36870.000	T 2665.000	91080.000	T 89620.000	T 109.9%	1.012	0.037	0.207
σ		T 273.300	T 978.400	T 140.400	3439.000	T 4012.000	T 4.7%	0.079	0.117	0.018
%RSD		T 3.816	T 2.653	T 5.267	3.775	T 4.476	T 4.3	7.762	316.800	8.875

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	4.298	TM 1736.000	T 1501.000	1845.000	5.870	10.110	0.208	0.554	9.618
2	14:32:33	4.415	TM 1832.000	T 1583.000	1988.000	6.167	9.363	0.219	0.605	9.510
3	14:32:59	4.332	TM 1865.000	T 1608.000	1987.000	6.210	9.919	0.209	0.467	9.186
x		4.348	TM 1811.000	T 1564.000	1940.000	6.083	9.798	0.212	0.542	9.438
σ		0.060	TM 66.550	T 55.940	82.230	0.185	0.389	0.006	0.070	0.225
%RSD		1.383	TM 3.675	T 3.576	4.239	3.046	3.969	2.991	12.890	2.383

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	0.826	-0.284	7.659	8.769	-0.180	-1.320	101.1%	0.192	0.147
2	14:32:33	0.760	0.057	7.503	7.638	-0.206	-0.569	103.4%	0.383	0.297
3	14:32:59	0.622	0.010	7.975	7.972	-0.526	0.186	103.9%	0.416	0.321
x		0.736	-0.072	7.712	8.127	-0.304	-0.568	102.8%	0.330	0.255
σ		0.104	0.185	0.241	0.581	0.192	0.753	1.5%	0.121	0.094
%RSD		14.170	256.200	3.119	7.153	63.330	132.700	1.5	36.740	36.870

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	0.166	1.739	-0.005	-0.633	0.007	-0.012	-0.003	97.5%	0.037
2	14:32:33	0.274	4.156	-0.003	-1.488	0.002	-0.016	-0.020	99.8%	0.060
3	14:32:59	0.398	2.433	-0.003	-0.911	-0.004	-0.002	-0.018	100.7%	0.043
x		0.279	2.776	-0.004	-1.011	0.001	-0.010	-0.014	99.3%	0.047
σ		0.116	1.244	0.001	0.436	0.005	0.007	0.009	1.7%	0.012
%RSD		41.520	44.830	29.330	43.130	387.900	74.310	66.590	1.7	25.030

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:32:07	0.314	0.326	0.339	266.400	264.200	97.3%	0.052	0.039	0.001
2	14:32:33	0.623	0.360	0.387	267.600	266.400	99.6%	0.041	0.036	0.003
3	14:32:59	0.425	0.334	0.370	267.100	265.600	100.3%	0.056	0.038	0.006
x		0.454	0.340	0.365	267.000	265.400	99.1%	0.049	0.038	0.003
σ		0.157	0.018	0.025	0.623	1.103	1.5%	0.008	0.002	0.003
%RSD		34.470	5.229	6.736	0.233	0.416	1.6	16.150	3.980	85.970

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:32:07	0.004	-0.001	89.6%
2	14:32:33	-0.001	-0.000	92.7%
3	14:32:59	-0.001	0.003	95.2%
x		0.001	0.001	92.5%
σ		0.003	0.002	2.8%
%RSD		420.600	258.000	3.0

PDF created with pdfFactory trial version www.pdffactory.com

SE18010-006 6/6/2017 14:37:05

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	105.6%	0.010	6.336	5.485	T 3135.000	T 18300.000	T 18060.000	T 18480.000	9.437
2	14:37:58	108.1%	-0.011	6.067	5.191	T 3186.000	T 18300.000	T 18150.000	T 18720.000	9.607
3	14:38:23	107.7%	0.009	6.211	5.465	T 3155.000	T 18210.000	T 17810.000	T 17970.000	9.305
x		107.1%	0.003	6.205	5.380	T 3158.000	T 18270.000	T 18000.000	T 18390.000	9.450
σ		1.3%	0.012	0.135	0.164	T 25.530	T 52.290	T 177.800	T 384.300	0.152
%RSD		1.2	472.500	2.172	3.055	T 0.808	T 0.286	T 0.987	T 2.090	1.604
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	T 3307.000	T 35430.000	T 4155.000	41580.000	T 40810.000	104.8%	0.618	-0.027	1.083
2	14:37:58	T 3369.000	T 36200.000	T 4177.000	42200.000	T 42050.000	103.6%	0.721	-0.179	1.013
3	14:38:23	T 3283.000	T 35880.000	T 4175.000	41360.000	T 41560.000	105.1%	0.438	0.043	1.058
x		T 3320.000	T 35840.000	T 4169.000	41720.000	T 41470.000	104.5%	0.592	-0.054	1.051
σ		T 44.420	T 386.700	T 12.400	433.200	T 623.100	0.8%	0.143	0.113	0.035
%RSD		T 1.338	T 1.079	T 0.297	1.038	T 1.502	0.8	24.200	208.800	3.367
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	4.349	TM 4690.000	147.400	341.300	7.597	3.593	0.778	1.048	4.015
2	14:37:58	4.380	TM 4677.000	147.100	326.500	7.596	3.380	0.827	0.957	3.794
3	14:38:23	4.049	TM 4663.000	147.900	318.300	7.470	3.242	0.762	1.011	4.156
x		4.259	TM 4677.000	147.500	328.700	7.554	3.405	0.789	1.005	3.989
σ		0.183	TM 13.600	0.379	11.670	0.073	0.177	0.034	0.046	0.182
%RSD		4.290	TM 0.291	0.257	3.551	0.972	5.190	4.274	4.566	4.571
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	0.283	-0.490	3.641	3.708	0.330	0.651	101.8%	-0.144	-0.159
2	14:37:58	0.330	-0.119	3.550	3.198	-0.212	-0.169	103.4%	-0.115	-0.288
3	14:38:23	0.141	0.295	3.425	3.061	-0.369	-0.395	104.5%	-0.136	-0.231
x		0.251	-0.105	3.538	3.322	-0.084	0.029	103.2%	-0.132	-0.226
σ		0.098	0.393	0.109	0.341	0.367	0.551	1.3%	0.015	0.065
%RSD		39.070	375.100	3.069	10.260	438.600	1886.000	1.3	11.470	28.580
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	-0.223	5.670	0.033	-2.093	0.025	0.074	0.101	97.3%	0.041
2	14:37:58	-0.206	4.267	0.024	-1.550	0.034	0.112	0.090	99.8%	0.053
3	14:38:23	-0.192	5.005	0.033	-1.846	0.035	0.097	0.086	100.1%	0.044
x		-0.207	4.981	0.030	-1.830	0.031	0.094	0.092	99.1%	0.046
σ		0.015	0.702	0.005	0.272	0.006	0.020	0.008	1.5%	0.006
%RSD		7.442	14.090	16.600	14.860	17.580	20.700	8.587	1.5	13.490
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:37:32	0.887	0.110	0.136	128.300	129.700	96.4%	0.019	0.015	0.017
2	14:37:58	0.638	0.121	0.140	130.100	128.500	98.8%	0.017	0.015	0.028
3	14:38:23	0.724	0.151	0.127	129.400	129.100	100.5%	0.017	0.018	0.025
x		0.750	0.127	0.134	129.300	129.100	98.6%	0.018	0.016	0.024
σ		0.127	0.021	0.007	0.904	0.608	2.1%	0.001	0.002	0.006
%RSD		16.920	16.480	5.134	0.699	0.471	2.1	8.083	11.080	25.170
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	14:37:32	0.003	0.015	91.5%						
2	14:37:58	0.016	0.022	94.4%						
3	14:38:23	0.012	0.022	95.3%						
x		0.011	0.020	93.8%						
σ		0.007	0.004	2.0%						
%RSD		64.600	21.230	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-001 6/6/2017 14:42:29

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	105.9%	0.002	10.780	9.710	┬5055.000	┬19440.000	┬19240.000	┬19440.000	8.900
2	14:43:21	108.5%	-0.008	11.050	10.040	┬4921.000	┬19060.000	┬18780.000	┬19250.000	9.005
3	14:43:47	108.4%	-0.008	9.030	9.636	┬4541.000	┬18330.000	┬18040.000	┬18430.000	8.074
x		107.6%	-0.005	10.290	9.795	┬4839.000	┬18940.000	┬18690.000	┬19040.000	8.660
σ		1.4%	0.005	1.097	0.215	┬266.900	┬561.900	┬608.800	┬538.200	0.510
%RSD		1.3	115.300	10.670	2.190	┬5.515	┬2.967	┬3.258	┬2.827	5.886

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	┬6451.000	┬35140.000	┬3234.000	76850.000	┬75330.000	107.3%	0.988	0.144	0.767
2	14:43:21	┬6472.000	┬34780.000	┬3213.000	76760.000	┬76690.000	105.8%	0.816	0.149	0.797
3	14:43:47	┬5886.000	┬33000.000	┬2973.000	70370.000	┬69750.000	┬115.6%	0.623	-0.007	0.750
x		┬6270.000	┬34310.000	┬3140.000	74660.000	┬73920.000	┬109.6%	0.809	0.095	0.771
σ		┬332.400	┬1144.000	┬144.800	3716.000	┬3677.000	┬5.2%	0.183	0.089	0.024
%RSD		┬5.301	┬3.334	┬4.611	4.977	┬4.974	┬4.8	22.580	93.310	3.145

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	4.373	0.890	10.150	373.200	-1.432	0.777	0.179	0.295	1.699
2	14:43:21	4.220	0.861	9.083	354.900	-1.430	0.890	0.120	0.340	1.687
3	14:43:47	4.190	0.810	6.126	320.200	-1.361	0.847	0.120	0.294	1.895
x		4.261	0.854	8.453	349.400	-1.408	0.838	0.140	0.310	1.760
σ		0.098	0.040	2.084	26.920	0.040	0.057	0.034	0.027	0.117
%RSD		2.303	4.728	24.660	7.705	2.841	6.785	24.470	8.631	6.647

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	-0.382	-0.449	3.102	2.720	-0.533	0.675	100.7%	-0.118	-0.158
2	14:43:21	-0.015	-0.038	3.043	3.193	-0.290	0.633	102.2%	0.008	-0.244
3	14:43:47	-0.045	-0.187	3.308	2.131	-0.047	-0.574	102.4%	-0.121	-0.158
x		-0.147	-0.225	3.151	2.681	-0.290	0.245	101.8%	-0.077	-0.187
σ		0.204	0.208	0.139	0.532	0.243	0.709	0.9%	0.074	0.049
%RSD		138.100	92.620	4.407	19.850	83.780	289.500	0.9	95.700	26.350

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	-0.123	1.515	-0.008	-0.550	-0.003	-0.003	-0.007	97.2%	0.018
2	14:43:21	-0.102	1.210	-0.004	-0.458	0.000	-0.011	-0.010	98.9%	0.036
3	14:43:47	-0.102	1.726	-0.004	-0.649	0.002	-0.004	-0.001	99.6%	-0.005
x		-0.109	1.484	-0.006	-0.552	-0.001	-0.006	-0.006	98.6%	0.016
σ		0.012	0.259	0.002	0.095	0.002	0.004	0.005	1.2%	0.021
%RSD		11.080	17.460	42.260	17.250	452.400	74.940	81.610	1.3	127.200

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:42:55	0.281	0.076	0.073	198.700	197.500	95.5%	0.005	-0.003	0.007
2	14:43:21	0.208	0.087	0.082	198.500	196.900	97.0%	0.000	-0.005	0.010
3	14:43:47	0.276	0.055	0.079	198.300	197.100	98.8%	0.004	-0.004	0.016
x		0.255	0.073	0.078	198.500	197.100	97.1%	0.003	-0.004	0.011
σ		0.041	0.017	0.004	0.185	0.330	1.6%	0.003	0.001	0.005
%RSD		15.970	22.680	5.753	0.093	0.167	1.7	87.120	19.750	43.340

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:42:55	0.008	0.011	89.4%
2	14:43:21	0.016	0.012	91.8%
3	14:43:47	-0.005	0.010	93.1%
x		0.006	0.011	91.4%
σ		0.011	0.001	1.9%
%RSD		172.700	7.423	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-002 6/6/2017 14:47:53

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	109.2%	-0.012	3.568	2.976	468.700	T 15250.000	T 15130.000	T 15490.000	10.810
2	14:48:45	113.1%	-0.017	3.422	2.869	459.900	T 14960.000	T 14800.000	T 15280.000	10.760
3	14:49:11	116.9%	-0.010	3.165	2.742	461.000	T 14880.000	T 14700.000	T 15060.000	11.060
x		113.1%	-0.013	3.385	2.862	463.200	T 15030.000	T 14870.000	T 15280.000	10.880
σ		3.9%	0.003	0.204	0.117	4.784	T 194.300	T 224.200	T 216.200	0.164
%RSD		3.4	27.300	6.022	4.095	1.033	T 1.293	T 1.508	T 1.415	1.504

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	T 4123.000	T 36100.000	941.200	17890.000	T 17830.000	107.0%	0.512	0.178	1.740
2	14:48:45	T 4149.000	T 36660.000	941.900	17850.000	T 17910.000	108.5%	0.622	0.119	1.748
3	14:49:11	T 4138.000	T 36420.000	942.700	17590.000	T 17670.000	107.2%	0.685	-0.032	1.721
x		T 4137.000	T 36390.000	941.900	17780.000	T 17800.000	107.5%	0.606	0.088	1.737
σ		T 12.980	T 282.300	0.775	163.200	T 120.300	0.8%	0.087	0.108	0.014
%RSD		T 0.314	T 0.776	0.082	0.918	T 0.676	0.8	14.370	122.500	0.795

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	4.952	0.890	14.320	100.400	-0.333	0.131	0.123	0.351	2.443
2	14:48:45	4.824	0.875	12.800	94.390	-0.336	0.151	0.139	0.405	2.504
3	14:49:11	5.000	0.898	12.710	90.140	-0.326	0.112	0.113	0.331	2.687
x		4.925	0.887	13.280	94.980	-0.331	0.131	0.125	0.362	2.545
σ		0.091	0.011	0.909	5.163	0.005	0.020	0.013	0.038	0.127
%RSD		1.848	1.273	6.848	5.436	1.572	15.090	10.370	10.530	4.991

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	0.035	-0.436	2.769	2.678	-0.248	-1.113	101.5%	-0.105	-0.177
2	14:48:45	-0.160	-0.536	3.514	4.834	-0.319	-0.196	103.7%	-0.083	-0.226
3	14:49:11	-0.086	-0.043	2.586	3.603	-0.143	-1.372	105.3%	-0.032	-0.039
x		-0.070	-0.338	2.956	3.705	-0.237	-0.894	103.5%	-0.073	-0.147
σ		0.099	0.261	0.492	1.082	0.089	0.618	1.9%	0.037	0.097
%RSD		140.000	76.970	16.630	29.200	37.570	69.130	1.9	51.370	66.090

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	-0.184	1.858	-0.005	-0.676	-0.001	-0.018	-0.012	99.3%	0.020
2	14:48:45	-0.127	0.438	-0.008	-0.150	-0.002	-0.004	-0.004	101.5%	0.017
3	14:49:11	-0.115	1.194	-0.006	-0.391	-0.003	-0.011	-0.007	102.2%	0.014
x		-0.142	1.163	-0.007	-0.406	-0.002	-0.011	-0.008	101.0%	0.017
σ		0.037	0.711	0.002	0.263	0.001	0.007	0.004	1.5%	0.003
%RSD		25.990	61.100	26.270	64.890	57.570	66.320	51.480	1.5	15.890

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:48:19	0.337	0.041	0.058	M 678.900	M 684.400	97.0%	-0.004	-0.006	0.021
2	14:48:45	0.160	0.043	0.047	M 681.400	M 680.400	99.7%	-0.006	-0.008	0.023
3	14:49:11	0.198	0.058	0.057	M 682.200	M 685.200	100.6%	-0.008	-0.009	0.039
x		0.232	0.047	0.054	M 680.800	M 683.300	99.1%	-0.006	-0.008	0.028
σ		0.093	0.009	0.006	M 1.722	M 2.586	1.8%	0.002	0.001	0.010
%RSD		40.150	19.300	10.920	M 0.253	M 0.379	1.9	39.680	18.550	34.930

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:48:19	0.017	0.028	92.7%
2	14:48:45	0.045	0.040	94.9%
3	14:49:11	0.030	0.028	97.3%
x		0.031	0.032	95.0%
σ		0.014	0.007	2.3%
%RSD		46.020	22.140	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-003 6/6/2017 14:53:17

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	108.7%	-0.016	23.630	21.810	┬2566.000	┬24100.000	┬23580.000	┬24340.000	16.030
2	14:54:08	111.7%	-0.016	22.500	20.970	┬2571.000	┬23750.000	┬23190.000	┬24020.000	15.840
3	14:54:34	113.8%	-0.036	22.370	20.750	┬2563.000	┬23890.000	┬23520.000	┬24110.000	16.050
x		111.4%	-0.023	22.830	21.170	┬2567.000	┬23910.000	┬23430.000	┬24160.000	15.970
σ		2.5%	0.012	0.693	0.561	┬4.173	┬176.700	┬207.900	┬167.700	0.118
%RSD		2.3	51.070	3.037	2.649	┬0.163	┬0.739	┬0.887	┬0.694	0.740

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	┬5076.000	┬33730.000	┬1480.000	62580.000	┬61550.000	108.7%	0.756	0.165	0.736
2	14:54:08	┬5121.000	┬34790.000	┬1517.000	63070.000	┬62250.000	108.4%	0.731	0.230	0.852
3	14:54:34	┬5011.000	┬34060.000	┬1484.000	61400.000	┬61470.000	109.9%	0.577	0.334	0.771
x		┬5069.000	┬34200.000	┬1494.000	62350.000	┬61760.000	109.0%	0.688	0.243	0.786
σ		┬55.150	┬544.100	┬20.140	860.800	┬428.800	0.8%	0.097	0.085	0.060
%RSD		┬1.088	┬1.591	┬1.348	1.381	┬0.694	0.7	14.140	34.960	7.575

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	4.747	0.984	38.010	333.200	-1.149	1.207	0.443	0.704	2.711
2	14:54:08	4.475	1.034	38.910	334.900	-1.141	1.091	0.434	0.674	2.709
3	14:54:34	4.533	1.015	36.730	312.400	-1.117	1.173	0.429	0.617	2.893
x		4.585	1.011	37.880	326.800	-1.136	1.157	0.435	0.665	2.771
σ		0.143	0.026	1.093	12.550	0.017	0.060	0.007	0.044	0.106
%RSD		3.128	2.528	2.886	3.841	1.457	5.146	1.573	6.655	3.810

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	-0.272	0.518	6.399	7.959	0.264	-0.552	102.4%	1.098	1.262
2	14:54:08	-0.049	0.194	6.644	6.974	0.439	-0.011	103.9%	1.154	1.208
3	14:54:34	-0.052	0.104	7.007	7.553	0.063	-0.825	106.0%	1.256	1.103
x		-0.125	0.272	6.683	7.495	0.255	-0.462	104.1%	1.169	1.191
σ		0.128	0.218	0.306	0.495	0.188	0.414	1.8%	0.080	0.081
%RSD		102.700	79.940	4.573	6.604	73.700	89.570	1.8	6.844	6.794

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	1.037	2.100	-0.002	-0.788	-0.002	-0.019	-0.015	99.4%	0.030
2	14:54:08	1.214	1.352	-0.000	-0.510	-0.002	-0.023	-0.006	101.0%	0.020
3	14:54:34	1.184	1.127	-0.005	-0.427	-0.002	-0.023	-0.006	102.6%	0.009
x		1.145	1.526	-0.002	-0.575	-0.002	-0.022	-0.009	101.0%	0.020
σ		0.095	0.509	0.003	0.189	0.000	0.002	0.005	1.6%	0.011
%RSD		8.288	33.370	107.900	32.790	22.600	11.220	61.070	1.6	53.290

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:53:43	0.230	0.045	0.048	156.600	154.500	96.4%	0.018	0.012	0.040
2	14:54:08	0.187	0.026	0.046	153.200	152.600	99.9%	0.015	0.016	0.025
3	14:54:34	0.166	0.032	0.019	157.600	153.900	100.9%	0.032	0.004	0.040
x		0.194	0.034	0.038	155.800	153.600	99.1%	0.022	0.011	0.035
σ		0.032	0.009	0.017	2.299	0.983	2.4%	0.009	0.006	0.009
%RSD		16.670	27.870	43.940	1.476	0.640	2.4	41.590	55.790	24.580

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:53:43	0.050	0.035	91.9%
2	14:54:08	0.027	0.027	93.9%
3	14:54:34	0.037	0.025	95.7%
x		0.038	0.029	93.8%
σ		0.012	0.006	1.9%
%RSD		30.870	19.550	2.0

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9475 6/6/2017 14:58:40 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	96.5%	306.500	288.500	307.600	T59510.000	T56680.000	T55500.000	T57420.000	298.200
2	14:59:30	97.1%	301.600	280.900	301.800	T59050.000	T56890.000	T56390.000	T57740.000	292.200
3	14:59:56	100.6%	296.500	290.100	295.100	T59160.000	T55360.000	T54920.000	T56890.000	302.400
x		98.1%	301.500	286.500	301.500	T59240.000	T56310.000	T55600.000	T57350.000	297.600
σ		2.2%	4.996	4.898	6.242	T240.700	T829.800	T740.500	T426.900	5.105
%RSD		2.3	1.657	1.709	2.071	T0.406	T1.474	T1.332	T0.744	1.716

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	T3064.000	331.600	T58120.000	60010.000	T59270.000	104.8%	289.800	297.200	289.300
2	14:59:30	T3006.000	341.100	T57910.000	59460.000	T59330.000	106.2%	286.000	296.600	285.300
3	14:59:56	T3092.000	349.400	T59380.000	59660.000	T59450.000	105.1%	289.300	299.000	289.500
x		T3054.000	340.700	T58470.000	59710.000	T59350.000	105.4%	288.400	297.600	288.000
σ		T44.230	8.889	T794.300	278.400	T90.210	0.7%	2.039	1.258	2.412
%RSD		T1.448	2.609	T1.359	0.466	T0.152	0.7	0.707	0.423	0.837

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	-6.232	T292.900	T56850.000	T58480.000	287.700	294.800	265.500	310.300	303.100
2	14:59:30	-6.625	T290.900	T56350.000	T57770.000	281.500	291.800	261.500	309.000	297.100
3	14:59:56	-5.812	T295.600	T57820.000	T59600.000	285.500	292.700	264.700	301.700	294.800
x		-6.223	T293.200	T57010.000	T58620.000	284.900	293.100	263.900	307.000	298.300
σ		0.406	T2.360	T750.900	T920.400	3.109	1.547	2.102	4.657	4.267
%RSD		6.527	T0.805	T1.317	T1.570	1.091	0.528	0.796	1.517	1.430

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	279.600	274.400	0.600	0.713	315.100	-0.075	99.7%	276.300	279.400
2	14:59:30	275.400	265.300	0.448	0.707	302.000	-0.135	101.7%	282.600	283.800
3	14:59:56	275.300	274.100	0.700	0.718	297.600	-1.131	102.7%	298.800	303.600
x		276.800	271.300	0.583	0.712	304.900	-0.447	101.4%	285.900	288.900
σ		2.452	5.179	0.127	0.006	9.134	0.593	1.6%	11.580	12.890
%RSD		0.886	1.909	21.820	0.776	2.996	132.700	1.6	4.050	4.462

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	284.400	276.900	294.200	-1.315	260.900	271.400	296.000	95.9%	277.300
2	14:59:30	291.000	273.700	293.100	-1.959	262.200	272.300	296.400	97.2%	279.800
3	14:59:56	310.700	272.500	286.500	2.124	262.100	271.500	292.400	98.3%	282.600
x		295.300	274.400	291.200	-0.384	261.800	271.800	294.900	97.1%	279.900
σ		13.700	2.297	4.172	2.195	0.724	0.473	2.200	1.2%	2.643
%RSD		4.637	0.837	1.433	572.400	0.277	0.174	0.746	1.2	0.944

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:05	300.500	274.800	276.600	290.200	289.800	95.2%	291.700	284.600	294.600
2	14:59:30	302.500	277.800	278.400	289.800	286.500	97.0%	289.100	285.000	293.300
3	14:59:56	304.100	280.500	281.300	289.400	288.400	98.1%	288.000	285.900	291.800
x		302.400	277.700	278.800	289.800	288.200	96.8%	289.600	285.200	293.200
σ		1.791	2.881	2.399	0.378	1.655	1.5%	1.913	0.710	1.397
%RSD		0.592	1.037	0.861	0.130	0.574	1.6	0.661	0.249	0.477

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	14:59:05	292.700	274.800	86.4%
2	14:59:30	290.600	276.800	88.9%
3	14:59:56	287.300	278.400	90.9%
x		290.200	276.700	88.7%
σ		2.701	1.804	2.2%
%RSD		0.931	0.652	2.5

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 15:04:00 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	107.3%	0.009	3.060	2.310	2.624	3.372	3.180	2.882	0.516
2	15:04:52	112.9%	0.014	2.036	2.121	2.226	2.847	3.143	2.937	0.697
3	15:05:17	113.0%	0.026	2.575	1.841	1.790	2.393	2.631	2.677	0.508
x		111.1%	0.016	2.557	2.091	2.213	2.870	2.985	2.832	0.573
σ		3.2%	0.009	0.512	0.236	0.417	0.490	0.307	0.137	0.107
%RSD		2.9	52.830	20.030	11.270	18.830	17.070	10.280	4.842	18.610

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	0.787	195.400	-1.181	5.822	3.350	112.9%	-0.043	0.075	0.017
2	15:04:52	0.890	206.500	-1.666	0.221	2.101	111.5%	-0.007	0.085	0.039
3	15:05:17	-0.390	221.600	-3.188	0.526	1.787	112.9%	0.010	0.084	0.037
x		0.429	207.800	-2.012	2.190	2.413	112.4%	-0.013	0.081	0.031
σ		0.711	13.140	1.047	3.150	0.827	0.8%	0.027	0.006	0.012
%RSD		165.700	6.324	52.040	143.800	34.280	0.7	202.100	6.828	38.420

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	0.037	0.033	5.745	3.445	-0.002	-0.101	-0.029	-0.032	0.025
2	15:04:52	0.057	0.031	4.751	3.109	0.001	-0.109	-0.029	-0.032	-0.019
3	15:05:17	0.035	0.028	3.349	1.455	-0.004	-0.110	-0.037	-0.066	-0.018
x		0.043	0.031	4.615	2.670	-0.002	-0.107	-0.032	-0.043	-0.004
σ		0.012	0.002	1.204	1.065	0.003	0.005	0.005	0.019	0.025
%RSD		28.610	7.577	26.080	39.900	143.000	4.452	14.520	45.180	688.400

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	-0.192	-0.024	-0.097	0.049	-0.622	0.129	105.1%	0.603	0.370
2	15:04:52	-0.052	-0.228	0.229	0.114	-0.117	-1.226	107.3%	0.828	0.696
3	15:05:17	-0.098	-0.002	-0.073	-0.115	-0.218	-0.128	107.8%	0.783	0.747
x		-0.114	-0.085	0.020	0.016	-0.319	-0.408	106.7%	0.738	0.604
σ		0.071	0.124	0.182	0.118	0.267	0.720	1.4%	0.119	0.205
%RSD		62.120	147.100	915.700	756.500	83.810	176.200	1.3	16.180	33.870

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	0.503	-0.323	0.004	0.192	0.014	-0.003	0.015	103.4%	0.075
2	15:04:52	0.750	0.060	0.008	0.049	0.016	-0.007	0.016	105.3%	0.089
3	15:05:17	0.792	-0.345	0.014	0.139	0.016	0.003	0.015	105.8%	0.143
x		0.681	-0.203	0.009	0.127	0.016	-0.002	0.016	104.8%	0.102
σ		0.156	0.228	0.005	0.073	0.001	0.005	0.001	1.3%	0.036
%RSD		22.920	112.400	59.610	57.300	6.852	223.900	3.905	1.2	35.190

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:26	0.053	0.402	0.438	0.023	-0.006	99.1%	0.011	0.018	0.014
2	15:04:52	0.154	0.454	0.493	0.033	0.019	100.6%	0.008	0.011	0.008
3	15:05:17	0.064	0.514	0.498	0.027	0.022	103.0%	0.013	0.007	0.010
x		0.090	0.457	0.476	0.028	0.012	100.9%	0.011	0.012	0.011
σ		0.055	0.056	0.033	0.005	0.015	2.0%	0.002	0.006	0.003
%RSD		61.300	12.250	7.020	19.150	131.100	2.0	22.350	46.550	23.980

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:04:26	-0.001	0.010	97.8%
2	15:04:52	0.004	0.004	100.3%
3	15:05:17	-0.004	0.011	101.3%
x		-0.000	0.008	99.8%
σ		0.004	0.004	1.8%
%RSD		1419.000	43.910	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-004 6/6/2017 15:09:21

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	110.2%	-0.012	7.565	7.674	┬589.800	┬21970.000	┬21550.000	┬21970.000	5.955
2	15:10:12	116.5%	-0.006	7.590	6.882	604.900	┬21490.000	┬21230.000	┬21820.000	6.096
3	15:10:38	115.9%	-0.017	7.220	7.091	593.400	┬21260.000	┬20970.000	┬21400.000	5.785
x		114.2%	-0.012	7.458	7.216	┬596.000	┬21570.000	┬21250.000	┬21730.000	5.945
σ		3.5%	0.006	0.207	0.411	┬7.917	┬362.600	┬287.600	┬299.100	0.156
%RSD		3.0	47.110	2.769	5.689	┬1.328	┬1.681	┬1.353	┬1.376	2.619

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	┬3851.000	┬35450.000	┬1172.000	25200.000	┬25060.000	111.1%	0.863	-0.090	0.091
2	15:10:12	┬3936.000	┬35290.000	┬1176.000	24800.000	┬24860.000	110.0%	0.817	-0.059	0.112
3	15:10:38	┬3846.000	┬35580.000	┬1179.000	24950.000	┬25020.000	110.6%	0.901	0.281	0.130
x		┬3878.000	┬35440.000	┬1176.000	24980.000	┬24980.000	110.6%	0.860	0.044	0.111
σ		┬50.260	┬146.900	┬3.917	205.700	┬107.000	0.6%	0.042	0.206	0.020
%RSD		┬1.296	┬0.415	┬0.333	0.823	┬0.428	0.5	4.896	464.500	17.720

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	4.390	3.057	18.290	137.300	-0.320	0.326	0.348	0.515	2.366
2	15:10:12	4.431	3.036	18.600	135.000	-0.319	0.241	0.302	0.501	2.695
3	15:10:38	3.990	3.038	17.410	125.800	-0.327	0.195	0.308	0.480	2.493
x		4.270	3.043	18.100	132.700	-0.322	0.254	0.319	0.499	2.518
σ		0.243	0.012	0.620	6.071	0.004	0.066	0.025	0.017	0.166
%RSD		5.699	0.388	3.428	4.575	1.235	26.040	7.769	3.506	6.599

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	0.123	-0.123	1.697	2.452	-0.101	-1.558	104.5%	1.948	2.039
2	15:10:12	0.158	0.187	2.161	1.417	-0.330	-0.090	106.7%	2.296	2.264
3	15:10:38	0.246	0.085	2.429	2.451	-0.189	-0.260	105.9%	2.301	1.973
x		0.176	0.050	2.096	2.106	-0.207	-0.636	105.7%	2.182	2.092
σ		0.063	0.158	0.371	0.597	0.116	0.803	1.1%	0.202	0.153
%RSD		36.120	316.500	17.690	28.350	55.940	126.300	1.0	9.279	7.295

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	2.060	1.764	0.001	-0.623	0.009	-0.008	-0.011	100.8%	0.036
2	15:10:12	2.351	2.519	-0.004	-0.903	0.004	-0.013	-0.003	103.2%	0.075
3	15:10:38	2.086	1.591	0.007	-0.599	0.003	-0.016	0.001	103.0%	0.053
x		2.166	1.958	0.001	-0.708	0.005	-0.012	-0.004	102.3%	0.055
σ		0.161	0.493	0.005	0.169	0.003	0.004	0.006	1.4%	0.019
%RSD		7.439	25.200	359.100	23.890	55.380	31.060	148.500	1.3	35.530

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:47	0.349	0.237	0.209	106.900	107.100	98.9%	-0.001	0.005	0.039
2	15:10:12	0.440	0.237	0.250	108.500	106.600	100.8%	0.002	-0.005	0.026
3	15:10:38	0.298	0.231	0.290	108.800	106.900	102.2%	0.006	-0.006	0.021
x		0.362	0.235	0.249	108.100	106.800	100.6%	0.002	-0.002	0.029
σ		0.072	0.003	0.041	1.049	0.248	1.7%	0.004	0.006	0.009
%RSD		19.820	1.431	16.400	0.971	0.232	1.7	154.700	290.400	32.220

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:09:47	0.008	0.021	93.2%
2	15:10:12	0.019	0.026	97.1%
3	15:10:38	0.024	0.011	97.4%
x		0.017	0.019	95.9%
σ		0.008	0.007	2.3%
%RSD		48.920	38.200	2.4

PDF created with pdfFactory trial version www.pdffactory.com

SE19003-005 6/6/2017 15:14:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	107.7%	0.005	28.710	27.860	┬4922.000	┬22380.000	┬22530.000	┬23090.000	30.790
2	15:15:37	109.1%	-0.016	28.560	28.300	┬4928.000	┬22430.000	┬22340.000	┬22850.000	30.930
3	15:16:03	111.8%	-0.001	29.250	27.260	┬4917.000	┬22100.000	┬21820.000	┬22480.000	30.590
x		109.5%	-0.004	28.840	27.810	┬4922.000	┬22300.000	┬22230.000	┬22800.000	30.770
σ		2.1%	0.011	0.364	0.523	┬5.766	┬175.900	┬368.000	┬306.400	0.171
%RSD		1.9	275.900	1.263	1.880	┬0.117	┬0.789	┬1.655	┬1.344	0.555

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	┬6041.000	┬37930.000	┬2274.000	73070.000	┬71140.000	107.5%	1.205	0.060	0.732
2	15:15:37	┬5974.000	┬37340.000	┬2243.000	72070.000	┬71720.000	108.3%	1.376	0.327	0.719
3	15:16:03	┬5953.000	┬37730.000	┬2276.000	71540.000	┬71080.000	108.9%	1.287	0.301	0.703
x		┬5989.000	┬37670.000	┬2264.000	72230.000	┬71310.000	108.2%	1.290	0.229	0.718
σ		┬46.090	┬301.000	┬18.350	777.700	┬353.200	0.7%	0.085	0.147	0.015
%RSD		┬0.770	┬0.799	┬0.811	1.077	┬0.495	0.7	6.629	64.180	2.056

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	4.922	9.554	80.430	422.500	-1.337	0.700	0.124	0.379	4.365
2	15:15:37	4.575	9.414	77.260	407.500	-1.318	0.625	0.151	0.335	4.230
3	15:16:03	4.573	9.485	76.480	387.600	-1.317	0.691	0.127	0.248	4.098
x		4.690	9.484	78.060	405.900	-1.324	0.672	0.134	0.321	4.231
σ		0.201	0.070	2.092	17.530	0.012	0.041	0.015	0.067	0.133
%RSD		4.293	0.737	2.680	4.319	0.876	6.057	11.140	20.800	3.150

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	0.123	-0.315	5.077	4.953	0.555	-0.941	102.6%	0.228	0.064
2	15:15:37	0.147	0.210	4.784	4.613	0.054	-0.782	104.2%	0.201	0.182
3	15:16:03	-0.154	0.016	5.461	4.856	-0.367	0.353	104.5%	0.197	0.159
x		0.039	-0.030	5.107	4.808	0.081	-0.457	103.8%	0.209	0.135
σ		0.167	0.266	0.340	0.175	0.462	0.706	1.0%	0.017	0.062
%RSD		433.300	892.700	6.647	3.648	572.800	154.400	1.0	7.991	46.320

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	0.238	3.454	0.005	-1.289	0.004	-0.016	-0.003	99.4%	0.039
2	15:15:37	0.225	2.897	-0.003	-1.064	0.002	-0.020	-0.008	99.5%	0.037
3	15:16:03	0.265	0.415	-0.001	-0.164	0.005	-0.005	-0.009	101.1%	0.043
x		0.242	2.255	0.001	-0.839	0.004	-0.014	-0.007	100.0%	0.040
σ		0.020	1.617	0.004	0.596	0.002	0.008	0.003	1.0%	0.003
%RSD		8.360	71.720	806.500	70.990	39.060	56.050	47.990	1.0	7.173

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:15:11	0.602	0.123	0.104	192.400	189.400	96.3%	0.004	-0.003	0.054
2	15:15:37	0.431	0.107	0.103	193.600	194.100	98.6%	0.003	-0.002	0.040
3	15:16:03	0.151	0.128	0.113	192.900	194.000	99.8%	-0.003	-0.002	0.034
x		0.395	0.119	0.106	193.000	192.500	98.2%	0.001	-0.002	0.043
σ		0.228	0.011	0.005	0.619	2.709	1.8%	0.004	0.001	0.010
%RSD		57.690	9.300	5.169	0.321	1.407	1.8	315.700	33.850	24.200

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:15:11	0.033	0.042	90.2%
2	15:15:37	0.022	0.029	92.7%
3	15:16:03	0.037	0.050	94.7%
x		0.031	0.041	92.5%
σ		0.007	0.011	2.3%
%RSD		24.420	26.370	2.4

PDF created with pdfFactory trial version www.pdffactory.com

Co 4ppb MW-9473 6/6/2017 15:20:09

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	105.5%	4.229	3.633	4.024	T 797.800	T 770.600	753.300	771.700	2.877
2	15:21:01	108.6%	3.984	3.966	4.020	T 797.000	T 744.600	735.200	752.400	3.031
3	15:21:26	113.2%	4.125	4.363	3.537	T 773.400	T 713.000	702.900	733.400	3.056
x		109.1%	4.113	3.987	3.860	T 789.400	T 742.700	730.500	752.500	2.988
σ		3.9%	0.123	0.365	0.280	T 13.880	T 28.840	25.530	19.160	0.097
%RSD		3.6	2.982	9.167	7.253	T 1.759	T 3.883	3.495	2.547	3.238

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	41.090	221.100	787.000	812.300	735.600	108.9%	4.011	2.084	3.801
2	15:21:01	40.800	238.100	791.200	821.800	737.000	106.9%	3.849	2.295	3.745
3	15:21:26	39.920	246.600	794.500	764.100	734.800	106.9%	3.867	2.308	3.741
x		40.600	235.300	790.900	799.400	735.800	107.5%	3.909	2.229	3.762
σ		0.608	12.970	3.724	30.930	1.110	1.1%	0.089	0.126	0.034
%RSD		1.496	5.515	0.471	3.869	0.151	1.1	2.267	5.646	0.900

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	0.042	3.865	T 585.000	566.400	3.875	3.960	3.802	4.188	4.408
2	15:21:01	0.056	3.732	T 577.400	569.300	3.725	3.711	3.817	4.071	4.510
3	15:21:26	0.012	3.746	T 595.700	597.900	3.708	3.756	3.755	4.056	4.158
x		0.037	3.781	T 586.000	577.800	3.769	3.809	3.791	4.105	4.359
σ		0.023	0.073	T 9.181	17.390	0.092	0.133	0.032	0.072	0.182
%RSD		61.830	1.943	T 1.567	3.009	2.448	3.478	0.849	1.759	4.164

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	3.990	4.380	-0.451	-0.135	5.183	0.195	103.4%	0.418	0.487
2	15:21:01	3.650	3.795	-0.083	-0.431	3.139	-0.984	105.0%	0.296	0.381
3	15:21:26	3.675	4.216	-0.485	-0.193	3.314	1.447	106.1%	0.305	0.352
x		3.771	4.131	-0.340	-0.253	3.879	0.219	104.8%	0.340	0.406
σ		0.190	0.302	0.223	0.157	1.133	1.216	1.3%	0.068	0.071
%RSD		5.029	7.304	65.560	61.930	29.220	554.800	1.3	20.030	17.500

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	0.374	3.871	3.765	0.077	3.473	4.200	4.151	102.4%	2.398
2	15:21:01	0.304	4.287	3.663	0.304	3.489	4.019	4.112	104.1%	2.402
3	15:21:26	0.451	3.934	3.531	0.024	3.389	4.185	3.920	104.0%	2.332
x		0.376	4.031	3.653	0.135	3.450	4.135	4.061	103.5%	2.377
σ		0.073	0.224	0.118	0.148	0.054	0.100	0.124	1.0%	0.039
%RSD		19.440	5.561	3.217	109.700	1.560	2.426	3.051	0.9	1.660

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:20:35	1.755	2.743	2.744	3.930	3.741	97.9%	3.753	3.699	3.679
2	15:21:01	1.811	2.885	3.037	3.825	3.680	99.5%	3.619	3.680	3.747
3	15:21:26	1.774	3.005	2.992	3.759	3.578	101.7%	3.751	3.658	3.697
x		1.780	2.878	2.925	3.838	3.666	99.7%	3.708	3.679	3.708
σ		0.028	0.131	0.158	0.086	0.082	1.9%	0.077	0.020	0.035
%RSD		1.598	4.558	5.396	2.253	2.249	1.9	2.070	0.546	0.943

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:20:35	3.642	3.610	94.6%
2	15:21:01	3.795	3.620	97.9%
3	15:21:26	3.762	3.515	99.4%
x		3.733	3.582	97.3%
σ		0.080	0.058	2.5%
%RSD		2.155	1.623	2.5

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV MW9461 6/6/2017 15:25:30 QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	107.4%	0.404	23.360	24.520	197.000	46.240	44.910	46.840	36.740
2	15:26:22	112.3%	0.351	24.350	22.270	193.100	44.970	42.970	45.980	37.830
3	15:26:48	113.4%	0.297	24.340	23.740	190.200	43.450	42.940	44.340	36.890
x		111.0%	87.607%	96.061%	94.026%	96.698%	44.890	43.610	91.438%	92.884%
σ		3.2%	n/a	n/a	n/a	n/a	1.394	1.128	n/a	n/a
%RSD		2.9	15.290	2.359	4.865	1.761	3.106	2.586	2.775	1.578

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	94.680	153.400	185.800	206.700	178.800	108.1%	4.815	4.501	0.910
2	15:26:22	96.170	160.100	187.000	212.000	183.800	107.3%	4.543	4.546	0.962
3	15:26:48	93.200	177.100	185.100	211.900	184.600	107.9%	4.770	4.580	0.913
x		94.684%	163.500	92.982%	210.200	91.202%	107.7%	94.185%	90.847%	92.829%
σ		n/a	12.240	n/a	3.006	n/a	0.4%	n/a	n/a	n/a
%RSD		1.571	7.483	0.513	1.430	1.709	0.4	3.093	0.877	3.110

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	0.013	4.563	20.420	19.880	4.518	4.661	0.918	0.941	9.642
2	15:26:22	0.092	4.641	19.460	18.180	4.537	4.699	0.838	0.995	9.995
3	15:26:48	0.081	4.586	19.070	19.070	4.626	4.764	0.887	0.971	9.742
x		0.062	91.939%	19.650	95.219%	91.211%	94.159%	0.881	96.931%	97.929%
σ		0.043	n/a	0.692	n/a	n/a	n/a	0.040	n/a	n/a
%RSD		69.580	0.867	3.520	4.466	1.259	1.114	4.554	2.784	1.858

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	0.933	1.173	-0.448	0.118	0.742	-0.950	103.0%	7.740	7.940
2	15:26:22	0.757	0.732	-0.292	-0.193	0.952	-0.217	104.7%	8.105	8.698
3	15:26:48	1.050	0.788	-0.414	-0.204	1.143	-0.430	105.5%	8.258	9.018
x		91.337%	0.898	-0.385	-0.093	94.550%	-0.532	104.4%	8.035	85.519%
σ		n/a	0.240	0.082	0.183	n/a	0.377	1.3%	0.266	n/a
%RSD		16.160	26.770	21.320	196.400	21.240	70.840	1.2	3.309	6.472

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	8.088	1.104	1.003	-0.272	0.867	0.077	0.089	101.2%	2.750
2	15:26:22	8.695	0.155	0.935	-0.005	0.830	0.056	0.111	102.6%	2.868
3	15:26:48	8.751	-0.061	0.899	0.075	0.825	0.047	0.085	103.7%	2.956
x		8.511	0.399	94.540%	-0.067	0.841	0.060	95.034%	102.5%	2.858
σ		0.368	0.620	n/a	0.182	0.023	0.015	n/a	1.3%	0.103
%RSD		4.323	155.200	5.617	269.700	2.719	25.580	15.060	1.2	3.601

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:25:56	4.323	0.948	0.991	4.824	4.798	98.4%	0.484	0.433	0.934
2	15:26:22	3.924	1.026	0.921	4.880	4.755	100.0%	0.444	0.422	0.895
3	15:26:48	4.239	0.965	0.989	4.939	4.652	101.5%	0.455	0.438	0.929
x		83.238%	0.980	96.684%	97.613%	4.735	100.0%	0.461	86.186%	0.920
σ		n/a	0.041	n/a	n/a	0.075	1.5%	0.021	n/a	0.021
%RSD		5.045	4.194	4.145	1.179	1.578	1.5	4.563	1.882	2.306

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:25:56	0.874	0.925	97.1%
2	15:26:22	0.872	0.883	98.8%
3	15:26:48	0.841	0.864	100.9%
x		0.862	89.070%	98.9%
σ		0.018	n/a	1.9%
%RSD		2.109	3.506	1.9

PDF created with pdfFactory trial version www.pdffactory.com

LLCCV2 MW9462 6/6/2017 15:30:50

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	107.3%	1.882	125.500	116.800	T966.400	231.300	226.900	227.800	199.600
2	15:31:41	107.8%	1.766	120.200	118.600	T957.400	227.400	222.300	229.600	198.300
3	15:32:07	111.4%	1.845	123.800	114.500	T958.600	227.900	222.400	226.700	201.200
x		108.8%	1.831	123.200	116.600	T960.800	228.900	223.900	228.000	199.700
σ		2.2%	0.059	2.705	2.055	T4.839	2.102	2.594	1.475	1.437
%RSD		2.0	3.239	2.196	1.762	T0.504	0.919	1.159	0.647	0.720

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	501.000	131.900	984.900	991.800	923.700	105.3%	23.990	23.140	4.627
2	15:31:41	T477.200	139.500	962.600	981.400	894.900	107.2%	24.420	22.700	4.619
3	15:32:07	500.200	151.000	987.500	995.300	906.800	105.4%	24.250	23.290	4.700
x		T492.800	140.800	978.300	989.500	908.400	105.9%	24.220	23.040	4.648
σ		T13.520	9.598	13.680	7.228	14.480	1.1%	0.219	0.304	0.045
%RSD		T2.743	6.817	1.398	0.731	1.594	1.0	0.904	1.321	0.960

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	0.097	23.940	97.170	97.650	23.130	24.750	4.747	5.235	50.480
2	15:31:41	0.112	23.330	92.790	94.150	22.860	24.100	4.694	4.820	49.790
3	15:32:07	0.038	23.740	95.150	95.240	23.150	23.770	4.607	4.638	48.320
x		0.082	23.670	95.030	95.680	23.040	24.200	4.683	4.898	49.530
σ		0.039	0.310	2.195	1.786	0.164	0.497	0.071	0.306	1.104
%RSD		47.760	1.311	2.309	1.867	0.712	2.054	1.513	6.244	2.229

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	4.650	4.290	-0.081	0.501	4.929	-0.537	102.3%	46.020	46.500
2	15:31:41	4.709	4.808	-0.076	-0.076	4.025	2.485	104.0%	45.370	46.300
3	15:32:07	4.524	4.365	-0.122	-0.099	5.315	1.906	104.4%	47.960	47.850
x		4.628	4.488	-0.093	0.109	4.756	1.284	103.6%	46.450	46.890
σ		0.095	0.280	0.025	0.340	0.662	1.604	1.1%	1.352	0.844
%RSD		2.048	6.238	26.940	312.700	13.920	124.900	1.1	2.910	1.799

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	47.210	2.485	4.623	-0.533	4.434	0.327	0.472	100.8%	15.580
2	15:31:41	47.310	1.596	4.419	-0.067	4.306	0.333	0.537	102.3%	15.370
3	15:32:07	48.310	2.338	4.546	-0.384	4.318	0.386	0.502	102.7%	15.510
x		47.610	2.140	4.529	-0.328	4.353	0.349	0.504	101.9%	15.490
σ		0.613	0.477	0.103	0.238	0.071	0.032	0.032	1.0%	0.106
%RSD		1.288	22.270	2.278	72.660	1.622	9.181	6.430	1.0	0.682

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:16	22.510	4.466	4.334	23.100	23.590	98.3%	2.215	2.215	4.573
2	15:31:41	21.930	4.488	4.474	23.770	23.300	100.5%	2.122	2.164	4.395
3	15:32:07	22.820	4.472	4.386	23.230	23.220	101.6%	2.186	2.224	4.612
x		22.420	4.475	4.398	23.370	23.370	100.1%	2.174	2.201	4.526
σ		0.449	0.011	0.071	0.357	0.191	1.7%	0.048	0.032	0.116
%RSD		2.001	0.250	1.606	1.527	0.815	1.7	2.193	1.473	2.557

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:31:16	4.623	4.324	96.2%
2	15:31:41	4.485	4.410	99.5%
3	15:32:07	4.491	4.439	100.8%
x		4.533	4.391	98.8%
σ		0.078	0.060	2.4%
%RSD		1.714	1.363	2.4

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9475 6/6/2017 15:36:12 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	93.8%	292.200	254.700	292.500	┬53300.000	┬53760.000	┬53410.000	┬54720.000	267.100
2	15:37:03	95.8%	290.900	283.000	289.500	┬57470.000	┬54500.000	┬54460.000	┬55290.000	283.800
3	15:37:29	96.7%	289.900	279.600	286.600	┬58130.000	┬55290.000	┬55010.000	┬56090.000	292.900
x		95.5%	97.001%	90.801%	96.518%	┬93.835%	┬54520.000	┬54300.000	┬92.272%	93.750%
σ		1.5%	n/a	n/a	n/a	┬n/a	┬765.800	┬815.200	┬n/a	n/a
%RSD		1.6	0.390	5.669	1.026	┬4.647	┬1.405	┬1.501	┬1.241	4.664

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	┬2709.000	107.800	┬51760.000	53230.000	┬52860.000	┬111.4%	264.900	271.100	263.800
2	15:37:03	┬2944.000	125.600	┬57350.000	57920.000	┬57660.000	103.0%	284.100	290.200	279.800
3	15:37:29	┬2993.000	135.700	┬58560.000	58740.000	┬58800.000	102.2%	287.000	292.600	284.200
x		┬96.061%	123.000	┬93.151%	56630.000	┬94.070%	┬105.5%	92.885%	94.873%	91.968%
σ		┬n/a	14.140	┬n/a	2974.000	┬n/a	┬5.1%	n/a	n/a	n/a
%RSD		┬5.276	11.490	┬6.489	5.252	┬5.587	┬4.8	4.322	4.125	3.888

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	-5.289	┬264.600	┬51410.000	┬52030.000	260.500	282.000	244.500	299.100	290.500
2	15:37:03	-5.240	┬285.600	┬55400.000	┬56960.000	276.700	279.700	254.100	286.500	282.100
3	15:37:29	-4.778	┬294.200	┬56460.000	┬58420.000	278.800	274.200	257.400	287.700	287.500
x		-5.102	┬93.826%	┬90.708%	┬93.003%	90.663%	92.875%	252.000	97.032%	95.562%
σ		0.282	┬n/a	┬n/a	┬n/a	n/a	n/a	6.674	n/a	n/a
%RSD		5.526	┬5.406	┬4.889	┬6.000	3.691	1.435	2.649	2.392	1.486

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	263.500	258.400	0.655	-0.051	295.000	-1.251	97.6%	246.600	247.300
2	15:37:03	273.800	267.500	0.680	0.028	288.500	1.735	99.6%	280.400	283.700
3	15:37:29	270.600	259.400	0.595	0.089	283.200	-0.291	100.7%	294.400	297.800
x		89.771%	261.800	0.644	0.022	96.289%	0.065	99.3%	91.273%	92.082%
σ		n/a	5.009	0.044	0.070	n/a	1.525	1.6%	n/a	n/a
%RSD		1.963	1.914	6.807	314.800	2.052	2362.000	1.6	8.974	9.436

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	255.700	279.100	284.100	-5.285	255.500	266.000	288.500	94.7%	274.500
2	15:37:03	288.300	272.600	276.600	-2.937	255.100	268.400	285.200	96.1%	274.500
3	15:37:29	304.400	264.600	279.700	2.008	251.800	266.800	288.600	99.3%	270.700
x		94.255%	272.100	93.375%	-2.071	254.200	267.100	95.819%	96.7%	91.087%
σ		n/a	7.239	n/a	3.723	2.051	1.216	n/a	2.3%	n/a
%RSD		8.771	2.660	1.351	179.700	0.807	0.455	0.669	2.4	0.802

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:37	295.500	271.000	272.600	283.400	281.900	94.1%	283.700	276.300	287.400
2	15:37:03	294.600	270.900	273.500	282.000	282.000	96.2%	280.200	281.600	284.000
3	15:37:29	292.200	270.700	271.700	279.200	278.700	98.5%	286.200	280.900	291.500
x		98.041%	90.276%	90.871%	93.846%	93.623%	96.3%	94.448%	93.195%	95.881%
σ		n/a	n/a	n/a	n/a	n/a	2.2%	n/a	n/a	n/a
%RSD		0.594	0.057	0.337	0.769	0.663	2.3	1.072	1.035	1.293

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:36:37	283.500	270.100	86.1%
2	15:37:03	284.800	274.400	89.6%
3	15:37:29	285.000	270.700	89.7%
x		94.805%	90.585%	88.5%
σ		n/a	n/a	2.1%
%RSD		0.289	0.857	2.3

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 15:41:33 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	106.0%	0.010	2.916	2.650	2.889	3.070	2.385	2.831	0.495
2	15:42:24	108.0%	0.013	2.447	2.194	2.593	2.663	2.663	3.006	0.456
3	15:42:51	111.5%	0.003	2.183	1.926	2.274	2.439	2.543	2.265	0.406
x		108.5%	0.009	2.515	2.257	2.585	2.724	2.530	2.701	0.452
σ		2.8%	0.005	0.372	0.366	0.307	0.320	0.139	0.387	0.045
%RSD		2.5	56.300	14.770	16.220	11.890	11.750	5.507	14.330	9.846

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	0.441	98.170	0.895	4.732	2.206	108.1%	-0.040	0.093	0.025
2	15:42:24	0.290	105.000	-0.111	2.382	0.560	110.5%	-0.006	0.093	0.014
3	15:42:51	-0.547	108.700	-0.513	5.344	1.338	109.8%	0.004	0.100	0.015
x		0.061	104.000	0.090	4.153	1.368	109.5%	-0.014	0.095	0.018
σ		0.532	5.323	0.725	1.564	0.824	1.2%	0.023	0.004	0.006
%RSD		866.400	5.121	802.600	37.660	60.190	1.1	162.300	4.153	34.460

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	0.014	0.022	4.711	3.487	0.008	-0.097	-0.025	-0.034	0.036
2	15:42:24	0.015	0.017	4.608	3.559	-0.002	-0.092	-0.015	-0.026	-0.050
3	15:42:51	-0.003	0.018	3.520	1.914	-0.003	-0.091	-0.039	-0.063	-0.011
x		0.009	0.019	4.280	2.987	0.001	-0.093	-0.026	-0.041	-0.008
σ		0.010	0.002	0.660	0.929	0.006	0.003	0.012	0.020	0.043
%RSD		119.000	13.050	15.410	31.120	580.400	3.441	46.420	47.800	527.700

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	-0.099	-0.258	-0.009	0.699	-0.432	-0.590	104.2%	0.674	0.745
2	15:42:24	-0.132	0.065	-0.169	-0.242	-0.356	-0.451	106.0%	0.995	0.919
3	15:42:51	-0.159	-0.058	-0.040	-0.733	-0.310	0.265	107.4%	0.879	0.876
x		-0.130	-0.084	-0.073	-0.092	-0.366	-0.259	105.9%	0.849	0.847
σ		0.030	0.163	0.084	0.728	0.062	0.459	1.6%	0.162	0.091
%RSD		23.100	194.500	116.200	794.700	16.890	177.500	1.5	19.120	10.710

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	0.745	-0.134	0.006	0.041	0.015	-0.007	0.005	102.2%	0.098
2	15:42:24	1.030	-0.023	0.017	0.020	0.011	0.010	0.013	104.0%	0.126
3	15:42:51	0.808	0.258	0.008	-0.084	0.010	-0.000	0.014	105.1%	0.116
x		0.861	0.034	0.010	-0.008	0.012	0.001	0.011	103.8%	0.114
σ		0.150	0.202	0.005	0.067	0.003	0.008	0.005	1.5%	0.014
%RSD		17.390	601.700	52.310	868.900	24.990	969.100	46.990	1.4	12.410

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:58	0.145	0.469	0.541	-0.012	0.007	99.2%	0.020	0.013	0.010
2	15:42:24	0.156	0.499	0.488	0.034	0.023	100.9%	0.012	0.010	0.005
3	15:42:51	0.181	0.524	0.498	-0.007	0.003	102.6%	0.022	0.014	0.006
x		0.161	0.497	0.509	0.005	0.011	100.9%	0.018	0.013	0.007
σ		0.019	0.028	0.028	0.025	0.011	1.7%	0.006	0.002	0.003
%RSD		11.530	5.575	5.493	510.400	95.590	1.7	31.520	15.450	38.290

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:41:58	0.001	0.014	98.0%
2	15:42:24	0.003	0.006	101.1%
3	15:42:51	0.008	0.009	101.4%
x		0.004	0.010	100.2%
σ		0.003	0.004	1.9%
%RSD		82.000	40.870	1.9

PDF created with pdfFactory trial version www.pdffactory.com

SE23022-009(50) 6/6/2017 15:46:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	109.4%	0.016	2.515	1.938	532.000	169.800	162.300	166.200	TM 694.600
2	15:47:48	112.2%	-0.005	2.583	1.880	522.900	162.900	159.800	163.900	TM 691.500
3	15:48:13	113.2%	-0.005	1.792	1.951	517.100	163.000	155.300	164.900	TM 682.200
x		111.6%	0.002	2.297	1.923	524.000	165.300	159.200	165.000	TM 689.400
σ		2.0%	0.012	0.438	0.038	7.522	3.959	3.540	1.155	TM 6.481
%RSD		1.8	588.700	19.090	1.959	1.436	2.395	2.224	0.700	TM 0.940

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	T 305.200	T 18570.000	36.750	644.300	585.500	110.4%	13.380	1.125	1.204
2	15:47:48	T 328.400	T 19040.000	37.430	645.400	582.100	108.3%	14.620	1.241	1.194
3	15:48:13	T 272.000	T 18870.000	36.660	646.900	581.400	109.4%	10.610	1.292	1.299
x		T 301.900	T 18830.000	36.950	645.500	583.000	109.4%	12.870	1.220	1.232
σ		T 28.320	T 238.700	0.423	1.271	2.214	1.0%	2.056	0.085	0.058
%RSD		T 9.380	T 1.268	1.144	0.197	0.380	0.9	15.980	7.004	4.696

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	2.186	T 421.800	T 5043.000	5075.000	0.276	0.775	0.937	0.932	18.360
2	15:47:48	1.904	T 429.300	T 5149.000	5221.000	0.281	0.545	0.905	1.028	18.190
3	15:48:13	1.852	T 425.100	T 5119.000	5252.000	0.268	0.650	0.896	1.017	17.510
x		1.981	T 425.400	T 5104.000	5182.000	0.275	0.657	0.913	0.992	18.020
σ		0.180	T 3.729	T 54.650	94.540	0.006	0.115	0.022	0.052	0.448
%RSD		9.072	T 0.877	T 1.071	1.824	2.322	17.490	2.383	5.273	2.488

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	1.504	-0.053	4.715	5.792	-0.250	-0.620	105.2%	-0.059	-0.082
2	15:47:48	1.601	0.170	5.319	5.057	-0.219	-0.655	107.1%	0.046	-0.049
3	15:48:13	1.340	-0.014	5.115	6.696	-0.283	-0.652	106.8%	0.044	-0.088
x		1.482	0.034	5.049	5.848	-0.250	-0.642	106.4%	0.010	-0.073
σ		0.132	0.119	0.307	0.821	0.032	0.020	1.0%	0.060	0.021
%RSD		8.912	347.600	6.084	14.040	12.900	3.044	1.0	598.000	28.700

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	-0.040	1.397	0.055	-0.140	0.048	1.142	1.160	102.9%	0.682
2	15:47:48	-0.021	1.585	0.063	0.027	0.060	1.231	1.110	103.8%	0.642
3	15:48:13	0.031	0.725	0.049	0.201	0.062	1.162	1.165	105.4%	0.682
x		-0.010	1.236	0.055	0.029	0.057	1.178	1.145	104.0%	0.669
σ		0.037	0.452	0.007	0.171	0.007	0.047	0.031	1.3%	0.023
%RSD		375.300	36.590	12.770	583.000	13.110	3.969	2.668	1.2	3.475

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:47:22	0.668	0.270	0.290	1.357	1.435	99.1%	0.012	0.004	10.680
2	15:47:48	0.652	0.309	0.299	1.447	1.436	101.2%	-0.000	0.007	10.450
3	15:48:13	0.525	0.269	0.279	1.444	1.436	103.0%	0.005	0.006	10.850
x		0.615	0.283	0.289	1.416	1.436	101.1%	0.006	0.006	10.660
σ		0.078	0.023	0.010	0.051	0.001	2.0%	0.006	0.002	0.203
%RSD		12.760	8.133	3.597	3.619	0.070	1.9	111.100	31.480	1.905

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:47:22	10.390	10.220	98.1%
2	15:47:48	10.590	10.250	100.3%
3	15:48:13	10.360	10.220	102.2%
x		10.450	10.230	100.2%
σ		0.124	0.016	2.0%
%RSD		1.182	0.158	2.0

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001(50) 6/6/2017 15:52:21

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	109.0%	0.108	0.243	0.132	9.507	T 730.000	718.600	742.300	TM 3326.000
2	15:53:12	110.4%	0.142	0.192	-0.023	9.174	T 725.900	705.200	716.500	TM 3257.000
3	15:53:38	114.8%	0.139	-0.004	-0.107	8.591	T 709.300	699.700	718.300	TM 3326.000
x		111.4%	0.130	0.144	0.000	9.090	T 721.700	707.800	725.700	TM 3303.000
σ		3.1%	0.019	0.130	0.121	0.464	T 10.950	9.700	14.380	TM 39.840
%RSD		2.7	14.460	90.650	31190.000	5.100	T 1.517	1.370	1.981	TM 1.206

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	53.250	2931.000	757.800	116.600	109.500	112.3%	191.500	7.833	6.289
2	15:53:12	51.730	3019.000	767.300	134.000	105.400	111.3%	194.300	8.094	6.304
3	15:53:38	50.360	2916.000	759.900	116.700	106.100	111.9%	196.200	8.205	6.442
x		51.780	2956.000	761.700	122.500	107.000	111.8%	194.000	8.044	6.345
σ		1.448	55.730	4.997	10.020	2.214	0.5%	2.380	0.191	0.084
%RSD		2.796	1.886	0.656	8.178	2.069	0.5	1.227	2.378	1.331

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	0.449	58.580	T 3738.000	3911.000	2.633	3.833	3.289	3.944	13.130
2	15:53:12	0.507	58.120	T 3717.000	3893.000	2.660	3.842	3.288	3.923	13.080
3	15:53:38	0.405	58.650	T 3772.000	3988.000	2.608	3.896	3.155	3.952	13.090
x		0.454	58.450	T 3742.000	3931.000	2.634	3.857	3.244	3.939	13.100
σ		0.051	0.288	T 27.660	50.210	0.026	0.034	0.077	0.015	0.030
%RSD		11.240	0.493	T 0.739	1.277	0.985	0.889	2.378	0.380	0.231

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	-0.152	0.130	-0.191	0.073	-0.332	-0.280	122.0%	-0.327	-0.399
2	15:53:12	-0.185	-0.200	0.158	0.211	-0.210	-1.279	122.4%	-0.311	-0.373
3	15:53:38	-0.033	-0.260	-0.218	-0.508	0.110	-0.471	123.4%	-0.300	-0.355
x		-0.123	-0.110	-0.084	-0.075	-0.144	-0.676	122.6%	-0.313	-0.376
σ		0.080	0.210	0.210	0.381	0.228	0.530	0.7%	0.014	0.022
%RSD		64.810	191.000	250.400	510.200	158.100	78.390	0.6	4.345	5.803

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	-0.364	0.122	-0.005	0.012	0.002	-0.010	0.010	103.4%	0.075
2	15:53:12	-0.339	0.822	0.001	-0.326	-0.001	-0.011	-0.001	105.6%	0.049
3	15:53:38	-0.325	0.276	-0.005	-0.103	0.001	-0.004	-0.003	106.5%	0.050
x		-0.343	0.407	-0.003	-0.139	0.001	-0.008	0.002	105.2%	0.058
σ		0.020	0.368	0.003	0.172	0.002	0.004	0.007	1.6%	0.015
%RSD		5.859	90.490	106.200	123.800	266.800	46.620	359.100	1.5	25.320

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:52:46	0.051	0.161	0.184	29.910	29.350	101.2%	0.015	0.007	0.751
2	15:53:12	0.221	0.178	0.155	29.600	29.990	103.2%	0.015	0.014	0.769
3	15:53:38	0.145	0.181	0.157	29.750	29.410	104.7%	0.013	0.005	0.767
x		0.139	0.173	0.165	29.750	29.590	103.0%	0.014	0.009	0.763
σ		0.085	0.011	0.016	0.157	0.354	1.7%	0.001	0.005	0.010
%RSD		61.410	6.318	9.678	0.528	1.198	1.7	7.581	52.870	1.288

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:52:46	0.738	0.795	97.7%
2	15:53:12	0.781	0.798	100.1%
3	15:53:38	0.787	0.835	101.2%
x		0.769	0.809	99.7%
σ		0.027	0.022	1.8%
%RSD		3.512	2.754	1.8

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001S(50) 6/6/2017 15:57:43

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	109.8%	4.257	4.184	3.688	55.070	T 626.200	611.100	619.900	TM 4860.000
2	15:58:35	111.5%	4.109	3.612	3.803	53.980	T 607.800	593.700	615.300	TM 4898.000
3	15:59:01	116.0%	4.103	3.819	3.618	55.180	T 608.000	585.100	600.700	TM 4831.000
x		112.5%	4.156	3.872	3.703	54.750	T 614.000	596.600	612.000	TM 4863.000
σ		3.2%	0.087	0.290	0.094	0.664	T 10.550	13.270	10.050	TM 33.280
%RSD		2.8	2.094	7.477	2.526	1.212	T 1.718	2.224	1.642	TM 0.684

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	64.060	3211.000	592.200	233.400	201.200	113.9%	175.800	10.830	9.754
2	15:58:35	T 64.580	3276.000	595.700	217.400	197.500	113.1%	176.400	11.180	9.855
3	15:59:01	66.550	3332.000	610.700	238.200	205.900	113.3%	172.700	11.030	9.805
x		T 65.060	3273.000	599.500	229.700	201.500	113.4%	175.000	11.010	9.805
σ		T 1.313	60.440	9.864	10.900	4.222	0.4%	2.028	0.174	0.051
%RSD		T 2.017	1.847	1.645	4.746	2.095	0.3	1.159	1.583	0.517

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	0.474	48.110	T 3537.000	3650.000	5.783	7.957	6.840	8.216	13.190
2	15:58:35	0.428	47.790	T 3571.000	3690.000	5.800	7.788	6.939	8.062	12.760
3	15:59:01	0.557	48.320	T 3614.000	3759.000	5.746	7.904	6.807	7.752	12.670
x		0.486	48.070	T 3574.000	3700.000	5.776	7.883	6.862	8.010	12.870
σ		0.066	0.269	T 38.490	55.040	0.028	0.087	0.068	0.236	0.278
%RSD		13.480	0.560	T 1.077	1.488	0.485	1.100	0.997	2.947	2.162

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	3.181	4.132	-0.001	-0.041	3.642	0.745	120.7%	0.313	0.376
2	15:58:35	3.289	3.750	0.102	0.118	3.741	-0.930	121.1%	0.379	0.302
3	15:59:01	3.620	3.886	-0.198	0.201	4.970	-1.290	122.8%	0.412	0.488
x		3.363	3.923	-0.032	0.092	4.118	-0.492	121.6%	0.368	0.389
σ		0.229	0.194	0.152	0.123	0.740	1.086	1.1%	0.051	0.094
%RSD		6.799	4.943	475.100	132.800	17.970	220.900	0.9	13.770	24.110

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	0.392	4.805	3.944	-0.301	3.568	3.801	4.224	104.6%	2.591
2	15:58:35	0.389	4.046	3.837	0.074	3.546	3.801	4.170	107.0%	2.355
3	15:59:01	0.513	3.568	3.766	-0.292	3.495	4.093	4.136	107.9%	2.539
x		0.431	4.139	3.849	-0.173	3.536	3.899	4.177	106.5%	2.495
σ		0.071	0.624	0.089	0.214	0.038	0.168	0.044	1.7%	0.124
%RSD		16.450	15.070	2.322	123.800	1.064	4.321	1.065	1.6	4.980

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:58:09	2.118	1.012	1.016	27.940	27.830	101.3%	0.903	0.881	4.601
2	15:58:35	1.954	1.031	1.063	27.800	27.240	103.4%	0.881	0.925	4.295
3	15:59:01	1.978	1.070	1.068	27.860	27.620	105.6%	0.916	0.919	4.418
x		2.017	1.038	1.049	27.860	27.560	103.5%	0.900	0.908	4.438
σ		0.088	0.030	0.029	0.071	0.299	2.1%	0.018	0.024	0.154
%RSD		4.385	2.859	2.753	0.255	1.085	2.1	1.965	2.628	3.462

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	15:58:09	4.442	4.388	97.5%
2	15:58:35	4.273	4.283	101.3%
3	15:59:01	4.369	4.232	102.6%
x		4.361	4.301	100.5%
σ		0.085	0.079	2.7%
%RSD		1.948	1.848	2.6

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001SD(50) 6/6/2017 16:03:07

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	110.3%	4.327	3.859	3.408	45.620	T 538.800	519.600	536.600	TM 4964.000
2	16:03:59	117.3%	3.703	3.560	3.306	44.270	T 520.800	505.700	518.000	TM 4995.000
3	16:04:25	117.9%	3.925	3.608	3.162	44.500	T 506.100	497.300	509.300	TM 4972.000
x		115.2%	3.985	3.676	3.292	44.790	T 521.900	507.500	521.300	TM 4977.000
σ		4.2%	0.316	0.161	0.123	0.726	T 16.370	11.270	13.980	TM 16.440
%RSD		3.7	7.928	4.366	3.744	1.620	T 3.136	2.220	2.682	TM 0.330

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	58.460	3244.000	516.500	181.200	136.900	113.9%	163.300	11.740	9.240
2	16:03:59	T 59.920	3231.000	512.600	165.100	140.300	115.1%	163.800	11.810	8.929
3	16:04:25	54.670	3226.000	518.400	159.300	136.100	114.7%	161.100	12.030	9.119
x		T 57.680	3234.000	515.800	168.500	137.800	114.6%	162.700	11.860	9.096
σ		T 2.712	9.275	2.959	11.300	2.226	0.6%	1.425	0.152	0.157
%RSD		T 4.701	0.287	0.574	6.707	1.616	0.6	0.876	1.285	1.723

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	0.200	48.240	T 3728.000	3858.000	6.036	7.212	6.908	8.590	12.830
2	16:03:59	0.450	47.780	T 3724.000	3830.000	5.967	7.398	6.748	8.348	12.430
3	16:04:25	0.317	48.780	T 3829.000	3942.000	5.955	6.835	6.786	7.792	12.300
x		0.322	48.270	T 3760.000	3877.000	5.986	7.148	6.814	8.244	12.520
σ		0.125	0.501	T 59.310	57.870	0.044	0.287	0.084	0.409	0.275
%RSD		38.770	1.038	T 1.577	1.493	0.728	4.012	1.226	4.962	2.198

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	3.725	3.558	0.230	0.067	4.054	-1.734	118.0%	0.475	0.432
2	16:03:59	3.385	3.986	0.409	0.236	3.817	-0.930	120.7%	0.364	0.375
3	16:04:25	3.306	3.387	0.254	0.518	3.816	-0.620	122.0%	0.396	0.281
x		3.472	3.643	0.297	0.274	3.896	-1.094	120.2%	0.412	0.363
σ		0.222	0.309	0.097	0.228	0.137	0.575	2.0%	0.057	0.076
%RSD		6.402	8.468	32.620	83.110	3.515	52.540	1.7	13.820	21.030

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	0.467	3.598	3.585	0.047	3.190	3.706	4.129	104.5%	2.557
2	16:03:59	0.398	3.306	3.623	0.247	3.462	3.734	3.922	106.0%	2.569
3	16:04:25	0.505	4.159	3.593	-0.512	3.249	3.626	3.848	108.2%	2.507
x		0.457	3.688	3.600	-0.073	3.301	3.689	3.966	106.2%	2.544
σ		0.054	0.434	0.020	0.393	0.143	0.056	0.146	1.9%	0.033
%RSD		11.860	11.760	0.556	541.300	4.329	1.523	3.672	1.8	1.292

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:03:34	2.107	1.059	1.065	24.800	25.390	100.5%	0.998	0.948	4.275
2	16:03:59	1.833	1.024	1.129	25.130	25.090	103.0%	1.069	1.005	4.287
3	16:04:25	2.078	1.004	1.048	25.630	25.110	105.0%	1.075	1.042	4.113
x		2.006	1.029	1.081	25.190	25.200	102.8%	1.047	0.998	4.225
σ		0.150	0.028	0.042	0.418	0.168	2.3%	0.043	0.048	0.097
%RSD		7.505	2.729	3.916	1.660	0.667	2.2	4.117	4.779	2.295

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:03:34	4.287	4.180	96.0%
2	16:03:59	4.111	4.114	100.7%
3	16:04:25	4.280	4.079	101.7%
x		4.226	4.124	99.5%
σ		0.100	0.051	3.0%
%RSD		2.360	1.244	3.0

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001L(250) 6/6/2017 16:08:33

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	112.0%	0.026	0.010	-0.301	0.366	160.500	154.000	157.800	TM 720.400
2	16:09:24	118.1%	0.057	-0.308	-0.478	0.105	149.600	143.700	150.700	TM 721.100
3	16:09:50	119.4%	0.022	-0.137	-0.476	0.107	147.700	145.800	148.200	TM 705.100
x		116.5%	0.035	-0.145	-0.419	0.193	152.600	147.800	152.200	TM 715.500
σ		4.0%	0.019	0.159	0.102	0.150	6.889	5.418	5.028	TM 9.015
%RSD		3.4	53.150	110.000	24.290	77.830	4.514	3.665	3.303	TM 1.260

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	10.260	634.200	156.000	20.970	19.140	112.0%	35.090	0.936	1.450
2	16:09:24	9.791	655.700	160.800	22.140	18.090	110.3%	34.580	0.907	1.468
3	16:09:50	9.839	657.100	162.100	17.890	18.210	110.9%	35.180	0.844	1.347
x		9.963	649.000	159.600	20.330	18.480	111.1%	34.950	0.896	1.422
σ		0.258	12.840	3.235	2.197	0.573	0.9%	0.320	0.047	0.065
%RSD		2.587	1.979	2.026	10.810	3.101	0.8	0.916	5.252	4.580

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	0.044	12.960	T 562.000	547.100	0.570	0.772	0.592	0.704	2.819
2	16:09:24	0.115	13.010	T 561.200	555.400	0.558	0.734	0.687	0.712	2.727
3	16:09:50	0.153	12.950	T 550.200	547.800	0.569	0.637	0.647	0.663	2.607
x		0.104	12.980	T 557.800	550.100	0.566	0.714	0.642	0.693	2.718
σ		0.055	0.033	T 6.590	4.607	0.006	0.070	0.048	0.026	0.106
%RSD		53.190	0.257	T 1.181	0.838	1.146	9.763	7.416	3.730	3.895

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	-0.133	-0.182	-0.098	0.225	-0.292	-1.472	111.4%	-0.400	-0.484
2	16:09:24	-0.173	-0.102	0.071	-0.653	-0.444	-0.595	112.7%	-0.376	-0.473
3	16:09:50	-0.107	-0.166	-0.177	0.584	0.038	0.268	113.7%	-0.379	-0.502
x		-0.137	-0.150	-0.068	0.052	-0.233	-0.600	112.6%	-0.385	-0.486
σ		0.033	0.042	0.127	0.636	0.246	0.870	1.1%	0.014	0.015
%RSD		24.080	28.350	186.100	1224.000	105.800	145.000	1.0	3.516	3.035

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	-0.436	-0.231	-0.005	0.075	-0.001	-0.017	0.001	106.6%	-0.006
2	16:09:24	-0.437	-0.455	-0.008	0.197	0.001	-0.014	-0.004	108.0%	-0.003
3	16:09:50	-0.413	-0.286	-0.009	0.095	-0.003	-0.017	-0.001	108.8%	-0.012
x		-0.429	-0.324	-0.007	0.122	-0.001	-0.016	-0.001	107.8%	-0.007
σ		0.014	0.116	0.002	0.065	0.002	0.002	0.003	1.1%	0.004
%RSD		3.187	35.940	22.980	53.130	207.800	12.540	230.100	1.1	59.770

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:08:58	-0.050	0.057	0.069	6.367	6.404	101.9%	-0.001	-0.001	0.142
2	16:09:24	-0.092	0.056	0.073	6.020	6.575	104.3%	0.002	-0.005	0.159
3	16:09:50	-0.041	0.057	0.095	6.034	6.092	105.9%	0.000	-0.007	0.126
x		-0.061	0.057	0.079	6.140	6.357	104.0%	0.001	-0.004	0.142
σ		0.027	0.001	0.014	0.196	0.245	2.0%	0.002	0.003	0.016
%RSD		44.420	1.013	17.540	3.195	3.850	1.9	247.500	69.350	11.330

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:08:58	0.141	0.145	98.4%
2	16:09:24	0.153	0.159	100.2%
3	16:09:50	0.124	0.150	103.5%
x		0.139	0.151	100.7%
σ		0.014	0.007	2.6%
%RSD		10.410	4.418	2.5

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-001A(50) 6/6/2017 16:13:55

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	115.4%	5.675	6.015	5.081	62.540	T 788.800	774.400	808.900	TM 3392.000
2	16:14:47	117.5%	6.218	5.461	5.189	63.930	T 779.300	765.500	794.500	TM 3381.000
3	16:15:13	119.1%	5.269	6.010	5.082	65.960	T 791.400	760.900	783.200	TM 3395.000
x		117.3%	5.720	5.829	5.117	64.140	T 786.500	766.900	795.600	TM 3389.000
σ		1.9%	0.476	0.318	0.062	1.719	T 6.368	6.843	12.880	TM 7.388
%RSD		1.6	8.322	5.462	1.219	2.680	T 0.810	0.892	1.618	TM 0.218

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	85.500	3076.000	887.000	162.100	160.600	114.0%	201.800	13.100	11.820
2	16:14:47	T 87.030	3171.000	921.200	189.400	160.000	112.6%	205.300	13.620	11.830
3	16:15:13	85.970	3170.000	922.800	199.900	156.800	112.1%	207.500	14.150	11.890
x		T 86.170	3139.000	910.300	183.800	159.100	112.9%	204.900	13.620	11.850
σ		T 0.787	54.220	20.190	19.520	2.038	1.0%	2.848	0.526	0.036
%RSD		T 0.913	1.727	2.218	10.620	1.280	0.9	1.390	3.859	0.302

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	0.341	65.940	T 4136.000	4328.000	7.805	9.668	8.432	10.020	19.880
2	16:14:47	0.375	67.140	T 4161.000	4406.000	7.950	9.282	8.383	9.428	19.390
3	16:15:13	0.058	66.940	T 4226.000	4473.000	8.076	9.587	8.804	9.585	19.370
x		0.258	66.670	T 4174.000	4402.000	7.944	9.513	8.540	9.677	19.540
σ		0.174	0.640	T 46.620	72.820	0.136	0.204	0.230	0.305	0.289
%RSD		67.390	0.960	T 1.117	1.654	1.708	2.141	2.696	3.151	1.478

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	5.153	4.898	-0.595	-0.877	6.100	-1.005	125.6%	1.042	0.935
2	16:14:47	5.187	5.305	-0.253	0.079	6.262	-1.649	125.6%	1.216	1.086
3	16:15:13	5.360	4.963	-0.296	-0.214	6.884	-0.205	126.4%	0.992	0.837
x		5.233	5.055	-0.381	-0.338	6.415	-0.953	125.9%	1.083	0.953
σ		0.111	0.219	0.187	0.490	0.414	0.724	0.4%	0.118	0.125
%RSD		2.120	4.327	48.990	145.000	6.454	75.920	0.3	10.850	13.160

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	1.005	6.435	5.267	-0.263	4.735	5.695	5.631	107.6%	3.909
2	16:14:47	0.972	5.073	5.181	0.328	4.820	5.558	5.753	109.9%	3.843
3	16:15:13	1.202	5.409	5.133	0.143	4.733	5.168	5.598	109.9%	3.878
x		1.060	5.639	5.194	0.069	4.762	5.474	5.661	109.1%	3.876
σ		0.124	0.710	0.068	0.302	0.050	0.274	0.082	1.3%	0.033
%RSD		11.710	12.590	1.310	435.400	1.044	4.996	1.443	1.2	0.853

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:21	3.446	5.240	5.568	36.780	35.220	105.8%	1.084	1.119	6.091
2	16:14:47	3.192	5.328	5.376	36.380	36.020	107.6%	1.115	1.087	6.020
3	16:15:13	3.344	5.279	5.369	35.750	35.990	109.4%	1.150	1.118	6.101
x		3.327	5.282	5.438	36.300	35.740	107.6%	1.116	1.108	6.071
σ		0.128	0.044	0.113	0.520	0.452	1.8%	0.033	0.018	0.044
%RSD		3.844	0.834	2.081	1.433	1.264	1.7	2.935	1.658	0.730

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:14:21	6.102	6.030	102.9%
2	16:14:47	6.040	6.075	105.1%
3	16:15:13	6.128	6.050	105.8%
x		6.090	6.052	104.6%
σ		0.045	0.023	1.5%
%RSD		0.746	0.374	1.5

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-002(5) 6/6/2017 16:19:19

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	119.4%	0.625	-0.165	-0.352	25.510	T 2982.000	3000.000	T 3026.000	TM 12350.000
2	16:20:10	122.0%	0.539	-0.007	-0.409	25.310	T 2951.000	2984.000	T 2986.000	TM 12100.000
3	16:20:36	122.2%	0.625	-0.112	-0.480	24.370	T 2967.000	2987.000	T 3006.000	TM 12160.000
x		121.2%	0.596	-0.095	-0.414	25.060	T 2966.000	2990.000	T 3006.000	TM 12200.000
σ		1.5%	0.049	0.080	0.064	0.611	T 15.360	8.885	T 19.730	TM 132.300
%RSD		1.3	8.277	84.740	15.590	2.439	T 0.518	0.297	T 0.656	TM 1.084
Run	**Time**	**28Si**	**35Cl**	**39K**	**43Ca**	**44Ca**	**45Sc**	**47Ti**	**51V**	**52Cr**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	T 434.000	T 40290.000	T 4128.000	379.800	357.700	114.3%	M 738.400	20.940	21.000
2	16:20:10	T 425.800	T 40470.000	T 4123.000	401.500	357.500	115.5%	M 736.500	20.560	20.460
3	16:20:36	T 427.300	T 40410.000	T 4101.000	383.300	358.400	115.3%	M 729.600	20.900	20.690
x		T 429.000	T 40390.000	T 4117.000	388.200	357.900	115.1%	M 734.800	20.800	20.720
σ		T 4.338	T 95.770	T 14.320	11.650	0.465	0.6%	M 4.633	0.211	0.267
%RSD		T 1.011	T 0.237	T 0.348	3.001	0.130	0.6	M 0.630	1.015	1.290
Run	**Time**	**53Cl O**	**55Mn**	**56Fe**	**57Fe**	**59Co**	**60Ni**	**63Cu**	**65Cu**	**66Zn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	4.169	T 390.100	T 12330.000	T 12900.000	6.143	15.860	10.240	11.570	36.130
2	16:20:10	4.092	T 388.600	T 12270.000	T 12930.000	6.237	15.360	10.230	11.690	35.390
3	16:20:36	3.745	T 387.500	T 12280.000	T 12830.000	6.067	15.170	10.150	11.230	35.230
x		4.002	T 388.700	T 12290.000	T 12890.000	6.149	15.460	10.210	11.500	35.580
σ		0.226	T 1.280	T 34.640	T 48.670	0.085	0.354	0.050	0.241	0.483
%RSD		5.637	T 0.329	T 0.282	T 0.378	1.381	2.288	0.487	2.100	1.356
Run	**Time**	**75As**	**78Se**	**79Br**	**81Br**	**82Se**	**83Kr**	**89Y**	**95Mo**	**97Mo**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	-0.010	0.118	5.393	5.975	-0.305	-0.162	123.9%	-0.393	-0.452
2	16:20:10	-0.112	-0.122	5.337	5.508	-0.015	0.422	126.4%	-0.374	-0.421
3	16:20:36	-0.108	-0.075	5.621	5.273	-0.464	-0.891	128.3%	-0.348	-0.467
x		-0.077	-0.026	5.450	5.585	-0.261	-0.210	126.2%	-0.372	-0.447
σ		0.058	0.127	0.150	0.357	0.228	0.658	2.2%	0.023	0.023
%RSD		75.410	484.000	2.757	6.393	87.170	313.000	1.8	6.078	5.251
Run	**Time**	**98Mo**	**106Cd**	**107Ag**	**108Mo O**	**109Ag**	**111Cd**	**114Cd**	**115In**	**116Sn**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	-0.430	0.808	0.003	-0.225	0.010	-0.004	0.035	110.0%	0.719
2	16:20:10	-0.384	-0.444	-0.003	0.222	0.006	0.029	0.051	110.9%	0.719
3	16:20:36	-0.402	0.108	0.003	-0.022	0.012	0.022	0.024	112.9%	0.740
x		-0.406	0.157	0.001	-0.008	0.009	0.016	0.037	111.2%	0.726
σ		0.023	0.628	0.003	0.224	0.003	0.017	0.013	1.5%	0.012
%RSD		5.716	399.300	362.600	2711.000	33.930	110.300	36.370	1.3	1.622
Run	**Time**	**118Sn**	**121Sb**	**123Sb**	**135Ba**	**137Ba**	**159Tb**	**203Tl**	**205Tl**	**206Pb**
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:44	1.023	-0.017	0.006	87.920	87.390	107.4%	0.140	0.146	5.927
2	16:20:10	0.901	-0.008	0.028	87.370	86.680	110.5%	0.148	0.143	5.890
3	16:20:36	0.963	-0.004	0.013	86.850	87.000	111.7%	0.133	0.137	5.890
x		0.962	-0.010	0.016	87.380	87.020	109.9%	0.140	0.142	5.902
σ		0.061	0.007	0.011	0.535	0.357	2.2%	0.007	0.005	0.022
%RSD		6.336	72.670	71.780	0.612	0.410	2.0	5.299	3.293	0.367
Run	**Time**	**207Pb**	**208Pb**	**209Bi**						
		ppb	ppb	ppb						
1	16:19:44	5.945	6.022	105.1%						
2	16:20:10	5.852	6.090	107.7%						
3	16:20:36	5.832	6.032	109.5%						
x		5.876	6.048	107.5%						
σ		0.060	0.037	2.2%						
%RSD		1.025	0.609	2.1						

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-003(5) 6/6/2017 16:24:42

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	119.1%	0.891	-0.021	-0.379	183.600	T 3816.000	T 3776.000	T 3905.000	TM 16580.000
2	16:25:34	122.8%	0.761	-0.315	-0.472	181.300	T 3655.000	T 3570.000	T 3735.000	TM 16250.000
3	16:26:00	124.5%	0.842	-0.226	-0.437	182.700	T 3742.000	T 3692.000	T 3819.000	TM 16520.000
x		122.2%	0.831	-0.188	-0.429	182.500	T 3738.000	T 3679.000	T 3820.000	TM 16450.000
σ		2.8%	0.066	0.151	0.047	1.166	T 80.230	T 103.500	T 85.110	TM 173.200
%RSD		2.3	7.908	80.320	10.970	0.639	T 2.147	T 2.813	T 2.228	TM 1.053

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	T 527.200	T 44440.000	T 5374.000	1626.000	1481.000	115.4%	M 1125.000	17.190	8.662
2	16:25:34	T 510.700	T 44420.000	T 5363.000	1593.000	1439.000	116.0%	M 1102.000	17.110	8.709
3	16:26:00	T 506.700	T 44200.000	T 5329.000	1555.000	1469.000	116.3%	M 1098.000	17.590	8.826
x		T 514.800	T 44350.000	T 5356.000	1591.000	1463.000	115.9%	M 1108.000	17.290	8.732
σ		T 10.860	T 135.500	T 23.500	35.220	21.920	0.4%	M 14.790	0.256	0.084
%RSD		T 2.110	T 0.305	T 0.439	2.213	1.498	0.4	M 1.334	1.477	0.966

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	4.634	T 256.100	T 13850.000	T 14560.000	5.618	12.160	15.210	17.460	35.100
2	16:25:34	4.238	T 256.600	T 13710.000	T 14590.000	5.489	11.610	15.090	16.790	33.490
3	16:26:00	4.194	T 255.600	T 13700.000	T 14420.000	5.462	11.380	14.880	16.570	33.640
x		4.355	T 256.100	T 13750.000	T 14520.000	5.523	11.720	15.060	16.940	34.080
σ		0.242	T 0.498	T 81.910	T 89.950	0.083	0.402	0.170	0.466	0.885
%RSD		5.565	T 0.194	T 0.596	T 0.619	1.504	3.427	1.127	2.750	2.597

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	-0.253	-0.018	7.218	8.217	-0.362	-0.270	128.9%	-0.408	-0.472
2	16:25:34	0.094	0.059	8.411	8.176	-0.041	-0.771	130.5%	-0.392	-0.403
3	16:26:00	-0.214	-0.327	7.366	7.735	0.290	-0.023	132.0%	-0.400	-0.454
x		-0.124	-0.096	7.665	8.043	-0.038	-0.355	130.5%	-0.400	-0.443
σ		0.190	0.204	0.650	0.267	0.326	0.381	1.5%	0.008	0.036
%RSD		153.100	213.700	8.480	3.319	856.700	107.500	1.2	2.089	8.022

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	-0.415	0.368	-0.002	-0.157	0.004	0.016	0.040	110.5%	0.542
2	16:25:34	-0.424	0.402	-0.005	-0.115	0.002	0.028	0.027	113.2%	0.519
3	16:26:00	-0.405	0.018	-0.000	0.010	0.001	0.040	0.041	114.4%	0.497
x		-0.415	0.263	-0.003	-0.087	0.003	0.028	0.036	112.7%	0.519
σ		0.010	0.212	0.002	0.087	0.002	0.012	0.008	2.0%	0.023
%RSD		2.349	80.820	95.680	99.690	61.470	43.670	22.350	1.7	4.406

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:25:08	0.744	-0.018	-0.013	105.600	104.200	108.9%	0.082	0.079	3.378
2	16:25:34	0.701	-0.010	-0.022	104.300	104.000	112.1%	0.092	0.085	3.389
3	16:26:00	0.696	-0.007	-0.002	105.500	103.100	113.0%	0.082	0.082	3.450
x		0.714	-0.012	-0.012	105.200	103.800	111.3%	0.085	0.082	3.405
σ		0.027	0.006	0.010	0.715	0.628	2.1%	0.006	0.003	0.039
%RSD		3.731	48.190	82.140	0.679	0.605	1.9	6.899	3.559	1.137

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:25:08	3.459	3.632	106.2%
2	16:25:34	3.456	3.554	109.8%
3	16:26:00	3.480	3.574	111.0%
x		3.465	3.587	109.0%
σ		0.013	0.040	2.5%
%RSD		0.382	1.128	2.3

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-004(5) 6/6/2017 16:30:06

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	119.7%	0.427	-0.411	-0.442	135.000	T 4431.000	T 4360.000	T 4537.000	TM 13920.000
2	16:30:57	122.5%	0.307	-0.087	-0.518	133.600	T 4391.000	T 4332.000	T 4504.000	TM 14070.000
3	16:31:23	122.7%	0.317	-0.312	-0.443	134.400	T 4372.000	T 4293.000	T 4394.000	TM 13820.000
x		121.6%	0.351	-0.270	-0.468	134.300	T 4398.000	T 4328.000	T 4479.000	TM 13940.000
σ		1.7%	0.067	0.166	0.043	0.673	T 30.390	T 33.610	T 74.620	TM 129.300
%RSD		1.4	19.050	61.570	9.277	0.501	T 0.691	T 0.777	T 1.666	TM 0.928

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	452.800	T 34260.000	T 3695.000	2154.000	1984.000	119.5%	M 815.300	23.410	46.740
2	16:30:57	T 460.600	T 35520.000	T 3784.000	2155.000	1983.000	117.7%	M 812.400	23.690	46.760
3	16:31:23	456.100	T 34780.000	T 3759.000	2217.000	1990.000	117.8%	M 803.500	24.240	46.570
x		T 456.500	T 34850.000	T 3746.000	2175.000	1986.000	118.3%	M 810.400	23.780	46.690
σ		T 3.909	T 635.200	T 46.150	36.330	4.136	1.0%	M 6.146	0.423	0.103
%RSD		T 0.856	T 1.822	T 1.232	1.670	0.208	0.9	M 0.758	1.779	0.220

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	3.693	T 283.200	T 14900.000	T 15900.000	5.990	16.900	8.438	9.563	43.750
2	16:30:57	3.576	T 288.000	T 15140.000	T 16120.000	5.889	16.080	8.302	9.362	43.440
3	16:31:23	2.875	T 284.100	T 15080.000	T 16000.000	6.029	16.530	8.396	9.582	43.520
x		3.381	T 285.100	T 15040.000	T 16010.000	5.969	16.500	8.379	9.503	43.570
σ		0.443	T 2.560	T 124.900	T 112.200	0.072	0.407	0.069	0.122	0.162
%RSD		13.090	T 0.898	T 0.831	T 0.701	1.212	2.466	0.829	1.282	0.372

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	-0.015	-0.183	2.395	2.814	0.056	-0.409	135.5%	-0.427	-0.479
2	16:30:57	-0.196	-0.265	2.209	2.109	0.449	1.810	137.1%	-0.435	-0.487
3	16:31:23	0.191	-0.160	2.245	2.052	0.419	0.464	137.1%	-0.424	-0.514
x		-0.007	-0.203	2.283	2.325	0.308	0.622	136.6%	-0.428	-0.493
σ		0.194	0.055	0.098	0.424	0.219	1.118	0.9%	0.006	0.018
%RSD		2840.000	27.030	4.299	18.250	71.010	179.800	0.7	1.334	3.741

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	-0.463	0.080	0.002	0.020	0.004	0.009	0.016	111.8%	0.791
2	16:30:57	-0.450	-0.056	-0.001	-0.001	0.002	0.005	0.028	113.0%	0.787
3	16:31:23	-0.464	0.244	-0.002	-0.007	0.001	0.028	0.023	113.8%	0.760
x		-0.459	0.089	-0.001	0.004	0.002	0.014	0.022	112.9%	0.779
σ		0.008	0.150	0.002	0.014	0.002	0.012	0.006	1.0%	0.017
%RSD		1.713	168.300	420.800	380.600	79.660	85.550	26.550	0.9	2.173

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:30:32	0.650	-0.035	-0.005	77.100	76.510	111.0%	0.047	0.040	1.409
2	16:30:57	0.721	-0.012	-0.022	76.070	75.110	112.4%	0.043	0.042	1.491
3	16:31:23	0.707	-0.026	-0.021	74.920	75.680	113.5%	0.048	0.049	1.458
x		0.692	-0.024	-0.016	76.030	75.770	112.3%	0.046	0.044	1.452
σ		0.037	0.012	0.010	1.090	0.701	1.2%	0.002	0.004	0.041
%RSD		5.408	47.350	60.100	1.434	0.925	1.1	5.126	10.020	2.841

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:30:32	1.463	1.765	109.7%
2	16:30:57	1.527	1.842	109.6%
3	16:31:23	1.479	1.831	111.7%
x		1.490	1.813	110.3%
σ		0.033	0.042	1.2%
%RSD		2.213	2.310	1.1

PDF created with pdfFactory trial version www.pdffactory.com

SE27003-010(5) 6/6/2017 16:35:30

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	120.9%	0.827	-0.088	-0.468	54.140	T 8747.000	T 8719.000	T 8979.000	TM 25140.000
2	16:36:21	123.6%	0.707	-0.283	-0.512	53.810	T 8679.000	T 8546.000	T 8878.000	TM 25170.000
3	16:36:47	122.6%	0.773	-0.210	-0.459	51.820	T 8637.000	T 8460.000	T 8793.000	TM 24790.000
x		122.3%	0.769	-0.194	-0.480	53.260	T 8688.000	T 8575.000	T 8883.000	TM 25030.000
σ		1.4%	0.060	0.099	0.029	1.254	T 55.650	T 131.700	T 93.250	TM 213.700
%RSD		1.1	7.843	50.920	5.978	2.355	T 0.641	T 1.535	T 1.050	TM 0.854

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	T 422.400	T 45000.000	T 12580.000	841.900	741.100	116.1%	M 2057.000	40.180	30.800
2	16:36:21	T 429.500	T 46150.000	T 12690.000	847.500	747.300	115.7%	M 2062.000	40.450	30.710
3	16:36:47	T 420.200	T 45940.000	T 12870.000	886.900	752.100	116.1%	M 2047.000	39.570	29.950
x		T 424.000	T 45700.000	T 12720.000	858.800	746.800	116.0%	M 2055.000	40.070	30.490
σ		T 4.865	T 617.000	T 144.800	24.560	5.503	0.2%	M 7.585	0.453	0.467
%RSD		T 1.147	T 1.350	T 1.138	2.860	0.737	0.2	M 0.369	1.129	1.532

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	3.735	T 371.500	T 24030.000	T 25430.000	10.250	19.360	10.650	12.320	62.970
2	16:36:21	3.453	T 373.700	T 24050.000	T 25470.000	10.380	18.860	10.710	12.420	62.500
3	16:36:47	3.559	T 372.900	T 24030.000	T 25730.000	10.500	19.120	10.470	12.030	61.010
x		3.582	T 372.700	T 24030.000	T 25540.000	10.380	19.110	10.610	12.250	62.160
σ		0.143	T 1.130	T 13.580	T 165.500	0.124	0.250	0.124	0.204	1.021
%RSD		3.977	T 0.303	T 0.057	T 0.648	1.198	1.307	1.171	1.663	1.642

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	-0.248	0.201	2.607	2.820	0.176	-0.534	134.7%	-0.372	-0.454
2	16:36:21	-0.007	-0.324	2.735	2.476	0.018	0.353	135.9%	-0.400	-0.467
3	16:36:47	-0.144	0.053	2.526	2.049	-0.248	0.502	135.9%	-0.369	-0.490
x		-0.133	-0.023	2.623	2.448	-0.018	0.107	135.5%	-0.380	-0.471
σ		0.121	0.271	0.106	0.386	0.214	0.560	0.7%	0.017	0.019
%RSD		91.050	1153.000	4.024	15.780	1168.000	523.300	0.5	4.503	3.951

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	-0.432	-0.466	-0.002	0.152	0.006	0.009	0.034	110.8%	0.612
2	16:36:21	-0.443	-0.090	-0.002	0.030	0.002	0.022	0.013	113.0%	0.562
3	16:36:47	-0.421	0.531	-0.004	-0.185	-0.000	0.005	0.006	113.5%	0.637
x		-0.432	-0.008	-0.003	-0.001	0.002	0.012	0.018	112.4%	0.604
σ		0.011	0.504	0.001	0.171	0.003	0.008	0.015	1.4%	0.038
%RSD		2.533	6099.000	33.030	18810.000	114.200	71.200	81.890	1.3	6.285

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:35:55	0.529	-0.025	-0.017	261.700	258.100	109.6%	0.107	0.110	2.950
2	16:36:21	0.649	-0.027	-0.021	259.300	258.500	111.5%	0.134	0.110	2.895
3	16:36:47	0.694	-0.004	-0.022	260.000	259.200	112.6%	0.134	0.134	2.893
x		0.624	-0.019	-0.020	260.300	258.600	111.3%	0.125	0.118	2.913
σ		0.085	0.013	0.003	1.233	0.536	1.5%	0.015	0.014	0.032
%RSD		13.680	68.700	13.330	0.474	0.207	1.4	12.240	11.830	1.110

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:35:55	2.999	3.102	106.7%
2	16:36:21	2.884	3.117	109.4%
3	16:36:47	2.894	3.144	110.5%
x		2.926	3.121	108.9%
σ		0.064	0.021	1.9%
%RSD		2.171	0.681	1.8

PDF created with pdfFactory trial version www.pdffactory.com

CCV MW9474 6/6/2017 16:40:54 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	100.7%	281.700	266.500	282.400	┬57190.000	┬54340.000	┬53330.000	┬54570.000	279.600
2	16:41:46	104.0%	277.800	253.400	277.900	┬51920.000	┬50860.000	┬50340.000	┬51800.000	258.100
3	16:42:12	102.7%	279.100	272.100	282.300	┬57640.000	┬53830.000	┬53720.000	┬55240.000	281.500
x		102.4%	93.172%	88.010%	93.617%	┬92.633%	┬53010.000	┬52460.000	┬89.786%	91.018%
σ		1.7%	n/a	n/a	n/a	┬n/a	┬1878.000	┬1854.000	┬n/a	n/a
%RSD		1.6	0.722	3.630	0.915	┬5.720	┬3.543	┬3.535	┬3.386	4.771

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	┬2868.000	240.600	┬62820.000	55840.000	┬56390.000	110.3%	280.000	288.400	278.000
2	16:41:46	┬2655.000	237.100	┬59250.000	52670.000	┬51680.000	┬118.8%	256.100	266.100	┬257.800
3	16:42:12	┬2867.000	239.900	┬63710.000	57160.000	┬56590.000	109.7%	277.400	288.800	278.700
x		┬93.216%	239.200	┬103.211%	55220.000	┬91.478%	┬112.9%	90.382%	93.710%	┬90.494%
σ		┬n/a	1.847	┬n/a	2310.000	┬n/a	┬5.1%	n/a	n/a	┬n/a
%RSD		┬4.395	0.772	┬3.807	4.182	┬5.060	┬4.5	4.843	4.619	┬4.369

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	-6.469	┬279.400	┬54560.000	┬55680.000	271.300	273.100	255.000	279.800	270.100
2	16:41:46	-5.997	┬266.100	┬51690.000	┬52610.000	258.700	268.600	240.600	266.000	265.900
3	16:42:12	-7.562	┬284.200	┬54650.000	┬57090.000	273.600	264.400	252.000	268.800	264.300
x		-6.676	┬92.191%	┬89.387%	┬91.877%	89.283%	89.567%	249.200	90.511%	88.922%
σ		0.802	┬n/a	┬n/a	┬n/a	n/a	n/a	7.622	n/a	n/a
%RSD		12.020	┬3.384	┬3.130	┬4.158	3.001	1.623	3.058	2.692	1.135

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	264.100	253.600	0.759	0.445	274.600	-0.847	107.1%	264.200	263.300
2	16:41:46	258.600	255.400	0.675	0.223	267.900	-0.515	107.7%	253.100	259.400
3	16:42:12	262.600	253.100	0.355	0.697	263.300	0.409	108.8%	284.300	287.800
x		87.258%	254.000	0.596	0.455	89.526%	-0.318	107.9%	89.058%	90.057%
σ		n/a	1.175	0.213	0.237	n/a	0.651	0.8%	n/a	n/a
%RSD		1.081	0.463	35.770	52.150	2.115	204.900	0.8	5.914	5.709

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	271.200	267.100	269.300	-2.701	254.800	263.000	275.000	104.2%	269.500
2	16:41:46	263.700	268.300	262.100	0.340	252.300	260.600	268.300	106.7%	267.700
3	16:42:12	295.600	260.400	266.000	-0.347	252.200	260.400	268.700	106.9%	269.500
x		92.270%	265.300	88.599%	-0.903	253.100	261.300	90.212%	105.9%	89.632%
σ		n/a	4.258	n/a	1.595	1.473	1.443	n/a	1.5%	n/a
%RSD		6.016	1.605	1.347	176.700	0.582	0.552	1.397	1.4	0.383

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:41:20	290.700	263.400	262.800	277.100	273.300	106.1%	279.700	283.700	286.000
2	16:41:46	289.700	263.300	266.300	272.700	273.500	108.0%	276.600	283.400	279.900
3	16:42:12	290.700	267.900	269.000	274.600	275.800	108.5%	278.600	285.200	283.500
x		96.799%	88.274%	88.676%	91.604%	91.397%	107.5%	92.764%	94.696%	94.371%
σ		n/a	n/a	n/a	n/a	n/a	1.3%	n/a	n/a	n/a
%RSD		0.195	0.990	1.174	0.807	0.517	1.2	0.573	0.331	1.084

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:41:20	282.300	274.200	98.7%
2	16:41:46	276.800	273.900	102.3%
3	16:42:12	279.800	276.800	102.4%
x		93.211%	91.655%	101.1%
σ		n/a	n/a	2.1%
%RSD		0.980	0.575	2.1

PDF created with pdfFactory trial version www.pdffactory.com

CCB IM7804-01 6/6/2017 16:46:16 QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	114.7%	0.002	1.746	1.555	2.016	2.089	1.781	1.938	0.664
2	16:47:08	118.5%	-0.022	1.768	1.278	1.613	1.791	1.814	1.746	0.455
3	16:47:33	119.7%	0.004	1.648	1.357	1.680	1.820	1.682	1.642	0.541
x		117.6%	-0.005	1.721	1.397	1.770	1.900	1.759	1.775	0.553
σ		2.6%	0.014	0.064	0.143	0.216	0.165	0.069	0.150	0.105
%RSD		2.2	265.900	3.712	10.240	12.210	8.661	3.914	8.443	19.030

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	T 3.296	124.900	4.232	2.360	0.373	114.9%	-0.027	0.082	0.030
2	16:47:08	-0.712	123.500	2.623	-0.928	-0.742	116.5%	0.065	0.070	0.009
3	16:47:33	-1.425	129.800	2.552	1.472	0.972	115.8%	0.024	0.063	0.009
x		T 0.386	126.000	3.135	0.968	0.201	115.7%	0.021	0.072	0.016
σ		T 2.545	3.282	0.950	1.701	0.870	0.8%	0.046	0.009	0.012
%RSD		T 658.800	2.603	30.300	175.700	433.600	0.7	220.000	13.180	74.020

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	0.013	0.016	6.698	-0.211	-0.003	-0.061	-0.038	-0.031	0.033
2	16:47:08	0.038	0.008	6.512	-0.655	0.005	-0.110	-0.055	-0.037	-0.040
3	16:47:33	0.040	0.008	6.739	0.955	-0.004	-0.093	-0.046	-0.026	-0.018
x		0.030	0.011	6.650	0.030	-0.001	-0.088	-0.046	-0.032	-0.008
σ		0.015	0.004	0.121	0.831	0.005	0.025	0.008	0.006	0.037
%RSD		50.220	41.830	1.820	2807.000	717.800	27.940	18.280	17.600	453.500

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	-0.046	-0.253	0.156	0.660	-0.044	-0.288	114.1%	0.888	0.660
2	16:47:08	-0.055	0.314	0.004	1.084	-0.061	0.065	113.8%	0.940	0.895
3	16:47:33	-0.074	0.460	-0.164	-0.005	-0.032	-0.980	113.4%	0.988	0.917
x		-0.058	0.173	-0.001	0.580	-0.045	-0.401	113.8%	0.939	0.824
σ		0.014	0.376	0.160	0.549	0.015	0.531	0.3%	0.050	0.143
%RSD		24.490	217.200	11950.000	94.650	31.990	132.600	0.3	5.354	17.320

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	0.913	0.896	0.005	-0.339	0.012	-0.012	0.003	112.8%	0.093
2	16:47:08	0.986	0.051	0.009	-0.006	0.007	0.004	0.018	115.1%	0.079
3	16:47:33	1.013	-0.556	0.014	0.199	0.008	-0.003	0.014	114.8%	0.092
x		0.971	0.130	0.009	-0.049	0.009	-0.004	0.012	114.2%	0.088
σ		0.052	0.729	0.004	0.272	0.003	0.008	0.008	1.3%	0.008
%RSD		5.361	559.500	48.040	556.000	28.750	225.500	64.080	1.1	8.587

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:46:42	0.236	0.440	0.467	0.012	0.015	110.4%	0.006	0.014	0.008
2	16:47:08	0.075	0.499	0.491	0.011	0.014	111.9%	0.015	0.007	0.001
3	16:47:33	-0.015	0.508	0.525	-0.009	-0.013	112.9%	0.015	0.009	-0.002
x		0.099	0.482	0.494	0.005	0.005	111.8%	0.012	0.010	0.002
σ		0.127	0.037	0.029	0.012	0.016	1.2%	0.005	0.003	0.005
%RSD		128.400	7.657	5.953	262.400	307.100	1.1	45.690	34.240	221.700

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:46:42	0.004	0.005	111.8%
2	16:47:08	0.000	0.005	113.6%
3	16:47:33	0.003	0.009	115.1%
x		0.002	0.006	113.5%
σ		0.002	0.002	1.7%
%RSD		84.580	37.230	1.5

PDF created with pdfFactory trial version www.pdffactory.com

LR ISM1406 6/6/2017 16:51:39 QC Status: FAIL (Initial: FAIL)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	84.8%	M 991.600	0.632	0.887	TM 105100.000	TM 107500.000	TM 106500.000	TM 109100.000	TM 100800.000
2	16:52:30	86.7%	M 990.800	1.089	0.632	TM 116100.000	TM 111700.000	TM 111600.000	TM 115000.000	TM 114500.000
3	16:52:56	85.5%	M 982.900	0.616	0.720	TM 116600.000	TM 113500.000	TM 111900.000	TM 114600.000	TM 112000.000
x		85.7%	M 98.842%	0.779	0.746	TM 93.849%	TM 110900.000	TM 110000.000	TM 94.076%	TM 90.923%
σ		0.9%	M n/a	0.269	0.129	TM n/a	TM 3062.000	TM 3076.000	TM n/a	TM n/a
%RSD		1.1	M 0.487	34.500	17.330	TM 5.787	TM 2.761	TM 2.796	TM 2.880	TM 6.681

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	3.346	96.020	TM 117000.000	M 108800.000	TM 108400.000	T 109.4%	M 1765.000	TM 1770.000	TM 1726.000
2	16:52:30	6.712	114.400	TM 132600.000	M 121300.000	TM 120500.000	97.7%	M 1943.000	TM 1967.000	TM 1912.000
3	16:52:56	6.039	117.900	TM 130800.000	M 119600.000	TM 119400.000	99.0%	M 1956.000	TM 1957.000	TM 1886.000
x		5.366	109.400	TM 105.683%	M 116600.000	TM 96.753%	T 102.0%	M 1888.000	TM 94.896%	TM 92.069%
σ		1.781	11.730	TM n/a	M 6804.000	TM n/a	T 6.4%	M 106.400	TM n/a	TM n/a
%RSD		33.200	10.720	TM 6.713	M 5.837	TM 5.762	T 6.3	M 5.638	TM 5.841	TM 5.460

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	-24.150	TM 1784.000	TM 103500.000	TM 104000.000	TM 1747.000	TM 1689.000	TM 1567.000	M 1880.000	M 1765.000
2	16:52:30	-25.040	TM 1957.000	TM 113100.000	TM 118500.000	TM 1885.000	TM 1678.000	TM 1684.000	M 1866.000	M 1755.000
3	16:52:56	-26.930	TM 1932.000	TM 111600.000	TM 116800.000	TM 1862.000	TM 1669.000	TM 1671.000	TM 1625.000	M 1736.000
x		-25.370	TM 94.558%	TM 109400.000	TM 94.252%	TM 91.561%	TM 83.930%	TM 1641.000	TM 89.500%	M 87.618%
σ		1.423	TM n/a	TM 5176.000	TM n/a	TM n/a	TM n/a	TM 64.280	TM n/a	M n/a
%RSD		5.608	TM 4.932	TM 4.731	TM 6.994	TM 4.053	TM 0.580	TM 3.918	TM 8.016	M 0.848

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	M 1735.000	M 1610.000	2.609	0.220	M 1712.000	3.774	95.0%	TM 2223.000	M 2031.000
2	16:52:30	M 1789.000	M 1652.000	1.920	0.481	M 1698.000	4.406	96.4%	TM 2537.000	M 2318.000
3	16:52:56	M 1803.000	M 1627.000	2.801	0.750	M 1664.000	2.742	96.3%	TM 2516.000	M 2299.000
x		M 88.777%	M 1630.000	2.443	0.484	M 84.574%	3.640	95.9%	TM 2425.000	M 110.805%
σ		M n/a	M 21.510	0.463	0.265	M n/a	0.840	0.8%	TM 175.300	M n/a
%RSD		M 2.028	M 1.320	18.970	54.750	M 1.442	23.080	0.8	TM 7.228	M 7.236

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	TM 2051.000	M 1687.000	260.000	15.550	241.900	M 1778.000	TM 1826.000	96.9%	M 524.000
2	16:52:30	TM 2335.000	M 1681.000	255.600	13.660	242.100	M 1787.000	TM 1812.000	98.0%	M 526.100
3	16:52:56	TM 2323.000	M 1696.000	254.100	5.893	242.300	M 1785.000	TM 1798.000	98.5%	M 527.900
x		TM 2236.000	M 1688.000	85.530%	11.700	242.100	M 1783.000	TM 90.588%	97.8%	M 526.000
σ		TM 160.700	M 7.422	n/a	5.118	0.234	M 4.982	TM n/a	0.9%	M 1.997
%RSD		TM 7.184	M 0.440	1.194	43.740	0.097	M 0.279	TM 0.774	0.9	M 0.380

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:52:04	46.670	M 942.300	M 930.700	TM 10300.000	TM 10200.000	95.5%	TM 956.400	TM 938.300	TM 1915.000
2	16:52:30	46.200	M 951.900	M 944.100	TM 10330.000	TM 10250.000	96.6%	TM 951.400	TM 944.800	TM 1905.000
3	16:52:56	51.240	M 960.100	M 947.800	TM 10380.000	TM 10290.000	97.8%	TM 952.400	TM 945.500	TM 1901.000
x		2.402%	M 951.500	M 94.087%	TM 103.341%	TM 10250.000	96.6%	TM 953.400	TM 94.285%	TM 1907.000
σ		n/a	M 8.927	M n/a	TM n/a	TM 48.930	1.2%	TM 2.689	TM n/a	TM 7.563
%RSD		5.792	M 0.938	M 0.961	TM 0.379	TM 0.478	1.2	TM 0.282	TM 0.422	TM 0.397

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:52:04	TM 1980.000	TM 1860.000	90.5%
2	16:52:30	TM 1972.000	TM 1875.000	92.7%
3	16:52:56	TM 1966.000	TM 1875.000	93.9%
x		TM 1973.000	TM 93.512%	92.4%
σ		TM 6.745	TM n/a	1.7%
%RSD		TM 0.342	TM 0.456	1.8

PDF created with pdfFactory trial version www.pdffactory.com

IS MW9476 6/6/2017 16:57:03

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	134.9%	0.041	0.233	-0.217	3.917	3.843	3.775	3.832	2.363
2	16:57:55	139.9%	0.028	0.034	-0.152	3.894	3.968	3.741	4.031	2.457
3	16:58:21	144.0%	0.002	0.037	-0.259	3.766	3.749	3.513	3.682	2.416
x		139.6%	0.024	0.101	-0.209	3.859	3.853	3.676	3.848	2.412
σ		4.5%	0.020	0.114	0.054	0.082	0.110	0.143	0.175	0.047
%RSD		3.3	83.220	112.800	25.810	2.118	2.843	3.884	4.546	1.956

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	14.100	237.800	-7.504	5.795	7.554	132.0%	0.233	0.301	0.108
2	16:57:55	13.990	262.500	-8.074	8.881	6.387	131.9%	0.442	0.352	0.112
3	16:58:21	13.430	282.900	-9.189	7.522	7.408	131.5%	0.227	0.307	0.110
x		13.840	261.100	-8.256	7.400	7.116	131.8%	0.301	0.320	0.110
σ		0.361	22.570	0.857	1.547	0.636	0.2%	0.123	0.028	0.002
%RSD		2.610	8.644	10.380	20.900	8.939	0.2	40.760	8.784	2.018

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	0.028	0.043	97.790	79.180	0.014	-0.039	0.105	0.185	0.590
2	16:57:55	0.013	0.052	115.700	97.670	0.021	-0.049	0.097	0.171	0.500
3	16:58:21	0.011	0.060	104.200	84.020	0.020	-0.022	0.096	0.122	0.451
x		0.017	0.051	105.900	86.960	0.018	-0.036	0.099	0.159	0.514
σ		0.010	0.009	9.070	9.586	0.004	0.014	0.005	0.033	0.071
%RSD		55.570	16.680	8.564	11.020	19.890	37.550	5.100	20.780	13.770

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	-0.049	0.001	0.482	1.255	-0.012	-0.552	124.4%	7.084	7.443
2	16:57:55	0.029	0.370	0.774	1.189	0.049	-0.268	126.1%	6.957	6.542
3	16:58:21	-0.042	-0.055	0.207	0.263	-0.179	-1.071	127.0%	5.063	5.351
x		-0.021	0.105	0.488	0.902	-0.047	-0.631	125.8%	6.368	6.445
σ		0.043	0.231	0.283	0.555	0.118	0.407	1.3%	1.132	1.050
%RSD		206.600	219.200	58.080	61.470	250.100	64.530	1.1	17.770	16.280

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	7.385	-0.295	0.011	0.169	0.010	0.003	0.015	120.9%	0.148
2	16:57:55	7.117	-0.337	0.012	0.218	0.005	0.010	0.014	123.1%	0.162
3	16:58:21	5.363	-0.689	0.010	0.280	0.011	-0.020	0.034	123.8%	0.151
x		6.622	-0.440	0.011	0.222	0.009	-0.002	0.021	122.6%	0.154
σ		1.098	0.216	0.001	0.056	0.003	0.016	0.011	1.5%	0.007
%RSD		16.590	49.150	8.757	24.990	31.380	639.100	54.540	1.2	4.738

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:57:29	0.143	1.163	1.075	0.107	0.104	119.7%	0.114	0.087	0.067
2	16:57:55	0.120	1.150	1.201	0.118	0.158	122.1%	0.087	0.069	0.057
3	16:58:21	0.108	0.991	1.090	0.102	0.113	125.0%	0.076	0.064	0.071
x		0.124	1.101	1.122	0.109	0.125	122.3%	0.092	0.074	0.065
σ		0.017	0.096	0.069	0.008	0.029	2.7%	0.020	0.012	0.008
%RSD		14.110	8.682	6.134	7.736	23.270	2.2	21.480	16.280	11.670

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	16:57:29	0.046	0.058	108.1%
2	16:57:55	0.065	0.055	110.8%
3	16:58:21	0.045	0.046	112.7%
x		0.052	0.053	110.5%
σ		0.011	0.006	2.3%
%RSD		21.570	11.740	2.1

PDF created with pdfFactory trial version www.pdffactory.com

rinse 6/6/2017 17:02:23

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	140.6%	-0.010	-0.390	-0.212	1.351	4.011	4.219	4.093	2.394
2	17:03:15	143.3%	0.014	-0.106	-0.291	1.222	3.907	3.552	3.774	2.219
3	17:03:41	150.7%	-0.006	-0.152	-0.415	1.081	3.797	3.870	3.442	2.471
x		144.9%	-0.000	-0.216	-0.306	1.218	3.905	3.880	3.770	2.361
σ		5.2%	0.013	0.152	0.103	0.135	0.107	0.334	0.326	0.130
%RSD		3.6	5210.000	70.600	33.500	11.070	2.739	8.608	8.640	5.486

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	14.370	187.800	-9.557	8.652	5.456	133.8%	0.097	0.171	0.060
2	17:03:15	13.890	215.300	-9.556	8.759	5.394	132.7%	0.053	0.203	0.108
3	17:03:41	13.850	225.700	-9.697	7.123	5.731	131.7%	0.122	0.234	0.125
x		14.040	209.600	-9.604	8.178	5.527	132.7%	0.091	0.203	0.097
σ		0.292	19.600	0.081	0.916	0.180	1.0%	0.034	0.032	0.034
%RSD		2.079	9.350	0.844	11.190	3.250	0.8	38.090	15.710	34.510

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	0.017	0.055	47.320	33.630	0.011	-0.035	0.022	0.070	-0.013
2	17:03:15	0.028	0.054	59.850	44.000	0.006	-0.022	0.031	0.067	-0.033
3	17:03:41	-0.009	0.051	57.460	38.990	0.007	-0.068	0.039	0.069	-0.069
x		0.012	0.053	54.880	38.870	0.008	-0.042	0.031	0.069	-0.039
σ		0.019	0.002	6.656	5.183	0.003	0.024	0.009	0.001	0.028
%RSD		157.100	3.540	12.130	13.330	33.630	57.290	27.750	2.115	73.390

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	-0.119	-0.071	0.241	0.764	-0.491	-1.042	124.8%	0.950	0.948
2	17:03:15	-0.146	-0.115	-0.010	0.481	-0.461	-0.563	124.8%	1.283	1.120
3	17:03:41	-0.070	-0.101	0.150	0.247	-0.259	-0.598	126.9%	1.251	1.217
x		-0.111	-0.095	0.127	0.497	-0.404	-0.734	125.5%	1.161	1.095
σ		0.039	0.022	0.127	0.259	0.126	0.267	1.2%	0.184	0.136
%RSD		34.740	23.540	99.860	52.020	31.210	36.390	1.0	15.850	12.460

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	0.905	-0.744	0.008	0.283	0.005	0.002	0.024	121.3%	0.078
2	17:03:15	1.102	-0.358	0.002	0.124	0.006	-0.002	0.003	122.8%	0.087
3	17:03:41	1.083	-1.388	0.004	0.505	0.006	-0.005	0.017	124.4%	0.071
x		1.030	-0.830	0.005	0.304	0.006	-0.001	0.014	122.8%	0.079
σ		0.109	0.521	0.003	0.192	0.001	0.004	0.011	1.6%	0.008
%RSD		10.560	62.720	60.510	62.910	11.350	267.400	75.260	1.3	10.000

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:02:49	-0.025	0.289	0.278	0.077	0.090	119.9%	0.022	0.021	0.030
2	17:03:15	0.111	0.371	0.386	0.085	0.077	122.9%	0.027	0.021	0.032
3	17:03:41	-0.067	0.311	0.338	0.149	0.073	124.7%	0.028	0.021	0.034
x		0.006	0.324	0.334	0.104	0.080	122.5%	0.026	0.021	0.032
σ		0.093	0.042	0.054	0.040	0.009	2.4%	0.003	0.000	0.002
%RSD		1441.000	13.060	16.250	38.330	11.430	2.0	11.830	1.723	5.881

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:02:49	0.028	0.022	107.9%
2	17:03:15	0.020	0.033	110.7%
3	17:03:41	0.031	0.026	112.3%
x		0.027	0.027	110.3%
σ		0.006	0.005	2.3%
%RSD		21.600	20.010	2.0

PDF created with pdfFactory trial version www.pdffactory.com

rinse 6/6/2017 17:07:45

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	23Na	24Mg	25Mg	26Mg	27Al
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	144.7%	-0.004	-0.302	-0.407	-0.516	2.762	2.566	2.865	1.131
2	17:08:37	150.6%	-0.026	-0.289	-0.450	-0.617	2.833	2.762	2.913	1.176
3	17:09:03	148.4%	-0.002	-0.212	-0.394	-0.638	2.667	2.589	2.549	1.095
x		147.9%	-0.011	-0.268	-0.417	-0.590	2.754	2.639	2.776	1.134
σ		3.0%	0.013	0.049	0.029	0.065	0.084	0.107	0.198	0.041
%RSD		2.0	121.700	18.110	7.060	11.030	3.034	4.047	7.131	3.590

Run	Time	28Si	35Cl	39K	43Ca	44Ca	45Sc	47Ti	51V	52Cr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	14.740	145.300	-11.200	4.336	2.989	132.4%	0.032	0.145	0.080
2	17:08:37	15.020	159.500	-11.520	1.918	3.216	132.3%	0.061	0.156	0.048
3	17:09:03	13.250	164.400	-13.330	3.084	2.153	134.9%	0.044	0.165	0.057
x		14.330	156.400	-12.010	3.113	2.786	133.2%	0.046	0.155	0.062
σ		0.953	9.962	1.146	1.209	0.560	1.5%	0.015	0.010	0.017
%RSD		6.645	6.370	9.542	38.860	20.100	1.1	32.800	6.410	27.100

Run	Time	53Cl O	55Mn	56Fe	57Fe	59Co	60Ni	63Cu	65Cu	66Zn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	-0.004	0.035	30.500	18.540	-0.013	-0.055	-0.017	-0.013	-0.028
2	17:08:37	0.025	0.031	39.540	25.860	-0.011	-0.030	-0.022	-0.017	-0.095
3	17:09:03	0.007	0.040	36.580	20.870	-0.011	-0.061	-0.017	0.015	-0.049
x		0.009	0.036	35.540	21.750	-0.011	-0.049	-0.018	-0.005	-0.057
σ		0.014	0.005	4.605	3.744	0.001	0.017	0.003	0.018	0.034
%RSD		152.500	13.120	12.960	17.210	8.843	34.100	15.170	345.600	59.520

Run	Time	75As	78Se	79Br	81Br	82Se	83Kr	89Y	95Mo	97Mo
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	-0.085	-0.132	0.357	0.338	-0.189	-1.521	125.1%	0.283	0.296
2	17:08:37	-0.093	-0.393	-0.003	0.477	-0.257	-0.911	126.7%	0.564	0.344
3	17:09:03	-0.135	-0.164	0.360	0.916	-0.434	-0.593	126.1%	0.479	0.442
x		-0.105	-0.230	0.238	0.577	-0.293	-1.008	126.0%	0.442	0.360
σ		0.027	0.142	0.209	0.302	0.126	0.471	0.8%	0.144	0.074
%RSD		25.920	61.910	87.830	52.320	43.100	46.740	0.6	32.660	20.660

Run	Time	98Mo	106Cd	107Ag	108Mo O	109Ag	111Cd	114Cd	115In	116Sn
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	0.277	-0.478	-0.009	0.185	-0.003	-0.014	-0.003	121.6%	0.051
2	17:08:37	0.493	-0.211	-0.007	0.069	-0.002	-0.018	0.000	123.4%	0.039
3	17:09:03	0.474	-1.092	-0.004	0.430	0.000	-0.021	0.004	125.0%	0.061
x		0.415	-0.594	-0.006	0.228	-0.002	-0.017	0.000	123.3%	0.050
σ		0.119	0.452	0.002	0.184	0.002	0.003	0.003	1.7%	0.011
%RSD		28.800	76.070	36.770	80.800	118.700	19.830	750.000	1.4	21.210

Run	Time	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	203Tl	205Tl	206Pb
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:08:11	-0.016	0.164	0.185	-0.011	0.005	120.7%	0.005	0.000	0.004
2	17:08:37	0.102	0.233	0.209	0.012	0.004	123.3%	0.003	-0.000	-0.003
3	17:09:03	-0.067	0.197	0.188	0.002	0.009	124.7%	-0.002	0.001	0.004
x		0.006	0.198	0.194	0.001	0.006	122.9%	0.002	0.000	0.002
σ		0.087	0.035	0.013	0.012	0.003	2.0%	0.003	0.000	0.004
%RSD		1361.000	17.430	6.735	911.900	45.350	1.6	154.900	180.000	236.400

Run	Time	207Pb	208Pb	209Bi
		ppb	ppb	ppb
1	17:08:11	0.004	-0.000	108.5%
2	17:08:37	0.006	-0.001	111.9%
3	17:09:03	-0.003	-0.003	113.2%
x		0.002	-0.002	111.2%
σ		0.005	0.001	2.5%
%RSD		202.500	86.960	2.2

Performance Report

PDF created with pdfFactory trial version www.pdffactory.com

Raw Supportive Data

Analyst: SLS
Status: Level 2 review released
Matrix: Aqueous

Printed: 06/06/17 0827

Prep Batch: 42482
3005A Draper 2 - Total Recoverable Acid Digestion (ICP-MS)

Start Date: 05/18/2017 1549
End Date: 05/18/2017 2149
Level 2 Analyst: BNW
Digestion Cup ID: 1612138
Ext Solvent: 1:1 HNO3/1:1 HCl
Reagents Vol. (mL): 1.0, 0.5
Chem ID: IM7757-01 (6/17), IM7757-02 (6/17)
Hot Block ID: Hot Block # 8
Filter Paper Lot Num: 61202753
Digestion Temperature (°C): 93

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SQ42482-001	MB		1	6020A	50		0.0	50			LCS/MS/MSD pipette 274
SQ42482-002	LCS		1	6020A	50	16-1141C (9/17)	0.5	50			Original Batch 42389
SE18010-001	Sample	16C1	1	6020A	50		0.0	50	11/13/2017 1035	06/02/2017	
SE18010-002	Sample	16MW8	1	6020A	50		0.0	50	11/11/2017 1220	06/02/2017	
SE18010-003	Sample	16MW9	1	6020A	50		0.0	50	11/12/2017 1140	06/02/2017	
SE18010-004	Sample	16WC1A	1	6020A	50		0.0	50	11/12/2017 1015	06/02/2017	
SE18010-004MS	MS		1	6020A	50	16-1141C (9/17)	0.5	50			
SE18010-004MD	MSD		1	6020A	50	16-1141C (9/17)	0.5	50			
SE18010-005	Sample	16WDUP	1	6020A	50		0.0	50	11/12/2017 1030	06/02/2017	
SE18010-006	Sample	16WC1B	1	6020A	50		0.0	50	11/11/2017 1540	06/02/2017	
SE19003-001	Sample	16-2	1	6020A	50		0.0	50	11/11/2017 1330	06/02/2017	
SE19003-002	Sample	16-3	1	6020A	50		0.0	50	11/11/2017 1430	06/02/2017	
SE19003-003	Sample	16-5	1	6020A	50		0.0	50	11/11/2017 0955	06/02/2017	
SE19003-004	Sample	16WC2B	1	6020A	50		0.0	50	11/11/2017 1125	06/02/2017	
SE19003-005	Sample	16SPRING	1	6020A	50		0.0	50	11/11/2017 1010	06/02/2017	

(end of report) **Total Samples: 11**

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Draper Aden Associates
2206 South Main Street
Blacksburg, VA 24060
Attention: Janet Frazier

Project Name: **RAAP HWMU16**

Project Number: **B03201-17A**

Lot Number: **SG21005**

Date Completed: **08/09/2017**

Catherine S. Dover
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
Draper Aden Associates
Lot Number: SG21005
Project Name: RAAP HWMU16
Project Number: B03201-17A

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
Draper Aden Associates
Lot Number: SG21005
Project Name: RAAP HWMU16
Project Number: B03201-17A

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	16C1	Aqueous	07/19/2017 1520	07/21/2017
002	16MW8	Aqueous	07/19/2017 1025	07/21/2017
003	16MW9	Aqueous	07/19/2017 1420	07/21/2017
004	16WC1A	Aqueous	07/19/2017 1325	07/21/2017
005	16WDUP	Aqueous	07/19/2017 1330	07/21/2017
006	16WC1B	Aqueous	07/19/2017 1245	07/21/2017

(6 samples)

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-001**

Description: **16C1** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1520** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1332	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-002**

Description: **16MW8** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1025** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1335	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-003**

Description: **16MW9** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1420** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1338	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-004**

Description: **16WC1A** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1325** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1340	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-005**

Description: **16WDUP** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1330** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1348	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-006**

Description: **16WC1B** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1245** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	7470A	7470A	1	07/27/2017 1439	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

Mercury - MB

Sample ID: SQ47617-001
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Mercury	2.0	U	1	2.0	0.20	ug/L	07/27/2017 1325

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury - LCS

Sample ID: SQ47617-002
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	2.0	2.1		1	103	80-120	07/27/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury - MS

Sample ID: SG21005-004MS
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.0	2.0	2.0		1	100	85-115	07/27/2017 1343

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury - MSD

Sample ID: SG21005-004MD
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	0.0	2.0	2.0		1	100	1.0	85-115	20	07/27/2017 1345

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

OK CW 7/18/17

CHAIN OF CUSTODY RECORD

Laboratory: Shealy Environmental - 106 Vantage Point Dr. West Columbia, SC 29172 803-227-3160 PM: Cathy Dover cell 919-616-1160

Client: 0 Attn: 0 Addres 0 0 Phone: 0 Fax: 0 Fax: 0	Consultant: Draper Aden Associates Attn: Janet C. Frazier Address: 2206 South Main Street Blacksburg, Virginia 24060 Phone: (540) 552-0444 Fax: (540) 552-0291	Sample Site: RFAAP, Radford, Virginia Location: HWMU16 Event: 2Q 2017 ~~Annual~~ Semi-Annual Groundwater Monitoring Event DAA JN: B00204-17A Lab JN: (Resampling) JW 7/19/17	Project Specific (PS) or Batch (B) QC: Sample Collection for Project Complete? YES UPS: Carrier: 1Z 237 301 01 9326 2255 Tracking Number:

Box 1: Matrix
SW Surface Water T Trip Blank
GW Groundwater E Equipment Bla
L Leachate P Procud
S Soil O Other

Box 2: Preservative
A HCL E NaOH
B HNO_3 F ZnAc
C H_2SO_4 G Other (Specify)
D $Na_2S_2O_3$ H None

Box 3: F Filtered U Unfiltered

Box 4: G Grab C Composite

Box 5: P Plastic V VOA AG Amber Glass CG Clear Glass

Invoice
Copy to Consultant: YES
Bill: CLIENT OTHER
Preserved and shipped on ice: YES

| | | |

Shealy Environmental Services, Inc
Document Number: MF0018C-08

Page 1 of 1
Effective Date: 03/07/2017
Expiry Date: 03/07/2022

Sample Receipt Checklist (SRC)

Client: Draper Cooler Inspected by/date: SBE 7/21/17 Lot #: SG21005

Means of receipt: ☐ SESI ☐ Client ☑ UPS ☐ FedEx ☐ Other

Yes ☑	No ☑		1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?

pH strip ID: 17-854 Cl strip ID:

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:

12.5 12.5 °C ___/___/___ °C ___/___/___ °C ___/___/___ °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐		6. Were sample IDs listed on the COC?
Yes ☑	No ☐		7. Were sample IDs listed on all sample containers?
Yes ☑	No ☐		8. Was collection date & time listed on the COC?
Yes ☑	No ☐		9. Was collection date & time listed on all sample containers?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with the COC?
Yes ☑	No ☐		11. Were tests to be performed listed on the COC?
Yes ☑	No ☐		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		13. Was adequate sample volume available?
Yes ☐	No ☑		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes ☐	No ☐	NA ☑	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (< 0.5mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☑		22. Was the quote number used taken from the container label?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H_2SO_4, HNO_3, HCl, NaOH) using SR # _____

Sample(s) _____ were received with bubbles >6 mm in diameter.

Samples(s) _____ were received with TRC > 0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: _____

SC Drinking Water Project Sample(s) pH verified to be < 2 by _____ Date: _____

Sample(s) _____ were Not received at a pH of < 2 and were adjusted accordingly using SR#

Sample labels applied by: SBE Verified by: _____ Date: 7/21/17

Comments: _____

Metals

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-001**

Description: **16C1** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1520** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1332	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-002**

Description: **16MW8** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1025** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1335	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-003**

Description: **16MW9** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1420** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1338	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-004**

Description: **16WC1A** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1325** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1340	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-005**

Description: **16WDUP** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1330** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1348	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21005-006**

Description: **16WC1B** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1245** Project Name: **RAAP HWMU16**

Date Received: **07/21/2017** Project Number: **B03201-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	7470A	7470A	1	07/27/2017 1439	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	0.20	ug/L	2

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

Mercury - MB

Sample ID: SQ47617-001
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Mercury	2.0	U	1	2.0	0.20	ug/L	07/27/2017 1325

PQL = Practical quantitation limit
U = Not detected at or above the detection limit
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury - LCS

Sample ID: SQ47617-002
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	2.0	2.1		1	103	80-120	07/27/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury - MS

Sample ID: SG21005-004MS
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	0.0	2.0	2.0		1	100	85-115	07/27/2017 1343

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury - MSD

Sample ID: SG21005-004MD
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Mercury	0.0	2.0	2.0		1	100	1.0	85-115	20	07/27/2017 1345

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury

- COVER PAGE -
INORGANIC ANALYSIS DATA PACKAGE

Client: Draper Aden Associates

SDG No.: SG21005 **Method Type:** CVAA **SOW No.:**

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Lab Sample ID	Client Sample ID	QC Description
SG21005-001	16C1	
SG21005-002	16MW8	
SG21005-003	16MW9	
SG21005-004	16WC1A	
SG21005-004S	16WC1AS	Matrix Spike
SG21005-004SD	16WC1ASD	Matrix Spike Duplicate
SG21005-005	16WDUP	
SG21005-006	16WC1B	

Were ICP interelement corrections applied?	Yes/No	Yes	
Were ICP background corrections applied?	Yes/No	Yes	
If yes - were raw data generated before applications of background corrections?	Yes/No	No	

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name:

Date: Title:

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SG21005

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result µg/L	True Value µg/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1	Mercury	2.070	2.000	104	90.0 - 110.0	CV	7/27/2017	12:13	HG3072717A
CCV1	Mercury	1.780	2.000	89	80.0 - 120.0	CV	7/27/2017	12:21	HG3072717A
CCV2	Mercury	1.830	2.000	92	80.0 - 120.0	CV	7/27/2017	12:23	HG3072717A
CCV3	Mercury	1.880	2.000	94	80.0 - 120.0	CV	7/27/2017	13:18	HG3072717A
CCV4	Mercury	1.850	2.000	93	80.0 - 120.0	CV	7/27/2017	13:51	HG3072717A
CCV5	Mercury	1.890	2.000	95	80.0 - 120.0	CV	7/27/2017	14:21	HG3072717A
CCV6	Mercury	1.840	2.000	92	80.0 - 120.0	CV	7/27/2017	14:41	HG3072717A

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SG21005

Contract: RAAP HWMU16 **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result µg/L	Acceptance Limit	Conc Qual	MDL	PQL	M	Analysis Date	Analysis Time	Run
ICB1	Mercury	0.0360	+/- 2.000	U	0.2000	2.000	CV	7/27/2017	12:16	HG3072717A
CCB1	Mercury	-0.0090	+/- 2.000	U	0.2000	2.000	CV	7/27/2017	12:30	HG3072717A
CCB2	Mercury	0.0080	+/- 2.000	U	0.2000	2.000	CV	7/27/2017	13:21	HG3072717A
CCB3	Mercury	0.0180	+/- 2.000	U	0.2000	2.000	CV	7/27/2017	13:53	HG3072717A
CCB4	Mercury	0.0120	+/- 2.000	U	0.2000	2.000	CV	7/27/2017	14:24	HG3072717A
CCB5	Mercury	-0.0120	+/- 2.000	U	0.2000	2.000	CV	7/27/2017	14:44	HG3072717A

9-IN

METHOD DETECTION LIMITS (MDL) (ANNUALLY)

Lab Name: Shealy Environmental Services, I **Contract:** RAAP HWMU16

Lab Code: Shealy **Case No.:** **Mod. Ref. No.:** **SDG No.:** SG21005

Instrument Type: CV **Instrument ID:** Hg3 **Date:** 04/17/2017

Preparation Method: 7470A

Concentration Units (ug/L, mg/kg, or ug): µg/L

Analyte	Wavelength/Mass	MDL
Mercury	253.70	0.200

Comments:

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16

Lab Code: Shealy Case No.: SAS No.: SDG No.: SG21005

Instrument ID Number: Hg3 Run Number: HG3072717A

Start Date: 7/27/2017 End Date: 7/27/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Std01Rep1	1.00	1157																X								
Std02Rep1	1.00	1200																X								
Std03Rep1	1.00	1202																X								
Std04Rep1	1.00	1204																X								
Std05Rep1	1.00	1207																X								
Std06Rep1	1.00	1209																X								
ICV1	1.00	1213																X								
ICB1	1.00	1216																X								
ZZZZZZ	1.00	1218																								
CCV1	1.00	1221																X								
CCV2	1.00	1223																X								
ZZZZZZ	1.00	1228																								
CCB1	1.00	1230																X								
ZZZZZZ	1.00	1233																								
ZZZZZZ	1.00	1235																								
ZZZZZZ	1.00	1237																								
ZZZZZZ	1.00	1240																								
ZZZZZZ	1.00	1243																								
ZZZZZZ	1.00	1245																								
ZZZZZZ	1.00	1248																								
ZZZZZZ	1.00	1250																								
ZZZZZZ	1.00	1252																								
ZZZZZZ	1.00	1255																								
ZZZZZZ	1.00	1258																								
ZZZZZZ	1.00	1300																								
ZZZZZZ	1.00	1303																								
ZZZZZZ	1.00	1305																								
ZZZZZZ	1.00	1308																								
ZZZZZZ	1.00	1311																								
ZZZZZZ	1.00	1313																								
ZZZZZZ	1.00	1316																								
CCV3	1.00	1318																X								
CCB2	1.00	1321																X								
SO47617-001	1.00	1325																X								
SO47617-002	1.00	1327																X								
ZZZZZZ	1.00	1329																								
SG21005-001	1.00	1332																X								

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16

Lab Code: Shealy Case No.: SAS No.: SDG No.: SG21005

Instrument ID Number: Hg3 Run Number: HG3072717A

Start Date: 7/27/2017 End Date: 7/27/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
SG21005-002	1.00	1335																X								
SG21005-003	1.00	1338																X								
SG21005-004	1.00	1340																X								
SG21005-004S	1.00	1343																X								
SG21005-004SD	1.00	1345																X								
SG21005-005	1.00	1348																X								
CCV4	1.00	1351																X								
CCB3	1.00	1353																X								
ZZZZZZ	1.00	1355																								
ZZZZZZ	1.00	1358																								
ZZZZZZ	1.00	1401																								
ZZZZZZ	1.00	1403																								
ZZZZZZ	1.00	1405																								
ZZZZZZ	1.00	1408																								
ZZZZZZ	1.00	1411																								
ZZZZZZ	1.00	1413																								
ZZZZZZ	1.00	1416																								
ZZZZZZ	1.00	1418																								
CCV5	1.00	1421																X								
CCB4	1.00	1424																X								
ZZZZZZ	1.00	1426																								
ZZZZZZ	1.00	1429																								
ZZZZZZ	1.00	1431																								
ZZZZZZ	1.00	1434																								
ZZZZZZ	1.00	1436																								
SG21005-006	1.00	1439																X								
CCV6	1.00	1441																X								
CCB5	1.00	1444																X								
ZZZZZZ	1.00	1446																								
ZZZZZZ	1.00	1449																								
ZZZZZZ	1.00	1451																								
ZZZZZZ	1.00	1454																								
ZZZZZZ	1.00	1456																								
ZZZZZZ	1.00	1459																								
ZZZZZZ	1.00	1502																								
ZZZZZZ	1.00	1504																								
ZZZZZZ	1.00	1507																								

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16

Lab Code: Shealy Case No.: SAS No.: SDG No.: SG21005

Instrument ID Number: Hg3 Run Number: HG3072717A

Start Date: 7/27/2017 End Date: 7/27/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1509																								
ZZZZZZ	1.00	1512																								
ZZZZZZ	1.00	1514																								
ZZZZZZ	1.00	1517																								
ZZZZZZ	1.00	1519																								
ZZZZZZ	1.00	1521																								
ZZZZZZ	1.00	1524																								
ZZZZZZ	1.00	1527																								
ZZZZZZ	1.00	1529																								
ZZZZZZ	1.00	1532																								
ZZZZZZ	1.00	1534																								
ZZZZZZ	1.00	1536																								
ZZZZZZ	1.00	1539																								
ZZZZZZ	1.00	1542																								
ZZZZZZ	1.00	1544																								
ZZZZZZ	1.00	1546																								
ZZZZZZ	1.00	1549																								
ZZZZZZ	1.00	1552																								
ZZZZZZ	1.00	1555																								
ZZZZZZ	1.00	1557																								
ZZZZZZ	1.00	1600																								
ZZZZZZ	1.00	1602																								

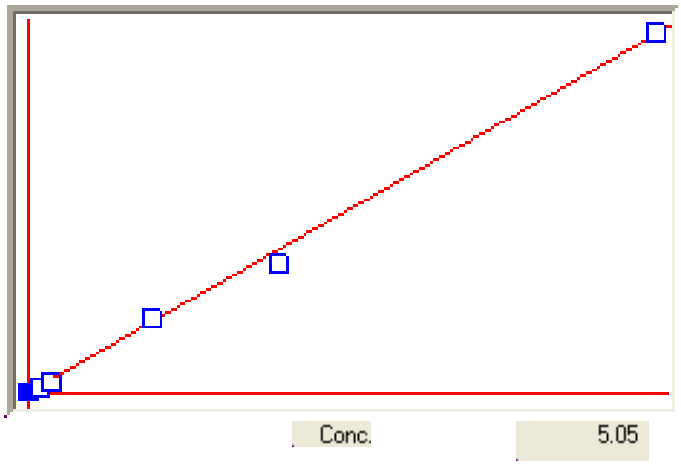
Raw Sample Data

Protocol: 7470AHG3

Linear

µ Abs.

17354



Conc. 5.05

Calibrated

Accepted

A

B 2.90476e-4

C 4.54259e-3

Rhc .998981

Accepted Date: 27-Jul-17 12:12

S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
01	.00000	.070	.070	224	0	224				
02	.10000	.091	-.009	296	0%	296				
03	.20000	.194	-.006	652	0%	652				
04	1.0000	1.06	.064	3648	0%	3647				
05	2.0000	1.84	-.163	6307	0%	6307				
06	5.0000	5.05	.045	17354	0%	17354				
07										
08										
09										
10										

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	SQ47718001	MB 47718	1.0000	1.0000	C4 C1 CP
2	SQ47718002	LCS 47718	1.0000	1.0000	
3	SG21010001	MW-103	1.0000	1.0000	
4	SG21010001	MW-103 MS	1.0000	1.0000	
5	SG21010001	MW-103 MSD	1.0000	1.0000	
6	SG21010002	MW-105	1.0000	1.0000	
7	SG21010003	MW-107	1.0000	1.0000	
8	SG21010004	MW-108	1.0000	1.0000	
9	SG21010005	MW-109	1.0000	1.0000	
10	SG21010006	MW-110	1.0000	1.0000	C4 C1
11	SG26008001	MW-2	1.0000	1.0000	
12	SG26008002	MW-3	1.0000	1.0000	
13	SG26008003	MW-5	1.0000	1.0000	
14	SG26008004	MW-7	1.0000	1.0000	
15	SG26008004	MW-7MS	1.0000	1.0000	
16	SG26008004	MW-7 MSD	1.0000	1.0000	
17	SG26008005	MW-11	1.0000	1.0000	
18	SG26008006	MW-12	1.0000	1.0000	
19			1.0000	1.0000	
20	SG26008008	MW-14	1.0000	1.0000	C4 C1
21	SG26008009	MW-20	1.0000	1.0000	
22	SG26008007	MW-13	1.0000	1.0000	C4 C1
23			1.0000	1.0000	
24			1.0000	1.0000	
25			1.0000	1.0000	
26			1.0000	1.0000	
27			1.0000	1.0000	
28			1.0000	1.0000	
29			1.0000	1.0000	
30			1.0000	1.0000	
31			1.0000	1.0000	
32			1.0000	1.0000	
33			1.0000	1.0000	
34			1.0000	1.0000	
35			1.0000	1.0000	
36			1.0000	1.0000	
37			1.0000	1.0000	
38			1.0000	1.0000	
39			1.0000	1.0000	
40			1.0000	1.0000	
41			1.0000	1.0000	
42			1.0000	1.0000	
43			1.0000	1.0000	

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Standard: 1 Rep: 1              Seq:  1000    11:57:46 27 Jul 17   HG

Hg    .000    ppb      224

*** Standard: 2 Rep: 1              Seq:  1001    12:00:07 27 Jul 17   HG

Hg    .100    ppb      296

*** Standard: 3 Rep: 1              Seq:  1002    12:02:27 27 Jul 17   HG

Hg    .200    ppb      652

*** Standard: 4 Rep: 1              Seq:  1003    12:04:48 27 Jul 17   HG

Hg    1.00    ppb      3647

*** Standard: 5 Rep: 1              Seq:  1004    12:07:18 27 Jul 17   HG

Hg    2.00    ppb      6307

*** Standard: 6 Rep: 1              Seq:  1005    12:09:49 27 Jul 17   HG

Hg    5.00    ppb      17354

*** Check Standard: 3  Ck3ICV0915   Seq:  1006    12:13:30 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          103.     2.07    2.00   ppb         .000  %

*** Check Standard: 1  Ck1ICB/CCB   Seq:  1007    12:16:00 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg          .036     .100     ppb         .000  %

*** Check Standard: 2  Ck2PQL0912   Seq:  1008    12:18:50 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          136.     .136    .100   ppb         .000  %

*** Check Standard: 4  Ck4CCV0909   Seq:  1009    12:21:11 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          89.1     1.78    2.00   ppb         .000  %

*** Check Standard: 4  Ck4CCV0909   Seq:  1010    12:23:34 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          91.4     1.83    2.00   ppb         .000  %

*** Sample ID: 0.2 PPB    072717A    Seq:  1011   12:28:18 27 Jul 17   HG
                           17HG0911
Hg    .192    ppb       .000  %   .192

*** Check Standard: 1  Ck1ICB/CCB   Seq:  1012    12:30:50 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.009     .100     ppb         .000  %

*** Sample ID: SG24037003 072717A    Seq:  1013   12:33:12 27 Jul 17   HG
                           MW022TR
Hg    .039    ppb       .000  %   .039

================================================================================
*** Sample ID: SG24037004 072717A    Seq:  1014   12:35:33 27 Jul 17   HG
                           MW023ATR
Hg    .065    ppb       .000  %   .065
                                                                              =
================================================================================
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Sample ID: SG24037005 072717A    Seq:  1015   12:37:59 27 Jul 17   HG
                          UBC029AR
Hg    .017    ppb       .000  %   .017
                                                                              =
===============================================================================
*** Sample ID: SG24037006 072717A    Seq:  1016   12:40:40 27 Jul 17   HG
                          MW027BTR
Hg   -.010    ppb       .000  %  -.010
                                                                              =
===============================================================================
*** Sample ID: SG24037007 072717A    Seq:  1017   12:43:01 27 Jul 17   HG
                          MW028A
Hg    .006    ppb       .000  %   .006
                                                                              =
===============================================================================
*** Sample ID: SG24037008 072717A    Seq:  1018   12:45:22 27 Jul 17   HG
                          MW050T
Hg   -.002    ppb       .000  %  -.002
                                                                              =
===============================================================================
*** Sample ID: SG24037009 072717A    Seq:  1019   12:48:09 27 Jul 17   HG
                          MW051T
Hg    .015    ppb       .000  %   .015
                                                                              =
===============================================================================
*** Sample ID: SG24037010 072717A    Seq:  1020   12:50:32 27 Jul 17   HG
                          MW024TR
Hg    .011    ppb       .000  %   .011
                                                                              =
===============================================================================
*** Sample ID: SG24037011 072717A    Seq:  1021   12:52:55 27 Jul 17   HG
                          MW026ATR
Hg   -.024    ppb       .000  %  -.024
                                                                              =
===============================================================================
*** Sample ID: SG26014003 072717A    Seq:  1022   12:55:38 27 Jul 17   HG
                          WW PIPE 001
Hg    .039    ppb       .000  %   .039
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1023    12:58:10 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          89.1     1.78    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1024    13:00:34 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.027     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG26071003 072717A    Seq:  1025   13:03:08 27 Jul 17   HG
                          WW PIPE 001
Hg    .255    ppb       .000  %   .255
                                                                              =
===============================================================================
*** Sample ID: SQ47601001 072717A    Seq:  1026   13:05:33 27 Jul 17   HG
                          MB 47601
Hg   -.005    ppb       .000  %  -.005
                                                                              =
===============================================================================
*** Sample ID: SQ47601002 072717A    Seq:  1027   13:08:18 27 Jul 17   HG
                          LCS 47601
Hg    2.06    ppb       .000  %   2.06
                                                                              =
===============================================================================
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Sample ID: SG24016002 072717A    Seq:  1028   13:11:19 27 Jul 17   HG
                          WWTP 10K OIL/SLUDGE
Hg    .024    ppb       .000  %   .024
                                                                            =
*** Sample ID: SG24016002 072717A    Seq:  1029   13:13:54 27 Jul 17   HG
                          WWTP OIL/SLUDGE MS
Hg    1.83    ppb       .000  %   1.83
                                                                            =
*** Sample ID: SG24016002 072717A    Seq:  1030   13:16:26 27 Jul 17   HG
                          WWTP OIL/SLUDGE MSD
Hg    1.80    ppb       .000  %   1.80
                                                                            =
*** Check Standard: 4  Ck4CCV0909   Seq:  1031    13:18:58 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          94.2     1.88    2.00   ppb        .000  %
                                                                            =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1032    13:21:38 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg          .008     .100     ppb        .000  %
                                                                            =
*** Sample ID: SQ47617001 072717A    Seq:  1033   13:25:09 27 Jul 17   HG
                          MB 47617
Hg   -.011    ppb       .000  %  -.011
                                                                            =
===============================================================================
*** Sample ID: SQ47617002 072717A    Seq:  1034   13:27:28 27 Jul 17   HG
                          LCS 47617
Hg    2.07    ppb       .000  %   2.07
                                                                            =
===============================================================================
*** Sample ID: SG12037004 072717A    Seq:  1035   13:29:47 27 Jul 17   HG
                          MW-6
Hg    .018    ppb       .000  %   .018
                                                                            =
===============================================================================
*** Sample ID: SG21005001 072717A    Seq:  1036   13:32:38 27 Jul 17   HG
                          16C1
Hg    .016    ppb       .000  %   .016
                                                                            =
===============================================================================
*** Sample ID: SG21005002 072717A    Seq:  1037   13:35:29 27 Jul 17   HG
                          16MW8
Hg    .051    ppb       .000  %   .051
                                                                            =
===============================================================================
*** Sample ID: SG21005003 072717A    Seq:  1038   13:38:03 27 Jul 17   HG
                          16MW9
Hg    .035    ppb       .000  %   .035
                                                                            =
===============================================================================
*** Sample ID: SG21005004 072717A    Seq:  1039   13:40:25 27 Jul 17   HG
                          16WC1A
Hg   -.004    ppb       .000  %  -.004
                                                                            =
*** Sample ID: SG21005004 072717A    Seq:  1040   13:43:36 27 Jul 17   HG
                          16WC1AMS
Hg    1.99    ppb       .000  %   1.99
                                                                            =
*** Sample ID: SG21005004 072717A    Seq:  1041   13:45:57 27 Jul 17   HG
                          16WC1AMSD
Hg    2.01    ppb       .000  %   2.01
                                                                            =
===============================================================================
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: SG21005005 072717A    Seq:  1042   13:48:17 27 Jul 17   HG
                          16WDUP
Hg    .001    ppb       .000  %   .001
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1043    13:51:11 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          92.4     1.85    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1044    13:53:32 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg          .018     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG21005006 072717A    Seq:  1045   13:55:54 27 Jul 17   HG
                          16WC1B
Hg    .111    ppb       .000  %   .111
                                                                              =
================================================================================
*** Sample ID: SG21006001 072717A    Seq:  1046   13:58:28 27 Jul 17   HG
                          16-2
Hg    .004    ppb       .000  %   .004
                                                                              =
================================================================================
*** Sample ID: SG21006002 072717A    Seq:  1047   14:01:07 27 Jul 17   HG
                          16-3
Hg   -.006    ppb       .000  %  -.006
                                                                              =
================================================================================
*** Sample ID: SG21006003 072717A    Seq:  1048   14:03:28 27 Jul 17   HG
                          16-5
Hg    .016    ppb       .000  %   .016
                                                                              =
================================================================================
*** Sample ID: SG21006004 072717A    Seq:  1049   14:05:53 27 Jul 17   HG
                          16WC2B
Hg    .000    ppb       .000  %   .000
                                                                              =
================================================================================
*** Sample ID: SG21006005 072717A    Seq:  1050   14:08:23 27 Jul 17   HG
                          16SPRING
Hg   -.013    ppb       .000  %  -.013
                                                                              =
================================================================================
*** Sample ID: SG19023001 072717A    Seq:  1051   14:11:16 27 Jul 17   HG
                          MW-2
Hg    .031    ppb       .000  %   .031
                                                                              =
================================================================================
*** Sample ID: SG19023002 072717A    Seq:  1052   14:13:40 27 Jul 17   HG
                          MW-5A
Hg    .021    ppb       .000  %   .021
                                                                              =
================================================================================
*** Sample ID: SG19023003 072717A    Seq:  1053   14:16:00 27 Jul 17   HG
                          MW-20
Hg   -.006    ppb       .000  %  -.006
                                                                              =
================================================================================
*** Sample ID: SG19023004 072717A    Seq:  1054   14:18:51 27 Jul 17   HG
                          MW-21
Hg    .013    ppb       .000  %   .013
                                                                              =
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Check Standard: 4  Ck4CCV0909   Seq:  1055    14:21:25 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          94.5     1.89    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1056    14:24:09 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg          .012     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG19023005 072717A    Seq:  1057   14:26:40 27 Jul 17   HG
                           MW-22A
Hg   -.012    ppb       .000  %  -.012
                                                                              =
*** Sample ID: SG19023005 072717A    Seq:  1058   14:29:14 27 Jul 17   HG
                           MW-22AMS
Hg    1.94    ppb       .000  %   1.94
                                                                              =
*** Sample ID: SG19023005 072717A    Seq:  1059   14:31:39 27 Jul 17   HG
                           MW-22AMSD
Hg    1.93    ppb       .000  %   1.93
                                                                              =
================================================================================
*** Sample ID: SG19023006 072717A    Seq:  1060   14:34:00 27 Jul 17   HG
                           MW-24
Hg    .028    ppb       .000  %   .028
                                                                              =
================================================================================
*** Sample ID: SG19023007 072717A    Seq:  1061   14:36:50 27 Jul 17   HG
                           MW-25A
Hg    .037    ppb       .000  %   .037
                                                                              =
================================================================================
*** Sample ID: SG21005006 072717A    Seq:  1062   14:39:14 27 Jul 17   HG
                           16WC1B
Hg    .108    ppb       .000  %   .108
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1063    14:41:58 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          92.2     1.84    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1064    14:44:19 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.012     .100     ppb        .000  %
                                                                              =
*** Sample ID: SQ47632001 072717A    Seq:  1065   14:46:53 27 Jul 17   HG
                           MB 47632
Hg    .012    ppb       .000  %   .012
                                                                              =
================================================================================
*** Sample ID: SQ47632002 072717A    Seq:  1066   14:49:13 27 Jul 17   HG
                           LCS 47632
Hg    2.07    ppb       .000  %   2.07
                                                                              =
================================================================================
*** Sample ID: SG24029009 072717A    Seq:  1067   14:51:45 27 Jul 17   HG
                           TT-02DIS
Hg   -.002    ppb       .000  %  -.002
                                                                              =
================================================================================
*** Sample ID: SG25080001 072717A    Seq:  1068   14:54:37 27 Jul 17   HG
                           MW054T
Hg    .039    ppb       .000  %   .039
                                                                              =
================================================================================
```

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: SG25080002 072717A Seq: 1069 14:56:58 27 Jul 17 HG								
				UBC051				
Hg	.072	ppb	.000 %	.072				
*** Sample ID: SG25080003 072717A Seq: 1070 14:59:48 27 Jul 17 HG								
				MW052T				
Hg	-.031	ppb	.000 %	-.031				
*** Sample ID: SG25080004 072717A Seq: 1071 15:02:30 27 Jul 17 HG								
				MW029				
Hg	-.019	ppb	.000 %	-.019				
*** Sample ID: SG25080005 072717A Seq: 1072 15:04:54 27 Jul 17 HG								
				MW030				
Hg	.020	ppb	.000 %	.020				
*** Sample ID: SG25080006 072717A Seq: 1073 15:07:15 27 Jul 17 HG								
				UBC030				
Hg	.024	ppb	.000 %	.024				
*** Sample ID: SG25080007 072717A Seq: 1074 15:09:37 27 Jul 17 HG								
				UBC052				
Hg	-.006	ppb	.000 %	-.006				
*** Check Standard: 4 Ck4CCV0909 Seq: 1075 15:12:13 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		91.9	1.84	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1ICB/CCB Seq: 1076 15:14:33 27 Jul 17 HG								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		-.018	.100	ppb	.000 %			
*** Sample ID: SG25080008 072717A Seq: 1077 15:17:08 27 Jul 17 HG								
				UBC018				
Hg	.045	ppb	.000 %	.045				
*** Sample ID: SG25080009 072717A Seq: 1078 15:19:30 27 Jul 17 HG								
				UBC017				
Hg	.057	ppb	.000 %	.057				
*** Sample ID: SG25080010 072717A Seq: 1079 15:21:55 27 Jul 17 HG								
				UBC031				
Hg	-.008	ppb	.000 %	-.008				
*** Sample ID: SG25080010 072717A Seq: 1080 15:24:46 27 Jul 17 HG								
				UBC031MS				
Hg	1.99	ppb	.000 %	1.99				
*** Sample ID: SG25080010 072717A Seq: 1081 15:27:09 27 Jul 17 HG								
				UBC031MSD				
Hg	1.92	ppb	.000 %	1.92				
*** Sample ID: SG26094001 072717A Seq: 1082 15:29:40 27 Jul 17 HG								
				MW080TR				
Hg	.012	ppb	.000 %	.012				

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: SG26094002 072717A Seq: 1083 15:32:14 27 Jul 17 HG								
				MW061T				
Hg	.011	ppb	.000 %	.011				
*** Sample ID: SG26094003 072717A Seq: 1084 15:34:35 27 Jul 17 HG								
				MW114T				
Hg	.081	ppb	.000 %	.081				
*** Sample ID: SG26094004 072717A Seq: 1085 15:36:57 27 Jul 17 HG								
				MW116T				
Hg	.002	ppb	.000 %	.002				
*** Sample ID: SG26094005 072717A Seq: 1086 15:39:24 27 Jul 17 HG								
				MW115T				
Hg	-.019	ppb	.000 %	-.019				
*** Check Standard: 4 Ck4CCV0909 Seq: 1087 15:42:07 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		92.5	1.85	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1ICB/CCB Seq: 1088 15:44:27 27 Jul 17 HG								
Line	Flag	Found	Range(+/-)		Units	SD/RSD		
Hg		-.030	.100		ppb	.000 %		
*** Sample ID: SG26094006 072717A Seq: 1089 15:46:57 27 Jul 17 HG								
				MW117T				
Hg	.013	ppb	.000 %	.013				
*** Sample ID: SG26094007 072717A Seq: 1090 15:49:54 27 Jul 17 HG								
				UBC048				
Hg	.027	ppb	.000 %	.027				
*** Sample ID: SG26094008 072717A Seq: 1091 15:52:35 27 Jul 17 HG								
				UBC049				
Hg	.016	ppb	.000 %	.016				
*** Sample ID: SG26094009 072717A Seq: 1092 15:55:17 27 Jul 17 HG								
				UBC059				
Hg	.005	ppb	.000 %	.005				
*** Check Standard: 4 Ck4CCV0909 Seq: 1093 15:57:48 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		91.6	1.83	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1ICB/CCB Seq: 1094 16:00:10 27 Jul 17 HG								
Line	Flag	Found	Range(+/-)		Units	SD/RSD		
Hg		-.008	.100		ppb	.000 %		
*** Sample ID: SNCL2 072717A Seq: 1095 16:02:40 27 Jul 17 HG								
				IM8041-01(7/27/17)				
Hg	-.011	ppb	.000 %	-.011				
*** Check Standard: 4 Ck4CCV0909 Seq: 1096 23:09:18 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		89.2	1.78	2.00	ppb	.000 %		

Line Conc. Units SD/RSD 1 2 3 4 5

*** Check Standard: 1 Ck1ICB/CCB Seq: 1097 23:11:38 27 Jul 17 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.011	.100	ppb	.000 %

=

*** Sample ID: SQ47718001 072717A Seq: 1098 23:14:06 27 Jul 17 HG
MB 47718

Hg	.031	ppb	.000	%	.031

=

==========

*** Sample ID: SQ47718002 072717A Seq: 1099 23:16:35 27 Jul 17 HG
LCS 47718

Hg	2.11	ppb	.000	%	2.11

=

==========

*** Sample ID: SG21010001 072717A Seq: 1100 23:19:17 27 Jul 17 HG
MW-103

Hg	.049	ppb	.000	%	.049

=

*** Sample ID: SG21010001 072717A Seq: 1101 23:21:47 27 Jul 17 HG
MW-103 MS

Hg	2.14	ppb	.000	%	2.14

=

*** Sample ID: SG21010001 072717A Seq: 1102 23:24:18 27 Jul 17 HG
MW-103 MSD

Hg	2.03	ppb	.000	%	2.03

=

==========

*** Sample ID: SG21010002 072717A Seq: 1103 23:26:39 27 Jul 17 HG
MW-105

Hg	.047	ppb	.000	%	.047

=

==========

*** Sample ID: SG21010003 072717A Seq: 1104 23:28:59 27 Jul 17 HG
MW-107

Hg	.034	ppb	.000	%	.034

=

==========

*** Sample ID: SG21010004 072717A Seq: 1105 23:31:19 27 Jul 17 HG
MW-108

Hg	-.004	ppb	.000	%	-.004

=

==========

*** Sample ID: SG21010005 072717A Seq: 1106 23:33:43 27 Jul 17 HG
MW-109

Hg	.040	ppb	.000	%	.040

=

==========

*** Sample ID: SG21010006 072717A Seq: 1107 23:36:09 27 Jul 17 HG
MW-110

Hg	-.015	ppb	.000	%	-.015

=

*** Check Standard: 4 Ck4CCV0909 Seq: 1108 23:38:39 27 Jul 17 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		92.3	1.85	2.00	ppb	.000 %

=

*** Check Standard: 1 Ck1ICB/CCB Seq: 1109 23:41:02 27 Jul 17 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.032	.100	ppb	.000 %

=

*** Sample ID: SG26008001 072717A Seq: 1110 23:43:24 27 Jul 17 HG
MW-2

Hg	.046	ppb	.000	%	.046

=

==========

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: SG26008002 072717A    Seq:  1111   23:45:45 27 Jul 17   HG
                          MW-3
Hg    .015    ppb       .000  %   .015
                                                                              =
================================================================================
*** Sample ID: SG26008003 072717A    Seq:  1112   23:48:44 27 Jul 17   HG
                          MW-5
Hg    .030    ppb       .000  %   .030
                                                                              =
================================================================================
*** Sample ID: SG26008004 072717A    Seq:  1113   23:51:16 27 Jul 17   HG
                          MW-7
Hg    .045    ppb       .000  %   .045
                                                                              =
*** Sample ID: SG26008004 072717A    Seq:  1114   23:53:36 27 Jul 17   HG
                          MW-7MS
Hg    2.01    ppb       .000  %   2.01
                                                                              =
*** Sample ID: SG26008004 072717A    Seq:  1115   23:56:06 27 Jul 17   HG
                          MW-7 MSD
Hg    2.00    ppb       .000  %   2.00
                                                                              =
================================================================================
*** Sample ID: SG26008005 072717A    Seq:  1116   23:58:27 27 Jul 17   HG
                          MW-11
Hg   -.021    ppb       .000  %  -.021
                                                                              =
================================================================================
*** Sample ID: SG26008006 072717A    Seq:  1117   00:00:50 28 Jul 17   HG
                          MW-12
Hg    .021    ppb       .000  %   .021
                                                                              =
================================================================================
*** Sample ID: SG26008007 072717A    Seq:  1118   00:03:22 28 Jul 17   HG
                          MW-13
Hg    .332    ppb       .000  %   .332
                                                                              =
================================================================================
*** Sample ID: SG26008008 072717A    Seq:  1119   00:06:24 28 Jul 17   HG
                          MW-14
Hg   -.005    ppb       .000  %  -.005
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1120    00:08:47 28 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          91.0     1.82    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1121    00:11:17 28 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.056     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG26008009 072717A    Seq:  1122   00:13:38 28 Jul 17   HG
                          MW-20
Hg    .110    ppb       .000  %   .110
                                                                              =
================================================================================
*** Sample ID: SG26008007 072717A    Seq:  1123   00:16:04 28 Jul 17   HG
                          MW-13
Hg    .261    ppb       .000  %   .261
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1124    00:18:25 28 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          91.6     1.83    2.00   ppb        .000  %
                                                                              =
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Check Standard: 1  Ck1ICB/CCB   Seq:  1125    00:20:59 28 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.058     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG26008009 072717A    Seq:  1126   00:23:20 28 Jul 17   HG
                          MW-20
Hg   -.033    ppb       .000  %  -.033
                                                                              =
================================================================================
*** Sample ID: SG26008007 072717A    Seq:  1127   00:25:41 28 Jul 17   HG
                          MW-13
Hg    .402    ppb       .000  %   .402
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1128    00:28:07 28 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          89.2     1.78    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1129    00:30:31 28 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.032     .100     ppb        .000  %
                                                                              =
```

Raw Supportive Data

Analyst: COH
Status: Level 2 review released
Matrix: Aqueous

Printed: 08/07/17 1345

Prep Batch: 47617
7470A-P Draper - Mercury Preparation

Start Date: 07/27/2017 1105
End Date: 07/27/2017 1305
Level 2 Analyst: BEB
Digestion Cup ID: 2103333
Ext Solvent: H2SO4/1:1HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl
Reagents Vol. (mL): 2.0, 2.0, 6.0, 3.2, 2.4
Chem ID: 17-583(2/22) IM7975-01(9/26/17) IM7860-01(8/2/17) IM7975-03(9/26/17) IM7860-02(8/2/17)
Hot Block ID: Hot Block # 7
Digestion Temperature (°C): 94

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SQ47617-001	MB		1	7470A	40.000		0.0	50			LCS/MS/MSD pipette:299
SQ47617-002	LCS		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG12037-004	Sample	MW-6	2	7470A	40.000		0.0	50	08/08/2017 1130	07/27/2017	
SG21005-001	Sample	16C1	1	7470A	40.000		0.0	50	08/16/2017 1520	08/01/2017	
SG21005-002	Sample	16MW8	1	7470A	40.000		0.0	50	08/16/2017 1025	08/01/2017	
SG21005-003	Sample	16MW9	1	7470A	40.000		0.0	50	08/16/2017 1420	08/01/2017	
SG21005-004	Sample	16WC1A	1	7470A	40.000		0.0	50	08/16/2017 1325	08/01/2017	
SG21005-004MS	MS		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG21005-004MD	MSD		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG21005-005	Sample	16WDUP	1	7470A	40.000		0.0	50	08/16/2017 1330	08/01/2017	
SG21005-006	Sample	16WC1B	1	7470A	40.000		0.0	50	08/16/2017 1245	08/01/2017	
SG21006-001	Sample	16-2	1	7470A	40.000		0.0	50	08/16/2017 0110	08/01/2017	
SG21006-002	Sample	16-3	1	7470A	40.000		0.0	50	08/16/2017 1155	08/01/2017	
SG21006-003	Sample	16-5	1	7470A	40.000		0.0	50	08/16/2017 0805	08/01/2017	
SG21006-004	Sample	16WC2B	1	7470A	40.000		0.0	50	08/16/2017 0910	08/01/2017	
SG21006-005	Sample	16SPRING	1	7470A	40.000		0.0	50	08/17/2017 0930	08/01/2017	
SG19023-001	Sample	MW-2	1	7470A	40.000		0.0	50	08/14/2017 1300	08/03/2017	
SG19023-002	Sample	MW-5A	1	7470A	40.000		0.0	50	08/14/2017 1235	08/03/2017	
SG19023-003	Sample	MW-20	1	7470A	40.000		0.0	50	08/14/2017 1055	08/03/2017	
SG19023-004	Sample	MW-21	1	7470A	40.000		0.0	50	08/14/2017 1340	08/03/2017	
SG19023-005	Sample	MW-22A	1	7470A	40.000		0.0	50	08/15/2017 1000	08/03/2017	
SG19023-005MS	MS		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG19023-005MD	MSD		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG19023-006	Sample	MW-24	1	7470A	40.000		0.0	50	08/15/2017 1210	08/03/2017	
SG19023-007	Sample	MW-25A	1	7470A	40.000		0.0	50	08/15/2017 0840	08/03/2017	
SQ47617-004	Standard	Conc = 0.0 mg/L	1	7470A	40.000		0.0	50			refer to PB:47679 for standards

(end of report) **Total Samples: 19**

Analyst: COH
Status: Level 2 review released
Matrix: ERROR

Printed: 08/08/17 1036

Prep Batch: 47679
7470A-P - Mercury Preparation Linked: 7470A,245.1

Start Date: 07/26/2017 1153
End Date: 07/26/2017 1353
Level 2 Analyst: BNW
Digestion Cup ID: 1703076
Ext Solvent: H2SO4/1:1HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl
Reagents Vol. (mL): 2.0, 2.0, 6.0, 3.2, 2.4
Chem ID: 17-583(2/22) IM7975-01(9/26/17) IM7860-01(8/2/17) IM7975-03(9/26/17) IM7860-02(8/2/17)
Hot Block ID: Hot Block #4
Digestion Temperature (°C): 94

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SQ47679-001	MB		1	245.1	40.000		0.0	50			
SQ47679-002	LCS		1	245.1	40.000		0.0	50			
SQ47679-004	Standard	Conc = 0.0 mg/L	1	245.1	40.000		0.0	50			CAL 0
SQ47679-104	Standard	Conc = 0.10 mg/L	1	245.1	40.000	17HG0907	0.0	50			(7/27/17) 1353
SQ47679-204	Standard	Conc = 0.0050 mg/L	1	245.1	40.000	17HG0908	0.0	50			(7/27/17) 1353
SQ47679-304	Standard	Conc = 0.0020 mg/L	1	245.1	40.000	17HG0909	0.0	50			(7/27/17) 1353
SQ47679-404	Standard	Conc = 0.0010 mg/L	1	245.1	40.000	17HG0910	0.0	50			(7/27/17) 1353
SQ47679-504	Standard	Conc = 0.00020 mg/L	1	245.1	40.000	17HG0911	0.0	50			(7/27/17) 1353
SQ47679-604	Standard	Conc = 0.00010 mg/L	1	245.1	40.000	17HG0912	0.0	50			(7/27/17) 1353
SQ47679-101	MB		1	245.1	40.000		0.0	50			ICB
SQ47679-804	Standard	Conc = 0.0020 mg/L	1	245.1	40.000	17HG0915(7/	0.0	50			ICV
SQ47679-201	MB		1	245.1	40.000		0.0	50			CCB
SQ47679-1004	Standard	Conc = 0.0020 mg/L	1	245.1	40.000	17HG0909(7/	0.0	50			CCV

(end of report) **Total Samples: 0**

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Draper Aden Associates
2206 South Main Street
Blacksburg, VA 24060
Attention: Janet Frazier

Project Name: **RAAP HWMU16-for non-J samples**

Project Number: **B03204-17A**

Lot Number: **SG21006**

Date Completed: **08/09/2017**

Catherine S. Dover
Project Manager

This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
Draper Aden Associates
Lot Number: SG21006
Project Name: RAAP HWMU16-for non-J samples
Project Number: B03204-17A

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Summary
Draper Aden Associates
Lot Number: SG21006
Project Name: RAAP HWMU16-for non-J samples
Project Number: B03204-17A

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	16-2	Aqueous	07/19/2017 0110	07/21/2017
002	16-3	Aqueous	07/19/2017 1155	07/21/2017
003	16-5	Aqueous	07/19/2017 0805	07/21/2017
004	16WC2B	Aqueous	07/19/2017 0910	07/21/2017
005	16SPRING	Aqueous	07/20/2017 0930	07/21/2017

(5 samples)

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-001**

Description: **16-2** Matrix: **Aqueous**

Date Sampled: **07/19/2017 0110** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1358	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-002**

Description: **16-3** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1155** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1401	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-003**

Description: **16-5** Matrix: **Aqueous**

Date Sampled: **07/19/2017 0805** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1403	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-004**

Description: **16WC2B** Matrix: **Aqueous**

Date Sampled: **07/19/2017 0910** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1405	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-005**

Description: **16SPRING** Matrix: **Aqueous**

Date Sampled: **07/20/2017 0930** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1408	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

Mercury - MB

Sample ID: SQ47617-001
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Mercury	2.0	U	1	2.0	ug/L	07/27/2017 1325

PQL = Practical quantitation limit
U = Not detected at or above the detection limit
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury - LCS

Sample ID: SQ47617-002
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	2.0	2.1		1	103	80-120	07/27/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Chain of Custody
and
Miscellaneous Documents

OK JVR 7/18/17

CHAIN OF CUSTODY RECORD

Laboratory: Shealy Environmental - 106 Vantage Point Dr. West Columbia, SC 29172 803-227-3160 PM: Cathy Dover cell 919-816-1180

Client: 0	Consultant: Draper Aden Associates	Sample Site: RFAAP, Radford, Virginia	Project Specific (PS) or Batch (B) QC:
Attn: 0	Attn: Janet C. Frazier	Location: HAMU16	Sample Collection for Project Complete? YES
Addres 0	Address: 2206 South Main Street Blacksburg, Virginia 24060	Event: 2Q 2017 Annual Groundwater Monitoring Event	UPS:
0	Phone: (540) 552-0444	DAA JN: B03204-17A	Carrier: 1Z 237 301 01 9326 2255
Phone: 0	Fax: (540) 552 0291	Lab JN: (resampling) JVR 7/19/17	Tracking Number:
Fax: 0			

Box 1: Matrix
SW Surface Water T Trip Blank
GW Groundwater E Equipment Bla
L Leachate P Product
S Soil O Other

Box 2: Preservative
A HCL E NaOH
B HNO_3 F ZnAc
C H_2SO_4 G Other (Specify)
D $Na_2S_2O_3$ H None

Box 3: Filtered/Unfiltered
F Filtered
U Unfiltered

Box 4: Sample Type
G Grab
C Composite

Box 5: Sample Container Type
P Plastic V VOA
AG Amber Glass CG Clear Glass

Invoice
Copy to Consultant: YES
Bill: CLIENT OTHER
Preserved and shipped on ice: YES

Box 4 - Sample Type													
Box 3 - Filtered/Unfiltered													
Required pH of Sample													
Box 2 - Preservative													
Box 5 - Sample Container Type													
Sample ID	Date: 2017	Time	Box 1: Matrix	Number of Bottles		1-250 mL P	7470A (Mercury-Total)						
16C1	7/19	1520	GW	1			X	<2					
16MW8	7/19	1025	GW	1			X						
16MW9	7/19	1420	GW	1			X						
16WC1A	7/19	1325	GW	3			X						
16WDUP	7/19	1330	GW	1			X						
16WC1B	7/19	1245	GW	1			X						
16-2	7/19	1110	GW	1			X						
16-3	7/19	1455	GW	1			X						
16-8	7/19	0805	GW	1			X						
16WC2B	7/19	0910	GW	1			X						
16SPRING	7/20	0930	GW	1			X						

Mercury pH <2 (note 1984)

(note 1967)

GENERAL NOTES:
1. Report results to detection limit, with J flags, for italicized wells. Report to at or above QL for other locations
2. VELAP accreditation required.
3. Full Deliverable with EDD.
4. ~~Metals - see attached list~~ Mercury only.

QL = 2 ug/l
DL = 0.2 ug/l
JVR 7/18/17

USE FOR QC

SG21005

SG21006

Clients Special Instructions:

Received by lab in Good Condition: Yes ___ No Custody Seal Intact: ~~N/A~~ Yes ___ No Temperature upon arrival 2.5°C Received on Ice: Yes ___ No
Possible problems, if any:

Sampler Name (Print): Ken Coddington	Date: 7/19/17	#1 Relinquished by (Signature):	Date: 7/20/17	#2 Relinquished by (Signature): UPS	Date: 7/21	Sample Storage Time Requested:
Sampler Signature:	Time: 0700	Company Name: DAA	Time: 1700	Company Name:	Time: 925	
Sampler Name (Print): Will Mason-Deese	Date: 7/19/17	#1 Received by (Signature):	Date:	#2 Received by (Signature): S. Elliott	Date: 7/21/17	30 DYS ORG/6 MTHS INORG
Sampler Signature:	Time: 0700	Company Name:	Time:	Company Name: SESI/EQI	Time: 0935	

OK JVR 7/20/17 1/1

JVR 7/18/17

Shealy Environmental Services, Inc.
Document Number: ME0018C-08

Page 1 of 1
Effective Date: 03/07/2017
Expiry Date: 03/07/2022

Sample Receipt Checklist (SRC)

Client: Draper — Cooler Inspected by/date: SBE / 7/21/17 — Lot #: SG21006 SG21005

Means of receipt: ☐ SESI ☐ Client ☑ UPS ☐ FedEx ☐ Other

Yes ☑	No ☐		1. Were custody seals present on the cooler?
Yes ☑	No ☐	NA ☐	2. If custody seals were present, were they intact and unbroken?

pH strip ID: 17-854 — Cl strip ID:

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:
12.5 / 12.5 °C ___ / ___ / ___ °C ___ / ___ / ___ °C ___ / ___ / ___ °C

Method: ☑ Temperature Blank ☐ Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☐	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
Yes ☑	No ☐	NA ☐	4. Is the commercial courier's packing slip attached to this form?
Yes ☑	No ☐		5. Were proper custody procedures (relinquished/received) followed?
Yes ☑	No ☐		6. Were sample IDs listed on the COC?
Yes ☑	No ☐		7. Were sample IDs listed on all sample containers?
Yes ☑	No ☐		8. Was collection date & time listed on the COC?
Yes ☑	No ☐		9. Was collection date & time listed on all sample containers?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with the COC?
Yes ☑	No ☐		11. Were tests to be performed listed on the COC?
Yes ☑	No ☐		12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		13. Was adequate sample volume available?
Yes ☐	No ☑		14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
Yes ☐	No ☐	NA ☑	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☑	No ☐	NA ☐	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA (< 0.5mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?
Yes ☐	No ☑		22. Was the quote number used taken from the container label?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) ___ were received incorrectly preserved and were adjusted accordingly in sample receiving with ___ (H_2SO_4, HNO_3, HCl, NaOH) using SR # ___.

Sample(s) ___ were received with bubbles >6 mm in diameter.

Samples(s) ___ were received with TRC > 0.5 mg/L (If #21 is No) and were adjusted accordingly in sample receiving with sodium thiosulfate ($Na_2S_2O_3$) with Shealy ID: ___.

SC Drinking Water Project Sample(s) pH verified to be < 2 by ___ Date: ___

Sample(s) ___ were Not received at a pH of < 2 and were adjusted accordingly using SR# ___.

Sample labels applied by: SBE Verified by: ___ Date: 7/21/17

Comments: ___

Metals

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-001**

Description: **16-2** Matrix: **Aqueous**

Date Sampled: **07/19/2017 0110** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1358	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-002**

Description: **16-3** Matrix: **Aqueous**

Date Sampled: **07/19/2017 1155** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1401	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-003**

Description: **16-5** Matrix: **Aqueous**

Date Sampled: **07/19/2017 0805** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1403	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-004**

Description: **16WC2B** Matrix: **Aqueous**

Date Sampled: **07/19/2017 0910** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1405	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

Mercury

Client: **Draper Aden Associates** Laboratory ID: **SG21006-005**

Description: **16SPRING** Matrix: **Aqueous**

Date Sampled: **07/20/2017 0930** Project Name: **RAAP HWMU16-for non-J**

Date Received: **07/21/2017** Project Number: **B03204-17A**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	7470A	7470A	1	07/27/2017 1408	COH	07/27/2017 1105	47617

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Mercury	7439-97-6	7470A	2.0	U	2.0	ug/L	1

PQL = Practical quantitation limit
B = Detected in the method blank
E = Quantitation of compound exceeded the calibration range
H = Out of holding time
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
D = Dilution > 1

Shealy Environmental Services, Inc.
106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.shealylab.com

QC Summary

Mercury - MB

Sample ID: SQ47617-001
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Result	Q	Dil	PQL	Units	Analysis Date
Mercury	2.0	U	1	2.0	ug/L	07/27/2017 1325

PQL = Practical quantitation limit
U = Not detected at or above the detection limit
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury - LCS

Sample ID: SQ47617-002
Batch: 47617
Analytical Method: 7470A
Matrix: Aqueous
Prep Method: 7470A
Prep Date: 07/27/2017 1105

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Mercury	2.0	2.1		1	103	80-120	07/27/2017 1327

PQL = Practical quantitation limit
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
U = Not detected at or above the detection limit
J = Estimated result < PQL and ≥ MDL
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Mercury

- COVER PAGE -
INORGANIC ANALYSIS DATA PACKAGE

Client: Draper Aden Associates

SDG No.: SG21006 **Method Type:** CVAA **SOW No.:**

Contract: RAAP HWMU16-for non- **Lab Code:** Shealy **Case No.:** **SAS No.:**

Lab Sample ID	Client Sample ID	QC Description
SG21006-001	16-2	
SG21006-002	16-3	
SG21006-003	16-5	
SG21006-004	16WC2B	
SG21006-005	16SPRING	

Were ICP interelement corrections applied?	Yes/No	Yes	
Were ICP background corrections applied?	Yes/No	Yes	
If yes - were raw data generated before applications of background corrections?	Yes/No	No	

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name:

Date: Title:

- 2a -

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client: Draper Aden Associates **SDG No.:** SG21006

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Initial Calibration Source: VHG

Continuing Calibration Source: High Purity

Sample ID	Analyte	Result µg/L	True Value µg/L	% Recovery	Acceptance Window (%R)	M	Analysis Date	Analysis Time	Run Number
ICV1									
	Mercury	2.070	2.000	104	90.0 - 110.0	CV	7/27/2017	12:13	HG3072717A
CCV1									
	Mercury	1.780	2.000	89	80.0 - 120.0	CV	7/27/2017	12:21	HG3072717A
CCV2									
	Mercury	1.830	2.000	92	80.0 - 120.0	CV	7/27/2017	12:23	HG3072717A
CCV3									
	Mercury	1.880	2.000	94	80.0 - 120.0	CV	7/27/2017	13:18	HG3072717A
CCV4									
	Mercury	1.850	2.000	93	80.0 - 120.0	CV	7/27/2017	13:51	HG3072717A
CCV5									
	Mercury	1.890	2.000	95	80.0 - 120.0	CV	7/27/2017	14:21	HG3072717A

- 3a -

INITIAL AND CONTINUING CALIBRATION BLANK SUMMARY

Client: Draper Aden Associates **SDG No.:** SG21006

Contract: RAAP HWMU16-for non-J samples **Lab Code:** Shealy **Case No.:** **SAS No.:**

Sample ID	Analyte	Result µg/L	Acceptance Limit	Conc Qual	PQL	PQL	M	Analysis Date	Analysis Time	Run
ICB1	Mercury	0.0360	+/- 2.000	U	2.000	2.000	CV	7/27/2017	12:16	HG3072717A
CCB1	Mercury	-0.0090	+/- 2.000	U	2.000	2.000	CV	7/27/2017	12:30	HG3072717A
CCB2	Mercury	0.0080	+/- 2.000	U	2.000	2.000	CV	7/27/2017	13:21	HG3072717A
CCB3	Mercury	0.0180	+/- 2.000	U	2.000	2.000	CV	7/27/2017	13:53	HG3072717A
CCB4	Mercury	0.0120	+/- 2.000	U	2.000	2.000	CV	7/27/2017	14:24	HG3072717A

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: SAS No.: SDG No.: SG21006

Instrument ID Number: Hg3 Run Number: HG3072717A

Start Date: 7/27/2017 End Date: 7/27/2017

EPA Sample No.	D/F	Time	% R	Analytes																							
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
Std01Rep1	1.00	1157																X								
Std02Rep1	1.00	1200																X								
Std03Rep1	1.00	1202																X								
Std04Rep1	1.00	1204																X								
Std05Rep1	1.00	1207																X								
Std06Rep1	1.00	1209																X								
ICV1	1.00	1213																X								
ICB1	1.00	1216																X								
ZZZZZZ	1.00	1218																								
CCV1	1.00	1221																X								
CCV2	1.00	1223																X								
ZZZZZZ	1.00	1228																								
CCB1	1.00	1230																X								
ZZZZZZ	1.00	1233																								
ZZZZZZ	1.00	1235																								
ZZZZZZ	1.00	1237																								
ZZZZZZ	1.00	1240																								
ZZZZZZ	1.00	1243																								
ZZZZZZ	1.00	1245																								
ZZZZZZ	1.00	1248																								
ZZZZZZ	1.00	1250																								
ZZZZZZ	1.00	1252																								
ZZZZZZ	1.00	1255																								
ZZZZZZ	1.00	1258																								
ZZZZZZ	1.00	1300																								
ZZZZZZ	1.00	1303																								
ZZZZZZ	1.00	1305																								
ZZZZZZ	1.00	1308																								
ZZZZZZ	1.00	1311																								
ZZZZZZ	1.00	1313																								
ZZZZZZ	1.00	1316																								
CCV3	1.00	1318																X								
CCB2	1.00	1321																X								
SO47617-001	1.00	1325																X								
SO47617-002	1.00	1327																X								
ZZZZZZ	1.00	1329																								
ZZZZZZ	1.00	1332																								

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: SAS No.: SDG No.: SG21006

Instrument ID Number: Hg3 Run Number: HG3072717A

Start Date: 7/27/2017 End Date: 7/27/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1335																										
ZZZZZZ	1.00	1338																										
ZZZZZZ	1.00	1340																										
ZZZZZZ	1.00	1343																										
ZZZZZZ	1.00	1345																										
ZZZZZZ	1.00	1348																										
CCV4	1.00	1351																X										
CCB3	1.00	1353																X										
ZZZZZZ	1.00	1355																										
SG21006-001	1.00	1358																X										
SG21006-002	1.00	1401																X										
SG21006-003	1.00	1403																X										
SG21006-004	1.00	1405																X										
SG21006-005	1.00	1408																X										
ZZZZZZ	1.00	1411																										
ZZZZZZ	1.00	1413																										
ZZZZZZ	1.00	1416																										
ZZZZZZ	1.00	1418																										
CCV5	1.00	1421																X										
CCB4	1.00	1424																X										
ZZZZZZ	1.00	1426																										
ZZZZZZ	1.00	1429																										
ZZZZZZ	1.00	1431																										
ZZZZZZ	1.00	1434																										
ZZZZZZ	1.00	1436																										
ZZZZZZ	1.00	1439																										
ZZZZZZ	1.00	1441																										
ZZZZZZ	1.00	1444																										
ZZZZZZ	1.00	1446																										
ZZZZZZ	1.00	1449																										
ZZZZZZ	1.00	1451																										
ZZZZZZ	1.00	1454																										
ZZZZZZ	1.00	1456																										
ZZZZZZ	1.00	1459																										
ZZZZZZ	1.00	1502																										
ZZZZZZ	1.00	1504																										
ZZZZZZ	1.00	1507																										

14

ANALYSIS RUN LOG

Client: Draper Aden Associates Contract: RAAP HWMU16-for non-J samples

Lab Code: Shealy Case No.: SAS No.: SDG No.: SG21006

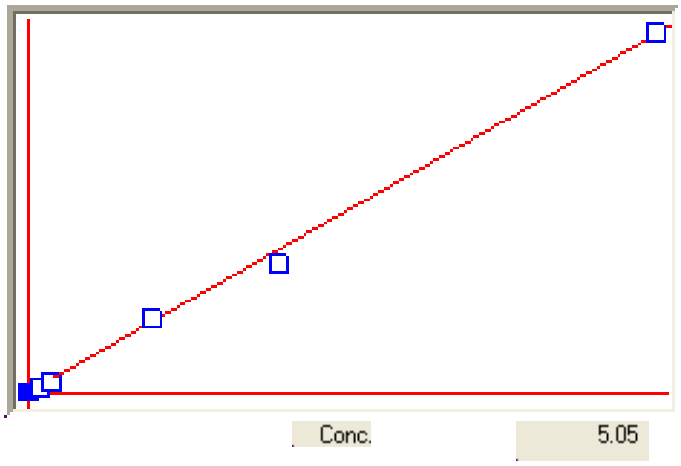
Instrument ID Number: Hg3 Run Number: HG3072717A

Start Date: 7/27/2017 End Date: 7/27/2017

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ZZZZZZ	1.00	1509																								
ZZZZZZ	1.00	1512																								
ZZZZZZ	1.00	1514																								
ZZZZZZ	1.00	1517																								
ZZZZZZ	1.00	1519																								
ZZZZZZ	1.00	1521																								
ZZZZZZ	1.00	1524																								
ZZZZZZ	1.00	1527																								
ZZZZZZ	1.00	1529																								
ZZZZZZ	1.00	1532																								
ZZZZZZ	1.00	1534																								
ZZZZZZ	1.00	1536																								
ZZZZZZ	1.00	1539																								
ZZZZZZ	1.00	1542																								
ZZZZZZ	1.00	1544																								
ZZZZZZ	1.00	1546																								
ZZZZZZ	1.00	1549																								
ZZZZZZ	1.00	1552																								
ZZZZZZ	1.00	1555																								
ZZZZZZ	1.00	1557																								
ZZZZZZ	1.00	1600																								
ZZZZZZ	1.00	1602																								

Raw Sample Data

Protocol: 7470AHG3



Linear

Calibrated

Accepted

A

B 2.90476e-4

C 4.54259e-3

Rhc .998981

Accepted Date: 27-Jul-17 12:12

S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
01	.00000	.070	.070	224	0	224				
02	.10000	.091	-.009	296	0%	296				
03	.20000	.194	-.006	652	0%	652				
04	1.0000	1.06	.064	3648	0%	3647				
05	2.0000	1.84	-.163	6307	0%	6307				
06	5.0000	5.05	.045	17354	0%	17354				
07										
08										
09										
10										

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	SQ47718001	MB 47718	1.0000	1.0000	C4 C1 CP
2	SQ47718002	LCS 47718	1.0000	1.0000	
3	SG21010001	MW-103	1.0000	1.0000	
4	SG21010001	MW-103 MS	1.0000	1.0000	
5	SG21010001	MW-103 MSD	1.0000	1.0000	
6	SG21010002	MW-105	1.0000	1.0000	
7	SG21010003	MW-107	1.0000	1.0000	
8	SG21010004	MW-108	1.0000	1.0000	
9	SG21010005	MW-109	1.0000	1.0000	
10	SG21010006	MW-110	1.0000	1.0000	C4 C1
11	SG26008001	MW-2	1.0000	1.0000	
12	SG26008002	MW-3	1.0000	1.0000	
13	SG26008003	MW-5	1.0000	1.0000	
14	SG26008004	MW-7	1.0000	1.0000	
15	SG26008004	MW-7MS	1.0000	1.0000	
16	SG26008004	MW-7 MSD	1.0000	1.0000	
17	SG26008005	MW-11	1.0000	1.0000	
18	SG26008006	MW-12	1.0000	1.0000	
19			1.0000	1.0000	
20	SG26008008	MW-14	1.0000	1.0000	C4 C1
21	SG26008009	MW-20	1.0000	1.0000	
22	SG26008007	MW-13	1.0000	1.0000	C4 C1
23			1.0000	1.0000	
24			1.0000	1.0000	
25			1.0000	1.0000	
26			1.0000	1.0000	
27			1.0000	1.0000	
28			1.0000	1.0000	
29			1.0000	1.0000	
30			1.0000	1.0000	
31			1.0000	1.0000	
32			1.0000	1.0000	
33			1.0000	1.0000	
34			1.0000	1.0000	
35			1.0000	1.0000	
36			1.0000	1.0000	
37			1.0000	1.0000	
38			1.0000	1.0000	
39			1.0000	1.0000	
40			1.0000	1.0000	
41			1.0000	1.0000	
42			1.0000	1.0000	
43			1.0000	1.0000	

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Standard: 1 Rep: 1              Seq:  1000    11:57:46 27 Jul 17   HG

Hg    .000    ppb      224

*** Standard: 2 Rep: 1              Seq:  1001    12:00:07 27 Jul 17   HG

Hg    .100    ppb      296

*** Standard: 3 Rep: 1              Seq:  1002    12:02:27 27 Jul 17   HG

Hg    .200    ppb      652

*** Standard: 4 Rep: 1              Seq:  1003    12:04:48 27 Jul 17   HG

Hg    1.00    ppb      3647

*** Standard: 5 Rep: 1              Seq:  1004    12:07:18 27 Jul 17   HG

Hg    2.00    ppb      6307

*** Standard: 6 Rep: 1              Seq:  1005    12:09:49 27 Jul 17   HG

Hg    5.00    ppb      17354

*** Check Standard: 3  Ck3ICV0915   Seq:  1006    12:13:30 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          103.     2.07    2.00   ppb        .000  %

*** Check Standard: 1  Ck1ICB/CCB   Seq:  1007    12:16:00 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg          .036     .100     ppb        .000  %

*** Check Standard: 2  Ck2PQL0912   Seq:  1008    12:18:50 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          136.     .136    .100   ppb        .000  %

*** Check Standard: 4  Ck4CCV0909   Seq:  1009    12:21:11 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          89.1     1.78    2.00   ppb        .000  %

*** Check Standard: 4  Ck4CCV0909   Seq:  1010    12:23:34 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          91.4     1.83    2.00   ppb        .000  %

*** Sample ID: 0.2 PPB    072717A    Seq:  1011   12:28:18 27 Jul 17   HG
                          17HG0911
Hg    .192    ppb       .000  %   .192

*** Check Standard: 1  Ck1ICB/CCB   Seq:  1012    12:30:50 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.009     .100     ppb        .000  %

*** Sample ID: SG24037003 072717A    Seq:  1013   12:33:12 27 Jul 17   HG
                          MW022TR
Hg    .039    ppb       .000  %   .039

================================================================================
*** Sample ID: SG24037004 072717A    Seq:  1014   12:35:33 27 Jul 17   HG
                          MW023ATR
Hg    .065    ppb       .000  %   .065
                                                                              =
================================================================================
```

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: SG24037005 072717A Seq: 1015 12:37:59 27 Jul 17 HG								
				UBC029AR				
Hg	.017	ppb	.000 %	.017				
*** Sample ID: SG24037006 072717A Seq: 1016 12:40:40 27 Jul 17 HG								
				MW027BTR				
Hg	-.010	ppb	.000 %	-.010				
*** Sample ID: SG24037007 072717A Seq: 1017 12:43:01 27 Jul 17 HG								
				MW028A				
Hg	.006	ppb	.000 %	.006				
*** Sample ID: SG24037008 072717A Seq: 1018 12:45:22 27 Jul 17 HG								
				MW050T				
Hg	-.002	ppb	.000 %	-.002				
*** Sample ID: SG24037009 072717A Seq: 1019 12:48:09 27 Jul 17 HG								
				MW051T				
Hg	.015	ppb	.000 %	.015				
*** Sample ID: SG24037010 072717A Seq: 1020 12:50:32 27 Jul 17 HG								
				MW024TR				
Hg	.011	ppb	.000 %	.011				
*** Sample ID: SG24037011 072717A Seq: 1021 12:52:55 27 Jul 17 HG								
				MW026ATR				
Hg	-.024	ppb	.000 %	-.024				
*** Sample ID: SG26014003 072717A Seq: 1022 12:55:38 27 Jul 17 HG								
				WW PIPE 001				
Hg	.039	ppb	.000 %	.039				
*** Check Standard: 4 Ck4CCV0909 Seq: 1023 12:58:10 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		89.1	1.78	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1ICB/CCB Seq: 1024 13:00:34 27 Jul 17 HG								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		-.027	.100	ppb	.000 %			
*** Sample ID: SG26071003 072717A Seq: 1025 13:03:08 27 Jul 17 HG								
				WW PIPE 001				
Hg	.255	ppb	.000 %	.255				
*** Sample ID: SQ47601001 072717A Seq: 1026 13:05:33 27 Jul 17 HG								
				MB 47601				
Hg	-.005	ppb	.000 %	-.005				
*** Sample ID: SQ47601002 072717A Seq: 1027 13:08:18 27 Jul 17 HG								
				LCS 47601				
Hg	2.06	ppb	.000 %	2.06				

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: SG24016002 072717A Seq: 1028 13:11:19 27 Jul 17 HG								
				WWTP 10K OIL/SLUDGE				
Hg	.024	ppb	.000 %	.024				
*** Sample ID: SG24016002 072717A Seq: 1029 13:13:54 27 Jul 17 HG								
				WWTP OIL/SLUDGE MS				
Hg	1.83	ppb	.000 %	1.83				
*** Sample ID: SG24016002 072717A Seq: 1030 13:16:26 27 Jul 17 HG								
				WWTP OIL/SLUDGE MSD				
Hg	1.80	ppb	.000 %	1.80				
*** Check Standard: 4 Ck4CCV0909 Seq: 1031 13:18:58 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		94.2	1.88	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1ICB/CCB Seq: 1032 13:21:38 27 Jul 17 HG								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		.008	.100	ppb	.000 %			
*** Sample ID: SQ47617001 072717A Seq: 1033 13:25:09 27 Jul 17 HG								
				MB 47617				
Hg	-.011	ppb	.000 %	-.011				
*** Sample ID: SQ47617002 072717A Seq: 1034 13:27:28 27 Jul 17 HG								
				LCS 47617				
Hg	2.07	ppb	.000 %	2.07				
*** Sample ID: SG12037004 072717A Seq: 1035 13:29:47 27 Jul 17 HG								
				MW-6				
Hg	.018	ppb	.000 %	.018				
*** Sample ID: SG21005001 072717A Seq: 1036 13:32:38 27 Jul 17 HG								
				16C1				
Hg	.016	ppb	.000 %	.016				
*** Sample ID: SG21005002 072717A Seq: 1037 13:35:29 27 Jul 17 HG								
				16MW8				
Hg	.051	ppb	.000 %	.051				
*** Sample ID: SG21005003 072717A Seq: 1038 13:38:03 27 Jul 17 HG								
				16MW9				
Hg	.035	ppb	.000 %	.035				
*** Sample ID: SG21005004 072717A Seq: 1039 13:40:25 27 Jul 17 HG								
				16WC1A				
Hg	-.004	ppb	.000 %	-.004				
*** Sample ID: SG21005004 072717A Seq: 1040 13:43:36 27 Jul 17 HG								
				16WC1AMS				
Hg	1.99	ppb	.000 %	1.99				
*** Sample ID: SG21005004 072717A Seq: 1041 13:45:57 27 Jul 17 HG								
				16WC1AMSD				
Hg	2.01	ppb	.000 %	2.01				

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: SG21005005 072717A    Seq:  1042   13:48:17 27 Jul 17   HG
                          16WDUP
Hg    .001    ppb       .000  %   .001
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1043    13:51:11 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          92.4     1.85    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1044    13:53:32 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg          .018     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG21005006 072717A    Seq:  1045   13:55:54 27 Jul 17   HG
                          16WC1B
Hg    .111    ppb       .000  %   .111
                                                                              =
================================================================================
*** Sample ID: SG21006001 072717A    Seq:  1046   13:58:28 27 Jul 17   HG
                          16-2
Hg    .004    ppb       .000  %   .004
                                                                              =
================================================================================
*** Sample ID: SG21006002 072717A    Seq:  1047   14:01:07 27 Jul 17   HG
                          16-3
Hg   -.006    ppb       .000  %  -.006
                                                                              =
================================================================================
*** Sample ID: SG21006003 072717A    Seq:  1048   14:03:28 27 Jul 17   HG
                          16-5
Hg    .016    ppb       .000  %   .016
                                                                              =
================================================================================
*** Sample ID: SG21006004 072717A    Seq:  1049   14:05:53 27 Jul 17   HG
                          16WC2B
Hg    .000    ppb       .000  %   .000
                                                                              =
================================================================================
*** Sample ID: SG21006005 072717A    Seq:  1050   14:08:23 27 Jul 17   HG
                          16SPRING
Hg   -.013    ppb       .000  %  -.013
                                                                              =
================================================================================
*** Sample ID: SG19023001 072717A    Seq:  1051   14:11:16 27 Jul 17   HG
                          MW-2
Hg    .031    ppb       .000  %   .031
                                                                              =
================================================================================
*** Sample ID: SG19023002 072717A    Seq:  1052   14:13:40 27 Jul 17   HG
                          MW-5A
Hg    .021    ppb       .000  %   .021
                                                                              =
================================================================================
*** Sample ID: SG19023003 072717A    Seq:  1053   14:16:00 27 Jul 17   HG
                          MW-20
Hg   -.006    ppb       .000  %  -.006
                                                                              =
================================================================================
*** Sample ID: SG19023004 072717A    Seq:  1054   14:18:51 27 Jul 17   HG
                          MW-21
Hg    .013    ppb       .000  %   .013
                                                                              =
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
-------------------------------------------------------------------------------

*** Check Standard: 4  Ck4CCV0909   Seq:  1055    14:21:25 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          94.5     1.89    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1056    14:24:09 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg          .012     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG19023005 072717A    Seq:  1057   14:26:40 27 Jul 17   HG
                           MW-22A
Hg   -.012    ppb       .000  %  -.012
                                                                              =
*** Sample ID: SG19023005 072717A    Seq:  1058   14:29:14 27 Jul 17   HG
                           MW-22AMS
Hg    1.94    ppb       .000  %   1.94
                                                                              =
*** Sample ID: SG19023005 072717A    Seq:  1059   14:31:39 27 Jul 17   HG
                           MW-22AMSD
Hg    1.93    ppb       .000  %   1.93
                                                                              =
===============================================================================
*** Sample ID: SG19023006 072717A    Seq:  1060   14:34:00 27 Jul 17   HG
                           MW-24
Hg    .028    ppb       .000  %   .028
                                                                              =
===============================================================================
*** Sample ID: SG19023007 072717A    Seq:  1061   14:36:50 27 Jul 17   HG
                           MW-25A
Hg    .037    ppb       .000  %   .037
                                                                              =
===============================================================================
*** Sample ID: SG21005006 072717A    Seq:  1062   14:39:14 27 Jul 17   HG
                           16WC1B
Hg    .108    ppb       .000  %   .108
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1063    14:41:58 27 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          92.2     1.84    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1064    14:44:19 27 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.012     .100     ppb        .000  %
                                                                              =
*** Sample ID: SQ47632001 072717A    Seq:  1065   14:46:53 27 Jul 17   HG
                           MB 47632
Hg    .012    ppb       .000  %   .012
                                                                              =
===============================================================================
*** Sample ID: SQ47632002 072717A    Seq:  1066   14:49:13 27 Jul 17   HG
                           LCS 47632
Hg    2.07    ppb       .000  %   2.07
                                                                              =
===============================================================================
*** Sample ID: SG24029009 072717A    Seq:  1067   14:51:45 27 Jul 17   HG
                           TT-02DIS
Hg   -.002    ppb       .000  %  -.002
                                                                              =
===============================================================================
*** Sample ID: SG25080001 072717A    Seq:  1068   14:54:37 27 Jul 17   HG
                           MW054T
Hg    .039    ppb       .000  %   .039
                                                                              =
===============================================================================
```

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: SG25080002 072717A Seq: 1069 14:56:58 27 Jul 17 HG								
				UBC051				
Hg	.072	ppb	.000 %	.072				
*** Sample ID: SG25080003 072717A Seq: 1070 14:59:48 27 Jul 17 HG								
				MW052T				
Hg	-.031	ppb	.000 %	-.031				
*** Sample ID: SG25080004 072717A Seq: 1071 15:02:30 27 Jul 17 HG								
				MW029				
Hg	-.019	ppb	.000 %	-.019				
*** Sample ID: SG25080005 072717A Seq: 1072 15:04:54 27 Jul 17 HG								
				MW030				
Hg	.020	ppb	.000 %	.020				
*** Sample ID: SG25080006 072717A Seq: 1073 15:07:15 27 Jul 17 HG								
				UBC030				
Hg	.024	ppb	.000 %	.024				
*** Sample ID: SG25080007 072717A Seq: 1074 15:09:37 27 Jul 17 HG								
				UBC052				
Hg	-.006	ppb	.000 %	-.006				
*** Check Standard: 4 Ck4CCV0909 Seq: 1075 15:12:13 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		91.9	1.84	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1ICB/CCB Seq: 1076 15:14:33 27 Jul 17 HG								
Line	Flag	Found	Range(+/-)	Units	SD/RSD			
Hg		-.018	.100	ppb	.000 %			
*** Sample ID: SG25080008 072717A Seq: 1077 15:17:08 27 Jul 17 HG								
				UBC018				
Hg	.045	ppb	.000 %	.045				
*** Sample ID: SG25080009 072717A Seq: 1078 15:19:30 27 Jul 17 HG								
				UBC017				
Hg	.057	ppb	.000 %	.057				
*** Sample ID: SG25080010 072717A Seq: 1079 15:21:55 27 Jul 17 HG								
				UBC031				
Hg	-.008	ppb	.000 %	-.008				
*** Sample ID: SG25080010 072717A Seq: 1080 15:24:46 27 Jul 17 HG								
				UBC031MS				
Hg	1.99	ppb	.000 %	1.99				
*** Sample ID: SG25080010 072717A Seq: 1081 15:27:09 27 Jul 17 HG								
				UBC031MSD				
Hg	1.92	ppb	.000 %	1.92				
*** Sample ID: SG26094001 072717A Seq: 1082 15:29:40 27 Jul 17 HG								
				MW080TR				
Hg	.012	ppb	.000 %	.012				

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: SG26094002 072717A Seq: 1083 15:32:14 27 Jul 17 HG								
				MW061T				
Hg	.011	ppb	.000 %	.011				
*** Sample ID: SG26094003 072717A Seq: 1084 15:34:35 27 Jul 17 HG								
				MW114T				
Hg	.081	ppb	.000 %	.081				
*** Sample ID: SG26094004 072717A Seq: 1085 15:36:57 27 Jul 17 HG								
				MW116T				
Hg	.002	ppb	.000 %	.002				
*** Sample ID: SG26094005 072717A Seq: 1086 15:39:24 27 Jul 17 HG								
				MW115T				
Hg	-.019	ppb	.000 %	-.019				
*** Check Standard: 4 Ck4CCV0909 Seq: 1087 15:42:07 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		92.5	1.85	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1ICB/CCB Seq: 1088 15:44:27 27 Jul 17 HG								
Line	Flag	Found	Range(+/-)		Units	SD/RSD		
Hg		-.030	.100		ppb	.000 %		
*** Sample ID: SG26094006 072717A Seq: 1089 15:46:57 27 Jul 17 HG								
				MW117T				
Hg	.013	ppb	.000 %	.013				
*** Sample ID: SG26094007 072717A Seq: 1090 15:49:54 27 Jul 17 HG								
				UBC048				
Hg	.027	ppb	.000 %	.027				
*** Sample ID: SG26094008 072717A Seq: 1091 15:52:35 27 Jul 17 HG								
				UBC049				
Hg	.016	ppb	.000 %	.016				
*** Sample ID: SG26094009 072717A Seq: 1092 15:55:17 27 Jul 17 HG								
				UBC059				
Hg	.005	ppb	.000 %	.005				
*** Check Standard: 4 Ck4CCV0909 Seq: 1093 15:57:48 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		91.6	1.83	2.00	ppb	.000 %		
*** Check Standard: 1 Ck1ICB/CCB Seq: 1094 16:00:10 27 Jul 17 HG								
Line	Flag	Found	Range(+/-)		Units	SD/RSD		
Hg		-.008	.100		ppb	.000 %		
*** Sample ID: SNCL2 072717A Seq: 1095 16:02:40 27 Jul 17 HG								
				IM8041-01(7/27/17)				
Hg	-.011	ppb	.000 %	-.011				
*** Check Standard: 4 Ck4CCV0909 Seq: 1096 23:09:18 27 Jul 17 HG								
Line	Flag	%Rcv.	Found	True	Units	SD/RSD		
Hg		89.2	1.78	2.00	ppb	.000 %		

Line Conc. Units SD/RSD 1 2 3 4 5

*** Check Standard: 1 Ck1ICB/CCB Seq: 1097 23:11:38 27 Jul 17 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.011	.100	ppb	.000 %

=

*** Sample ID: SQ47718001 072717A Seq: 1098 23:14:06 27 Jul 17 HG
MB 47718

Hg	.031	ppb	.000	%	.031

=

*** Sample ID: SQ47718002 072717A Seq: 1099 23:16:35 27 Jul 17 HG
LCS 47718

Hg	2.11	ppb	.000	%	2.11

=

*** Sample ID: SG21010001 072717A Seq: 1100 23:19:17 27 Jul 17 HG
MW-103

Hg	.049	ppb	.000	%	.049

=

*** Sample ID: SG21010001 072717A Seq: 1101 23:21:47 27 Jul 17 HG
MW-103 MS

Hg	2.14	ppb	.000	%	2.14

=

*** Sample ID: SG21010001 072717A Seq: 1102 23:24:18 27 Jul 17 HG
MW-103 MSD

Hg	2.03	ppb	.000	%	2.03

=

*** Sample ID: SG21010002 072717A Seq: 1103 23:26:39 27 Jul 17 HG
MW-105

Hg	.047	ppb	.000	%	.047

=

*** Sample ID: SG21010003 072717A Seq: 1104 23:28:59 27 Jul 17 HG
MW-107

Hg	.034	ppb	.000	%	.034

=

*** Sample ID: SG21010004 072717A Seq: 1105 23:31:19 27 Jul 17 HG
MW-108

Hg	-.004	ppb	.000	%	-.004

=

*** Sample ID: SG21010005 072717A Seq: 1106 23:33:43 27 Jul 17 HG
MW-109

Hg	.040	ppb	.000	%	.040

=

*** Sample ID: SG21010006 072717A Seq: 1107 23:36:09 27 Jul 17 HG
MW-110

Hg	-.015	ppb	.000	%	-.015

=

*** Check Standard: 4 Ck4CCV0909 Seq: 1108 23:38:39 27 Jul 17 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		92.3	1.85	2.00	ppb	.000 %

=

*** Check Standard: 1 Ck1ICB/CCB Seq: 1109 23:41:02 27 Jul 17 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		-.032	.100	ppb	.000 %

=

*** Sample ID: SG26008001 072717A Seq: 1110 23:43:24 27 Jul 17 HG
MW-2

Hg	.046	ppb	.000	%	.046

=

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Sample ID: SG26008002 072717A    Seq:  1111   23:45:45 27 Jul 17   HG
                          MW-3
Hg    .015    ppb       .000  %   .015
                                                                              =
================================================================================
*** Sample ID: SG26008003 072717A    Seq:  1112   23:48:44 27 Jul 17   HG
                          MW-5
Hg    .030    ppb       .000  %   .030
                                                                              =
================================================================================
*** Sample ID: SG26008004 072717A    Seq:  1113   23:51:16 27 Jul 17   HG
                          MW-7
Hg    .045    ppb       .000  %   .045
                                                                              =
*** Sample ID: SG26008004 072717A    Seq:  1114   23:53:36 27 Jul 17   HG
                          MW-7MS
Hg    2.01    ppb       .000  %   2.01
                                                                              =
*** Sample ID: SG26008004 072717A    Seq:  1115   23:56:06 27 Jul 17   HG
                          MW-7 MSD
Hg    2.00    ppb       .000  %   2.00
                                                                              =
================================================================================
*** Sample ID: SG26008005 072717A    Seq:  1116   23:58:27 27 Jul 17   HG
                          MW-11
Hg   -.021    ppb       .000  %  -.021
                                                                              =
================================================================================
*** Sample ID: SG26008006 072717A    Seq:  1117   00:00:50 28 Jul 17   HG
                          MW-12
Hg    .021    ppb       .000  %   .021
                                                                              =
================================================================================
*** Sample ID: SG26008007 072717A    Seq:  1118   00:03:22 28 Jul 17   HG
                          MW-13
Hg    .332    ppb       .000  %   .332
                                                                              =
================================================================================
*** Sample ID: SG26008008 072717A    Seq:  1119   00:06:24 28 Jul 17   HG
                          MW-14
Hg   -.005    ppb       .000  %  -.005
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1120    00:08:47 28 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          91.0     1.82    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1121    00:11:17 28 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.056     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG26008009 072717A    Seq:  1122   00:13:38 28 Jul 17   HG
                          MW-20
Hg    .110    ppb       .000  %   .110
                                                                              =
================================================================================
*** Sample ID: SG26008007 072717A    Seq:  1123   00:16:04 28 Jul 17   HG
                          MW-13
Hg    .261    ppb       .000  %   .261
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1124    00:18:25 28 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          91.6     1.83    2.00   ppb        .000  %
                                                                              =
```

```
Line   Conc.  Units     SD/RSD      1       2       3       4       5
--------------------------------------------------------------------------------

*** Check Standard: 1  Ck1ICB/CCB   Seq:  1125    00:20:59 28 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.058     .100     ppb        .000  %
                                                                              =
*** Sample ID: SG26008009 072717A    Seq:  1126   00:23:20 28 Jul 17   HG
                          MW-20
Hg   -.033    ppb       .000  %  -.033
                                                                              =
================================================================================
*** Sample ID: SG26008007 072717A    Seq:  1127   00:25:41 28 Jul 17   HG
                          MW-13
Hg    .402    ppb       .000  %   .402
                                                                              =
*** Check Standard: 4  Ck4CCV0909   Seq:  1128    00:28:07 28 Jul 17   HG
Line  Flag  %Rcv.   Found    True  Units      SD/RSD
Hg          89.2     1.78    2.00   ppb        .000  %
                                                                              =
*** Check Standard: 1  Ck1ICB/CCB   Seq:  1129    00:30:31 28 Jul 17   HG
Line  Flag  Found Range(+/-) Units      SD/RSD
Hg         -.032     .100     ppb        .000  %
                                                                              =
```

Raw Supportive Data

Analyst: COH
Status: Level 2 review released
Matrix: Aqueous

Printed: 08/07/17 1345

Prep Batch: 47617
7470A-P Draper - Mercury Preparation

Start Date: 07/27/2017 1105
End Date: 07/27/2017 1305
Level 2 Analyst: BEB
Digestion Cup ID: 2103333
Ext Solvent: H2SO4/1:1HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl
Reagents Vol. (mL): 2.0, 2.0, 6.0, 3.2, 2.4
Chem ID: 17-583(2/22) IM7975-01(9/26/17) IM7860-01(8/2/17) IM7975-03(9/26/17) IM7860-02(8/2/17)
Hot Block ID: Hot Block # 7
Digestion Temperature (°C): 94

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SQ47617-001	MB		1	7470A	40.000		0.0	50			LCS/MS/MSD pipette:299
SQ47617-002	LCS		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG12037-004	Sample	MW-6	2	7470A	40.000		0.0	50	08/08/2017 1130	07/27/2017	
SG21005-001	Sample	16C1	1	7470A	40.000		0.0	50	08/16/2017 1520	08/01/2017	
SG21005-002	Sample	16MW8	1	7470A	40.000		0.0	50	08/16/2017 1025	08/01/2017	
SG21005-003	Sample	16MW9	1	7470A	40.000		0.0	50	08/16/2017 1420	08/01/2017	
SG21005-004	Sample	16WC1A	1	7470A	40.000		0.0	50	08/16/2017 1325	08/01/2017	
SG21005-004MS	MS		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG21005-004MD	MSD		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG21005-005	Sample	16WDUP	1	7470A	40.000		0.0	50	08/16/2017 1330	08/01/2017	
SG21005-006	Sample	16WC1B	1	7470A	40.000		0.0	50	08/16/2017 1245	08/01/2017	
SG21006-001	Sample	16-2	1	7470A	40.000		0.0	50	08/16/2017 0110	08/01/2017	
SG21006-002	Sample	16-3	1	7470A	40.000		0.0	50	08/16/2017 1155	08/01/2017	
SG21006-003	Sample	16-5	1	7470A	40.000		0.0	50	08/16/2017 0805	08/01/2017	
SG21006-004	Sample	16WC2B	1	7470A	40.000		0.0	50	08/16/2017 0910	08/01/2017	
SG21006-005	Sample	16SPRING	1	7470A	40.000		0.0	50	08/17/2017 0930	08/01/2017	
SG19023-001	Sample	MW-2	1	7470A	40.000		0.0	50	08/14/2017 1300	08/03/2017	
SG19023-002	Sample	MW-5A	1	7470A	40.000		0.0	50	08/14/2017 1235	08/03/2017	
SG19023-003	Sample	MW-20	1	7470A	40.000		0.0	50	08/14/2017 1055	08/03/2017	
SG19023-004	Sample	MW-21	1	7470A	40.000		0.0	50	08/14/2017 1340	08/03/2017	
SG19023-005	Sample	MW-22A	1	7470A	40.000		0.0	50	08/15/2017 1000	08/03/2017	
SG19023-005MS	MS		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG19023-005MD	MSD		1	7470A	40.000	17HG0914	1.0	50			(8/23/17)
SG19023-006	Sample	MW-24	1	7470A	40.000		0.0	50	08/15/2017 1210	08/03/2017	
SG19023-007	Sample	MW-25A	1	7470A	40.000		0.0	50	08/15/2017 0840	08/03/2017	
SQ47617-004	Standard	Conc = 0.0 mg/L	1	7470A	40.000		0.0	50			refer to PB:47679 for standards

(end of report) **Total Samples: 19**

Analyst: COH
Status: Level 2 review released
Matrix: ERROR

Printed: 08/08/17 1036

Prep Batch: 47679
7470A-P - Mercury Preparation Linked: 7470A,245.1

Start Date: 07/26/2017 1153
End Date: 07/26/2017 1353
Level 2 Analyst: BNW
Digestion Cup ID: 1703076
Ext Solvent: H2SO4/1:1HNO3/KMnO4/K2S2O8/NaCl-NH2OH-HCl
Reagents Vol. (mL): 2.0, 2.0, 6.0, 3.2, 2.4
Chem ID: 17-583(2/22) IM7975-01(9/26/17) IM7860-01(8/2/17) IM7975-03(9/26/17) IM7860-02(8/2/17)
Hot Block ID: Hot Block #4
Digestion Temperature (°C): 94

Sample ID	QC Code	Client Sample ID	Run	Analysis Descript	Initial Vol. (mL)	Spike ID	Spike Vol. (mL)	Final Vol. (mL)	Holding Time Expires	Analytical Due Date	Comments
SQ47679-001	MB		1	245.1	40.000		0.0	50			
SQ47679-002	LCS		1	245.1	40.000		0.0	50			
SQ47679-004	Standard	Conc = 0.0 mg/L	1	245.1	40.000		0.0	50			CAL 0
SQ47679-104	Standard	Conc = 0.10 mg/L	1	245.1	40.000	17HG0907	0.0	50			(7/27/17) 1353
SQ47679-204	Standard	Conc = 0.0050 mg/L	1	245.1	40.000	17HG0908	0.0	50			(7/27/17) 1353
SQ47679-304	Standard	Conc = 0.0020 mg/L	1	245.1	40.000	17HG0909	0.0	50			(7/27/17) 1353
SQ47679-404	Standard	Conc = 0.0010 mg/L	1	245.1	40.000	17HG0910	0.0	50			(7/27/17) 1353
SQ47679-504	Standard	Conc = 0.00020 mg/L	1	245.1	40.000	17HG0911	0.0	50			(7/27/17) 1353
SQ47679-604	Standard	Conc = 0.00010 mg/L	1	245.1	40.000	17HG0912	0.0	50			(7/27/17) 1353
SQ47679-101	MB		1	245.1	40.000		0.0	50			ICB
SQ47679-804	Standard	Conc = 0.0020 mg/L	1	245.1	40.000	17HG0915(7/	0.0	50			ICV
SQ47679-201	MB		1	245.1	40.000		0.0	50			CCB
SQ47679-1004	Standard	Conc = 0.0020 mg/L	1	245.1	40.000	17HG0909(7/	0.0	50			CCV

(end of report) **Total Samples: 0**

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF GENERAL SERVICES
DIVISION OF CONSOLIDATED LABORATORY SERVICES

Certifies that

VA Laboratory ID#: 460182
Eurofins Lancaster Laboratories Environmental, LLC

2425 New Holland Pike
Lancaster, PA 17601

Owner: EUROFINS SCIENTIFIC
Responsible Official: DUANE LUCKENBILL

Having met the requirements of 1 VAC 30-46
and the National Environmental Laboratory Accreditation Conference 2003 Standard
is hereby approved as an

Accredited Laboratory

As more fully described in the attached Scope of Accreditation

Effective Date: **June 15, 2016**
Expiration Date: **June 14, 2017**
Certificate # 8382

Denise M. Toney, Ph.D., HCLD
DGS Deputy Director for Laboratories

Continued accreditation status depends on successful ongoing participation in the program.
Certificate to be conspicuously displayed at the laboratory.
Not valid unless accompanied by a valid Virginia Environmental Laboratory Accreditation Program (VELAP) Scope of Accreditation.
Customers are urged to verify the laboratory's current accreditation status.

Certificate Not Transferable

Surrender Upon Revocation

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

AIR

METHOD	ANALYTE	PRIMARY
EPA 18	TOTAL GASEOUS ORGANIC COMPOUNDS	LA DEQ
EPA TO-14A 2nd Ed.	1,1,1-TRICHLOROETHANE	LA DEQ
EPA TO-14A 2nd Ed.	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	LA DEQ
EPA TO-14A 2nd Ed.	1,1-DICHLOROETHANE	LA DEQ
EPA TO-14A 2nd Ed.	1,2,4-TRICHLOROBENZENE	LA DEQ
EPA TO-14A 2nd Ed.	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	LA DEQ
EPA TO-14A 2nd Ed.	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	LA DEQ
EPA TO-14A 2nd Ed.	1,3,5-TRIMETHYLBENZENE	LA DEQ
EPA TO-14A 2nd Ed.	1,4-DICHLOROBENZENE	LA DEQ
EPA TO-14A 2nd Ed.	BENZENE	LA DEQ
EPA TO-14A 2nd Ed.	CARBON TETRACHLORIDE	LA DEQ
EPA TO-14A 2nd Ed.	CHLOROETHANE (ETHYL CHLORIDE)	LA DEQ
EPA TO-14A 2nd Ed.	CIS-1,2-DICHLOROETHYLENE	LA DEQ
EPA TO-14A 2nd Ed.	ETHYLBENZENE	LA DEQ
EPA TO-14A 2nd Ed.	M+P-XYLENE	LA DEQ
EPA TO-14A 2nd Ed.	METHYL CHLORIDE (CHLOROMETHANE)	LA DEQ
EPA TO-14A 2nd Ed.	O-XYLENE	LA DEQ
EPA TO-14A 2nd Ed.	TETRACHLOROETHENE (PERCHLOROETHENE)	LA DEQ
EPA TO-14A 2nd Ed.	TRANS-1,2-DICHLOROETHENE	LA DEQ
EPA TO-14A 2nd Ed.	TRICHLOROETHENE (TRICHLOROETHYLENE)	LA DEQ
EPA TO-14A 2nd Ed.	VINYL CHLORIDE	LA DEQ
EPA TO-14A 2nd Ed. - EXTENDED	BROMODICHLOROMETHANE	LA DEQ
EPA TO-14A 2nd Ed. - EXTENDED	METHYL TERT-BUTYL ETHER (MTBE)	LA DEQ
EPA TO-15 2nd Ed.	1,1,1-TRICHLOROETHANE	LA DEQ
EPA TO-15 2nd Ed.	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	LA DEQ
EPA TO-15 2nd Ed.	1,1-DICHLOROETHANE	LA DEQ
EPA TO-15 2nd Ed.	1,2,4-TRICHLOROBENZENE	LA DEQ
EPA TO-15 2nd Ed.	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	LA DEQ

METHOD	ANALYTE	PRIMARY
EPA 25	TOTAL GASEOUS NONMETHANE ORGANIC COMPOUNDS (TGNMO)	LA DEQ
EPA TO-14A 2nd Ed.	1,1,2,2-TETRACHLOROETHANE	LA DEQ
EPA TO-14A 2nd Ed.	1,1,2-TRICHLOROETHANE	LA DEQ
EPA TO-14A 2nd Ed.	1,1-DICHLOROETHYLENE	LA DEQ
EPA TO-14A 2nd Ed.	1,2,4-TRIMETHYLBENZENE	LA DEQ
EPA TO-14A 2nd Ed.	1,2-DICHLOROBENZENE	LA DEQ
EPA TO-14A 2nd Ed.	1,2-DICHLOROPROPANE	LA DEQ
EPA TO-14A 2nd Ed.	1,3-DICHLOROBENZENE	LA DEQ
EPA TO-14A 2nd Ed.	2-BUTANONE (METHYL ETHYL KETONE, MEK)	LA DEQ
EPA TO-14A 2nd Ed.	BROMOFORM	LA DEQ
EPA TO-14A 2nd Ed.	CHLOROBENZENE	LA DEQ
EPA TO-14A 2nd Ed.	CHLOROFORM	LA DEQ
EPA TO-14A 2nd Ed.	CIS-1,3-DICHLOROPROPENE	LA DEQ
EPA TO-14A 2nd Ed.	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	LA DEQ
EPA TO-14A 2nd Ed.	METHYL BROMIDE (BROMOMETHANE)	LA DEQ
EPA TO-14A 2nd Ed.	METHYLENE CHLORIDE (DICHLOROMETHANE)	LA DEQ
EPA TO-14A 2nd Ed.	STYRENE	LA DEQ
EPA TO-14A 2nd Ed.	TOLUENE	LA DEQ
EPA TO-14A 2nd Ed.	TRANS-1,3-DICHLOROPROPENE	LA DEQ
EPA TO-14A 2nd Ed.	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	LA DEQ
EPA TO-14A 2nd Ed. - EXTENDED	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	LA DEQ
EPA TO-14A 2nd Ed. - EXTENDED	CARBON DISULFIDE	LA DEQ
EPA TO-14A 2nd Ed. - EXTENDED	XYLENE (TOTAL)	LA DEQ
EPA TO-15 2nd Ed.	1,1,2,2-TETRACHLOROETHANE	LA DEQ
EPA TO-15 2nd Ed.	1,1,2-TRICHLOROETHANE	LA DEQ
EPA TO-15 2nd Ed.	1,1-DICHLOROETHYLENE	LA DEQ
EPA TO-15 2nd Ed.	1,2,4-TRIMETHYLBENZENE	LA DEQ
EPA TO-15 2nd Ed.	1,2-DICHLOROBENZENE	LA DEQ

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

AIR

METHOD	ANALYTE	PRIMARY
EPA TO-15 2nd Ed.	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	LA DEQ
EPA TO-15 2nd Ed.	1,3,5-TRIMETHYLBENZENE	LA DEQ
EPA TO-15 2nd Ed.	1,3-DICHLOROBENZENE	LA DEQ
EPA TO-15 2nd Ed.	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	LA DEQ
EPA TO-15 2nd Ed.	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	LA DEQ
EPA TO-15 2nd Ed.	ACROLEIN (PROPENAL)	LA DEQ
EPA TO-15 2nd Ed.	ALLYL CHLORIDE (3-CHLOROPROPENE)	LA DEQ
EPA TO-15 2nd Ed.	BROMODICHLOROMETHANE	LA DEQ
EPA TO-15 2nd Ed.	CARBON DISULFIDE	LA DEQ
EPA TO-15 2nd Ed.	CHLOROBENZENE	LA DEQ
EPA TO-15 2nd Ed.	CHLOROFORM	LA DEQ
EPA TO-15 2nd Ed.	CIS-1,3-DICHLOROPROPENE	LA DEQ
EPA TO-15 2nd Ed.	ETHYL ACRYLATE	LA DEQ
EPA TO-15 2nd Ed.	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	LA DEQ
EPA TO-15 2nd Ed.	IODOMETHANE (METHYL IODIDE)	LA DEQ
EPA TO-15 2nd Ed.	M+P-XYLENE	LA DEQ
EPA TO-15 2nd Ed.	METHYL CHLORIDE (CHLOROMETHANE)	LA DEQ
EPA TO-15 2nd Ed.	METHYL TERT-BUTYL ETHER (MTBE)	LA DEQ
EPA TO-15 2nd Ed.	O-XYLENE	LA DEQ
EPA TO-15 2nd Ed.	STYRENE	LA DEQ
EPA TO-15 2nd Ed.	TOLUENE	LA DEQ
EPA TO-15 2nd Ed.	TRANS-1,3-DICHLOROPROPENE	LA DEQ
EPA TO-15 2nd Ed.	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	LA DEQ
EPA TO-15 2nd Ed.	VINYL CHLORIDE	LA DEQ
EPA TO-15 2nd Ed. - EXTENDED	2-CHLOROTOLUENE	LA DEQ
EPA TO-15 2nd Ed. - EXTENDED	4-ETHYLTOLUENE	LA DEQ
EPA TO-15 2nd Ed. - EXTENDED	CHLORODIFLUOROMETHANE (FREON-22)	LA DEQ
EPA TO-15 2nd Ed. - EXTENDED	TERT-BUTYL ALCOHOL	LA DEQ
EPA TO-15 2nd Ed.	1,2-DICHLOROPROPANE	LA DEQ
EPA TO-15 2nd Ed.	1,3-BUTADIENE	LA DEQ
EPA TO-15 2nd Ed.	1,4-DICHLOROBENZENE	LA DEQ
EPA TO-15 2nd Ed.	2-BUTANONE (METHYL ETHYL KETONE, MEK)	LA DEQ
EPA TO-15 2nd Ed.	ACETONITRILE	LA DEQ
EPA TO-15 2nd Ed.	ACRYLONITRILE	LA DEQ
EPA TO-15 2nd Ed.	BENZENE	LA DEQ
EPA TO-15 2nd Ed.	BROMOFORM	LA DEQ
EPA TO-15 2nd Ed.	CARBON TETRACHLORIDE	LA DEQ
EPA TO-15 2nd Ed.	CHLOROETHANE (ETHYL CHLORIDE)	LA DEQ
EPA TO-15 2nd Ed.	CIS-1,2-DICHLOROETHYLENE	LA DEQ
EPA TO-15 2nd Ed.	CYCLOHEXANE	LA DEQ
EPA TO-15 2nd Ed.	ETHYLBENZENE	LA DEQ
EPA TO-15 2nd Ed.	HEXACHLOROETHANE	LA DEQ
EPA TO-15 2nd Ed.	ISOPROPYLBENZENE	LA DEQ
EPA TO-15 2nd Ed.	METHYL BROMIDE (BROMOMETHANE)	LA DEQ
EPA TO-15 2nd Ed.	METHYL METHACRYLATE	LA DEQ
EPA TO-15 2nd Ed.	METHYLENE CHLORIDE (DICHLOROMETHANE)	LA DEQ
EPA TO-15 2nd Ed.	PROPYLENE	LA DEQ
EPA TO-15 2nd Ed.	TETRACHLOROETHENE (PERCHLOROETHENE)	LA DEQ
EPA TO-15 2nd Ed.	TRANS-1,2-DICHLOROETHENE	LA DEQ
EPA TO-15 2nd Ed.	TRICHLOROETHENE (TRICHLOROETHYLENE)	LA DEQ
EPA TO-15 2nd Ed.	VINYL ACETATE	LA DEQ
EPA TO-15 2nd Ed.	XYLENE (TOTAL)	LA DEQ
EPA TO-15 2nd Ed. - EXTENDED	2-HEXANONE	LA DEQ
EPA TO-15 2nd Ed. - EXTENDED	ACETONE	LA DEQ
EPA TO-15 2nd Ed. - EXTENDED	NAPHTHALENE	LA DEQ

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

DRINKING WATER

METHOD	ANALYTE	PRIMARY	METHOD	ANALYTE	PRIMARY
EPA 200.7 REV 4.4	ALUMINUM	PA	EPA 200.7 REV 4.4	BARIUM	PA
EPA 200.7 REV 4.4	BERYLLIUM	PA	EPA 200.7 REV 4.4	CADMIUM	PA
EPA 200.7 REV 4.4	CALCIUM	PA	EPA 200.7 REV 4.4	CHROMIUM	PA
EPA 200.7 REV 4.4	COPPER	PA	EPA 200.7 REV 4.4	IRON	PA
EPA 200.7 REV 4.4	MAGNESIUM	PA	EPA 200.7 REV 4.4	MANGANESE	PA
EPA 200.7 REV 4.4	NICKEL	PA	EPA 200.7 REV 4.4	SILVER	PA
EPA 200.7 REV 4.4	SODIUM	PA	EPA 200.7 REV 4.4	ZINC	PA
EPA 200.8 REV 5.4	ANTIMONY	PA	EPA 200.8 REV 5.4	ARSENIC	PA
EPA 200.8 REV 5.4	BERYLLIUM	PA	EPA 200.8 REV 5.4	CADMIUM	PA
EPA 200.8 REV 5.4	CHROMIUM	PA	EPA 200.8 REV 5.4	COPPER	PA
EPA 200.8 REV 5.4	LEAD	PA	EPA 200.8 REV 5.4	NICKEL	PA
EPA 200.8 REV 5.4	SELENIUM	PA	EPA 200.8 REV 5.4	THALLIUM	PA
EPA 245.1 REV 3	MERCURY	PA	EPA 300.0 REV 2.1	CHLORIDE	PA
EPA 300.0 REV 2.1	FLUORIDE	PA	EPA 300.0 REV 2.1	NITRATE AS N	PA
EPA 300.0 REV 2.1	NITRITE AS N	PA	EPA 300.0 REV 2.1	SULFATE	PA
EPA 335.4 REV 1.0	CYANIDE	PA	EPA 353.2 REV 2	NITRATE AS N	PA
EPA 353.2 REV 2	NITRATE/NITRITE	PA	EPA 353.2 REV 2	NITRITE AS N	PA
EPA 504.1 REV 1.1	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	PA	EPA 504.1 REV 1.1	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	PA
EPA 507 REV 2.1	ALACHLOR	PA	EPA 507 REV 2.1	ATRAZINE	PA
EPA 507 REV 2.1	SIMAZINE	PA	EPA 515.1 REV 4	2,4-D	PA
EPA 515.1 REV 4	DALAPON	PA	EPA 515.1 REV 4	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	PA
EPA 515.1 REV 4	PENTACHLOROPHENOL	PA	EPA 515.1 REV 4	PICLORAM	PA
EPA 515.1 REV 4	SILVEX (2,4,5-TP)	PA	EPA 524.2 REV 4.1	1,1,1-TRICHLOROETHANE	PA
EPA 524.2 REV 4.1	1,1,2-TRICHLOROETHANE	PA	EPA 524.2 REV 4.1	1,1-DICHLOROETHYLENE	PA
EPA 524.2 REV 4.1	1,2,4-TRICHLOROBENZENE	PA	EPA 524.2 REV 4.1	1,2-DICHLOROBENZENE	PA
EPA 524.2 REV 4.1	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	PA	EPA 524.2 REV 4.1	1,2-DICHLOROPROPANE	PA
EPA 524.2 REV 4.1	1,4-DICHLOROBENZENE	PA	EPA 524.2 REV 4.1	BENZENE	PA
EPA 524.2 REV 4.1	BROMODICHLOROMETHANE	PA	EPA 524.2 REV 4.1	BROMOFORM	PA
EPA 524.2 REV 4.1	CARBON TETRACHLORIDE	PA	EPA 524.2 REV 4.1	CHLOROBENZENE	PA
EPA 524.2 REV 4.1	CHLORODIBROMOMETHANE	PA	EPA 524.2 REV 4.1	CHLOROFORM	PA
EPA 524.2 REV 4.1	CIS-1,2-DICHLOROETHYLENE	PA	EPA 524.2 REV 4.1	ETHYLBENZENE	PA
EPA 524.2 REV 4.1	METHYLENE CHLORIDE (DICHLOROMETHANE)	PA	EPA 524.2 REV 4.1	STYRENE	PA
EPA 524.2 REV 4.1	TETRACHLOROETHENE (PERCHLOROETHENE)	PA	EPA 524.2 REV 4.1	TOLUENE	PA
EPA 524.2 REV 4.1	TOTAL TRIHALOMETHANES	PA	EPA 524.2 REV 4.1	TRANS-1,2-DICHLOROETHENE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

DRINKING WATER

METHOD	ANALYTE	PRIMARY
EPA 524.2 REV 4.1	TRICHLOROETHENE (TRICHLOROETHYLENE)	PA
EPA 524.2 REV 4.1	XYLENE (TOTAL)	PA
EPA 525.2 REV 2	ATRAZINE	PA
EPA 525.2 REV 2	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	PA
EPA 525.2 REV 2	ENDRIN	PA
EPA 525.2 REV 2	HEPTACHLOR	PA
EPA 525.2 REV 2	HEXACHLOROBENZENE	PA
EPA 525.2 REV 2	METHOXYCHLOR	PA
EPA 531.1 REV 3.1	CARBOFURAN (FURADEN)	PA
SM 2130 B-2001	TURBIDITY	PA
SM 2510 B-1997	CONDUCTIVITY	PA
SM 4500-F⁻ C-1997	FLUORIDE	PA
SM 4500-P E-1999	ORTHOPHOSPHATE AS P	PA
SM 9215 B-1994	HETEROTROPHIC PLATE COUNT	PA
SM 9223 COLILERT P/A	TOTAL COLIFORMS	PA

METHOD	ANALYTE	PRIMARY
EPA 524.2 REV 4.1	VINYL CHLORIDE	PA
EPA 525.2 REV 2	ALACHLOR	PA
EPA 525.2 REV 2	BENZO(A)PYRENE	PA
EPA 525.2 REV 2	BIS(2-ETHYLHEXYL)ADIPATE (DI(2-ETHYLHEXYL)ADIPATE)	PA
EPA 525.2 REV 2	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	PA
EPA 525.2 REV 2	HEPTACHLOR EPOXIDE	PA
EPA 525.2 REV 2	HEXACHLOROCYCLOPENTADIENE	PA
EPA 525.2 REV 2	SIMAZINE	PA
EPA 531.1 REV 3.1	OXAMYL	PA
SM 2320 B-1997	ALKALINITY AS CACO3	PA
SM 2540 C-1997	RESIDUE-FILTERABLE (TDS)	PA
SM 4500-H+ B-2000	PH	PA
SM 5540 C-2000	SURFACTANTS - MBAS	PA
SM 9223 COLILERT P/A	ESCHERICHIA COLI	PA

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1010	FLASHPOINT	PA
EPA 1312	PREP: SYNTHETIC PRECIPITATION LEACHING PROCEDURE	PA
EPA 1613 B	1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	PA
EPA 1613 B	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (1,2,3,4,6,7,8-HPCDD)	PA
EPA 1613 B	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (1,2,3,4,7,8,9-HPCDF)	PA
EPA 1613 B	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (1,2,3,4,7,8-HXCDF)	PA
EPA 1613 B	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (1,2,3,6,7,8-HXCDF)	PA
EPA 1613 B	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (1,2,3,7,8,9-HXCDF)	PA
EPA 1613 B	1,2,3,7,8-PENTACHLORODIBENZOFURAN (1,2,3,7,8-PECDF)	PA
EPA 1613 B	2,3,4,7,8-PENTACHLORODIBENZOFURAN	PA
EPA 1613 B	2,3,7,8-TETRACHLORODIBENZOFURAN (2,3,7,8-TCDF)	PA

METHOD	ANALYTE	PRIMARY
EPA 1311	PREP: TOXICITY CHARACTERISTIC LEACHING PROCEDURE	PA
EPA 160.4	RESIDUE-VOLATILE	PA
EPA 1613 B	1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN (OCDF)	PA
EPA 1613 B	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (1,2,3,4,6,7,8-HPCDF)	PA
EPA 1613 B	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (1,2,3,4,7,8-HXCDD)	PA
EPA 1613 B	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN(1,2,3,6,7,8-HXCDD)	PA
EPA 1613 B	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (1,2,3,7,8,9-HXCDD)	PA
EPA 1613 B	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (1,2,3,7,8-PECDD)	PA
EPA 1613 B	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (2,3,4,6,7,8-HXCDF)	PA
EPA 1613 B	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (2,3,7,8-TCDD)	PA
EPA 1631 E	MERCURY	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1664 A	OIL AND GREASE (AS HEM)	PA
EPA 1664 A	TOTAL PETROLEUM HYDROCARBONS (TPH) (AS NONPOLAR MATERIAL, SGT-HEM)	PA
EPA 1666 A	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	PA
EPA 1666 A	DI-ISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	PA
EPA 1666 A	ETHYL ACETATE	PA
EPA 1666 A	ISOBUTYRALDEHYDE	PA
EPA 1666 A	ISOPROPYL ACETATE	PA
EPA 1666 A	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA
EPA 1666 A	METHYL FORMATE	PA
EPA 1666 A	N-AMYL ACETATE	PA
EPA 1666 A	N-AMYL ALCOHOL	PA
EPA 1666 A	N-BUTYL-ACETATE	PA
EPA 1666 A	N-HEPTANE	PA
EPA 1666 A	N-HEXANE	PA
EPA 1666 A	TERT-BUTYL ALCOHOL	PA
EPA 1666 A	TETRAHYDROFURAN (THF)	PA
EPA 1666 A	XYLENE (TOTAL)	PA
EPA 1668 A	2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL (BZ-206)	PA
EPA 1668 A	2,2',3,3',4,4',5,5',6-OCTACHLOROBIPHENYL (BZ-194)	PA
EPA 1668 A	2,2',3,3',4,4',5,6'-OCTACHLOROBIPHENYL (BZ-196)	PA
EPA 1668 A	2,2',3,3',4,4',5,6,6'-NONACHLOROBIPHENYL (BZ-207)	PA
EPA 1668 A	2,2',3,3',4,4',5,6-OCTACHLOROBIPHENYL BZ-195)	PA
EPA 1668 A	2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (BZ-170)	PA
EPA 1668 A	2,2',3,3',4,4',6,6'-OCTACHLOROBIPHENYL (BZ-197)	PA
EPA 1668 A	2,2',3,3',4,4',6-HEPTACHLOROBIPHENYL (BZ-171)	PA
EPA 1668 A	2,2',3,3',4,4'-HEXACHLOROBIPHENYL (BZ-128)	PA
EPA 1668 A	2,2',3,3',4,5',6'-HEPTACHLOROBIPHENYL (BZ-177)	PA
EPA 1668 A	2,2',3,3',4,5,6,6'-OCTACHLOROBIPHENYL (BZ-201)	PA
EPA 1668 A	2,2',3,3',4,5',6-HEPTACHLOROBIPHENYL (BZ-175)	PA
EPA 1668 A	2,2',3,3',4,5-HEXACHLOROBIPHENYL (BZ-130)	PA
EPA 1668 A	2,2',3,3',4,5,5',6'-OCTACHLOROBIPHENYL (BZ-199)	PA
EPA 1668 A	2,2',3,3',4,5,5',6,6'-NONACHLOROBIPHENYL (BZ-208)	PA
EPA 1668 A	2,2',3,3',4,5,5',6-OCTACHLOROBIPHENYL (BZ-198)	PA
EPA 1668 A	2,2',3,3',4,5,5'-HEPTACHLOROBIPHENYL (BZ-172)	PA
EPA 1668 A	2,2',3,3',4,5,6,6'-HEPTACHLOROBIPHENYL (BZ-174)	PA
EPA 1668 A	2,2',3,3',4,5,6,6'-OCTACHLOROBIPHENYL (BZ-200)	PA
EPA 1668 A	2,2',3,3',4,5,6-HEPTACHLOROBIPHENYL (BZ-173)	PA
EPA 1668 A	2,2',3,3',4,5-HEXACHLOROBIPHENYL (BZ-129)	PA
EPA 1668 A	2,2',3,3',4,6,6'-HEPTACHLOROBIPHENYL (BZ-176)	PA
EPA 1668 A	2,2',3,3',4,6'-HEXACHLOROBIPHENYL (BZ-132)	PA
EPA 1668 A	2,2',3,3',4-PENTACHLOROBIPHENYL (BZ-82)	PA
EPA 1668 A	2,2',3,3',4,6-HEXACHLOROBIPHENYL (BZ-131)	PA
EPA 1668 A	2,2',3,3',5,5',6-HEPTACHLOROBIPHENYL (BZ-178)	PA
EPA 1668 A	2,2',3,3',5,5',6,6'-OCTACHLOROBIPHENYL (BZ-202)	PA
EPA 1668 A	2,2',3,3',5,6'-HEXACHLOROBIPHENYL (BZ-135)	PA
EPA 1668 A	2,2',3,3',5,5'-HEXACHLOROBIPHENYL (BZ-133)	PA
EPA 1668 A	2,2',3,3',5,6-HEXACHLOROBIPHENYL (BZ-134)	PA
EPA 1668 A	2,2',3,3',5,6,6'-HEPTACHLOROBIPHENYL (BZ-179)	PA
EPA 1668 A	2,2',3,3',6,6'-HEXACHLOROBIPHENYL (BZ-136)	PA
EPA 1668 A	2,2',3,3',5-PENTACHLOROBIPHENYL (BZ-83)	PA
EPA 1668 A	2,2',3,3'-TETRACHLOROBIPHENYL (BZ-40)	PA
EPA 1668 A	2,2',3,3',6-PENTACHLOROBIPHENYL (BZ-84)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1668 A	2,2',3,4',5',6-HEXACHLOROBIPHENYL (BZ-149)	PA
EPA 1668 A	2,2',3,4',5,5',6-HEPTACHLOROBIPHENYL (BZ-187)	PA
EPA 1668 A	2,2',3,4',5,6'-HEXACHLOROBIPHENYL (BZ-148)	PA
EPA 1668 A	2,2',3,4',5,6-HEXACHLOROBIPHENYL (BZ-147)	PA
EPA 1668 A	2,2',3,4',6'-PENTACHLOROBIPHENYL (BZ-98)	PA
EPA 1668 A	2,2',3,4',6-PENTACHLOROBIPHENYL (BZ-91)	PA
EPA 1668 A	2,2',3,4,4',5',6-HEPTACHLOROBIPHENYL (BZ-183)	PA
EPA 1668 A	2,2',3,4,4',5,5',6-OCTACHLOROBIPHENYL (BZ-203)	PA
EPA 1668 A	2,2',3,4,4',5,6'-HEPTACHLOROBIPHENYL (BZ-182)	PA
EPA 1668 A	2,2',3,4,4',5,6-HEPTACHLOROBIPHENYL (BZ-181)	PA
EPA 1668 A	2,2',3,4,4',6'-HEXACHLOROBIPHENYL (BZ-140)	PA
EPA 1668 A	2,2',3,4,4',6-HEXACHLOROBIPHENYL (BZ-139)	PA
EPA 1668 A	2,2',3,4,5',6-HEXACHLOROBIPHENYL (BZ-144)	PA
EPA 1668 A	2,2',3,4,5,5',6-HEPTACHLOROBIPHENYL (BZ-185)	PA
EPA 1668 A	2,2',3,4,5,6'-HEXACHLOROBIPHENYL (BZ-143)	PA
EPA 1668 A	2,2',3,4,5,6-HEXACHLOROBIPHENYL (BZ-142)	PA
EPA 1668 A	2,2',3,4,6'-PENTACHLOROBIPHENYL (BZ-89)	PA
EPA 1668 A	2,2',3,4,6-PENTACHLOROBIPHENYL (BZ-88)	PA
EPA 1668 A	2,2',3,5',6-PENTACHLOROBIPHENYL (BZ-95)	PA
EPA 1668 A	2,2',3,5,5',6-HEXACHLOROBIPHENYL (BZ-151)	PA
EPA 1668 A	2,2',3,5,6'-PENTACHLOROBIPHENYL (BZ-94)	PA
EPA 1668 A	2,2',3,5,6-PENTACHLOROBIPHENYL (BZ-93)	PA
EPA 1668 A	2,2',3,6'-TETRACHLOROBIPHENYL (BZ-46)	PA
EPA 1668 A	2,2',3,6-TETRACHLOROBIPHENYL (BZ-45)	PA
EPA 1668 A	2,2',4,4',5,5'-HEXACHLOROBIPHENYL (BZ-153)	PA
EPA 1668 A	2,2',3,4',5'-PENTACHLOROBIPHENYL (BZ-97)	PA
EPA 1668 A	2,2',3,4',5,5'-HEXACHLOROBIPHENYL (BZ-146)	PA
EPA 1668 A	2,2',3,4',5,6,6'-HEPTACHLOROBIPHENYL (BZ-188)	PA
EPA 1668 A	2,2',3,4',5-PENTACHLOROBIPHENYL (BZ-90)	PA
EPA 1668 A	2,2',3,4',6,6'-HEXACHLOROBIPHENYL (BZ-150)	PA
EPA 1668 A	2,2',3,4'-TETRACHLOROBIPHENYL (BZ-42)	PA
EPA 1668 A	2,2',3,4,4',5'-HEXACHLOROBIPHENYL (BZ-138)	PA
EPA 1668 A	2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (BZ-180)	PA
EPA 1668 A	2,2',3,4,4',5,6,6'-OCTACHLOROBIPHENYL (BZ-204)	PA
EPA 1668 A	2,2',3,4,4',5-HEXACHLOROBIPHENYL (BZ-137)	PA
EPA 1668 A	2,2',3,4,4',6,6'-HEPTACHLOROBIPHENYL (BZ-184)	PA
EPA 1668 A	2,2',3,4,4'-PENTACHLOROBIPHENYL (BZ-85)	PA
EPA 1668 A	2,2',3,4,5'-PENTACHLOROBIPHENYL (BZ-87)	PA
EPA 1668 A	2,2',3,4,5,5'-HEXACHLOROBIPHENYL (BZ-141)	PA
EPA 1668 A	2,2',3,4,5,6,6'-HEPTACHLOROBIPHENYL (BZ-186)	PA
EPA 1668 A	2,2',3,4,5-PENTACHLOROBIPHENYL (BZ-86)	PA
EPA 1668 A	2,2',3,4,6,6'-HEXACHLOROBIPHENYL (BZ-145)	PA
EPA 1668 A	2,2',3,4-TETRACHLOROBIPHENYL (BZ-41)	PA
EPA 1668 A	2,2',3,5'-TETRACHLOROBIPHENYL (BZ-44)	PA
EPA 1668 A	2,2',3,5,5'-PENTACHLOROBIPHENYL (BZ-92)	PA
EPA 1668 A	2,2',3,5,6,6'-HEXACHLOROBIPHENYL (BZ-152)	PA
EPA 1668 A	2,2',3,5-TETRACHLOROBIPHENYL (BZ-43)	PA
EPA 1668 A	2,2',3,6,6'-PENTACHLOROBIPHENYL (BZ-96)	PA
EPA 1668 A	2,2',3-TRICHLOROBIPHENYL (BZ-16)	PA
EPA 1668 A	2,2',4,4',5,6'-HEXACHLOROBIPHENYL (BZ-154)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1668 A	2,2',4,4',5-PENTACHLOROBIPHENYL (BZ-99)	PA
EPA 1668 A	2,2',4,4',6-PENTACHLOROBIPHENYL (BZ-100)	PA
EPA 1668 A	2,2',4,5',6-PENTACHLOROBIPHENYL (BZ-103)	PA
EPA 1668 A	2,2',4,5,5'-PENTACHLOROBIPHENYL (BZ-101)	PA
EPA 1668 A	2,2',4,5-TETRACHLOROBIPHENYL (BZ-48)	PA
EPA 1668 A	2,2',4,6,6'-PENTACHLOROBIPHENYL (BZ-104)	PA
EPA 1668 A	2,2',4-TRICHLOROBIPHENYL (BZ-17)	PA
EPA 1668 A	2,2',5,6'-TETRACHLOROBIPHENYL (BZ-53)	PA
EPA 1668 A	2,2',6,6'-TETRACHLOROBIPHENYL (BZ-54)	PA
EPA 1668 A	2,2'-DICHLOROBIPHENYL (BZ-4)	PA
EPA 1668 A	2,3',4',5'-TETRACHLOROBIPHENYL (BZ-76)	PA
EPA 1668 A	2,3',4',5-TETRACHLOROBIPHENYL (BZ-70)	PA
EPA 1668 A	2,3',4'-TRICHLOROBIPHENYL (BZ-33)	PA
EPA 1668 A	2,3',4,4',5'-PENTACHLOROBIPHENYL (BZ-123)	PA
EPA 1668 A	2,3',4,4',5-PENTACHLOROBIPHENYL (BZ-118)	PA
EPA 1668 A	2,3',4,4'-TETRACHLOROBIPHENYL (BZ-66)	PA
EPA 1668 A	2,3',4,5'-TETRACHLOROBIPHENYL (BZ-68)	PA
EPA 1668 A	2,3',4,5-TETRACHLOROBIPHENYL (BZ-67)	PA
EPA 1668 A	2,3',4-TRICHLOROBIPHENYL (BZ-25)	PA
EPA 1668 A	2,3',5'-TRICHLOROBIPHENYL (BZ-34)	PA
EPA 1668 A	2,3',5-TRICHLOROBIPHENYL (BZ-26)	PA
EPA 1668 A	2,3'-DICHLOROBIPHENYL (BZ-6)	PA
EPA 1668 A	2,3,3',4',5'-PENTACHLOROBIPHENYL (BZ-122)	PA
EPA 1668 A	2,3,3',4',5,5'-HEXACHLOROBIPHENYL (BZ-162)	PA
EPA 1668 A	2,3,3',4',5-PENTACHLOROBIPHENYL (BZ-107)	PA
EPA 1668 A	2,2',4,4',6,6'-HEXACHLOROBIPHENYL (BZ-155)	PA
EPA 1668 A	2,2',4,4'-TETRACHLOROBIPHENYL (BZ-47)	PA
EPA 1668 A	2,2',4,5'-TETRACHLOROBIPHENYL (BZ-49)	PA
EPA 1668 A	2,2',4,5,6'-PENTACHLOROBIPHENYL (BZ-102)	PA
EPA 1668 A	2,2',4,6'-TETRACHLOROBIPHENYL (BZ-51)	PA
EPA 1668 A	2,2',4,6-TETRACHLOROBIPHENYL (BZ-50)	PA
EPA 1668 A	2,2',5,5'-TETRACHLOROBIPHENYL (BZ-52)	PA
EPA 1668 A	2,2',5-TRICHLOROBIPHENYL (BZ-18)	PA
EPA 1668 A	2,2',6-TRICHLOROBIPHENYL (BZ-19)	PA
EPA 1668 A	2,3',4',5',6-PENTACHLOROBIPHENYL (BZ-125)	PA
EPA 1668 A	2,3',4',5,5'-PENTACHLOROBIPHENYL (BZ-124)	PA
EPA 1668 A	2,3',4',6-TETRACHLOROBIPHENYL (BZ-71)	PA
EPA 1668 A	2,3',4,4',5',6-HEXACHLOROBIPHENYL (BZ-168)	PA
EPA 1668 A	2,3',4,4',5,5'-HEXACHLOROBIPHENYL (BZ-167)	PA
EPA 1668 A	2,3',4,4',6-PENTACHLOROBIPHENYL (BZ-119)	PA
EPA 1668 A	2,3',4,5',6-PENTACHLOROBIPHENYL (BZ-121)	PA
EPA 1668 A	2,3',4,5,5'-PENTACHLOROBIPHENYL (BZ-120)	PA
EPA 1668 A	2,3',4,6-TETRACHLOROBIPHENYL (BZ-69)	PA
EPA 1668 A	2,3',5',6-TETRACHLOROBIPHENYL (BZ-73)	PA
EPA 1668 A	2,3',5,5'-TETRACHLOROBIPHENYL (BZ-72)	PA
EPA 1668 A	2,3',6-TRICHLOROBIPHENYL (BZ-27)	PA
EPA 1668 A	2,3,3',4',5',6-HEXACHLOROBIPHENYL (BZ-164)	PA
EPA 1668 A	2,3,3',4',5,5',6-HEPTACHLOROBIPHENYL (BZ-193)	PA
EPA 1668 A	2,3,3',4',5,6-HEXACHLOROBIPHENYL (BZ-163)	PA
EPA 1668 A	2,3,3',4',6-PENTACHLOROBIPHENYL (BZ-110)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1668 A	2,3,3',4'-TETRACHLOROBIPHENYL (BZ-56)	PA
EPA 1668 A	2,3,3',4,4',5'-HEXACHLOROBIPHENYL (BZ-157)	PA
EPA 1668 A	2,3,3',4,4',5,5'-HEPTACHLOROBIPHENYL (BZ-189)	PA
EPA 1668 A	2,3,3',4,4',5-HEXACHLOROBIPHENYL (BZ-156)	PA
EPA 1668 A	2,3,3',4,4'-PENTACHLOROBIPHENYL (BZ-105)	PA
EPA 1668 A	2,3,3',4,5'-PENTACHLOROBIPHENYL (BZ-108)	PA
EPA 1668 A	2,3,3',4,5,5'-HEXACHLOROBIPHENYL (BZ-159)	PA
EPA 1668 A	2,3,3',4,5-PENTACHLOROBIPHENYL (BZ-106)	PA
EPA 1668 A	2,3,3',4-TETRACHLOROBIPHENYL (BZ-55)	PA
EPA 1668 A	2,3,3',5'-TETRACHLOROBIPHENYL (BZ-58)	PA
EPA 1668 A	2,3,3',5,5'-PENTACHLOROBIPHENYL (BZ-111)	PA
EPA 1668 A	2,3,3',5-TETRACHLOROBIPHENYL (BZ-57)	PA
EPA 1668 A	2,3,3'-TRICHLOROBIPHENYL (BZ-20)	PA
EPA 1668 A	2,3,4',5-TETRACHLOROBIPHENYL (BZ-63)	PA
EPA 1668 A	2,3,4'-TRICHLOROBIPHENYL (BZ-22)	PA
EPA 1668 A	2,3,4,4',5-PENTACHLOROBIPHENYL (BZ-114)	PA
EPA 1668 A	2,3,4,4'-TETRACHLOROBIPHENYL (BZ-60)	PA
EPA 1668 A	2,3,4,5-TETRACHLOROBIPHENYL (BZ-61)	PA
EPA 1668 A	2,3,4-TRICHLOROBIPHENYL (BZ-21)	PA
EPA 1668 A	2,3,5-TRICHLOROBIPHENYL (BZ-23)	PA
EPA 1668 A	2,3-DICHLOROBIPHENYL (BZ-5)	PA
EPA 1668 A	2,4',6-TRICHLOROBIPHENYL (BZ-32)	PA
EPA 1668 A	2,4,4',5-TETRACHLOROBIPHENYL (BZ-74)	PA
EPA 1668 A	2,4,4'-TRICHLOROBIPHENYL (BZ-28)	PA
EPA 1668 A	2,4,6-TRICHLOROBIPHENYL (BZ-30)	PA
EPA 1668 A	2,5-DICHLOROBIPHENYL (BZ-9)	PA
EPA 1668 A	2-CHLOROBIPHENYL (BZ-1)	PA
EPA 1668 A	2,3,3',4,4',5',6-HEPTACHLOROBIPHENYL (BZ-191)	PA
EPA 1668 A	2,3,3',4,4',5,5',6-OCTACHLOROBIPHENYL (BZ-205)	PA
EPA 1668 A	2,3,3',4,4',5,6-HEPTACHLOROBIPHENYL (BZ-190)	PA
EPA 1668 A	2,3,3',4,4',6-HEXACHLOROBIPHENYL (BZ-158)	PA
EPA 1668 A	2,3,3',4,5',6-HEXACHLOROBIPHENYL (BZ-161)	PA
EPA 1668 A	2,3,3',4,5,5',6-HEPTACHLOROBIPHENYL (BZ-192)	PA
EPA 1668 A	2,3,3',4,5,6-HEXACHLOROBIPHENYL (BZ-160)	PA
EPA 1668 A	2,3,3',4,6-PENTACHLOROBIPHENYL (BZ-109)	PA
EPA 1668 A	2,3,3',5',6-PENTACHLOROBIPHENYL (BZ-113)	PA
EPA 1668 A	2,3,3',5,5',6-HEXACHLOROBIPHENYL (BZ-165)	PA
EPA 1668 A	2,3,3',5,6-PENTACHLOROBIPHENYL (BZ-112)	PA
EPA 1668 A	2,3,3',6-TETRACHLOROBIPHENYL (BZ-59)	PA
EPA 1668 A	2,3,4',5,6-PENTACHLOROBIPHENYL (BZ-117)	PA
EPA 1668 A	2,3,4',6-TETRACHLOROBIPHENYL (BZ-64)	PA
EPA 1668 A	2,3,4,4',5,6-HEXACHLOROBIPHENYL (BZ-166)	PA
EPA 1668 A	2,3,4,4',6-PENTACHLOROBIPHENYL (BZ-115)	PA
EPA 1668 A	2,3,4,5,6-PENTACHLOROBIPHENYL (BZ-116)	PA
EPA 1668 A	2,3,4,6-TETRACHLOROBIPHENYL (BZ-62)	PA
EPA 1668 A	2,3,5,6-TETRACHLOROBIPHENYL (BZ-65)	PA
EPA 1668 A	2,3,6-TRICHLOROBIPHENYL (BZ-24)	PA
EPA 1668 A	2,4',5-TRICHLOROBIPHENYL (BZ-31)	PA
EPA 1668 A	2,4'-DICHLOROBIPHENYL (BZ-8)	PA
EPA 1668 A	2,4,4',6-TETRACHLOROBIPHENYL (BZ-75)	PA
EPA 1668 A	2,4,5-TRICHLOROBIPHENYL (BZ-29)	PA
EPA 1668 A	2,4-DICHLOROBIPHENYL (BZ-7)	PA
EPA 1668 A	2,6-DICHLOROBIPHENYL (BZ-10)	PA
EPA 1668 A	3,3',4,4',5,5'-HEXACHLOROBIPHENYL (BZ-169)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1668 A	3,3',4,4',5-PENTACHLOROBIPHENYL (BZ-126)	PA
EPA 1668 A	3,3',4,5'-TETRACHLOROBIPHENYL (BZ-79)	PA
EPA 1668 A	3,3',4,5-TETRACHLOROBIPHENYL (BZ-78)	PA
EPA 1668 A	3,3',5,5'-TETRACHLOROBIPHENYL (BZ-80)	PA
EPA 1668 A	3,3'-DICHLOROBIPHENYL (BZ-11)	PA
EPA 1668 A	3,4'-DICHLOROBIPHENYL (BZ-13)	PA
EPA 1668 A	3,4,4'-TRICHLOROBIPHENYL (BZ-37)	PA
EPA 1668 A	3,4-DICHLOROBIPHENYL (BZ-12)	PA
EPA 1668 A	3-CHLOROBIPHENYL (BZ-2)	PA
EPA 1668 A	4-CHLOROBIPHENYL (BZ-3)	PA
EPA 1671 A	2-METHOXYETHANOL (METHYL CELLOSOLVE)	PA
EPA 1671 A	DIETHYLAMINE	PA
EPA 1671 A	ETHANOL	PA
EPA 1671 A	N-PROPANOL (1-PROPANOL)	PA
EPA 180.1 REV 2	TURBIDITY	PA
EPA 200.7 REV 4.4	ALUMINUM	PA
EPA 200.7 REV 4.4	ARSENIC	PA
EPA 200.7 REV 4.4	BERYLLIUM	PA
EPA 200.7 REV 4.4	CADMIUM	PA
EPA 200.7 REV 4.4	CHROMIUM	PA
EPA 200.7 REV 4.4	COPPER	PA
EPA 200.7 REV 4.4	LEAD	PA
EPA 200.7 REV 4.4	MANGANESE	PA
EPA 200.7 REV 4.4	NICKEL	PA
EPA 200.7 REV 4.4	SELENIUM	PA
EPA 200.7 REV 4.4	SODIUM	PA
EPA 200.7 REV 4.4	TIN	PA
EPA 200.7 REV 4.4	VANADIUM	PA
EPA 200.8 REV 5.4	ALUMINUM	PA
EPA 200.8 REV 5.4	ARSENIC	PA
EPA 200.8 REV 5.4	BERYLLIUM	PA
EPA 200.8 REV 5.4	CHROMIUM	PA
EPA 200.8 REV 5.4	COPPER	PA

METHOD	ANALYTE	PRIMARY
EPA 1668 A	3,3',4,4'-TETRACHLOROBIPHENYL (BZ-77)	PA
EPA 1668 A	3,3',4,5,5'-PENTACHLOROBIPHENYL (BZ-127)	PA
EPA 1668 A	3,3',4-TRICHLOROBIPHENYL (BZ-35)	PA
EPA 1668 A	3,3',5-TRICHLOROBIPHENYL (BZ-36)	PA
EPA 1668 A	3,4',5-TRICHLOROBIPHENYL (BZ-39)	PA
EPA 1668 A	3,4,4',5-TETRACHLOROBIPHENYL (BZ-81)	PA
EPA 1668 A	3,4,5-TRICHLOROBIPHENYL (BZ-38)	PA
EPA 1668 A	3,5-DICHLOROBIPHENYL (BZ-14)	PA
EPA 1668 A	4,4'-DICHLOROBIPHENYL (BZ-15)	PA
EPA 1668 A	DECACHLOROBIPHENYL (BZ-209)	PA
EPA 1671 A	ACETONITRILE	PA
EPA 1671 A	DIMETHYL SULFOXIDE	PA
EPA 1671 A	METHANOL	PA
EPA 1671 A	TRIETHYLAMINE	PA
EPA 200.2 REV 2.8	PREP: SAMPLE PREPARATION PROCEDURE FOR SPECTROCHEMICAL DETERMINATION OF TOTAL RECOVERABLE ELEMENTS	PA
EPA 200.7 REV 4.4	ANTIMONY	PA
EPA 200.7 REV 4.4	BARIUM	PA
EPA 200.7 REV 4.4	BORON	PA
EPA 200.7 REV 4.4	CALCIUM	PA
EPA 200.7 REV 4.4	COBALT	PA
EPA 200.7 REV 4.4	IRON	PA
EPA 200.7 REV 4.4	MAGNESIUM	PA
EPA 200.7 REV 4.4	MOLYBDENUM	PA
EPA 200.7 REV 4.4	POTASSIUM	PA
EPA 200.7 REV 4.4	SILVER	PA
EPA 200.7 REV 4.4	THALLIUM	PA
EPA 200.7 REV 4.4	TITANIUM	PA
EPA 200.7 REV 4.4	ZINC	PA
EPA 200.8 REV 5.4	ANTIMONY	PA
EPA 200.8 REV 5.4	BARIUM	PA
EPA 200.8 REV 5.4	CADMIUM	PA
EPA 200.8 REV 5.4	COBALT	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 200.8 REV 5.4	LEAD	PA
EPA 200.8 REV 5.4	MOLYBDENUM	PA
EPA 200.8 REV 5.4	SELENIUM	PA
EPA 200.8 REV 5.4	THALLIUM	PA
EPA 200.8 REV 5.4	ZINC	PA
EPA 200.8 REV 5.4 - EXTENDED	CALCIUM	PA
EPA 200.8 REV 5.4 - EXTENDED	MAGNESIUM	PA
EPA 200.8 REV 5.4 - EXTENDED	SODIUM	PA
EPA 200.8 REV 5.4 - EXTENDED	TITANIUM	PA
EPA 300.0 REV 2.1	BROMIDE	PA
EPA 300.0 REV 2.1	FLUORIDE	PA
EPA 300.0 REV 2.1	NITRITE AS N	PA
EPA 3005 A	PREP: ACID DIGESTION OF WATERS FOR TOTAL RECOVERABLE OR DISSOLVED METALS	PA
EPA 3020 A	PREP: ACID DIGESTION OF AQUEOUS SAMPLES AND EXTRACTS FOR TOTAL METALS	PA
EPA 351.2 REV 2	KJELDAHL NITROGEN - TOTAL	PA
EPA 3511	PREP: ORGANIC EXTRACTION AND SAMPLE PREPARATION	PA
EPA 353.2 REV 2	NITRATE AS N	PA
EPA 353.2 REV 2	NITRITE AS N	PA
EPA 3630 C	PREP: SILICA GEL CLEANUP	PA
EPA 365.3	ORTHOPHOSPHATE AS P	PA
EPA 420.4 REV 1	TOTAL PHENOLICS	PA
EPA 6010 B	ALUMINUM	PA
EPA 6010 B	ARSENIC	PA
EPA 6010 B	BERYLLIUM	PA
EPA 6010 B	CADMIUM	PA
EPA 6010 B	CHROMIUM	PA
EPA 6010 B	COPPER	PA
EPA 6010 B	LEAD	PA
EPA 6010 B	MAGNESIUM	PA
EPA 6010 B	MOLYBDENUM	PA
EPA 6010 B	POTASSIUM	PA

METHOD	ANALYTE	PRIMARY
EPA 200.8 REV 5.4	MANGANESE	PA
EPA 200.8 REV 5.4	NICKEL	PA
EPA 200.8 REV 5.4	SILVER	PA
EPA 200.8 REV 5.4	VANADIUM	PA
EPA 200.8 REV 5.4 - EXTENDED	BORON	PA
EPA 200.8 REV 5.4 - EXTENDED	IRON	PA
EPA 200.8 REV 5.4 - EXTENDED	POTASSIUM	PA
EPA 200.8 REV 5.4 - EXTENDED	TIN	PA
EPA 245.1 REV 3	MERCURY	PA
EPA 300.0 REV 2.1	CHLORIDE	PA
EPA 300.0 REV 2.1	NITRATE AS N	PA
EPA 300.0 REV 2.1	SULFATE	PA
EPA 3010 A	PREP: ACID DIGESTION OF AQUEOUS SAMPLES AND EXTRACTS FOR TOTAL METALS	PA
EPA 335.4 REV 1.0	CYANIDE	PA
EPA 3510 C	PREP: LIQUID-LIQUID EXTRACTION	PA
EPA 3520 C	PREP: CONTINUOUS LIQUID-LIQUID EXTRACTION	PA
EPA 353.2 REV 2	NITRATE/NITRITE	PA
EPA 3620 B	PREP: FLORISIL CLEANUP	PA
EPA 365.1 REV 2	PHOSPHORUS, TOTAL	PA
EPA 410.4 REV 2	CHEMICAL OXYGEN DEMAND	PA
EPA 5030	PREP: PURGE AND TRAP FOR AQUEOUS SAMPLES	PA
EPA 6010 B	ANTIMONY	PA
EPA 6010 B	BARIUM	PA
EPA 6010 B	BORON	PA
EPA 6010 B	CALCIUM	PA
EPA 6010 B	COBALT	PA
EPA 6010 B	IRON	PA
EPA 6010 B	LITHIUM	PA
EPA 6010 B	MANGANESE	PA
EPA 6010 B	NICKEL	PA
EPA 6010 B	SELENIUM	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 6010 B	SILVER	PA
EPA 6010 B	STRONTIUM	PA
EPA 6010 B	TIN	PA
EPA 6010 B	VANADIUM	PA
EPA 6010 B - EXTENDED	ZIRCONIUM	PA
EPA 6010 C	ANTIMONY	PA
EPA 6010 C	BARIUM	PA
EPA 6010 C	BORON	PA
EPA 6010 C	CALCIUM	PA
EPA 6010 C	COBALT	PA
EPA 6010 C	IRON	PA
EPA 6010 C	LITHIUM	PA
EPA 6010 C	MANGANESE	PA
EPA 6010 C	NICKEL	PA
EPA 6010 C	SELENIUM	PA
EPA 6010 C	SODIUM	PA
EPA 6010 C	THALLIUM	PA
EPA 6010 C	TITANIUM	PA
EPA 6010 C	ZINC	PA
EPA 602	BENZENE	PA
EPA 602	TOLUENE	PA
EPA 6020 A	ALUMINUM	PA
EPA 6020 A	ARSENIC	PA
EPA 6020 A	BERYLLIUM	PA
EPA 6020 A	CALCIUM	PA
EPA 6020 A	COBALT	PA
EPA 6020 A	IRON	PA
EPA 6020 A	MAGNESIUM	PA
EPA 6020 A	NICKEL	PA
EPA 6020 A	SELENIUM	PA
EPA 6020 A	SODIUM	PA
EPA 6020 A	VANADIUM	PA
EPA 6020 A - EXTENDED	BORON	PA
EPA 6020 A - EXTENDED	STRONTIUM	PA
EPA 6020 A - EXTENDED	TITANIUM	PA
EPA 608	4,4'-DDE	PA
EPA 608	ALDRIN	PA
EPA 6010 B	SODIUM	PA
EPA 6010 B	THALLIUM	PA
EPA 6010 B	TITANIUM	PA
EPA 6010 B	ZINC	PA
EPA 6010 C	ALUMINUM	PA
EPA 6010 C	ARSENIC	PA
EPA 6010 C	BERYLLIUM	PA
EPA 6010 C	CADMIUM	PA
EPA 6010 C	CHROMIUM	PA
EPA 6010 C	COPPER	PA
EPA 6010 C	LEAD	PA
EPA 6010 C	MAGNESIUM	PA
EPA 6010 C	MOLYBDENUM	PA
EPA 6010 C	POTASSIUM	PA
EPA 6010 C	SILVER	PA
EPA 6010 C	STRONTIUM	PA
EPA 6010 C	TIN	PA
EPA 6010 C	VANADIUM	PA
EPA 6010 C - EXTENDED	ZIRCONIUM	PA
EPA 602	ETHYLBENZENE	PA
EPA 602	XYLENE (TOTAL)	PA
EPA 6020 A	ANTIMONY	PA
EPA 6020 A	BARIUM	PA
EPA 6020 A	CADMIUM	PA
EPA 6020 A	CHROMIUM	PA
EPA 6020 A	COPPER	PA
EPA 6020 A	LEAD	PA
EPA 6020 A	MANGANESE	PA
EPA 6020 A	POTASSIUM	PA
EPA 6020 A	SILVER	PA
EPA 6020 A	THALLIUM	PA
EPA 6020 A	ZINC	PA
EPA 6020 A - EXTENDED	MOLYBDENUM	PA
EPA 6020 A - EXTENDED	TIN	PA
EPA 608	4,4'-DDD	PA
EPA 608	4,4'-DDT	PA
EPA 608	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 608	AROCLOR-1016 (PCB-1016)	PA
EPA 608	AROCLOR-1221 (PCB-1221)	PA
EPA 608	AROCLOR-1232 (PCB-1232)	PA
EPA 608	AROCLOR-1242 (PCB-1242)	PA
EPA 608	AROCLOR-1248 (PCB-1248)	PA
EPA 608	AROCLOR-1254 (PCB-1254)	PA
EPA 608	AROCLOR-1260 (PCB-1260)	PA
EPA 608	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	PA
EPA 608	CHLORDANE (TECH.)	PA
EPA 608	DELTA-BHC	PA
EPA 608	DIELDRIN	PA
EPA 608	ENDOSULFAN I	PA
EPA 608	ENDOSULFAN II	PA
EPA 608	ENDOSULFAN SULFATE	PA
EPA 608	ENDRIN	PA
EPA 608	ENDRIN ALDEHYDE	PA
EPA 608	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	PA
EPA 608	HEPTACHLOR	PA
EPA 608	HEPTACHLOR EPOXIDE	PA
EPA 608	TOXAPHENE (CHLORINATED CAMPHENE)	PA
EPA 622	AZINPHOS-METHYL (GUTHION)	PA
EPA 622	BOLSTAR (SULPROFOS)	PA
EPA 622	CHLORPYRIFOS	PA
EPA 622	DEMETON-O	PA
EPA 622	DEMETON-S	PA
EPA 622	DIAZINON	PA
EPA 622	DICHLOROVOS (DDVP, DICHLORVOS)	PA
EPA 622	DISULFOTON	PA
EPA 622	ETHOPROP	PA
EPA 622	FENSULFOTHION	PA
EPA 622	FENTHION	PA
EPA 622	MERPHOS	PA
EPA 622	METHYL PARATHION (PARATHION, METHYL)	PA
EPA 622	MEVINPHOS	PA
EPA 622	NALED	PA
EPA 622	PHORATE	PA
EPA 622	STIROFOS	PA
EPA 624	1,1,1-TRICHLOROETHANE	PA
EPA 624	1,1,2,2-TETRACHLOROETHANE	PA
EPA 624	1,1,2-TRICHLOROETHANE	PA
EPA 624	1,1-DICHLOROETHANE	PA
EPA 624	1,2-DICHLOROBENZENE	PA
EPA 624	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	PA
EPA 624	1,2-DICHLOROPROPANE	PA
EPA 624	1,3-DICHLOROBENZENE	PA
EPA 624	1,4-DICHLOROBENZENE	PA
EPA 624	2-CHLOROETHYL VINYL ETHER	PA
EPA 624	ACROLEIN (PROPENAL)	PA
EPA 624	ACRYLONITRILE	PA
EPA 624	BENZENE	PA
EPA 624	BROMODICHLOROMETHANE	PA
EPA 624	BROMOFORM	PA
EPA 624	CARBON TETRACHLORIDE	PA
EPA 624	CHLOROBENZENE	PA
EPA 624	CHLORODIBROMOMETHANE	PA
EPA 624	CHLOROETHANE (ETHYL CHLORIDE)	PA
EPA 624	CHLOROFORM	PA
EPA 624	CIS-1,3-DICHLOROPROPENE	PA
EPA 624	ETHYLBENZENE	PA
EPA 624	METHYL BROMIDE (BROMOMETHANE)	PA
EPA 624	METHYL CHLORIDE (CHLOROMETHANE)	PA
EPA 624	METHYLENE CHLORIDE (DICHLOROMETHANE)	PA
EPA 624	TETRACHLOROETHENE (PERCHLOROETHENE)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 624	TOLUENE	PA
EPA 624	TRANS-1,3-DICHLOROPROPENE	PA
EPA 624	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	PA
EPA 624 - EXTENDED	1,1-DICHLOROETHYLENE	PA
EPA 625	2,2'-OXYBIS(1-CHLOROPROPANE)	PA
EPA 625	2,4-DICHLOROPHENOL	PA
EPA 625	2,4-DINITROPHENOL	PA
EPA 625	2,6-DINITROTOLUENE (2,6-DNT)	PA
EPA 625	2-CHLOROPHENOL	PA
EPA 625	2-METHYLPHENOL (O-CRESOL)	PA
EPA 625	3,3'-DICHLOROBENZIDINE	PA
EPA 625	4-CHLORO-3-METHYLPHENOL	PA
EPA 625	4-NITROPHENOL	PA
EPA 625	ACENAPHTHYLENE	PA
EPA 625	BENZIDINE	PA
EPA 625	BENZO(A)PYRENE	PA
EPA 625	BENZO(G,H,I)PERYLENE	PA
EPA 625	BIS(2-CHLOROETHOXY)METHANE	PA
EPA 625	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	PA
EPA 625	CHRYSENE	PA
EPA 625	DI-N-OCTYL PHTHALATE	PA
EPA 625	DIETHYL PHTHALATE	PA
EPA 625	FLUORANTHENE	PA
EPA 625	HEXACHLOROBENZENE	PA
EPA 625	HEXACHLOROCYCLOPENTADIENE	PA
EPA 625	INDENO(1,2,3-CD) PYRENE	PA
EPA 625	N-NITROSODI-N-PROPYLAMINE	PA
EPA 625	N-NITROSODIPHENYLAMINE	PA
EPA 625	NITROBENZENE	PA
EPA 625	PHENANTHRENE	PA
EPA 625	PYRENE	PA
EPA 625 - EXTENDED	4-METHYLPHENOL (P-CRESOL)	PA
EPA 625 - EXTENDED	ANILINE	PA
EPA 625 - EXTENDED	N-DECANE	PA
EPA 624	TRANS-1,2-DICHLOROETHENE	PA
EPA 624	TRICHLOROETHENE (TRICHLOROETHYLENE)	PA
EPA 624	VINYL CHLORIDE	PA
EPA 625	1,2,4-TRICHLOROBENZENE	PA
EPA 625	2,4,6-TRICHLOROPHENOL	PA
EPA 625	2,4-DIMETHYLPHENOL	PA
EPA 625	2,4-DINITROTOLUENE (2,4-DNT)	PA
EPA 625	2-CHLORONAPHTHALENE	PA
EPA 625	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	PA
EPA 625	2-NITROPHENOL	PA
EPA 625	4-BROMOPHENYL PHENYL ETHER	PA
EPA 625	4-CHLOROPHENYL PHENYLETHER	PA
EPA 625	ACENAPHTHENE	PA
EPA 625	ANTHRACENE	PA
EPA 625	BENZO(A)ANTHRACENE	PA
EPA 625	BENZO(B)FLUORANTHENE	PA
EPA 625	BENZO(K)FLUORANTHENE	PA
EPA 625	BIS(2-CHLOROETHYL) ETHER	PA
EPA 625	BUTYL BENZYL PHTHALATE	PA
EPA 625	DI-N-BUTYL PHTHALATE	PA
EPA 625	DIBENZO(A,H) ANTHRACENE	PA
EPA 625	DIMETHYL PHTHALATE	PA
EPA 625	FLUORENE	PA
EPA 625	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 625	HEXACHLOROETHANE	PA
EPA 625	ISOPHORONE	PA
EPA 625	N-NITROSODIMETHYLAMINE	PA
EPA 625	NAPHTHALENE	PA
EPA 625	PENTACHLOROPHENOL	PA
EPA 625	PHENOL	PA
EPA 625 - EXTENDED	1,2-DIPHENYLHYDRAZINE	PA
EPA 625 - EXTENDED	ACETOPHENONE	PA
EPA 625 - EXTENDED	CARBAZOLE	PA
EPA 625 - EXTENDED	N-OCTADECANE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 625 - EXTENDED	PYRIDINE	PA
EPA 7196 A	CHROMIUM VI	PA
EPA 8011	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	PA
EPA 8015 B	DIESEL RANGE ORGANICS (DRO)	PA
EPA 8015 B	ETHYLENE GLYCOL	PA
EPA 8015 B	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA
EPA 8015 C	DIESEL RANGE ORGANICS (DRO)	PA
EPA 8015 C	ETHYLENE GLYCOL	PA
EPA 8015 C	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA
EPA 8021 B	BENZENE	PA
EPA 8021 B	ISOPROPYLBENZENE	PA
EPA 8021 B	NAPHTHALENE	PA
EPA 8021 B	TOLUENE	PA
EPA 8021 B - EXTENDED	METHYL TERT-BUTYL ETHER (MTBE)	PA
EPA 8081 A	4,4'-DDE	PA
EPA 8081 A	ALDRIN	PA
EPA 8081 A	ALPHA-CHLORDANE [CIS-CHLORDANE]	PA
EPA 8081 A	CHLORDANE (TECH.)	PA
EPA 8081 A	DIELDRIN	PA
EPA 8081 A	ENDOSULFAN II	PA
EPA 8081 A	ENDRIN	PA
EPA 8081 A	ENDRIN KETONE	PA
EPA 8081 A	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	PA
EPA 8081 A	HEPTACHLOR EPOXIDE	PA
EPA 8081 A	TOXAPHENE (CHLORINATED CAMPHENE)	PA
EPA 8081 B	4,4'-DDD	PA
EPA 8081 B	4,4'-DDT	PA
EPA 8081 B	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	PA
EPA 6850	PERCHLORATE	PA
EPA 7470 A	MERCURY	PA
EPA 8011	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	PA
EPA 8015 B	ETHANOL	PA
EPA 8015 B	GASOLINE RANGE ORGANICS (GRO)	PA
EPA 8015 B	METHANOL	PA
EPA 8015 C	ETHANOL	PA
EPA 8015 C	GASOLINE RANGE ORGANICS (GRO)	PA
EPA 8015 C	METHANOL	PA
EPA 8021 B	ETHYLBENZENE	PA
EPA 8021 B	M+P-XYLENE	PA
EPA 8021 B	O-XYLENE	PA
EPA 8021 B	XYLENE (TOTAL)	PA
EPA 8081 A	4,4'-DDD	PA
EPA 8081 A	4,4'-DDT	PA
EPA 8081 A	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 A	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 A	DELTA-BHC	PA
EPA 8081 A	ENDOSULFAN I	PA
EPA 8081 A	ENDOSULFAN SULFATE	PA
EPA 8081 A	ENDRIN ALDEHYDE	PA
EPA 8081 A	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 A	HEPTACHLOR	PA
EPA 8081 A	METHOXYCHLOR	PA
EPA 8081 A - EXTENDED	KEPONE	PA
EPA 8081 B	4,4'-DDE	PA
EPA 8081 B	ALDRIN	PA
EPA 8081 B	ALPHA-CHLORDANE [CIS-CHLORDANE]	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8081 B	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 B	DELTA-BHC	PA
EPA 8081 B	ENDOSULFAN I	PA
EPA 8081 B	ENDOSULFAN SULFATE	PA
EPA 8081 B	ENDRIN ALDEHYDE	PA
EPA 8081 B	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 B	HEPTACHLOR	PA
EPA 8081 B	METHOXYCHLOR	PA
EPA 8081 B - EXTENDED	KEPONE	PA
EPA 8082 A	AROCLOR-1221 (PCB-1221)	PA
EPA 8082 A	AROCLOR-1242 (PCB-1242)	PA
EPA 8082 A	AROCLOR-1254 (PCB-1254)	PA
EPA 8082 A - EXTENDED	AROCLOR-1262 (PCB-1262)	PA
EPA 8141 A	ATRAZINE	PA
EPA 8141 A	CHLORPYRIFOS	PA
EPA 8141 A	DEMETON-O	PA
EPA 8141 A	DIAZINON	PA
EPA 8141 A	DISULFOTON	PA
EPA 8141 A	ETHOPROP	PA
EPA 8141 A	FENSULFOTHION	PA
EPA 8141 A	MALATHION	PA
EPA 8141 A	METHYL PARATHION (PARATHION, METHYL)	PA
EPA 8141 A	NALED	PA
EPA 8141 A	PHORATE	PA
EPA 8141 A	SIMAZINE	PA
EPA 8141 A	TOKUTHION (PROTHIOPHOS)	PA
EPA 8141 B	ATRAZINE	PA
EPA 8141 B	BOLSTAR (SULPROFOS)	PA
EPA 8141 B	COUMAPHOS	PA
EPA 8141 B	DEMETON-S	PA
EPA 8141 B	DISULFOTON	PA
EPA 8141 B	ETHION	PA
EPA 8081 B	CHLORDANE (TECH.)	PA
EPA 8081 B	DIELDRIN	PA
EPA 8081 B	ENDOSULFAN II	PA
EPA 8081 B	ENDRIN	PA
EPA 8081 B	ENDRIN KETONE	PA
EPA 8081 B	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	PA
EPA 8081 B	HEPTACHLOR EPOXIDE	PA
EPA 8081 B	TOXAPHENE (CHLORINATED CAMPHENE)	PA
EPA 8082 A	AROCLOR-1016 (PCB-1016)	PA
EPA 8082 A	AROCLOR-1232 (PCB-1232)	PA
EPA 8082 A	AROCLOR-1248 (PCB-1248)	PA
EPA 8082 A	AROCLOR-1260 (PCB-1260)	PA
EPA 8082 A - EXTENDED	AROCLOR-1268 (PCB-1268)	PA
EPA 8141 A	BOLSTAR (SULPROFOS)	PA
EPA 8141 A	COUMAPHOS	PA
EPA 8141 A	DEMETON-S	PA
EPA 8141 A	DICHLOROVOS (DDVP, DICHLORVOS)	PA
EPA 8141 A	ETHION	PA
EPA 8141 A	FAMPHUR	PA
EPA 8141 A	FENTHION	PA
EPA 8141 A	MERPHOS	PA
EPA 8141 A	MEVINPHOS	PA
EPA 8141 A	PARATHION (PARATHION - ETHYL)	PA
EPA 8141 A	RONNEL	PA
EPA 8141 A	TETRACHLORVINPHOS (STIROPHOS, GARDONA) Z-ISOMER	PA
EPA 8141 A	TRICHLORONATE	PA
EPA 8141 B	AZINPHOS-METHYL (GUTHION)	PA
EPA 8141 B	CHLORPYRIFOS	PA
EPA 8141 B	DEMETON-O	PA
EPA 8141 B	DICHLOROVOS (DDVP, DICHLORVOS)	PA
EPA 8141 B	EPN (PHOSPHONOTHIOIC ACID, PHENYL-, O-ETHYL O-(P-NITROPHENYL) ESTER)	PA
EPA 8141 B	ETHOPROP	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY	METHOD	ANALYTE	PRIMARY
EPA 8141 B	FAMPHUR	PA	EPA 8141 B	FENSULFOTHION	PA
EPA 8141 B	FENTHION	PA	EPA 8141 B	MALATHION	PA
EPA 8141 B	MERPHOS	PA	EPA 8141 B	METHYL PARATHION (PARATHION, METHYL)	PA
EPA 8141 B	MEVINPHOS	PA	EPA 8141 B	NALED	PA
EPA 8141 B	PARATHION (PARATHION - ETHYL)	PA	EPA 8141 B	PHORATE	PA
EPA 8141 B	RONNEL	PA	EPA 8141 B	SIMAZINE	PA
EPA 8141 B	TETRACHLORVINPHOS (STIROPHOS, GARDONA) Z-ISOMER	PA	EPA 8141 B	TOKUTHION (PROTHIOPHOS)	PA
EPA 8141 B	TRICHLORONATE	PA	EPA 8151 A	2,4,5-T	PA
EPA 8151 A	2,4-D	PA	EPA 8151 A	2,4-DB	PA
EPA 8151 A	DALAPON	PA	EPA 8151 A	DICAMBA	PA
EPA 8151 A	DICHLOROPROP (DICHLORPROP)	PA	EPA 8151 A	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	PA
EPA 8151 A	MCPA	PA	EPA 8151 A	MCPP	PA
EPA 8151 A	PENTACHLOROPHENOL	PA	EPA 8151 A	PICLORAM	PA
EPA 8151 A	SILVEX (2,4,5-TP)	PA	EPA 8260 B	1,1,1,2-TETRACHLOROETHANE	PA
EPA 8260 B	1,1,1-TRICHLOROETHANE	PA	EPA 8260 B	1,1,2,2-TETRACHLOROETHANE	PA
EPA 8260 B	1,1,2-TRICHLOROETHANE	PA	EPA 8260 B	1,1-DICHLOROETHANE	PA
EPA 8260 B	1,1-DICHLOROETHYLENE	PA	EPA 8260 B	1,1-DICHLOROPROPENE	PA
EPA 8260 B	1,2,3-TRICHLOROBENZENE	PA	EPA 8260 B	1,2,3-TRICHLOROPROPANE	PA
EPA 8260 B	1,2,4-TRICHLOROBENZENE	PA	EPA 8260 B	1,2,4-TRIMETHYLBENZENE	PA
EPA 8260 B	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	PA	EPA 8260 B	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	PA
EPA 8260 B	1,2-DICHLOROBENZENE	PA	EPA 8260 B	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	PA
EPA 8260 B	1,2-DICHLOROPROPANE	PA	EPA 8260 B	1,3,5-TRIMETHYLBENZENE	PA
EPA 8260 B	1,3-DICHLOROBENZENE	PA	EPA 8260 B	1,3-DICHLOROPROPANE	PA
EPA 8260 B	1,4-DICHLOROBENZENE	PA	EPA 8260 B	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	PA
EPA 8260 B	1-BUTANOL (N-BUTANOL)	PA	EPA 8260 B	2,2-DICHLOROPROPANE	PA
EPA 8260 B	2-BUTANONE (METHYL ETHYL KETONE, MEK)	PA	EPA 8260 B	2-CHLOROETHYL VINYL ETHER	PA
EPA 8260 B	2-CHLOROTOLUENE	PA	EPA 8260 B	2-HEXANONE	PA
EPA 8260 B	2-NITROPROPANE	PA	EPA 8260 B	4-CHLOROTOLUENE	PA
EPA 8260 B	4-ISOPROPYLTOLUENE (P-CYMENE)	PA	EPA 8260 B	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	PA
EPA 8260 B	ACETONE	PA	EPA 8260 B	ACETONITRILE	PA
EPA 8260 B	ACROLEIN (PROPENAL)	PA	EPA 8260 B	ACRYLONITRILE	PA
EPA 8260 B	ALLYL CHLORIDE (3-CHLOROPROPENE)	PA	EPA 8260 B	BENZENE	PA
EPA 8260 B	BENZYL CHLORIDE	PA	EPA 8260 B	BROMOBENZENE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8260 B	BROMOCHLOROMETHANE	PA
EPA 8260 B	BROMOFORM	PA
EPA 8260 B	CARBON TETRACHLORIDE	PA
EPA 8260 B	CHLORODIBROMOMETHANE	PA
EPA 8260 B	CHLOROFORM	PA
EPA 8260 B	CIS-1,2-DICHLOROETHYLENE	PA
EPA 8260 B	DIBROMOMETHANE (METHYLENE BROMIDE)	PA
EPA 8260 B	DIETHYL ETHER	PA
EPA 8260 B	ETHANOL	PA
EPA 8260 B	ETHYL METHACRYLATE	PA
EPA 8260 B	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 8260 B	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	PA
EPA 8260 B	ISOPROPYLBENZENE	PA
EPA 8260 B	METHACRYLONITRILE	PA
EPA 8260 B	METHYL CHLORIDE (CHLOROMETHANE)	PA
EPA 8260 B	METHYL TERT-BUTYL ETHER (MTBE)	PA
EPA 8260 B	N-BUTYLBENZENE	PA
EPA 8260 B	N-PROPYLBENZENE	PA
EPA 8260 B	O-XYLENE	PA
EPA 8260 B	PROPIONITRILE (ETHYL CYANIDE)	PA
EPA 8260 B	STYRENE	PA
EPA 8260 B	TERT-BUTYLBENZENE	PA
EPA 8260 B	TOLUENE	PA
EPA 8260 B	TRANS-1,3-DICHLOROPROPENE	PA
EPA 8260 B	TRICHLOROETHENE (TRICHLOROETHYLENE)	PA
EPA 8260 B	VINYL ACETATE	PA
EPA 8260 B	XYLENE (TOTAL)	PA
EPA 8260 B - EXTENDED	CYCLOHEXANE	PA
EPA 8260 B - EXTENDED	ETHYL-T-BUTYLETHER (2-ETHOXY-2-METHYLPROPANE, ETBE)	PA
EPA 8260 B	BROMODICHLOROMETHANE	PA
EPA 8260 B	CARBON DISULFIDE	PA
EPA 8260 B	CHLOROBENZENE	PA
EPA 8260 B	CHLOROETHANE (ETHYL CHLORIDE)	PA
EPA 8260 B	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	PA
EPA 8260 B	CIS-1,3-DICHLOROPROPENE	PA
EPA 8260 B	DICHLORODIFLUOROMETHANE (FREON-12)	PA
EPA 8260 B	EPICHLOROHYDRIN (1-CHLORO-2,3-EPOXYPROPANE)	PA
EPA 8260 B	ETHYL ACETATE	PA
EPA 8260 B	ETHYLBENZENE	PA
EPA 8260 B	IODOMETHANE (METHYL IODIDE)	PA
EPA 8260 B	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA
EPA 8260 B	M+P-XYLENE	PA
EPA 8260 B	METHYL BROMIDE (BROMOMETHANE)	PA
EPA 8260 B	METHYL METHACRYLATE	PA
EPA 8260 B	METHYLENE CHLORIDE (DICHLOROMETHANE)	PA
EPA 8260 B	N-PROPYLAMINE	PA
EPA 8260 B	NAPHTHALENE	PA
EPA 8260 B	PENTACHLOROETHANE	PA
EPA 8260 B	SEC-BUTYLBENZENE	PA
EPA 8260 B	TERT-BUTYL ALCOHOL	PA
EPA 8260 B	TETRACHLOROETHENE (PERCHLOROETHENE)	PA
EPA 8260 B	TRANS-1,2-DICHLOROETHENE	PA
EPA 8260 B	TRANS-1,4-DICHLORO-2-BUTENE	PA
EPA 8260 B	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	PA
EPA 8260 B	VINYL CHLORIDE	PA
EPA 8260 B - EXTENDED	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	PA
EPA 8260 B - EXTENDED	DI-ISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	PA
EPA 8260 B - EXTENDED	GASOLINE RANGE ORGANICS (GRO)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8260 B - EXTENDED	METHYL ACETATE	PA
EPA 8260 B - EXTENDED	N-HEXANE	PA
EPA 8260 B - EXTENDED	T-AMYLMETHYLETHER (TAME)	PA
EPA 8260 C	1,1,1,2-TETRACHLOROETHANE	PA
EPA 8260 C	1,1,2,2-TETRACHLOROETHANE	PA
EPA 8260 C	1,1-DICHLOROETHANE	PA
EPA 8260 C	1,1-DICHLOROPROPENE	PA
EPA 8260 C	1,2,3-TRICHLOROPROPANE	PA
EPA 8260 C	1,2,4-TRIMETHYLBENZENE	PA
EPA 8260 C	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	PA
EPA 8260 C	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	PA
EPA 8260 C	1,3,5-TRIMETHYLBENZENE	PA
EPA 8260 C	1,3-DICHLOROPROPANE	PA
EPA 8260 C	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	PA
EPA 8260 C	2,2-DICHLOROPROPANE	PA
EPA 8260 C	2-CHLOROETHYL VINYL ETHER	PA
EPA 8260 C	2-HEXANONE	PA
EPA 8260 C	4-CHLOROTOLUENE	PA
EPA 8260 C	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	PA
EPA 8260 C	ACETONITRILE	PA
EPA 8260 C	ACRYLONITRILE	PA
EPA 8260 C	BENZENE	PA
EPA 8260 C	BROMOBENZENE	PA
EPA 8260 C	BROMODICHLOROMETHANE	PA
EPA 8260 C	CARBON DISULFIDE	PA
EPA 8260 C	CHLOROBENZENE	PA
EPA 8260 C	CHLOROETHANE (ETHYL CHLORIDE)	PA
EPA 8260 C	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	PA
EPA 8260 C	CIS-1,3-DICHLOROPROPENE	PA
EPA 8260 C	DIBROMOMETHANE (METHYLENE BROMIDE)	PA
EPA 8260 C	DIETHYL ETHER	PA
EPA 8260 C	ETHANOL	PA
EPA 8260 B - EXTENDED	METHYLCYCLOHEXANE	PA
EPA 8260 B - EXTENDED	T-AMYL ALCOHOL (TAA)	PA
EPA 8260 B - EXTENDED	TETRAHYDROFURAN (THF)	PA
EPA 8260 C	1,1,1-TRICHLOROETHANE	PA
EPA 8260 C	1,1,2-TRICHLOROETHANE	PA
EPA 8260 C	1,1-DICHLOROETHYLENE	PA
EPA 8260 C	1,2,3-TRICHLOROBENZENE	PA
EPA 8260 C	1,2,4-TRICHLOROBENZENE	PA
EPA 8260 C	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	PA
EPA 8260 C	1,2-DICHLOROBENZENE	PA
EPA 8260 C	1,2-DICHLOROPROPANE	PA
EPA 8260 C	1,3-DICHLOROBENZENE	PA
EPA 8260 C	1,4-DICHLOROBENZENE	PA
EPA 8260 C	1-BUTANOL (N-BUTANOL)	PA
EPA 8260 C	2-BUTANONE (METHYL ETHYL KETONE, MEK)	PA
EPA 8260 C	2-CHLOROTOLUENE	PA
EPA 8260 C	2-NITROPROPANE	PA
EPA 8260 C	4-ISOPROPYLTOLUENE (P-CYMENE)	PA
EPA 8260 C	ACETONE	PA
EPA 8260 C	ACROLEIN (PROPENAL)	PA
EPA 8260 C	ALLYL CHLORIDE (3-CHLOROPROPENE)	PA
EPA 8260 C	BENZYL CHLORIDE	PA
EPA 8260 C	BROMOCHLOROMETHANE	PA
EPA 8260 C	BROMOFORM	PA
EPA 8260 C	CARBON TETRACHLORIDE	PA
EPA 8260 C	CHLORODIBROMOMETHANE	PA
EPA 8260 C	CHLOROFORM	PA
EPA 8260 C	CIS-1,2-DICHLOROETHYLENE	PA
EPA 8260 C	CYCLOHEXANE	PA
EPA 8260 C	DICHLORODIFLUOROMETHANE (FREON-12)	PA
EPA 8260 C	EPICHLOROHYDRIN (1-CHLORO-2,3-EPOXYPROPANE)	PA
EPA 8260 C	ETHYL ACETATE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8260 C	ETHYL METHACRYLATE	PA
EPA 8260 C	ETHYLBENZENE	PA
EPA 8260 C	HEXACHLOROETHANE	PA
EPA 8260 C	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	PA
EPA 8260 C	ISOPROPYLBENZENE	PA
EPA 8260 C	METHYL BROMIDE (BROMOMETHANE)	PA
EPA 8260 C	METHYL METHACRYLATE	PA
EPA 8260 C	METHYLCYCLOHEXANE	PA
EPA 8260 C	N-BUTYLBENZENE	PA
EPA 8260 C	NAPHTHALENE	PA
EPA 8260 C	PROPIONITRILE (ETHYL CYANIDE)	PA
EPA 8260 C	STYRENE	PA
EPA 8260 C	TERT-BUTYL ALCOHOL	PA
EPA 8260 C	TETRACHLOROETHENE (PERCHLOROETHENE)	PA
EPA 8260 C	TRANS-1,2-DICHLOROETHENE	PA
EPA 8260 C	TRANS-1,4-DICHLORO-2-BUTENE	PA
EPA 8260 C	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	PA
EPA 8260 C	VINYL CHLORIDE	PA
EPA 8260 C - EXTENDED	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	PA
EPA 8260 C - EXTENDED	DI-ISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	PA
EPA 8260 C - EXTENDED	GASOLINE RANGE ORGANICS (GRO)	PA
EPA 8260 C - EXTENDED	N-HEPTANE	PA
EPA 8260 C - EXTENDED	TETRAHYDROFURAN (THF)	PA
EPA 8270 C	1,2,4-TRICHLOROBENZENE	PA
EPA 8270 C	1,2-DIPHENYLHYDRAZINE	PA
EPA 8270 C	1,3-DICHLOROBENZENE	PA
EPA 8270 C	1,4-DICHLOROBENZENE	PA
EPA 8270 C	1,4-NAPHTHOQUINONE	PA
EPA 8270 C	1-CHLORONAPHTHALENE	PA
EPA 8270 C	2,2'-OXYBIS(1-CHLOROPROPANE)	PA
EPA 8260 C	ETHYL-T-BUTYLETHER (2-ETHOXY-2-METHYLPROPANE, ETBE)	PA
EPA 8260 C	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 8260 C	IODOMETHANE (METHYL IODIDE)	PA
EPA 8260 C	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA
EPA 8260 C	METHACRYLONITRILE	PA
EPA 8260 C	METHYL CHLORIDE (CHLOROMETHANE)	PA
EPA 8260 C	METHYL TERT-BUTYL ETHER (MTBE)	PA
EPA 8260 C	METHYLENE CHLORIDE (DICHLOROMETHANE)	PA
EPA 8260 C	N-PROPYLBENZENE	PA
EPA 8260 C	PENTACHLOROETHANE	PA
EPA 8260 C	SEC-BUTYLBENZENE	PA
EPA 8260 C	T-AMYLMETHYLETHER (TAME)	PA
EPA 8260 C	TERT-BUTYLBENZENE	PA
EPA 8260 C	TOLUENE	PA
EPA 8260 C	TRANS-1,3-DICHLOROPROPENE	PA
EPA 8260 C	TRICHLOROETHENE (TRICHLOROETHYLENE)	PA
EPA 8260 C	VINYL ACETATE	PA
EPA 8260 C	XYLENE (TOTAL)	PA
EPA 8260 C - EXTENDED	CYCLOHEXANONE	PA
EPA 8260 C - EXTENDED	DIMETHYL ETHER	PA
EPA 8260 C - EXTENDED	METHYL ACETATE	PA
EPA 8260 C - EXTENDED	T-AMYL ALCOHOL (TAA)	PA
EPA 8270 C	1,2,4,5-TETRACHLOROBENZENE	PA
EPA 8270 C	1,2-DICHLOROBENZENE	PA
EPA 8270 C	1,3,5-TRINITROBENZENE (1,3,5-TNB)	PA
EPA 8270 C	1,3-DINITROBENZENE (1,3-DNB)	PA
EPA 8270 C	1,4-DINITROBENZENE	PA
EPA 8270 C	1,4-PHENYLENEDIAMINE	PA
EPA 8270 C	1-NAPHTHYLAMINE	PA
EPA 8270 C	2,3,4,6-TETRACHLOROPHENOL	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 C	2,4,5-TRICHLOROPHENOL	PA
EPA 8270 C	2,4-DICHLOROPHENOL	PA
EPA 8270 C	2,4-DINITROPHENOL	PA
EPA 8270 C	2,6-DICHLOROPHENOL	PA
EPA 8270 C	2-ACETYLAMINOFLUORENE	PA
EPA 8270 C	2-CHLOROPHENOL	PA
EPA 8270 C	2-METHYLNAPHTHALENE	PA
EPA 8270 C	2-NAPHTHYLAMINE	PA
EPA 8270 C	2-NITROPHENOL	PA
EPA 8270 C	3,3'-DICHLOROBENZIDINE	PA
EPA 8270 C	3-METHYLCHOLANTHRENE	PA
EPA 8270 C	3-NITROANILINE	PA
EPA 8270 C	4-AMINOBIPHENYL	PA
EPA 8270 C	4-CHLORO-3-METHYLPHENOL	PA
EPA 8270 C	4-CHLOROPHENYL PHENYLETHER	PA
EPA 8270 C	4-METHYLPHENOL (P-CRESOL)	PA
EPA 8270 C	4-NITROPHENOL	PA
EPA 8270 C	5-NITRO-O-TOLUIDINE	PA
EPA 8270 C	A-A-DIMETHYLPHENETHYLAMINE	PA
EPA 8270 C	ACENAPHTHYLENE	PA
EPA 8270 C	ANILINE	PA
EPA 8270 C	ARAMITE	PA
EPA 8270 C	BENZO(A)ANTHRACENE	PA
EPA 8270 C	BENZO(B)FLUORANTHENE	PA
EPA 8270 C	BENZO(K)FLUORANTHENE	PA
EPA 8270 C	BENZYL ALCOHOL	PA
EPA 8270 C	BIS(2-CHLOROETHYL) ETHER	PA
EPA 8270 C	BUTYL BENZYL PHTHALATE	PA
EPA 8270 C	CHRYSENE	PA
EPA 8270 C	DI-N-OCTYL PHTHALATE	PA
EPA 8270 C	DIBENZ(A, J) ACRIDINE	PA
EPA 8270 C	DIBENZOFURAN	PA
EPA 8270 C	DIMETHOATE	PA
EPA 8270 C	DIPHENYLAMINE	PA
EPA 8270 C	ETHYL METHANESULFONATE	PA
EPA 8270 C	FLUORANTHENE	PA

METHOD	ANALYTE	PRIMARY
EPA 8270 C	2,4,6-TRICHLOROPHENOL	PA
EPA 8270 C	2,4-DIMETHYLPHENOL	PA
EPA 8270 C	2,4-DINITROTOLUENE (2,4-DNT)	PA
EPA 8270 C	2,6-DINITROTOLUENE (2,6-DNT)	PA
EPA 8270 C	2-CHLORONAPHTHALENE	PA
EPA 8270 C	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	PA
EPA 8270 C	2-METHYLPHENOL (O-CRESOL)	PA
EPA 8270 C	2-NITROANILINE	PA
EPA 8270 C	2-PICOLINE (2-METHYLPYRIDINE)	PA
EPA 8270 C	3,3'-DIMETHYLBENZIDINE	PA
EPA 8270 C	3-METHYLPHENOL (M-CRESOL)	PA
EPA 8270 C	4,4'-METHYLENEBIS(2-CHLOROANILINE)	PA
EPA 8270 C	4-BROMOPHENYL PHENYL ETHER	PA
EPA 8270 C	4-CHLOROANILINE	PA
EPA 8270 C	4-DIMETHYL AMINOAZOBENZENE	PA
EPA 8270 C	4-NITROANILINE	PA
EPA 8270 C	4-NITROQUINOLINE-1-OXIDE	PA
EPA 8270 C	7,12-DIMETHYLBENZ(A) ANTHRACENE	PA
EPA 8270 C	ACENAPHTHENE	PA
EPA 8270 C	ACETOPHENONE	PA
EPA 8270 C	ANTHRACENE	PA
EPA 8270 C	BENZIDINE	PA
EPA 8270 C	BENZO(A)PYRENE	PA
EPA 8270 C	BENZO(G,H,I)PERYLENE	PA
EPA 8270 C	BENZOIC ACID	PA
EPA 8270 C	BIS(2-CHLOROETHOXY)METHANE	PA
EPA 8270 C	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	PA
EPA 8270 C	CHLOROBENZILATE	PA
EPA 8270 C	DI-N-BUTYL PHTHALATE	PA
EPA 8270 C	DIALLATE	PA
EPA 8270 C	DIBENZO(A,H) ANTHRACENE	PA
EPA 8270 C	DIETHYL PHTHALATE	PA
EPA 8270 C	DIMETHYL PHTHALATE	PA
EPA 8270 C	DISULFOTON	PA
EPA 8270 C	FAMPHUR	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 C	FLUORENE	PA
EPA 8270 C	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 8270 C	HEXACHLOROETHANE	PA
EPA 8270 C	INDENO(1,2,3-CD) PYRENE	PA
EPA 8270 C	ISOPHORONE	PA
EPA 8270 C	KEPONE	PA
EPA 8270 C	METHYL METHANESULFONATE	PA
EPA 8270 C	N-NITROSO-DI-N-BUTYLAMINE	PA
EPA 8270 C	N-NITROSODIETHYLAMINE	PA
EPA 8270 C	N-NITROSODIPHENYLAMINE	PA
EPA 8270 C	N-NITROSOMORPHOLINE	PA
EPA 8270 C	N-NITROSOPYRROLIDINE	PA
EPA 8270 C	NITROBENZENE	PA
EPA 8270 C	O-TOLUIDINE (2-METHYLANILINE)	PA
EPA 8270 C	PENTACHLOROBENZENE	PA
EPA 8270 C	PENTACHLOROPHENOL	PA
EPA 8270 C	PHENANTHRENE	PA
EPA 8270 C	PHORATE	PA
EPA 8270 C	PRONAMIDE (KERB)	PA
EPA 8270 C	PYRIDINE	PA
EPA 8270 C	THIONAZIN (ZINOPHOS)	PA
EPA 8270 C	TRIS-(2,3-DIBROMOPROPYL) PHOSPHATE (TRIS-BP)	PA
EPA 8270 C SIM	ACENAPHTHENE	PA
EPA 8270 C SIM	ANTHRACENE	PA
EPA 8270 C SIM	BENZO(A)PYRENE	PA
EPA 8270 C SIM	BENZO(G,H,I)PERYLENE	PA
EPA 8270 C SIM	CHRYSENE	PA
EPA 8270 C SIM	FLUORANTHENE	PA
EPA 8270 C SIM	INDENO(1,2,3-CD) PYRENE	PA
EPA 8270 C SIM	PHENANTHRENE	PA
EPA 8270 C SIM - EXTENDED	1-METHYLNAPHTHALENE	PA
EPA 8270 D	1,2,4-TRICHLOROBENZENE	PA
EPA 8270 D	1,2-DIPHENYLHYDRAZINE	PA
EPA 8270 D	1,3-DICHLOROBENZENE	PA
EPA 8270 D	1,4-DICHLOROBENZENE	PA
EPA 8270 C	HEXACHLOROBENZENE	PA
EPA 8270 C	HEXACHLOROCYCLOPENTADIENE	PA
EPA 8270 C	HEXACHLOROPROPENE	PA
EPA 8270 C	ISODRIN	PA
EPA 8270 C	ISOSAFROLE	PA
EPA 8270 C	METHAPYRILENE	PA
EPA 8270 C	METHYL PARATHION (PARATHION, METHYL)	PA
EPA 8270 C	N-NITROSODI-N-PROPYLAMINE	PA
EPA 8270 C	N-NITROSODIMETHYLAMINE	PA
EPA 8270 C	N-NITROSOMETHYLETHYLAMINE	PA
EPA 8270 C	N-NITROSOPIPERIDINE	PA
EPA 8270 C	NAPHTHALENE	PA
EPA 8270 C	O,O,O-TRIETHYL PHOSPHOROTHIOATE	PA
EPA 8270 C	PARATHION (PARATHION - ETHYL)	PA
EPA 8270 C	PENTACHLORONITROBENZENE	PA
EPA 8270 C	PHENACETIN	PA
EPA 8270 C	PHENOL	PA
EPA 8270 C	PHTHALIC ANHYDRIDE	PA
EPA 8270 C	PYRENE	PA
EPA 8270 C	SAFROLE	PA
EPA 8270 C	THIOPHENOL (BENZENETHIOL)	PA
EPA 8270 C SIM	2-METHYLNAPHTHALENE	PA
EPA 8270 C SIM	ACENAPHTHYLENE	PA
EPA 8270 C SIM	BENZO(A)ANTHRACENE	PA
EPA 8270 C SIM	BENZO(B)FLUORANTHENE	PA
EPA 8270 C SIM	BENZO(K)FLUORANTHENE	PA
EPA 8270 C SIM	DIBENZO(A,H) ANTHRACENE	PA
EPA 8270 C SIM	FLUORENE	PA
EPA 8270 C SIM	NAPHTHALENE	PA
EPA 8270 C SIM	PYRENE	PA
EPA 8270 D	1,2,4,5-TETRACHLOROBENZENE	PA
EPA 8270 D	1,2-DICHLOROBENZENE	PA
EPA 8270 D	1,3,5-TRINITROBENZENE (1,3,5-TNB)	PA
EPA 8270 D	1,3-DINITROBENZENE (1,3-DNB)	PA
EPA 8270 D	1,4-DINITROBENZENE	PA

Commonwealth of Virginia
Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 D	1,4-NAPHTHOQUINONE	PA
EPA 8270 D	1-CHLORONAPHTHALENE	PA
EPA 8270 D	2,2'-OXYBIS(1-CHLOROPROPANE)	PA
EPA 8270 D	2,4,5-TRICHLOROPHENOL	PA
EPA 8270 D	2,4-DICHLOROPHENOL	PA
EPA 8270 D	2,4-DINITROPHENOL	PA
EPA 8270 D	2,6-DICHLOROPHENOL	PA
EPA 8270 D	2-ACETYLAMINOFLUORENE	PA
EPA 8270 D	2-CHLOROPHENOL	PA
EPA 8270 D	2-METHYLNAPHTHALENE	PA
EPA 8270 D	2-NAPHTHYLAMINE	PA
EPA 8270 D	2-NITROPHENOL	PA
EPA 8270 D	3,3'-DICHLOROBENZIDINE	PA
EPA 8270 D	3-METHYLCHOLANTHRENE	PA
EPA 8270 D	3-NITROANILINE	PA
EPA 8270 D	4-AMINOBIPHENYL	PA
EPA 8270 D	4-CHLORO-3-METHYLPHENOL	PA
EPA 8270 D	4-CHLOROPHENYL PHENYLETHER	PA
EPA 8270 D	4-METHYLPHENOL (P-CRESOL)	PA
EPA 8270 D	4-NITROPHENOL	PA
EPA 8270 D	5-NITRO-O-TOLUIDINE	PA
EPA 8270 D	A-A-DIMETHYLPHENETHYLAMINE	PA
EPA 8270 D	ACENAPHTHYLENE	PA
EPA 8270 D	ANILINE	PA
EPA 8270 D	ARAMITE	PA
EPA 8270 D	BENZO(A)ANTHRACENE	PA
EPA 8270 D	BENZO(B)FLUORANTHENE	PA
EPA 8270 D	BENZO(K)FLUORANTHENE	PA
EPA 8270 D	BENZYL ALCOHOL	PA
EPA 8270 D	BIS(2-CHLOROETHYL) ETHER	PA
EPA 8270 D	BUTYL BENZYL PHTHALATE	PA
EPA 8270 D	CHRYSENE	PA
EPA 8270 D	DI-N-OCTYL PHTHALATE	PA
EPA 8270 D	DIBENZ(A, J) ACRIDINE	PA
EPA 8270 D	DIBENZOFURAN	PA
EPA 8270 D	DIMETHOATE	PA

METHOD	ANALYTE	PRIMARY
EPA 8270 D	1,4-PHENYLENEDIAMINE	PA
EPA 8270 D	1-NAPHTHYLAMINE	PA
EPA 8270 D	2,3,4,6-TETRACHLOROPHENOL	PA
EPA 8270 D	2,4,6-TRICHLOROPHENOL	PA
EPA 8270 D	2,4-DIMETHYLPHENOL	PA
EPA 8270 D	2,4-DINITROTOLUENE (2,4-DNT)	PA
EPA 8270 D	2,6-DINITROTOLUENE (2,6-DNT)	PA
EPA 8270 D	2-CHLORONAPHTHALENE	PA
EPA 8270 D	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	PA
EPA 8270 D	2-METHYLPHENOL (O-CRESOL)	PA
EPA 8270 D	2-NITROANILINE	PA
EPA 8270 D	2-PICOLINE (2-METHYLPYRIDINE)	PA
EPA 8270 D	3,3'-DIMETHYLBENZIDINE	PA
EPA 8270 D	3-METHYLPHENOL (M-CRESOL)	PA
EPA 8270 D	4,4'-METHYLENEBIS(2-CHLOROANILINE)	PA
EPA 8270 D	4-BROMOPHENYL PHENYL ETHER	PA
EPA 8270 D	4-CHLOROANILINE	PA
EPA 8270 D	4-DIMETHYL AMINOAZOBENZENE	PA
EPA 8270 D	4-NITROANILINE	PA
EPA 8270 D	4-NITROQUINOLINE-1-OXIDE	PA
EPA 8270 D	7,12-DIMETHYLBENZ(A) ANTHRACENE	PA
EPA 8270 D	ACENAPHTHENE	PA
EPA 8270 D	ACETOPHENONE	PA
EPA 8270 D	ANTHRACENE	PA
EPA 8270 D	BENZIDINE	PA
EPA 8270 D	BENZO(A)PYRENE	PA
EPA 8270 D	BENZO(G,H,I)PERYLENE	PA
EPA 8270 D	BENZOIC ACID	PA
EPA 8270 D	BIS(2-CHLOROETHOXY)METHANE	PA
EPA 8270 D	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	PA
EPA 8270 D	CHLOROBENZILATE	PA
EPA 8270 D	DI-N-BUTYL PHTHALATE	PA
EPA 8270 D	DIALLATE	PA
EPA 8270 D	DIBENZO(A,H) ANTHRACENE	PA
EPA 8270 D	DIETHYL PHTHALATE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 D	DIMETHYL PHTHALATE	PA
EPA 8270 D	DIPHENYLAMINE	PA
EPA 8270 D	ETHYL METHANESULFONATE	PA
EPA 8270 D	FLUORANTHENE	PA
EPA 8270 D	HEXACHLOROBENZENE	PA
EPA 8270 D	HEXACHLOROCYCLOPENTADIENE	PA
EPA 8270 D	HEXACHLOROPROPENE	PA
EPA 8270 D	ISODRIN	PA
EPA 8270 D	ISOSAFROLE	PA
EPA 8270 D	METHAPYRILENE	PA
EPA 8270 D	METHYL PARATHION (PARATHION, METHYL)	PA
EPA 8270 D	N-NITROSODI-N-PROPYLAMINE	PA
EPA 8270 D	N-NITROSODIMETHYLAMINE	PA
EPA 8270 D	N-NITROSOMETHYLETHYLAMINE	PA
EPA 8270 D	N-NITROSOPIPERIDINE	PA
EPA 8270 D	NAPHTHALENE	PA
EPA 8270 D	O,O,O-TRIETHYL PHOSPHOROTHIOATE	PA
EPA 8270 D	PARATHION (PARATHION - ETHYL)	PA
EPA 8270 D	PENTACHLORONITROBENZENE	PA
EPA 8270 D	PHENACETIN	PA
EPA 8270 D	PHENOL	PA
EPA 8270 D	PHTHALIC ANHYDRIDE	PA
EPA 8270 D	PYRENE	PA
EPA 8270 D	THIONAZIN (ZINOPHOS)	PA
EPA 8270 D - EXTENDED	1,1'-BIPHENYL	PA
EPA 8270 D - EXTENDED	ATRAZINE	PA
EPA 8270 D - EXTENDED	CAPROLACTAM	PA
EPA 8270 D - EXTENDED	PYRIDINE	PA
EPA 8270 D SIM	ACENAPHTHENE	PA
EPA 8270 D SIM	ANTHRACENE	PA
EPA 8270 D SIM	BENZO(A)PYRENE	PA
EPA 8270 D SIM	BENZO(G,H,I)PERYLENE	PA
EPA 8270 D SIM	CHRYSENE	PA
EPA 8270 D SIM	FLUORENE	PA
EPA 8270 D SIM	NAPHTHALENE	PA
EPA 8270 D	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	PA
EPA 8270 D	DISULFOTON	PA
EPA 8270 D	FAMPHUR	PA
EPA 8270 D	FLUORENE	PA
EPA 8270 D	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 8270 D	HEXACHLOROETHANE	PA
EPA 8270 D	INDENO(1,2,3-CD) PYRENE	PA
EPA 8270 D	ISOPHORONE	PA
EPA 8270 D	KEPONE	PA
EPA 8270 D	METHYL METHANESULFONATE	PA
EPA 8270 D	N-NITROSO-DI-N-BUTYLAMINE	PA
EPA 8270 D	N-NITROSODIETHYLAMINE	PA
EPA 8270 D	N-NITROSODIPHENYLAMINE	PA
EPA 8270 D	N-NITROSOMORPHOLINE	PA
EPA 8270 D	N-NITROSOPYRROLIDINE	PA
EPA 8270 D	NITROBENZENE	PA
EPA 8270 D	O-TOLUIDINE (2-METHYLANILINE)	PA
EPA 8270 D	PENTACHLOROBENZENE	PA
EPA 8270 D	PENTACHLOROPHENOL	PA
EPA 8270 D	PHENANTHRENE	PA
EPA 8270 D	PHORATE	PA
EPA 8270 D	PRONAMIDE (KERB)	PA
EPA 8270 D	SAFROLE	PA
EPA 8270 D	TRIS-(2,3-DIBROMOPROPYL) PHOSPHATE (TRIS-BP)	PA
EPA 8270 D - EXTENDED	1-METHYLNAPHTHALENE	PA
EPA 8270 D - EXTENDED	BENZALDEHYDE	PA
EPA 8270 D - EXTENDED	CARBAZOLE	PA
EPA 8270 D SIM	2-METHYLNAPHTHALENE	PA
EPA 8270 D SIM	ACENAPHTHYLENE	PA
EPA 8270 D SIM	BENZO(A)ANTHRACENE	PA
EPA 8270 D SIM	BENZO(B)FLUORANTHENE	PA
EPA 8270 D SIM	BENZO(K)FLUORANTHENE	PA
EPA 8270 D SIM	FLUORANTHENE	PA
EPA 8270 D SIM	INDENO(1,2,3-CD) PYRENE	PA
EPA 8270 D SIM	PHENANTHRENE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 D SIM	PYRENE	PA
EPA 8270 D SIM - EXTENDED	DIBENZO(A,H) PYRENE	PA
EPA 8290 A	1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN (OCDF)	PA
EPA 8290 A	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (1,2,3,4,6,7,8-HPCDF)	PA
EPA 8290 A	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (1,2,3,4,7,8-HXCDD)	PA
EPA 8290 A	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN(1,2,3,6,7,8-HXCDD)	PA
EPA 8290 A	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (1,2,3,7,8,9-HXCDD)	PA
EPA 8290 A	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (1,2,3,7,8-PECDD)	PA
EPA 8290 A	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (2,3,4,6,7,8-HXCDF)	PA
EPA 8290 A	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (2,3,7,8-TCDD)	PA
EPA 8315 A	ACETALDEHYDE	PA
EPA 8315 A	BUTYLALDEHYDE (BUTANAL)	PA
EPA 8315 A	FORMALDEHYDE	PA
EPA 8315 A	ISOVALERALDEHYDE	PA
EPA 8315 A	O-TOLUALDEHYDE (1,2-TOLUALDEHYDE)	PA
EPA 8315 A	PENTANAL (VALERALDEHYDE)	PA
EPA 8330 A	1,3,5-TRINITROBENZENE (1,3,5-TNB)	PA
EPA 8330 A	2,4,6-TRINITROTOLUENE (2,4,6-TNT)	PA
EPA 8330 A	2,6-DINITROTOLUENE (2,6-DNT)	PA
EPA 8330 A	2-NITROTOLUENE	PA
EPA 8330 A	4-AMINO-2,6-DINITROTOLUENE (4-AM-DNT)	PA
EPA 8330 A	METHYL-2,4,6-TRINITROPHENYLNITRAMINE (TETRYL)	PA
EPA 8330 A	NITROGLYCERIN	PA
EPA 8330 A	RDX (HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE)	PA
EPA 9012 B	TOTAL CYANIDE	PA
EPA 9050 A	CONDUCTIVITY	PA
EPA 9056 A	CHLORIDE	PA
EPA 9056 A	NITRATE AS N	PA
EPA 8270 D SIM - EXTENDED	1-METHYLNAPHTHALENE	PA
EPA 8290 A	1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	PA
EPA 8290 A	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (1,2,3,4,6,7,8-HPCDD)	PA
EPA 8290 A	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (1,2,3,4,7,8,9-HPCDF)	PA
EPA 8290 A	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (1,2,3,4,7,8-HXCDF)	PA
EPA 8290 A	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (1,2,3,6,7,8-HXCDF)	PA
EPA 8290 A	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (1,2,3,7,8,9-HXCDF)	PA
EPA 8290 A	1,2,3,7,8-PENTACHLORODIBENZOFURAN (1,2,3,7,8-PECDF)	PA
EPA 8290 A	2,3,4,7,8-PENTACHLORODIBENZOFURAN	PA
EPA 8290 A	2,3,7,8-TETRACHLORODIBENZOFURAN (2,3,7,8-TCDF)	PA
EPA 8315 A	BENZALDEHYDE	PA
EPA 8315 A	CROTONALDEHYDE	PA
EPA 8315 A	HEXANALDEHYDE (HEXANAL)	PA
EPA 8315 A	M-TOLUALDEHYDE (1,3-TOLUALDEHYDE)	PA
EPA 8315 A	P-TOLUALDEHYDE (1,4-TOLUALDEHYDE)	PA
EPA 8315 A	PROPIONALDEHYDE (PROPANAL)	PA
EPA 8330 A	1,3-DINITROBENZENE (1,3-DNB)	PA
EPA 8330 A	2,4-DINITROTOLUENE (2,4-DNT)	PA
EPA 8330 A	2-AMINO-4,6-DINITROTOLUENE (2-AM-DNT)	PA
EPA 8330 A	3-NITROTOLUENE	PA
EPA 8330 A	4-NITROTOLUENE	PA
EPA 8330 A	NITROBENZENE	PA
EPA 8330 A	OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE (HMX)	PA
EPA 9012 A	TOTAL CYANIDE	PA
EPA 9040 C	PH	PA
EPA 9056 A	BROMIDE	PA
EPA 9056 A	FLUORIDE	PA
EPA 9056 A	NITRITE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 9056 A	SULFATE	PA
OIA-1677-09	AMENABLE CYANIDE	PA
RSK-175	ETHANE	PA
RSK-175	METHANE	PA
SM 2310 B-1997	ACIDITY, AS CACO3	PA
SM 2340 C-1997	TOTAL HARDNESS AS CACO3	PA
SM 2540 B-1997	RESIDUE-TOTAL	PA
SM 2540 D-1997	RESIDUE-NONFILTERABLE (TSS)	PA
SM 3500-CR B-2009	CHROMIUM VI	PA
SM 4500-F^- C-1997	FLUORIDE	PA
SM 4500-NH3 D-1997	AMMONIA AS N	PA
SM 4500-P F-1999	PHOSPHORUS, TOTAL	PA
SM 4500-SIO2 C-1997	SILICA AS SIO2	PA
SM 5210 B-2001	CARBONACEOUS BOD, CBOD	PA
SM 5540 C-2000	SURFACTANTS - MBAS	PA

METHOD	ANALYTE	PRIMARY
EPA 9066	TOTAL PHENOLICS	PA
OIA-1677-09	FREE CYANIDE	PA
RSK-175	ETHENE	PA
SM 2120 B-2001	COLOR	PA
SM 2320 B-1997	ALKALINITY AS CACO3	PA
SM 2510 B-1997	CONDUCTIVITY	PA
SM 2540 C-1997	RESIDUE-FILTERABLE (TDS)	PA
SM 2540 F-1997	RESIDUE-SETTLEABLE	PA
SM 4500-F^- B-1997	FLUORIDE	PA
SM 4500-NH3 B-1997	AMMONIA AS N	PA
SM 4500-P E-1999	ORTHOPHOSPHATE AS P	PA
SM 4500-$S2^-$ D-2000	SULFIDE	PA
SM 5210 B-2001	BIOCHEMICAL OXYGEN DEMAND	PA
SM 5310 C-2000	TOTAL ORGANIC CARBON	PA
SM 9222 D-1997	FECAL COLIFORMS	PA

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 1010 A	FLASHPOINT	PA
EPA 1312	PREP: SYNTHETIC PRECIPITATION LEACHING PROCEDURE	PA
EPA 1668 A	2,2',3,3',4,4',5,5'-OCTACHLOROBIPHENYL (BZ-194)	PA
EPA 1668 A	2,2',3,3',4,4',5,6,6'-NONACHLOROBIPHENYL (BZ-207)	PA
EPA 1668 A	2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (BZ-170)	PA
EPA 1668 A	2,2',3,3',4,4',6-HEPTACHLOROBIPHENYL (BZ-171)	PA
EPA 1668 A	2,2',3,3',4,5',6-HEPTACHLOROBIPHENYL (BZ-177)	PA
EPA 1668 A	2,2',3,3',4,5',6-HEPTACHLOROBIPHENYL (BZ-175)	PA
EPA 1668 A	2,2',3,3',4,5,5',6'-OCTACHLOROBIPHENYL (BZ-199)	PA
EPA 1668 A	2,2',3,3',4,5,5',6-OCTACHLOROBIPHENYL (BZ-198)	PA
EPA 1668 A	2,2',3,3',4,5,6'-HEPTACHLOROBIPHENYL (BZ-174)	PA
EPA 1668 A	2,2',3,3',4,5,6-HEPTACHLOROBIPHENYL (BZ-173)	PA
EPA 1668 A	2,2',3,3',4,6'-HEXACHLOROBIPHENYL (BZ-132)	PA

METHOD	ANALYTE	PRIMARY
EPA 1311	PREP: TOXICITY CHARACTERISTIC LEACHING PROCEDURE	PA
EPA 1668 A	2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL (BZ-206)	PA
EPA 1668 A	2,2',3,3',4,4',5,6'-OCTACHLOROBIPHENYL (BZ-196)	PA
EPA 1668 A	2,2',3,3',4,4',5,6-OCTACHLOROBIPHENYL BZ-195)	PA
EPA 1668 A	2,2',3,3',4,4',6,6'-OCTACHLOROBIPHENYL (BZ-197)	PA
EPA 1668 A	2,2',3,3',4,4'-HEXACHLOROBIPHENYL (BZ-128)	PA
EPA 1668 A	2,2',3,3',4,5',6,6'-OCTACHLOROBIPHENYL (BZ-201)	PA
EPA 1668 A	2,2',3,3',4,5'-HEXACHLOROBIPHENYL (BZ-130)	PA
EPA 1668 A	2,2',3,3',4,5,5',6,6'-NONACHLOROBIPHENYL (BZ-208)	PA
EPA 1668 A	2,2',3,3',4,5,5'-HEPTACHLOROBIPHENYL (BZ-172)	PA
EPA 1668 A	2,2',3,3',4,5,6,6'-OCTACHLOROBIPHENYL (BZ-200)	PA
EPA 1668 A	2,2',3,3',4,5-HEXACHLOROBIPHENYL (BZ-129)	PA
EPA 1668 A	2,2',3,3',4,6,6'-HEPTACHLOROBIPHENYL (BZ-176)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 1668 A	2,2',3,3',4,6-HEXACHLOROBIPHENYL (BZ-131)	PA
EPA 1668 A	2,2',3,3',5,5',6,6'-OCTACHLOROBIPHENYL (BZ-202)	PA
EPA 1668 A	2,2',3,3',5,5'-HEXACHLOROBIPHENYL (BZ-133)	PA
EPA 1668 A	2,2',3,3',5,6,6'-HEPTACHLOROBIPHENYL (BZ-179)	PA
EPA 1668 A	2,2',3,3',5-PENTACHLOROBIPHENYL (BZ-83)	PA
EPA 1668 A	2,2',3,3',6-PENTACHLOROBIPHENYL (BZ-84)	PA
EPA 1668 A	2,2',3,4',5',6-HEXACHLOROBIPHENYL (BZ-149)	PA
EPA 1668 A	2,2',3,4',5,5',6-HEPTACHLOROBIPHENYL (BZ-187)	PA
EPA 1668 A	2,2',3,4',5,6'-HEXACHLOROBIPHENYL (BZ-148)	PA
EPA 1668 A	2,2',3,4',5,6-HEXACHLOROBIPHENYL (BZ-147)	PA
EPA 1668 A	2,2',3,4',6'-PENTACHLOROBIPHENYL (BZ-98)	PA
EPA 1668 A	2,2',3,4',6-PENTACHLOROBIPHENYL (BZ-91)	PA
EPA 1668 A	2,2',3,4,4',5',6-HEPTACHLOROBIPHENYL (BZ-183)	PA
EPA 1668 A	2,2',3,4,4',5,5',6-OCTACHLOROBIPHENYL (BZ-203)	PA
EPA 1668 A	2,2',3,4,4',5,6'-HEPTACHLOROBIPHENYL (BZ-182)	PA
EPA 1668 A	2,2',3,4,4',5,6-HEPTACHLOROBIPHENYL (BZ-181)	PA
EPA 1668 A	2,2',3,4,4',6'-HEXACHLOROBIPHENYL (BZ-140)	PA
EPA 1668 A	2,2',3,4,4',6-HEXACHLOROBIPHENYL (BZ-139)	PA
EPA 1668 A	2,2',3,4,5',6-HEXACHLOROBIPHENYL (BZ-144)	PA
EPA 1668 A	2,2',3,4,5,5',6-HEPTACHLOROBIPHENYL (BZ-185)	PA
EPA 1668 A	2,2',3,4,5,6'-HEXACHLOROBIPHENYL (BZ-143)	PA
EPA 1668 A	2,2',3,4,5,6-HEXACHLOROBIPHENYL (BZ-142)	PA
EPA 1668 A	2,2',3,4,6'-PENTACHLOROBIPHENYL (BZ-89)	PA
EPA 1668 A	2,2',3,4,6-PENTACHLOROBIPHENYL (BZ-88)	PA
EPA 1668 A	2,2',3,5',6-PENTACHLOROBIPHENYL (BZ-95)	PA
EPA 1668 A	2,2',3,3',4-PENTACHLOROBIPHENYL (BZ-82)	PA
EPA 1668 A	2,2',3,3',5,5',6-HEPTACHLOROBIPHENYL (BZ-178)	PA
EPA 1668 A	2,2',3,3',5,6'-HEXACHLOROBIPHENYL (BZ-135)	PA
EPA 1668 A	2,2',3,3',5,6-HEXACHLOROBIPHENYL (BZ-134)	PA
EPA 1668 A	2,2',3,3',6,6'-HEXACHLOROBIPHENYL (BZ-136)	PA
EPA 1668 A	2,2',3,3'-TETRACHLOROBIPHENYL (BZ-40)	PA
EPA 1668 A	2,2',3,4',5'-PENTACHLOROBIPHENYL (BZ-97)	PA
EPA 1668 A	2,2',3,4',5,5'-HEXACHLOROBIPHENYL (BZ-146)	PA
EPA 1668 A	2,2',3,4',5,6,6'-HEPTACHLOROBIPHENYL (BZ-188)	PA
EPA 1668 A	2,2',3,4',5-PENTACHLOROBIPHENYL (BZ-90)	PA
EPA 1668 A	2,2',3,4',6,6'-HEXACHLOROBIPHENYL (BZ-150)	PA
EPA 1668 A	2,2',3,4'-TETRACHLOROBIPHENYL (BZ-42)	PA
EPA 1668 A	2,2',3,4,4',5'-HEXACHLOROBIPHENYL (BZ-138)	PA
EPA 1668 A	2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (BZ-180)	PA
EPA 1668 A	2,2',3,4,4',5,6,6'-OCTACHLOROBIPHENYL (BZ-204)	PA
EPA 1668 A	2,2',3,4,4',5-HEXACHLOROBIPHENYL (BZ-137)	PA
EPA 1668 A	2,2',3,4,4',6,6'-HEPTACHLOROBIPHENYL (BZ-184)	PA
EPA 1668 A	2,2',3,4,4'-PENTACHLOROBIPHENYL (BZ-85)	PA
EPA 1668 A	2,2',3,4,5'-PENTACHLOROBIPHENYL (BZ-87)	PA
EPA 1668 A	2,2',3,4,5,5'-HEXACHLOROBIPHENYL (BZ-141)	PA
EPA 1668 A	2,2',3,4,5,6,6'-HEPTACHLOROBIPHENYL (BZ-186)	PA
EPA 1668 A	2,2',3,4,5-PENTACHLOROBIPHENYL (BZ-86)	PA
EPA 1668 A	2,2',3,4,6,6'-HEXACHLOROBIPHENYL (BZ-145)	PA
EPA 1668 A	2,2',3,4-TETRACHLOROBIPHENYL (BZ-41)	PA
EPA 1668 A	2,2',3,5'-TETRACHLOROBIPHENYL (BZ-44)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 1668 A	2,2',3,5,5',6-HEXACHLOROBIPHENYL (BZ-151)	PA
EPA 1668 A	2,2',3,5,6'-PENTACHLOROBIPHENYL (BZ-94)	PA
EPA 1668 A	2,2',3,5,6-PENTACHLOROBIPHENYL (BZ-93)	PA
EPA 1668 A	2,2',3,6'-TETRACHLOROBIPHENYL (BZ-46)	PA
EPA 1668 A	2,2',3,6-TETRACHLOROBIPHENYL (BZ-45)	PA
EPA 1668 A	2,2',4,4',5,5'-HEXACHLOROBIPHENYL (BZ-153)	PA
EPA 1668 A	2,2',4,4',5-PENTACHLOROBIPHENYL (BZ-99)	PA
EPA 1668 A	2,2',4,4',6-PENTACHLOROBIPHENYL (BZ-100)	PA
EPA 1668 A	2,2',4,5',6-PENTACHLOROBIPHENYL (BZ-103)	PA
EPA 1668 A	2,2',4,5,5'-PENTACHLOROBIPHENYL (BZ-101)	PA
EPA 1668 A	2,2',4,5-TETRACHLOROBIPHENYL (BZ-48)	PA
EPA 1668 A	2,2',4,6,6'-PENTACHLOROBIPHENYL (BZ-104)	PA
EPA 1668 A	2,2',4-TRICHLOROBIPHENYL (BZ-17)	PA
EPA 1668 A	2,2',5,6'-TETRACHLOROBIPHENYL (BZ-53)	PA
EPA 1668 A	2,2',6,6'-TETRACHLOROBIPHENYL (BZ-54)	PA
EPA 1668 A	2,2'-DICHLOROBIPHENYL (BZ-4)	PA
EPA 1668 A	2,3',4',5'-TETRACHLOROBIPHENYL (BZ-76)	PA
EPA 1668 A	2,3',4',5-TETRACHLOROBIPHENYL (BZ-70)	PA
EPA 1668 A	2,3',4'-TRICHLOROBIPHENYL (BZ-33)	PA
EPA 1668 A	2,3',4,4',5'-PENTACHLOROBIPHENYL (BZ-123)	PA
EPA 1668 A	2,3',4,4',5-PENTACHLOROBIPHENYL (BZ-118)	PA
EPA 1668 A	2,3',4,4'-TETRACHLOROBIPHENYL (BZ-66)	PA
EPA 1668 A	2,3',4,5'-TETRACHLOROBIPHENYL (BZ-68)	PA
EPA 1668 A	2,3',4,5-TETRACHLOROBIPHENYL (BZ-67)	PA
EPA 1668 A	2,3',4-TRICHLOROBIPHENYL (BZ-25)	PA
EPA 1668 A	2,2',3,5,5'-PENTACHLOROBIPHENYL (BZ-92)	PA
EPA 1668 A	2,2',3,5,6,6'-HEXACHLOROBIPHENYL (BZ-152)	PA
EPA 1668 A	2,2',3,5-TETRACHLOROBIPHENYL (BZ-43)	PA
EPA 1668 A	2,2',3,6,6'-PENTACHLOROBIPHENYL (BZ-96)	PA
EPA 1668 A	2,2',3-TRICHLOROBIPHENYL (BZ-16)	PA
EPA 1668 A	2,2',4,4',5,6'-HEXACHLOROBIPHENYL (BZ-154)	PA
EPA 1668 A	2,2',4,4',6,6'-HEXACHLOROBIPHENYL (BZ-155)	PA
EPA 1668 A	2,2',4,4'-TETRACHLOROBIPHENYL (BZ-47)	PA
EPA 1668 A	2,2',4,5'-TETRACHLOROBIPHENYL (BZ-49)	PA
EPA 1668 A	2,2',4,5,6'-PENTACHLOROBIPHENYL (BZ-102)	PA
EPA 1668 A	2,2',4,6'-TETRACHLOROBIPHENYL (BZ-51)	PA
EPA 1668 A	2,2',4,6-TETRACHLOROBIPHENYL (BZ-50)	PA
EPA 1668 A	2,2',5,5'-TETRACHLOROBIPHENYL (BZ-52)	PA
EPA 1668 A	2,2',5-TRICHLOROBIPHENYL (BZ-18)	PA
EPA 1668 A	2,2',6-TRICHLOROBIPHENYL (BZ-19)	PA
EPA 1668 A	2,3',4',5',6-PENTACHLOROBIPHENYL (BZ-125)	PA
EPA 1668 A	2,3',4',5,5'-PENTACHLOROBIPHENYL (BZ-124)	PA
EPA 1668 A	2,3',4',6-TETRACHLOROBIPHENYL (BZ-71)	PA
EPA 1668 A	2,3',4,4',5',6-HEXACHLOROBIPHENYL (BZ-168)	PA
EPA 1668 A	2,3',4,4',5,5'-HEXACHLOROBIPHENYL (BZ-167)	PA
EPA 1668 A	2,3',4,4',6-PENTACHLOROBIPHENYL (BZ-119)	PA
EPA 1668 A	2,3',4,5',6-PENTACHLOROBIPHENYL (BZ-121)	PA
EPA 1668 A	2,3',4,5,5'-PENTACHLOROBIPHENYL (BZ-120)	PA
EPA 1668 A	2,3',4,6-TETRACHLOROBIPHENYL (BZ-69)	PA
EPA 1668 A	2,3',5',6-TETRACHLOROBIPHENYL (BZ-73)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 1668 A	2,3',5'-TRICHLOROBIPHENYL (BZ-34)	PA
EPA 1668 A	2,3',5-TRICHLOROBIPHENYL (BZ-26)	PA
EPA 1668 A	2,3'-DICHLOROBIPHENYL (BZ-6)	PA
EPA 1668 A	2,3,3',4',5'-PENTACHLOROBIPHENYL (BZ-122)	PA
EPA 1668 A	2,3,3',4',5,5'-HEXACHLOROBIPHENYL (BZ-162)	PA
EPA 1668 A	2,3,3',4',5-PENTACHLOROBIPHENYL (BZ-107)	PA
EPA 1668 A	2,3,3',4'-TETRACHLOROBIPHENYL (BZ-56)	PA
EPA 1668 A	2,3,3',4,4',5'-HEXACHLOROBIPHENYL (BZ-157)	PA
EPA 1668 A	2,3,3',4,4',5,5'-HEPTACHLOROBIPHENYL (BZ-189)	PA
EPA 1668 A	2,3,3',4,4',5-HEXACHLOROBIPHENYL (BZ-156)	PA
EPA 1668 A	2,3,3',4,4'-PENTACHLOROBIPHENYL (BZ-105)	PA
EPA 1668 A	2,3,3',4,5'-PENTACHLOROBIPHENYL (BZ-108)	PA
EPA 1668 A	2,3,3',4,5,5'-HEXACHLOROBIPHENYL (BZ-159)	PA
EPA 1668 A	2,3,3',4,5-PENTACHLOROBIPHENYL (BZ-106)	PA
EPA 1668 A	2,3,3',4-TETRACHLOROBIPHENYL (BZ-55)	PA
EPA 1668 A	2,3,3',5'-TETRACHLOROBIPHENYL (BZ-58)	PA
EPA 1668 A	2,3,3',5,5'-PENTACHLOROBIPHENYL (BZ-111)	PA
EPA 1668 A	2,3,3',5-TETRACHLOROBIPHENYL (BZ-57)	PA
EPA 1668 A	2,3,3'-TRICHLOROBIPHENYL (BZ-20)	PA
EPA 1668 A	2,3,4',5-TETRACHLOROBIPHENYL (BZ-63)	PA
EPA 1668 A	2,3,4'-TRICHLOROBIPHENYL (BZ-22)	PA
EPA 1668 A	2,3,4,4',5-PENTACHLOROBIPHENYL (BZ-114)	PA
EPA 1668 A	2,3,4,4'-TETRACHLOROBIPHENYL (BZ-60)	PA
EPA 1668 A	2,3,4,5-TETRACHLOROBIPHENYL (BZ-61)	PA
EPA 1668 A	2,3,4-TRICHLOROBIPHENYL (BZ-21)	PA
EPA 1668 A	2,3',5,5'-TETRACHLOROBIPHENYL (BZ-72)	PA
EPA 1668 A	2,3',6-TRICHLOROBIPHENYL (BZ-27)	PA
EPA 1668 A	2,3,3',4',5',6-HEXACHLOROBIPHENYL (BZ-164)	PA
EPA 1668 A	2,3,3',4',5,5',6-HEPTACHLOROBIPHENYL (BZ-193)	PA
EPA 1668 A	2,3,3',4',5,6-HEXACHLOROBIPHENYL (BZ-163)	PA
EPA 1668 A	2,3,3',4',6-PENTACHLOROBIPHENYL (BZ-110)	PA
EPA 1668 A	2,3,3',4,4',5',6-HEPTACHLOROBIPHENYL (BZ-191)	PA
EPA 1668 A	2,3,3',4,4',5,5',6-OCTACHLOROBIPHENYL (BZ-205)	PA
EPA 1668 A	2,3,3',4,4',5,6-HEPTACHLOROBIPHENYL (BZ-190)	PA
EPA 1668 A	2,3,3',4,4',6-HEXACHLOROBIPHENYL (BZ-158)	PA
EPA 1668 A	2,3,3',4,5',6-HEXACHLOROBIPHENYL (BZ-161)	PA
EPA 1668 A	2,3,3',4,5,5',6-HEPTACHLOROBIPHENYL (BZ-192)	PA
EPA 1668 A	2,3,3',4,5,6-HEXACHLOROBIPHENYL (BZ-160)	PA
EPA 1668 A	2,3,3',4,6-PENTACHLOROBIPHENYL (BZ-109)	PA
EPA 1668 A	2,3,3',5',6-PENTACHLOROBIPHENYL (BZ-113)	PA
EPA 1668 A	2,3,3',5,5',6-HEXACHLOROBIPHENYL (BZ-165)	PA
EPA 1668 A	2,3,3',5,6-PENTACHLOROBIPHENYL (BZ-112)	PA
EPA 1668 A	2,3,3',6-TETRACHLOROBIPHENYL (BZ-59)	PA
EPA 1668 A	2,3,4',5,6-PENTACHLOROBIPHENYL (BZ-117)	PA
EPA 1668 A	2,3,4',6-TETRACHLOROBIPHENYL (BZ-64)	PA
EPA 1668 A	2,3,4,4',5,6-HEXACHLOROBIPHENYL (BZ-166)	PA
EPA 1668 A	2,3,4,4',6-PENTACHLOROBIPHENYL (BZ-115)	PA
EPA 1668 A	2,3,4,5,6-PENTACHLOROBIPHENYL (BZ-116)	PA
EPA 1668 A	2,3,4,6-TETRACHLOROBIPHENYL (BZ-62)	PA
EPA 1668 A	2,3,5,6-TETRACHLOROBIPHENYL (BZ-65)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 1668 A	2,3,5-TRICHLOROBIPHENYL (BZ-23)	PA
EPA 1668 A	2,3-DICHLOROBIPHENYL (BZ-5)	PA
EPA 1668 A	2,4',6-TRICHLOROBIPHENYL (BZ-32)	PA
EPA 1668 A	2,4,4',5-TETRACHLOROBIPHENYL (BZ-74)	PA
EPA 1668 A	2,4,4'-TRICHLOROBIPHENYL (BZ-28)	PA
EPA 1668 A	2,4,6-TRICHLOROBIPHENYL (BZ-30)	PA
EPA 1668 A	2,5-DICHLOROBIPHENYL (BZ-9)	PA
EPA 1668 A	2-CHLOROBIPHENYL (BZ-1)	PA
EPA 1668 A	3,3',4,4',5-PENTACHLOROBIPHENYL (BZ-126)	PA
EPA 1668 A	3,3',4,5'-TETRACHLOROBIPHENYL (BZ-79)	PA
EPA 1668 A	3,3',4,5-TETRACHLOROBIPHENYL (BZ-78)	PA
EPA 1668 A	3,3',5,5'-TETRACHLOROBIPHENYL (BZ-80)	PA
EPA 1668 A	3,3'-DICHLOROBIPHENYL (BZ-11)	PA
EPA 1668 A	3,4'-DICHLOROBIPHENYL (BZ-13)	PA
EPA 1668 A	3,4,4'-TRICHLOROBIPHENYL (BZ-37)	PA
EPA 1668 A	3,4-DICHLOROBIPHENYL (BZ-12)	PA
EPA 1668 A	3-CHLOROBIPHENYL (BZ-2)	PA
EPA 1668 A	4-CHLOROBIPHENYL (BZ-3)	PA
EPA 3050 B	PREP: ACID DIGESTION OF SEDIMENTS, SLUDGES, AND SOILS	PA
EPA 3546	PREP: MICROWAVE EXTRACTION	PA
EPA 3620 B	PREP: FLORISIL CLEANUP	PA
EPA 3640 A	PREP: GEL PERMEATION CLEANUP	PA
EPA 3665 A	SULFURIC ACID/PERMANGANATE CLEAN-UP	PA
EPA 5035	PREP: CLOSED-SYSTEM PURGE AND TRAP AND EXTRACTION	PA
EPA 6010 B	ANTIMONY	PA
EPA 6010 B	BARIUM	PA
EPA 6010 B	BORON	PA
EPA 6010 B	CALCIUM	PA
EPA 6010 B	COBALT	PA
EPA 6010 B	IRON	PA
EPA 6010 B	MAGNESIUM	PA
EPA 6010 B	MOLYBDENUM	PA
EPA 6010 B	POTASSIUM	PA

METHOD	ANALYTE	PRIMARY
EPA 1668 A	2,3,6-TRICHLOROBIPHENYL (BZ-24)	PA
EPA 1668 A	2,4',5-TRICHLOROBIPHENYL (BZ-31)	PA
EPA 1668 A	2,4'-DICHLOROBIPHENYL (BZ-8)	PA
EPA 1668 A	2,4,4',6-TETRACHLOROBIPHENYL (BZ-75)	PA
EPA 1668 A	2,4,5-TRICHLOROBIPHENYL (BZ-29)	PA
EPA 1668 A	2,4-DICHLOROBIPHENYL (BZ-7)	PA
EPA 1668 A	2,6-DICHLOROBIPHENYL (BZ-10)	PA
EPA 1668 A	3,3',4,4',5,5'-HEXACHLOROBIPHENYL (BZ-169)	PA
EPA 1668 A	3,3',4,4'-TETRACHLOROBIPHENYL (BZ-77)	PA
EPA 1668 A	3,3',4,5,5'-PENTACHLOROBIPHENYL (BZ-127)	PA
EPA 1668 A	3,3',4-TRICHLOROBIPHENYL (BZ-35)	PA
EPA 1668 A	3,3',5-TRICHLOROBIPHENYL (BZ-36)	PA
EPA 1668 A	3,4',5-TRICHLOROBIPHENYL (BZ-39)	PA
EPA 1668 A	3,4,4',5-TETRACHLOROBIPHENYL (BZ-81)	PA
EPA 1668 A	3,4,5-TRICHLOROBIPHENYL (BZ-38)	PA
EPA 1668 A	3,5-DICHLOROBIPHENYL (BZ-14)	PA
EPA 1668 A	4,4'-DICHLOROBIPHENYL (BZ-15)	PA
EPA 1668 A	DECACHLOROBIPHENYL (BZ-209)	PA
EPA 3540 C	PREP: SOXHLET EXTRACTION	PA
EPA 3550 B	PREP: ULTRASONIC EXTRACTION	PA
EPA 3630 C	PREP: SILICA GEL CLEANUP	PA
EPA 3660 B	PREP: SULFUR CLEANUP	PA
EPA 5030 B	PREP: PURGE AND TRAP FOR AQUEOUS SAMPLES	PA
EPA 6010 B	ALUMINUM	PA
EPA 6010 B	ARSENIC	PA
EPA 6010 B	BERYLLIUM	PA
EPA 6010 B	CADMIUM	PA
EPA 6010 B	CHROMIUM	PA
EPA 6010 B	COPPER	PA
EPA 6010 B	LEAD	PA
EPA 6010 B	MANGANESE	PA
EPA 6010 B	NICKEL	PA
EPA 6010 B	SELENIUM	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 6010 B	SILVER	PA
EPA 6010 B	STRONTIUM	PA
EPA 6010 B	TIN	PA
EPA 6010 B	VANADIUM	PA
EPA 6010 B - EXTENDED	ZIRCONIUM	PA
EPA 6010 C	ANTIMONY	PA
EPA 6010 C	BARIUM	PA
EPA 6010 C	BORON	PA
EPA 6010 C	CALCIUM	PA
EPA 6010 C	COBALT	PA
EPA 6010 C	IRON	PA
EPA 6010 C	MAGNESIUM	PA
EPA 6010 C	MOLYBDENUM	PA
EPA 6010 C	POTASSIUM	PA
EPA 6010 C	SILVER	PA
EPA 6010 C	STRONTIUM	PA
EPA 6010 C	TIN	PA
EPA 6010 C	VANADIUM	PA
EPA 6010 C - EXTENDED	ZIRCONIUM	PA
EPA 6020 A	ANTIMONY	PA
EPA 6020 A	BERYLLIUM	PA
EPA 6020 A	CALCIUM	PA
EPA 6020 A	COBALT	PA
EPA 6020 A	IRON	PA
EPA 6020 A	MAGNESIUM	PA
EPA 6020 A	NICKEL	PA
EPA 6020 A	SELENIUM	PA
EPA 6020 A	SODIUM	PA
EPA 6020 A	VANADIUM	PA
EPA 6020 A - EXTENDED	BORON	PA
EPA 6020 A - EXTENDED	TIN	PA
EPA 6850	PERCHLORATE	PA
EPA 7471 A	MERCURY	PA
EPA 8015 B	DIESEL RANGE ORGANICS (DRO)	PA
EPA 8015 B	ETHYLENE GLYCOL	PA
EPA 8015 B	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA
EPA 8015 C	ETHANOL	PA
EPA 6010 B	SODIUM	PA
EPA 6010 B	THALLIUM	PA
EPA 6010 B	TITANIUM	PA
EPA 6010 B	ZINC	PA
EPA 6010 C	ALUMINUM	PA
EPA 6010 C	ARSENIC	PA
EPA 6010 C	BERYLLIUM	PA
EPA 6010 C	CADMIUM	PA
EPA 6010 C	CHROMIUM	PA
EPA 6010 C	COPPER	PA
EPA 6010 C	LEAD	PA
EPA 6010 C	MANGANESE	PA
EPA 6010 C	NICKEL	PA
EPA 6010 C	SELENIUM	PA
EPA 6010 C	SODIUM	PA
EPA 6010 C	THALLIUM	PA
EPA 6010 C	TITANIUM	PA
EPA 6010 C	ZINC	PA
EPA 6020 A	ALUMINUM	PA
EPA 6020 A	ARSENIC	PA
EPA 6020 A	CADMIUM	PA
EPA 6020 A	CHROMIUM	PA
EPA 6020 A	COPPER	PA
EPA 6020 A	LEAD	PA
EPA 6020 A	MANGANESE	PA
EPA 6020 A	POTASSIUM	PA
EPA 6020 A	SILVER	PA
EPA 6020 A	THALLIUM	PA
EPA 6020 A	ZINC	PA
EPA 6020 A - EXTENDED	STRONTIUM	PA
EPA 6020 A - EXTENDED	TITANIUM	PA
EPA 7196 A	CHROMIUM VI	PA
EPA 7471 B	MERCURY	PA
EPA 8015 B	ETHANOL	PA
EPA 8015 B	GASOLINE RANGE ORGANICS (GRO)	PA
EPA 8015 B	METHANOL	PA
EPA 8015 C	ETHYLENE GLYCOL	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8015 C	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA
EPA 8021 B	BENZENE	PA
EPA 8021 B	ISOPROPYLBENZENE	PA
EPA 8021 B	NAPHTHALENE	PA
EPA 8021 B	TOLUENE	PA
EPA 8021 B - EXTENDED	METHYL TERT-BUTYL ETHER (MTBE)	PA
EPA 8081 A	4,4'-DDE	PA
EPA 8081 A	ALDRIN	PA
EPA 8081 A	ALPHA-CHLORDANE [CIS-CHLORDANE]	PA
EPA 8081 A	CHLORDANE (TECH.)	PA
EPA 8081 A	DIELDRIN	PA
EPA 8081 A	ENDOSULFAN II	PA
EPA 8081 A	ENDRIN	PA
EPA 8081 A	ENDRIN KETONE	PA
EPA 8081 A	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	PA
EPA 8081 A	HEPTACHLOR EPOXIDE	PA
EPA 8081 A	TOXAPHENE (CHLORINATED CAMPHENE)	PA
EPA 8081 B	4,4'-DDE	PA
EPA 8081 B	ALDRIN	PA
EPA 8081 B	ALPHA-CHLORDANE [CIS-CHLORDANE]	PA
EPA 8081 B	CHLORDANE (TECH.)	PA
EPA 8081 B	DIELDRIN	PA
EPA 8081 B	ENDOSULFAN II	PA
EPA 8081 B	ENDRIN	PA
EPA 8081 B	ENDRIN KETONE	PA
EPA 8081 B	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	PA
EPA 8081 B	HEPTACHLOR EPOXIDE	PA

METHOD	ANALYTE	PRIMARY
EPA 8015 C	METHANOL	PA
EPA 8021 B	ETHYLBENZENE	PA
EPA 8021 B	M+P-XYLENE	PA
EPA 8021 B	O-XYLENE	PA
EPA 8021 B	XYLENE (TOTAL)	PA
EPA 8081 A	4,4'-DDD	PA
EPA 8081 A	4,4'-DDT	PA
EPA 8081 A	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 A	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 A	DELTA-BHC	PA
EPA 8081 A	ENDOSULFAN I	PA
EPA 8081 A	ENDOSULFAN SULFATE	PA
EPA 8081 A	ENDRIN ALDEHYDE	PA
EPA 8081 A	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 A	HEPTACHLOR	PA
EPA 8081 A	METHOXYCHLOR	PA
EPA 8081 B	4,4'-DDD	PA
EPA 8081 B	4,4'-DDT	PA
EPA 8081 B	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 B	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 B	DELTA-BHC	PA
EPA 8081 B	ENDOSULFAN I	PA
EPA 8081 B	ENDOSULFAN SULFATE	PA
EPA 8081 B	ENDRIN ALDEHYDE	PA
EPA 8081 B	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	PA
EPA 8081 B	HEPTACHLOR	PA
EPA 8081 B	METHOXYCHLOR	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8081 B	TOXAPHENE (CHLORINATED CAMPHENE)	PA
EPA 8081 B - EXTENDED	MIREX	PA
EPA 8082 - OIL A	AROCLOR-1221 (PCB-1221)	PA
EPA 8082 - OIL A	AROCLOR-1242 (PCB-1242)	PA
EPA 8082 - OIL A	AROCLOR-1254 (PCB-1254)	PA
EPA 8082 A	AROCLOR-1016 (PCB-1016)	PA
EPA 8082 A	AROCLOR-1232 (PCB-1232)	PA
EPA 8082 A	AROCLOR-1248 (PCB-1248)	PA
EPA 8082 A	AROCLOR-1260 (PCB-1260)	PA
EPA 8082 A - EXTENDED	AROCLOR-1268 (PCB-1268)	PA
EPA 8141 A	BOLSTAR (SULPROFOS)	PA
EPA 8141 A	COUMAPHOS	PA
EPA 8141 A	DEMETON-S	PA
EPA 8141 A	DICHLOROVOS (DDVP, DICHLORVOS)	PA
EPA 8141 A	EPN (PHOSPHONOTHIOIC ACID, PHENYL-, O-ETHYL O-(P-NITROPHENYL) ESTER)	PA
EPA 8141 A	ETHOPROP	PA
EPA 8141 A	FENSULFOTHION	PA
EPA 8141 A	MALATHION	PA
EPA 8141 A	METHYL PARATHION (PARATHION, METHYL)	PA
EPA 8141 A	NALED	PA
EPA 8141 A	PHORATE	PA
EPA 8141 A	SIMAZINE	PA
EPA 8141 A	TOKUTHION (PROTHIOPHOS)	PA
EPA 8141 B	ATRAZINE	PA
EPA 8141 B	COUMAPHOS	PA
EPA 8141 B	DEMETON-S	PA
EPA 8141 B	DICHLOROVOS (DDVP, DICHLORVOS)	PA
EPA 8141 B	EPN (PHOSPHONOTHIOIC ACID, PHENYL-, O-ETHYL O-(P-NITROPHENYL) ESTER)	PA
EPA 8141 B	ETHOPROP	PA
EPA 8141 B	FENSULFOTHION	PA
EPA 8141 B	MALATHION	PA
EPA 8141 B	METHYL PARATHION (PARATHION, METHYL)	PA
EPA 8141 B	NALED	PA
EPA 8081 B - EXTENDED	KEPONE	PA
EPA 8082 - OIL A	AROCLOR-1016 (PCB-1016)	PA
EPA 8082 - OIL A	AROCLOR-1232 (PCB-1232)	PA
EPA 8082 - OIL A	AROCLOR-1248 (PCB-1248)	PA
EPA 8082 - OIL A	AROCLOR-1260 (PCB-1260)	PA
EPA 8082 A	AROCLOR-1221 (PCB-1221)	PA
EPA 8082 A	AROCLOR-1242 (PCB-1242)	PA
EPA 8082 A	AROCLOR-1254 (PCB-1254)	PA
EPA 8082 A - EXTENDED	AROCLOR-1262 (PCB-1262)	PA
EPA 8141 A	ATRAZINE	PA
EPA 8141 A	CHLORPYRIFOS	PA
EPA 8141 A	DEMETON-O	PA
EPA 8141 A	DIAZINON	PA
EPA 8141 A	DISULFOTON	PA
EPA 8141 A	ETHION	PA
EPA 8141 A	FAMPHUR	PA
EPA 8141 A	FENTHION	PA
EPA 8141 A	MERPHOS	PA
EPA 8141 A	MEVINPHOS	PA
EPA 8141 A	PARATHION (PARATHION - ETHYL)	PA
EPA 8141 A	RONNEL	PA
EPA 8141 A	TETRACHLORVINPHOS (STIROPHOS, GARDONA) Z-ISOMER	PA
EPA 8141 A	TRICHLORONATE	PA
EPA 8141 B	BOLSTAR (SULPROFOS)	PA
EPA 8141 B	DEMETON-O	PA
EPA 8141 B	DIAZINON	PA
EPA 8141 B	DISULFOTON	PA
EPA 8141 B	ETHION	PA
EPA 8141 B	FAMPHUR	PA
EPA 8141 B	FENTHION	PA
EPA 8141 B	MERPHOS	PA
EPA 8141 B	MEVINPHOS	PA
EPA 8141 B	PARATHION (PARATHION - ETHYL)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8141 B	PHORATE	PA
EPA 8141 B	SIMAZINE	PA
EPA 8141 B	TOKUTHION (PROTHIOPHOS)	PA
EPA 8151 A	2,4,5-T	PA
EPA 8151 A	2,4-DB	PA
EPA 8151 A	DICAMBA	PA
EPA 8151 A	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	PA
EPA 8151 A	MCPP	PA
EPA 8151 A	PICLORAM	PA
EPA 8260 B	1,1,1,2-TETRACHLOROETHANE	PA
EPA 8260 B	1,1,2,2-TETRACHLOROETHANE	PA
EPA 8260 B	1,1-DICHLOROETHANE	PA
EPA 8260 B	1,1-DICHLOROPROPENE	PA
EPA 8260 B	1,2,3-TRICHLOROPROPANE	PA
EPA 8260 B	1,2,4-TRIMETHYLBENZENE	PA
EPA 8260 B	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	PA
EPA 8260 B	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	PA
EPA 8260 B	1,3,5-TRIMETHYLBENZENE	PA
EPA 8260 B	1,3-DICHLOROPROPANE	PA
EPA 8260 B	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	PA
EPA 8260 B	2,2-DICHLOROPROPANE	PA
EPA 8260 B	2-CHLOROETHYL VINYL ETHER	PA
EPA 8260 B	2-HEXANONE	PA
EPA 8260 B	4-ISOPROPYLTOLUENE (P-CYMENE)	PA
EPA 8260 B	ACETONE	PA
EPA 8260 B	ACROLEIN (PROPENAL)	PA
EPA 8260 B	ALLYL CHLORIDE (3-CHLOROPROPENE)	PA
EPA 8260 B	BENZYL CHLORIDE	PA
EPA 8260 B	BROMOCHLOROMETHANE	PA
EPA 8260 B	BROMOFORM	PA
EPA 8260 B	CARBON TETRACHLORIDE	PA
EPA 8260 B	CHLORODIBROMOMETHANE	PA

METHOD	ANALYTE	PRIMARY
EPA 8141 B	RONNEL	PA
EPA 8141 B	TETRACHLORVINPHOS (STIROPHOS, GARDONA) Z-ISOMER	PA
EPA 8141 B	TRICHLORONATE	PA
EPA 8151 A	2,4-D	PA
EPA 8151 A	DALAPON	PA
EPA 8151 A	DICHLOROPROP (DICHLORPROP)	PA
EPA 8151 A	MCPA	PA
EPA 8151 A	PENTACHLOROPHENOL	PA
EPA 8151 A	SILVEX (2,4,5-TP)	PA
EPA 8260 B	1,1,1-TRICHLOROETHANE	PA
EPA 8260 B	1,1,2-TRICHLOROETHANE	PA
EPA 8260 B	1,1-DICHLOROETHYLENE	PA
EPA 8260 B	1,2,3-TRICHLOROBENZENE	PA
EPA 8260 B	1,2,4-TRICHLOROBENZENE	PA
EPA 8260 B	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	PA
EPA 8260 B	1,2-DICHLOROBENZENE	PA
EPA 8260 B	1,2-DICHLOROPROPANE	PA
EPA 8260 B	1,3-DICHLOROBENZENE	PA
EPA 8260 B	1,4-DICHLOROBENZENE	PA
EPA 8260 B	1-BUTANOL (N-BUTANOL)	PA
EPA 8260 B	2-BUTANONE (METHYL ETHYL KETONE, MEK)	PA
EPA 8260 B	2-CHLOROTOLUENE	PA
EPA 8260 B	4-CHLOROTOLUENE	PA
EPA 8260 B	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	PA
EPA 8260 B	ACETONITRILE	PA
EPA 8260 B	ACRYLONITRILE	PA
EPA 8260 B	BENZENE	PA
EPA 8260 B	BROMOBENZENE	PA
EPA 8260 B	BROMODICHLOROMETHANE	PA
EPA 8260 B	CARBON DISULFIDE	PA
EPA 8260 B	CHLOROBENZENE	PA
EPA 8260 B	CHLOROETHANE (ETHYL CHLORIDE)	PA

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8260 B	CHLOROFORM	PA
EPA 8260 B	CIS-1,2-DICHLOROETHYLENE	PA
EPA 8260 B	DIBROMOMETHANE (METHYLENE BROMIDE)	PA
EPA 8260 B	EPICHLOROHYDRIN (1-CHLORO-2,3-EPOXYPROPANE)	PA
EPA 8260 B	ETHYL ACETATE	PA
EPA 8260 B	ETHYLBENZENE	PA
EPA 8260 B	IODOMETHANE (METHYL IODIDE)	PA
EPA 8260 B	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA
EPA 8260 B	M+P-XYLENE	PA
EPA 8260 B	METHYL BROMIDE (BROMOMETHANE)	PA
EPA 8260 B	METHYL METHACRYLATE	PA
EPA 8260 B	METHYLENE CHLORIDE (DICHLOROMETHANE)	PA
EPA 8260 B	N-PROPYLBENZENE	PA
EPA 8260 B	O-XYLENE	PA
EPA 8260 B	PROPIONITRILE (ETHYL CYANIDE)	PA
EPA 8260 B	STYRENE	PA
EPA 8260 B	TERT-BUTYLBENZENE	PA
EPA 8260 B	TOLUENE	PA
EPA 8260 B	TRANS-1,3-DICHLOROPROPENE	PA
EPA 8260 B	TRICHLOROETHENE (TRICHLOROETHYLENE)	PA
EPA 8260 B	VINYL ACETATE	PA
EPA 8260 B	XYLENE (TOTAL)	PA
EPA 8260 B - EXTENDED	CYCLOHEXANE	PA
EPA 8260 B - EXTENDED	DI-ISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	PA
EPA 8260 B - EXTENDED	GASOLINE RANGE ORGANICS (GRO)	PA
EPA 8260 B - EXTENDED	METHYLCYCLOHEXANE	PA
EPA 8260 B - EXTENDED	T-AMYLMETHYLETHER (TAME)	PA
EPA 8260 C	1,1,1,2-TETRACHLOROETHANE	PA
EPA 8260 C	1,1,2,2-TETRACHLOROETHANE	PA
EPA 8260 B	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	PA
EPA 8260 B	CIS-1,3-DICHLOROPROPENE	PA
EPA 8260 B	DICHLORODIFLUOROMETHANE (FREON-12)	PA
EPA 8260 B	ETHANOL	PA
EPA 8260 B	ETHYL METHACRYLATE	PA
EPA 8260 B	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 8260 B	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	PA
EPA 8260 B	ISOPROPYLBENZENE	PA
EPA 8260 B	METHACRYLONITRILE	PA
EPA 8260 B	METHYL CHLORIDE (CHLOROMETHANE)	PA
EPA 8260 B	METHYL TERT-BUTYL ETHER (MTBE)	PA
EPA 8260 B	N-BUTYLBENZENE	PA
EPA 8260 B	NAPHTHALENE	PA
EPA 8260 B	PENTACHLOROETHANE	PA
EPA 8260 B	SEC-BUTYLBENZENE	PA
EPA 8260 B	TERT-BUTYL ALCOHOL	PA
EPA 8260 B	TETRACHLOROETHENE (PERCHLOROETHENE)	PA
EPA 8260 B	TRANS-1,2-DICHLOROETHENE	PA
EPA 8260 B	TRANS-1,4-DICHLORO-2-BUTENE	PA
EPA 8260 B	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	PA
EPA 8260 B	VINYL CHLORIDE	PA
EPA 8260 B - EXTENDED	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	PA
EPA 8260 B - EXTENDED	CYCLOHEXANONE	PA
EPA 8260 B - EXTENDED	ETHYL-T-BUTYLETHER (2-ETHOXY-2-METHYLPROPANE, ETBE)	PA
EPA 8260 B - EXTENDED	METHYL ACETATE	PA
EPA 8260 B - EXTENDED	T-AMYL ALCOHOL (TAA)	PA
EPA 8260 B - EXTENDED	TETRAHYDROFURAN (THF)	PA
EPA 8260 C	1,1,1-TRICHLOROETHANE	PA
EPA 8260 C	1,1,2-TRICHLOROETHANE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8260 C	1,1-DICHLOROETHANE	PA
EPA 8260 C	1,1-DICHLOROPROPENE	PA
EPA 8260 C	1,2,3-TRICHLOROPROPANE	PA
EPA 8260 C	1,2,4-TRIMETHYLBENZENE	PA
EPA 8260 C	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	PA
EPA 8260 C	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	PA
EPA 8260 C	1,3,5-TRIMETHYLBENZENE	PA
EPA 8260 C	1,3-DICHLOROPROPANE	PA
EPA 8260 C	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	PA
EPA 8260 C	2-BUTANONE (METHYL ETHYL KETONE, MEK)	PA
EPA 8260 C	2-CHLOROTOLUENE	PA
EPA 8260 C	4-CHLOROTOLUENE	PA
EPA 8260 C	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	PA
EPA 8260 C	ACETONITRILE	PA
EPA 8260 C	ACRYLONITRILE	PA
EPA 8260 C	BENZENE	PA
EPA 8260 C	BROMOBENZENE	PA
EPA 8260 C	BROMODICHLOROMETHANE	PA
EPA 8260 C	CARBON DISULFIDE	PA
EPA 8260 C	CHLOROBENZENE	PA
EPA 8260 C	CHLOROETHANE (ETHYL CHLORIDE)	PA
EPA 8260 C	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	PA
EPA 8260 C	CIS-1,3-DICHLOROPROPENE	PA
EPA 8260 C	DIBROMOMETHANE (METHYLENE BROMIDE)	PA
EPA 8260 C	EPICHLOROHYDRIN (1-CHLORO-2,3-EPOXYPROPANE)	PA
EPA 8260 C	ETHYL ACETATE	PA
EPA 8260 C	ETHYL-T-BUTYLETHER (2-ETHOXY-2-METHYLPROPANE, ETBE)	PA
EPA 8260 C	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 8260 C	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	PA
EPA 8260 C	ISOPROPYLBENZENE	PA
EPA 8260 C	1,1-DICHLOROETHYLENE	PA
EPA 8260 C	1,2,3-TRICHLOROBENZENE	PA
EPA 8260 C	1,2,4-TRICHLOROBENZENE	PA
EPA 8260 C	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	PA
EPA 8260 C	1,2-DICHLOROBENZENE	PA
EPA 8260 C	1,2-DICHLOROPROPANE	PA
EPA 8260 C	1,3-DICHLOROBENZENE	PA
EPA 8260 C	1,4-DICHLOROBENZENE	PA
EPA 8260 C	2,2-DICHLOROPROPANE	PA
EPA 8260 C	2-CHLOROETHYL VINYL ETHER	PA
EPA 8260 C	2-HEXANONE	PA
EPA 8260 C	4-ISOPROPYLTOLUENE (P-CYMENE)	PA
EPA 8260 C	ACETONE	PA
EPA 8260 C	ACROLEIN (PROPENAL)	PA
EPA 8260 C	ALLYL CHLORIDE (3-CHLOROPROPENE)	PA
EPA 8260 C	BENZYL CHLORIDE	PA
EPA 8260 C	BROMOCHLOROMETHANE	PA
EPA 8260 C	BROMOFORM	PA
EPA 8260 C	CARBON TETRACHLORIDE	PA
EPA 8260 C	CHLORODIBROMOMETHANE	PA
EPA 8260 C	CHLOROFORM	PA
EPA 8260 C	CIS-1,2-DICHLOROETHYLENE	PA
EPA 8260 C	CYCLOHEXANE	PA
EPA 8260 C	DICHLORODIFLUOROMETHANE (FREON-12)	PA
EPA 8260 C	ETHANOL	PA
EPA 8260 C	ETHYL METHACRYLATE	PA
EPA 8260 C	ETHYLBENZENE	PA
EPA 8260 C	IODOMETHANE (METHYL IODIDE)	PA
EPA 8260 C	ISOPROPYL ALCOHOL (2-PROPANOL, ISOPROPANOL)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8260 C	METHACRYLONITRILE	PA
EPA 8260 C	METHYL CHLORIDE (CHLOROMETHANE)	PA
EPA 8260 C	METHYL TERT-BUTYL ETHER (MTBE)	PA
EPA 8260 C	METHYLENE CHLORIDE (DICHLOROMETHANE)	PA
EPA 8260 C	N-PROPYLBENZENE	PA
EPA 8260 C	PENTACHLOROETHANE	PA
EPA 8260 C	SEC-BUTYLBENZENE	PA
EPA 8260 C	T-AMYLMETHYLETHER (TAME)	PA
EPA 8260 C	TETRACHLOROETHENE (PERCHLOROETHENE)	PA
EPA 8260 C	TRANS-1,2-DICHLOROETHENE	PA
EPA 8260 C	TRANS-1,4-DICHLORO-2-BUTENE	PA
EPA 8260 C	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	PA
EPA 8260 C	VINYL CHLORIDE	PA
EPA 8260 C - EXTENDED	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	PA
EPA 8260 C - EXTENDED	GASOLINE RANGE ORGANICS (GRO)	PA
EPA 8260 C - EXTENDED	T-AMYL ALCOHOL (TAA)	PA
EPA 8270 C	1,2,4,5-TETRACHLOROBENZENE	PA
EPA 8270 C	1,2-DICHLOROBENZENE	PA
EPA 8270 C	1,2-DIPHENYLHYDRAZINE	PA
EPA 8270 C	1,3-DICHLOROBENZENE	PA
EPA 8270 C	1,4-DICHLOROBENZENE	PA
EPA 8270 C	1,4-NAPHTHOQUINONE	PA
EPA 8270 C	1-CHLORONAPHTHALENE	PA
EPA 8270 C	2,2'-OXYBIS(1-CHLOROPROPANE)	PA
EPA 8270 C	2,4,5-TRICHLOROPHENOL	PA
EPA 8270 C	2,4-DICHLOROPHENOL	PA
EPA 8270 C	2,4-DINITROPHENOL	PA
EPA 8270 C	2,6-DICHLOROPHENOL	PA
EPA 8270 C	2-ACETYLAMINOFLUORENE	PA
EPA 8270 C	2-CHLOROPHENOL	PA
EPA 8270 C	2-METHYLNAPHTHALENE	PA
EPA 8270 C	2-NAPHTHYLAMINE	PA
EPA 8260 C	METHYL BROMIDE (BROMOMETHANE)	PA
EPA 8260 C	METHYL METHACRYLATE	PA
EPA 8260 C	METHYLCYCLOHEXANE	PA
EPA 8260 C	N-BUTYLBENZENE	PA
EPA 8260 C	NAPHTHALENE	PA
EPA 8260 C	PROPIONITRILE (ETHYL CYANIDE)	PA
EPA 8260 C	STYRENE	PA
EPA 8260 C	TERT-BUTYL ALCOHOL	PA
EPA 8260 C	TOLUENE	PA
EPA 8260 C	TRANS-1,3-DICHLOROPROPENE	PA
EPA 8260 C	TRICHLOROETHENE (TRICHLOROETHYLENE)	PA
EPA 8260 C	VINYL ACETATE	PA
EPA 8260 C	XYLENE (TOTAL)	PA
EPA 8260 C - EXTENDED	DI-ISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	PA
EPA 8260 C - EXTENDED	METHYL ACETATE	PA
EPA 8260 C - EXTENDED	TETRAHYDROFURAN (THF)	PA
EPA 8270 C	1,2,4-TRICHLOROBENZENE	PA
EPA 8270 C	1,2-DINITROBENZENE	PA
EPA 8270 C	1,3,5-TRINITROBENZENE (1,3,5-TNB)	PA
EPA 8270 C	1,3-DINITROBENZENE (1,3-DNB)	PA
EPA 8270 C	1,4-DINITROBENZENE	PA
EPA 8270 C	1,4-PHENYLENEDIAMINE	PA
EPA 8270 C	1-NAPHTHYLAMINE	PA
EPA 8270 C	2,3,4,6-TETRACHLOROPHENOL	PA
EPA 8270 C	2,4,6-TRICHLOROPHENOL	PA
EPA 8270 C	2,4-DIMETHYLPHENOL	PA
EPA 8270 C	2,4-DINITROTOLUENE (2,4-DNT)	PA
EPA 8270 C	2,6-DINITROTOLUENE (2,6-DNT)	PA
EPA 8270 C	2-CHLORONAPHTHALENE	PA
EPA 8270 C	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	PA
EPA 8270 C	2-METHYLPHENOL (O-CRESOL)	PA
EPA 8270 C	2-NITROANILINE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 C	2-NITROPHENOL	PA
EPA 8270 C	3,3'-DICHLOROBENZIDINE	PA
EPA 8270 C	3,3'-DIMETHYLBENZIDINE	PA
EPA 8270 C	3-METHYLPHENOL (M-CRESOL)	PA
EPA 8270 C	4,4'-METHYLENEBIS(2-CHLOROANILINE)	PA
EPA 8270 C	4-BROMOPHENYL PHENYL ETHER	PA
EPA 8270 C	4-CHLOROANILINE	PA
EPA 8270 C	4-DIMETHYL AMINOAZOBENZENE	PA
EPA 8270 C	4-NITROANILINE	PA
EPA 8270 C	4-NITROQUINOLINE-1-OXIDE	PA
EPA 8270 C	7,12-DIMETHYLBENZ(A) ANTHRACENE	PA
EPA 8270 C	ACENAPHTHENE	PA
EPA 8270 C	ACETOPHENONE	PA
EPA 8270 C	ANTHRACENE	PA
EPA 8270 C	BENZIDINE	PA
EPA 8270 C	BENZO(A)PYRENE	PA
EPA 8270 C	BENZO(G,H,I)PERYLENE	PA
EPA 8270 C	BENZOIC ACID	PA
EPA 8270 C	BIS(2-CHLOROETHOXY)METHANE	PA
EPA 8270 C	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	PA
EPA 8270 C	CHLOROBENZILATE	PA
EPA 8270 C	DI-N-BUTYL PHTHALATE	PA
EPA 8270 C	DIALLATE	PA
EPA 8270 C	DIBENZO(A,H) ANTHRACENE	PA
EPA 8270 C	DIETHYL PHTHALATE	PA
EPA 8270 C	DIMETHYL PHTHALATE	PA
EPA 8270 C	DISULFOTON	PA
EPA 8270 C	FAMPHUR	PA
EPA 8270 C	FLUORENE	PA
EPA 8270 C	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 8270 C	HEXACHLOROETHANE	PA
EPA 8270 C	INDENO(1,2,3-CD) PYRENE	PA
EPA 8270 C	ISOPHORONE	PA
EPA 8270 C	KEPONE	PA
EPA 8270 C	METHYL METHANESULFONATE	PA
EPA 8270 C	2-PICOLINE (2-METHYLPYRIDINE)	PA
EPA 8270 C	3,3'-DIMETHOXYBENZIDINE	PA
EPA 8270 C	3-METHYLCHOLANTHRENE	PA
EPA 8270 C	3-NITROANILINE	PA
EPA 8270 C	4-AMINOBIPHENYL	PA
EPA 8270 C	4-CHLORO-3-METHYLPHENOL	PA
EPA 8270 C	4-CHLOROPHENYL PHENYLETHER	PA
EPA 8270 C	4-METHYLPHENOL (P-CRESOL)	PA
EPA 8270 C	4-NITROPHENOL	PA
EPA 8270 C	5-NITRO-O-TOLUIDINE	PA
EPA 8270 C	A-A-DIMETHYLPHENETHYLAMINE	PA
EPA 8270 C	ACENAPHTHYLENE	PA
EPA 8270 C	ANILINE	PA
EPA 8270 C	ARAMITE	PA
EPA 8270 C	BENZO(A)ANTHRACENE	PA
EPA 8270 C	BENZO(B)FLUORANTHENE	PA
EPA 8270 C	BENZO(K)FLUORANTHENE	PA
EPA 8270 C	BENZYL ALCOHOL	PA
EPA 8270 C	BIS(2-CHLOROETHYL) ETHER	PA
EPA 8270 C	BUTYL BENZYL PHTHALATE	PA
EPA 8270 C	CHRYSENE	PA
EPA 8270 C	DI-N-OCTYL PHTHALATE	PA
EPA 8270 C	DIBENZ(A, J) ACRIDINE	PA
EPA 8270 C	DIBENZOFURAN	PA
EPA 8270 C	DIMETHOATE	PA
EPA 8270 C	DIPHENYLAMINE	PA
EPA 8270 C	ETHYL METHANESULFONATE	PA
EPA 8270 C	FLUORANTHENE	PA
EPA 8270 C	HEXACHLOROBENZENE	PA
EPA 8270 C	HEXACHLOROCYCLOPENTADIENE	PA
EPA 8270 C	HEXACHLOROPROPENE	PA
EPA 8270 C	ISODRIN	PA
EPA 8270 C	ISOSAFROLE	PA
EPA 8270 C	METHAPYRILENE	PA
EPA 8270 C	METHYL PARATHION (PARATHION, METHYL)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 C	N-NITROSO-DI-N-BUTYLAMINE	PA
EPA 8270 C	N-NITROSODIETHYLAMINE	PA
EPA 8270 C	N-NITROSODIPHENYLAMINE	PA
EPA 8270 C	N-NITROSOMORPHOLINE	PA
EPA 8270 C	N-NITROSOPYRROLIDINE	PA
EPA 8270 C	NITROBENZENE	PA
EPA 8270 C	O-TOLUIDINE (2-METHYLANILINE)	PA
EPA 8270 C	PENTACHLOROBENZENE	PA
EPA 8270 C	PENTACHLOROPHENOL	PA
EPA 8270 C	PHENANTHRENE	PA
EPA 8270 C	PHORATE	PA
EPA 8270 C	PRONAMIDE (KERB)	PA
EPA 8270 C	PYRIDINE	PA
EPA 8270 C	THIONAZIN (ZINOPHOS)	PA
EPA 8270 C SIM	2-METHYLNAPHTHALENE	PA
EPA 8270 C SIM	ACENAPHTHYLENE	PA
EPA 8270 C SIM	BENZO(A)ANTHRACENE	PA
EPA 8270 C SIM	BENZO(B)FLUORANTHENE	PA
EPA 8270 C SIM	BENZO(K)FLUORANTHENE	PA
EPA 8270 C SIM	DIBENZO(A,H) ANTHRACENE	PA
EPA 8270 C SIM	FLUORENE	PA
EPA 8270 C SIM	NAPHTHALENE	PA
EPA 8270 C SIM	PYRENE	PA
EPA 8270 D	1,2,4,5-TETRACHLOROBENZENE	PA
EPA 8270 D	1,2-DICHLOROBENZENE	PA
EPA 8270 D	1,2-DIPHENYLHYDRAZINE	PA
EPA 8270 D	1,3-DICHLOROBENZENE	PA
EPA 8270 D	1,4-DICHLOROBENZENE	PA
EPA 8270 D	1,4-NAPHTHOQUINONE	PA
EPA 8270 D	1-CHLORONAPHTHALENE	PA
EPA 8270 D	2,2'-OXYBIS(1-CHLOROPROPANE)	PA
EPA 8270 D	2,4,5-TRICHLOROPHENOL	PA
EPA 8270 D	2,4-DICHLOROPHENOL	PA
EPA 8270 D	2,4-DINITROPHENOL	PA
EPA 8270 D	2,6-DICHLOROPHENOL	PA
EPA 8270 D	2-ACETYLAMINOFLUORENE	PA

METHOD	ANALYTE	PRIMARY
EPA 8270 C	N-NITROSODI-N-PROPYLAMINE	PA
EPA 8270 C	N-NITROSODIMETHYLAMINE	PA
EPA 8270 C	N-NITROSOMETHYLETHYLAMINE	PA
EPA 8270 C	N-NITROSOPIPERIDINE	PA
EPA 8270 C	NAPHTHALENE	PA
EPA 8270 C	O,O,O-TRIETHYL PHOSPHOROTHIOATE	PA
EPA 8270 C	PARATHION (PARATHION - ETHYL)	PA
EPA 8270 C	PENTACHLORONITROBENZENE	PA
EPA 8270 C	PHENACETIN	PA
EPA 8270 C	PHENOL	PA
EPA 8270 C	PHTHALIC ANHYDRIDE	PA
EPA 8270 C	PYRENE	PA
EPA 8270 C	SAFROLE	PA
EPA 8270 C	TRIS-(2,3-DIBROMOPROPYL) PHOSPHATE (TRIS-BP)	PA
EPA 8270 C SIM	ACENAPHTHENE	PA
EPA 8270 C SIM	ANTHRACENE	PA
EPA 8270 C SIM	BENZO(A)PYRENE	PA
EPA 8270 C SIM	BENZO(G,H,I)PERYLENE	PA
EPA 8270 C SIM	CHRYSENE	PA
EPA 8270 C SIM	FLUORANTHENE	PA
EPA 8270 C SIM	INDENO(1,2,3-CD) PYRENE	PA
EPA 8270 C SIM	PHENANTHRENE	PA
EPA 8270 C SIM - EXTENDED	1-METHYLNAPHTHALENE	PA
EPA 8270 D	1,2,4-TRICHLOROBENZENE	PA
EPA 8270 D	1,2-DINITROBENZENE	PA
EPA 8270 D	1,3,5-TRINITROBENZENE (1,3,5-TNB)	PA
EPA 8270 D	1,3-DINITROBENZENE (1,3-DNB)	PA
EPA 8270 D	1,4-DINITROBENZENE	PA
EPA 8270 D	1,4-PHENYLENEDIAMINE	PA
EPA 8270 D	1-NAPHTHYLAMINE	PA
EPA 8270 D	2,3,4,6-TETRACHLOROPHENOL	PA
EPA 8270 D	2,4,6-TRICHLOROPHENOL	PA
EPA 8270 D	2,4-DIMETHYLPHENOL	PA
EPA 8270 D	2,4-DINITROTOLUENE (2,4-DNT)	PA
EPA 8270 D	2,6-DINITROTOLUENE (2,6-DNT)	PA
EPA 8270 D	2-CHLORONAPHTHALENE	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 D	2-CHLOROPHENOL	PA
EPA 8270 D	2-METHYLNAPHTHALENE	PA
EPA 8270 D	2-NAPHTHYLAMINE	PA
EPA 8270 D	2-NITROPHENOL	PA
EPA 8270 D	3,3'-DICHLOROBENZIDINE	PA
EPA 8270 D	3,3'-DIMETHYLBENZIDINE	PA
EPA 8270 D	3-METHYLPHENOL (M-CRESOL)	PA
EPA 8270 D	4,4'-METHYLENEBIS(2-CHLOROANILINE)	PA
EPA 8270 D	4-BROMOPHENYL PHENYL ETHER	PA
EPA 8270 D	4-CHLOROANILINE	PA
EPA 8270 D	4-DIMETHYL AMINOAZOBENZENE	PA
EPA 8270 D	4-NITROANILINE	PA
EPA 8270 D	4-NITROQUINOLINE-1-OXIDE	PA
EPA 8270 D	7,12-DIMETHYLBENZ(A) ANTHRACENE	PA
EPA 8270 D	ACENAPHTHENE	PA
EPA 8270 D	ACETOPHENONE	PA
EPA 8270 D	ANTHRACENE	PA
EPA 8270 D	BENZIDINE	PA
EPA 8270 D	BENZO(A)PYRENE	PA
EPA 8270 D	BENZO(G,H,I)PERYLENE	PA
EPA 8270 D	BENZOIC ACID	PA
EPA 8270 D	BIS(2-CHLOROETHOXY)METHANE	PA
EPA 8270 D	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	PA
EPA 8270 D	CHLOROBENZILATE	PA
EPA 8270 D	DI-N-BUTYL PHTHALATE	PA
EPA 8270 D	DIALLATE	PA
EPA 8270 D	DIBENZO(A,H) ANTHRACENE	PA
EPA 8270 D	DIETHYL PHTHALATE	PA
EPA 8270 D	DIMETHYL PHTHALATE	PA
EPA 8270 D	DISULFOTON	PA
EPA 8270 D	FAMPHUR	PA
EPA 8270 D	FLUORENE	PA
EPA 8270 D	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	PA
EPA 8270 D	HEXACHLOROETHANE	PA
EPA 8270 D	INDENO(1,2,3-CD) PYRENE	PA
EPA 8270 D	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	PA
EPA 8270 D	2-METHYLPHENOL (O-CRESOL)	PA
EPA 8270 D	2-NITROANILINE	PA
EPA 8270 D	2-PICOLINE (2-METHYLPYRIDINE)	PA
EPA 8270 D	3,3'-DIMETHOXYBENZIDINE	PA
EPA 8270 D	3-METHYLCHOLANTHRENE	PA
EPA 8270 D	3-NITROANILINE	PA
EPA 8270 D	4-AMINOBIPHENYL	PA
EPA 8270 D	4-CHLORO-3-METHYLPHENOL	PA
EPA 8270 D	4-CHLOROPHENYL PHENYLETHER	PA
EPA 8270 D	4-METHYLPHENOL (P-CRESOL)	PA
EPA 8270 D	4-NITROPHENOL	PA
EPA 8270 D	5-NITRO-O-TOLUIDINE	PA
EPA 8270 D	A-A-DIMETHYLPHENETHYLAMINE	PA
EPA 8270 D	ACENAPHTHYLENE	PA
EPA 8270 D	ANILINE	PA
EPA 8270 D	ARAMITE	PA
EPA 8270 D	BENZO(A)ANTHRACENE	PA
EPA 8270 D	BENZO(B)FLUORANTHENE	PA
EPA 8270 D	BENZO(K)FLUORANTHENE	PA
EPA 8270 D	BENZYL ALCOHOL	PA
EPA 8270 D	BIS(2-CHLOROETHYL) ETHER	PA
EPA 8270 D	BUTYL BENZYL PHTHALATE	PA
EPA 8270 D	CHRYSENE	PA
EPA 8270 D	DI-N-OCTYL PHTHALATE	PA
EPA 8270 D	DIBENZ(A, J) ACRIDINE	PA
EPA 8270 D	DIBENZOFURAN	PA
EPA 8270 D	DIMETHOATE	PA
EPA 8270 D	DIPHENYLAMINE	PA
EPA 8270 D	ETHYL METHANESULFONATE	PA
EPA 8270 D	FLUORANTHENE	PA
EPA 8270 D	HEXACHLOROBENZENE	PA
EPA 8270 D	HEXACHLOROCYCLOPENTADIENE	PA
EPA 8270 D	HEXACHLOROPROPENE	PA
EPA 8270 D	ISODRIN	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 D	ISOPHORONE	PA
EPA 8270 D	KEPONE	PA
EPA 8270 D	METHYL METHANESULFONATE	PA
EPA 8270 D	N-NITROSO-DI-N-BUTYLAMINE	PA
EPA 8270 D	N-NITROSODIETHYLAMINE	PA
EPA 8270 D	N-NITROSODIPHENYLAMINE	PA
EPA 8270 D	N-NITROSOMORPHOLINE	PA
EPA 8270 D	N-NITROSOPYRROLIDINE	PA
EPA 8270 D	NITROBENZENE	PA
EPA 8270 D	O-TOLUIDINE (2-METHYLANILINE)	PA
EPA 8270 D	PENTACHLOROBENZENE	PA
EPA 8270 D	PENTACHLOROPHENOL	PA
EPA 8270 D	PHENANTHRENE	PA
EPA 8270 D	PHORATE	PA
EPA 8270 D	PRONAMIDE (KERB)	PA
EPA 8270 D	SAFROLE	PA
EPA 8270 D	TRIS-(2,3-DIBROMOPROPYL) PHOSPHATE (TRIS-BP)	PA
EPA 8270 D - EXTENDED	1-METHYLNAPHTHALENE	PA
EPA 8270 D - EXTENDED	BENZALDEHYDE	PA
EPA 8270 D - EXTENDED	CAPROLACTAM	PA
EPA 8270 D - EXTENDED	PYRIDINE	PA
EPA 8270 D SIM	ACENAPHTHENE	PA
EPA 8270 D SIM	ANTHRACENE	PA
EPA 8270 D SIM	BENZO(A)PYRENE	PA
EPA 8270 D SIM	BENZO(G,H,I)PERYLENE	PA
EPA 8270 D SIM	CHRYSENE	PA
EPA 8270 D SIM	FLUORANTHENE	PA
EPA 8270 D SIM	INDENO(1,2,3-CD) PYRENE	PA
EPA 8270 D SIM	PHENANTHRENE	PA
EPA 8270 D SIM - EXTENDED	1-METHYLNAPHTHALENE	PA
EPA 8290 A	1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN (OCDF)	PA
EPA 8290 A	1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN (1,2,3,4,6,7,8-HPCDF)	PA
EPA 8290 A	1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN (1,2,3,4,7,8-HXCDD)	PA
EPA 8290 A	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN(1,2,3,6,7,8-HXCDD)	PA
EPA 8270 D	ISOSAFROLE	PA
EPA 8270 D	METHAPYRILENE	PA
EPA 8270 D	METHYL PARATHION (PARATHION, METHYL)	PA
EPA 8270 D	N-NITROSODI-N-PROPYLAMINE	PA
EPA 8270 D	N-NITROSODIMETHYLAMINE	PA
EPA 8270 D	N-NITROSOMETHYLETHYLAMINE	PA
EPA 8270 D	N-NITROSOPIPERIDINE	PA
EPA 8270 D	NAPHTHALENE	PA
EPA 8270 D	O,O,O-TRIETHYL PHOSPHOROTHIOATE	PA
EPA 8270 D	PARATHION (PARATHION - ETHYL)	PA
EPA 8270 D	PENTACHLORONITROBENZENE	PA
EPA 8270 D	PHENACETIN	PA
EPA 8270 D	PHENOL	PA
EPA 8270 D	PHTHALIC ANHYDRIDE	PA
EPA 8270 D	PYRENE	PA
EPA 8270 D	THIONAZIN (ZINOPHOS)	PA
EPA 8270 D - EXTENDED	1,1'-BIPHENYL	PA
EPA 8270 D - EXTENDED	ATRAZINE	PA
EPA 8270 D - EXTENDED	BIS(2-ETHYLHEXYL)ADIPATE (DI(2-ETHYLHEXYL)ADIPATE)	PA
EPA 8270 D - EXTENDED	CARBAZOLE	PA
EPA 8270 D SIM	2-METHYLNAPHTHALENE	PA
EPA 8270 D SIM	ACENAPHTHYLENE	PA
EPA 8270 D SIM	BENZO(A)ANTHRACENE	PA
EPA 8270 D SIM	BENZO(B)FLUORANTHENE	PA
EPA 8270 D SIM	BENZO(K)FLUORANTHENE	PA
EPA 8270 D SIM	DIBENZO(A,H) ANTHRACENE	PA
EPA 8270 D SIM	FLUORENE	PA
EPA 8270 D SIM	NAPHTHALENE	PA
EPA 8270 D SIM	PYRENE	PA
EPA 8290 A	1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN (OCDD)	PA
EPA 8290 A	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN (1,2,3,4,6,7,8-HPCDD)	PA
EPA 8290 A	1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN (1,2,3,4,7,8,9-HPCDF)	PA
EPA 8290 A	1,2,3,4,7,8-HEXACHLORODIBENZOFURAN (1,2,3,4,7,8-HXCDF)	PA

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8382

Eurofins Lancaster Laboratories Environmental, LLC
2425 New Holland Pike
Lancaster, PA 17601

Virginia Laboratory ID: 460182
Effective Date: June 15, 2016
Expiration Date: June 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8290 A	1,2,3,6,7,8-HEXACHLORODIBENZOFURAN (1,2,3,6,7,8-HXCDF)	PA
EPA 8290 A	1,2,3,7,8,9-HEXACHLORODIBENZOFURAN (1,2,3,7,8,9-HXCDF)	PA
EPA 8290 A	1,2,3,7,8-PENTACHLORODIBENZOFURAN (1,2,3,7,8-PECDF)	PA
EPA 8290 A	2,3,4,7,8-PENTACHLORODIBENZOFURAN	PA
EPA 8290 A	2,3,7,8-TETRACHLORODIBENZOFURAN (2,3,7,8-TCDF)	PA
EPA 8315 A	ACETALDEHYDE	PA
EPA 8315 A	BUTYLALDEHYDE (BUTANAL)	PA
EPA 8315 A	FORMALDEHYDE	PA
EPA 8315 A	ISOVALERALDEHYDE	PA
EPA 8315 A	O-TOLUALDEHYDE (1,2-TOLUALDEHYDE)	PA
EPA 8315 A	PENTANAL (VALERALDEHYDE)	PA
EPA 8330	NITROGLYCERIN	PA
EPA 8330 A	1,3-DINITROBENZENE (1,3-DNB)	PA
EPA 8330 A	2,4-DINITROTOLUENE (2,4-DNT)	PA
EPA 8330 A	2-AMINO-4,6-DINITROTOLUENE (2-AM-DNT)	PA
EPA 8330 A	3-NITROTOLUENE	PA
EPA 8330 A	4-NITROTOLUENE	PA
EPA 8330 A	NITROBENZENE	PA
EPA 8330 A	RDX (HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE)	PA
EPA 9045 C	PH	PA
EPA 9050 A	CONDUCTIVITY	PA
EPA 9066	TOTAL PHENOLICS	PA
EPA 9081	CATION EXCHANGE CAPACITY	PA

METHOD	ANALYTE	PRIMARY
EPA 8290 A	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN (1,2,3,7,8,9-HXCDD)	PA
EPA 8290 A	1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN (1,2,3,7,8-PECDD)	PA
EPA 8290 A	2,3,4,6,7,8-HEXACHLORODIBENZOFURAN (2,3,4,6,7,8-HXCDF)	PA
EPA 8290 A	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (2,3,7,8-TCDD)	PA
EPA 8315 A	2,5-DIMETHYLBENZALDEHYDE	PA
EPA 8315 A	BENZALDEHYDE	PA
EPA 8315 A	CROTONALDEHYDE	PA
EPA 8315 A	HEXANALDEHYDE (HEXANAL)	PA
EPA 8315 A	M-TOLUALDEHYDE (1,3-TOLUALDEHYDE)	PA
EPA 8315 A	P-TOLUALDEHYDE (1,4-TOLUALDEHYDE)	PA
EPA 8315 A	PROPIONALDEHYDE (PROPANAL)	PA
EPA 8330 A	1,3,5-TRINITROBENZENE (1,3,5-TNB)	PA
EPA 8330 A	2,4,6-TRINITROTOLUENE (2,4,6-TNT)	PA
EPA 8330 A	2,6-DINITROTOLUENE (2,6-DNT)	PA
EPA 8330 A	2-NITROTOLUENE	PA
EPA 8330 A	4-AMINO-2,6-DINITROTOLUENE (4-AM-DNT)	PA
EPA 8330 A	METHYL-2,4,6-TRINITROPHENYLNITRAMINE (TETRYL)	PA
EPA 8330 A	OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE (HMX)	PA
EPA 9012 A	CYANIDE	PA
EPA 9045 D	PH	PA
EPA 9060	TOTAL ORGANIC CARBON	PA
EPA 9071 B	OIL AND GREASE (AS HEM)	PA
EPA 9095 B	FREE LIQUID	PA

COPY

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF GENERAL SERVICES
DIVISION OF CONSOLIDATED LABORATORY SERVICES

Certifies that

VA Laboratory ID#: 460193
Shealy Environmental Services, Inc.

106 Vantage Point Drive
Columbia, SC 29172

Owner: DAN WRIGHT
Responsible Official: DANIEL J. WRIGHT

Having met the requirements of 1 VAC 30-46 and
having been found compliant with the 2009 TNI Standard approved by The NELAC Institute
is hereby approved as an

Accredited Environmental Laboratory

As more fully described in the attached Scope of Accreditation

Effective Date: **September 15, 2016**
Expiration Date: **September 14, 2017**
Certificate # 8678

Denise M. Toney

Denise M. Toney, Ph.D., HCLD
DGS Deputy Director for Laboratories

Continued accreditation status depends on successful ongoing participation in the program.
Certificate to be conspicuously displayed at the laboratory.
Not valid unless accompanied by a valid Virginia Environmental Laboratory Accreditation Program (VELAP) Scope of Accreditation.
Customers are urged to verify the laboratory's current accreditation status.

Certificate Not Transferable

Surrender Upon Revocation

COPY

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1010	FLASHPOINT	FL
EPA 1631 E	MERCURY	FL
EPA 180.1 REV 2	TURBIDITY	FL
EPA 200.7 REV 4.4	ANTIMONY	FL
EPA 200.7 REV 4.4	BARIUM	FL
EPA 200.7 REV 4.4	BORON	FL
EPA 200.7 REV 4.4	CALCIUM	FL
EPA 200.7 REV 4.4	COBALT	FL
EPA 200.7 REV 4.4	IRON	FL
EPA 200.7 REV 4.4	MAGNESIUM	FL
EPA 200.7 REV 4.4	MOLYBDENUM	FL
EPA 200.7 REV 4.4	POTASSIUM	FL
EPA 200.7 REV 4.4	SILVER	FL
EPA 200.7 REV 4.4	THALLIUM	FL
EPA 200.7 REV 4.4	VANADIUM	FL
EPA 200.8 REV 5.4	ALUMINUM	FL
EPA 200.8 REV 5.4	ARSENIC	FL
EPA 200.8 REV 5.4	BERYLLIUM	FL
EPA 200.8 REV 5.4	CHROMIUM	FL
EPA 200.8 REV 5.4	COPPER	FL
EPA 200.8 REV 5.4	MANGANESE	FL
EPA 200.8 REV 5.4	NICKEL	FL
EPA 200.8 REV 5.4	SILVER	FL
EPA 200.8 REV 5.4	VANADIUM	FL
EPA 245.1 REV 3	MERCURY	FL
EPA 300.0 REV 2.1	CHLORIDE	FL
EPA 300.0 REV 2.1	NITRATE AS N	FL
EPA 300.0 REV 2.1	SULFATE	FL
EPA 350.1 REV 2	AMMONIA AS N	FL
EPA 353.2 REV 2	NITRATE AS N	FL
EPA 353.2 REV 2	NITRITE AS N	FL
EPA 6010 C	ALUMINUM	FL
EPA 6010 C	ARSENIC	FL
EPA 6010 C	BERYLLIUM	FL
EPA 6010 C	CADMIUM	FL
EPA 6010 C	CHROMIUM	FL
EPA 6010 C	COPPER	FL
EPA 6010 C	LEAD	FL

METHOD	ANALYTE	PRIMARY
EPA 120.1	CONDUCTIVITY	FL
EPA 1664 B	OIL AND GREASE (AS HEM)	FL
EPA 200.7 REV 4.4	ALUMINUM	FL
EPA 200.7 REV 4.4	ARSENIC	FL
EPA 200.7 REV 4.4	BERYLLIUM	FL
EPA 200.7 REV 4.4	CADMIUM	FL
EPA 200.7 REV 4.4	CHROMIUM	FL
EPA 200.7 REV 4.4	COPPER	FL
EPA 200.7 REV 4.4	LEAD	FL
EPA 200.7 REV 4.4	MANGANESE	FL
EPA 200.7 REV 4.4	NICKEL	FL
EPA 200.7 REV 4.4	SELENIUM	FL
EPA 200.7 REV 4.4	SODIUM	FL
EPA 200.7 REV 4.4	TIN	FL
EPA 200.7 REV 4.4	ZINC	FL
EPA 200.8 REV 5.4	ANTIMONY	FL
EPA 200.8 REV 5.4	BARIUM	FL
EPA 200.8 REV 5.4	CADMIUM	FL
EPA 200.8 REV 5.4	COBALT	FL
EPA 200.8 REV 5.4	LEAD	FL
EPA 200.8 REV 5.4	MOLYBDENUM	FL
EPA 200.8 REV 5.4	SELENIUM	FL
EPA 200.8 REV 5.4	THALLIUM	FL
EPA 200.8 REV 5.4	ZINC	FL
EPA 300.0 REV 2.1	BROMIDE	FL
EPA 300.0 REV 2.1	FLUORIDE	FL
EPA 300.0 REV 2.1	NITRITE AS N	FL
EPA 335.4 REV 1.0	CYANIDE	FL
EPA 351.2 REV 2	KJELDAHL NITROGEN - TOTAL	FL
EPA 353.2 REV 2	NITRATE/NITRITE	FL
EPA 420.4 REV 1	TOTAL PHENOLICS	FL
EPA 6010 C	ANTIMONY	FL
EPA 6010 C	BARIUM	FL
EPA 6010 C	BORON	FL
EPA 6010 C	CALCIUM	FL
EPA 6010 C	COBALT	FL
EPA 6010 C	IRON	FL
EPA 6010 C	MAGNESIUM	FL

This Scope of Accreditation must accompany the Certificate issued by Virginia DCLS with the same Certificate Number indicated above.

COPY

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 6010 C	MANGANESE	FL
EPA 6010 C	NICKEL	FL
EPA 6010 C	SELENIUM	FL
EPA 6010 C	SODIUM	FL
EPA 6010 C	TIN	FL
EPA 6010 C	VANADIUM	FL
EPA 6020 A	ALUMINUM	FL
EPA 6020 A	ARSENIC	FL
EPA 6020 A	BERYLLIUM	FL
EPA 6020 A	CALCIUM	FL
EPA 6020 A	COBALT	FL
EPA 6020 A	IRON	FL
EPA 6020 A	MAGNESIUM	FL
EPA 6020 A	NICKEL	FL
EPA 6020 A	SELENIUM	FL
EPA 6020 A	SODIUM	FL
EPA 6020 A	VANADIUM	FL
EPA 6020 A - EXTENDED	BORON	FL
EPA 6020 A - EXTENDED	TIN	FL
EPA 608	4,4'-DDD	FL
EPA 608	4,4'-DDT	FL
EPA 608	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	FL
EPA 608	AROCLOR-1221 (PCB-1221)	FL
EPA 608	AROCLOR-1242 (PCB-1242)	FL
EPA 608	AROCLOR-1254 (PCB-1254)	FL
EPA 608	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	FL
EPA 608	DELTA-BHC	FL
EPA 608	ENDOSULFAN I	FL
EPA 608	ENDOSULFAN SULFATE	FL
EPA 608	ENDRIN ALDEHYDE	FL
EPA 608	HEPTACHLOR	FL
EPA 608	TOXAPHENE (CHLORINATED CAMPHENE)	FL
EPA 624	1,1,2,2-TETRACHLOROETHANE	FL
EPA 624	1,1-DICHLOROETHANE	FL

METHOD	ANALYTE	PRIMARY
EPA 6010 C	MOLYBDENUM	FL
EPA 6010 C	POTASSIUM	FL
EPA 6010 C	SILVER	FL
EPA 6010 C	THALLIUM	FL
EPA 6010 C	TITANIUM	FL
EPA 6010 C	ZINC	FL
EPA 6020 A	ANTIMONY	FL
EPA 6020 A	BARIUM	FL
EPA 6020 A	CADMIUM	FL
EPA 6020 A	CHROMIUM	FL
EPA 6020 A	COPPER	FL
EPA 6020 A	LEAD	FL
EPA 6020 A	MANGANESE	FL
EPA 6020 A	POTASSIUM	FL
EPA 6020 A	SILVER	FL
EPA 6020 A	THALLIUM	FL
EPA 6020 A	ZINC	FL
EPA 6020 A - EXTENDED	MOLYBDENUM	FL
EPA 6020 A - EXTENDED	TITANIUM	FL
EPA 608	4,4'-DDE	FL
EPA 608	ALDRIN	FL
EPA 608	AROCLOR-1016 (PCB-1016)	FL
EPA 608	AROCLOR-1232 (PCB-1232)	FL
EPA 608	AROCLOR-1248 (PCB-1248)	FL
EPA 608	AROCLOR-1260 (PCB-1260)	FL
EPA 608	CHLORDANE (TECH.)	FL
EPA 608	DIELDRIN	FL
EPA 608	ENDOSULFAN II	FL
EPA 608	ENDRIN	FL
EPA 608	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	FL
EPA 608	HEPTACHLOR EPOXIDE	FL
EPA 624	1,1,1-TRICHLOROETHANE	FL
EPA 624	1,1,2-TRICHLOROETHANE	FL
EPA 624	1,2-DICHLOROBENZENE	FL

COPY

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 624	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	FL
EPA 624	1,3-DICHLOROBENZENE	FL
EPA 624	2-CHLOROETHYL VINYL ETHER	FL
EPA 624	BROMODICHLOROMETHANE	FL
EPA 624	CARBON TETRACHLORIDE	FL
EPA 624	CHLOROETHANE (ETHYL CHLORIDE)	FL
EPA 624	CIS-1,3-DICHLOROPROPENE	FL
EPA 624	METHYL BROMIDE (BROMOMETHANE)	FL
EPA 624	METHYLENE CHLORIDE (DICHLOROMETHANE)	FL
EPA 624	TOLUENE	FL
EPA 624	TRANS-1,3-DICHLOROPROPENE	FL
EPA 624	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	FL
EPA 624 - EXTENDED	1,1-DICHLOROETHYLENE	FL
EPA 625	1,2,4-TRICHLOROBENZENE	FL
EPA 625	2,4-DICHLOROPHENOL	FL
EPA 625	2,4-DINITROPHENOL	FL
EPA 625	2,6-DINITROTOLUENE (2,6-DNT)	FL
EPA 625	2-CHLOROPHENOL	FL
EPA 625	2-NITROPHENOL	FL
EPA 625	4-BROMOPHENYL PHENYL ETHER	FL
EPA 625	4-CHLOROPHENYL PHENYLETHER	FL
EPA 625	ACENAPHTHENE	FL
EPA 625	ANTHRACENE	FL
EPA 625	BENZO(A)ANTHRACENE	FL
EPA 625	BENZO(B)FLUORANTHENE	FL
EPA 625	BENZO(K)FLUORANTHENE	FL
EPA 625	BIS(2-CHLOROETHYL) ETHER	FL
EPA 625	BUTYL BENZYL PHTHALATE	FL
EPA 625	DI-N-BUTYL PHTHALATE	FL
EPA 625	DIBENZO(A,H) ANTHRACENE	FL
EPA 625	DIMETHYL PHTHALATE	FL
EPA 625	FLUORENE	FL

METHOD	ANALYTE	PRIMARY
EPA 624	1,2-DICHLOROPROPANE	FL
EPA 624	1,4-DICHLOROBENZENE	FL
EPA 624	BENZENE	FL
EPA 624	BROMOFORM	FL
EPA 624	CHLOROBENZENE	FL
EPA 624	CHLOROFORM	FL
EPA 624	ETHYLBENZENE	FL
EPA 624	METHYL CHLORIDE (CHLOROMETHANE)	FL
EPA 624	TETRACHLOROETHENE (PERCHLOROETHENE)	FL
EPA 624	TRANS-1,2-DICHLOROETHENE	FL
EPA 624	TRICHLOROETHENE (TRICHLOROETHYLENE)	FL
EPA 624	VINYL CHLORIDE	FL
EPA 624 - EXTENDED	XYLENE (TOTAL)	FL
EPA 625	2,4,6-TRICHLOROPHENOL	FL
EPA 625	2,4-DIMETHYLPHENOL	FL
EPA 625	2,4-DINITROTOLUENE (2,4-DNT)	FL
EPA 625	2-CHLORONAPHTHALENE	FL
EPA 625	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	FL
EPA 625	3,3'-DICHLOROBENZIDINE	FL
EPA 625	4-CHLORO-3-METHYLPHENOL	FL
EPA 625	4-NITROPHENOL	FL
EPA 625	ACENAPHTHYLENE	FL
EPA 625	BENZIDINE	FL
EPA 625	BENZO(A)PYRENE	FL
EPA 625	BENZO(G,H,I)PERYLENE	FL
EPA 625	BIS(2-CHLOROETHOXY)METHANE	FL
EPA 625	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	FL
EPA 625	CHRYSENE	FL
EPA 625	DI-N-OCTYL PHTHALATE	FL
EPA 625	DIETHYL PHTHALATE	FL
EPA 625	FLUORANTHENE	FL
EPA 625	HEXACHLOROBENZENE	FL

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 625	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	FL
EPA 625	HEXACHLOROETHANE	FL
EPA 625	ISOPHORONE	FL
EPA 625	N-NITROSODIMETHYLAMINE	FL
EPA 625	NAPHTHALENE	FL
EPA 625	PENTACHLOROPHENOL	FL
EPA 625	PHENOL	FL
EPA 7196 A	CHROMIUM VI	FL
EPA 8011	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	FL
EPA 8015 C	DIESEL RANGE ORGANICS (DRO)	FL
EPA 8081 B	4,4'-DDD	FL
EPA 8081 B	4,4'-DDT	FL
EPA 8081 B	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	FL
EPA 8081 B	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	FL
EPA 8081 B	DELTA-BHC	FL
EPA 8081 B	ENDOSULFAN I	FL
EPA 8081 B	ENDOSULFAN SULFATE	FL
EPA 8081 B	ENDRIN ALDEHYDE	FL
EPA 8081 B	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	FL
EPA 8081 B	HEPTACHLOR	FL
EPA 8081 B	METHOXYCHLOR	FL
EPA 8082 A	AROCLOR-1016 (PCB-1016)	FL
EPA 8082 A	AROCLOR-1232 (PCB-1232)	FL
EPA 8082 A	AROCLOR-1248 (PCB-1248)	FL
EPA 8082 A	AROCLOR-1260 (PCB-1260)	FL
EPA 8151 A	2,4-D	FL
EPA 8151 A	DICAMBA	FL
EPA 8151 A	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	FL
EPA 8151 A	SILVEX (2,4,5-TP)	FL
EPA 8260 B	1,1,1-TRICHLOROETHANE	FL
EPA 8260 B	1,1,2-TRICHLOROETHANE	FL

METHOD	ANALYTE	PRIMARY
EPA 625	HEXACHLOROCYCLOPENTADIENE	FL
EPA 625	INDENO(1,2,3-CD) PYRENE	FL
EPA 625	N-NITROSODI-N-PROPYLAMINE	FL
EPA 625	N-NITROSODIPHENYLAMINE	FL
EPA 625	NITROBENZENE	FL
EPA 625	PHENANTHRENE	FL
EPA 625	PYRENE	FL
EPA 7470 A	MERCURY	FL
EPA 8011	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	FL
EPA 8015 C	GASOLINE RANGE ORGANICS (GRO)	FL
EPA 8081 B	4,4'-DDE	FL
EPA 8081 B	ALDRIN	FL
EPA 8081 B	ALPHA-CHLORDANE [CIS-CHLORDANE]	FL
EPA 8081 B	CHLORDANE (TECH.)	FL
EPA 8081 B	DIELDRIN	FL
EPA 8081 B	ENDOSULFAN II	FL
EPA 8081 B	ENDRIN	FL
EPA 8081 B	ENDRIN KETONE	FL
EPA 8081 B	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	FL
EPA 8081 B	HEPTACHLOR EPOXIDE	FL
EPA 8081 B	TOXAPHENE (CHLORINATED CAMPHENE)	FL
EPA 8082 A	AROCLOR-1221 (PCB-1221)	FL
EPA 8082 A	AROCLOR-1242 (PCB-1242)	FL
EPA 8082 A	AROCLOR-1254 (PCB-1254)	FL
EPA 8151 A	2,4,5-T	FL
EPA 8151 A	2,4-DB	FL
EPA 8151 A	DICHLOROPROP (DICHLORPROP)	FL
EPA 8151 A	PENTACHLOROPHENOL	FL
EPA 8260 B	1,1,1,2-TETRACHLOROETHANE	FL
EPA 8260 B	1,1,2,2-TETRACHLOROETHANE	FL
EPA 8260 B	1,1-DICHLOROETHANE	FL

COPY

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8260 B	1,1-DICHLOROETHYLENE	FL
EPA 8260 B	1,2,3-TRICHLOROBENZENE	FL
EPA 8260 B	1,2,4-TRICHLOROBENZENE	FL
EPA 8260 B	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	FL
EPA 8260 B	1,2-DICHLOROBENZENE	FL
EPA 8260 B	1,2-DICHLOROPROPANE	FL
EPA 8260 B	1,3-DICHLOROBENZENE	FL
EPA 8260 B	1,4-DICHLOROBENZENE	FL
EPA 8260 B	2,2-DICHLOROPROPANE	FL
EPA 8260 B	2-CHLOROETHYL VINYL ETHER	FL
EPA 8260 B	2-HEXANONE	FL
EPA 8260 B	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	FL
EPA 8260 B	ACETONITRILE	FL
EPA 8260 B	ACRYLONITRILE	FL
EPA 8260 B	BENZENE	FL
EPA 8260 B	BROMOBENZENE	FL
EPA 8260 B	BROMODICHLOROMETHANE	FL
EPA 8260 B	CARBON DISULFIDE	FL
EPA 8260 B	CHLOROBENZENE	FL
EPA 8260 B	CHLOROETHANE (ETHYL CHLORIDE)	FL
EPA 8260 B	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	FL
EPA 8260 B	CIS-1,3-DICHLOROPROPENE	FL
EPA 8260 B	DICHLORODIFLUOROMETHANE (FREON-12)	FL
EPA 8260 B	ETHYL METHACRYLATE	FL
EPA 8260 B	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	FL
EPA 8260 B	METHACRYLONITRILE	FL
EPA 8260 B	METHYL CHLORIDE (CHLOROMETHANE)	FL
EPA 8260 B	METHYL TERT-BUTYL ETHER (MTBE)	FL
EPA 8260 B	N-BUTYLBENZENE	FL
EPA 8260 B	NAPHTHALENE	FL
EPA 8260 B	SEC-BUTYLBENZENE	FL
EPA 8260 B	1,1-DICHLOROPROPENE	FL
EPA 8260 B	1,2,3-TRICHLOROPROPANE	FL
EPA 8260 B	1,2,4-TRIMETHYLBENZENE	FL
EPA 8260 B	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	FL
EPA 8260 B	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	FL
EPA 8260 B	1,3,5-TRIMETHYLBENZENE	FL
EPA 8260 B	1,3-DICHLOROPROPANE	FL
EPA 8260 B	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	FL
EPA 8260 B	2-BUTANONE (METHYL ETHYL KETONE, MEK)	FL
EPA 8260 B	2-CHLOROTOLUENE	FL
EPA 8260 B	4-CHLOROTOLUENE	FL
EPA 8260 B	ACETONE	FL
EPA 8260 B	ACROLEIN (PROPENAL)	FL
EPA 8260 B	ALLYL CHLORIDE (3-CHLOROPROPENE)	FL
EPA 8260 B	BENZYL CHLORIDE	FL
EPA 8260 B	BROMOCHLOROMETHANE	FL
EPA 8260 B	BROMOFORM	FL
EPA 8260 B	CARBON TETRACHLORIDE	FL
EPA 8260 B	CHLORODIBROMOMETHANE	FL
EPA 8260 B	CHLOROFORM	FL
EPA 8260 B	CIS-1,2-DICHLOROETHYLENE	FL
EPA 8260 B	DIBROMOMETHANE (METHYLENE BROMIDE)	FL
EPA 8260 B	DIETHYL ETHER	FL
EPA 8260 B	IODOMETHANE (METHYL IODIDE)	FL
EPA 8260 B	ISOPROPYLBENZENE	FL
EPA 8260 B	METHYL BROMIDE (BROMOMETHANE)	FL
EPA 8260 B	METHYL METHACRYLATE	FL
EPA 8260 B	METHYLENE CHLORIDE (DICHLOROMETHANE)	FL
EPA 8260 B	N-PROPYLBENZENE	FL
EPA 8260 B	PROPIONITRILE (ETHYL CYANIDE)	FL
EPA 8260 B	STYRENE	FL

COPY

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8260 B	TERT-BUTYLBENZENE	FL
EPA 8260 B	TOLUENE	FL
EPA 8260 B	TRANS-1,3-DICHLOROPROPENE	FL
EPA 8260 B	TRICHLOROETHENE (TRICHLOROETHYLENE)	FL
EPA 8260 B	VINYL ACETATE	FL
EPA 8260 B	XYLENE (TOTAL)	FL
EPA 8270 D	1,2,4-TRICHLOROBENZENE	FL
EPA 8270 D	1,3-DICHLOROBENZENE	FL
EPA 8270 D	2,2'-OXYBIS(1-CHLOROPROPANE)	FL
EPA 8270 D	2,4,6-TRICHLOROPHENOL	FL
EPA 8270 D	2,4-DIMETHYLPHENOL	FL
EPA 8270 D	2,4-DINITROTOLUENE (2,4-DNT)	FL
EPA 8270 D	2,6-DINITROTOLUENE (2,6-DNT)	FL
EPA 8270 D	2-CHLOROPHENOL	FL
EPA 8270 D	2-METHYLNAPHTHALENE	FL
EPA 8270 D	2-NITROANILINE	FL
EPA 8270 D	3,3'-DICHLOROBENZIDINE	FL
EPA 8270 D	3-NITROANILINE	FL
EPA 8270 D	4-CHLORO-3-METHYLPHENOL	FL
EPA 8270 D	4-CHLOROPHENYL PHENYLETHER	FL
EPA 8270 D	4-NITROPHENOL	FL
EPA 8270 D	ACENAPHTHYLENE	FL
EPA 8270 D	ANILINE	FL
EPA 8270 D	BENZIDINE	FL
EPA 8270 D	BENZO(A)PYRENE	FL
EPA 8270 D	BENZO(G,H,I)PERYLENE	FL
EPA 8270 D	BENZOIC ACID	FL
EPA 8270 D	BIS(2-CHLOROETHOXY)METHANE	FL
EPA 8270 D	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	FL
EPA 8270 D	CHRYSENE	FL
EPA 8270 D	DI-N-OCTYL PHTHALATE	FL
EPA 8270 D	DIBENZOFURAN	FL
EPA 8270 D	DIMETHYL PHTHALATE	FL
EPA 8270 D	FLUORENE	FL
EPA 8260 B	TETRACHLOROETHENE (PERCHLOROETHENE)	FL
EPA 8260 B	TRANS-1,2-DICHLOROETHENE	FL
EPA 8260 B	TRANS-1,4-DICHLORO-2-BUTENE	FL
EPA 8260 B	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	FL
EPA 8260 B	VINYL CHLORIDE	FL
EPA 8260 C	ETHYLBENZENE	FL
EPA 8270 D	1,2-DICHLOROBENZENE	FL
EPA 8270 D	1,4-DICHLOROBENZENE	FL
EPA 8270 D	2,4,5-TRICHLOROPHENOL	FL
EPA 8270 D	2,4-DICHLOROPHENOL	FL
EPA 8270 D	2,4-DINITROPHENOL	FL
EPA 8270 D	2,6-DICHLOROPHENOL	FL
EPA 8270 D	2-CHLORONAPHTHALENE	FL
EPA 8270 D	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	FL
EPA 8270 D	2-METHYLPHENOL (O-CRESOL)	FL
EPA 8270 D	2-NITROPHENOL	FL
EPA 8270 D	3,3'-DIMETHYLBENZIDINE	FL
EPA 8270 D	4-BROMOPHENYL PHENYL ETHER	FL
EPA 8270 D	4-CHLOROANILINE	FL
EPA 8270 D	4-NITROANILINE	FL
EPA 8270 D	ACENAPHTHENE	FL
EPA 8270 D	ACETOPHENONE	FL
EPA 8270 D	ANTHRACENE	FL
EPA 8270 D	BENZO(A)ANTHRACENE	FL
EPA 8270 D	BENZO(B)FLUORANTHENE	FL
EPA 8270 D	BENZO(K)FLUORANTHENE	FL
EPA 8270 D	BENZYL ALCOHOL	FL
EPA 8270 D	BIS(2-CHLOROETHYL) ETHER	FL
EPA 8270 D	BUTYL BENZYL PHTHALATE	FL
EPA 8270 D	DI-N-BUTYL PHTHALATE	FL
EPA 8270 D	DIBENZO(A,H) ANTHRACENE	FL
EPA 8270 D	DIETHYL PHTHALATE	FL
EPA 8270 D	FLUORANTHENE	FL
EPA 8270 D	HEXACHLOROBENZENE	FL

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

COPY

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 D	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	FL
EPA 8270 D	HEXACHLOROETHANE	FL
EPA 8270 D	ISODRIN	FL
EPA 8270 D	N-NITROSODI-N-PROPYLAMINE	FL
EPA 8270 D	N-NITROSODIPHENYLAMINE	FL
EPA 8270 D	NITROBENZENE	FL
EPA 8270 D	PHENANTHRENE	FL
EPA 8270 D	PYRENE	FL
EPA 8270 D - EXTENDED	CARBAZOLE	FL
EPA 9012 B	TOTAL CYANIDE	FL
EPA 9056 A	BROMIDE	FL
EPA 9056 A	FLUORIDE	FL
EPA 9056 A	NITRITE	FL
EPA 9065	TOTAL PHENOLICS	FL
SM 2320 B-2011	ALKALINITY AS CACO3	FL
SM 2540 B-2011	RESIDUE-TOTAL	FL
SM 2540 D-2011	RESIDUE-NONFILTERABLE (TSS)	FL
SM 4500-$S2^-$ F-2011	SULFIDE	FL
SM 5210 B-2011	CARBONACEOUS BOD, CBOD	FL
SM 5310 C-2011	TOTAL ORGANIC CARBON	FL

METHOD	ANALYTE	PRIMARY
EPA 8270 D	HEXACHLOROCYCLOPENTADIENE	FL
EPA 8270 D	INDENO(1,2,3-CD) PYRENE	FL
EPA 8270 D	ISOPHORONE	FL
EPA 8270 D	N-NITROSODIMETHYLAMINE	FL
EPA 8270 D	NAPHTHALENE	FL
EPA 8270 D	PENTACHLOROPHENOL	FL
EPA 8270 D	PHENOL	FL
EPA 8270 D - EXTENDED	CAPROLACTAM	FL
EPA 8270 D - EXTENDED	PYRIDINE	FL
EPA 9040 C	PH	FL
EPA 9056 A	CHLORIDE	FL
EPA 9056 A	NITRATE AS N	FL
EPA 9056 A	SULFATE	FL
SM 2120 B-2011	COLOR	FL
SM 2340 C-2011	TOTAL HARDNESS AS CACO3	FL
SM 2540 C-2011	RESIDUE-FILTERABLE (TDS)	FL
SM 3500-CR B-2011	CHROMIUM VI	FL
SM 5210 B-2011	BIOCHEMICAL OXYGEN DEMAND	FL
SM 5220 D-2011	CHEMICAL OXYGEN DEMAND	FL

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 1010 A	FLASHPOINT	FL
EPA 1312	PREP: SYNTHETIC PRECIPITATION LEACHING PROCEDURE	FL
EPA 6010 C	ANTIMONY	FL
EPA 6010 C	BARIUM	FL
EPA 6010 C	BORON	FL
EPA 6010 C	CALCIUM	FL
EPA 6010 C	COBALT	FL
EPA 6010 C	IRON	FL
EPA 6010 C	MAGNESIUM	FL
EPA 6010 C	MOLYBDENUM	FL
EPA 6010 C	POTASSIUM	FL
EPA 6010 C	SILVER	FL
EPA 6010 C	THALLIUM	FL
EPA 6010 C	TITANIUM	FL

METHOD	ANALYTE	PRIMARY
EPA 1311	PREP: TOXICITY CHARACTERISTIC LEACHING PROCEDURE	FL
EPA 6010 C	ALUMINUM	FL
EPA 6010 C	ARSENIC	FL
EPA 6010 C	BERYLLIUM	FL
EPA 6010 C	CADMIUM	FL
EPA 6010 C	CHROMIUM	FL
EPA 6010 C	COPPER	FL
EPA 6010 C	LEAD	FL
EPA 6010 C	MANGANESE	FL
EPA 6010 C	NICKEL	FL
EPA 6010 C	SELENIUM	FL
EPA 6010 C	SODIUM	FL
EPA 6010 C	TIN	FL
EPA 6010 C	VANADIUM	FL

COPY

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 6010 C	ZINC	FL
EPA 7471 B	MERCURY	FL
EPA 8015 C	GASOLINE RANGE ORGANICS (GRO)	FL
EPA 8081 B	4,4'-DDE	FL
EPA 8081 B	ALDRIN	FL
EPA 8081 B	ALPHA-CHLORDANE [CIS-CHLORDANE]	FL
EPA 8081 B	CHLORDANE (TECH.)	FL
EPA 8081 B	DIELDRIN	FL
EPA 8081 B	ENDOSULFAN II	FL
EPA 8081 B	ENDRIN	FL
EPA 8081 B	ENDRIN KETONE	FL
EPA 8081 B	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	FL
EPA 8081 B	HEPTACHLOR EPOXIDE	FL
EPA 8081 B	TOXAPHENE (CHLORINATED CAMPHENE)	FL
EPA 8082 A	AROCLOR-1221 (PCB-1221)	FL
EPA 8082 A	AROCLOR-1242 (PCB-1242)	FL
EPA 8082 A	AROCLOR-1254 (PCB-1254)	FL
EPA 8151 A	2,4,5-T	FL
EPA 8151 A	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	FL
EPA 8151 A	SILVEX (2,4,5-TP)	FL
EPA 8260 B	1,1,1-TRICHLOROETHANE	FL
EPA 8260 B	1,1,2-TRICHLOROETHANE	FL
EPA 8260 B	1,1-DICHLOROETHYLENE	FL
EPA 8260 B	1,2,3-TRICHLOROBENZENE	FL
EPA 8260 B	1,2,4-TRICHLOROBENZENE	FL
EPA 8260 B	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	FL
EPA 8260 B	1,2-DICHLOROBENZENE	FL
EPA 8260 B	1,2-DICHLOROPROPANE	FL
EPA 8260 B	1,3-DICHLOROBENZENE	FL
EPA 8260 B	1,4-DICHLOROBENZENE	FL
EPA 7196 A	CHROMIUM VI	FL
EPA 8015 C	DIESEL RANGE ORGANICS (DRO)	FL
EPA 8081 B	4,4'-DDD	FL
EPA 8081 B	4,4'-DDT	FL
EPA 8081 B	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	FL
EPA 8081 B	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	FL
EPA 8081 B	DELTA-BHC	FL
EPA 8081 B	ENDOSULFAN I	FL
EPA 8081 B	ENDOSULFAN SULFATE	FL
EPA 8081 B	ENDRIN ALDEHYDE	FL
EPA 8081 B	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	FL
EPA 8081 B	HEPTACHLOR	FL
EPA 8081 B	METHOXYCHLOR	FL
EPA 8082 A	AROCLOR-1016 (PCB-1016)	FL
EPA 8082 A	AROCLOR-1232 (PCB-1232)	FL
EPA 8082 A	AROCLOR-1248 (PCB-1248)	FL
EPA 8082 A	AROCLOR-1260 (PCB-1260)	FL
EPA 8151 A	2,4-D	FL
EPA 8151 A	PENTACHLOROPHENOL	FL
EPA 8260 B	1,1,1,2-TETRACHLOROETHANE	FL
EPA 8260 B	1,1,2,2-TETRACHLOROETHANE	FL
EPA 8260 B	1,1-DICHLOROETHANE	FL
EPA 8260 B	1,1-DICHLOROPROPENE	FL
EPA 8260 B	1,2,3-TRICHLOROPROPANE	FL
EPA 8260 B	1,2,4-TRIMETHYLBENZENE	FL
EPA 8260 B	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	FL
EPA 8260 B	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	FL
EPA 8260 B	1,3,5-TRIMETHYLBENZENE	FL
EPA 8260 B	1,3-DICHLOROPROPANE	FL
EPA 8260 B	2,2-DICHLOROPROPANE	FL

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8260 B	2-BUTANONE (METHYL ETHYL KETONE, MEK)	FL
EPA 8260 B	2-CHLOROTOLUENE	FL
EPA 8260 B	4-CHLOROTOLUENE	FL
EPA 8260 B	ACETONITRILE	FL
EPA 8260 B	ACRYLONITRILE	FL
EPA 8260 B	BENZENE	FL
EPA 8260 B	BROMOBENZENE	FL
EPA 8260 B	BROMODICHLOROMETHANE	FL
EPA 8260 B	CARBON DISULFIDE	FL
EPA 8260 B	CHLOROBENZENE	FL
EPA 8260 B	CHLOROFORM	FL
EPA 8260 B	CIS-1,2-DICHLOROETHYLENE	FL
EPA 8260 B	DIBROMOMETHANE (METHYLENE BROMIDE)	FL
EPA 8260 B	DIETHYL ETHER	FL
EPA 8260 B	ETHYLBENZENE	FL
EPA 8260 B	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	FL
EPA 8260 B	METHACRYLONITRILE	FL
EPA 8260 B	METHYL CHLORIDE (CHLOROMETHANE)	FL
EPA 8260 B	METHYL TERT-BUTYL ETHER (MTBE)	FL
EPA 8260 B	N-BUTYLBENZENE	FL
EPA 8260 B	NAPHTHALENE	FL
EPA 8260 B	SEC-BUTYLBENZENE	FL
EPA 8260 B	TERT-BUTYLBENZENE	FL
EPA 8260 B	TOLUENE	FL
EPA 8260 B	TRANS-1,3-DICHLOROPROPENE	FL
EPA 8260 B	TRICHLOROETHENE (TRICHLOROETHYLENE)	FL
EPA 8260 B	VINYL ACETATE	FL
EPA 8260 B	XYLENE (TOTAL)	FL
EPA 8270 D	1,3-DICHLOROBENZENE	FL
EPA 8270 D	2,2'-OXYBIS(1-CHLOROPROPANE)	FL
EPA 8270 D	2,4,6-TRICHLOROPHENOL	FL
EPA 8270 D	2,4-DIMETHYLPHENOL	FL

METHOD	ANALYTE	PRIMARY
EPA 8260 B	2-CHLOROETHYL VINYL ETHER	FL
EPA 8260 B	2-HEXANONE	FL
EPA 8260 B	ACETONE	FL
EPA 8260 B	ACROLEIN (PROPENAL)	FL
EPA 8260 B	ALLYL CHLORIDE (3-CHLOROPROPENE)	FL
EPA 8260 B	BENZYL CHLORIDE	FL
EPA 8260 B	BROMOCHLOROMETHANE	FL
EPA 8260 B	BROMOFORM	FL
EPA 8260 B	CARBON TETRACHLORIDE	FL
EPA 8260 B	CHLOROETHANE (ETHYL CHLORIDE)	FL
EPA 8260 B	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	FL
EPA 8260 B	CIS-1,3-DICHLOROPROPENE	FL
EPA 8260 B	DICHLORODIFLUOROMETHANE (FREON-12)	FL
EPA 8260 B	ETHYL METHACRYLATE	FL
EPA 8260 B	IODOMETHANE (METHYL IODIDE)	FL
EPA 8260 B	ISOPROPYLBENZENE	FL
EPA 8260 B	METHYL BROMIDE (BROMOMETHANE)	FL
EPA 8260 B	METHYL METHACRYLATE	FL
EPA 8260 B	METHYLENE CHLORIDE (DICHLOROMETHANE)	FL
EPA 8260 B	N-PROPYLBENZENE	FL
EPA 8260 B	PROPIONITRILE (ETHYL CYANIDE)	FL
EPA 8260 B	STYRENE	FL
EPA 8260 B	TETRACHLOROETHENE (PERCHLOROETHENE)	FL
EPA 8260 B	TRANS-1,2-DICHLOROETHENE	FL
EPA 8260 B	TRANS-1,4-DICHLORO-2-BUTENE	FL
EPA 8260 B	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	FL
EPA 8260 B	VINYL CHLORIDE	FL
EPA 8270 D	1,2-DICHLOROBENZENE	FL
EPA 8270 D	1,4-DICHLOROBENZENE	FL
EPA 8270 D	2,4,5-TRICHLOROPHENOL	FL
EPA 8270 D	2,4-DICHLOROPHENOL	FL
EPA 8270 D	2,4-DINITROPHENOL	FL

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

COPY

Scope of Accreditation

VELAP Certificate No.: 8678

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Columbia, SC 29172

Virginia Laboratory ID: 460193
Effective Date: September 15, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 D	2,4-DINITROTOLUENE (2,4-DNT)	FL
EPA 8270 D	2,6-DINITROTOLUENE (2,6-DNT)	FL
EPA 8270 D	2-CHLOROPHENOL	FL
EPA 8270 D	2-METHYLNAPHTHALENE	FL
EPA 8270 D	2-NITROANILINE	FL
EPA 8270 D	3,3'-DICHLOROBENZIDINE	FL
EPA 8270 D	3-NITROANILINE	FL
EPA 8270 D	4-CHLORO-3-METHYLPHENOL	FL
EPA 8270 D	4-CHLOROPHENYL PHENYLETHER	FL
EPA 8270 D	4-NITROPHENOL	FL
EPA 8270 D	ACENAPHTHYLENE	FL
EPA 8270 D	ANTHRACENE	FL
EPA 8270 D	BENZO(A)ANTHRACENE	FL
EPA 8270 D	BENZO(B)FLUORANTHENE	FL
EPA 8270 D	BENZO(K)FLUORANTHENE	FL
EPA 8270 D	BENZYL ALCOHOL	FL
EPA 8270 D	BIS(2-CHLOROETHYL) ETHER	FL
EPA 8270 D	BUTYL BENZYL PHTHALATE	FL
EPA 8270 D	DI-N-BUTYL PHTHALATE	FL
EPA 8270 D	DIBENZO(A,H) ANTHRACENE	FL
EPA 8270 D	DIETHYL PHTHALATE	FL
EPA 8270 D	FLUORANTHENE	FL
EPA 8270 D	HEXACHLOROBENZENE	FL
EPA 8270 D	HEXACHLOROCYCLOPENTADIENE	FL
EPA 8270 D	INDENO(1,2,3-CD) PYRENE	FL
EPA 8270 D	ISOPHORONE	FL
EPA 8270 D	N-NITROSODIPHENYLAMINE	FL
EPA 8270 D	NAPHTHALENE	FL
EPA 8270 D	PENTACHLOROPHENOL	FL
EPA 8270 D	PHENOL	FL
EPA 8270 D - EXTENDED	CAPROLACTAM	FL
EPA 8270 D - EXTENDED	PYRIDINE	FL
EPA 9045 D	PH	FL
EPA 8270 D	2,6-DICHLOROPHENOL	FL
EPA 8270 D	2-CHLORONAPHTHALENE	FL
EPA 8270 D	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	FL
EPA 8270 D	2-METHYLPHENOL (O-CRESOL)	FL
EPA 8270 D	2-NITROPHENOL	FL
EPA 8270 D	3,3'-DIMETHYLBENZIDINE	FL
EPA 8270 D	4-BROMOPHENYL PHENYL ETHER	FL
EPA 8270 D	4-CHLOROANILINE	FL
EPA 8270 D	4-NITROANILINE	FL
EPA 8270 D	ACENAPHTHENE	FL
EPA 8270 D	ACETOPHENONE	FL
EPA 8270 D	BENZIDINE	FL
EPA 8270 D	BENZO(A)PYRENE	FL
EPA 8270 D	BENZO(G,H,I)PERYLENE	FL
EPA 8270 D	BENZOIC ACID	FL
EPA 8270 D	BIS(2-CHLOROETHOXY)METHANE	FL
EPA 8270 D	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	FL
EPA 8270 D	CHRYSENE	FL
EPA 8270 D	DI-N-OCTYL PHTHALATE	FL
EPA 8270 D	DIBENZOFURAN	FL
EPA 8270 D	DIMETHYL PHTHALATE	FL
EPA 8270 D	FLUORENE	FL
EPA 8270 D	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	FL
EPA 8270 D	HEXACHLOROETHANE	FL
EPA 8270 D	ISODRIN	FL
EPA 8270 D	N-NITROSODI-N-PROPYLAMINE	FL
EPA 8270 D	N-NITROSOMETHYLETHYLAMINE	FL
EPA 8270 D	NITROBENZENE	FL
EPA 8270 D	PHENANTHRENE	FL
EPA 8270 D	PYRENE	FL
EPA 8270 D - EXTENDED	CARBAZOLE	FL
EPA 9045 C	PH	FL
EPA 9071 B	OIL AND GREASE (AS HEM)	FL

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF GENERAL SERVICES
DIVISION OF CONSOLIDATED LABORATORY SERVICES

Certifies that

VA Laboratory ID#: 460175
Testamerica Laboratories, Inc. - Canton

4101 Shuffel Street N.W.
North Canton, OH 44720

Owner: TESTAMERICA LABORATORIES, INC.
Operator: RACHEL BRYDON JANNETTA
Responsible Official: CAROLYNNE ROACH

Having met the requirements of 1 VAC 30-46 and
having been found compliant with the 2009 TNI Standard approved by The NELAC Institute
is hereby approved as an

Accredited Environmental Laboratory

As more fully described in the attached Scope of Accreditation

Effective Date: **October 4, 2016**
Expiration Date: **September 14, 2017**
Certificate # 8874

Denise M. Toney, Ph.D., HCLD
DGS Deputy Director for Laboratories

Continued accreditation status depends on successful ongoing participation in the program.
Certificate to be conspicuously displayed at the laboratory.
Not valid unless accompanied by a valid Virginia Environmental Laboratory Accreditation Program (VELAP) Scope of Accreditation.
Customers are urged to verify the laboratory's current accreditation status.

Certificate Not Transferable

Surrender Upon Revocation

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 1010	FLASHPOINT	OR
EPA 120.1	CONDUCTIVITY	OR
EPA 1312	PREP: SYNTHETIC PRECIPITATION LEACHING PROCEDURE	OR
EPA 1631 E	MERCURY	OR
EPA 1664 A	TOTAL PETROLEUM HYDROCARBONS (TPH) (AS NONPOLAR MATERIAL, SGT-HEM)	OR
EPA 200.7 REV 4.4	ALUMINUM	OR
EPA 200.7 REV 4.4	ARSENIC	OR
EPA 200.7 REV 4.4	BERYLLIUM	OR
EPA 200.7 REV 4.4	CADMIUM	OR
EPA 200.7 REV 4.4	CHROMIUM	OR
EPA 200.7 REV 4.4	COPPER	OR
EPA 200.7 REV 4.4	LEAD	OR
EPA 200.7 REV 4.4	MANGANESE	OR
EPA 200.7 REV 4.4	NICKEL	OR
EPA 200.7 REV 4.4	SELENIUM	OR
EPA 200.7 REV 4.4	SILVER	OR
EPA 200.7 REV 4.4	THALLIUM	OR
EPA 200.7 REV 4.4	TITANIUM	OR
EPA 200.7 REV 4.4	ZINC	OR
EPA 200.8 REV 5.4	ANTIMONY	OR
EPA 200.8 REV 5.4	BARIUM	OR
EPA 200.8 REV 5.4	CADMIUM	OR
EPA 200.8 REV 5.4	COBALT	OR
EPA 200.8 REV 5.4	LEAD	OR
EPA 200.8 REV 5.4	MOLYBDENUM	OR
EPA 200.8 REV 5.4	SELENIUM	OR
EPA 200.8 REV 5.4	THALLIUM	OR
EPA 200.8 REV 5.4	ZINC	OR
EPA 245.1 REV 3	MERCURY	OR
EPA 300.0 REV 2.1	CHLORIDE	OR
EPA 300.0 REV 2.1	NITRATE AS N	OR
EPA 300.0 REV 2.1	SULFATE	OR

METHOD	ANALYTE	PRIMARY
EPA 1010 A	FLASHPOINT	OR
EPA 1311	PREP: TOXICITY CHARACTERISTIC LEACHING PROCEDURE	OR
EPA 1630	METHYL MERCURY	OR
EPA 1664 A	OIL AND GREASE (AS HEM)	OR
EPA 180.1 (AS HACH 8195)	TURBIDITY	OR
EPA 200.7 REV 4.4	ANTIMONY	OR
EPA 200.7 REV 4.4	BARIUM	OR
EPA 200.7 REV 4.4	BORON	OR
EPA 200.7 REV 4.4	CALCIUM	OR
EPA 200.7 REV 4.4	COBALT	OR
EPA 200.7 REV 4.4	IRON	OR
EPA 200.7 REV 4.4	MAGNESIUM	OR
EPA 200.7 REV 4.4	MOLYBDENUM	OR
EPA 200.7 REV 4.4	POTASSIUM	OR
EPA 200.7 REV 4.4	SILICA AS SIO2	OR
EPA 200.7 REV 4.4	SODIUM	OR
EPA 200.7 REV 4.4	TIN	OR
EPA 200.7 REV 4.4	VANADIUM	OR
EPA 200.8 REV 5.4	ALUMINUM	OR
EPA 200.8 REV 5.4	ARSENIC	OR
EPA 200.8 REV 5.4	BERYLLIUM	OR
EPA 200.8 REV 5.4	CHROMIUM	OR
EPA 200.8 REV 5.4	COPPER	OR
EPA 200.8 REV 5.4	MANGANESE	OR
EPA 200.8 REV 5.4	NICKEL	OR
EPA 200.8 REV 5.4	SILVER	OR
EPA 200.8 REV 5.4	VANADIUM	OR
EPA 200.8 REV 5.4 - EXTENDED	TIN	OR
EPA 300.0 REV 2.1	BROMIDE	OR
EPA 300.0 REV 2.1	FLUORIDE	OR
EPA 300.0 REV 2.1	NITRITE AS N	OR
EPA 3005 A	PREP: ACID DIGESTION OF WATERS FOR TOTAL RECOVERABLE OR DISSOLVED METALS	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 3010 A	PREP: ACID DIGESTION OF AQUEOUS SAMPLES AND EXTRACTS FOR TOTAL METALS	OR
EPA 3510 C	PREP: LIQUID-LIQUID EXTRACTION	OR
EPA 353.2 REV 2	NITRATE/NITRITE	OR
EPA 3640 A	PREP: GEL PERMEATION CLEANUP	OR
EPA 365.1 REV 2	PHOSPHORUS, TOTAL	OR
EPA 3665 A	SULFURIC ACID/PERMANGANATE CLEAN-UP	OR
EPA 420.1 (AS HACH 8047)	TOTAL PHENOLICS	OR
EPA 5030 C	PREP: PURGE AND TRAP FOR AQUEOUS SAMPLES	OR
EPA 6010 B	ANTIMONY	OR
EPA 6010 B	BARIUM	OR
EPA 6010 B	BORON	OR
EPA 6010 B	CALCIUM	OR
EPA 6010 B	COBALT	OR
EPA 6010 B	IRON	OR
EPA 6010 B	LITHIUM	OR
EPA 6010 B	MANGANESE	OR
EPA 6010 B	NICKEL	OR
EPA 6010 B	SELENIUM	OR
EPA 6010 B	SILVER	OR
EPA 6010 B	STRONTIUM	OR
EPA 6010 B	TIN	OR
EPA 6010 B	VANADIUM	OR
EPA 6010 B - EXTENDED	SILICON	OR
EPA 6010 C	ANTIMONY	OR
EPA 6010 C	BARIUM	OR
EPA 6010 C	BORON	OR
EPA 6010 C	CALCIUM	OR
EPA 6010 C	COBALT	OR
EPA 6010 C	IRON	OR
EPA 6010 C	LITHIUM	OR
EPA 6010 C	MANGANESE	OR
EPA 6010 C	NICKEL	OR
EPA 6010 C	SELENIUM	OR
EPA 6010 C	SILVER	OR
EPA 6010 C	STRONTIUM	OR
EPA 335.4 REV 1.0	CYANIDE	OR
EPA 3520 C	PREP: CONTINUOUS LIQUID-LIQUID EXTRACTION	OR
EPA 3620 B	PREP: FLORISIL CLEANUP	OR
EPA 365.1 REV 2	ORTHOPHOSPHATE AS P	OR
EPA 3660 B	PREP: SULFUR CLEANUP	OR
EPA 410.4 REV 2	CHEMICAL OXYGEN DEMAND	OR
EPA 5030 B	PREP: PURGE AND TRAP FOR AQUEOUS SAMPLES	OR
EPA 6010 B	ALUMINUM	OR
EPA 6010 B	ARSENIC	OR
EPA 6010 B	BERYLLIUM	OR
EPA 6010 B	CADMIUM	OR
EPA 6010 B	CHROMIUM	OR
EPA 6010 B	COPPER	OR
EPA 6010 B	LEAD	OR
EPA 6010 B	MAGNESIUM	OR
EPA 6010 B	MOLYBDENUM	OR
EPA 6010 B	POTASSIUM	OR
EPA 6010 B	SILICA AS SIO2	OR
EPA 6010 B	SODIUM	OR
EPA 6010 B	THALLIUM	OR
EPA 6010 B	TITANIUM	OR
EPA 6010 B	ZINC	OR
EPA 6010 C	ALUMINUM	OR
EPA 6010 C	ARSENIC	OR
EPA 6010 C	BERYLLIUM	OR
EPA 6010 C	CADMIUM	OR
EPA 6010 C	CHROMIUM	OR
EPA 6010 C	COPPER	OR
EPA 6010 C	LEAD	OR
EPA 6010 C	MAGNESIUM	OR
EPA 6010 C	MOLYBDENUM	OR
EPA 6010 C	POTASSIUM	OR
EPA 6010 C	SILICA AS SIO2	OR
EPA 6010 C	SODIUM	OR
EPA 6010 C	THALLIUM	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 6010 C	TIN	OR
EPA 6010 C	VANADIUM	OR
EPA 6010 C - EXTENDED	SILICON	OR
EPA 6020	ANTIMONY	OR
EPA 6020	BARIUM	OR
EPA 6020	CADMIUM	OR
EPA 6020	COBALT	OR
EPA 6020	LEAD	OR
EPA 6020	NICKEL	OR
EPA 6020	THALLIUM	OR
EPA 6020 - EXTENDED	BORON	OR
EPA 6020 - EXTENDED	IRON	OR
EPA 6020 - EXTENDED	MAGNESIUM	OR
EPA 6020 - EXTENDED	POTASSIUM	OR
EPA 6020 - EXTENDED	SODIUM	OR
EPA 6020 - EXTENDED	TIN	OR
EPA 6020 - EXTENDED	VANADIUM	OR
EPA 6020 A	ANTIMONY	OR
EPA 6020 A	BARIUM	OR
EPA 6020 A	CADMIUM	OR
EPA 6020 A	CHROMIUM	OR
EPA 6020 A	COPPER	OR
EPA 6020 A	LEAD	OR
EPA 6020 A	MANGANESE	OR
EPA 6020 A	POTASSIUM	OR
EPA 6020 A	SILVER	OR
EPA 6020 A	THALLIUM	OR
EPA 6020 A	ZINC	OR
EPA 6020 A - EXTENDED	LITHIUM	OR
EPA 6020 A - EXTENDED	STRONTIUM	OR
EPA 6020 A - EXTENDED	TITANIUM	OR
EPA 608	4,4'-DDE	OR
EPA 608	ALDRIN	OR
EPA 608	AROCLOR-1016 (PCB-1016)	OR
EPA 608	AROCLOR-1232 (PCB-1232)	OR
EPA 608	AROCLOR-1248 (PCB-1248)	OR
EPA 608	AROCLOR-1260 (PCB-1260)	OR

METHOD	ANALYTE	PRIMARY
EPA 6010 C	TITANIUM	OR
EPA 6010 C	ZINC	OR
EPA 6020	ALUMINUM	OR
EPA 6020	ARSENIC	OR
EPA 6020	BERYLLIUM	OR
EPA 6020	CHROMIUM	OR
EPA 6020	COPPER	OR
EPA 6020	MANGANESE	OR
EPA 6020	SILVER	OR
EPA 6020	ZINC	OR
EPA 6020 - EXTENDED	CALCIUM	OR
EPA 6020 - EXTENDED	LITHIUM	OR
EPA 6020 - EXTENDED	MOLYBDENUM	OR
EPA 6020 - EXTENDED	SELENIUM	OR
EPA 6020 - EXTENDED	STRONTIUM	OR
EPA 6020 - EXTENDED	TITANIUM	OR
EPA 6020 A	ALUMINUM	OR
EPA 6020 A	ARSENIC	OR
EPA 6020 A	BERYLLIUM	OR
EPA 6020 A	CALCIUM	OR
EPA 6020 A	COBALT	OR
EPA 6020 A	IRON	OR
EPA 6020 A	MAGNESIUM	OR
EPA 6020 A	NICKEL	OR
EPA 6020 A	SELENIUM	OR
EPA 6020 A	SODIUM	OR
EPA 6020 A	VANADIUM	OR
EPA 6020 A - EXTENDED	BORON	OR
EPA 6020 A - EXTENDED	MOLYBDENUM	OR
EPA 6020 A - EXTENDED	TIN	OR
EPA 608	4,4'-DDD	OR
EPA 608	4,4'-DDT	OR
EPA 608	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	OR
EPA 608	AROCLOR-1221 (PCB-1221)	OR
EPA 608	AROCLOR-1242 (PCB-1242)	OR
EPA 608	AROCLOR-1254 (PCB-1254)	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 608	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	OR
EPA 608	DELTA-BHC	OR
EPA 608	ENDOSULFAN I	OR
EPA 608	ENDOSULFAN SULFATE	OR
EPA 608	ENDRIN ALDEHYDE	OR
EPA 608	HEPTACHLOR	OR
EPA 608	TOXAPHENE (CHLORINATED CAMPHENE)	OR
EPA 624	1,1,2,2-TETRACHLOROETHANE	OR
EPA 624	1,1-DICHLOROETHANE	OR
EPA 624	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	OR
EPA 624	1,3-DICHLOROBENZENE	OR
EPA 624	1,4-DICHLOROBENZENE	OR
EPA 624	ACROLEIN (PROPENAL)	OR
EPA 624	BENZENE	OR
EPA 624	BROMOFORM	OR
EPA 624	CHLOROBENZENE	OR
EPA 624	CHLOROETHANE (ETHYL CHLORIDE)	OR
EPA 624	CIS-1,3-DICHLOROPROPENE	OR
EPA 624	METHYL BROMIDE (BROMOMETHANE)	OR
EPA 624	METHYLENE CHLORIDE (DICHLOROMETHANE)	OR
EPA 624	TOLUENE	OR
EPA 624	TRANS-1,3-DICHLOROPROPENE	OR
EPA 624	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	OR
EPA 624 - EXTENDED	1,1-DICHLOROETHYLENE	OR
EPA 624 - EXTENDED	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	OR
EPA 624 - EXTENDED	CIS-1,2-DICHLOROETHYLENE	OR
EPA 624 - EXTENDED	N-HEXANE	OR
EPA 625	1,2,4-TRICHLOROBENZENE	OR
EPA 625	2,4,6-TRICHLOROPHENOL	OR
EPA 625	2,4-DIMETHYLPHENOL	OR
EPA 608	CHLORDANE (TECH.)	OR
EPA 608	DIELDRIN	OR
EPA 608	ENDOSULFAN II	OR
EPA 608	ENDRIN	OR
EPA 608	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	OR
EPA 608	HEPTACHLOR EPOXIDE	OR
EPA 624	1,1,1-TRICHLOROETHANE	OR
EPA 624	1,1,2-TRICHLOROETHANE	OR
EPA 624	1,2-DICHLOROBENZENE	OR
EPA 624	1,2-DICHLOROPROPANE	OR
EPA 624	1,3-DICHLOROPROPENE (TOTAL)	OR
EPA 624	2-CHLOROETHYL VINYL ETHER	OR
EPA 624	ACRYLONITRILE	OR
EPA 624	BROMODICHLOROMETHANE	OR
EPA 624	CARBON TETRACHLORIDE	OR
EPA 624	CHLORODIBROMOMETHANE	OR
EPA 624	CHLOROFORM	OR
EPA 624	ETHYLBENZENE	OR
EPA 624	METHYL CHLORIDE (CHLOROMETHANE)	OR
EPA 624	TETRACHLOROETHENE (PERCHLOROETHENE)	OR
EPA 624	TRANS-1,2-DICHLOROETHENE	OR
EPA 624	TRICHLOROETHENE (TRICHLOROETHYLENE)	OR
EPA 624	VINYL CHLORIDE	OR
EPA 624 - EXTENDED	2-BUTANONE (METHYL ETHYL KETONE, MEK)	OR
EPA 624 - EXTENDED	ACETONE	OR
EPA 624 - EXTENDED	METHYL TERT-BUTYL ETHER (MTBE)	OR
EPA 624 - EXTENDED	XYLENE (TOTAL)	OR
EPA 625	2,2'-OXYBIS(1-CHLOROPROPANE)	OR
EPA 625	2,4-DICHLOROPHENOL	OR
EPA 625	2,4-DINITROPHENOL	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 625	2,4-DINITROTOLUENE (2,4-DNT)	OR
EPA 625	2-CHLORONAPHTHALENE	OR
EPA 625	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	OR
EPA 625	2-NITROPHENOL	OR
EPA 625	4-BROMOPHENYL PHENYL ETHER	OR
EPA 625	4-CHLOROPHENYL PHENYLETHER	OR
EPA 625	ACENAPHTHENE	OR
EPA 625	ANTHRACENE	OR
EPA 625	BENZO(A)ANTHRACENE	OR
EPA 625	BENZO(B)FLUORANTHENE	OR
EPA 625	BENZO(K)FLUORANTHENE	OR
EPA 625	BIS(2-CHLOROETHYL) ETHER	OR
EPA 625	BUTYL BENZYL PHTHALATE	OR
EPA 625	DI-N-BUTYL PHTHALATE	OR
EPA 625	DIBENZO(A,H) ANTHRACENE	OR
EPA 625	DIMETHYL PHTHALATE	OR
EPA 625	FLUORENE	OR
EPA 625	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 625	HEXACHLOROETHANE	OR
EPA 625	ISOPHORONE	OR
EPA 625	N-NITROSODIMETHYLAMINE	OR
EPA 625	NAPHTHALENE	OR
EPA 625	PENTACHLOROPHENOL	OR
EPA 625	PHENOL	OR
EPA 625 - EXTENDED	1,2-DIPHENYLHYDRAZINE	OR
EPA 625 - EXTENDED	ANILINE	OR
EPA 625 - EXTENDED	CARBAZOLE	OR
EPA 625 - EXTENDED	N-OCTADECANE	OR
EPA 7196 A	CHROMIUM VI	OR
EPA 8015 B	DIESEL RANGE ORGANICS (DRO)	OR
EPA 8015 C	DIESEL RANGE ORGANICS (DRO)	OR
EPA 8015 D	DIESEL RANGE ORGANICS (DRO)	OR
EPA 8081 A	4,4'-DDD	OR
EPA 8081 A	4,4'-DDT	OR

METHOD	ANALYTE	PRIMARY
EPA 625	2,6-DINITROTOLUENE (2,6-DNT)	OR
EPA 625	2-CHLOROPHENOL	OR
EPA 625	2-METHYLPHENOL (O-CRESOL)	OR
EPA 625	3,3'-DICHLOROBENZIDINE	OR
EPA 625	4-CHLORO-3-METHYLPHENOL	OR
EPA 625	4-NITROPHENOL	OR
EPA 625	ACENAPHTHYLENE	OR
EPA 625	BENZIDINE	OR
EPA 625	BENZO(A)PYRENE	OR
EPA 625	BENZO(G,H,I)PERYLENE	OR
EPA 625	BIS(2-CHLOROETHOXY)METHANE	OR
EPA 625	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	OR
EPA 625	CHRYSENE	OR
EPA 625	DI-N-OCTYL PHTHALATE	OR
EPA 625	DIETHYL PHTHALATE	OR
EPA 625	FLUORANTHENE	OR
EPA 625	HEXACHLOROBENZENE	OR
EPA 625	HEXACHLOROCYCLOPENTADIENE	OR
EPA 625	INDENO(1,2,3-CD) PYRENE	OR
EPA 625	N-NITROSODI-N-PROPYLAMINE	OR
EPA 625	N-NITROSODIPHENYLAMINE	OR
EPA 625	NITROBENZENE	OR
EPA 625	PHENANTHRENE	OR
EPA 625	PYRENE	OR
EPA 625 - EXTENDED	ACETOPHENONE	OR
EPA 625 - EXTENDED	BENZOIC ACID	OR
EPA 625 - EXTENDED	N-DECANE	OR
EPA 625 - EXTENDED	PYRIDINE	OR
EPA 7470 A	MERCURY	OR
EPA 8015 B	GASOLINE RANGE ORGANICS (GRO)	OR
EPA 8015 C	GASOLINE RANGE ORGANICS (GRO)	OR
EPA 8015 D	GASOLINE RANGE ORGANICS (GRO)	OR
EPA 8081 A	4,4'-DDE	OR
EPA 8081 A	ALDRIN	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8081 A	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 A	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 A	CHLOROBENZILATE	OR
EPA 8081 A	DIALLATE	OR
EPA 8081 A	ENDOSULFAN I	OR
EPA 8081 A	ENDOSULFAN SULFATE	OR
EPA 8081 A	ENDRIN ALDEHYDE	OR
EPA 8081 A	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 A	HEPTACHLOR	OR
EPA 8081 A	HEXACHLOROBENZENE	OR
EPA 8081 A	METHOXYCHLOR	OR
EPA 8081 A - EXTENDED	KEPONE	OR
EPA 8081 B	4,4'-DDD	OR
EPA 8081 B	4,4'-DDT	OR
EPA 8081 B	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 B	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 B	CHLOROBENZILATE	OR
EPA 8081 B	DIALLATE	OR
EPA 8081 B	ENDOSULFAN I	OR
EPA 8081 B	ENDOSULFAN SULFATE	OR
EPA 8081 B	ENDRIN ALDEHYDE	OR
EPA 8081 B	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 B	HEPTACHLOR	OR
EPA 8081 B	HEXACHLOROBENZENE	OR
EPA 8081 B	METHOXYCHLOR	OR
EPA 8081 B - EXTENDED	KEPONE	OR
EPA 8082	AROCLOR-1016 (PCB-1016)	OR
EPA 8082	AROCLOR-1232 (PCB-1232)	OR
EPA 8082	AROCLOR-1248 (PCB-1248)	OR
EPA 8082	AROCLOR-1260 (PCB-1260)	OR
EPA 8081 A	ALPHA-CHLORDANE [CIS-CHLORDANE]	OR
EPA 8081 A	CHLORDANE (TECH.)	OR
EPA 8081 A	DELTA-BHC	OR
EPA 8081 A	DIELDRIN	OR
EPA 8081 A	ENDOSULFAN II	OR
EPA 8081 A	ENDRIN	OR
EPA 8081 A	ENDRIN KETONE	OR
EPA 8081 A	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	OR
EPA 8081 A	HEPTACHLOR EPOXIDE	OR
EPA 8081 A	ISODRIN	OR
EPA 8081 A	TOXAPHENE (CHLORINATED CAMPHENE)	OR
EPA 8081 A - EXTENDED	MIREX	OR
EPA 8081 B	4,4'-DDE	OR
EPA 8081 B	ALDRIN	OR
EPA 8081 B	ALPHA-CHLORDANE [CIS-CHLORDANE]	OR
EPA 8081 B	CHLORDANE (TECH.)	OR
EPA 8081 B	DELTA-BHC	OR
EPA 8081 B	DIELDRIN	OR
EPA 8081 B	ENDOSULFAN II	OR
EPA 8081 B	ENDRIN	OR
EPA 8081 B	ENDRIN KETONE	OR
EPA 8081 B	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	OR
EPA 8081 B	HEPTACHLOR EPOXIDE	OR
EPA 8081 B	ISODRIN	OR
EPA 8081 B	TOXAPHENE (CHLORINATED CAMPHENE)	OR
EPA 8081 B - EXTENDED	MIREX	OR
EPA 8082	AROCLOR-1221 (PCB-1221)	OR
EPA 8082	AROCLOR-1242 (PCB-1242)	OR
EPA 8082	AROCLOR-1254 (PCB-1254)	OR
EPA 8082 - EXTENDED	AROCLOR-1262 (PCB-1262)	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8082 - EXTENDED	AROCLOR-1268 (PCB-1268)	OR
EPA 8082 A	AROCLOR-1221 (PCB-1221)	OR
EPA 8082 A	AROCLOR-1242 (PCB-1242)	OR
EPA 8082 A	AROCLOR-1254 (PCB-1254)	OR
EPA 8082 A - EXTENDED	AROCLOR-1262 (PCB-1262)	OR
EPA 8151 A	2,4,5-T	OR
EPA 8151 A	2,4-DB	OR
EPA 8151 A	DICAMBA	OR
EPA 8151 A	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	OR
EPA 8151 A	MCPP	OR
EPA 8151 A	SILVEX (2,4,5-TP)	OR
EPA 8260 B	1,1,1-TRICHLOROETHANE	OR
EPA 8260 B	1,1,2-TRICHLOROETHANE	OR
EPA 8260 B	1,1-DICHLOROETHYLENE	OR
EPA 8260 B	1,2,3-TRICHLOROBENZENE	OR
EPA 8260 B	1,2,4-TRICHLOROBENZENE	OR
EPA 8260 B	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	OR
EPA 8260 B	1,2-DICHLOROBENZENE	OR
EPA 8260 B	1,2-DICHLOROPROPANE	OR
EPA 8260 B	1,3-DICHLOROBENZENE	OR
EPA 8260 B	1,4-DICHLOROBENZENE	OR
EPA 8260 B	1-BUTANOL (N-BUTANOL)	OR
EPA 8260 B	2,2-DICHLOROPROPANE	OR
EPA 8260 B	2-CHLOROETHYL VINYL ETHER	OR
EPA 8260 B	2-HEXANONE	OR
EPA 8260 B	4-CHLOROTOLUENE	OR
EPA 8260 B	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	OR
EPA 8260 B	ACETONITRILE	OR
EPA 8260 B	ACRYLONITRILE	OR
EPA 8260 B	BENZENE	OR
EPA 8260 B	BROMOBENZENE	OR
EPA 8260 B	BROMODICHLOROMETHANE	OR
EPA 8260 B	CARBON DISULFIDE	OR

METHOD	ANALYTE	PRIMARY
EPA 8082 A	AROCLOR-1016 (PCB-1016)	OR
EPA 8082 A	AROCLOR-1232 (PCB-1232)	OR
EPA 8082 A	AROCLOR-1248 (PCB-1248)	OR
EPA 8082 A	AROCLOR-1260 (PCB-1260)	OR
EPA 8082 A - EXTENDED	AROCLOR-1268 (PCB-1268)	OR
EPA 8151 A	2,4-D	OR
EPA 8151 A	DALAPON	OR
EPA 8151 A	DICHLOROPROP (DICHLORPROP)	OR
EPA 8151 A	MCPA	OR
EPA 8151 A	PENTACHLOROPHENOL	OR
EPA 8260 B	1,1,1,2-TETRACHLOROETHANE	OR
EPA 8260 B	1,1,2,2-TETRACHLOROETHANE	OR
EPA 8260 B	1,1-DICHLOROETHANE	OR
EPA 8260 B	1,1-DICHLOROPROPENE	OR
EPA 8260 B	1,2,3-TRICHLOROPROPANE	OR
EPA 8260 B	1,2,4-TRIMETHYLBENZENE	OR
EPA 8260 B	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	OR
EPA 8260 B	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	OR
EPA 8260 B	1,3,5-TRIMETHYLBENZENE	OR
EPA 8260 B	1,3-DICHLOROPROPANE	OR
EPA 8260 B	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8260 B	1-CHLOROHEXANE	OR
EPA 8260 B	2-BUTANONE (METHYL ETHYL KETONE, MEK)	OR
EPA 8260 B	2-CHLOROTOLUENE	OR
EPA 8260 B	2-NITROPROPANE	OR
EPA 8260 B	4-ISOPROPYLTOLUENE (P-CYMENE)	OR
EPA 8260 B	ACETONE	OR
EPA 8260 B	ACROLEIN (PROPENAL)	OR
EPA 8260 B	ALLYL CHLORIDE (3-CHLOROPROPENE)	OR
EPA 8260 B	BENZYL CHLORIDE	OR
EPA 8260 B	BROMOCHLOROMETHANE	OR
EPA 8260 B	BROMOFORM	OR
EPA 8260 B	CARBON TETRACHLORIDE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8260 B	CHLOROBENZENE	OR
EPA 8260 B	CHLOROETHANE (ETHYL CHLORIDE)	OR
EPA 8260 B	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	OR
EPA 8260 B	CIS-1,3-DICHLOROPROPENE	OR
EPA 8260 B	DICHLORODIFLUOROMETHANE (FREON-12)	OR
EPA 8260 B	ETHYL ACETATE	OR
EPA 8260 B	ETHYLBENZENE	OR
EPA 8260 B	IODOMETHANE (METHYL IODIDE)	OR
EPA 8260 B	ISOPROPYLBENZENE	OR
EPA 8260 B	METHACRYLONITRILE	OR
EPA 8260 B	METHYL CHLORIDE (CHLOROMETHANE)	OR
EPA 8260 B	METHYL TERT-BUTYL ETHER (MTBE)	OR
EPA 8260 B	N-BUTYLBENZENE	OR
EPA 8260 B	NAPHTHALENE	OR
EPA 8260 B	PENTACHLOROETHANE	OR
EPA 8260 B	SEC-BUTYLBENZENE	OR
EPA 8260 B	TERT-BUTYL ALCOHOL	OR
EPA 8260 B	TETRACHLOROETHENE (PERCHLOROETHENE)	OR
EPA 8260 B	TRANS-1,2-DICHLOROETHENE	OR
EPA 8260 B	TRANS-1,4-DICHLORO-2-BUTENE	OR
EPA 8260 B	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	OR
EPA 8260 B	VINYL CHLORIDE	OR
EPA 8260 B - EXTENDED	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	OR
EPA 8260 B - EXTENDED	1,3,5-TRICHLOROBENZENE	OR
EPA 8260 B - EXTENDED	CYCLOHEXANE	OR
EPA 8260 B - EXTENDED	DI-ISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	OR
EPA 8260 B - EXTENDED	ETHYL ACRYLATE	OR
EPA 8260 B - EXTENDED	METHYL ACETATE	OR
EPA 8260 B - EXTENDED	N-HEPTANE	OR

METHOD	ANALYTE	PRIMARY
EPA 8260 B	CHLORODIBROMOMETHANE	OR
EPA 8260 B	CHLOROFORM	OR
EPA 8260 B	CIS-1,2-DICHLOROETHYLENE	OR
EPA 8260 B	DIBROMOMETHANE (METHYLENE BROMIDE)	OR
EPA 8260 B	DIETHYL ETHER	OR
EPA 8260 B	ETHYL METHACRYLATE	OR
EPA 8260 B	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8260 B	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	OR
EPA 8260 B	M+P-XYLENE	OR
EPA 8260 B	METHYL BROMIDE (BROMOMETHANE)	OR
EPA 8260 B	METHYL METHACRYLATE	OR
EPA 8260 B	METHYLENE CHLORIDE (DICHLOROMETHANE)	OR
EPA 8260 B	N-PROPYLBENZENE	OR
EPA 8260 B	O-XYLENE	OR
EPA 8260 B	PROPIONITRILE (ETHYL CYANIDE)	OR
EPA 8260 B	STYRENE	OR
EPA 8260 B	TERT-BUTYLBENZENE	OR
EPA 8260 B	TOLUENE	OR
EPA 8260 B	TRANS-1,3-DICHLOROPROPENE	OR
EPA 8260 B	TRICHLOROETHENE (TRICHLOROETHYLENE)	OR
EPA 8260 B	VINYL ACETATE	OR
EPA 8260 B	XYLENE (TOTAL)	OR
EPA 8260 B - EXTENDED	1,2,3-TRIMETHYLBENZENE	OR
EPA 8260 B - EXTENDED	2-METHYLNAPHTHALENE	OR
EPA 8260 B - EXTENDED	CYCLOHEXANONE	OR
EPA 8260 B - EXTENDED	DICHLOROFLUOROMETHANE (FREON 21)	OR
EPA 8260 B - EXTENDED	ETHYL-T-BUTYLETHER (2-ETHOXY-2-METHYLPROPANE, ETBE)	OR
EPA 8260 B - EXTENDED	METHYLCYCLOHEXANE	OR
EPA 8260 B - EXTENDED	N-HEXANE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8260 B - EXTENDED	T-AMYLMETHYLETHER (TAME)	OR
EPA 8260 B SIM	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8260 C	1,1,1-TRICHLOROETHANE	OR
EPA 8260 C	1,1,2-TRICHLOROETHANE	OR
EPA 8260 C	1,1-DICHLOROETHYLENE	OR
EPA 8260 C	1,2,3-TRICHLOROBENZENE	OR
EPA 8260 C	1,2,4-TRIMETHYLBENZENE	OR
EPA 8260 C	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	OR
EPA 8260 C	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	OR
EPA 8260 C	1,3,5-TRIMETHYLBENZENE	OR
EPA 8260 C	1,3-DICHLOROPROPANE	OR
EPA 8260 C	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8260 C	1-CHLOROHEXANE	OR
EPA 8260 C	2-BUTANONE (METHYL ETHYL KETONE, MEK)	OR
EPA 8260 C	2-CHLOROTOLUENE	OR
EPA 8260 C	2-NITROPROPANE	OR
EPA 8260 C	4-ISOPROPYLTOLUENE (P-CYMENE)	OR
EPA 8260 C	ACETONE	OR
EPA 8260 C	ACROLEIN (PROPENAL)	OR
EPA 8260 C	ALLYL CHLORIDE (3-CHLOROPROPENE)	OR
EPA 8260 C	BENZYL CHLORIDE	OR
EPA 8260 C	BROMOCHLOROMETHANE	OR
EPA 8260 C	BROMOFORM	OR
EPA 8260 C	CARBON TETRACHLORIDE	OR
EPA 8260 C	CHLORODIBROMOMETHANE	OR
EPA 8260 C	CHLOROFORM	OR
EPA 8260 C	CIS-1,2-DICHLOROETHYLENE	OR
EPA 8260 C	CYCLOHEXANE	OR
EPA 8260 C	DICHLORODIFLUOROMETHANE (FREON-12)	OR
EPA 8260 C	ETHYL ACETATE	OR
EPA 8260 C	ETHYL-T-BUTYLETHER (2-ETHOXY-2-METHYLPROPANE, ETBE)	OR
EPA 8260 B - EXTENDED	TETRAHYDROFURAN (THF)	OR
EPA 8260 C	1,1,1,2-TETRACHLOROETHANE	OR
EPA 8260 C	1,1,2,2-TETRACHLOROETHANE	OR
EPA 8260 C	1,1-DICHLOROETHANE	OR
EPA 8260 C	1,1-DICHLOROPROPENE	OR
EPA 8260 C	1,2,3-TRICHLOROPROPANE	OR
EPA 8260 C	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	OR
EPA 8260 C	1,2-DICHLOROBENZENE	OR
EPA 8260 C	1,2-DICHLOROPROPANE	OR
EPA 8260 C	1,3-DICHLOROBENZENE	OR
EPA 8260 C	1,4-DICHLOROBENZENE	OR
EPA 8260 C	1-BUTANOL (N-BUTANOL)	OR
EPA 8260 C	2,2-DICHLOROPROPANE	OR
EPA 8260 C	2-CHLOROETHYL VINYL ETHER	OR
EPA 8260 C	2-HEXANONE	OR
EPA 8260 C	4-CHLOROTOLUENE	OR
EPA 8260 C	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	OR
EPA 8260 C	ACETONITRILE	OR
EPA 8260 C	ACRYLONITRILE	OR
EPA 8260 C	BENZENE	OR
EPA 8260 C	BROMOBENZENE	OR
EPA 8260 C	BROMODICHLOROMETHANE	OR
EPA 8260 C	CARBON DISULFIDE	OR
EPA 8260 C	CHLOROBENZENE	OR
EPA 8260 C	CHLOROETHANE (ETHYL CHLORIDE)	OR
EPA 8260 C	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	OR
EPA 8260 C	CIS-1,3-DICHLOROPROPENE	OR
EPA 8260 C	DIBROMOMETHANE (METHYLENE BROMIDE)	OR
EPA 8260 C	DIETHYL ETHER	OR
EPA 8260 C	ETHYL METHACRYLATE	OR
EPA 8260 C	ETHYLBENZENE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8260 C	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8260 C	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	OR
EPA 8260 C	M+P-XYLENE	OR
EPA 8260 C	METHYL BROMIDE (BROMOMETHANE)	OR
EPA 8260 C	METHYL METHACRYLATE	OR
EPA 8260 C	METHYLCYCLOHEXANE	OR
EPA 8260 C	N-BUTYLBENZENE	OR
EPA 8260 C	NAPHTHALENE	OR
EPA 8260 C	PENTACHLOROETHANE	OR
EPA 8260 C	SEC-BUTYLBENZENE	OR
EPA 8260 C	T-AMYLMETHYLETHER (TAME)	OR
EPA 8260 C	TERT-BUTYLBENZENE	OR
EPA 8260 C	TOLUENE	OR
EPA 8260 C	TRANS-1,3-DICHLOROPROPENE	OR
EPA 8260 C	TRICHLOROETHENE (TRICHLOROETHYLENE)	OR
EPA 8260 C	VINYL ACETATE	OR
EPA 8260 C	XYLENE (TOTAL)	OR
EPA 8260 C - EXTENDED	1,3,5-TRICHLOROBENZENE	OR
EPA 8260 C - EXTENDED	CYCLOHEXANONE	OR
EPA 8260 C - EXTENDED	DICHLOROFLUOROMETHANE (FREON 21)	OR
EPA 8260 C - EXTENDED	METHYL ACETATE	OR
EPA 8260 C - EXTENDED	N-HEXANE	OR
EPA 8260 C SIM	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8270 C	1,2,4-TRICHLOROBENZENE	OR
EPA 8270 C	1,2-DIPHENYLHYDRAZINE	OR
EPA 8270 C	1,3-DICHLOROBENZENE	OR
EPA 8270 C	1,4-DICHLOROBENZENE	OR
EPA 8270 C	1,4-NAPHTHOQUINONE	OR
EPA 8270 C	1-CHLORONAPHTHALENE	OR
EPA 8270 C	2,2'-OXYBIS(1-CHLOROPROPANE)	OR
EPA 8270 C	2,4,5-TRICHLOROPHENOL	OR

METHOD	ANALYTE	PRIMARY
EPA 8260 C	IODOMETHANE (METHYL IODIDE)	OR
EPA 8260 C	ISOPROPYLBENZENE	OR
EPA 8260 C	METHACRYLONITRILE	OR
EPA 8260 C	METHYL CHLORIDE (CHLOROMETHANE)	OR
EPA 8260 C	METHYL TERT-BUTYL ETHER (MTBE)	OR
EPA 8260 C	METHYLENE CHLORIDE (DICHLOROMETHANE)	OR
EPA 8260 C	N-PROPYLBENZENE	OR
EPA 8260 C	O-XYLENE	OR
EPA 8260 C	PROPIONITRILE (ETHYL CYANIDE)	OR
EPA 8260 C	STYRENE	OR
EPA 8260 C	TERT-BUTYL ALCOHOL	OR
EPA 8260 C	TETRACHLOROETHENE (PERCHLOROETHENE)	OR
EPA 8260 C	TRANS-1,2-DICHLOROETHENE	OR
EPA 8260 C	TRANS-1,4-DICHLORO-2-BUTENE	OR
EPA 8260 C	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	OR
EPA 8260 C	VINYL CHLORIDE	OR
EPA 8260 C - EXTENDED	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	OR
EPA 8260 C - EXTENDED	2-METHYLNAPHTHALENE	OR
EPA 8260 C - EXTENDED	DI-ISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	OR
EPA 8260 C - EXTENDED	ETHYL ACRYLATE	OR
EPA 8260 C - EXTENDED	N-HEPTANE	OR
EPA 8260 C - EXTENDED	TETRAHYDROFURAN (THF)	OR
EPA 8270 C	1,2,4,5-TETRACHLOROBENZENE	OR
EPA 8270 C	1,2-DICHLOROBENZENE	OR
EPA 8270 C	1,3,5-TRINITROBENZENE (1,3,5-TNB)	OR
EPA 8270 C	1,3-DINITROBENZENE (1,3-DNB)	OR
EPA 8270 C	1,4-DINITROBENZENE	OR
EPA 8270 C	1,4-PHENYLENEDIAMINE	OR
EPA 8270 C	1-NAPHTHYLAMINE	OR
EPA 8270 C	2,3,4,6-TETRACHLOROPHENOL	OR
EPA 8270 C	2,4,6-TRICHLOROPHENOL	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 C	2,4-DIAMINOTOLUENE	OR
EPA 8270 C	2,4-DIMETHYLPHENOL	OR
EPA 8270 C	2,4-DINITROTOLUENE (2,4-DNT)	OR
EPA 8270 C	2,6-DINITROTOLUENE (2,6-DNT)	OR
EPA 8270 C	2-CHLORONAPHTHALENE	OR
EPA 8270 C	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	OR
EPA 8270 C	2-METHYLPHENOL (O-CRESOL)	OR
EPA 8270 C	2-NITROANILINE	OR
EPA 8270 C	2-PICOLINE (2-METHYLPYRIDINE)	OR
EPA 8270 C	3,3'-DIMETHOXYBENZIDINE	OR
EPA 8270 C	3-METHYLCHOLANTHRENE	OR
EPA 8270 C	4,4'-METHYLENEBIS(2-CHLOROANILINE)	OR
EPA 8270 C	4-BROMOPHENYL PHENYL ETHER	OR
EPA 8270 C	4-CHLOROANILINE	OR
EPA 8270 C	4-DIMETHYL AMINOAZOBENZENE	OR
EPA 8270 C	4-NITROPHENOL	OR
EPA 8270 C	5-NITRO-O-TOLUIDINE	OR
EPA 8270 C	A-A-DIMETHYLPHENETHYLAMINE	OR
EPA 8270 C	ACENAPHTHYLENE	OR
EPA 8270 C	ANILINE	OR
EPA 8270 C	ARAMITE	OR
EPA 8270 C	BENZO(A)ANTHRACENE	OR
EPA 8270 C	BENZO(B)FLUORANTHENE	OR
EPA 8270 C	BENZO(K)FLUORANTHENE	OR
EPA 8270 C	BENZYL ALCOHOL	OR
EPA 8270 C	BIS(2-CHLOROETHYL) ETHER	OR
EPA 8270 C	BUTYL BENZYL PHTHALATE	OR
EPA 8270 C	CHRYSENE	OR
EPA 8270 C	DI-N-OCTYL PHTHALATE	OR
EPA 8270 C	DIBENZ(A, J) ACRIDINE	OR
EPA 8270 C	DIBENZOFURAN	OR
EPA 8270 C	DIMETHOATE	OR
EPA 8270 C	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	OR
EPA 8270 C	DISULFOTON	OR

METHOD	ANALYTE	PRIMARY
EPA 8270 C	2,4-DICHLOROPHENOL	OR
EPA 8270 C	2,4-DINITROPHENOL	OR
EPA 8270 C	2,6-DICHLOROPHENOL	OR
EPA 8270 C	2-ACETYLAMINOFLUORENE	OR
EPA 8270 C	2-CHLOROPHENOL	OR
EPA 8270 C	2-METHYLNAPHTHALENE	OR
EPA 8270 C	2-NAPHTHYLAMINE	OR
EPA 8270 C	2-NITROPHENOL	OR
EPA 8270 C	3,3'-DICHLOROBENZIDINE	OR
EPA 8270 C	3,3'-DIMETHYLBENZIDINE	OR
EPA 8270 C	3-NITROANILINE	OR
EPA 8270 C	4-AMINOBIPHENYL	OR
EPA 8270 C	4-CHLORO-3-METHYLPHENOL	OR
EPA 8270 C	4-CHLOROPHENYL PHENYLETHER	OR
EPA 8270 C	4-NITROANILINE	OR
EPA 8270 C	4-NITROQUINOLINE-1-OXIDE	OR
EPA 8270 C	7,12-DIMETHYLBENZ(A) ANTHRACENE	OR
EPA 8270 C	ACENAPHTHENE	OR
EPA 8270 C	ACETOPHENONE	OR
EPA 8270 C	ANTHRACENE	OR
EPA 8270 C	BENZIDINE	OR
EPA 8270 C	BENZO(A)PYRENE	OR
EPA 8270 C	BENZO(G,H,I)PERYLENE	OR
EPA 8270 C	BENZOIC ACID	OR
EPA 8270 C	BIS(2-CHLOROETHOXY)METHANE	OR
EPA 8270 C	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	OR
EPA 8270 C	CHLOROBENZILATE	OR
EPA 8270 C	DI-N-BUTYL PHTHALATE	OR
EPA 8270 C	DIALLATE	OR
EPA 8270 C	DIBENZO(A,H) ANTHRACENE	OR
EPA 8270 C	DIETHYL PHTHALATE	OR
EPA 8270 C	DIMETHYL PHTHALATE	OR
EPA 8270 C	DIPHENYLAMINE	OR
EPA 8270 C	ETHYL METHANESULFONATE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 C	FAMPHUR	OR
EPA 8270 C	FLUORENE	OR
EPA 8270 C	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8270 C	HEXACHLOROETHANE	OR
EPA 8270 C	HEXACHLOROPROPENE	OR
EPA 8270 C	ISODRIN	OR
EPA 8270 C	ISOSAFROLE	OR
EPA 8270 C	METHAPYRILENE	OR
EPA 8270 C	METHYL PARATHION (PARATHION, METHYL)	OR
EPA 8270 C	N-NITROSODI-N-PROPYLAMINE	OR
EPA 8270 C	N-NITROSODIMETHYLAMINE	OR
EPA 8270 C	N-NITROSOMETHYLETHYLAMINE	OR
EPA 8270 C	N-NITROSOPIPERIDINE	OR
EPA 8270 C	NAPHTHALENE	OR
EPA 8270 C	O,O,O-TRIETHYL PHOSPHOROTHIOATE	OR
EPA 8270 C	PARATHION (PARATHION - ETHYL)	OR
EPA 8270 C	PENTACHLORONITROBENZENE	OR
EPA 8270 C	PHENACETIN	OR
EPA 8270 C	PHENOL	OR
EPA 8270 C	PRONAMIDE (KERB)	OR
EPA 8270 C	PYRIDINE	OR
EPA 8270 C	SULFOTEPP (TETRAETHYL DITHIOPYROPHOSPHATE)	OR
EPA 8270 C	THIOPHENOL (BENZENETHIOL)	OR
EPA 8270 C - EXTENDED	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8270 C - EXTENDED	2,3,5,6-TETRACHLOROPHENOL	OR
EPA 8270 C - EXTENDED	6-METHYLCHRYSENE	OR
EPA 8270 C - EXTENDED	BENZALDEHYDE	OR
EPA 8270 C - EXTENDED	CARBAZOLE	OR
EPA 8270 C - EXTENDED	INDENE	OR
EPA 8270 C - EXTENDED	PENTACHLOROETHANE	OR
EPA 8270 D	1,2,4,5-TETRACHLOROBENZENE	OR
EPA 8270 D	1,2-DICHLOROBENZENE	OR
EPA 8270 D	1,3,5-TRINITROBENZENE (1,3,5-TNB)	OR
EPA 8270 D	1,3-DINITROBENZENE (1,3-DNB)	OR
EPA 8270 D	1,4-DINITROBENZENE	OR
EPA 8270 C	FLUORANTHENE	OR
EPA 8270 C	HEXACHLOROBENZENE	OR
EPA 8270 C	HEXACHLOROCYCLOPENTADIENE	OR
EPA 8270 C	HEXACHLOROPHENE	OR
EPA 8270 C	INDENO(1,2,3-CD) PYRENE	OR
EPA 8270 C	ISOPHORONE	OR
EPA 8270 C	KEPONE	OR
EPA 8270 C	METHYL METHANESULFONATE	OR
EPA 8270 C	N-NITROSO-DI-N-BUTYLAMINE	OR
EPA 8270 C	N-NITROSODIETHYLAMINE	OR
EPA 8270 C	N-NITROSODIPHENYLAMINE	OR
EPA 8270 C	N-NITROSOMORPHOLINE	OR
EPA 8270 C	N-NITROSOPYRROLIDINE	OR
EPA 8270 C	NITROBENZENE	OR
EPA 8270 C	O-TOLUIDINE (2-METHYLANILINE)	OR
EPA 8270 C	PENTACHLOROBENZENE	OR
EPA 8270 C	PENTACHLOROPHENOL	OR
EPA 8270 C	PHENANTHRENE	OR
EPA 8270 C	PHORATE	OR
EPA 8270 C	PYRENE	OR
EPA 8270 C	SAFROLE	OR
EPA 8270 C	THIONAZIN (ZINOPHOS)	OR
EPA 8270 C - EXTENDED	1,1'-BIPHENYL	OR
EPA 8270 C - EXTENDED	1-METHYLNAPHTHALENE	OR
EPA 8270 C - EXTENDED	3+4-METHYLPHENOL (M+P CRESOL)	OR
EPA 8270 C - EXTENDED	ATRAZINE	OR
EPA 8270 C - EXTENDED	CAPROLACTAM	OR
EPA 8270 C - EXTENDED	DIBENZ(A,H) ACRIDINE	OR
EPA 8270 C - EXTENDED	N-OCTADECANE	OR
EPA 8270 C - EXTENDED	QUINOLINE	OR
EPA 8270 D	1,2,4-TRICHLOROBENZENE	OR
EPA 8270 D	1,2-DIPHENYLHYDRAZINE	OR
EPA 8270 D	1,3-DICHLOROBENZENE	OR
EPA 8270 D	1,4-DICHLOROBENZENE	OR
EPA 8270 D	1,4-NAPHTHOQUINONE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY	METHOD	ANALYTE	PRIMARY
EPA 8270 D	1,4-PHENYLENEDIAMINE	OR	EPA 8270 D	1-CHLORONAPHTHALENE	OR
EPA 8270 D	1-NAPHTHYLAMINE	OR	EPA 8270 D	2,2'-OXYBIS(1-CHLOROPROPANE)	OR
EPA 8270 D	2,3,4,6-TETRACHLOROPHENOL	OR	EPA 8270 D	2,4,5-TRICHLOROPHENOL	OR
EPA 8270 D	2,4,6-TRICHLOROPHENOL	OR	EPA 8270 D	2,4-DICHLOROPHENOL	OR
EPA 8270 D	2,4-DIMETHYLPHENOL	OR	EPA 8270 D	2,4-DINITROPHENOL	OR
EPA 8270 D	2,4-DINITROTOLUENE (2,4-DNT)	OR	EPA 8270 D	2,6-DICHLOROPHENOL	OR
EPA 8270 D	2,6-DINITROTOLUENE (2,6-DNT)	OR	EPA 8270 D	2-ACETYLAMINOFLUORENE	OR
EPA 8270 D	2-CHLORONAPHTHALENE	OR	EPA 8270 D	2-CHLOROPHENOL	OR
EPA 8270 D	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	OR	EPA 8270 D	2-METHYLNAPHTHALENE	OR
EPA 8270 D	2-METHYLPHENOL (O-CRESOL)	OR	EPA 8270 D	2-NAPHTHYLAMINE	OR
EPA 8270 D	2-NITROANILINE	OR	EPA 8270 D	2-NITROPHENOL	OR
EPA 8270 D	2-PICOLINE (2-METHYLPYRIDINE)	OR	EPA 8270 D	3,3'-DICHLOROBENZIDINE	OR
EPA 8270 D	3,3'-DIMETHOXYBENZIDINE	OR	EPA 8270 D	3-METHYLCHOLANTHRENE	OR
EPA 8270 D	3-NITROANILINE	OR	EPA 8270 D	4,4'-METHYLENEBIS(2-CHLOROANILINE)	OR
EPA 8270 D	4-AMINOBIPHENYL	OR	EPA 8270 D	4-BROMOPHENYL PHENYL ETHER	OR
EPA 8270 D	4-CHLORO-3-METHYLPHENOL	OR	EPA 8270 D	4-CHLOROANILINE	OR
EPA 8270 D	4-CHLOROPHENYL PHENYLETHER	OR	EPA 8270 D	4-DIMETHYL AMINOAZOBENZENE	OR
EPA 8270 D	4-NITROANILINE	OR	EPA 8270 D	4-NITROPHENOL	OR
EPA 8270 D	4-NITROQUINOLINE-1-OXIDE	OR	EPA 8270 D	5-NITRO-O-TOLUIDINE	OR
EPA 8270 D	7,12-DIMETHYLBENZ(A) ANTHRACENE	OR	EPA 8270 D	A-A-DIMETHYLPHENETHYLAMINE	OR
EPA 8270 D	ACENAPHTHENE	OR	EPA 8270 D	ACENAPHTHYLENE	OR
EPA 8270 D	ACETOPHENONE	OR	EPA 8270 D	ANILINE	OR
EPA 8270 D	ANTHRACENE	OR	EPA 8270 D	ARAMITE	OR
EPA 8270 D	BENZIDINE	OR	EPA 8270 D	BENZO(A)ANTHRACENE	OR
EPA 8270 D	BENZO(A)PYRENE	OR	EPA 8270 D	BENZO(B)FLUORANTHENE	OR
EPA 8270 D	BENZO(G,H,I)PERYLENE	OR	EPA 8270 D	BENZO(K)FLUORANTHENE	OR
EPA 8270 D	BENZOIC ACID	OR	EPA 8270 D	BENZYL ALCOHOL	OR
EPA 8270 D	BIS(2-CHLOROETHOXY)METHANE	OR	EPA 8270 D	BIS(2-CHLOROETHYL) ETHER	OR
EPA 8270 D	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	OR	EPA 8270 D	BUTYL BENZYL PHTHALATE	OR
EPA 8270 D	CHLOROBENZILATE	OR	EPA 8270 D	CHRYSENE	OR
EPA 8270 D	DI-N-BUTYL PHTHALATE	OR	EPA 8270 D	DI-N-OCTYL PHTHALATE	OR
EPA 8270 D	DIALLATE	OR	EPA 8270 D	DIBENZ(A, J) ACRIDINE	OR
EPA 8270 D	DIBENZO(A,H) ANTHRACENE	OR	EPA 8270 D	DIBENZOFURAN	OR
EPA 8270 D	DIETHYL PHTHALATE	OR	EPA 8270 D	DIMETHOATE	OR
EPA 8270 D	DIMETHYL PHTHALATE	OR			

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 8270 D	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	OR
EPA 8270 D	DISULFOTON	OR
EPA 8270 D	FAMPHUR	OR
EPA 8270 D	FLUORENE	OR
EPA 8270 D	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8270 D	HEXACHLOROETHANE	OR
EPA 8270 D	HEXACHLOROPROPENE	OR
EPA 8270 D	ISODRIN	OR
EPA 8270 D	ISOSAFROLE	OR
EPA 8270 D	METHAPYRILENE	OR
EPA 8270 D	METHYL PARATHION (PARATHION, METHYL)	OR
EPA 8270 D	N-NITROSODI-N-PROPYLAMINE	OR
EPA 8270 D	N-NITROSODIMETHYLAMINE	OR
EPA 8270 D	N-NITROSOMETHYLETHYLAMINE	OR
EPA 8270 D	N-NITROSOPIPERIDINE	OR
EPA 8270 D	NAPHTHALENE	OR
EPA 8270 D	O,O,O-TRIETHYL PHOSPHOROTHIOATE	OR
EPA 8270 D	PARATHION (PARATHION - ETHYL)	OR
EPA 8270 D	PENTACHLORONITROBENZENE	OR
EPA 8270 D	PHENACETIN	OR
EPA 8270 D	PHENOL	OR
EPA 8270 D	PRONAMIDE (KERB)	OR
EPA 8270 D	SAFROLE	OR
EPA 8270 D	THIONAZIN (ZINOPHOS)	OR
EPA 8270 D - EXTENDED	1,1'-BIPHENYL	OR
EPA 8270 D - EXTENDED	1-METHYLNAPHTHALENE	OR
EPA 8270 D - EXTENDED	3+4-METHYLPHENOL (M+P CRESOL)	OR
EPA 8270 D - EXTENDED	ATRAZINE	OR
EPA 8270 D - EXTENDED	BENZALDEHYDE	OR
EPA 8270 D - EXTENDED	DIBENZ(A,H) ACRIDINE	OR
EPA 8270 D - EXTENDED	N-DECANE	OR
EPA 8270 D - EXTENDED	PYRIDINE	OR
EPA 8270 D SIM	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8270 D	DIPHENYLAMINE	OR
EPA 8270 D	ETHYL METHANESULFONATE	OR
EPA 8270 D	FLUORANTHENE	OR
EPA 8270 D	HEXACHLOROBENZENE	OR
EPA 8270 D	HEXACHLOROCYCLOPENTADIENE	OR
EPA 8270 D	HEXACHLOROPHENE	OR
EPA 8270 D	INDENO(1,2,3-CD) PYRENE	OR
EPA 8270 D	ISOPHORONE	OR
EPA 8270 D	KEPONE	OR
EPA 8270 D	METHYL METHANESULFONATE	OR
EPA 8270 D	N-NITROSO-DI-N-BUTYLAMINE	OR
EPA 8270 D	N-NITROSODIETHYLAMINE	OR
EPA 8270 D	N-NITROSODIPHENYLAMINE	OR
EPA 8270 D	N-NITROSOMORPHOLINE	OR
EPA 8270 D	N-NITROSOPYRROLIDINE	OR
EPA 8270 D	NITROBENZENE	OR
EPA 8270 D	O-TOLUIDINE (2-METHYLANILINE)	OR
EPA 8270 D	PENTACHLOROBENZENE	OR
EPA 8270 D	PENTACHLOROPHENOL	OR
EPA 8270 D	PHENANTHRENE	OR
EPA 8270 D	PHORATE	OR
EPA 8270 D	PYRENE	OR
EPA 8270 D	SULFOTEPP (TETRAETHYL DITHIOPYROPHOSPHATE)	OR
EPA 8270 D	THIOPHENOL (BENZENETHIOL)	OR
EPA 8270 D - EXTENDED	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8270 D - EXTENDED	2,3,5,6-TETRACHLOROPHENOL	OR
EPA 8270 D - EXTENDED	6-METHYLCHRYSENE	OR
EPA 8270 D - EXTENDED	AZOBENZENE	OR
EPA 8270 D - EXTENDED	CAPROLACTAM	OR
EPA 8270 D - EXTENDED	INDENE	OR
EPA 8270 D - EXTENDED	N-OCTADECANE	OR
EPA 8270 D - EXTENDED	QUINOLINE	OR
EPA 8315 A	FORMALDEHYDE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

NON-POTABLE WATER

METHOD	ANALYTE	PRIMARY
EPA 9012 A	AMENABLE CYANIDE	OR
EPA 9012 B	AMENABLE CYANIDE	OR
EPA 9030 B	PREP: SULFIDE	OR
EPA 9040 B	PH	OR
EPA 9050 A	CONDUCTIVITY	OR
EPA 9056 A	CHLORIDE	OR
EPA 9056 A	NITRATE AS N	OR
EPA 9056 A	SULFATE	OR
EPA 9060 A	TOTAL ORGANIC CARBON	OR
EPA 9095 B	FREE LIQUID	OR
RSK-175	ETHANE	OR
RSK-175	METHANE	OR
SM 2340 B-1997	TOTAL HARDNESS AS CACO3	OR
SM 2540 B-1997	RESIDUE-TOTAL	OR
SM 2540 D-1997	RESIDUE-NONFILTERABLE (TSS)	OR
SM 3500-CR B-2009	CHROMIUM VI	OR
SM 4500-CN^- E-1999	CYANIDE	OR
SM 4500-F^- C-1997	FLUORIDE	OR
SM 4500-NH3 C-1997	AMMONIA AS N	OR
SM 4500-NORG C-1997	KJELDAHL NITROGEN - TOTAL	OR
SM 5210 B-2001	BIOCHEMICAL OXYGEN DEMAND	OR
SM 5220 D-1997	CHEMICAL OXYGEN DEMAND	OR
SM 5540 C-1993	SURFACTANTS - MBAS	OR

METHOD	ANALYTE	PRIMARY
EPA 9012 A	TOTAL CYANIDE	OR
EPA 9012 B	TOTAL CYANIDE	OR
EPA 9034	TOTAL SULFIDES	OR
EPA 9040 C	PH	OR
EPA 9056 A	BROMIDE	OR
EPA 9056 A	FLUORIDE	OR
EPA 9056 A	NITRITE	OR
EPA 9060	TOTAL ORGANIC CARBON	OR
EPA 9065	TOTAL PHENOLICS	OR
EPA 9251	CHLORIDE	OR
RSK-175	ETHENE (ETHYLENE)	OR
SM 2320 B-1997	ALKALINITY AS CACO3	OR
SM 2510 B-1997	CONDUCTIVITY	OR
SM 2540 C-1997	RESIDUE-FILTERABLE (TDS)	OR
SM 2540 F-1997	RESIDUE-SETTLEABLE	OR
SM 3500-FE B-1997	IRON	OR
SM 4500-CN^- G-1999	AMENABLE CYANIDE	OR
SM 4500-NH3 B-1997	AMMONIA AS N	OR
SM 4500-NH3 D-1997	AMMONIA AS N	OR
SM 4500-$S2^-$ F-2000	SULFIDE	OR
SM 5210 B-2001	CARBONACEOUS BOD, CBOD	OR
SM 5310 C-2000	TOTAL ORGANIC CARBON	OR

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
ASTM D3987-06	PREP: SHAKE EXTRACTION OF SOLID WASTEW WITH WATER	OR
EPA 1311	PREP: TOXICITY CHARACTERISTIC LEACHING PROCEDURE	OR
EPA 1630	METHYL MERCURY	OR
EPA 3050 B	PREP: ACID DIGESTION OF SEDIMENTS, SLUDGES, AND SOILS	OR
EPA 3051 A	PREP: MICROWAVE ASSISTED ACID DIGESTION OF SEDIMENTS, SLUDGES, SOILS, AND OILS	OR
EPA 3540 C	PREP: SOXHLET EXTRACTION	OR
EPA 3550 B	PREP: ULTRASONIC EXTRACTION	OR
EPA 3580 A	PREP: WASTE DILUTION	OR
EPA 3620 C	PREP: FLORISIL CLEANUP	OR

METHOD	ANALYTE	PRIMARY
EPA 1010 A	FLASHPOINT	OR
EPA 1312	PREP: SYNTHETIC PRECIPITATION LEACHING PROCEDURE	OR
EPA 1631 E	MERCURY	OR
EPA 3051	PREP: MICROWAVE ASSISTED ACID DIGESTION OF SEDIMENTS, SLUDGES, SOILS, AND OILS	OR
EPA 3060 A	PREP: HEXAVALENT CHROMIUM	OR
EPA 3546	PREP: MICROWAVE EXTRACTION	OR
EPA 3550 C	PREP: ULTRASONIC EXTRACTION	OR
EPA 3620 B	PREP: FLORISIL CLEANUP	OR
EPA 3640 A	PREP: GEL PERMEATION CLEANUP	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 3650 B	PREP: ACID BASE PARTITION CLEANUP	OR
EPA 3665 A	SULFURIC ACID/PERMANGANATE CLEAN-UP	OR
EPA 5035	PREP: CLOSED-SYSTEM PURGE AND TRAP AND EXTRACTION	OR
EPA 6010 B	ALUMINUM	OR
EPA 6010 B	ARSENIC	OR
EPA 6010 B	BERYLLIUM	OR
EPA 6010 B	CADMIUM	OR
EPA 6010 B	CHROMIUM	OR
EPA 6010 B	COPPER	OR
EPA 6010 B	LEAD	OR
EPA 6010 B	MAGNESIUM	OR
EPA 6010 B	MOLYBDENUM	OR
EPA 6010 B	POTASSIUM	OR
EPA 6010 B	SILICA AS SIO2	OR
EPA 6010 B	SODIUM	OR
EPA 6010 B	THALLIUM	OR
EPA 6010 B	TITANIUM	OR
EPA 6010 B	ZINC	OR
EPA 6010 C	ALUMINUM	OR
EPA 6010 C	ARSENIC	OR
EPA 6010 C	BERYLLIUM	OR
EPA 6010 C	CADMIUM	OR
EPA 6010 C	CHROMIUM	OR
EPA 6010 C	COPPER	OR
EPA 6010 C	LEAD	OR
EPA 6010 C	MAGNESIUM	OR
EPA 6010 C	MOLYBDENUM	OR
EPA 6010 C	POTASSIUM	OR
EPA 6010 C	SILICA AS SIO2	OR
EPA 6010 C	SODIUM	OR
EPA 6010 C	THALLIUM	OR
EPA 6010 C	TITANIUM	OR
EPA 6010 C	ZINC	OR
EPA 6020	ALUMINUM	OR
EPA 6020	ARSENIC	OR
EPA 6020	BERYLLIUM	OR
EPA 6020	CHROMIUM	OR

METHOD	ANALYTE	PRIMARY
EPA 3660 B	PREP: SULFUR CLEANUP	OR
EPA 5030 B	PREP: PURGE AND TRAP FOR AQUEOUS SAMPLES	OR
EPA 5035 A	PREP: CLOSED-SYSTEM PURGE AND TRAP AND EXTRACTION	OR
EPA 6010 B	ANTIMONY	OR
EPA 6010 B	BARIUM	OR
EPA 6010 B	BORON	OR
EPA 6010 B	CALCIUM	OR
EPA 6010 B	COBALT	OR
EPA 6010 B	IRON	OR
EPA 6010 B	LITHIUM	OR
EPA 6010 B	MANGANESE	OR
EPA 6010 B	NICKEL	OR
EPA 6010 B	SELENIUM	OR
EPA 6010 B	SILVER	OR
EPA 6010 B	STRONTIUM	OR
EPA 6010 B	TIN	OR
EPA 6010 B	VANADIUM	OR
EPA 6010 B - EXTENDED	SILICON	OR
EPA 6010 C	ANTIMONY	OR
EPA 6010 C	BARIUM	OR
EPA 6010 C	BORON	OR
EPA 6010 C	CALCIUM	OR
EPA 6010 C	COBALT	OR
EPA 6010 C	IRON	OR
EPA 6010 C	LITHIUM	OR
EPA 6010 C	MANGANESE	OR
EPA 6010 C	NICKEL	OR
EPA 6010 C	SELENIUM	OR
EPA 6010 C	SILVER	OR
EPA 6010 C	STRONTIUM	OR
EPA 6010 C	TIN	OR
EPA 6010 C	VANADIUM	OR
EPA 6010 C - EXTENDED	SILICON	OR
EPA 6020	ANTIMONY	OR
EPA 6020	BARIUM	OR
EPA 6020	CADMIUM	OR
EPA 6020	COBALT	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 6020	COPPER	OR
EPA 6020	MANGANESE	OR
EPA 6020	SILVER	OR
EPA 6020	ZINC	OR
EPA 6020 - EXTENDED	CALCIUM	OR
EPA 6020 - EXTENDED	LITHIUM	OR
EPA 6020 - EXTENDED	MOLYBDENUM	OR
EPA 6020 - EXTENDED	SELENIUM	OR
EPA 6020 - EXTENDED	STRONTIUM	OR
EPA 6020 - EXTENDED	TITANIUM	OR
EPA 6020 A	ALUMINUM	OR
EPA 6020 A	ARSENIC	OR
EPA 6020 A	BERYLLIUM	OR
EPA 6020 A	CALCIUM	OR
EPA 6020 A	COBALT	OR
EPA 6020 A	IRON	OR
EPA 6020 A	MAGNESIUM	OR
EPA 6020 A	NICKEL	OR
EPA 6020 A	SELENIUM	OR
EPA 6020 A	SODIUM	OR
EPA 6020 A	VANADIUM	OR
EPA 6020 A - EXTENDED	BORON	OR
EPA 6020 A - EXTENDED	MOLYBDENUM	OR
EPA 6020 A - EXTENDED	TIN	OR
EPA 7196 A	CHROMIUM VI	OR
EPA 7471 B	MERCURY	OR
EPA 8015 B	GASOLINE RANGE ORGANICS (GRO)	OR
EPA 8015 C	GASOLINE RANGE ORGANICS (GRO)	OR
EPA 8015 D	GASOLINE RANGE ORGANICS (GRO)	OR
EPA 8081 A	4,4'-DDE	OR
EPA 8081 A	ALDRIN	OR
EPA 8081 A	ALPHA-CHLORDANE [CIS-CHLORDANE]	OR
EPA 8081 A	CHLORDANE (TECH.)	OR
EPA 8081 A	DELTA-BHC	OR
EPA 6020	LEAD	OR
EPA 6020	NICKEL	OR
EPA 6020	THALLIUM	OR
EPA 6020 - EXTENDED	BORON	OR
EPA 6020 - EXTENDED	IRON	OR
EPA 6020 - EXTENDED	MAGNESIUM	OR
EPA 6020 - EXTENDED	POTASSIUM	OR
EPA 6020 - EXTENDED	SODIUM	OR
EPA 6020 - EXTENDED	TIN	OR
EPA 6020 - EXTENDED	VANADIUM	OR
EPA 6020 A	ANTIMONY	OR
EPA 6020 A	BARIUM	OR
EPA 6020 A	CADMIUM	OR
EPA 6020 A	CHROMIUM	OR
EPA 6020 A	COPPER	OR
EPA 6020 A	LEAD	OR
EPA 6020 A	MANGANESE	OR
EPA 6020 A	POTASSIUM	OR
EPA 6020 A	SILVER	OR
EPA 6020 A	THALLIUM	OR
EPA 6020 A	ZINC	OR
EPA 6020 A - EXTENDED	LITHIUM	OR
EPA 6020 A - EXTENDED	STRONTIUM	OR
EPA 6020 A - EXTENDED	TITANIUM	OR
EPA 7471 A	MERCURY	OR
EPA 8015 B	DIESEL RANGE ORGANICS (DRO)	OR
EPA 8015 C	DIESEL RANGE ORGANICS (DRO)	OR
EPA 8015 D	DIESEL RANGE ORGANICS (DRO)	OR
EPA 8081 A	4,4'-DDD	OR
EPA 8081 A	4,4'-DDT	OR
EPA 8081 A	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 A	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 A	CHLOROBENZILATE	OR
EPA 8081 A	DIALLATE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8081 A	DIELDRIN	OR
EPA 8081 A	ENDOSULFAN II	OR
EPA 8081 A	ENDRIN	OR
EPA 8081 A	ENDRIN KETONE	OR
EPA 8081 A	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	OR
EPA 8081 A	HEPTACHLOR EPOXIDE	OR
EPA 8081 A	ISODRIN	OR
EPA 8081 A	TOXAPHENE (CHLORINATED CAMPHENE)	OR
EPA 8081 A - EXTENDED	MIREX	OR
EPA 8081 B	4,4'-DDE	OR
EPA 8081 B	ALDRIN	OR
EPA 8081 B	ALPHA-CHLORDANE [CIS-CHLORDANE]	OR
EPA 8081 B	CHLORDANE (TECH.)	OR
EPA 8081 B	DELTA-BHC	OR
EPA 8081 B	DIELDRIN	OR
EPA 8081 B	ENDOSULFAN II	OR
EPA 8081 B	ENDRIN	OR
EPA 8081 B	ENDRIN KETONE	OR
EPA 8081 B	GAMMA-CHLORDANE [BETA-CHLORDANE, TRANS-CHLORDANE]	OR
EPA 8081 B	HEPTACHLOR EPOXIDE	OR
EPA 8081 B	ISODRIN	OR
EPA 8081 B	TOXAPHENE (CHLORINATED CAMPHENE)	OR
EPA 8081 B - EXTENDED	MIREX	OR
EPA 8082	AROCLOR-1221 (PCB-1221)	OR
EPA 8082	AROCLOR-1242 (PCB-1242)	OR
EPA 8082	AROCLOR-1254 (PCB-1254)	OR
EPA 8082 - EXTENDED	AROCLOR-1262 (PCB-1262)	OR
EPA 8082 A	AROCLOR-1016 (PCB-1016)	OR
EPA 8082 A	AROCLOR-1232 (PCB-1232)	OR
EPA 8082 A	AROCLOR-1248 (PCB-1248)	OR
EPA 8081 A	ENDOSULFAN I	OR
EPA 8081 A	ENDOSULFAN SULFATE	OR
EPA 8081 A	ENDRIN ALDEHYDE	OR
EPA 8081 A	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 A	HEPTACHLOR	OR
EPA 8081 A	HEXACHLOROBENZENE	OR
EPA 8081 A	METHOXYCHLOR	OR
EPA 8081 A - EXTENDED	KEPONE	OR
EPA 8081 B	4,4'-DDD	OR
EPA 8081 B	4,4'-DDT	OR
EPA 8081 B	ALPHA-BHC (ALPHA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 B	BETA-BHC (BETA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 B	CHLOROBENZILATE	OR
EPA 8081 B	DIALLATE	OR
EPA 8081 B	ENDOSULFAN I	OR
EPA 8081 B	ENDOSULFAN SULFATE	OR
EPA 8081 B	ENDRIN ALDEHYDE	OR
EPA 8081 B	GAMMA-BHC (LINDANE, GAMMA-HEXACHLOROCYCLOHEXANE)	OR
EPA 8081 B	HEPTACHLOR	OR
EPA 8081 B	HEXACHLOROBENZENE	OR
EPA 8081 B	METHOXYCHLOR	OR
EPA 8081 B - EXTENDED	KEPONE	OR
EPA 8082	AROCLOR-1016 (PCB-1016)	OR
EPA 8082	AROCLOR-1232 (PCB-1232)	OR
EPA 8082	AROCLOR-1248 (PCB-1248)	OR
EPA 8082	AROCLOR-1260 (PCB-1260)	OR
EPA 8082 - EXTENDED	AROCLOR-1268 (PCB-1268)	OR
EPA 8082 A	AROCLOR-1221 (PCB-1221)	OR
EPA 8082 A	AROCLOR-1242 (PCB-1242)	OR
EPA 8082 A	AROCLOR-1254 (PCB-1254)	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8082 A	AROCLOR-1260 (PCB-1260)	OR
EPA 8082 A - EXTENDED	AROCLOR-1268 (PCB-1268)	OR
EPA 8151 A	2,4-D	OR
EPA 8151 A	DALAPON	OR
EPA 8151 A	DICHLOROPROP (DICHLORPROP)	OR
EPA 8151 A	MCPA	OR
EPA 8151 A	PENTACHLOROPHENOL	OR
EPA 8260 B	1,1,1,2-TETRACHLOROETHANE	OR
EPA 8260 B	1,1,2,2-TETRACHLOROETHANE	OR
EPA 8260 B	1,1-DICHLOROETHANE	OR
EPA 8260 B	1,1-DICHLOROPROPENE	OR
EPA 8260 B	1,2,3-TRICHLOROPROPANE	OR
EPA 8260 B	1,2,4-TRIMETHYLBENZENE	OR
EPA 8260 B	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	OR
EPA 8260 B	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	OR
EPA 8260 B	1,3,5-TRIMETHYLBENZENE	OR
EPA 8260 B	1,3-DICHLOROPROPANE	OR
EPA 8260 B	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8260 B	2,2-DICHLOROPROPANE	OR
EPA 8260 B	2-CHLOROETHYL VINYL ETHER	OR
EPA 8260 B	2-HEXANONE	OR
EPA 8260 B	4-CHLOROTOLUENE	OR
EPA 8260 B	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	OR
EPA 8260 B	ACETONITRILE	OR
EPA 8260 B	ACRYLONITRILE	OR
EPA 8260 B	BENZENE	OR
EPA 8260 B	BROMOBENZENE	OR
EPA 8260 B	BROMODICHLOROMETHANE	OR
EPA 8260 B	CARBON DISULFIDE	OR
EPA 8260 B	CHLOROBENZENE	OR
EPA 8260 B	CHLOROETHANE (ETHYL CHLORIDE)	OR
EPA 8260 B	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	OR

METHOD	ANALYTE	PRIMARY
EPA 8082 A - EXTENDED	AROCLOR-1262 (PCB-1262)	OR
EPA 8151 A	2,4,5-T	OR
EPA 8151 A	2,4-DB	OR
EPA 8151 A	DICAMBA	OR
EPA 8151 A	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	OR
EPA 8151 A	MCPP	OR
EPA 8151 A	SILVEX (2,4,5-TP)	OR
EPA 8260 B	1,1,1-TRICHLOROETHANE	OR
EPA 8260 B	1,1,2-TRICHLOROETHANE	OR
EPA 8260 B	1,1-DICHLOROETHYLENE	OR
EPA 8260 B	1,2,3-TRICHLOROBENZENE	OR
EPA 8260 B	1,2,4-TRICHLOROBENZENE	OR
EPA 8260 B	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	OR
EPA 8260 B	1,2-DICHLOROBENZENE	OR
EPA 8260 B	1,2-DICHLOROPROPANE	OR
EPA 8260 B	1,3-DICHLOROBENZENE	OR
EPA 8260 B	1,4-DICHLOROBENZENE	OR
EPA 8260 B	1-BUTANOL (N-BUTANOL)	OR
EPA 8260 B	2-BUTANONE (METHYL ETHYL KETONE, MEK)	OR
EPA 8260 B	2-CHLOROTOLUENE	OR
EPA 8260 B	2-NITROPROPANE	OR
EPA 8260 B	4-ISOPROPYLTOLUENE (P-CYMENE)	OR
EPA 8260 B	ACETONE	OR
EPA 8260 B	ACROLEIN (PROPENAL)	OR
EPA 8260 B	ALLYL CHLORIDE (3-CHLOROPROPENE)	OR
EPA 8260 B	BENZYL CHLORIDE	OR
EPA 8260 B	BROMOCHLOROMETHANE	OR
EPA 8260 B	BROMOFORM	OR
EPA 8260 B	CARBON TETRACHLORIDE	OR
EPA 8260 B	CHLORODIBROMOMETHANE	OR
EPA 8260 B	CHLOROFORM	OR
EPA 8260 B	CIS-1,2-DICHLOROETHYLENE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8260 B	CIS-1,3-DICHLOROPROPENE	OR
EPA 8260 B	DICHLORODIFLUOROMETHANE (FREON-12)	OR
EPA 8260 B	ETHYL ACETATE	OR
EPA 8260 B	ETHYLBENZENE	OR
EPA 8260 B	IODOMETHANE (METHYL IODIDE)	OR
EPA 8260 B	ISOPROPYLBENZENE	OR
EPA 8260 B	METHACRYLONITRILE	OR
EPA 8260 B	METHYL CHLORIDE (CHLOROMETHANE)	OR
EPA 8260 B	METHYL TERT-BUTYL ETHER (MTBE)	OR
EPA 8260 B	N-BUTYLBENZENE	OR
EPA 8260 B	NAPHTHALENE	OR
EPA 8260 B	PENTACHLOROETHANE	OR
EPA 8260 B	SEC-BUTYLBENZENE	OR
EPA 8260 B	TERT-BUTYL ALCOHOL	OR
EPA 8260 B	TETRACHLOROETHENE (PERCHLOROETHENE)	OR
EPA 8260 B	TRANS-1,2-DICHLOROETHENE	OR
EPA 8260 B	TRANS-1,4-DICHLORO-2-BUTENE	OR
EPA 8260 B	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	OR
EPA 8260 B	VINYL CHLORIDE	OR
EPA 8260 B - EXTENDED	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	OR
EPA 8260 B - EXTENDED	1,3,5-TRICHLOROBENZENE	OR
EPA 8260 B - EXTENDED	CYCLOHEXANE	OR
EPA 8260 B - EXTENDED	DI-ISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	OR
EPA 8260 B - EXTENDED	METHYL ACETATE	OR
EPA 8260 B - EXTENDED	N-HEPTANE	OR
EPA 8260 B - EXTENDED	T-AMYLMETHYLETHER (TAME)	OR
EPA 8260 B SIM	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8260 C	1,1,1-TRICHLOROETHANE	OR
EPA 8260 C	1,1,2-TRICHLOROETHANE	OR
EPA 8260 C	1,1-DICHLOROETHYLENE	OR
EPA 8260 C	1,2,3-TRICHLOROBENZENE	OR
EPA 8260 B	DIBROMOMETHANE (METHYLENE BROMIDE)	OR
EPA 8260 B	DIETHYL ETHER	OR
EPA 8260 B	ETHYL METHACRYLATE	OR
EPA 8260 B	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8260 B	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	OR
EPA 8260 B	M+P-XYLENE	OR
EPA 8260 B	METHYL BROMIDE (BROMOMETHANE)	OR
EPA 8260 B	METHYL METHACRYLATE	OR
EPA 8260 B	METHYLENE CHLORIDE (DICHLOROMETHANE)	OR
EPA 8260 B	N-PROPYLBENZENE	OR
EPA 8260 B	O-XYLENE	OR
EPA 8260 B	PROPIONITRILE (ETHYL CYANIDE)	OR
EPA 8260 B	STYRENE	OR
EPA 8260 B	TERT-BUTYLBENZENE	OR
EPA 8260 B	TOLUENE	OR
EPA 8260 B	TRANS-1,3-DICHLOROPROPENE	OR
EPA 8260 B	TRICHLOROETHENE (TRICHLOROETHYLENE)	OR
EPA 8260 B	VINYL ACETATE	OR
EPA 8260 B	XYLENE (TOTAL)	OR
EPA 8260 B - EXTENDED	1,2,3-TRIMETHYLBENZENE	OR
EPA 8260 B - EXTENDED	2-METHYLNAPHTHALENE	OR
EPA 8260 B - EXTENDED	CYCLOHEXANONE	OR
EPA 8260 B - EXTENDED	DICHLOROFLUOROMETHANE (FREON 21)	OR
EPA 8260 B - EXTENDED	METHYLCYCLOHEXANE	OR
EPA 8260 B - EXTENDED	N-HEXANE	OR
EPA 8260 B - EXTENDED	TETRAHYDROFURAN (THF)	OR
EPA 8260 C	1,1,1,2-TETRACHLOROETHANE	OR
EPA 8260 C	1,1,2,2-TETRACHLOROETHANE	OR
EPA 8260 C	1,1-DICHLOROETHANE	OR
EPA 8260 C	1,1-DICHLOROPROPENE	OR
EPA 8260 C	1,2,3-TRICHLOROPROPANE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

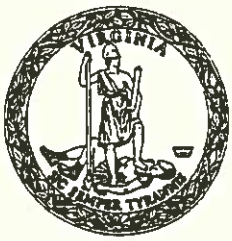
Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8260 C	1,2,4-TRICHLOROBENZENE	OR
EPA 8260 C	1,2-DIBROMO-3-CHLOROPROPANE (DBCP)	OR
EPA 8260 C	1,2-DICHLOROBENZENE	OR
EPA 8260 C	1,2-DICHLOROPROPANE	OR
EPA 8260 C	1,3-DICHLOROBENZENE	OR
EPA 8260 C	1,4-DICHLOROBENZENE	OR
EPA 8260 C	1-BUTANOL (N-BUTANOL)	OR
EPA 8260 C	2-BUTANONE (METHYL ETHYL KETONE, MEK)	OR
EPA 8260 C	2-CHLOROTOLUENE	OR
EPA 8260 C	2-NITROPROPANE	OR
EPA 8260 C	4-ISOPROPYLTOLUENE (P-CYMENE)	OR
EPA 8260 C	ACETONE	OR
EPA 8260 C	ACROLEIN (PROPENAL)	OR
EPA 8260 C	ALLYL CHLORIDE (3-CHLOROPROPENE)	OR
EPA 8260 C	BENZYL CHLORIDE	OR
EPA 8260 C	BROMOCHLOROMETHANE	OR
EPA 8260 C	BROMOFORM	OR
EPA 8260 C	CARBON TETRACHLORIDE	OR
EPA 8260 C	CHLORODIBROMOMETHANE	OR
EPA 8260 C	CHLOROFORM	OR
EPA 8260 C	CIS-1,2-DICHLOROETHYLENE	OR
EPA 8260 C	CYCLOHEXANE	OR
EPA 8260 C	DICHLORODIFLUOROMETHANE (FREON-12)	OR
EPA 8260 C	ETHYL ACETATE	OR
EPA 8260 C	ETHYL-T-BUTYLETHER (2-ETHOXY-2-METHYLPROPANE, ETBE)	OR
EPA 8260 C	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8260 C	ISOBUTYL ALCOHOL (2-METHYL-1-PROPANOL)	OR
EPA 8260 C	M+P-XYLENE	OR
EPA 8260 C	METHYL BROMIDE (BROMOMETHANE)	OR
EPA 8260 C	METHYL METHACRYLATE	OR
EPA 8260 C	1,2,4-TRIMETHYLBENZENE	OR
EPA 8260 C	1,2-DIBROMOETHANE (EDB, ETHYLENE DIBROMIDE)	OR
EPA 8260 C	1,2-DICHLOROETHANE (ETHYLENE DICHLORIDE)	OR
EPA 8260 C	1,3,5-TRIMETHYLBENZENE	OR
EPA 8260 C	1,3-DICHLOROPROPANE	OR
EPA 8260 C	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8260 C	2,2-DICHLOROPROPANE	OR
EPA 8260 C	2-CHLOROETHYL VINYL ETHER	OR
EPA 8260 C	2-HEXANONE	OR
EPA 8260 C	4-CHLOROTOLUENE	OR
EPA 8260 C	4-METHYL-2-PENTANONE (METHYL ISOBUTYL KETONE, MIBK)	OR
EPA 8260 C	ACETONITRILE	OR
EPA 8260 C	ACRYLONITRILE	OR
EPA 8260 C	BENZENE	OR
EPA 8260 C	BROMOBENZENE	OR
EPA 8260 C	BROMODICHLOROMETHANE	OR
EPA 8260 C	CARBON DISULFIDE	OR
EPA 8260 C	CHLOROBENZENE	OR
EPA 8260 C	CHLOROETHANE (ETHYL CHLORIDE)	OR
EPA 8260 C	CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	OR
EPA 8260 C	CIS-1,3-DICHLOROPROPENE	OR
EPA 8260 C	DIBROMOMETHANE (METHYLENE BROMIDE)	OR
EPA 8260 C	DIETHYL ETHER	OR
EPA 8260 C	ETHYL METHACRYLATE	OR
EPA 8260 C	ETHYLBENZENE	OR
EPA 8260 C	IODOMETHANE (METHYL IODIDE)	OR
EPA 8260 C	ISOPROPYLBENZENE	OR
EPA 8260 C	METHACRYLONITRILE	OR
EPA 8260 C	METHYL CHLORIDE (CHLOROMETHANE)	OR
EPA 8260 C	METHYL TERT-BUTYL ETHER (MTBE)	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services



Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8260 C	METHYLENE CHLORIDE (DICHLOROMETHANE)	OR
EPA 8260 C	N-PROPYLBENZENE	OR
EPA 8260 C	O-XYLENE	OR
EPA 8260 C	PROPIONITRILE (ETHYL CYANIDE)	OR
EPA 8260 C	STYRENE	OR
EPA 8260 C	TERT-BUTYL ALCOHOL	OR
EPA 8260 C	TETRACHLOROETHENE (PERCHLOROETHENE)	OR
EPA 8260 C	TRANS-1,2-DICHLOROETHENE	OR
EPA 8260 C	TRANS-1,4-DICHLORO-2-BUTENE	OR
EPA 8260 C	TRICHLOROFLUOROMETHANE (FLUOROTRICHLOROMETHANE, FREON 11)	OR
EPA 8260 C	VINYL CHLORIDE	OR
EPA 8260 C - EXTENDED	1,1,2-TRICHLORO-1,2,2-TRIFLUORO ETHANE (FREON 113)	OR
EPA 8260 C - EXTENDED	2-METHYLNAPHTHALENE	OR
EPA 8260 C - EXTENDED	DIISOPROPYLETHER (DIPE, ISOPROPYL ETHER)	OR
EPA 8260 C - EXTENDED	METHYL ACETATE	OR
EPA 8260 C - EXTENDED	N-HEXANE	OR
EPA 8260 C SIM	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8270 C	1,2,4-TRICHLOROBENZENE	OR
EPA 8270 C	1,2-DIPHENYLHYDRAZINE	OR
EPA 8270 C	1,3-DICHLOROBENZENE	OR
EPA 8270 C	1,4-DICHLOROBENZENE	OR
EPA 8270 C	1,4-NAPHTHOQUINONE	OR
EPA 8270 C	1-CHLORONAPHTHALENE	OR
EPA 8270 C	2,2'-OXYBIS(1-CHLOROPROPANE)	OR
EPA 8270 C	2,4,5-TRICHLOROPHENOL	OR
EPA 8270 C	2,4-DIAMINOTOLUENE	OR
EPA 8270 C	2,4-DIMETHYLPHENOL	OR
EPA 8270 C	2,4-DINITROTOLUENE (2,4-DNT)	OR
EPA 8270 C	2,6-DINITROTOLUENE (2,6-DNT)	OR
EPA 8270 C	2-CHLORONAPHTHALENE	OR
EPA 8270 C	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	OR
EPA 8270 C	2-METHYLPHENOL (O-CRESOL)	OR
EPA 8260 C	METHYLCYCLOHEXANE	OR
EPA 8260 C	N-BUTYLBENZENE	OR
EPA 8260 C	NAPHTHALENE	OR
EPA 8260 C	PENTACHLOROETHANE	OR
EPA 8260 C	SEC-BUTYLBENZENE	OR
EPA 8260 C	T-AMYLMETHYLETHER (TAME)	OR
EPA 8260 C	TERT-BUTYLBENZENE	OR
EPA 8260 C	TOLUENE	OR
EPA 8260 C	TRANS-1,3-DICHLOROPROPENE	OR
EPA 8260 C	TRICHLOROETHENE (TRICHLOROETHYLENE)	OR
EPA 8260 C	VINYL ACETATE	OR
EPA 8260 C	XYLENE (TOTAL)	OR
EPA 8260 C - EXTENDED	1,3,5-TRICHLOROBENZENE	OR
EPA 8260 C - EXTENDED	CYCLOHEXANONE	OR
EPA 8260 C - EXTENDED	DICHLOROFLUOROMETHANE (FREON 21)	OR
EPA 8260 C - EXTENDED	N-HEPTANE	OR
EPA 8260 C - EXTENDED	TETRAHYDROFURAN (THF)	OR
EPA 8270 C	1,2,4,5-TETRACHLOROBENZENE	OR
EPA 8270 C	1,2-DICHLOROBENZENE	OR
EPA 8270 C	1,3,5-TRINITROBENZENE (1,3,5-TNB)	OR
EPA 8270 C	1,3-DINITROBENZENE (1,3-DNB)	OR
EPA 8270 C	1,4-DINITROBENZENE	OR
EPA 8270 C	1,4-PHENYLENEDIAMINE	OR
EPA 8270 C	1-NAPHTHYLAMINE	OR
EPA 8270 C	2,3,4,6-TETRACHLOROPHENOL	OR
EPA 8270 C	2,4,6-TRICHLOROPHENOL	OR
EPA 8270 C	2,4-DICHLOROPHENOL	OR
EPA 8270 C	2,4-DINITROPHENOL	OR
EPA 8270 C	2,6-DICHLOROPHENOL	OR
EPA 8270 C	2-ACETYLAMINOFLUORENE	OR
EPA 8270 C	2-CHLOROPHENOL	OR
EPA 8270 C	2-METHYLNAPHTHALENE	OR
EPA 8270 C	2-NAPHTHYLAMINE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 C	2-NITROANILINE	OR
EPA 8270 C	2-PICOLINE (2-METHYLPYRIDINE)	OR
EPA 8270 C	3,3'-DIMETHOXYBENZIDINE	OR
EPA 8270 C	3-METHYLCHOLANTHRENE	OR
EPA 8270 C	4,4'-METHYLENEBIS(2-CHLOROANILINE)	OR
EPA 8270 C	4-BROMOPHENYL PHENYL ETHER	OR
EPA 8270 C	4-CHLOROANILINE	OR
EPA 8270 C	4-DIMETHYL AMINOAZOBENZENE	OR
EPA 8270 C	4-NITROPHENOL	OR
EPA 8270 C	5-NITRO-O-TOLUIDINE	OR
EPA 8270 C	A-A-DIMETHYLPHENETHYLAMINE	OR
EPA 8270 C	ACENAPHTHYLENE	OR
EPA 8270 C	ANILINE	OR
EPA 8270 C	ARAMITE	OR
EPA 8270 C	BENZO(A)ANTHRACENE	OR
EPA 8270 C	BENZO(B)FLUORANTHENE	OR
EPA 8270 C	BENZO(K)FLUORANTHENE	OR
EPA 8270 C	BENZYL ALCOHOL	OR
EPA 8270 C	BIS(2-CHLOROETHYL) ETHER	OR
EPA 8270 C	BUTYL BENZYL PHTHALATE	OR
EPA 8270 C	CHRYSENE	OR
EPA 8270 C	DI-N-OCTYL PHTHALATE	OR
EPA 8270 C	DIBENZ(A, J) ACRIDINE	OR
EPA 8270 C	DIBENZOFURAN	OR
EPA 8270 C	DIMETHOATE	OR
EPA 8270 C	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	OR
EPA 8270 C	DISULFOTON	OR
EPA 8270 C	FAMPHUR	OR
EPA 8270 C	FLUORENE	OR
EPA 8270 C	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8270 C	HEXACHLOROETHANE	OR
EPA 8270 C	HEXACHLOROPROPENE	OR
EPA 8270 C	ISODRIN	OR
EPA 8270 C	ISOSAFROLE	OR
EPA 8270 C	2-NITROPHENOL	OR
EPA 8270 C	3,3'-DICHLOROBENZIDINE	OR
EPA 8270 C	3,3'-DIMETHYLBENZIDINE	OR
EPA 8270 C	3-NITROANILINE	OR
EPA 8270 C	4-AMINOBIPHENYL	OR
EPA 8270 C	4-CHLORO-3-METHYLPHENOL	OR
EPA 8270 C	4-CHLOROPHENYL PHENYLETHER	OR
EPA 8270 C	4-NITROANILINE	OR
EPA 8270 C	4-NITROQUINOLINE-1-OXIDE	OR
EPA 8270 C	7,12-DIMETHYLBENZ(A) ANTHRACENE	OR
EPA 8270 C	ACENAPHTHENE	OR
EPA 8270 C	ACETOPHENONE	OR
EPA 8270 C	ANTHRACENE	OR
EPA 8270 C	BENZIDINE	OR
EPA 8270 C	BENZO(A)PYRENE	OR
EPA 8270 C	BENZO(G,H,I)PERYLENE	OR
EPA 8270 C	BENZOIC ACID	OR
EPA 8270 C	BIS(2-CHLOROETHOXY)METHANE	OR
EPA 8270 C	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	OR
EPA 8270 C	CHLOROBENZILATE	OR
EPA 8270 C	DI-N-BUTYL PHTHALATE	OR
EPA 8270 C	DIALLATE	OR
EPA 8270 C	DIBENZO(A,H) ANTHRACENE	OR
EPA 8270 C	DIETHYL PHTHALATE	OR
EPA 8270 C	DIMETHYL PHTHALATE	OR
EPA 8270 C	DIPHENYLAMINE	OR
EPA 8270 C	ETHYL METHANESULFONATE	OR
EPA 8270 C	FLUORANTHENE	OR
EPA 8270 C	HEXACHLOROBENZENE	OR
EPA 8270 C	HEXACHLOROCYCLOPENTADIENE	OR
EPA 8270 C	HEXACHLOROPHENE	OR
EPA 8270 C	INDENO(1,2,3-CD) PYRENE	OR
EPA 8270 C	ISOPHORONE	OR
EPA 8270 C	METHAPYRILENE	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 C	METHYL METHANESULFONATE	OR
EPA 8270 C	N-NITROSO-DI-N-BUTYLAMINE	OR
EPA 8270 C	N-NITROSODIETHYLAMINE	OR
EPA 8270 C	N-NITROSODIPHENYLAMINE	OR
EPA 8270 C	N-NITROSOMORPHOLINE	OR
EPA 8270 C	N-NITROSOPYRROLIDINE	OR
EPA 8270 C	NITROBENZENE	OR
EPA 8270 C	O-TOLUIDINE (2-METHYLANILINE)	OR
EPA 8270 C	PENTACHLOROBENZENE	OR
EPA 8270 C	PENTACHLOROPHENOL	OR
EPA 8270 C	PHENANTHRENE	OR
EPA 8270 C	PHORATE	OR
EPA 8270 C	PYRENE	OR
EPA 8270 C	SAFROLE	OR
EPA 8270 C	THIONAZIN (ZINOPHOS)	OR
EPA 8270 C - EXTENDED	1,1'-BIPHENYL	OR
EPA 8270 C - EXTENDED	1-METHYLNAPHTHALENE	OR
EPA 8270 C - EXTENDED	3+4-METHYLPHENOL (M+P CRESOL)	OR
EPA 8270 C - EXTENDED	BENZALDEHYDE	OR
EPA 8270 C - EXTENDED	CARBAZOLE	OR
EPA 8270 C - EXTENDED	INDENE	OR
EPA 8270 C - EXTENDED	PENTACHLOROETHANE	OR
EPA 8270 D	1,2,4-TRICHLOROBENZENE	OR
EPA 8270 D	1,2-DIPHENYLHYDRAZINE	OR
EPA 8270 D	1,3-DICHLOROBENZENE	OR
EPA 8270 D	1,4-DICHLOROBENZENE	OR
EPA 8270 D	1,4-NAPHTHOQUINONE	OR
EPA 8270 D	1-CHLORONAPHTHALENE	OR
EPA 8270 D	2,2'-OXYBIS(1-CHLOROPROPANE)	OR
EPA 8270 D	2,4,5-TRICHLOROPHENOL	OR
EPA 8270 D	2,4-DICHLOROPHENOL	OR
EPA 8270 D	2,4-DINITROPHENOL	OR
EPA 8270 D	2,6-DICHLOROPHENOL	OR
EPA 8270 D	2-ACETYLAMINOFLUORENE	OR
EPA 8270 D	2-CHLOROPHENOL	OR
EPA 8270 C	METHYL PARATHION (PARATHION, METHYL)	OR
EPA 8270 C	N-NITROSODI-N-PROPYLAMINE	OR
EPA 8270 C	N-NITROSODIMETHYLAMINE	OR
EPA 8270 C	N-NITROSOMETHYLETHYLAMINE	OR
EPA 8270 C	N-NITROSOPIPERIDINE	OR
EPA 8270 C	NAPHTHALENE	OR
EPA 8270 C	O,O,O-TRIETHYL PHOSPHOROTHIOATE	OR
EPA 8270 C	PARATHION (PARATHION - ETHYL)	OR
EPA 8270 C	PENTACHLORONITROBENZENE	OR
EPA 8270 C	PHENACETIN	OR
EPA 8270 C	PHENOL	OR
EPA 8270 C	PRONAMIDE (KERB)	OR
EPA 8270 C	PYRIDINE	OR
EPA 8270 C	SULFOTEPP (TETRAETHYL DITHIOPYROPHOSPHATE)	OR
EPA 8270 C	THIOPHENOL (BENZENETHIOL)	OR
EPA 8270 C - EXTENDED	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8270 C - EXTENDED	2,3,5,6-TETRACHLOROPHENOL	OR
EPA 8270 C - EXTENDED	ATRAZINE	OR
EPA 8270 C - EXTENDED	CAPROLACTAM	OR
EPA 8270 C - EXTENDED	DIBENZ(A,H) ACRIDINE	OR
EPA 8270 C - EXTENDED	N-OCTADECANE	OR
EPA 8270 D	1,2,4,5-TETRACHLOROBENZENE	OR
EPA 8270 D	1,2-DICHLOROBENZENE	OR
EPA 8270 D	1,3,5-TRINITROBENZENE (1,3,5-TNB)	OR
EPA 8270 D	1,3-DINITROBENZENE (1,3-DNB)	OR
EPA 8270 D	1,4-DINITROBENZENE	OR
EPA 8270 D	1,4-PHENYLENEDIAMINE	OR
EPA 8270 D	1-NAPHTHYLAMINE	OR
EPA 8270 D	2,3,4,6-TETRACHLOROPHENOL	OR
EPA 8270 D	2,4,6-TRICHLOROPHENOL	OR
EPA 8270 D	2,4-DIMETHYLPHENOL	OR
EPA 8270 D	2,4-DINITROTOLUENE (2,4-DNT)	OR
EPA 8270 D	2,6-DINITROTOLUENE (2,6-DNT)	OR
EPA 8270 D	2-CHLORONAPHTHALENE	OR
EPA 8270 D	2-METHYL-4,6-DINITROPHENOL (4,6-DINITRO-2-METHYLPHENOL)	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 D	2-METHYLNAPHTHALENE	OR
EPA 8270 D	2-NAPHTHYLAMINE	OR
EPA 8270 D	2-NITROPHENOL	OR
EPA 8270 D	3,3'-DICHLOROBENZIDINE	OR
EPA 8270 D	3,3'-DIMETHYLBENZIDINE	OR
EPA 8270 D	3-NITROANILINE	OR
EPA 8270 D	4-AMINOBIPHENYL	OR
EPA 8270 D	4-CHLORO-3-METHYLPHENOL	OR
EPA 8270 D	4-CHLOROPHENYL PHENYLETHER	OR
EPA 8270 D	4-NITROANILINE	OR
EPA 8270 D	4-NITROQUINOLINE-1-OXIDE	OR
EPA 8270 D	7,12-DIMETHYLBENZ(A) ANTHRACENE	OR
EPA 8270 D	ACENAPHTHENE	OR
EPA 8270 D	ACETOPHENONE	OR
EPA 8270 D	ANTHRACENE	OR
EPA 8270 D	BENZIDINE	OR
EPA 8270 D	BENZO(A)PYRENE	OR
EPA 8270 D	BENZO(G,H,I)PERYLENE	OR
EPA 8270 D	BENZOIC ACID	OR
EPA 8270 D	BIS(2-CHLOROETHOXY)METHANE	OR
EPA 8270 D	BIS(2-ETHYLHEXYL) PHTHALATE (DI(2-ETHYLHEXYL)PHTHALATE), (DEHP)	OR
EPA 8270 D	CHLOROBENZILATE	OR
EPA 8270 D	DI-N-BUTYL PHTHALATE	OR
EPA 8270 D	DIALLATE	OR
EPA 8270 D	DIBENZO(A,H) ANTHRACENE	OR
EPA 8270 D	DIETHYL PHTHALATE	OR
EPA 8270 D	DIMETHYL PHTHALATE	OR
EPA 8270 D	DIPHENYLAMINE	OR
EPA 8270 D	ETHYL METHANESULFONATE	OR
EPA 8270 D	FLUORANTHENE	OR
EPA 8270 D	HEXACHLOROBENZENE	OR
EPA 8270 D	HEXACHLOROCYCLOPENTADIENE	OR
EPA 8270 D	HEXACHLOROPHENE	OR
EPA 8270 D	INDENO(1,2,3-CD) PYRENE	OR
EPA 8270 D	2-METHYLPHENOL (O-CRESOL)	OR
EPA 8270 D	2-NITROANILINE	OR
EPA 8270 D	2-PICOLINE (2-METHYLPYRIDINE)	OR
EPA 8270 D	3,3'-DIMETHOXYBENZIDINE	OR
EPA 8270 D	3-METHYLCHOLANTHRENE	OR
EPA 8270 D	4,4'-METHYLENEBIS(2-CHLOROANILINE)	OR
EPA 8270 D	4-BROMOPHENYL PHENYL ETHER	OR
EPA 8270 D	4-CHLOROANILINE	OR
EPA 8270 D	4-DIMETHYL AMINOAZOBENZENE	OR
EPA 8270 D	4-NITROPHENOL	OR
EPA 8270 D	5-NITRO-O-TOLUIDINE	OR
EPA 8270 D	A-A-DIMETHYLPHENETHYLAMINE	OR
EPA 8270 D	ACENAPHTHYLENE	OR
EPA 8270 D	ANILINE	OR
EPA 8270 D	ARAMITE	OR
EPA 8270 D	BENZO(A)ANTHRACENE	OR
EPA 8270 D	BENZO(B)FLUORANTHENE	OR
EPA 8270 D	BENZO(K)FLUORANTHENE	OR
EPA 8270 D	BENZYL ALCOHOL	OR
EPA 8270 D	BIS(2-CHLOROETHYL) ETHER	OR
EPA 8270 D	BUTYL BENZYL PHTHALATE	OR
EPA 8270 D	CHRYSENE	OR
EPA 8270 D	DI-N-OCTYL PHTHALATE	OR
EPA 8270 D	DIBENZ(A, J) ACRIDINE	OR
EPA 8270 D	DIBENZOFURAN	OR
EPA 8270 D	DIMETHOATE	OR
EPA 8270 D	DINOSEB (2-SEC-BUTYL-4,6-DINITROPHENOL, DNBP)	OR
EPA 8270 D	DISULFOTON	OR
EPA 8270 D	FAMPHUR	OR
EPA 8270 D	FLUORENE	OR
EPA 8270 D	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 8270 D	HEXACHLOROETHANE	OR
EPA 8270 D	HEXACHLOROPROPENE	OR
EPA 8270 D	ISODRIN	OR

Commonwealth of Virginia

Department of General Services
Division of Consolidated Laboratory Services

Scope of Accreditation

VELAP Certificate No.: 8874

Testamerica Laboratories, Inc. - Canton
4101 Shuffel Street N.W.
North Canton, OH 44720

Virginia Laboratory ID: 460175
Effective Date: October 04, 2016
Expiration Date: September 14, 2017

SOLID AND CHEMICAL MATERIALS

METHOD	ANALYTE	PRIMARY
EPA 8270 D	ISOPHORONE	OR
EPA 8270 D	METHAPYRILENE	OR
EPA 8270 D	METHYL PARATHION (PARATHION, METHYL)	OR
EPA 8270 D	N-NITROSODI-N-PROPYLAMINE	OR
EPA 8270 D	N-NITROSODIMETHYLAMINE	OR
EPA 8270 D	N-NITROSOMETHYLETHYLAMINE	OR
EPA 8270 D	N-NITROSOPIPERIDINE	OR
EPA 8270 D	NAPHTHALENE	OR
EPA 8270 D	O,O,O-TRIETHYL PHOSPHOROTHIOATE	OR
EPA 8270 D	PARATHION (PARATHION - ETHYL)	OR
EPA 8270 D	PENTACHLORONITROBENZENE	OR
EPA 8270 D	PHENACETIN	OR
EPA 8270 D	PHENOL	OR
EPA 8270 D	PRONAMIDE (KERB)	OR
EPA 8270 D	SAFROLE	OR
EPA 8270 D	THIONAZIN (ZINOPHOS)	OR
EPA 8270 D - EXTENDED	1,4-DIOXANE (P-DIOXANE /1,4-DIETHYLENEOXIDE)	OR
EPA 8270 D - EXTENDED	2,3,5,6-TETRACHLOROPHENOL	OR
EPA 8270 D - EXTENDED	ATRAZINE	OR
EPA 8270 D - EXTENDED	CAPROLACTAM	OR
EPA 8270 D - EXTENDED	DIBENZ(A,H) ACRIDINE	OR
EPA 8270 D - EXTENDED	N-OCTADECANE	OR
EPA 8270 D - EXTENDED	PYRIDINE	OR
EPA 8315 A	FORMALDEHYDE	OR
EPA 9012 B	AMENABLE CYANIDE	OR
EPA 9023	EXTRACTABLE ORGANIC HALIDES (EOX)	OR
EPA 9034	TOTAL SULFIDES	OR
EPA 9040 C	PH	OR
EPA 9045 D	PH	OR
EPA 9056 A	BROMIDE	OR
EPA 9056 A	FLUORIDE	OR
EPA 9056 A	NITRITE	OR
EPA 9065	TOTAL PHENOLICS	OR
EPA 9251	CHLORIDE	OR
EPA 8270 D	ISOSAFROLE	OR
EPA 8270 D	METHYL METHANESULFONATE	OR
EPA 8270 D	N-NITROSO-DI-N-BUTYLAMINE	OR
EPA 8270 D	N-NITROSODIETHYLAMINE	OR
EPA 8270 D	N-NITROSODIPHENYLAMINE	OR
EPA 8270 D	N-NITROSOMORPHOLINE	OR
EPA 8270 D	N-NITROSOPYRROLIDINE	OR
EPA 8270 D	NITROBENZENE	OR
EPA 8270 D	O-TOLUIDINE (2-METHYLANILINE)	OR
EPA 8270 D	PENTACHLOROBENZENE	OR
EPA 8270 D	PENTACHLOROPHENOL	OR
EPA 8270 D	PHENANTHRENE	OR
EPA 8270 D	PHORATE	OR
EPA 8270 D	PYRENE	OR
EPA 8270 D	SULFOTEPP (TETRAETHYL DITHIOPYROPHOSPHATE)	OR
EPA 8270 D - EXTENDED	1,1'-BIPHENYL	OR
EPA 8270 D - EXTENDED	1-METHYLNAPHTHALENE	OR
EPA 8270 D - EXTENDED	3+4-METHYLPHENOL (M+P CRESOL)	OR
EPA 8270 D - EXTENDED	BENZALDEHYDE	OR
EPA 8270 D - EXTENDED	CARBAZOLE	OR
EPA 8270 D - EXTENDED	INDENE	OR
EPA 8270 D - EXTENDED	PENTACHLOROETHANE	OR
EPA 8270 D SIM	HEXACHLOROBUTADIENE (1,3-HEXACHLOROBUTADIENE)	OR
EPA 9012 A	CYANIDE	OR
EPA 9012 B	TOTAL CYANIDE	OR
EPA 9030 B	PREP: SULFIDE	OR
EPA 9040 B	PH	OR
EPA 9045 C	PH	OR
EPA 9050 A	CONDUCTIVITY	OR
EPA 9056 A	CHLORIDE	OR
EPA 9056 A	NITRATE AS N	OR
EPA 9056 A	SULFATE	OR
EPA 9095 B	FREE LIQUID	OR